



GEOLOGISTS' REPORT

OPERATOR **MURFIN DRILLING COMPANY, INC.**
LEASE **KRAUS 'JW' # 1-28**

ELEVATIONS
KB **2068 Ft.**

LOCATION **1400 FSL & 335 FEL**

SEC. **28** TWPSP **14S** RGE **18W**
COUNTY **ELLIS** STATE **KANSAS**

FIELD **LEONHARDT S.E.**

CONTRACTOR **Murfin Drilling Company** RIG NO. **16**
COMMENCED **25 Jan 2013** COMPLETED **3 Feb 2013**
MUD DISPLACED **2730** MUD TYPE **Chemical**
DRILLING TIME FEET FROM **2950** TO **3770**
SAMPLES SAVED FROM **2950** TO **3770**
SAMPLES EXAMINED FROM **2950** TO **3770**

GEOLOGICAL SUPERVISION FROM **3030** TO **3770**
GEOLOGIST ON WELL **Paul Guizelman**

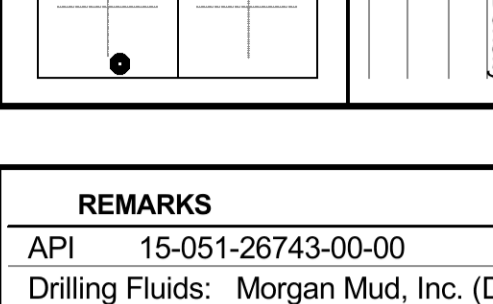
FORMATION NAME	LOG TOP	LOG DATUM	SAMPLE TOP	SAMPLE DATUM
Stone Corral	1246	+822	1256	+812
Base/Anhydrite	1290	+778	1293	+775
Topoka	3039	-971	3041	-973
Heebner Shale	3296	-1228	3299	-1231
Toronto	3315	-1247	3319	-1251
Lansing	3341	-1273	3344	-1276
Base/Kansas City	3575	-1507	3580	-1512
Arbuckle	3668	-1600	3673	-1605
Total Depth	3769	-1701	3770	-1702

CL **2063 Ft.**

ALL MEASUREMENTS FROM K.B.

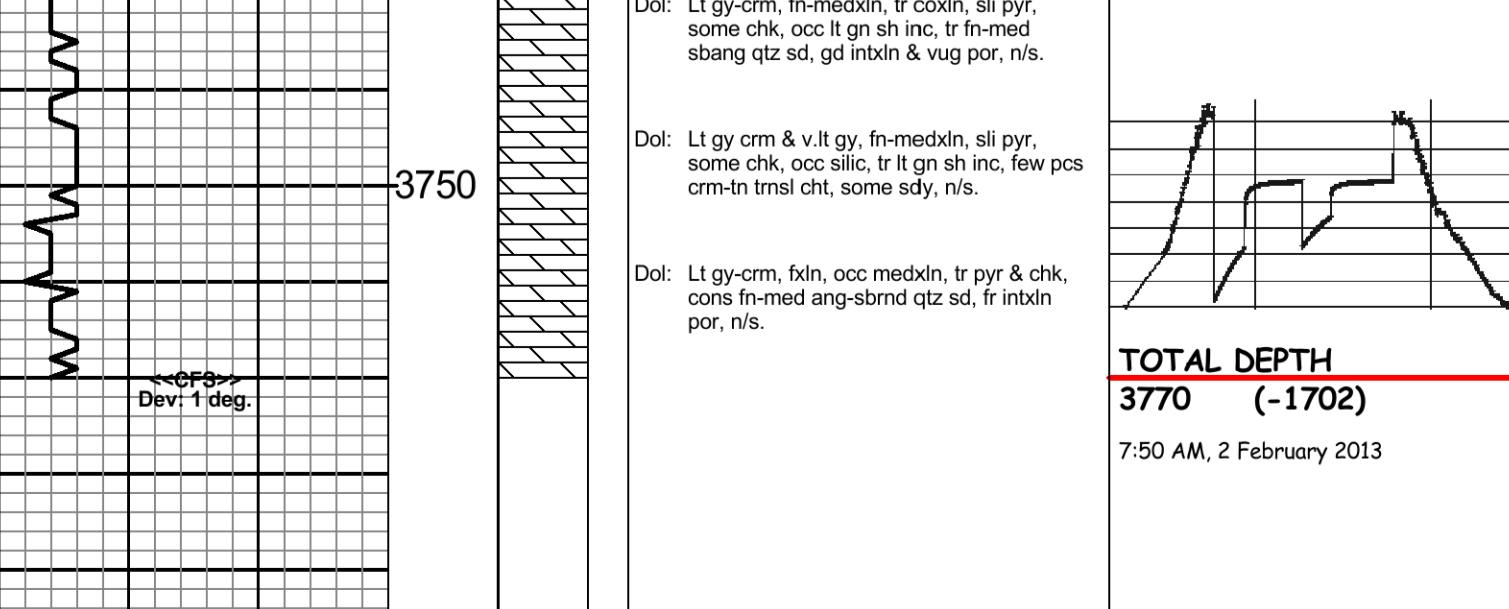
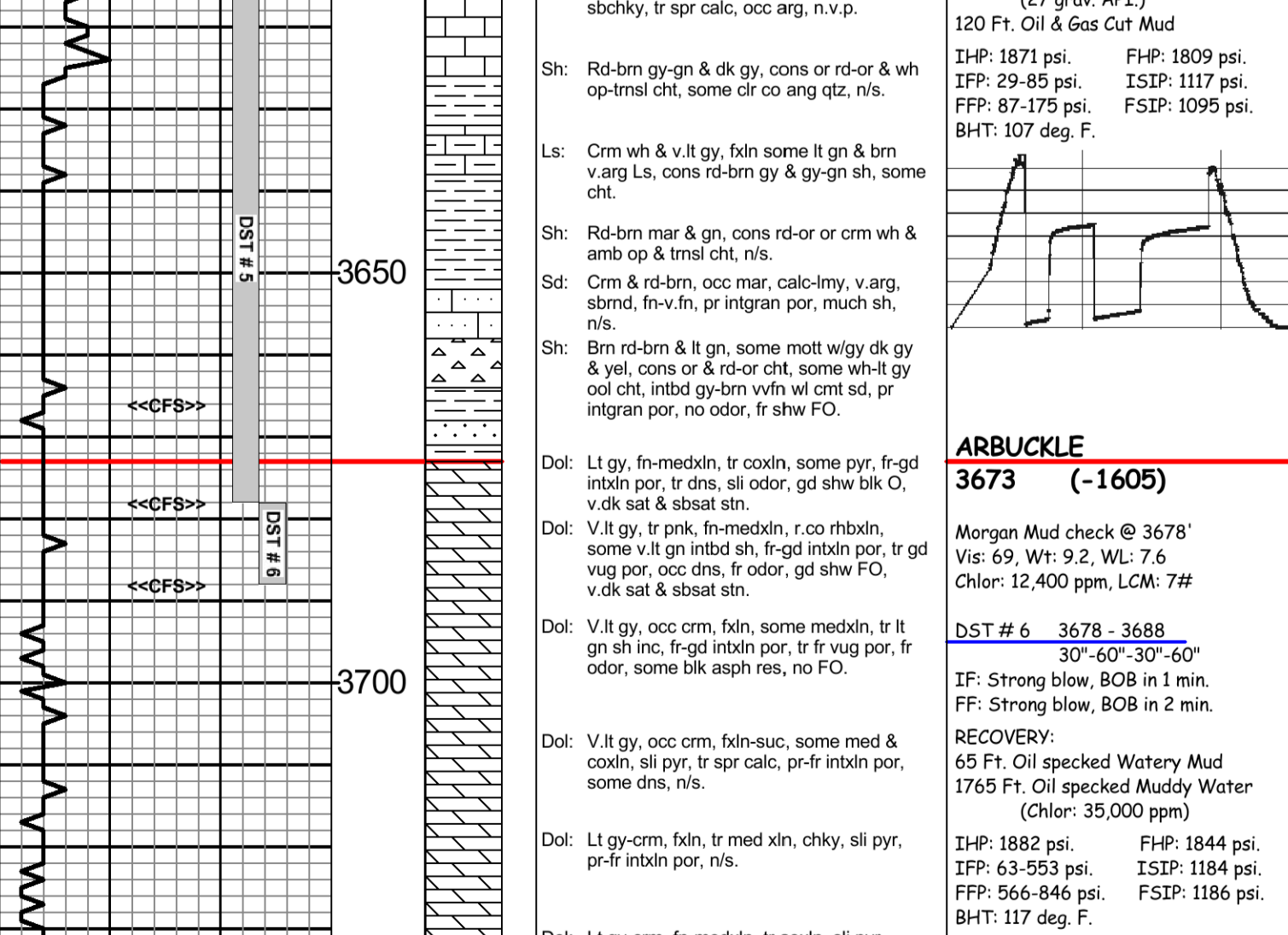
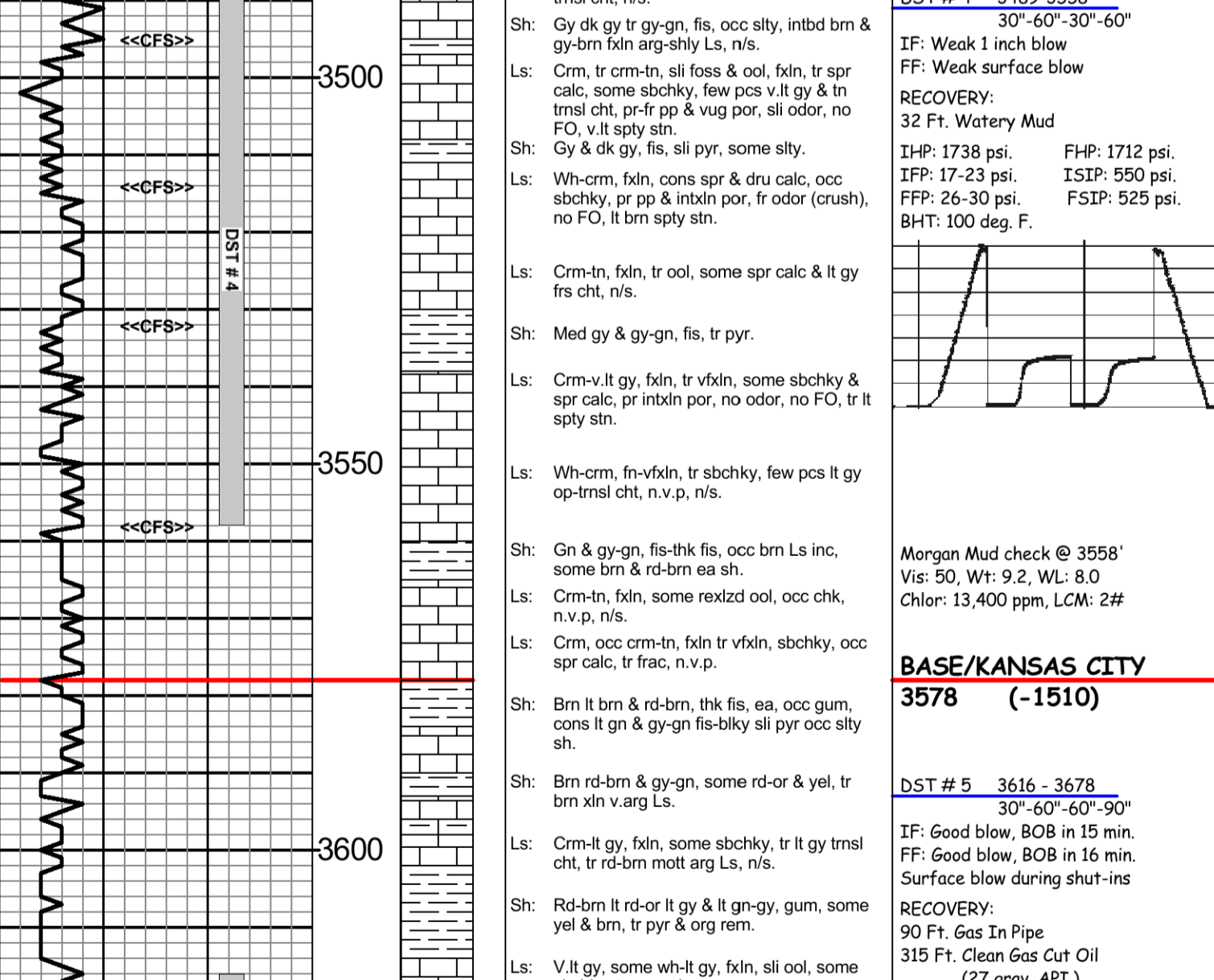
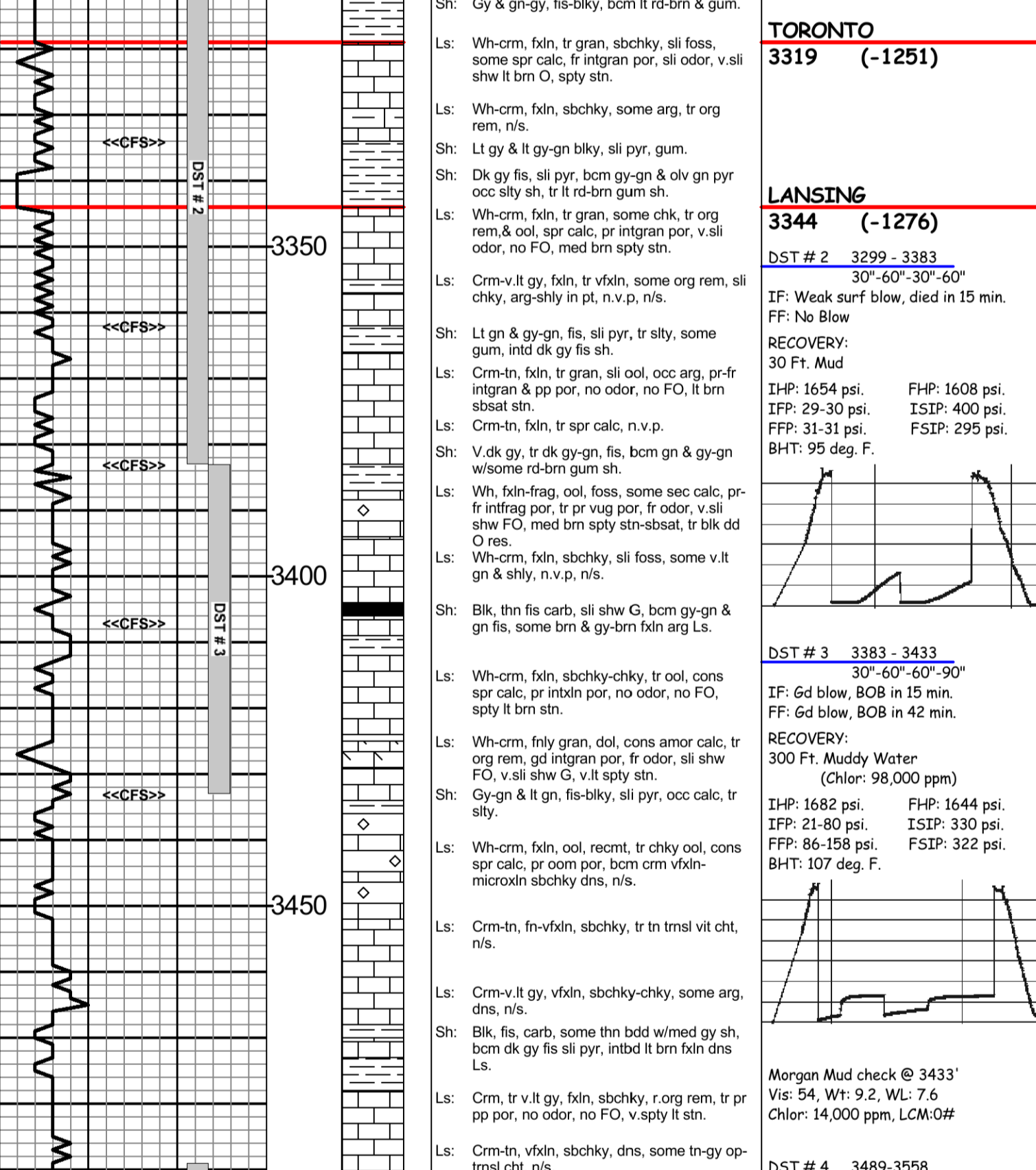
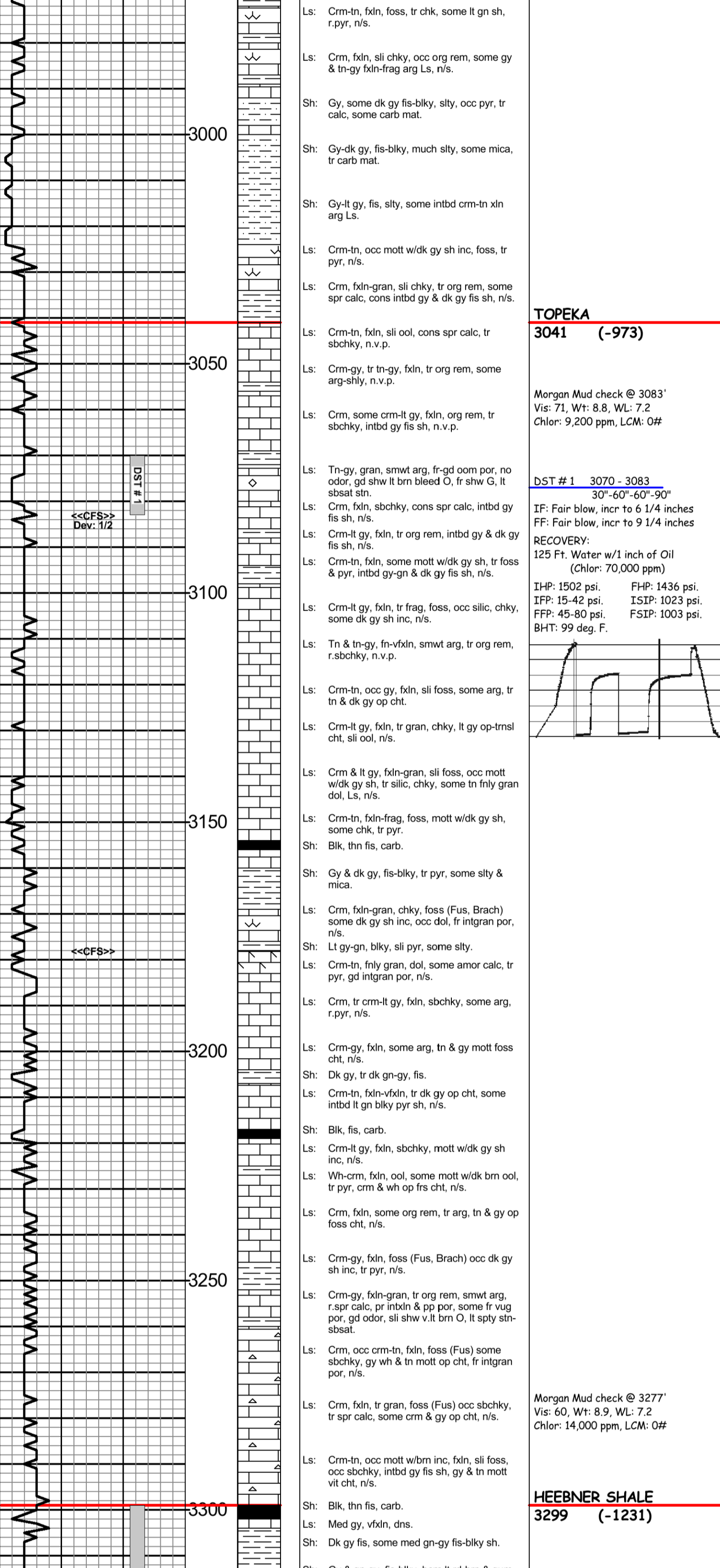
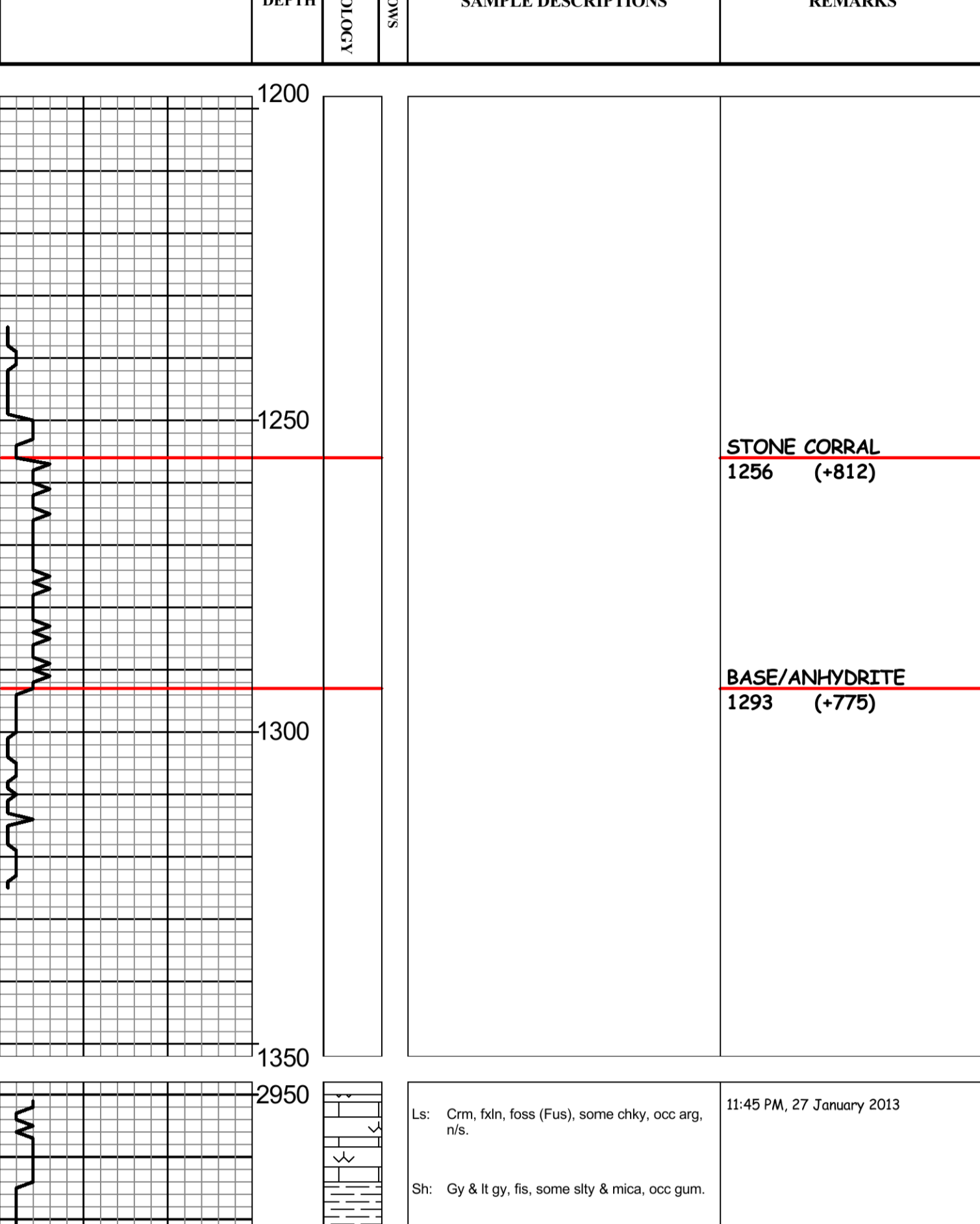
CASING RECORD
Conductor None
Surface **8 5/8" @ 217'**
Production **5 1/2" @ 3768'**

ELECTRICAL SURVEYS:
Pioneer Energy Services
Comp. Neutron Density
Dual Induction
Micro-resistivity
Comp. Sonic



REMARKS
API 15-051-26743-00-00
Drilling Fluids: Morgan Mud, Inc. (David Lines, engineer)
Drill Stem Testing: Trilobite Testing, Inc. (Andy Carreira, tester)
Gas Trailer: No Gas Trailer
Reserve Pit Chlorides: 52,500 ppm.

DRILL TIME (MIN/FT)	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS
---------------------	-------	-----------	---------------------	---------



Operator: **MURFIN DRILLING COMPANY, INC.**
Lease: **KRAUS 'JW' # 1-28**
Location: **1400 FSL & 335 FEL** SEC. **28** TWPSP **14S** RGE **18W**
County: **ELLIS** State: **KANSAS**