

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

November 24, 2016

OXY USA INC.
5 Greenway Plaza, Suite 110
Houston, TX 77046-052

Re:

03, T24S, R29E, Eddy NM
N 32.25338 W 103.96718

CLIENT: OXY USA INC.
WELL: CYPRESS 34 FEDERAL 12H
FIELD: CYPRESS

RIG: H&P 617
COUNTY: Eddy
API NO: 30-015-43849
JOB NO: 16MLD1391

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>
Tamer Ahmed FE	CYPRESS 34 FEDERAL 12H Original Hole	404.00 Ft to 15055.00 Ft	November 15, 2016 to November 24, 2016	TelePacer SlimPulse

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

Dana Carlos
Field Service Manager

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)

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Schlumberger

Well Reference:

03, T24S, R29E, Eddy NM

N 32.25338 W 103.96718

I, Tamer Ahmed certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 15, 2016 through November 24, 2016, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 404.00 feet to a depth of 15055.00 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 OXY USA INC. for the CYPRESS 34 FEDERAL 12H Well (Original Hole) API No. 30-015-43849 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

Tamer Ahmed

FE

Tamer Ahmed *Tamer Ahmed*

Subscribed and Sworn to before me this 26th day of November (month) 2016 (yr)

My Commission expires:

03-09-2020

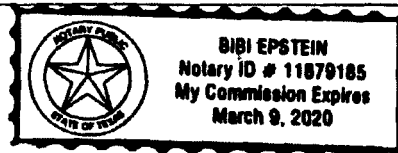
[Signature]

Notary Public

(signature)

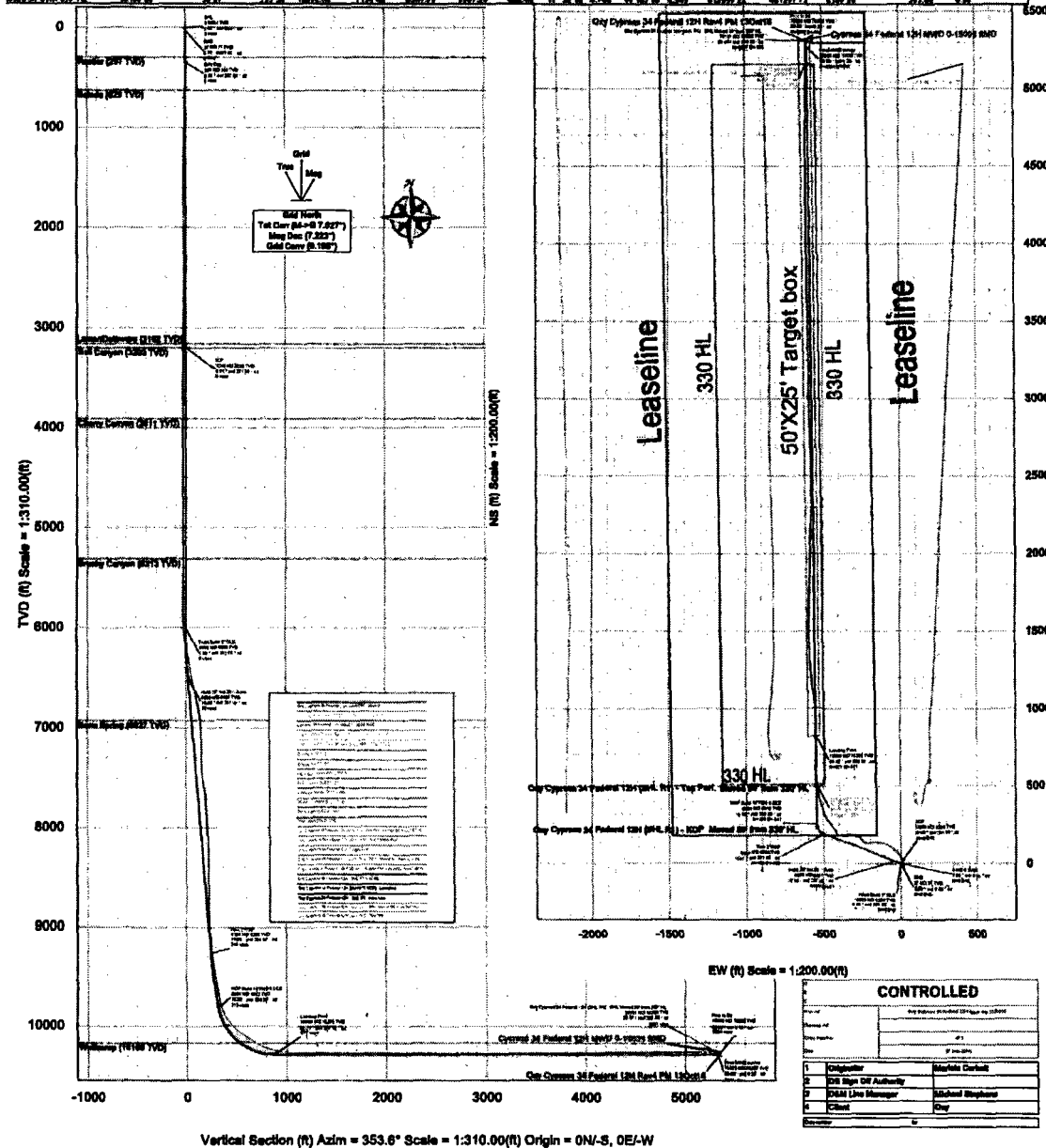
Montgomery Texas

(County State)



Service: Cypress 34 Fed 12H - Original Resubale	Wall: Oxy Cypress 34 Federal 12H - SHL R4	Field: NM Eddy County (NAD 27)	Storage: Oxy Cypress 34 Federal 12H - SHL R4
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CITY OF HOUSTON										CITY OF HOUSTON											
Priority & Severity Parameters										Priority & Severity Parameters											
Priority	0000000000	Day	05/05/20	Sub	17-0000	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20
Weight	7.253	Day	0000000000	Sub	0000000000	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20
Weight	7.253	Day	0000000000	Sub	0000000000	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20	Order Location	0000000000	Order Date	05/05/20

[illegible]



Cypress 34 Federal 12H MWD 0-15095 ftMD Survey Geodetic Report

(Def Survey)

Report Date: November 27, 2016 - 09:06 PM
Client: OXY
Field: NM Eddy County (NAD 27)
Structure / Slot: Oxy Cypress 34 Federal 12H - SHL R1 / Oxy Cypress 34 Federal 12H - SHL R1
Well: Oxy Cypress 34 Federal 12H - SHL R1
Borehole: Cypress 34 Fed 12H - Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cypress 34 Federal 12H MWD 0-15095 ftMD
Survey Date: November 11, 2016
Tort / AHD / DQ / ERD Ratio: 242.915 * / 5759.039 ft / 8.313 / 0.561
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 15' 12.16832", W 103° 58' 1.82507"
Location Grid N/E Y/X: N 458090.850 NUS, E 813194.650 NUS
CRS Grid Convergence Angle: 0.1954 °
Grid Scale Factor: 0.99992377
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 353.588 * (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3121.600 ft above MSL
Seabed / Ground Elevation: 3085.100 ft above MSL
Magnetic Declination: 7.225 *
Total Gravity Field Strength: 988.458mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48200.410 nT
Magnetic Dip Angle: 60.111 °
Declination Date: November 11, 2016
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.1954 *
Total Corr Mag North->Grid North: 7.0297 *
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	456000.85	613194.65	N 32 15 12.17	W 103 58 1.83
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	456000.85	613194.65	N 32 15 12.17	W 103 58 1.83
	404.00	0.86	113.33	403.99	-1.08	-0.86	2.00	0.17	456008.99	613196.85	N 32 15 12.16	W 103 58 1.80
	585.00	0.75	102.37	584.98	-1.98	-1.53	4.11	0.09	456008.32	613198.76	N 32 15 12.15	W 103 58 1.78
	787.00	0.92	125.45	786.96	-3.33	-2.63	6.46	0.21	456008.22	613201.11	N 32 15 12.14	W 103 58 1.75
	948.00	1.30	148.02	947.83	-6.16	-5.21	8.74	0.32	456005.64	613203.39	N 32 15 12.12	W 103 58 1.72
	1133.00	1.96	155.07	1132.85	-11.05	-9.86	11.18	0.37	456000.99	613205.83	N 32 15 12.07	W 103 58 1.70
	1227.00	2.33	147.02	1226.78	-14.28	-12.92	12.90	0.51	456077.93	613207.55	N 32 15 12.04	W 103 58 1.68
	1321.00	1.87	146.91	1320.72	-17.38	-15.81	14.78	0.49	456075.04	613209.42	N 32 15 12.01	W 103 58 1.65
	1416.00	0.40	257.94	1415.70	-16.78	-17.18	15.30	2.16	456073.67	613209.95	N 32 15 12.00	W 103 58 1.65
	1510.00	0.26	281.36	1509.70	-18.75	-17.21	14.77	0.20	456073.64	613208.42	N 32 15 12.00	W 103 58 1.65
	1605.00	0.28	287.22	1604.70	-18.69	-17.10	14.35	0.03	456073.75	613208.00	N 32 15 12.00	W 103 58 1.66
	1699.00	0.29	297.72	1698.70	-18.38	-16.93	13.94	0.06	456073.92	613208.59	N 32 15 12.00	W 103 58 1.66
	1793.00	0.20	292.42	1792.70	-18.16	-16.75	13.57	0.10	456074.10	613208.22	N 32 15 12.00	W 103 58 1.67
	1888.00	0.13	297.82	1887.70	-18.02	-16.64	13.33	0.08	456074.21	613207.97	N 32 15 12.00	W 103 58 1.67
	1982.00	0.33	1.02	1981.70	-17.69	-16.32	13.24	0.31	456074.53	613207.88	N 32 15 12.01	W 103 58 1.67
	2078.00	0.51	8.91	2075.70	-17.02	-15.64	13.31	0.20	456075.22	613207.96	N 32 15 12.01	W 103 58 1.67
	2171.00	0.82	15.31	2170.69	-16.14	-14.72	13.61	0.13	456076.13	613208.16	N 32 15 12.02	W 103 58 1.67
	2265.00	0.59	16.13	2264.89	-15.22	-13.77	13.78	0.03	456077.08	613208.42	N 32 15 12.03	W 103 58 1.67
	2360.00	0.59	23.88	2359.68	-14.34	-12.85	14.11	0.06	456078.00	613208.76	N 32 15 12.04	W 103 58 1.66
	2454.00	0.77	62.13	2453.88	-13.69	-12.11	14.86	0.51	456078.74	613209.51	N 32 15 12.05	W 103 58 1.65
	2548.00	1.65	95.60	2547.85	-13.74	-11.85	16.77	1.16	456078.90	613211.42	N 32 15 12.05	W 103 58 1.63
	2643.00	1.34	112.36	2642.82	-14.56	-12.51	19.18	0.56	456078.35	613213.81	N 32 15 12.04	W 103 58 1.60
	2737.00	0.84	180.78	2736.61	-15.78	-13.81	20.16	1.38	456077.24	613214.81	N 32 15 12.03	W 103 58 1.59
	2832.00	1.82	171.46	2831.58	-17.97	-15.80	20.38	1.05	456076.05	613216.03	N 32 15 12.01	W 103 58 1.59
	2928.00	2.40	181.39	2926.52	-21.42	-19.24	20.55	0.73	456071.81	613215.20	N 32 15 11.98	W 103 58 1.59
	3021.00	1.03	222.68	3020.48	-23.95	-21.86	19.93	1.86	456068.99	613214.57	N 32 15 11.95	W 103 58 1.59
	3115.00	0.97	221.95	3114.48	-25.03	-23.07	18.82	0.07	456067.78	613213.47	N 32 15 11.94	W 103 58 1.61
	3159.00	0.82	229.32	3158.46	-25.47	-23.58	18.30	0.30	456067.27	613212.96	N 32 15 11.93	W 103 58 1.61
	3311.00	0.11	179.02	3310.45	-26.31	-24.52	17.38	0.56	456066.33	613212.03	N 32 15 11.93	W 103 58 1.62
	3405.00	0.07	368.82	3404.45	-26.34	-24.56	17.38	0.19	456066.30	613212.03	N 32 15 11.92	W 103 58 1.62
	3594.00	0.02	30.96	3593.45	-26.20	-24.41	17.39	0.03	456066.44	613212.04	N 32 15 11.93	W 103 58 1.62
	3783.00	0.07	86.80	3782.45	-26.14	-24.34	17.51	0.03	456066.51	613212.18	N 32 15 11.93	W 103 58 1.62
	3877.00	0.04	319.18	3876.45	-26.10	-24.29	17.54	0.10	456066.56	613212.19	N 32 15 11.93	W 103 58 1.62
	3972.00	0.04	299.55	3971.45	-26.05	-24.25	17.49	0.01	456066.80	613212.14	N 32 15 11.93	W 103 58 1.62
	4066.00	0.04	337.02	4065.45	-26.00	-24.20	17.45	0.03	456066.65	613212.10	N 32 15 11.93	W 103 58 1.62
	4161.00	0.04	142.63	4160.45	-25.99	-24.20	17.46	0.08	456066.65	613212.11	N 32 15 11.93	W 103 58 1.62
	4255.00	0.04	108.06	4254.45	-26.04	-24.23	17.51	0.03	456066.82	613212.18	N 32 15 11.93	W 103 58 1.62
	4350.00	0.04	88.15	4349.45	-26.04	-24.23	17.57	0.03	456066.82	613212.22	N 32 15 11.93	W 103 58 1.62
	4444.00	0.07	355.51	4443.45	-25.97	-24.16	17.80	0.07	456066.69	613212.25	N 32 15 11.93	W 103 58 1.62
	4633.00	0.04	177.32	4632.45	-25.93	-24.11	17.59	0.06	456066.74	613212.24	N 32 15 11.93	W 103 58 1.62
	4727.00	0.04	145.74	4726.45	-25.99	-24.17	17.61	0.02	456066.68	613212.28	N 32 15 11.93	W 103 58 1.62
	4916.00	0.04	80.16	4915.45	-26.04	-24.22	17.72	0.02	456066.63	613212.36	N 32 15 11.93	W 103 58 1.62
	5105.00	0.07	218.01	5104.45	-26.12	-24.30	17.71	0.05	456066.58	613212.36	N 32 15 11.93	W 103 58 1.62
	5200.00	0.04	330.47	5199.45	-26.13	-24.31	17.66	0.10	456066.54	613212.31	N 32 15 11.93	W 103 58 1.62
	5294.00	0.07	270.45	5293.45	-26.09	-24.28	17.58	0.08	456066.57	613212.23	N 32 15 11.93	W 103 58 1.62
	5389.00	0.07	257.95	5388.45	-26.09	-24.30	17.47	0.02	456066.56	613212.12	N 32 15 11.93	W 103 58 1.62
	5578.00	0.04	206.88	5577.45	-26.18	-24.38	17.33	0.03	456066.47	613211.97	N 32 15 11.93	W 103 58 1.62
	5672.00	0.04	353.54	5671.45	-26.15	-24.38	17.31	0.08	456066.48	613211.96	N 32 15 11.93	W 103 58 1.62
	5767.00	0.04	29.24	5766.45	-26.09	-24.31	17.32	0.03	456066.54	613211.97	N 32 15 11.93	W 103 58 1.62
	5861.00	0.24	7.86	5860.45	-25.88	-24.09	17.36	0.22	456066.76	613212.01	N 32 15 11.93	W 103 58 1.62
	5958.00	2.88	0.88	5955.45	-23.31	-21.51	17.42	2.78	456069.35	613212.07	N 32 15 11.95	W 103 58 1.62
	6050.00	5.36	0.33	6049.15	-16.61	-14.75	17.47	2.64	456078.10	613212.12	N 32 15 12.02	W 103 58 1.62
	6145.00	7.87	348.84	6143.54	-5.88	-4.09	16.27	2.78	456066.76	613210.92	N 32 15 12.13	W 103 58 1.64
	6236.00	10.15	342.95	6236.40	8.51	9.98	12.83	2.81	456100.83	613207.28	N 32 15 12.27	W 103 58 1.68
	6334.00	11.43	336.12	6329.72	25.72	26.59	6.36	1.90	456117.44	613201.01	N 32 15 12.43	W 103 58 1.75
	6428.00	10.78	329.74	6421.86	42.85	42.71	-1.84	1.47	456133.56	613192.81	N 32 15 12.59	W 103 58 1.84
	6523.00	12.72	322.50	6514.97	59.74	59.89	-12.69	2.55	456149.54	613181.98	N 32 15 12.75	W 103 58 1.97
	6617.00	14.88	316.73	6608.26	78.28	75.68	-27.27	2.72	456168.54	613167.38	N 32 15 12.92	W 103 58 2.14
	6712.00	17.34	308.88	6697.53	98.08	93.46	-48.68	3.45	456184.31	613148.00	N 32 15 13.09	W 103 58 2.36
	6806.00	20.22	302.20	6786.53	118.18	110.92	-71.31	3.82	456201.78	613123.34	N 32 15 13.27	W 103 58 2.65
	6901.00	19.93	290.70	6875.79	135.81	125.40	-100.36	4.16	456216.24	613094.29	N 32 15 13.41	W 103 58 2.99
	6995.00	19.40	277.88	6864.35	148.96	133.20	-130.83	4.82	456224.04	613063.83	N 32 15 13.49	W 103 58 3.34
	7090.00	17.10	266.47	7054.59	151.55	134.51	-160.41	4.46	456225.36	613034.25	N 32 15 13.50	W 103 58 3.69
	7184.00	13.82	267.78	7145.22	163.05	133.23	-185.27	3.72	456224.07	613009.39	N 32 15 13.49	W 103 58 3.98
	7278.00	10.77	261.15	7237.10	163.49	131.45	-205.01	3.37	456222.29	612989.65	N 32 15 13.48	W 103 58 4.21
	7373.00	8.88	268.33	7330.73	153.70	129.87	-220.95	2.54	456220.71	612973.71	N 32 15 13.46	W 103 58 4.39
	7467.00	8.97	293.09	7423.85	157.89	132.54	-234.79	4.02	456223.38	612958.88	N 32 15 13.49	W 103 58 4.55
	7562.00	9.32	325.09	7517.50	168.31	141.78	-248.01	5.30	456232.60	612948.68	N 32 15 13.58	W 103 58 4.68
	7656.00	9.34	328.80	7610.26	181.92	154.53	-254.32	0.64	456245.36	612940.35	N 32 15 13.71	W 103 58 4.78
	7751.00	8.55	301.96	7704.14	193.31	164.86	-264.31	4.43	456255.70	612930.36	N 32 15 13.81	W 103 58 4.90

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (1/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7945.00	8.39	284.21	7787.13	200.06	170.24	-278.89	2.78	456261.06	612917.78	N 32 15 13.86 W 103 58 5.04	
	7940.00	7.52	285.72	7861.22	204.84	173.63	-289.59	0.94	456264.47	612905.08	N 32 15 13.90 W 103 58 5.19	
	8034.00	8.06	292.11	7984.35	210.30	177.78	-301.62	1.08	456268.61	612893.06	N 32 15 13.94 W 103 58 5.33	
	8128.00	8.20	285.62	8077.41	215.96	182.06	-314.18	0.99	456272.90	612880.50	N 32 15 13.98 W 103 58 5.48	
	8223.00	7.54	278.98	8171.52	220.15	184.86	-326.86	1.18	456275.69	612867.82	N 32 15 14.01 W 103 58 5.62	
	8317.00	8.64	271.91	8264.80	222.57	186.00	-338.38	1.33	456276.84	612856.29	N 32 15 14.02 W 103 58 5.76	
	8412.00	6.20	270.14	8359.20	223.95	186.20	-349.00	0.51	456277.03	612845.87	N 32 15 14.02 W 103 58 5.88	
	8506.00	8.79	269.53	8452.39	225.27	186.15	-361.26	2.76	456276.98	612833.41	N 32 15 14.02 W 103 58 6.02	
	8601.00	9.63	267.31	8546.17	226.53	185.72	-375.46	0.98	456276.55	612818.22	N 32 15 14.02 W 103 58 6.20	
	8695.00	8.86	261.80	8639.19	226.85	184.53	-389.87	3.07	456275.36	612804.81	N 32 15 14.01 W 103 58 6.36	
	8790.00	8.00	252.38	8733.59	225.88	182.20	-400.21	1.41	456273.03	612794.47	N 32 15 13.98 W 103 58 6.48	
	8884.00	4.99	279.63	8827.17	225.86	181.39	-408.93	2.94	456272.23	612785.75	N 32 15 13.98 W 103 58 6.58	
	8979.00	3.08	316.39	8921.95	229.03	183.93	-414.76	3.29	456274.77	612779.92	N 32 15 14.00 W 103 58 6.65	
	9073.00	3.63	2.15	9015.80	233.99	188.73	-416.40	2.83	456279.57	612778.29	N 32 15 14.05 W 103 58 6.67	
	9168.00	4.24	16.34	9110.58	240.20	195.11	-415.29	1.20	456285.94	612779.39	N 32 15 14.11 W 103 58 6.65	
	9262.00	5.67	336.51	9204.25	247.85	202.71	-416.17	3.86	456293.54	612778.51	N 32 15 14.19 W 103 58 6.68	
	9357.00	8.97	325.86	9298.47	258.89	213.14	-422.20	3.74	456303.98	612779.92	N 32 15 14.29 W 103 58 6.73	
	9451.00	10.09	317.69	9391.18	272.05	225.30	-431.85	1.87	456316.13	612762.83	N 32 15 14.41 W 103 58 6.84	
	9592.00	11.42	322.08	9529.70	293.95	245.45	-448.75	1.11	456336.28	612745.94	N 32 15 14.61 W 103 58 7.04	
	9687.00	9.91	322.94	9623.08	309.00	259.39	-459.45	1.80	456350.22	612735.23	N 32 15 14.75 W 103 58 7.16	
	9781.00	11.46	323.65	9715.42	324.05	273.37	-469.89	1.65	456364.19	612724.82	N 32 15 14.89 W 103 58 7.29	
	9875.00	19.24	330.00	9806.01	346.37	294.33	-483.16	8.48	456395.16	612711.52	N 32 15 15.10 W 103 58 7.44	
	9971.00	30.15	340.85	9893.14	384.52	330.93	-499.04	12.26	456421.76	612695.95	N 32 15 15.46 W 103 58 7.62	
	10065.00	40.65	344.21	9969.68	437.90	382.85	-515.16	11.36	456473.67	612679.53	N 32 15 15.97 W 103 58 7.81	
	10160.00	50.18	348.67	10036.28	504.81	448.28	-532.03	10.20	456539.09	612662.86	N 32 15 16.82 W 103 58 8.00	
	10254.00	55.55	353.22	10093.04	579.50	522.00	-544.95	7.96	456612.81	612649.74	N 32 15 17.35 W 103 58 8.15	
	10348.00	57.40	0.00	10145.00	657.68	600.15	-549.53	6.33	456690.95	612645.17	N 32 15 18.13 W 103 58 8.20	
	10443.00	61.78	0.27	10193.09	739.05	682.05	-549.33	4.60	456772.85	612645.36	N 32 15 18.94 W 103 58 8.19	
	10537.00	73.07	2.07	10229.13	824.93	768.68	-547.50	12.16	456859.47	612647.19	N 32 15 19.79 W 103 58 8.17	
	10632.00	78.96	1.58	10252.08	916.13	860.77	-544.58	6.22	456951.56	612650.12	N 32 15 20.70 W 103 58 8.13	
	10726.00	84.87	355.61	10265.31	1008.76	953.72	-546.89	8.89	457044.50	612647.80	N 32 15 21.62 W 103 58 8.16	
	10821.00	91.38	352.86	10268.41	1103.64	1048.13	-558.43	7.44	457138.90	612638.27	N 32 15 22.56 W 103 58 8.28	
	10945.00	90.07	353.38	10268.85	1227.62	1171.23	-571.28	1.14	457261.99	612623.42	N 32 15 23.78 W 103 58 8.54	
	11039.00	89.17	354.75	10267.47	1321.61	1284.72	-581.00	1.74	457355.47	612613.70	N 32 15 24.70 W 103 58 8.63	
	11134.00	89.68	357.57	10268.44	1416.51	1359.49	-587.36	3.01	457450.23	612607.34	N 32 15 25.64 W 103 58 8.61	
	11228.00	90.24	359.20	10268.52	1510.17	1453.45	-590.01	1.84	457544.19	612604.89	N 32 15 26.57 W 103 58 8.64	
	11323.00	90.03	0.20	10268.30	1604.63	1548.45	-590.51	1.08	457639.18	612604.19	N 32 15 27.51 W 103 58 8.64	
	11418.00	89.59	0.58	10268.81	1698.97	1643.44	-589.88	0.80	457734.16	612604.82	N 32 15 28.45 W 103 58 8.63	
	11512.00	89.59	1.19	10269.28	1792.21	1737.43	-588.44	0.87	457828.14	612606.28	N 32 15 29.38 W 103 58 8.61	
	11607.00	89.62	1.26	10269.94	1886.37	1832.41	-586.41	0.08	457923.11	612608.29	N 32 15 30.32 W 103 58 8.58	
	11701.00	89.59	1.17	10270.59	1979.53	1928.38	-584.42	0.10	458017.08	612610.28	N 32 15 31.25 W 103 58 8.55	
	11795.00	89.69	1.30	10271.18	2072.70	2020.36	-582.39	0.17	458111.05	612612.31	N 32 15 32.18 W 103 58 8.53	
	11890.00	89.83	1.29	10271.58	2166.84	2115.33	-580.24	0.15	458208.02	612614.45	N 32 15 33.12 W 103 58 8.50	
	11984.00	89.62	2.93	10272.03	2259.80	2209.27	-576.78	1.76	458299.94	612617.81	N 32 15 34.05 W 103 58 8.45	
	12173.00	90.17	0.11	10272.37	2446.98	2398.18	-571.77	1.52	458488.84	612622.93	N 32 15 35.92 W 103 58 8.39	
	12268.00	90.31	359.14	10271.98	2541.45	2493.17	-572.39	1.03	458583.83	612622.30	N 32 15 36.86 W 103 58 8.39	
	12362.00	90.31	358.55	10271.47	2635.06	2587.15	-574.29	0.83	458677.80	612620.41	N 32 15 37.79 W 103 58 8.41	
	12457.00	90.03	358.08	10271.19	2729.73	2682.11	-577.08	0.58	458772.75	612617.82	N 32 15 38.73 W 103 58 8.44	
	12551.00	88.73	357.47	10272.20	2823.48	2778.03	-580.73	1.53	458866.67	612613.97	N 32 15 39.66 W 103 58 8.48	
	12646.00	88.55	357.68	10273.63	2918.23	2870.94	-584.75	0.89	458961.58	612609.95	N 32 15 40.60 W 103 58 8.52	
	12740.00	89.69	358.51	10274.25	3011.94	2964.88	-587.87	0.90	459055.50	612608.82	N 32 15 41.53 W 103 58 8.55	
	12834.00	89.85	2.11	10274.93	3105.28	3058.88	-587.36	3.83	459148.47	612607.33	N 32 15 42.48 W 103 58 8.54	
	12929.00	90.07	359.12	10274.70	3199.56	3153.85	-586.34	3.18	459244.45	612608.35	N 32 15 43.40 W 103 58 8.53	
	13023.00	90.10	359.12	10274.56	3293.12	3247.84	-587.79	0.03	459338.43	612606.91	N 32 15 44.33 W 103 58 8.54	
	13118.00	90.79	359.34	10273.82	3387.86	3342.82	-589.06	0.76	459433.41	612605.83	N 32 15 45.27 W 103 58 8.55	
	13212.00	90.89	358.83	10272.44	3481.22	3436.80	-590.57	0.55	459527.38	612604.13	N 32 15 46.20 W 103 58 8.57	
	13307.00	89.97	358.55	10271.73	3575.84	3531.77	-592.74	1.01	459622.35	612601.98	N 32 15 47.14 W 103 58 8.59	
	13401.00	90.93	359.05	10270.99	3669.45	3625.75	-594.71	1.15	459716.31	612599.99	N 32 15 48.07 W 103 58 8.61	
	13496.00	90.89	358.90	10269.48	3764.02	3720.72	-596.41	0.16	459811.28	612598.29	N 32 15 49.01 W 103 58 8.62	
	13590.00	90.62	358.80	10268.24	3857.82	3814.69	-598.29	0.31	459905.25	612596.41	N 32 15 49.94 W 103 58 8.64	
	13685.00	90.52	358.96	10267.30	3952.21	3909.67	-600.15	0.20	460000.22	612594.55	N 32 15 50.88 W 103 58 8.66	
	13780.00	90.83	359.34	10266.18	4046.76	4004.65	-601.66	0.52	460095.19	612593.14	N 32 15 51.82 W 103 58 8.67	
	13875.00	90.76	359.16	10264.86	4141.29	4099.64	-602.80	0.20	460190.17	612591.90	N 32 15 52.76 W 103 58 8.68	
	13970.00	90.69	359.69	10263.49	4235.78	4194.62	-603.75	0.57	460285.14	612590.94	N 32 15 53.70 W 103 58 8.69	
	14065.00	90.62	359.79	10262.24	4330.23	4289.61	-604.19	0.30	460380.13	612590.51	N 32 15 54.64 W 103 58 8.69	
	14159.00	90.93	0.23	10260.97	4423.63	4383.60	-604.17	0.57	460474.11	612590.63	N 32 15 55.57 W 103 58 8.69	
	14348.00	90.45	0.35	10258.69	4611.33	4572.59	-603.21	0.26	460563.08	612591.48	N 32 15 57.44 W 103 58 8.67	
	14443.00	90.28	359.46	10258.09	4705.75	4667.58	-603.37	0.95	460658.07	612591.33	N 32 15 58.38 W 103 58 8.67	
	14633.00	90.14	359.75	10257.39	4894.71	4857.58	-604.88	0.17	460948.05	612590.02	N 32 15 0.28 W 103 58 8.67	
	14728.00	90.82	0.84	10256.78	4989.08	4952.57	-604.38	1.08	461043.04	612590.34	N 32 15 1.20 W 103 58 8.67	
	14917.00	90.07	0.24	10255.82	5178.73	5141.56	-602.90	0.36	461232.01	612591.79	N 32 15 3.07 W 103 58 8.64	
Final MWD survey	15055.00	89.83	0.29	10255.74	5313.79	5279.56	-602.27	0.18	461370.00	612592.43	N 32 16 4.43 W 103 58 8.63	
Proj. to Bit	15095.00	89.83	0.29	10255.86	5353.52	5319.56	-602.08	0.00	461409.99	612592.83	N 32 16 4.83 W 103 58 8.63	

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	26.500	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Cypress 34 Fed 12H - Original Borehole / Cypress 34 Federal 12H MWD 0-15095 ftMD
	1	26.500	404.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Cypress 34 Fed 12H - Original Borehole / Cypress 34 Federal
	1	404.000	15095.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Cypress 34 Fed 12H - Original Borehole / Cypress 34 Federal