

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

July 25, 2016

Cimarex Energy Co.

Re:

CLIENT: Cimarex Energy Co.
WELL: Gadwall 18 Federal 5H
FIELD: White City

N 32.13658 W -104.22945

RIG: H&P 381
COUNTY: Eddy
API NO: 30-015-43488
JOB NO: 16MLD0577

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
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>
Jonathan Yee FS	Gadwall 18 Federal 5H Original Hole	6538.00 Ft to 11947.00 Ft	January 19, 2016 to January 22, 2016	SlimPulse

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

Sincerely,


Jonathan Wilson
Field Service Manager

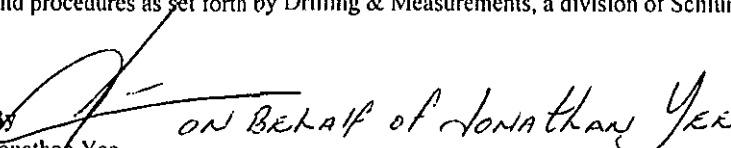
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Well Reference:

N 32.13658 W -104.22945

I, Jonathan Yee certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 19, 2016 through January 22, 2016, conduct or supervise the taking of the SlimPulse surveys from a depth of 6538.00 feet to a depth of 11947.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Co. for the Gadwall 18 Federal 5H Well (Original Hole) API No. 30-015-43488 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By 
Jonathan Yee
FS

Subscribed and Sworn to before me this 25th day of July (month) 2016 (yr)

My Commission expires:

September 5, 2016



Notary Public

Midland, TX

(County State)



Gadwall 18 Federal 5H MWD Off to 12016ft Survey Report

(Def Survey)

Report Date:	January 25, 2016 - 01:08 PM				Survey / DLS Computation:				Minimum Curvature / Lubinski			
Client:	Cimarex				Vertical Section Azimuth:				187.885 ° (Grid North)			
Field:	NM Eddy County (NAD 83)				Vertical Section Origin:				0.000 ft, 0.000 ft			
Structure / Slot:	Cimarex Gadwall 18 Federal 5H / Cimarex Gadwall 18 Federal 5H				TVD Reference Datum:				RKB			
Well:	Gadwall 18 Federal 5H				TVD Reference Elevation:				3228.600 ft above MSL			
Borehole:	Original Borehole				Seabed / Ground Elevation:				3203.600 ft above MSL			
UWI / API#:	Unknown / Unknown				Magnetic Declination:				7.593 °			
Survey Name:	Gadwall 18 Federal 5H MWD Off to 12016ft				Total Gravity Field Strength:				998.4434mgm (9.80665 Based)			
Survey Date:	January 08, 2016				Gravity Model:				GARM			
Tort / AHD / DDI / ERD Ratio:	213.870 ° / 5291.320 ft / 6.271 / 0.726				Total Magnetic Field Strength:				48176.947 nT			
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Magnetic Dip Angle:				59.900 °			
Location Lat / Long:	N 32° 8' 11.68754", W 104° 13' 46.01446"				Declination Date:				January 08, 2016			
Location Grid N/E Y/X:	N 413438.970 ftUS, E 573492.750 ftUS				Magnetic Declination Model:				HDGM 2015			
CRS Grid Convergence Angle:	0.0553 °				North Reference:				Grid North			
Grid Scale Factor:	0.99991028				Grid Convergence Used:				0.0553 °			
Version / Patch:	2.9.365.0				Total Corr Mag North->Grid North:				7.5372 °			
					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 Cimarex Gadwall 18 Federal 5H [247' FNL, 2634' FWL]	0.00	0.00	270.00	0.00	0.00	0.00	0.00	N/A	413438.97	573492.75	N 32 8 11.68	W 104 13 46.01
Begin Extreme MWD Surveys	176.00	0.70	117.98	176.00	0.37	-0.50	0.95	0.40	413438.47	573493.70	N 32 8 11.68	W 104 13 46.00
	269.00	0.88	105.19	268.99	0.66	-0.96	2.14	0.27	413438.01	573494.89	N 32 8 11.68	W 104 13 45.99
	328.00	0.62	101.81	327.98	0.73	-1.14	2.89	0.45	413437.83	573495.64	N 32 8 11.68	W 104 13 45.98
	422.00	0.62	86.69	421.98	0.67	-1.22	3.90	0.17	413437.75	573496.65	N 32 8 11.68	W 104 13 45.97
	506.00	0.48	86.69	505.97	0.51	-1.17	4.70	0.17	413437.80	573497.45	N 32 8 11.68	W 104 13 45.96
	566.00	0.48	86.91	565.97	0.42	-1.14	5.20	0.00	413437.83	573497.95	N 32 8 11.68	W 104 13 45.95
	659.00	0.09	32.51	658.97	0.28	-1.06	5.63	0.47	413437.91	573498.38	N 32 8 11.68	W 104 13 45.95
	749.00	0.70	88.27	748.96	-0.30	-0.65	6.01	0.45	413438.14	573498.76	N 32 8 11.68	W 104 13 45.94
	839.00	1.01	81.99	838.95	-0.61	-0.52	6.89	0.37	413438.32	573499.64	N 32 8 11.68	W 104 13 45.93
	929.00	1.10	75.49	928.94	-1.16	-0.20	7.85	0.17	413438.77	573500.98	N 32 8 11.69	W 104 13 45.92
	1019.00	1.10	70.39	1018.92	-1.88	0.31	9.20	0.11	413439.28	573502.60	N 32 8 11.69	W 104 13 45.90
	1109.00	1.89	75.88	1108.91	-2.85	0.97	11.50	0.88	413439.94	573506.53	N 32 8 11.70	W 104 13 45.85
	1200.00	2.50	77.77	1200.00	-4.10	1.76	13.78	0.67	413440.73	573509.92	N 32 8 11.70	W 104 13 45.81
	1291.00	2.81	79.70	1290.99	-5.46	2.57	15.97	0.36	413441.54	573514.01	N 32 8 11.71	W 104 13 45.77
	1381.00	1.89	64.98	1380.97	-7.04	3.64	18.17	1.15	413442.61	573517.72	N 32 8 11.72	W 104 13 45.72
	1476.00	2.02	64.19	1475.95	-8.82	5.04	20.37	0.14	413444.01	573520.65	N 32 8 11.74	W 104 13 45.69
	1571.00	2.81	74.39	1570.92	-10.65	6.38	22.57	0.95	413445.35	573524.36	N 32 8 11.75	W 104 13 45.65

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 ° ' '')
	1760.00	1.71	73.90	1759.43	-12.16	7.40	35.22	1.16	413446.37	573527.96	N 32 8 11.76	W 104 13 45.60
	1819.00	1.32	69.68	1818.41	-12.84	7.88	36.70	0.69	413446.85	573529.45	N 32 8 11.77	W 104 13 45.59
	1955.00	0.88	85.68	1954.39	-13.80	8.50	39.21	0.39	413447.47	573531.96	N 32 8 11.77	W 104 13 45.56
	2049.00	0.70	90.60	2048.38	-14.02	8.55	40.50	0.20	413447.52	573533.25	N 32 8 11.77	W 104 13 45.54
	2144.00	0.70	87.31	2143.37	-14.20	8.57	41.66	0.04	413447.54	573534.41	N 32 8 11.77	W 104 13 45.53
	2239.00	0.79	78.39	2238.36	-14.53	8.73	42.89	0.15	413447.70	573535.63	N 32 8 11.77	W 104 13 45.52
	2333.00	0.70	84.10	2332.35	-14.88	8.92	44.09	0.12	413447.89	573536.84	N 32 8 11.78	W 104 13 45.50
	2428.00	0.79	70.87	2427.35	-15.32	9.19	45.28	0.20	413448.16	573538.03	N 32 8 11.78	W 104 13 45.49
	2523.00	0.48	71.71	2522.34	-15.79	9.53	46.28	0.33	413448.50	573539.03	N 32 8 11.78	W 104 13 45.48
	2712.00	0.48	74.30	2711.33	-16.46	9.89	47.80	0.01	413448.96	573540.54	N 32 8 11.79	W 104 13 45.46
	2807.00	0.48	72.19	2806.33	-16.79	10.22	48.56	0.02	413449.19	573541.30	N 32 8 11.79	W 104 13 45.45
	2902.00	0.22	79.79	2901.33	-17.02	10.38	49.12	0.28	413449.35	573541.86	N 32 8 11.79	W 104 13 45.44
	2996.00	0.22	82.38	2995.33	-17.12	10.43	49.47	0.01	413449.40	573542.22	N 32 8 11.79	W 104 13 45.44
	3091.00	0.31	61.20	3090.33	-17.32	10.58	49.88	0.14	413449.55	573542.63	N 32 8 11.79	W 104 13 45.43
	3185.00	0.31	74.47	3184.32	-17.58	10.77	50.35	0.08	413449.74	573543.09	N 32 8 11.79	W 104 13 45.43
	3280.00	0.22	104.01	3279.32	-17.66	10.80	50.77	0.17	413449.77	573543.52	N 32 8 11.79	W 104 13 45.42
	3375.00	0.31	126.56	3374.32	-17.52	10.60	51.16	0.14	413449.57	573543.90	N 32 8 11.79	W 104 13 45.42
	3469.00	0.22	171.99	3468.32	-17.22	10.27	51.39	0.23	413449.24	573544.13	N 32 8 11.79	W 104 13 45.42
	3564.00	0.31	201.61	3563.32	-16.80	9.85	51.32	0.17	413448.82	573544.06	N 32 8 11.78	W 104 13 45.42
	3659.00	0.62	206.97	3658.32	-16.06	9.15	50.99	0.33	413448.12	573543.73	N 32 8 11.78	W 104 13 45.42
	3754.00	0.79	200.99	3753.31	-14.94	8.08	50.52	0.19	413447.05	573543.27	N 32 8 11.77	W 104 13 45.43
	3848.00	0.88	189.30	3847.30	-13.59	6.77	50.17	0.20	413445.74	573542.92	N 32 8 11.75	W 104 13 45.43
	3943.00	0.79	196.07	3942.29	-12.21	5.42	49.87	0.14	413444.39	573542.62	N 32 8 11.74	W 104 13 45.43
	4038.00	0.62	194.97	4037.28	-11.05	4.29	49.56	0.18	413443.26	573542.30	N 32 8 11.73	W 104 13 45.44
	4132.00	0.40	200.07	4131.28	-10.22	3.49	49.31	0.24	413442.46	573542.06	N 32 8 11.72	W 104 13 45.44
	4227.00	0.22	241.51	4226.28	-9.79	3.09	49.04	0.29	413442.06	573541.79	N 32 8 11.72	W 104 13 45.44
	4322.00	0.31	220.68	4321.28	-9.47	2.81	48.71	0.14	413441.78	573541.46	N 32 8 11.71	W 104 13 45.45
	4416.00	0.40	222.88	4415.28	-8.99	2.38	48.32	0.10	413441.35	573541.07	N 32 8 11.71	W 104 13 45.45
	4511.00	0.62	231.18	4510.27	-8.34	1.81	47.70	0.24	413440.78	573540.44	N 32 8 11.71	W 104 13 45.46
	4606.00	0.79	243.18	4605.26	-7.59	1.20	46.71	0.24	413440.17	573539.46	N 32 8 11.70	W 104 13 45.47
	4700.00	1.01	255.67	4699.25	-6.91	0.70	45.33	0.31	413439.67	573538.08	N 32 8 11.69	W 104 13 45.49
	4795.00	1.10	242.08	4794.24	-6.06	0.06	43.71	0.28	413439.03	573536.46	N 32 8 11.69	W 104 13 45.51
	4890.00	1.19	229.78	4889.22	-4.79	-1.00	42.16	0.27	413437.97	573534.90	N 32 8 11.68	W 104 13 45.52
	4984.00	1.41	225.78	4983.19	-3.15	-2.44	40.58	0.25	413436.53	573533.33	N 32 8 11.66	W 104 13 45.54
	5079.00	1.32	225.08	5078.17	-1.36	-4.03	38.97	0.10	413434.95	573531.72	N 32 8 11.65	W 104 13 45.56
	5174.00	1.32	215.19	5173.14	0.48	-5.69	37.56	0.24	413433.28	573530.31	N 32 8 11.63	W 104 13 45.58
	5268.00	1.41	220.59	5267.11	2.42	-7.46	36.19	0.17	413431.52	573528.93	N 32 8 11.61	W 104 13 45.59
	5363.00	1.41	228.11	5362.09	4.30	-9.12	34.56	0.19	413429.85	573527.30	N 32 8 11.60	W 104 13 45.61
	5458.00	1.71	232.37	5457.05	6.20	-10.77	32.56	0.34	413428.20	573525.31	N 32 8 11.58	W 104 13 45.64
	5553.00	1.41	266.69	5552.02	7.44	-11.70	30.27	1.01	413427.27	573523.02	N 32 8 11.57	W 104 13 45.66
	5647.00	1.80	273.37	5645.98	7.78	-11.68	27.65	0.46	413427.29	573520.39	N 32 8 11.57	W 104 13 45.69
	5742.00	1.58	274.29	5740.94	7.98	-11.50	24.85	0.23	413427.47	573517.80	N 32 8 11.57	W 104 13 45.73
	5836.00	0.88	274.07	5834.92	8.11	-11.35	22.84	0.74	413427.62	573515.59	N 32 8 11.58	W 104 13 45.75
	5931.00	0.62	331.69	5929.91	7.74	-10.84	21.87	0.80	413428.13	573514.61	N 32 8 11.58	W 104 13 45.76
	6026.00	0.31	348.21	6024.91	7.08	-10.14	21.57	0.35	413428.83	573514.32	N 32 8 11.59	W 104 13 45.76
	6120.00	0.62	151.29	6118.91	7.25	-10.34	21.76	0.98	413428.63	573514.51	N 32 8 11.59	W 104 13 45.76
	6215.00	0.70	150.59	6213.90	8.13	-11.29	22.29	0.08	413427.68	573515.04	N 32 8 11.58	W 104 13 45.76

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 ° ' ")
	6310.00	0.70	158.67	6308.89	9.10	-12.34	22.79	0.10	413426.63	573515.54	N 32 8 11.57	W 104 13 45.75
	6405.00	1.58	156.30	6403.87	10.72	-14.08	23.53	0.93	413424.89	573516.28	N 32 8 11.55	W 104 13 45.74
	6479.00	2.29	160.39	6477.83	12.90	-16.41	24.43	0.98	413422.57	573517.18	N 32 8 11.52	W 104 13 45.73
	6538.00	2.61	205.35	6536.78	15.23	-18.73	24.26	3.21	413420.24	573517.00	N 32 8 11.50	W 104 13 45.73
	6585.00	8.31	257.42	6583.57	17.44	-20.44	20.48	14.92	413418.53	573513.23	N 32 8 11.49	W 104 13 45.78
	6632.00	15.12	273.27	6629.57	19.12	-20.83	11.03	15.90	413418.14	573503.78	N 32 8 11.48	W 104 13 45.89
	6727.00	28.74	269.43	6717.50	23.50	-20.35	-24.35	14.41	413418.62	573468.40	N 32 8 11.49	W 104 13 46.30
	6821.00	38.75	266.62	6795.56	32.59	-22.31	-76.45	10.78	413416.66	573416.31	N 32 8 11.47	W 104 13 46.90
	6916.00	47.70	267.42	6864.72	44.80	-25.65	-141.36	9.44	413413.32	573351.41	N 32 8 11.44	W 104 13 47.66
	7010.00	56.66	269.05	6922.30	57.17	-27.87	-215.50	9.63	413411.11	573277.27	N 32 8 11.41	W 104 13 48.52
	7105.00	60.70	261.90	6971.72	74.69	-34.36	-296.30	7.71	413404.61	573196.48	N 32 8 11.35	W 104 13 49.46
	7200.00	62.83	249.29	7016.80	106.42	-55.21	-377.10	11.90	413383.76	573115.69	N 32 8 11.14	W 104 13 50.40
First Legal Take Point	7277.54	63.70	234.89	7051.83	146.81	-87.54	-438.05	16.62	413351.44	573054.74	N 32 8 10.83	W 104 13 51.11
	7294.00	64.07	231.87	7059.08	157.16	-96.35	-449.91	16.62	413342.63	573042.88	N 32 8 10.74	W 104 13 51.25
	7389.00	63.58	222.29	7101.06	223.12	-154.31	-512.25	9.06	413284.68	572980.54	N 32 8 10.17	W 104 13 51.97
	7436.00	66.57	217.31	7120.88	259.29	-187.05	-539.50	11.52	413251.94	572953.30	N 32 8 9.84	W 104 13 52.59
	7484.00	70.89	211.78	7138.30	299.25	-223.88	-564.82	14.01	413215.11	572927.98	N 32 8 9.48	W 104 13 52.99
	7531.00	74.32	207.27	7152.35	340.93	-262.90	-586.90	11.71	413176.09	572905.90	N 32 8 9.09	W 104 13 52.84
	7578.00	78.38	200.69	7163.45	384.78	-304.61	-605.43	16.11	413134.39	572887.38	N 32 8 8.68	W 104 13 53.06
	7626.00	85.42	197.05	7170.22	431.40	-349.54	-620.77	16.47	413089.46	572872.03	N 32 8 8.23	W 104 13 53.24
	7673.00	87.86	191.16	7172.97	478.02	-395.02	-632.20	13.54	413043.98	572860.61	N 32 8 7.78	W 104 13 53.37
	7768.00	90.45	180.70	7174.38	572.81	-489.37	-641.99	11.34	412949.85	572850.81	N 32 8 6.85	W 104 13 53.49
	7799.00	90.83	180.84	7174.03	603.56	-520.36	-642.36	1.24	412918.66	572850.45	N 32 8 6.54	W 104 13 53.49
	7907.00	90.48	179.38	7172.80	710.54	-628.35	-642.38	1.21	412810.88	572850.43	N 32 8 5.48	W 104 13 53.49
	8002.00	90.86	180.66	7171.68	804.63	-723.34	-642.41	1.41	412715.69	572850.40	N 32 8 4.54	W 104 13 53.49
	8097.00	90.07	179.17	7170.91	898.71	-818.34	-642.27	1.78	412620.71	572850.54	N 32 8 3.60	W 104 13 53.49
	8191.00	89.97	177.41	7170.88	991.39	-912.29	-639.46	1.88	412526.76	572853.35	N 32 8 2.67	W 104 13 53.46
	8286.00	90.38	177.92	7170.59	1084.88	-1007.21	-635.59	0.69	412431.85	572857.22	N 32 8 1.73	W 104 13 53.42
	8380.00	90.24	180.10	7170.08	1177.75	-1101.19	-633.97	2.32	412337.88	572858.84	N 32 8 0.80	W 104 13 53.40
	8475.00	89.79	181.00	7170.06	1271.97	-1196.18	-634.88	1.06	412242.90	572857.93	N 32 7 59.86	W 104 13 53.41
	8570.00	90.28	181.73	7170.00	1366.36	-1291.16	-637.14	0.93	412147.93	572855.67	N 32 7 58.92	W 104 13 53.44
	8664.00	90.41	181.07	7169.43	1459.75	-1385.13	-639.44	0.72	412053.97	572853.37	N 32 7 57.99	W 104 13 53.47
	8759.00	90.38	181.85	7168.78	1554.15	-1480.09	-641.86	0.82	411959.01	572850.95	N 32 7 57.05	W 104 13 53.50
	8854.00	90.34	181.43	7168.18	1648.59	-1575.05	-644.58	0.44	411864.06	572848.23	N 32 7 56.11	W 104 13 53.53
	8948.00	89.93	181.75	7167.96	1742.02	-1669.01	-647.19	0.55	411770.11	572845.62	N 32 7 55.18	W 104 13 53.56
	9043.00	90.55	181.98	7167.56	1836.49	-1763.96	-650.28	0.70	411675.17	572842.53	N 32 7 54.20	W 104 13 53.60
	9138.00	90.34	182.15	7166.82	1931.00	-1858.90	-653.70	0.28	411580.24	572839.11	N 32 7 53.30	W 104 13 53.64
	9233.00	88.45	180.95	7167.83	2025.41	-1953.85	-656.27	2.36	411485.30	572836.54	N 32 7 52.36	W 104 13 53.67
	9327.00	87.66	180.91	7171.02	2118.66	-2047.78	-657.80	0.84	411391.37	572835.01	N 32 7 51.43	W 104 13 53.69
	9422.00	88.11	180.72	7174.52	2212.88	-2142.71	-659.15	0.51	411296.46	572833.66	N 32 7 50.49	W 104 13 53.70
	9517.00	87.73	181.74	7177.97	2307.17	-2237.62	-661.18	1.15	411201.55	572831.63	N 32 7 49.55	W 104 13 53.73
	9611.00	87.42	181.16	7181.95	2400.50	-2331.51	-663.56	0.70	411107.87	572829.25	N 32 7 48.62	W 104 13 53.76
	9706.00	86.94	179.71	7186.62	2494.58	-2426.39	-664.28	1.61	411012.67	572828.53	N 32 7 47.68	W 104 13 53.77
	9801.00	87.45	178.56	7191.27	2588.36	-2521.26	-662.85	1.32	410917.94	572829.96	N 32 7 46.75	W 104 13 53.75
	9896.00	87.48	177.72	7195.47	2681.90	-2616.12	-659.77	0.88	410823.09	572833.04	N 32 7 45.81	W 104 13 53.72
	9990.00	88.17	177.76	7199.04	2774.36	-2709.98	-656.06	0.74	410729.24	572836.75	N 32 7 44.88	W 104 13 53.67
	10085.00	87.38	178.65	7202.73	2867.93	-2804.86	-653.09	1.25	410634.37	572839.72	N 32 7 43.94	W 104 13 53.64

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 ° ' ")
	10180.00	88.62	178.14	7206.05	2961.57	-2899.76	-650.43	1.41	410539.48	572842.38	N 32 7 43.00	W 104 13 53.61
	10274.00	87.87	178.21	7208.92	3054.18	-2993.67	-647.44	0.80	410445.58	572845.37	N 32 7 42.07	W 104 13 53.58
	10369.00	86.53	178.41	7213.56	3147.75	-3088.51	-644.64	1.43	410350.74	572848.17	N 32 7 41.13	W 104 13 53.55
	10464.00	87.42	179.78	7218.58	3241.50	-3183.36	-643.14	1.72	410255.90	572849.67	N 32 7 40.19	W 104 13 53.53
	10558.00	87.66	181.33	7222.61	3334.64	-3277.27	-644.05	1.67	410162.00	572848.76	N 32 7 39.26	W 104 13 53.54
	10653.00	87.46	181.61	7226.66	3428.96	-3372.15	-646.49	0.36	410067.13	572846.32	N 32 7 38.33	W 104 13 53.57
	10748.00	87.04	181.32	7231.22	3523.25	-3467.01	-648.91	0.54	409972.28	572843.90	N 32 7 37.39	W 104 13 53.60
	10843.00	86.76	181.00	7236.35	3617.46	-3561.85	-650.83	0.45	409877.44	572841.98	N 32 7 36.45	W 104 13 53.62
	10937.00	86.46	181.45	7241.91	3710.66	-3655.67	-652.84	0.57	409783.64	572839.97	N 32 7 35.52	W 104 13 53.65
	11032.00	87.07	181.24	7247.27	3804.89	-3750.49	-655.07	0.68	409688.83	572837.74	N 32 7 34.58	W 104 13 53.67
	11126.00	87.66	180.30	7251.59	3896.07	-3844.38	-656.33	1.18	409594.94	572836.48	N 32 7 33.65	W 104 13 53.69
	11221.00	87.83	180.66	7255.33	3992.21	-3939.30	-657.12	0.42	409500.03	572835.69	N 32 7 32.71	W 104 13 53.70
	11315.00	87.38	181.17	7259.26	4085.43	-4033.21	-658.62	0.72	409406.13	572834.19	N 32 7 31.78	W 104 13 53.72
	11410.00	87.32	181.05	7263.65	4179.66	-4128.09	-660.46	0.14	409311.26	572832.35	N 32 7 30.85	W 104 13 53.74
	11504.00	87.35	181.39	7268.02	4272.93	-4221.96	-662.46	0.36	409217.39	572830.35	N 32 7 29.92	W 104 13 53.76
	11599.00	87.59	179.54	7272.22	4367.04	-4316.86	-663.23	1.96	409122.50	572829.58	N 32 7 28.98	W 104 13 53.77
	11694.00	87.66	179.11	7276.15	4460.90	-4411.78	-662.11	0.46	409027.60	572830.70	N 32 7 28.04	W 104 13 53.76
	11789.00	87.63	178.47	7280.06	4554.62	-4506.67	-660.11	0.67	408932.71	572832.70	N 32 7 27.10	W 104 13 53.74
Final Survey	11883.00	87.80	177.94	7283.81	4647.21	-4600.55	-657.17	0.59	408838.84	572835.64	N 32 7 26.17	W 104 13 53.71
	11947.00	88.00	177.73	7286.15	4710.19	-4664.46	-654.75	0.45	408774.93	572838.06	N 32 7 25.54	W 104 13 53.68
Proj to TD	12016.00	88.00	177.73	7288.56	4778.06	-4733.37	-652.02	0.00	408706.04	572840.79	N 32 7 24.86	W 104 13 53.65

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	25.000	1/98.425	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / Gadwall 18
	1	25.000	25.000	Act Stns	30.000	30.000	SLB_MWD-STD-Depth Only	Federal 5H MWD Off to 12016ft
	1	25.000	11947.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Gadwall 18
	1	11947.000	12016.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Federal 5H MWD Off to 12016ft