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

January 17, 2019

OXY USA INC.

34, 23S, 31E, Eddy NM
32.26709 103.76582

Re:

CLIENT: OXY USA INC.
WELL: Platinum MDP1 34-3 Federal Com 3H
FIELD: Ingle Wells Bone Spring

RIG: HP 556
COUNTY: EDDY
API NO: 30-015-45228
JOB NO: 18MLD4275

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.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
Mahmood Al Sabti FE	Platinum MDP1 34-3 Federal Com 3H Original Hole	741.00 Ft 20160.00 Ft	to	December 2, 2018 January 11, 2019	to	TelePacer/SlimPulse Third Party Corrections

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

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)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
34, 23S, 31E, Eddy NM
32.26709 103.76582

I, Mahmood Al Sabti certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of December 02, 2018 through January 11, 2019, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 741.00 feet to a depth of 20160.00 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 Platinum MDP1 34-3 Federal Com 3H Well (Original Hole) API No. 30-015-45228 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.

M.S

By
Mahmood Al Sabti
FE

Subscribed and Sworn to before me this 17th day of January (month) 2019 (yr)

My Commission expires:

2-16-2022

D. Adams (signature)

Notary Public

Adams County Colorado

(County State)

DONNA ADAMS
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184007893
MY COMMISSION EXPIRES FEBRUARY 16, 2022

Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Platinum MDP1 34-3 Federal Com 3H	NM Eddy County (NAD 83)	Oxy Platinum MDP1 34-3 Federal Com 3H

Gravity & Magnetic Parameters

Model: IFR1 Dip: 59.993° Date: 26-Dec-2018
MagDec: 6.831° FS: 48020.3nT Gravity FS: 998.447mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

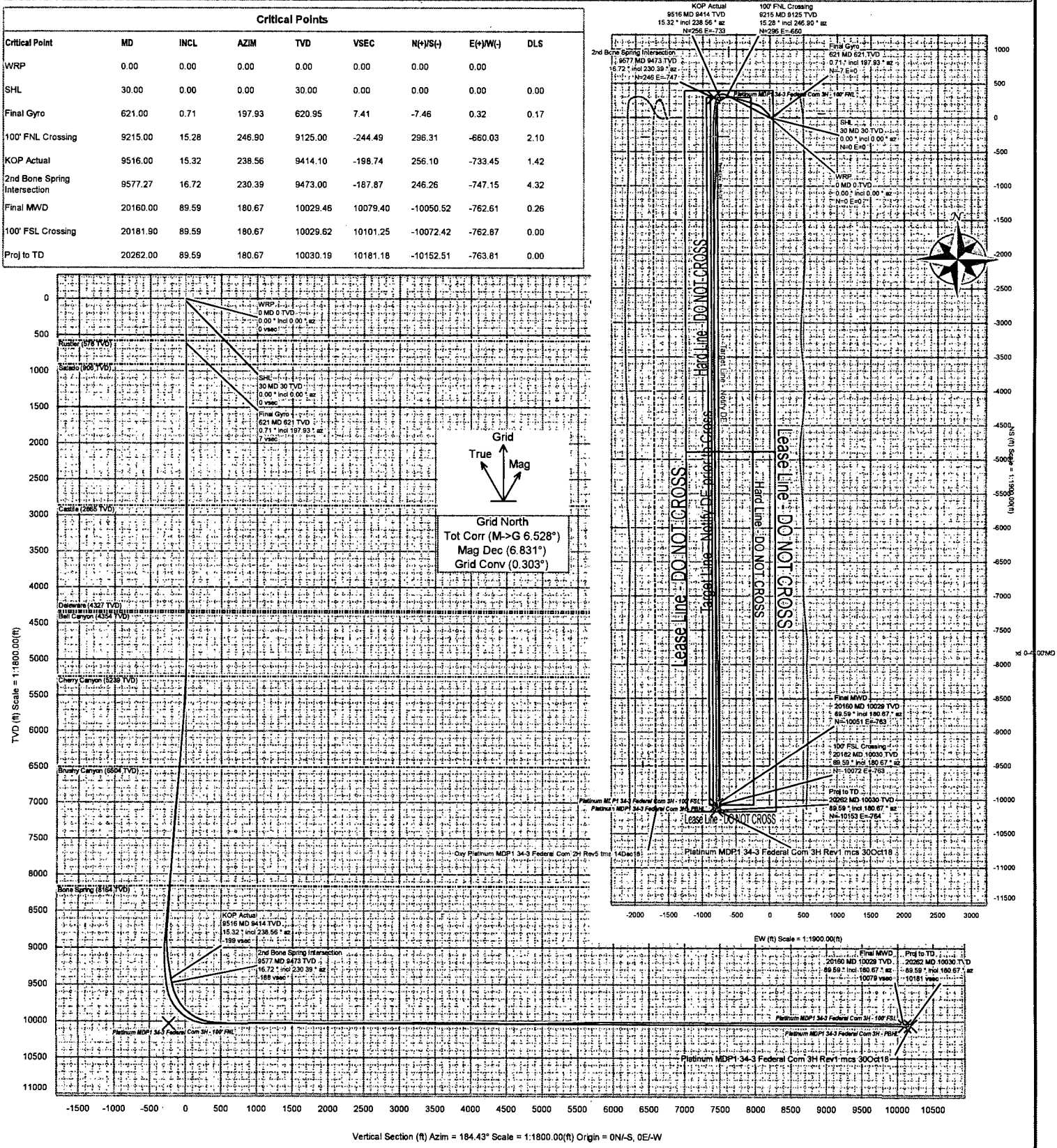
Lat: N 32 16 1.51 Northing: 461362.89ftUS Grid Conv: 0.303°
Lon: W 103 45 56.96 Easting: 716748.92ftUS Scale Fact: 0.99994433

Miscellaneous

Slot: Oxy Platinum MDP1 34-3 Federal Com 3H TVD Ref: RKB - 30'(3457.6ft above MSL)
Plan: Oxy Platinum MDP1 34-3 Federal Com 3H Gyro+MWD 0 to 20262ft MD

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00
Final Gyro	621.00	0.71	197.93	620.95	7.41	-7.46	0.32	0.17
100' FNL Crossing	9215.00	15.28	246.90	9125.00	-244.49	296.31	-660.03	2.10
KOP Actual	9516.00	15.32	238.56	9414.10	-198.74	256.10	-733.45	1.42
2nd Bone Spring Intersection	9577.27	16.72	230.39	9473.00	-187.87	246.26	-747.15	4.32
Final MWD	20160.00	89.59	180.67	10029.46	10079.40	-10050.52	-762.61	0.26
100' FSL Crossing	20181.90	89.59	180.67	10029.62	10101.25	-10072.42	-762.87	0.00
Proj to TD	20262.00	89.59	180.67	10030.19	10181.18	-10152.51	-763.81	0.00



Vertical Section (ft) Azim = 184.43° Scale = 1:1800.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Oxy Platinum MDP1 34-3 Federal Com 3H Gyro+MWD 0 to 20262ft MD
Survey Geodetic Report
(Def Survey)

Report Date:	January 11, 2019 - 10:32 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	184.426 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Platinum MDP1 34-3 Federal Com 3H / Oxy Platinum MDP1 34-3 Federal Com 3H	**TVD Reference Datum:**	RKB - 30'
Well:	Oxy Platinum MDP1 34-3 Federal Com 3H	**TVD Reference Elevation:**	3457.600 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3427.600 ft above MSL
UWI / API#:	H&P 556 / 30-015-45228	**Magnetic Declination:**	6.831 °
Survey Name:	Oxy Platinum MDP1 34-3 Federal Com 3H Gyro+MWD 0 to 20262ft MD	**Total Gravity Field Strength:**	998.4470mgn (9.80665 Based)
Survey Date:	October 25, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	226.177 ° / 11310.640 ft / 6.713 / 1.127	**Total Magnetic Field Strength:**	48020.300 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.993 °
Location Lat / Long:	N 32° 16' 1.51117", W 103° 45' 56.95560"	**Declination Date:**	December 26, 2018
Location Grid N/E Y/X:	N 461362.890 ftUS, E 716748.920 ftUS	**Magnetic Declination Model:**	IFR1
CRS Grid Convergence Angle:	0.3030 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99994433	**Grid Convergence Used:**	0.3030 °
Version / Patch:	2.10.753.0	**Total Corr Mag North->Grid North:**	6.5280 °
		Local Coord Referenced To:	Well Head

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 ° ' ")
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461362.89	716748.92	N 32 16 1.51	W 103 45 56.96
SHL	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	461362.89	716748.92	N 32 16 1.51	W 103 45 56.96
	103.00	0.54	170.10	103.00	0.33	-0.34	0.06	0.74	461362.55	716748.98	N 32 16 1.51	W 103 45 56.95
	160.00	0.72	172.75	160.00	0.94	-0.96	0.15	0.32	461361.93	716749.07	N 32 16 1.50	W 103 45 56.95
	248.00	0.95	164.57	247.99	2.17	-2.21	0.41	0.29	461360.68	716749.33	N 32 16 1.49	W 103 45 56.95
	339.00	0.79	173.54	338.98	3.50	-3.56	0.69	0.23	461359.33	716749.61	N 32 16 1.48	W 103 45 56.95
	433.00	0.82	179.39	432.97	4.80	-4.88	0.77	0.09	461358.01	716749.69	N 32 16 1.46	W 103 45 56.95
	528.00	0.84	191.44	527.96	6.17	-6.24	0.63	0.18	461356.65	716749.55	N 32 16 1.45	W 103 45 56.95
Final Gyro	621.00	0.71	197.93	620.95	7.41	-7.46	0.32	0.17	461355.43	716749.24	N 32 16 1.44	W 103 45 56.95
	741.00	0.16	184.66	740.94	8.30	-8.33	0.08	0.46	461354.56	716749.00	N 32 16 1.43	W 103 45 56.96
	832.00	0.08	358.90	831.94	8.36	-8.39	0.07	0.26	461354.50	716748.99	N 32 16 1.43	W 103 45 56.96
	1102.00	0.11	109.01	1101.94	8.24	-8.29	0.31	0.06	461354.60	716749.23	N 32 16 1.43	W 103 45 56.95
	1194.00	0.14	177.87	1193.94	8.37	-8.43	0.40	0.16	461354.46	716749.32	N 32 16 1.43	W 103 45 56.95
	1285.00	0.08	66.51	1284.94	8.46	-8.52	0.46	0.20	461354.37	716749.38	N 32 16 1.43	W 103 45 56.95
	1377.00	0.11	60.94	1376.94	8.38	-8.45	0.60	0.03	461354.44	716749.52	N 32 16 1.43	W 103 45 56.95
	1471.00	0.11	16.10	1470.94	8.24	-8.32	0.70	0.09	461354.57	716749.62	N 32 16 1.43	W 103 45 56.95
	1660.00	0.08	35.55	1659.94	7.95	-8.04	0.83	0.02	461354.85	716749.75	N 32 16 1.43	W 103 45 56.95
	1754.00	0.14	153.52	1753.94	7.99	-8.09	0.92	0.20	461354.81	716749.84	N 32 16 1.43	W 103 45 56.95
	1942.00	0.19	93.23	1941.94	8.18	-8.31	1.33	0.09	461354.58	716750.25	N 32 16 1.43	W 103 45 56.94
	2131.00	0.08	122.89	2130.94	8.24	-8.40	1.75	0.07	461354.49	716750.67	N 32 16 1.43	W 103 45 56.94
	2320.00	0.03	285.71	2319.94	8.29	-8.46	1.82	0.06	461354.43	716750.74	N 32 16 1.43	W 103 45 56.93
	2508.00	0.16	41.69	2507.94	8.07	-8.25	1.94	0.09	461354.64	716750.86	N 32 16 1.43	W 103 45 56.93
	2698.00	0.26	52.74	2697.94	7.57	-7.79	2.46	0.06	461355.10	716751.38	N 32 16 1.43	W 103 45 56.93
	2887.00	0.19	225.80	2886.94	7.52	-7.75	2.58	0.24	461355.14	716751.50	N 32 16 1.43	W 103 45 56.93
	3077.00	0.11	104.03	3076.94	7.79	-8.01	2.53	0.14	461354.88	716751.45	N 32 16 1.43	W 103 45 56.93
	3171.00	0.14	216.75	3170.94	7.90	-8.12	2.55	0.22	461354.77	716751.47	N 32 16 1.43	W 103 45 56.93
	3361.00	0.11	122.31	3360.94	8.18	-8.41	2.57	0.10	461354.48	716751.49	N 32 16 1.43	W 103 45 56.93
	3550.00	0.15	164.73	3549.94	8.50	-8.74	2.78	0.05	461354.15	716751.70	N 32 16 1.42	W 103 45 56.92
	3740.00	0.11	53.64	3739.94	8.62	-8.87	3.00	0.11	461354.02	716751.92	N 32 16 1.42	W 103 45 56.92
	3834.00	0.17	193.49	3833.94	8.70	-8.96	3.04	0.28	461353.93	716751.96	N 32 16 1.42	W 103 45 56.92
	3928.00	0.26	144.73	3927.94	9.00	-9.27	3.13	0.21	461353.62	716752.05	N 32 16 1.42	W 103 45 56.92
	4118.00	0.14	175.13	4117.94	9.56	-9.85	3.40	0.08	461353.04	716752.32	N 32 16 1.41	W 103 45 56.92
	4307.00	0.11	138.57	4306.94	9.91	-10.22	3.54	0.04	461352.67	716752.45	N 32 16 1.41	W 103 45 56.92
	4360.00	0.09	332.06	4359.94	9.91	-10.22	3.55	0.37	461352.67	716752.47	N 32 16 1.41	W 103 45 56.91
	4517.00	0.58	78.44	4516.93	9.59	-9.95	4.27	0.39	461352.94	716753.19	N 32 16 1.41	W 103 45 56.91
	4706.00	0.76	41.02	4705.92	8.32	-8.81	6.03	0.24	461354.08	716754.95	N 32 16 1.42	W 103 45 56.89
	4894.00	1.30	1.69	4893.89	5.19	-5.74	6.91	0.46	461357.15	716755.83	N 32 16 1.45	W 103 45 56.88
	5083.00	1.91	347.12	5082.82	0.04	-0.53	6.27	0.39	461362.36	716755.19	N 32 16 1.51	W 103 45 56.88
	5272.00	2.70	335.76	5271.66	-6.87	6.60	3.74	0.48	461369.49	716752.66	N 32 16 1.58	W 103 45 56.91
	5461.00	3.49	332.50	5460.39	-15.66	15.77	-0.74	0.43	461378.65	716748.18	N 32 16 1.67	W 103 45 56.96
	5650.00	4.04	331.53	5648.98	-26.13	26.72	-6.57	0.29	461389.61	716742.35	N 32 16 1.78	W 103 45 57.03
	5745.00	4.61	328.79	5743.71	-32.05	32.93	-10.15	0.64	461395.82	716738.78	N 32 16 1.84	W 103 45 57.07
	5935.00	5.42	324.73	5932.98	-45.16	46.78	-19.28	0.47	461409.67	716729.64	N 32 16 1.98	W 103 45 57.18
	6029.00	5.88	321.93	6026.52	-52.12	54.20	-24.82	0.57	461417.09	716724.11	N 32 16 2.05	W 103 45 57.24
	6124.00	6.15	319.69	6121.00	-59.33	61.91	-31.11	0.38	461424.80	716717.81	N 32 16 2.13	W 103 45 57.31
	6218.00	6.72	319.51	6214.41	-66.80	69.93	-37.94	0.61	461432.82	716710.99	N 32 16 2.21	W 103 45 57.39
	6312.00	7.05	318.31	6307.73	-74.69	78.42	-45.34	0.38	461441.31	716703.58	N 32 16 2.29	W 103 45 57.48
	6498.00	7.60	315.64	6492.21	-90.71	95.74	-61.54	0.35	461458.63	716687.39	N 32 16 2.46	W 103 45 57.67
	6593.00	8.00	313.59	6586.33	-99.02	104.79	-70.72	0.51	461467.68	716678.21	N 32 16 2.55	W 103 45 57.77
	6687.00	8.08	313.55	6679.41	-107.32	113.85	-80.24	0.09	461476.74	716668.68	N 32 16 2.64	W 103 45 57.88
	6781.00	8.24	312.56	6772.46	-115.65	122.96	-89.99	0.23	461485.84	716658.93	N 32 16 2.73	W 103 45 58.00
	6829.00	8.30	311.71	6819.96	-119.87	127.59	-95.11	0.28	461490.48	716653.81	N 32 16 2.78	W 103 45 58.06
	6878.00	8.41	310.69	6868.44	-124.13	132.28	-100.47	0.38	461495.16	716648.46	N 32 16 2.83	W 103 45 58.12
	6972.00	8.65	311.25	6961.40	-132.44	141.42	-111.00	0.27	461504.31	716637.93	N 32 16 2.92	W 103 45 58.24
	7066.00	8.63	309.79	7054.33	-140.76	150.60	-121.73	0.23	461513.48	716627.20	N 32 16 3.01	W 103 45 58.36
	7175.00	8.86	308.49	7162.06	-150.19	161.06	-134.58	0.28	461523.94	716614.34	N 32 16 3.11	W 103 45 58.51
	7269.00	12.01	297.92	7254.51	-158.15	170.14	-148.90	3.91	461533.02	716600.03	N 32 16 3.20	W 103 45 58.68
	7458.00	16.17	287.98	7437.81	-172.16	187.49	-191.33	2.54	461550.36	716557.60	N 32 16 3.38	W 103 45 59.17
	7553.00	15.90	288.36	7529.11	-178.39	195.67	-216.26	0.30	461558.55	716532.67	N 32 16 3.46	W 103 45 59.46
	7741.00	15.97	287.80	7709.89	-190.58	211.69	-265.33	0.09	461574.56	716483.61	N 32 16 3.62	W 103 46 0.03
	7836.00	15.53	288.53	7801.32	-196.70	219.72	-289.83	0.51	461582.60	716459.11	N 32 16 3.70	W 103 46 0.32
	8024.00	17.60	284.88	7981.51	-207.99	235.02	-341.17	1.23	461597.90	716407.77	N 32 16 3.85	W 103 46 0.91
	8118.00	15.79	285.18	8071.55	-212.96	242.02	-367.25	1.93	461604.90	716381.69	N 32 16 3.93	W 103 46 1.22
	8212.00	14.79	286.28	8162.22	-217.81	248.73	-391.11	1.11	461611.61	716357.83	N 32 16 3.99	W 103 46 1.50
	8306.00	14.08	285.97	8253.25	-222.56	255.24	-413.62	0.76	461618.12	716335.33	N 32 16 4.06	W 103 46 1.76
	8400.00	15.45	285.07	8344.14	-227.16	261.64	-436.70	1.48	461624.52	716312.24	N 32 16 4.12	W 103 46 2.03
	8494.00	16.36	284.95	8434.54	-231.89	268.31	-461.58	0.97	461631.19	716287.36	N 32 16 4.19	W 103 46 2.31
	8588.00	18.73	286.68	8524.17	-237.52	276.06	-488.84	2.58	461638.94	716260.11	N 32 16 4.27	W 103 46 2.63
	8682.00	19.42	289.15	8613.00	-244.69	285.52	-518.06	1.13	461648.39	716230.89	N 32 16 4.36	W 103 46 2.97
	8776.00	18.99	288.08	8701.77	-252.27	295.39	-547.36	0.59	461658.27	716201.59	N 32 16 4.46	W 103 46 3.31
	8870.00	16.31	285.41	8791.34	-258.40	303.65	-574.63	2.98	461666.52	716174.33	N 32 16 4.55	W 103 46 3.63
	8964.00	14.50	274.75	8881.98	-260.98	308.13	-599.08	3.57	461671.00	716149.87	N 32 16 4.59	W 103 46 3.91
	9058.00	14.27	262.13	8973.05	-258.58	307.52	-622.29	3.34	461670.39	716126.66	N 32 16 4.59	W 103 46 4.18
	9152.00	14.52	251.12	9064.12	-251.45	302.12	-644.92	2.92	461664.99	716104.03	N 32 16 4.53	W 103 46 4.45
100' FNL Crossing	*9215.00*	*15.28*	*246.90*	*9125.00*	*-244.49*	*296.31*	*-660.03*	*2.10*	*461659.18*	*716088.93*	*N 32 16 4.48*	*W 103 46 4.62*
	9247.00	15.69	244.91	9155.84	-240.41	292.82	-667.83	2.10	461655.69	716081.13	N 32 16 4.44	W 103 46 4.72

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 ° ' ")
	9341.00	16.72	241.30	9246.11	-226.76	280.93	-691.20	1.53	461643.81	716057.76	N 32 16 4.33	W 103 46 4.99
	9436.00	16.45	239.02	9337.16	-211.49	267.45	-714.72	0.74	461630.32	716034.24	N 32 16 4.19	W 103 46 5.26
KOP Actual	9516.00	15.32	238.56	9414.10	-198.74	256.10	-733.45	1.42	461618.98	716015.51	N 32 16 4.08	W 103 46 5.48
2nd Bone Spring Intersection	*9577.27*	*16.72*	*230.39*	*9473.00*	*-187.87*	*246.26*	*-747.15*	*4.32*	*461609.14*	*716001.82*	*N 32 16 3.99*	*W 103 46 5.64*
	9664.00	19.14	221.06	9555.53	-167.78	227.58	-766.10	4.32	461590.46	715982.86	N 32 16 3.80	W 103 46 5.86
	9758.00	26.35	198.26	9642.33	-135.05	196.05	-782.81	11.99	461558.93	715966.15	N 32 16 3.49	W 103 46 6.06
	9852.00	30.96	188.59	9724.84	-90.64	152.28	-792.97	6.94	461515.17	715955.99	N 32 16 3.06	W 103 46 6.18
	9946.00	39.80	185.46	9801.41	-36.33	98.32	-799.46	9.60	461461.20	715949.51	N 32 16 2.53	W 103 46 6.26
	10041.00	51.08	181.86	9867.97	31.22	30.88	-803.57	12.17	461393.77	715945.40	N 32 16 1.86	W 103 46 6.31
	10135.00	57.66	182.36	9922.70	107.52	-45.42	-806.39	7.01	461317.47	715942.58	N 32 16 1.10	W 103 46 6.35
	10229.00	69.10	180.37	9964.75	191.29	-129.29	-808.32	12.32	461233.61	715940.65	N 32 16 0.27	W 103 46 6.38
	10324.00	75.39	180.24	9993.71	281.48	-219.72	-808.80	6.62	461143.18	715940.17	N 32 15 59.38	W 103 46 6.39
	10418.00	82.82	179.15	10011.46	373.41	-311.96	-808.29	7.99	461050.95	715940.67	N 32 15 58.47	W 103 46 6.39
	10513.00	87.66	177.98	10019.34	467.55	-406.57	-805.92	5.24	460956.34	715943.05	N 32 15 57.53	W 103 46 6.37
	10557.00	87.53	178.00	10021.19	511.24	-450.51	-804.38	0.30	460912.41	715944.59	N 32 15 57.10	W 103 46 6.35
	10744.00	89.62	179.84	10025.84	697.30	-637.40	-800.86	1.49	460725.53	715948.11	N 32 15 55.25	W 103 46 6.32
	10931.00	89.66	183.82	10027.01	884.07	-824.26	-806.83	2.13	460538.68	715942.14	N 32 15 53.40	W 103 46 6.40
	11024.00	89.62	183.76	10027.60	977.06	-917.05	-812.97	0.08	460445.89	715935.99	N 32 15 52.48	W 103 46 6.48
	11213.00	90.35	182.61	10027.65	1166.01	-1105.76	-823.48	0.72	460257.20	715925.49	N 32 15 50.61	W 103 46 6.61
	11402.00	89.31	179.89	10028.21	1354.70	-1294.69	-827.60	1.54	460068.27	715921.37	N 32 15 48.74	W 103 46 6.67
	11497.00	90.04	179.99	10028.75	1449.40	-1389.69	-827.50	0.78	459973.28	715921.47	N 32 15 47.80	W 103 46 6.68
	11591.00	88.63	179.33	10029.84	1543.07	-1483.68	-826.94	1.66	459879.30	715922.03	N 32 15 46.87	W 103 46 6.68
	11686.00	88.69	178.38	10032.06	1637.59	-1578.63	-825.04	1.00	459784.35	715923.92	N 32 15 45.93	W 103 46 6.66
	11875.00	89.86	181.29	10034.45	1825.95	-1767.59	-824.50	1.66	459595.40	715924.47	N 32 15 44.06	W 103 46 6.67
	11969.00	89.83	179.94	10034.71	1919.74	-1861.59	-825.51	1.44	459501.41	715923.46	N 32 15 43.13	W 103 46 6.68
	12069.00	89.97	181.15	10034.88	2019.51	-1961.58	-826.46	1.22	459401.42	715922.51	N 32 15 42.14	W 103 46 6.70
	12159.00	90.31	180.08	10034.66	2109.31	-2051.57	-827.43	1.25	459311.44	715921.54	N 32 15 41.25	W 103 46 6.72
	12253.00	93.51	181.19	10031.53	2203.04	-2145.50	-828.47	3.60	459217.51	715920.50	N 32 15 40.32	W 103 46 6.74
	12348.00	90.65	180.97	10028.08	2297.80	-2240.41	-830.25	3.02	459122.61	715918.71	N 32 15 39.39	W 103 46 6.76
	12443.00	90.35	179.83	10027.25	2392.56	-2335.40	-830.92	1.24	459027.62	715918.05	N 32 15 38.45	W 103 46 6.78
	12537.00	90.04	180.42	10026.93	2486.30	-2429.40	-831.12	0.71	458933.63	715917.85	N 32 15 37.52	W 103 46 6.78
	12632.00	90.14	179.66	10026.78	2581.02	-2524.40	-831.19	0.81	458838.63	715917.78	N 32 15 36.58	W 103 46 6.79
	12727.00	90.11	180.63	10026.58	2675.75	-2619.40	-831.43	1.02	458743.64	715917.54	N 32 15 35.64	W 103 46 6.80
	12821.00	90.45	180.94	10026.12	2769.56	-2713.39	-832.72	0.49	458649.66	715916.25	N 32 15 34.71	W 103 46 6.82
	12915.00	90.72	180.10	10025.16	2863.34	-2807.38	-833.57	0.94	458555.67	715915.40	N 32 15 33.78	W 103 46 6.84
	13105.00	89.62	181.25	10024.59	3052.92	-2997.36	-835.81	0.84	458365.70	715913.16	N 32 15 31.90	W 103 46 6.87
	13200.00	90.52	180.00	10024.48	3147.71	-3092.35	-836.84	1.62	458270.72	715912.12	N 32 15 30.96	W 103 46 6.89
	13294.00	90.41	179.64	10023.71	3241.40	-3186.35	-836.55	0.40	458176.73	715912.42	N 32 15 30.03	W 103 46 6.89
	13484.00	90.35	181.47	10022.45	3430.96	-3376.33	-838.39	0.96	457986.76	715910.58	N 32 15 28.15	W 103 46 6.93
	13578.00	90.48	182.87	10021.77	3524.88	-3470.25	-841.95	1.50	457892.84	715907.02	N 32 15 27.22	W 103 46 6.97
	13767.00	89.21	178.81	10022.28	3713.47	-3659.19	-844.72	2.25	457703.91	715904.25	N 32 15 25.35	W 103 46 7.02
	13861.00	89.49	178.30	10023.35	3806.97	-3753.15	-842.35	0.62	457609.95	715906.62	N 32 15 24.42	W 103 46 7.00
	13956.00	89.42	177.77	10024.25	3901.37	-3848.09	-839.09	0.56	457515.02	715909.88	N 32 15 23.48	W 103 46 6.96
	14144.00	88.32	179.06	10027.96	4088.29	-4035.98	-833.89	0.90	457327.15	715915.08	N 32 15 21.62	W 103 46 6.91
	14239.00	89.42	179.26	10029.84	4182.87	-4130.95	-832.50	1.18	457232.18	715916.47	N 32 15 20.68	W 103 46 6.90
	14428.00	88.59	178.18	10033.12	4370.90	-4319.87	-828.28	0.72	457043.27	715920.69	N 32 15 18.81	W 103 46 6.87
	14617.00	89.66	178.97	10036.00	4558.89	-4508.78	-823.58	0.70	456854.37	715925.39	N 32 15 16.94	W 103 46 6.82
	14711.00	89.97	179.57	10036.31	4652.51	-4602.77	-822.38	0.72	456760.38	715926.59	N 32 15 16.01	W 103 46 6.82
	14901.00	90.83	177.91	10034.98	4841.56	-4792.71	-818.20	0.98	456570.45	715930.76	N 32 15 14.13	W 103 46 6.78
	15090.00	91.21	179.59	10031.62	5029.60	-4981.63	-814.08	0.91	456381.55	715934.88	N 32 15 12.26	W 103 46 6.74
	15184.00	91.31	180.00	10029.55	5123.27	-5075.61	-813.75	0.45	456287.57	715935.22	N 32 15 11.33	W 103 46 6.74
	15279.00	91.14	180.37	10027.52	5217.99	-5170.59	-814.05	0.43	456192.60	715934.91	N 32 15 10.39	W 103 46 6.75
	15373.00	90.86	180.24	10025.88	5311.73	-5264.57	-814.55	0.33	456098.62	715934.41	N 32 15 9.46	W 103 46 6.76
	15467.00	90.90	180.11	10024.43	5405.46	-5358.56	-814.84	0.14	456004.64	715934.13	N 32 15 8.53	W 103 46 6.77
	15562.00	91.14	179.90	10022.74	5500.16	-5453.54	-814.85	0.34	455909.66	715934.12	N 32 15 7.59	W 103 46 6.78
	15656.00	91.10	180.01	10020.91	5593.86	-5547.53	-814.77	0.12	455815.68	715934.19	N 32 15 6.66	W 103 46 6.78
	15751.00	90.72	180.42	10019.40	5688.59	-5642.51	-815.13	0.59	455720.70	715933.84	N 32 15 5.72	W 103 46 6.79
	15845.00	90.69	179.83	10018.24	5782.32	-5736.51	-815.34	0.63	455626.72	715933.63	N 32 15 4.79	W 103 46 6.80
	15940.00	90.45	179.55	10017.29	5876.99	-5831.50	-814.82	0.39	455531.73	715934.14	N 32 15 3.85	W 103 46 6.80
	16034.00	90.38	179.00	10016.61	5970.61	-5925.49	-813.63	0.59	455437.74	715935.33	N 32 15 2.92	W 103 46 6.79
	16128.00	89.59	179.56	10016.64	6064.23	-6019.48	-812.45	1.03	455343.76	715936.52	N 32 15 1.99	W 103 46 6.79
	16223.00	89.52	178.99	10017.38	6158.84	-6114.47	-811.25	0.60	455248.77	715937.72	N 32 15 1.05	W 103 46 6.78
	16318.00	89.45	178.76	10018.23	6253.39	-6209.45	-809.38	0.25	455153.80	715939.58	N 32 15 0.11	W 103 46 6.76
	16412.00	89.76	178.66	10018.88	6346.92	-6303.42	-807.27	0.35	455059.83	715941.70	N 32 14 59.18	W 103 46 6.74
	16506.00	89.90	179.17	10019.16	6440.49	-6397.40	-805.49	0.56	454965.86	715943.48	N 32 14 58.25	W 103 46 6.73
	16601.00	90.52	179.08	10018.81	6535.08	-6492.39	-804.04	0.66	454870.87	715944.93	N 32 14 57.31	W 103 46 6.72
	16696.00	89.97	179.18	10018.40	6629.67	-6587.38	-802.60	0.59	454775.89	715946.37	N 32 14 56.37	W 103 46 6.71
	16790.00	89.76	178.84	10018.62	6723.25	-6681.36	-800.97	0.43	454681.91	715948.00	N 32 14 55.44	W 103 46 6.69
	16885.00	89.97	178.78	10018.85	6817.80	-6776.34	-799.00	0.23	454586.94	715949.97	N 32 14 54.50	W 103 46 6.68
	17074.00	89.90	179.72	10019.06	7006.02	-6965.32	-796.52	0.50	454397.97	715952.44	N 32 14 52.63	W 103 46 6.66
	17168.00	90.10	179.47	10019.06	7099.69	-7059.32	-795.86	0.34	454303.97	715953.11	N 32 14 51.70	W 103 46 6.66
	17262.00	89.86	179.15	10019.10	7193.31	-7153.32	-794.73	0.43	454209.99	715954.24	N 32 14 50.77	W 103 46 6.65
	17357.00	88.11	178.64	10020.78	7287.85	-7248.28	-792.90	1.92	454115.03	715956.07	N 32 14 49.83	W 103 46 6.63
	17452.00	89.83	177.87	10022.49	7382.28	-7343.22	-790.00	1.98	454020.10	715958.96	N 32 14 48.89	W 103 46 6.61
	17546.00	90.35	178.84	10022.34	7475.75	-7437.17	-787.31	1.17	453926.14	715961.66	N 32 14 47.96	W 103 46 6.58
	17735.00	90.38	178.93	10021.13	7663.87	-7626.14	-783.63	0.05	453737.19	715965.34	N 32 14 46.09	W 103 46 6.55
	17830.00	90.07	179.00	10020.76	7758.43	-7721.12	-781.91	0.33	453642.22	715967.05	N 32 14 45.15	W 103 46 6.53
	17924.00	89.86	178.15	10020.82	7851.94	-7815.09	-779.57	0.93	453548.25	715969.39	N 32 14 44.22	W 103 46 6.51
	18113.00	89.55	177.56	10021.79	8039.70	-8003.95	-772.50	0.35	453359.40	715976.46	N 32 14 42.35	W 103 46 6.44
	18208.00	90.10	178.67	10022.08	8134.12	-8098.90	-769.38	1.30	453264.46	715979.59	N 32 14 41.41	W 103 46 6.41
	18303.00	92.44	180.15	10019.98	8228.72	-8193.86	-768.40	2.91	453169.50	715980.57	N 32 14 40.47	W 103 46 6.41
	18397.00	91.21	179.37	10016.98	8322.36	-8287.81	-768.00	1.55	453075.56	715980.96	N 32 14 39.54	W 103 46 6.41
	18492.00	90.10	178.21	10015.90	8416.89	-8382.78	-766.00	1.69	452980.59	715982.97	N 32 14 38.60	W 103 46 6.39
	18681.00	89.86	179.34	10015.96	8604.97	-8571.73	-761.96	0.61	452791.65	715987.01	N 32 14 36.73	W 103 46 6.35
	18870.00	89.76	178.67	10016.59	8793.13	-8760.70	-758.67	0.36	452602.69	715990.29	N 32 14 34.86	W 103 46 6.33
	18965.00	90.31	179.91	10016.53	8887.74	-8855.69	-757.50	1.43	452507.71	715991.47	N 32 14 33.92	W 103 46 6.32
	19059.00	89.49	180.14	10016.70	8981.46	-8949.69	-757.54	0.91	452413.71	715991.43	N 32 14 32.99	W 103 46 6.33
	19153.00	89.49	180.52	10017.53	9075.22	-9043.69	-758.08	0.40	452319.72	715990.88	N 32 14 32.06	W 103 46 6.34
	19342.00	89.42	179.86	10019.33	9263.69	-9232.68	-758.71	0.35	452130.75	715990.26	N 32 14 30.19	W 103 46 6.36
	19437.00	89.45	179.74	10020.27	9358.38	-9327.67	-758.38	0.13	452035.76	715990.59	N 32 14 29.25	W 103 46 6.36
	19626.00	89.55	179.25	10021.92	9546.67	-9516.66	-756.71	0.26	451846.78	715992.25	N 32 14 27.38	W 103 46 6.35
	19720.00	88.01	179.99	10023.92	9640.32	-9610.63	-756.09	1.82	451752.82	715992.88	N 32 14 26.45	W 103 46 6.35
	19910.00	89.52	181.40	10028.01	9829.86	-9800.56	-758.39	1.09	451562.89	715990.57	N 32 14 24.57	W 103 46 6.39
	20066.00	89.79	180.81	10028.95	9985.59	-9956.53	-761.40	0.42	451406.94	715987.57	N 32 14 23.03	W 103 46 6.43
Final MWD	20160.00	89.59	180.67	10029.46	10079.40	-10050.52	-762.61	0.26	451312.95	715986.35	N 32 14 22.10	W 103 46 6.45
100' FSL Crossing	*20181.90*	*89.59*	*180.67*	*10029.62*	*10101.25*	*-10072.42*	*-762.87*	*0.00*	*451291.05*	*715986.10*	*N 32 14 21.88*	*W 103 46 6.46*
Proj to TD	20262.00	89.59	180.67	10030.19	10181.18	-10152.51	-763.81	0.00	451210.97	715985.16	N 32 14 21.09	W 103 46 6.47

Survey Type: Def Survey

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

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 ° ' ")

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	(in)	Survey Tool Type	Borehole / Survey
	1	0.000	30.000	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H Gyro+MWD 0 to 20262ft MD
	1	30.000	30.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H Gyro+MWD 0 to 20262ft MD
	1	30.000	621.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H
	1	621.000	4360.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H
	1	4360.000	7066.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H
	1	7066.000	19910.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H
	1	19910.000	20262.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Platinum MDP1 34-3 Federal Com 3H