



# EMPIRICA

*The Surface Logging Company*

Scale: 1" / 100'  
Measured Depth Log

**Well Name** Source 9-41-3-11 H

**Location** Sec 9-T34S-R1E

**State** Kansas

**County** Sumner

**Country** USA

**Rig Number** Pistol 2

**API Number** 15-191-22665-00-00

**Spud Date** 12/18/2012

**Drilling Completed** 1/19/2013

**Surface Coordinates** 335' FNL & 400' FEL

**Bottom Hole Coordinates** 1330' NL & 1201' FWL

**Ground Elevation** 1,208

**K.B. Elevation** 1,225

**Logged Interval** 4,310 To 7,907

**Total Depth** 7,907

**Formation** Mississippi LS/DOLO

**Type of Drilling Fluid** Freshwater Gel

## Operator

**Company** Source Energy

**Address** 1805 Shea Center Dr. Ste. 100  
Highlands Ranch, Co. 80129

## Geologist

**Name** Stephen Cox, James Brewer

**Company** EMPIRICA SURFACE LOGGING

P.O. BOX 6005  
EDMOND, OK 73083-6005  
(405)340-5545

## Other

2 Man Logging Unit

2 MAN LOGGING UNIT COMMENCED 1/5/13

2 MAN LOGGING UNIT RELEASED 1/19/13

DRILLING COMPANY

PISTOL DRILLING RIG #2

## Rock Types

<p>UNKNOW</p> <p>ANHYDRITE</p> <p>GYPSUM</p> <p>SALT</p> <p>SIDERITE or LIMONITE</p> <p>LIME</p> <p>DOLO</p>	<p>CHERT</p> <p>COAL</p> <p>MARLSTONE</p> <p>CLAY</p> <p>SHALE</p> <p>HOT SHALE</p> <p>SHALE GRAY</p>	<p>SHALE COLORED</p> <p>SILT</p> <p>SAND</p> <p>CONGLOMERATE</p> <p>BRECCIA</p> <p>TILL</p> <p>BENTONITE</p>	<p>TUFF</p> <p>IGNEOUS</p> <p>METAMORPHIC</p> <p>cement</p>
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## Accessories

### Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHIOPOD
- BRYOZOA
- CEPHALOPOD
- CORAL
- CRINOID
- ECHINOID
- FISH
- FORAMINIFERA

### FOSSIL

- GASTROPOD
- OOLITE
- OSTRACOD
- PELECYPOD
- PELLET
- PISOLITE
- PLANT REMAINS
- PLANT SPORES
- SCAPHOPOD
- STROMATOPOROID

### Minerals

- ANHYDRITIC

### ARGILLACEOUS

- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- FERRUGINOUS PELLET
- FERRUGINOUS

### GLAUCONITE

- GYPSIFEROUS
- HEAVY MINERAL
- KAOLIN
- MARLSTONE
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY
- SILICEOUS
- SILTY
- TUFFACEOUS

### Stringer

- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLOMITE STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOL) STRG
- SANDSTONE STRINGER
- SHALE STRINGER
- SILTSTONE STRINGER

## Other Symbols

### Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

### Porosity

- E EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC

### MOLDIC

- ORGANIC
- PINPOINT
- VUGGY

### Engineering

- BIT
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL

### FAULT

- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS

### WIRELINE TESTED - LEFT

### WIRELINE TESTED - RT

### Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

### Textures

- BOUNDSTONE
- CHALKY
- CRYPTOXLN

### E EARTHY

- FINELYXLN
- GRAINSTONE
- L LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

### Sorting

- MODERATE
- POOR
- WELL







