

MACCLIN M. ARMSTRONG
 Geologist
 318-400888 Call
 318-5251871 Office
 Kansas License Number 743

COMPANY GRAND MESA OPERATING COMPANY
WELL HESS NO. 1-4
FIELD GAELAND TOWNSHIP
COUNTY GOVE STATE KANSAS

LOCATION: **334' FNL ON 336' FNL**
 LOCATION: **14-5** ROSE **31W**
 SECTION: **4** TWP: **14-5** R. **31W** C. **2912**
 Elevation: **8291'**

Logging by: **WATKINS**
 Drilling by: **OL-GR-SR-CAL**
 Casing by: **OL-GR-SR-CAL**
 Cemented by: **OL-GR-SR-CAL**
 Drilling Company: **DRILLING COMPANY RIG 24**
 Contract No.: **9-10-10**
 Completion Date: **9-10-10**

Drilling Time: **3600-LD**
 Daily Penetration Rate: **47.9**
 Surface casing: **8" 33# @ 220'**
 Production casing: **5 1/2" 15.5# @ 465'**
 RTD: **4650** LTD: **4647**
 Completion Date: **9-10-10**

Date	Penetration Rate	Drilling	Log	Datum
9-11-10	23.96	DRILLING	2400	+521
9-12-10	23.28	DRILLING	2423	+498
9-13-10	35.81	DRILLING	3928	-1005
9-14-10	40.05	CIR FOR SAMPLES	3946	-1029
9-15-10	47.5	DRILLING	3960	-1047
9-16-10	47.35	DRILLING	4126	-1202
9-17-10	47.35	DRILLING	4213	-1290
9-18-10	47.65	DRILLING	4250	-1327
9-19-10	47.65	DRILLING	4290	-1366
9-20-10	47.65	DRILLING	4316	-1395
9-21-10	47.65	DRILLING	4337	-1423
9-22-10	47.65	DRILLING	4412	-1498
9-23-10	47.65	DRILLING	4444	-1571
9-24-10	47.65	DRILLING	4456	-1613
9-25-10	47.65	DRILLING	4461	-1635
9-26-10	47.65	DRILLING	4468	-1643
9-27-10	47.65	DRILLING	4584	-1666
9-28-10	47.65	DRILLING	4584	-1666
9-29-10	47.65	DRILLING	4650	-1730

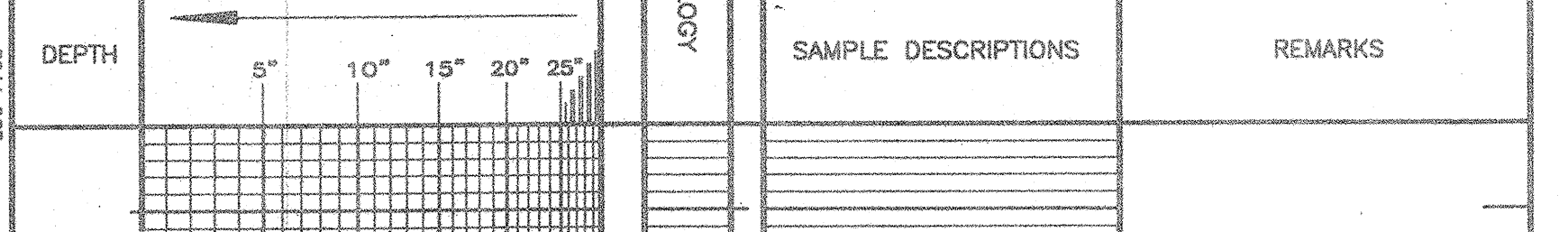
REMARKS: **PIPE WAS SET TO FURTHER TEST THE LANSING ZONE.**

Respectfully submitted,
 Macklin M. Armstrong

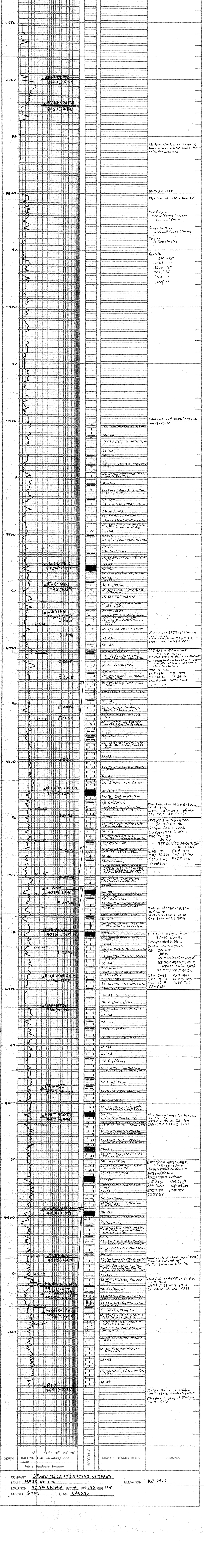
Well & Type	Serial No.	Starts In	Depth In	Hours
HTC DP506F	7127986	16-15-15	220	3600
HTC GD22C	5181750	16-15-15	3600	55

Formation	Sample	Log	Datum	Formation	Sample	Log	Datum
ANHYDRITE	2400	2396	+521				
B/ANHYDRITE	2423	2419	+498				
HEEBNER	3928	3924	-1005				
TORONTO	3946	3940	-1029				
LANSING	3960	3944	-1047				
MUNCIE CREEK	4126	4119	-1202				
STARK	4213	4207	-1290				
HUSHUCKNEY	4250	4244	-1327				
KANSAS CITY	4290	4283	-1366				
MARMATON	4316	4312	-1395				
PAWNEE	4337	4330	-1423				
FORT SCOTT	4412	4405	-1498				
CHEROKEE SHALE	4444	4438	-1571				
JOHNSON	4456	4450	-1613				
MORROW SHALE	4461	4452	-1635				
MORROW SAND	4468	4460	-1643				
MISSISSIPPI	4584	4579	-1666				
TOTAL DEPTH	4650	4647	-1730				

* Structural Position to: **GRAND MESA OPERATING COMPANY HESS-COLOWATER NO. 1-32 NWSESW SEC 32 T13S R31W**



SCALE 1" = 100'



COMPANY: **GRAND MESA OPERATING COMPANY**
 LEASE: **HESS NO. 1-4** ELEVATION: **K8 2917**
 LOCATION: **N2 SW NW NW SEC 4 TWP 14S RING 31W**
 COUNTY: **GOVE** STATE: **KANSAS**