

Results of Directional Survey

API number:	30-025-40838		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	SNODDY FEDERAL # 21H

surface	ULSTR:	A	26	T	20S	R	32E
				768	FNL	555	FEL

BH Loc	ULSTR:	P	26	T	20S	R	32E
13749	MD	9935.0	TVD	341	FSL	503	FEL
				4939	FNL		

Top Perf/OH	ULSTR:	A	26	T	20S	R	32E
9900	MD	9803.8	TVD	1118	FNL	520	FEL

Bot Perf/OH	ULSTR:	P	26	T	20S	R	32E
13721	MD	9935.0	TVD	369	FSL	503	FEL
				4911	FNL		

	MD	N/S	E/W	VD
	9899	-349.23	35.45	9803.19
TOP PERFS/OH	9900	-350.03	35.47	9803.79
	9930	-373.93	36.09	9821.91
	13700	-4122.25	51.44	9935.00
BOT PERFS/OH	13721	-4143.25	51.57	9935.00
	13750.3	-4172.60	51.74	9935.00

NEXT TO LAST	13700	-4122.25	51.44	9935.00
LAST READING	13750.3	-4172.60	51.74	9935.00
TD	13749	-4171.26	51.73	9935.00

Surface Location	768	FN	555	FE
Projected BHL	4939	FN	503	FE
Location of				
Top Perfs/OH	1118	FN	520	FE
Bottom Perfs/OH	4911	FN	503	FE

SUMMARY of Subsurface Locations

Surface Location	A-26-20S-32E	768	FN	555	FE	Vert. Depth
Top Perfs/OH	A-26-20S-32E	1118	FN	520	FE	9803.79
Bottom Perfs/OH	P-26-20S-32E	4911	FN	503	FE	9935.00
Projected TD	P-26-20S-32E	4939	FN	503	FE	9935.00

OCT 22 2013



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HOBBS OCD

SEP 20 2013

RECEIVED

June 05, 2013

Cimarex

Re: Client Cimarex
Well Snoddy Federal #21H
Rig Cactus 115
County Lea County, NM

Job# 13MLD0164

Please find enclosed, a copy of the End of Well Report (EOW) provided by our Directional Drilling Services from 04/18/2013 through 05/14/2013. This report consists of color planned vs. actual well drawings, proposed and actual surveys, morning reports, BHAs, and a Pathfinder office support personnel sheet for the above referenced well.

Should your office require further information, please feel free to contact your sales representative, Ryan Hempton or me.

Sincerely,

Ryan J. Schneider
Well Planner



Cactus 115

Rev4

PATHFINDER
A Schlumberger Company

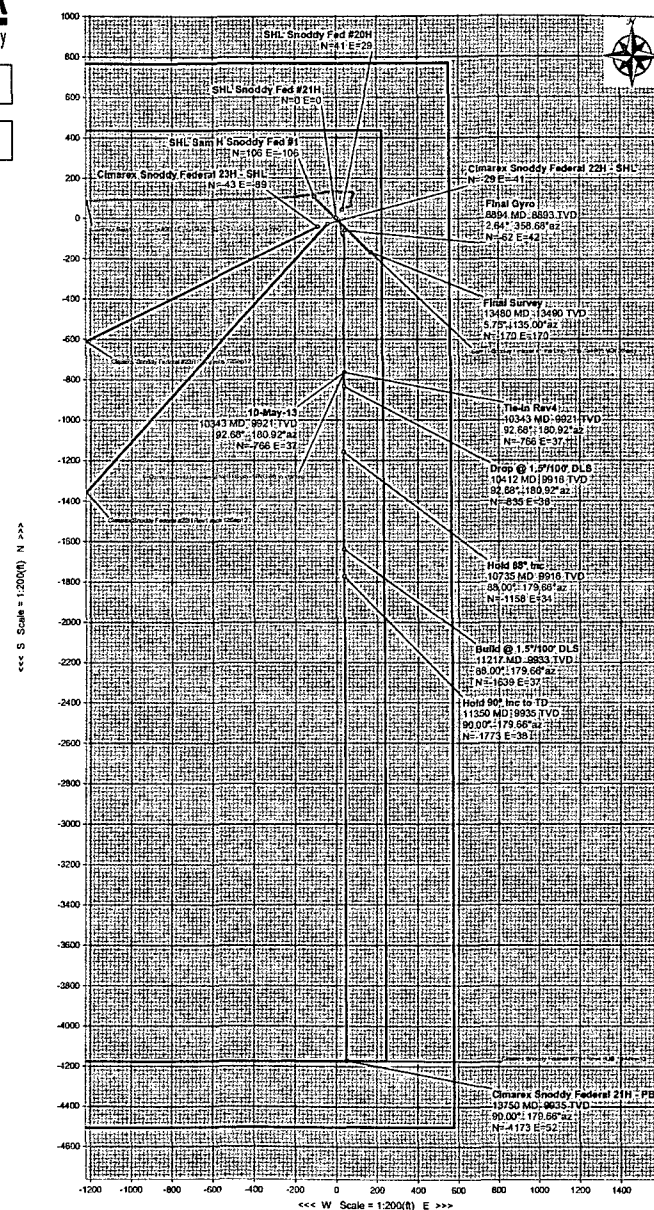
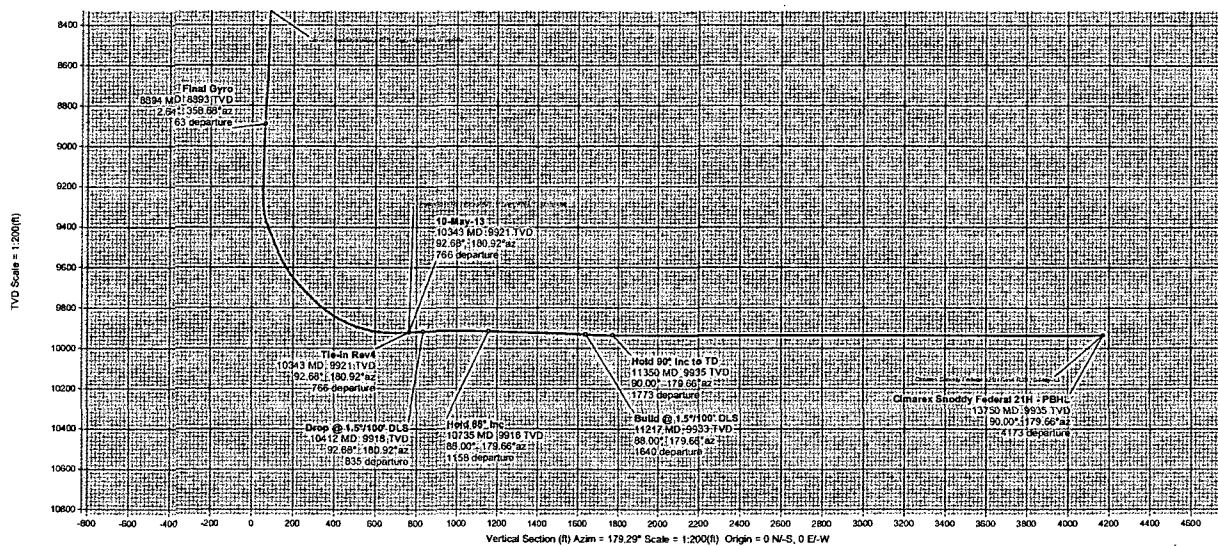
WELL		FIELD		STRUCTURE	
Snoddy Federal 21H		NM Lea County		Cactus 115	
Magnetic Parameters Model: BGM12 2012 Dip: 46.37° Mag Dec: 7.57°		Surface Location Date: March 26, 2013 Time: 08:52 AM Loc: N 22 32 57.383 East: W 100 41 48.45		Miscellaneous Sht: Snoddy Federal 21H TWD Ref: KBB7158 above MSL Sht Date: Aug-78-2011	
		NAD83 New Mexico State Plane, Eastern Zone, US Feet Northing: 3646040.40 E15 Easting: 142130.18 E15 UTM Zone: 18QDD9865			

Legend

[illegible]

Grid North
Tot Corr (M->G 7.2473°)
Mag Dec (7.572°)
Grid Conv (0.325°)

Comments	Survey MDT(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub-Sea TVD	Critical Points										
						VS(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Easting(ftUS)	Northing(ftUS)	Closure(ft)	Closure Azimuth(deg)	DLS(ft/100ft)	Tool Face(deg)
SHL Snoddy Fed #21H	0.00	0.00	0.00	0.00	-3573.00	0.00	0.00	0.00	N 32 32 57.383	W 103 43 48.435	727294.30	564082.60	0.00	0.00		251.32
End First Gyo Run	1120.50	0.62	317.01	1120.50	-2452.42	2.73	-2.75	-2.00	N 32 32 57.355	W 103 43 48.459	727202.30	564079.85	3.40	216.00	0.07	314.52
Final Gyo	8894.40	2.64	358.68	8892.68	5319.68	62.91	-62.40	41.50	N 32 32 58.763	W 103 43 47.955	727245.80	564020.20	74.94	146.37	3.03	341.32
Tie-in RevA	10343.00	92.68	180.92	9921.00	6348.00	756.21	-765.82	36.78	N 32 32 49.803	W 103 43 48.066	727241.07	563316.82	766.70	177.25	4.69	0.00
Drop @ 1.571007 DLS	10412.00	92.68	180.92	9917.78	6344.78	836.11	-834.73	35.67	N 32 32 49.121	W 103 43 48.074	727238.97	563247.91	835.49	177.55	0.00	-164.92
Hold 88" Inc	10735.10	88.00	179.56	9915.86	6342.86	1158.06	-1157.73	34.04	N 32 32 45.926	W 103 43 48.114	727238.33	562924.93	1168.23	178.32	1.50	0.00
Build @ 1.571007 DLS	11216.85	88.00	179.66	9932.67	6359.67	1639.51	-1639.18	36.89	N 32 32 41.152	W 103 43 48.113	727241.19	562443.51	1639.59	178.71	0.00	0.11
Hold 90" Inc to TD	11350.30	90.00	179.66	9935.00	6362.00	1772.92	-1772.59	37.64	N 32 32 39.842	W 103 43 48.112	727241.98	562310.10	1772.99	178.78	1.50	90.00
Cinmarex Snoddy Federal 21H - PBHL	13750.34	90.00	179.66	9935.00	6362.00	4172.92	-4172.60	51.78	N 32 32 16.094	W 103 43 48.107	727256.04	559910.22	4172.92	179.29	0.00	



Drawn By: R. Schneider
 Date Created: May 10, 2013 10:27:35 AM
 Checked By:
 Checked Date:
 Approved By:
 Approved Date:



Cimarex Snoddy Federal #21H Rev4 RJS 10-May-13 Proposal Report 100'
Interpolated
(Non-Def Plan)



Report Date: May 10, 2013 - 10:26 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cactus 115 / Cimarex Snoddy Federal #21H
Well: Cimarex Snoddy Federal 21H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Snoddy Federal #21H Rev4 RJS 10-May-13
Survey Date: March 26, 2013
Tort / AHD / DOI / ERD Ratio: 129.659' / 4282.730' / 5.886' / 0.431'
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32°32'57.38264", W 103°43'48.43523"
Location Grid N/E Y/X: N 564082.600 HUS, E 727204.300 HUS
CRS Grid Convergence Angle: 0.3246 °
Grid Scale Factor: 0.99994865

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.230 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB
TVD Reference Elevation: 3573.000 ft above MSL
Seabed / Ground Elevation: 3555.000 ft above MSL
Magnetic Declination: 7.572 °
Total Gravity Field Strength: 998.4963 mgn (9.80665 Based)
Total Magnetic Field Strength: 48592.925 nT
Magnetic Dip Angle: 60.378 °
Declination Date: March 26, 2013
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3246 °
Total Corr Mag North->Grid North: 7.2473 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL Snoddy Fed #21H	0.00	0.00	0.00	0.00	-3573.00	0.00	0.00	0.00	N/A	N/A	N/A	564082.60	727204.30	N 32 32 57.38 W 103 43 48.44	
	22.80	0.15	251.32	22.80	-3580.20	0.01	-0.01	-0.03	0.66	0.66	0.00	564082.59	727204.27	N 32 32 57.38 W 103 43 48.44	
	118.60	0.06	334.45	118.60	-3645.40	0.00	0.00	-0.17	0.16	-0.09	86.77	564082.60	727204.13	N 32 32 57.38 W 103 43 48.44	
	214.10	0.15	153.26	214.10	-3588.90	0.07	-0.07	-0.13	0.22	0.09	187.24	564082.53	727204.17	N 32 32 57.38 W 103 43 48.44	
	309.80	0.06	162.30	309.80	-3263.20	0.23	-0.23	-0.06	0.10	-0.09	9.45	564082.37	727204.24	N 32 32 57.38 W 103 43 48.44	
	434.20	0.50	175.57	434.20	-3138.80	0.83	-0.83	0.00	0.36	0.35	10.67	564081.77	727204.30	N 32 32 57.37 W 103 43 48.43	
	522.50	0.33	178.95	522.50	-3050.50	1.47	-1.47	0.03	0.19	-0.19	3.83	564081.13	727204.33	N 32 32 57.37 W 103 43 48.43	
	612.20	0.35	174.42	612.19	-2960.81	2.00	-2.00	0.07	0.04	0.02	-3.05	564080.60	727204.37	N 32 32 57.36 W 103 43 48.43	
	701.60	0.38	174.81	701.59	-2871.41	2.57	-2.57	0.12	0.03	0.03	0.44	564080.03	727204.42	N 32 32 57.36 W 103 43 48.43	
	790.20	0.38	176.65	790.19	-2782.81	3.16	-3.16	0.16	0.01	0.00	2.08	564079.44	727204.46	N 32 32 57.35 W 103 43 48.43	
	878.40	0.40	221.44	878.39	-2694.81	3.68	-3.68	-0.02	0.34	0.02	50.78	564078.92	727204.28	N 32 32 57.35 W 103 43 48.44	
	968.00	0.61	283.85	965.99	-2607.01	3.79	-3.80	-0.68	0.63	0.24	71.24	564078.80	727203.62	N 32 32 57.35 W 103 43 48.44	
	1029.20	0.66	312.62	1029.18	-2543.82	3.45	-3.47	-1.27	0.51	0.08	45.52	564079.13	727203.03	N 32 32 57.35 W 103 43 48.45	
End First Gyro Run	1120.60	0.62	317.01	1120.58	-2452.42	2.73	-2.75	-2.00	0.07	-0.04	4.80	564079.85	727202.30	N 32 32 57.36 W 103 43 48.46	
	1158.20	0.71	314.52	1158.17	-2414.83	2.41	-2.44	-2.30	0.25	0.24	-6.62	564080.16	727202.00	N 32 32 57.36 W 103 43 48.46	
	1253.30	0.54	290.19	1253.27	-2319.73	1.83	-1.87	-3.14	0.33	-0.18	-25.58	564080.73	727201.16	N 32 32 57.36 W 103 43 48.47	
	1348.50	0.32	357.03	1348.47	-2224.53	1.41	-1.45	-3.58	0.53	-0.23	70.21	564081.15	727200.72	N 32 32 57.37 W 103 43 48.48	
	1443.60	0.68	38.58	1443.56	-2129.44	0.70	-0.74	-3.24	0.51	0.38	43.89	564081.86	727201.06	N 32 32 57.38 W 103 43 48.47	
	1538.70	0.82	40.70	1538.65	-2034.35	-0.24	0.21	-2.45	0.15	0.15	2.23	564082.81	727201.85	N 32 32 57.38 W 103 43 48.46	
	1633.80	0.86	40.72	1633.74	-1939.26	-1.29	1.27	-1.54	0.04	0.01	0.02	564083.87	727202.76	N 32 32 57.40 W 103 43 48.45	
	1728.90	0.91	33.49	1728.83	-1844.17	-2.45	2.44	-0.65	0.13	0.05	-7.60	564085.04	727203.65	N 32 32 57.41 W 103 43 48.44	
	1824.10	0.93	33.48	1824.02	-1748.98	-3.71	3.71	0.19	0.02	0.02	-0.01	564086.31	727204.49	N 32 32 57.42 W 103 43 48.43	
	1919.20	0.98	33.95	1919.11	-1653.89	-5.02	5.03	1.07	0.05	0.05	0.49	564087.63	727205.37	N 32 32 57.43 W 103 43 48.42	
	2014.30	0.93	33.95	2014.19	-1558.81	-6.32	6.35	1.95	0.05	-0.05	0.00	564088.95	727206.25	N 32 32 57.45 W 103 43 48.41	
	2109.40	0.41	125.97	2109.29	-1463.71	-6.75	6.79	2.66	1.08	-0.55	96.76	564089.39	727206.96	N 32 32 57.45 W 103 43 48.40	
	2204.50	0.61	136.31	2204.39	-1368.61	-6.16	6.20	3.27	0.24	0.21	14.03	564088.80	727207.57	N 32 32 57.44 W 103 43 48.40	
	2299.70	0.69	123.34	2299.58	-1273.42	-5.45	5.51	4.08	0.21	0.08	-16.78	564088.11	727208.38	N 32 32 57.44 W 103 43 48.39	
	2394.80	0.96	108.78	2394.67	-1178.33	-4.87	4.93	5.31	0.36	0.28	-15.31	564087.53	727209.61	N 32 32 57.43 W 103 43 48.37	
	2489.90	1.18	108.75	2489.75	-1083.25	-4.28	4.38	6.99	0.23	0.03	-0.03	564086.96	727211.29	N 32 32 57.43 W 103 43 48.35	
	2585.00	1.09	146.80	2584.83	-988.17	-3.21	3.32	8.45	0.72	-0.09	36.66	564085.92	727212.75	N 32 32 57.42 W 103 43 48.34	
	2680.10	1.20	146.80	2679.92	-893.08	-1.64	1.76	9.53	0.13	0.12	3.15	564084.35	727213.93	N 32 32 57.40 W 103 43 48.32	
	2775.30	1.23	141.04	2775.09	-797.91	0.01	0.13	10.72	0.13	0.03	-6.05	564082.73	727215.02	N 32 32 57.38 W 103 43 48.31	
	2870.40	1.27	140.57	2870.17	-702.83	1.63	-1.48	12.03	0.04	0.04	-0.49	564081.12	727216.33	N 32 32 57.37 W 103 43 48.29	
	2965.50	1.29	132.90	2965.25	-607.75	3.19	-3.02	13.46	0.18	0.02	7.27	564079.58	727217.78	N 32 32 57.35 W 103 43 48.28	
	3060.60	1.31	129.61	3060.32	-512.68	4.63	-4.45	15.11	0.08	0.02	-3.46	564078.15	727219.41	N 32 32 57.34 W 103 43 48.26	
	3155.70	1.32	135.02	3155.40	-417.00	6.12	-5.91	16.72	0.13	0.01	5.69	564076.69	727221.02	N 32 32 57.32 W 103 43 48.24	
	3250.90	1.00	164.18	3250.58	-322.42	7.71	-7.49	17.72	0.69	-0.34	30.63	564075.11	727222.02	N 32 32 57.31 W 103 43 48.23	
	3346.00	1.00	168.56	3345.67	-227.33	9.32	-9.10	18.11	0.08	0.00	4.81	564073.50	727223.41	N 32 32 57.29 W 103 43 48.22	
	3441.10	1.06	169.50	3440.75	-132.25	11.01	-10.78	18.43	0.07	0.06	0.99	564071.82	727224.73	N 32 32 57.27 W 103 43 48.22	
	3536.20	1.05	169.98	3535.83	-37.17	12.73	-12.50	18.75	0.01	-0.01	0.50	564070.10	727225.05	N 32 32 57.26 W 103 43 48.22	
	3631.30	1.04	172.57	3630.92	67.92	14.45	-14.22	19.01	0.05	-0.01	2.72	564068.39	727223.31	N 32 32 57.24 W 103 43 48.21	
	3726.50	0.99	169.53	3726.10	163.12	16.12	-15.88	19.27	0.08	-0.05	3.19	564066.72	727223.57	N 32 32 57.22 W 103 43 48.21	
	3821.60	1.07	171.82	3821.19	248.19	17.81	-17.57	19.55	0.09	0.08	2.41	564065.03	727223.85	N 32 32 57.21 W 103 43 48.21	
	3916.70	1.18	167.69	3916.27	343.27	19.65	-19.40	19.88	0.14	0.12	-4.34	564063.20	727224.18	N 32 32 57.19 W 103 43 48.20	
	4011.80	1.19	165.37	4011.35	438.35	21.57	-21.32	20.34	0.05	0.01	-2.44	564061.29	727224.64	N 32 32 57.17 W 103 43 48.20	
	4106.90	1.22	164.33	4106.43	533.43	23.50	-23.25	20.86	0.04	0.03	-1.09	564059.36	727225.18	N 32 32 57.15 W 103 43 48.19	
	4202.10	1.21	166.66	4201.81	628.61	25.46	-25.20	21.37	0.05	-0.01	2.45	564057.40	727225.67	N 32 32 57.13 W 103 43 48.19	
	4297.20	1.30	166.20	4296.68	723.68	27.49	-27.22	21.86	0.10	0.09	-0.48	564055.38	727226.16	N 32 32 57.11 W 103 43 48.18	
	4392.30	1.38	167.84	4391.76	818.76	29.67	-29.39	22.36	0.09	0.06	1.72	564053.21	727226.66	N 32 32 57.09 W 103 43 48.17	
	4487.40	1.47	168.63	4486.83	913.83	31.99	-31.71	22.84	0.10	0.09	0.83	564050.89	727227.14	N 32 32 57.07 W 103 43 48.17	
	4582.50	1.47	169.23	4581.90	1008.90	34.39	-34.10	23.31	0.02	0.00	0.63	564048.50	727227.61	N 32 32 57.04 W 103 43 48.17	
	4677.70	1.49	172.13	4677.07	1104.07	36.82	-36.53	23.70	0.08	0.02	3.05	564046.08	727228.00	N 32 32 57.02 W 103 43 48.16	
	4772.80	1.36	173.72	4772.14	1199.14	39.17	-38.87	24.00	0.14	-0.14	1.67	564043.73	727228.30	N 32 32 57.00 W 103 43 48.15	
	4867.90	1.36	173.72	4867.21	1294.21	41.41	-41.12	24.24	0.00	0.00	0.00	564041.49	727228.54	N 32 32 56.97 W 103 43 48.15	
	4963.00	1.27	172.37	4962.28	1399.28	43.58	-43.28	24.51	0.10	-0.09	-1.42	564039.32	727228.81	N 32 32 56.95 W 103 43 48.15	
	5058.10	1.26	173.63	5057.36	1484.36	45.67	-45.37	24.76	0.03	-0.01	1.32	564037.24	727229.06	N 32 32 56.93 W 103 43 48.15	
	5153.30	1.32	174.40	5152.54	1579.54	47.80	-47.50	24.99	0.07	0.06	0.81	564035.10	727229.28	N 32 32 56.91 W 103 43 48.15	
	5248.40	1.32	173.91	5247.61	1674.61	49.91	-49.60	25.20	0.10	-0.09	-0.52	564033.00	727229.50	N 32 32 56.89 W 103 43 48.14	
	5343.50	1.20	176.08	5342.69	1769.69	51.92	-51.61	25.38	0.06	-0.03	2.28	564030.99	727229.68	N 32 32 56.87 W 103 43 48.14	
	5438.60	1.20	177.25	5437.77	1864.77	53.91	-53.60	25.59	0.03	0.00	1.23	564029.00	727229.90	N 32 32 56.85 W 103 43 48.14	
	5533.70	1.14	173.86	5532.85	1959.85	55.85	-55.54	25.64	0.10	-0.06	-3.56	564027.07	727229.94	N 32 32 56.83 W 103 43 48.14	
	5628.90	1.25	174.38	5628.03	2055.03	57.83	-57.51	25.85	0.12	0.12	0.55	564025.09	727230.14	N 32 32 56.81 W 103 43 48.14	
	5724.00	1.36	174.95	5723.11	2150.11	59.99	-59.67	26.05							

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft)	BR (ft)	TR (ft)	Northings (ft)	Easting (ft)	Latitude (N/S)	Longitude (E/W)
	7911.70	0.02	139.43	7910.58	4337.58	88.10	-87.75	28.28	0.21	-0.18	-81.00	563994.85	727232.38	N 32 32 56.51 W 103 43 48.11	
	8009.90	0.19	50.52	8005.78	4432.78	88.03	-87.69	28.43	0.20	0.15	-92.34	563994.82	727232.73	N 32 32 56.51 W 103 43 48.11	
	8102.00	0.45	38.90	8100.88	4527.88	87.04	-87.29	28.79	0.28	0.27	-12.22	563995.31	727233.09	N 32 32 56.52 W 103 43 48.09	
	8197.10	0.96	53.23	8195.97	4622.97	86.89	-86.53	29.66	0.56	0.54	15.07	563996.08	727233.96	N 32 32 56.52 W 103 43 48.09	
	8292.20	1.50	44.68	8291.05	4718.05	85.55	-85.17	31.17	0.60	0.57	-8.99	563997.44	727235.47	N 32 32 56.54 W 103 43 48.08	
	8387.30	1.60	24.64	8386.11	4813.11	83.47	-83.07	32.60	0.58	0.11	-21.07	563999.53	727236.90	N 32 32 56.56 W 103 43 48.06	
	8482.50	1.76	25.97	8481.27	4908.27	80.96	-80.55	33.80	0.17	0.17	1.40	564002.05	727238.10	N 32 32 56.58 W 103 43 48.05	
	8577.60	2.42	20.61	8576.31	5003.31	77.87	-77.44	35.34	0.69	0.69	0.67	564005.16	727239.63	N 32 32 56.61 W 103 43 48.03	
	8672.70	2.84	27.47	8671.31	5098.31	74.01	-73.58	37.32	0.44	0.44	0.50	564008.05	727241.62	N 32 32 56.65 W 103 43 48.00	
	8767.80	3.28	24.20	8766.27	5193.27	69.47	-68.99	39.52	0.50	0.46	-3.44	564013.62	727243.82	N 32 32 56.70 W 103 43 47.98	
	8862.90	3.16	14.60	8861.22	5288.22	64.47	-63.97	41.30	0.58	-0.13	-10.09	564018.64	727245.60	N 32 32 56.75 W 103 43 47.96	
	8894.40	2.64	358.68	8892.68	5319.88	62.91	-62.40	41.50	3.03	-1.65	-50.54	564020.20	727245.80	N 32 32 56.76 W 103 43 47.95	
	9009.00	1.76	341.32	9007.20	5434.20	58.60	-58.10	40.88	0.95	-0.77	-15.15	564024.51	727245.18	N 32 32 56.81 W 103 43 47.96	
	9107.00	1.85	345.26	9105.15	5532.15	55.63	-55.14	39.99	0.19	0.09	4.02	564027.46	727244.29	N 32 32 56.83 W 103 43 47.97	
	9170.00	1.85	343.94	9168.12	5595.12	53.67	-53.18	39.45	0.07	0.00	-2.10	564029.42	727243.75	N 32 32 56.85 W 103 43 47.98	
	9202.00	1.23	347.94	9200.11	5627.11	52.83	-52.35	39.24	1.97	-1.94	12.50	564030.25	727243.54	N 32 32 56.86 W 103 43 47.98	
	9233.00	0.18	64.84	9231.10	5658.10	52.48	-52.00	39.21	3.68	-3.39		564030.60	727243.51	N 32 32 56.87 W 103 43 47.98	
	9265.00	0.97	161.85	9263.10	5690.10	52.72	-52.24	39.34	3.15	2.47	303.78	564030.37	727243.64	N 32 32 56.86 W 103 43 47.98	
	9297.00	0.36	178.29	9295.07	5722.07	54.08	-53.60	39.46	9.51	9.34	51.38	564029.00	727243.76	N 32 32 56.85 W 103 43 47.98	
	9328.00	8.88	183.38	9325.87	5752.87	57.54	-57.06	39.35	15.96	15.87	16.42	564025.54	727243.65	N 32 32 56.82 W 103 43 47.98	
	9360.00	14.16	184.88	9357.21	5784.21	63.91	-63.43	38.87	16.53	4.69	564019.17	727243.17	N 32 32 56.75 W 103 43 47.99		
	9392.00	19.26	183.21	9387.85	5814.85	73.07	-72.61	38.24	16.01	15.94	-5.22	564010.00	727242.54	N 32 32 56.66 W 103 43 47.99	
	9423.00	23.04	180.40	9416.76	5843.76	84.24	-83.78	37.91	12.62	-12.19	-9.06	563998.82	727242.21	N 32 32 56.55 W 103 43 48.00	
	9455.00	23.21	178.90	9446.18	5873.18	96.81	-96.35	37.99	1.92	0.53	-4.69	563986.26	727242.29	N 32 32 56.43 W 103 43 48.00	
	9486.00	20.93	179.16	9474.91	5901.91	108.46	-107.99	38.19	7.36	-7.35	0.84	563974.61	727242.49	N 32 32 56.31 W 103 43 48.00	
	9518.00	21.54	173.19	9504.74	5931.74	120.02	-119.54	38.97	7.02	1.91	-18.66	563963.06	727243.27	N 32 32 56.20 W 103 43 47.99	
	9550.00	24.01	174.77	9534.25	5961.25	132.35	-131.86	40.26	7.95	7.72	4.54	563950.75	727244.58	N 32 32 56.08 W 103 43 47.97	
	9581.00	26.56	176.62	9562.27	5989.27	145.50	-145.06	41.24	8.61	8.23	5.97	563937.55	727245.54	N 32 32 55.95 W 103 43 47.96	
	9613.00	29.99	180.40	9590.45	6017.45	160.71	-160.21	41.61	12.09	10.72	11.81	563922.40	727245.91	N 32 32 55.80 W 103 43 47.96	
	9645.00	34.03	181.91	9617.58	6044.58	177.66	-177.16	41.26	12.87	12.63	4.72	563905.45	727245.56	N 32 32 55.63 W 103 43 47.98	
	9676.00	37.11	182.94	9642.80	6069.80	195.66	-195.17	40.49	10.12	9.94	3.32	563887.44	727244.79	N 32 32 55.45 W 103 43 47.96	
	9708.00	39.39	184.17	9667.92	6094.92	215.41	-214.94	39.25	7.51	7.13	3.84	563867.67	727243.55	N 32 32 55.25 W 103 43 47.99	
	9740.00	41.24	184.09	9692.32	6119.32	236.04	-235.59	37.76	5.78	-0.25	-563847.02	727242.06	N 32 32 55.05 W 103 43 48.01		
	9772.00	43.44	183.29	9715.98	6142.98	257.53	-257.10	36.38	7.08	6.88	-2.50	563825.51	727240.88	N 32 32 54.84 W 103 43 48.03	
	9803.00	44.23	182.15	9738.34	6165.34	278.96	-278.55	35.36	3.60	2.55	-3.68	563804.07	727239.66	N 32 32 54.62 W 103 43 48.04	
	9835.00	46.17	180.40	9760.88	6187.88	301.65	-301.24	34.86	7.20	6.06	-5.47	563781.37	727239.16	N 32 32 54.40 W 103 43 48.05	
	9867.00	48.45	179.16	9782.58	6209.58	325.17	-324.76	34.96	7.67	7.13	-3.88	563757.86	727239.26	N 32 32 54.17 W 103 43 48.05	
	9899.00	51.35	178.55	9803.19	6230.19	349.64	-349.23	35.45	9.18	9.06	-1.91	563733.39	727239.75	N 32 32 53.93 W 103 43 48.05	
	9930.00	54.34	178.46	9821.91	6248.91	374.35	-373.93	36.09	8.65	8.25	-563708.69	727240.39	N 32 32 53.68 W 103 43 48.04		
	9963.00	57.60	179.16	9840.38	6267.38	401.69	-401.27	36.66	10.03	9.88	2.12	563681.36	727240.96	N 32 32 53.41 W 103 43 48.03	
	9995.00	61.82	179.87	9856.51	6283.51	429.31	-428.89	36.89	13.33	13.19	2.22	563653.73	727241.19	N 32 32 53.14 W 103 43 48.03	
	10027.00	64.90	180.13	9870.86	6297.86	457.91	-457.49	36.89	9.65	9.63	0.81	563625.13	727241.19	N 32 32 52.85 W 103 43 48.03	
	10058.00	67.88	180.57	9883.27	6310.27	486.31	-485.89	36.71	9.70	9.61	1.42	563596.74	727241.01	N 32 32 52.57 W 103 43 48.04	
	10090.00	71.49	180.66	9894.38	6321.38	516.31	-515.89	36.39	11.28	11.28	0.28	563566.73	727240.69	N 32 32 52.28 W 103 43 48.04	
	10121.00	74.66	180.04	9903.41	6330.41	545.95	-545.55	36.21	10.40	10.23	-2.00	563537.08	727240.51	N 32 32 51.98 W 103 43 48.05	
	10153.00	77.73	179.78	9911.04	6338.04	577.02	-576.62	36.26	9.63	9.59	-0.81	563506.01	727240.56	N 32 32 51.68 W 103 43 48.05	
	10184.00	81.87	179.87	9916.53	6343.53	607.53	-607.12	36.35	13.36	13.35	0.29	563475.51	727240.65	N 32 32 51.37 W 103 43 48.05	
	10216.00	84.94	179.43	9920.20	6347.20	639.31	-638.91	36.55	9.69	9.59	-1.38	563443.73	727240.85	N 32 32 51.06 W 103 43 48.05	
	10248.00	88.55	179.25	9922.02	6349.02	671.25	-670.85	36.92	11.30	11.28	-0.56	563411.79	727241.21	N 32 32 50.74 W 103 43 48.05	
	10280.00	92.68	180.92	9924.00	6348.00	706.21	-705.82	36.78	N/A	4.35	1.76	563316.82	727241.07	N 32 32 49.80 W 103 43 48.06	
	10400.00	92.68	180.92	9918.34	6345.34	823.13	-822.75	35.86	0.00	0.00	0.00	563259.90	727240.16	N 32 32 49.24 W 103 43 48.07	
	10412.00	92.68	180.92	9917.78	6344.78	835.11	-834.73	35.67	0.00	0.00	0.00	563247.91	727239.97	N 32 32 49.12 W 103 43 48.07	
	10500.00	91.41	180.58	9914.64	6341.64	923.02	-922.67	34.52	1.50	-1.45	-0.39	563159.98	727238.82	N 32 32 48.25 W 103 43 48.09	
	10600.00	89.96	180.19	9913.45	6340.45	1023.00	-1022.65	33.85	1.50	-1.45	-0.39	563060.00	727238.15	N 32 32 47.26 W 103 43 48.11	
	10700.00	88.51	179.80	9914.79	6341.79	1122.98	-1122.64	33.87	1.50	-1.45	-0.39	562960.02	727238.17	N 32 32 46.27 W 103 43 48.11	
	10735.10	88.00	179.66	9915.86	6342.86	1158.06	-1157.73	34.04	1.50	-1.45	-0.39	562924.93	727238.33	N 32 32 45.93 W 103 43 48.11	
	10800.00	88.00	179.66	9918.12	6345.12	1222.92	-1222.59	34.42	0.00	0.00	0.00	562880.08	727238.72	N 32 32 45.28 W 103 43 48.11	
	10900.00	88.00	179.66	9921.61	6348.61	1322.86	-1322.52	35.01	0.00	0.00	0.00	562760.15	727239.31	N 32 32 44.30 W 103 43 48.11	
	11000.00	88.00	179.66	9925.10	6352.10	1422.79	-1422.46	35.81	0.00	0.00	0.00	562660.22	727239.90	N 32 32 43.31 W 103 43 48.11	
	11100.00	88.00	179.66	9928.59	6355.59	1522.73	-1522.40	36.20	0.00	0.00	0.00	562560.28	727240.50	N 32 32 42.32 W 103 43 48.11	
	11200.00	88.00	179.66	9932.08	6359.08	1622.67	-1622.33	36.79	0.00	0.00	0.00	562460.35	727241.09	N 32 32 41.33 W 103 43 48.11	
	11216.85	88.00	179.66	9932.67	6359.67	1639.51	-1639.18	36.89	0.00	0.00	0.00	562443.51	727241.19	N 32 32 41.16 W 103 43 48.11	
	11300.00	89.25	179.66	9934.67	6361.67	1722.63	-1722.30	37.38	1.50	1.50	0.00	562360.39	727241.68	N 32 32 40.34 W 103 43 48.11	
	11350.20	90.00	179.66	9935.00	6362.00	1772.92	-1772.59	37.68	1.50	1.50	0.00	562310.10	727241.98	N 32 32 39.84 W 103 43 48.11	
	11400.00	90.00	179.66	9935.00	6362.00	1822.62	-1822.29	37.97	0.00	0.00	0.00</				