

## Drilling Report

### Lang #1

**Operator:** Great Plains Energy, Inc.  
**Contact Person:** Dan Blankenau  
**Phone:** 402.443.6125  
**Contractor:** STP Drilling Rig #1  
**Well Site Geologist:** Richard Bell  
**Field:** Wildcat  
**Lease:** Lang  
**Location:** NE SW Sec. 32-1S-23W;  
1650' FSL, 1400' FWL, Norton Co. KS  
**Elevation:** 2339' GL, 2346' KB

**Proposed Total Depth:** 3600'  
**Call Depth:** 2900'  
**Spud:** 07/21/18  
**Completed:** 07/27/18  
**TD:** 3645'  
**API #:** 15-137-20749  
**Casing:** 8 5/8" @ 221'  
5 1/2" @ 3644'

---

**07/21/18:** MIRU. Spud.

**07/22/18:** Depth: 1124'. Cut: 1124'. DT: 8 hrs. (WOC). CT: None. Ran 5 joints (211') new, 23#, 8 5/8" surface casing. Set @ 221'. Cemented w/ 225 sacks common, 3% cc, 2% gel. Circ. 3 bbls. by SOS. Dev. Surv: .25 deg. @ 221'. Plug down 12:30 am 07/21/18. Drilled out at 12:30 pm 07/21/18.

**07/23/18:** Depth: 2785'. Cut: 1661'. DT: None. CT: None. Mud Wt: 9.3. Vis: 35. LCM: 3#. Anhydrite 1912'-1942'. Flat to reference well (Moffet 1-32).

**07/24/18:** Depth: 3403'. Cut: 618'. DT: None. CT: 8.25 hrs. Mud Wt: 8.7. Vis: 60. WL: 6.4. CL: 600. LCM: 1#.

**07/25/18:** Depth: 3436'. Cut: 33'. DT: None. CT: 22.75 hrs. Mud Wt: 8.9. Vis: 61. WL: 6.4. CL: 900. LCM: 1#. Dev. Surv: 1.25 deg. @ 3436'. Pipe strap: .7' Long.

DST: #1. "Toronto- Lansing "A" Zones. Interval: 3347-3403. Times: 30-60-30-60. IF: Weak blow throughout. ISI: No return. FF: No Blow. FSI: No return. Recovery: 30' mud. IFP: 17-22. FFP: 24-28. ISIP: 887. FSIP: 826. HP: 1627-1622.

DST: #2. "Lansing "C-D" Zones. Interval: 3403-3436. Times: 30-60-45-90. IF: Blow built to 10". ISI: No return. FF: BOB in 41 min. FSI: 1/2" blow. Recovery: 40' GIP; 75' oil (89% oil, 7% gas, 4% mud); 10' SW/OCM (85% mud, 11% oil, 2% water, 2% gas); 120' SO/WCM (52% mud, 38% water, 5% oil, 5% gas). IFP: 24-73. FFP: 85-102. ISIP: 885. FSIP: 870. HP: 1672-1658.

