

API No. <u>42-475-36255</u>	<b>RAILROAD COMMISSION OF TEXAS OIL &amp; GAS DIVISION</b>				<b>FORM W-1</b> 07/2004	
Drilling Permit # <u>748973</u>	<b>APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER</b>				Permit Status: <b>Approved</b>	
SWR Exception Case/Docket No. _____		<i>This facsimile W-1 was generated electronically from data submitted to the RRC. A certification of the automated data is available in the RRC's Austin office.</i>				
1. RRC Operator No. <u>252002</u>		2. Operator's Name (as shown on form P-5, Organization Report) <b>ENERGEN RESOURCES CORPORATION</b>		3. Operator Address (include street, city, state, zip):		
4. Lease Name <b>UNIVERSITY 17-18</b>			5. Well No. <b>2</b>			
<b>GENERAL INFORMATION</b>						
6. Purpose of filing (mark ALL appropriate boxes): <input checked="" type="checkbox"/> New Drill <input type="checkbox"/> Recompletion <input type="checkbox"/> Reclass <input type="checkbox"/> Field Transfer <input type="checkbox"/> Re-Enter <input type="checkbox"/> Amended <input type="checkbox"/> Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): <input type="checkbox"/> Vertical <input checked="" type="checkbox"/> Horizontal (Also File Form W-1H) <input type="checkbox"/> Directional (Also File Form W-1D) <input type="checkbox"/> Sidetrack						
8. Total Depth <u>11500</u>		9. Do you have the right to develop the minerals under any right-of-way? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>SURFACE LOCATION AND ACREAGE INFORMATION</b>						
11. RRC District No. <u>08</u>		12. County <b>WARD</b>		13. Surface Location <input checked="" type="checkbox"/> Land <input type="checkbox"/> Bay/Estuary <input type="checkbox"/> Inland Waterway <input type="checkbox"/> Offshore		
14. This well is to be located <u>6.3</u> miles in a <u>W</u> direction from <u>PYOTE</u> which is the nearest town in the county of the well site.						
15. Section <u>17</u>	16. Block <u>18</u>	17. Survey <u>UL</u>		18. Abstract No. <u>A-</u>	19. Distance to nearest lease line: <u>200</u> ft.	20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>320.4</u>
21. Lease Perpendiculars: <u>400</u> ft from the <u>SW</u> line and <u>567</u> ft from the <u>NW</u> line.						
22. Survey Perpendiculars: <u>400</u> ft from the <u>SW</u> line and <u>567</u> ft from the <u>NW</u> line.						
23. Is this a pooled unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		24. Unitization Docket No:		25. Are you applying for Substandard Acreage Field? <input type="checkbox"/> Yes    (attach Form W-1A) <input checked="" type="checkbox"/> No		
<b>FIELD INFORMATION</b> List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir
<u>08</u>	<u>92100050</u>	<u>TWO GEORGES (BONE SPRING)</u>		<u>Oil Well</u>	<u>11000</u>	<u>1506.00</u>
<b>BOTTOMHOLE LOCATION INFORMATION</b> is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
<b>Remarks</b> [FILER Sep 27, 2012 1:01 PM]: HAVE A NICE DAY!				<b>Certificate:</b> I certify that information stated in this application is true and complete, to the best of my knowledge.		
				<u>Jenifer Sorley, Regulatory Analyst</u>		<u>Sep 27, 2012</u>
				Name of filer		Date submitted
				<u>(432)8181732</u>		<u>midlandrrc@energen.com</u>
				Phone		E-mail Address (OPTIONAL)
<b>RRC Use Only</b> Data Validation Time Stamp:    Oct 5, 2012 11:00 AM( Current Version )						

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

**Form W-1H** 07/2004  
**Supplemental Horizontal Well Information**

Permit Status: **Approved**

*The RRC has not approved this application.  
Duplication or distribution of information is  
at the user's own risk.*

**APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER**

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A certification of the automated data is available in the RRC's Austin office.*

Permit #: **748973**

Approved Date: **Oct 05, 2012**

1. RRC Operator No. <b>252002</b>	2. Operator's Name (exactly as shown on form P-5, Organization Report) <b>ENERGEN RESOURCES CORPORATION</b>	3. Lease Name <b>UNIVERSITY 17-18</b>	4. Well No. <b>2</b>
<b>Lateral Drainhole Location Information</b>			
5. Field as shown on Form W-1 <b>TWO GEORGES (BONE SPRING) (Field # 92100050, RRC District 08)</b>			
6. Section <b>17</b>	7. Block <b>18</b>	8. Survey <b>UL</b>	9. Abstract <b>WARD</b>
10. County of BHL <b>WARD</b>			
11. Terminus Lease Line Perpendiculars <b>200</b> ft. from the <b>NE</b> line, and <b>567</b> ft. from the <b>NW</b> line			
12. Terminus Survey Line Perpendiculars <b>200</b> ft. from the <b>NE</b> line, and <b>567</b> ft. from the <b>NW</b> line			
13. Penetration Point Lease Line Perpendiculars <b>400</b> ft. from the <b>SW</b> line, and <b>567</b> ft. from the <b>NW</b> line			



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

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 748973	DATE PERMIT ISSUED OR AMENDED Oct 05, 2012	DISTRICT * 08
API NUMBER 42-475-36255	FORM W-1 RECEIVED Sep 27, 2012	COUNTY WARD
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 320.4
OPERATOR ENERGEN RESOURCES CORPORATION	252002	<b>NOTICE</b> This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. <b>District Office Telephone No:</b> (432) 684-5581
LEASE NAME UNIVERSITY 17-18		WELL NUMBER 2
LOCATION 6.3 miles W direction from PYOTE		TOTAL DEPTH 11500
Section, Block and/or Survey SECTION ◀ 17                      BLOCK ◀ 18                      ABSTRACT ◀ SURVEY ◀ UL		
DISTANCE TO SURVEY LINES 400 ft. SW    567 ft. NW		DISTANCE TO NEAREST LEASE LINE 200 ft.
DISTANCE TO LEASE LINES 400 ft. SW    567 ft. NW		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
	WELL # NEAREST WE	DIST
This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.		

**APPLICATION FOR ALTERNATE SURFACE CASING PROGRAM**  
**Statewide Rule 13(b)(2)(g)**  
**RRC District 8/8A**

700

<b>Operator's Name and Address:</b> Energen Resources Corporation 3300 N. 'A', Bldg 4, Ste 100 Midland, TX 79705	Lease: University 17-18	Well No.: 2
	Field: Two Georges (Bone Spring)	
	Drilling Permit No.: 748973	
	County: Ward	RRC District: 08
	Location: Sec. 17 Block 18 Sur. ULS Twp.	
Proposed TD: 11500 TVD/15000 MD		

Distance and Direction from nearest town: 6.3 miles W from Pyote

Proposed injection or disposal well?  Yes  No NOTE: Special conditions may apply. See PROVISIONS below.

Usable-quality water strata (as determined by TCEQ "Waterboard" letter) occur to a depth of 600 ft, and from \_\_\_\_\_ ft to \_\_\_\_\_ ft, and from \_\_\_\_\_ ft to \_\_\_\_\_ ft.

**Note: Please submit copy of TCEQ "Waterboard" letter with this request. Request cannot be processed without this information.**

Distance and direction of nearest water well (within ¼ mile): see attached sheet

Type of water well (domestic, public, irrigation, stock, etc.): \_\_\_\_\_ Depth: \_\_\_\_\_

**Proposed Casing and Cementing Program**

Note: You may attach a wellbore diagram or cementing proposal to this application.

This application is for (check applicable boxes):  Short Surface Casing  Excess Surface Casing  No Surface Casing

The proposed surface casing depth: 5200' Multi-Stage tool depth (if applicable): 2000'

Intermediate or production casing depth: \_\_\_\_\_ Multi-Stage tool depth (if applicable): \_\_\_\_\_

Centralizer number and placement: 1 centralizer on first two joints then 1 every third joint thereafter.

Does the cement across the critical zone have 72-hr compressive strength of at least 1,200 psi?  Yes  No

Does the filler cement have 24-hr compressive strength of at least 250 psi?  Yes  No

Do you plan on circulating cement to the surface on all casing strings protecting usable-quality water?  Yes  No

Reason for this request: Economics

**PROVISIONS APPLICABLE TO RULE 13 EXCEPTIONS:**

1. Caution: If this well is being drilled for injection or disposal purposes, an injection or disposal well permit may be denied unless surface casing is set and cemented through all zones of usable-quality groundwater.
2. Centralizers must be used through all usable-quality waters. Refer to Rule 13(b)(2)(F).
3. Notify District Office 8 hours prior to setting casing.

Signature: [Signature] Print Name: Jenifer Sorley Date: 10/5/12 Phone: 432-818-1732

**IF CEMENT IS NOT CIRCULATED TO THE GROUND SURFACE AS REQUIRED BY THIS EXCEPTION, YOU MUST IMMEDIATELY CONTACT THE DISTRICT 8/8A OFFICE AT 432-684-5581, AND FOLLOW THE PROCEDURES AS SET OUT IN RULE 13(B)(2)(g)(III) OR AS RECOMMENDED BY THE DISTRICT OFFICE.**

RRC Use Only ▶

RRC District Office Action: <u>Critical Zone Slurry required across Waterboard</u>		
<input type="checkbox"/> Approved	<input checked="" type="checkbox"/> Approved as Modified	<input type="checkbox"/> Denied
By: <u>[Signature]</u>		Date: <u>10-5-12</u>
Remarks/Modifications: <u>Fresh Water Mud system required to top of Salt Sections</u>		

Groundwater  
Advisory Unit

GROUNDWATER PROTECTION DETERMINATION

Date October 1, 2012

GAU File No.: SC- 7572

\*\*\*\*\* EXPEDITED APPLICATION \*\*\*\*\*

API Number 47536255

Attention: JENIFER SORLEY

RRC Lease No. 000000

SC\_252002\_47536255\_000000\_7572.pdf

**ENERGEN RESOURCES CORP**  
3300 N A ST  
BLDG 4 STE 100  
MIDLAND TX 79705  
  
P-5# 252002

--Measured--

400 ft FSWL

567 ft FNWL

MRL:SECTION

Digital Map Location:	
X-coord/Long	<input type="text"/>
Y-coord/Lat	<input type="text"/>
Datum	<input type="text"/>
Zone	<input type="text"/>

County WARD

Lease & Well No. UNIVERSITY 17-18 #2&ALL

Purpose ND

Location SUR-UL,BLK-18,SEC-17,--[TD=11500],[RRC 8],

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Texas Railroad Commission recommends:


The interval from the land surface to a depth of 600 feet must be protected.

This recommendation is adequate for all wells drilled in this N/2 section 17.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is intended for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

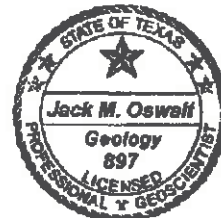
If you have any questions, please contact us at 512-463-2741, [gau@rrc.state.tx.us](mailto:gau@rrc.state.tx.us), or by mail.

Sincerely,

  
Digitally signed by Jack Oswalt  
 DN: c=US, st=TEXAS, ln=Austin, o=Railroad  
 Commission of Texas, cn=Jack Oswalt,  
 email=jack.oswalt@rrc.state.tx.us  
 Date: 2012.10.01 10:42:00 -05'00'

**Jack M. Oswalt, P.G.**

GEOLOGIST SEAL



Geologist, Groundwater Advisory Unit  
Oil & Gas Division

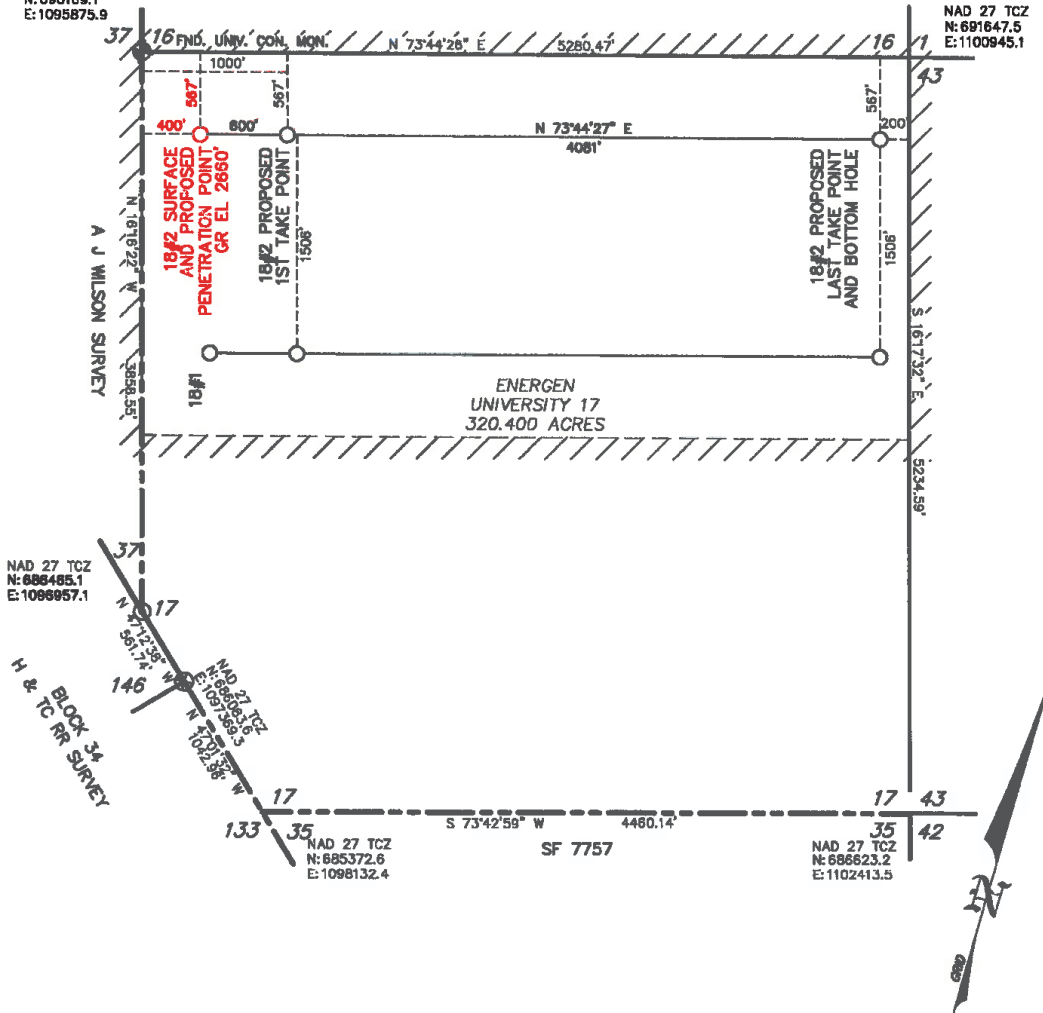
The seal appearing on this document was authorized by Jack M. Oswalt on 10/1/2012  
Note: Alteration of this electronic document will invalidate the digital signature.

A-086

**SECTION 17, BLOCK 18, UNIVERSITY LAND SURVEY**

NAD 27 TCZ  
N: 690169.1  
E: 1095875.9

NAD 27 TCZ  
N: 691647.5  
E: 1100945.1



NAD 27 TCZ  
N: 686485.1  
E: 1096957.1

H & TC RR SURVEY  
BLOCK 34

NAD 27 TCZ  
N: 685372.6  
E: 1098132.4

NAD 27 TCZ  
N: 686623.2  
E: 1102413.5

NAD 83, TEXAS CENTRAL ZONE		NAD 27, TEXAS CENTRAL ZONE	
S/L: N=10532312.2', E=1392884.4'	LAT=31.5308959 N, LONG=103.2342175 W	S/L: N=689736.8', E=1096418.8'	LAT=31.5307670 N, LONG=103.2337744 W
1ST: N=10532480.2', E=1393460.4'	LAT=31.5314029 N, LONG=103.2323834 W	1ST: N=689904.8', E=1096994.8'	LAT=31.5312700 N, LONG=103.2319404 W
B/H: N=10533622.7', E=1397377.9'	LAT=31.5348228 N, LONG=103.2199081 W	B/H: N=691047.3', E=1100912.2'	LAT=31.5346899 N, LONG=103.2194666 W

APPROXIMATELY 6.3 MILES W OF PYOTE, TEXAS

NOTES:  
1. COORDINATES AND BEARINGS ARE BASED ON LAMBERT CONICAL PROJECTION OF THE STATE PLANE COORDINATE SYSTEM NAD 83, CORRS 06, TEXAS CENTRAL ZONE WITH A CONVERGENCE ANGLE OF -01.48967462" AND DISTANCES ARE OF GRID VALUE WITH A CENTRAL COMBINED SCALE FACTOR OF 0.99990548.  
2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF IMPROVEMENTS AND/OR EASEMENTS WERE BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAVE BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.  
3. SEE DOCUMENTS AND ELECTRONIC DATA FILED IN THE OFFICE OF WPG INC FOR COMPLETE RECONSTRUCTION OF THESE SECTIONS OR BLOCKS.

I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM ACTUAL FIELD NOTES OF ON-THE-GROUND SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY. THE INFORMATION PRESENTED HEREON IS FOR THE PRIVATE USE OF THE PARTY NAMED IN THE "REFERENCE PORTION" OF THE TITLE BLOCK AND DOES NOT CONSTITUTE A COMPLETE BOUNDARY SURVEY AS DEFINED BY THE "PROFESSIONAL LAND SURVEYING PRACTICES ACT."



- ⊗ GAS WELL
- ▲ WATER INJECTION WELL
- OIL WELL
- LOCATED WELL
- DRY HOLE
- WATER WELL
- ⊗ SHUT IN WELL

W.D. Watson, Jr. TEXAS R.P.L.S. No. 1989  
DATE 9/26/12  
FILE: 7:\WARD\BLOCK 17.dwg



**Watson Professional Group Inc**

P.O. DRAWER 1186  
MIDLAND, TEXAS 79702  
(432) 520-0200  
FAX (432) 520-9212  
wdwatson@wpg-us.com

CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS

PERMIT PLAT  
**ENERGEN RESOURCES**  
UNIVERSITY 17-18J2

S/L AND PROPOSED P/P: 400' FSNL & 567' FNWL  
PROPOSED 1ST T/P: 1000' FSNL & 567' FNWL  
PROPOSED LAST T/P AND B/H: 200' FNEL & 567' FNWL  
SECTION 17, BLOCK 18, UNIVERSITY LAND SURVEY  
WARD COUNTY, TEXAS

DATE: SEPT. 26, 2012 DATE SURVEYED: 9/24/12  
JOB NO.: 12-1431-00 FIELD BOOK 657/18 DRAFT TA REV. 0