

U.T. LANDS

RAILROAD COMMISSION OF TEXA JUN 23 2009
Oil and Gas Division

Form W-2

Rev. 4/1/83

EAG0897

Type or print only

API No. 42-475-35473						7. RRC District No. 08
Oil Well Potential Test, Completion or Recompletion Report, and Log						8. RRC Lease No.
1. FIELD NAME (as per RRC Records or Wildcat) WAR-WINK, S. (WOLFCAMP)			2. LEASE NAME UNIVERSITY "20"		9. Well No. 4701	
3. OPERATOR'S NAME (Exactly as shown on P-5, Organization Report) ENERGEN RESOURCES CORPORATION				RRC Operator No. 252002		10. County of well site WARD
4. ADDRESS 3300 N. "A" ST., BLDG 4, STE. 100 MIDLAND, TX 79705						11. Purpose of filing Initial Potential <input checked="" type="checkbox"/>
5. If Operator has changed within the last 60 days, name the former operator						Retest <input type="checkbox"/>
6a. Location (Section, Block, and Survey) 47 20 UNIVERSITY LANDS			6b. Distance and direction to nearest town in this county. 11 MILES NORTH FROM PYOTE			Reclass <input type="checkbox"/>
12. If workover or reclass, give former field (with reservoir) & gas ID or oil lease no. FIELD & RESERVOIR			GAS ID or OIL LEASE #	Oil - O Gas - G	WELL NO.	
13. Type of electric or other log run PEX-HRLA, GAMMA RAY, DIPHOLE SHEAR SONIC. DSI GR/CCL/CBL.				14. Completion or recompletion date 4/22/09		

SECTION I: POTENTIAL TEST DATA

IMPORTANT: Test should be for 24 hours unless otherwise specified in field rules.

15. Date of test 5/12/09	16. No. of hours tested 24	17. Production method (Flowing, Gas Lift, Jetting, Pumping - Size & Type of pump) FLOWSING			18. Choke size 12/64
19. Production during Test Period	Oil - BBLS 495	Gas - MCF 532	Water - BBLS 226	Gas - Oil Ratio 1075	Flowing Tubing Pressure 1750 PSI
20. Calculated 24- Hour Rate	Oil - BBLS	Gas - MCF	Water - BBLS	Oil Gravity - API - 60 43.7	Casing Pressure PSI
21. Was swab used during this test? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		22. Oil produced prior to test (New & Reworked wells) 6997			23. Injection Gas-Oil Ratio

REMARKS: WELL IS CURRENTLY FLOWING.

1908 FSL & 644 FEL, TVD: 11,426, MD: 15,243

INSTRUCTIONS: File an original and one copy of the completed Form W-2 in the appropriate RRC District Office within 30 days after completing a well and within 10 days after a potential test. If an operator does not properly report the results of a potential test within the 10-day period, the effective date of the allowable assigned to the well will not extend back more than 10 days before the W-2 was received in the District Office. (Statewide Rules 16 and 51) To report a completion or recompletion, fill in both sides of this form. To report a retest, fill in only the front side.

WELL TESTER'S CERTIFICATION

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I conducted or supervised this test by observation of (a) meter readings or (b) the top and bottom gauges of each tank in which production was running during the test. I further certify that the potential test data shown above is true, correct, and complete, to the best of my knowledge.

Signature: Well Tester

Name of Company

RRC Representative

OPERATOR'S CERTIFICATION

I declare under the penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

MARY ANN MARTINEZ

Typed or printed name of operator's representative

432/688-3323

5 / 14 / 09

Telephone: Area Code Number

Date: mo. day year

REGULATORY ANALYST

Title of Person

Signature

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SECTION II		DATA ON WELL COMPLETION AND LOG (Not Required on Retest)					
24. Type of Completion New Well <input checked="" type="checkbox"/> Deepening <input type="checkbox"/> Plug Back <input type="checkbox"/> Other <input type="checkbox"/>				25. Permit to Drill, Plug Back or, Deepen DATE <i>Amended</i> 12/1/08 PERMIT NO. 673228			
26. Notice of Intention to Drill this well was filed in Name of ENERGEN RESOURCES CORPORATION				Rule 37 Exception Water Injection Permit Salt Water Disposal Permit Other			
27. Number of producing wells on this lease in this field (reservoir) including this well 1		28. Total number of acres in this lease 640					
29. Date Plug Back, Deepening, Workover or Drilling Operations: Commenced 10/28/08 Completed 3/22/09		30. Distance to nearest well. Same Lease & Reservoir					
31. Location of well, relative to nearest lease boundaries of lease on which this well is located 660 Feet from SOUTH Line and 660 Feet from WEST Line of the UNIVERSITY "20" Lease							
32. Elevation (DF, RKB, RT, GR, ETC.) KB: 2780 GL: 2758 DF: 2779				33. Was directional survey made other than inclination (W-12)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
34. Top of Pay 11405	35. Total Depth MD=13276 FVD=11420.37	36. P. B. Depth 10940	37. Surface Casing Determined by: Field Rules <input type="checkbox"/>	Recommendation of T.D.W.R. Railroad Commission (Special) <input checked="" type="checkbox"/>		Dt. of Letter 10/17/08	
38. Is well multiple completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		39. If multiple completion, list all reservoir names (completions in this well) and Oil Lease or Gas ID No. FIELD & RESERVOIR			GAS ID or OIL LEASE #	Oil-O Gas-G	WELL #
41. Name of Drilling Contractor LARIAT							40. Intervals Drilled by: <input checked="" type="checkbox"/> Rotary Tools <input type="checkbox"/> Cable Tools
							42. Is Cementing Affidavit Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
43. CASING RECORD (Report All Strings Set in Well)							
CASING SIZE	WT #/FT.	DEPTH SET	MULTISTAGE TOOL DEPTH	TYPE & AMOUNT CEMENT (sacks)	HOLE SIZE	TOP OF CEMENT	SLURRY VOL. cu. ft.
13 3/8	48	1164		1090 CL "C"	17 1/2	SURFACE	1809.7
9 5/8	40	5044		1950 CL "C"	12 1/4	SURFACE	4458
7	26	11786		1700 CL "H"	8 3/4	SURFACE-CBL	3433
44. LINER RECORD							
Size	TOP		Bottom		Sacks Cement	Screen	
4"	10716		13270.95		333		
45. TUBING RECORD				46. Producing Interval (this completion) Indicate depth of perforation or open hole			
Size	Depth Set	Packer Set	From	To	From	To	
2 7/8	10642	10642	12900	12914	12600	12614	
			12300	12314	11992	11998	
47. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.							
Depth Interval				Amount and Kind of Material Used			
13270 - 13278				Frac toe from 13270'-78' w/189000 gals X-linked + 89960# 18/40 versaprop sd			
12300 - 12914				Frac-193565 gal X-linked gel+240000# 18/40 versaprop sd			
11996-12002, 11676-11682				FRAC-195800 gal X-linked gel+160000# 18/40 versaprop sd			
48. FORMATION RECORD (LIST DEPTHS OF PRINCIPAL GEOLOGICAL MARKERS AND FORMATION TOPS)							
Formations	Depth		Formations	Depth			
Cherry Canyon	6018		3rd Bone Spring	9472			
Brushy Canyon	7294		3rd Bone Spring "A" Sand	11374			
Bone Spring	11072		3rd Bone "B" Sand	11410			
REMARKS Both of the lateral surveys were sent to Austin, however the Survey from 11,075' - 13,276' is the survey we are producing from. Kick-off point: 10936' KB' (KB 22.0')							

**RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION**

Form W-12
(1-1-71)
FOD1296

INCLINATION REPORT (One Copy Must Be Filed With Each Completion Report)		6. RRC District 08
		7. RRC Lease Number (Oil completions only)
1. FIELD NAME (as per RRC Records or Wildcat) War-Wink, S. (Wolfcamp)	2. LEASE NAME University 20"	8. Well Number 4701
3. OPERATOR Energen Resources Corporation		9. RRC Identification Number (Gas completions only)
4. ADDRESS 3300 N. "A" Street, Building 4, Suite 100 Midland, Texas 79705		10. County Ward
5. LOCATION (Section, Block, and Survey) Sec. 47, Blk. 20, University Lands Survey		

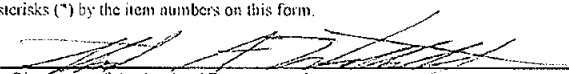
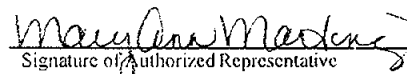
RECORD OF INCLINATION

*11. Measured Depth (feet)	12. Course Length (Hundreds of feet)	*13. Angle of Inclination (Degrees)	14. Displacement per Hundred Feet (Sine of Angle x 100)	15. Course Displacement (feet)	16. Accumulative Displacement (feet)
500	5.00	0.25	0.44	2.20	2.20
764	2.64	1.00	1.75	4.62	6.82
1584	8.20	1.00	1.75	14.35	21.17
1842	2.58	1.00	1.75	4.51	25.68
2098	2.56	1.00	1.75	4.48	30.16
2343	2.45	1.50	2.62	6.41	36.57
2920	5.77	3.00	5.24	30.23	66.80
3008	.88	3.50	6.11	5.37	72.17
3056	.48	3.40	5.93	2.84	75.01
3204	1.48	3.47	6.06	8.96	83.97
3351	1.47	3.31	5.78	8.49	92.46
3514	1.63	2.30	4.01	6.53	98.99
3778	2.64	2.39	4.17	11.00	109.99
3858	.80	2.30	4.01	3.20	113.19
4211	3.53	3.30	5.76	20.33	133.52

If additional space is needed, use the reverse side of this form.

17. Is any information shown on the reverse side of this form? ☒ yes ☐ no
18. Accumulative total displacement of well bore at total depth of 11520 feet = 324.67 feet
- *19. Inclination measurements were made in - ☐ Tubing ☐ Casing ☐ Open hole ☐ Drill Pipe
20. Distance from surface location of well to the nearest lease line..... 660 feet
21. Minimum distance to lease line as prescribed by field rules..... 660 feet
22. Was the subject well at any time intentionally deviated from the vertical in any manner whatsoever? NO

(If the answer to the above question is "yes," attach written explanation of the circumstances.)

<p>INCLINATION DATA CERTIFICATION</p> <p>I declare under penalties prescribed in Sec. 91 143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on both sides of this form and that such data and facts are true, correct, and complete to the best of my knowledge. This certification covers all data as indicated by asterisks (*) by the item numbers on this form.</p> <p> _____ Signature of Authorized Representative Stuart Wittenbach, EH&S Director Name of Person and Title (type or print) Larcely, LP Name of Company Telephone: (405) 429-6002 Area Code</p>	<p>OPERATOR CERTIFICATION</p> <p>I declare under penalties prescribed in Sec. 91 143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of all information presented in this report, and that all data presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all data and information presented herein except inclination data as indicated by asterisks (*) by the item numbers on this form.</p> <p> _____ Signature of Authorized Representative Mary Ann Martinez/Regulatory Analyst Name of Person and Title (type or print) Energen Resources Corporation Operator Telephone: 432/688-3323 Area Code</p>
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Railroad Commission Use Only:

Approved By: _____ Title: _____ Date: _____

* Designates items certified by company that conducted the inclination surveys.

RECORD OF INCLINATION (Continued from reverse side)

[illegible]

If additional space is needed, attach separate sheet and check here. ☐

REMARKS:

- INSTRUCTIONS -

An inclination survey made by persons or concerns approved by the Commission shall be filed on a form prescribed by the Commission for each well drilled or deepened with rotary tools or when, as a result of any operation, the course of the well is changed. No inclination survey is required on wells that are drilled and completed as dry holes that are plugged and abandoned. (Inclination surveys are required on re-entry of abandoned wells.) Inclination surveys must be made in accordance with the provisions of Statewide Rule 11.

This report shall be filed in the District Office of the Commission for the district in which the well is drilled, by attaching one copy to each appropriate completion for the well. (except Plugging Report)

The Commission may require the submittal of the original charts, graphs, or discs, resulting from the surveys.

Cementer: Fill in shaded areas.
Operator: Fill in other items

Form W-15
Cementing Report
Rev. 4/1/83
483-045

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

1. Operator's Name (As shown on Form P-5, Organization Report) Energen Resources Corporation	2. RRC Operator No. 252002	3. RRC District No. 08	4. County of Well Site Ward
5. Field Name (Wildcat or exactly as shown on RRC records) War-Wink, S. (Wolfcamp)		6. API No. 42-475-35473	7. Drilling Permit No. 673228
8. Lease Name University "20"	9. Rule 37 Case No.	10. Oil Lease/Gas ID No.	11. Well No. # 4701

CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date		10/31/2008					
13. ● Drilling hole size		17-1/2"					
● Est. % wash or hole enlargement							
14. Size of casing (in. O.D.)		13-3/8"					
15. Top of liner (ft.)							
16. Setting depth (ft.)		1164'					
17. Number of centralizers used		6					
18. Hrs. waiting on cement before drill-out		43.5					
1st Slurry	19. API cement used: No. of sacks	750					
	Class	35:65:Poz/C					
	Additives	REMARKS					
2nd Slurry	No. of sacks	340					
	Class	C					
	Additives	REMARKS					
3rd Slurry	No. of sacks						
	Class						
	Additives						
1st	20. Slurry pumped: Volume (cu. ft.)	1357.5					
	Height (ft.)	1954.36					
2nd	Volume (cu. ft.)	452.2					
	Height (ft.)	651.02					
3rd	Volume (cu. ft.)						
	Height (ft.)						
Total	Volume (cu. ft.)	1809.7					
	Height (ft.)	2605.38					
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?		YES					
1st 6%D20+3%D44+125ppsD130 2nd 0.5%SI							

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CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date			11/12/2008				
13. •Drilling hole size			12-1/4"				
•Est. % wash or hole enlargement							
14. Size of casing (in. O.D.)			9-5/8"				
15. Top of liner (ft.)							
16. Setting depth (ft.)			5044'				
17. Number of centralizers used			26				
18. Hrs. waiting on cement before drill-out			41				
1st Slurry	19. API cement used: No. of sacks ▶		1650				
	Class ▶		Poz:C				
	Additives ▶		REMARKS				
2nd Slurry	No. of sacks ▶		300				
	Class ▶		C				
	Additives ▶		Remarks				
3rd Slurry	No. of sacks ▶		0				
	Class ▶						
	Additives ▶		None				
1st	20. Slurry pumped: Volume (cu. ft.) ▶		4059				
	Height (ft.) ▶		12960.3				
2nd	Volume (cu. ft.) ▶		399				
	Height (ft.) ▶		1274.0				
3rd	Volume (cu. ft.) ▶		0				
	Height (ft.) ▶		0.00				
Total	Volume (cu. ft.) ▶	0	4458	0		0	0
	Height (ft.) ▶	0	14234.3	0		0	0
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?			Yes				
1st 50:50 Poz:C + 5% D44 + 10% D20 + 0.125% D130 + 0.5% D606 + 0.35 D201 + 0.04gps D177 2nd Class C + 0.35 D201 3rd 0 4th 0							
Circulated 584 sks to Surface							

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CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date				12/23/2008			
13. ●Drilling hole size				8-3/4"			
●Est. % wash or hole enlargement							
14. Size of casing (in. O.D.)				7"			
15. Top of liner (ft.)							
16. Setting depth (ft.)				11786'			
17. Number of centralizers used				38			
18. Hrs. waiting on cement before drill-out							
1st Slurry	19. API cement used: No. of sacks			1100			
	Class			Class H			
	Additives			Remarks			
2nd Slurry	No. of sacks			600			
	Class			TXI			
	Additives			Remarks			
3rd Slurry	No. of sacks						
	Class						
	Additives						
1st	20. Slurry pumped: Volume (cu. ft.)			2629			
	Height (ft.)			20732			
2nd	Volume (cu. ft.)			804			
	Height (ft.)			6340			
3rd	Volume (cu. ft.)						
	Height (ft.)						
Total	Volume (cu. ft.)			3433			
	Height (ft.)			27072			
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?				No			

1st 50/50 POZH +10%D20 + 5 pps D42 + .125 pps D130 + 0.6%D201 + 0.5%D606+0.04gps D801
2nd .3% D167 +.2%D46 +.3%D65 + .1 pps D130 + 0.6%D800

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CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Liner	String	Multiple Parallel Strings	Tool
12. Cementing Date				3/20/2009			
13. ● Drilling hole size				7"			
● Est. % wash or hole enlargement							
14. Size of casing (in. O.D.)				4"			
15. Top of liner (ft.)				10716'			
16. Setting depth (ft.)				13271'			
17. Number of centralizers used				45			
18. Hrs. waiting on cement before drill-out				18			
1st Slurry	19. API cement used: No. of sacks ▶			333			
	Class ▶			Class H			
	Additives ▶			Remarks			
2nd Slurry	No. of sacks ▶						
	Class ▶						
	Additives ▶						
3rd Slurry	No. of sacks ▶						
	Class ▶						
	Additives ▶						
1st	20. Slurry pumped: Volume (cu. ft.) ▶			400			
	Height (ft.) ▶			3396			
2nd	Volume (cu. ft.) ▶						
	Height (ft.) ▶						
3rd	Volume (cu. ft.) ▶						
	Height (ft.) ▶						
Total	Volume (cu. ft.) ▶			399.6			
	Height (ft.) ▶			3396			
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?				No			
1st	3pps D042 + 0.2%D046 + 0.4%D800 + 0.3%D065 + 0.4%D167 + 0.2%D153						
2nd	Cement 4" Liner						
3rd							
4th							

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Gyrodata Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

432/561-8458
Fax: 432/563-7982

Date: April 24, 2009

Railroad Commission of Texas
Oil & Gas Division
P.O. Box 12967
Capitol Station
Austin, Texas 78711

Attn: Ms. Pam Johns

RE:
Energen Resources Corporation
University "20" Well No. 4701
RRC Lease/Gas ID No. Not Assigned
War-wink, S. (Wolfcamp)
UL, Abstract not given
Ward County, Texas
API No. 42-475-35473
CERTIFIED MAIL 70072560000336947591

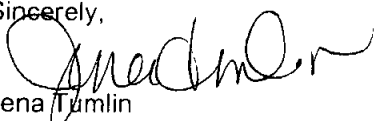
Ms. Johns,

Enclosed, please find the original and one copy of the survey performed on the referenced well by Gyrodata, Inc. (P-5 No. 339713). Other information required by your office is as follows:

Name & Title Of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Steve Winther Surveyor	Original Hole	Surface - 11700'	12/23/2008	Rate Gyroscopic

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

Sincerely,


Jena Tumlin
Operations
Enclosure

A Gyrodata Directional Survey

for

ENERGEN RESOURCES

Lease: University 20 Well: 4701, 7" Casing
Location: Lariat Rig #31, Ward County, Texas

Job Number: MD1208GW465

Run Date: 23 Dec 2008

Surveyor: Oscar Velasquez, Junior Pena, Steve Wither, Phillip Stafford

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 31.644903 deg. N Longitude: 103.275642 deg. W

Azimuth Correction:

Gyro: 1.52000 deg to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodatta Directional Survey

Emergen Resources
 Lease: University 20 Well: 4701, 7" Casing
 Location: Lariat Rig #31, Ward County, Texas
 Job Number: MD1208GW465

MEASURED DEPTH feet	INCL deg.	CL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.0 0.0	0.00 N 0.00 E

0 TO 11700 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 7" CASING
 ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO LARIAT RIG #31 R.K.B.

100.00	0.50		71.62	0.1	0.50	100.00	0.4 71.6	0.14 N 0.42 E
200.00	0.46		86.02	0.3	0.13	200.00	1.3 76.1	0.30 N 1.23 E
300.00	0.44		83.32	0.4	0.03	299.99	2.0 79.4	0.38 N 2.01 E
400.00	0.55		71.14	0.6	0.15	399.99	2.9 78.6	0.58 N 2.83 E
500.00	0.41		62.94	0.9	0.16	499.98	3.7 76.1	0.89 N 3.62 E
600.00	0.43		72.37	1.2	0.07	599.98	4.5 74.8	1.17 N 4.30 E
700.00	0.45		74.68	1.4	0.03	699.98	5.2 74.6	1.38 N 5.03 E
800.00	0.63		78.91	1.6	0.19	799.97	6.2 75.0	1.59 N 5.93 E
900.00	0.63		101.93	1.6	0.25	899.97	7.2 77.3	1.59 N 7.03 E
1000.00	0.68		113.46	1.2	0.14	999.96	8.2 81.3	1.24 N 8.11 E
1100.00	0.61		115.76	0.8	0.07	1099.96	9.2 85.2	0.77 N 9.13 E
1200.00	0.61		113.22	0.3	0.03	1199.95	10.1 88.1	0.33 N 10.10 E
1300.00	0.57		112.02	-0.1	0.04	1299.95	11.1 90.4	0.07 S 11.06 E
1400.00	0.52		112.55	-0.4	0.06	1399.94	12.0 92.1	0.43 S 11.94 E
1500.00	0.55		97.37	-0.7	0.15	1499.94	12.9 93.0	0.67 S 12.84 E
1600.00	0.77		71.55	-0.5	0.37	1599.93	14.0 92.1	0.52 S 13.96 E
1700.00	1.06		67.44	0.1	0.29	1699.92	15.5 89.8	0.05 N 15.43 E
1800.00	1.04		65.31	0.8	0.04	1799.90	17.1 87.4	0.79 N 17.13 E
1900.00	1.19		59.26	1.7	0.19	1899.88	18.9 84.8	1.70 N 18.83 E
2000.00	1.25		58.30	2.8	0.06	1999.86	20.9 82.3	2.81 N 20.68 E

A Gyrodata Directional Survey

Energen Resources

Lease: University 20 Well: 4701, 7" Casing

Location: Larlat Rig #31, Ward County, Texas

Job Number: MD1208GW465

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	V E R T I C A L SECTION feet	D O G L E G SEVERITY deg/ 100 ft.	V E R T I C A L DEPTH feet	C L O S U R E D I S T . feet	A Z I M U T H deg.	H O R I Z O N T A L COORDINATES feet
2100.00	1.22	58.27	3.9	0.03	2099.83	22.9	80.1	3.94 N 22.51 E
2200.00	1.43	50.36	5.3	0.28	2199.81	25.0	77.7	5.30 N 24.38 E
2300.00	2.34	45.00	7.5	0.93	2299.75	27.8	74.3	7.54 N 26.79 E
2400.00	2.74	45.90	10.7	0.41	2399.65	31.8	70.4	10.65 N 29.95 E
2500.00	3.20	46.07	14.3	0.46	2499.52	36.6	67.1	14.25 N 33.68 E
2600.00	3.31	45.79	18.2	0.11	2599.36	41.9	64.3	18.20 N 37.76 E
2700.00	3.53	43.86	22.4	0.24	2699.18	47.6	61.9	22.43 N 41.96 E
2800.00	3.50	41.70	26.9	0.14	2798.99	53.4	59.7	26.93 N 46.12 E
2900.00	3.68	42.86	31.6	0.19	2898.80	59.4	57.9	31.55 N 50.33 E
3000.00	3.57	43.86	36.1	0.12	2998.60	65.5	56.5	36.15 N 54.67 E
3100.00	3.34	44.70	40.5	0.23	3098.41	71.4	55.5	40.47 N 58.88 E
3200.00	3.47	44.92	44.7	0.13	3198.24	77.3	54.7	44.68 N 63.07 E
3300.00	3.22	50.28	48.6	0.40	3298.07	83.1	54.2	48.62 N 67.36 E
3400.00	3.14	56.28	51.9	0.34	3397.91	88.6	54.1	51.94 N 71.80 E
3500.00	3.52	62.73	54.5	0.70	3497.79	93.5	54.4	54.46 N 76.03 E
3600.00	3.31	66.76	56.3	0.27	3597.70	97.7	54.8	56.26 N 79.83 E
3700.00	3.27	66.81	57.8	0.04	3697.62	101.6	55.3	57.84 N 83.50 E
3800.00	3.81	72.30	59.4	0.60	3797.52	105.9	55.9	59.36 N 87.66 E
3900.00	3.08	72.02	60.9	0.27	3897.39	110.8	56.6	60.94 N 92.55 E
4000.00	3.31	73.73	62.6	0.24	3997.24	116.2	57.4	62.58 N 97.88 E
4100.00	3.27	77.80	64.0	0.24	4097.07	121.6	58.3	63.99 N 103.43 E
4200.00	3.05	81.62	65.0	0.31	4196.92	126.8	59.2	64.98 N 108.85 E
4300.00	3.00	83.78	65.7	0.12	4296.78	131.6	60.1	65.65 N 114.08 E
4400.00	3.93	84.67	66.2	0.08	4396.65	136.4	61.0	66.17 N 119.23 E

A Gyrodata Directional Survey

Energen Resources

Lease: University 20 Well: 4701, 7" Casing

Location: Lariat Rig #31, Ward County, Texas

Job Number: MD1208GW465

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg/ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4500.00	2.99	82.71	66.7	0.12	4496.51	141.1 61.8	66.74 N 124.37 E
4600.00	2.58	85.49	67.3	0.43	4596.40	145.6 62.5	67.25 N 129.20 E
4700.00	2.52	81.38	67.8	0.19	4696.30	149.8 63.1	67.75 N 133.61 E
4800.00	2.69	81.11	68.4	0.17	4796.19	154.1 63.6	68.44 N 138.10 E
4900.00	2.15	89.03	68.8	0.63	4896.10	158.1 64.2	68.84 N 142.30 E
5000.00	1.83	92.95	68.8	0.35	4996.04	161.2 64.7	68.79 N 145.77 E
5100.00	1.62	97.23	68.5	0.25	5096.00	163.8 65.3	68.53 N 148.77 E
5200.00	1.65	96.59	68.2	0.03	5195.96	166.2 65.8	68.18 N 151.61 E
5300.00	1.73	95.65	67.9	0.08	5295.91	168.8 66.3	67.87 N 154.34 E
5400.00	1.52	95.40	67.6	0.21	5395.87	171.3 66.8	67.60 N 157.37 E
5500.00	1.32	99.81	67.3	0.23	5495.84	173.4 67.2	67.27 N 159.83 E
5600.00	1.14	101.41	66.9	0.19	5595.82	175.2 67.6	66.88 N 161.93 E
5700.00	1.07	104.50	66.5	0.09	5695.80	176.8 67.9	66.45 N 163.81 E
5800.00	1.07	101.36	66.0	0.06	5795.78	178.3 68.3	66.03 N 165.63 E
5900.00	0.76	118.23	65.5	0.41	5895.77	179.5 68.6	65.54 N 167.13 E
6000.00	0.67	125.59	64.9	0.12	5995.76	180.3 68.9	64.88 N 168.19 E
6100.00	0.60	138.28	64.2	0.16	6095.76	180.8 69.2	64.15 N 169.02 E
6200.00	0.53	139.51	63.4	0.08	6195.75	181.1 69.5	63.41 N 169.66 E
6300.00	0.19	174.50	62.9	0.38	6295.75	181.2 69.7	62.89 N 169.98 E
6400.00	0.17	159.71	62.6	0.05	6395.75	181.2 69.8	62.58 N 170.05 E
6500.00	0.15	146.91	62.3	0.04	6495.75	181.2 69.9	62.33 N 170.17 E
6600.00	0.23	87.16	62.2	0.20	6595.75	181.4 69.9	62.23 N 170.44 E
6700.00	0.18	101.26	62.2	0.07	6695.75	181.8 70.0	62.21 N 170.80 E
6800.00	0.18	91.48	62.2	0.03	6795.75	182.1 70.0	62.18 N 171.12 E

A Gyrodatta Directional Survey

Energen Resources

Lease: University 20 Well: 4701, 7" Casing

Location: Larist Rig #31, Ward County, Texas

Job Number: MD1308GW465

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6900.00	0.11	119.37	62.1	0.10	6895.75	182.3 70.1	62.13 N 171.36 E
7000.00	0.05	355.51	62.1	0.15	6995.75	182.3 70.1	62.13 N 171.44 E
7100.00	0.05	333.72	62.2	0.02	7095.75	182.4 70.1	62.21 N 171.42 E
7200.00	0.12	173.61	62.1	0.17	7195.75	182.3 70.1	62.15 N 171.41 E
7300.00	0.24	192.25	61.8	0.13	7295.75	182.2 70.2	61.83 N 171.38 E
7400.00	0.69	347.70	62.2	0.91	7395.74	182.2 70.0	62.21 N 171.20 E
7500.00	0.63	324.07	63.2	0.28	7495.74	182.1 69.7	63.24 N 170.75 E
7600.00	0.68	270.04	63.7	0.59	7595.73	181.4 69.4	63.68 N 169.84 E
7700.00	1.04	251.53	63.4	0.45	7695.72	179.9 69.4	63.40 N 168.39 E
7800.00	2.09	244.32	62.3	1.07	7795.68	177.2 69.4	62.32 N 165.88 E
7900.00	0.73	331.53	62.1	2.18	7895.66	175.3 69.3	62.08 N 163.93 E
8000.00	1.21	191.55	61.6	1.83	7995.65	174.6 69.3	61.60 N 163.42 E
8100.00	0.11	52.86	60.6	1.30	8095.64	174.2 69.6	60.62 N 163.28 E
8200.00	0.70	209.85	60.1	0.80	8195.64	173.8 69.8	60.15 N 163.06 E
8300.00	0.67	204.98	59.1	0.06	8295.63	172.9 70.0	59.10 N 162.41 E
8400.00	0.56	205.66	58.1	0.11	8395.63	172.2 70.3	58.13 N 162.05 E
8500.00	0.95	189.32	56.9	0.44	8495.62	171.4 70.6	56.88 N 161.71 E
8600.00	1.29	189.97	55.0	0.35	8595.60	170.5 71.2	54.96 N 161.38 E
8700.00	1.25	182.20	52.8	0.18	8695.58	169.6 71.9	52.76 N 161.14 E
8800.00	1.37	183.33	50.5	0.13	8795.55	168.8 72.6	50.47 N 161.03 E
8900.00	1.18	179.51	48.2	0.21	8895.53	168.0 73.3	48.24 N 160.97 E
9000.00	1.10	151.10	46.4	0.57	8995.51	168.0 74.0	46.37 N 161.44 E
9100.00	0.46	175.32	45.1	0.70	9095.50	168.1 74.4	45.14 N 161.94 E
9200.00	0.53	247.92	44.6	0.59	9195.49	167.6 74.6	44.56 N 161.34 E

Energen Resources
 Lease: University 20 Well-4701, 7" Casing
 Location: Lariat Rig #31, Ward County, Texas
 Job Number: MD1208GW465

A Gyrodatta Directional Survey

MEASURED DEPTH feet	INC L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg/ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
9300.00	0.74	267.77	44.4	0.31	9295.49	166.5 74.5	44.36 N 160.46 E
9400.00	1.09	205.83	43.5	0.99	9395.48	165.2 74.7	43.48 N 159.40 E
9500.00	1.34	197.03	41.5	0.31	9495.45	164.0 75.3	41.50 N 158.64 E
9600.00	1.55	197.00	39.1	0.21	9595.42	162.7 76.1	39.09 N 157.90 E
9700.00	1.58	204.19	36.5	0.20	9695.39	161.1 76.9	36.54 N 156.94 E
9800.00	1.17	216.24	34.5	0.50	9795.36	159.5 77.5	34.45 N 155.77 E
9900.00	0.95	236.72	33.2	0.44	9895.34	158.0 77.9	33.17 N 154.47 E
10000.00	0.82	236.65	32.3	0.13	9995.33	156.6 78.1	32.33 N 153.19 E
10100.00	0.55	221.49	31.6	0.32	10095.32	155.5 78.3	31.57 N 152.27 E
10200.00	0.62	230.03	30.9	0.11	10195.32	154.6 78.5	30.86 N 151.54 E
10300.00	0.92	233.75	30.0	0.31	10295.31	153.4 78.7	30.04 N 150.47 E
10400.00	0.96	191.84	28.7	0.68	10395.29	152.4 79.1	28.74 N 149.65 E
10500.00	0.79	181.30	27.2	0.24	10495.28	151.9 79.7	27.23 N 149.46 E
10600.00	0.87	178.33	25.8	0.09	10595.27	151.7 80.2	25.78 N 149.47 E
10700.00	0.93	175.91	24.2	0.07	10695.26	151.5 80.8	24.22 N 149.35 E
10800.00	1.31	115.68	22.9	1.17	10795.24	152.4 81.3	22.92 N 150.64 E
10900.00	2.01	137.74	21.1	0.94	10895.20	154.3 82.1	21.13 N 152.84 E
11000.00	2.19	136.97	18.4	0.18	10995.13	156.4 83.2	18.43 N 155.33 E
11100.00	2.38	151.67	14.4	1.38	11095.02	158.7 84.8	14.44 N 158.03 E
11200.00	2.02	148.13	9.6	0.41	11194.86	161.1 86.6	9.60 N 160.82 E
11300.00	2.77	149.32	5.3	0.26	11294.73	163.5 88.1	5.29 N 163.44 E
11400.00	2.58	151.58	1.2	0.22	11394.62	165.8 89.6	1.23 N 165.75 E
11500.00	2.36	154.28	-2.6	0.25	11494.53	167.7 90.9	2.60 S 167.71 E
11600.00	2.15	139.04	-5.9	0.63	11594.45	169.9 92.0	5.87 S 169.83 E

A Gyrodata Directional Survey

Emergen Resources

Lease: University 30 Well: 4701, 7" Casing

Location: Lariat Rig #31, Ward County, Texas

Job Number: MD1208GW465

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
11700.00	1.92	138.29	-8.5	0.23	11694.39	172.4 92.8	8.54 S 172.18 E

Final Station Closure: Distance: 172.39 ft Az: 92.84 deg.



Gyrodata Incorporated

3811 S. Co. Rd. 1285

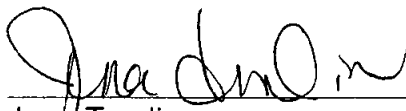
Odessa, TX. 79765

432/561-8458

Fax: 432/563-7982

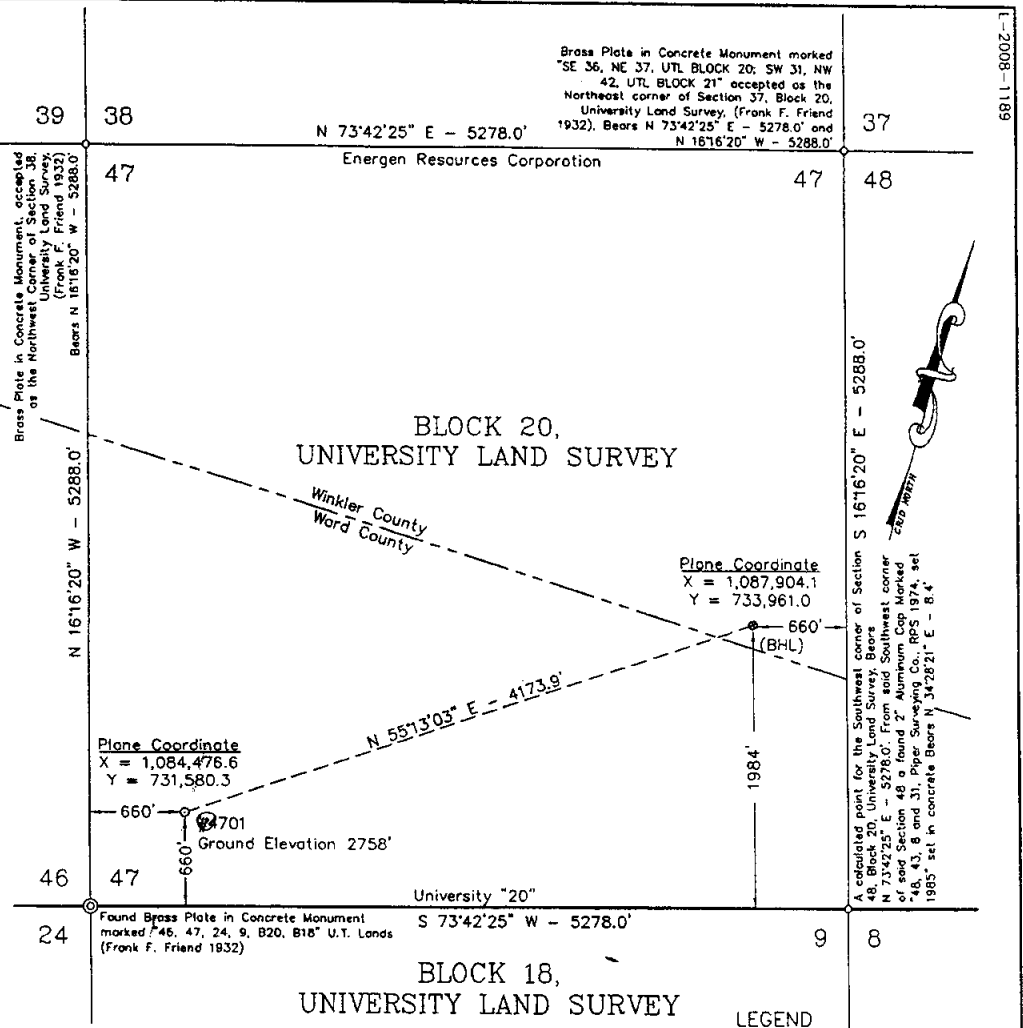
State of Texas
County of Travis

I, Jena Tumlin, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Rate Gyroscopic Multishot survey from a depth of 0 feet to a depth of 11700 feet conducted on the day(s) of 12/23/08 through 12/23/08; that this survey was conducted at the request of Energen Resources Corporation for the University "20" Well No. 4701 API No. 42-475-35473 in Ward County, Texas; that the data is true, correct, complete, and within the limitations of the tool as set forth by Gyrodata Inc; that I am authorized and qualified to make this report; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Gyrodata Inc.



Jena Tumlin
Operations

GYRODATA BOTTOM HOLE LOCATION
172.39 FEET @ 92.84 DEGREES OF
SURFACE LOCATION
MD 11700' TVD 11694.39'
EAST 172.18' SOUTH 8.54'



Date Surveyed: October 13, 2008
Weather: Warm & Breezy

- LEGEND
- - Denotes Proposed Well Location
 - - Denotes Proposed Bottom Hole Location
 - ⊙ - Denotes Found Corner this Survey
 - - Denotes Calculated Corner this Survey
 - - Denotes County Line (approx.)

The University "20" #4701 is located approximately 12 miles Northwest of Pyote, Texas.

NOTE:

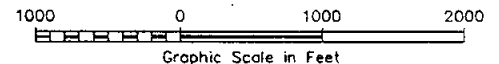
- 1) Plane Coordinates and Bearings shown hereon are Lambert Grid and Conform to the "Texas Coordinate System", Texas Central Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.
- 2) Geodetic Coordinate shown hereon references the North American Datum of 1927, (Clarke Spheroid of 1866). Reference stations - "MCDONALD" (AF9514), "SANDERSON" (DH3844), and "ODESSA RRP2" (DF5393).
- 3) See information filed in the office of the surveyor which describes the reconstruction of this site.

SURFACE LOCATION
Geodetic Coordinate NAD '83
Latitude = 31°38'42.12" N
Longitude = 103°16'33.92" W

BOTTOM HOLE LOCATION
Geodetic Coordinate NAD '83
Latitude = 31°39'06.56" N
Longitude = 103°15'55.01" W

Geodetic Coordinate
Latitude = 31°38'41.65" N
Longitude = 103°16'32.31" W

Geodetic Coordinate
Latitude = 31°39'06.09" N
Longitude = 103°15'53.40" W



I HEREBY CERTIFY THAT THIS SURVEY WAS MADE FROM NOTES TAKEN IN THE FIELD AND BONA FIDE SURVEY MADE UNDER MY SUPERVISION.

J. FRANK NEWMAN TEXAS R.P.L.S. No. 5011
MACON McDONALD TEXAS R.P.L.S. No. 4398
R. CRAIG ALDERMAN TEXAS R.P.L.S. No. 5285

WEST COMPANY
of Midland, Inc.

110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

ENERGEN RESOURCES CORPORATION

Location of the
UNIVERSITY "20" #4701
Surface Location: 660' FSL & 660' FWL
Bottom Hole Location: 1984' FSL & 660' FEL
Section 47, Block 20,
University Land Survey,
Ward & Winkler Counties, Texas

Drawn By: JCC	Date: October 15, 2008
Scale: 1"=1000'	Field Book: 417 / 73-74
Revision Date: November 21, 2008	Quadrangle: Soda Lake NE
W.O. No: 2008-1189	Dwg. No.: L-2008-1189

Oilfield Services, U.S., Midland Office

Schlumberger

Reservoir Development
Drilling & Measurements (Anadrill)
500 West Texas Avenue, Suite 500
Midland, Texas
79701, USA
Phone: (432)-571-4718
Fax: (432)-571-4795

20-Mar-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 ST01
Ward/Winkler County
Lariat 31
Ward County, TX
42-475-35473
JSO# 40018427

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

RECEIVED
RRC OF TEXAS
MAY 16 2009
O&G
MIDLAND

OilField Services, L.P., Level 3 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

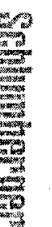
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RRC OF TEXAS

MAY 16 2009

O&G
MIDLAND



Energen Resources Corporation



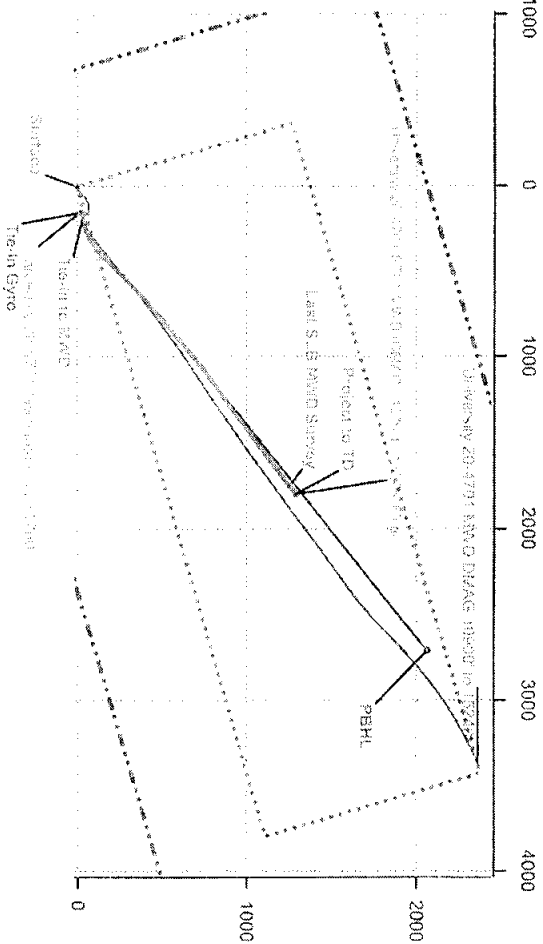
Well: University 20-4701 ST01

Field: TX, Ward County

Production: Energen, University 20-4701 ST01

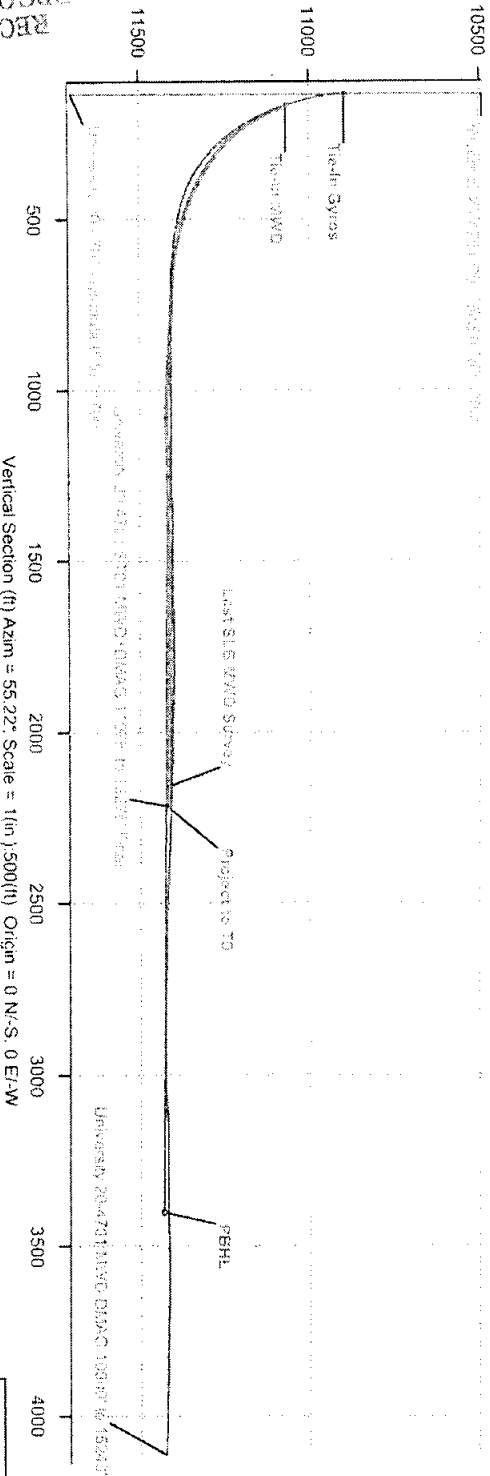
Parameter	Value	Unit	Parameter	Value	Unit	Parameter	Value	Unit
Well Name	University 20-4701 ST01		Well Type	Oil		Well Status	Producing	
Well ID	20-4701-ST01		Well Depth	22,738	ft	Well Completion	20-4701-ST01	
Well Depth	22,738	ft	Well Completion	20-4701-ST01		Well Completion	20-4701-ST01	
Well Completion	20-4701-ST01		Well Completion	20-4701-ST01		Well Completion	20-4701-ST01	

Grid North
Easting: 6,000,000.00
Northing: 4,000,000.00
Grid Contour: 1,000.00



Scale = 1(in):1000(ft) N >>>

TVD Scale = 1(in):500(ft)



Vertical Section (ft) Azim = 55.22° Scale = 1(in):500(ft) Origin = 0 N-S, 0 E-W

RECEIVED
MAY 16 2008
O&G
MIDLAND
RRC OF TEXAS

Well Name: University 20-4701 ST01
Well ID: 20-4701-ST01
Well Depth: 22,738 ft
Well Completion: 20-4701-ST01
Well Status: Producing



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, 2009	Total Field Strength: 48579.375 nT
Tort / AHD / DDI / ERD ratio: 162.048° / 2350.92 ft / 5.546 / 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 41.846 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: Grid North
Grid Convergence Angle: -1.51546231°	Total Corr Mag North -> Grid North: +9.752°
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	11086.99	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	44.86	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	1085037.12	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	1085059.74	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	11419.05	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	1085424.60	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	1085596.81	N 31 38 49.652 W 103 16 19.596	
	12455.00	91.27	54.25	11416.16	1396.73	798.80	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	1085699.94	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	

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (RUS)	Easting (RUS)	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	1681.84	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	1706.94	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)

MD To (ft)

EOU Freq

Survey Tool Type

Borehole -> Survey

0.00

21.00

Act-Slms SLB_CNSG+DPIPE-Depth Only

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

21.00

10900.00

Act-Slms SLB_CNSG+DPIPE

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

10900.00

10981.00

Act-Slms SLB_CNSG+DPIPE

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

10981.00

11076.00

Act-Slms SLB_MWD+DMAG

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

11076.00

11238.00

Act-Slms SLB_MWD+DMAG

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

11238.00

12264.00

Act-Slms SLB_MWD+DMAG

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

12264.00

13218.00

Act-Slms SLB_MWD-STD

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

13218.00

13276.00

Act-Slms SLB_BLIND+TREND

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

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APPLICATION FOR ALTERNATE
SURFACE CASING PROGRAM
(Statewide Rule 13(b)(2)(G))

DATE 05 / 21 / 2009 RRC DISTRICT 08
OPERATOR Energen Resources Corporation FIELD War-Wink, S. (Wolfcamp)
LEASE University "20" LOC. SEC. 47 BLK. 20 SUR. University Lands
WELL NO. 4701 DRILLING PERMIT NO. 673228 COUNTY Ward
DISTANCE AND DIRECTION FROM NEAREST TOWN 11 miles North from Pyote
PROPOSED TOTAL DEPTH MD=13276 TVD=11420.37 *INJECTION OR DISPOSAL WELL YES NO
DEPTH OF DEEPEST USABLE WATER & ANY SEPARATION DEPTHS AS PER TEXAS WATER COMMISSION LETTER
DATE 10/17 /08 S.C.# 6357
(ATTACH COPY OF TWC LETTER)
DISTANCE & DIRECTION OF NEAREST WATER WELL WITHIN 1/4 MILE _____
DEPTH OF WATER WELL _____ TYPE OF WELL (House, City, Stock, etc.) _____

PROPOSED CASING & CEMENTING PROGRAM

[CHECK APPLICABLE BOXES] APPLICATION FOR: SHORT SURFACE STRING []
EXCESS SURFACE STRING [x] NO SURFACE CASING [] MULTI-STAGE TOOL []
CIRCULATE FROM CASING SHOE: INTERMEDIATE [] PRODUCTION []
SURFACE CASING DEPTH 1164 FT. 5044 Int. MULTI-STAGE TOOL DEPTH _____ FT.
INTERMEDIATE OR PRODUCTION CASING DEPTH 11786 Prod. FT.
CENTRALIZERS: GIVE NUMBER & PLACEMENT Int=26 Prod=38

CEMENT DATA (as appropriate) - APPLIES TO CEMENT FROM MULTI-STAGE TOOL OR INTERMEDIATE-
PRODUCTION CASING SHOE TO GROUND SURFACE

TYPE & ADDITIVES	WEIGHT & YIELD	DISPLACEMENT FEET	COMPRESSIVE STRENGTH
LEAD SLURRY _____	_____	_____	(24 hr.)
TAIL SLURRY _____	_____	_____	(72 hr.)

REASON FOR REQUEST We set the 13-3/8" surface string deeper than the water board indicated we needed to so that red beds to approx. 1000-1200' below GL would not interfere with our drilling of the intermediate section of the hole and to provide strength and support for the strings of pipe.

Mayra Martinez SIGNATURE Marv Ann Martinez-Regulatory Analyst NAME & TITLE 432/688-3323 PHONE NUMBER

ADDRESS 3300 N. 'A' St. Bldg 4 Ste 100 Midland, TX 79705

NOTICE

1. If for injection or disposal well, be aware that for short surface strings there will be annual testing requirements and possible permit restrictions.
2. Centralizers must be used through all usable waters. Refer to Rule 13(b)(2)(F).
3. Notify District Office if cement does not circulate.
4. Notify District Office 8 hours prior to setting casing.

DATE: 5-22-09

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Oilfield Services, U.S. Inc. 17 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

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
Lariat 31
Ward County, TX
42-475-35473
JSO# 40018427

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 I	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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MIDLAND

Oilfield Services U.S. Land Mass

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.

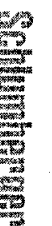
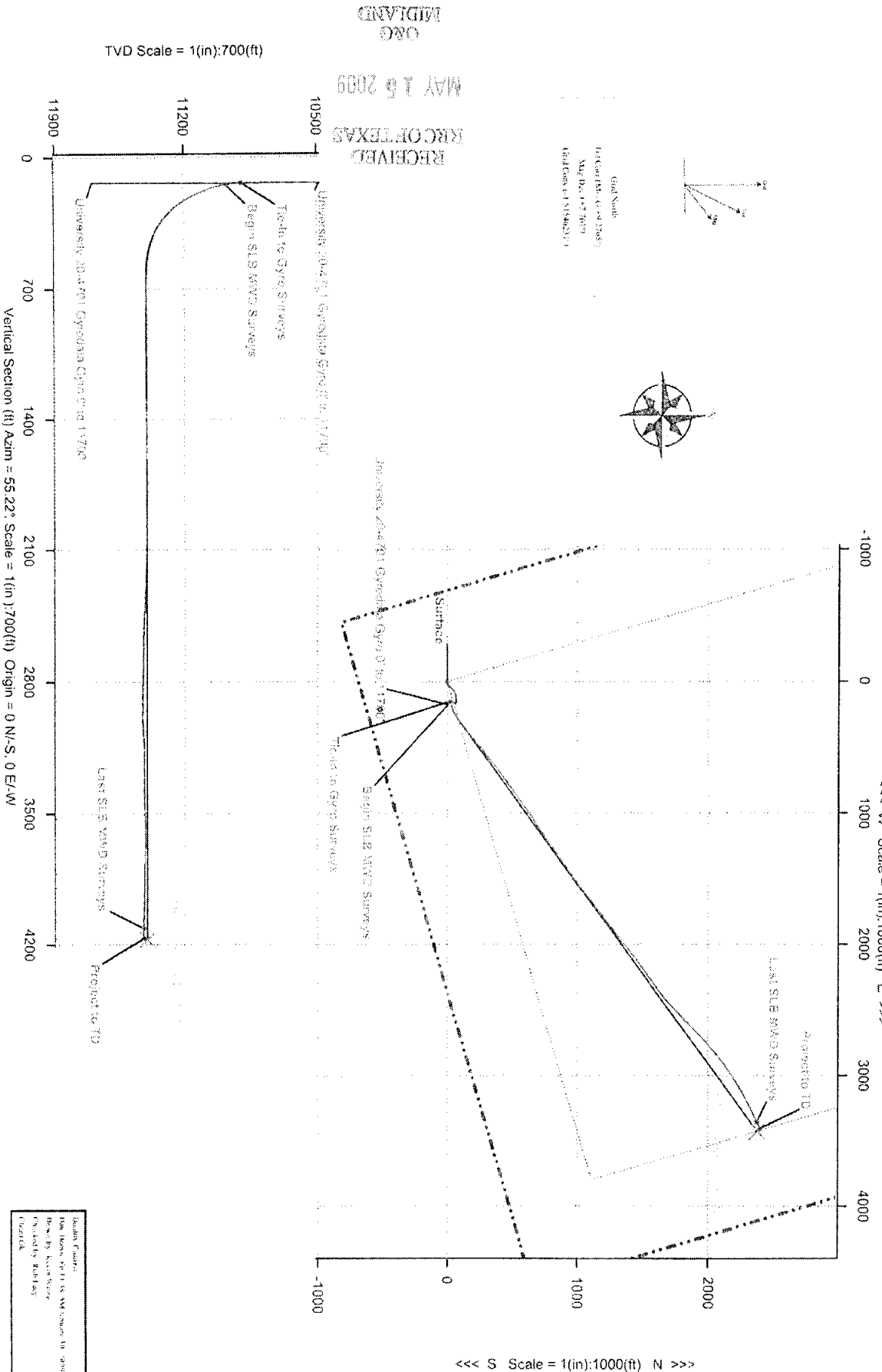
Francisco Huitron

MWD 1

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[illegible]



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

Report Date: January 30, 2008 Client: Energen Resources Corporation Field: TX, Ward County (NAD 27) Structure / Slot: Energen, University 20-4701 / University 20-4701 Well: University 20-4701 Borehole: Original Hole UWI/API#: Survey Name / Date: University 20-4701 MWD 10900' to 15243' Final / January 5, 2008 Tort / AHD / DDI / ERD ratio: 204.842' / 4301.17 ft / 6.070 / 0.376 Grid Coordinate System: NAD27 Texas State Planes, Central Zone, US Feet Location Lat/Long: N 31 35 41.645, W 103 16 32.312 Location Grid N/E Y/X: N 731580.300 RUS, E 1084476.606 RUS Grid Convergence Angle: -1.51546231° Grid Scale Factor: 0.99994455	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 54.840° Vertical Section Origin: N 0.000 ft, E 0.000 ft TVD Reference Datum: RKS TVD Reference Elevation: 2779.0 ft relative to MSL Sea Bed / Ground Level Elevation: 2758.000 ft relative to MSL Magnetic Declination: 7.764° Total Field Strength: 48601.821 nT Magnetic Dip: 59.767° Declination Date: December 27, 2008 Magnetic Declination Model: BGGM 2008 North Reference: Grid North Total Corr Mag North -> Grid North: +9.279° 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 30.089
	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	15.06	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	88.63	51.79	11402.33	649.68	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	681.63	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	1.26	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	2.64	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	1085302.83	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	978.89	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	778.66	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	56.08	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	2.48	732450.39	1085820.10	N 31 38 50.606	W 103 16 17.041

KRCO TEXAS

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	OLS (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	1085946.34	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	1085971.80	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	1085998.06	N 31 38 51.162	W 103 16 16.155
	12791.00	91.31	54.81	11399.47	1726.46	942.68	1447.76	1.68	732522.92	1086024.28	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	732768.91	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	1558.56	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	0.40	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	2413.26	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	46.63	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	48.04	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	733658.78	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 4.109	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	3176.28	3.82	733868.30	1087652.66	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 5.564	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

RRCOPTexas

MAY 15 2009

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	OLS (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	68.31	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)	MD To (ft)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	21.00	Act-Stns	SLB_CNSG+DPIPE-Depth Only	Original Hole -> University 20-4701 Gyrodata Gyro 0' to 11700'
21.00	10900.00	Act-Stns	SLB_CNSG+DPIPE	Original Hole -> University 20-4701 Gyrodata Gyro 0' to 11700'
10900.00	11076.00	Act-Stns	SLB_MWD-INC_ONLY	Original Hole -> University 20-4701 MWD 10900' to 15243' Final
11076.00	11936.00	Act-Stns	SLB_MWD+DMAG	Original Hole -> University 20-4701 MWD 10900' to 15243' Final
11936.00	15188.00	Act-Stns	SLB_MWD-STD	Original Hole -> University 20-4701 MWD 10900' to 15243' Final
15188.00	15243.00	Act-Stns	SLB_BLIND+TREND	Original Hole -> University 20-4701 MWD 10900' to 15243' Final

RECEIVED
RRC OF TEXAS

MAY 15 2009

O&G
MIDLAND

6357

DEPTH OF USABLE-QUALITY GROUND WATER TO BE PROTECTED

PLEASE READ ALL INSTRUCTIONS

The information requested is essential in order for this agency to provide an appropriate response. Please allow for receipt of this form in our offices at least two weeks before your operation begins. Due to the volume of these requests, at times, it may be difficult for us to handle telephone inquiries. Complete, keep the bottom sheet (goldenrod) for your files, and mail the top 3 sheets of the 4-sheet set of carbon-backed forms with a map to the address below. One sheet bearing our response will be returned to you. Another will be sent to the appropriate district office of the Railroad Commission. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/238-3282. If you have questions on how to fill out this form or about the Surface Casing program, please contact us at 512/238-0515.

PLEASE
DO NOT STAPLE

RECEIVED

OCT 17 2008

Surface Casing - MC 151
TCEQ
P.O. Box 13087
Austin, TX 78711-3087

Date 10-14-08

TCEQ File No.: SC-

6357

Carolyn Larson 432/684-3691
Name of person preparing this request & phone No. (with area code)

Energen Resources Corporation

Company (operator's name as on RRC form W-1)

3300 N. A St., Bldg. 4, Ste. 100

Mailing Address

Midland, TX 79705

City and State

ZIP Code

FOR TCEQ USE ONLY

ALWAYS INCLUDE A MAP SHOWING YOUR WELL SITE AND ALL SURROUNDING SURVEYS

COUNTY	Ward	Survey Name	UL
Block No.	20	Township	Section or Survey No. Sec. 47 (or) Lot No.
Abstract No. A-	LEASE Name	University 20	Well No. 4701
Distances, in feet, and directions measured at right angles from each of two intersecting <input checked="" type="checkbox"/> Section or <input type="checkbox"/> Survey lines (NOT LEASE LINES) 660 feet from South line and 660 feet from West line.			
Distance (in miles) and direction from a nearby town in this County (name the town) 11 miles Northwest of Pote			
THE ABOVE INFORMATION IN THIS BLOCK MUST BE COMPLETE AND CORRECT			
API #	RRC Lease No.	New	RRC Dist. No. 08
GPS Coord. (long/lat or X-Y state plane)	31°38'4.65" N	103°16'32.31" W	NAD 27

Elevation 2758' Total Depth 12,000' Geologic Fm. at T.D. Bone Spring
Purpose of the Request: ☒ New Drill ☐ Re-entry ☐ Plug & Abandon ☐ Other (specify)
Is this an amended request? ☐ Yes ☒ No Previous File No. for this well: SC-
☐ Log included of same or nearby well (The applicable type of well log that shows the aquifers.) Please provide a location map or API# for attached log.

ALWAYS attach the electric log of any well that is to be reentered.

Additional remarks:

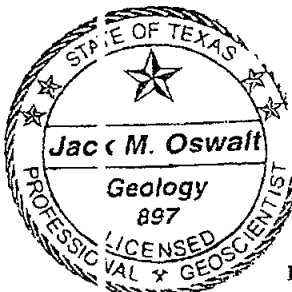
To protect usable-quality ground water at this location, the TEXAS COMMISSION ON ENVIRONMENTAL QUALITY recommends:

CO-WARD, SUR-UL, BLK-20, SEC-47, LSE-UNIVERSITY 20, #9/ALLUVIUM, 300

The interval from the land surface to the base of the ALLUVIUM, which is estimated to occur at a depth of 300 feet, must be protected.

DO NOT WRITE HERE
FOR TCEQ USE ONLY

Very truly yours,
Jack M. Oswalt, P.G.



Date

October 17, 2008

typed by TCEQ

Geologist, Surface Casing, TCEQ

NOTE: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. Approval of the well-completion methods for protection of this ground water falls under the jurisdiction of the Railroad Commission of Texas. This recommendation is intended for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operations into a nonproductive zone (RRC Form W-14).

TCEQ-0051 (Rev. 02-13-2003)

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