



October 8, 2015

HOBBS OCD

APR 18 2016

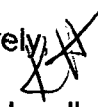
RECEIVED

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Kanicia Castillo

RE: **Macho Nacho State Com No 008H**

Please find enclosed a copy of the survey from 0' to 12,700' ran on the above referenced well.

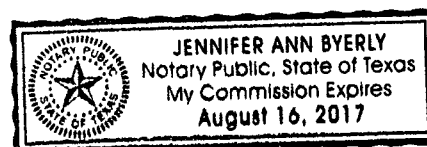
Sincerely, 
Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 8 day of October, A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas

VES Survey International
P.O. Box 261021, Corpus Christi, Texas 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com



MAY 10 2016



Company: Concho

Lease/Well: Macho Nacho State Com No/008H

Rig Name: Independence 205

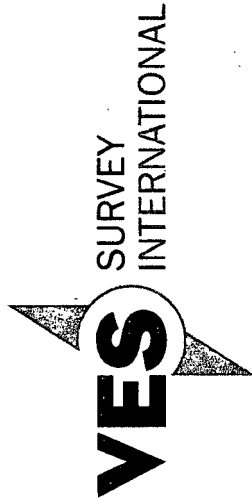
State/County: New Mexico/Lea

VS-Azi: 0.00 Degrees

Latitude: 32.22530, Longitude: -103.61298

Grid North = True North -0.38 degs (NAD 27)

Grid Correction Applied = -0.38 degs



HOBBS OCD

Depth Reference : RKB= 26ft

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: macho nacho st com 8h-de_01.ut

Minimum Curvature Method

Report Date/Time: 10/8/2015 / 16:31

VES Survey International

Fort Worth, Texas

Office 817-741-3610

Surveyor: Gregg Wilson

Macho Nacho State Com No 008H / API 30-025-42517

APR 18 2016

RECEIVED

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.33	55.61	100.00	0.16	0.24	0.16	0.29	55.61	0.33
200.00	0.30	6.77	200.00	0.58	0.51	0.58	0.77	41.02	0.26
300.00	0.40	7.64	300.00	1.18	0.58	1.18	1.32	26.27	0.10
400.00	0.41	11.30	399.99	1.88	0.70	1.88	2.00	20.47	0.03
500.00	0.44	4.32	499.99	2.60	0.80	2.60	2.72	17.04	0.06
600.00	0.33	21.10	599.99	3.25	0.93	3.25	3.38	15.96	0.16
700.00	0.23	36.62	699.99	3.68	1.15	3.68	3.85	17.39	0.12
800.00	0.24	61.71	799.99	3.94	1.45	3.94	4.19	20.26	0.10
900.00	0.29	59.10	899.99	4.16	1.85	4.16	4.55	23.97	0.05
1000.00	0.29	82.95	999.98	4.32	2.31	4.32	4.90	28.17	0.12
1100.00	0.53	83.80	1099.98	4.40	3.03	4.40	5.34	34.50	0.25
1200.00	0.57	76.46	1199.98	4.57	3.98	4.57	6.06	41.03	0.08
1300.00	0.68	69.87	1299.97	4.89	5.02	4.89	7.01	45.74	0.13
1400.00	0.66	61.90	1399.96	5.36	6.08	5.36	8.11	48.58	0.10
1500.00	0.71	66.59	1499.96	5.88	7.15	5.88	9.26	50.58	0.08
1600.00	0.67	64.57	1599.95	6.38	8.25	6.38	10.43	52.30	0.05

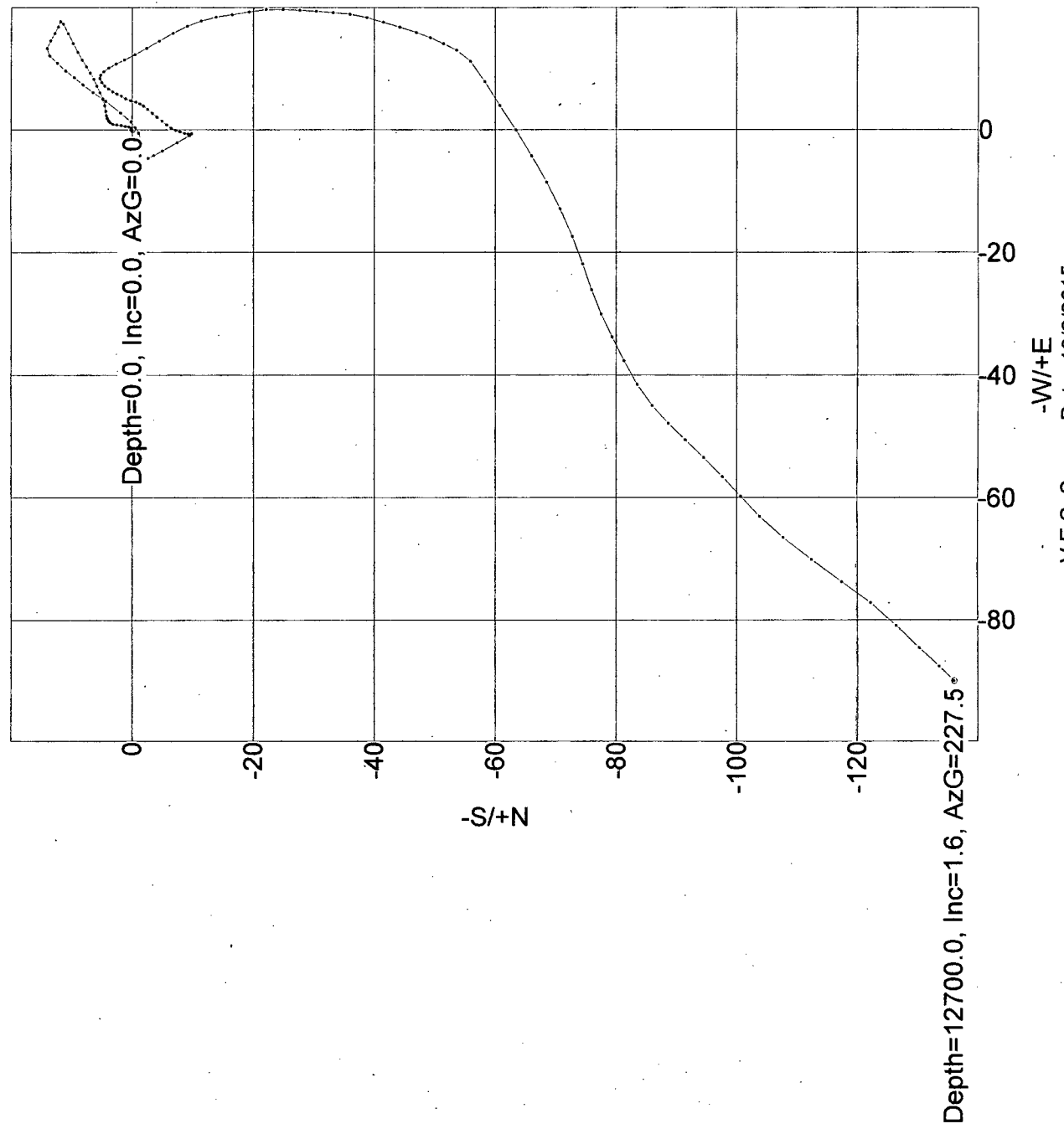
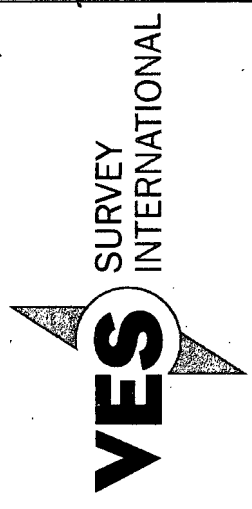
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/S FT	+E/W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	0.69	57.58	1699.94	6.95	9.28	6.95	11.60	53.18	0.08
1800.00	0.68	56.72	1799.94	7.60	10.29	7.60	12.79	53.55	0.01
1900.00	0.82	58.86	1899.93	8.29	11.40	8.29	14.10	53.96	0.14
2000.00	0.87	61.67	1999.92	9.02	12.68	9.02	15.56	54.56	0.07
2100.00	0.99	62.10	2099.90	9.79	14.11	9.79	17.17	55.25	0.12
2200.00	1.08	63.03	2199.89	10.62	15.71	10.62	18.97	55.95	0.09
2300.00	0.95	65.38	2299.87	11.39	17.31	11.39	20.72	56.64	0.13
2400.00	0.47	288.75	2399.87	11.87	17.67	11.87	21.29	56.10	1.34
2500.00	0.62	298.48	2499.86	12.26	16.80	12.26	20.80	53.87	0.17
2600.00	0.72	298.24	2599.86	12.82	15.77	12.82	20.32	50.89	0.10
2700.00	0.89	300.13	2699.85	13.51	14.54	13.51	19.85	47.11	0.17
2800.00	0.74	288.13	2799.84	14.10	13.26	14.10	19.35	43.24	0.23
2900.00	0.98	222.87	2899.83	13.67	12.06	13.67	18.23	41.42	0.95
3000.00	1.04	224.14	2999.81	12.40	10.85	12.40	16.48	41.20	0.06
3100.00	1.06	218.71	3099.79	11.03	9.65	11.03	14.65	41.17	0.10
3200.00	1.02	216.10	3199.78	9.59	8.54	9.59	12.84	41.70	0.06
3300.00	1.11	222.70	3299.76	8.16	7.36	8.16	10.99	42.07	0.15
3400.00	1.25	212.73	3399.74	6.53	6.12	6.53	8.95	43.13	0.24
3500.00	1.69	215.61	3499.71	4.42	4.67	4.42	6.43	46.60	0.45
3600.00	1.90	219.62	3599.66	1.94	2.76	1.94	3.37	54.82	0.24
3700.00	0.70	224.75	3699.63	0.23	1.27	0.23	1.29	79.72	1.20
3800.00	0.63	236.91	3799.62	-0.51	0.37	-0.51	0.63	143.65	0.16
3900.00	0.60	244.18	3899.62	-1.04	-0.56	-1.04	1.18	208.44	0.08
4000.00	0.63	251.22	3999.61	-1.44	-1.56	-1.44	2.12	227.16	0.08
4100.00	0.71	259.66	4099.61	-1.73	-2.69	-1.73	3.20	237.20	0.13
4200.00	0.65	267.36	4199.60	-1.87	-3.86	-1.87	4.29	244.17	0.11
4300.00	0.31	231.19	4299.59	-2.06	-4.63	-2.06	5.07	246.00	0.44
4400.00	0.48	155.27	4399.59	-2.61	-4.66	-2.61	5.35	240.74	0.51
4500.00	0.67	153.76	4499.59	-3.52	-4.23	-3.52	5.50	230.19	0.19
4600.00	1.25	151.37	4599.57	-5.01	-3.45	-5.01	6.08	214.53	0.58
4700.00	1.88	151.17	4699.54	-7.40	-2.13	-7.40	7.70	196.08	0.63
4800.00	0.85	151.12	4799.51	-9.49	-0.98	-9.49	9.54	185.90	1.03
4900.00	0.35	354.20	4899.50	-9.84	-0.65	-9.84	9.86	183.79	1.19
5000.00	0.33	355.94	4999.50	-9.24	-0.70	-9.24	9.27	184.36	0.02
5100.00	0.40	24.41	5099.50	-8.63	-0.58	-8.63	8.65	183.84	0.19
5200.00	0.47	14.53	5199.50	-7.91	-0.33	-7.91	7.92	182.39	0.10
5300.00	0.44	21.65	5299.49	-7.16	-0.09	-7.16	7.16	180.69	0.07
5400.00	0.49	34.62	5399.49	-6.45	0.30	-6.45	6.45	177.34	0.12
5500.00	0.54	36.21	5499.49	-5.71	0.82	-5.71	5.77	171.82	0.05

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/S FT	+E/W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5600.00	0.61	38.07	5599.48	-4.92	1.42	-4.92	5.12	163.84	0.07
5700.00	0.60	38.74	5699.47	-4.09	2.08	-4.09	4.59	153.07	0.01
5800.00	0.56	38.97	5799.47	-3.31	2.71	-3.31	4.28	140.61	0.04
5900.00	0.58	40.70	5899.46	-2.54	3.35	-2.54	4.21	127.17	0.03
6000.00	0.44	34.75	5999.46	-1.84	3.90	-1.84	4.31	115.21	0.15
6100.00	0.32	25.44	6099.46	-1.26	4.25	-1.26	4.43	106.59	0.13
6200.00	0.52	20.12	6199.46	-0.58	4.52	-0.58	4.56	97.35	0.20
6300.00	0.52	11.71	6299.45	0.29	4.77	0.29	4.78	86.57	0.08
6400.00	0.52	29.45	6399.45	1.12	5.09	1.12	5.21	77.55	0.16
6500.00	0.43	34.04	6499.44	1.83	5.52	1.83	5.82	71.66	0.09
6600.00	0.48	17.35	6599.44	2.55	5.86	2.55	6.39	66.50	0.14
6700.00	0.43	32.85	6699.44	3.26	6.19	3.26	6.99	62.19	0.13
6800.00	0.53	34.51	6799.43	3.96	6.65	3.96	7.74	59.24	0.10
6900.00	0.41	44.25	6899.43	4.60	7.17	4.60	8.51	57.31	0.14
7000.00	0.47	54.99	6999.43	5.09	7.75	5.09	9.28	56.70	0.10
7100.00	0.36	76.08	7099.43	5.41	8.40	5.41	9.99	57.23	0.19
7200.00	0.37	132.42	7199.42	5.27	8.94	5.27	10.38	59.51	0.34
7300.00	0.50	136.77	7299.42	4.73	9.48	4.73	10.59	63.48	0.14
7400.00	0.72	148.93	7399.42	3.88	10.10	3.88	10.82	69.01	0.25
7500.00	0.83	152.41	7499.41	2.70	10.76	2.70	11.09	75.92	0.12
7600.00	0.93	157.35	7599.39	1.31	11.41	1.31	11.48	83.47	0.13
7700.00	1.29	151.28	7699.38	-0.43	12.26	-0.43	12.27	92.00	0.37
7800.00	1.26	152.43	7799.35	-2.39	13.31	-2.39	13.52	100.18	0.03
7900.00	1.46	148.95	7899.32	-4.46	14.48	-4.46	15.15	107.12	0.21
8000.00	1.57	152.39	7999.29	-6.76	15.77	-6.76	17.16	113.21	0.14
8100.00	1.40	156.58	8099.25	-9.10	16.89	-9.10	19.19	118.31	0.20
8200.00	1.42	160.11	8199.22	-11.39	17.80	-11.39	21.13	122.61	0.09
8300.00	1.51	171.82	8299.19	-13.86	18.41	-13.86	23.04	126.97	0.31
8400.00	1.58	172.09	8399.15	-16.52	18.79	-16.52	25.02	131.33	0.07
8500.00	1.65	168.22	8499.12	-19.29	19.27	-19.29	27.27	135.04	0.13
8600.00	1.61	177.29	8599.07	-22.10	19.63	-22.10	29.56	138.39	0.26
8700.00	1.61	182.40	8699.04	-24.90	19.64	-24.90	31.71	141.74	0.14
8800.00	1.57	181.75	8799.00	-27.67	19.54	-27.67	33.87	144.78	0.04
8900.00	1.57	185.13	8898.96	-30.41	19.37	-30.41	36.05	147.50	0.09
9000.00	1.62	183.78	8998.92	-33.18	19.16	-33.18	38.32	150.00	0.06
9100.00	1.60	186.88	9098.88	-35.98	18.90	-35.98	40.64	152.29	0.09
9200.00	1.63	195.07	9198.84	-38.75	18.36	-38.75	42.88	154.65	0.23
9300.00	1.62	196.32	9298.80	-41.48	17.59	-41.48	45.06	157.02	0.04
9400.00	1.65	196.83	9398.76	-44.22	16.78	-44.22	47.29	159.22	0.03

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9500.00	1.60	198.90	9498.72	-46.91	15.91	-46.91	49.53	161.27	0.08
9600.00	1.28	201.98	9598.69	-49.27	15.04	-49.27	51.51	163.03	0.32
9700.00	1.42	205.44	9698.66	-51.42	14.09	-51.42	53.32	164.68	0.15
9800.00	1.34	206.64	9798.63	-53.58	13.03	-53.58	55.15	166.33	0.08
9900.00	2.10	225.82	9898.59	-55.90	11.20	-55.90	57.01	168.68	0.94
10000.00	2.62	240.99	9998.50	-58.29	7.88	-58.29	58.82	172.30	0.81
10100.00	2.73	234.61	10098.39	-60.77	3.95	-60.77	60.90	176.28	0.32
10200.00	2.77	238.08	10198.28	-63.43	-0.04	-63.43	63.43	180.04	0.17
10300.00	2.89	238.77	10298.16	-66.01	-4.24	-66.01	66.15	183.68	0.13
10400.00	2.83	241.08	10398.03	-68.51	-8.56	-68.51	69.04	187.12	0.13
10500.00	2.80	244.93	10497.91	-70.73	-12.92	-70.73	71.90	190.35	0.19
10600.00	2.84	247.10	10597.79	-72.73	-17.42	-72.73	74.79	193.47	0.12
10700.00	2.65	250.84	10697.68	-74.46	-21.89	-74.46	77.61	196.38	0.26
10800.00	2.47	251.09	10797.58	-75.91	-26.11	-75.91	80.28	198.98	0.18
10900.00	2.36	244.70	10897.49	-77.49	-30.01	-77.49	83.10	201.17	0.29
11000.00	2.42	243.54	10997.40	-79.31	-33.76	-79.31	86.20	203.06	0.08
11100.00	2.56	243.06	11097.31	-81.27	-37.65	-81.27	89.56	204.86	0.14
11200.00	2.50	237.46	11197.21	-83.45	-41.47	-83.45	93.19	206.42	0.25
11300.00	2.39	231.34	11297.12	-85.92	-44.93	-85.92	96.96	207.61	0.28
11400.00	2.15	223.47	11397.04	-88.59	-47.86	-88.59	100.69	208.38	0.39
11500.00	2.34	224.46	11496.96	-91.41	-50.58	-91.41	104.47	208.96	0.19
11600.00	2.46	221.86	11596.88	-94.47	-53.45	-94.47	108.54	209.50	0.16
11700.00	2.61	227.96	11696.78	-97.60	-56.57	-97.60	112.81	210.10	0.31
11800.00	2.47	225.34	11796.68	-100.64	-59.79	-100.64	117.06	210.72	0.18
11900.00	2.73	227.12	11896.58	-103.78	-63.08	-103.78	121.44	211.29	0.27
12000.00	3.25	217.10	11996.44	-107.66	-66.53	-107.66	126.56	211.72	0.73
12100.00	3.57	217.70	12096.26	-112.38	-70.14	-112.38	132.47	211.97	0.32
12200.00	3.55	214.17	12196.07	-117.40	-73.78	-117.40	138.66	212.15	0.22
12300.00	3.19	217.08	12295.90	-122.17	-77.19	-122.17	144.52	212.29	0.40
12400.00	3.30	225.30	12395.74	-126.41	-80.92	-126.41	150.09	212.62	0.48
12500.00	2.81	222.00	12495.60	-130.26	-84.60	-130.26	155.32	213.00	0.52
12600.00	2.31	222.58	12595.50	-133.56	-87.61	-133.56	159.73	213.26	0.50
12700.00	1.60	227.52	12695.44	-135.99	-90.00	-135.99	163.07	213.50	0.73



VES Survey International
Fort Worth, Texas
Office 817-741-3610
Surveyor: Gregg Wilson
Macho Nacho State Com No 008H / API 30-025-42517



V.E.S. Survey Date: 10/6/2015



HOBBS OCD

APR 18 2016

RECEIVED

COG Production LLC

Lea County, NM (NAD27 NME)

Macho Nacho State

#8H

OH

Survey: Survey #2 - MWD1

Survey Report - Geographic

22 October, 2015

Project	Lea County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Macho Nacho State		
Site Position:		Northing:	446,445.50 usft
From:	Map	Easting:	722,760.20 usft
Position Uncertainty:	5.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 31.235 N
		Longitude:	103° 36' 46.730 W
		Grid Convergence:	0.38 °

Well	#8H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 13' 31.235 N
		Longitude:	103° 36' 46.730 W
		Ground Level:	3,571.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/17/2015	7.16
			Dip Angle (°)
			60.08
			Field Strength (nT)
			48,113

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			0.84

Survey Program	Date 10/22/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	8,900.0	Survey #1 - Gyro1 (OH)	CB-GYRO-MS
8,942.0	14,168.0	Survey #2 - MWD1 (OH)	MWD
			Description
			Camera based gyro multishot
			MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,900.0	1.57	185.13	8,899.0	-30.2	14.8	446,415.33	722,775.00	32° 13' 30.935 N	103° 36' 46.560 W
8,942.0	0.30	251.10	8,941.0	-30.8	14.7	446,414.72	722,774.85	32° 13' 30.929 N	103° 36' 46.562 W
KOP @ 8942 MD									
8,974.0	4.60	2.10	8,973.0	-29.5	14.6	446,415.98	722,774.81	32° 13' 30.942 N	103° 36' 46.563 W
9,005.0	9.80	8.00	9,003.8	-25.7	15.0	446,419.84	722,775.23	32° 13' 30.980 N	103° 36' 46.557 W
9,037.0	13.30	7.70	9,035.1	-19.3	15.9	446,426.18	722,776.10	32° 13' 31.042 N	103° 36' 46.547 W
9,068.0	16.50	6.90	9,065.1	-11.4	16.9	446,434.09	722,777.11	32° 13' 31.121 N	103° 36' 46.534 W
9,099.0	19.40	5.60	9,094.5	-1.9	17.9	446,443.58	722,778.14	32° 13' 31.214 N	103° 36' 46.522 W
9,131.0	21.20	2.70	9,124.6	9.2	18.7	446,454.65	722,778.93	32° 13' 31.324 N	103° 36' 46.512 W
9,162.0	23.00	359.80	9,153.3	20.8	19.0	446,466.31	722,779.17	32° 13' 31.439 N	103° 36' 46.508 W
9,193.0	24.30	0.70	9,181.7	33.2	19.0	446,478.75	722,779.23	32° 13' 31.562 N	103° 36' 46.506 W
9,224.0	25.80	0.00	9,209.8	46.4	19.1	446,491.87	722,779.31	32° 13' 31.692 N	103° 36' 46.504 W
9,256.0	27.40	359.50	9,238.4	60.7	19.0	446,506.20	722,779.24	32° 13' 31.834 N	103° 36' 46.504 W
9,287.0	29.70	357.50	9,265.6	75.5	18.6	446,521.01	722,778.85	32° 13' 31.981 N	103° 36' 46.507 W
9,318.0	32.00	356.20	9,292.2	91.4	17.8	446,536.88	722,777.97	32° 13' 32.138 N	103° 36' 46.516 W
9,350.0	35.30	357.70	9,318.8	109.1	16.8	446,554.58	722,777.03	32° 13' 32.313 N	103° 36' 46.526 W
9,381.0	39.00	0.50	9,343.5	127.8	16.6	446,573.29	722,776.76	32° 13' 32.498 N	103° 36' 46.528 W
9,412.0	41.70	3.30	9,367.2	147.8	17.2	446,593.34	722,777.44	32° 13' 32.696 N	103° 36' 46.518 W
9,459.0	47.40	2.70	9,400.7	180.8	19.0	446,626.26	722,779.15	32° 13' 33.022 N	103° 36' 46.496 W
9,507.0	54.60	2.00	9,430.8	218.0	20.5	446,663.51	722,780.67	32° 13' 33.391 N	103° 36' 46.475 W
9,554.0	62.20	1.90	9,455.5	258.0	21.8	446,703.48	722,782.03	32° 13' 33.786 N	103° 36' 46.456 W
9,601.0	66.20	2.70	9,475.9	300.3	23.5	446,745.76	722,783.73	32° 13' 34.204 N	103° 36' 46.433 W
9,663.0	73.80	1.30	9,497.1	358.4	25.6	446,803.94	722,785.75	32° 13' 34.780 N	103° 36' 46.405 W

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,714.6	80.00	0.18	9,508.8	408.7	26.2	446,854.17	722,786.39	32° 13' 35.277 N	103° 36' 46.394 W
80° @ 9714.6 MD, 9508.8 TVD									
9,757.0	85.10	359.30	9,514.3	450.7	26.0	446,896.19	722,786.20	32° 13' 35.693 N	103° 36' 46.392 W
9,886.0	93.60	1.40	9,515.7	579.6	26.8	447,025.06	722,786.99	32° 13' 36.968 N	103° 36' 46.373 W
9,980.0	91.20	359.90	9,511.8	673.5	27.9	447,118.96	722,788.05	32° 13' 37.897 N	103° 36' 46.354 W
10,074.0	92.20	358.80	9,509.0	767.4	26.8	447,212.91	722,786.99	32° 13' 38.827 N	103° 36' 46.359 W
10,168.0	91.20	358.70	9,506.2	861.3	24.7	447,306.84	722,784.94	32° 13' 39.756 N	103° 36' 46.375 W
10,262.0	91.20	359.70	9,504.3	955.3	23.4	447,400.81	722,783.63	32° 13' 40.686 N	103° 36' 46.383 W
10,356.0	89.70	359.70	9,503.5	1,049.3	22.9	447,494.81	722,783.13	32° 13' 41.617 N	103° 36' 46.381 W
10,450.0	92.00	358.80	9,502.1	1,143.3	21.7	447,588.78	722,781.90	32° 13' 42.547 N	103° 36' 46.388 W
10,544.0	91.00	0.60	9,499.7	1,237.2	21.2	447,682.74	722,781.41	32° 13' 43.476 N	103° 36' 46.387 W
10,639.0	87.80	1.90	9,500.7	1,332.2	23.3	447,777.70	722,783.48	32° 13' 44.416 N	103° 36' 46.355 W
10,733.0	89.30	1.70	9,503.0	1,426.1	26.2	447,871.62	722,786.44	32° 13' 45.345 N	103° 36' 46.314 W
10,827.0	91.30	0.50	9,502.5	1,520.1	28.0	447,965.59	722,788.24	32° 13' 46.275 N	103° 36' 46.285 W
10,921.0	89.10	2.10	9,502.2	1,614.1	30.2	448,059.56	722,790.37	32° 13' 47.205 N	103° 36' 46.253 W
11,015.0	90.20	1.90	9,502.8	1,708.0	33.5	448,153.50	722,793.65	32° 13' 48.134 N	103° 36' 46.208 W
11,109.0	92.20	1.90	9,500.8	1,801.9	36.6	448,247.42	722,796.77	32° 13' 49.063 N	103° 36' 46.164 W
11,203.0	91.70	1.40	9,497.6	1,895.8	39.3	448,341.33	722,799.47	32° 13' 49.992 N	103° 36' 46.125 W
11,297.0	91.80	1.10	9,494.8	1,989.8	41.3	448,435.26	722,801.52	32° 13' 50.922 N	103° 36' 46.094 W
11,392.0	89.20	359.90	9,493.9	2,084.7	42.2	448,530.25	722,802.35	32° 13' 51.862 N	103° 36' 46.077 W
11,486.0	90.20	359.10	9,494.4	2,178.7	41.3	448,624.24	722,801.53	32° 13' 52.792 N	103° 36' 46.079 W
11,580.0	91.30	357.80	9,493.2	2,272.7	38.8	448,718.19	722,798.99	32° 13' 53.722 N	103° 36' 46.101 W
11,674.0	92.40	357.30	9,490.2	2,366.6	34.8	448,812.06	722,794.97	32° 13' 54.651 N	103° 36' 46.141 W
11,768.0	90.40	357.90	9,487.9	2,460.4	30.8	448,905.94	722,791.04	32° 13' 55.580 N	103° 36' 46.179 W
11,862.0	90.80	359.10	9,486.9	2,554.4	28.4	448,999.90	722,788.58	32° 13' 56.510 N	103° 36' 46.201 W
11,956.0	92.30	358.50	9,484.3	2,648.3	26.4	449,093.84	722,786.61	32° 13' 57.440 N	103° 36' 46.216 W
12,050.0	90.30	0.70	9,482.2	2,742.3	25.8	449,187.81	722,785.96	32° 13' 58.370 N	103° 36' 46.216 W
12,144.0	89.30	2.20	9,482.5	2,836.3	28.1	449,281.77	722,788.33	32° 13' 59.299 N	103° 36' 46.181 W
12,238.0	90.90	1.20	9,482.4	2,930.2	30.9	449,375.73	722,791.12	32° 14' 0.229 N	103° 36' 46.142 W
12,333.0	93.20	0.80	9,479.0	3,025.1	32.6	449,470.64	722,792.78	32° 14' 1.168 N	103° 36' 46.115 W
12,427.0	90.70	2.60	9,475.8	3,119.0	35.4	449,564.54	722,795.57	32° 14' 2.097 N	103° 36' 46.075 W
12,521.0	88.80	2.80	9,476.2	3,212.9	39.8	449,658.43	722,800.00	32° 14' 3.026 N	103° 36' 46.016 W
12,615.0	90.40	2.50	9,476.8	3,306.8	44.1	449,752.32	722,804.34	32° 14' 3.955 N	103° 36' 45.958 W
12,709.0	88.40	1.90	9,477.8	3,400.7	47.8	449,846.24	722,807.95	32° 14' 4.884 N	103° 36' 45.909 W
12,803.0	89.60	2.70	9,479.5	3,494.6	51.5	449,940.15	722,811.72	32° 14' 5.813 N	103° 36' 45.858 W
12,897.0	90.90	2.60	9,479.0	3,588.5	55.9	450,034.05	722,816.07	32° 14' 6.742 N	103° 36' 45.800 W
12,992.0	87.80	1.10	9,480.1	3,683.5	58.9	450,128.98	722,819.13	32° 14' 7.681 N	103° 36' 45.757 W
13,086.0	89.10	1.50	9,482.7	3,777.4	61.1	450,222.92	722,821.27	32° 14' 8.610 N	103° 36' 45.725 W
13,180.0	90.70	0.80	9,482.8	3,871.4	63.0	450,316.89	722,823.15	32° 14' 9.540 N	103° 36' 45.695 W
13,274.0	92.40	359.90	9,480.3	3,965.4	63.5	450,410.85	722,823.73	32° 14' 10.470 N	103° 36' 45.681 W
13,368.0	91.70	1.80	9,476.9	4,059.3	64.9	450,504.78	722,825.12	32° 14' 11.399 N	103° 36' 45.658 W
13,462.0	88.50	1.50	9,476.8	4,153.2	67.6	450,598.73	722,827.83	32° 14' 12.329 N	103° 36' 45.619 W
13,556.0	90.00	1.70	9,478.0	4,247.2	70.3	450,692.68	722,830.45	32° 14' 13.258 N	103° 36' 45.581 W
13,650.0	86.80	0.40	9,480.6	4,341.1	72.0	450,786.61	722,832.17	32° 14' 14.188 N	103° 36' 45.553 W
13,744.0	87.80	0.40	9,485.0	4,435.0	72.6	450,880.50	722,832.83	32° 14' 15.117 N	103° 36' 45.539 W
13,838.0	88.00	356.80	9,488.5	4,528.9	70.3	450,974.40	722,830.53	32° 14' 16.046 N	103° 36' 45.558 W
13,932.0	88.50	358.50	9,491.4	4,622.8	66.5	451,068.27	722,826.68	32° 14' 16.975 N	103° 36' 45.595 W
14,026.0	89.10	358.00	9,493.3	4,716.7	63.6	451,162.21	722,823.81	32° 14' 17.905 N	103° 36' 45.622 W
14,168.0	89.10	358.00	9,495.6	4,858.6	58.7	451,304.10	722,818.86	32° 14' 19.309 N	103° 36' 45.668 W
BHL @ 14168 MD, 9495.6 TVD, 4858.6 N, 58.7 E, 4858.9 VS									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,942.0	8,941.0	-30.8	14.7	KOP @ 8942 MD
9,714.6	9,508.8	408.7	26.2	80° @ 9714.6 MD, 9508.8 TVD
14,168.0	9,495.6	4,858.6	58.7	BHL @ 14168 MD, 9495.6 TVD, 4858.6 N, 58.7 E, 4858.9 VS

Checked By: _____ Approved By: _____ Date: _____