

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

ANDREWS (003) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
YATES	2,500	3,200		1	12/17/2013
SEVEN RIVERS	3,000	3,000		2	12/17/2013
QUEEN	3,600	4,800		3	12/17/2013
GRAYBURG	3,100	5,000		4	12/17/2013
SAN ANDRES	3,700	5,300	CO2 flood, high flows, H2S, corrosive	5	12/17/2013
HOLT	5,000	5,500		6	12/17/2013
GLORIETA	5,100	6,000		7	12/17/2013
TUBB	6,100	6,300		8	12/17/2013
CLEARFORK	5,600	7,600		9	12/17/2013
PERMIAN DETRITAL	7,800	7,900		10	12/17/2013
LEON	7,900	7,900		11	12/17/2013
WICHITA ALBANY	6,500	8,100		12	12/17/2013
SPRABERRY	7,300	8,600		13	12/17/2013
DEAN	9,200	9,500		14	12/17/2013
WOLFCAMP	7,500	9,900		15	12/17/2013
CANYON	8,600	10,200		16	12/17/2013
PENNSYLVANIAN	8,700	10,200		17	12/17/2013
MCKEE	8,300	10,600		18	12/17/2013
STRAWN	8,800	11,000		19	12/17/2013
FUSSELMAN	8,400	11,900		20	12/17/2013
DEVONIAN	7,600	12,500		21	12/17/2013
SILURIAN	8,000	12,500		22	12/17/2013
ELLENBURGER	7,900	13,900		23	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued:	17 May 2017	GAU Number:	172261
Attention:	ZARVONA ENERGY LLC 1010 LAMAR ST SUITE 500 HOUSTON, TX 77002	API Number:	00347556
Operator No.:	950523	County:	ANDREWS
		Lease Name:	ULS 5-9 UNIT
		Lease Number:	
		Well Number:	6
		Total Vertical Depth:	13500
		Latitude:	32.494184
		Longitude:	-102.366169
		Datum:	NAD27

Purpose: New Drill
Location: Survey-UL; Block-5; Section-4

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 1200 to 1725 feet must be protected.

This recommendation is applicable for all wells drilled in this Section 4.

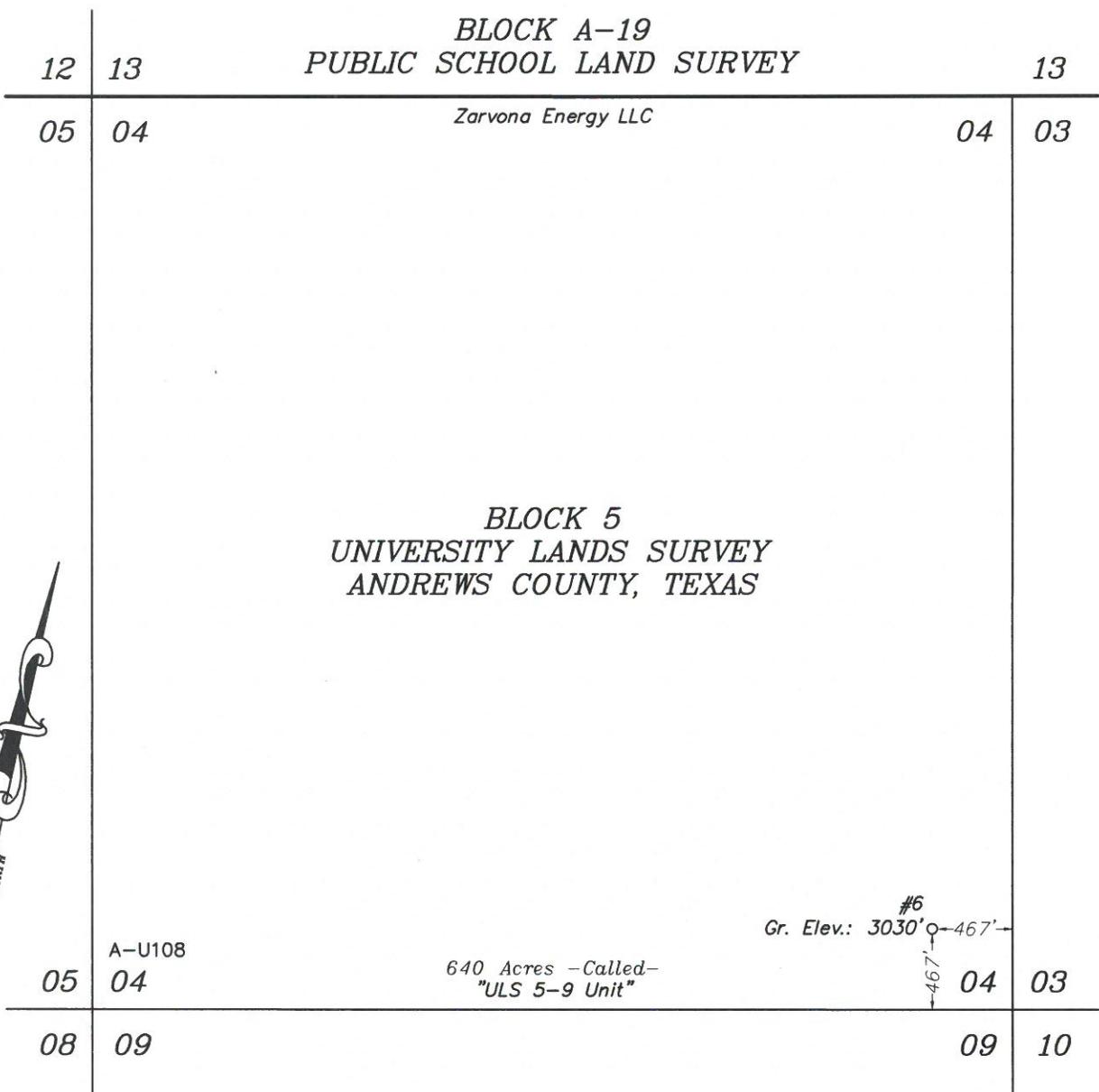
Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 05/15/2017. 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

BLOCK A-19
PUBLIC SCHOOL LAND SURVEY



A-U108

640 Acres - Called -
"ULS 5-9 Unit"

	State Plane Coordinate		Geodetic (D.M.S.)		Geodetic (D.D.)	
Surface Location	X = 500,180.55	Y = 335,795.34	Lat = 32°29'39.06" N	Long = 102°21'58.21" W	Lat = 32.49418355° N	Long = 102.36616943° W

The ULS 5-9 Unit #6 is located approximately
16 miles Northeast of Andrews, Texas



Legend

- Denotes Proposed Well Bore
- Denotes Unit Boundary
- Denotes Tract Line
- Denotes Proposed Well Location
- Denotes Proposed Penetration/ Take Points
- Denotes Proposed Bottom Hole Location

NOTE:

- 1) Plane Coordinates shown hereon are Lambert Grid and Conform to the "Texas Coordinate System", Texas North Central Zone, North American Datum of 1927, unless otherwise noted. Scale factor is 1.000217847.
- 2) Geodetic Coordinate shown hereon references the North American Datum of 1927, unless otherwise noted.
- 3) This plat is provided only for filing purposes with the Texas Railroad Commission and should not be construed as a boundary survey.

CERTIFICATION:

I hereby certify that this plat was made from notes taken in the field in a bona fide survey made under my supervision.

Lindsay Gygax Texas R.P.L.S. No. 6434



05-03-17

WEST COMPANY
Land Surveyors ■ Civil Engineers
110 W. Louisiana Ave., Suite 110, Midland, Texas 79701
(432) 687-0865 - FAX (432) 687-0868
FIRM Registration Number: 100682-00

ZARVONA ENERGY LLC

Location of the
ULS 5-9 UNIT #6
467' FSL & 467' FEL
Section 4, Block 5
University Lands Survey,
Andrews County, Texas

Scale: 1"= 1000'	W.O.: 2017-0303
Surveyed: 04/28/2017	Drawn By: SC
File: J:\2017\2017-0303\2017-0303 The ULS 5-9 Unit #6.dwg	