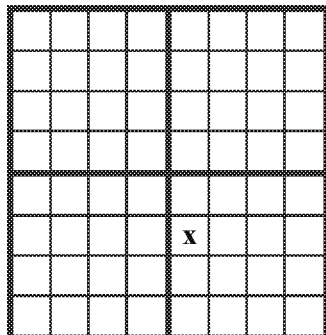


MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

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

Legal Location
North

WELL ID NUMBER: 156457



«———— One Mile —————»
Each square is 10-acres

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

Latitude 36.66998

Longitude -96.340429

Date collected(latitude and longitude), if different from date the well was drilled: 11/11/2013

Method latitude and longitude was collected: Derived from GIS

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 11/11/2013

Number of wells or borings represented by this log 1

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

Hole Diameter 4.75 inches to a depth of 250 ft.

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

Surface Pipe Material: Surface Pipe Diameter inches Surface Pipe From ft to ft

SCREEN OR PERFORATION INFORMATION

FILTER PACK INFORMATIONFilter Pack Material: **WELL SEAL INFORMATION**Type of Surface Seal n/aSurface Seal Interval: From n/a ft to n/a ftType of Annular Seal H. S. Bentonite GroutAnnular Seal Interval: From 0 ft to 250 ftFilter Pack Seal Material n/aFilter Pack Seal Interval: From n/a ft to n/a ft**TYPE OF COMPLETION:** Below Ground**HYDROLOGIC INFORMATION**Depth to water at time of drilling ftEstimated yield of well gpmFirst water zone ft**LITHOLOGY DESCRIPTION**

MATERIAL	ENCOUNTERED		SATURATED
	FROM (ft.)	TO (ft.)	
Yellow Clay	0	20	N
Blue Shale	20	30	N
Limestone	30	38	N
Red Stone	38	60	N
Limestone	60	85	N
Red Stone	85	110	N
Brown Rock	110	125	N
Gray Rock	125	160	N
Brown Rock	160	180	N
Limestone	180	240	N
Gray Rock	240	250	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? YDistance of Well is 101 - 300 feet from possible source. Type of possible source: House**PLUGGING INFORMATION**Date Well or Boring Was Plugged 11/11/2013Total Depth of well being plugged 250 ft.Was the well contaminated or was it plugged as though it was contaminated? NoIf the well or boring was plugged as if it was contaminated, was the casing removed or perforated? NoWas the grout tremied? YesBackfilled with n/aBackfilled from ft. to ft.Grouted with H. S. Bentonite GroutGrouted from 0 ft. to 250 ft.Grouted with CementGrouted from ft. to ft.Firm Name ZAVALA DRILLINGD/PC No. DPC-0747Operator Name RAUL ZAVALA JROP No. OP-1805Date 12/20/2013

Comments: These are heat exchange wells.

