

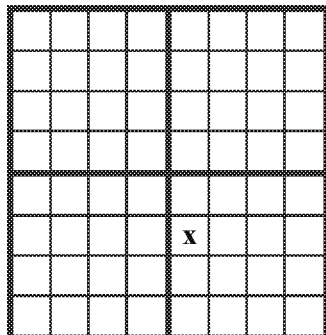


MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, OK 73118
Telephone (405) 530-8800

Legal Location
North

WELL ID NUMBER: 159475



Quarters SW-NW-SE Section 04 Township 25N Range 09E

Latitude 36.67007 Longitude -96.34019

Date collected(latitude and longitude), if different from date the well was drilled: 02/27/2014

Method latitude and longitude was collected: GPS - uncorrected data

County Osage

Variance Request No. (if applicable) n/a

WELL OWNER - NAME AND ADDRESS

Well Owner Osage Nation

Phone _____

Address/City/State Pawhuska OK

Zip _____

Finding Location _____

Well Name _____

Water Rights #: _____

TYPE OF WORK: Geothermal or Heat Pump Well

USE OF WELL: Heat Exchange

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 04/10/2014

Number of wells or borings represented by this log 99

* (Borings are within the same 10 acre-tract and with the same general depths and lithologies)

Hole Diameter 5.5 inches to a depth of 267 ft.

CASING INFORMATION *Note: If surface casing is used please indicate that on the appropriate well casing information line.

Surface Pipe Material: Other Surface Pipe Diameter 6 inches Surface Pipe From 0 ft to 1 ft

SCREEN OR PERFORATION INFORMATION

FILTER PACK INFORMATIONFilter Pack Material: **WELL SEAL INFORMATION**Type of Surface Seal H. S. Bentonite GroutSurface Seal Interval: From 0 ft to 267 ftType of Annular Seal n/aAnnular Seal Interval: From n/a ft to n/a ftFilter Pack Seal Material n/aFilter Pack Seal Interval: From n/a ft to n/a ftTYPE OF COMPLETION: **HYDROLOGIC INFORMATION**Depth to water at time of drilling ftEstimated yield of well 15 gpmFirst water zone 160 ft**LITHOLOGY DESCRIPTION**

MATERIAL	ENCOUNTERED		SATURATED
	FROM (ft.)	TO (ft.)	
clay	0	6	N
sandy shale	6	18	N
sandstone	18	47	N
sandy shale	47	219	Y
limestone	219	267	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTIONHas this well been disinfected after completion of work? NoAre there any potential sources of pollution or wastewater lagoons within 300 ft. of the well? n/aDistance of Well is n/a from possible source. Type of possible source: n/a**PLUGGING INFORMATION**Date Well or Boring Was Plugged n/aTotal Depth of well being plugged ft.Was the well contaminated or was it plugged as though it was contaminated? n/aIf the well or boring was plugged as if it was contaminated, was the casing removed or perforated? n/aWas the grout tremied? n/aBackfilled with n/aBackfilled from ft. to ft.Grouted with n/aGrouted from ft. to ft.Grouted with CementGrouted from ft. to ft.Firm Name VENTURE DRILLING, INC.D/PC No. DPC-0215Operator Name AARRON RECTOROP No. OP-1665Date 05/07/2014

Comments: See attachments for hole locations. Also, 96 holes were drilled to depth of 256 feet and 3 were drilled to 267 feet. Again, see attachments. Holes were grouted through a tremmie to the bottom and HS BH20 grout was used.