

HOBBS OCD

MAR 09 2015

RECEIVED



Cactus 104

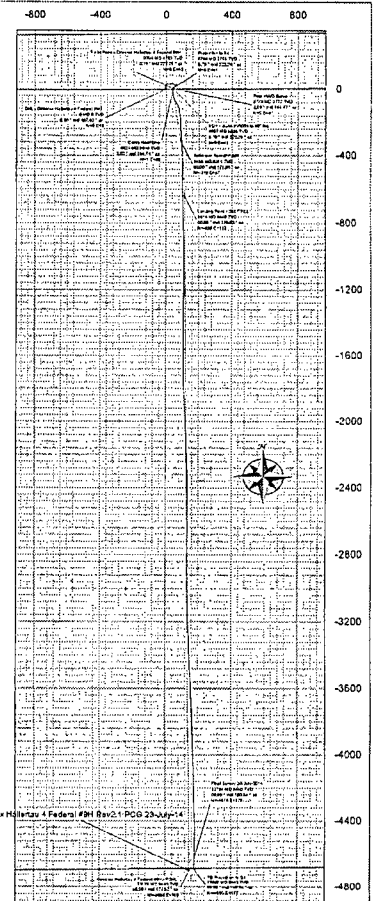
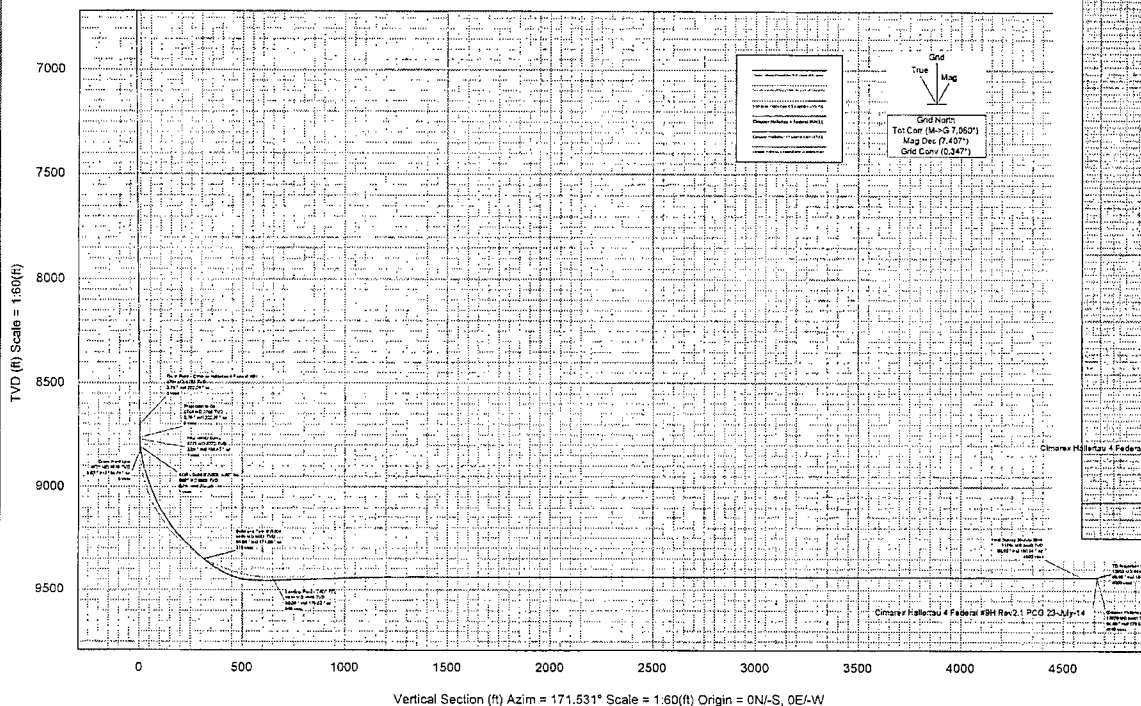
Cimarex

Rev.2.1



Borehole:	Well:	Field:	Structure:
Original Borehole	Hallertau 4 Federal #9H	NM Lea County	Cactus 104
Driller & Negative Parameters	Wellhead: BSCM 2014 DTH: 82.54" Date: 8/2/2014	Surface Location: N4265 New Mexico State Plaza, Eastern Zone, US Post	Wellhead Date: Hallertau 4
Head: BSCM 2014 DTH: 82.54" Date: 8/2/2014	Wellhead: Hallertau 4	Lat: N 32 4 43.45 Longitude: W 103 40 45.721	Wellhead: Hallertau 4
Mag: 7.402" PS: 48177.131mT Gravity PS: 888.427mgs (8.80655 m/s^2)	Wellhead: Hallertau 4	Lat: N 32 4 43.45 Longitude: W 103 40 45.721	Wellhead: Hallertau 4
	Wellhead: Hallertau 4	Lat: N 32 4 43.45 Longitude: W 103 40 45.721	Wellhead: Hallertau 4

Comments	Survey MD(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub-Sea TVD (VS(ft))	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Easting(ftUS)	Northing(ftUS)	DLS(7100)	Tool Face(deg)
SHL - Cimarex Hallertau 4 Federal #9H	0.00	0.00	187.03	0.00	-3524.00	0.00	0.00	N 32 4 43.45E	W 103 40 45.721	743759.70	392995.10		307.07
Tie In Point - Cimarex Hallertau 4 Federal #9H	8704.00	0.79	222.26	8702.61	5378.61	-0.13	6.38	N 32 4 43.51E	W 103 40 45.721	743801.68	393001.48	0.23	222.26
Projection to B4	8765.00	0.79	222.26	8764.60	5440.60	0.42	5.75	N 32 4 43.51E	W 103 40 45.721	743801.11	393000.85	0.00	222.26
KOP - Build 9°/100ft to 60° Inc	8807.35	0.79	222.26	8806.65	5481.65	0.77	5.33	N 32 4 43.50E	W 103 40 45.732	743800.73	393000.43	0.00	171.00
Build and Turn 9°/100ft	9469.25	60.00	171.00	9351.49	6027.49	319.10	-309.66	N 32 4 40.38E	W 103 40 46.221	743845.65	392695.45	9.00	15.68
Landing Point - 2457 FEL	9813.56	50.00	179.52	9439.99	6115.99	647.69	-436.09	N 32 4 37.13E	W 103 40 45.948	743872.12	392357.04	9.00	0.00
Cimarex Hallertau 4 Federal #9H - PBHL	13670.03	50.00	179.52	9440.00	6116.00	4554.79	-4594.42	N 32 4 36.99E	W 103 40 45.835	743906.12	392306.90	0.00	



CONTROLLED	
By:	
For:	
Date:	
Signature:	
Stamp:	

MAR 12 2015



Cimarex Hallertau 4 Federal #9H XEM + MWD 0ft to 13863 Survey Report

(Def Survey)

Report Date:	July 30, 2014 - 08:59 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Cimarex	Vertical Section Azimuth:	171.531 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Hallertau 4 Federal #9H / Cimarex Hallertau 4 Federal #9H	TVD Reference Datum:	RKB
Well:	Cimarex Hallertau 4 Federal #9H	TVD Reference Elevation:	3324.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3304.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.407 °
Survey Name:	Cimarex Hallertau 4 Federal #9H XEM + MWD 0ft to 13863	Total Gravity Field Strength:	998.4271mgN (9.80665 Based)
Survey Date:	July 02, 2014	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	163.894 ° / 4846.915 ft / 6.066 / 0.513	Total Magnetic Field Strength:	48177.131 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.949 °
Location Lat / Long:	N 32° 4' 43.45559", W 103° 40' 47.20963"	Declination Date:	July 02, 2014
Location Grid N/E Y/X:	N 392995.100 ftUS, E 743759.700 ftUS	Magnetic Declination Model:	BGGM 2014
CRS Grid Convergence Angle:	0.3471 °	North Reference:	Grid North
Grid Scale Factor:	0.99995602	Grid Convergence Used:	0.3471 °
Version / Patch:	2.7.1043.0	Total Corr Mag North->Grid North:	7.0597 °

Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
SHL - Cimarex Hallertau 4 Federal #9H	0.00	0.00	167.03	0.00	0.00	0.00	0.00	0.00	0.00	N/A	307.07M
Marker MudLine	20.00	0.06	307.07	20.00	-0.01	0.01	-0.01	0.01	307.07	0.28	307.07M
	111.00	0.31	307.07	111.00	-0.21	0.18	-0.24	0.30	307.07	0.28	280.58M
	264.00	0.31	280.58	264.00	-0.64	0.51	-0.98	1.10	297.41	0.09	296.75M
	325.00	0.31	296.75	325.00	-0.79	0.61	-1.29	1.42	295.41	0.14	320.48M
	443.00	0.88	320.48	442.99	-1.75	1.45	-2.15	2.59	304.09	0.52	352.25M
	560.00	0.70	352.25	559.98	-3.24	2.86	-2.82	4.01	315.39	0.40	358.14M
	690.00	0.70	358.14	689.97	-4.82	4.44	-2.95	5.33	326.38	0.06	337.18M
	767.00	1.01	337.18	766.96	-5.95	5.53	-3.23	6.40	329.74	0.57	342.98M
	859.00	0.79	342.98	858.95	-7.36	6.89	-3.73	7.83	331.57	0.26	342.98M
	951.00	1.01	342.98	950.94	-8.79	8.27	-4.15	9.25	333.34	0.24	345.75M
	1045.00	1.49	345.75	1044.92	-10.82	10.24	-4.69	11.27	335.38	0.51	339.24M
	1222.00	1.80	339.24	1221.84	-15.83	15.07	-6.25	16.32	337.49	0.20	341.97M
	1282.00	1.32	341.97	1281.82	-17.43	16.61	-6.79	17.95	337.76	0.81	18.44M
	1377.00	0.62	18.44	1376.81	-18.97	18.14	-6.97	19.43	338.98	0.95	36.46M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	1471.00	0.62	36.46	1470.80	-19.78	19.03	-6.51	20.11	341.13	0.21	20.46M
	1566.00	1.01	20.46	1565.79	-20.88	20.23	-5.91	21.07	343.72	0.47	38.74M
	1660.00	0.88	38.74	1659.78	-22.09	21.57	-5.17	22.18	346.53	0.35	23.14M
	1757.00	1.19	23.14	1756.76	-23.46	23.08	-4.31	23.47	349.43	0.43	15.15M
	1852.00	1.10	15.15	1851.74	-25.13	24.86	-3.68	25.13	351.58	0.19	25.47M
	1948.00	1.41	25.47	1947.72	-26.96	26.82	-2.93	26.98	353.76	0.40	24.55M
	2025.00	1.10	24.55	2024.70	-28.36	28.35	-2.22	28.43	355.53	0.40	73.24M
	2233.00	1.10	73.24	2232.67	-30.33	30.74	0.53	30.74	0.98	0.44	87.26M
	2328.00	1.01	87.26	2327.65	-30.37	31.04	2.23	31.12	4.12	0.29	81.55M
	2423.00	1.32	81.55	2422.63	-30.29	31.24	4.15	31.52	7.57	0.35	95.87M
	2518.00	1.32	95.87	2517.61	-30.02	31.29	6.32	31.92	11.43	0.35	96.84M
	2614.00	1.32	96.84	2613.58	-29.45	31.05	8.52	32.19	15.35	0.02	89.15M
	2710.00	1.41	89.15	2709.56	-29.00	30.93	10.80	32.76	19.25	0.21	101.54M
	2805.00	1.41	101.54	2804.53	-28.45	30.72	13.11	33.40	23.12	0.32	94.95M
	2899.00	1.49	94.95	2898.50	-27.77	30.38	15.47	34.09	26.98	0.20	92.58M
	2994.00	1.49	92.58	2993.46	-27.25	30.22	17.93	35.14	30.68	0.06	87.04M
	3089.00	1.49	87.04	3088.43	-26.89	30.22	20.40	36.46	34.01	0.15	82.34M
	3184.00	1.41	82.34	3183.40	-26.76	30.44	22.79	38.03	36.82	0.15	71.44M
	3279.00	1.71	71.44	3278.37	-26.99	31.05	25.29	40.05	39.16	0.44	76.27M
	3374.00	1.58	76.27	3373.33	-27.36	31.81	27.91	42.32	41.26	0.20	94.25M
	3469.00	1.19	94.25	3468.30	-27.26	32.05	30.16	44.01	43.26	0.61	86.86M
	3563.00	1.19	86.86	3562.28	-26.95	32.03	32.11	45.36	45.07	0.16	105.67M
	3658.00	1.19	105.67	3657.26	-26.46	31.82	34.05	46.60	46.94	0.41	86.95M
	3754.00	1.19	86.95	3753.24	-25.96	31.60	36.00	47.90	48.72	0.40	93.94M
	3851.00	1.49	93.94	3850.21	-25.59	31.57	38.27	49.61	50.48	0.35	96.66M
	3946.00	1.49	96.66	3945.18	-25.00	31.34	40.72	51.39	52.42	0.07	100.27M
	4041.00	1.71	100.27	4040.14	-24.22	30.95	43.35	53.26	54.48	0.25	115.47M
	4137.00	1.89	115.47	4136.10	-22.88	30.01	46.18	55.08	56.98	0.53	117.14M
	4230.00	1.32	117.14	4229.06	-21.40	28.86	48.52	56.46	59.26	0.61	133.45M
	4326.00	1.19	133.45	4325.04	-19.97	27.67	50.23	57.35	61.15	0.39	129.98M
	4421.00	0.88	129.98	4420.02	-18.65	26.52	51.51	57.93	62.75	0.33	126.24M
	4466.00	0.88	126.24	4465.02	-18.15	26.10	52.05	58.23	63.37	0.13	325.66M
	4527.00	1.10	325.66	4526.01	-18.35	26.30	52.10	58.36	63.21	3.20	134.37M
	4621.00	1.10	134.37	4620.01	-18.44	26.42	52.23	58.53	63.17	2.33	126.55M
	4717.00	1.01	126.55	4715.99	-17.11	25.27	53.57	59.23	64.75	0.18	105.67M
	4813.00	0.88	105.67	4811.98	-16.21	24.57	54.96	60.20	65.91	0.38	92.67M
	4908.00	0.79	92.67	4906.97	-15.78	24.34	56.32	61.35	66.63	0.22	88.67M
	5002.00	0.88	88.67	5000.96	-15.57	24.33	57.69	62.61	67.13	0.11	91.87M
	5193.00	0.88	91.87	5191.94	-15.12	24.31	60.62	65.31	68.15	0.03	83.96M
	5288.00	0.88	83.96	5286.92	-14.96	24.37	62.07	66.68	68.57	0.13	63.75M
	5384.00	0.79	63.75	5382.91	-15.13	24.74	63.40	68.05	68.69	0.32	76.05M
	5479.00	0.70	76.05	5477.91	-15.38	25.17	64.55	69.28	68.70	0.19	60.15M
	5573.00	0.40	60.15	5571.90	-15.56	25.47	65.39	70.18	68.72	0.36	20.95M
	5668.00	0.31	20.95	5666.90	-15.90	25.87	65.77	70.68	68.53	0.27	326.37M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	5763.00	0.22	326.37	5761.90	-16.29	26.26	65.76	70.81	68.23	0.27	341.26M
	5858.00	0.48	341.26	5856.90	-16.85	26.79	65.53	70.80	67.76	0.29	346.58M
	5953.00	0.62	346.58	5951.89	-17.75	27.67	65.29	70.91	67.03	0.16	322.28M
	6048.00	0.62	322.28	6046.89	-18.71	28.58	64.85	70.87	66.22	0.27	297.54M
	6142.00	0.70	297.54	6140.88	-19.49	29.24	64.03	70.39	65.45	0.31	287.96M
	6236.00	0.70	287.96	6234.88	-20.09	29.69	62.98	69.62	64.76	0.12	274.86M
	6331.00	0.62	274.86	6329.87	-20.46	29.91	61.91	68.76	64.22	0.18	261.06M
	6425.00	0.62	261.06	6423.86	-20.58	29.87	60.90	67.84	63.87	0.16	272.27M
	6521.00	0.31	272.27	6519.86	-20.62	29.80	60.13	67.11	63.64	0.34	321.84M
	6616.00	0.31	321.84	6614.86	-20.89	30.02	59.72	66.83	63.31	0.27	140.04M
	6710.00	0.09	140.04	6708.86	-21.05	30.16	59.61	66.80	63.16	0.43	219.67M
	6806.00	0.22	219.67	6804.86	-20.86	29.96	59.54	66.65	63.29	0.23	180.64M
	6901.00	0.48	180.64	6899.88	-20.35	29.42	59.42	66.30	63.66	0.36	199.45M
	6996.00	0.62	199.45	6994.85	-19.50	28.54	59.24	65.76	64.28	0.24	205.78M
	7091.00	0.88	205.78	7089.84	-18.44	27.40	58.75	64.83	65.00	0.29	195.54M
	7186.00	0.88	195.54	7184.83	-17.18	26.04	58.24	63.79	65.91	0.17	199.98M
	7280.00	0.62	199.98	7278.82	-16.07	24.86	57.87	62.99	66.75	0.28	207.85M
	7376.00	0.62	207.85	7374.82	-15.19	23.92	57.45	62.23	67.40	0.09	211.36M
	7471.00	0.70	211.36	7469.81	-14.33	22.97	56.91	61.37	68.02	0.09	203.45M
	7564.00	0.88	203.45	7562.80	-13.29	21.83	56.33	60.41	68.82	0.23	217.07M
	7659.00	0.79	217.07	7657.79	-12.21	20.63	55.64	59.35	69.65	0.23	223.75M
	7756.00	1.19	223.75	7754.78	-11.13	19.37	54.54	57.88	70.45	0.43	222.35M
	7851.00	1.10	222.35	7849.76	-9.95	17.99	53.25	56.20	71.34	0.10	223.58M
	7945.00	1.19	223.58	7943.74	-8.78	16.61	51.97	54.56	72.27	0.10	230.17M
	8040.00	1.10	230.17	8038.72	-7.70	15.31	50.59	52.85	73.16	0.17	222.96M
	8135.00	1.19	222.96	8133.70	-6.61	14.01	49.21	51.17	74.11	0.18	225.78M
	8230.00	1.19	225.78	8228.68	-5.41	12.60	47.84	49.47	75.25	0.06	224.46M
	8323.00	1.19	224.46	8321.66	-4.27	11.23	46.47	47.81	76.41	0.03	225.56M
	8418.00	1.10	225.56	8416.64	-3.14	9.89	45.12	46.20	77.64	0.10	218.88M
	8513.00	0.88	218.88	8511.63	-2.11	8.69	44.02	44.86	78.84	0.26	222.04M
	8607.00	1.01	222.04	8605.62	-1.09	7.51	43.01	43.66	80.10	0.15	222.26M
Final Extreme	8704.00	0.79	222.26	8702.61	-0.13	6.38	41.99	42.47	81.36	0.23	199.47M
Survey	8773.00	2.06	199.47	8771.58	1.27	4.86	41.25	41.54	83.28	1.98	196.1M
First MWD	8805.00	6.49	196.10	8803.49	3.43	2.58	40.56	40.64	86.37	13.86	193.82M
Survey	8837.00	9.57	193.82	8835.17	7.53	-1.75	39.42	39.46	92.53	9.67	18.98L
	8868.00	11.98	189.87	8865.62	12.97	-7.42	38.25	38.97	100.97	8.13	38.36L
	8900.00	14.71	181.78	8896.76	20.12	-14.75	37.56	40.35	111.44	10.32	39.3L
	8932.00	17.52	174.49	8927.50	28.93	-23.61	37.90	44.65	121.93	10.81	53.86L
	8964.00	19.08	168.37	8957.88	38.97	-33.53	39.41	51.75	130.39	7.73	45.94L
	8996.00	21.44	162.03	8987.90	49.96	-44.22	42.27	61.17	136.29	10.06	39.87L
	9027.00	23.74	157.40	9016.53	61.60	-55.37	46.42	72.25	140.03	9.37	68.89L

Comments	MD	Incl	Azim Grid	TVD	VSEC	NS	EW	Closure	Azimuth	DLS	TF
	9059.00	25.12	150.07	9045.67	74.18	-67.21	52.28	85.15	142.12	10.40	15.34L
	9091.00	27.41	148.71	9074.36	87.29	-79.39	59.50	99.21	143.15	7.40	51.81R
	9121.00	29.09	152.93	9100.79	100.57	-91.79	66.41	113.29	144.11	8.70	61.26R
	9152.00	30.65	158.14	9127.68	115.40	-105.83	72.78	128.44	145.48	9.76	54.42R
	9185.00	32.69	163.16	9155.76	132.40	-122.17	78.49	145.22	147.28	10.10	53.99R
	9217.00	35.71	169.84	9182.24	150.30	-139.65	82.65	162.27	149.38	15.05	52.71R
	9249.00	38.17	174.84	9207.82	169.51	-158.70	85.19	180.11	151.77	12.13	45.61R
	9280.00	40.17	177.94	9231.85	189.01	-178.23	86.41	198.07	154.14	9.03	8.51R
	9312.00	43.34	178.63	9255.72	210.17	-199.53	87.04	217.69	156.43	10.01	1.07L
	9344.00	46.87	178.54	9278.30	232.67	-222.19	87.60	238.83	158.48	11.03	62.15L
	9375.00	47.48	177.00	9299.38	255.27	-244.91	88.49	260.40	160.13	4.14	72.16L
	9407.00	48.17	174.26	9320.86	278.92	-268.55	90.30	283.32	161.42	6.70	4.68L
	9438.00	49.66	174.10	9341.24	302.26	-291.79	92.67	306.15	162.38	4.82	2.03L
	9455.00	50.75	174.05	9352.12	315.31	-304.78	94.01	318.95	162.86	6.42	3.4R
	9487.00	53.44	176.29	9371.78	340.50	-329.94	96.13	343.66	163.76	10.06	8.21R
	9519.00	56.99	176.90	9390.03	366.67	-356.17	97.69	369.32	164.66	11.20	17.79R
	9550.00	59.63	177.88	9408.31	392.91	-382.52	98.89	395.09	165.51	8.93	10.85R
	9582.00	64.44	178.90	9421.31	420.96	-410.76	99.66	422.68	166.36	15.29	11.82R
	9613.00	69.46	180.02	9433.45	449.20	-439.28	99.94	450.50	167.18	16.53	5.09R
	9645.00	75.67	180.59	9443.03	479.36	-469.79	99.77	480.27	168.01	19.48	6.06L
	9676.00	80.98	180.02	9449.30	509.35	-500.14	99.61	509.96	168.74	17.22	6.68L
	9708.00	84.55	179.60	9453.08	538.80	-529.89	99.71	539.19	169.34	11.98	10.01L
	9740.00	87.21	179.13	9455.52	572.39	-563.80	100.09	572.62	169.93	7.94	11.62L
	9772.00	88.62	178.84	9456.69	604.10	-595.77	100.66	604.22	170.41	4.50	0.66R
	9804.00	91.21	178.87	9456.73	635.84	-627.76	101.29	635.88	170.83	8.09	6.29L
	9833.00	92.48	178.73	9458.80	664.59	-656.74	101.90	664.60	171.18	4.41	177.34R
	9865.00	91.62	178.77	9462.40	692.77	-685.66	103.97	692.81	172.12	0.91	77.46R
	9897.00	91.22	179.22	9464.63	722.93	-715.60	105.64	722.97	172.89	0.49	156.2L
	9928.00	90.21	180.44	9467.47	752.70	-745.43	106.50	752.71	173.39	0.52	129.96L
	10023.00	89.83	181.24	9469.50	782.97	-775.44	107.91	782.98	174.97	1.96	64.59L
	10098.00	90.21	180.07	9470.38	815.61	-805.42	108.08	815.63	175.71	0.81	68.5L
	10167.00	89.90	180.23	9471.09	848.46	-835.42	109.76	848.47	176.55	0.53	98.13L
	10212.00	91.86	178.89	9474.41	886.46	-865.42	109.93	886.47	176.70	0.54	124.4R
	10256.00	90.45	177.44	9477.27	919.58	-895.42	110.34	919.59	176.84	0.92	117.25R
	10351.00	90.28	177.77	9483.66	953.92	-925.42	113.91	953.93	177.70	0.39	55.78R
	10446.00	90.62	178.27	9489.92	988.52	-955.42	118.85	988.53	178.57	0.53	53.39R
	10541.00	89.86	179.38	9493.52	1023.66	-985.42	123.68	1023.67	178.78	1.42	87.9R

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	11636.00	89.90	180.47	9438.72	2451.65	-2458.87	133.00	2462.47	176.90	1.15	33.69L
	11732.00	89.93	180.45	9438.86	2546.48	-2554.87	132.23	2558.29	177.04	0.04	127.88L
	11826.00	89.79	180.27	9439.09	2639.37	-2648.87	131.64	2652.14	177.15	0.24	66.8L
	11922.00	89.97	179.85	9439.29	2734.31	-2744.87	131.54	2748.02	177.26	0.48	66.45L
	12016.00	90.14	179.46	9439.20	2827.36	-2838.86	132.10	2841.94	177.34	0.45	95.86R
	12112.00	90.10	179.85	9439.00	2922.40	-2934.86	132.68	2937.86	177.41	0.41	93.71L
	12206.00	90.03	178.77	9438.89	3015.53	-3028.85	133.81	3031.81	177.47	1.15	113.03L
	12302.00	89.86	178.37	9438.96	3110.81	-3124.82	136.21	3127.79	177.50	0.45	82.33L
	12397.00	89.93	177.85	9439.16	3205.18	-3219.77	139.34	3222.79	177.52	0.55	90R
	12492.00	89.93	178.09	9439.27	3299.58	-3314.71	142.71	3317.78	177.53	0.25	86.73L
	12578.00	89.97	177.39	9439.35	3385.08	-3400.64	146.10	3403.78	177.54	0.82	4.76R
	12682.00	90.45	177.43	9438.97	3488.53	-3504.54	150.80	3507.78	177.54	0.46	151.44L
	12778.00	89.66	177.00	9438.88	3584.06	-3600.42	155.46	3603.78	177.53	0.94	76.5R
	12873.00	89.72	177.25	9439.39	3678.60	-3695.30	160.23	3698.77	177.52	0.27	74.8R
	12968.00	89.97	178.17	9439.65	3773.05	-3790.22	164.02	3793.77	177.52	1.00	63.43R
	13064.00	90.17	178.57	9439.53	3868.36	-3886.18	166.76	3889.76	177.54	0.47	137.35R
	13158.00	89.79	178.92	9439.56	3961.62	-3980.16	168.81	3983.74	177.57	0.55	30.62R
	13254.00	90.28	179.21	9439.50	4056.79	-4076.15	170.38	4079.71	177.61	0.59	148.94L
	13348.00	89.45	178.71	9439.72	4150.00	-4170.13	172.09	4173.68	177.64	1.03	59.19L
	13444.00	89.79	178.14	9440.36	4245.30	-4266.09	174.73	4269.67	177.65	0.69	66.43R
	13540.00	90.03	178.69	9440.51	4340.61	-4362.06	177.38	4365.66	177.67	0.63	78.44R
	13633.00	90.21	179.57	9440.32	4432.79	-4455.04	178.79	4458.63	177.70	0.97	96.04R
	13729.00	90.10	180.61	9440.06	4527.72	-4551.04	178.64	4554.55	177.75	1.09	160.71L
Final Survey 30- July-2014 TD Projection to Bit	13794.00	89.90	180.54	9440.06	4591.91	-4616.04	177.99	4619.47	177.79	0.33	HS
	13863.00	89.90	180.54	9440.18	4660.06	-4685.04	177.34	4688.39	177.83	0.00	

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	20.000	Act Stns	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Cimarex Hallertau 4 Federal #9H XEM +
	1	20.000	8704.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Hallertau 4 Federal #9H XEM +
	1	8704.000	13794.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hallertau 4 Federal #9H XEM +
	1	13794.000	13863.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Hallertau 4 Federal #9H XEM +