

Results of Directional Survey

API number:	30-025-40724		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	LYNCH 23 FEDERAL COM # 3H

surface	ULSTR:	A	23	T 20S	R 34E
				305 FNL	560 FEL

BH Loc	ULSTR:	P	23	T 20S	R 34E
14911	MD	10486.2	TVD	337 FSL	593 FEL
				4943 FNL	

Top Perf/OH	ULSTR:	A	23	T 20S	R 34E
10850	MD	10459.5	TVD	884 FNL	540 FEL

Bot Perf/OH	ULSTR:	P	23	T 20S	R 34E
14806	MD	10485.0	TVD	442 FSL	588 FEL
				4838 FNL	

	MD	N/S	E/W	VD
	10799	-528.50	20.83	10459.24
TOP PERFS/OH	10850	-579.49	20.29	10459.48
	10890	-619.49	19.87	10459.66
	14798	-4525.44	-27.29	10484.94
BOT PERFS/OH	14806	-4533.43	-27.70	10485.04
	14857	-4584.36	-30.30	10485.66

NEXT TO LAST	14857	-4584.36	-30.30	10485.66
LAST READING	14911	-4638.28	-33.17	10486.20
TD	14911	-4638.28	-33.17	10486.20

Surface Location	305	FN	560	FE
Projected BHL	4943	FN	593	FE
Location of				
Top Perfs/OH	884	FN	540	FE
Bottom Perfs/OH	4838	FN	588	FE

SUMMARY of Subsurface Locations

Surface Location	A-23-20S-34E	305	FN	560	FE	Vert. Depth
Top Perfs/OH	A-23-20S-34E	884	FN	540	FE	10459.48
Bottom Perfs/OH	P-23-20S-34E	4838	FN	588	FE	10485.04
Projected TD	P-23-20S-34E	4943	FN	593	FE	10486.20

MAY 20 2013



Cimarex Lynch 23 Federal Com #3H Gyro+MWD 0ft to 14911ft ML

(Def Survey)

Report Date: October 29, 2012 - 08:46 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cactus 115 / Cimarex Lynch 23 Federal Com #3H
Well: Cimarex Lynch 23 Federal Com #3H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Lynch 23 Federal Com #3H Gyro+MWD 0ft to 14911ft MD
Survey Date: October 20, 2012
Tort / AHD / DDI / ERD Ratio: 145.717 ° / 4780.744 ft / 5.996 / 0.456
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 33' 54.12400", W 103° 31' 26.89833"
Location Grid N/E Y/X: N 570237.800 ftUS, E 790631.300 ftUS
CRS Grid Convergence Angle: 0.4356 °
Grid Scale Factor: 0.99998026

Survey / DLS Computation: Minimum Curvature / Lubinsk
Vertical Section Azimuth: 180.814 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3676.000 ft above MSL
Seabed / Ground Elevation: 3658.000 ft above MSL
Magnetic Declination: 7.526 °
Total Gravity Field Strength: 999.1683 mgn (9.8 based)
Total Magnetic Field Strength: 48681.416 nT
Magnetic Dip Angle: 60.444 °
Declination Date: October 20, 2012
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.4356 °
Total Corr Mag North->Grid North: 7.0899 °
Local Coord Referenced To: Structure Reference Point

SUR: A-23-20s-34e, 305°N & 560°E
 BHL: P-23-20s-34e, 494°N & 593°E
 API # 30-025-40724

WILFINDER
 WILFINDER Company

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
SHL Lynch 23 Fed Com #3H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	285.71M
	100.00	0.31	285.71	100.00	-0.07	0.07	-0.26	0.27	285.71	0.31	298.42M
	200.00	0.39	298.42	200.00	-0.30	0.31	-0.82	0.88	290.61	0.11	311.39M
	300.00	0.20	311.39	300.00	-0.57	0.59	-1.25	1.38	295.10	0.20	306.8M
	400.00	0.47	306.80	399.99	-0.92	0.95	-1.71	1.95	298.98	0.27	324.35M
	500.00	0.34	324.35	499.99	-1.40	1.43	-2.21	2.64	302.96	0.18	290.88M
	610.60	0.30	290.88	610.59	-1.77	1.80	-2.67	3.22	304.01	0.17	291.62M
	705.50	0.32	291.62	705.49	-1.94	1.99	-3.15	3.73	302.27	0.02	285.63M
	800.50	0.33	285.63	800.49	-2.11	2.16	-3.66	4.25	300.55	0.04	278.87M
	895.40	0.32	278.87	895.39	-2.22	2.28	-4.19	4.77	298.53	0.04	280.97M
	990.30	0.34	280.97	990.28	-2.30	2.37	-4.72	5.29	296.64	0.02	266.81M
	1085.30	0.38	266.81	1085.28	-2.33	2.41	-5.32	5.84	294.35	0.10	246.75M
	1180.20	0.47	246.75	1180.18	-2.15	2.24	-5.99	6.39	290.47	0.18	244.14M
	1275.10	0.55	244.14	1275.08	-1.79	1.88	-6.76	7.01	285.57	0.09	240.63M
	1370.00	0.65	240.63	1369.97	-1.31	1.42	-7.63	7.77	280.54	0.11	247.51M
	1465.00	0.75	247.51	1464.96	-0.79	0.92	-8.68	8.73	276.04	0.14	251.86M
	1559.90	0.70	251.86	1559.86	-0.36	0.50	-9.80	9.82	272.92	0.08	254.81M
	1654.80	0.66	254.81	1654.75	-0.02	0.18	-10.88	10.88	270.93	0.06	258.91M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	1749.80	0.29	258.91	1749.75	0.18	-0.01	-11.65	11.65	269.93	0.39	76.08M
	1844.70	0.48	76.08	1844.65	0.13	0.04	-11.50	11.50	270.18	0.81	91.49M
	1939.60	0.51	91.49	1939.54	0.03	0.12	-10.69	10.69	270.65	0.14	93.59M
	2034.60	0.45	93.59	2034.54	0.05	0.09	-9.89	9.89	270.50	0.07	93M
	2129.50	0.44	93.00	2129.44	0.09	0.04	-9.16	9.16	270.28	0.01	63.1M
	2224.40	0.32	63.10	2224.33	-0.02	0.14	-8.56	8.56	270.97	0.24	62.43M
	2319.30	0.39	62.43	2319.23	-0.30	0.41	-8.03	8.04	272.95	0.07	66.77M
	2414.30	0.46	66.77	2414.23	-0.61	0.71	-7.40	7.43	275.52	0.08	67.77M
	2509.20	0.52	67.77	2509.13	-0.93	1.03	-6.65	6.73	278.79	0.06	67.69M
	2604.10	0.54	67.69	2604.02	-1.28	1.36	-5.84	5.99	283.12	0.02	52.15M
	2699.10	1.05	52.15	2699.01	-2.00	2.06	-4.73	5.16	293.56	0.58	58.13M
	2794.00	2.45	58.13	2793.87	-3.64	3.67	-2.32	4.34	327.64	1.49	62.76M
	2888.90	4.08	62.76	2888.61	-6.32	6.29	2.40	6.73	20.90	1.74	64.77M
	2983.80	4.73	64.77	2983.23	-9.62	9.50	8.94	13.04	43.27	0.70	66.76M
	3078.80	4.64	66.76	3077.91	-12.91	12.68	16.01	20.43	51.62	0.20	64.5M
	3173.70	4.46	64.50	3172.51	-16.11	15.79	22.87	27.79	55.39	0.27	64.92M
	3268.60	4.57	64.92	3267.12	-19.40	18.98	29.63	35.18	57.36	0.12	66.11M
	3363.60	5.04	66.11	3361.78	-22.79	22.27	36.87	43.08	58.86	0.51	66.7M
	3458.50	4.64	66.70	3456.34	-26.10	25.48	44.21	51.02	60.04	0.42	66.04M
	3553.40	3.34	66.04	3551.01	-28.83	28.12	50.26	57.59	60.77	1.37	62.59M
	3648.40	2.31	62.59	3645.90	-30.90	30.13	54.49	62.26	61.06	1.10	1.24M
	3743.30	0.19	1.24	3740.77	-31.96	31.16	56.19	64.25	60.99	2.34	198.66M
	3838.20	0.22	198.66	3835.67	-31.94	31.15	56.13	64.20	60.97	0.43	221.36M
	3933.20	0.23	221.36	3930.67	-31.62	30.83	55.95	63.88	61.14	0.09	155.52M
	4028.10	0.07	155.52	4025.57	-31.43	30.64	55.85	63.70	61.25	0.22	67.14M
	4123.00	0.27	67.14	4120.47	-31.46	30.67	56.08	63.92	61.32	0.29	2.69M
	4217.90	0.30	2.69	4215.37	-31.80	31.01	56.30	64.27	61.16	0.32	98.29M
	4312.90	0.08	98.29	4310.37	-32.04	31.24	56.37	64.45	61.00	0.33	69.41M
	4407.80	0.04	69.41	4405.27	-32.05	31.25	56.47	64.54	61.04	0.05	79.71M
	4502.70	0.11	79.71	4500.17	-32.08	31.27	56.59	64.66	61.07	0.07	117.24M
	4597.70	0.08	117.24	4595.17	-32.06	31.26	56.74	64.78	61.15	0.07	131.43M
	4692.60	0.09	131.43	4690.07	-31.99	31.18	56.85	64.84	61.26	0.02	247.79M
	4787.50	0.03	247.79	4784.97	-31.93	31.12	56.89	64.84	61.32	0.11	261.46M
	4882.40	0.06	261.46	4879.87	-31.91	31.11	56.81	64.77	61.30	0.03	221.5M
	4977.40	0.73	221.50	4974.86	-31.44	30.64	56.36	64.16	61.47	0.72	144.4M
	5072.30	0.10	144.40	5069.76	-30.92	30.12	56.01	63.60	61.73	0.75	60.39M
	5167.20	0.14	60.39	5164.66	-30.91	30.11	56.16	63.73	61.80	0.17	12.29M
	5262.20	0.09	12.29	5259.66	-31.04	30.24	56.28	63.89	61.75	0.11	23.13M
	5357.10	0.07	23.13	5354.56	-31.17	30.37	56.32	63.98	61.66	0.03	54.02M
	5452.00	0.12	54.02	5449.46	-31.28	30.48	56.42	64.13	61.62	0.07	49.27M
	5472.00	0.05	49.27	5469.46	-31.30	30.50	56.44	64.16	61.61	0.35	274.47M
	5542.60	0.15	274.47	5540.06	-31.33	30.53	56.37	64.11	61.56	0.27	238.24M
	5637.50	0.18	238.24	5634.96	-31.25	30.46	56.12	63.86	61.51	0.11	137.52M
	5732.50	0.17	137.52	5729.96	-31.07	30.28	56.09	63.74	61.64	0.28	169.13M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	5827.40	0.14	169.13	5824.86	-30.85	30.06	56.21	63.74	61.86	0.09	192.18M
	5922.40	0.17	192.18	5919.86	-30.60	29.81	56.20	63.62	62.06	0.07	167.15M
	6017.30	0.15	167.15	6014.76	-30.34	29.55	56.20	63.49	62.27	0.08	147.78M
	6112.30	0.14	147.78	6109.76	-30.13	29.33	56.29	63.47	62.48	0.05	168.61M
	6207.20	0.18	168.61	6204.66	-29.88	29.08	56.38	63.44	62.71	0.07	154.31M
	6302.20	0.21	154.31	6299.66	-29.58	28.78	56.48	63.39	63.00	0.06	97.46M
	6397.10	0.21	97.46	6394.56	-29.41	28.60	56.73	63.53	63.24	0.21	71.53M
	6492.10	0.20	71.53	6489.56	-29.44	28.63	57.06	63.84	63.35	0.10	61.11M
	6587.00	0.19	61.11	6584.45	-29.57	28.76	57.36	64.16	63.37	0.04	116.94M
	6682.00	0.19	116.94	6679.45	-29.58	28.77	57.64	64.42	63.48	0.19	22.09M
	6776.90	0.21	22.09	6774.35	-29.67	28.86	57.84	64.64	63.49	0.31	316.34M
	6871.90	0.17	316.34	6869.35	-29.94	29.12	57.81	64.73	63.27	0.22	61.45M
	6966.80	0.07	61.45	6964.25	-30.07	29.25	57.76	64.75	63.15	0.21	118.41M
	7061.80	0.09	118.41	7059.25	-30.06	29.24	57.88	64.85	63.20	0.08	153.98M
	7156.70	0.13	153.98	7154.15	-29.93	29.11	57.99	64.89	63.35	0.08	138.32M
	7251.70	0.20	138.32	7249.15	-29.71	28.89	58.15	64.91	63.58	0.09	90.29M
	7346.60	0.25	90.29	7344.05	-29.59	28.76	58.47	65.16	63.81	0.20	66.74M
	7441.60	0.28	66.74	7439.05	-29.69	28.85	58.89	65.58	63.90	0.12	121.16M
	7536.50	0.30	121.16	7533.95	-29.66	28.82	59.31	65.94	64.09	0.28	95.63M
	7631.50	0.29	95.63	7628.95	-29.51	28.66	59.77	66.28	64.38	0.14	113.97M
	7726.40	0.25	113.97	7723.85	-29.41	28.56	60.19	66.62	64.62	0.10	117.2M
	7821.40	0.25	117.20	7818.85	-29.23	28.38	60.57	66.89	64.90	0.01	142.2M
	7916.30	0.32	142.20	7913.75	-28.94	28.07	60.91	67.07	65.26	0.15	102.19M
	8011.30	0.42	102.19	8008.74	-28.66	27.79	61.42	67.41	65.65	0.28	92.22M
	8106.20	0.47	92.22	8103.64	-28.58	27.70	62.15	68.04	65.98	0.10	115.36M
	8201.20	0.42	115.36	8198.64	-28.43	27.54	62.85	68.62	66.34	0.19	90.56M
	8296.10	0.60	90.56	8293.53	-28.29	27.38	63.66	69.30	66.73	0.30	95.82M
	8391.10	0.81	95.82	8388.53	-28.23	27.31	64.83	70.34	67.15	0.23	129.77M
	8486.00	1.06	129.77	8483.42	-27.62	26.68	66.17	71.35	68.04	0.63	80.9M
	8581.00	0.51	80.90	8578.41	-27.14	26.19	67.26	72.18	68.73	0.86	62.01M
	8675.90	0.29	62.01	8673.30	-27.33	26.37	67.89	72.83	68.78	0.27	42.94M
	8770.90	0.21	42.94	8768.30	-27.57	26.61	68.22	73.23	68.69	0.12	141.66M
	8865.80	0.13	141.66	8863.20	-27.62	26.65	68.41	73.41	68.72	0.28	147.42M
	8960.80	0.48	147.42	8958.20	-27.20	26.23	68.69	73.53	69.10	0.37	127.66M
	9055.70	0.27	127.66	9053.10	-26.74	25.76	69.08	73.72	69.55	0.26	69.32M
	9150.70	0.07	69.32	9148.10	-26.62	25.64	69.31	73.90	69.70	0.25	66.57M
	9245.60	0.20	66.57	9243.00	-26.71	25.73	69.52	74.12	69.69	0.14	100.56M
	9340.60	0.13	100.56	9338.00	-26.76	25.77	69.77	74.38	69.73	0.12	108.85M
	9435.50	0.10	108.85	9432.90	-26.72	25.73	69.96	74.54	69.81	0.04	92.9M
	9530.50	0.16	92.90	9527.90	-26.69	25.69	70.17	74.73	69.89	0.07	210.49M
	9625.40	0.24	210.49	9622.80	-26.51	25.52	70.20	74.69	70.03	0.36	212.23M
	9720.40	0.30	212.23	9717.80	-26.12	25.13	69.97	74.35	70.24	0.06	281.08M
Final Gyro	9815.30	0.11	281.08	9812.70	-25.93	24.94	69.75	74.07	70.32	0.29	166.33M
	9938.00	0.88	166.33	9935.39	-25.04	24.05	69.85	73.88	71.00	0.76	178.19M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	9975.00	4.31	178.19	9972.35	-23.37	22.38	69.96	73.46	72.26	9.33	186.37M
	10009.00	7.83	186.37	10006.15	-19.79	18.80	69.75	72.24	74.91	10.64	193.84M
	10039.00	9.41	193.84	10035.81	-15.37	14.39	68.93	70.42	78.21	6.44	12.73L
	10068.00	12.57	190.58	10064.28	-9.95	8.98	67.79	68.38	82.45	11.10	0.93R
Survey 23-Oct-12	10164.00	23.39	191.02	10155.46	19.19	-20.08	62.21	65.37	107.89	11.27	1.07L
	10258.00	33.85	190.67	10237.86	63.47	-64.24	53.77	83.78	140.07	11.13	6.14R
	10353.00	45.64	192.43	10310.77	123.01	-123.62	41.52	130.40	161.43	12.47	11.77L
	10448.00	57.07	189.62	10370.01	195.93	-196.34	27.50	198.26	172.03	12.25	36.99L
	10541.00	64.98	183.20	10415.06	276.79	-277.08	18.60	277.71	176.16	10.43	37.54L
	10578.00	68.85	180.04	10429.57	310.81	-311.10	17.66	311.60	176.75	13.08	17.03L
	10609.00	72.98	178.72	10439.70	340.09	-340.38	17.98	340.86	176.98	13.92	11.48L
	10637.00	76.77	177.93	10447.01	367.09	-367.40	18.77	367.87	177.08	13.81	5.6L
	10673.00	82.13	177.40	10453.60	402.42	-402.74	20.21	403.25	177.13	14.96	24.08R
	10730.00	88.64	180.30	10458.18	459.16	-459.51	21.34	460.01	177.34	12.50	15.15R
	10799.00	89.60	180.56	10459.24	528.15	-528.50	20.83	528.91	177.74	1.44	18.43R
	10890.00	89.87	180.65	10459.66	619.15	-619.49	19.87	619.81	178.16	0.31	90R
	10985.00	89.87	181.00	10459.88	714.15	-714.48	18.50	714.72	178.52	0.37	10.3L
	11079.00	90.31	180.92	10459.73	808.15	-808.47	16.92	808.65	178.80	0.48	117.9R
	11176.00	90.22	181.09	10459.28	905.15	-905.45	15.22	905.58	179.04	0.20	43.36L
Survey 24-Oct-12	11272.00	90.40	180.92	10458.76	1001.15	-1001.44	13.54	1001.53	179.23	0.26	17.1R
	11371.00	90.66	181.00	10457.85	1100.14	-1100.42	11.88	1100.48	179.38	0.27	90L
	11461.00	90.66	180.83	10456.81	1190.13	-1190.40	10.44	1190.45	179.50	0.19	14.42L
	11556.00	91.01	180.74	10455.43	1285.12	-1285.38	9.14	1285.42	179.59	0.38	82.67L
	11654.00	91.10	180.04	10453.62	1383.10	-1383.36	8.47	1383.39	179.65	0.72	171.67L
	11751.00	89.87	179.86	10452.80	1480.09	-1480.36	8.56	1480.38	179.67	1.28	90L
	11845.00	89.87	179.16	10453.01	1574.06	-1574.35	9.36	1574.38	179.66	0.74	150.89L
	11940.00	89.08	178.72	10453.88	1669.01	-1669.33	11.12	1669.37	179.62	0.95	165.97R
	12036.00	88.72	178.81	10455.73	1764.93	-1765.29	13.19	1765.34	179.57	0.39	LS
	12131.00	88.55	178.81	10457.99	1859.84	-1860.25	15.16	1860.31	179.53	0.18	70.9R
Survey 25-Oct-12	12226.00	88.64	179.07	10460.32	1954.76	-1955.20	16.92	1955.27	179.50	0.29	117.01L
	12320.00	88.37	178.54	10462.77	2048.67	-2049.15	18.88	2049.23	179.47	0.63	90R
	12416.00	88.37	178.72	10465.50	2144.56	-2145.08	21.17	2145.19	179.43	0.19	73.56R
	12512.00	88.55	179.33	10468.08	2240.48	-2241.03	22.80	2241.15	179.42	0.66	56.82L
	12607.00	88.72	179.07	10470.35	2335.42	-2336.00	24.13	2336.12	179.41	0.33	126.62R
Survey 26-Oct-12	12703.00	88.46	179.42	10472.71	2431.35	-2431.96	25.40	2432.09	179.40	0.45	44.99L
	12798.00	88.55	179.33	10475.19	2526.29	-2526.92	26.43	2527.06	179.40	0.13	112.77R
	12892.00	88.29	179.95	10477.78	2620.23	-2620.88	27.02	2621.02	179.41	0.71	33.86R
	12990.00	89.08	180.48	10480.03	2718.20	-2718.85	26.65	2718.99	179.44	0.97	36.03R
	13085.00	90.40	181.44	10480.46	2813.20	-2813.84	25.06	2813.95	179.49	1.72	37.64R
	13179.00	90.75	181.71	10479.52	2907.18	-2907.80	22.48	2907.88	179.56	0.47	17.1R
	13275.00	91.01	181.79	10478.04	3003.16	-3003.74	19.55	3003.80	179.63	0.28	90R
	13370.00	91.01	182.15	10476.37	3098.13	-3098.67	16.28	3098.71	179.70	0.38	169.7R
	13466.00	90.57	182.23	10475.04	3194.09	-3194.59	12.61	3194.62	179.77	0.47	109.09L
	13561.00	90.48	181.97	10474.17	3289.06	-3289.52	9.13	3289.53	179.84	0.29	45R

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
Survey 28-Oct-12	13656.00	90.66	182.15	10473.23	3384.03	-3384.46	5.72	3384.46	179.90	0.27	26.13R
	13751.00	91.19	182.41	10471.69	3478.99	-3479.37	1.94	3479.37	179.97	0.62	104.42L
	13846.00	91.01	181.71	10469.87	3573.95	-3574.29	-1.47	3574.29	180.02	0.76	25.9R
	13942.00	91.36	181.88	10467.88	3669.91	-3670.22	-4.48	3670.22	180.07	0.41	116.34L
	14037.00	90.84	180.83	10466.06	3764.89	-3765.18	-6.73	3765.18	180.10	1.23	170.36L
	14129.00	89.78	180.65	10465.56	3856.89	-3857.16	-7.92	3857.17	180.12	1.17	18.76R
	14227.00	90.31	180.83	10465.49	3954.89	-3955.16	-9.18	3955.17	180.13	0.57	174.99R
	14323.00	88.37	181.00	10466.59	4050.88	-4051.13	-10.71	4051.15	180.15	2.03	154.55R
	14418.00	86.88	181.71	10470.53	4145.79	-4146.02	-12.96	4146.04	180.18	1.74	26.55R
	14607.00	87.58	182.06	10479.66	4334.53	-4334.70	-19.17	4334.74	180.25	0.41	23.35R
Final Survey Proj. to TD	14702.00	88.46	182.44	10482.94	4429.44	-4429.57	-22.90	4429.63	180.30	1.01	27.86R
	14798.00	89.16	182.81	10484.94	4525.37	-4525.44	-27.29	4525.53	180.35	0.82	40.43R
	14857.00	89.43	183.04	10485.66	4584.33	-4584.36	-30.30	4584.46	180.38	0.60	HS
	14911.00	89.43	183.04	10486.20	4638.29	-4638.28	-33.17	4638.40	180.41	0.00	

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	18.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Cimarex Lynch 23 Federal Com #3H Gyro+MWD 0ft to 14911ft MD
	18.000	9815.300	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Lynch 23 Federal Com #3H Gyro+MWD
	9815.300	14911.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Lynch 23 Federal Com #3H Gyro+MWD



Cimarex



WELL Lynch 23 Federal Com #3H		FIELD NM Lea County		STRUCTURE Cactus 115	
Magnetic Parameters Model: BGM2012 Dip: 65.43° Mag Dec: 7.52° Year: October 20, 2012 PS: 48081 A0T		Surface Location Lat: N 32 33 54.124 Lon: W 103 31 28.898 Northing: 570213.80 MJS Easting: 780631.30 MJS		MAGNETIC NEW MEXICO STATE PLANT, EASTERN ZONE, US FEET Grid Coord.: 6.416° Scale Factor: 0.99998226 Manufacturer Plot: Lynch 23 Federal Com #3H Rev: Rev 26-06-12 TWD Ref.: KKR16750 (above NMSL) Serv Date: October 20, 2012	



Grid North
 Tot Corr (M->G 7.0899°)
 Mag Dec (7.526°)
 Grid Conv (0.436°)

Legend

Senator Lynch to Federal With Info

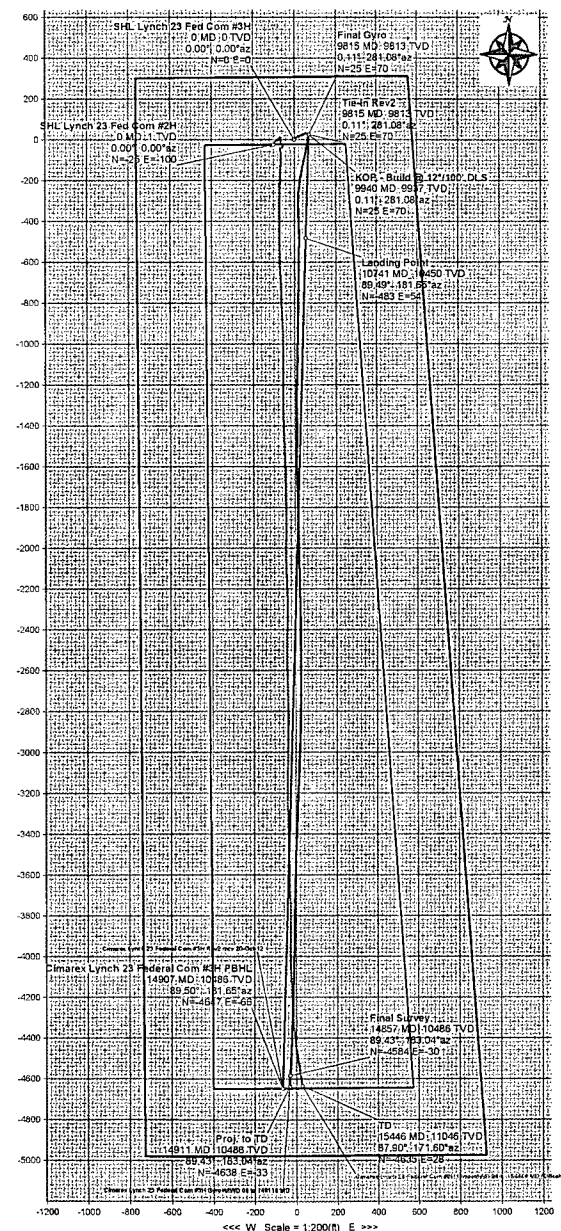
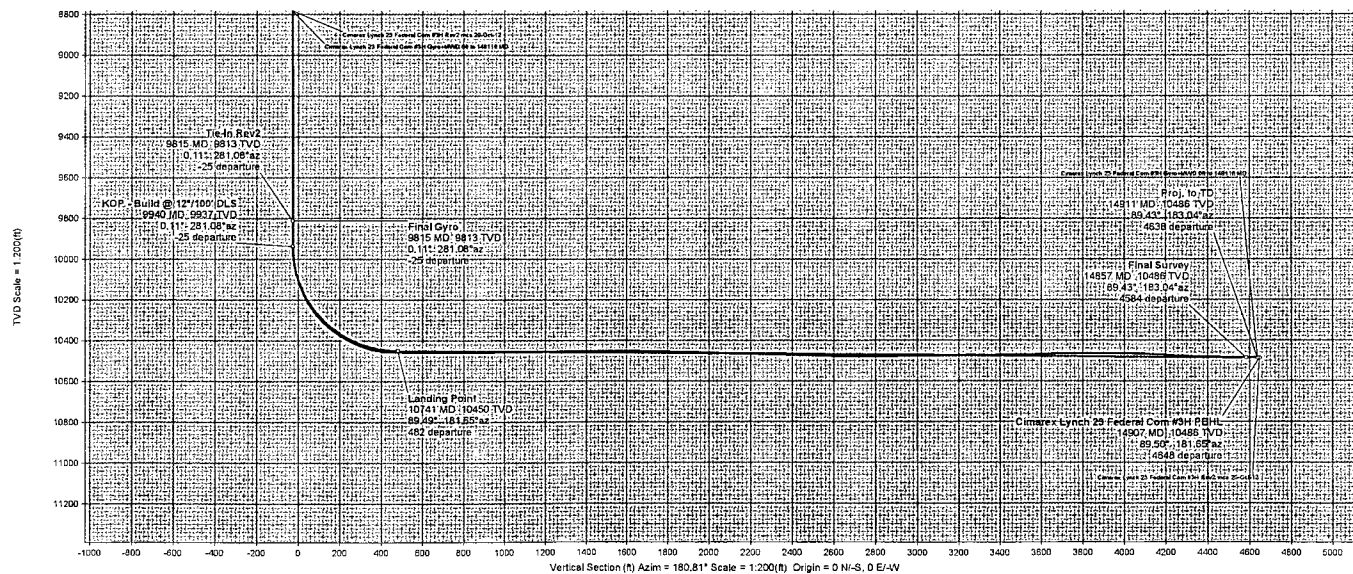
Senator Lynch to Federal Com Letter

Senator Lynch to Federal Com For Gyro-MNO Brie to 149118 MD

Senator Lynch to Federal Com For Gyro-MNO Brie to 154488 MD [O'Hara]

Senator Lynch to Federal Com For Rev 20-Oct-12

Senator Lynch to Federal Com For Gyro-MNO Brie to 154818 MD [O'Hara]



Drawn By: R. Schnaader
Date Created: October 23, 2012 08:51:52 AM
Checked By:
Checked Date:
Approved By:
Approved Date: