

**GEOLOGIST'S REPORT**  
**DRILLING TIME AND SAMPLE LOG**

Geologist on Well: **BETH ISERN**  
 LEASE: **ROLF A #1-16**  
 FIELD: \_\_\_\_\_  
 LOCATION: **1256' ENL 1670' FEL**  
 SEC: **16** TMSWP: **16S** RBE: **24W**  
 COUNTY: **Ness** STATE: **Kansas**  
 CONTRACTOR: **Pickrel Drilling Rig #10**  
 SPUD: **2/1/2017** COMP: **2/9/2017**

RTD: **4650** LTD: **4448**  
 MUD UP: **3600** TYPE MUD: **Chemical**  
 SAMPLES SAVED FROM: **3700** TO: **RTD**  
 DRILLING TIME KEPT FROM: **3700** TO: **RTD**  
 SAMPLES EXAMINED FROM: **3700** TO: **RTD**  
 GEOLOGICAL SUPERVISION FROM: **4100**

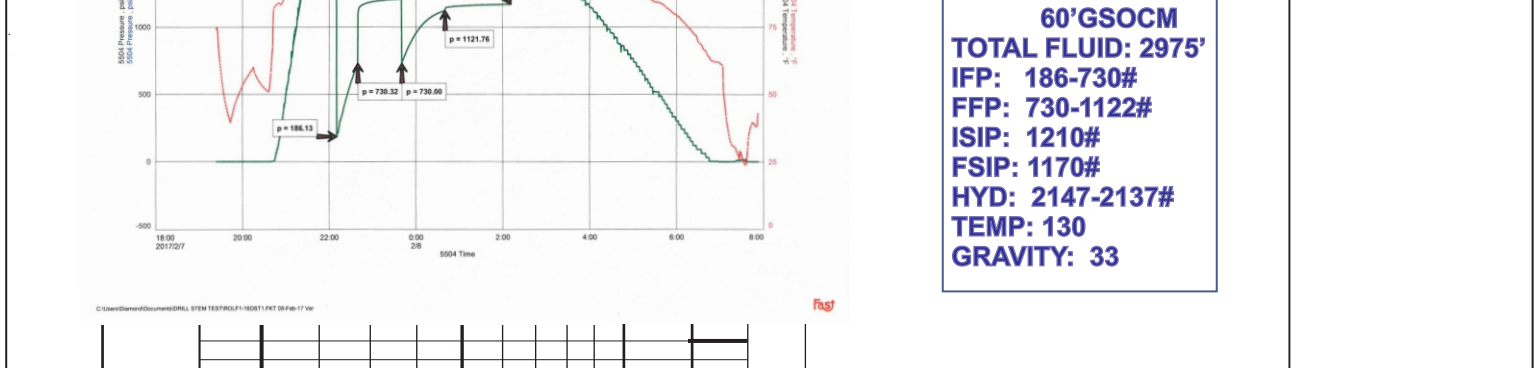
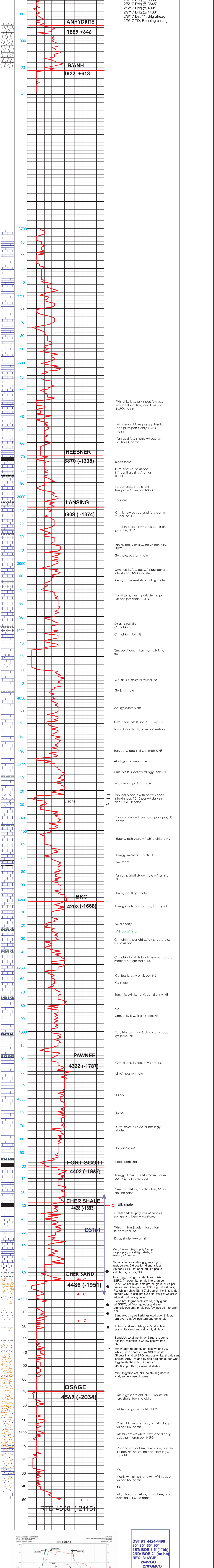
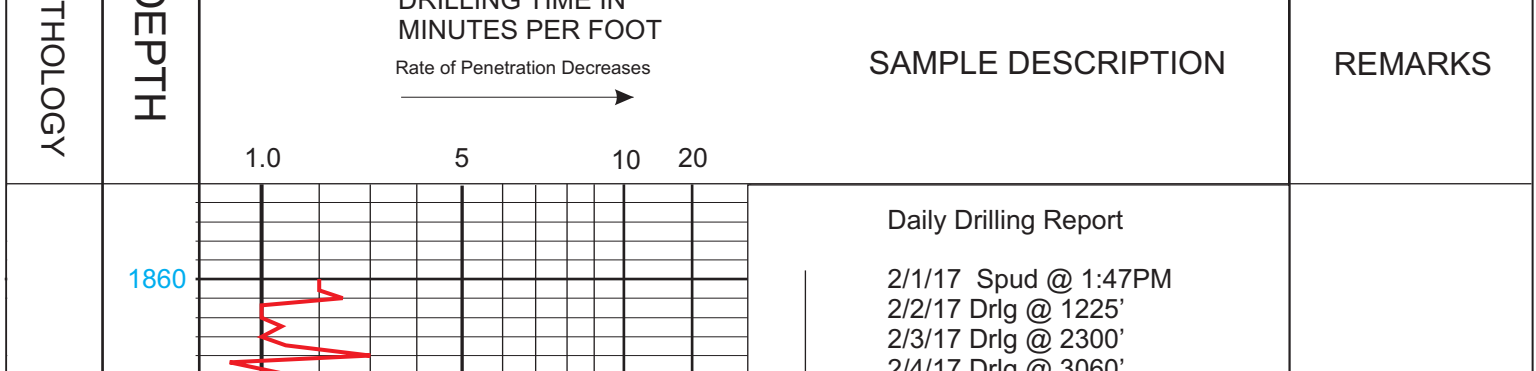
CONDUCTION: **NA**  
 SURFACE: **8.5" @ 218'**  
 PRODUCTION: **5-1/2" @ 4640'**  
 ELECTRICAL SURVEYS: \_\_\_\_\_  
 DIL. DUCPE M.L. Sample: \_\_\_\_\_

FORMATION: **PIONEER**  
 Sample Tops: \_\_\_\_\_  
 E-log Tops: \_\_\_\_\_  
 Anthyrite: **1889 (+646)** **1887 (+648)** **+1**  
 Heebner: **3870 (-1335)** **3869 (-1334)** **+1**  
 Lansing: **3909 (-1374)** **3909 (-1374)** **+8**  
 BKC: **4203 (-1668)** **4196 (-1661)** **+7**  
 Fort Scott: **4402 (-1867)** **4397 (-1862)** **+8**  
 Cher Shale: **4428 (-1893)** **4422 (-1887)** **+6**  
 Cher Sand: **4486 (-1951)** **4483 (-1948)** **-5**  
 Mississippi Osage: **4569 (-2034)** **4564 (-2029)** **-30**  
 Total Depth: **4650 (-2115)** **4648 (-2113)**

REMARKS: **It was decided to set production casing to further test the ROLF A #1-16 based on the positive drill stem test and structural position from the Cherokee Sand. The Lansing J zone should be tested through production pipe before abandonment of this well.**

Respectfully submitted,  
**Beth A. Isern**

**LEGEND**



**DST #1 4424-4496**  
**30" 30' 60" 90'**  
**1ST: BOB 1.5" (1" bb)**  
**2ND: BOB 2" (no bb)**  
**REC: 316' GIP**  
**2645' GO**  
**270' GMCO**  
**60' GSOCM**  
**TOTAL FLUID: 2975'**  
**IFT: 186-730#**  
**FFP: 730-1122#**  
**ISIP: 1210#**  
**FSIP: 1170#**  
**HYD: 2147-2137#**  
**TEMP: 130**  
**GRAVITY: 33**

DEPTH	LITHOLOGY	DRILLING TIME IN MINUTES PER FOOT	SAMPLE DESCRIPTION	REMARKS
1860	ANHYDRITE	1889 (+646)	Black shale	
1922	B/ANH	1922 (+613)	Black shale	
3870	HEEBNER	3870 (-1335)	Black shale	
3909	LANSING	3909 (-1374)	Black shale	
4203	BKC	4203 (-1668)	Black shale	
4322	PAWNEE	4322 (-1787)	Black shale	
4402	FORT SCOTT	4402 (-1867)	Black shale	
4428	CHER SHALE	4428 (-1893)	Black shale	
4486	CHER SAND	4486 (-1951)	Black shale	
4569	OSAGE	4569 (-2034)	Black shale	
4650	RTD 4650	4650 (-2115)	Black shale	