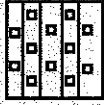


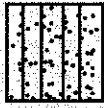
LEGEND



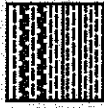
Anhydrite



Salt



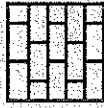
Sandstone



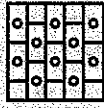
Shale



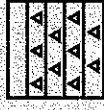
Carb sh



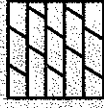
Limestone



Oil/Lime



Chert



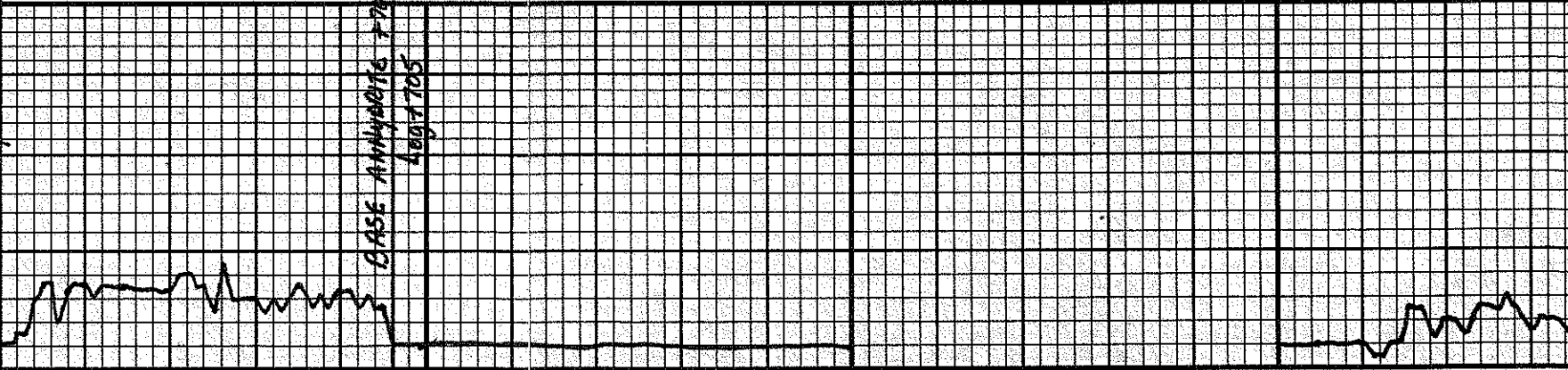
Dolomite

DRILLING TIME IN MINUTES
PER FOOT

Rate of Penetration Decreases



TOP ANHYDRITE 1735"
TOP SALT 1785"



DEPTH

1400

50

1500

3000

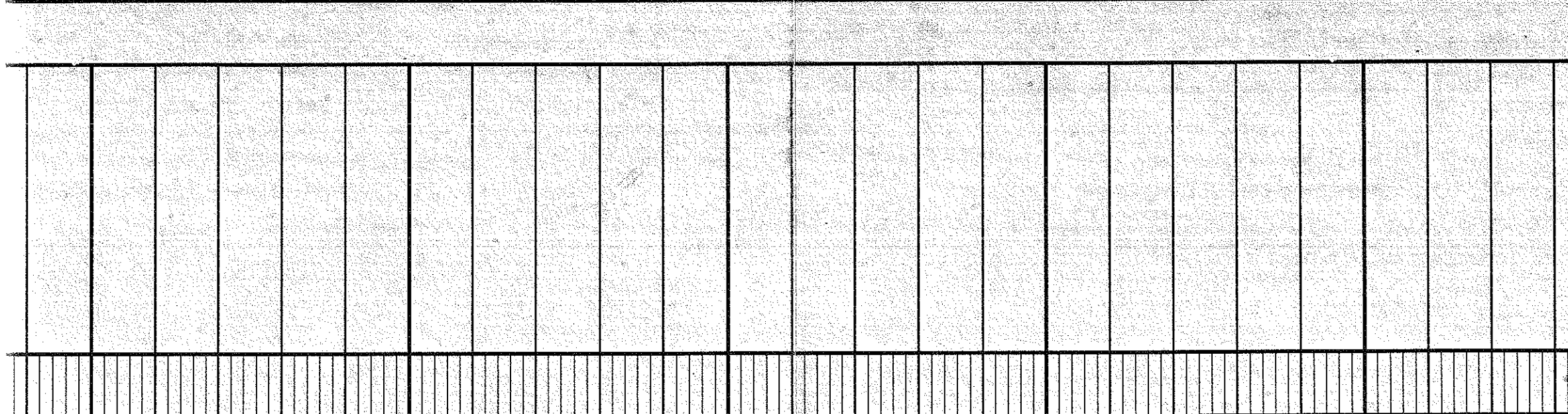
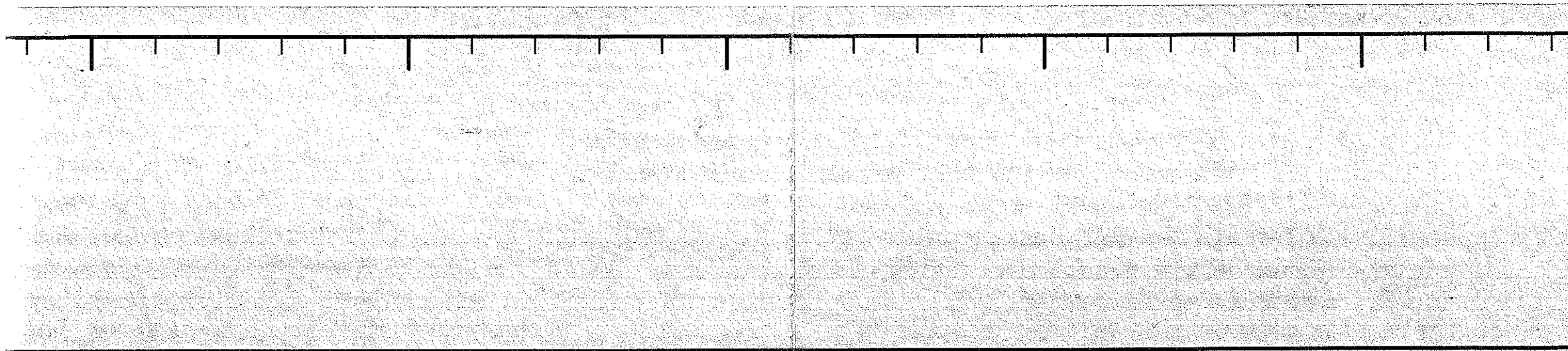
LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

CASE ANHYDRITE 1785'
TOP SALT 1785'



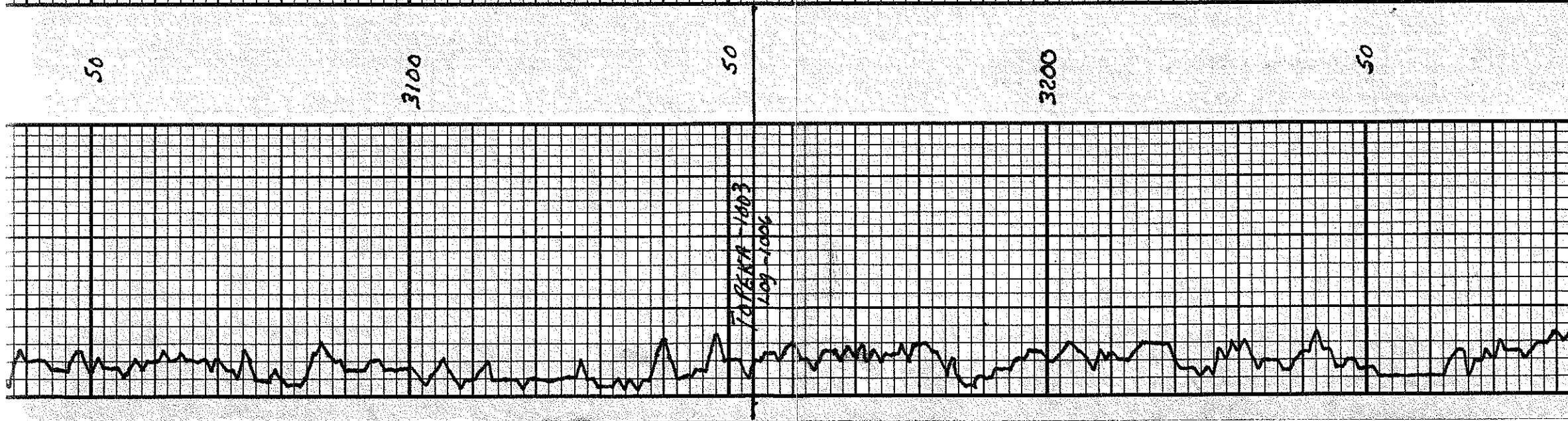
50

3100

50

3200

50



10/25/2014
10/25/2014

3300

50

3400

50

3500

HOOPER ST
LOG - 17.55

TORONTO - 1213
LOG - 17.75

LAKE - 17.59
LOG - 17.63

LOG - 17.55

SH BULKHEADS

SH BULKHEADS

LS tan v. chky sandstone
with 1-2% mica
sh

LS tan v. chky sandstone
with 1-2% mica
sh

SH BULKHEADS

LS tan v. chky sandstone
with 1-2% mica
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with 1-2% mica
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SH BULKHEADS

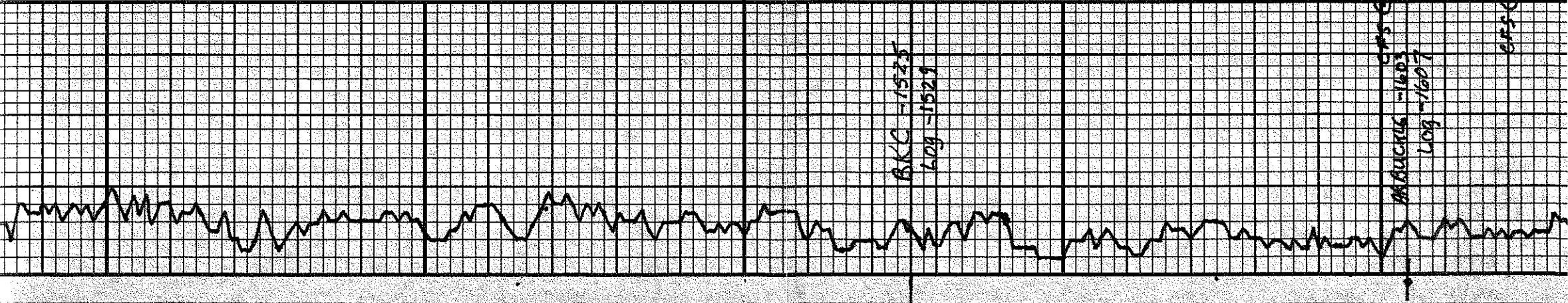
SH BULKHEADS

LS tan v. chky sandstone
with 1-2% mica
sh

SH BULKHEADS

SH BULKHEADS

LS tan v. chky sandstone
with 1-2% mica
sh



50

3600

50

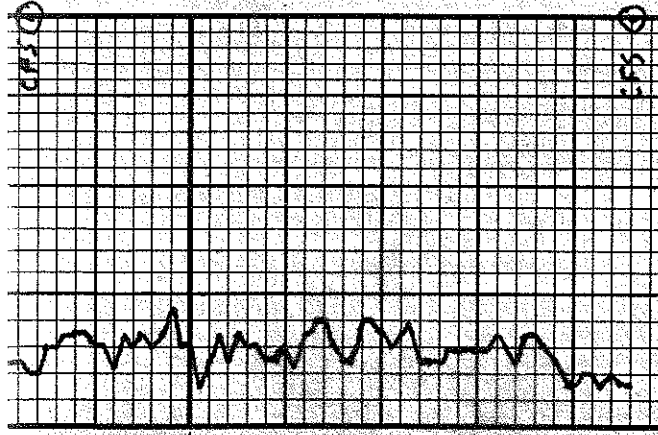
3700

50

LS wh mic xyle wood as ypr 1x4 to 1x5	LS ea f... ..	LS ea w/ fr pec wh 8' sand det sandy shale	sh u argy	sh grt	ls blk - tan, sm rd fr sucyale w/ fr. xyle & u... .. shd yale br sm mst barren	fr y xyle - mic xyle wood as ypr	sh u argy	LS wh - tan low pec 9' to 55 w/us s to med, fr p int. foss, tan spl 6-4 sm pr sh	LS wh - fr pec med - slood w/ fr int ool. trace fr sfs. frad. Blue spld shd int. argy	fr y xyle wood as ypr sh u argy	mod ons tan fr xyle barrens sm ls v. sh med	sh u argy	chy fr y xyle cs sm fr y xyle p/B ONS	sh u argy	ONS wh - tan v fr y xyle dms LS PR. AS	sh u argy	ONS fr xyle tan barrens LS	R.O. fgy 5 v. ons tan - wh mic xyle cs as	R.O. chy	sh u argy	w/ a bit of chy wh. tan. gr. ea ch. as.	fr y xyle wood as ypr sh u argy	sh u argy	Dolo tan, fr sucyale, mic xyle w/ chl wh. tan spl str 25 to 20 to 25	sh u argy	ONS wh - tan fr xyle wood as ypr sh u argy	sh u argy	Dolo wh. tan fr y xyle wood as ypr sh u argy	sh u argy	Dolo tan - gr med g us xyle w/ d ad us xyle. sm fr. spl. sm sh. argy
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DST#1
 3551'-3650'
 30"-30"x30"-30"
 1st op 1/2" blow
 2nd op wk surf blow
 IFP 19-35
 FFP 37-38
 SIP 454-170
 HP 1700-1689
 REC 45.50cm (29% oil)
 BHT 1060

DST#2
 3724'-3770'
 30"x30"x30"-30"
 1st op 1/2" blow
 2nd op 1/4" blow
 IFP 20-29
 FFP 32-37
 SIP 1040-988
 HP 1814-1789
 REC 60.945
 25' CLEAN OIL
 20' HDGCM (35% oil)
 BHT 1090 to 310
 DST#3
 3770'-3783'
 30"-45"x30"-45"
 1st op 80S G"
 2nd - 44" blow



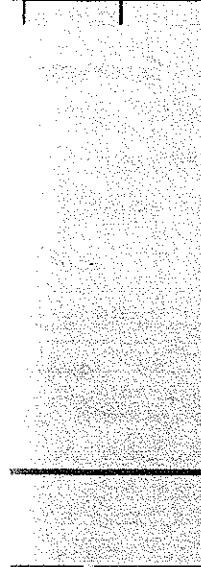
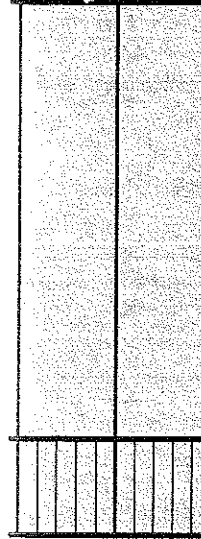
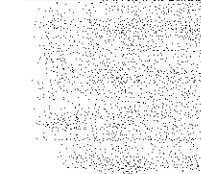
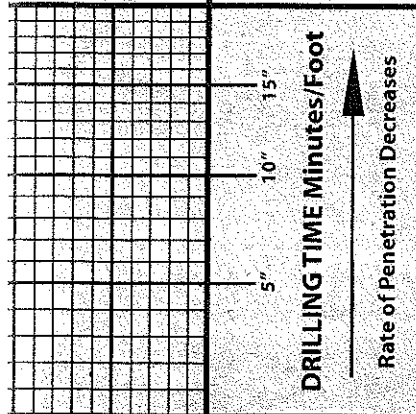
3800

50

0000 tan-brown fm mid when 8000
 5m tight sm to pp. 5 to 1000
 on 5000 area - blue sm
 0000 tan-brown fm mid when 8000
 less stb, more bedded sm, stb
 0000 tan-brown fm mid when 8000
 5m to vinyl 10 wires to 5000
 blue sm, 55 to wood mat
 has tight pp
 tan-brown mottled w
 0000 tan-brown fm mid when 8000
 5m to vinyl 10 wires to 5000
 blue sm, 55 to wood mat
 has tight pp
 tan-brown mottled w
 0000 tan-brown fm mid when 8000
 5m to vinyl 10 wires to 5000
 blue sm, 55 to wood mat
 has tight pp
 tan-brown mottled w

Ran Nelson

ST - 1/4" Blowback
 IAP 36-145
 FFP 151-249
 SIP 1200-1145
 MP 1923-1806
 REC 180' gas
 620' clean oil
 60' muddy gassy oil
 (20%g: 70%o: 10%w)
 BHT 1190
 GT 310



OIL SHOWS	REMARKS
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LITHOLOGY	DEPTH	SAMPLE DESCRIPTIONS
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CONTRACTOR Discovery Drilling Rig #4
 LEASE Sunley-Sub #1-13 IP Area
 ELEVATION 2,574.5 RTD 3844'

LOCATION 1640' E of 145' Fee
 SEC 13 TWP 14S RNG 19W
 COUNTY Ellis STATE Kansas