

PATHFINDER

A Schlumberger Company

CONFIDENTIAL**Reservoir Development**

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

30015 41808

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 07 2014

RECEIVED

May 14, 2014

Cimarex

600 N MARIENFELD STREET SUITE 600

MIDLAND, TX 79701

Re:

CLIENT: Cimarex Energy Co.
WELL: Marquardt 1 Federal # 14H
FIELD: Bone Spring Wildcat
RIG: Cactus 116
COUNTY: Eddy
API NO: 30-015-41808
JOB NO: 14MLD04990
N 32.15230 W 104.24012

Enclosed, please find the original copy of the survey performed on the referenced well by PathFinder, a division of Schlumberger Technology Corporation.

Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Barry Hessefort MWD	Marquardt 1 Federal # 14H Side Track	6563.00 Ft. to 11646.00 Ft	April 30, 2014 to May 9, 2014	SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Joseph Hogan
Field Service Manager

Reservoir Development

Drilling & Measurements

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

CONFIDENTIAL

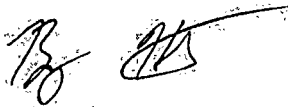
Well Reference:

0

N 32.15230 W 104.24012

I, Barry Hessefort certify that; I am employed by PathFinder, a division of Schlumberger Technology Corporation; that I did on the day(s) of April 30, 2014 through May 09, 2014, conduct or supervise the taking of the SliniPulse surveys from a depth of 6563.00 feet to a depth of 11646.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by PathFinder, a division of Schlumberger Technology Corporation; Subscribed and Sworn to before me this _____ day of _____ (month) _____ (yr)

By
Barry Hessefort
MWD



Subscribed and Sworn to before me this 16 day of May (month) 2014 (yr)

My Commission expires:

September 5, 2016



Michelle Ellwood

(signature)

Notary Public

Midland, TX

(County State)

CONFIDENTIAL



Cimarex Marquardt 1 Federal #14H XEM+MWD 0ft to 11717ft MD

(Def Survey)



Report Date: May 14, 2014 - 10:39 AM
 Client: Cimarex
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Cactus 116 / Cimarex Marquardt 1 Federal #14H
 Well: Cimarex Marquardt 1 Federal #14H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Marquardt 1 Federal #14H XEM+MWD 0ft to 11717ft MD
 Survey Date: April 17, 2014
 Tort / AHD / DDI / ERD Ratio: 149.522' / 4899.237 ft / 8.076 / 0.680
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 9' 8.29620S, W 104° 14' 24.42805W
 Location Grid N/E Y/X: N 419156.200 ftUS, E 570185.000 ftUS
 CRS Grid Convergence Angle: 0.0496°
 Grid Scale Factor: 0.99991004

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 2.974° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: KB
 TVD Reference Elevation: 3286.000 ft above
 Seabed / Ground Elevation: 3286.000 ft above
 Magnetic Declination: 7.658°
 Total Gravity Field Strength: 998.493mgn (9.80665 Based)
 Total Magnetic Field Strength: 48186.057 mT
 Magnetic Dip Angle: 59.915°
 Declination Date: April 17, 2014
 Magnetic Declination Model: BIGGM 2013
 North Reference: Grid North
 Grid Convergence Used: 0.0496°
 Total Corr Mag North->Grid North: 7.6088°
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	TVDSS (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northings (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL Marquardt 1 Federal #14H	0.00	0.00	2.97	0.00	0.00	-3286.00	0.00	0.00	N/A	419156.20	570185.00	N 32° 9' 8.30"	W 104° 14' 24.43"
	462.00	1.80	265.79	461.92	-0.91	-2824.08	-0.53	-7.24	0.39	419155.67	570177.76	N 32° 9' 8.29"	W 104° 14' 24.51"
	520.00	1.41	227.42	519.90	-1.53	-2766.10	-1.08	-8.67	1.93	419155.12	570176.33	N 32° 9' 8.29"	W 104° 14' 24.53"
	577.00	0.79	225.80	576.89	-2.32	-2709.11	-1.83	-9.47	1.09	419154.37	570175.53	N 32° 9' 8.28"	W 104° 14' 24.54"
	636.00	1.41	225.93	635.88	-3.15	-2650.12	-2.62	-10.28	1.05	419153.58	570174.72	N 32° 9' 8.27"	W 104° 14' 24.55"
	669.00	1.41	224.13	668.87	-3.75	-2617.13	-3.19	-10.85	0.13	419153.01	570174.14	N 32° 9' 8.26"	W 104° 14' 24.55"
	730.00	1.49	223.69	729.85	-4.92	-2556.15	-4.31	-11.93	0.13	419151.90	570173.07	N 32° 9' 8.25"	W 104° 14' 24.57"
	821.00	1.41	217.62	820.82	-6.74	-2495.18	-6.05	-13.43	0.19	419150.15	570171.57	N 32° 9' 8.24"	W 104° 14' 24.58"
	913.00	1.58	212.40	912.79	-8.77	-2373.21	-8.02	-14.80	0.24	419148.19	570170.20	N 32° 9' 8.22"	W 104° 14' 24.60"
	1002.00	1.71	206.42	1001.75	-11.06	-2284.25	-10.24	-16.05	0.24	419145.96	570168.96	N 32° 9' 8.20"	W 104° 14' 24.61"
1100.00	1.71	209.80	1099.71	-13.71	-2186.29	-12.82	-17.42	0.10	419143.38	570167.58	N 32° 9' 8.17"	W 104° 14' 24.63"	
1190.00	1.71	177.02	1189.67	-16.24	-2096.33	-15.32	-18.02	1.07	419140.88	570166.98	N 32° 9' 8.14"	W 104° 14' 24.64"	
1281.00	1.89	166.52	1280.63	-19.03	-2005.37	-18.14	-17.60	0.41	419138.06	570167.40	N 32° 9' 8.12"	W 104° 14' 24.63"	
1377.00	2.02	149.50	1376.57	-21.96	-1909.43	-21.14	-16.37	0.62	419135.06	570166.83	N 32° 9' 8.09"	W 104° 14' 24.62"	
1473.00	1.58	113.12	1472.53	-23.83	-1813.47	-23.12	-14.30	1.25	419133.09	570170.70	N 32° 9' 8.07"	W 104° 14' 24.59"	
1567.00	1.89	108.99	1566.49	-24.70	-1719.51	-24.13	-11.64	0.36	419132.07	570173.36	N 32° 9' 8.06"	W 104° 14' 24.56"	
1662.00	2.20	104.60	1661.42	-25.50	-1624.58	-25.10	-8.39	0.37	419131.10	570176.61	N 32° 9' 8.05"	W 104° 14' 24.53"	
1763.00	2.02	82.80	1762.36	-25.58	-1523.64	-25.36	-4.75	0.81	419130.84	570180.25	N 32° 9' 8.05"	W 104° 14' 24.48"	
1850.00	1.19	67.51	1849.32	-24.92	-1436.68	-24.83	-2.40	1.07	419131.38	570182.60	N 32° 9' 8.05"	W 104° 14' 24.46"	
2047.00	1.41	71.20	2046.27	-23.14	-1239.73	-23.26	1.79	1.12	419132.94	570185.79	N 32° 9' 8.07"	W 104° 14' 24.41"	
2140.00	1.32	62.50	2139.25	-22.17	-1146.75	-22.40	3.82	0.24	419133.80	570188.82	N 32° 9' 8.07"	W 104° 14' 24.38"	
2236.00	1.19	64.52	2235.22	-21.13	-1050.78	-21.46	5.70	0.14	419134.74	570190.70	N 32° 9' 8.08"	W 104° 14' 24.36"	
2330.00	1.10	60.52	2329.20	-20.19	-956.80	-20.60	7.37	0.13	419135.61	570192.37	N 32° 9' 8.09"	W 104° 14' 24.34"	
2424.00	1.01	57.62	2423.19	-19.22	-862.81	-19.71	8.85	0.11	419136.49	570193.85	N 32° 9' 8.10"	W 104° 14' 24.33"	
2518.00	0.88	65.71	2517.18	-18.41	-768.82	-18.97	10.21	0.20	419137.23	570195.21	N 32° 9' 8.11"	W 104° 14' 24.31"	
2615.00	0.88	63.90	2614.16	-17.71	-671.84	-18.33	11.56	0.03	419137.87	570196.56	N 32° 9' 8.11"	W 104° 14' 24.29"	
2708.00	0.70	75.73	2707.16	-17.19	-578.84	-17.88	12.75	0.26	419138.32	570197.75	N 32° 9' 8.12"	W 104° 14' 24.28"	
2802.00	0.70	71.81	2801.15	-16.82	-484.85	-17.58	13.85	0.05	419138.64	570198.85	N 32° 9' 8.12"	W 104° 14' 24.27"	
2896.00	0.62	70.89	2895.14	-16.42	-390.86	-17.21	14.88	0.09	419138.99	570199.88	N 32° 9' 8.13"	W 104° 14' 24.26"	
2992.00	0.62	68.43	2991.14	-16.01	-294.86	-16.85	15.85	0.03	419139.35	570200.85	N 32° 9' 8.13"	W 104° 14' 24.24"	
3085.00	0.62	63.51	3084.13	-15.55	-201.87	-16.44	16.77	0.06	419139.76	570201.77	N 32° 9' 8.13"	W 104° 14' 24.23"	
3180.00	0.62	66.32	3179.13	-15.07	-106.87	-16.01	17.70	0.03	419140.20	570202.70	N 32° 9' 8.14"	W 104° 14' 24.22"	
3277.00	0.40	59.20	3276.12	-14.64	-9.88	-15.62	18.47	0.24	419140.58	570203.47	N 32° 9' 8.14"	W 104° 14' 24.21"	
3371.00	0.40	29.71	3370.12	-14.17	84.12	-15.17	18.92	0.22	419141.03	570203.92	N 32° 9' 8.15"	W 104° 14' 24.21"	
3465.00	0.31	8.09	3464.12	-13.62	178.12	-14.63	19.12	0.17	419141.57	570204.12	N 32° 9' 8.15"	W 104° 14' 24.21"	
3559.00	0.09	35.52	3558.12	-13.30	272.12	-14.32	19.20	0.25	419141.88	570204.19	N 32° 9' 8.15"	W 104° 14' 24.20"	
3655.00	0.09	339.09	3654.12	-13.17	368.12	-14.19	19.21	0.09	419142.01	570204.21	N 32° 9' 8.16"	W 104° 14' 24.20"	
3750.00	0.22	301.30	3749.12	-13.02	463.12	-14.02	19.03	0.17	419142.18	570204.03	N 32° 9' 8.16"	W 104° 14' 24.21"	
3845.00	0.09	331.93	3844.12	-12.87	558.12	-13.86	18.84	0.16	419142.34	570203.84	N 32° 9' 8.16"	W 104° 14' 24.21"	
3941.00	0.22	313.12	3940.12	-12.68	654.12	-13.67	18.67	0.14	419142.53	570203.67	N 32° 9' 8.16"	W 104° 14' 24.21"	
4035.00	0.40	265.22	4034.11	-12.61	748.11	-13.57	18.21	0.32	419142.63	570203.21	N 32° 9' 8.16"	W 104° 14' 24.22"	
4130.00	0.62	254.32	4129.11	-12.82	843.11	-13.74	17.39	0.25	419142.46	570202.38	N 32° 9' 8.16"	W 104° 14' 24.23"	
4226.00	0.79	257.13	4225.10	-13.17	939.10	-14.03	16.24	0.18	419142.17	570201.24	N 32° 9' 8.16"	W 104° 14' 24.24"	
4319.00	0.88	256.21	4318.09	-13.55	1032.09	-14.34	14.92	0.10	419141.86	570199.92	N 32° 9' 8.15"	W 104° 14' 24.25"	
4414.00	1.01	253.00	4413.08	-14.05	1127.08	-14.76	13.41	0.15	419141.44	570198.41	N 32° 9' 8.15"	W 104° 14' 24.27"	
4508.00	1.01	251.02	4507.07	-14.64	1221.07	-15.27	11.84	0.04	419140.93	570196.84	N 32° 9' 8.14"	W 104° 14' 24.29"	
4602.00	1.10	250.32	4601.05	-15.30	1315.05	-15.85	10.20	0.10	419140.36	570195.20	N 32° 9' 8.14"	W 104° 14' 24.31"	
4696.00	1.19	245.22	4695.03	-16.10	1409.03	-16.56	8.47	0.14	419139.64	570193.47	N 32° 9' 8.13"	W 104° 14' 24.33"	
4793.00	1.32	247.11	4792.01	-17.05	1506.01	-17.42	6.52	0.14	419138.79	570191.52	N 32° 9' 8.12"	W 104° 14' 24.35"	
4888.00	1.41	240.61	4886.98	-18.16	1600.98	-18.41	4.50	0.19	419137.79	570189.50	N 32° 9' 8.11"	W 104° 14' 24.38"	
4981.00	1.49	239.73	4979.95	-19.43	1693.95	-19.59	2.46	0.09	419136.62	570187.46	N 32° 9' 8.10"	W 104° 14' 24.40"	
5077.00	1.71	238.72	5075.91	-20.92	1789.91	-20.96	0.15	0.23	419135.24	570185.15	N 32° 9' 8.09"	W 104° 14' 24.43"	
5170.00	1.89	235.20	5168.87	-22.64	1882.87	-22.55	-2.29	0.23	419133.65	570182.71	N 32° 9' 8.07"	W 104° 14' 24.45"	
5266.00	1.89	230.11	5264.82	-24.69	1978.82	-24.47	-4.81	0.17	419131.73	570180.19	N 32° 9' 8.05"	W 104° 14' 24.48"	
5360.00	0.70	260.60	5358.79	-25.87	2072.79	-25.56	-6.56	1.42	419130.64	570178.44	N 32° 9' 8.04"	W 104° 14' 24.50"	
5455.00	0.31	310.78	5453.79	-25.83	2167.79	-25.49	-7.33	0.58	419130.71	570177.67	N 32° 9' 8.04"	W 104° 14' 24.51"	
5549.00	0.48	340.19	5547.79	-25.31	2261.79	-24.95	-7.65	0.28	419131.25	570177.35	N 32° 9' 8.05"	W 104° 14' 24.52"	
5643.00	1.10	311.80	5641.78	-24.39	2355.78	-23.98	-8.46	0.76	419132.22	570176.54	N 32° 9' 8.06"	W 104° 14' 24.53"	
5736.00	1.58	320.90	5734.75	-22.87	2448.75	-22.39	-9.93	0.56	419133.81	570175.07	N 32° 9' 8.07"	W 104° 14' 24.54"	
5832.00	1.41	333.51	5830.72	-20.86	2544.72	-20.31	-11.30	0.38	419135.90	570173.70	N 32° 9' 8.10"	W 104° 14' 24.56"	
5925.00	1.32	310.00	5923.69	-19.22	2637.69	-18.59	-12.63	0.61	419137.61	570172.37	N 32° 9' 8.11"	W 104° 14' 24.58"	
6020.00	1.58	294.53	6018.66	-18.08	2732.66	-17.35	-14.66	0.49	419138.86	570170.34	N 32° 9' 8.12"	W 104° 14' 24.60"	
6114.00	0.79	1.11	6112.65	-16.96	2826.65	-16.16	-15.82	1.55	419140.04	570169.18	N 32° 9' 8.14"	W 104° 14' 24.61"	
6208.00	0.70	1.33	6206.64	-15.74	2920.64	-14.94	-15.80	0.10	419141.26	570169.20	N 32° 9' 8.15"	W 104° 14' 24.61"	
6302.00	0.88	14.73	6300.63	-14.46	3014.63	-13.67	-15.60	0.27	419142.54	570169.40	N 32° 9' 8.16"	W 104° 14' 24.61"	
6400.00	1.49	354.82	6398.61	-12.46	3112.61	-11.67	-15.52	0.74	419144.53	570169.48	N 32° 9' 8.18"	W 104° 14' 24.61"	
6494.00	1.58	351.53	6492.57	-9.98	3206.57	-9.17	-15.83	0.13	419147.03	570169.18	N 32° 9' 8.21"	W 104° 14' 24.61"	
6583.00	1.15	353.13	6561.55	-8.36	3275.55	-7.54	-16.05	0.63	419148.66	570168.95	N 32° 9' 8.22"	W 104° 14' 24.61"	
6594.00	1.89	338.92	6592.54	-7									

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	TVDSS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6814.00	20.63	346.10	6806.43	38.89	3520.43	39.95	-19.48	7.43	419196.15	570165.52	N 32 9 8.69	W 104 14 24.65
	6845.00	23.75	347.43	6835.13	50.13	3549.13	51.35	-22.15	10.19	419207.55	570162.85	N 32 9 8.80	W 104 14 24.69
	6877.00	26.28	348.06	6864.13	63.19	3578.13	64.57	-25.02	7.95	419220.77	570159.98	N 32 9 8.94	W 104 14 24.72
	6908.00	28.80	348.84	6891.61	77.09	3605.61	78.64	-27.76	8.55	419234.83	570157.24	N 32 9 9.07	W 104 14 24.75
	6939.00	31.67	352.30	6918.40	92.37	3632.40	94.06	-30.17	10.08	419250.25	570154.83	N 32 9 9.23	W 104 14 24.78
	6971.00	34.27	354.50	6945.24	109.54	3659.24	111.36	-32.16	8.94	419267.55	570152.85	N 32 9 9.40	W 104 14 24.80
	7002.00	36.78	354.84	6970.47	127.36	3684.47	129.29	-33.83	8.15	419285.48	570151.17	N 32 9 9.58	W 104 14 24.82
	7033.00	39.77	354.21	6994.80	146.36	3708.80	148.41	-35.66	9.69	419304.59	570149.34	N 32 9 9.77	W 104 14 24.84
	7064.00	43.04	354.73	7018.05	166.63	3732.05	168.81	-37.64	10.61	419324.99	570147.37	N 32 9 9.97	W 104 14 24.86
	7096.00	46.29	355.59	7040.80	188.91	3754.80	191.22	-39.53	10.33	419347.40	570145.47	N 32 9 10.19	W 104 14 24.89
	7127.00	49.40	355.13	7061.61	211.69	3775.61	214.12	-41.39	10.09	419370.30	570143.61	N 32 9 10.42	W 104 14 24.91
	7222.00	56.94	357.33	7118.52	287.15	3832.52	289.94	-46.31	8.15	419446.12	570138.69	N 32 9 11.17	W 104 14 24.96
	7302.00	62.65	0.20	7158.75	356.06	3872.75	359.03	-47.75	7.78	419515.19	570137.25	N 32 9 11.85	W 104 14 24.98
	7338.00	67.32	1.98	7173.97	388.66	3887.97	391.63	-47.12	13.72	419547.80	570137.88	N 32 9 12.17	W 104 14 24.97
	7369.00	72.85	3.04	7184.53	417.79	3898.53	420.74	-45.84	18.13	419578.90	570139.16	N 32 9 12.46	W 104 14 24.96
	7399.00	78.39	4.41	7191.98	446.84	3905.98	449.72	-43.95	18.99	419605.88	570141.05	N 32 9 12.75	W 104 14 24.93
	7432.00	84.42	4.95	7196.91	479.44	3910.91	482.23	-41.29	18.34	419638.39	570143.71	N 32 9 13.07	W 104 14 24.90
	7463.00	87.93	4.72	7198.98	510.35	3912.98	513.05	-38.68	11.35	419669.20	570146.32	N 32 9 13.37	W 104 14 24.87
	7494.00	88.76	5.06	7199.87	541.32	3913.87	543.92	-36.04	2.89	419700.07	570148.96	N 32 9 13.68	W 104 14 24.84
	7594.00	89.66	4.50	7201.25	641.26	3915.25	643.56	-27.71	1.06	419799.70	570157.29	N 32 9 14.66	W 104 14 24.74
	7689.00	89.93	4.71	7201.59	736.22	3915.59	738.25	-20.08	0.36	419894.39	570164.92	N 32 9 15.60	W 104 14 24.65
	7783.00	90.34	4.86	7201.37	830.17	3915.37	831.93	-12.24	0.48	419988.05	570172.76	N 32 9 16.53	W 104 14 24.56
	7878.00	90.55	4.48	7200.63	925.13	3914.63	926.61	-4.51	0.46	420082.72	570180.49	N 32 9 17.47	W 104 14 24.47
	7973.00	90.38	5.42	7199.86	1020.06	3913.86	1021.25	3.69	1.01	420177.35	570188.69	N 32 9 18.40	W 104 14 24.37
	8067.00	90.83	5.55	7198.87	1113.97	3912.87	1114.81	12.67	0.50	420270.91	570197.67	N 32 9 19.33	W 104 14 24.27
	8162.00	90.79	5.86	7197.52	1208.85	3911.52	1209.33	22.12	0.33	420365.42	570207.11	N 32 9 20.26	W 104 14 24.16
	8258.00	91.07	5.97	7195.97	1304.71	3909.97	1304.81	32.01	0.31	420460.89	570217.01	N 32 9 21.21	W 104 14 24.04
	8352.00	91.00	5.33	7194.27	1398.50	3908.27	1398.34	41.26	0.68	420554.41	570226.26	N 32 9 22.13	W 104 14 23.93
	8447.00	91.10	4.65	7192.53	1493.52	3906.53	1492.96	49.52	0.72	420649.02	570234.52	N 32 9 23.07	W 104 14 23.84
	8542.00	90.96	4.72	7190.82	1588.46	3904.82	1587.63	57.28	0.16	420743.68	570242.28	N 32 9 24.01	W 104 14 23.75
	8637.00	90.89	2.79	7189.28	1683.44	3903.28	1682.41	63.50	2.03	420838.45	570248.50	N 32 9 24.94	W 104 14 23.67
	8732.00	90.55	2.96	7188.09	1778.43	3902.09	1777.28	68.27	0.40	420933.32	570253.26	N 32 9 25.88	W 104 14 23.62
	8826.00	90.62	3.09	7187.13	1872.42	3901.13	1871.14	73.23	0.16	421027.17	570258.22	N 32 9 26.81	W 104 14 23.56
	8922.00	90.65	3.02	7186.07	1968.42	3900.07	1967.00	78.34	0.08	421123.02	570263.34	N 32 9 27.76	W 104 14 23.50
	9016.00	90.89	2.93	7184.80	2062.41	3898.80	2060.87	83.22	0.27	421216.88	570268.21	N 32 9 28.69	W 104 14 23.44
	9111.00	90.96	3.13	7183.27	2157.40	3897.27	2155.72	88.24	0.22	421311.72	570273.23	N 32 9 29.63	W 104 14 23.38
	9206.00	90.62	3.52	7181.96	2252.38	3895.96	2250.55	93.75	0.54	421406.54	570278.74	N 32 9 30.57	W 104 14 23.31
	9300.00	90.45	3.68	7181.08	2346.37	3895.08	2344.36	99.65	0.25	421500.35	570284.64	N 32 9 31.49	W 104 14 23.25
	9394.00	91.20	4.68	7179.73	2440.34	3893.73	2438.10	106.50	1.33	421594.08	570291.49	N 32 9 32.42	W 104 14 23.16
	9489.00	90.89	4.68	7178.00	2535.28	3892.00	2532.77	114.25	0.33	421688.73	570299.24	N 32 9 33.36	W 104 14 23.07
	9584.00	90.65	5.50	7176.72	2630.21	3890.72	2627.38	122.68	0.90	421783.34	570307.67	N 32 9 34.29	W 104 14 22.97
	9679.00	90.65	5.17	7175.64	2725.12	3889.64	2721.97	131.51	0.35	421877.92	570316.50	N 32 9 35.23	W 104 14 22.87
	9774.00	90.76	4.31	7174.47	2820.07	3888.47	2816.63	139.36	0.91	421972.57	570324.35	N 32 9 36.17	W 104 14 22.78
	9868.00	90.55	4.11	7173.40	2914.04	3887.40	2910.37	146.26	0.31	422066.31	570331.25	N 32 9 37.09	W 104 14 22.70
	9962.00	90.65	3.92	7172.41	3008.02	3886.41	3004.14	152.85	0.23	422160.06	570337.83	N 32 9 38.02	W 104 14 22.62
	10057.00	90.62	4.53	7171.36	3102.99	3885.36	3098.87	159.84	0.64	422254.79	570344.83	N 32 9 38.96	W 104 14 22.54
	10151.00	90.31	5.13	7170.60	3196.94	3884.60	3182.53	167.76	0.72	422348.44	570352.74	N 32 9 39.89	W 104 14 22.44
	10245.00	90.34	5.40	7170.07	3290.86	3884.07	3286.14	176.38	0.29	422442.03	570361.37	N 32 9 40.81	W 104 14 22.34
	10339.00	91.24	4.74	7168.77	3384.79	3882.77	3379.76	184.69	1.19	422535.65	570369.67	N 32 9 41.74	W 104 14 22.25
	10433.00	93.23	3.26	7165.10	3478.69	3879.10	3473.45	191.24	2.64	422629.33	570376.22	N 32 9 42.67	W 104 14 22.17
	10527.00	93.16	2.36	7159.86	3572.55	3873.86	3567.19	195.84	0.98	422723.06	570380.83	N 32 9 43.59	W 104 14 22.11
	10621.00	93.13	1.65	7154.71	3666.39	3869.71	3660.99	199.13	0.75	422816.85	570384.11	N 32 9 44.52	W 104 14 22.07
	10715.00	93.16	1.46	7149.55	3760.22	3863.55	3754.82	201.67	0.20	422910.67	570386.66	N 32 9 45.45	W 104 14 22.04
	10809.00	93.20	1.54	7144.34	3854.05	3858.34	3848.64	204.13	0.10	423004.48	570389.11	N 32 9 46.38	W 104 14 22.01
	10904.00	93.44	0.97	7138.83	3948.84	3852.83	3943.46	206.21	0.65	423099.29	570391.19	N 32 9 47.32	W 104 14 21.99
	10998.00	93.51	0.50	7133.08	4043.60	3847.08	4038.27	207.42	0.50	423194.10	570392.41	N 32 9 48.25	W 104 14 21.97
	11093.00	91.31	0.40	7129.12	4137.42	3843.12	4132.18	208.16	2.34	423288.00	570393.14	N 32 9 49.18	W 104 14 21.96
	11188.00	90.93	359.59	7127.27	4232.27	3841.27	4227.16	208.15	0.94	423382.87	570393.13	N 32 9 50.12	W 104 14 21.96
	11282.00	90.65	359.38	7125.97	4326.08	3839.67	4321.15	207.31	0.37	423476.95	570392.29	N 32 9 51.05	W 104 14 21.97
	11377.00	90.79	359.37	7124.78	4420.89	3838.78	4416.14	206.27	0.15	423571.93	570391.25	N 32 9 51.99	W 104 14 21.98
	11472.00	90.65	1.40	7123.58	4515.76	3837.58	4511.12	206.91	2.14	423666.91	570391.89	N 32 9 52.93	W 104 14 21.98
	11567.00	90.55	5.15	7122.59	4610.76	3836.59	4605.94	212.34	3.95	423761.72	570397.32	N 32 9 53.87	W 104 14 21.91
	11648.00	90.96	8.17	7121.55	4699.58	3835.55	4684.39	221.50	3.86	423846.16	570406.48	N 32 9 54.85	W 104 14 21.80
	11717.00	90.96	8.17	7120.36	4760.28	3834.36	4754.66	231.59	0.00	423910.43	570416.56	N 32 9 55.34	W 104 14 21.69

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_MWD-POOR-Depth Only	Original Borehole / Cimarex Marquardt 1 Federal #14H
	18.000	462.000	1/98.425	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Marquardt 1 Federal #14H
	462.000	6494.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Marquardt 1 Federal #14H
	6494.000	11646.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Marquardt 1 Federal #14H
	11646.000	11717.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Marquardt 1 Federal #14H