

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

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

RECEIVED
AUG 6 2019
DISTRICT/ARTESIA O.C.D.

Re:

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

CLIENT: OXY USA INC
WELL: Sterling Silver MDPI 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.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Banks Kintang FE	Sterling Silver MDPI 33-4 Fed Com 2H Original Hole	668.00 Ft to 20459.00 Ft	January 16, 2019 to February 21, 2018	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

Schlumberger-Private

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
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DISTRICT 11-ARTESIA O.C.D.

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)

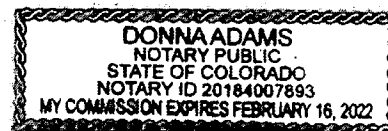
My Commission expires:

2-16-2022

Donna Adams
Notary Public

(signature)

Adams County Colorado
(County State)



Schlumberger

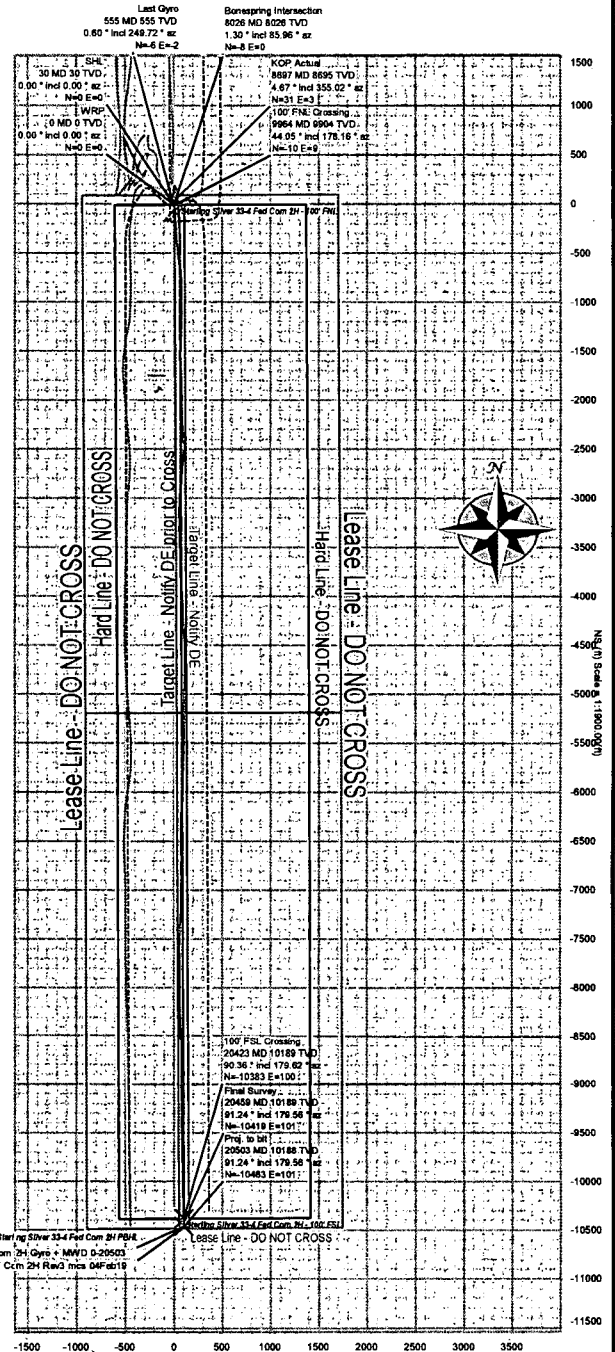
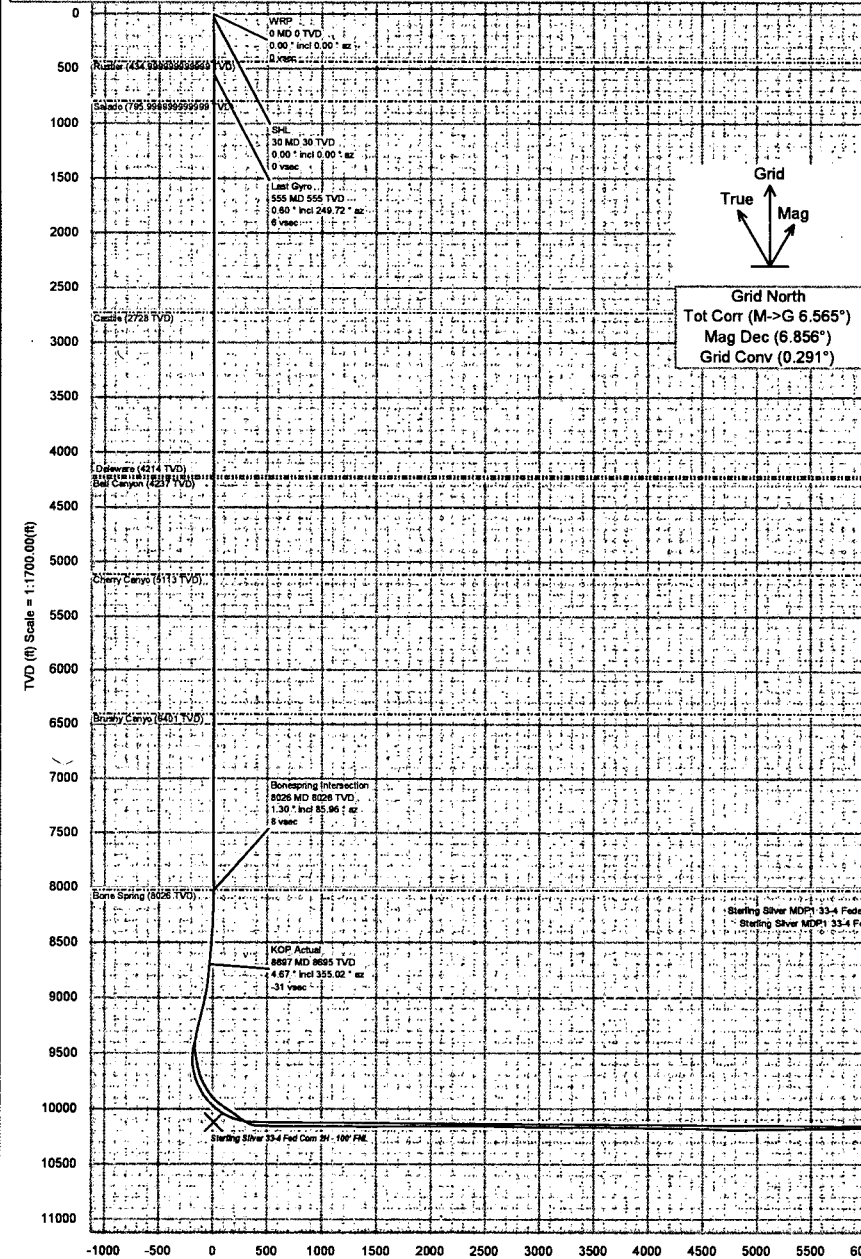
OXY



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					Surface Location					NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous				
Model:	IFR1	Dip:	53.996°	Date:	11-Feb-2018	Lat:	N 32 16 4.56	Northing:	481634.891US	Grid Conv:	0.291°	Slot:	MDP1 33-4	TVD Ref:	RKB(302.0ft above MSL)				
MagDec:	6.856°	FS:	48062.1nT	Gravity FS:	998.451mgm (8.80665 Based)	Lon:	W 103 47 17.71	Easting:	709814.041US	Scale Fact:	0.999416	Plan:	Federal Com 2H						
															Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503R 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	12.69
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



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:	Ory 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 (°)	Azlm 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	0.00	0.00	0.00	0.00	461634.89	709814.04	N 32 16 4.56	W 103 47 17.71
Last Gyro	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
	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 (°)	Azin 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
	8694.00	4.67	355.02	8693.48	-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	95.38	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 16 0.59 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	10154.80	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	90.86	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	0.88	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	175.63	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	175.63	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 16.89
	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 16.92
	12088.00	90.66	179.43	10153.89	2055.01	-2054.27	83.37	0.73	459680.74	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	459593.87	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 35.78 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
	13505.00	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	3864.42	-3863.86	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	4418.52	-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	709916.53	N 32 15 11.48 W	103 47 16

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	19471.00	91.07	178.84	10183.11	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	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
Crossing	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
Final Survey	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
Proj. to bit												

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	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

...Original Borehole\Sterling Silver MDP1 33-4 Federal Com 2H Gyro + MWD 0-20503ft MD