

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

HOBBS OCD
MAR 12 2020
RECEIVED

June 11, 2019

CHEVRON USA INCORPORATED
6301 Deauville Blvd.
Midland, TX 79706

Re:

29, 26S, 33E, Lea NM
N 32.02110 W -103.59959

CLIENT: CHEVRON USA INCORPORATED
WELL: SD EA 29 32 Fed Com P11 14H
FIELD: UPPER WOLFCAMP

RIG: Nabors X30
COUNTY: LEA
API NO: 30-025-44334
JOB NO: 19MLD4333

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>
Ryland Matthews FE	SD EA 29 32 Fed Com P11 14H Original Hole	981.00 Ft to 20125.00 Ft	April 3, 2019 to June 9, 2019	TelePacer ShortPulse

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

Dana Lasher
Field Service Manager

Schlumberger-Private

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

Well Reference:
29, 26S, 33E, Lea NM
N 32.02110 W -103.59959

I, Ryland Matthews certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of April 03, 2019 through June 09, 2019, conduct or supervise the taking of the TelePacer & ShortPulse surveys from a depth of 1075.00 feet to a depth of 20125.00 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 CHEVRON USA INCORPORATED for the SD EA 29 32 Fed Com P11 14H Well (Original Hole) API No. 30-025-44334 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
Ryland Matthews
FE

Subscribed and Sworn to before me this 24 day of June (month) 2019 (yr)

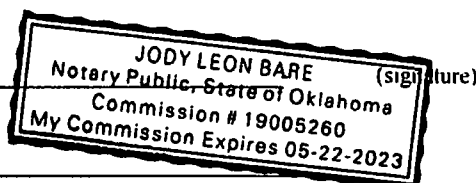
My Commission expires:

05-22-2023

Notary Public

(County State)

Jody L. Bare
Grady, OK



Chevron SD EA 29 32 Fed Com P11 14H MWD to 20165ft Survey Geodetic Report (Def Survey)



Report Date: June 10, 2019 - 08:53 AM
 Client: Chevron
 Field: NM Lea County (NAD 27)
 Structure / Slot: Chevron SD EA 29 32 Fed Com P11 Pad / 14H
 Well: SD EA 29 32 Fed Com P11 14H
 Borehole: SD EA 29 32 Fed Com P11 14H
 UWI / API#: Unknown / Unknown
 Survey Name: Chevron SD EA 29 32 Fed Com P11 14H MWD to 20165ft
 Survey Date: June 09, 2019
 Tort / AHD / DDI / ERD Ratio: 224.412' / 8035.856 ft / 6.454 / 0.629
 Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 1' 15.96245", W 103° 35' 58.51433"
 Location Grid N/E Y/X: N 372175.000 ftUS, E 727408.000 ftUS
 CRS Grid Convergence Angle: 0.3891°
 Grid Scale Factor: 0.99996832
 Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 179.530° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB = 32.6ft
 TVD Reference Elevation: 3247.600 ft above
 Seabed / Ground Elevation: 3215.000 ft above
 Magnetic Declination: 6.687°
 Total Gravity Field Strength: 998.4335mg (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47669.921 nT
 Magnetic Dip Angle: 59.623°
 Declination Date: June 09, 2019
 Magnetic Declination Model: HDGM 2019
 North Reference: Grid North
 Grid Convergence Used: 0.3891°
 Total Corr Mag North-Grid North: 6.2781°
 Local Coord Referenced To: Well Head

Comments	MD	Incl	Azim Grid	TVD	VSEC	NS	EW	DLS	Northing	Easting	Latitude	Longitude
	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft/100ft)	(ftUS)	(ftUS)	(N/S ° ' ")	(E/W ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	372175.00	727408.00	N 32° 1' 15.96"	W 103° 35' 58.51"
Adjusted KB	33.00	0.00	0.00	33.00	0.00	0.00	0.00	0.00	372175.00	727408.00	N 32° 1' 15.96"	W 103° 35' 58.51"
First 3rd Party Survey	165.00	0.50	252.51	165.00	0.17	-0.17	-0.55	0.38	372174.83	727407.45	N 32° 1' 15.96"	W 103° 35' 58.52"
	253.00	0.60	63.37	253.00	0.08	-0.08	-0.50	1.25	372174.92	727407.50	N 32° 1' 15.96"	W 103° 35' 58.52"
	343.00	0.60	32.78	342.99	-0.52	0.53	0.17	0.35	372175.53	727408.17	N 32° 1' 15.97"	W 103° 35' 58.51"
	444.00	1.00	282.48	443.99	-1.16	1.16	-0.40	1.32	372176.18	727407.60	N 32° 1' 15.97"	W 103° 35' 58.52"
	529.00	1.30	306.56	528.97	-1.91	1.90	-1.90	0.66	372176.90	727408.10	N 32° 1' 15.98"	W 103° 35' 58.54"
Last 3rd Party Survey	614.00	0.20	201.97	613.96	-2.35	2.33	-2.73	1.60	372177.33	727405.27	N 32° 1' 15.99"	W 103° 35' 58.55"
	698.00	0.20	122.52	697.96	-2.14	2.12	-2.66	0.30	372177.12	727405.34	N 32° 1' 15.98"	W 103° 35' 58.55"
	784.00	0.40	81.21	783.96	-2.10	2.08	-2.24	0.33	372177.08	727405.76	N 32° 1' 15.98"	W 103° 35' 58.54"
	830.00	0.40	178.07	829.96	-1.96	1.95	-2.07	1.30	372176.95	727405.93	N 32° 1' 15.98"	W 103° 35' 58.54"
	981.00	0.32	340.72	980.96	-1.84	1.82	-2.20	0.47	372176.82	727405.80	N 32° 1' 15.98"	W 103° 35' 58.54"
First SLB MWD Survey	1075.00	0.18	332.96	1074.96	-2.22	2.20	-2.35	0.15	372177.20	727405.65	N 32° 1' 15.98"	W 103° 35' 58.54"
	1169.00	0.00	109.80	1168.96	-2.35	2.33	-2.42	0.19	372177.33	727405.58	N 32° 1' 15.99"	W 103° 35' 58.54"
	1261.00	1.21	343.18	1260.95	-3.28	3.26	-2.70	1.32	372178.26	727405.30	N 32° 1' 15.99"	W 103° 35' 58.55"
	1354.00	3.23	335.63	1353.88	-6.62	6.59	-4.06	2.19	372181.58	727403.94	N 32° 1' 16.03"	W 103° 35' 58.56"
	1449.00	5.81	336.09	1448.57	-13.48	13.42	-7.12	2.72	372188.42	727400.88	N 32° 1' 16.10"	W 103° 35' 58.60"
	1543.00	5.84	336.61	1542.09	-22.25	22.16	-10.94	0.06	372197.16	727397.06	N 32° 1' 16.18"	W 103° 35' 58.64"
	1636.00	6.62	336.97	1634.54	-31.56	31.44	-14.92	0.84	372206.43	727393.08	N 32° 1' 16.27"	W 103° 35' 58.69"
	1729.00	6.58	336.51	1726.92	-41.41	41.26	-19.14	0.07	372216.25	727388.86	N 32° 1' 16.37"	W 103° 35' 58.73"
	1823.00	6.38	337.44	1820.32	-51.21	51.02	-23.29	0.24	372226.02	727384.71	N 32° 1' 16.47"	W 103° 35' 58.78"
	1916.00	6.11	338.62	1912.77	-60.62	60.40	-27.08	0.32	372235.40	727380.92	N 32° 1' 16.56"	W 103° 35' 58.82"
	2010.00	6.71	340.04	2006.18	-70.47	70.22	-30.78	0.66	372245.22	727377.23	N 32° 1' 16.66"	W 103° 35' 58.87"
	2199.00	6.88	341.89	2193.85	-91.67	91.36	-38.06	0.15	372266.35	727369.94	N 32° 1' 16.87"	W 103° 35' 58.95"
	2293.00	6.71	341.81	2287.19	-102.26	101.93	-41.53	0.18	372276.92	727366.47	N 32° 1' 16.97"	W 103° 35' 58.99"
	2387.00	6.49	341.43	2380.57	-112.54	112.18	-44.93	0.24	372287.17	727363.07	N 32° 1' 17.08"	W 103° 35' 59.03"
	2480.00	6.28	341.37	2472.99	-122.37	121.98	-48.23	0.23	372296.98	727359.77	N 32° 1' 17.17"	W 103° 35' 59.06"
	2574.00	5.93	342.99	2566.46	-131.91	131.50	-51.30	0.41	372306.49	727356.71	N 32° 1' 17.27"	W 103° 35' 59.10"
	2668.00	4.24	345.31	2660.09	-139.94	139.50	-53.60	1.81	372314.50	727354.40	N 32° 1' 17.35"	W 103° 35' 59.13"
	2762.00	2.09	347.50	2753.94	-144.98	144.54	-54.85	2.29	372319.53	727353.15	N 32° 1' 17.40"	W 103° 35' 59.14"
	2858.00	0.08	342.18	2849.92	-148.76	148.31	-55.25	2.09	372321.30	727352.75	N 32° 1' 17.41"	W 103° 35' 59.14"
	2950.00	0.58	224.14	2941.91	-148.49	146.04	-55.59	0.68	372321.03	727352.41	N 32° 1' 17.41"	W 103° 35' 59.15"
	3043.00	1.28	255.21	3034.90	-145.90	145.43	-56.93	0.90	372320.43	727351.08	N 32° 1' 17.41"	W 103° 35' 59.16"
	3137.00	2.84	354.70	3128.86	-147.96	147.48	-58.16	3.51	372322.48	727349.85	N 32° 1' 17.43"	W 103° 35' 59.18"
	3228.00	3.26	2.95	3219.73	-152.79	152.31	-58.23	0.67	372327.31	727349.77	N 32° 1' 17.47"	W 103° 35' 59.18"
	3321.00	1.88	331.62	3312.63	-156.94	156.46	-58.32	1.58	372331.48	727349.68	N 32° 1' 17.51"	W 103° 35' 59.18"
	3415.00	1.45	352.83	3406.60	-159.64	159.17	-58.70	0.46	372334.16	727349.30	N 32° 1' 17.54"	W 103° 35' 59.18"
	3604.00	1.49	30.40	3595.54	-164.13	163.66	-57.76	0.50	372338.65	727350.25	N 32° 1' 17.59"	W 103° 35' 59.17"
	3698.00	0.61	98.95	3689.52	-165.09	164.64	-58.64	1.48	372339.63	727351.36	N 32° 1' 17.60"	W 103° 35' 59.18"
	3791.00	0.81	126.66	3782.52	-164.57	164.12	-55.56	0.50	372339.11	727352.44	N 32° 1' 17.59"	W 103° 35' 59.15"
	3886.00	0.76	115.48	3877.51	-163.84	163.40	-54.39	0.23	372338.39	727353.61	N 32° 1' 17.58"	W 103° 35' 59.13"
	3981.00	0.80	243.24	3972.50	-163.27	162.83	-54.41	1.47	372337.82	727353.59	N 32° 1' 17.58"	W 103° 35' 59.13"
	4075.00	1.44	252.05	4066.48	-162.62	162.17	-56.12	0.70	372337.16	727351.88	N 32° 1' 17.57"	W 103° 35' 59.15"
	4169.00	0.45	268.44	4160.47	-162.26	161.79	-57.61	1.08	372336.79	727350.39	N 32° 1' 17.57"	W 103° 35' 59.17"
	4263.00	0.08	85.18	4254.47	-162.26	161.79	-57.92	0.58	372336.78	727350.08	N 32° 1' 17.57"	W 103° 35' 59.17"
	4357.00	0.22	113.20	4348.47	-162.19	161.72	-57.69	0.16	372336.72	727350.32	N 32° 1' 17.57"	W 103° 35' 59.17"
	4452.00	0.39	112.55	4443.47	-161.99	161.53	-57.22	0.18	372336.52	727350.78	N 32° 1' 17.56"	W 103° 35' 59.17"
	4640.00	0.91	130.12	4631.45	-160.77	160.32	-55.49	0.29	372335.31	727352.51	N 32° 1' 17.55"	W 103° 35' 59.15"
	4734.00	0.86	123.66	4725.44	-159.89	159.45	-54.33	0.12	372334.44	727353.67	N 32° 1' 17.54"	W 103° 35' 59.13"
	4828.00	0.78	124.36	4819.43	-159.14	158.70	-53.23	0.11	372333.70	727354.77	N 32° 1' 17.54"	W 103° 35' 59.12"
	4921.00	0.73	121.68	4912.43	-158.47	158.05	-52.21	0.05	372333.04	727355.79	N 32° 1' 17.53"	W 103° 35' 59.11"
	5016.00	0.24	268.11	5007.42	-158.13	157.71	-51.90	0.88	372332.71	727356.10	N 32° 1' 17.53"	W 103° 35' 59.10"
	5110.00	0.64	284.28	5101.42	-158.28	157.83	-52.60	0.45	372332.83	727355.40	N 32° 1' 17.53"	W 103° 35' 59.11"
	5204.00	0.61	286.34	5195.41	-158.54	158.10	-53.59	0.04	372333.10	727354.41	N 32° 1' 17.53"	W 103° 35' 59.12"
	5298.00	0.34	287.28	5289.41	-158.76	158.32	-54.34	0.29	372333.32	727353.66	N 32° 1' 17.53"	W 103° 35' 59.13"
	5392.00	0.29	261.64	5383.41	-158.82	158.37	-54.84	0.16	372333.37	727353.16	N 32° 1' 17.53"	W 103° 35' 59.14"
	5487.00	0.25	281.35	5478.41	-158.83	158.38	-55.28	0.11	372333.37	727352.72	N 32° 1' 17.53"	W 103° 35' 59.14"
	5580.00	0.34	271.00	5571.41	-158.88	158.42	-55.76	0.11	372333.42	727352.25	N 32° 1' 17.53"	W 103° 35' 59.15"
	5674.00	0.23	267.18	5665.41	-158.87	158.42	-56.22	0.12	372333.41	727351.78	N 32° 1' 17.53"	W 103° 35' 59.15"
	5768.00	0.30	287.22	5759.41	-158.94	158.48	-56.65	0.12	372333.48	727351.38	N 32° 1' 17.53"	W 103° 35' 59.16"
	5862.00	0.23	296.59	5853.40	-159.10	158.64	-57.05	0.09	372333.63	727350.95	N 32° 1' 17.54"	W 103° 35' 59.16"
	5956.00	0.25	287.25	5947.40	-159.25	158.78	-57.42	0.05	372333.78	727350.59	N 32° 1' 17.54"	W 103° 35' 59.17"
	6050.00	0.38	297.72	6041.40	-159.46	158.99	-57.89	0.15	372333.99	727350.12	N 32° 1' 17.54"	W 103° 35' 59.17"
	6145.00	0.45	302.98	6136.40	-159.81	159.34	-58.48	0.08	372334.33	727349.52	N 32° 1' 17.54"	W 103° 35' 59.18"
	6239.00	0.34	312.64	6230.40	-160.21	159.73	-58.99	0.14	372334.72	727349.01	N 32° 1' 17.55"	W 103° 35' 59.19"
	6334.00	0.45	211.22	6325.40	-160.08	159.60	-59.39	0.65	372334.60	727348.61	N 32° 1' 17.55"	W 103° 35' 59.19"
	6429.00	0.63	188.07	6420.39	-159.27	158.79	-59.75	0.23	372333.78	727348.25	N 32° 1' 17.54"	W 103° 35' 59.20"
6524.00	0.34	207.53	6515.39	-158.53	158.04	-60.04	0.32	372333.03	727347.96	N 32° 1' 17.53"	W 103° 35' 59.20"	
6618.00	0.35	209.85	6609.39	-158.03	157.54	-60.31	0.02	372332.54	727347.69	N 32° 1' 17.53"	W 103° 35' 59.20"	
6712.00	0.33	233.90	6703.39	-157.63	157.14	-60.68	0.15	372332.13	727347.33	N 32° 1' 17.52"	W 103° 35' 59.21"	
6807.00	0.33	233.06	6798.38	-157.31	156.81	-61.11	0.01	372331.80	727346.89	N 32° 1' 17.52"	W 103° 35' 59.21"	
6901.00	0.18	197.61	6892.38	-157.00	156.51	-61.38	0.22	372331.50	727346.63	N 32° 1' 17.52"	W 103° 35' 59.219	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S/°/')	Longitude (E/W/°/')
	7934.00	0.25	256.26	7925.37	-153.62	153.11	-62.03	0.25	372328.11	727345.97	N 32 117.48	W 103 35 59.22
	8028.00	0.23	253.07	8019.37	-153.51	153.01	-62.41	0.03	372328.00	727345.59	N 32 117.48	W 103 35 59.23
	8122.00	0.23	239.84	8113.37	-153.37	152.86	-62.76	0.06	372327.85	727345.25	N 32 117.48	W 103 35 59.23
	8216.00	0.35	240.00	8207.37	-153.13	152.62	-63.17	0.13	372327.61	727344.83	N 32 117.48	W 103 35 59.24
	8311.00	0.38	238.55	8302.37	-152.83	152.31	-63.69	0.03	372327.31	727344.31	N 32 117.47	W 103 35 59.24
	8405.00	0.41	227.37	8396.37	-152.44	151.82	-64.20	0.09	372326.81	727343.80	N 32 117.47	W 103 35 59.25
	8498.00	0.57	220.78	8488.36	-151.87	151.34	-64.75	0.18	372326.34	727343.25	N 32 117.46	W 103 35 59.26
	8591.00	0.59	216.30	8582.36	-151.14	150.81	-65.33	0.06	372325.60	727342.67	N 32 117.46	W 103 35 59.26
	8678.00	0.56	217.44	8669.35	-150.44	149.91	-65.86	0.04	372324.90	727342.14	N 32 117.45	W 103 35 59.27
	8772.00	0.73	212.88	8763.35	-149.58	149.04	-66.46	0.19	372324.04	727341.54	N 32 117.44	W 103 35 59.27
	8865.00	0.79	199.08	8856.34	-148.48	147.94	-66.99	0.21	372322.93	727341.01	N 32 117.43	W 103 35 59.28
	8959.00	0.78	194.53	8950.33	-147.25	146.71	-67.37	0.07	372321.70	727340.64	N 32 117.42	W 103 35 59.29
	9053.00	0.75	207.77	9044.32	-146.09	145.54	-67.81	0.19	372320.54	727340.19	N 32 117.41	W 103 35 59.29
	9147.00	0.61	250.43	9138.32	-145.39	144.83	-68.57	0.54	372319.83	727339.43	N 32 117.40	W 103 35 59.30
	9241.00	0.84	251.73	9232.31	-145.01	144.45	-69.70	0.25	372319.44	727338.31	N 32 117.40	W 103 35 59.31
	9334.00	1.36	247.71	9325.29	-144.40	143.82	-71.37	0.56	372318.81	727336.64	N 32 117.39	W 103 35 59.33
	9428.00	1.53	247.56	9419.26	-143.51	142.91	-73.56	0.18	372317.91	727334.45	N 32 117.38	W 103 35 59.36
	9521.00	1.39	245.37	9512.23	-142.59	141.97	-75.73	0.16	372316.96	727332.27	N 32 117.37	W 103 35 59.38
	9614.00	1.49	242.66	9605.20	-141.58	140.94	-77.83	0.13	372315.94	727330.17	N 32 117.36	W 103 35 59.41
	9706.00	1.52	257.90	9697.17	-140.79	140.14	-80.09	0.43	372315.13	727327.92	N 32 117.35	W 103 35 59.43
	9799.00	1.78	263.72	9790.13	-140.40	139.72	-82.73	0.33	372314.72	727325.28	N 32 117.35	W 103 35 59.46
	9894.00	2.08	267.25	9885.08	-140.18	139.48	-85.92	0.34	372314.47	727322.09	N 32 117.35	W 103 35 59.50
	9987.00	0.70	271.28	9978.05	-140.13	139.41	-88.17	1.49	372314.40	727319.83	N 32 117.35	W 103 35 59.53
	10080.00	0.68	283.81	10071.04	-140.28	139.55	-89.27	0.16	372314.55	727318.73	N 32 117.35	W 103 35 59.54
	10175.00	0.99	287.76	10166.03	-140.40	139.68	-90.64	0.41	372314.65	727317.36	N 32 117.35	W 103 35 59.56
	10269.00	1.02	280.33	10260.02	-140.53	139.77	-92.28	0.24	372314.77	727315.73	N 32 117.35	W 103 35 59.58
	10364.00	0.99	272.05	10355.00	-140.72	139.96	-93.93	0.16	372314.95	727314.08	N 32 117.35	W 103 35 59.59
	10459.00	0.90	289.07	10449.99	-141.01	140.23	-95.45	0.31	372315.22	727312.55	N 32 117.36	W 103 35 59.61
	10554.00	0.96	283.87	10544.98	-141.45	140.66	-96.93	0.11	372315.68	727311.07	N 32 117.36	W 103 35 59.63
	10648.00	0.57	287.64	10638.97	-141.79	140.99	-98.14	0.42	372315.99	727309.86	N 32 117.36	W 103 35 59.64
	10742.00	0.73	283.70	10732.98	-142.09	141.26	-99.17	0.18	372316.27	727308.84	N 32 117.37	W 103 35 59.65
	10837.00	0.83	275.43	10827.96	-142.30	141.49	-100.44	0.16	372316.48	727307.56	N 32 117.37	W 103 35 59.67
	10931.00	1.11	269.28	10921.94	-142.37	141.54	-102.03	0.32	372316.53	727305.97	N 32 117.37	W 103 35 59.69
	11025.00	1.43	269.99	11015.92	-142.38	141.53	-104.11	0.34	372316.52	727303.89	N 32 117.37	W 103 35 59.71
	11119.00	1.73	262.04	11109.88	-142.20	141.33	-106.69	0.39	372316.33	727301.31	N 32 117.37	W 103 35 59.74
	11212.00	1.86	265.69	11202.84	-141.92	141.02	-109.59	0.19	372316.02	727298.42	N 32 117.37	W 103 35 59.78
	11306.00	2.16	267.29	11296.78	-141.75	140.82	-112.88	0.32	372315.82	727295.13	N 32 117.36	W 103 35 59.81
	11401.00	2.62	265.95	11391.70	-141.54	140.59	-116.83	0.49	372315.58	727291.17	N 32 117.36	W 103 35 59.86
	11495.00	2.54	261.09	11485.60	-141.10	140.11	-121.03	0.25	372315.11	727286.97	N 32 117.36	W 103 35 59.91
	11539.00	2.58	261.37	11529.56	-140.82	139.81	-122.97	0.10	372314.81	727285.03	N 32 117.35	W 103 35 59.93
	11675.00	2.37	267.26	11665.43	-140.27	139.22	-128.81	0.24	372314.21	727279.20	N 32 117.35	W 103 36 00.00
	11769.00	1.04	278.18	11759.39	-140.34	139.26	-131.59	1.46	372314.26	727276.41	N 32 117.35	W 103 36 00.03
	11863.00	1.43	282.96	11853.37	-140.75	139.66	-133.58	0.42	372314.68	727274.43	N 32 117.35	W 103 36 00.05
	11957.00	1.62	274.50	11947.33	-141.14	140.03	-136.05	0.31	372315.02	727271.96	N 32 117.36	W 103 36 00.08
	12052.00	0.78	228.75	12042.31	-140.83	139.71	-137.87	1.28	372314.70	727270.13	N 32 117.35	W 103 36 00.10
	12100.00	5.83	160.35	12090.22	-138.32	137.19	-137.30	11.65	372312.19	727270.71	N 32 117.33	W 103 36 00.10
	12147.00	9.68	163.40	12136.79	-132.26	131.16	-135.36	8.24	372306.15	727272.64	N 32 117.27	W 103 36 00.08
	12242.00	14.92	173.83	12228.58	-112.40	111.33	-131.76	5.97	372286.32	727276.24	N 32 117.07	W 103 36 00.04
	12289.00	21.78	170.42	12274.17	-97.76	96.70	-129.66	14.77	372271.69	727278.34	N 32 116.93	W 103 36 00.01
	12296.00	22.44	170.39	12269.65	-95.16	94.10	-126.22	9.38	372269.10	727276.78	N 32 116.90	W 103 36 00.01
	12336.00	26.18	170.24	12317.10	-78.91	77.87	-126.45	6.36	372262.87	727268.55	N 32 116.74	W 103 36 00.08
	12384.00	29.95	175.38	12359.46	-56.49	55.48	-123.69	9.32	372250.48	727264.32	N 32 116.52	W 103 35 59.95
	12431.00	33.06	178.63	12399.53	-31.97	30.96	-122.44	7.54	372250.96	727265.57	N 32 116.28	W 103 35 59.93
	12526.00	40.12	179.36	12475.75	-24.62	-25.62	-121.47	7.45	372149.38	727266.53	N 32 115.72	W 103 35 59.93
	12620.00	48.40	172.74	12543.05	-89.96	-90.92	-116.68	10.08	372084.09	727291.32	N 32 115.07	W 103 35 59.88
	12668.00	53.56	169.91	12573.27	-126.84	-127.76	-111.03	11.68	372047.72	727296.98	N 32 114.71	W 103 35 59.81
	12715.00	59.91	171.76	12599.04	-165.67	-166.54	-104.79	13.90	372008.47	727303.21	N 32 114.32	W 103 35 59.74
	12762.00	63.98	176.69	12621.15	-206.95	-207.78	-100.66	12.67	371967.23	727307.35	N 32 113.91	W 103 35 59.70
	12809.00	66.38	180.52	12640.88	-249.59	-250.41	-99.63	8.99	371924.60	727308.37	N 32 113.49	W 103 35 59.69
	12856.00	69.25	178.81	12658.63	-293.03	-293.93	-97.37	6.97	371881.08	727308.63	N 32 113.06	W 103 35 59.69
	12903.00	77.02	178.66	12672.25	-338.04	-338.96	-98.38	16.53	371836.15	727309.62	N 32 112.62	W 103 35 59.68
	12950.00	82.13	178.51	12680.75	-384.24	-385.05	-97.24	10.88	371789.96	727310.77	N 32 112.16	W 103 35 59.67
	12997.00	80.88	176.52	12687.70	-430.70	-431.49	-95.22	4.96	371743.52	727312.78	N 32 111.70	W 103 35 59.65
	13044.00	83.45	175.35	12694.10	-477.16	-477.93	-91.92	6.00	371697.09	727316.08	N 32 111.24	W 103 35 59.62
	13091.00	90.34	175.80	12696.65	-523.95	-524.69	-88.30	14.69	371650.32	727319.70	N 32 110.78	W 103 35 59.58
	13185.00	89.52	177.02	12696.76	-617.81	-618.51	-82.42	1.56	371556.51	727325.59	N 32 1 9.85	W 103 35 59.52
	13227.00	89.35	176.93	12697.17	-659.77	-660.45	-80.20	0.46	371514.58	727327.80	N 32 1 9.43	W 103 35 59.50
	13321.00	88.80	177.92	12698.69	-753.69	-754.34	-75.98	1.20	371420.69	727332.02	N 32 1 8.50	W 103 35 59.48
	13417.00	88.69	178.64	12700.80	-849.64	-850.27	-73.10	0.76	371324.76	727334.90	N 32 1 7.55	W 103 35 59.43
	13511.00	88.90	179.58	12702.77	-943.62	-944.24	-71.64	1.02	371230.79	727336.38	N 32 1 6.62	W 103 35 59.42
	13605.00	88.73	179.89	12704.72	-1038.22	-1038.82	-71.20	0.38	371136.82	727336.80	N 32 1 5.69	W 103 35 59.42
	13699.00	88.93	180.23	12706.64	-1131.57	-1132.20	-71.30	0.42	371042.84	727336.70	N 32 1 4.76	W 103 35 59.43
	13793.00	88.86	180.01	12708.45	-1225.55	-1226.18	-71.50	0.25	370948.86	727336.50	N 32 1 3.83	W 103 35 59.44
	13887.00	89.04	179.38	12710.17	-1319.53	-1320.16	-71.00	0.70	370854.88	727337.00	N 32 1 2.90	W 103 35 59.44
	13981.00	89.83	181.42	12711.10	-1413.51	-1414.15	-71.65	2.33	370760.90	727336.35	N 32 1 1.97	W 103 35 59.48
	14075.00	89.76	179.78	12711.44	-1507.49	-1508.14	-72.64	1.75	370666.91	727335.36	N 32 1 1.04	W 103 35 59.48
	14169.00	89.90	179.19	12711.72	-1601.49	-1602.13	-71.79	0.65	370572.92	727336.21	N 32 1 0.11	W 103 35 59.47
	14264.00											

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 ° ' ")
	17855.00	88.25	178.71	12736.39	5288.95	-5287.78	-79.30	0.78	366887.40	727328.70	N 32 0 23.64	W 103 35 59.85
	17945.00	88.35	178.86	12739.06	5376.91	-5377.72	-77.39	0.20	366797.46	727330.61	N 32 0 22.75	W 103 35 59.84
	18040.00	87.73	181.33	12742.31	5471.84	-5472.66	-77.55	2.68	366702.53	727330.45	N 32 0 21.81	W 103 35 59.85
	18134.00	88.28	182.26	12745.58	5565.71	-5566.55	-80.49	1.15	366608.63	727327.51	N 32 0 20.88	W 103 35 59.89
	18229.00	89.17	182.59	12747.69	5660.56	-5661.44	-84.51	1.00	366513.75	727323.49	N 32 0 19.94	W 103 35 59.94
	18324.00	89.78	183.10	12748.58	5755.40	-5756.32	-89.23	0.82	366418.87	727318.78	N 32 0 19.01	W 103 36 0.00
	18418.00	90.89	182.82	12748.05	5849.23	-5850.20	-93.92	1.31	366325.00	727314.09	N 32 0 18.08	W 103 36 0.07
	18513.00	91.69	182.77	12745.91	5944.06	-5945.07	-98.38	0.86	366230.13	727309.82	N 32 0 17.14	W 103 36 0.13
	18608.00	92.72	183.16	12742.25	6038.82	-6039.87	-103.29	1.16	366135.33	727304.71	N 32 0 16.20	W 103 36 0.19
	18702.00	92.20	180.56	12738.22	6132.65	-6133.73	-106.34	2.82	366041.48	727301.66	N 32 0 15.27	W 103 36 0.23
	18796.00	90.58	178.21	12735.94	6226.81	-6227.68	-105.33	3.04	365947.52	727302.67	N 32 0 14.34	W 103 36 0.23
	18890.00	87.11	176.71	12737.83	6320.51	-6321.56	-101.17	4.02	365853.68	727306.84	N 32 0 13.41	W 103 36 0.19
	18982.00	87.45	178.28	12742.20	6412.35	-6413.36	-97.15	1.74	365761.85	727310.85	N 32 0 12.51	W 103 36 0.15
	19172.00	87.97	177.22	12749.79	6502.10	-6503.08	-89.70	0.62	365572.16	727318.31	N 32 0 10.83	W 103 36 0.08
	19266.00	88.35	176.58	12752.81	6595.95	-6596.87	-84.62	0.79	365478.35	727323.39	N 32 0 9.70	W 103 36 0.02
	19360.00	88.31	176.95	12755.55	6789.80	-6790.68	-79.31	0.40	365384.54	727328.69	N 32 0 8.77	W 103 35 59.67
	19454.00	87.83	176.37	12758.71	6883.63	-6884.47	-73.84	0.80	365290.76	727334.16	N 32 0 7.84	W 103 35 59.91
	19549.00	88.42	178.11	12761.82	6978.50	-6979.31	-69.27	1.93	365195.93	727338.73	N 32 0 6.90	W 103 35 59.87
	19738.00	87.83	177.59	12768.01	7167.32	-7168.07	-62.18	0.42	365007.17	727345.82	N 32 0 5.03	W 103 35 59.80
	19831.00	89.21	176.78	12770.41	7260.21	-7260.92	-57.62	1.72	364914.32	727350.39	N 32 0 4.12	W 103 35 59.76
	19927.00	89.86	176.20	12771.19	7356.07	-7356.74	-51.74	0.91	364818.51	727356.26	N 32 0 3.17	W 103 35 59.70
Toe HL Cross	20105.00	90.54	176.13	12770.57	7533.78	-7534.34	-39.84	0.38	364640.91	727368.16	N 32 0 1.41	W 103 35 59.57
	20116.00	90.58	176.13	12770.46	7544.74	-7545.31	-39.10	0.38	364629.94	727368.90	N 32 0 1.30	W 103 35 59.56
Last SLB MWD Survey	20125.00	90.52	176.08	12770.38	7553.72	-7554.29	-38.49	0.87	364620.96	727369.51	N 32 0 1.21	W 103 35 59.56
Projection to Bit	20165.00	90.52	176.13	12770.01	7593.65	-7594.20	-35.77	0.12	364581.06	727372.23	N 32 0 0.82	W 103 35 59.53

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 *** 3-D 97.071% Confidence 3.0000 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	32.600	1/98.425	30.000	30.000	A001Ma_MWD-Depth Only	SD EA 29 32 Fed Com P11 14H / Chevron SD EA 29 32 Fed Com
	1	32.600	32.600	Act Strs	30.000	30.000	A001Ma_MWD-Depth Only	SD EA 29 32 Fed Com P11 14H / Chevron SD EA 29 32 Fed Com
	1	32.600	830.000	Act Strs	30.000	30.000	A001Ma_MWD	SD EA 29 32 Fed Com P11 14H / Chevron SD EA 29 32 Fed Com
	1	830.000	20165.000	Act Strs	30.000	30.000	B001Ma_MWD+HDGM	SD EA 29 32 Fed Com P11 14H / Chevron SD EA 29 32 Fed Com

...SD EA 29 32 Fed Com P11 14H/Chevron SD EA 29 32 Fed Com P11 14H MWD to 20165ft