



**RAILROAD COMMISSION OF TEXAS**

**Form W-2**

1701 N. Congress  
P.O. Box 12967  
Austin, Texas 78701-2967

Status: Approved  
Date: 05/16/2017  
Tracking No.: 168645

**OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,**

OPERATOR INFORMATION			
Operator	PIONEER NATURAL RES. USA, INC.	Operator	665748
Operator	AMBER MCFADDEN PO BOX 3178 MIDLAND, TX 79702-0000		

WELL INFORMATION			
API	42-003-47353	County:	ANDREWS
Well No.:	45H	RRC District	08
Lease	UNIVERSITY "7-43"	Field	SPRABERRY (TREND AREA)
RRC Lease	40532	Field No.:	85280300
Location	Section: 37, Block: 7, Survey: UNIVERSITY LAND, Abstract:		
Latitude		Longitud	
This well is	17.1	miles in a	EAST
direction from	ANDREWS,		
which is the nearest town in the			

FILING INFORMATION			
Purpose of	Initial Potential		
Type of	New Well		
Well Type:	Producing	Completion or Recompletion	12/03/2016
<u>Type of Permit</u>		<u>Date</u>	<u>Permit No.</u>
Permit to Drill, Plug Back, or		03/31/2016	814653
Rule 37 Exception			
Fluid Injection			
O&G Waste Disposal			
Other:			

COMPLETION INFORMATION			
Spud	08/13/2016	Date of first production after rig	12/03/2016
Date plug back, deepening, drilling operation	08/13/2016	Date plug back, deepening, recompletion, drilling operation	10/06/2016
Number of producing wells on this lease this field (reservoir) including this	23	Distance to nearest well in lease & reservoir	750.0
Total number of acres in	6615.70	Elevation	2993 RKB
Total depth TVD	9543	Total depth MD	19747
Plug back depth TVD		Plug back depth MD	
Was directional survey made other inclination (Form W-	Yes	Rotation time within surface casing Is Cementing Affidavit (Form W-15)	36.2 Yes
Recompletion or	No	Multiple	No
Type(s) of electric or other log(s)	Acceptable cased hole logs		
Electric Log Other Description:			
Location of well, relative to nearest lease of lease on which this well is	5525.0 Feet from the	Off Lease :	No
	6569.0 Feet from the	South Line and	
		West Line of the	
		UNIVERSITY 7-43 Lease.	

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.			
Field & Reservoir	Gas ID or Oil Lease	Well No.	Prior Service Type
W2:	N/A		

PACKET: N/A

**FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:**

<b>GAU Groundwater Protection Determination</b>	<b>Depth</b>	1750.0	<b>Date</b>	04/01/2016
<b>SWR 13 Exception</b>	<b>Depth</b>	2000.0		

**INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION**

<b>Date of</b>	01/23/2017	<b>Production</b>	Gas Lift
<b>Number of hours</b>	24	<b>Choke</b>	
<b>Was swab used during this</b>	No	<b>Oil produced prior to</b>	10234.00
<b>PRODUCTION DURING TEST PERIOD:</b>			
<b>Oil</b>	907.00	<b>Gas</b>	779
<b>Gas - Oil</b>	858	<b>Flowing Tubing</b>	
<b>Water</b>	1113		
<b>CALCULATED 24-HOUR RATE</b>			
<b>Oil</b>	907.0	<b>Gas</b>	779
<b>Oil Gravity - API - 60.:</b>	41.3	<b>Casing</b>	
<b>Water</b>	1113		

**CASING RECORD**

<u>Ro</u>	<u>Type of Casing</u>	<u>Casing Size (in.)</u>	<u>Hole Size</u>	<u>Setting Depth</u>	<u>Multi - Stage</u>	<u>Multi - Tool Stage</u>	<u>Multi - Shoe</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined By</u>
1	Surface	13 3/8	17 1/2	2029				CLASS C	1702	2806.2	0	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	5808				CLASS H	1160	2648.5	4519	Calculation
3	Intermediate	9 5/8	12 1/4	5808	4519			TXI & H	801	1760.3	2200	Cement Evaluation Log
4	Conventional Production	5 1/2	8 1/2	19712				CLASS H	2074	3587.4	4830	Cement Evaluation Log

**LINER RECORD**

<u>Ro</u>	<u>Liner Size</u>	<u>Hole Size</u>	<u>Liner Top</u>	<u>Liner Bottom</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined</u>
N/A									

**TUBING RECORD**

<u>Ro</u>	<u>Size (in.)</u>	<u>Depth</u>	<u>Size (ft.)</u>	<u>Packer Depth (ft.)/Type</u>
1	2 7/8	9338		/

**PRODUCING/INJECTION/DISPOSAL INTERVAL**

<u>Ro</u>	<u>Open hole?</u>	<u>From (ft.)</u>	<u>To (ft.)</u>
1	No	L1 9725	19572.0

**ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.**

<b>Was hydraulic fracturing treatment</b>		Yes	
<b>Is well equipped with a downhole sleeve?</b> Yes		<b>If yes, actuation pressure</b>	9515.0
<b>Production casing test pressure (PSIG) hydraulic fracturing</b>	9307	<b>Actual maximum pressure (PSIG) during fracturing</b>	8776
<b>Has the hydraulic fracturing fluid disclosure been</b>		Yes	
<u><b>Ro</b></u>	<u><b>Type of Operation</b></u>	<u><b>Amount and Kind of Material Used</b></u>	<u><b>Depth Interval (ft.)</b></u>
1		SEE FRAC FOCUS	9725      19572

**FORMATION RECORD**

<u>Formations</u>	<u>Encountere</u>	<u>Depth TVD</u>	<u>Depth MD</u>	<u>Is formation</u>	<u>Remarks</u>
YATES	Yes	1069.0	1069.0	Yes	
SEVEN RIVERS	Yes	3412.0	3419.0	Yes	
QUEEN	Yes	4074.0	4096.0	Yes	
GRAYBURG	Yes	4569.0	4607.0	Yes	
SAN ANDRES - CO2 FLOOD, HIGH FLOWS, H2S, CORROSIVE	Yes	4720.0	4762.0	Yes	
HOLT	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
GLORIETA	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
TUBB	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
CLEARFORK	Yes	6777.0	6853.0	Yes	
PERMIAN DETRITAL	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
LEON	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
WICHITA ALBANY	No			No	NOT GEOLOGICALLY PRESENT IN AREA.
SPRABERRY	Yes	8401.0	8478.0	Yes	
DEAN	No			No	WELL IS NOT DEEP ENOUGH.
WOLFCAMP	No			No	WELL IS NOT DEEP ENOUGH.
CANYON	No			No	WELL IS NOT DEEP ENOUGH.
PENNSYLVANIAN	No			No	WELL IS NOT DEEP ENOUGH.
MCKEE	No			No	WELL IS NOT DEEP ENOUGH.
STRAWN	No			No	WELL IS NOT DEEP ENOUGH.
FUSSELMAN	No			No	WELL IS NOT DEEP ENOUGH.
DEVONIAN	No			No	WELL IS NOT DEEP ENOUGH.
SILURIAN	No			No	WELL IS NOT DEEP ENOUGH.
ELLENBURGER	No			No	WELL IS NOT DEEP ENOUGH.
<b>Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm</b>					No
<b>Is the completion being downhole commingled</b>					No

**REMARKS**

**RRC REMARKS**

**PUBLIC COMMENTS:**

[RRC Staff 2017-02-27 14:04:22.139] EDL=9847 feet, max acres=640, SPRABERRY (TREND AREA) oil well

**CASING RECORD :**

20% IS REFLECTED ON THE W-15 IN THE EST. % WASH-OUT OR HOLE ENLARGEMENT SECTION PER DISTRICT GUIDANCE. VOLUME AND HEIGHT VALUES ON THE W-15 ARE USING AN EXCESS CEMENT PUMPED OF 100%, INDICATING THE INCREASE IN ANNULAR OPEN HOLE VOLUME WHEN COMPARED TO GAUGE OPEN HOLE VOLUME.

**TUBING RECORD:**

PRODUCTION HOLE CROSSED OVER FROM 8 3/4" TO 8 1/2" AT 10131'.

**PRODUCING/INJECTION/DISPOSAL INTERVAL :**

**ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :**

**POTENTIAL TEST DATA:**

NEW WELL KOP ~8939', LOG WILL BE UPLOADED TO RRC THROUGH WEBSITE.

**OPERATOR'S CERTIFICATION**

<b>Printed</b>	KIKI BRADFORD	<b>Title:</b>	Senior Regulatory Specialist
<b>Telephone</b>	(972) 444-9001	<b>Date</b>	02/16/2017



RAILROAD COMMISSION OF TEXAS

1701 N. Congress  
P.O. Box 12967

Austin, Texas 78701-2967  
CEMENTING REPORT

Form W-15

Rev. 08/2014

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

OPERATOR INFORMATION	
Operator Name: <b>PIONEER NATURAL RES. USA, INC.</b>	Operator P-5 No.: <b>1665748</b>
Cementer Name: <b>Schlumberger</b>	Cementer P-5 No.: <b>754900</b>

WELL INFORMATION	
District No.: <b>08</b>	County: <b>ANDREWS</b>
Well No.: <b>45H</b>	API No.: <b>4200347353</b> Drilling Permit No.: <b>814653</b>
Lease Name: <b>University 7-43</b>	Lease No.: <b>40532</b>
Field Name: <b>SPRABERRY (TREND AREA)</b>	Field No.: <b>85280300</b>

I. CASING CEMENTING DATA	
Type of casing: <input type="checkbox"/> Conductor <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production	
Drilled hole size (in.): <b>17 1/2"</b>	Depth of drilled hole (ft.): <b>2050'</b> Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): <b>13 3/8"</b>	Casing weight (lbs/ft) and grade: <b>54.5 J55</b> No. of centralizers used: <b>13</b>
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): <b>2029'</b> Top of liner (ft.):
Hrs. waiting on cement before drill-out: <b>12</b>	Calculated top of cement (ft.): <b>0</b> Cementing date: <b>15-Aug-16</b>

SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1	1330	Class C	Remarks	2181.2	1584
2	372	Class C	Remarks	625.0	400
3					
Total	1702			2806.2	1984

II. CASING CEMENTING DATA	
Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings	
Drilled hole size (in.):	Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade: No. of centralizers used:
Tapered string drilled hole size (in.)	Tapered string depth of drilled hole (ft.)
Upper: Lower:	Upper: Lower:
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used
Upper: Lower:	Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> Yes <input type="checkbox"/> No	Setting depth tool (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): Cementing date:

SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA	
Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings	
Drilled hole size (in.):	Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade: No. of centralizers used:
Tapered string drilled hole size (in.)	Tapered string depth of drilled hole (ft.)
Upper: Lower:	Upper: Lower:
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used
Upper: Lower:	Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> Yes <input type="checkbox"/> No	Setting depth tool (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): Cementing date:

SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1					
2					
3					
Total					

**CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON**

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

**REMARKS**

#1: 61 lb/sk D903+ 26 lb/sk D035+0.5% D079+ 0.02 gal/sk D047+ 0.13 lb/sk D130  
 #2: 94 lb/sk D903 + 3% D020+0.02 gal/sk D047+0.2%D065+0.1%D013  
 #3:  
 #4: 602 sacks to surface

**CEMENTER'S CERTIFICATE:** I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

<u>Scott Cornwell, FS2</u>	<u>Schlumberger</u>	
Name and title of cementer's representative	Cementing Company	Signature
<u>7104 W County Rd 116</u>	<u>Midland TX 79706</u>	<u>(432) 681-1100</u>
Address	City, State, Zip Code	Tel: Area Code Number
		<u>August 15, 2016</u>
		Date: mo. day yr.

**OPERATOR'S CERTIFICATE:** I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

**Kiki Bradford, Senior Regulatory Specialist**  
 5205 N. O'Connor Blvd., Suite 200  
 Irving, TX 75039  
 972.969.5767

<u>Kiki Bradford</u>
Title
Signature
<u>2/7/16</u>
Date: mo. day yr.

**INSTRUCTIONS FOR FORM W-15, Cementing Report**

**NOTICE:** The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

- A. What to file:** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. The Form W-15 should be filed with the Form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.
- B. How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (<https://webapps.nrc.state.tx.us/security/login.do>) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).
- C. Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.  
 To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 ([http://info.sos.state.tx.us/pls/pub/readtac5ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&t=16&pt=1&ch=3&rl=14](http://info.sos.state.tx.us/pls/pub/readtac5ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&t=16&pt=1&ch=3&rl=14)). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
- D. Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.
- E. Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.
- F. Multiple parallel strings:** An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15s to show all data for multiple parallel strings.
- G. Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.



RAILROAD COMMISSION OF TEXAS

1701 N. Congress  
P.O. Box 12967

Austin, Texas 78701-2967  
CEMENTING REPORT

Form W-15  
Rev. 08/2014

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

OPERATOR INFORMATION	
Operator Name: <b>PIONEER NATURAL RES. USA, INC.</b>	Operator P-5 No.: <b>665748</b>
Cementer Name: <b>Schlumberger</b>	Cementer P-5 No.: <b>754900</b>

WELL INFORMATION	
District No.: <b>08</b>	County: <b>ANDREWS</b>
Well No.: <b>45H</b>	API No.: <b>4200347353</b> Drilling Permit No.: <b>814653</b>
Lease Name: <b>University 7-43</b>	Lease No.: <b>40532</b>
Field Name: <b>SPRABERRY (TREND AREA)</b>	Field No.: <b>85280300</b>

I. CASING CEMENTING DATA					
Type of casing:	<input type="checkbox"/> Conductor	<input type="checkbox"/> Surface	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Liner	<input type="checkbox"/> Production
Drilled hole size (in.):	Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:		
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:		No. of centralizers used:		
Was cement circulated to ground surface (or bottom of cellar) outside casing?	Setting depth shoe (ft.):		Top of liner (ft.):		
<input type="checkbox"/> Yes <input type="checkbox"/> No If no for surface casing, explain in Remarks.			Setting depth liner (ft.):		
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):		Cementing date:		
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1					
2					
3					
Total					

II. CASING CEMENTING DATA						
Type of casing:	<input type="checkbox"/> Surface	<input checked="" type="checkbox"/> Intermediate	<input type="checkbox"/> Production	<input type="checkbox"/> Tapered production	<input checked="" type="checkbox"/> Multi-stage cement shoe	<input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.): <b>12 1/4"</b>	Depth of drilled hole (ft.): <b>6015'</b>		Est. % wash-out or hole enlargement: <b>20%</b>			
Size of casing in O.D. (in.): <b>9 5/8"</b>	Casing weight (lbs/ft) and grade: <b>40 L80</b>		No. of centralizers used: <b>69</b>			
Tapered string drilled hole size (in.)	Tapered string depth of drilled hole (ft.)					
Upper:	Lower:	Upper:	Lower:			
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade		Tapered string no. of centralizers used			
Upper:	Lower:	Upper:	Lower:	Upper:	Lower:	
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Setting depth shoe (ft.): <b>5808'</b>			
Hrs. waiting on cement before drill-out: <b>12</b>	Calculated top of cement (ft.): <b>4519'</b>		Cementing date: <b>19-Aug-16</b>			
SLURRY						
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)	
1	899	50:50 Poz:H	Remarks	2301.4	3700	
2	261	50:50 Poz:H	Remarks	347.1	500	
3						
Total	1160			2648.5	4200	

III. CASING CEMENTING DATA						
Type of casing:	<input type="checkbox"/> Surface	<input checked="" type="checkbox"/> Intermediate	<input type="checkbox"/> Production	<input type="checkbox"/> Tapered production	<input checked="" type="checkbox"/> Multi-stage cement/DV tool	<input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.): <b>12 1/4"</b>	Depth of drilled hole (ft.): <b>6015'</b>		Est. % wash-out or hole enlargement: <b>20%</b>			
Size of casing in O.D. (in.): <b>9 5/8"</b>	Casing weight (lbs/ft) and grade: <b>40 L80</b>		No. of centralizers used: <b>69</b>			
Tapered string drilled hole size (in.)	Tapered string depth of drilled hole (ft.)					
Upper:	Lower:	Upper:	Lower:			
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade		Tapered string no. of centralizers used			
Upper:	Lower:	Upper:	Lower:	Upper:	Lower:	
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Setting depth tool (ft.): <b>4519'</b>			
Hrs. waiting on cement before drill-out: <b>12</b>	Calculated top of cement (ft.): <b>2260</b>		Cementing date: <b>19-Aug-16</b>			
SLURRY						
Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)	
1	565	TXI	Remarks	1446.4	2400	
2	236	50:50 Poz:H	Remarks	313.9	500	
3						
Total	801			1760.3	2900	





RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12967

Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15

Rev. 08/2014

Cementer: Fill in shaded areas.

Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: PIONEER NATURAL RES. USA, INC. Operator P-5 No.: 665748
Cementer Name: Schlumberger Cementer P-5 No.: 754900

WELL INFORMATION

District No.: 08 County: ANDREWS
Well No.: 45H API No.: 4200347353 Drilling Permit No.: 814653
Lease Name: University 7-43 Lease No.: 40533
Field Name: SPRABERRY (TREND AREA) Field No.: 85280300

I. CASING CEMENTING DATA

Type of casing: Conductor Surface Intermediate Liner [X] Production
Drilled hole size (in.): 8 3/4" / 8 1/2" Depth of drilled hole (ft.): 1974.7 Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): 5 1/2" Casing weight (lbs/ft) and grade: 20/26 P110 No. of centralizers used: 40
Was cement circulated to ground surface (or bottom of cellar) outside casing? [X] No Setting depth shoe (ft.): 1971.2' Top of liner (ft.):
Setting depth liner (ft.):
Hrs. waiting on cement before drill-out: 12 Calculated top of cement (ft.): 4830 Cementing date: 7-Oct-16

SLURRY

Table with 6 columns: Slurry No., No. of Sacks, Class, Additives, Volume (cu. ft.), Height (ft.)

II. CASING CEMENTING DATA

Type of casing: Surface Intermediate Production Tapered production Multi-stage cement shoe Multiple parallel strings
Drilled hole size (in.): Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): Casing weight (lbs/ft) and grade: No. of centralizers used:
Tapered string drilled hole size (in.): Tapered string depth of drilled hole (ft.)
Upper: Lower: Upper: Lower:
Tapered string size of casing in O.D. (in.): Tapered string casing weight (lbs/ft) and grade: Tapered string no. of centralizers used
Upper: Lower: Upper: Lower: Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? [ ] Yes [ ] No Setting depth tool (ft.):
Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): Cementing date:

SLURRY

Table with 6 columns: Slurry No., No. of Sacks, Class, Additives, Volume (cu. ft.), Height (ft.)

III. CASING CEMENTING DATA

Type of casing: Surface Intermediate Production Tapered production Multi-stage cement/DV tool Multiple parallel strings
Drilled hole size (in.): Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): Casing weight (lbs/ft) and grade: No. of centralizers used:
Tapered string drilled hole size (in.): Tapered string depth of drilled hole (ft.)
Upper: Lower: Upper: Lower:
Tapered string size of casing in O.D. (in.): Tapered string casing weight (lbs/ft) and grade: Tapered string no. of centralizers used
Upper: Lower: Upper: Lower: Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? [ ] Yes [ ] No Setting depth tool (ft.):
Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): Cementing date:

SLURRY

Table with 6 columns: Slurry No., No. of Sacks, Class, Additives, Volume (cu. ft.), Height (ft.)





## RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION

**OPERATOR Name:** PIONEER NATURAL RES. USA, INC.      **RE: Lease:** UNIVERSITY 7-43  
**Address1:** ATTN WELDON PIERSON      **Well No:** 45H  
**Address2:** 5205 N O'CONNOR BLVD SUITE 200      **Sec:** 37      **Block:** 7  
**City:** IRVING      **County:** ANDREWS  
**State:** TX      **Survey Name:** UNIVERSITY LAND

**SWR13EX Application Number:** 7441      **Drilling Permit No:** 814653

### SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 7-43 ;  
**WELL NUMBER:** 45H has been approved by the Railroad Commission of Texas District Office.

- a. A copy of this approved letter must be kept on location during all phases of drilling and/or plugging operations. Once approved, changes CANNOT be made to the Proposed Casing Program on the original application without additional approval from the Railroad Commission of Texas District Office.
- b. Any substantive modifications to the cement program require prior approval from the Railroad Commission of Texas District Office, and may require re-submission of the SWR 13 (Statewide Rule 13) Alternate Surface Casing Application. Contact the Railroad Commission of Texas District Office for more information.
- c. The tail slurry must be sufficient to fill the Zone of Critical Cement as described in Statewide Rule 13(b)(1)(H)(i). In addition, all cement slurries must be mixed on location as described in Application for Alternate Surface Casing Program.
- d. The casing and cement program shall adhere to the following specifications:  
Set 2000 feet of surface casing and circulate cement from the shoe to the ground surface.

IF CEMENT IS NOT CIRCULATED TO THE GROUND SURFACE AS REQUIRED BY THIS EXCEPTION, YOU MUST CONTACT THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE IMMEDIATELY AND FOLLOW THE PROCEDURES SET OUT IN RULE 13(b)(1)(H)(iii) OR AS REQUIRED BY THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE.

You must comply with all other provisions of SWR 13 (Statewide Rule 13) and a representative of the cementing company who performs the cementing job for the protection of usable quality water strata must sign the Form W-15 attesting to the information regarding cementing operations performed; including circulation of cement. (Note: If surface casing is set below the approved depth, this can result in denial of future Statewide Rule 13(b)(1)(H)(i) requests.) A condition of the approved drilling permit requires notification to the Railroad Commission of Texas District Office eight (8) hours prior to the time casing is to be set/cemented in the well. If your exception request was submitted after the subject well has been drilled and completed, the operator may be referred for enforcement action.

This authorization shall expire within five (5) years from the date the Groundwater Protection Determination was issued, or at the expiration of the drilling permit (if the well is not spudded prior to expiration) for the referenced well, whichever occurs first. Furthermore, this authorization supersedes any prior authorizations issued for the referenced well.

This exception is based on information provided when the application was submitted on 04/04/2016 .  
If any information has changed, you must contact the appropriate Railroad Commission of Texas District Office, and submit a new application if applicable. If you have questions, please contact the appropriate Oil and Gas District office.

RRC APPROVAL BY: Erik Hanson

DATE: 04/05/2016

DISTRICT DIRECTOR

**From:** [Erik Hanson](#)  
**To:** [Bradford, Kiki](#)  
**Cc:** [Renfro, Casi](#); [Jeffery Morgan](#)  
**Subject:** RE: University 7-43 45H, 46H & 47H  
**Date:** Tuesday, February 21, 2017 10:39:57 AM  
**Attachments:** [image001.jpg](#)

---

Those depths will be fine.

Respectfully,

**Erik Hanson**  
Oil & Gas Technical Specialist  
Railroad Commission of Texas  
Oil & Gas Division/Field Ops  
10 Desta Drive, Suite 500E  
Midland, TX 79705-4515  
432-684-5581 ext. 415



---

**From:** Bradford, Kiki [mailto:[Kiki.Bradford@pxd.com](mailto:Kiki.Bradford@pxd.com)]  
**Sent:** Monday, February 20, 2017 3:36 PM  
**To:** Erik Hanson <[Erik.Hanson@rrc.texas.gov](mailto:Erik.Hanson@rrc.texas.gov)>  
**Cc:** Renfro, Casi <[Casi.Renfro@pxd.com](mailto:Casi.Renfro@pxd.com)>  
**Subject:** RE: University 7-43 45H, 46H & 47H

Hi Erik,

I just wanted to follow-up with you on the below email. It was also brought to my attention when the 47H WRO completion was filed, Casi Renfro had already reached out to you and you approved her request. See attached. We will just need to know about the 45H and the 46H wells.

Thank you again for your assistance.

**Kiki Bradford**  
**Lead Regulatory Specialist**  
**Pioneer Natural Resources USA, Inc.**  
**Permian Asset Team – Corporate Regulatory Affairs**  
5205 N. O'Connor Blvd., Ste. 200  
Irving, Texas 75039  
Direct: 972-969-5767  
Fax: 972-969-3518  
<mailto:kiki.bradford@pxd.com>

---

**From:** Bradford, Kiki  
**Sent:** Thursday, February 16, 2017 3:56 PM  
**To:** 'erik.hanson@rrc.texas.gov' <[erik.hanson@rrc.texas.gov](mailto:erik.hanson@rrc.texas.gov)>  
**Cc:** Renfro, Casi <[Casi.Renfro@pxd.com](mailto:Casi.Renfro@pxd.com)>

**Subject:** University 7-43 45H, 46H & 47H

Erik,

I have an approved SWR-13 for the above wells to 2000' each, but surface casing was set at 2029', 2042' and 2037' respectively. Is this acceptable, or do we need to revise the SWR-13?

45H (42-003-47353)

46H (42-003-47354)

47H (42-003-47355)

Thank you for your help!

**Kiki Bradford**  
**Lead Regulatory Specialist**  
**Pioneer Natural Resources USA, Inc.**  
**Permian Asset Team – Corporate Regulatory Affairs**  
5205 N. O'Connor Blvd., Ste. 200  
Irving, Texas 75039  
Direct: 972-969-5767  
Fax: 972-969-3518  
<mailto:kiki.bradford@pxd.com>

---

Statement of Confidentiality:

This message may contain information that is privileged or confidential. If you receive this transmission in error, please notify the sender by reply e-mail and delete the message and any attachments.

Tracking No.: 168645

## Instructions

**When to File Form L-1:**

- with Forms G-1, W-2, and GT-1 for new and deepened gas, oil, and geothermal wells
- with Form W-3 for plugged dry holes
- when sending in a log which was held under a request for confidentiality and the period for confidentiality has not yet expired.

**When is Form L-1 NOT required:**

- with Forms W-2, G-1, and GT-1 filed for injection wells, disposal wells, water supply wells, service wells, re-test wells, re-classifications, and plugbacks of oil, gas or geothermal wells
- with Form W-3 for plugging of other than a dry hole

**Where to File Form L-1:**

- with the appropriate Commission district office

**Filling out Form L-1:**

- Section I and the signature section must be filled out for all wells
- complete only the appropriate part of Section II

**Type of log required:**

- any wireline survey run for the purpose of obtaining lithology, porosity, or resistivity information
- no more than one such log is required but it must be of the subject well
- if such log is NOT run on the subject well, do NOT substitute any other type of log; just select Section II, Part A below

## SECTION I. IDENTIFICATION

Operator Name: PIONEER NATURAL RES. USA, INC.	District No. 08	Completion Date: 12/03/2016
Field Name SPRABERRY (TREND AREA)	Drilling Permit No. 814653	
Lease Name UNIVERSITY "7-43"	Lease/ID No. 40532	Well No. 45H
County ANDREWS	API No. 42- 003-47353	

## SECTION II. LOG STATUS (Complete either A or B)

 A. BASIC ELECTRIC LOG NOT RUN

 B. BASIC ELECTRIC LOG RUN. (Select one)

1. Confidentiality is requested and a copy of the header for each log that has been run on the well is attached.
2. Confidentiality already granted on basic electric log covering this interval (applicable to deepened wells only).
3. Basic electric log covering this interval already on file with Commission (applicable to deepened wells only).

 4. Log attached to (select one):

 (a) Form L-1 (this form). If the company/lease name on log is different from that shown in Section I, please enter name on log here: \_\_\_\_\_

 Check here if attached log is being submitted after being held confidential. 
 (b) Form P-7, Application for Discovery Allowable and New Field Designation.

 (c) Form W-4, Application for Multiple Completion:

Lease or ID No(s). \_\_\_\_\_

Well No(s). \_\_\_\_\_

KIKI BRADFORD

Signature

PIONEER NATURAL RES. USA, INC.

Name (print)

Senior Regulatory Specialist

Title

(972) 444-9001

Phone

02/07/2017

Date

-FOR RAILROAD COMMISSION USE ONLY-



Radial Cement Bond  
With/ Variable Density  
Gamma Ray/ CCL

Company Pioneer Natural Resources Well University 7-43 45H Field Spraberry County Andrews State Texas	Company Pioneer Natural Resources	
	Well University 7-43 45H	
	Field Spraberry	
	County Andrews	State Texas
Location:		API # : 42-003-47353-0000
210' FSL/ 1,215' FWL, SEC: 37, BLK: 7		Other Services JB/GR 4.625"
SEC	TWP	RGE
Permanent Datum	Ground Level	Elevation 2,964'
Log Measured From	Kelly Bushing @ 29'APD	
Drilling Measured From	Kelly Bushing	
		Elevation K.B. 2,993' D.F. 2,992' G.L. 2,964'

Date	Oct 14, 2016
Run Number	1
Depth Driller	19,747'
Depth Logger	9,750'
Bottom Logged Interval	9,748'
Top Log Interval	Surface
Open Hole Size	8.75"
Type Fluid	Water
Density / Viscosity	
Max. Recorded Temp.	167 Deg F
Estimated Cement Top	4,830'
Time Well Ready	On Arrival
Time Logger on Bottom	10:00
Equipment Number	113
Location	Midland, Texas
Recorded By	Jack T. Hiatt
Witnessed By	Mike Madrid

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	13.375	54.5#	28.8'	2,029'
Prot. String	9.625"	40#	-3.8'	5,808'
Production String	5.5"	20#	30'	19,711.6'
Liner				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Log Measured From KB=29'  
Log Correlated To Pipe Tally Marker Joints  
Marker Joints @ 8,631' -8,651' & 8,917' -8,937'  
Thank You for Choosing Nine Energy Service



Main Pass  
0 PSI



RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O.Box 12967
Austin, Texas 78701-2967

P-16 Data Sheet

Page 1

Rev. 01/2016

Acreage Designation

SECTION I. OPERATOR INFORMATION
Operator Name: PIONEER NATURAL RES. USA, INC.
Operator P-5 No.: 665748
Operator Address: 5205 N. O'CONNOR BLVD., SUITE 200, IRVING, TEXAS 75039

SECTION II. WELL INFORMATION
District No.: 08
Well No.: 45H
Total Lease Acres: 6615.7
Lease Name: UNIVERSITY 7-43
Field Name: SPRABERRY (TREND AREA)
County: ANDREWS
API No.: 42-003-47353
Drilling Permit No.: 814653
Lease No.: 40532
Field No.: 85280300
Purpose of Filing: [ ] Drilling Permit Application (Form W-1) [x] Completion Report

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

Table with 8 columns: RRC ID No. or Lease No., Well No., H-Directional/D-Directional/V-Vertical, Lease Name, API No., Acres Assigned, SWR 38 Except. (Y/N), Operator Name and Operator No. (if different from filing operator). Rows 1-18 show UNIVERSITY 7-43 leases with 80 acres each.

Summary table for well counts and acreage: Total Well Count > 17, < A. Total Assigned Horiz. Acreage 1360, < C. Total Assigned Acreage, < B. Total Assigned Vert./Dir. Acreage, < Total Remaining Acreage.

SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)

VERTICAL WELLS: 6D
HORIZONTAL WELLS: 2B

Attach Additional Pages As Needed. [ ] No additional pages [x] Additional Pages: 2 (No. of additional pages)

CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that this report was prepared by me or under my supervision or direction, that I am authorized to make this report, and that the information contained in this report is true, correct, and complete to the best of my knowledge.

Signature: Kiki Bradford (handwritten)
Name and title (type or print): LEAD REGULATORY SPECIALIST
Email (include email address only if you affirmatively consent to its public release): kiki.bradford@pxd.com

5205 N. O'CONNOR BLVD., SUITE 200, IRVING, TX 75039
Address City, State, Zip Code
972-969-5767
Tel: Area Code Number
2/7/2017
Date: mo. day yr.



**RAILROAD COMMISSION OF TEXAS**

1701 N. Congress  
 P.O.Box 12967  
 Austin, Texas 78701-2967

**Form P-16**

**Attachment**

**Page 1A**

Rev. 01/2016

**Acreage Designation Attachment**

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

**SECTION III (CONTINUED). LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER**

RRC ID No. or Lease No.	Well No.	H -Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
45032	19	V	UNIVERSITY 7-43	42-003-42466	80.00		
45032	20	V	UNIVERSITY 7-43	42-003-42467	80.00		
45032	21	V	UNIVERSITY 7-43	42-317-35825	80.00		
45032	22	V	UNIVERSITY 7-43	42-003-41558	80.00		
45032	23	V	UNIVERSITY 7-43	42-003-42762	80.00		
45032	24	V	UNIVERSITY 7-43	42-317-37279	80.00		
45032	25	V	UNIVERSITY 7-43	42-003-43697	80.00		
45032	26	V	UNIVERSITY 7-43	42-003-43699	80.00		
45032	27	V	UNIVERSITY 7-43	42-003-44045	80.00		
45032	28	V	UNIVERSITY 7-43	42-003-44046	80.00		
45032	29	V	UNIVERSITY 7-43	42-003-42891	80.00		
45032	30	V	UNIVERSITY 7-43	42-003-42916	80.00		
45032	31	V	UNIVERSITY 7-43	42-003-42917	80.00		
45032	32	V	UNIVERSITY 7-43	42-003-42918	80.00		
45032	33	V	UNIVERSITY 7-43	42-003-42919	80.00		
45032	34	V	UNIVERSITY 7-43	42-003-42430	80.00		
45032	35	V	UNIVERSITY 7-43	42-003-41428	80.00		
45032	36	V	UNIVERSITY 7-43	42-003-42431	80.00		
45032	37	V	UNIVERSITY 7-43	42-003-42432	80.00		
45032	38	V	UNIVERSITY 7-43	42-003-42420	80.00		
45032	39	V	UNIVERSITY 7-43	42-003-42426	80.00		
45032	40	V	UNIVERSITY 7-43	42-003-42158	80.00		
45032	41	V	UNIVERSITY 7-43	42-003-43297	80.00		
45032	42	V	UNIVERSITY 7-43	42-003-43301	80.00		
45032	43	V	UNIVERSITY 7-43	42-003-43302	80.00		
45032	44	V	UNIVERSITY 7-43	42-003-43303	80.00		
45032	45	V	UNIVERSITY 7-43	42-003-42921	80.00		
45032	46	V	UNIVERSITY 7-43	42-003-42922	80.00		
45032	47	V	UNIVERSITY 7-43	42-003-42923	80.00		
45032	48	V	UNIVERSITY 7-43	42-003-42924	80.00		
45032	49	V	UNIVERSITY 7-43	42-003-43298	80.00		
45032	50	V	UNIVERSITY 7-43	42-003-40820	80.00		
45032	51	V	UNIVERSITY 7-43	42-003-41584	80.00		
45032	52	V	UNIVERSITY 7-43	42-003-41585	80.00		
45032	53	V	UNIVERSITY 7-43	42-003-42763	80.00		
45032	54	V	UNIVERSITY 7-43	42-003-42154	80.00		
45032	55	V	UNIVERSITY 7-43	42-003-43450	80.00		
45032	57	V	UNIVERSITY 7-43	42-003-42064	80.00		
45032	58	V	UNIVERSITY 7-43	42-003-40877	80.00		

Total Well Count >


< A. Total Assigned Horiz. Acreage  
 < Total Remaining Horiz. Acreage  
 < B. Total Assigned Vert./Dir. Acreage  
 < Total Remaining Vert./Dir. Acreage

< C. Total Assigned Acreage  
 < Total Remaining Acreage



## GROUNDWATER PROTECTION DETERMINATION

Form GW-2



## Groundwater Advisory Unit

**Date Issued:** 01 April 2016      **GAU Number:** 153020

<b>Attention:</b>	PIONEER NATURAL RES. USA, ATTN WELDON PIERSON IRVING, TX 75039	<b>API Number:</b>	
<b>Operator No.:</b>	665748	<b>County:</b>	ANDREWS
		<b>Lease Name:</b>	UNIVERSITY 7-43
		<b>Lease Number:</b>	
		<b>Well Number:</b>	45H
		<b>Total Vertical Depth:</b>	11600
		<b>Latitude:</b>	32.341689
		<b>Longitude:</b>	-102.240423
		<b>Datum:</b>	NAD27

**Purpose:** New Drill  
**Location:** Survey-UL; Block-7; Section-37

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

The interval from the land surface to a depth of 300 feet, and the zone from 1350 to 1750 feet must be protected.

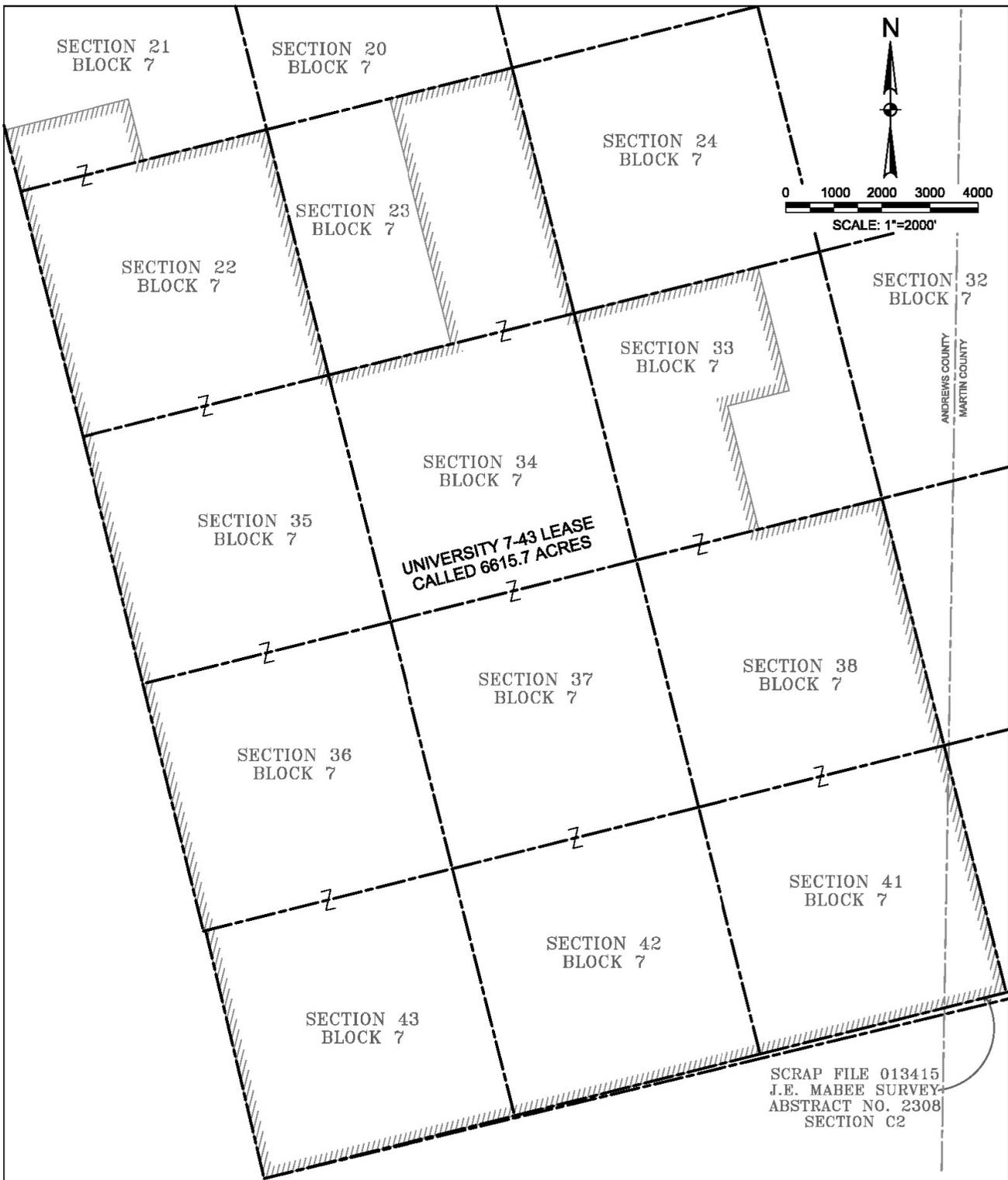
This recommendation is applicable for all wells drilled in this Section 37 on this lease.

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

This determination is based on information provided when the application was submitted on 04/01/2016. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2      P.O. Box 12967 Austin, Texas 78771-2967      512-463-2741      Internet address: www.rrc.texas.gov  
Rev. 02/2014



SCRAP FILE 013415  
 J.E. MABEE SURVEY  
 ABSTRACT NO. 2308  
 SECTION C2

**LEGEND**

-  LEASE LINE
-  WELL LATERAL
-  SECTION LINE
-  LAND HOOK
-  COUNTY LINE
-  FIR FOUND IRON ROD
-  C.M. CONTROLLING MONUMENT
-  N.T.S. NOT TO SCALE
-  CONC B/D CONCRETE BRASS DISK
-  CONC BRKN/B/D CONCRETE BROKEN BRASS DISK
-  STNMND STONE MOUND
-  GIP GALVANIZED IRON PIPE
-  FN FND NAIL
-  FIP FOUND IRON PIPE
-  FIR FOUND IRON ROD

**ALL OF SECTION 22, SECTION 34, SECTION 35, SECTION 36, SECTION 37, SECTION 38, SECTION 41, SECTION 42, SECTION 43, THE S/2 OF THE SW/4 OF SECTION 21, THE E/2 OF SECTION 23, THE W/2 OF SECTION 33 AND THE W/2 OF THE NE/4 OF SECTION 33 ALL IN BLOCK 7, UNIVERSITY LAND SURVEY, ANDREWS COUNTY, TEXAS AND MARTIN COUNTY, TEXAS**

NOTE WELL IS LOCATED ABOUT 15.4 MILES EAST OF ANDREWS, ANDREWS COUNTY, TEXAS.

**PIONEER NATURAL RESOURCES  
 UNIVERSITY 7-43 LEASE**



DATED: 10/5/2015  
 BY: JUAN GONZALEZ

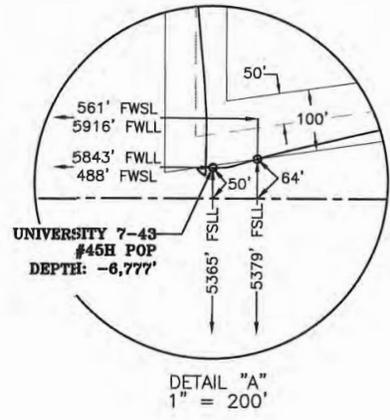
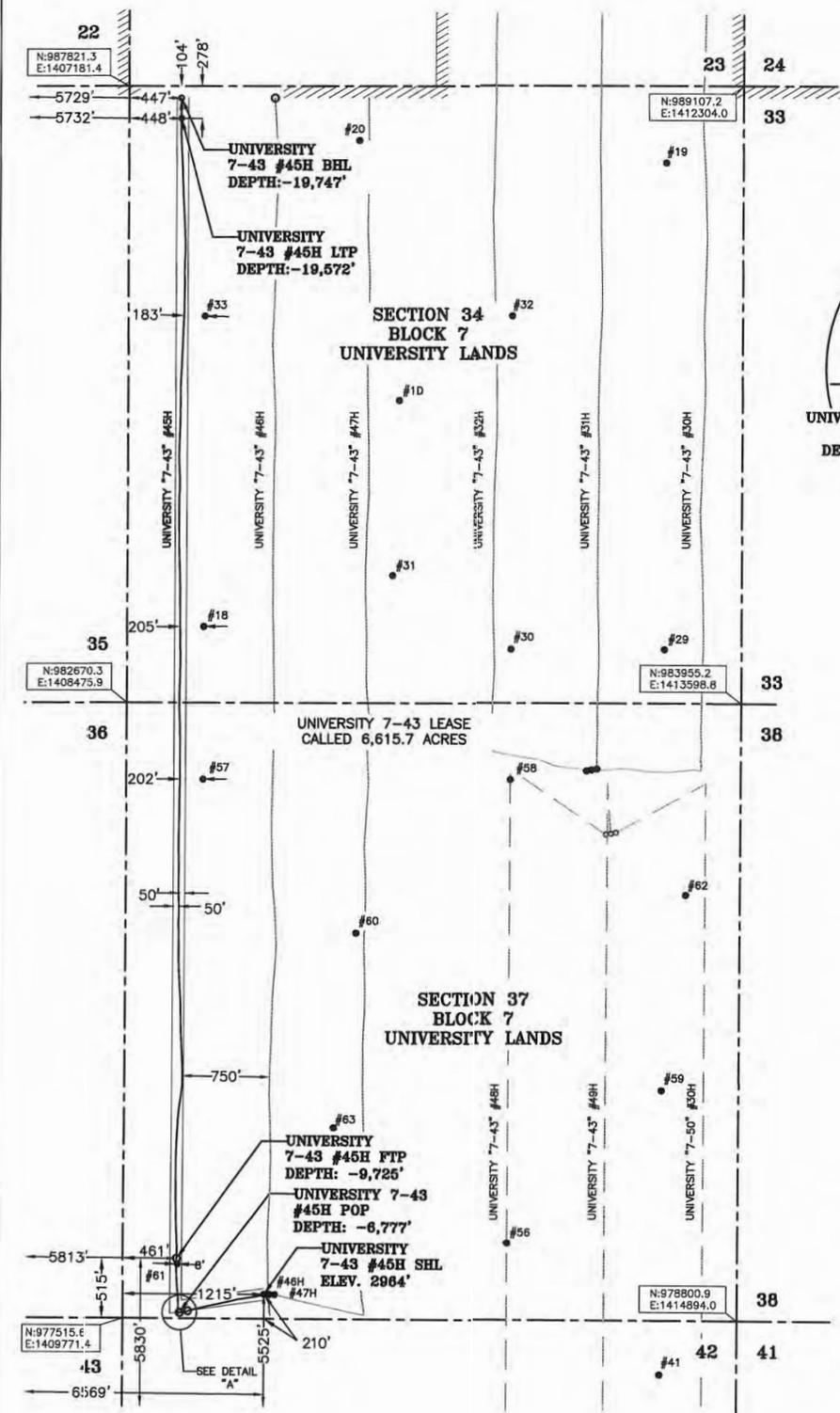
TBPLS FIRM NO. 10193998  
 HALFF ASSOCIATES, INC., ENGINEERS - SURVEYORS  
 4500 W. Hillnole Ave. Ste 301 D - Midland, TEXAS - 79703  
 SCALE: 1"=2000' (432)-695-6110 AVO. 29678-W038

**PIONEER**  
 NATURAL RESOURCES

UNIVERSITY 7-43 #45H	NORTHING (NAD27)	EASTING (NAD27)	LATITUDE (NAD 27)	LONGITUDE (NAD27)	SECTION LINE		LEASE LINE	
SURFACE HOLE LOCATION (SHL)	978015.1	1410899.0	32.341690	102.240423	210' S	1215' W	5525' S	6569' W
POINT OF PENETRATION (POP) DEPTH: -6,777	977683.0	1410232.7	32.340746	102.242561	50' S	488' W	5365' S	5843' W
FIRST TAKE POINT (FTP) DEPTH: -9,725	978127.6	1410093.2	32.341961	102.243037	515' S	461' W	5830' S	5813' W
LAST TAKE POINT (LTP) DEPTH: -19,572	987660.4	1407683.8	32.368042	102.251368	278' N	448' W	278' N	5732' W
BOTTOM HOLE LOCATION (BHL) DEPTH: -19,747	987829.7	1407640.1	32.368505	102.251519	104' N	447' W	104' N	5729' W



SCALE: 1" = 1000'



DETAIL "A"  
1" = 200'

NOTES:

THE BASIS OF BEARING OF THE SURVEY IS THE TEXAS COORDINATE SYSTEM, NORTH AMERICAN DATUM 1927 (NAD 27), CENTRAL ZONE (4203).

ELEVATIONS SHOWN HEREON ARE NAVD88 AS DERIVED BY GPS.

ALL TEXAS STATE PLANE COORDINATES AND GEOGRAPHIC COORDINATES SHOWN HEREON ARE NAD 27 GRID COORDINATES AS COMPUTED BY CORPSPCON VERSION 6.0.1.

UNLESS OTHERWISE NOTED, ALL DISTANCES SHOWN HEREON ARE GRID DISTANCES AND THEY CAN BE CONVERTED TO SURFACE WHEN MULTIPLIED WITH A "SURFACE ADJUSTMENT FACTOR" OF 1.000188348 AS CALCULATED BY CORPSPCON.

ALL MEASUREMENTS TO LEASE, UNIT, AND SURVEY LINES ARE PERPENDICULAR TO SAID LINES.

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.



NOTE: WELL IS LOCATED APPROXIMATELY 17.1 MILES EAST OF ANDREWS, ANDREWS COUNTY, TEXAS



DATED: 11/15/2016  
BY: MATTHEW NICHOLS  
TRPLS: PLM NO. 10183998  
HALFF ASSOCIATES INC., ENGINEERS - SURVEYORS  
3301 N. A STREET, BLDG. 1 STE. 114,  
MIDLAND, TX 79705  
(432) 253-3250  
SCALE: 1" = 1000' AVO 29678-WO155

LEGEND	
	EXISTING WELL
	SECTION LINE
	LEASE LINE
	WELL LATERAL
	PERMITTED WELL BOF/E
	AS-DRILLED WELL BI/E

**PIONEER**  
NATURAL RESOURCES

**AS-DRILLED PLAT**

**UNIVERSITY "7-43" #45H**  
LOCATED IN  
SECTIONS 34 & 37  
BLOCK 7, UNIVERSITY LANDS,  
ANDREWS COUNTY, TEXAS