

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY Pickrell Drilling Co. Inc.

LEASE Regier

FIELD Willet

LOCATION B2 SW SE

SEC 24 TWP 26 S RGE 7 W

COUNTY Revo STATE Kansas

CONTRACTOR Pickrell Drilling Co. Inc. #1

SPUD 11/30/2012 COMP 12/10/2012

RTD 3792 LTD 3792

MUD UP 3000' TYPE MUD Chemical

ELEVATIONS

KB 1584

DF 1574

GL 1574

Measurements Are All From KB

CASING 257' 8 5/8"

SURFACE None

PRODUCTION None

ELECTRICAL SURVEYS Chel/Dens, DIL, Micu

SAMPLES SAVED FROM 2700 TO TD

DRILLING TIME KEPT FROM 2700 TO TD

SAMPLES EXAMINED FROM 2700 TO TD

GEOLOGICAL SUPERVISION FROM 2340 TO TD

GEOLOGIST ON WELL Steven Petermann

FORMATION TOPS LOG SAMPLES

<u>Heehner</u>	<u>2839</u>	<u>2839</u>
<u>Brown Lime</u>	<u>3057</u>	<u>3057</u>
<u>Lansing</u>	<u>3097</u>	<u>3097</u>
<u>Dennis</u>	<u>3372</u>	<u>3374</u>
<u>Stump</u>	<u>3420</u>	<u>3420</u>
<u>Mississippi</u>	<u>3770</u>	<u>3771</u>
<u>TD</u>	<u>3792</u>	<u>3792</u>

REMARKS

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool. Lime	Chert	Dolomite

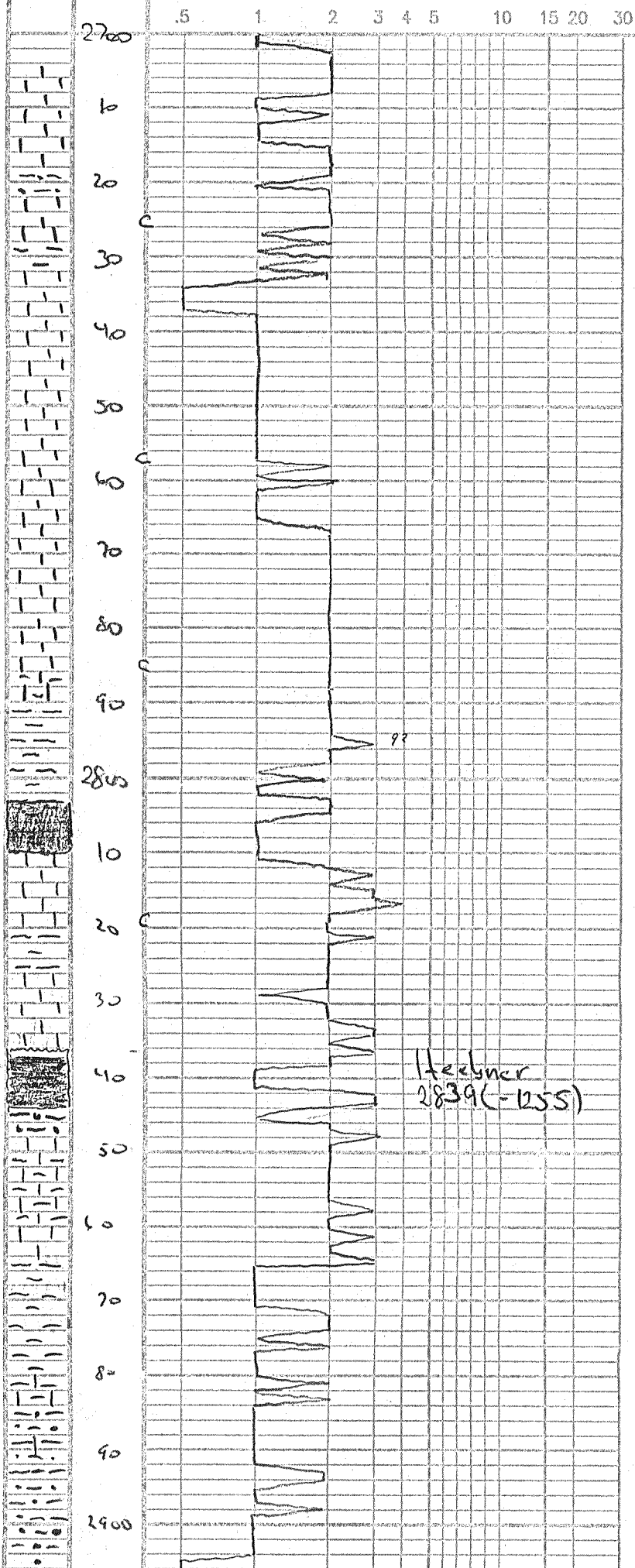
DRILLING TIME
Logarithmic Scale)

Hld

ASOTC

SAMPLE DESCRIPTIONS

REMARKS



LST: wht. crm, v. fine, few pcs w/ ben edge, str.

AA: mang sub chalky

AA + gray silty shale

LST: AA + chert: gray-ben, fresh/sharp

Incr. gray/dk gray shale

LST AA

LST AA

LST AA + Abdt. chert, light weathered, few w/ fluor., no cut

LST + Chert AA

Increase gray shale

AA

Shale gray

AA

Shale: blk, carb.

LST: crm, v. fine, dsc, dull fluor., no cut

AA + gray shale

LST: AA

Abdt Shale: gray

Shale: dk gray/blk, carb.

Siltstone: gray w/ tr Sst, v. fg, sub rd fair int gr. No show

Shale & Siltstone

Some LST: crm, v. fine, dsc

Gray shale/siltstone

Tr. Sst: gray, v. fg, well cmt., fr, NS

AA: varg shales

Tr. Sst AA

LST: wht, v. fine, chalky, NS

Silty Sst: gray, v. fg

Silty Sst AA

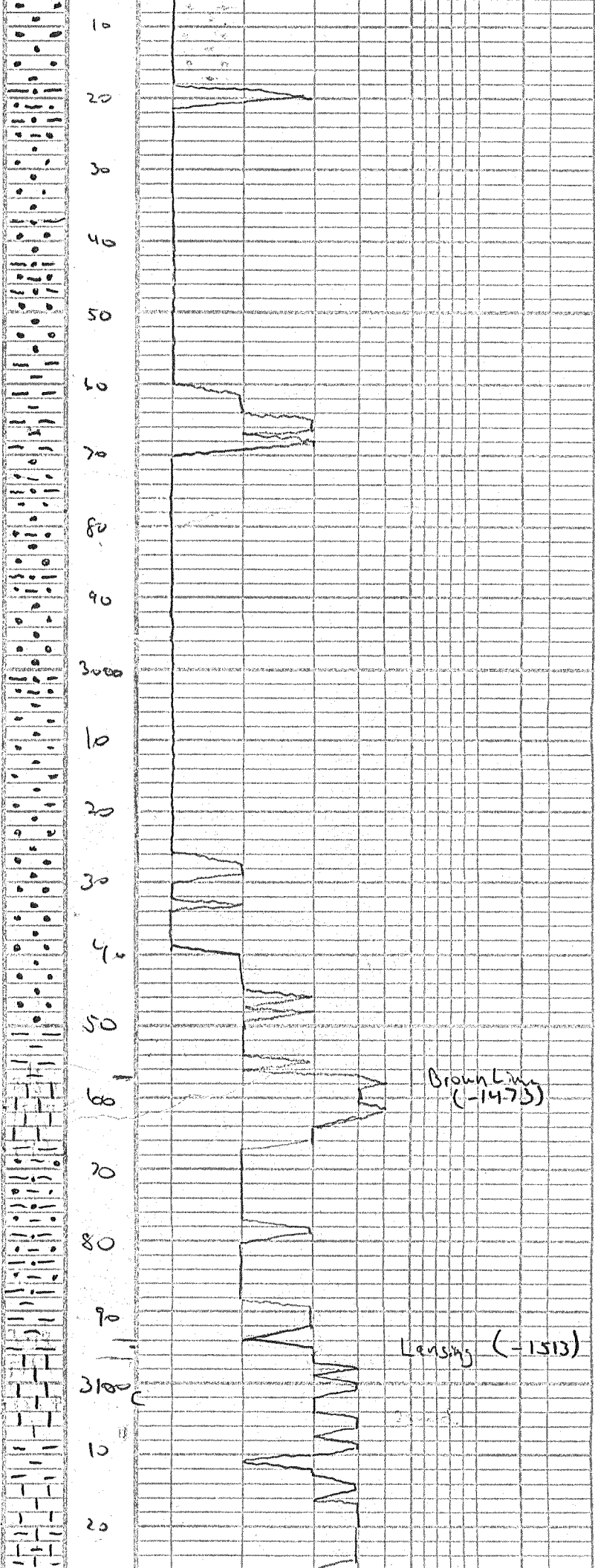
AA

Sst: gray, v. fine, well sorted

On location 12/3/2012
7:00 pm @ 2360'

Show of high
gravity dist. late
surface sample cup

Fr. Dist. late show AA



gss, NS, some silty

AA

AA

AA + Sst: clv-fractd, fgr, friable
WR, WS, micaceous, NS

AA + increase shale

Sst: clv-fractd, v.f-fgr, sub f
fair sorting, micaceous,
many silty, NS

Shale - grn/grg

Shale + Sst AA

AA

AA

Sst: clv-fractd, v.f-fgr sub f
fair sorting, NS
Slightly shaly in part

Displaced Mud
System to 300'

AA

AA

AA

AA

LST: brn, cherty, v.fxl, fossiliferous
mostly dense, pup
few w/ fr vsgs, NS
med-bright flint, No cut

AA

Shale: grg
ASst Sst: v.f-fgr clv-grg
NS

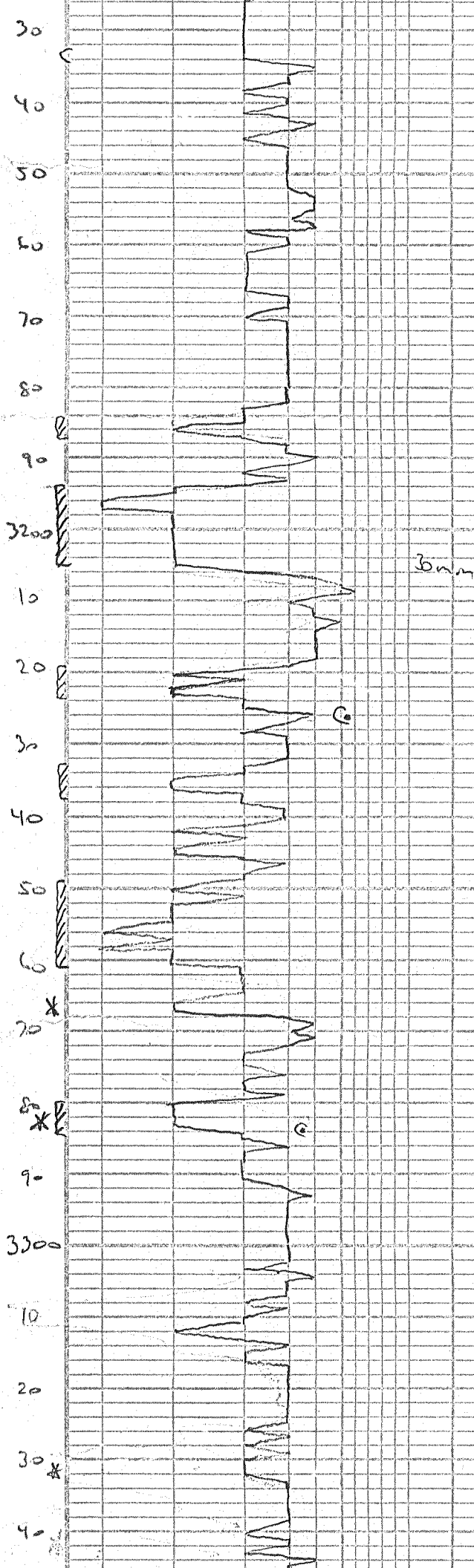
AA

AA

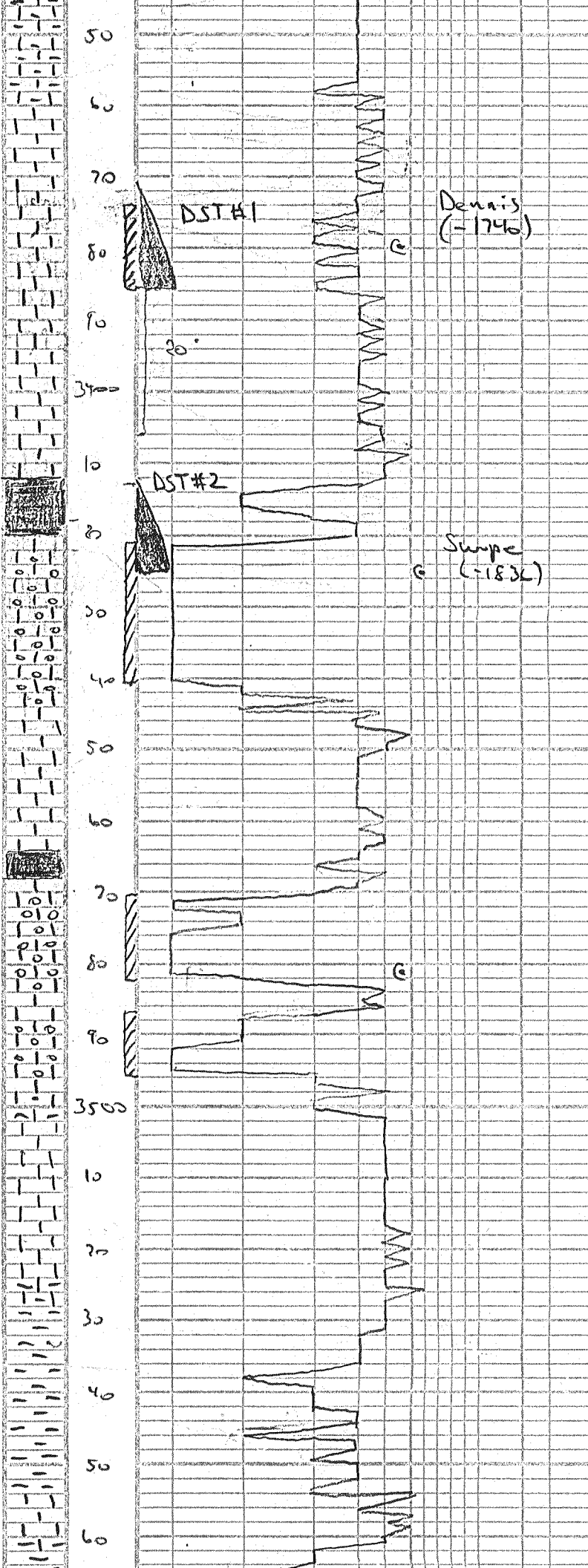
LST: brn, ool/fossiliferous, chalky
dse.

Shale: grg
LST: brn, v.fxl, dse, slightly dy
NUP

LST: grm-tan, f-mxl, fossiliferous
sub-chalky, PUP, NS



Abd. Shale grs / limey	
LST: cm-tan vf-fxl n fossiliferous pr. vuggy & NS	vis 85 8.7#
LST: tan-grs f-mxl n, fossiliferous pup	
poor fluor, no cut	
LST: cm-grs vf-fxl n many fossiliferous sub chalky, pup, NS	
AA + grs shale	
LST: grs vf-fxl n dse NUP	
LST: cm vf-fxl n pup NS many sub chalky	
LST: wht vf-fxl n chalky NS	No odor No fluorescence
LST: tan fxl n fossiliferous fr. g. vuggy & NS	No odor No fluorescence
LST: tan fxl n fossiliferous pup NS	
LST: tan f-mxl n fossiliferous pup NS	No odor Good fluorescence No cut
LST: cm-wht vf-fxl n chalky NS	No odor Mod. fluor No cut
LST: cm-tan fxl n, fossiliferous pup NS	Moderate fluor. No cut No odor
LST: cm-tan-grs vf-fxl n some fossiliferous many pup	No odor No fluor.
LST: cm-tan f-mxl n fossiliferous fr. g. leached vuggy & NS	Mod. fluor dull cut on acid/break
LST: cm-tan-brn vf-fxl n pup NS	
LST: grs vf-fxl n some int. xln & fr. gas on break	
LST: tan-brn fxl n some int. xln & few w/brn stain NSFO ? show fr. gas	vis 82 No odor 8.9# No cut
LST: cm-brn fxl n v. fossiliferous pup NS	Poor fluor. No cut
LST: AA	
Shale: grs / dk grs calc. SSC	No odor No fluor
LST: grs vf-fxl n dse	
LST: cm-brn mottled, fxl n some int. xln & NS	
LST: cm-tan mottled fxl n fossiliferous some w/brn stain leached vuggy &	BYE Streaming cut No odor
AA + fr LST: wht fxl n fr leached vuggy &	BYE



LST: crm. mottled brn. fxl
fossiliferous few w/edge str
pup NSFO
Shale: gry-dk gry
LST: crm. fxl
sub chally - chally BVP NJ

No odor
No fluor.
No odor
No fluor.

AA
Few LST: dk gry pol / fossiliferous
dk brn spotted str
Some chert / tan brech SSC
LST: brn f. mottled fossiliferous
SSFO on break pr. fr. &
SSC
LST: crm. v. fxl
v. f. ppt & NS

Faint odor
DST#1 3370-86 straddle
30-60-60-90
570' GIP
30' WOCM (10 W, 20 G,
20 O, 50 M)
555-650 #

LST: tan fossiliferous f. mottled
pr. fr. int. str. & NS
Shale: dk gry / blk

Pipe Straps 3' Long
Windy & dark

LST: tan v. fxl good int. str.
sandy BVP streaming cut
LST: tan. rechrystallized v. good
modic or sfo on break
(high gravity) SC
LST: AA - vssfo (red brn)

Good odor 40"
Fair odor 60"
60" duller fluor.
DST #2 3412-25
30-60-60-90
250' MW (10 M 90 W)
1409-1406 #

LST: tan-grs, v. fxl, dse
LST: crm v. fxl dse

Shale: dk gry / blk
LST: gry dse
LST: crm-tan rechrystallized
fxln matrix w. good ool / ooc &
barren

Sulfur odor

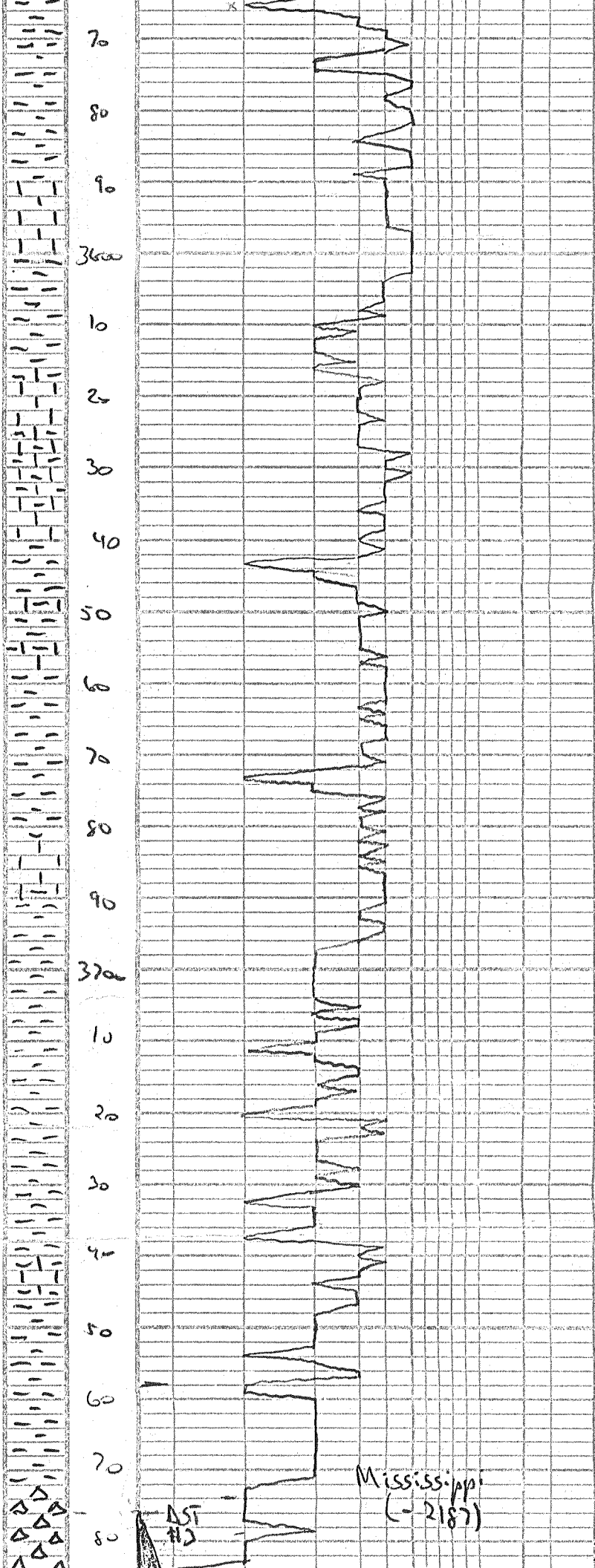
LST: tan-grs, v. fxl dse
LST: ool / ooc AA

LST: crm v. fxl pup subchally-
dse
Shale: gry / dk gry
AA

Shale: gry / gry
LST: tan-grs v. fxl dse
few brn S fresh

LST: AA
Shale: gry / dk gry
}

Shale: VC
LST: crm-tan v. fxl, men
chally pup
Shale: gry



LST AA

AA

Shale: VC
LST AA + brn Δty LST dse

Shale: VC

LST: Δty grs/brn dse
Chert: grs fresh NUP

LST: tan/brn/dk grs dse
Shale

AA + chert pit tan - tan
mostly fresh
very shale

Shale: grs

LST: wht - crm vfxln PVP
bssc

Grs Silty LST

LST: crm - grs dse

Shale: grs

Calc. Shales

LST: crm - grs vfxln dse

Chert: grs fresh dse

AA

AA

LST: grn - tan vfxln dse Δty
Shale

Mod fluor.
No cut

Shales: VC

Shale: grs / dk grs

Shale: grs & mar

AA

AA + dk grs shale

AA + LST sim vfxln pup N

AA very shale

AA

Shale: grs / red / few grn silty

Chert: brn - grn dol / trip / tic

Chert: wht partially weathered
dk black chert pit bleeding green

Chert: wht. fresh weathered green

90



VS 360
Chert: wht weathered fsg
brn stain - sat SG

Chert: AA poor show No obj

from odor

DST#3 3776-92

20-60-60-90

CTS 40" 2nd open

1STM

360' MW (10m 90W)

1122-1115#