

Results of Directional Survey

API number:	30-025-41959		
OGRID:		Operator:	MURCHISON OIL & GAS INC
		Property:	BRININSTOOL # 4H

surface	ULSTR:	M	04	T 24S	R 33E
				175 FSL	1050 FWL

BH Loc	ULSTR:	D	04	T 24S	R 33E
15525	MD	10959.9	TVD	297 FNL	919 FWL
				4983 FSL	

Top Perf/OH	ULSTR:	M	04	T 24S	R 33E
11040	MD	10935.9	TVD	503 FSL	967 FWL

Bot Perf/OH	ULSTR:	D	04	T 24S	R 33E
15400	MD	10962.8	TVD	422 FNL	1564 FWL
				4858 FSL	

	MD	N/S	E/W	VD
	11034.00	322.00	-82.50	10934.00
TOP PERFS/OH	11040.00	327.59	-83.49	10935.90
	11065.00	350.90	-87.60	10943.80
	15391.00	4673.60	514.18	10963.10
BOT PERFS/OH	15400.00	4682.60	513.89	10962.82
	15436.00	4718.60	512.74	10961.70

NEXT TO LAST	15473.00	4755.60	-130.00	10960.90
LAST READING	15525.00	4807.60	-131.10	10959.90
TD	15525.00	4807.60	-131.10	10959.90

Surface Location	175 FS	1050 FW
Projected BHL	4983 FS	919 FW
Location of		
Top Perfs/OH	503 FS	967 FW
Bottom Perfs/OH	4858 FS	1564 FW

SUMMARY of Subsurface Locations

Surface Location	M-04-24S-33E	175 FS	1050 FW	Vert. Depth
Top Perfs/OH	M-04-24S-33E	503 FS	967 FW	10935.90
Bottom Perfs/OH	D-04-24S-33E	4858 FS	1564 FW	10962.82
Projected TD	D-04-24S-33E	4983 FS	919 FW	10959.90



Job Number: SVMO-141205
 Company: Murchison Oil & Gas
 Lease/Well: Brininstool 4 State Com 4H
 Location: Lea County, NM
 Rig Name: Nabors #M29
 RKB: 22.5'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 6.81°
 Grid: East To Grid North
 File name: S:\2014SU~1\MURCHI~1\MO\BRININ~1\4STC4H.SVY
 Date/Time: 08-Sep-14 / 11:43
 Curve Name: Surface - 9735' M.D. (Rate Gyro)

HOBBS OCD

OCT 01 2014

RECEIVED

MS SURVEY

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 9735' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Shawn Cooper 9/8/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	1.36	10.08	199.98	2.34	.42	2.34	2.37	10.08	.68
400.00	1.51	8.50	399.92	7.28	1.22	7.28	7.38	9.52	.08
600.00	1.54	8.38	599.85	12.54	2.00	12.54	12.70	9.06	.02
800.00	1.60	14.75	799.77	17.90	3.10	17.90	18.17	9.84	.09
1000.00	2.31	15.13	999.65	24.49	4.87	24.49	24.97	11.24	.36
1200.00	2.93	19.34	1199.45	33.21	7.61	33.21	34.07	12.91	.32
1400.00	2.36	13.81	1399.23	42.03	10.29	42.03	43.27	13.75	.31
1600.00	2.35	11.14	1599.06	50.05	12.06	50.05	51.49	13.55	.06
1800.00	1.52	12.07	1798.95	56.67	13.41	56.67	58.24	13.31	.42

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2000.00	1.25	5.56	1998.89	61.44	14.18	61.44	63.05	12.99	.16
2200.00	1.22	4.40	2198.84	65.73	14.55	65.73	67.32	12.48	.02
2400.00	1.04	2.37	2398.80	69.67	14.79	69.67	71.22	11.99	.09
2600.00	.82	12.89	2598.78	72.87	15.18	72.87	74.44	11.77	.14
2800.00	.89	15.68	2798.75	75.76	15.92	75.76	77.42	11.87	.04
3000.00	.90	25.73	2998.73	78.68	17.02	78.68	80.50	12.21	.08
3200.00	1.16	27.45	3198.70	81.89	18.64	81.89	83.98	12.82	.13
3400.00	1.51	47.83	3398.64	85.45	21.53	85.45	88.12	14.14	.29
3600.00	1.50	51.16	3598.58	88.86	25.52	88.86	92.45	16.02	.04
3800.00	.71	73.00	3798.54	90.87	28.74	90.87	95.30	17.55	.44
4000.00	.56	111.31	3998.53	90.87	30.84	90.87	95.96	18.74	.22
4200.00	.24	69.21	4198.52	90.67	32.14	90.67	96.20	19.52	.21
4400.00	2.14	104.19	4398.47	89.90	36.15	89.90	96.90	21.91	.97
4600.00	2.88	121.80	4598.28	86.34	44.04	86.34	96.92	27.03	.53
4800.00	2.96	130.60	4798.02	80.33	52.23	80.33	95.82	33.03	.23
5000.00	2.27	131.69	4997.81	74.33	59.11	74.33	94.97	38.49	.35
5200.00	.82	155.92	5197.73	70.39	62.65	70.39	94.24	41.67	.78
5400.00	.79	152.87	5397.71	67.86	63.87	67.86	93.19	43.26	.03
5600.00	.76	157.56	5597.70	65.41	65.00	65.41	92.21	44.82	.04
5800.00	.51	166.28	5797.68	63.32	65.72	63.32	91.26	46.07	.13
6000.00	.48	161.19	5997.68	61.66	66.20	61.66	90.47	47.03	.03
6200.00	.57	165.81	6197.67	59.90	66.71	59.90	89.66	48.08	.05
6400.00	.39	195.41	6397.66	58.28	66.78	58.28	88.63	48.89	.15
6600.00	.57	210.56	6597.65	56.77	66.09	56.77	87.12	49.34	.11
6800.00	.65	225.73	6797.64	55.12	64.77	55.12	85.05	49.60	.09
7000.00	.62	228.21	6997.63	53.61	63.15	53.61	82.84	49.67	.02
7200.00	.72	216.52	7197.62	51.88	61.60	51.88	80.53	49.90	.08
7400.00	.96	216.74	7397.60	49.52	59.85	49.52	77.68	50.39	.12
7600.00	1.16	205.98	7597.56	46.36	57.96	46.36	74.22	51.34	.14

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7800.00	.75	193.19	7797.53	43.27	56.77	43.27	71.38	52.69	.23
8000.00	.74	207.96	7997.52	40.85	55.87	40.85	69.21	53.83	.10
8200.00	.85	231.15	8197.50	38.78	54.11	38.78	66.57	54.37	.17
8400.00	1.21	241.49	8397.47	36.84	51.10	36.84	62.99	54.21	.20
8600.00	1.23	238.98	8597.42	34.73	47.40	34.73	58.76	53.77	.03
8800.00	1.40	242.58	8797.37	32.50	43.39	32.50	54.21	53.17	.09
9000.00	1.39	240.35	8997.31	30.17	39.12	30.17	49.40	52.36	.03
9200.00	1.19	256.45	9197.26	28.48	34.99	28.48	45.12	50.85	.21
9400.00	1.18	287.53	9397.22	28.62	31.01	28.62	42.19	47.30	.32
9600.00	1.06	316.23	9597.18	30.57	27.76	30.57	41.30	42.24	.28
Last Survey Depth Recorded									
9735.00	1.02	301.71	9732.16	32.11	25.88	32.11	41.24	38.87	.20

Murchison Oil and Gas

Jackson Unit Section 4

Brininstool 4 State #4

HOBBS OCD
OCT 01 2014

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Survey: Brininstool 4 State #4H

MOJO Standard Survey

17 September, 2014

This survey is correct to the best of my knowledge and is supported
by actual field data.

(Signature)

Notarized this date 19th of September, 2014

Cynthia R Cottrell
Notary Signature County of Collin State of Texas



MOJO
DIRECTIONAL CORPORATION



Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Project	Jackson Unit Section 4		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Brininstool 4 State #4		
Site Position:		Northing:	451,869.17 usft
From:	Lat/Long	Easting:	773,488.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 14' 24.120 N
		Longitude:	103° 34' 56.918 W
		Grid Convergence:	0.40 °

Well	Brininstool 4 State #4					
Well Position	+N/-S	0.0 usft	Northing:	451,869.17 usft	Latitude:	32° 14' 24.120 N
	+E/-W	0.0 usft	Easting:	773,488.40 usft	Longitude:	103° 34' 56.918 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,634.2 usft	

Wellbore	Brininstool 4 State #4				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/07/2014	7.21	60.12	48,317

Design	Brininstool 4 State #4				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	358.59	

Survey Program	Date 17/09/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.0	15,525.0	Brininstool 4 State #4H (Brininstool 4 State	MWD	MWD - Standard

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.0	0.00	0.00	0.0	-3,656.2	0.0	0.0	0.0	0.00	451,869.17	773,488.40	
200.0	1.36	10.08	200.0	-3,456.2	2.3	0.4	2.3	0.68	451,871.50	773,488.82	
400.0	1.51	8.50	399.9	-3,256.3	7.3	1.2	7.2	0.08	451,876.45	773,489.62	
600.0	1.54	8.38	599.8	-3,056.4	12.5	2.0	12.5	0.02	451,881.71	773,490.41	
800.0	1.60	14.75	799.8	-2,856.4	17.9	3.1	17.8	0.09	451,887.07	773,491.51	
1,000.0	2.31	15.13	999.7	-2,656.5	24.5	4.9	24.4	0.36	451,893.66	773,493.27	
1,200.0	2.93	19.34	1,199.4	-2,456.8	33.2	7.6	33.0	0.32	451,902.38	773,496.02	
1,302.9	2.63	16.79	1,302.2	-2,354.0	38.0	9.2	37.7	0.31	451,907.12	773,497.57	
Rustler(Geoprog)											
1,400.0	2.36	13.81	1,399.2	-2,257.0	42.0	10.3	41.8	0.31	451,911.20	773,498.69	
1,600.0	2.35	11.14	1,599.1	-2,057.1	50.1	12.1	49.7	0.06	451,919.22	773,500.47	
1,800.0	1.52	12.07	1,798.9	-1,857.3	56.7	13.4	56.3	0.42	451,925.84	773,501.81	
2,000.0	1.25	5.56	1,998.9	-1,657.3	61.4	14.2	61.1	0.16	451,930.60	773,502.58	
2,200.0	1.22	4.40	2,198.8	-1,457.4	65.7	14.6	65.4	0.02	451,934.90	773,502.95	
2,400.0	1.04	2.37	2,398.8	-1,257.4	69.7	14.8	69.3	0.09	451,938.83	773,503.19	
2,600.0	0.82	12.89	2,598.8	-1,057.4	72.9	15.2	72.5	0.14	451,942.04	773,503.59	
2,800.0	0.89	15.68	2,798.8	-857.4	75.8	15.9	75.4	0.04	451,944.93	773,504.33	
3,000.0	0.90	25.73	2,998.7	-657.5	78.7	17.0	78.2	0.08	451,947.84	773,505.43	
3,200.0	1.16	27.45	3,198.7	-457.5	81.9	18.6	81.4	0.13	451,951.05	773,507.04	
3,400.0	1.51	47.83	3,398.6	-257.6	85.5	21.5	84.9	0.29	451,954.62	773,509.93	
3,600.0	1.50	51.16	3,598.6	-57.6	88.9	25.5	88.2	0.04	451,958.03	773,513.92	
3,800.0	0.71	73.00	3,798.5	142.3	90.9	28.7	90.1	0.44	451,960.03	773,517.15	
4,000.0	0.56	111.31	3,998.5	342.3	90.9	30.8	90.1	0.22	451,960.04	773,519.24	
4,200.0	0.24	69.21	4,198.5	542.3	90.7	32.1	89.8	0.21	451,959.83	773,520.54	
4,400.0	2.14	104.19	4,398.5	742.3	89.9	36.2	89.0	0.97	451,959.07	773,524.56	
4,600.0	2.88	121.80	4,598.3	942.1	86.3	44.0	85.2	0.53	451,955.50	773,532.45	
4,800.0	2.96	130.60	4,798.0	1,141.8	80.3	52.2	79.0	0.23	451,949.50	773,540.64	

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
5,000.0	2.27	131.69	4,997.8	1,341.6	74.3	59.1	72.9	0.35	451,943.50	773,547.52	
5,200.0	0.82	155.92	5,197.7	1,541.5	70.4	62.7	68.8	0.78	451,939.56	773,551.06	
5,219.5	0.82	155.63	5,217.2	1,561.0	70.1	62.8	68.6	0.03	451,939.31	773,551.17	
Bell Canyon(Geoprog)											
5,400.0	0.79	152.87	5,397.7	1,741.5	67.9	63.9	66.3	0.03	451,937.03	773,552.27	
5,600.0	0.76	157.56	5,597.7	1,941.5	65.4	65.0	63.8	0.04	451,934.57	773,553.41	
5,800.0	0.51	166.28	5,797.7	2,141.5	63.3	65.7	61.7	0.13	451,932.48	773,554.12	
6,000.0	0.48	161.19	5,997.7	2,341.5	61.7	66.2	60.0	0.03	451,930.82	773,554.60	
6,136.5	0.54	164.51	6,134.2	2,478.0	60.5	66.6	58.8	0.05	451,929.66	773,554.96	
Cherry Canyon(Geoprog)											
6,200.0	0.57	165.81	6,197.7	2,541.5	59.9	66.7	58.2	0.05	451,929.07	773,555.12	
6,400.0	0.39	195.41	6,397.7	2,741.5	58.3	66.8	56.6	0.15	451,927.45	773,555.18	
6,600.0	0.57	210.56	6,597.7	2,941.5	56.8	66.1	55.1	0.11	451,925.93	773,554.49	
6,800.0	0.65	225.73	6,797.6	3,141.4	55.1	64.8	53.5	0.09	451,924.29	773,553.18	
7,000.0	0.62	228.21	6,997.6	3,341.4	53.6	63.2	52.0	0.02	451,922.77	773,551.56	
7,200.0	0.72	216.52	7,197.6	3,541.4	51.9	61.6	50.3	0.08	451,921.04	773,550.00	
7,400.0	0.96	216.74	7,397.6	3,741.4	49.5	59.8	48.0	0.12	451,918.69	773,548.25	
7,516.6	1.07	209.98	7,514.2	3,858.0	47.8	58.7	46.3	0.14	451,916.96	773,547.12	
Brushy Canyon(Geoprog)											
7,600.0	1.16	205.98	7,597.6	3,941.4	46.4	58.0	44.9	0.14	451,915.53	773,546.36	
7,800.0	0.75	193.19	7,797.5	4,141.3	43.3	56.8	41.9	0.23	451,912.43	773,545.18	
8,000.0	0.74	207.96	7,997.5	4,341.3	40.9	55.9	39.5	0.10	451,910.02	773,544.27	
8,200.0	0.85	231.15	8,197.5	4,541.3	38.8	54.1	37.4	0.17	451,907.95	773,542.51	
8,400.0	1.21	241.49	8,397.5	4,741.3	36.8	51.1	35.6	0.20	451,906.01	773,539.50	
8,600.0	1.23	238.98	8,597.4	4,941.2	34.7	47.4	33.5	0.03	451,903.89	773,535.81	
8,800.0	1.40	242.58	8,797.4	5,141.2	32.5	43.4	31.4	0.09	451,901.66	773,531.80	
9,000.0	1.39	240.35	8,997.3	5,341.1	30.2	39.1	29.2	0.03	451,899.34	773,527.52	

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
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Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,200.0	1.19	256.45	9,197.3	5,541.1	28.5	35.0	27.6	0.21	451,897.65	773,523.39	
9,271.0	1.15	267.31	9,268.2	5,612.0	28.3	33.6	27.4	0.32	451,897.44	773,521.97	
Avalon Shale(Geoprog)											
9,400.0	1.18	287.53	9,397.2	5,741.0	28.6	31.0	27.8	0.32	451,897.78	773,519.41	
9,600.0	1.06	316.23	9,597.2	5,941.0	30.6	27.8	29.9	0.28	451,899.74	773,516.17	
9,735.0	1.00	301.70	9,732.2	6,076.0	32.1	25.9	31.4	0.20	451,901.26	773,514.30	
10,150.0	1.50	41.00	10,147.1	6,490.9	38.1	26.4	37.4	0.47	451,907.26	773,514.78	
10,181.0	0.90	20.40	10,178.1	6,521.9	38.6	26.7	38.0	2.35	451,907.80	773,515.14	
KOP											
10,213.0	2.80	327.50	10,210.1	6,553.9	39.5	26.4	38.9	7.40	451,908.69	773,514.80	
10,230.2	5.01	330.20	10,227.2	6,571.0	40.5	25.8	39.9	12.93	451,909.70	773,514.20	
1st Bone Springs Sand(Geoprog)											
10,244.0	6.80	331.10	10,241.0	6,584.8	41.8	25.1	41.1	12.93	451,910.94	773,513.51	
10,275.0	10.80	336.10	10,271.6	6,615.4	46.0	23.0	45.5	13.13	451,915.20	773,511.44	
10,307.0	13.40	339.00	10,302.9	6,646.7	52.2	20.5	51.7	8.34	451,921.41	773,508.90	
10,370.0	13.50	335.40	10,364.1	6,707.9	65.7	14.8	65.4	1.34	451,934.91	773,503.22	
10,402.0	13.10	333.80	10,395.3	6,739.1	72.4	11.7	72.1	1.70	451,941.56	773,500.07	
10,433.0	13.00	332.10	10,425.5	6,769.3	78.6	8.5	78.4	1.28	451,947.79	773,496.88	
10,465.0	12.70	330.80	10,456.7	6,800.5	84.9	5.1	84.7	1.30	451,954.04	773,493.48	
10,496.0	12.10	328.80	10,487.0	6,830.8	90.6	1.7	90.6	2.38	451,959.80	773,490.14	
10,528.0	11.80	326.10	10,518.3	6,862.1	96.2	-1.8	96.2	1.98	451,965.38	773,486.58	
10,560.0	11.40	326.30	10,549.6	6,893.4	101.6	-5.4	101.7	1.26	451,970.73	773,483.00	
10,592.0	10.40	320.90	10,581.0	6,924.8	106.4	-9.0	106.6	4.46	451,975.60	773,479.42	
10,623.0	12.40	317.10	10,611.4	6,955.2	111.0	-13.0	111.3	6.89	451,980.21	773,475.39	
10,655.0	15.40	320.70	10,642.5	6,986.3	116.9	-18.0	117.3	9.75	451,986.02	773,470.36	
10,687.0	17.50	323.00	10,673.2	7,017.0	124.0	-23.6	124.5	6.87	451,993.15	773,464.77	
10,717.0	17.10	328.40	10,701.8	7,045.6	131.3	-28.7	132.0	5.51	452,000.51	773,459.74	
10,749.0	19.60	335.70	10,732.2	7,076.0	140.2	-33.3	141.0	10.60	452,009.41	773,455.07	

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,777.0	23.35	341.16	10,758.2	7,102.0	149.8	-37.1	150.6	15.16	452,018.95	773,451.34
Cross South Hard Boundary@10777ftMD										
10,781.0	23.90	341.80	10,761.9	7,105.7	151.3	-37.6	152.2	15.16	452,020.47	773,450.83
10,812.0	28.90	343.30	10,789.7	7,133.5	164.4	-41.7	165.4	16.27	452,033.61	773,446.72
10,844.0	33.90	342.90	10,817.0	7,160.8	180.4	-46.5	181.5	15.64	452,049.56	773,441.87
10,876.0	40.00	343.10	10,842.5	7,186.3	198.8	-52.2	200.0	19.07	452,067.95	773,436.25
10,907.0	46.20	344.50	10,865.2	7,209.0	219.1	-58.0	220.5	20.24	452,088.28	773,430.36
10,939.0	51.30	345.50	10,886.3	7,230.1	242.3	-64.3	243.9	16.11	452,111.51	773,424.14
10,971.0	56.70	346.30	10,905.1	7,248.9	267.4	-70.6	269.1	17.00	452,136.62	773,417.84
11,002.0	62.60	347.60	10,920.7	7,264.5	293.5	-76.6	295.3	19.37	452,162.67	773,411.81
11,012.1	64.42	348.09	10,925.2	7,269.0	302.3	-78.5	304.1	18.62	452,171.46	773,409.92
2nd Bone Spring Sand(Geoprog)										
11,034.0	68.40	349.10	10,934.0	7,277.8	322.0	-82.5	323.9	18.62	452,191.17	773,405.94
11,065.0	74.70	350.70	10,943.8	7,287.6	350.9	-87.6	353.0	20.90	452,220.11	773,400.80
11,097.0	81.40	354.20	10,950.4	7,294.2	382.0	-91.7	384.1	23.51	452,251.12	773,396.70
11,129.0	86.60	356.30	10,953.8	7,297.6	413.7	-94.3	415.9	17.51	452,282.83	773,394.07
11,160.0	88.10	356.70	10,955.2	7,299.0	444.6	-96.2	446.8	5.01	452,313.73	773,392.18
11,192.0	88.30	355.30	10,956.2	7,300.0	476.5	-98.5	478.8	4.42	452,345.64	773,389.95
11,223.0	89.40	356.40	10,956.8	7,300.6	507.4	-100.7	509.7	5.02	452,376.55	773,387.70
11,255.0	90.90	356.70	10,956.7	7,300.5	539.3	-102.6	541.7	4.78	452,408.49	773,385.78
11,286.0	91.00	357.50	10,956.2	7,300.0	570.3	-104.2	572.7	2.60	452,439.45	773,384.21
11,317.0	91.50	358.60	10,955.5	7,299.3	601.3	-105.2	603.7	3.90	452,470.42	773,383.15
11,349.0	92.00	358.30	10,954.6	7,298.4	633.2	-106.1	635.6	1.82	452,502.40	773,382.29
11,381.0	90.90	358.80	10,953.8	7,297.6	665.2	-106.9	667.6	3.78	452,534.37	773,381.48
11,413.0	89.60	0.70	10,953.6	7,297.4	697.2	-107.1	699.6	7.19	452,566.37	773,381.34
11,508.0	89.60	358.50	10,954.3	7,298.1	792.2	-107.7	794.6	2.32	452,661.36	773,380.68
11,602.0	89.60	359.60	10,954.9	7,298.7	886.2	-109.3	888.6	1.17	452,755.34	773,379.12

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
11,697.0	90.30	359.30	10,955.0	7,298.8	981.2	-110.2	983.6	0.80	452,850.34	773,378.21	
11,793.0	90.80	0.00	10,954.1	7,297.9	1,077.2	-110.8	1,079.6	0.90	452,946.33	773,377.62	
11,888.0	91.00	1.40	10,952.6	7,296.4	1,172.1	-109.6	1,174.5	1.49	453,041.31	773,378.78	
11,983.0	89.80	1.70	10,951.9	7,295.7	1,267.1	-107.1	1,269.4	1.30	453,136.27	773,381.35	
12,078.0	89.80	0.40	10,952.3	7,296.1	1,362.1	-105.3	1,364.3	1.37	453,231.25	773,383.09	
12,172.0	89.10	0.40	10,953.2	7,297.0	1,456.1	-104.7	1,458.2	0.74	453,325.25	773,383.75	
12,266.0	89.30	358.50	10,954.5	7,298.3	1,550.1	-105.6	1,552.2	2.03	453,419.23	773,382.85	
12,360.0	89.40	357.50	10,955.6	7,299.4	1,644.0	-108.8	1,646.2	1.07	453,513.16	773,379.56	
12,454.0	89.60	356.70	10,956.4	7,300.2	1,737.9	-113.6	1,740.1	0.88	453,607.04	773,374.81	
12,548.0	88.90	358.10	10,957.6	7,301.4	1,831.8	-117.9	1,834.1	1.67	453,700.93	773,370.55	
12,642.0	89.10	0.00	10,959.2	7,303.0	1,925.7	-119.4	1,928.1	2.03	453,794.90	773,368.99	
12,737.0	89.10	0.20	10,960.7	7,304.5	2,020.7	-119.3	2,023.0	0.21	453,889.89	773,369.15	
12,832.0	88.80	0.50	10,962.5	7,306.3	2,115.7	-118.7	2,118.0	0.45	453,984.87	773,369.73	
12,926.0	89.00	359.40	10,964.3	7,308.1	2,209.7	-118.8	2,211.9	1.19	454,078.85	773,369.65	
13,020.0	89.30	359.80	10,965.7	7,309.5	2,303.7	-119.4	2,305.9	0.53	454,172.84	773,369.00	
13,116.0	87.70	358.80	10,968.2	7,312.0	2,399.6	-120.6	2,401.9	1.97	454,268.79	773,367.82	
13,211.0	89.20	0.90	10,970.8	7,314.6	2,494.6	-120.8	2,496.8	2.72	454,363.75	773,367.58	
13,306.0	89.20	1.70	10,972.1	7,315.9	2,589.5	-118.7	2,591.7	0.84	454,458.72	773,369.73	
13,400.0	89.00	1.30	10,973.6	7,317.4	2,683.5	-116.2	2,685.6	0.48	454,552.67	773,372.19	
13,495.0	89.30	0.80	10,975.0	7,318.8	2,778.5	-114.5	2,780.5	0.61	454,647.65	773,373.93	
13,590.0	90.20	0.00	10,975.4	7,319.2	2,873.5	-113.8	2,875.4	1.27	454,742.64	773,374.59	
13,685.0	90.70	359.80	10,974.6	7,318.4	2,968.5	-114.0	2,970.4	0.57	454,837.64	773,374.43	
13,779.0	91.80	0.30	10,972.6	7,316.4	3,062.4	-113.9	3,064.3	1.29	454,931.61	773,374.51	
13,874.0	89.80	359.50	10,971.3	7,315.1	3,157.4	-114.1	3,159.3	2.27	455,026.60	773,374.34	
13,969.0	89.60	359.30	10,971.8	7,315.6	3,252.4	-115.1	3,254.3	0.30	455,121.59	773,373.35	
14,064.0	91.30	358.50	10,971.0	7,314.8	3,347.4	-116.9	3,349.3	1.98	455,216.57	773,371.53	
14,159.0	90.30	357.90	10,969.7	7,313.5	3,442.3	-119.9	3,444.2	1.23	455,311.51	773,368.54	

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
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Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
14,254.0	90.00	359.10	10,969.4	7,313.2	3,537.3	-122.3	3,539.2	1.30	455,406.47	773,366.06	
14,348.0	89.30	357.20	10,970.0	7,313.8	3,631.3	-125.4	3,633.2	2.15	455,500.42	773,363.02	
14,442.0	90.90	359.30	10,969.8	7,313.6	3,725.2	-128.3	3,727.2	2.81	455,594.37	773,360.15	
14,537.0	90.20	1.30	10,968.9	7,312.7	3,820.2	-127.8	3,822.2	2.23	455,689.36	773,360.65	
14,632.0	90.10	2.60	10,968.7	7,312.5	3,915.1	-124.5	3,917.0	1.37	455,784.30	773,363.88	
14,727.0	90.80	1.80	10,967.9	7,311.7	4,010.1	-120.9	4,011.8	1.12	455,879.22	773,367.53	
14,822.0	89.20	2.30	10,967.9	7,311.7	4,105.0	-117.5	4,106.6	1.76	455,974.16	773,370.93	
14,916.0	89.20	0.20	10,969.3	7,313.1	4,199.0	-115.4	4,200.5	2.23	456,068.12	773,372.98	
15,012.0	89.40	359.30	10,970.4	7,314.2	4,294.9	-115.8	4,296.5	0.96	456,164.11	773,372.56	
15,106.0	90.90	358.80	10,970.2	7,314.0	4,388.9	-117.4	4,390.5	1.68	456,258.10	773,371.00	
15,201.0	90.90	357.70	10,968.7	7,312.5	4,483.9	-120.3	4,485.5	1.16	456,353.04	773,368.10	
15,296.0	92.00	357.70	10,966.3	7,310.1	4,578.8	-124.1	4,580.4	1.16	456,447.93	773,364.29	
15,391.0	91.90	358.00	10,963.1	7,306.9	4,673.6	-127.7	4,675.4	0.33	456,542.81	773,360.73	
15,436.0	91.46	358.44	10,961.7	7,305.5	4,718.6	-129.1	4,720.3	1.38	456,587.77	773,359.33	
Cross HArD Boundary@15436ftMD											
15,473.0	91.10	358.80	10,960.9	7,304.7	4,755.6	-130.0	4,757.3	1.38	456,624.75	773,358.44	
15,525.0	91.10	358.80	10,959.9	7,303.7	4,807.6	-131.1	4,809.3	0.00	456,676.73	773,357.35	

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Site Brininstool 4 State #4
Project:	Jackson Unit Section 4	TVD Reference:	WELL @ 3656.2usft (Original Well Elev)
Site:	Brininstool 4 State #4	MD Reference:	WELL @ 3656.2usft (Original Well Elev)
Well:	Brininstool 4 State #4	North Reference:	Grid
Wellbore:	Brininstool 4 State #4	Survey Calculation Method:	Minimum Curvature
Design:	Brininstool 4 State #4	Database:	EDM 5000.1 Single User Db

Formations				
Measured Depth (usft)	Vertical Depth (usft)	Name	Dip (°)	
7,516.6	7,514.2	Brushy Canyon(Geoprog)	0.00	
6,136.5	6,134.2	Cherry Canyon(Geoprog)	0.00	
10,230.2	10,227.2	1st Bone Springs Sand(Geoprog)	0.00	
11,012.1	10,925.2	2nd Bone Spring Sand(Geoprog)	0.00	
5,219.5	5,217.2	Bell Canyon(Geoprog)	0.00	
9,271.0	9,268.2	Avalon Shale(Geoprog)	0.00	
1,302.9	1,302.2	Rustler(Geoprog)	0.00	

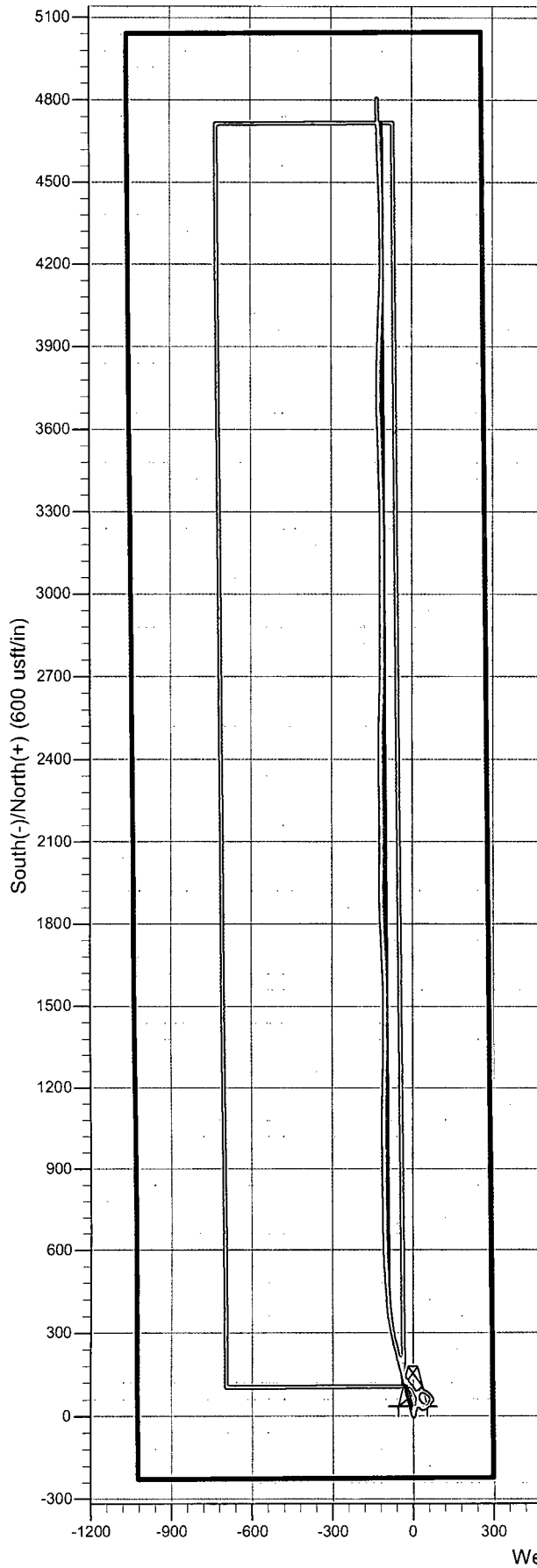
Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,181.0	10,178.1	38.6	26.7	KOP
10,777.0	10,758.2	149.8	-37.1	Cross South Hard Boundary@10777ftMD
15,436.0	10,961.7	4,718.6	-129.1	Cross HArD Boundary@15436ftMD

Checked By: _____	Approved By: _____	Date: _____
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Project: Jackson Unit Section 4
Site: Brininstool 4 State #4
Well: Brininstool 4 State #4
Wellbore: Brininstool 4 State #4
Design: Brininstool 4 State #4



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.81°
Magnetic Field
Strength: 48316.7nT
Dip Angle: 60.12°
Date: 08/07/2014
Model: IGRF2010



PROJECT DETAILS: Jackson Unit Section 4

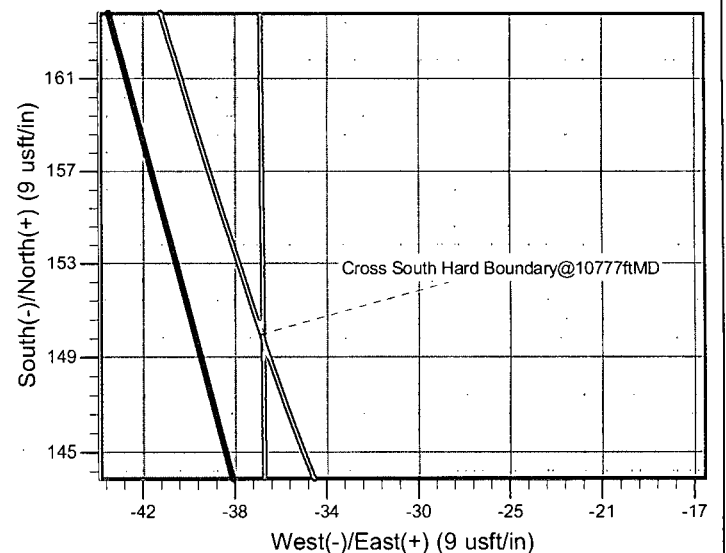
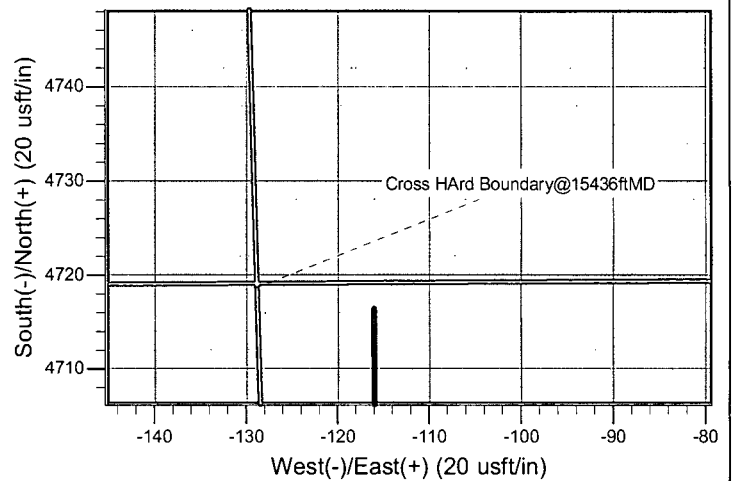
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

SITE DETAILS: Brininstool 4 State #4

Site Centre Latitude: 32° 14' 24.120 N
Longitude: 103° 34' 56.918 W

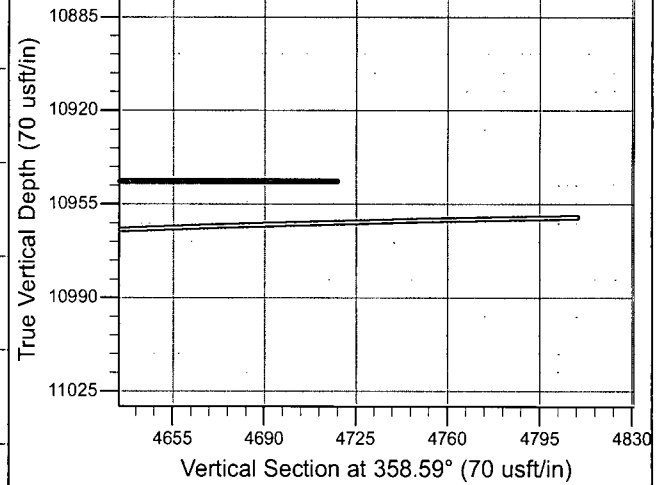
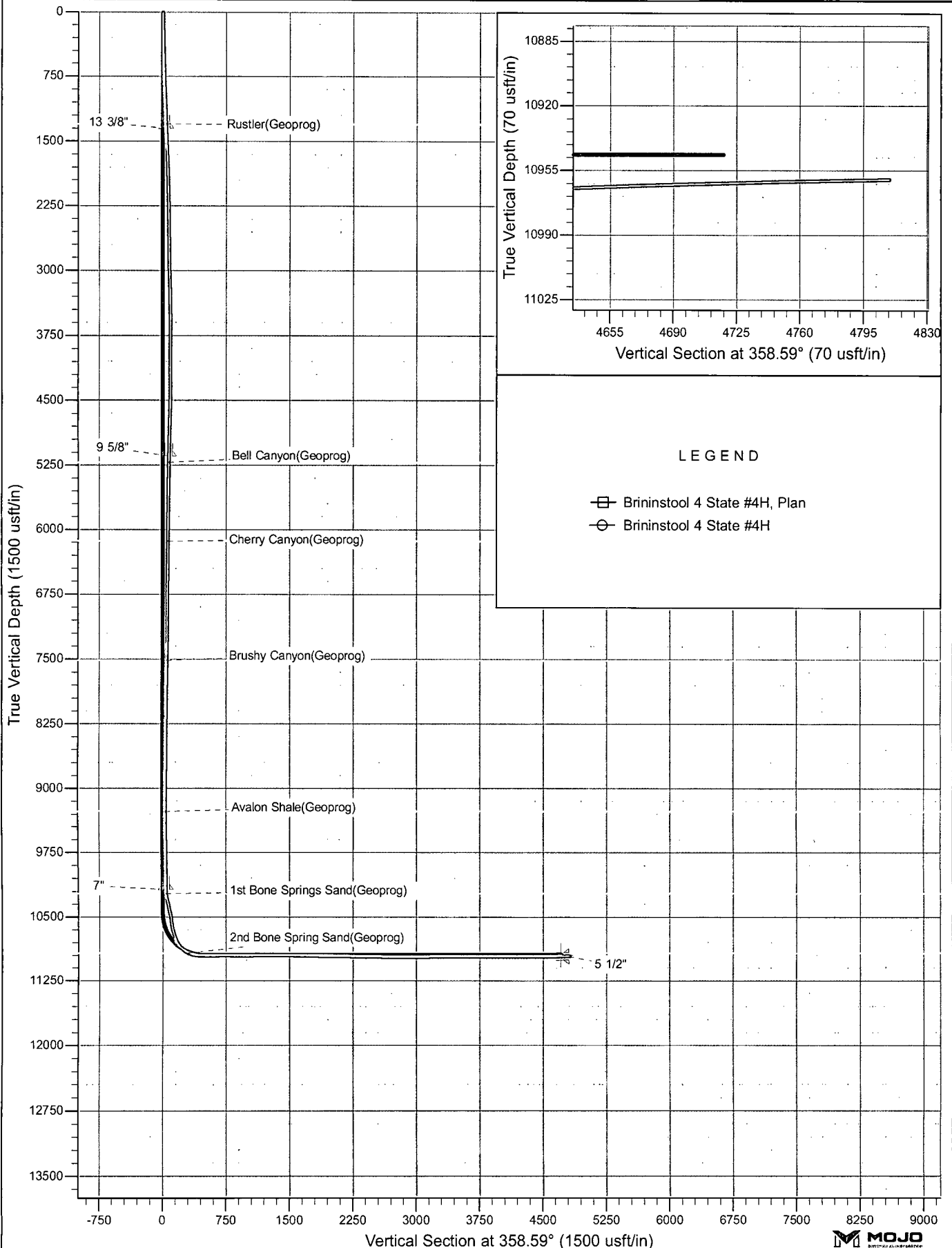
Declination: 7.21
Convergence: 0.40
Local North: Grid



Project: Jackson Unit Section 4
Site: Brininstool 4 State #4
Well: Brininstool 4 State #4
Wellbore: Brininstool 4 State #4
Design: Brininstool 4 State #4



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.81°
Magnetic Field
Strength: 48316.7nT
Dip Angle: 60.12°
Date: 08/07/2014
Model: IGRF2010



LEGEND

- Brininstool 4 State #4H, Plan
- Brininstool 4 State #4H