

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

April 15, 2019

Chevron USA Inc.

HOBBS OCD
FEB 24 2020
RECEIVED

Re:

29, 26S, 33E, Lea NM
32.02143 103.59424

CLIENT: Chevron USA Inc.
WELL: SD EA 29 32 Fed Com P10 19H
FIELD: Upper Wolfcamp

RIG: Nabors M1206
COUNTY: Lea
API NO: 30-025-44487
JOB NO: 18MLD4041

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>
Chuck Norwood FS	SD EA 29 32 Fed Com P10 19H Original Hole	934.00 Ft to 19814.00 Ft	January 17, 2019 to April 9, 2019	TelePacer SlimPulse

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


Field Service Manager

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

Well Reference:
29, 26S, 33E, Lea NM
32.02143 103.59424

I, Chuck Norwood certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 17, 2019 through April 09, 2019, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 934.00 feet to a depth of 19814.00 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 Inc. for the SD EA 29 32 Fed Com P10 19H Well (Original Hole) API No. 30-025-44487 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 
Chuck Norwood
FS

Subscribed and Sworn to before me this 15th day of April (month) 2019 (yr)

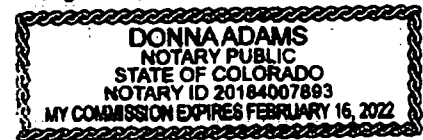
My Commission expires:

2-16-2022

D. Adams
Notary Public

Adams County Colorado
(County State)

(signature)





Chevron SD EA 29 32 Fed Com P10 19H MWD to 19854ft Survey Geodetic Report (Def Survey)

Report Date: Apr 10, 2019 - 10:30 AM
Client: Chevron
Field: NM Lea County (NAD 27)
Structure / Slot: Chevron SD EA 29 32 Fed Com P10 Pad / 19H
Well: SD EA 29 32 Fed Com P10 19H
Borehole: SD EA 29 32 Fed Com P10 19H
UWI / API#: Unknown / Unknown
Survey Name: Chevron SD EA 29 32 Fed Com P10 19H MWD to 19854ft
Survey Date: April 10, 2019
Tort / AHD / DDI / ERD Ratio: 249.987' / 8120.905 ft / 6.512 / 0.655
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 1' 18.70188", W 103° 35' 37.58916"
Location Grid N/E Y/X: N 372262 000 RUS, E 729209 000 RUS
CRS Grid Convergence Angle: 0.3922°
Grid Scale Factor: 0.99996926
Version / Patch: 2.10.753.0

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 = 31.5ft
TVD Reference Elevation: 3268.500 ft above
Seabed / Ground Elevation: 3237.000 ft above
Magnetic Declination: 6.683°
Total Gravity Field Strength: 998.4326mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47687.164 nT
Magnetic Dip Angle: 59.632°
Declination Date: April 10, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.3922°
Total Corr Mag North->Grid North: 6.2905°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	372262.00	729209.00	N 32° 1' 16.70	W 103 35 37.59
Adjusted KB	24.50	0.00	0.00	24.50	0.00	0.00	0.00	0.00	372262.00	729209.00	N 32° 1' 16.70	W 103 35 37.59
First 3rd Party Survey	156.50	0.10	263.70	156.50	0.01	-0.01	-0.11	0.08	372261.89	729208.89	N 32° 1' 16.70	W 103 35 37.59
	243.50	0.50	5.27	243.50	-0.36	0.36	-0.16	0.61	372262.36	729208.84	N 32° 1' 16.71	W 103 35 37.59
	333.50	0.10	150.70	333.50	-0.68	0.68	-0.08	0.65	372262.68	729208.92	N 32° 1' 16.71	W 103 35 37.59
	435.50	0.80	124.01	435.49	-0.20	0.20	0.55	0.70	372262.20	729209.55	N 32° 1' 16.70	W 103 35 37.58
	520.50	0.60	151.88	520.49	0.53	-0.52	1.25	0.46	372261.48	729210.25	N 32° 1' 16.70	W 103 35 37.57
	604.50	0.70	130.70	604.48	1.26	-1.24	1.85	0.31	372260.76	729210.85	N 32° 1' 16.69	W 103 35 37.57
	689.50	0.70	127.53	689.48	1.92	-1.90	2.66	0.05	372260.10	729211.66	N 32° 1' 16.68	W 103 35 37.56
	773.50	0.70	169.98	773.47	2.74	-2.72	3.15	0.60	372259.28	729212.15	N 32° 1' 16.67	W 103 35 37.55
Last 3rd Party Survey	837.50	0.80	117.77	837.47	3.34	-3.31	3.62	1.04	372258.69	729212.62	N 32° 1' 16.67	W 103 35 37.55
First SLB MWD Survey	934.00	0.33	128.49	933.96	3.83	-3.80	4.43	0.50	372258.20	729213.43	N 32° 1' 16.66	W 103 35 37.54
	979.00	0.24	166.03	978.96	4.01	-3.97	4.55	0.45	372258.03	729213.55	N 32° 1' 16.66	W 103 35 37.54
	1074.00	1.54	288.60	1073.95	3.78	-3.75	3.39	1.77	372258.25	729212.39	N 32° 1' 16.66	W 103 35 37.55
	1170.00	2.09	287.90	1169.90	2.81	-2.80	0.50	0.57	372259.20	729209.50	N 32° 1' 16.67	W 103 35 37.58
	1264.00	1.98	350.08	1263.85	0.67	-0.68	-1.41	2.24	372261.32	729207.59	N 32° 1' 16.70	W 103 35 37.61
	1358.00	2.75	52.94	1357.79	-2.28	2.28	0.11	2.71	372264.28	729209.11	N 32° 1' 16.72	W 103 35 37.59
	1453.00	3.37	65.41	1452.65	-4.78	4.82	4.47	0.95	372266.82	729213.47	N 32° 1' 16.75	W 103 35 37.54
	1548.00	2.86	62.14	1547.51	-7.05	7.12	9.18	0.47	372269.12	729218.18	N 32° 1' 16.77	W 103 35 37.48
	1644.00	3.82	62.78	1643.34	-9.63	9.75	14.21	0.90	372271.75	729223.21	N 32° 1' 16.88	W 103 35 37.42
	1738.00	5.47	61.23	1737.02	-13.16	13.33	20.93	1.76	372275.33	729229.92	N 32° 1' 16.83	W 103 35 37.35
	1834.00	6.53	63.65	1832.50	-17.71	17.86	29.83	1.13	372279.96	729238.83	N 32° 1' 16.88	W 103 35 37.24
	1929.00	6.46	64.70	1928.89	-22.32	22.64	39.50	0.15	372284.64	729248.50	N 32° 1' 16.92	W 103 35 37.13
	2024.00	6.15	65.82	2021.31	-26.61	27.01	48.97	0.35	372289.01	729257.97	N 32° 1' 16.97	W 103 35 37.02
	2119.00	5.66	65.24	2115.81	-30.58	31.06	57.87	0.52	372293.06	729266.87	N 32° 1' 17.01	W 103 35 36.91
	2214.00	6.40	70.17	2210.28	-34.26	34.81	67.11	0.95	372296.81	729276.10	N 32° 1' 17.04	W 103 35 36.81
	2308.00	6.63	73.57	2303.68	-37.49	38.13	77.24	0.48	372300.13	729286.24	N 32° 1' 17.07	W 103 35 36.69
	2402.00	6.27	75.48	2397.08	-40.23	40.95	87.41	0.45	372302.95	729296.41	N 32° 1' 17.12	W 103 35 36.57
	2497.00	5.83	77.18	2491.55	-42.52	43.32	97.14	0.50	372305.32	729306.14	N 32° 1' 17.12	W 103 35 36.46
	2592.00	5.50	77.38	2586.09	-44.51	45.38	106.29	0.35	372307.38	729315.28	N 32° 1' 17.14	W 103 35 36.35
	2688.00	6.23	78.34	2681.59	-46.49	47.44	115.88	0.77	372309.44	729324.87	N 32° 1' 17.16	W 103 35 36.24
	2783.00	6.41	80.12	2776.01	-48.36	49.39	126.15	0.28	372311.39	729333.15	N 32° 1' 17.18	W 103 35 36.12
	2877.00	6.09	81.32	2869.45	-49.93	51.05	136.25	0.37	372313.05	729343.24	N 32° 1' 17.20	W 103 35 36.00
	2972.00	5.72	82.11	2963.94	-51.26	52.46	145.92	0.40	372314.46	729354.92	N 32° 1' 17.21	W 103 35 35.89
	3066.00	6.07	77.00	3057.45	-52.94	54.22	155.40	0.67	372316.22	729364.40	N 32° 1' 17.23	W 103 35 35.78
	3160.00	5.55	66.80	3150.97	-55.78	57.13	164.42	1.23	372319.13	729373.42	N 32° 1' 17.26	W 103 35 35.67
	3255.00	4.37	61.02	3245.61	-59.28	60.69	171.81	1.35	372322.69	729380.81	N 32° 1' 17.29	W 103 35 35.59
	3350.00	3.98	61.03	3340.36	-62.58	64.04	177.86	0.41	372326.04	729386.86	N 32° 1' 17.32	W 103 35 35.52
	3445.00	4.07	63.94	3435.12	-65.61	67.12	183.78	0.23	372329.12	729392.72	N 32° 1' 17.35	W 103 35 35.45
	3541.00	3.48	73.38	3530.92	-67.89	69.45	189.63	0.89	372331.45	729398.62	N 32° 1' 17.38	W 103 35 35.38
	3636.00	2.65	82.77	3625.78	-69.95	70.55	194.57	1.02	372332.55	729403.56	N 32° 1' 17.39	W 103 35 35.32
	3730.00	1.75	82.27	3719.71	-69.39	71.02	198.15	0.96	372333.01	729407.14	N 32° 1' 17.39	W 103 35 35.28
	3825.00	0.66	56.98	3814.68	-70.05	71.69	200.32	0.96	372333.69	729409.32	N 32° 1' 17.40	W 103 35 35.26
	3920.00	0.40	174.37	3909.58	-70.19	71.84	201.09	1.36	372333.84	729410.99	N 32° 1' 17.40	W 103 35 35.25
	4014.00	0.60	193.76	4003.87	-69.38	71.04	201.01	0.28	372333.03	729412.00	N 32° 1' 17.39	W 103 35 35.24
	4109.00	0.69	87.48	4098.67	-68.82	70.48	202.15	1.01	372332.48	729410.45	N 32° 1' 17.39	W 103 35 35.24
	4204.00	1.36	88.73	4193.65	-68.76	70.43	203.15	0.72	372332.43	729412.14	N 32° 1' 17.39	W 103 35 35.22
	4299.00	1.25	110.65	4288.63	-68.40	70.09	205.25	0.53	372332.09	729414.24	N 32° 1' 17.38	W 103 35 35.20
	4393.00	0.23	120.67	4382.62	-67.93	69.63	206.37	1.09	372331.63	729415.36	N 32° 1' 17.38	W 103 35 35.19
	4488.00	0.86	127.27	4477.62	-67.49	69.19	206.98	0.48	372331.19	729415.97	N 32° 1' 17.37	W 103 35 35.18
	4583.00	1.56	128.88	4572.60	-66.33	68.04	208.44	0.93	372330.04	729417.43	N 32° 1' 17.36	W 103 35 35.16
	4678.00	0.78	152.91	4667.58	-64.93	66.65	209.74	0.95	372328.65	729418.73	N 32° 1' 17.35	W 103 35 35.15
	4773.00	0.70	164.67	4762.57	-63.79	65.52	210.19	0.18	372327.51	729419.18	N 32° 1' 17.34	W 103 35 35.14
	4867.00	0.69	153.54	4856.56	-62.73	64.45	210.59	0.14	372326.45	729419.58	N 32° 1' 17.33	W 103 35 35.14
	4962.00	0.83	144.40	4951.56	-61.78	63.52	211.15	0.13	372325.52	729420.14	N 32° 1' 17.32	W 103 35 35.13
	5057.00	0.40	171.97	5046.55	-61.03	62.77	211.50	0.35	372324.76	729420.49	N 32° 1' 17.31	W 103 35 35.13
	5151.00	0.85	259.42	5140.55	-60.58	62.31	210.86	0.98	372324.31	729419.85	N 32° 1' 17.30	W 103 35 35.14
	5246.00	1.22	270.42	5235.53	-60.47	62.19	209.15	0.44	372324.19	729418.15	N 32° 1' 17.30	W 103 35 35.15
	5341.00	0.80	324.39	5330.52	-61.03	62.74	207.76	1.04	372324.73	729416.75	N 32° 1' 17.31	W 103 35 35.17
	5435.00	0.85	341.41	5424.51	-62.23	63.93	207.15	0.27	372325.93	729416.15	N 32° 1' 17.32	W 103 35 35.18
	5530.00	0.88	346.73	5519.50	-63.61	65.31	206.76	0.09	372327.31	729415.75	N 32° 1' 17.33	W 103 35 35.18
	5625.00	0.83	346.27	5514.49	-64.99	66.69	206.43	0.05	372328.69	729415.42	N 32° 1' 17.35	W 103 35 35.19
	5720.00	0.84	339.90	5709.48	-66.32	68.01	205.60	0.10	372330.01	729415.02	N 32° 1' 17.36	W 103 35 35.19
	5814.00	0.70	340.66	5803.47	-67.51	69.20	205.60	0.15	372331.20	729414.59	N 32° 1' 17.37	W 103 35 35.20
	5909.00	0.56	342.38	5898.46	-68.50	70.19	205.27	0.15	372332.19	729414.26	N 32° 1' 17.38	W 103 35 35.20
	6004.00	0.51	346.88	5993.46	-69.36	71.04	205.03	0.07	372333.04	729414.02	N 32° 1' 17.39	W 103 35 35.20
	6099.00	0.52	348.89	6088.46	-70.20	71.88	204.85	0.02	372333.88	729413.85	N 32° 1' 17.40	W 103 35 35.20
	6194.00	0.53	339.03	6183.45	-71.03	72.71	204.61	0.10	372334.71	729413.61	N 32° 1' 17.41	W 103 35 35.21
	6289.00	0.56	324.63	6278.45	-71.82	73.50	204.19	0.15	372335.50	729413.18	N 32° 1' 17.42	W 103 35 35.21
	6384.00	0.62	325.02	6373.44	-72.63	74.30	203.62	0.06	372336.30	729412.62	N 32° 1' 17.42	W 103 35 35.22
	6479.00	0.62	321.57	6468.44	-73.46	75.12	203.01	0.04	372337.12	729412.00	N 32° 1' 17.42	W 103 35 35.23
	6574.00	0.60	329.94	6563.43	-74.29							

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (MUS)	Easting (MUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7427.00	0.55	314.17	7416.39	-81.00	82.62	197.65	0.12	372344.62	729406.64	N 32 11 51.1	W 103 35 35.29
	7522.00	0.75	312.99	7511.38	-81.74	83.36	196.87	0.21	372345.36	729405.86	N 32 11 51.1	W 103 35 35.30
	7617.00	0.75	314.56	7606.38	-82.61	84.22	195.97	0.02	372346.22	729404.98	N 32 11 52.1	W 103 35 35.31
	7711.00	0.33	304.83	7700.37	-83.20	84.81	195.31	0.46	372346.81	729404.30	N 32 11 53.1	W 103 35 35.31
	7806.00	0.17	253.03	7795.37	-83.32	84.92	194.95	0.28	372346.92	729403.94	N 32 11 53.1	W 103 35 35.32
	7901.00	0.17	167.78	7890.37	-83.14	84.75	194.84	0.24	372346.74	729403.84	N 32 11 53.1	W 103 35 35.32
	7996.00	0.43	186.67	7985.37	-82.65	84.25	194.83	0.29	372346.25	729403.82	N 32 11 52.1	W 103 35 35.32
	8090.00	0.66	192.50	8079.37	-81.77	83.37	194.67	0.25	372345.37	729403.67	N 32 11 51.1	W 103 35 35.32
	8185.00	0.80	180.23	8174.36	-80.59	82.19	194.44	0.15	372344.18	729403.43	N 32 11 50.1	W 103 35 35.32
	8225.00	0.88	187.93	8214.35	-80.01	81.61	194.34	0.22	372343.61	729403.34	N 32 11 50.1	W 103 35 35.33
	8276.00	0.97	176.40	8265.35	-79.19	80.79	194.32	0.40	372342.79	729403.31	N 32 11 49.1	W 103 35 35.33
	8371.00	1.00	178.15	8360.33	-77.56	79.16	194.39	0.04	372341.16	729403.39	N 32 11 47.1	W 103 35 35.33
	8466.00	1.21	159.56	8455.32	-75.79	77.39	194.77	0.43	372339.39	729403.77	N 32 11 45.1	W 103 35 35.32
	8561.00	1.29	173.92	8550.29	-73.78	75.39	195.24	0.34	372337.38	729404.23	N 32 11 43.1	W 103 35 35.32
	8656.00	0.92	191.01	8645.28	-71.97	73.58	195.20	0.52	372335.57	729404.20	N 32 11 42.1	W 103 35 35.32
	8751.00	0.97	193.53	8740.26	-70.44	72.04	194.87	0.07	372334.04	729403.86	N 32 11 40.1	W 103 35 35.32
	8845.00	1.01	193.56	8834.25	-68.87	70.47	194.49	0.04	372332.46	729403.48	N 32 11 39.1	W 103 35 35.32
	8940.00	0.64	214.02	8929.24	-67.62	69.21	194.00	0.49	372331.21	729402.89	N 32 11 37.1	W 103 35 35.33
	9035.00	0.66	262.32	9024.23	-67.11	68.70	193.16	0.56	372330.70	729402.15	N 32 11 37.1	W 103 35 35.34
	9130.00	1.08	293.56	9119.22	-67.41	68.98	191.79	0.65	372330.98	729400.79	N 32 11 37.1	W 103 35 35.36
	9201.00	1.23	307.75	9180.21	-68.15	69.72	190.58	0.45	372331.72	729399.57	N 32 11 38.1	W 103 35 35.37
	9232.00	1.36	317.55	9221.20	-68.63	70.19	190.07	0.83	372332.19	729399.06	N 32 11 38.1	W 103 35 35.38
	9326.00	1.48	303.54	9315.17	-70.14	71.69	188.30	0.39	372333.68	729397.30	N 32 11 40.1	W 103 35 35.40
	9421.00	1.17	253.55	9410.15	-70.56	72.09	186.35	1.22	372334.09	729395.34	N 32 11 40.1	W 103 35 35.42
	9516.00	1.13	225.18	9505.13	-69.64	71.16	184.75	0.59	372333.15	729393.75	N 32 11 39.1	W 103 35 35.44
	9610.00	2.76	223.03	9599.07	-67.35	68.85	182.55	1.74	372330.84	729391.55	N 32 11 37.1	W 103 35 35.46
	9705.00	2.72	227.61	9693.96	-61.68	65.66	179.33	0.23	372327.65	729388.32	N 32 11 34.1	W 103 35 35.50
	9800.00	2.70	241.29	9788.86	-61.62	63.06	175.70	0.58	372325.06	729384.69	N 32 11 31.1	W 103 35 35.54
	9895.00	2.29	240.98	9883.77	-59.65	61.07	172.08	0.43	372323.06	729381.07	N 32 11 29.1	W 103 35 35.59
	9982.00	2.02	228.17	9970.71	-57.61	59.20	169.41	0.63	372321.20	729378.41	N 32 11 28.1	W 103 35 35.62
	10078.00	2.31	214.30	10066.64	-55.10	56.47	167.06	0.62	372318.47	729376.06	N 32 11 27.1	W 103 35 35.64
	10173.00	2.62	213.78	10161.55	-51.73	53.09	164.78	0.33	372315.08	729373.77	N 32 11 22.1	W 103 35 35.67
	10267.00	1.98	206.07	10255.48	-48.50	49.84	162.87	0.75	372311.84	729371.66	N 32 11 18.1	W 103 35 35.69
	10362.00	1.23	185.68	10350.44	-46.02	47.35	162.05	0.98	372309.35	729371.04	N 32 11 16.1	W 103 35 35.70
	10456.00	0.91	185.97	10444.42	-44.28	45.61	161.87	0.34	372307.61	729370.86	N 32 11 14.1	W 103 35 35.71
	10552.00	0.08	325.59	10540.42	-43.58	44.90	161.75	1.01	372306.90	729370.75	N 32 11 14.1	W 103 35 35.71
	10647.00	1.01	359.99	10635.41	-44.47	45.80	161.71	0.99	372307.79	729370.71	N 32 11 14.1	W 103 35 35.71
	10741.00	1.60	351.66	10729.39	-46.60	47.92	161.52	0.66	372309.92	729370.52	N 32 11 17.1	W 103 35 35.71
	10836.00	1.62	350.00	10824.35	-49.23	50.56	161.10	0.05	372312.56	729370.09	N 32 11 19.1	W 103 35 35.71
	10931.00	1.48	356.69	10919.32	-51.78	53.10	160.79	0.24	372315.10	729369.79	N 32 11 22.1	W 103 35 35.72
	11026.00	1.21	349.95	11014.29	-54.00	55.32	160.55	0.33	372317.32	729369.54	N 32 11 24.1	W 103 35 35.72
	11121.00	0.64	314.21	11109.28	-55.36	56.67	159.99	0.83	372318.67	729368.99	N 32 11 25.1	W 103 35 35.73
	11216.00	0.68	288.42	11204.27	-55.92	57.22	159.08	0.31	372318.22	729368.07	N 32 11 26.1	W 103 35 35.74
	11311.00	1.07	272.34	11299.26	-56.14	57.44	157.66	0.48	372319.44	729366.65	N 32 11 26.1	W 103 35 35.75
	11405.00	1.05	291.20	11393.25	-56.50	57.78	155.98	0.37	372319.78	729364.97	N 32 11 26.1	W 103 35 35.77
	11500.00	1.36	289.09	11488.22	-57.20	58.47	154.10	0.33	372320.47	729363.10	N 32 11 27.1	W 103 35 35.79
	11592.00	1.47	277.76	11580.20	-57.74	58.98	151.90	0.33	372320.98	729360.89	N 32 11 28.1	W 103 35 35.82
	11687.00	2.61	169.49	11675.16	-55.78	57.02	151.09	3.55	372319.02	729360.08	N 32 11 26.1	W 103 35 35.83
	11782.00	9.62	167.27	11769.56	-45.88	47.14	153.23	7.38	372309.14	729362.23	N 32 11 17.1	W 103 35 35.81
	11829.00	16.22	170.65	11815.34	-35.55	36.82	155.17	14.13	372298.82	729364.16	N 32 11 07.1	W 103 35 35.78
	11876.00	18.30	175.71	11860.23	-21.70	22.98	156.79	5.45	372284.98	729365.78	N 32 11 02.1	W 103 35 35.77
Heel HL Cross	11881.00	18.57	175.29	11864.97	-20.12	21.41	156.91	6.03	372283.41	729365.90	N 32 11 00.1	W 103 35 35.77
	11923.00	20.88	172.19	11904.51	-6.02	7.32	158.48	6.03	372269.32	729367.47	N 32 11 06.1	W 103 35 35.75
	11970.00	24.75	169.12	11947.82	11.97	-10.64	161.47	8.61	372251.36	729370.47	N 32 11 09.1	W 103 35 35.71
	12017.00	29.50	166.10	11989.64	32.91	-31.55	166.11	10.52	372230.45	729375.11	N 32 11 03.1	W 103 35 35.66
	12065.00	31.47	164.21	12031.01	56.49	-55.08	172.36	4.56	372206.92	729381.36	N 32 11 05.1	W 103 35 35.59
	12112.00	34.70	164.32	12070.38	81.24	-79.77	179.32	6.87	372182.23	729388.31	N 32 11 00.1	W 103 35 35.51
	12160.00	37.66	163.83	12109.12	108.55	-107.02	187.09	6.20	372154.99	729396.09	N 32 11 05.1	W 103 35 35.42
	12208.00	40.63	164.52	12146.34	137.77	-136.17	195.35	6.25	372125.84	729404.35	N 32 11 04.1	W 103 35 35.33
	12255.00	42.16	170.58	12181.61	168.14	-166.49	202.02	9.12	372095.51	729411.01	N 32 11 04.1	W 103 35 35.26
	12302.00	42.63	172.87	12216.33	199.53	-197.85	209.58	3.43	372064.16	729415.57	N 32 11 04.1	W 103 35 35.21
	12350.00	45.01	176.89	12250.96	232.65	-230.93	206.52	7.63	372031.07	729418.51	N 32 11 04.1	W 103 35 35.17
	12400.00	48.73	179.34	12285.14	269.11	-267.39	210.69	8.25	371994.61	729419.69	N 32 11 04.1	W 103 35 35.16
	12445.00	50.08	180.32	12319.90	280.50	-278.78	210.73	10.28	371963.23	729419.72	N 32 11 03.1	W 103 35 35.16
	12446.00	51.77	180.12	12314.44	304.57	-302.85	210.63	5.47	371956.16	729419.63	N 32 11 03.1	W 103 35 35.17
	12470.00	55.12	180.56	12328.74	323.84	-322.12	210.52	14.04	371939.89	729419.51	N 32 11 03.1	W 103 35 35.17
	12495.00	60.01	179.93	12342.14	344.93	-343.22	210.43	19.68	371918.79	729419.42	N 32 11 02.1	W 103 35 35.17
	12540.00	67.12	178.96	12362.16	385.20	-383.48	210.83	15.92	371878.53	729419.83	N 32 11 02.1	W 103 35 35.17
	12587.00	71.72	178.37	12378.68	429.18	-427.46	211.86	9.86	371834.55	729420.85	N 32 11 02.1	W 103 35 35.16
	12634.00	78.27	178.22	12390.84	474.55	-472.81	213.21	13.94	371789.20	729422.20	N 32 11 01.1	W 103 35 35.15
	12681.00	87.01	177.63	12396.85	521.09	-519.35	214.90	18.64	371742.67	729423.89	N 32 11 01.1	W 103 35 35.13
	12729.00	91.89	177.43	12397.32	569.05	-567.29	216.97	10.18	371694.73	729425.96	N 32 11 01.1	W 103 35 35.11
	12765.00	91.96	177.10	12396.11	605.00	-603.23	218.68	0.94	371658.79	729427.68	N 32 11 02.1	W 103 35 35.10
	12861.00	90.76	177.59	12393.83	700.90	-699.09	223.13	1.35	371562.93	729432.12	N 32 11 01.1	W 103 35 35.05
	12955.00	89.14	179.75	12393.91	794.88	-793.06	225.31	2.87	371468.97	729434.30	N 32 11 04.1	W 103 35 35.04
	13050.00	89.72	180.59	12394.85	889.87	-888.05	225.03	1.07	371373.97	729434.02	N 32 11 08.1	W 103 35 35.05
	13145.00	89.86	181.29	12395.20	984.84	-983.04	223.47	0.75	371278.99	729432.46	N 32 11 09.1	W 103 35 3

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	16266.00	89.79	177.03	12395.50	4104.39	-4102.76	215.42	3.83	368159.38	729424.41	N 32 0 36.09	W 103 35 35.41
	16361.00	90.10	178.51	12395.59	4199.34	-4197.68	219.11	1.59	368064.45	729428.10	N 32 0 35.15	W 103 35 35.38
	16456.00	89.48	178.65	12395.94	4294.32	-4292.65	221.47	0.67	367969.49	729430.46	N 32 0 34.21	W 103 35 35.36
	16550.00	90.79	179.56	12395.72	4388.32	-4386.64	222.93	1.70	367875.51	729431.93	N 32 0 33.28	W 103 35 35.35
	16645.00	89.69	178.80	12395.32	4483.31	-4481.63	224.29	1.41	367780.52	729433.29	N 32 0 32.34	W 103 35 35.34
	16740.00	90.28	178.79	12395.35	4578.31	-4576.60	226.29	0.62	367685.55	729435.28	N 32 0 31.40	W 103 35 35.32
	16835.00	89.83	179.09	12395.26	4673.30	-4671.59	228.05	0.57	367590.57	729437.04	N 32 0 30.46	W 103 35 35.31
	16930.00	88.97	178.00	12396.25	4768.28	-4766.55	230.46	1.46	367495.61	729439.45	N 32 0 29.52	W 103 35 35.29
	17025.00	89.59	177.72	12397.44	4863.23	-4861.47	234.01	0.72	367400.68	729441.00	N 32 0 28.58	W 103 35 35.26
	17120.00	90.52	178.16	12397.35	4958.19	-4956.41	237.42	1.08	367305.75	729446.41	N 32 0 27.64	W 103 35 35.23
	17215.00	89.72	177.78	12397.15	5053.16	-5051.35	240.79	0.93	367210.81	729449.78	N 32 0 26.70	W 103 35 35.19
	17310.00	90.52	178.46	12396.95	5148.13	-5146.30	243.90	1.11	367115.87	729452.90	N 32 0 25.76	W 103 35 35.17
	17405.00	89.72	177.92	12396.76	5243.10	-5241.25	246.90	1.02	367020.92	729455.90	N 32 0 24.82	W 103 35 35.14
	17500.00	89.86	178.39	12397.10	5338.07	-5336.20	249.96	0.52	366925.98	729458.96	N 32 0 23.88	W 103 35 35.11
	17594.00	89.76	179.09	12397.42	5432.06	-5430.18	252.03	0.75	366832.00	729461.02	N 32 0 22.95	W 103 35 35.09
	17689.00	89.83	180.08	12397.76	5527.06	-5525.17	252.72	1.04	366737.01	729461.71	N 32 0 22.01	W 103 35 35.09
	17783.00	90.07	181.26	12397.84	5621.04	-5619.16	251.62	1.28	366643.02	729460.61	N 32 0 21.08	W 103 35 35.11
	17878.00	89.97	182.84	12397.80	5715.94	-5714.10	248.22	1.67	366548.09	729457.21	N 32 0 20.14	W 103 35 35.16
	17972.00	90.55	183.04	12397.38	5809.78	-5807.97	243.40	0.85	366454.22	729452.39	N 32 0 19.21	W 103 35 35.22
	18067.00	88.93	181.70	12397.81	5904.65	-5902.89	239.47	2.21	366359.31	729448.46	N 32 0 18.27	W 103 35 35.28
	18162.00	90.00	181.13	12398.70	5999.60	-5997.85	237.13	1.28	366264.34	729444.12	N 32 0 17.33	W 103 35 35.31
	18256.00	89.48	180.29	12399.12	6093.57	-6091.84	235.96	1.05	366170.36	729444.95	N 32 0 16.40	W 103 35 35.33
	18351.00	89.59	179.51	12399.89	6188.57	-6186.84	236.13	0.83	366075.36	729445.12	N 32 0 15.46	W 103 35 35.34
	18446.00	90.38	179.72	12399.92	6283.57	-6281.84	236.77	0.85	365980.37	729445.76	N 32 0 14.52	W 103 35 35.34
	18541.00	90.38	177.82	12399.29	6378.55	-6376.81	238.80	2.00	365885.40	729441.80	N 32 0 13.58	W 103 35 35.32
	18635.00	90.55	177.67	12398.53	6472.50	-6470.73	242.50	0.24	365791.48	729451.49	N 32 0 12.65	W 103 35 35.29
	18730.00	89.52	178.22	12398.47	6567.46	-6565.67	245.91	1.23	365696.55	729454.90	N 32 0 11.71	W 103 35 35.26
	18825.00	89.97	179.47	12398.89	6662.45	-6660.65	247.82	1.40	365601.57	729458.82	N 32 0 10.77	W 103 35 35.24
	18920.00	90.62	178.44	12398.40	6757.45	-6755.63	249.56	1.28	365506.59	729458.55	N 32 0 9.83	W 103 35 35.23
	19015.00	90.89	179.25	12397.15	6852.43	-6850.60	251.47	0.90	365411.63	729460.65	N 32 0 8.89	W 103 35 35.21
	19110.00	89.45	178.59	12396.87	6947.42	-6945.58	253.26	1.67	365316.65	729462.25	N 32 0 7.95	W 103 35 35.20
	19204.00	89.90	178.31	12397.40	7041.40	-7039.54	255.80	0.56	365222.69	729464.80	N 32 0 7.02	W 103 35 35.18
	19299.00	90.62	178.88	12396.97	7136.39	-7134.51	258.13	0.97	365127.72	729467.13	N 32 0 6.08	W 103 35 35.16
	19394.00	90.34	178.67	12396.17	7231.38	-7229.49	260.16	0.37	365032.75	729469.16	N 32 0 5.14	W 103 35 35.14
	19488.00	89.86	179.90	12396.01	7325.37	-7323.48	261.34	1.40	364938.78	729470.33	N 32 0 4.21	W 103 35 35.14
	19582.00	90.28	180.92	12395.89	7419.36	-7417.47	260.67	1.17	364844.77	729469.66	N 32 0 3.28	W 103 35 35.15
	19677.00	90.86	183.93	12394.95	7514.22	-7512.37	256.65	3.23	364749.87	729465.64	N 32 0 2.35	W 103 35 35.21
Toe HL Cross	19691.00	90.69	183.78	12394.78	7528.18	-7526.34	255.71	1.67	364735.01	729464.70	N 32 0 2.21	W 103 35 35.22
	19771.00	89.69	182.89	12394.50	7608.01	-7606.20	251.06	1.67	364656.05	729460.05	N 32 0 1.42	W 103 35 35.28
Last SLB MWD Survey Projection to Bit	19814.00	90.58	182.83	12394.40	7650.93	-7649.15	248.91	2.07	364613.10	729457.90	N 32 0 0.99	W 103 35 35.31
	19854.00	90.58	182.83	12393.99	7690.86	-7689.10	246.94	0.00	364573.16	729455.93	N 32 0 0.60	W 103 35 35.33

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	24.500	1/88.425	30.000	30.000	A001Ma_MWD-Depth Only	SD EA 29 32 Fed Com P10 19H / Chevron SD EA 29 32 Fed Com
	1	24.500	31.500	Act Stns	30.000	30.000	A001Ma_MWD-Depth Only	SD EA 29 32 Fed Com P10 19H / Chevron SD EA 29 32 Fed Com
	1	31.500	837.500	Act Stns	30.000	30.000	A001Ma_MWD	SD EA 29 32 Fed Com P10 19H / Chevron SD EA 29 32 Fed Com
	1	837.500	19854.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	SD EA 29 32 Fed Com P10 19H / Chevron SD EA 29 32 Fed Com

...SD EA 29 32 Fed Com P10 19H\Chevron SD EA 29 32 Fed Com P10 19H MWD to 19854ft