

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 20, 2018

Oxy USA Incorporated
5 Greenway Plaza, Suite 110
Houston, TX, 77046

27, 22S, 32E, Lea NM
N 32.36921 W -103.66857

HOBBS OCD
MAY 10 2019

Re:

CLIENT: Oxy USA Incorporated
WELL: Taco Cat 27-34 Federal Com 21H
FIELD: Red Tank Bone Spring

RIG: H&P 656
COUNTY: Lea
API NO: 30-025-44934
JOB NO: 18MLD3585

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>
Kingsley Nlewem FE	Taco Cat 27-34 Federal Com 21H Original Hole	942.00 Ft to 20864.00 Ft	September 27, 2018 to November 2, 2018	TelePacer/SlimPulse Third Party Corrected

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

Jermaine Allen
Field Service Manager

Schlumberger-Private

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
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7220 W I-H 20
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Well Reference:
27, 22S, 32E, Lea NM
N 32.36921 W -103.66857

I, Kingsley Nlewem certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of September 27, 2018 through November 02, 2018, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 942.00 feet to a depth of 20864.00 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 Incorporated for the Taco Cat 27-34 Federal Com 21H Well (Original Hole) API No. 30-025-44934 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 Kingsley Nlewem
Kingsley Nlewem
FE

Subscribed and Sworn to before me this 20th day of November (month) 2018 (yr)

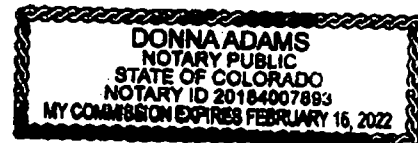
My Commission expires:

2-16-2022

D. Adams
Notary Public

(signature)

Adams County Colorado
(County State)



Schlumberger

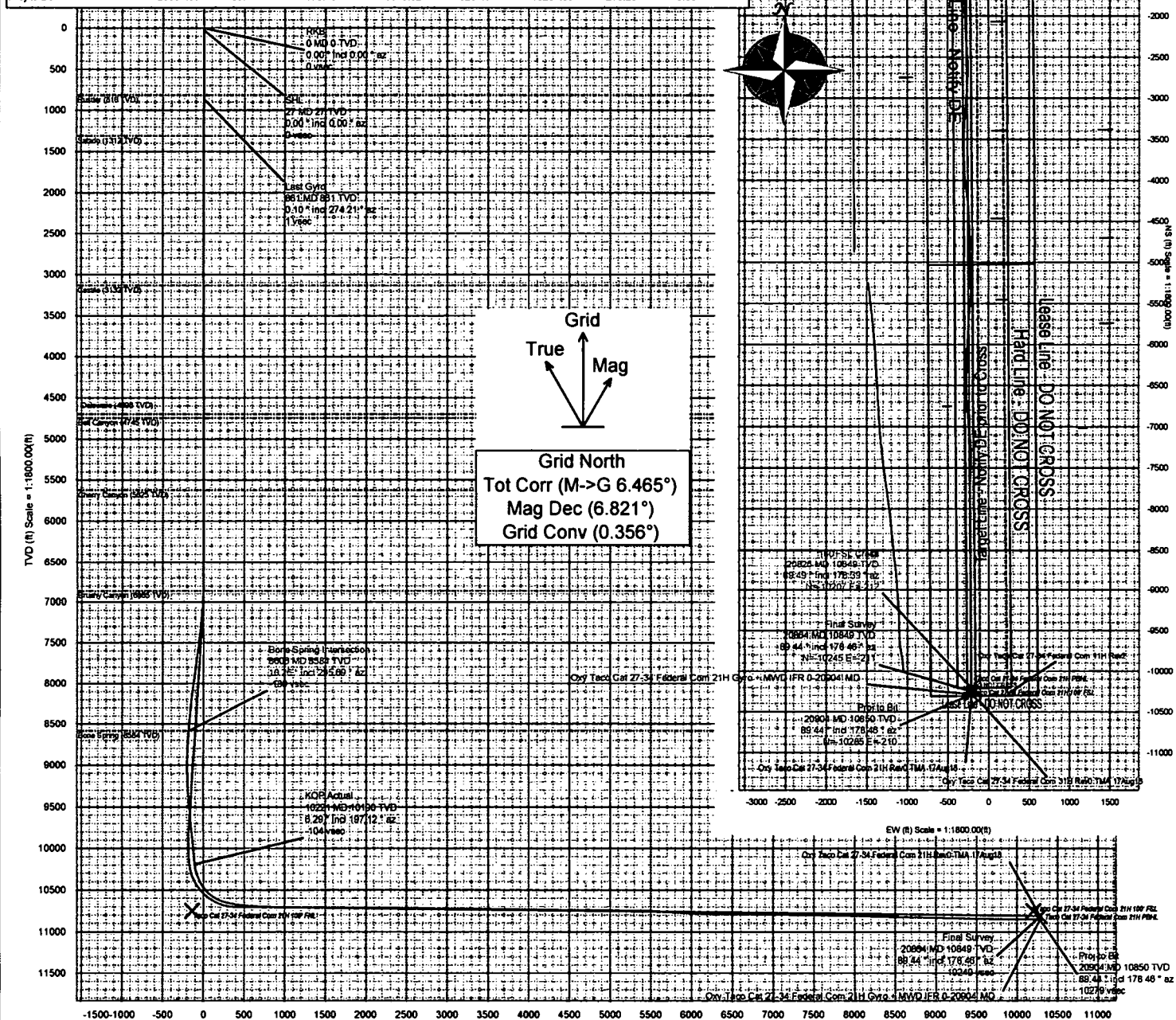
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Taco Cat 27-34 Federal Com 21H	NM Lea County (NAD 83)	Oxy Taco Cat 27-34 Federal Com 21H

Gravity & Magnetic Parameters			Surface Location			Miscellaneous		
Model: IFR1	Dip: 80.18°	Date: 02-Oct-2018	Lat: N 32 22 8.14	North: 498895.981US	Grid Corr: 0.356°	Site: Oxy Taco Cat 27-34 Federal Com 21H	TVD Ref: RKB(3681.89 above MSL)	
MagDec: 6.821°	FB: 49142.2nT	Gravity FB: 988.454mg (9.80665 Based)	Lon: W 103 40 6.88	Easting: 746577.791US	Scale Fact: 0.989973	Plan: Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20804 MD		

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00
Last Gyro	860.61	0.10	274.21	860.60	1.25	-1.18	-3.32	0.09
Bone Spring Intersection	8606.37	10.26	295.69	8584.00	-187.25	191.04	-181.97	0.47
100°FNL Cross	9853.61	6.18	202.60	9824.63	-151.56	157.20	-272.43	0.31
KOP Actual	10221.00	6.29	197.12	10190.09	-115.43	121.29	-283.28	1.60
100°FSL Cross	20826.00	89.49	178.39	10848.77	10209.13	-10208.92	-212.41	0.23
Final Survey	20864.00	89.44	178.46	10849.13	10247.09	-10244.91	-211.37	0.23
Proj to Bit	20904.00	89.44	178.46	10849.52	10287.04	-10284.89	-210.29	0.00





Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20904' MD Survey Geodetic Report (Def Survey)

Report Date: November 20, 2018 - 09:10 AM
Client: OXY
Field: NM Lea County (NAD 83)
Structure / Slot: Oxy Taco Cat 27-34 Federal Com 21H / Oxy Taco Cat 27-34 Federal Com 21H
Well: Taco Cat 27-34 Federal Com 21H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20904' MD
Survey Date: September 24, 2018
Tort / AHD / DDI / ERD Ratio: 242.612' / 10860.328 ft / 6.706 / 1.001
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 22' 8.13869", W 103° 40' 6.85630"
Location Grid N/E Y/X: N 498685.960 RUS, E 746577.790 RUS
CRS Grid Convergence Angle: 0.3559°
Grid Scale Factor: 0.99995733
Version / Patch: 2.10.740.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 181.180° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3681.800 ft above MSL
Seabed / Ground Elevation: 3635.300 ft above MSL
Magnetic Declination: 6.821°
Total Gravity Field Strength: 998.4543mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48162.200 nT
Magnetic Dip Angle: 60.159°
Declination Date: October 02, 2018
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.3559°
Total Corr Mag North→Grid: 6.4651°
North: Well Head
Local Coord Referenced To: Well Head

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 ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	498685.96	746577.79	N 32 22 8.14	W 103 40 6.86
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	498685.96	746577.79	N 32 22 8.14	W 103 40 6.86
	68.55	0.42	219.88	68.55	0.12	-0.12	-0.10	1.00	498685.84	746577.69	N 32 22 8.14	W 103 40 6.86
	126.88	0.48	229.42	126.88	0.44	-0.43	-0.41	0.14	498685.53	746577.38	N 32 22 8.13	W 103 40 6.86
	211.24	0.35	229.48	211.24	0.84	-0.82	-0.87	0.13	498685.14	746576.92	N 32 22 8.13	W 103 40 6.87
	298.91	0.31	238.42	298.90	1.15	-1.12	-1.27	0.07	498684.84	746576.52	N 32 22 8.13	W 103 40 6.87
	393.36	0.21	265.35	393.35	1.30	-1.27	-1.66	0.16	498684.69	746576.13	N 32 22 8.13	W 103 40 6.88
	487.88	0.31	280.77	487.87	1.28	-1.28	-2.09	0.13	498684.73	746575.70	N 32 22 8.13	W 103 40 6.88
	582.42	0.26	280.28	582.41	1.20	-1.15	-2.55	0.05	498684.81	746575.24	N 32 22 8.13	W 103 40 6.89
	676.88	0.14	269.40	676.97	1.17	-1.11	-2.88	0.13	498684.85	746574.91	N 32 22 8.13	W 103 40 6.89
	776.83	0.16	252.74	776.82	1.22	-1.15	-3.13	0.05	498684.81	746574.66	N 32 22 8.13	W 103 40 6.89
Last Gyro	860.61	0.10	274.21	860.60	1.25	-1.18	-3.32	0.09	498684.78	746574.47	N 32 22 8.13	W 103 40 6.90
	942.00	0.06	42.21	941.99	1.22	-1.15	-3.36	0.18	498684.81	746574.43	N 32 22 8.13	W 103 40 6.90
	1035.00	0.12	179.56	1034.99	1.28	-1.21	-3.32	0.18	498684.75	746574.47	N 32 22 8.13	W 103 40 6.90
	1126.00	0.12	197.27	1125.99	1.48	-1.39	-3.35	0.04	498684.57	746574.44	N 32 22 8.13	W 103 40 6.90
	1218.00	0.06	90.16	1217.99	1.55	-1.49	-3.33	0.18	498684.47	746574.46	N 32 22 8.12	W 103 40 6.90
	1309.00	0.06	93.31	1308.99	1.56	-1.49	-3.24	0.00	498684.47	746574.55	N 32 22 8.12	W 103 40 6.89
	1400.00	0.12	218.02	1399.99	1.83	-1.57	-3.25	0.18	498684.39	746574.54	N 32 22 8.12	W 103 40 6.89
	1490.00	0.06	115.42	1489.99	1.73	-1.66	-3.26	0.16	498684.30	746574.53	N 32 22 8.12	W 103 40 6.89
	1582.00	0.06	48.32	1581.99	1.72	-1.85	-3.18	0.07	498684.31	746574.61	N 32 22 8.12	W 103 40 6.89
	1676.00	0.06	349.45	1675.99	1.63	-1.57	-3.16	0.06	498684.39	746574.63	N 32 22 8.12	W 103 40 6.89
	1771.00	0.14	198.79	1770.99	1.70	-1.83	-3.20	0.21	498684.33	746574.59	N 32 22 8.12	W 103 40 6.89
	1865.00	0.06	114.11	1864.99	1.83	-1.76	-3.19	0.15	498684.20	746574.60	N 32 22 8.12	W 103 40 6.89
	1960.00	0.06	67.55	1959.99	1.83	-1.76	-3.10	0.05	498684.20	746574.69	N 32 22 8.12	W 103 40 6.89
	2054.00	0.12	92.93	2053.99	1.81	-1.75	-2.95	0.08	498684.21	746574.84	N 32 22 8.12	W 103 40 6.89
	2148.00	0.06	79.00	2147.99	1.80	-1.74	-2.81	0.07	498684.22	746574.98	N 32 22 8.12	W 103 40 6.89
	2243.00	0.14	191.18	2242.99	1.91	-1.85	-2.78	0.18	498684.11	746575.01	N 32 22 8.12	W 103 40 6.89
	2337.00	0.06	119.06	2336.99	2.04	-1.99	-2.76	0.14	498683.97	746575.03	N 32 22 8.12	W 103 40 6.89
	2432.00	0.06	108.39	2431.99	2.08	-2.02	-2.67	0.01	498683.94	746575.12	N 32 22 8.12	W 103 40 6.89
	2527.00	0.06	292.88	2526.99	2.08	-2.02	-2.67	0.13	498683.94	746575.12	N 32 22 8.12	W 103 40 6.89
	2621.00	0.09	163.98	2620.99	2.13	-2.07	-2.69	0.14	498683.89	746575.10	N 32 22 8.12	W 103 40 6.89
	2716.00	0.09	150.13	2715.99	2.26	-2.21	-2.63	0.02	498683.75	746575.16	N 32 22 8.12	W 103 40 6.89
	2811.00	0.06	63.44	2810.99	2.30	-2.25	-2.55	0.11	498683.71	746575.24	N 32 22 8.12	W 103 40 6.89
	2905.00	0.06	354.42	2904.99	2.23	-2.18	-2.51	0.07	498683.78	746575.28	N 32 22 8.12	W 103 40 6.89
	3000.00	0.09	112.01	2999.99	2.21	-2.16	-2.45	0.14	498683.80	746575.34	N 32 22 8.12	W 103 40 6.89
	3094.00	0.09	145.68	3093.99	2.30	-2.25	-2.34	0.06	498683.71	746575.45	N 32 22 8.12	W 103 40 6.88
	3189.00	0.06	282.74	3188.99	2.35	-2.30	-2.34	0.15	498683.66	746575.45	N 32 22 8.12	W 103 40 6.88
	3283.00	0.09	347.02	3282.99	2.27	-2.22	-2.41	0.09	498683.74	746575.38	N 32 22 8.12	W 103 40 6.88
	3378.00	0.06	4.37	3377.99	2.14	-2.09	-2.42	0.04	498683.87	746575.37	N 32 22 8.12	W 103 40 6.88
	3473.00	0.09	247.59	3472.99	2.12	-2.07	-2.49	0.14	498683.89	746575.30	N 32 22 8.12	W 103 40 6.89
	3567.00	0.06	339.44	3566.99	2.11	-2.05	-2.57	0.12	498683.91	746575.22	N 32 22 8.12	W 103 40 6.89
	3662.00	0.05	101.72	3661.99	2.07	-2.02	-2.55	0.10	498683.94	746575.24	N 32 22 8.12	W 103 40 6.89
	3757.00	0.09	150.01	3756.99	2.14	-2.08	-2.47	0.07	498683.87	746575.32	N 32 22 8.12	W 103 40 6.89
	3851.00	0.06	57.38	3850.99	2.18	-2.13	-2.39	0.12	498683.83	746575.40	N 32 22 8.12	W 103 40 6.88
	3946.00	0.06	23.84	3945.99	2.10	-2.05	-2.33	0.04	498683.91	746575.46	N 32 22 8.12	W 103 40 6.88
	4040.00	0.13	99.91	4039.99	2.07	-2.03	-2.21	0.14	498683.93	746575.58	N 32 22 8.12	W 103 40 6.88
	4135.00	0.09	156.92	4134.99	2.16	-2.11	-2.07	0.12	498683.85	746575.72	N 32 22 8.12	W 103 40 6.88
	4230.00	0.01	56.41	4229.99	2.22	-2.18	-2.04	0.10	498683.78	746575.75	N 32 22 8.12	W 103 40 6.88
	4419.00	0.17	89.68	4418.99	2.11	-2.07	-1.76	0.08	498683.89	746576.03	N 32 22 8.12	W 103 40 6.88
	4513.00	0.19	121.67	4512.99	2.14	-2.11	-1.50	0.17	498683.85	746576.29	N 32 22 8.12	W 103 40 6.87
	4607.00	0.06	205.63	4606.99	2.26	-2.23	-1.38	0.21	498683.73	746576.41	N 32 22 8.12	W 103 40 6.87
	4702.00	0.06	95.40	4701.99	2.31	-2.28	-1.36	0.10	498683.68	746576.43	N 32 22 8.12	W 103 40 6.87
	4796.00	0.08	287.06	4795.99	2.32	-2.29	-1.36	0.13	498683.67	746576.43	N 32 22 8.12	W 103 40 6.87
	4891.00	0.06	345.65	4890.99	2.27	-2.24	-1.42	0.08	498683.72	746576.37	N 32 22 8.12	W 103 40 6.87
	5080.00	0.06	27.24	5079.99	2.09	-2.06	-1.40	0.02	498683.90	746576.38	N 32 22 8.12	W 103 40 6.87
	5174.00	0.09	39.08	5173.99	1.99	-1.96	-1.33	0.04	498684.00	746576.46	N 32 22 8.12	W 103 40 6.87
	5269.00	0.12	119.06	5268.99	1.97	-1.95	-1.19	0.14	498684.01	746576.60	N 32 22 8.12	W 103 40 6.87
	5363.00	0.09	301.20	5362.99	1.88	-1.96	-1.17	0.22	498684.00	746576.82	N 32 22 8.12	W 103 40 6.87
	5458.00	0.09	91.08	5457.99	1.94	-1.92	-1.16	0.18	498684.04	746576.63	N 32 22 8.12	W 103 40 6.87
	5553.00	0.14	57.10	5552.99	1.88	-1.88	-0.99	0.09	498684.10	746576.80	N 32 22 8.12	W 103 40 6.87
	5648.00	0.09	130.18	5647.99	1.86	-1.84	-0.83	0.15	498684.12	746576.96	N 32 22 8.12	W 103 40 6.87
5742.00	0.09	214.06	5741.99	1.97	-1.95	-0.82	0.13	498684.01	746576.97	N 32 22 8.12	W 103 40 6.87	
5837.00	0.06	54.86	5836.99	2.00	-1.99	-0.82	0.16	498683.97	746576.97	N 32 22 8.12	W 103 40 6.87	
5931.00	0.06	79.37	5930.99	1.96	-1.95	-0.73	0.03	498684.01	746577.06	N 32 22 8.12	W 103 40 6.86	
6026.00	0.09	262.98	6025.99	1.96	-1.95	-0.76	0.16	498684.01	746577.03	N 32 22 8.12	W 103 40 6.87	
6120.00	0.06	18.77	6119.99	1.93	-1.91	-0.81	0.14	498684.05	746576.98	N 32 22 8.12	W 103 40 6.87	
6215.00	0.06	140.51	6214.99	1.92	-1.90	-0.77	0.11	498684.06	746577.02	N 32 22 8.12	W 103 40 6.87	
6309.00	0.09	284.68	6308.99	1.94	-1.92	-0.81	0.15	498684.04	746576.98	N 32 22 8.12	W 103 40 6.87	
6374.00	0.09	121.30	6373.99	1.95	-1.94	-0.81	0.27	498684.02	746576.98	N 32 22 8.12	W 103 40 6.87	
6550.00	0.10	31.38	6549.99	1.89	-1.88	-0.81	0.08	498684.08	746577.18	N 32 22 8.12	W 103 40 6.86	
6593.00	0.10	150.19	6592.99	1.89	-1.88	-0.58	0.40	498684.08	746577.21	N 32 22 8.12	W 103 40 6.86	
6689.00	0.04	206.65	6688.99	1.99	-1.98	-0.55	0.09	498683.98	746577.24	N 32 22 8.12	W 103 40 6.86	
6782.00	0.16	148.57	6781.99	2.13	-2.12	-0.50	0.15	498683.84	746577.29	N 32 22 8.12	W 103 40 6.86	
6877.00	1.66	334.65	6876.97	1.01	-0.99	-1.02	1.91	498684.97	746576.77	N 32 22 8.13	W 103 40 6.87	
6971.00	3.31	324.86	6970.88	-2.40	2.46	-3.16	1.81	498688.42	746574.63	N 32 22 8.16	W 103 40 6.89	
7066.00	4.73	321.84	7065.65	-7.63	7.78	-7.16	1.51	498693.74	746570.63	N 32 22 8.22	W 103 40 6.94	
7161.00	6.23	320.51	7160.21	-14.57	14.84	-12.86	1.58	498700.80	748564.93	N 32 22 9.26	W 103 40 7.01	

Comments	MD (ft)	Incl (°)	Azimuth (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7255.00	7.76	321.28	7253.51	-23.31	23.73	-20.07	1.63	498709.68	746557.72	N 32 22 9.37 W 103 40	7.09
	7350.00	8.47	322.48	7347.55	-33.69	34.28	-28.35	0.77	498720.24	746549.45	N 32 22 9.48 W 103 40	7.18
	7444.00	8.78	322.33	7440.49	-44.68	45.45	-38.95	0.33	498731.41	746540.85	N 32 22 9.59 W 103 40	7.28
	7539.00	9.16	322.32	7534.33	-56.22	57.18	-48.00	0.40	498743.13	746531.79	N 32 22 9.71 W 103 40	7.39
	7634.00	9.42	323.63	7628.08	-68.27	69.42	-55.23	0.35	498755.38	746522.58	N 32 22 9.83 W 103 40	7.50
	7728.00	9.67	323.40	7720.78	-80.61	81.95	-64.50	0.27	498767.91	746513.29	N 32 22 9.95 W 103 40	7.60
	7823.00	10.21	323.61	7814.36	-93.59	95.14	-74.25	0.57	498781.09	746503.54	N 32 22 10.08 W 103 40	7.72
	7917.00	10.81	322.80	7906.78	-107.08	108.85	-84.55	0.87	498794.80	746493.24	N 32 22 10.22 W 103 40	7.83
	8012.00	11.02	320.49	8000.06	-120.93	122.93	-95.74	0.48	498808.88	746482.06	N 32 22 10.36 W 103 40	7.96
	8106.00	10.95	316.60	8092.34	-134.10	136.35	-107.59	0.79	498822.30	746470.21	N 32 22 10.49 W 103 40	8.10
	8201.00	10.96	313.80	8185.61	-146.62	149.13	-120.33	0.60	498835.08	746457.47	N 32 22 10.62 W 103 40	8.25
	8295.00	10.58	310.02	8277.95	-158.06	160.84	-133.41	0.82	498846.79	746444.39	N 32 22 10.74 W 103 40	8.40
	8390.00	10.66	304.17	8371.33	-168.31	171.39	-147.36	1.14	498857.34	746430.44	N 32 22 10.84 W 103 40	8.56
	8484.00	10.80	300.10	8463.69	-177.31	180.69	-162.17	0.82	498866.64	746415.83	N 32 22 10.94 W 103 40	8.73
	8578.00	10.38	296.04	8556.09	-185.13	188.82	-177.40	0.91	498874.77	746400.40	N 32 22 11.02 W 103 40	8.91
Bone Spring Intersection	8606.37	10.26	295.69	8584.00	-187.25	191.04	-181.97	0.47	498876.99	746395.83	N 32 22 11.04 W 103 40	8.96
	8673.00	9.99	294.82	8649.59	-192.03	196.04	-192.57	0.47	498881.99	746385.23	N 32 22 11.09 W 103 40	9.09
	8767.00	8.32	292.62	8742.39	-197.78	202.07	-206.24	1.81	498888.03	746371.55	N 32 22 11.15 W 103 40	9.25
	8862.00	6.41	287.63	8836.60	-201.80	206.32	-217.84	2.12	498892.28	746360.16	N 32 22 11.19 W 103 40	9.38
	8957.00	4.23	279.47	8931.19	-203.81	208.51	-226.15	2.42	498894.46	746351.65	N 32 22 11.22 W 103 40	9.48
	9051.00	3.17	265.60	9024.99	-204.05	208.88	-232.17	1.47	498894.83	746345.83	N 32 22 11.22 W 103 40	9.55
	9146.00	3.78	248.05	9119.82	-202.47	207.41	-237.65	1.39	498893.38	746340.15	N 32 22 11.21 W 103 40	9.61
	9240.00	3.89	233.42	9213.61	-189.20	204.25	-243.04	0.90	498890.20	746334.76	N 32 22 11.17 W 103 40	9.68
	9335.00	4.42	221.88	9308.36	-184.46	199.61	-248.08	1.03	498885.56	746328.73	N 32 22 11.13 W 103 40	9.73
	9429.00	4.89	213.86	9402.05	-186.34	193.59	-252.73	0.86	498879.54	746325.07	N 32 22 11.07 W 103 40	9.79
	9524.00	5.39	209.12	9496.67	-180.99	186.33	-257.16	0.68	498872.28	746320.64	N 32 22 11.00 W 103 40	9.84
	9613.00	5.65	209.71	9584.80	-164.97	170.49	-265.09	0.14	498856.44	746311.71	N 32 22 10.94 W 103 40	9.95
	9707.00	6.21	203.93	9678.29	-156.22	161.82	-270.44	0.87	498847.78	746307.38	N 32 22 10.76 W 103 40	10.00
100FNL Cross	9853.61	6.18	202.60	9824.63	-151.56	157.20	-272.43	0.31	498843.16	746305.37	N 32 22 10.71 W 103 40	10.02
	9902.00	6.16	201.20	9872.74	-146.69	152.38	-274.37	0.31	498838.33	746303.43	N 32 22 10.66 W 103 40	10.04
	9996.00	6.07	195.75	9966.21	-137.14	142.89	-277.54	0.62	498828.84	746300.26	N 32 22 10.57 W 103 40	10.08
	10091.00	5.54	193.73	10060.72	-127.81	133.60	-280.00	0.60	498819.56	746297.81	N 32 22 10.48 W 103 40	10.11
	10161.00	5.37	194.41	10130.40	-121.32	127.15	-281.61	0.26	498813.10	746296.19	N 32 22 10.41 W 103 40	10.13
KOP Actual	10221.00	6.29	197.12	10190.09	-115.43	121.29	-283.28	1.60	498807.24	746294.52	N 32 22 10.36 W 103 40	10.15
	10316.00	17.27	194.05	10282.95	-96.62	102.58	-288.25	11.57	498788.53	746289.55	N 32 22 10.17 W 103 40	10.21
	10410.00	23.56	191.59	10371.00	-64.51	70.60	-295.42	6.75	498756.56	746282.38	N 32 22 9.86 W 103 40	10.30
	10505.00	34.12	191.33	10454.10	-19.48	25.75	-304.49	11.12	498711.71	746273.31	N 32 22 9.41 W 103 40	10.40
	10599.00	45.04	187.29	10526.45	39.73	-33.27	-313.92	11.93	498652.69	746263.88	N 32 22 8.83 W 103 40	10.52
	10694.00	56.99	178.20	10586.19	113.29	-106.78	-318.95	14.59	498579.18	746260.85	N 32 22 8.10 W 103 40	10.56
	10788.00	70.08	174.96	10628.00	196.96	-180.58	-311.81	14.26	498495.39	746255.99	N 32 22 7.27 W 103 40	10.51
	10883.00	76.09	176.17	10655.62	287.37	-281.15	-304.80	6.44	498404.82	746273.00	N 32 22 6.38 W 103 40	10.43
	10977.00	82.64	177.63	10672.96	378.45	-373.35	-298.82	7.13	498312.62	746277.98	N 32 22 5.46 W 103 40	10.38
	11072.00	83.13	178.37	10684.73	473.46	-467.49	-294.88	1.41	498218.49	746282.92	N 32 22 4.53 W 103 40	10.33
	11166.00	87.75	176.85	10692.20	566.84	-561.00	-289.35	4.94	498124.98	746288.46	N 32 22 3.61 W 103 40	10.27
	11217.00	87.28	176.19	10694.41	617.62	-611.88	-286.25	1.59	498074.13	746291.55	N 32 22 3.10 W 103 40	10.24
	11253.00	86.38	175.70	10700.75	747.97	-742.41	-277.59	2.30	497943.58	746300.22	N 32 22 1.81 W 103 40	10.15
	11348.00	88.38	175.70	10700.75	935.61	-930.22	-271.65	2.69	497755.78	746306.15	N 32 21 59.95 W 103 40	10.09
	11434.00	89.38	181.30	10705.70	1030.61	-1025.20	-273.30	0.66	497660.81	746304.51	N 32 21 59.01 W 103 40	10.12
	11520.00	89.45	182.25	10706.67	1125.60	-1210.14	-276.24	1.00	497565.87	746301.56	N 32 21 58.07 W 103 40	10.16
	11610.00	89.41	182.13	10707.60	1219.58	-1214.07	-278.83	0.13	497471.94	746297.97	N 32 21 57.14 W 103 40	10.21
	11696.00	89.28	182.09	10708.69	1314.56	-1309.00	-283.33	0.14	497377.02	746294.48	N 32 21 56.20 W 103 40	10.25
	12005.00	89.35	181.93	10709.77	1404.54	-1388.94	-288.48	0.19	497287.08	746291.32	N 32 21 55.31 W 103 40	10.30
	12096.00	89.41	182.24	10710.75	1495.52	-1489.87	-289.79	0.35	497196.15	746288.01	N 32 21 54.41 W 103 40	10.34
	12282.00	89.66	179.94	10711.94	1681.51	-1675.82	-293.33	1.26	497101.21	746284.47	N 32 21 52.57 W 103 40	10.40
	12377.00	89.52	179.83	10712.45	1776.48	-1770.82	-293.14	0.38	496915.22	746284.66	N 32 21 51.63 W 103 40	10.40
	12471.00	89.48	179.07	10713.27	1870.43	-1864.81	-292.24	0.81	496821.23	746285.58	N 32 21 50.70 W 103 40	10.40
	12561.00	89.48	177.21	10714.99	2060.15	-2054.70	-288.07	0.98	496631.36	746291.73	N 32 21 48.83 W 103 40	10.34
	12755.00	89.48	177.08	10715.85	2153.91	-2148.58	-281.39	0.14	496537.48	746296.41	N 32 21 47.90 W 103 40	10.29
	12844.00	90.03	175.44	10716.68	2342.21	-2337.16	-269.06	0.92	496348.90	746308.74	N 32 21 46.03 W 103 40	10.16
	13039.00	89.17	175.51	10717.32	2436.74	-2431.88	-261.57	0.91	496254.20	746316.23	N 32 21 45.09 W 103 40	10.08
	13145.00	89.38	177.41	10718.66	2542.36	-2537.65	-255.02	1.80	496148.42	746322.78	N 32 21 44.04 W 103 40	10.01
	13233.00	88.79	182.09	10721.50	2720.23	-2715.57	-254.25	2.85	495970.51	746323.55	N 32 21 42.28 W 103 40	10.02
	13417.00	89.48	184.29	10722.92	2814.16	-2809.41	-259.48	2.45	495876.67	746318.32	N 32 21 41.36 W 103 40	10.08
	13606.00	89.79	184.88	10724.13	3002.82	-2997.80	-274.55	0.34	495688.29	746303.25	N 32 21 39.49 W 103 40	10.27
	13796.00	89.83	183.54	10724.76	3192.55	-3187.29	-288.47	0.70	495498.81	746289.34	N 32 21 37.62 W 103 40	10.45
	13985.00	89.07	183.09	10726.57	3381.41	-3375.96	-299.40	0.47	495310.15	746278.41	N 32 21 35.75 W 103 40	10.59
	14174.00	89.14	180.96	10729.52	3570.36	-3564.81	-306.07	1.13	495121.31	746271.73	N 32 21 33.88 W 103 40	10.68
	14269.00	89.48	179.33	10730.67	3665.33	-3659.80	-306.31	1.75	495026.32	746271.49	N 32 21 32.94 W 103 40	10.69
	14364.00	89.62	176.71	10731.42	3760.18	-3754.73	-303.03	2.76	494931.40	746274.77	N 32 21 32.01 W 103 40	10.68
	14553.00	89.21	175.53	10733.34	3948.43	-3943.29	-290.24	0.68	494742.85	746287.56	N 32 21 30.14 W 103 40	10.53
	14647.00	89.24	175.24	10734.62	4041.94	-4038.97	-282.68	0.31	494649.17	746295.12	N 32 21 29.21 W 103 40	10.44
	14742.00	89.38	173.05	10735.79	4136.21	-4131.48	-272.99	2.31	494554.68	746304.81	N 32 21 28.28 W 103 40	10.34
	14837.00	89.38	173.64	10736.79	4230.32	-4225.62	-261.98	0.62	494460.33	746315.82	N 32 21 27.34 W 103 40	10.22
	14932.00	89.45	174.33	10737.76	4324.56	-4320.29	-252.03	0.73	494365.98	746326.77	N 32 21 26.41 W 103 40	10.11
	15026.00	89.16	175.82	10739.70	4418.01	-4413.92	-243.96	2.08	494272.24	746333.84	N 32 21 25.48 W 103 40	10.02
	15120.00	90.24	176.89	10741.00	4511.66	-4507.72	-238.07	2.52	494178.44	746339.73	N 32 21 24.55 W 103 40	9.96
	15215.00	89.55	177.88	10741.17	46							

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 ° ' ")
	18678.00	88.44	178.21	10807.10	8062.45	-8059.56	-223.12	0.54	490826.76	746354.68	N 32 20 49.41	W 103 40 10.04
	18875.00	88.65	180.52	10812.11	8259.27	-8256.47	-220.94	1.18	490429.88	746356.86	N 32 20 47.46	W 103 40 10.03
	18962.00	88.72	180.02	10814.10	8346.24	-8343.45	-221.35	0.58	490342.88	746356.45	N 32 20 46.80	W 103 40 10.04
	19056.00	88.58	180.34	10816.32	8440.20	-8437.42	-221.84	0.37	490248.92	746356.16	N 32 20 45.87	W 103 40 10.05
	19151.00	88.61	180.06	10818.65	8535.15	-8532.39	-221.98	0.30	490153.95	746355.82	N 32 20 44.73	W 103 40 10.06
	19245.00	88.37	180.42	10821.12	8629.11	-8626.36	-222.37	0.46	490059.99	746355.43	N 32 20 43.80	W 103 40 10.07
	19340.00	89.20	180.90	10823.14	8724.08	-8721.33	-223.48	1.01	489965.02	746354.34	N 32 20 42.88	W 103 40 10.09
	19434.00	88.58	180.18	10824.96	8818.06	-8815.31	-224.35	1.01	489871.05	746353.45	N 32 20 41.93	W 103 40 10.11
	19623.00	88.78	179.72	10829.31	9006.96	-9004.26	-224.18	0.27	489882.11	746353.62	N 32 20 40.06	W 103 40 10.12
	19812.00	88.58	179.51	10833.87	9195.84	-9193.20	-222.91	0.15	489493.17	746354.89	N 32 20 38.19	W 103 40 10.12
	19907.00	88.65	179.59	10835.96	9290.78	-9288.17	-222.25	0.20	489398.20	746355.55	N 32 20 37.25	W 103 40 10.12
	20001.00	88.48	179.57	10838.32	9384.71	-9382.14	-221.84	0.22	489304.24	746356.16	N 32 20 36.32	W 103 40 10.12
	20191.00	89.06	180.50	10842.40	9574.83	-9572.09	-221.76	0.58	489114.29	746356.04	N 32 20 34.44	W 103 40 10.13
	20285.00	89.23	180.36	10843.80	9668.81	-9666.08	-222.47	0.23	489020.31	746355.33	N 32 20 33.51	W 103 40 10.15
	20379.00	88.99	179.72	10845.26	9762.58	-9760.07	-222.53	0.73	488926.33	746355.27	N 32 20 32.58	W 103 40 10.16
	20569.00	89.82	178.55	10847.23	9952.44	-9950.03	-219.86	0.75	488736.37	746356.14	N 32 20 30.70	W 103 40 10.14
	20758.00	89.58	178.28	10848.22	10141.22	-10138.96	-214.40	0.20	488547.48	746363.40	N 32 20 28.83	W 103 40 10.09
100'FSL Cross	20826.00	89.49	178.39	10848.77	10206.13	-10206.92	-212.41	0.23	488479.49	746365.39	N 32 20 28.16	W 103 40 10.07
Final Survey	20884.00	89.44	178.46	10849.13	10247.09	-10244.91	-211.37	0.23	488441.51	746366.43	N 32 20 27.78	W 103 40 10.06
Proj to Bit	20904.00	89.44	178.46	10849.52	10287.04	-10284.89	-210.29	0.00	488401.53	746367.50	N 32 20 27.39	W 103 40 10.05

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

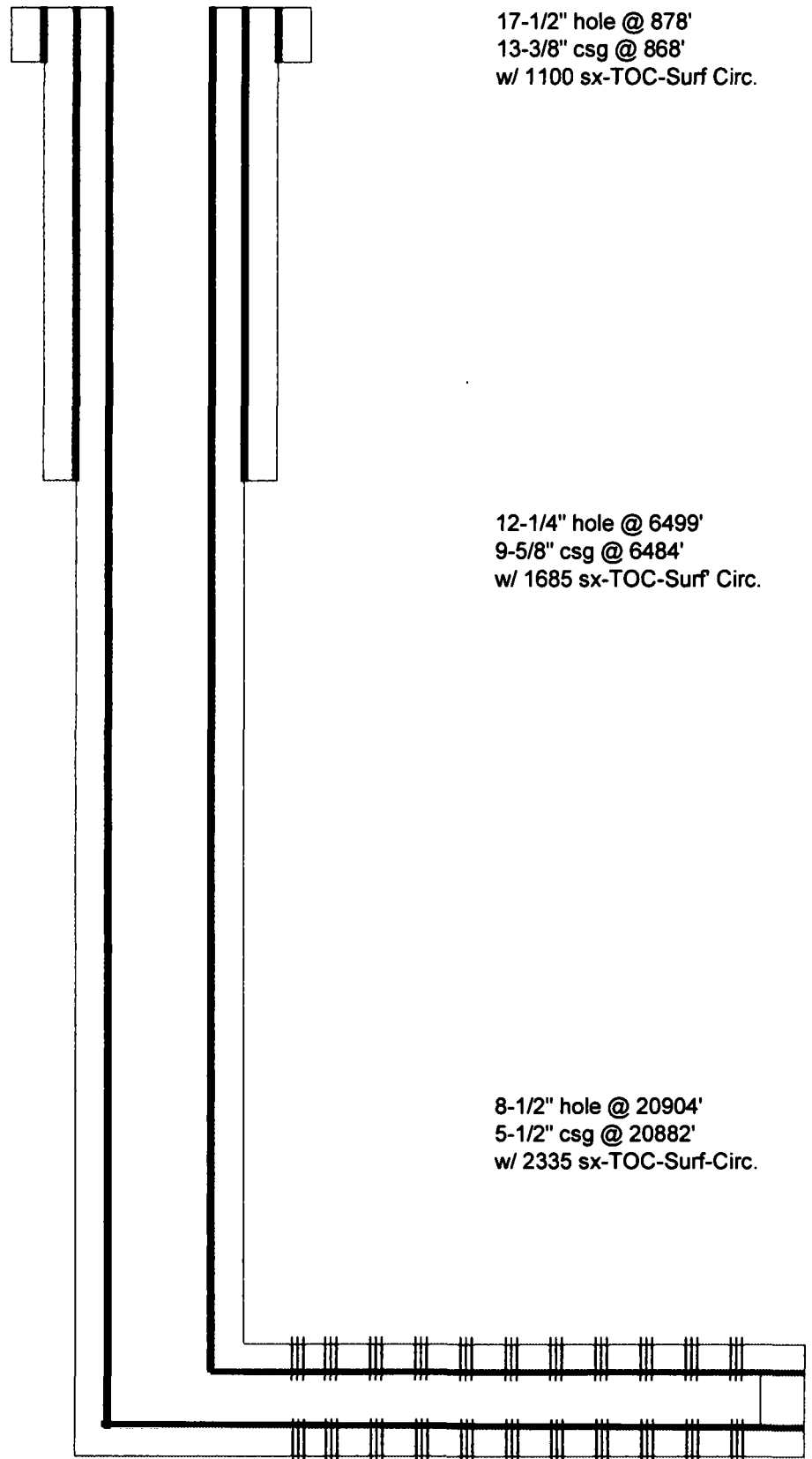
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20904' MD
	1	26.500	26.500	Act Strs	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20904' MD
	1	26.500	776.630	Act Strs	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Taco Cat 27-34 Federal Com 21H Gyro +
	1	776.630	20904.000	Act Strs	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Taco Cat 27-34 Federal Com 21H Gyro +

...Original Borehole/Oxy Taco Cat 27-34 Federal Com 21H Gyro + MWD IFR 0-20904' MD

OXY USA INC

Taco Cat 27-34 Federal Com 21H

API No. 30-025-44934



Perfs @ 10699'-20791'

TD- 20904' M 10849' \