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

February 26, 2019

RECEIVED

APR 03 2019

DISTRICT II-ARTESIA O.C.D.

OXY USA INC
5 GREENWAY PLAZA, SUITE 110
HOUSTON, TX 77046

33, 23S, 31E, EDDY NM
-32.26793 -103.78825

Re:
CLIENT: OXY USA INC
WELL: Sterling Silver MDP1 33-4 Fed Com 2H
FIELD: Ingle Wells Bone Spring

RIG: H&P 556
COUNTY: EDDY
API NO: 30-015-45390
JOB NO: 19MLD4173

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
Banks Kintang FE	Sterling Silver MDP1 33-4 Fed Com 2H Original Hole	668.00 Ft 20459.00 Ft	to	January 16, 2019 February 21, 2018	to	TelePacer/SlimPulse Third Party Corrected

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

ANDREW SALOMON
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)

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APR 0 3 2019
DISTRICT II-ARTESIA O.C.D.

Schlumberger

Well Reference:
33, 23S, 31E, EDDY NM
-32.26793 -103.78825

I, Banks Kintang certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 16, 2019 through February 21, 2018, conduct or supervise the taking of the Telepacer&SlimPulse & Third Party Corrected surveys from a depth of 668.00 feet to a depth of 20459.00 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 Sterling Silver MDP1 33-4 Fed Com 2H Well (Original Hole) API No. 30-015-45390 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
Banks Kintang
FE

Subscribed and Sworn to before me this 26th day of February (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	Sterling Silver MDP1 33-4 Federal Com 2H	NM Eddy County (NAD 83)	Oxy Sterling Silver MDP1 33-4 Federal Com 2H

Gravity & Magnetic Parameters

Model: IFR1 Dip: 59.955° Date: 11-Feb-2019
MagDec: 6.856° FS: 48002.1nT Gravity FS: 998.451mgn (9.80665 Based)

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

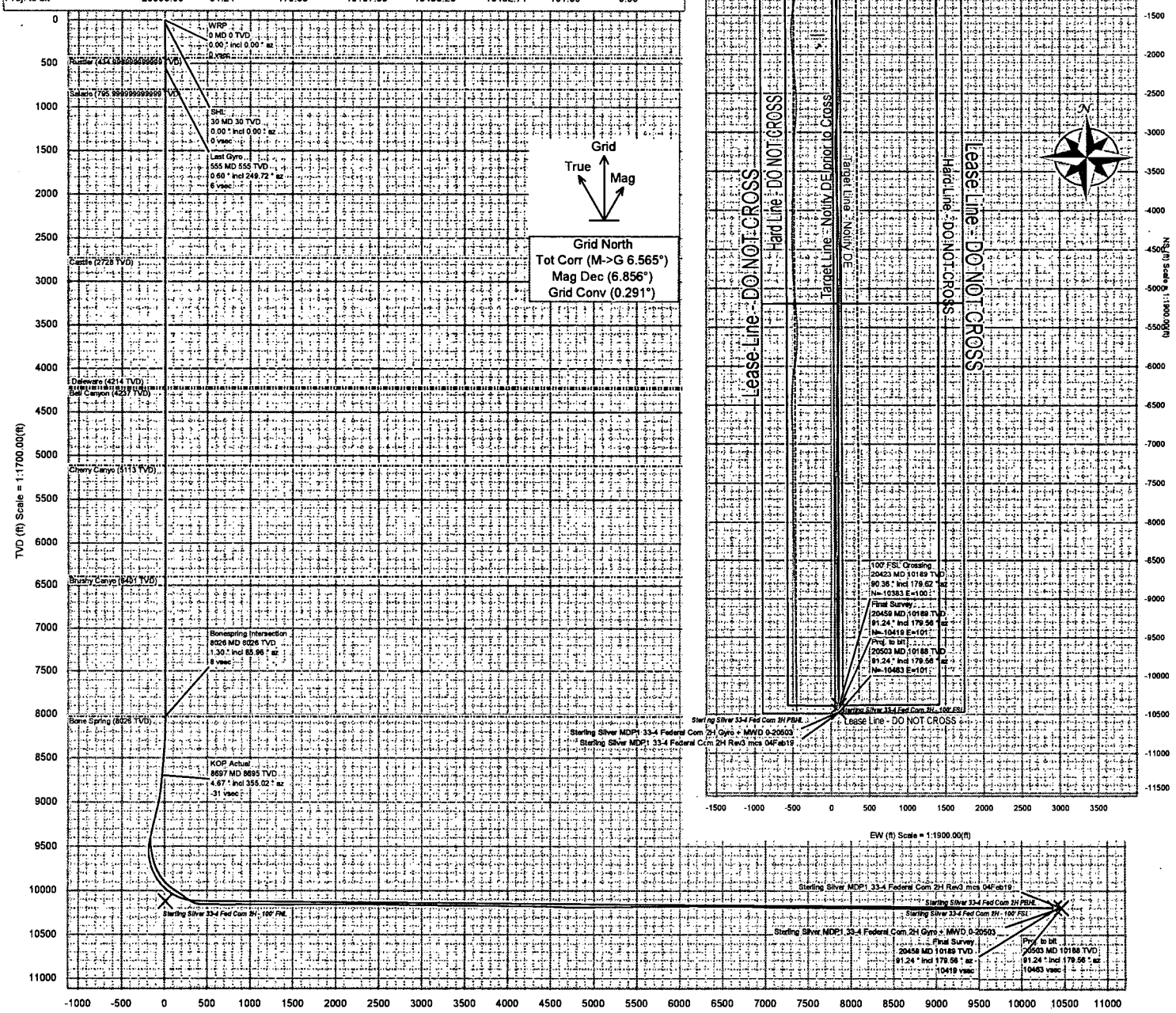
Lat: N 32 16 4.56 Northing: 461634.89RUS Grid Conv: 0.291°
Lon: W 103 47 17.71 Easting: 709814.04RUS Scale Fact: 0.9999416

Miscellaneous

Slot: Sterling Silver MDP1 33-4 Federal Com 2H TVD Ref: RKB(3402.8ft above MSL)
Plan: Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft 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
Last Gyro	555.00	0.60	249.72	554.95	6.20	-6.22	-2.46	0.32
Bonespring Intersection	8026.10	1.30	85.96	8026.00	7.52	-7.52	0.48	0.83
KOP Actual	8697.00	4.67	355.02	8695.48	-30.85	30.89	3.46	0.51
100' FNL Crossing	9964.43	44.05	178.16	9904.42	10.07	-9.97	9.35	12.89
100' FSL Crossing	20423.00	90.36	179.62	10189.44	10383.21	-10382.72	100.49	2.46
Final Survey	20459.00	91.24	179.56	10188.94	10419.21	-10418.72	100.75	2.46
Proj. to bit	20503.00	91.24	179.56	10187.99	10463.20	-10462.71	101.09	0.00



Vertical Section (ft) Azim = 179.43° Scale = 1:1700.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft MD
Survey Geodetic Report
(Def Survey)

Report Date:	February 22, 2019 - 10:42 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	179.425 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Sterling Silver MDP1 33-4 Federal Com 2H / Sterling Silver MDP1 33-4 Federal Com 2H	**TVD Reference Datum:**	RKB
Well:	Sterling Silver MDP1 33-4 Federal Com 2H	**TVD Reference Elevation:**	3402.800 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3372.800 ft above MSL
UWI / API#:	Unknown / 30-015-45390	**Magnetic Declination:**	6.856 °
Survey Name:	Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft MD	**Total Gravity Field Strength:**	998.4506mgn (9.80665 Based)
Survey Date:	January 12, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	325.546 ° / 10848.726 ft / 6.851 / 1.064	**Total Magnetic Field Strength:**	48002.100 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.995 °
Location Lat / Long:	N 32° 16' 4.55848", W 103° 47' 17.70794"	**Declination Date:**	February 11, 2019
Location Grid N/E Y/X:	N 461634.890 ftUS, E 709814.040 ftUS	**Magnetic Declination Model:**	IFR1
CRS Grid Convergence Angle:	0.2910 °	**North Reference:**	Grid North
Grid Scale Factor:	0.9999416	**Grid Convergence Used:**	0.2910 °
Version / Patch:	2.10.753.0	**Total Corr Mag North->Grid North:**	6.5650 °
		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	461634.89	709814.04	N 32 16 4.56	W 103 47 17.71
SHL	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	461634.89	709814.04	N 32 16 4.56	W 103 47 17.71
	105.00	0.81	180.26	105.00	0.53	-0.53	0.00	1.08	461634.36	709814.04	N 32 16 4.55	W 103 47 17.71
	132.00	0.85	190.53	131.99	0.92	-0.92	-0.04	0.57	461633.97	709814.00	N 32 16 4.55	W 103 47 17.71
	189.00	0.78	203.55	188.99	1.69	-1.69	-0.27	0.35	461633.20	709813.77	N 32 16 4.54	W 103 47 17.71
	244.00	0.91	201.02	243.98	2.43	-2.44	-0.58	0.25	461632.45	709813.46	N 32 16 4.53	W 103 47 17.71
	306.00	0.99	199.03	305.97	3.40	-3.41	-0.93	0.14	461631.48	709813.11	N 32 16 4.52	W 103 47 17.72
	369.00	0.89	199.38	368.97	4.37	-4.38	-1.27	0.16	461630.51	709812.77	N 32 16 4.52	W 103 47 17.72
	432.00	0.83	195.66	431.96	5.27	-5.28	-1.55	0.13	461629.61	709812.49	N 32 16 4.51	W 103 47 17.73
	495.00	0.58	230.89	494.95	5.90	-5.92	-1.93	0.78	461628.97	709812.11	N 32 16 4.50	W 103 47 17.73
Last Gyro	555.00	0.60	249.72	554.95	6.20	-6.22	-2.46	0.32	461628.67	709811.58	N 32 16 4.50	W 103 47 17.74
	668.00	0.07	213.91	667.95	6.46	-6.49	-3.05	0.48	461628.40	709810.99	N 32 16 4.49	W 103 47 17.74
	759.00	0.12	256.38	758.95	6.52	-6.55	-3.17	0.09	461628.34	709810.87	N 32 16 4.49	W 103 47 17.75
	850.00	0.12	9.23	849.95	6.45	-6.48	-3.25	0.22	461628.41	709810.79	N 32 16 4.49	W 103 47 17.75
	940.00	0.12	359.86	939.95	6.26	-6.30	-3.24	0.02	461628.59	709810.80	N 32 16 4.50	W 103 47 17.75
	1030.00	0.07	115.52	1029.95	6.19	-6.23	-3.19	0.18	461628.66	709810.85	N 32 16 4.50	W 103 47 17.75
	1121.00	0.07	117.92	1120.95	6.24	-6.28	-3.09	0.00	461628.61	709810.95	N 32 16 4.50	W 103 47 17.74
	1211.00	0.07	167.01	1210.95	6.32	-6.35	-3.03	0.06	461628.54	709811.01	N 32 16 4.50	W 103 47 17.74
	1302.00	0.07	293.49	1301.95	6.36	-6.39	-3.06	0.14	461628.50	709810.98	N 32 16 4.50	W 103 47 17.74
	1392.00	0.12	149.01	1391.95	6.41	-6.45	-3.07	0.20	461628.44	709810.97	N 32 16 4.49	W 103 47 17.74
	1487.00	0.07	62.86	1486.95	6.47	-6.50	-2.96	0.14	461628.39	709811.08	N 32 16 4.49	W 103 47 17.74
	1582.00	0.12	339.11	1581.95	6.36	-6.38	-2.95	0.14	461628.51	709811.09	N 32 16 4.50	W 103 47 17.74
	1676.00	0.12	11.63	1675.95	6.17	-6.20	-2.96	0.07	461628.69	709811.08	N 32 16 4.50	W 103 47 17.74
	1771.00	0.07	285.18	1770.95	6.05	-6.08	-3.00	0.14	461628.81	709811.04	N 32 16 4.50	W 103 47 17.74
	1865.00	0.07	5.30	1864.95	5.98	-6.01	-3.05	0.10	461628.88	709810.99	N 32 16 4.50	W 103 47 17.74
	1960.00	0.07	332.69	1959.95	5.87	-5.90	-3.07	0.04	461628.99	709810.97	N 32 16 4.50	W 103 47 17.74
	2054.00	0.07	187.43	2053.95	5.88	-5.91	-3.10	0.14	461628.98	709810.94	N 32 16 4.50	W 103 47 17.74
	2148.00	0.07	50.91	2147.95	5.90	-5.93	-3.07	0.14	461628.96	709810.97	N 32 16 4.50	W 103 47 17.74
	2243.00	0.12	29.82	2242.95	5.78	-5.81	-2.97	0.06	461629.08	709811.07	N 32 16 4.50	W 103 47 17.74
	2338.00	0.12	43.31	2337.95	5.62	-5.65	-2.85	0.03	461629.24	709811.19	N 32 16 4.50	W 103 47 17.74
	2432.00	0.12	270.69	2431.95	5.55	-5.57	-2.89	0.23	461629.32	709811.16	N 32 16 4.50	W 103 47 17.74
	2527.00	0.12	76.80	2526.95	5.52	-5.55	-2.89	0.25	461629.34	709811.15	N 32 16 4.50	W 103 47 17.74
	2621.00	0.07	314.39	2620.95	5.46	-5.49	-2.83	0.18	461629.40	709811.21	N 32 16 4.50	W 103 47 17.74
	2716.00	0.12	346.59	2715.95	5.32	-5.35	-2.90	0.08	461629.54	709811.14	N 32 16 4.51	W 103 47 17.74
	2811.00	0.07	68.09	2810.95	5.20	-5.23	-2.87	0.14	461629.66	709811.17	N 32 16 4.51	W 103 47 17.74
	2905.00	0.07	34.58	2904.95	5.14	-5.16	-2.78	0.04	461629.73	709811.26	N 32 16 4.51	W 103 47 17.74
	3000.00	0.07	157.35	2999.95	5.14	-5.17	-2.73	0.13	461629.72	709811.31	N 32 16 4.51	W 103 47 17.74
	3094.00	0.07	231.67	3093.95	5.23	-5.26	-2.75	0.09	461629.63	709811.29	N 32 16 4.51	W 103 47 17.74
	3189.00	0.07	84.20	3188.95	5.26	-5.29	-2.74	0.14	461629.60	709811.30	N 32 16 4.51	W 103 47 17.74
	3283.00	0.07	175.11	3282.95	5.31	-5.34	-2.67	0.11	461629.55	709811.37	N 32 16 4.51	W 103 47 17.74
	3378.00	0.10	158.16	3377.95	5.45	-5.47	-2.64	0.04	461629.42	709811.40	N 32 16 4.50	W 103 47 17.74
	3473.00	0.17	162.68	3472.95	5.66	-5.69	-2.57	0.07	461629.20	709811.47	N 32 16 4.50	W 103 47 17.74
	3567.00	0.10	286.21	3566.95	5.77	-5.80	-2.60	0.26	461629.09	709811.44	N 32 16 4.50	W 103 47 17.74
	3662.00	0.12	214.09	3661.95	5.83	-5.86	-2.74	0.14	461629.04	709811.30	N 32 16 4.50	W 103 47 17.74
	3757.00	0.08	276.82	3756.95	5.90	-5.93	-2.86	0.12	461628.96	709811.18	N 32 16 4.50	W 103 47 17.74
	3851.00	0.07	116.67	3850.95	5.92	-5.95	-2.87	0.16	461628.94	709811.17	N 32 16 4.50	W 103 47 17.74
	3946.00	0.10	282.29	3945.95	5.93	-5.96	-2.90	0.18	461628.93	709811.14	N 32 16 4.50	W 103 47 17.74
	4041.00	0.07	137.26	4040.95	5.95	-5.98	-2.94	0.17	461628.91	709811.10	N 32 16 4.50	W 103 47 17.74
	4135.00	0.12	297.89	4134.95	5.95	-5.98	-2.99	0.20	461628.91	709811.05	N 32 16 4.50	W 103 47 17.74
	4195.00	0.07	266.39	4194.95	5.92	-5.95	-3.08	0.12	461628.94	709810.96	N 32 16 4.50	W 103 47 17.74
	4390.00	0.08	173.88	4389.95	6.06	-6.09	-3.19	0.06	461628.80	709810.85	N 32 16 4.50	W 103 47 17.75
	4485.00	0.08	33.60	4484.95	6.07	-6.10	-3.15	0.16	461628.79	709810.89	N 32 16 4.50	W 103 47 17.74
	4674.00	0.08	250.79	4673.95	6.00	-6.04	-3.20	0.08	461628.85	709810.84	N 32 16 4.50	W 103 47 17.75
	4863.00	0.08	287.25	4862.95	6.01	-6.04	-3.45	0.03	461628.85	709810.59	N 32 16 4.50	W 103 47 17.75
	4958.00	0.08	103.76	4957.95	6.00	-6.04	-3.45	0.17	461628.85	709810.59	N 32 16 4.50	W 103 47 17.75
	5052.00	0.08	359.25	5051.95	5.95	-5.99	-3.38	0.13	461628.90	709810.66	N 32 16 4.50	W 103 47 17.75
	5147.00	0.08	274.66	5146.94	5.88	-5.92	-3.45	0.11	461628.97	709810.59	N 32 16 4.50	W 103 47 17.75
	5242.00	0.13	12.26	5241.94	5.77	-5.81	-3.49	0.17	461629.09	709810.55	N 32 16 4.50	W 103 47 17.75
	5336.00	0.08	176.85	5335.94	5.73	-5.77	-3.47	0.22	461629.12	709810.57	N 32 16 4.50	W 103 47 17.75
	5431.00	0.08	249.62	5430.94	5.82	-5.86	-3.53	0.10	461629.03	709810.51	N 32 16 4.50	W 103 47 17.75
	5526.00	0.08	47.79	5525.94	5.80	-5.83	-3.54	0.17	461629.06	709810.50	N 32 16 4.50	W 103 47 17.75
	5620.00	0.08	70.56	5619.94	5.73	-5.77	-3.43	0.03	461629.12	709810.61	N 32 16 4.50	W 103 47 17.75
	5715.00	0.08	7.48	5714.94	5.65	-5.68	-3.36	0.09	461629.21	709810.68	N 32 16 4.50	W 103 47 17.75
	5809.00	0.08	128.67	5808.94	5.62	-5.66	-3.30	0.15	461629.23	709810.74	N 32 16 4.50	W 103 47 17.75
	5904.00	0.08	180.15	5903.94	5.73	-5.76	-3.25	0.07	461629.13	709810.79	N 32 16 4.50	W 103 47 17.75
	5998.00	0.13	63.75	5997.94	5.75	-5.78	-3.15	0.19	461629.11	709810.89	N 32 16 4.50	W 103 47 17.74
	6093.00	0.13	105.00	6092.94	5.73	-5.76	-2.95	0.10	461629.13	709811.09	N 32 16 4.50	W 103 47 17.74
	6188.00	0.32	261.81	6187.94	5.80	-5.83	-3.11	0.47	461629.06	709810.93	N 32 16 4.50	W 103 47 17.74
	6282.00	0.19	334.49	6281.94	5.69	-5.73	-3.44	0.34	461629.16	709810.61	N 32 16 4.50	W 103 47 17.75
	6377.00	0.19	289.41	6376.94	5.49	-5.53	-3.65	0.15	461629.36	709810.39	N 32 16 4.50	W 103 47 17.75
	6471.00	0.13	59.37	6470.94	5.39	-5.42	-3.71	0.31	461629.47	709810.33	N 32 16 4.50	W 103 47 17.75
	6566.00	0.15	278.01	6565.94	5.31	-5.35	-3.74	0.28	461629.54	709810.30	N 32 16 4.51	W 103 47 17.75
	6661.00	0.08	53.52	6660.94	5.26	-5.30	-3.81	0.23	461629.59	709810.23	N 32 16 4.51	W 103 47 17.75
	6755.00	0.15	229.95	6754.94	5.30	-5.34	-3.85	0.24	461629.55	709810.19	N 32 16 4.51	W 103 47 17.75
	6944.00	0.08	235.68	6943.94	5.53	-5.57	-4.15	0.04	461629.32	709809.89	N 32 16 4.50	W 103 47 17.76
	7039.00	0.08	129.96	7038.94	5.61	-5.65	-4.15	0.13	461629.24	709809.89	N 32 16 4.50	W 103 47 17.76
	7227.00	0.08	43.61	7226.94	5.60	-5.64	-3.96	0.06	461629.25	709810.08	N 32 16 4.50	W 103 47 17.75

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 ° ' ")
	7322.00	0.12	105.64	7321.94	5.58	-5.62	-3.82	0.11	461629.27	709810.22	N 32 16 4.50	W 103 47 17.75
	7417.00	0.12	234.94	7416.94	5.66	-5.70	-3.80	0.23	461629.19	709810.24	N 32 16 4.50	W 103 47 17.75
	7511.00	0.02	144.96	7510.94	5.73	-5.77	-3.87	0.13	461629.12	709810.17	N 32 16 4.50	W 103 47 17.75
	7700.00	0.14	89.06	7699.94	5.76	-5.79	-3.62	0.07	461629.10	709810.42	N 32 16 4.50	W 103 47 17.75
	7890.00	0.92	130.11	7889.93	6.75	-6.77	-2.23	0.43	461628.12	709811.81	N 32 16 4.49	W 103 47 17.73
	7984.00	1.41	100.12	7983.91	7.46	-7.46	-0.51	0.82	461627.43	709813.53	N 32 16 4.48	W 103 47 17.71
Bonespring Intersection	*8026.10*	*1.30*	*85.96*	*8026.00*	*7.52*	*-7.52*	*0.48*	*0.83*	*461627.37*	*709814.52*	*N 32 16 4.48*	*W 103 47 17.70*
	8079.00	1.30	66.48	8078.89	7.25	-7.24	1.63	0.83	461627.65	709815.67	N 32 16 4.49	W 103 47 17.69
	8173.00	1.69	20.78	8172.86	5.55	-5.52	3.10	1.29	461629.37	709817.14	N 32 16 4.50	W 103 47 17.67
	8268.00	2.49	5.07	8267.80	2.19	-2.15	3.78	1.03	461632.74	709817.82	N 32 16 4.54	W 103 47 17.66
	8362.00	3.75	3.43	8361.65	-2.91	2.95	4.14	1.34	461637.84	709818.18	N 32 16 4.59	W 103 47 17.66
	8457.00	4.99	0.74	8456.38	-10.14	10.18	4.38	1.32	461645.07	709818.42	N 32 16 4.66	W 103 47 17.66
	8552.00	5.04	358.09	8551.01	-18.44	18.49	4.30	0.25	461653.37	709818.33	N 32 16 4.74	W 103 47 17.66
	8646.00	4.93	355.28	8644.66	-26.60	26.64	3.83	0.28	461661.53	709817.86	N 32 16 4.82	W 103 47 17.66
KOP Actual	8697.00	4.67	355.02	8695.48	-30.85	30.89	3.46	0.51	461665.78	709817.50	N 32 16 4.86	W 103 47 17.67
	8844.00	6.86	353.30	8841.73	-45.55	45.57	1.92	1.49	461680.46	709815.96	N 32 16 5.01	W 103 47 17.68
	9034.00	12.62	0.96	9028.92	-77.61	77.62	0.94	3.10	461712.51	709814.98	N 32 16 5.33	W 103 47 17.69
	9128.00	14.22	359.72	9120.35	-99.42	99.44	1.06	1.73	461734.32	709815.10	N 32 16 5.54	W 103 47 17.69
	9223.00	14.60	354.25	9212.36	-123.02	123.02	-0.20	1.49	461757.90	709813.84	N 32 16 5.78	W 103 47 17.70
	9305.00	12.87	9.19	9292.04	-142.32	142.33	0.23	4.80	461777.21	709814.27	N 32 16 5.97	W 103 47 17.70
	9396.00	11.35	28.61	9381.05	-160.13	160.20	6.14	4.75	461795.08	709820.17	N 32 16 6.14	W 103 47 17.63
	9491.00	11.41	120.02	9474.81	-163.53	163.73	18.83	17.09	461798.61	709832.87	N 32 16 6.18	W 103 47 17.48
	9585.00	12.19	172.90	9567.08	-148.90	149.19	28.14	11.14	461784.07	709842.17	N 32 16 6.03	W 103 47 17.37
	9680.00	14.45	194.32	9659.57	-127.46	127.73	26.44	5.67	461762.62	709840.48	N 32 16 5.82	W 103 47 17.39
	9775.00	26.59	192.77	9748.38	-95.20	95.39	18.78	12.79	461730.28	709832.82	N 32 16 5.50	W 103 47 17.48
	9870.00	33.20	186.39	9830.71	-48.63	48.75	11.18	7.71	461683.63	709825.22	N 32 16 5.04	W 103 47 17.57
100' FNL Crossing	*9964.43*	*44.05*	*178.16*	*9904.42*	*10.07*	*-9.97*	*9.35*	*12.69*	*461624.92*	*709823.39*	*N 32 16 4.46*	*W 103 47 17.60*
	9965.00	44.12	178.12	9904.83	10.46	-10.37	9.36	12.69	461624.52	709823.40	N 32 16 4.46	W 103 47 17.60
	10060.00	54.23	176.66	9966.86	82.21	-82.08	12.70	10.70	461552.81	709826.74	N 32 16 3.75	W 103 47 17.56
	10155.00	58.47	176.96	10019.49	161.19	-161.02	17.10	4.47	461473.88	709831.13	N 32 16 2.96	W 103 47 17.52
	10250.00	52.48	176.73	10073.31	239.34	-239.14	21.40	6.31	461395.77	709835.43	N 32 16 2.19	W 103 47 17.47
	10345.00	62.98	173.78	10123.97	319.32	-319.05	28.15	11.36	461315.86	709842.19	N 32 16 1.40	W 103 47 17.40
	10440.00	85.32	175.74	10149.75	409.83	-409.49	36.36	23.60	461225.43	709850.39	N 32 16 0.50	W 103 47 17.31
	10470.00	90.14	176.81	10150.94	439.75	-439.39	38.30	16.46	461195.53	709852.34	N 32 16 0.21	W 103 47 17.29
	10512.00	88.63	173.52	10151.39	481.63	-481.23	41.84	8.62	461153.69	709855.88	N 32 15 59.79	W 103 47 17.25
	10573.00	88.90	170.52	10152.71	542.10	-541.62	50.31	4.94	461093.30	709864.34	N 32 15 59.20	W 103 47 17.15
	10667.00	88.42	172.24	10154.90	635.14	-634.53	64.39	1.90	461000.40	709878.43	N 32 15 58.28	W 103 47 17.00
	10762.00	90.25	176.14	10156.01	729.72	-729.01	74.00	4.53	460905.92	709888.04	N 32 15 57.34	W 103 47 16.89
	10856.00	90.66	179.16	10155.26	823.66	-822.92	77.86	3.24	460812.02	709891.89	N 32 15 56.41	W 103 47 16.85
	10951.00	90.11	179.50	10154.62	918.66	-917.91	78.97	0.68	460717.04	709893.00	N 32 15 55.47	W 103 47 16.84
	11046.00	90.62	178.30	10154.02	1013.65	-1012.89	80.79	1.37	460622.06	709894.83	N 32 15 54.53	W 103 47 16.83
	11140.00	89.73	180.18	10153.73	1107.64	-1106.87	82.04	2.21	460528.08	709896.07	N 32 15 53.60	W 103 47 16.82
	11235.00	89.42	181.86	10154.43	1202.60	-1201.85	80.35	1.80	460433.11	709894.38	N 32 15 52.66	W 103 47 16.84
	11330.00	89.87	181.77	10155.02	1297.51	-1296.80	77.34	0.48	460338.16	709891.37	N 32 15 51.72	W 103 47 16.88
	11425.00	89.80	183.33	10155.30	1392.37	-1391.71	73.11	1.64	460243.27	709887.15	N 32 15 50.78	W 103 47 16.94
	11519.00	90.35	181.86	10155.17	1486.22	-1485.61	68.86	1.67	460149.37	709882.89	N 32 15 49.86	W 103 47 16.99
	11614.00	90.28	179.03	10154.65	1581.20	-1580.59	68.12	2.98	460054.39	709882.16	N 32 15 48.92	W 103 47 17.01
	11709.00	90.25	175.66	10154.21	1676.12	-1675.48	72.52	3.55	459959.51	709886.55	N 32 15 47.98	W 103 47 16.96
	11804.00	89.45	178.85	10154.46	1771.04	-1770.35	77.07	3.46	459864.64	709891.10	N 32 15 47.04	W 103 47 16.92
	11898.00	89.97	178.22	10154.94	1865.03	-1864.32	79.47	0.87	459770.68	709893.51	N 32 15 46.11	W 103 47 16.89
	12088.00	90.66	179.43	10153.89	2055.01	-2054.27	83.37	0.73	459580.74	709897.40	N 32 15 44.23	W 103 47 16.86
	12277.00	90.69	176.96	10151.66	2243.94	-2243.15	89.32	1.31	459391.87	709903.35	N 32 15 42.36	W 103 47 16.80
	12372.00	89.59	176.99	10151.43	2338.85	-2338.02	94.33	1.16	459297.01	709908.37	N 32 15 41.42	W 103 47 16.75
	12467.00	89.08	178.21	10152.53	2433.79	-2432.93	98.31	1.39	459202.11	709912.34	N 32 15 40.48	W 103 47 16.71
	12657.00	88.84	183.53	10155.99	2623.63	-2622.80	95.43	2.80	459012.24	709909.46	N 32 15 38.60	W 103 47 16.75
	12847.00	88.94	185.17	10159.67	2812.89	-2812.22	81.02	0.86	458822.84	709895.05	N 32 15 36.73	W 103 47 16.93
	12942.00	89.52	186.25	10160.94	2907.31	-2906.73	71.57	1.29	458728.33	709885.60	N 32 15 35.79	W 103 47 17.05
	13131.00	89.42	181.39	10162.69	3095.69	-3095.25	58.98	2.57	458539.83	709873.02	N 32 15 33.93	W 103 47 17.20
	13226.00	89.49	178.97	10163.60	3190.67	-3190.24	58.68	2.55	458444.85	709872.72	N 32 15 32.99	W 103 47 17.21
	13415.00	90.11	178.59	10164.26	3379.65	-3379.19	62.71	0.38	458255.90	709876.74	N 32 15 31.12	W 103 47 17.18
	13605.00	89.35	175.71	10165.15	3569.48	-3568.93	72.15	1.57	458066.17	709886.19	N 32 15 29.24	W 103 47 17.08
	13700.00	89.04	181.60	10166.49	3664.42	-3663.86	74.38	6.21	457971.26	709888.42	N 32 15 28.30	W 103 47 17.06
	13889.00	89.63	177.09	10168.68	3853.36	-3852.78	76.54	2.41	457782.34	709890.58	N 32 15 26.43	W 103 47 17.04
	13983.00	89.49	174.81	10169.40	3947.17	-3946.54	83.18	2.43	457688.59	709897.22	N 32 15 25.50	W 103 47 16.97
	14172.00	88.97	179.42	10171.95	4135.95	-4135.23	92.69	2.45	457499.91	709906.72	N 32 15 23.64	W 103 47 16.87
	14267.00	89.21	176.24	10173.45	4230.89	-4230.14	96.29	3.36	457405.01	709910.32	N 32 15 22.70	W 103 47 16.84
	14361.00	88.73	176.13	10175.14	4324.72	-4323.91	102.54	0.52	457311.24	709916.57	N 32 15 21.77	W 103 47 16.77
	14456.00	88.97	175.51	10177.05	4419.52	-4418.64	109.46	0.70	457216.52	709923.50	N 32 15 20.83	W 103 47 16.69
	14550.00	88.49	177.58	10179.13	4513.37	-4512.44	115.13	2.26	457122.72	709929.16	N 32 15 19.90	W 103 47 16.63
	14644.00	86.63	178.99	10183.14	4607.26	-4606.31	117.94	2.48	457028.86	709931.97	N 32 15 18.97	W 103 47 16.61
	14739.00	87.74	181.04	10187.80	4702.13	-4701.19	117.91	2.45	456933.99	709931.94	N 32 15 18.03	W 103 47 16.61
	14834.00	89.28	181.15	10190.27	4797.06	-4796.13	116.10	1.63	456839.05	709930.13	N 32 15 17.10	W 103 47 16.64
	14929.00	92.24	182.95	10189.01	4891.94	-4891.05	112.70	3.65	456744.13	709926.73	N 32 15 16.16	W 103 47 16.68
	15023.00	90.97	181.54	10186.38	4985.78	-4984.94	109.02	2.02	456650.25	709923.05	N 32 15 15.23	W 103 47 16.73
	15118.00	90.07	182.58	10185.52	5080.67	-5079.87	105.60	1.45	456555.33	709919.64	N 32 15 14.29	W 103 47 16.78
	15212.00	90.93	180.08	10184.70	5174.61	-5173.83	103.42	2.81	456461.37	709917.46	N 32 15 13.36	W 103 47 16.81
	15402.00	90.93	179.27	10181.61	5364.58	-5363.80	104.50	0.43	456271.41	709918.53	N 32 15 11.48	W 103 47 16.81
	15591.00	90.31	181.94	10179.57	5553.51	-5552.76	102.51	1.45	456082.46	709916.54	N 32 15 9.61	W 103 47 16.84
	15780.00	90.35	182.15	10178.48	5742.31	-5741.64	95.76	0.11	455893.60	709909.80	N 32 15 7.74	W 103 47 16.93
	15970.00	90.69	180.45	10176.75	5932.19	-5931.58	91.45	0.91	455703.67	709905.48	N 32 15 5.86	W 103 47 16.99
	16158.00	90.55	182.40	10174.72	6120.06	-6119.50	86.78	1.04	455515.76	709900.81	N 32 15 4.00	W 103 47 17.06
	16253.00	89.52	184.45	10174.66	6214.82	-6214.32	81.10	2.41	455420.94	709895.14	N 32 15 3.06	W 103 47 17.13
	16442.00	90.14	179.29	10175.22	6403.58	-6403.16	74.94	2.75	455232.12	709888.97	N 32 15 1.20	W 103 47 17.21
	16631.00	89.87	177.64	10175.21	6592.55	-6592.08	80.00	0.88	455043.21	709894.03	N 32 14 59.33	W 103 47 17.17
	16726.00	88.56	180.72	10176.51	6687.53	-6687.05	81.36	3.52	454948.25	709895.39	N 32 14 58.39	W 103 47 17.16
	16820.00	88.94	181.08	10178.56	6781.47	-6781.01	79.88	0.56	454854.29	709893.92	N 32 14 57.46	W 103 47 17.18
	16915.00	87.98	180.35	10181.11	6876.41	-6875.97	78.70	1.27	454759.33	709892.73	N 32 14 56.52	W 103 47 17.20
	17010.00	88.84	181.21	10183.75	6971.35	-6970.92	77.40	1.28	454664.39	709891.44	N 32 14 55.58	W 103 47 17.22
	17199.00	88.70	180.87	10187.81	7160.23	-7159.85	73.97	0.19	454475.47	709888.01	N 32 14 53.71	W 103 47 17.27
	17389.00	90.45	182.88	10189.21	7350.03	-7349.72	67.76	1.40	454285.61	709881.79	N 32 14 51.83	W 103 47 17.35
	17578.00	89.42	182.10	10189.43	7538.76	-7538.54	59.55	0.68	454096.80	709873.58	N 32 14 49.96	W 103 47 17.46
	17673.00	89.69	178.77	10190.17	7633.73	-7633.52	58.83	3.52	454001.83	709872.86	N 32 14 49.02	W 103 47 17.47
	17767.00	88.87	179.17	10191.35	7727.72	-7727.50	60.52	0.97	453907.86	709874.55	N 32 14 48.09	W 103 47 17.46
	17957.00	90.86	179.64	10191.80	7917.71	-7917.48	62.49	1.08	453717.89	709876.52	N 32 14 46.21	W 103 47 17.45
	18051.00	88.53	178.92	10192.30	8011.70	-8011.46	63.67	2.59	453623.91	709877.71	N 32 14 45.28	W 103 47 17.44
	18146.00	89.11	180.20	10194.25	8106.68	-8106.44	64.40	1.48	453528.94	709878.43	N 32 14 44.34	W 103 47 17.44
	18241.00	89.49	178.89	10195.41	8201.67	-8201.43	65.15	1.44	453433.96	709879.19	N 32 14 43.40	W 103 47 17.43
	18335.00	89.76	179.34	10196.03	8295.66	-8295.41	66.60	0.56	453339.98	709880.64	N 32 14 42.47	W 103 47 17.42
	18430.00	89.35	177.62	10196.77	8390.64	-8390.37	69.12	1.86	453245.03	709883.16	N 32 14 41.53	W 103 47 17.40
	18525.00	88.97	177.36	10198.16	8485.58	-8485.27	73.28	0.48	453150.13	709887.32	N 32 14 40.59	W 103 47 17.36
	18714.00	89.80	179.28	10200.19	8674.52	-8674.17	78.82	1.11	452961.25	709892.86	N 32 14 38.72	W 103 47 17.30
	18903.00	90.07	180.85	10200.40	8863.50	-8863.16	78.61	0.84	452772.26	709892.65	N 32 14 36.85	W 103 47 17.32
	18998.00	89.94	180.50	10200.39	8958.48	-8958.15	77.49	0.39	452677.28	709891.53	N 32 14 35.91	W 103 47 17.34
	19092.00	91.04	178.06	10199.59	9052.47	-9052.13	78.67	2.85	452583.30	709892.71	N 32 14 34.98	W 103 47 17.33
	19187.00	89.80	178.95	10198.89	9147.45	-9147.10	81.15	1.61	452488.35	709895.19	N 32 14 34.04	W 103 47 17.30
	19282.00	90.80	180.08	10198.40	9242.45	-9242.09	81.95	1.59	452393.36	709895.99	N 32 14 33.10	W 103 47 17.30
	19376.00	92.27	179.65	10195.88	9336.41	-9336.05	82.18	1.63	452299.40	709896.21	N 32 14 32.17	W 103 47 17.30

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 ° ' ")
	19471.00	91.07	178.84	10193.11	9431.36	-9431.00	83.43	1.52	452204.46	709897.46	N 32 14 31.23	W 103 47 17.29
	19566.00	91.28	178.87	10191.16	9526.34	-9525.96	85.32	0.22	452109.50	709899.36	N 32 14 30.30	W 103 47 17.28
	19660.00	91.04	178.72	10189.26	9620.31	-9619.92	87.30	0.30	452015.55	709901.34	N 32 14 29.37	W 103 47 17.26
	19755.00	90.45	178.79	10188.02	9715.30	-9714.89	89.37	0.63	451920.59	709903.40	N 32 14 28.43	W 103 47 17.24
	19850.00	90.80	179.15	10186.99	9810.29	-9809.87	91.07	0.53	451825.61	709905.11	N 32 14 27.49	W 103 47 17.23
	19944.00	91.17	178.97	10185.37	9904.27	-9903.84	92.61	0.44	451731.64	709906.65	N 32 14 26.56	W 103 47 17.22
	20039.00	89.97	179.12	10184.43	9999.27	-9998.82	94.20	1.27	451636.67	709908.23	N 32 14 25.62	W 103 47 17.20
	20133.00	88.32	179.03	10185.83	10093.25	-10092.80	95.72	1.76	451542.70	709909.75	N 32 14 24.69	W 103 47 17.19
	20228.00	89.63	178.69	10187.53	10188.23	-10187.76	97.61	1.42	451447.74	709911.64	N 32 14 23.75	W 103 47 17.17
	20322.00	88.90	179.11	10188.73	10282.22	-10281.74	99.41	0.90	451353.78	709913.44	N 32 14 22.82	W 103 47 17.16
	20417.00	90.21	179.63	10189.47	10377.21	-10376.72	100.45	1.48	451258.79	709914.49	N 32 14 21.88	W 103 47 17.15
100' FSL Crossing	*20423.00*	*90.36*	*179.62*	*10189.44*	*10383.21*	*-10382.72*	*100.49*	*2.46*	*451252.79*	*709914.53*	*N 32 14 21.82*	*W 103 47 17.15*
Final Survey	20459.00	91.24	179.56	10188.94	10419.21	-10418.72	100.75	2.46	451216.80	709914.78	N 32 14 21.46	W 103 47 17.15
Proj. to bit	20503.00	91.24	179.56	10187.99	10463.20	-10462.71	101.09	0.00	451172.81	709915.12	N 32 14 21.03	W 103 47 17.15

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	30.000	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft MD
	1	30.000	30.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft MD
	1	30.000	555.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Sterling Silver MDP1 33-4 Federal Com 2H Gyro
	1	555.000	20503.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Sterling Silver MDP1 33-4 Federal Com 2H Gyro