

Thomas J. Funk
Petroleum Geologist

**Geologists Report
Drilling Time and Sample Log**

OPERATOR **Murfin Drilling Co., Inc**

LEASE **Nancy** WELL NO #2-4

FIELD **High Hat** API **15-109-21-369**

LOCATION **2281' FNL & 392' FWL**

SEC. **4** TWP. **13S** RGE. **32W**

COUNTY **Logan** STATE **Kansas**

CONTRACTOR **Murfin Dring Co** Reg #4

COMM **11/15/2014** COMP **11/27/2014**

RTD **4/280** LOG TD **4778'**

SAMPLES SAVED FROM **3700'** TO **4780'**

DRILLING TIME KEPT FROM **3700'** TO **4780'**

SAMPLES EXAMINED FROM **3700'** TO **4780'**

GEOLOGICAL SUPERVISION FROM **3850'** TO **4780'**

MUD UP **3300'** TYPE **MUD Chemical**

FORMATION LOG SAMPLE

Anhydrite **2532 (+517)** **2537 (+512)**

Baryanhydrite **2556 (+493)** **2559 (+490)**

Toppekka **3777 (-728)** **3781 (-732)**

Heebner Sh **4002 (-953)** **4006 (-957)**

Lansing **4044 (-995)** **4049 (-1000)**

Marmion **4189 (-1140)** **4192 (-1143)**

Start Sh **4274 (-1225)** **4279 (-1230)**

Pawnee **4476 (-1427)** **4479 (-1430)**

Johnson Sh **4560 (-1511)** **4565 (-1516)**

Mississippian **4674 (-1625)** **4680 (-1631)**

Date	Daily Progress	NO Stret	Make	Type	Depth	Out	Feet	Hours
11/15/14	540'	1	12 1/4" HTC	GT-C-1	228		228	3
11/16/14	2390'	2	7 7/8" HTC	DP506	3664		3438	50
11/17/14	3220'	3	7 7/8" HTC	GX20C	4635		971	66
11/18/14	3835'	4	7 7/8" HTC	DP506	4780		145	4

ELEVATION **3049'** **KB**

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CASING RECORD

8 5/8" at 2251'KB w/1705x SURFACE

PRODUCTION

5 1/2" at 4776'KB w/1755x

ELECTRICAL SURVEYS

Pioneer Energy Serv

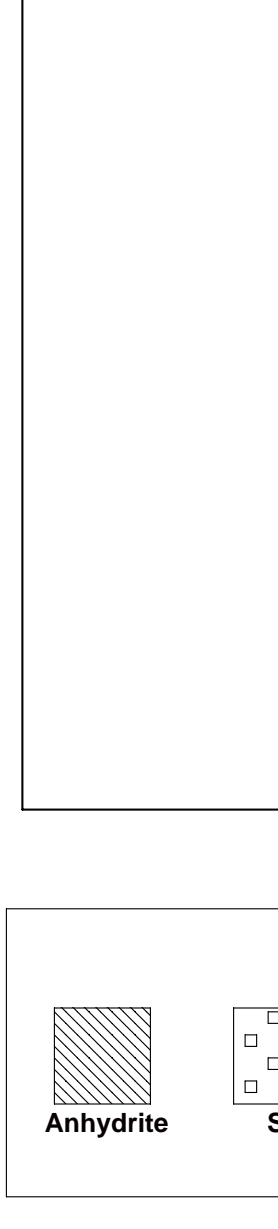
DIL MEL

DUQP BHCS

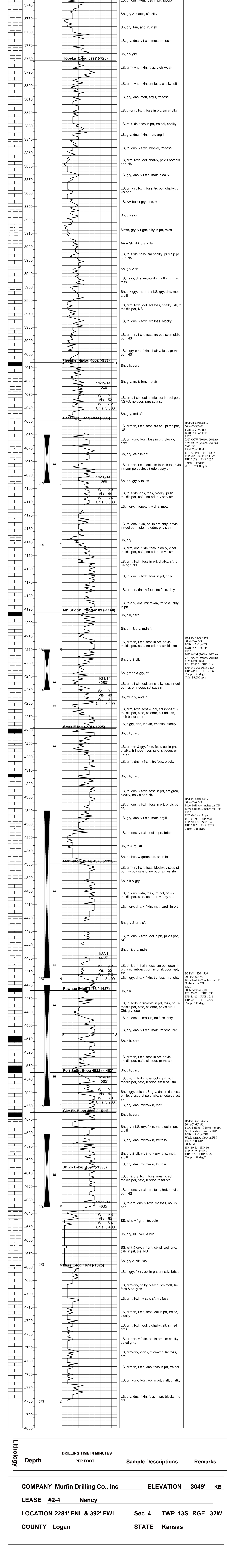
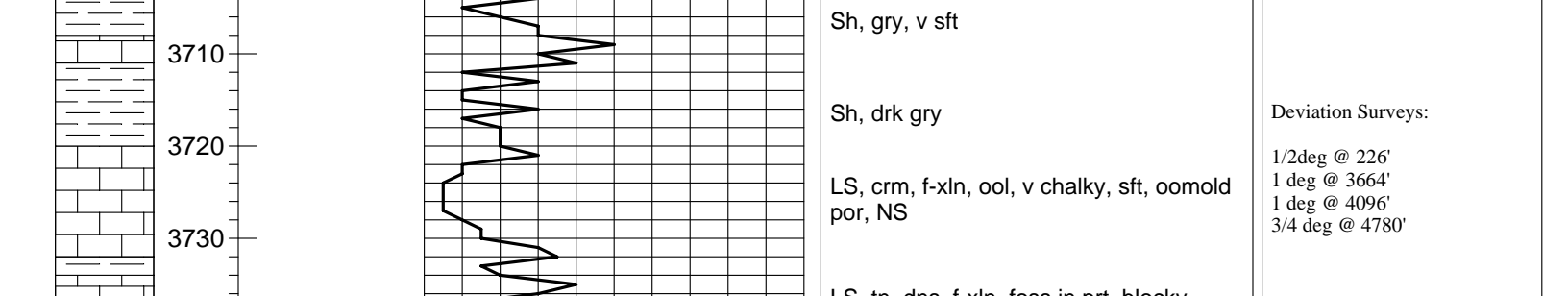
REMARKS

Based on sample examination, DST results, and log analysis casing was set to further test the #2-4 Nancy.

Thomas Funk
Petroleum Geologist



LEGEND



COMPANY Murfin Drilling Co., Inc **ELEVATION** 3049' **KB**

LEASE #2-4 **Nancy**

LOCATION 2281' FNL & 392' FWL **Sec 4 TWP 13S RGE 32W**

COUNTY Logan **STATE** Kansas