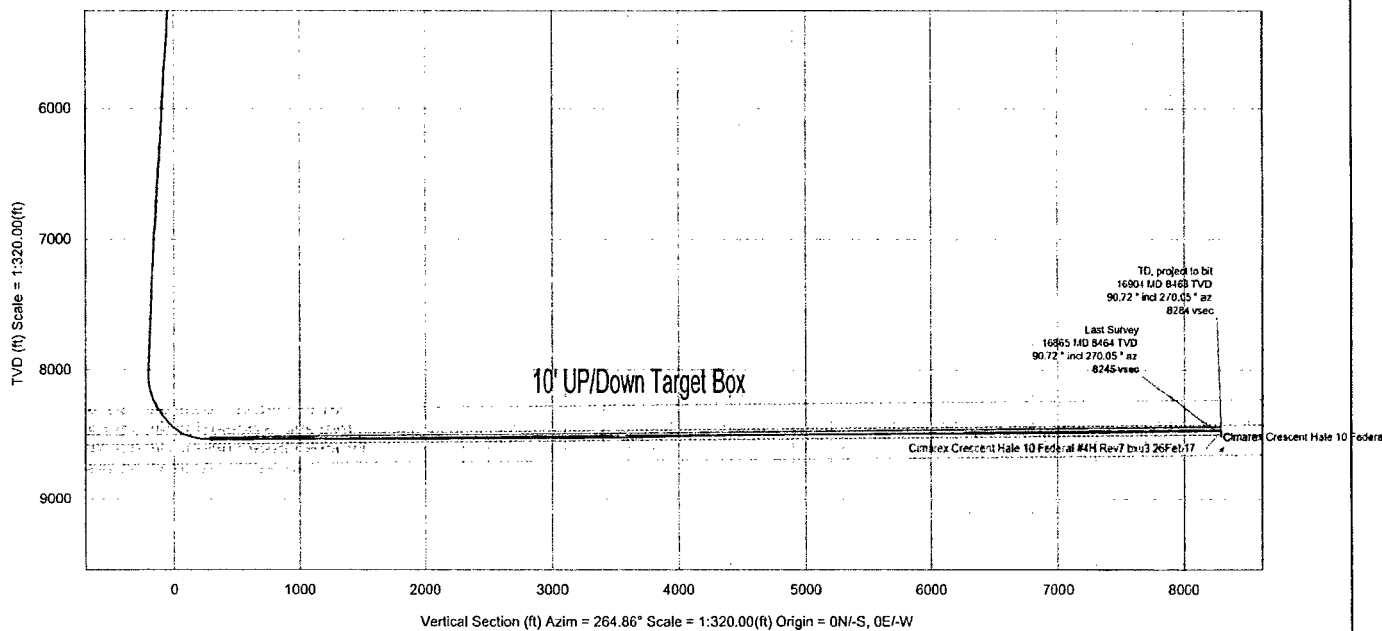
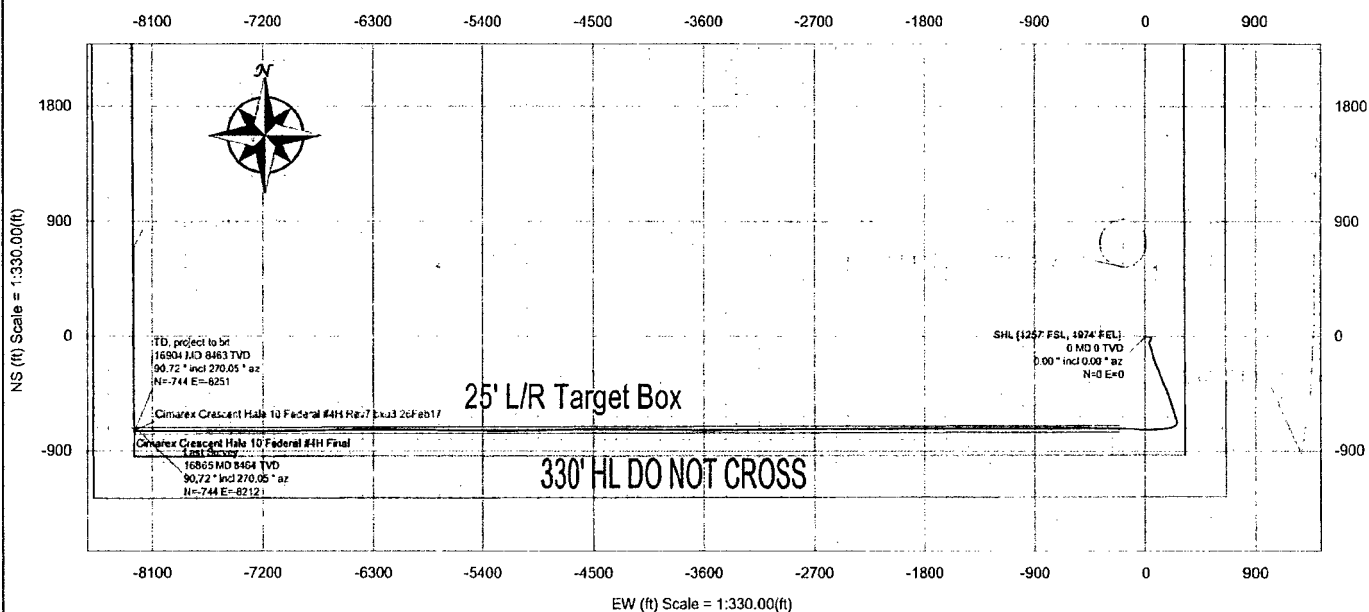


Borehole: Original Borehole		Well: Cimarex Crescent Hale 10 Federal #4H	Field: NM Eddy County (NAD 83)	Structure: Cimarex Crescent Hale 10 Federal #4H
Gravity & Magnetic Parameters Model: HDG 2016 Dip: 60.552° Date: 03-Feb-2017 MagDec: 7.534° FS: 48163.974mT Gravity FS: 988.517mg (8.80665 Based)		Surface Location NAD83 New Mexico State Plane Eastern Zone, US Feet Lat: N 32 48 15.83 Northing: 60885.15003 Grid Conv: 0.2121° Lon: W 103 56 25.78 Easting: 662717.7005 Scale Fact: 0.99992587		Miscellaneous Cimarex Crescent Slot: Hale 10 Federal TVD Ref: RMB(3774 ft above MSL) Plan: #4H Cimarex Crescent Hale 10 Federal #4H Final



Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [1257' FSL, 1974' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EXTREME SURVEYS	81.07	0.31	32.92	81.07	-0.14	0.18	0.12	0.38
Last Survey	16865.00	90.72	270.05	8463.95	8245.44	-743.56	-8211.85	0.76
TD, project to bit	16904.00	90.72	270.05	8463.46	8284.28	-743.53	-8250.84	0.00



Grid North
Tot Corr (M->G 7.322")
Mag Dec (7.534")
Grid Conv (0.212")

CONTROLLED	
Drawn by	Checked by
Drawn on	Checked on
Drawn at	Checked at
Drawn by	Checked by
Drawn on	Checked on
Drawn at	Checked at
Drawn by	Checked by
Drawn on	Checked on
Drawn at	Checked at

Cimarex Crescent Hale 10 Federal #4H Final Survey Geodetic Report



(Def Survey)

Report Date: March 05, 2017 - 11:46 AM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Crescent Hale 10 Federal #4H / Cimarex Crescent Hale 10 Federal #4H
Well: Cimarex Crescent Hale 10 Federal #4H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Crescent Hale 10 Federal #4H Final
Survey Date: February 02, 2017
Tort / AHD / DDI / EDR Ratio: 181.948' / 9291.969 ft / 6.525' / 1.090
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 40' 15.80357", W 103° 56' 25.78357"
Location Grid N/E Y/X: N 608085.150 ftUS, E 662217.700 ftUS
CRS Grid Convergence Angle: 0.2121°
Grid Scale Factor: 0.99992582
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 264.858° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3374.600 ft above MSL
Seabed / Ground Elevation: 3350.600 ft above MSL
Magnetic Declination: 7.534°
Total Gravity Field Strength: 998.5169mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48360.974 nT
Magnetic Dip Angle: 60.592°
Declination Date: February 02, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.2121°
Total Corr Mag North->Grid North: 7.3217°
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 °.').")
SHL [1257' FSL, 1974' FEL] EXTREME SURVEYS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	608085.15	662217.70	N 32 40 15.80	W 103 56 25.78
	81.07	0.31	32.92	81.07	-0.14	0.18	0.12	0.38	608085.33	662217.82	N 32 40 15.81	W 103 56 25.78
	100.00	0.10	104.67	100.00	-0.18	0.22	0.16	1.56	608085.37	662217.86	N 32 40 15.81	W 103 56 25.78
	118.92	0.31	176.32	118.92	-0.20	0.17	0.18	1.56	608085.32	662217.88	N 32 40 15.81	W 103 56 25.78
	148.89	0.31	139.92	148.89	-0.24	0.02	0.24	0.65	608085.17	662217.94	N 32 40 15.80	W 103 56 25.78
	177.83	0.31	177.83	177.83	-0.33	-0.09	0.34	0.00	608085.06	662218.04	N 32 40 15.80	W 103 56 25.78
	200.00	0.14	121.96	200.00	-0.39	-0.16	0.40	0.82	608084.99	662218.10	N 32 40 15.80	W 103 56 25.78
	207.97	0.09	99.51	207.97	-0.40	-0.16	0.42	0.82	608084.99	662218.12	N 32 40 15.80	W 103 56 25.78
	235.42	0.31	180.81	235.42	-0.41	-0.24	0.44	1.13	608084.91	662218.14	N 32 40 15.80	W 103 56 25.78
	251.62	0.40	127.84	251.62	-0.45	-0.32	0.48	2.02	608084.83	662218.18	N 32 40 15.80	W 103 56 25.78
	300.00	0.52	110.20	300.00	-0.77	-0.50	0.82	0.38	608084.65	662218.52	N 32 40 15.80	W 103 56 25.77
	358.95	0.71	98.19	358.94	-1.37	-0.64	1.43	0.38	608084.51	662219.13	N 32 40 15.80	W 103 56 25.77
	400.00	0.71	100.00	399.99	-1.86	-0.72	1.94	0.05	608084.43	662219.64	N 32 40 15.80	W 103 56 25.76
	491.00	0.71	104.00	490.98	-2.94	-0.96	3.04	0.05	608084.19	662220.74	N 32 40 15.79	W 103 56 25.75
	500.00	0.74	105.05	499.98	-3.05	-0.99	3.15	0.36	608084.16	662220.85	N 32 40 15.79	W 103 56 25.75
	582.00	1.02	111.71	581.97	-4.19	-1.39	4.34	0.36	608083.76	662222.04	N 32 40 15.79	W 103 56 25.73
	600.00	0.98	111.11	599.97	-4.48	-1.51	4.63	0.25	608083.64	662222.33	N 32 40 15.79	W 103 56 25.73
	673.00	0.80	108.01	672.96	-5.50	-1.89	5.69	0.25	608083.26	662223.39	N 32 40 15.78	W 103 56 25.72
	700.00	0.80	104.63	699.96	-5.85	-1.99	6.05	0.17	608083.16	662223.75	N 32 40 15.78	W 103 56 25.71
	764.00	0.80	96.60	763.95	-6.71	-2.16	6.93	0.17	608082.99	662224.63	N 32 40 15.78	W 103 56 25.70
	800.00	0.95	95.18	799.95	-7.25	-2.21	7.48	0.43	608082.94	662225.18	N 32 40 15.78	W 103 56 25.70
	856.00	1.19	93.69	855.94	-8.28	-2.29	8.52	0.43	608082.86	662226.22	N 32 40 15.78	W 103 56 25.68
	900.00	1.26	93.97	899.93	-9.21	-2.36	9.46	0.15	608082.79	662227.16	N 32 40 15.78	W 103 56 25.67

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 ° ' ")
	950.00	1.33	94.26	949.92	-10.32	-2.44	10.58	0.15	608082.71	662228.28	N 32 40 15.78	W 103 56 25.66
	1000.00	1.33	90.83	999.90	-11.47	-2.49	11.74	0.16	608082.66	662229.44	N 32 40 15.78	W 103 56 25.65
	1045.00	1.33	87.74	1044.89	-12.51	-2.48	12.78	0.16	608082.67	662230.48	N 32 40 15.78	W 103 56 25.63
	1100.00	1.48	89.88	1099.87	-13.86	-2.45	14.13	0.29	608082.70	662231.83	N 32 40 15.78	W 103 58 25.62
	1140.00	1.59	91.18	1139.86	-14.92	-2.46	15.20	0.29	608082.69	662232.90	N 32 40 15.78	W 103 56 25.61
	1200.00	1.48	91.18	1199.84	-16.52	-2.49	16.81	0.19	608082.66	662234.51	N 32 40 15.78	W 103 56 25.59
	1236.00	1.41	91.18	1235.83	-17.42	-2.51	17.72	0.19	608082.64	662235.41	N 32 40 15.78	W 103 56 25.58
	1300.00	1.62	84.93	1300.00	-19.10	-2.45	19.40	0.41	608082.70	662237.10	N 32 40 15.78	W 103 56 25.56
	1331.00	1.72	82.45	1330.79	-20.01	-2.35	20.30	0.41	608082.80	662238.00	N 32 40 15.78	W 103 56 25.55
	1400.00	1.70	88.50	1399.76	-22.06	-2.18	22.35	0.26	608082.97	662240.05	N 32 40 15.78	W 103 56 25.52
	1426.00	1.70	90.80	1425.75	-22.83	-2.18	23.12	0.26	608082.97	662240.82	N 32 40 15.78	W 103 56 25.51
	1500.00	1.78	84.88	1499.71	-25.07	-2.09	25.07	0.27	608083.06	662243.06	N 32 40 15.78	W 103 56 25.49
	1523.00	1.81	83.16	1522.70	-25.79	-2.02	26.08	0.27	608083.13	662243.78	N 32 40 15.78	W 103 56 25.48
	1600.00	1.88	89.75	1599.66	-28.27	-1.87	28.55	0.29	608083.28	662246.25	N 32 40 15.78	W 103 56 25.45
	1616.00	1.90	91.05	1615.65	-28.79	-1.87	29.08	0.29	608083.20	662246.78	N 32 40 15.78	W 103 56 25.44
	1700.00	2.10	92.04	1699.60	-31.70	-1.95	32.01	0.24	608083.19	662250.07	N 32 40 15.78	W 103 56 25.41
	1710.00	2.12	92.15	1709.60	-32.07	-1.96	32.37	0.24	608083.03	662253.33	N 32 40 15.78	W 103 56 25.37
	1800.00	2.03	93.48	1799.54	-35.30	-2.12	35.63	0.11	608083.01	662253.51	N 32 40 15.78	W 103 56 25.36
	1805.00	2.03	93.56	1804.53	-35.47	-2.14	35.81	0.11	608083.01	662253.51	N 32 40 15.78	W 103 56 25.36
	1900.00	1.93	94.77	1899.48	-38.71	-2.37	39.08	0.11	608082.78	662256.78	N 32 40 15.78	W 103 58 25.33
	1931.00	1.90	95.19	1930.46	-39.73	-2.46	40.12	0.11	608082.69	662257.81	N 32 40 15.78	W 103 56 25.31
	1994.00	1.81	95.76	1993.43	-41.74	-2.66	42.15	0.15	608082.49	662259.84	N 32 40 15.78	W 103 56 25.29
	2000.00	1.77	99.27	1999.42	-41.92	-2.68	42.33	1.95	608082.47	662260.03	N 32 40 15.78	W 103 56 25.29
	2088.00	2.03	152.34	2087.38	-43.83	-4.28	44.40	1.95	608080.87	662262.09	N 32 40 15.76	W 103 56 25.26
	2100.00	2.03	153.62	2099.37	-43.99	-4.66	44.59	0.38	608080.49	662262.29	N 32 40 15.76	W 103 56 25.26
	2183.00	2.03	162.48	2182.32	-44.84	-7.38	45.68	0.38	608077.77	662263.38	N 32 40 15.73	W 103 56 25.25
	2200.00	2.03	161.41	2199.31	-44.97	-7.95	45.87	0.22	608077.20	662263.57	N 32 40 15.72	W 103 56 25.25
	2279.00	2.03	163.90	2278.26	-45.74	-10.56	46.88	0.22	608074.60	662264.57	N 32 40 15.70	W 103 56 25.24
	2300.00	1.41	205.09	2373.22	-45.92	-11.21	47.12	1.61	608073.94	662264.81	N 32 40 15.69	W 103 56 25.23
	2374.00	1.46	205.99	2467.19	-45.35	-13.74	46.77	1.61	608071.41	662264.75	N 32 40 15.67	W 103 56 25.23
	2468.00	1.59	208.09	2467.18	-44.39	-15.35	45.95	0.21	608069.80	662263.65	N 32 40 15.65	W 103 56 25.25
	2500.00	1.56	209.03	2499.18	-43.90	-16.13	45.33	0.13	608069.02	662263.22	N 32 40 15.64	W 103 58 25.25
	2563.00	1.50	211.00	2562.16	-42.93	-17.58	44.69	0.13	608067.57	662262.38	N 32 40 15.62	W 103 56 25.26
	2600.00	1.65	209.03	2599.14	-42.35	-18.47	44.18	0.44	608066.69	662261.88	N 32 40 15.62	W 103 56 25.27
	2658.00	1.90	206.59	2657.12	-41.37	-20.06	43.34	0.44	608065.09	662261.04	N 32 40 15.60	W 103 56 25.28
	2700.00	1.90	204.54	2699.09	-40.66	-21.31	42.74	0.16	608063.84	662260.44	N 32 40 15.59	W 103 56 25.28
	2753.00	1.90	201.96	2752.06	-39.82	-22.93	42.05	0.16	608062.23	662259.75	N 32 40 15.58	W 103 56 25.29
	2800.00	1.86	200.90	2799.04	-39.14	-24.36	41.49	0.12	608060.79	662259.18	N 32 40 15.56	W 103 56 25.30
	2848.00	1.81	199.76	2847.01	-38.48	-25.80	40.95	0.32	608059.35	662258.65	N 32 40 15.53	W 103 56 25.31
	2900.00	1.93	203.32	2898.99	-37.71	-27.38	40.33	0.32	608057.78	662258.03	N 32 40 15.52	W 103 56 25.32
	2942.00	2.03	205.89	2940.96	-36.99	-28.69	39.72	0.32	608056.46	662257.42	N 32 40 15.50	W 103 56 25.33
	3000.00	1.84	204.00	2996.93	-36.01	-30.47	38.90	0.35	608054.68	662256.59	N 32 40 15.50	W 103 56 25.33
	3037.00	1.72	202.58	3035.91	-35.46	-31.52	38.44	0.35	608053.63	662256.14	N 32 40 15.49	W 103 56 25.34
	3100.00	1.78	208.32	3096.88	-34.48	-33.26	37.62	0.29	608051.90	662255.31	N 32 40 15.47	W 103 56 25.34
	3132.00	1.81	211.09	3130.86	-33.91	-34.12	37.12	0.29	608051.03	662254.82	N 32 40 15.46	W 103 56 25.35
	3200.00	1.88	210.22	3198.83	-32.63	-36.01	36.01	0.10	608049.15	662253.70	N 32 40 15.45	W 103 56 25.36
	3226.00	1.90	209.90	3224.82	-32.14	-36.75	35.58	0.10	608048.41	662253.27	N 32 40 15.44	W 103 56 25.37
	3300.00	1.83	211.60	3298.78	-30.73	-38.82	34.35	0.12	608046.34	662252.04	N 32 40 15.42	W 103 56 25.38
	3321.00	1.81	212.10	3319.77	-30.33	-39.38	33.99	0.12	608045.77	662251.69	N 32 40 15.41	W 103 56 25.39
	3400.00	1.81	214.92	3396.73	-28.77	-41.46	32.63	0.11	608043.69	662250.31	N 32 40 15.39	W 103 56 25.40
	3416.00	1.81	215.49	3414.72	-28.44	-41.88	32.33	0.11	608043.28	662250.02	N 32 40 15.39	W 103 56 25.41
	3500.00	1.89	225.51	3498.67	-26.51	-43.93	30.57	0.40	608041.23	662248.27	N 32 40 15.37	W 103 56 25.43
	3510.00	1.90	226.64	3508.67	-26.25	-44.15	30.33	0.40	608041.00	662248.03	N 32 40 15.37	W 103 56 25.43
	3600.00	1.20	186.68	3598.64	-24.89	-46.12	29.14	1.38	608039.04	662246.83	N 32 40 15.35	W 103 56 25.44
	3605.00	1.19	183.41	3603.64	-24.87	-46.22	29.13	1.38	608038.93	662246.82	N 32 40 15.35	W 103 56 25.44
	3700.00	1.33	163.05	3698.61	-24.95	-48.26	29.39	0.49	608036.89	662247.09	N 32 40 15.32	W 103 56 25.44
	3795.00	1.19	169.88	3793.59	-25.26	-50.29	29.88	0.22	608034.87	662247.58	N 32 40 15.30	W 103 56 25.44

Comments	MD	Incl	Azim Grid	TVD	VSEC	NS	EW	DLS	Northing	Easting	Latitude	Longitude
(ft)	(°)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(ftUS)	(ftUS)	(N/S °'")	(E/W °'")
3800.00	1.20		169.31	3798.59	-25.27	-50.39	29.90	0.27	608034.77	662247.60	N 32 40 15.30	W 103 56 25.44
3890.00	1.33		160.06	3888.57	-25.62	-52.29	30.43	0.27	608032.86	662248.13	N 32 40 15.29	W 103 56 25.43
3900.00	1.34		161.95	3888.57	-25.68	-52.51	30.51	0.46	608032.64	662248.21	N 32 40 15.28	W 103 56 25.43
3985.00	1.50		176.32	3983.54	-25.87	-54.57	30.89	0.46	608030.58	662248.59	N 32 40 15.26	W 103 56 25.42
4000.00	1.43		172.90	3998.54	-25.88	-54.95	30.93	0.75	608030.20	662248.62	N 32 40 15.26	W 103 56 25.42
4023.00	1.33		166.97	4021.53	-25.92	-55.50	31.02	0.75	608029.66	662248.72	N 32 40 15.25	W 103 56 25.42
4100.00	1.54		158.22	4098.50	-26.34	-57.33	31.61	0.40	608027.83	662249.30	N 32 40 15.24	W 103 56 25.42
4158.00	1.72		153.14	4156.48	-26.89	-58.83	32.29	0.40	608026.32	662249.99	N 32 40 15.22	W 103 56 25.41
4200.00	1.62		154.96	4198.46	-27.32	-59.93	32.83	0.27	608025.22	662250.52	N 32 40 15.21	W 103 56 25.40
4252.00	1.50		157.54	4250.44	-27.77	-61.23	33.40	0.27	608023.93	662251.09	N 32 40 15.20	W 103 56 25.40
4300.00	2.17		159.31	4298.42	-28.21	-62.66	33.96	1.40	608022.50	662251.66	N 32 40 15.18	W 103 56 25.39
4347.00	2.83		160.23	4345.37	-28.74	-64.58	34.67	1.40	608020.57	662252.36	N 32 40 15.16	W 103 56 25.38
4400.00	3.77		159.44	4398.29	-29.53	-67.44	35.72	1.77	608017.71	662253.42	N 32 40 15.13	W 103 56 25.37
4442.00	4.51		159.04	4440.18	-30.35	-70.28	36.79	1.77	608014.88	662254.49	N 32 40 15.11	W 103 56 25.36
4500.00	5.38		158.65	4497.96	-31.73	-74.94	38.60	1.50	608010.22	662256.30	N 32 40 15.06	W 103 56 25.34
4536.00	5.92		158.47	4533.78	-32.72	-78.24	39.90	1.50	608006.92	662257.59	N 32 40 15.03	W 103 56 25.32
4600.00	6.81		161.12	4597.39	-34.56	-84.90	42.34	1.47	608000.26	662260.03	N 32 40 14.96	W 103 56 25.29
4631.00	7.25		162.17	4628.16	-35.42	-88.50	43.53	1.47	607996.65	662261.23	N 32 40 14.93	W 103 56 25.28
4700.00	7.97		164.47	4696.55	-37.24	-97.26	46.14	1.14	607987.90	662263.84	N 32 40 14.84	W 103 56 25.25
4727.00	8.26		165.26	4723.28	-37.90	-100.94	47.14	1.14	607984.22	662264.84	N 32 40 14.80	W 103 56 25.24
4800.00	8.64		165.50	4795.48	-39.67	-111.32	49.85	0.52	607973.84	662267.54	N 32 40 14.70	W 103 56 25.21
4821.00	8.75		165.56	4816.24	-40.18	-114.39	50.64	0.52	607970.77	662268.34	N 32 40 14.67	W 103 56 25.20
4900.00	9.16		164.38	4894.28	-42.30	-126.73	53.83	0.57	607958.89	662271.53	N 32 40 14.55	W 103 56 25.16
4916.00	9.24		164.15	4910.07	-42.77	-128.27	54.52	0.57	607956.43	662272.22	N 32 40 14.53	W 103 56 25.15
5000.00	9.59		163.24	4992.94	-45.43	-141.91	58.38	0.45	607943.25	662276.08	N 32 40 14.40	W 103 56 25.11
5010.00	9.63		163.14	5002.80	-45.77	-143.51	58.87	0.45	607941.65	662276.56	N 32 40 14.38	W 103 56 25.10
5100.00	10.06		162.76	5091.48	-48.94	-158.22	63.38	0.48	607926.94	662281.07	N 32 40 14.24	W 103 56 25.05
5105.00	10.08		162.74	5096.40	-49.13	-159.06	63.64	0.48	607926.11	662281.33	N 32 40 14.23	W 103 56 25.05
5200.00	10.65		163.05	5189.85	-52.67	-175.39	68.66	0.60	607909.77	662286.36	N 32 40 14.07	W 103 56 24.99
5295.00	11.05		163.05	5283.15	-56.33	-192.50	73.88	0.42	607892.67	662291.57	N 32 40 13.90	W 103 56 24.93
5300.00	11.02		162.75	5288.06	-56.52	-193.41	74.16	1.34	607891.75	662291.85	N 32 40 13.89	W 103 56 24.92
5389.00	10.47		157.06	5375.50	-60.78	-208.98	79.83	1.34	607876.19	662297.53	N 32 40 13.73	W 103 56 24.86
5400.00	10.48		156.90	5386.32	-61.39	-210.82	80.61	0.29	607874.34	662298.31	N 32 40 13.71	W 103 56 24.85
5484.00	10.56		155.65	5468.91	-66.28	-224.86	86.79	0.29	607860.31	662304.48	N 32 40 13.58	W 103 56 24.78
5500.00	10.63		155.65	5484.63	-67.25	-227.54	88.00	0.42	607857.63	662305.69	N 32 40 13.55	W 103 56 24.76
5579.00	10.96		155.65	5562.24	-72.12	-241.02	94.10	0.42	607844.15	662311.79	N 32 40 13.42	W 103 56 24.69
5600.00	11.07		155.24	5582.85	-73.45	-244.67	95.77	0.63	607840.50	662313.46	N 32 40 13.38	W 103 56 24.67
5674.00	11.45		153.84	5655.43	-78.47	-257.71	101.98	0.63	607827.46	662319.67	N 32 40 13.25	W 103 56 24.60
5700.00	11.17		155.33	5680.92	-80.24	-262.32	104.17	1.55	607822.85	662321.86	N 32 40 13.20	W 103 56 24.58
5769.00	10.47		159.66	5748.69	-84.12	-274.27	109.14	1.55	607810.90	662326.83	N 32 40 13.09	W 103 56 24.52
5800.00	10.53		159.89	5779.17	-85.59	-279.57	111.09	0.23	607805.60	662328.78	N 32 40 13.03	W 103 56 24.50
5864.00	10.65		160.36	5842.09	-88.58	-290.63	115.09	0.23	607794.54	662332.78	N 32 40 12.92	W 103 56 24.45
5900.00	10.62		160.01	5877.47	-90.26	-296.88	117.34	0.20	607788.29	662335.03	N 32 40 12.86	W 103 56 24.42
5959.00	10.66		159.44	5935.46	-93.09	-307.05	121.10	0.20	607778.13	662338.79	N 32 40 12.76	W 103 56 24.38
6000.00	10.60		159.01	5975.77	-95.12	-314.09	123.77	0.21	607771.09	662341.46	N 32 40 12.68	W 103 56 24.35
6052.00	10.65		158.47	6026.87	-97.78	-323.02	127.24	0.21	607762.15	662344.93	N 32 40 12.52	W 103 56 24.31
6100.00	10.76		157.65	6074.04	-100.29	-331.32	130.52	0.23	607753.86	662348.21	N 32 40 12.52	W 103 56 24.27
6145.00	10.87		158.47	6119.22	-102.73	-339.35	133.68	0.23	607745.83	662351.37	N 32 40 12.44	W 103 56 24.23
6200.00	11.20		157.06	6212.42	-105.72	-348.93	137.55	0.67	607736.24	662355.24	N 32 40 12.35	W 103 56 24.19
6241.00	11.45		157.06	6212.42	-108.14	-356.36	140.65	0.87	607728.82	662358.34	N 32 40 12.27	W 103 56 24.15
6300.00	11.20		156.19	6270.28	-111.76	-367.00	145.24	0.52	607718.18	662362.93	N 32 40 12.17	W 103 56 24.10
6335.00	11.05		155.65	6304.62	-113.95	-373.16	148.00	0.52	607712.02	662365.69	N 32 40 12.11	W 103 56 24.07
6400.00	10.84		153.80	6368.44	-118.20	-384.32	153.26	0.63	607700.86	662370.95	N 32 40 12.00	W 103 56 24.01
6430.00	10.74		152.92	6397.91	-120.26	-389.34	155.78	0.63	607695.84	662373.47	N 32 40 11.95	W 103 56 23.98
6500.00	10.60		155.66	6466.70	-124.81	-401.01	161.40	0.75	607684.17	662379.09	N 32 40 11.83	W 103 56 23.91
6525.00	10.56		156.66	6491.27	-126.28	-405.21	163.26	0.75	607679.97	662380.95	N 32 40 11.79	W 103 56 23.89
6600.00	10.24		155.38	6565.04	-130.65	-417.58	168.76	0.52	607667.60	662386.45	N 32 40 11.67	W 103 56 23.83
6620.00	10.16		155.03	6584.72	-131.84	-420.80	170.24	0.52	607664.38	662387.93	N 32 40 11.63	W 103 56 23.81

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 ° ' '')
	6700.00	9.97	156.75	6663.49	-136.39	-433.56	175.96	0.44	607651.62	662393.64	N 32 40 11.51	W 103 56 23.74
	6714.00	9.94	157.06	6677.28	-137.13	-435.79	176.91	0.44	607649.40	662394.59	N 32 40 11.49	W 103 56 23.73
	6800.00	11.56	158.43	6761.77	-141.84	-450.64	182.97	1.91	607634.55	662400.65	N 32 40 11.34	W 103 56 23.66
	6810.00	11.75	158.56	6771.56	-142.41	-452.52	183.71	1.91	607632.87	662401.40	N 32 40 11.32	W 103 56 23.65
	6900.00	11.46	158.05	6859.72	-147.57	-469.34	190.40	0.34	607615.84	662408.09	N 32 40 11.15	W 103 56 23.58
	6904.00	11.45	158.03	6863.64	-147.80	-470.08	190.70	0.34	607615.11	662408.38	N 32 40 11.15	W 103 56 23.57
	6995.00	11.18	156.93	6956.80	-153.36	-487.30	197.84	0.36	607597.89	662415.52	N 32 40 10.97	W 103 56 23.49
	7000.00	11.20	156.99	6957.78	-153.42	-487.48	197.91	2.14	607597.71	662415.60	N 32 40 10.97	W 103 56 23.49
	7093.00	12.86	162.26	7048.73	-158.45	-505.65	204.59	2.14	607579.54	662422.28	N 32 40 10.79	W 103 56 23.41
	7100.00	12.85	162.24	7055.56	-158.79	-507.13	205.07	0.20	607578.06	662422.75	N 32 40 10.78	W 103 56 23.41
	7187.00	12.68	161.95	7140.41	-163.04	-525.42	210.96	0.20	607559.77	662428.56	N 32 40 10.60	W 103 56 23.34
	7200.00	12.64	161.72	7153.09	-163.68	-528.13	211.87	0.51	607557.07	662429.55	N 32 40 10.57	W 103 56 23.33
	7282.00	12.37	160.23	7233.15	-167.93	-544.91	217.65	0.51	607540.28	662435.33	N 32 40 10.40	W 103 56 23.26
	7300.00	12.19	160.94	7250.74	-168.88	-548.52	218.92	1.30	607536.67	662436.61	N 32 40 10.37	W 103 56 23.25
	7377.00	11.45	164.23	7326.10	-172.24	-563.56	223.66	1.30	607521.63	662441.34	N 32 40 10.22	W 103 56 23.19
	7400.00	11.41	164.46	7348.65	-173.07	-567.95	224.89	0.27	607517.25	662442.57	N 32 40 10.18	W 103 56 23.18
	7471.00	11.27	165.17	7418.26	-175.51	-581.42	228.54	0.27	607503.78	662446.22	N 32 40 10.04	W 103 56 23.14
	7500.00	10.59	164.25	7446.74	-176.48	-585.72	229.99	2.42	607498.47	662447.67	N 32 40 9.99	W 103 56 23.12
	7568.00	9.06	161.64	7511.77	-178.78	-597.49	233.28	2.42	607487.70	662450.96	N 32 40 9.88	W 103 56 23.08
	7600.00	8.73	161.24	7545.36	-180.00	-602.48	234.95	1.00	607482.72	662452.63	N 32 40 9.83	W 103 56 23.06
	7661.00	8.13	160.45	7605.70	-182.16	-610.92	237.88	1.00	607474.28	662455.56	N 32 40 9.75	W 103 56 23.03
	7700.00	8.59	160.10	7644.28	-183.59	-616.26	239.79	1.19	607468.94	662457.48	N 32 40 9.70	W 103 56 23.01
	7755.00	9.24	159.66	7698.62	-185.80	-624.26	242.73	1.19	607460.94	662460.41	N 32 40 9.62	W 103 56 22.97
	7800.00	9.11	160.32	7743.04	-187.64	-631.00	245.16	0.37	607454.19	662462.86	N 32 40 9.55	W 103 56 22.94
	7850.00	8.97	161.07	7792.42	-189.56	-638.42	247.78	0.37	607446.78	662465.46	N 32 40 9.48	W 103 56 22.91
	7900.00	8.74	161.84	7841.83	-191.35	-645.71	250.23	0.52	607439.48	662467.91	N 32 40 9.41	W 103 56 22.88
	7945.00	8.53	162.57	7886.32	-192.83	-652.15	252.29	0.52	607433.05	662469.97	N 32 40 9.34	W 103 56 22.86
	8000.00	8.26	162.63	7940.73	-194.53	-659.81	254.69	0.49	607425.39	662472.38	N 32 40 9.27	W 103 56 22.82
	8026.00	8.13	162.66	7966.46	-195.31	-663.35	255.80	0.49	607421.86	662473.48	N 32 40 9.23	W 103 56 22.82
	8062.00	8.33	159.81	8002.09	-196.53	-668.22	257.46	1.26	607416.98	662475.14	N 32 40 9.18	W 103 56 22.80
	8094.00	7.93	168.96	8033.77	-197.36	-672.56	258.68	4.23	607412.64	662476.36	N 32 40 9.14	W 103 56 22.79
	8100.00	8.00	173.13	8039.71	-197.41	-673.39	258.81	9.69	607411.82	662476.49	N 32 40 9.13	W 103 56 22.79
	8126.00	8.75	189.72	8065.44	-196.96	-677.13	258.69	9.69	607408.07	662476.37	N 32 40 9.09	W 103 56 22.79
	8157.00	11.41	204.59	8095.96	-194.83	-682.25	257.02	11.94	607402.96	662474.70	N 32 40 9.04	W 103 56 22.81
	8189.00	14.67	218.13	8127.14	-190.48	-688.31	253.20	13.90	607396.89	662470.88	N 32 40 8.98	W 103 56 22.85
	8200.00	15.70	222.56	8137.76	-188.43	-690.51	251.33	14.07	607394.70	662469.01	N 32 40 8.96	W 103 56 22.87
	8221.00	17.86	229.54	8157.86	-183.70	-694.69	246.96	14.07	607390.51	662464.64	N 32 40 8.92	W 103 56 22.92
	8253.00	21.15	238.40	8188.03	-174.52	-700.90	238.30	13.80	607384.30	662455.99	N 32 40 8.86	W 103 56 23.03
	8285.00	23.68	245.31	8217.82	-163.29	-706.61	227.54	11.40	607378.59	662445.23	N 32 40 8.80	W 103 56 23.15
	8300.00	24.52	248.14	8231.31	-157.47	-709.03	221.92	9.54	607376.17	662439.60	N 32 40 8.78	W 103 56 23.22
	8316.00	25.48	250.96	8245.81	-150.95	-711.39	215.58	9.54	607373.81	662433.27	N 32 40 8.76	W 103 56 23.29
	8348.00	26.94	256.89	8274.52	-137.09	-715.28	202.01	9.37	607369.92	662419.70	N 32 40 8.72	W 103 56 23.45
	8379.00	29.78	259.80	8301.80	-122.47	-718.24	187.60	10.13	607366.97	662405.28	N 32 40 8.69	W 103 56 23.62
	8400.00	32.36	261.41	8319.79	-111.66	-720.09	176.91	13.00	607365.21	662394.60	N 32 40 8.67	W 103 56 23.75
	8411.00	33.73	262.16	8329.01	-105.67	-720.86	170.97	13.00	607364.35	662388.66	N 32 40 8.66	W 103 56 23.81
	8443.00	36.98	264.21	8355.11	-87.17	-723.04	152.59	10.81	607362.17	662370.28	N 32 40 8.64	W 103 56 24.03
	8475.00	40.70	265.70	8380.03	-67.11	-724.79	132.60	11.99	607360.41	662350.29	N 32 40 8.63	W 103 56 24.26
	8500.00	43.77	266.19	8398.54	-50.31	-725.98	115.84	12.35	607359.23	662333.53	N 32 40 8.62	W 103 56 24.46
	8507.00	44.63	266.32	8403.56	-45.43	-726.30	110.97	12.35	607358.91	662328.66	N 32 40 8.61	W 103 56 24.52
	8538.00	48.28	267.20	8424.91	-22.97	-727.56	88.54	11.95	607357.64	662306.24	N 32 40 8.60	W 103 56 24.78
	8569.00	52.65	267.02	8444.64	0.91	-728.77	64.67	14.10	607356.44	662282.37	N 32 40 8.59	W 103 56 25.06
	8600.00	56.96	267.87	8462.50	26.21	-729.89	39.37	14.09	607355.31	662257.07	N 32 40 8.58	W 103 56 25.35
	8601.00	57.10	267.90	8463.04	27.05	-729.92	38.53	14.09	607355.28	662256.23	N 32 40 8.58	W 103 56 25.36
	8632.00	61.79	269.24	8478.80	53.68	-730.58	11.85	15.58	607354.63	662229.55	N 32 40 8.57	W 103 56 25.68
	8664.00	66.55	270.65	8492.74	82.36	-730.60	-16.94	15.39	607354.60	662200.76	N 32 40 8.58	W 103 56 26.01
	8696.00	71.19	272.59	8504.27	111.99	-729.75	-46.77	15.56	607355.46	662170.94	N 32 40 8.58	W 103 56 26.36
	8700.00	71.74	272.69	8505.54	115.75	-729.57	-50.56	14.03	607355.63	662167.15	N 32 40 8.59	W 103 56 26.41
	8728.00	75.62	273.35	8513.41	142.34	-728.16	-77.39	14.03	607357.05	662140.32	N 32 40 8.60	W 103 56 26.72

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 ° ' '')
	8760.00	79.10	273.62	8520.41	173.21	-726.26	-108.55	10.91	607358.94	662109.16	N 32 40 8.62	W 103 56 27.08
	8792.00	83.32	272.70	8525.30	204.49	-724.52	-140.12	13.49	607360.69	662077.59	N 32 40 8.64	W 103 56 27.45
	8800.00	84.48	272.27	8526.15	212.38	-724.17	-148.06	15.49	607361.03	662069.65	N 32 40 8.64	W 103 56 27.55
	8823.00	87.83	271.05	8527.69	235.16	-723.51	-171.00	15.49	607361.70	662046.71	N 32 40 8.65	W 103 56 27.82
	8855.00	90.45	271.43	8528.17	266.95	-722.82	-202.98	8.27	607362.39	662014.73	N 32 40 8.66	W 103 56 28.19
	8882.00	90.65	270.61	8527.91	293.80	-722.34	-229.98	3.13	607362.87	661987.74	N 32 40 8.66	W 103 56 28.51
	8900.00	90.82	270.81	8527.68	311.70	-722.11	-247.98	1.47	607363.09	661969.74	N 32 40 8.67	W 103 56 28.72
	8958.00	91.38	271.46	8528.57	369.34	-720.96	-305.95	1.47	607364.24	661911.77	N 32 40 8.68	W 103 56 29.39
	9000.00	90.68	271.65	8525.81	411.05	-719.83	-347.93	1.73	607365.38	661869.80	N 32 40 8.69	W 103 56 29.88
	9053.00	89.79	271.88	8525.60	463.66	-718.20	-400.90	1.73	607367.01	661816.83	N 32 40 8.71	W 103 56 30.50
	9148.00	89.98	271.26	8525.69	510.34	-716.91	-447.89	1.38	607368.00	661769.85	N 32 40 8.73	W 103 56 31.05
	9200.00	90.17	270.63	8525.63	558.07	-716.11	-495.88	1.38	607369.09	661721.86	N 32 40 8.74	W 103 56 32.22
	9200.00	90.06	270.10	8525.52	609.83	-715.78	-547.88	1.04	607369.42	661669.86	N 32 40 8.74	W 103 56 32.22
	9242.00	89.97	269.67	8525.51	651.67	-715.87	-589.88	1.04	607369.34	661627.87	N 32 40 8.74	W 103 56 32.71
	9300.00	89.88	269.66	8525.59	709.46	-716.21	-647.88	0.15	607369.00	661569.87	N 32 40 8.74	W 103 56 33.39
	9337.00	89.83	269.66	8525.68	746.33	-716.42	-684.88	0.15	607368.78	661532.88	N 32 40 8.74	W 103 56 33.83
	9400.00	89.92	269.69	8525.82	809.11	-716.78	-747.88	0.15	607368.42	661469.88	N 32 40 8.74	W 103 56 34.56
	9432.00	89.97	269.70	8525.85	841.00	-716.95	-779.87	0.15	607368.25	661437.88	N 32 40 8.74	W 103 56 34.94
	9500.00	90.06	269.83	8525.83	908.75	-717.23	-847.87	0.24	607367.97	661369.89	N 32 40 8.74	W 103 56 35.73
	9526.00	90.10	269.88	8525.79	934.65	-717.30	-873.87	0.24	607367.91	661343.89	N 32 40 8.74	W 103 56 36.04
	9600.00	89.89	269.87	8525.80	1008.37	-717.46	-947.87	0.29	607367.75	661269.90	N 32 40 8.74	W 103 56 36.90
	9620.00	89.83	269.87	8525.85	1028.29	-717.50	-967.87	0.29	607367.70	661249.90	N 32 40 8.74	W 103 56 37.14
	9700.00	89.71	269.96	8526.16	1107.98	-717.62	-1047.87	0.19	607367.58	661169.91	N 32 40 8.74	W 103 56 38.07
	9715.00	89.69	269.98	8526.24	1122.92	-717.63	-1062.87	0.19	607367.58	661154.91	N 32 40 8.74	W 103 56 38.25
	9800.00	89.84	269.74	8526.59	1207.59	-717.84	-1147.87	0.34	607367.37	661069.92	N 32 40 8.74	W 103 56 39.24
	9810.00	89.86	269.71	8526.82	1217.56	-717.89	-1157.87	0.34	607367.32	661059.92	N 32 40 8.74	W 103 56 39.36
	9900.00	89.86	269.92	8526.84	1307.22	-718.18	-1247.87	0.23	607367.03	660969.92	N 32 40 8.74	W 103 56 40.41
	9905.00	89.86	269.93	8526.85	1312.20	-718.18	-1252.87	0.23	607367.02	660964.92	N 32 40 8.74	W 103 56 40.47
	10000.00	89.62	269.74	8527.28	1406.84	-718.46	-1347.87	0.32	607366.75	660869.93	N 32 40 8.74	W 103 56 41.58
	10095.00	89.86	269.61	8527.71	1501.50	-719.00	-1442.87	0.29	607366.21	660774.94	N 32 40 8.74	W 103 56 42.69
	10100.00	89.86	269.62	8527.72	1506.49	-719.03	-1447.87	0.28	607366.17	660769.94	N 32 40 8.74	W 103 56 42.75
	10190.00	89.90	269.87	8527.91	1596.16	-719.43	-1537.87	0.28	607365.78	660679.95	N 32 40 8.74	W 103 56 43.80
	10295.00	89.93	269.94	8528.05	1690.79	-719.59	-1632.87	0.08	607365.62	660584.96	N 32 40 8.74	W 103 56 44.92
	10300.00	89.91	269.86	8528.07	1705.73	-719.61	-1647.87	0.54	607365.59	660569.96	N 32 40 8.74	W 103 56 45.09
	10360.00	89.83	269.44	8528.25	1785.45	-720.10	-1727.86	0.54	607365.11	660489.97	N 32 40 8.74	W 103 56 46.03
	10400.00	89.86	269.51	8528.30	1805.39	-720.28	-1747.86	0.38	607364.92	660469.97	N 32 40 8.74	W 103 56 46.26
	10475.00	89.97	269.77	8528.42	1880.13	-720.75	-1822.86	0.38	607364.45	660394.98	N 32 40 8.74	W 103 56 47.14
	10500.00	89.94	269.73	8528.43	1905.03	-720.86	-1847.86	0.21	607364.34	660369.98	N 32 40 8.74	W 103 56 47.43
	10569.00	89.86	269.61	8528.55	1973.79	-721.26	-1916.86	0.21	607363.94	660300.99	N 32 40 8.74	W 103 56 48.24
	10600.00	90.14	269.58	8528.55	2004.69	-721.48	-1947.86	0.91	607363.72	660269.99	N 32 40 8.74	W 103 56 48.60
	10664.00	90.72	269.51	8528.07	2068.47	-721.99	-2011.85	0.91	607363.21	660206.00	N 32 40 8.73	W 103 56 49.35
	10700.00	90.72	269.42	8527.62	2104.35	-722.33	-2047.85	0.24	607362.88	660170.01	N 32 40 8.73	W 103 56 49.77
	10758.00	90.72	269.28	8526.89	2162.17	-722.98	-2105.84	0.24	607362.22	660112.02	N 32 40 8.73	W 103 56 50.45
	10800.00	90.54	269.31	8526.43	2204.04	-723.50	-2147.84	0.44	607361.70	660070.03	N 32 40 8.72	W 103 56 50.94
	10852.00	90.31	269.35	8526.05	2255.88	-724.11	-2199.83	0.44	607361.10	660018.04	N 32 40 8.72	W 103 56 51.55
	10900.00	90.35	269.63	8525.77	2303.72	-724.54	-2247.83	0.58	607360.67	659970.04	N 32 40 8.72	W 103 56 52.11
	10947.00	90.38	269.90	8525.48	2350.55	-724.73	-2294.83	0.58	607360.48	659923.05	N 32 40 8.72	W 103 56 52.66
	11000.00	90.40	269.94	8525.12	2403.34	-724.80	-2347.83	0.08	607360.40	659870.05	N 32 40 8.72	W 103 56 53.27
	11042.00	90.41	269.97	8524.82	2445.17	-724.84	-2389.82	0.08	607360.37	659828.06	N 32 40 8.72	W 103 56 53.78
	11100.00	90.45	269.69	8524.38	2502.95	-725.01	-2447.82	0.48	607360.20	659770.06	N 32 40 8.72	W 103 56 54.45
	11136.00	90.48	269.52	8524.09	2538.83	-725.26	-2483.82	0.48	607359.95	659734.07	N 32 40 8.72	W 103 56 54.87
	11200.00	90.35	269.35	8523.63	2602.62	-725.89	-2547.82	0.33	607359.32	659670.08	N 32 40 8.71	W 103 56 55.62
	11232.00	90.28	269.27	8523.45	2634.53	-726.27	-2579.81	0.33	607358.94	659638.08	N 32 40 8.71	W 103 56 55.99
	11300.00	90.42	269.30	8523.04	2702.32	-727.12	-2647.81	0.22	607358.09	659570.10	N 32 40 8.71	W 103 56 56.78
	11326.00	90.48	269.31	8522.83	2728.24	-727.43	-2673.80	0.22	607357.77	659544.10	N 32 40 8.70	W 103 56 57.09
	11400.00	90.46	269.52	8522.23	2802.01	-728.19	-2747.80	0.29	607357.02	659470.11	N 32 40 8.70	W 103 56 57.96
	11421.00	90.45	269.58	8522.06	2822.93	-728.35	-2768.80	0.29	607356.85	659449.12	N 32 40 8.70	W 103 56 58.20

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 ° ' ")
	11500.00	90.39	269.56	8521.48	2901.87	-728.95	-2847.79	0.08	607356.26	659370.13	N 32.40 8.69	W 103.56 59.13
	11516.00	90.38	269.56	8521.37	2917.61	-729.07	-2863.79	0.08	607356.14	659354.13	N 32.40 8.69	W 103.56 59.32
	11600.00	90.41	269.51	8520.79	3001.33	-729.75	-2947.79	0.06	607355.46	659270.14	N 32.40 8.69	W 103.57 0.30
	11609.00	90.41	269.51	8520.73	3010.30	-729.82	-2956.79	0.06	607355.38	659261.14	N 32.40 8.69	W 103.57 0.40
	11700.00	90.48	269.18	8520.03	3101.02	-730.86	-3047.78	0.37	607354.34	659170.16	N 32.40 8.68	W 103.57 1.47
	11703.00	90.48	269.17	8520.00	3104.01	-730.91	-3050.78	0.37	607354.30	659167.16	N 32.40 8.68	W 103.57 1.50
	11798.00	90.52	269.37	8519.17	3198.72	-732.12	-3145.76	0.21	607353.09	659072.17	N 32.40 8.67	W 103.57 2.61
	11800.00	90.52	269.36	8519.15	3200.72	-732.14	-3147.76	0.21	607353.07	659070.18	N 32.40 8.67	W 103.57 2.64
	11892.00	90.55	269.08	8518.29	3292.45	-733.39	-3239.75	0.31	607351.82	658978.19	N 32.40 8.66	W 103.57 3.71
	11900.00	90.55	269.12	8518.22	3300.42	-733.51	-3247.75	0.48	607351.69	658970.20	N 32.40 8.66	W 103.57 3.81
	11987.00	90.55	269.54	8517.38	3387.16	-734.53	-3334.74	0.48	607350.68	658883.21	N 32.40 8.66	W 103.57 4.82
	12000.00	90.55	269.49	8517.26	3400.11	-734.64	-3347.74	0.42	607349.60	658870.22	N 32.40 8.66	W 103.57 4.98
	12081.00	90.52	269.15	8516.50	3480.86	-735.61	-3428.73	0.42	607349.60	658789.23	N 32.40 8.65	W 103.57 5.92
	12100.00	90.53	269.14	8516.33	3499.81	-735.89	-3447.73	0.08	607349.32	658770.24	N 32.40 8.65	W 103.57 6.15
	12176.00	90.55	269.08	8515.62	3575.60	-737.07	-3523.71	0.08	607348.13	658694.25	N 32.40 8.64	W 103.57 7.04
	12200.00	90.60	269.42	8515.38	3599.52	-737.39	-3547.71	1.42	607347.82	658670.26	N 32.40 8.64	W 103.57 7.32
	12270.00	90.76	270.40	8514.54	3669.25	-737.50	-3617.71	1.42	607347.71	658600.27	N 32.40 8.64	W 103.57 8.14
	12300.00	90.90	270.70	8514.11	3699.10	-737.21	-3647.70	1.10	607347.99	658570.28	N 32.40 8.64	W 103.57 8.49
	12365.00	91.20	271.35	8512.92	3763.71	-736.05	-3712.68	1.10	607349.16	658505.30	N 32.40 8.65	W 103.57 9.25
	12400.00	91.15	271.18	8512.20	3798.48	-735.27	-3747.66	0.49	607349.93	658470.32	N 32.40 8.66	W 103.57 9.66
	12458.00	91.07	270.91	8511.08	3856.13	-734.22	-3805.64	0.14	607350.99	658412.35	N 32.40 8.68	W 103.57 10.33
	12500.00	91.04	270.86	8510.30	3897.89	-732.79	-3847.63	0.14	607352.41	658370.36	N 32.40 8.69	W 103.57 11.46
	12554.00	91.00	270.79	8509.34	3951.59	-732.57	-3901.62	0.14	607352.41	658316.38	N 32.40 8.71	W 103.57 12.57
	12600.00	90.85	270.75	8508.60	3997.34	-732.17	-3947.61	0.34	607353.03	658270.39	N 32.40 8.70	W 103.57 11.99
	12649.00	90.69	270.70	8507.94	4046.08	-731.56	-3996.60	0.34	607353.65	658221.41	N 32.40 8.72	W 103.57 13.16
	12700.00	90.89	270.69	8507.24	4096.81	-730.94	-4047.59	0.40	607354.27	658170.42	N 32.40 8.72	W 103.57 13.68
	12744.00	91.07	270.68	8506.48	4140.58	-730.41	-4091.58	0.40	607354.79	658126.43	N 32.40 8.72	W 103.57 13.88
	12800.00	90.99	270.67	8505.48	4196.28	-729.75	-4147.57	0.15	607355.45	658070.45	N 32.40 8.74	W 103.57 14.33
	12838.00	90.93	270.67	8504.84	4234.08	-729.31	-4185.56	0.15	607355.90	658032.46	N 32.40 8.74	W 103.57 14.78
	12900.00	91.18	270.94	8503.70	4295.74	-728.43	-4247.54	0.59	607356.77	657970.48	N 32.40 8.75	W 103.57 15.50
	12932.00	91.31	271.08	8503.00	4327.54	-727.87	-4279.53	0.59	607357.34	657936.50	N 32.40 8.76	W 103.57 15.88
	13000.00	91.21	269.98	8501.51	4395.19	-727.24	-4347.51	1.63	607357.96	657870.52	N 32.40 8.76	W 103.57 16.67
	13027.00	91.17	269.54	8500.95	4422.09	-727.36	-4374.50	1.63	607357.85	657843.53	N 32.40 8.76	W 103.57 16.99
	13122.00	90.46	269.18	8499.91	4494.86	-728.17	-4469.49	1.10	607356.70	657774.55	N 32.40 8.76	W 103.57 17.84
	13120.00	90.24	269.07	8499.78	4516.79	-728.51	-4494.49	1.10	607356.70	657748.55	N 32.40 8.76	W 103.57 18.10
	13200.00	90.41	269.17	8499.33	4594.58	-729.71	-4547.48	0.25	607355.50	657670.57	N 32.40 8.75	W 103.57 19.01
	13217.00	90.45	269.19	8499.21	4611.53	-729.95	-4564.47	0.25	607355.25	657653.57	N 32.40 8.75	W 103.57 19.21
	13300.00	90.60	269.06	8498.45	4694.30	-731.22	-4647.46	0.24	607353.99	657570.59	N 32.40 8.74	W 103.57 20.18
	13311.00	90.62	269.04	8498.33	4705.27	-731.40	-4658.46	0.24	607353.80	657559.60	N 32.40 8.73	W 103.57 20.31
	13406.00	90.42	268.71	8497.52	4794.04	-733.15	-4747.44	0.43	607352.06	657470.62	N 32.40 8.72	W 103.57 21.35
	13499.00	90.65	268.65	8496.61	4892.82	-735.44	-4846.41	0.26	607349.76	657371.66	N 32.40 8.70	W 103.57 22.51
	13500.00	90.65	268.65	8496.60	4893.82	-735.44	-4847.41	0.54	607349.74	657370.66	N 32.40 8.70	W 103.57 22.52
	13594.00	90.38	269.09	8495.76	4987.58	-737.32	-4941.38	0.54	607347.89	657276.69	N 32.40 8.69	W 103.57 23.62
	13600.00	90.40	269.04	8495.72	4993.57	-737.41	-4947.38	0.80	607347.79	657270.69	N 32.40 8.68	W 103.57 23.69
	13687.00	90.62	268.39	8494.95	5080.36	-739.36	-5034.36	0.80	607345.85	657183.73	N 32.40 8.67	W 103.57 24.71
	13700.00	90.60	268.44	8494.81	5093.34	-739.32	-5047.35	0.44	607345.49	657170.73	N 32.40 8.67	W 103.57 24.86
	13783.00	90.45	268.78	8494.05	5176.16	-741.73	-5130.32	0.44	607343.47	657087.77	N 32.40 8.65	W 103.57 25.83
	13800.00	90.39	268.99	8493.93	5193.11	-742.06	-5147.32	1.28	607343.14	657070.77	N 32.40 8.65	W 103.57 26.03
	13877.00	90.14	269.94	8493.57	5292.77	-742.78	-5224.32	1.28	607342.43	656993.78	N 32.40 8.64	W 103.57 26.93
	13900.00	90.26	270.10	8493.49	5292.77	-742.77	-5247.32	0.85	607342.43	656970.78	N 32.40 8.64	W 103.57 27.20
	13971.00	90.62	270.58	8492.95	5363.44	-742.35	-5318.31	0.85	607342.85	656899.79	N 32.40 8.65	W 103.57 28.03
	14000.00	90.60	270.57	8492.64	5392.30	-742.06	-5347.31	0.08	607343.14	656870.80	N 32.40 8.65	W 103.57 28.37
	14065.00	90.55	270.56	8491.99	5456.97	-741.42	-5412.30	0.08	607343.79	656805.81	N 32.40 8.66	W 103.57 29.13
	14100.00	90.51	270.66	8491.66	5491.79	-741.05	-5447.30	0.30	607344.16	656770.82	N 32.40 8.67	W 103.57 29.54
	14160.00	90.45	270.83	8491.16	5551.48	-740.27	-5507.29	0.30	607344.94	656710.83	N 32.40 8.68	W 103.57 30.24
	14200.00	90.42	270.74	8490.85	5591.26	-739.72	-5547.29	0.23	607345.49	656670.84	N 32.40 8.68	W 103.57 30.71
	14256.00	90.38	270.62	8490.46	5646.97	-739.05	-5603.28	0.23	607346.15	656614.85	N 32.40 8.69	W 103.57 31.36

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 ° ' '')
	14300.00	90.41	270.73	8490.16	5590.74	-738.54	-5647.28	0.25	607346.67	656570.85	N 32 40 8.70	W 103 57 31.88
	14351.00	90.45	270.85	8499.77	5741.47	-737.83	-5698.27	0.25	607347.37	656519.86	N 32 40 8.71	W 103 57 32.47
	14400.00	90.41	270.84	8499.40	5790.20	-737.11	-5747.26	0.08	607348.09	656470.87	N 32 40 8.72	W 103 57 33.05
	14445.00	90.38	270.83	8499.09	5834.95	-736.46	-5792.26	0.08	607348.75	656425.88	N 32 40 8.72	W 103 57 33.57
	14500.00	90.32	270.93	8488.78	5889.65	-735.61	-5847.25	0.21	607349.59	656370.89	N 32 40 8.73	W 103 57 34.22
	14539.00	90.28	271.00	8488.55	5928.43	-734.96	-5886.24	0.21	607350.25	656331.90	N 32 40 8.74	W 103 57 34.67
	14600.00	90.30	270.90	8488.24	5989.08	-733.94	-5947.24	0.16	607351.26	656270.92	N 32 40 8.75	W 103 57 35.39
	14633.00	90.31	270.85	8488.07	6021.90	-733.44	-5980.23	0.16	607351.77	656237.92	N 32 40 8.76	W 103 57 35.77
	14700.00	90.29	270.79	8487.72	6088.54	-732.48	-6047.22	0.09	607352.73	656170.94	N 32 40 8.77	W 103 57 36.56
	14728.00	90.28	270.77	8487.58	6116.39	-732.09	-6075.22	0.09	607353.11	656142.94	N 32 40 8.78	W 103 57 36.88
	14800.00	90.28	270.78	8487.23	6188.00	-731.12	-6147.21	0.01	607354.08	656070.96	N 32 40 8.79	W 103 57 37.73
	14823.00	90.28	270.78	8487.11	6210.88	-730.81	-6170.21	0.01	607354.40	656047.96	N 32 40 8.79	W 103 57 37.99
	14900.00	90.17	270.67	8486.81	6287.47	-729.83	-6247.20	0.20	607355.37	655970.97	N 32 40 8.81	W 103 57 38.89
	14918.00	90.14	270.65	8486.77	6305.38	-729.62	-6265.20	0.20	607355.68	655952.97	N 32 40 8.81	W 103 57 39.11
	15000.00	90.74	269.48	8486.14	6387.04	-729.53	-6347.20	1.60	607355.88	655870.99	N 32 40 8.81	W 103 57 40.06
	15013.00	90.83	269.30	8485.96	6400.00	-729.67	-6360.20	1.60	607355.54	655857.99	N 32 40 8.81	W 103 57 40.22
	15100.00	90.45	268.72	8484.99	6486.76	-731.17	-6447.18	0.80	607354.04	655771.01	N 32 40 8.80	W 103 57 41.23
	15108.00	90.41	268.67	8484.93	6494.74	-731.35	-6455.18	0.80	607353.86	655753.02	N 32 40 8.80	W 103 57 41.33
	15200.00	90.45	268.64	8484.24	6586.54	-733.51	-6547.15	0.05	607351.70	655671.05	N 32 40 8.78	W 103 57 42.40
	15202.00	90.45	268.64	8484.23	6588.54	-733.55	-6549.15	0.05	607351.65	655669.05	N 32 40 8.78	W 103 57 42.43
	15297.00	90.52	268.66	8483.42	6683.32	-735.79	-6644.12	0.08	607349.41	655574.09	N 32 40 8.76	W 103 57 43.54
	15300.00	90.52	268.66	8483.40	6686.32	-735.86	-6647.12	0.15	607349.34	655571.09	N 32 40 8.76	W 103 57 43.57
	15393.00	90.55	268.80	8482.53	6779.10	-737.92	-6740.09	0.15	607347.29	655478.12	N 32 40 8.74	W 103 57 44.66
	15400.00	90.54	268.80	8482.46	6786.08	-738.07	-6747.09	0.08	607347.14	655471.13	N 32 40 8.74	W 103 57 44.74
	15488.00	90.48	268.83	8481.67	6873.87	-739.89	-6835.06	0.08	607345.32	655383.16	N 32 40 8.73	W 103 57 45.77
	15500.00	90.48	268.84	8481.57	6885.84	-740.13	-6847.06	0.12	607345.08	655371.16	N 32 40 8.72	W 103 57 45.91
	15583.00	90.48	268.84	8480.88	6968.63	-741.73	-6930.04	0.12	607343.47	655288.18	N 32 40 8.71	W 103 57 46.88
	15600.00	90.49	268.90	8480.73	6985.59	-742.05	-6947.04	0.24	607343.15	655271.19	N 32 40 8.71	W 103 57 47.08
	15678.00	90.55	268.72	8480.02	7063.40	-743.67	-7025.02	0.24	607341.53	655193.22	N 32 40 8.70	W 103 57 47.99
	15700.00	90.54	268.68	8479.81	7085.35	-744.17	-7047.01	0.20	607341.03	655171.22	N 32 40 8.69	W 103 57 48.25
	15772.00	90.52	268.53	8479.15	7157.19	-745.93	-7118.99	0.20	607339.28	655099.25	N 32 40 8.68	W 103 57 49.09
	15800.00	90.62	268.98	8478.87	7185.13	-746.54	-7146.98	1.66	607338.67	655071.26	N 32 40 8.67	W 103 57 49.42
	15866.00	90.86	270.05	8478.01	7250.90	-747.09	-7212.97	1.66	607338.11	655005.28	N 32 40 8.67	W 103 57 50.19
	15900.00	90.88	270.10	8477.50	7284.76	-747.05	-7248.97	0.16	607338.16	654971.28	N 32 40 8.67	W 103 57 50.59
	15962.00	90.93	270.19	8476.51	7346.49	-746.89	-7308.96	0.16	607338.31	654909.30	N 32 40 8.67	W 103 57 51.32
	16000.00	90.96	270.33	8475.89	7384.31	-746.72	-7346.95	0.38	607338.49	654871.31	N 32 40 8.68	W 103 57 51.76
	16056.00	91.00	270.54	8474.93	7440.04	-746.29	-7402.94	0.38	607338.91	654815.32	N 32 40 8.68	W 103 57 52.42
	16100.00	90.94	270.38	8474.19	7483.82	-745.94	-7446.94	0.40	607339.27	654771.33	N 32 40 8.69	W 103 57 52.93
	16151.00	90.86	270.19	8473.39	7534.59	-745.69	-7497.93	0.40	607339.52	654720.34	N 32 40 8.69	W 103 57 53.53
	16200.00	90.91	270.40	8472.63	7583.36	-745.44	-7546.92	0.44	607339.77	654671.35	N 32 40 8.70	W 103 57 54.10
	16244.00	90.96	270.59	8471.91	7627.14	-745.06	-7590.92	0.44	607340.15	654627.36	N 32 40 8.70	W 103 57 54.61
	16300.00	90.92	270.38	8470.99	7682.87	-744.58	-7646.91	0.38	607340.63	654571.38	N 32 40 8.71	W 103 57 55.27
	16338.00	90.89	270.24	8470.39	7720.69	-744.38	-7684.90	0.38	607340.83	654533.38	N 32 40 8.71	W 103 57 55.71
	16400.00	90.87	270.20	8469.44	7782.41	-744.14	-7746.89	0.07	607341.07	654471.40	N 32 40 8.72	W 103 57 56.44
	16432.00	90.86	270.18	8468.96	7814.27	-744.03	-7778.89	0.07	607341.18	654439.40	N 32 40 8.72	W 103 57 56.81
	16500.00	90.93	270.24	8467.90	7881.96	-743.78	-7846.88	0.14	607341.42	654371.42	N 32 40 8.72	W 103 57 57.61
	16526.00	90.96	270.26	8467.47	7907.84	-743.67	-7872.88	0.14	607341.54	654345.42	N 32 40 8.72	W 103 57 57.91
	16600.00	89.87	269.94	8466.93	7981.53	-743.54	-7946.87	1.53	607341.67	654271.43	N 32 40 8.73	W 103 57 58.78
	16622.00	89.55	269.85	8467.04	8003.45	-743.58	-7968.87	1.53	607341.63	654249.43	N 32 40 8.73	W 103 57 59.04
	16700.00	90.77	270.09	8466.82	8081.13	-743.56	-8046.87	1.59	607341.59	654171.44	N 32 40 8.73	W 103 57 59.95
	16717.00	91.03	270.14	8466.56	8098.06	-743.59	-8063.87	1.59	607341.62	654154.45	N 32 40 8.73	W 103 58 0.15
	16800.00	91.09	269.94	8465.02	8180.71	-743.53	-8146.85	0.25	607341.68	654071.47	N 32 40 8.74	W 103 58 1.12
	16812.00	91.10	269.91	8464.79	8192.86	-743.54	-8158.85	0.25	607341.66	654039.47	N 32 40 8.74	W 103 58 1.26
Last Survey	16865.00	90.72	270.05	8463.95	8245.44	-743.56	-8211.85	0.76	607341.64	654006.48	N 32 40 8.74	W 103 58 1.88
TD, project to bit	16904.00	90.72	270.05	8463.46	8284.28	-743.53	-8250.84	0.00	607341.68	653967.49	N 32 40 8.74	W 103 58 2.33

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (EW ° ' ")
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Survey Type: Def Survey

Survey Error Model: ISOWSA 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 Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	24.000	1/98.425	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Crescent Hale 10 Federal #4H Final
	1	24.000	24.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Crescent Hale 10 Federal #4H Final
	1	24.000	16904.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Crescent Hale 10 Federal #4H