

Oilfield Services, U.S. Land West

Reservoir Development

Drilling & Measurements (Anadrill)

500 West Texas Avenue, Suite 500

Midland, Texas

79701, USA

Phone: (432)-571-4718

Fax: (432)-571-4795

Schlumberger

20-Mar-09

War-Wink, S. (Wolfcamp)

Railroad Commission of Texas

Oil and Gas Division

PO Box 12967

Capital Station

Austin, Texas 78711

Attention: Cathy Garrison

Re:

Energen Resources

University 20 #4701 ST01

Ward/Winkler County

Lariat 31

Ward County, TX

42-475-35473

JSO# 40018427

39471

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Anadrill), 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>Drain Hole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Mike Eckert MWD 2	Side Track #03	11,076.00 ft to 13,276.00 ft	February 4, 2009 to March 20, 2009	ShortPulse

A certified plat on the bottom hole located is oriented both to the surface location and to the lease lines (or until line in case of pooling) is attached to survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,

Rob Lacy

CC: Energen Resources

Enclosures: [2]

Certified RRC: 7007 0220 0002 4966 4920

State of Texas

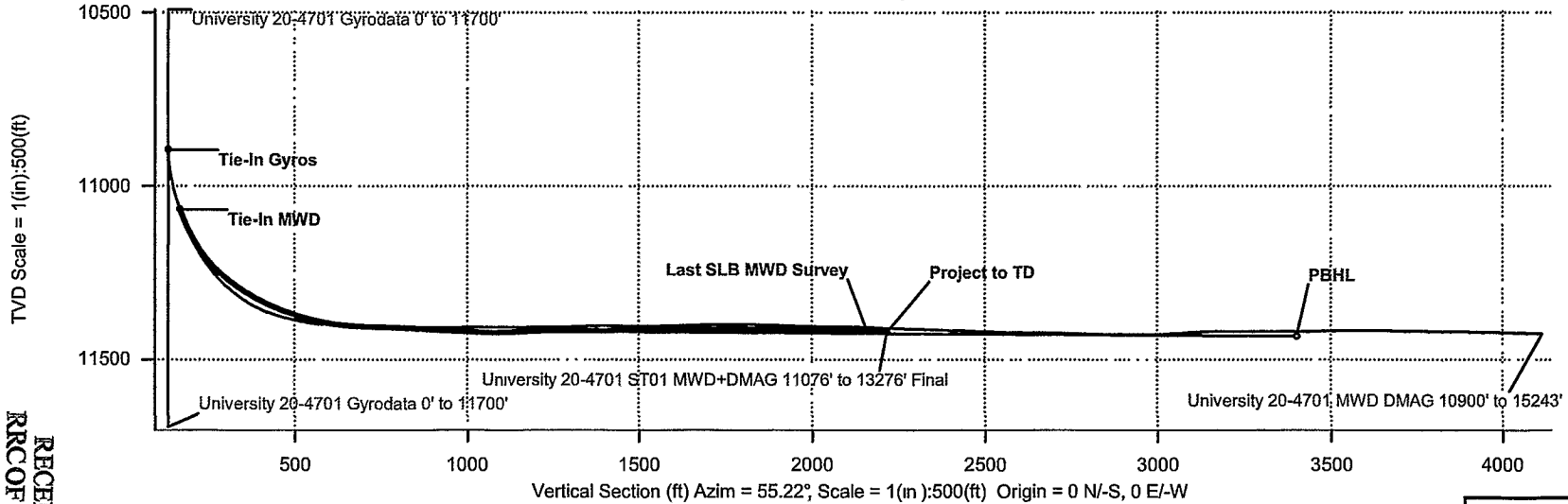
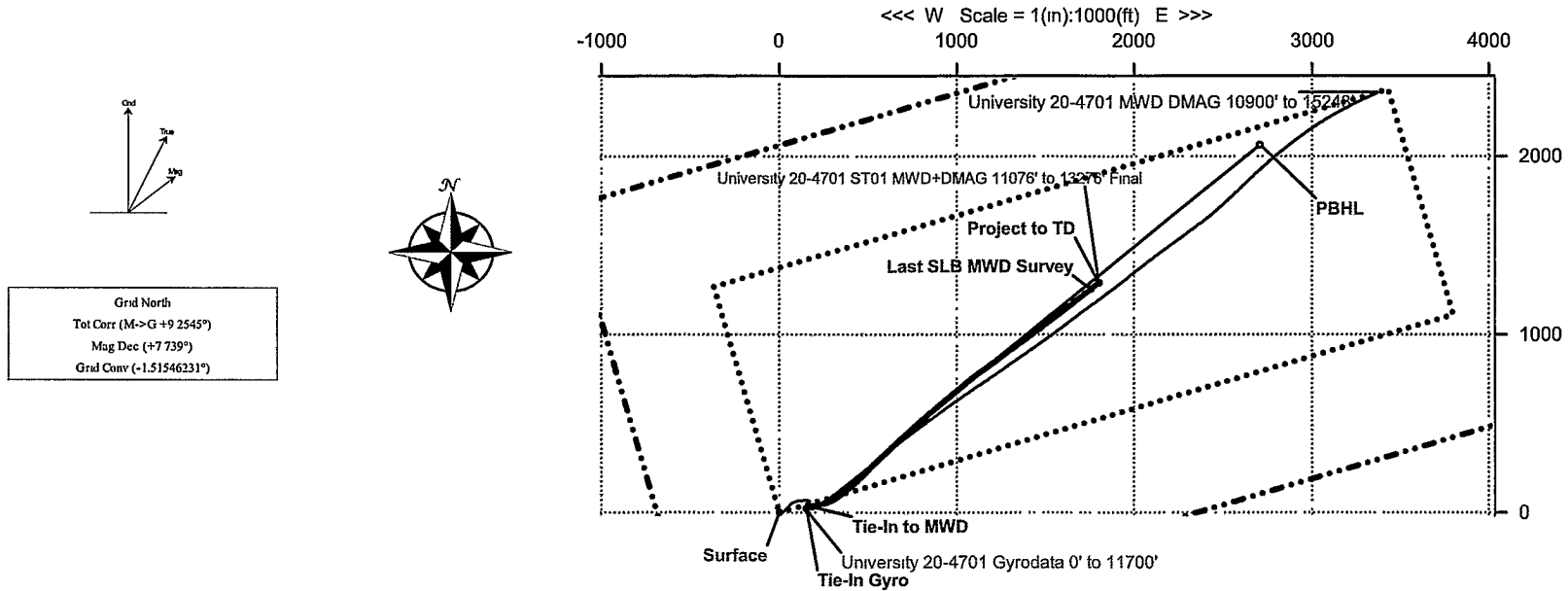
County of Midland

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WELL University 20-4701 ST01	FIELD TX, Ward County	STRUCTURE Energen, University 20-4701 ST01
Magnetic Parameters Model BGGM 2009 Dip: 59.762° Mag Dec: +7.739° Date FS March 12, 2009 45581.5 nT	Surface Location Lat. N31 39 41.946 Lon. W103 16 32.312 NAD27 Texas State Plane, Central Zone US Feet 731590.30 IUS 1084476.60 IUS Northing Easting Gnd Conv: -1.51546231° Scale Fact: 0.9999446484	Miscellaneous Skt. University 20-4701 ST01 Plan: Rev10 n1 12 Mar-09 TVD Ref: RKB (2779.00 ft above MSL) Stry Date: March 12, 2009



Quality Control
Date Drawn, Fm 12:25 PM March 20, 2009
Drawn by Kevin Wong
Checked by Rob Lacy
Client OK.

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University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final Survey Report

Report Date: March 26, 2009	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: Energen Resources Corporation	Vertical Section Azimuth: 54.350°
Field: TX, Ward County (NAD 27)	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: Energen, University 20-4701 / University 20-4701	TVD Reference Datum: RKB
Well: University 20-4701	TVD Reference Elevation: 2779.0 ft relative to MSL
Borehole: ST001	Sea Bed / Ground Level Elevation: 2758.000 ft relative to MSL
UWI/API#:	Magnetic Declination: 7.737°
Survey Name / Date: University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final / February 21, 2005	Total Field Strength: 48579.375 nT
Tort / AHD / DDI / ERD ratio: 162.048° / 2350.92 ft / 5.646 / 0.206	Magnetic Dip: 59.762°
Grid Coordinate System: NAD27 Texas State Planes, Central Zone, US Feet	Declination Date: March 20, 2009
Location Lat/Long: N 31 38 41.646, W 103 16 32.312	Magnetic Declination Model: BGM 2008
Location Grid N/E Y/X: N 731580.300 RUS, E 1084476.600 RUS	North Reference: Gnd North
Grid Convergence Angle: -1.51546231°	Total Corr Mag North -> Grid North: +9.252°
Grid Scale Factor: 0.99994465	Local Coordinates Referenced To: Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Tie-In	11076.00	20.27	73.57	11066.99	169.33	32.63	184.97	10.11	731612.93	1084661.56	N 31 38 42.017	W 103 16 30.183
	11111.00	24.50	78.51	11099.35	181.68	35.79	197.91	13.22	731616.09	1084674.49	N 31 38 42.052	W 103 16 30.034
	11143.00	27.67	78.69	11128.08	194.51	38.57	211.70	9.91	731618.87	1084688.29	N 31 38 42.083	W 103 16 29.876
	11174.00	31.27	75.88	11155.07	208.55	41.95	226.56	12.44	731622.25	1084703.15	N 31 38 42.120	W 103 16 29.705
	11206.00	34.97	73.69	11181.87	224.94	46.55	243.43	12.15	731626.85	1084720.01	N 31 38 42.170	W 103 16 29.511
	11238.00	38.50	72.21	11207.51	243.08	52.17	261.72	11.37	731632.47	1084738.30	N 31 38 42.230	W 103 16 29.301
	11270.00	43.42	66.67	11231.67	263.32	59.58	281.32	19.10	731639.87	1084757.90	N 31 38 42.309	W 103 16 29.077
	11302.00	48.32	60.77	11253.96	285.96	69.78	301.87	20.23	731650.08	1084778.45	N 31 38 42.415	W 103 16 28.842
	11334.00	51.89	55.82	11274.49	310.44	82.70	322.72	16.28	731662.99	1084799.31	N 31 38 42.548	W 103 16 28.605
	11365.00	55.20	54.43	11292.90	335.37	96.96	343.17	11.27	731677.25	1084819.75	N 31 38 42.695	W 103 16 28.373
	11397.00	58.50	52.68	11310.40	362.15	112.87	364.72	11.28	731693.17	1084841.29	N 31 38 42.858	W 103 16 28.129
	11461.00	64.97	50.16	11340.70	418.41	148.03	408.73	10.69	731728.33	1084885.31	N 31 38 43.217	W 103 16 27.631
	11491.00	68.39	47.64	11352.57	445.83	166.15	429.48	13.76	731746.44	1084906.05	N 31 38 43.402	W 103 16 27.396
	11523.00	70.00	45.22	11363.94	475.45	186.76	451.15	8.68	731767.05	1084927.72	N 31 38 43.611	W 103 16 27.152
	11555.00	72.67	43.88	11374.18	505.32	208.37	472.41	9.24	731788.66	1084948.98	N 31 38 43.831	W 103 16 26.913
	11587.00	75.61	43.99	11382.92	535.59	230.53	493.77	9.19	731810.82	1084970.34	N 31 38 44.056	W 103 16 26.673
	11618.00	77.94	44.96	11390.02	565.32	252.06	514.91	8.11	731832.35	1084991.48	N 31 38 44.274	W 103 16 26.435
	11650.00	80.16	46.78	11396.10	596.39	273.93	537.46	8.91	731854.22	1085014.03	N 31 38 44.496	W 103 16 26.181
	11682.00	82.96	47.07	11400.79	627.78	295.55	560.58	8.80	731875.83	1085037.14	N 31 38 44.716	W 103 16 25.920
	11713.00	86.34	46.94	11403.68	658.38	316.59	583.15	10.91	731896.88	1085059.72	N 31 38 44.930	W 103 16 25.665
	11745.00	88.13	46.26	11405.22	690.05	338.55	606.37	5.98	731918.84	1085082.94	N 31 38 45.154	W 103 16 25.403
	11787.00	88.75	47.56	11406.37	731.68	367.24	637.03	3.43	731947.51	1085113.59	N 31 38 45.445	W 103 16 25.058
	11851.00	87.69	47.47	11408.36	795.20	410.44	684.20	1.66	731990.72	1085160.76	N 31 38 45.885	W 103 16 24.525
	11883.00	87.34	47.57	11409.74	826.94	432.03	707.78	1.14	732012.30	1085184.34	N 31 38 46.105	W 103 16 24.259
	11915.00	87.03	48.31	11411.32	858.70	453.44	731.51	2.50	732033.71	1085208.07	N 31 38 46.323	W 103 16 23.991
	11946.00	86.41	48.23	11413.09	889.48	474.04	754.61	2.02	732054.31	1085231.17	N 31 38 46.533	W 103 16 23.731
	11978.00	86.10	48.43	11415.18	921.23	495.27	778.46	1.15	732075.54	1085255.02	N 31 38 46.749	W 103 16 23.461
	12009.00	86.38	49.23	11417.21	952.02	515.63	801.75	2.73	732095.90	1085278.30	N 31 38 46.957	W 103 16 23.198
	12041.00	87.01	49.86	11419.06	983.85	536.36	826.05	2.78	732116.63	1085302.61	N 31 38 47.168	W 103 16 22.924
	12073.00	87.04	49.48	11420.72	1015.71	557.04	850.42	1.19	732137.31	1085326.97	N 31 38 47.379	W 103 16 22.648
	12105.00	88.38	49.42	11422.00	1047.56	577.83	874.71	4.19	732158.10	1085351.26	N 31 38 47.591	W 103 16 22.374
	12137.00	90.14	49.99	11422.41	1079.45	598.52	899.12	5.78	732178.79	1085375.66	N 31 38 47.802	W 103 16 22.098
	12179.00	92.24	50.31	11421.54	1121.33	625.43	931.35	5.06	732205.69	1085407.90	N 31 38 48.077	W 103 16 21.733
	12201.00	92.58	50.20	11420.61	1143.25	639.48	948.25	1.62	732219.75	1085424.80	N 31 38 48.220	W 103 16 21.542
	12232.00	92.55	50.38	11419.22	1174.14	659.27	972.08	0.59	732239.53	1085448.62	N 31 38 48.422	W 103 16 21.273
	12264.00	92.00	50.49	11417.95	1206.04	679.63	996.73	1.75	732259.90	1085473.27	N 31 38 48.630	W 103 16 20.994
	12296.00	91.27	49.93	11417.04	1237.95	700.11	1021.30	2.87	732280.37	1085497.84	N 31 38 48.839	W 103 16 20.716
	12328.00	90.03	50.21	11416.68	1269.86	720.64	1045.84	3.97	732300.90	1085522.38	N 31 38 49.049	W 103 16 20.438
	12360.00	89.86	50.87	11416.71	1301.78	740.98	1070.55	2.13	732321.24	1085547.08	N 31 38 49.256	W 103 16 20.159
	12391.00	90.00	52.25	11416.75	1332.75	760.25	1094.83	4.47	732340.51	1085571.36	N 31 38 49.453	W 103 16 19.884
	12423.00	90.41	53.12	11416.63	1364.73	779.65	1120.28	3.01	732359.91	1085596.61	N 31 38 49.652	W 103 16 19.596
	12455.00	91.27	54.25	11416.16	1396.73	798.60	1146.06	4.44	732378.85	1085622.59	N 31 38 49.846	W 103 16 19.303
	12519.00	91.44	54.33	11414.65	1460.71	835.94	1198.01	0.29	732416.20	1085674.54	N 31 38 50.229	W 103 16 18.714
	12550.00	90.86	53.82	11414.03	1491.70	854.13	1223.11	2.49	732434.38	1085699.64	N 31 38 50.415	W 103 16 18.429
	12582.00	90.48	53.39	11413.65	1523.70	873.11	1248.86	1.79	732453.36	1085725.39	N 31 38 50.610	W 103 16 18.137
	12614.00	90.07	53.67	11413.50	1555.69	892.13	1274.60	1.55	732472.38	1085751.12	N 31 38 50.805	W 103 16 17.845
	12646.00	90.10	53.56	11413.45	1587.69	911.12	1300.36	0.36	732491.37	1085776.88	N 31 38 50.999	W 103 16 17.553
	12678.00	90.38	54.19	11413.32	1619.69	929.98	1326.21	2.15	732510.23	1085802.73	N 31 38 51.193	W 103 16 17.260
	12710.00	90.76	53.76	11413.00	1651.69	948.80	1352.08	1.79	732529.05	1085828.61	N 31 38 51.386	W 103 16 16.967

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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
	12742.00	90.76	53.72	11412.58	1683.68	967.73	1377.89	0.12	732547.97	1085854.41	N 31 38 51.580	W 103 16 16.674
	12773.00	90.79	53.92	11412.16	1714.68	986.03	1402.91	0.65	732566.27	1085879.42	N 31 38 51.767	W 103 16 16.390
	12805.00	90.21	53.74	11411.88	1746.67	1004.91	1428.74	1.90	732585.15	1085905.25	N 31 38 51.961	W 103 16 16.097
	12837.00	89.83	53.47	11411.87	1778.67	1023.90	1454.49	1.46	732604.14	1085931.01	N 31 38 52.155	W 103 16 15.805
	12869.00	89.69	53.13	11412.00	1810.67	1043.02	1480.15	1.15	732623.26	1085956.67	N 31 38 52.351	W 103 16 15.514
	12901.00	89.69	52.52	11412.17	1842.65	1062.36	1505.65	1.91	732642.60	1085982.16	N 31 38 52.549	W 103 16 15.225
	12933.00	89.59	53.25	11412.37	1874.64	1081.67	1531.17	2.30	732661.90	1086007.68	N 31 38 52.747	W 103 16 14.936
	12965.00	89.42	52.81	11412.65	1906.63	1100.91	1556.73	1.47	732681.15	1086033.24	N 31 38 52.944	W 103 16 14.647
	12996.00	89.31	52.06	11412.99	1937.61	1119.81	1581.30	2.45	732700.04	1086057.81	N 31 38 53.137	W 103 16 14.368
	13028.00	89.04	52.54	11413.46	1969.59	1139.37	1606.62	1.72	732719.61	1086083.13	N 31 38 53.338	W 103 16 14.081
	13059.00	88.90	52.16	11414.01	2000.57	1158.31	1631.16	1.31	732738.54	1086107.66	N 31 38 53.531	W 103 16 13.803
	13091.00	88.69	52.09	11414.69	2032.53	1177.95	1656.41	0.69	732758.18	1086132.92	N 31 38 53.732	W 103 16 13.517
	13123.00	88.56	52.02	11415.45	2064.50	1197.62	1681.64	0.46	732777.85	1086158.14	N 31 38 53.933	W 103 16 13.232
	13155.00	88.42	51.96	11416.30	2096.46	1217.32	1706.84	0.48	732797.55	1086183.35	N 31 38 54.135	W 103 16 12.946
	13187.00	88.45	51.86	11417.17	2128.42	1237.05	1732.02	0.33	732817.28	1086208.52	N 31 38 54.337	W 103 16 12.661
Last SLB MWD Survey	13218.00	87.83	51.53	11418.18	2159.37	1256.26	1756.33	2.27	732836.49	1086232.83	N 31 38 54.533	W 103 16 12.386
Project to TD	13276.00	87.83	51.53	11420.37	2217.26	1292.31	1801.71	0.00	732872.54	1086278.21	N 31 38 54.902	W 103 16 11.872

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

MD From (ft)

0.00

21.00

10900.00

10981.00

10981.00

11076.00

11238.00

11238.00

12264.00

13218.00

MD To (ft)

21.00

10900.00

10981.00

11076.00

11238.00

11238.00

12264.00

13218.00

13276.00

EOU Freq Survey Tool Type

Act-Stns SLB_CNSG+DPIPE-Depth Only

Act-Stns SLB_CNSG+DPIPE

Act-Stns SLB_CNSG+DPIPE

Act-Stns SLB_MWD+DMAG

Act-Stns SLB_MWD+DMAG

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Act-Stns SLB_MWD+DMAG

Act-Stns SLB_MWD+DMAG

Act-Stns SLB_MWD+DMAG

Borehole -> Survey

ST001 -> University 20-4701 Gyrodata 0' to 11700'

ST001 -> University 20-4701 Gyrodata 0' to 11700'

ST001 -> University 20-4701 MWD DMAG 10900' to 15243'

ST001 -> University 20-4701 MWD DMAG 10900' to 15243'

ST001 -> University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final

ST001 -> University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final

ST001 -> University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final

ST001 -> University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final

ST001 -> University 20-4701 ST01 MWD+DMAG 11076' to 13276' Final

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Oilfield Services, U.S. Land West

Reservoir Development

Drilling & Measurements (Anadrill)

500 West Texas Avenue, Suite 500

Midland, Texas

79701, USA

Phone: (432)-571-4718

Fax: (432)-571-4795

Schlumberger

I, Mike Eckert, certify that; I am employed by Drilling & Measurements (formerly Anadrill), a division of Schlumberger Technology Corporation; that I did on the day(s) of February 04, 2009, through March 20, 2009, conduct or supervise the taking of the ShortPulse surveys from a depth of 11076 feet to a depth of 13276 feet; 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 Energen Resources for the University 20 #4701 ST01 well (Side Track #03) API No. 42-475-35473 in, Texas; 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.

Mike Eckert

MWD 2

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Oilfield Services, U.S. Land West

Reservoir Development

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Schlumberger

30-Jan-09

Railroad Commission of Texas
Oil and Gas Division
PO Box 12967
Capital Station
Austin, Texas 78711

Attention: Cathy Garrison

Re:

Energen Resources
University 20 #4701
Ward/Winkler County
Larion 31
Ward County, TX
42-475-35473
JSO# 40018427

39471

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Anadrill), 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>Drain Hole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Francisco Huitron MWD 1	Side Track #02	10,900.00 ft to 15,243.00 ft	December 27, 2008 to January 25, 2009	ShortPulse

A certified plat on the bottom hole located is oriented both to the surface location and to the lease lines (or until line in case of pooling) is attached to survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,

Rob Lacy

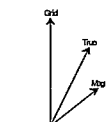
CC: Energen Resources
Enclosures: [2]
Certified RRC: 7007 2560 0003 3696 8275
State of Texas
County of Midland

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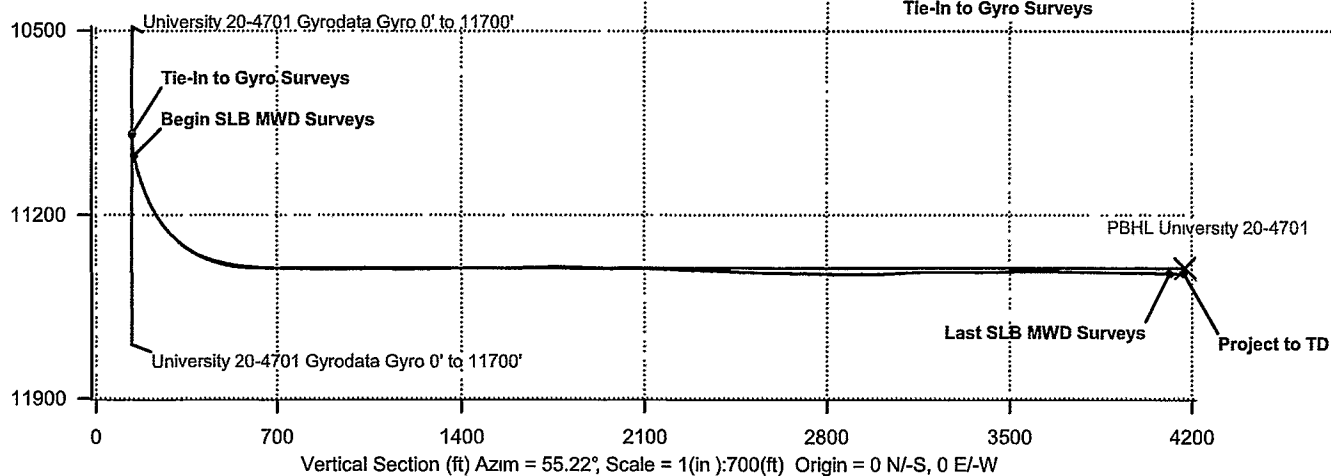
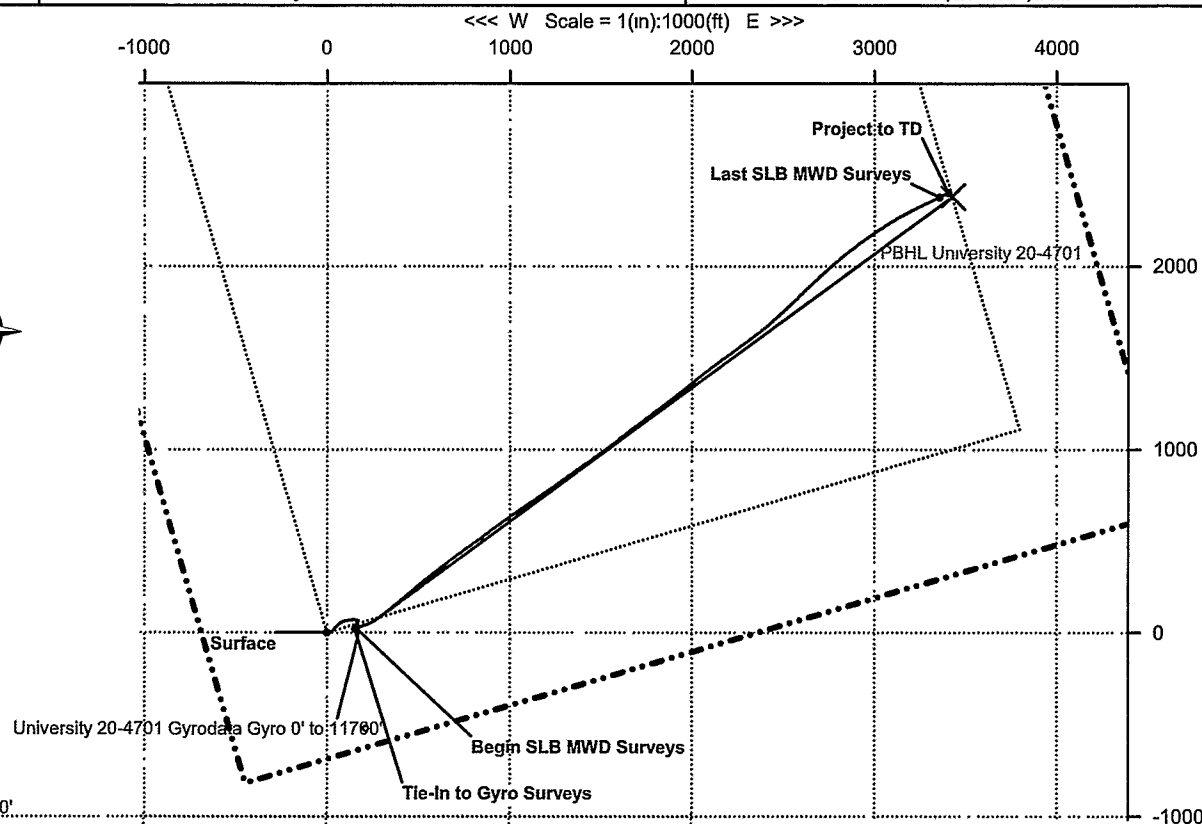
MAY 15 2009

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WELL University 20-4701	FIELD TX, Ward County	STRUCTURE Energen, University 20-4701
Magnetic Parameters Model: BGGM 2008 Dip: 59.766° Mag Dec: +7.761° Date: January 05, 2009 FS: 48599.4 nT	Surface Location Lat: N31 38 41.646 Lon: W103 16 32.312 NAD27 Texas State Planes, Central Zone US Feet Northing: 731580.30 RUS Easting: 1084476.60 RUS Grid Conv: -1.51546231° Scale Fact: 0.9999446484	Miscellaneous Slot: University 20-4701 Plan: Rev05 nrl 5-Jan-09 TVD Ref: RXB (2779.00 ft above MSL) Srvy Date: January 05, 2009



Grid North
 Tot Corr (M→G +9.2765°)
 Mag Dec (+7.761°)
 Grid Conv (-1.51546231°)



Quality Control
 Date Drawn: Feb 11 49 AM January 30, 2009
 Drawn by: Kevin Wong
 Checked by: Rob Lacy
 Client OK

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University 20-4701 MWD 10900' to 15243' Final Survey Report

Report Date:	January 30, 2009	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Energen Resources Corporation	Vertical Section Azimuth:	54.840°
Field:	TX, Ward County (NAD 27)	Vertical Section Origin:	N 0.000 ft, E 0.000 ft
Structure / Slot:	Energen, University 20-4701 / University 20-4701	TVD Reference Datum:	RKB
Well:	University 20-4701	TVD Reference Elevation:	2779.0 ft relative to MSL
Borehole:	Original Hole	Sea Bed / Ground Level Elevation:	2758.000 ft relative to MSL
UWI/API#:		Magnetic Declination:	7.764°
Survey Name / Date:	University 20-4701 MWD 10900' to 15243' Final / January 5, 2008	Total Field Strength:	48601.821 nT
Tort / AHD / DDI / ERD ratio:	204.842° / 4301.17 ft / 6.070 / 0.376	Magnetic Dip:	59.767°
Grid Coordinate System:	NAD27 Texas State Planes, Central Zone, US Feet	Declination Date:	December 27, 2008
Location Lat/Long:	N 31 38 41.646, W 103 16 32.312	Magnetic Declination Model:	BGGM 2008
Location Grid N/E/Y/X:	N 731580 300 ftUS, E 1084476.600 ftUS	North Reference:	Grid North
Grid Convergence Angle:	-1.51546231°	Total Corr Mag North -> Grid North:	+9.279°
Grid Scale Factor:	0.99994465	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Tie-In to Gyro Surveys	10900.00	2 01	137 74	10895.20	137.11	21.15	152 81	0 94	731601.45	1084629.40	N 31 38 41 895	W 103 16 30 551
Begin SLB MWD Surveys	10981.00	11 37	62 45	10975.63	145.22	23.80	160 86	13.62	731604.10	1084637.46	N 31 38 41 923	W 103 16 30.459
	11044.00	17.10	71 24	11036.68	160.28	29.66	175 15	9.70	731609.96	1084651.74	N 31 38 41.985	W 103 16 30.295
	11076.00	20.26	73 22	11066.99	170.05	32.77	184.92	10.07	731613.07	1084661.51	N 31 38 42.018	W 103 16 30 183
	11106.00	20.94	72 51	11095.07	180.09	35.88	195.00	2.41	731616.18	1084671.59	N 31 38 42.052	W 103 16 30 068
	11138.00	23.29	70 11	11124.72	191.64	39.75	206.41	7.87	731620.05	1084682.99	N 31 38 42 093	W 103 16 29 937
	11170.00	26.39	68 26	11153.75	204.66	44.54	218.96	9.99	731624.84	1084695.55	N 31 38 42 144	W 103 16 29.793
	11201.00	29.24	66 70	11181.17	218.78	50.09	232.32	9.49	731630.39	1084708.91	N 31 38 42.202	W 103 16 29 641
	11233.00	33.21	61.84	11208.53	235.13	57.32	247.23	14.68	731637.62	1084723.82	N 31 38 42 278	W 103 16 29.470
	11265.00	36.74	57 13	11234.75	253.40	66.66	263.01	13.88	731646.95	1084739.59	N 31 38 42 374	W 103 16 29 291
	11296.00	41.22	53 67	11258.85	272.89	77.75	279.03	16.06	731658.04	1084755.62	N 31 38 42.488	W 103 16 29 109
	11328.00	45.69	53 63	11282.07	294.89	90.79	296.75	13.97	731671.08	1084773.34	N 31 38 42 622	W 103 16 28 908
	11360.00	50.11	52.84	11303.52	318.62	105.00	315.77	13.93	731685.29	1084792.35	N 31 38 42 767	W 103 16 28 692
	11391.00	53.95	51 14	11322.59	343.02	120.05	335.01	13.12	731700.35	1084811.59	N 31 38 42 921	W 103 16 28 475
	11423.00	58.95	51 45	11340.27	369.63	136.72	355.82	15.65	731717.01	1084832.40	N 31 38 43.091	W 103 16 28.239
	11455.00	65.45	50.68	11355.19	397.86	154.51	377.82	20.42	731734.80	1084854.40	N 31 38 43 273	W 103 16 27.990
	11487.00	70.76	49.77	11367.11	427.44	173.50	400.63	16.80	731753.79	1084877.21	N 31 38 43 467	W 103 16 27.732
	11519.00	74.14	49.36	11376.76	457.82	193.29	423.85	10.63	731773.57	1084900.42	N 31 38 43.669	W 103 16 27.470
	11550.00	77.09	49.35	11384.46	487.71	212.84	446.63	9.52	731793.13	1084923.20	N 31 38 43 868	W 103 16 27.212
	11582.00	79.31	49.30	11391.01	518.88	233.26	470.38	6.94	731813.54	1084946.96	N 31 38 44.076	W 103 16 26.944
	11613.00	82.30	50.25	11395.96	549.36	253.02	493.75	10.11	731833.30	1084970.32	N 31 38 44.278	W 103 16 26 680
	11651.00	86.42	50.90	11399.69	587.07	277.03	522.95	10.97	731857.31	1084999.52	N 31 38 44 523	W 103 16 26 349
	11682.00	87.56	51.12	11401.32	617.95	296.50	547.01	3.75	731876.79	1085023.58	N 31 38 44.722	W 103 16 26 077
	11714.00	88.83	51.79	11402.33	649.88	316.43	572.03	4.49	731896.71	1085048.59	N 31 38 44 926	W 103 16 25 794
	11746.00	88.45	52.09	11403.09	681.83	336.15	597.22	1.51	731916.44	1085073.78	N 31 38 45 128	W 103 16 25.509
	11777.00	88.18	52.51	11404.00	712.79	355.10	621.73	1.61	731935.38	1085098.30	N 31 38 45 321	W 103 16 25.231
	11809.00	88.11	52.57	11405.04	744.74	374.56	647.12	0.29	731954.83	1085123.68	N 31 38 45 521	W 103 16 24 943
	11841.00	88.14	52.98	11406.08	776.71	393.90	672.59	1.28	731974.18	1085149.15	N 31 38 45.719	W 103 16 24 655
	11872.00	88.31	53.68	11407.04	807.68	412.41	697.44	2.32	731992.69	1085174.00	N 31 38 45.908	W 103 16 24.373
	11904.00	88.93	53.93	11407.81	839.67	431.30	723.26	2.09	732011.58	1085199.82	N 31 38 46.102	W 103 16 24.080
	11936.00	89.24	54.24	11408.32	871.66	450.07	749.17	1.37	732030.34	1085225.73	N 31 38 46.294	W 103 16 23.786
	11968.00	90.10	54.53	11408.51	903.66	468.70	775.18	2.84	732048.98	1085251.74	N 31 38 46 485	W 103 16 23.491
	11999.00	90.41	54.36	11408.37	934.66	486.73	800.40	1.14	732067.00	1085276.96	N 31 38 46.670	W 103 16 23 205
	12031.00	90.38	54.17	11408.15	966.65	505.42	826.38	0.60	732085.69	1085302.93	N 31 38 46 862	W 103 16 22 910
	12063.00	90.59	53.75	11407.88	998.65	524.24	852.25	1.47	732104.51	1085328.80	N 31 38 47 055	W 103 16 22 617
	12095.00	90.45	53.25	11407.59	1030.64	543.28	877.98	1.62	732123.55	1085354.52	N 31 38 47 250	W 103 16 22 325
	12126.00	90.24	53.74	11407.40	1061.63	561.72	902.89	1.72	732141.99	1085379.44	N 31 38 47 439	W 103 16 22 043
	12157.00	89.72	53.33	11407.41	1092.62	580.14	927.82	2.14	732160.41	1085404.37	N 31 38 47.628	W 103 16 21 760
	12220.00	89.79	54.37	11407.68	1155.61	617.31	978.69	1.65	732197.57	1085455.24	N 31 38 48 009	W 103 16 21.183
	12284.00	90.31	54.96	11407.63	1219.61	654.32	1030.90	1.23	732234.58	1085507.44	N 31 38 48 389	W 103 16 20.591
	12348.00	91.93	56.43	11406.38	1283.59	690.38	1083.76	3.42	732270.64	1085560.29	N 31 38 48.759	W 103 16 19.991
	12410.00	91.76	55.90	11404.38	1345.54	724.89	1135.23	0.90	732305.14	1085611.76	N 31 38 49.114	W 103 16 19.406
	12474.00	89.90	55.11	11403.45	1409.52	761.13	1187.97	3.16	732341.38	1085664.50	N 31 38 49 486	W 103 16 18.807
	12505.00	89.66	55.10	11403.57	1440.52	778.86	1213.39	0.77	732359.11	1085689.92	N 31 38 49 668	W 103 16 18 518
	12569.00	90.00	54.84	11403.76	1504.52	815.60	1265.80	0.67	732395.85	1085742.33	N 31 38 50.045	W 103 16 17.924
	12600.00	90.03	54.93	11403.75	1535.52	833.43	1291.16	0.31	732413.68	1085767.68	N 31 38 50 228	W 103 16 17 636
	12632.00	90.62	55.08	11403.57	1567.52	851.78	1317.37	1.90	732432.03	1085793.90	N 31 38 50 417	W 103 16 17 338
	12664.00	91.38	54.88	11403.01	1599.52	870.14	1343.57	2.46	732450.39	1085820.10	N 31 38 50.605	W 103 16 17.041

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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
	12696.00	91.82	55.40	11402.12	1631.50	888.42	1369.82	2.13	732468.67	1085846.34	N 31 38 50.793	W 103 16 16.743
	12727.00	91.69	55.08	11401.17	1662.49	906.09	1395.28	1.11	732486.34	1085871.80	N 31 38 50.975	W 103 16 16.454
	12759.00	91.55	55.29	11400.27	1694.47	924.35	1421.54	0.79	732504.60	1085898.06	N 31 38 51.162	W 103 16 16.156
	12791.00	91.31	54.81	11399.47	1726.46	942.68	1447.76	1.68	732522.92	1085924.28	N 31 38 51.350	W 103 16 15.858
	12822.00	90.76	54.01	11398.91	1757.46	960.72	1472.96	3.13	732540.96	1085949.48	N 31 38 51.535	W 103 16 15.572
	12854.00	89.00	53.78	11398.97	1789.45	979.57	1498.82	5.55	732559.81	1085975.33	N 31 38 51.729	W 103 16 15.279
	12886.00	88.90	53.95	11399.56	1821.44	998.44	1524.66	0.62	732578.68	1086001.17	N 31 38 51.922	W 103 16 14.986
	12981.00	88.00	52.37	11402.13	1916.36	1055.37	1600.66	1.91	732635.61	1086077.16	N 31 38 52.505	W 103 16 14.125
	13013.00	87.90	52.20	11403.28	1948.31	1074.94	1625.95	0.62	732655.18	1086102.46	N 31 38 52.705	W 103 16 13.838
	13109.00	89.72	53.22	11405.27	2044.22	1133.08	1702.31	2.17	732713.32	1086178.81	N 31 38 53.300	W 103 16 12.973
	13140.00	89.83	53.21	11405.39	2075.20	1151.65	1727.14	0.36	732731.88	1086203.64	N 31 38 53.491	W 103 16 12.691
	13171.00	88.76	53.11	11405.77	2106.19	1170.23	1751.94	3.47	732750.46	1086228.44	N 31 38 53.681	W 103 16 12.410
	13235.00	88.14	53.02	11407.50	2170.13	1208.68	1803.08	0.98	732788.91	1086279.58	N 31 38 54.075	W 103 16 11.831
	13267.00	88.21	52.98	11408.52	2202.10	1227.92	1828.62	0.25	732808.15	1086305.12	N 31 38 54.272	W 103 16 11.541
	13331.00	88.21	53.08	11410.52	2266.04	1266.39	1879.73	0.16	732846.62	1086356.23	N 31 38 54.666	W 103 16 10.962
	13394.00	88.14	51.69	11412.53	2328.95	1304.83	1929.61	2.21	732885.05	1086406.10	N 31 38 55.059	W 103 16 10.397
	13426.00	87.56	51.39	11413.73	2360.87	1324.72	1954.65	2.04	732904.94	1086431.14	N 31 38 55.262	W 103 16 10.113
	13457.00	87.38	51.31	11415.10	2391.78	1344.06	1978.84	0.64	732924.28	1086455.32	N 31 38 55.460	W 103 16 9.840
	13489.00	87.28	51.16	11416.59	2423.69	1364.07	2003.76	0.56	732944.29	1086480.25	N 31 38 55.664	W 103 16 9.557
	13553.00	87.69	51.64	11419.40	2487.51	1403.96	2053.73	0.99	732984.18	1086530.21	N 31 38 56.072	W 103 16 8.992
	13585.00	88.04	52.43	11420.59	2519.45	1423.63	2078.94	2.70	733003.85	1086555.42	N 31 38 56.273	W 103 16 8.706
	13616.00	88.80	53.00	11421.44	2550.41	1442.41	2103.60	3.06	733022.62	1086580.07	N 31 38 56.465	W 103 16 8.427
	13680.00	89.59	54.26	11422.34	2614.39	1480.35	2155.12	2.32	733060.57	1086631.60	N 31 38 56.854	W 103 16 7.843
	13780.00	88.86	53.36	11423.69	2714.36	1539.39	2235.82	1.16	733119.60	1086712.29	N 31 38 57.459	W 103 16 6.927
	13812.00	88.69	53.04	11424.38	2746.34	1558.66	2261.44	1.13	733138.77	1086737.91	N 31 38 57.656	W 103 16 6.637
	13843.00	88.18	53.24	11425.23	2777.32	1577.15	2286.23	1.77	733157.35	1086762.70	N 31 38 57.846	W 103 16 6.356
	13875.00	88.76	53.25	11426.08	2809.29	1596.29	2311.86	1.81	733176.50	1086788.33	N 31 38 58.042	W 103 16 6.065
	13907.00	88.80	53.10	11426.76	2841.27	1615.46	2337.47	0.49	733195.67	1086813.94	N 31 38 58.238	W 103 16 5.775
	13939.00	90.03	52.94	11427.09	2873.26	1634.71	2363.03	3.88	733214.92	1086839.49	N 31 38 58.435	W 103 16 5.485
	13971.00	91.07	52.35	11426.78	2905.23	1654.13	2388.47	3.74	733234.33	1086864.93	N 31 38 58.634	W 103 16 5.197
	14003.00	90.00	49.36	11426.48	2937.15	1674.32	2413.28	9.92	733254.53	1086889.74	N 31 38 58.840	W 103 16 4.916
	14035.00	89.38	47.43	11426.66	2968.94	1695.57	2437.20	6.33	733275.77	1086913.66	N 31 38 59.057	W 103 16 4.646
	14067.00	91.07	47.96	11426.53	3000.69	1717.11	2460.87	5.53	733297.31	1086937.33	N 31 38 59.276	W 103 16 4.379
	14099.00	92.41	47.65	11425.56	3032.44	1738.59	2484.57	4.30	733318.79	1086961.02	N 31 38 59.495	W 103 16 4.112
	14130.00	93.62	47.26	11423.93	3063.14	1759.52	2507.37	4.10	733339.72	1086983.83	N 31 38 59.708	W 103 16 3.854
	14162.00	93.61	46.93	11421.91	3094.78	1781.26	2530.77	1.03	733361.46	1087007.22	N 31 38 59.929	W 103 16 3.590
	14194.00	92.34	46.23	11420.25	3126.41	1803.23	2553.98	4.53	733383.42	1087030.43	N 31 39 0.152	W 103 16 3.329
	14223.00	91.58	45.94	11419.26	3155.05	1823.33	2574.85	2.80	733403.52	1087051.31	N 31 39 0.357	W 103 16 3.093
	14255.00	89.93	45.55	11418.84	3186.64	1845.66	2597.77	5.30	733425.85	1087074.22	N 31 39 0.584	W 103 16 2.835
	14287.00	89.24	45.53	11419.07	3218.22	1868.07	2620.61	2.16	733448.26	1087097.06	N 31 39 0.811	W 103 16 2.578
	14319.00	90.10	46.54	11419.25	3249.84	1890.28	2643.64	4.15	733470.48	1087120.09	N 31 39 1.037	W 103 16 2.318
	14350.00	90.41	47.04	11419.11	3280.54	1911.51	2666.24	1.90	733491.70	1087142.68	N 31 39 1.253	W 103 16 2.063
	14382.00	89.90	47.21	11419.03	3312.25	1933.28	2689.69	1.68	733513.47	1087166.13	N 31 39 1.474	W 103 16 1.799
	14414.00	89.62	47.52	11419.16	3343.98	1954.96	2713.23	1.31	733535.14	1087189.67	N 31 39 1.695	W 103 16 1.533
	14446.00	89.76	48.56	11419.33	3375.75	1976.35	2737.02	3.28	733556.54	1087213.47	N 31 39 1.913	W 103 16 1.265
	14478.00	90.83	48.84	11419.17	3407.57	1997.47	2761.06	3.46	733577.66	1087237.50	N 31 39 2.128	W 103 16 0.993
	14509.00	91.34	49.54	11418.58	3438.41	2017.73	2784.52	2.79	733597.91	1087260.96	N 31 39 2.335	W 103 16 0.728
	14541.00	91.44	50.34	11417.81	3470.28	2038.32	2809.01	2.52	733618.50	1087285.45	N 31 39 2.545	W 103 16 0.451
	14573.00	91.24	51.03	11417.06	3502.19	2058.58	2833.76	2.24	733638.77	1087310.19	N 31 39 2.752	W 103 16 0.171
	14605.00	91.00	51.62	11416.43	3534.12	2078.58	2858.73	1.99	733658.76	1087335.17	N 31 39 2.956	W 103 15 59.888
	14637.00	90.62	52.55	11415.98	3566.08	2098.24	2883.98	3.14	733678.42	1087360.41	N 31 39 3.157	W 103 15 59.602
	14669.00	89.93	53.19	11415.83	3598.06	2117.55	2909.49	2.94	733697.73	1087385.92	N 31 39 3.355	W 103 15 59.313
	14701.00	89.48	53.78	11415.99	3630.05	2136.60	2935.21	2.32	733716.77	1087411.64	N 31 39 3.550	W 103 15 59.022
	14732.00	88.86	54.59	11416.44	3661.05	2154.73	2960.34	3.29	733734.91	1087436.77	N 31 39 3.736	W 103 15 58.737
	14796.00	89.14	56.44	11417.56	3725.03	2190.96	3013.09	2.92	733771.14	1087489.51	N 31 39 4.108	W 103 15 58.138
	14828.00	89.52	57.78	11417.93	3757.00	2208.34	3039.95	4.35	733788.51	1087516.38	N 31 39 4.287	W 103 15 57.832
	14858.00	88.93	58.17	11418.34	3786.96	2224.24	3065.39	2.36	733804.42	1087541.81	N 31 39 4.451	W 103 15 57.543
	14890.00	88.80	59.04	11418.97	3818.88	2240.91	3092.70	2.75	733821.08	1087569.12	N 31 39 4.623	W 103 15 57.232
	14922.00	89.28	60.38	11419.51	3850.76	2257.05	3120.32	4.45	733837.22	1087596.74	N 31 39 4.790	W 103 15 56.918
	14954.00	89.97	61.01	11419.72	3882.59	2272.71	3148.23	2.92	733852.88	1087624.65	N 31 39 4.952	W 103 15 56.600
	14986.00	88.80	61.36	11420.06	3914.39	2288.13	3176.26	3.82	733868.30	1087652.68	N 31 39 5.112	W 103 15 56.280
	15018.00	88.97	62.30	11420.68	3946.15	2303.24	3204.47	2.98	733883.40	1087680.88	N 31 39 5.269	W 103 15 55.959
	15050.00	89.35	63.41	11421.15	3977.83	2317.83	3232.94	3.67	733898.00	1087709.35	N 31 39 5.421	W 103 15 55.634
	15081.00	88.73	63.99	11421.67	4008.46	2331.57	3260.72	2.74	733911.73	1087737.14	N 31 39 5.584	W 103 15 55.317
	15145.00	89.07	65.18	11422.90	4071.52	2359.03	3318.52	1.93	733939.19	1087794.93	N 31 39 5.850	W 103 15 54.657

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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Last SLB MWD Surveys	15188.00	88 31	65 22	11423 88	4113.81	2377 06	3357.54	1.77	733957.22	1087833.95	N 31 39 6.039	W 103 15 54.211
Project to TD	15243 00	88 31	65.22	11425.51	4167.88	2400 10	3407.46	0 00	733980 27	1087883 86	N 31 39 6 280	W 103 15 53.641

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

MD From (ft)

0 00
21.00
10900.00
11076.00
11936 00
15188 00
15243 00

MD To (ft)

21.00
10900 00
11076 00
11936 00
15188 00
15243 00

EOU Freq Survey Tool Type

Act-Stns SLB_CNSG+DPIPE-Depth Only
Act-Stns SLB_CNSG+DPIPE
Act-Stns SLB_MWD-INC_ONLY
Act-Stns SLB_MWD+DMAG
Act-Stns SLB_MWD-STD
Act-Stns SLB_BLIND+TREND

Borehole -> Survey

Original Hole -> University 20-4701 Gyrodata Gyro 0' to 11700'
Original Hole -> University 20-4701 Gyrodata Gyro 0' to 11700'
Original Hole -> University 20-4701 MWD 10900' to 15243' Final
Original Hole -> University 20-4701 MWD 10900' to 15243' Final
Original Hole -> University 20-4701 MWD 10900' to 15243' Final
Original Hole -> University 20-4701 MWD 10900' to 15243' Final

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MIDLAND

Oilfield Services, U.S. Land West

Reservoir Development

Drilling & Measurements (Anadrill)

500 West Texas Avenue, Suite 500

Midland, Texas

79701, USA

Phone: (432)-571-4718

Fax: (432)-571-4795

Schlumberger

I, Francisco Huitron, certify that; I am employed by Drilling & Measurements (formerly Anadrill), a division of Schlumberger Technology Corporation; that I did on the day(s) of December 27, 2008, through January 25, 2009, conduct or supervise the taking of the ShortPulse surveys from a depth of 10900 feet to a depth of 15243 feet; 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 Energen Resources for the University 20 #4701 well (Side Track #02) API No. 42-475-35473 in, Texas; 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.

Francisco Huitron

MWD 1

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