

50' 20" conductor pipe of E5
 BIT NO 5
 STC E5 W/ Dyeed bit
 PP 700

Survey 0°30'

BIT NO 5
 Hrs 110
 Survey 0°45'
 TRR BIT NO 5
 Hrs 130
 7/12/81

60M 40M 20M
 60 40 20

Survey 0°15'

FFFF
 FFFF
 FFFF
 FFFF
 FFFF
 FFFF

200

300

400

4M 8M 16M 24M 2M 2M 1M 1M 70° 90° 110°

Start logging 12:25 am 7/11/81
 at 138'

QTZT wh w/yel,or,rd lim stn
 vhd ang blkly tr maf weath
 to lim

WT 86 pH 105
 VIS 41 WL NC
 FC 3 SOL 2
 CI 400 YP 28

FLD lt yel-pnk-v hd ang sme
 biot

TR basalt amphib porph blk
 vhd blkly pred aphan occ
 amphib phen tr weath
 amphib

QTZT trnsl-occ wht w/yw-org-
 rd lim stn vhd brit vang
 blkly occ maf min & biot

DAC yel-rd vhd blkly ang
 pred aphan w/ lim,
 chlor stn occ vf-f gr
 beta qtz pyrox plag
 phen micl pyrox alt
 to lim plag w/alb twi
 alt to chlor

CARBIDE LAG 440 stis
 40 units 7 min 61 cpm

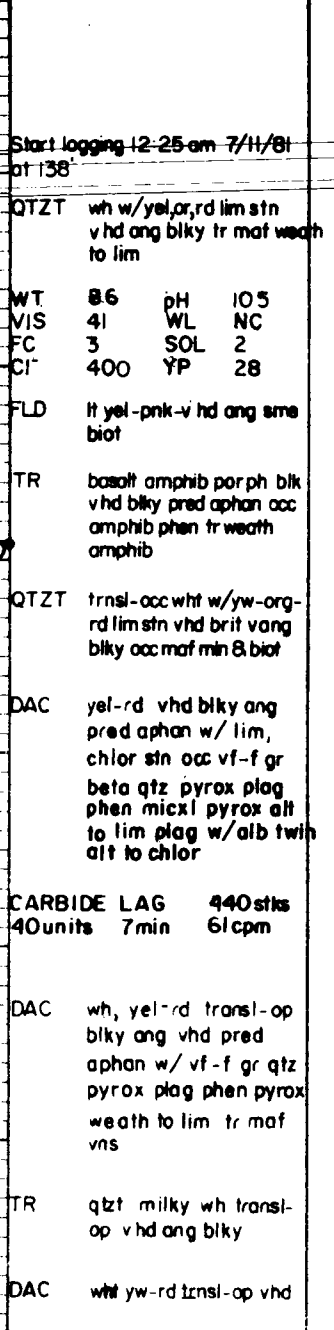
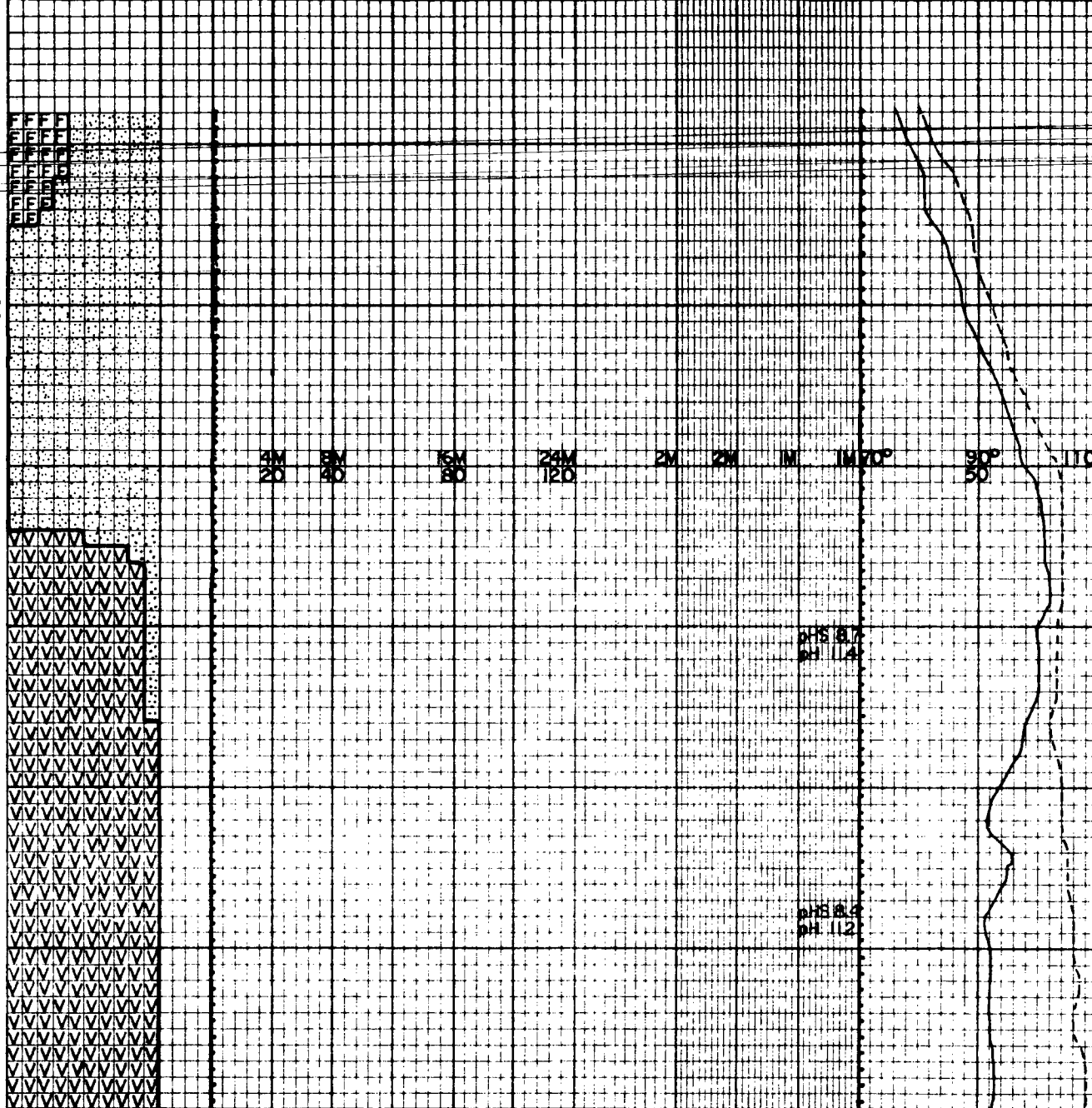
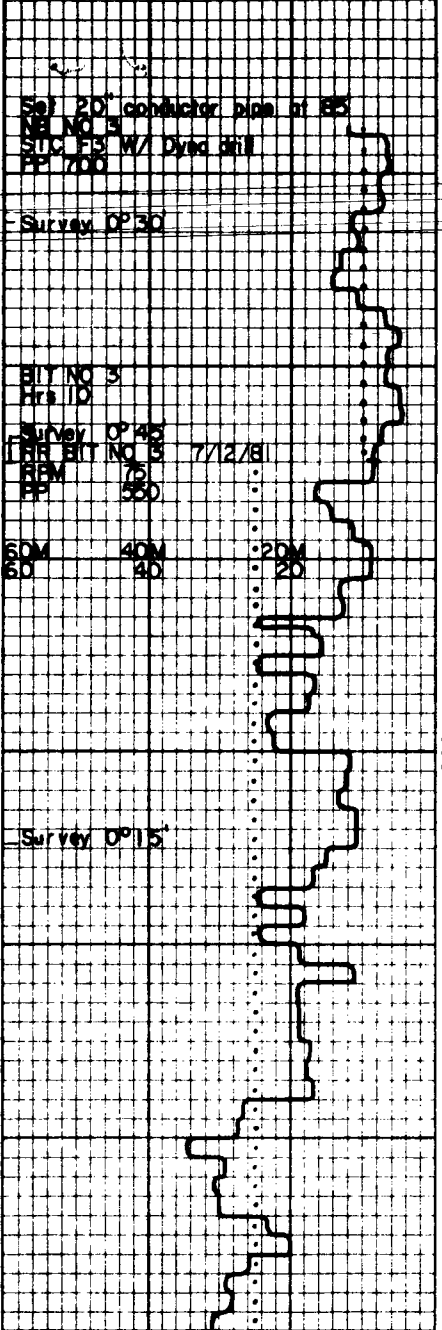
DAC wh, yel-rd trnsl-op
 blkly ang vhd pred
 aphan w/ vf-f gr qtz
 pyrox plag phen pyrox
 weath to lim tr maf
 vns

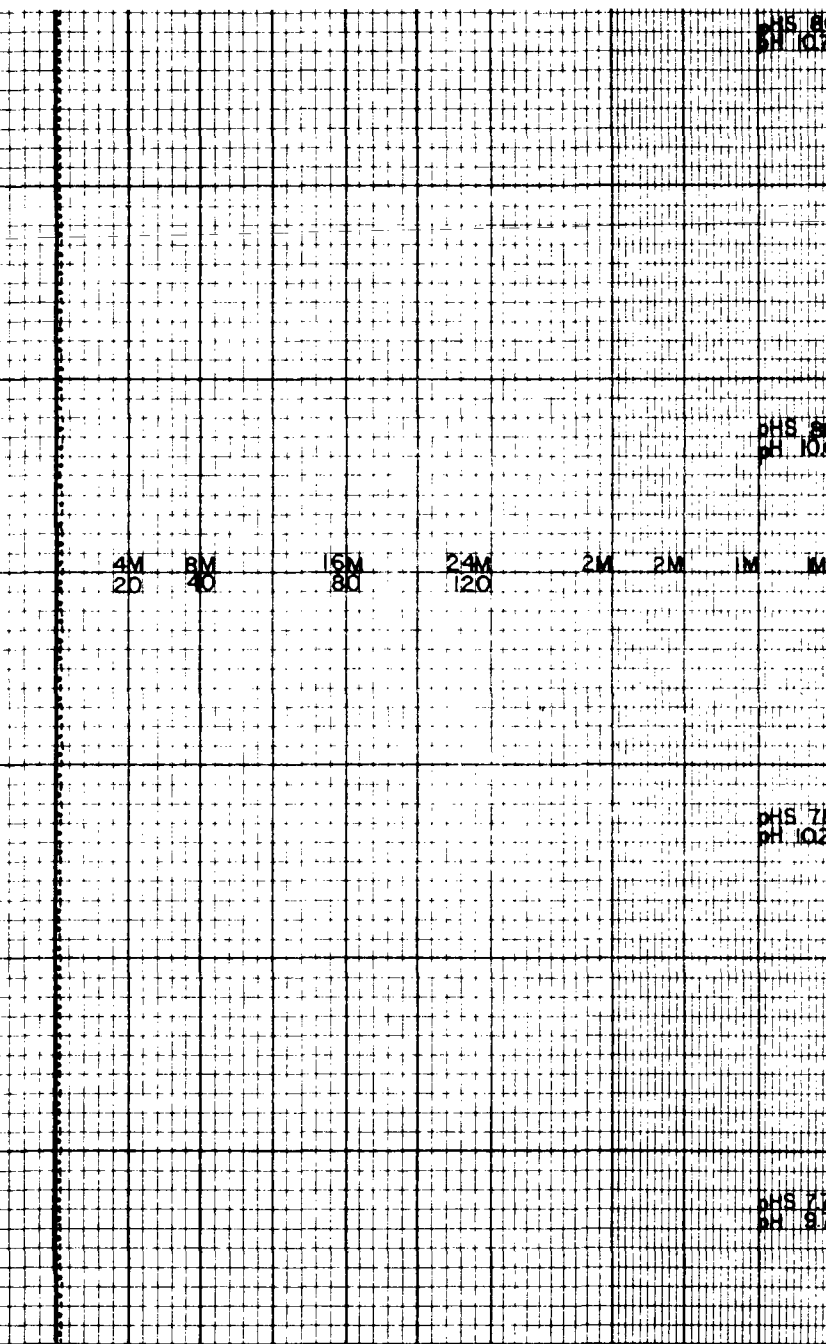
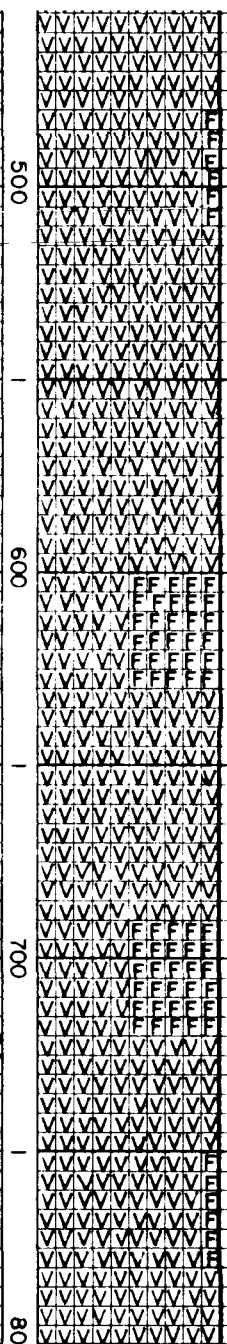
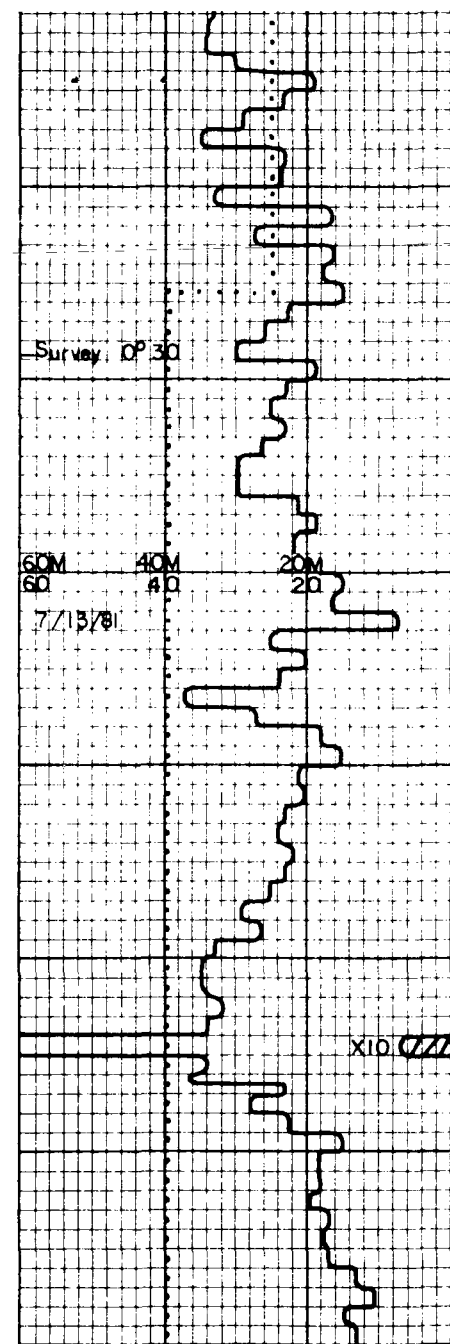
TR qtz milky wh trnsl-
 op vhd ang blkly

DAC wht yw-rd trnsl-op vhd

pH 8.7
 pH 11.4

pH 8.4
 pH 11.2





DAC wh-yel occ pk rd transl blkly silicn frac vhd apon vt-m qtz xtals pyrox pheno weath to fe rich lim halo
 FLD crmy-it pale gn micxtln-f gr mod hd vbrit ang occ plag xtals w/alb twin tr maf min
 SMALL FLOW DROP
 TR voltuff wh-it gy frm
 DAC brn-org-yel-rd transl blkly vhd vf-m qtz xtals pyr pheno
 FLD crmy-wh micxtln-f gr mod hd vbrit ang occ plag xtals w/alb twin tr maf min
 CARBIDE LAG 793atts 50units 14min 58cpm
 DAC wh-yel-rd-org transl blkly ang vhd vf gr qtz plag phen vf-f gr pyrox phen w/lim stn
 TR fld crmy brit mod hd
 CI- 200
 FLD crmy-wh micxtln-f gr mod hd vbrit ang occ plag phen w/alb twin tr maf min
 AND dk gy- blk transl-op blkly ang vhd pred micxtln w/occ pyrox, plag phen
 WT 87 pH 8.0
 VIS 41 WL NC
 FC 3 SOL 3
 CI- 300 YP 16
 VOLUME DROP 240 BARELS
 BAS dk gy-blk transl-op pred aphan w/occ f-m gr pyrox phen fr qtz, plag phen

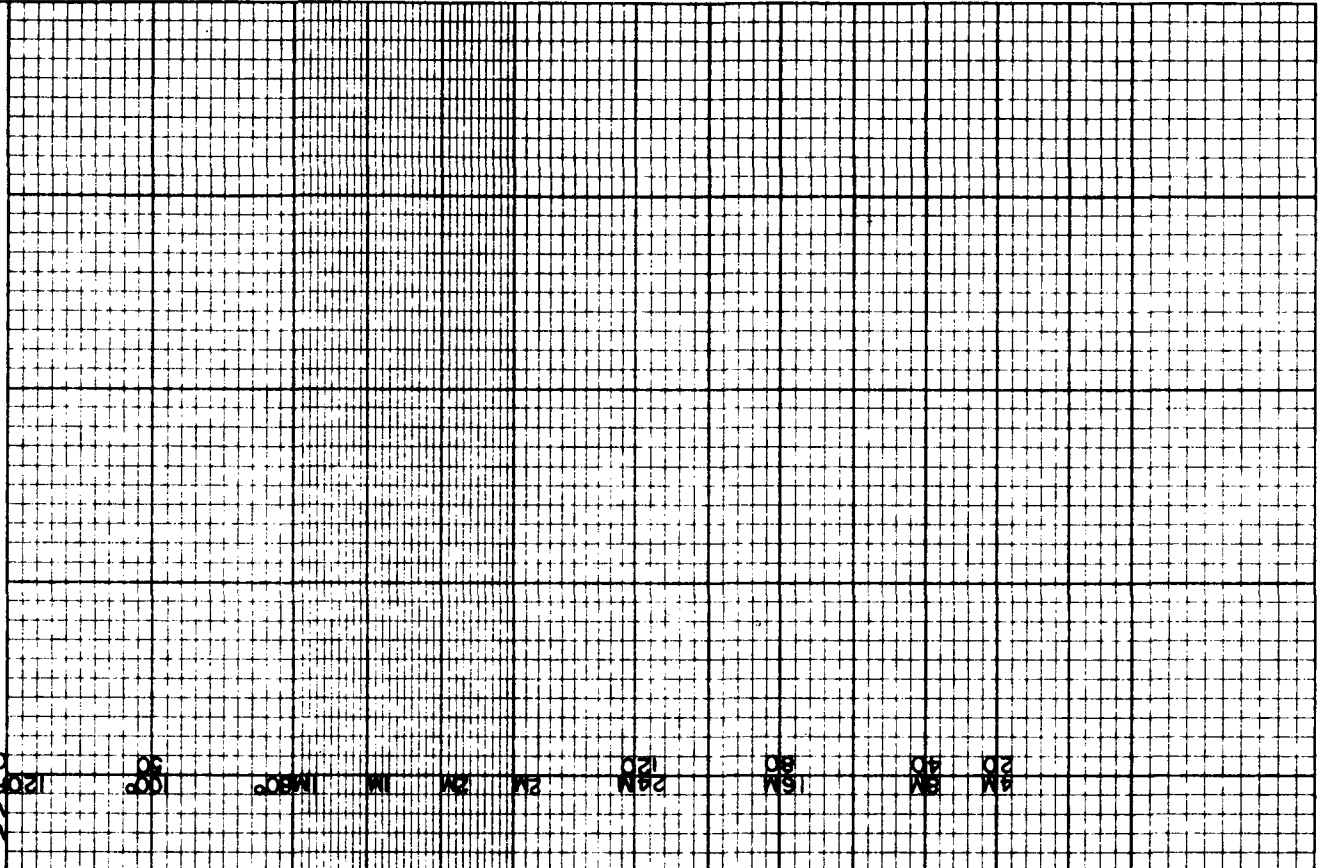
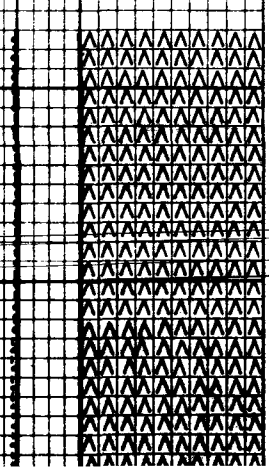
CARBIDE LAG 920kts
 94units 15min 61cpm

BAS blk travel-op pred apban
 w/occ v f gr pyrox phen
 weath to lim if vit v f gr
 qtz phen & v f gr plug
 phen

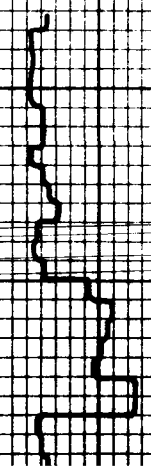
TR qtz ci-wth nd brtt macro
 xth-xth occ yw stn dur
 to lim weath from pyrox
 pheno

BAS BALL STUCK, TRIP OUT
 m-dry travel-op theol
 vhd veng occ ch-third plug
 pheno tr pyrox pheno sme
 org-bn weath

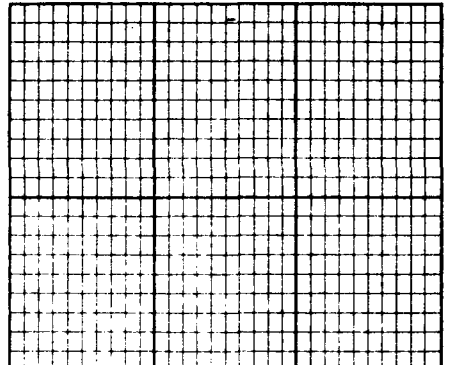
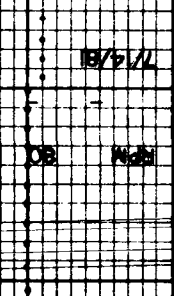
WT 87 PH 80
 VIS 45 WL NC
 CI_ 300 YP 20



001
 000
 006



PHEN
 QZ
 PYR
 TR
 7/4/B



CARBIDE LAG 920stis
94 units 15min 6lcpm

BAS blk transl-op pred aphan
w/occ vf gr pyrox phen
weath to lim tr vit vf gr
qtz phen tr vf gr plag
phen

TR qtz cl-wh hd brtt micro
xtln-xtln occ yw stn due
to lim weath from pyrox
pheno

BALL STUCK, TRIP OUT

BAS m-dk gy trmsl-op theolei
vhd vng occ cr-frstd plag
pheno tr pyrox pheno sme
org-bn weath

TRIP FOR WASHOUT

WT 8.7 pH 8.0
VIS 4.5 WL NC
FC 3 SOL 3
CI 300 YP 20

AND dk gy blk lt brn gn ang
biky vhd pred aphan w/
vf-f gr plag phen weath
to chlor, f gr pyrox weath
to lim, chlor tr qtz

DIOR milky wh w/abnt gn chlor
stn ang biky hd hyp gran
w pred plag vf gr qtz xtls
vf-f gr maf abnt weath
plag, maf to chlor

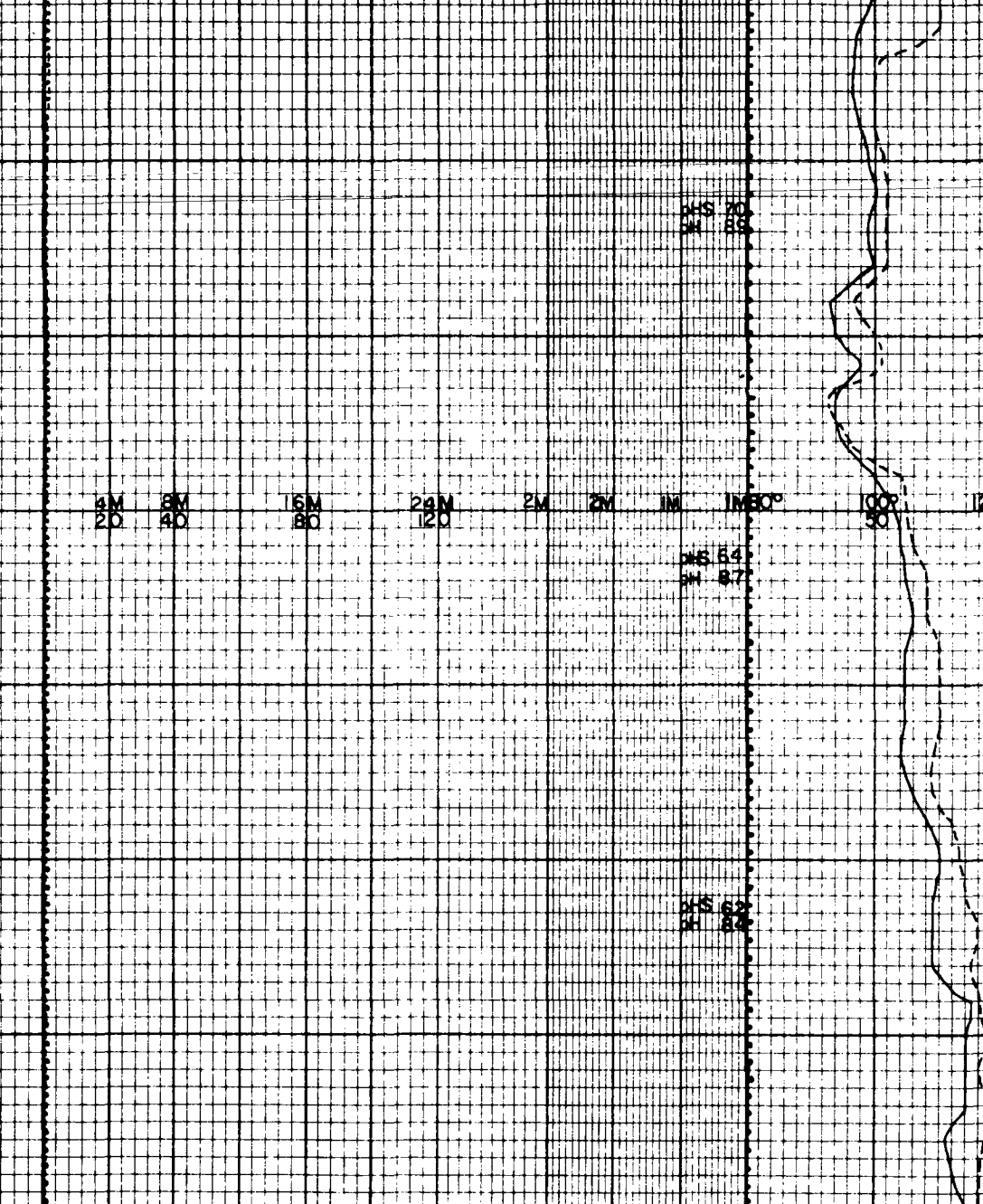
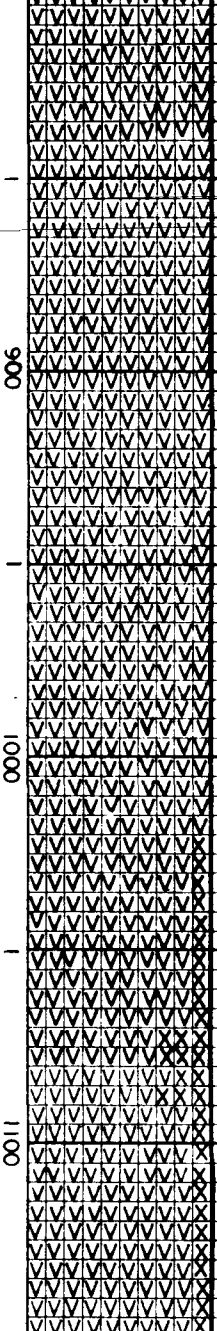
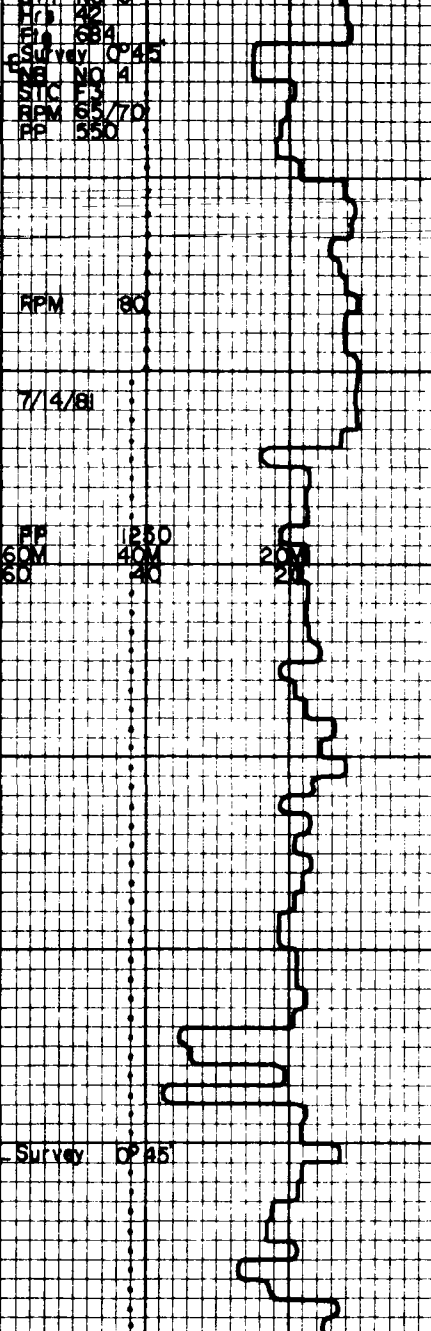
AND dk gy brn transl-op ang
biky v hd aphan occ f-m
plag phen and pyrox occ
weath to fe rich lim tr grn
chlor

TR qtz xtals cl-wh occ grn

DIOR lt gy-miky wh occ grn stn
due to chlor biky to mass
simic hd-trm occ vf qtz
grns

AND dk gy-brn ang biky v hd
pred aphan w/vf-f gr
plag phen f gr pyrox pheno
tr qtz

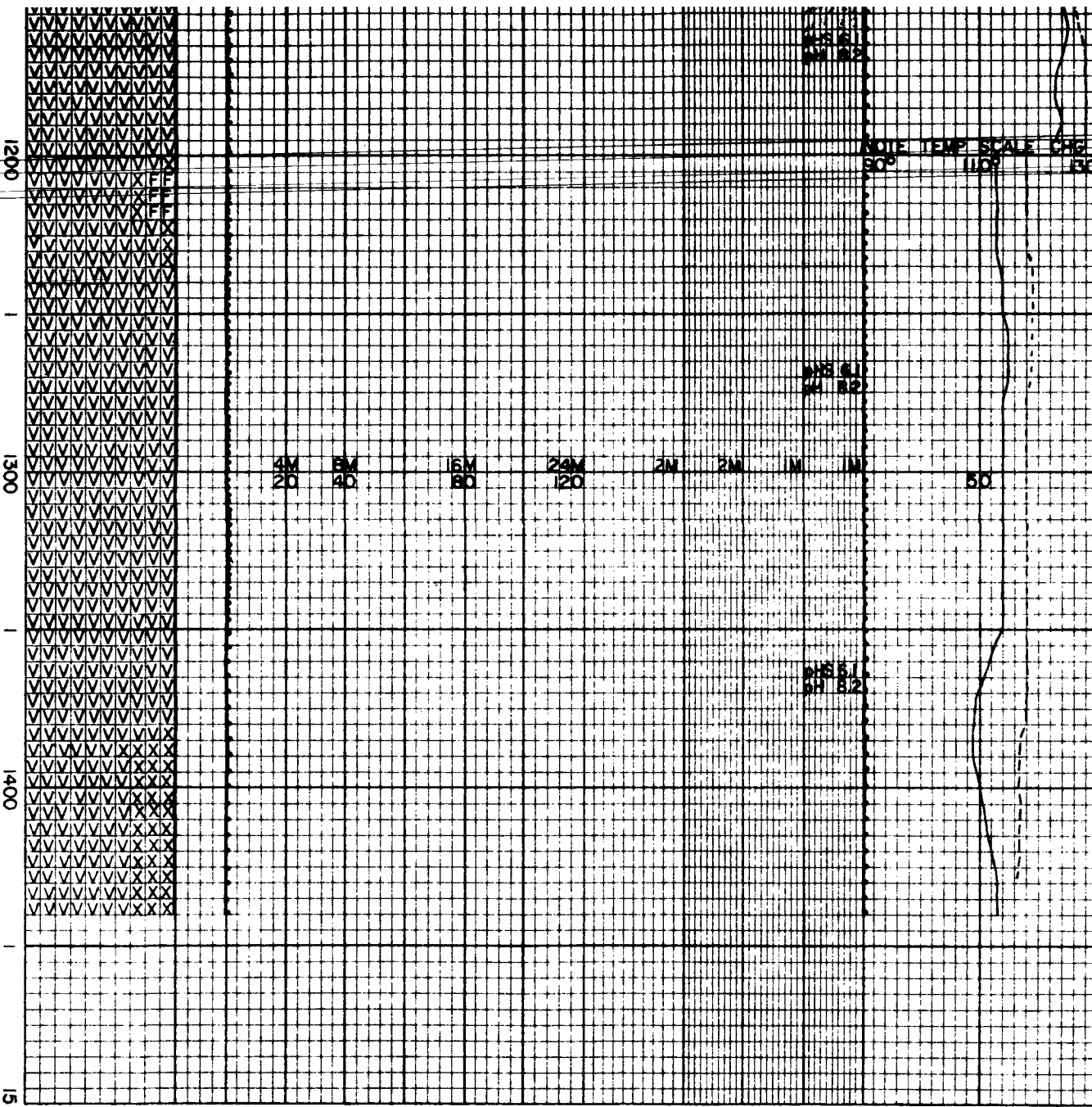
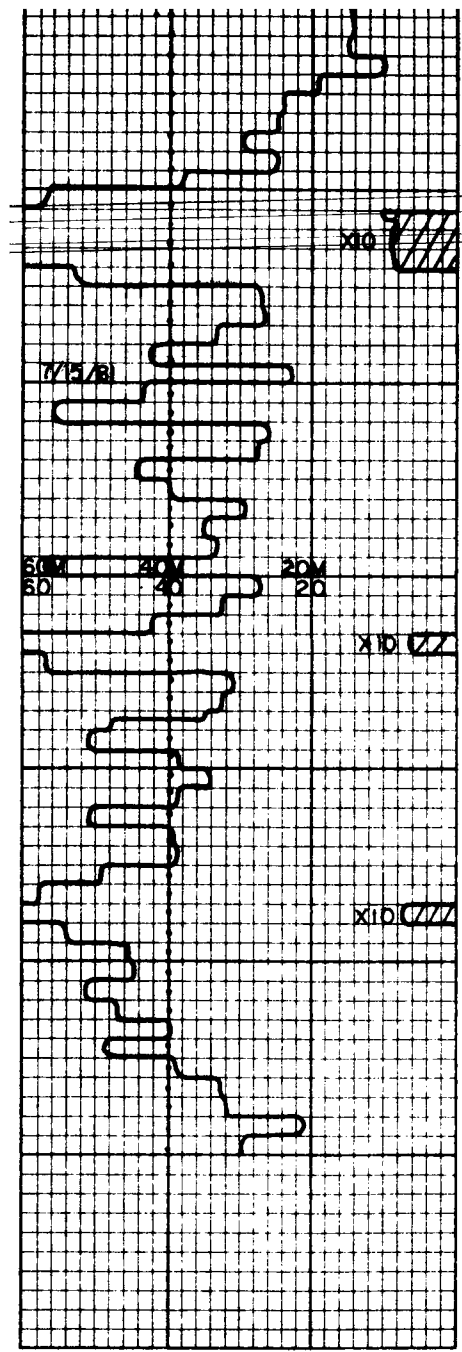
TR chlor grn mic frm



PHS 70
SH 85

PHS 64
SH 8.7

PHS 62
SH 8.6



CARBIDE LAG 1220stk
38units 22.5min 59cpm

DAC m-dk gy occ transl blkly
occ sl conc frac v hd
f-m qtz and plag pheno
occ gran tr chlor

NOTE TEMP SCALE CHG
90° UOR 130

FLD crmy-whit mixln mhd brit
v ang conc frac

BAS m-dk gy-occ blk trnsf-op
aphan-fgr tex vhd v ang
plag pheno occ pyrox pheno

DAC lt bn-rd bn trnsf-op parph
hd brit v ang frac sme qtz
xtals plag pheno occ pyrox
pheno occ qtz vns

CI- 200

BAS gy-blk trnsf-pred op vf-
fgr tex occ plag pheno
tr pyrox pheno

DAC gy bn-bn-org bn sme parph
vf-fgr tex hd v ang plag
pheno tr qtz xtals & pyrox
pheno sme fe stn

TR fld whit-crmy mixln mhd
v brit v ang conc frac

BAS dk gy-sme dk bn gy op
vf-fgr tex vhd ang plag
pheno tr pyrox pheno

OIOR m-occ dk gy sme mlky trnsf-
op vf-fgr tex hd ang blkly
plag tr-occ qtz xtals tr
pyrox sme weath plag occ
w/sl chlor stn

CARBIDE LAG 1220 stks
 38 units 22.5 min 59 cpm

DAC m-dk gy occ transl blkly
 occ sl conc frac v hd
 f-m qtz and plag pheno
 occ gran tr chlor

FLD crmy-wht micxn mhd brit
 v ang conc frac

BAS m-dk gy-occ blk trnsf-op
 ophan-fgr tex vhd vang
 plag pheno occ pyrox pheno

DAC lt bn-rd bn trnsf-op porph
 hd brit vang frac sme qtz
 xtals plag pheno occ pyrox
 pheno occ qtz vns

CI- 200

BAS gy-blk trnsf-pred op vf-
 fgr tex occ plag pheno
 tr pyrox pheno

DAC gybn-bn-org bn sme porph
 vf-fgr tex hd vang plag
 pheno tr qtz xtals B pyrox
 pheno sme fe stn

TR fld wht-crmy micxn mhd
 v brit vang conc frac

BAS dk gy-sme dkbn gy op
 vf-fgr tex vhd ang plag
 pheno tr pyrox pheno

DIOR m-occ dkgy sme mlky trnsf-
 op vf-fgr tex hd ang blkly
 plag tr-occ qtz xtals tr
 pyrox sme weath plag occ
 w/sl chlor stn

WT	88	pH	8.0
VIS	45	WL	NC
FC	3	SOL	3
CI-	300	YP	19

DIAB dk gy-blk brn op hd-vhd
 ang blkly abnt vf gr olv
 alt to serp/hem abnt vf
 gr pyrox alt to hem vf-
 fgr plag lath w/alb twi
 ophtic text

PERID org-rd vf gr alt olv w/

NOTE TEMP SCALE CHG
 30° 110° 130°

PH 6.1
 SH 8.2

PH 6.1
 SH 8.2

PH 6.1
 SH 8.2

PH 6.8
 SH 8.2

4M 8M 16M 24M 2M 2M 1M 1M 5D
 20 40 80 120

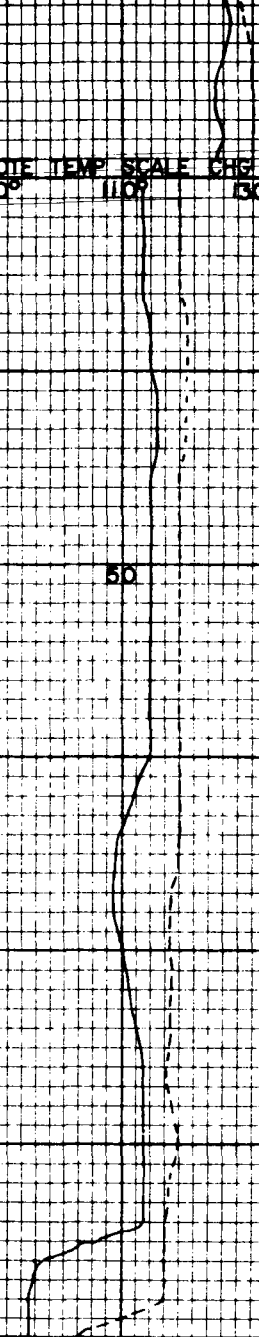
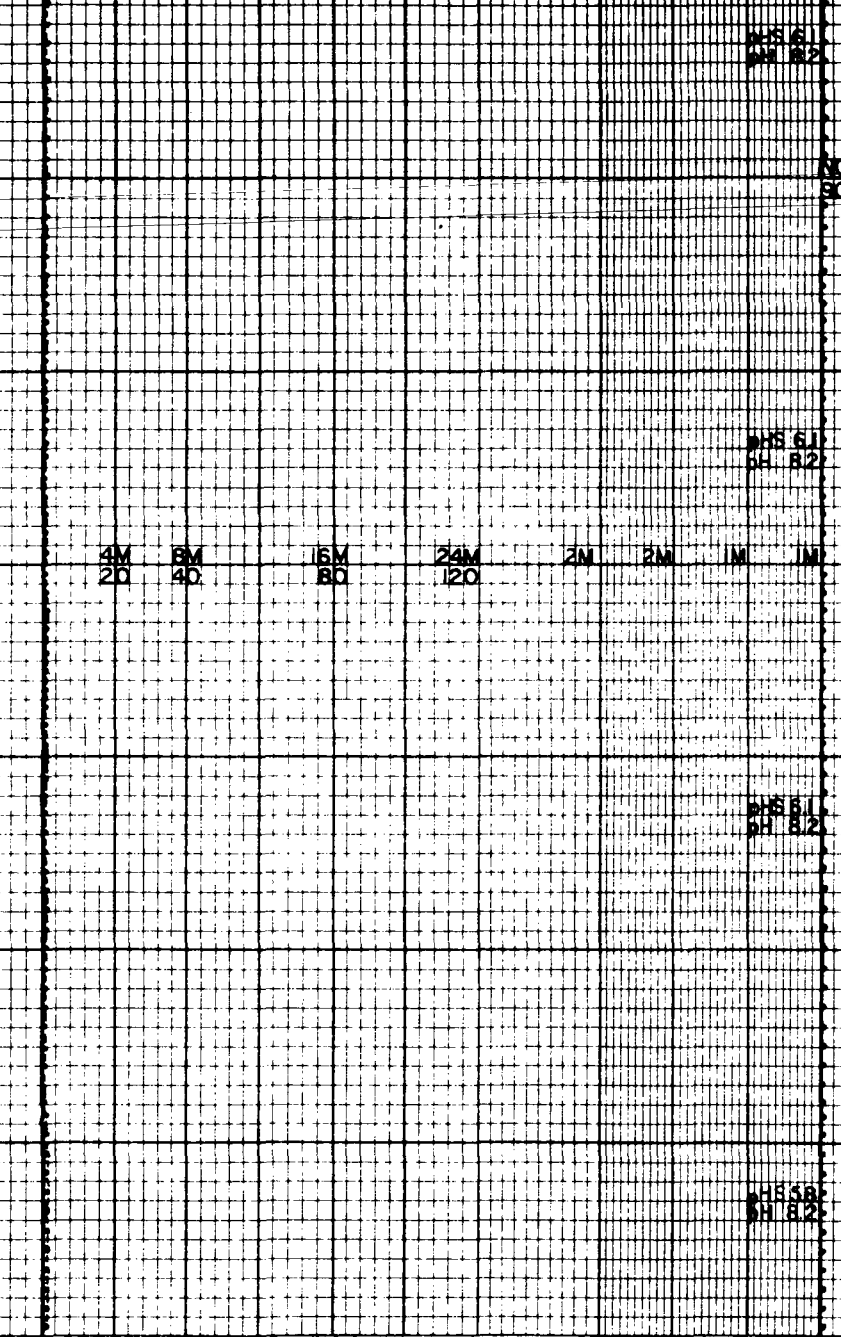
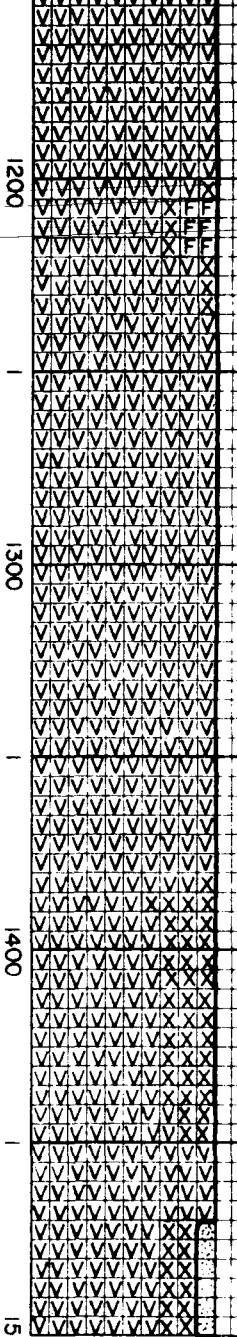
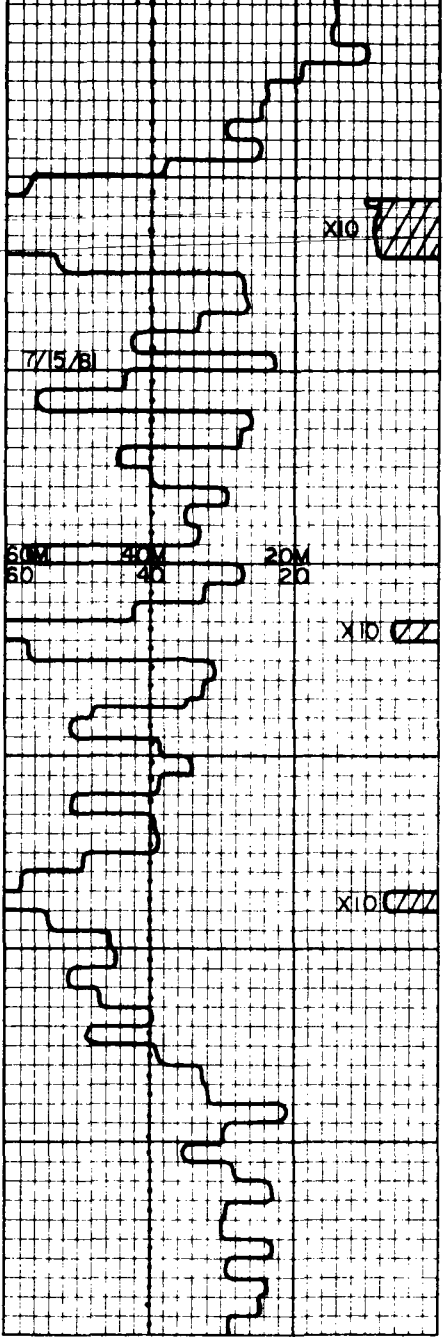
X10

X10

X10

7/15/81

60M 30M 20M
 60 40 20



Detailed lithological and mineralogical descriptions for each depth interval, including terms like DAC, FLD, BAS, CI-, DIOR, and DIAB. The descriptions detail mineral compositions, textures, and structural features.

hem stn vhd blkly ang op

TRIP FOR PLUGGED BIT
LOST CIRCULATION 12:30 PM

DIAB dkgy-blk brn-rd vhd blkly ang ophitic text abnt vf-fgr olv w/hem stn abnt vf gr pyrox vf gr plag lath w/tr alb twin

QTZT cl vit-trnsal hd-vhd fn-med gr

DIAB dkgy-blk brn-rd vhd blkly ang ophitic text abnt vf-fgr olv w/hem stn abnt vf gr pyrox vf gr plag lath w/tr alb twin

FELD crmy-whit-miky blu micln frm-mhd brit ang occ conc frac sme chlor stn

DIAB dkgy-blk sme bn vhd blkly ang ophitic text tr vf gr olv w/hem stn tr vf-fgr pyrox fgr plag w/sme chlor stn

FELD crmy-whit micln mhd brit ang conc frac sme gn chlor stn

DIAB dkgy-blk sme bn vhd blkly ang ophitic text occ vf-fgr olv w/hem stn sme vf-fgr pyrox fgr plag w/sme chl dr stn

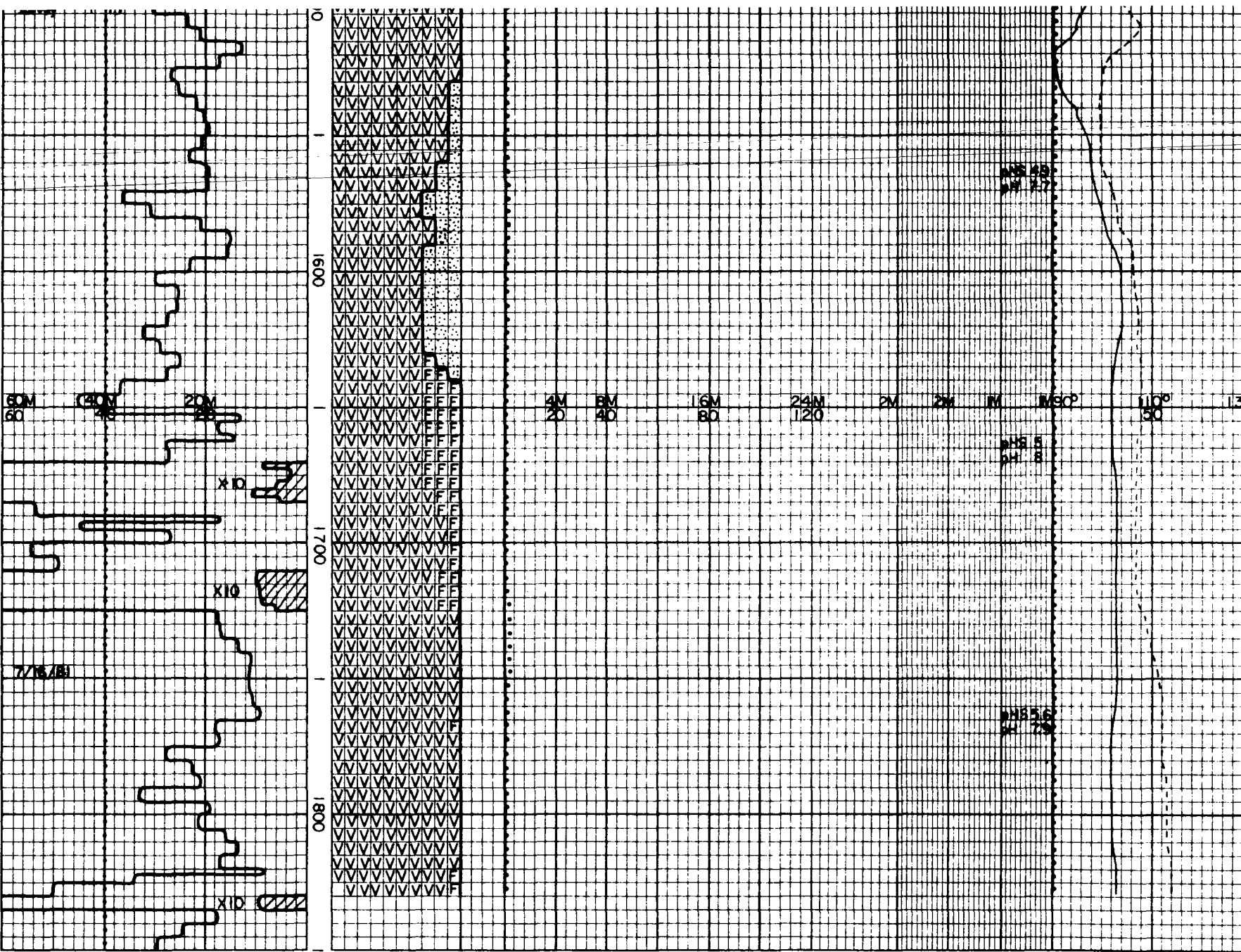
TR qtz trnsal-miky whit hd blkly ang

CARBIDE LAG 1483 stks
30 units 25 min 60 cpm

CF 300

DIAB m-dkgy op-tral trnsal ophitic text vhd blkly ang sl tr vf gr olv vf-fgr pyrox vf-fgr plag tr plag inclu

CLY whit-tan sft calc stky vscul weath field



hem stn vhd blkly ang op

TRIP FOR PLUGGED BIT
LOST CIRCULATION 12:30 PM

DIAB dk gy- blk brn-rd vhd blkly ang ophitic text abnt vf-fgr olv w/hem stn abnt vf-gr pyrox vf-gr plag lath w/tr alb twin

QTZT cl vit-trnsal hd-vhd fn-med gr

DIAB dkgy-blk brn-rd vhd blkly ang ophitic text abnt vf-fgr olv w/hem stn abnt vf-gr pyrox vf-gr plag lath w/tr alb twin

FELD crmy-whit-miky blu micxn frm-mhd brit ang occ conc frac sme chlor stn

DIAB dkgy-blk sme bn vhd blkly ang ophitic text tr vf-gr olv w/hem stn tr vf-fgr pyrox fgr plag w/sme chlor stn

FELD crmy-whit micxn mhd brit ang conc frac sme gn chlor stn

DIAB dkgy- blk sme bn vhd blkly ang ophitic text occ vf-fgr olv w/hem stn sme vf-fgr pyrox fgr plag w/sme chlor stn

TR qtz trnsal- miky whit hd blkly ang

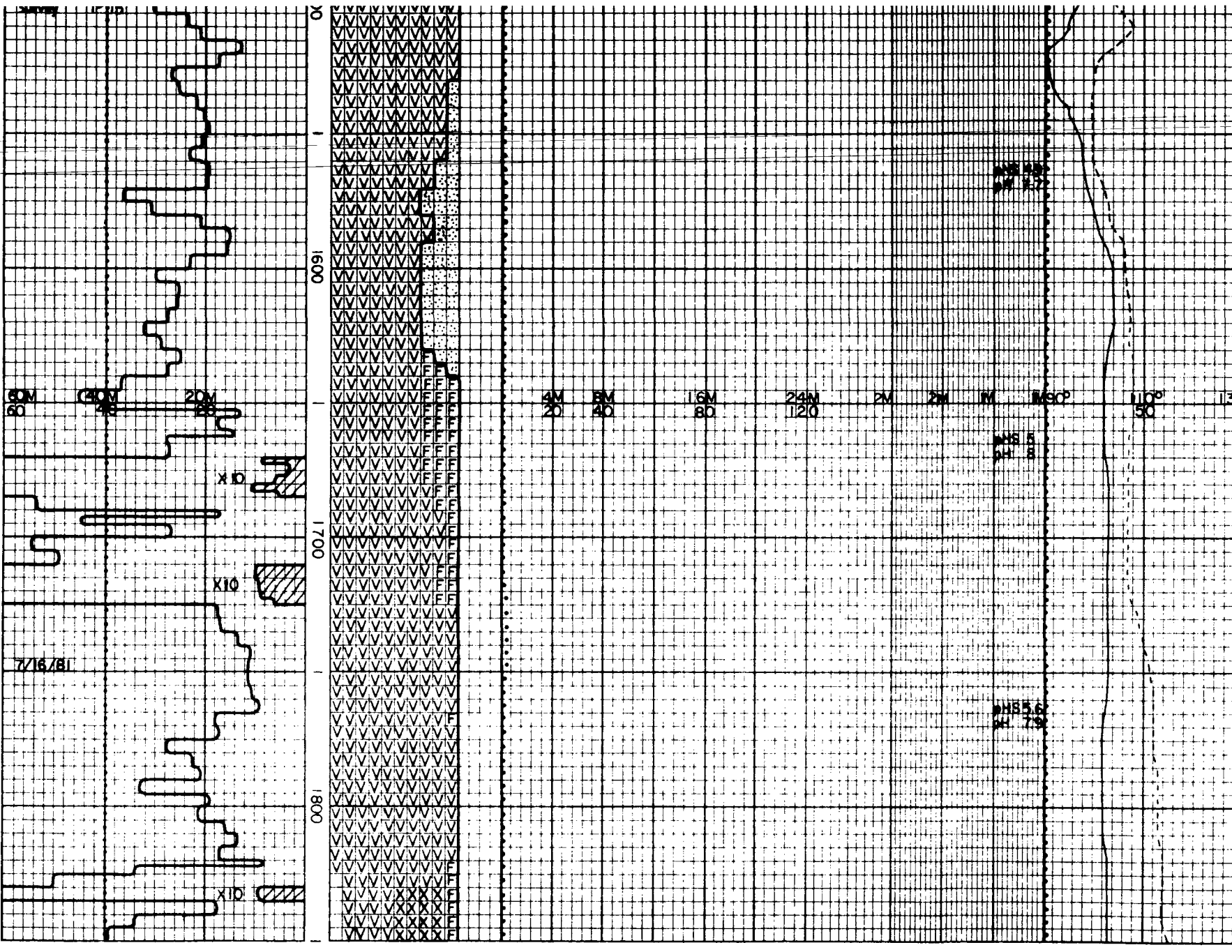
CARBIDE LAG 1483 stks
30units 25min 60cpm

CI- 300

DIAB m-dkgy op-trsl trnsal ophitic text vhd blkly ang sl tr vf-gr olv vf-fgr pyrox vf-fgr plag tr plag inclu

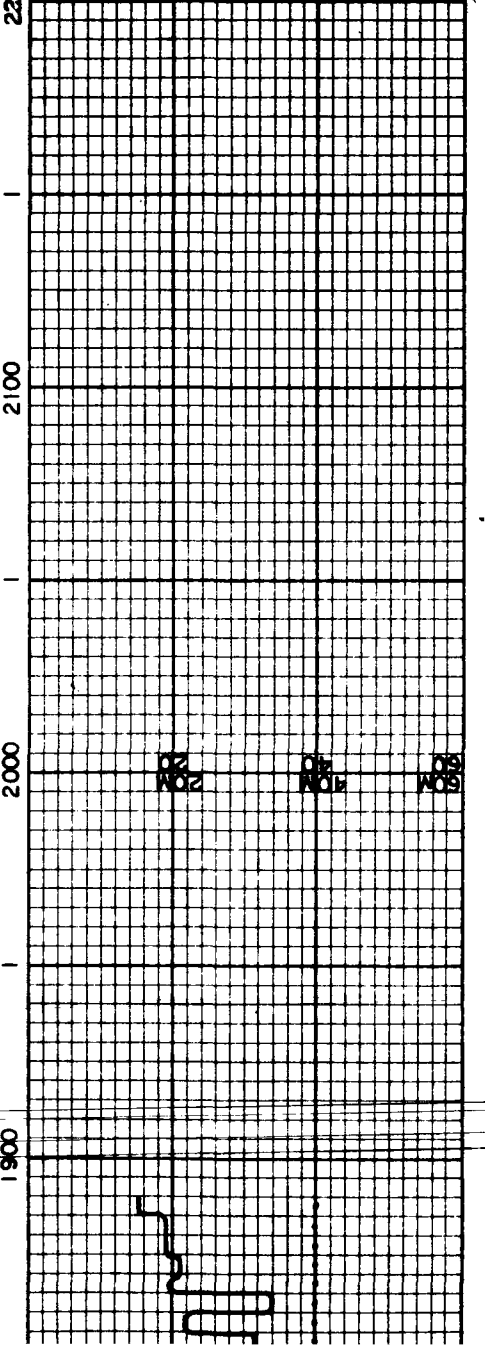
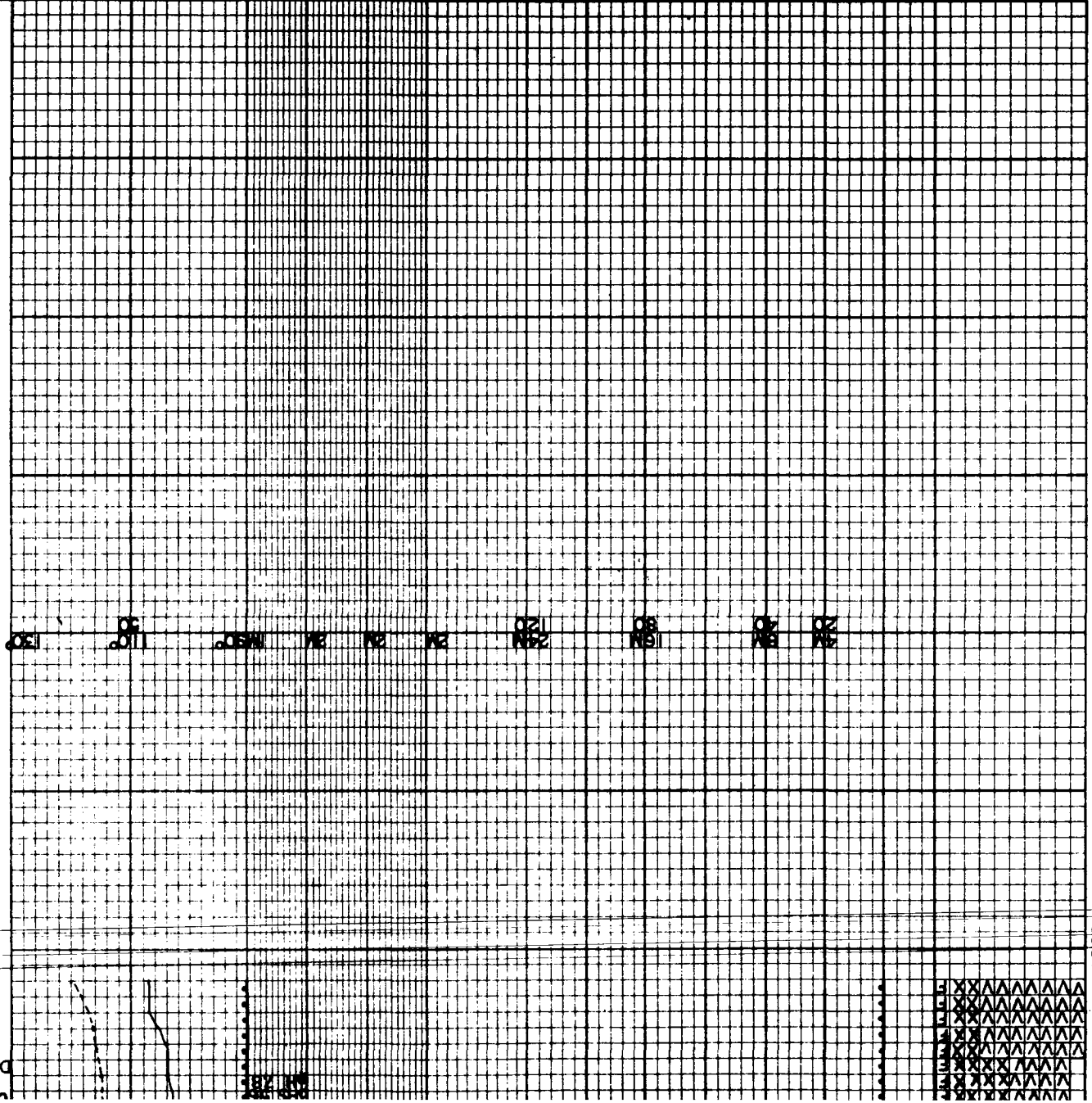
CLY whit-tan sft calc stky vsolu weath feld

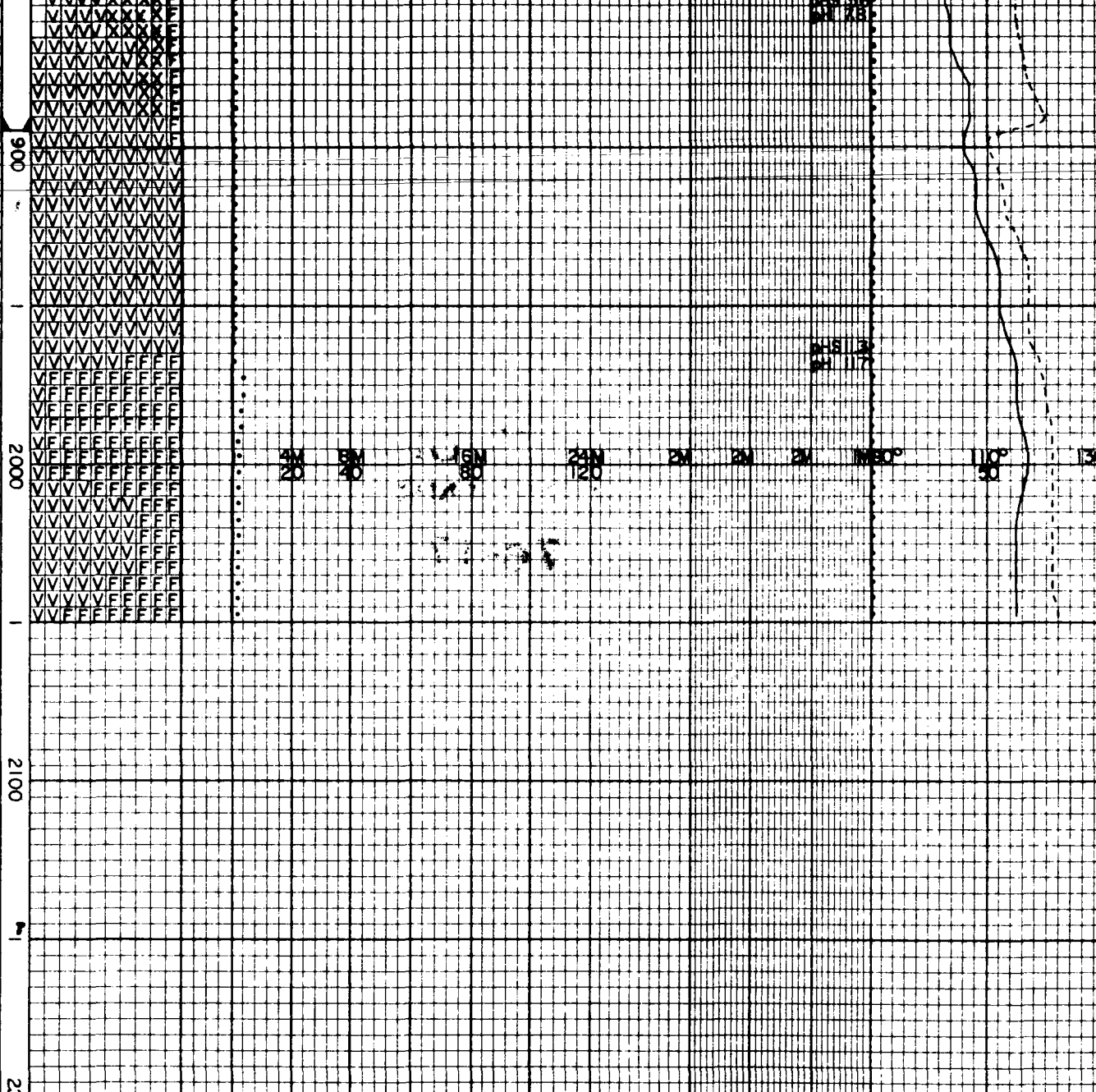
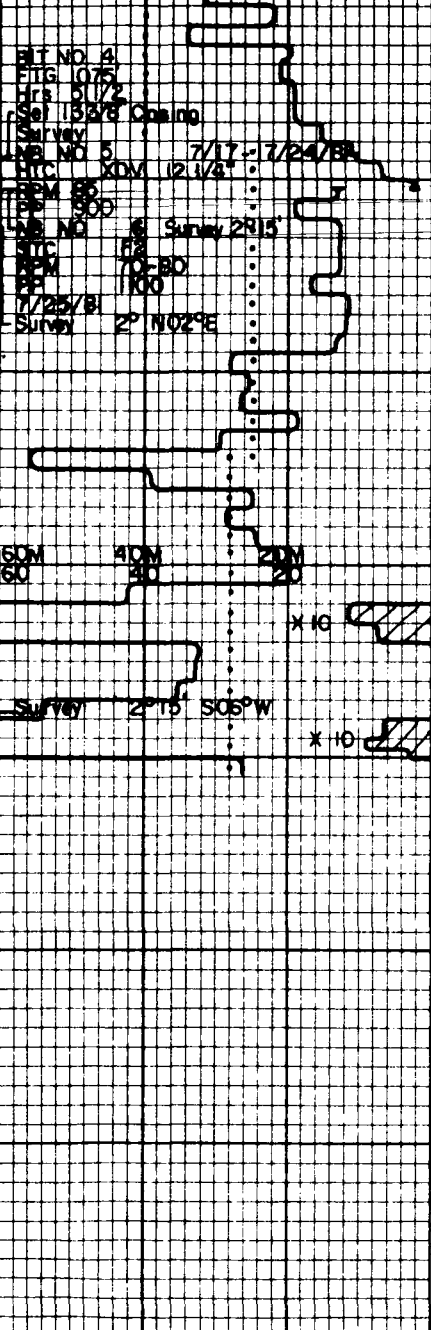
WT 89 pH 8.0
VIS 36 WL NC
FC NC Sol 4



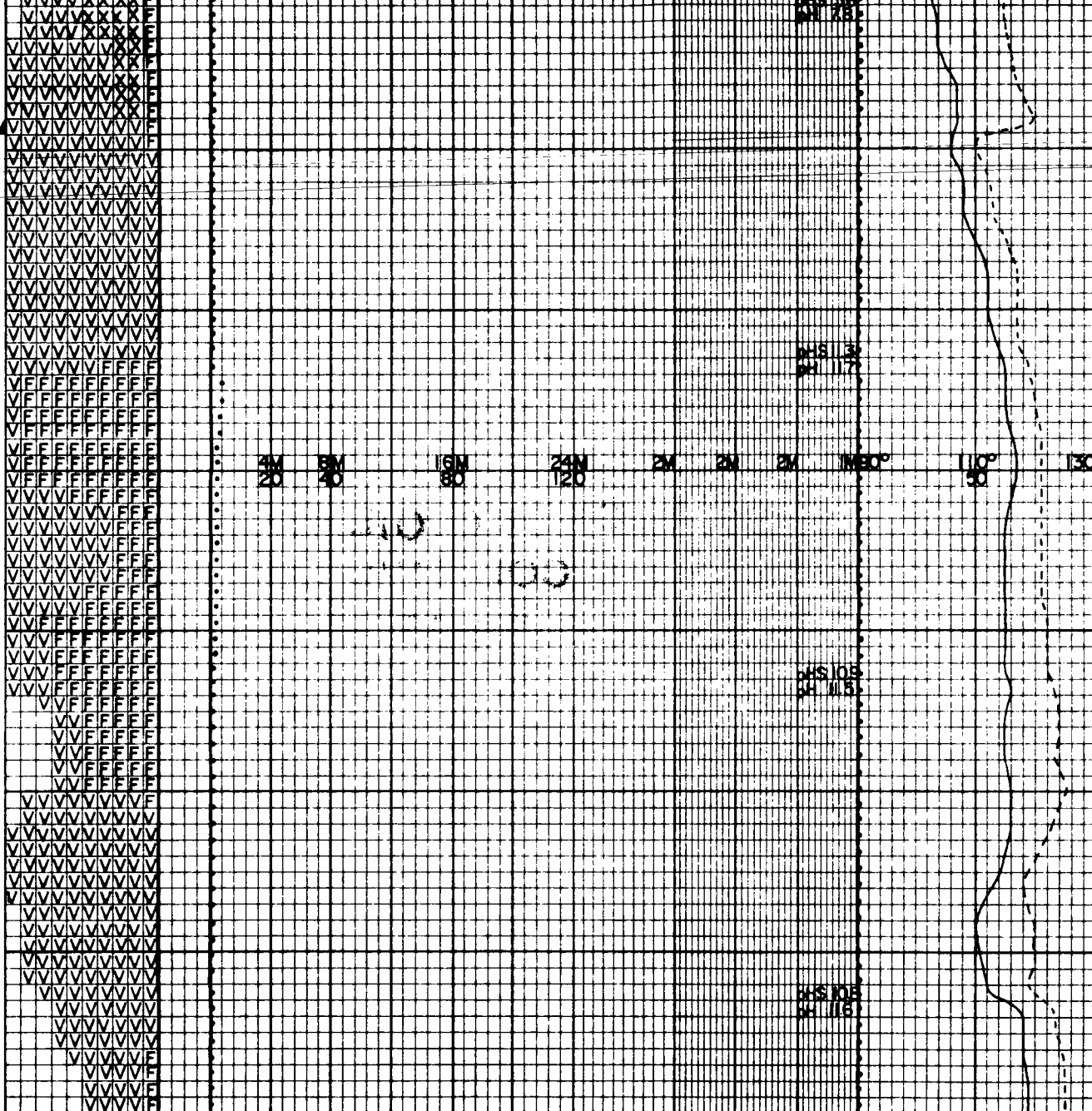
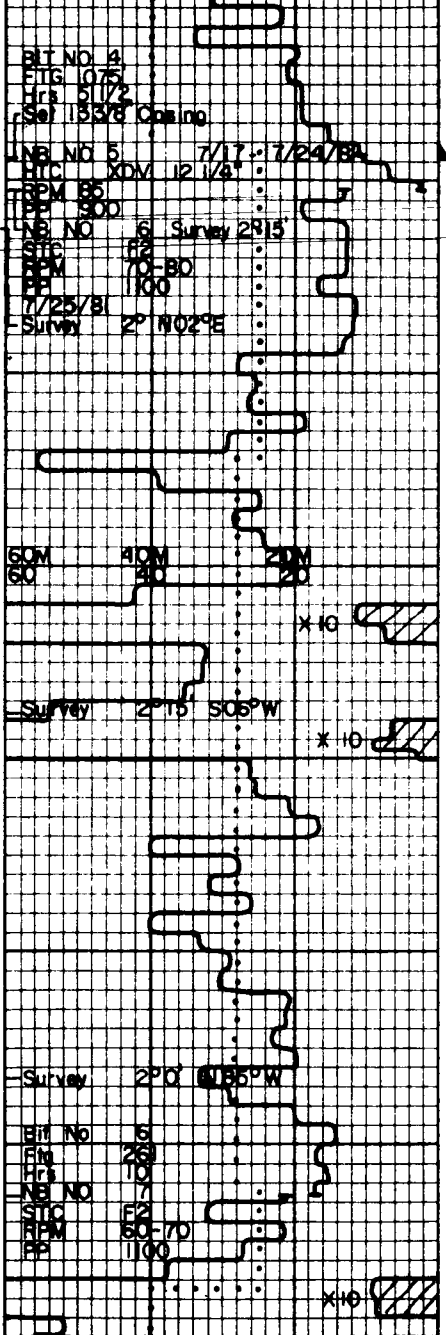
SCU 17 9
felic/dior int wh fl gy
dm sl frt sft-hd dril
ang microxin to gr
fr mot abnt v 1 gr qtz
fr dm, wh gneiss

DIOR

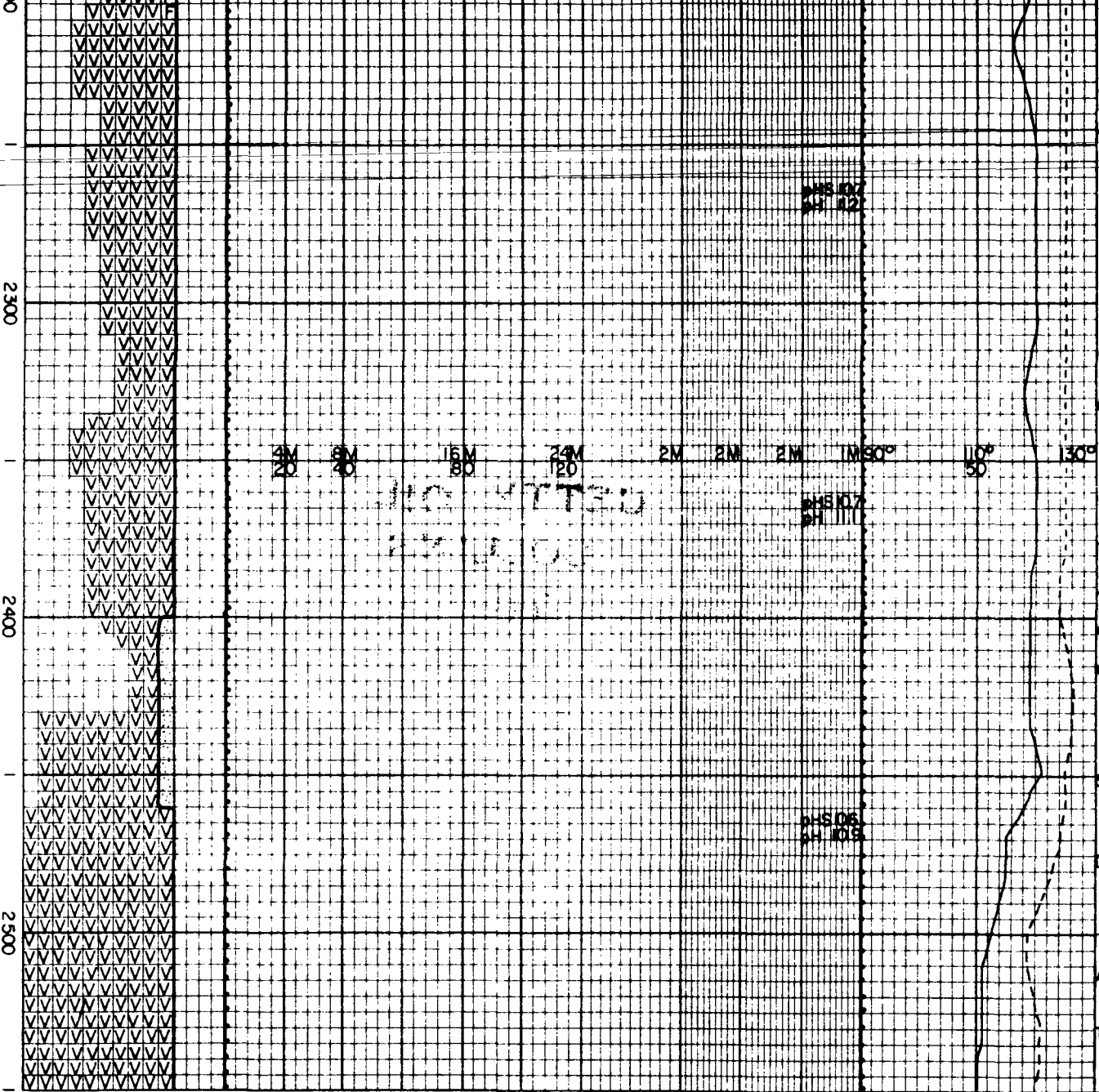
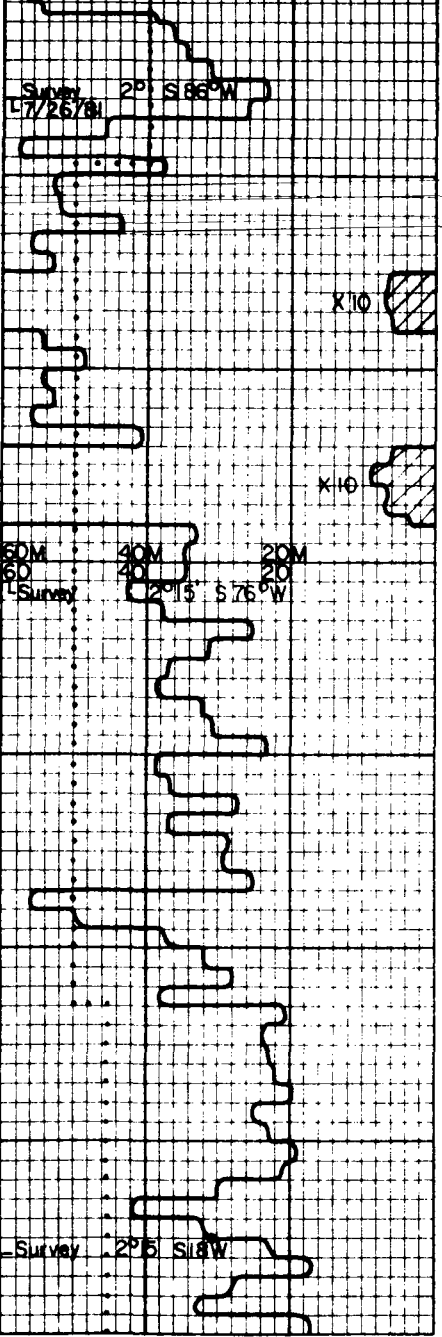




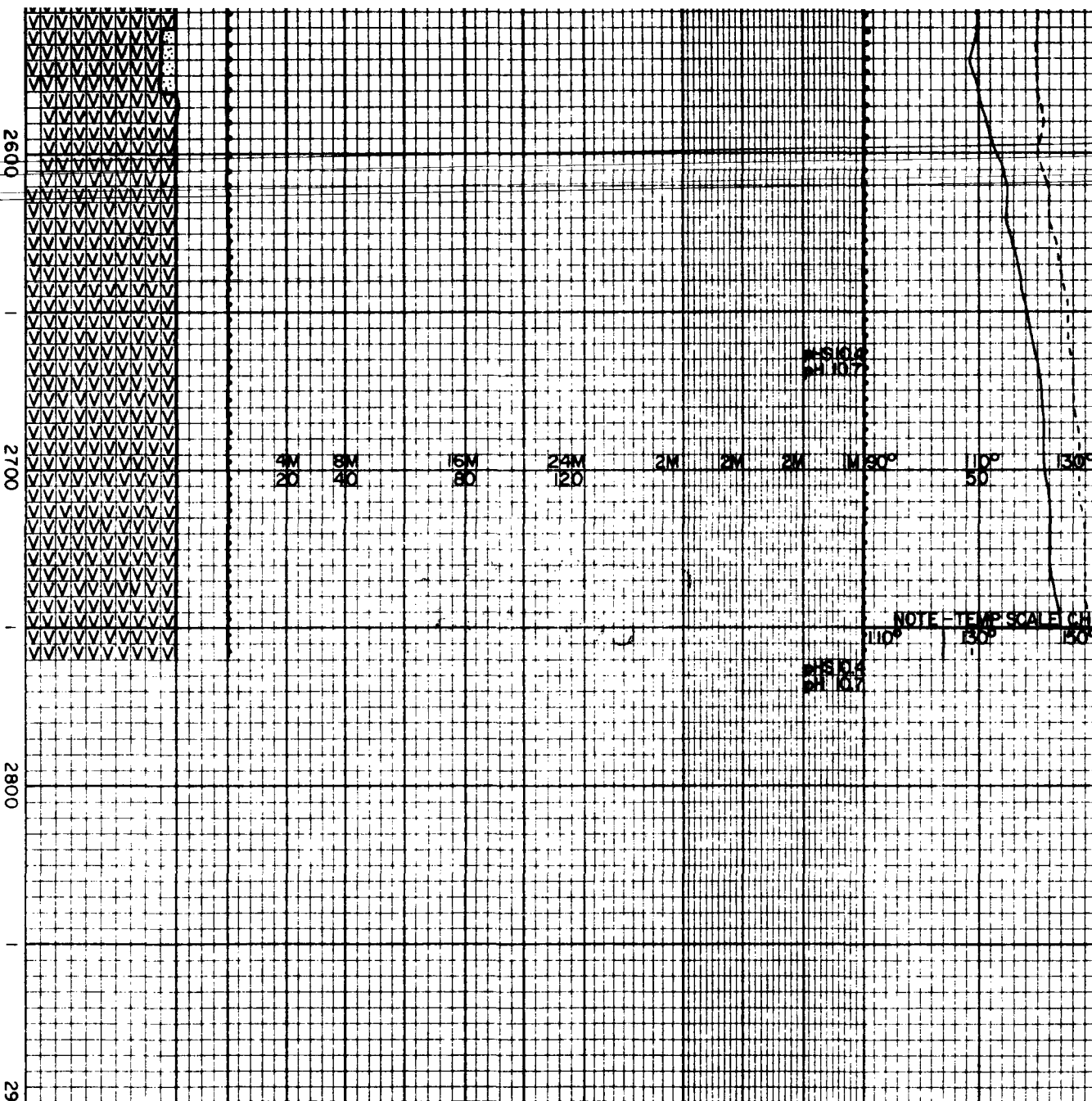
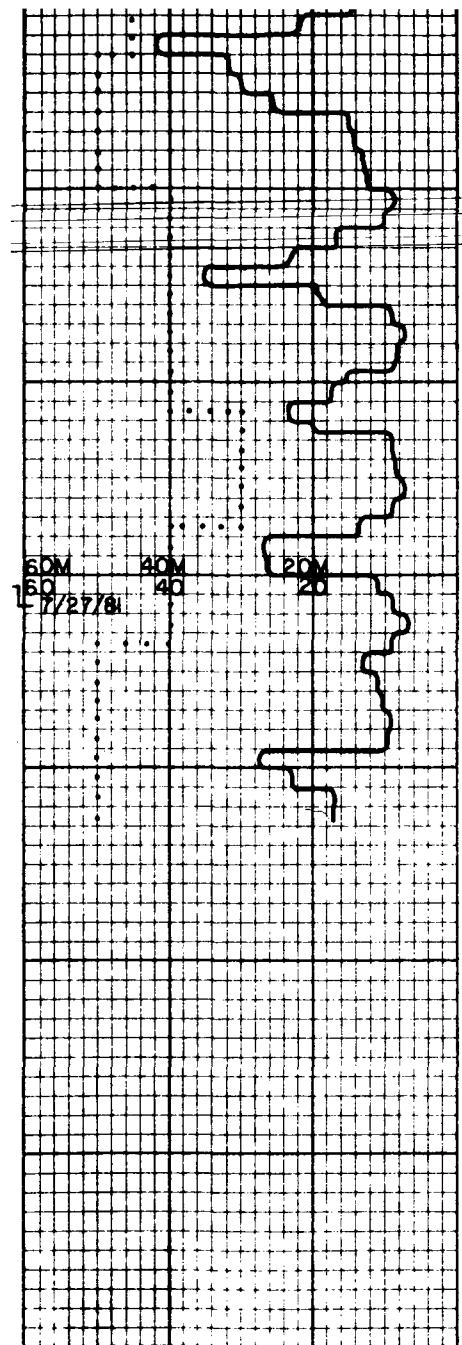
WT 320 TP 9
 DIOR felsic/dior int wh lt gy
 bm al fri sft-hd brit
 ang microxln to f gr
 tr maf abnt v f gr qtz
 tr bm, wh gneiss
 WIDEN HOLE 12 1/4" - 17 1/2"
 FIELD whit micxln mhd brit ang
 blkly-pity occ coarsh frac
 DAC m-occ lty sme porph pred
 ophan-sme v f gr tex vhd
 ang blkly plag tr qtz xtals
 tr pyrox
 CARBIDE LAG 1774 stks
 44 units 29.5 min 60 cpm
 CI- 1425
 H₂ present
 FLD whit micxln sft-mhd massive
 tr mafic pred plag feld weath
 to kaol & calc
 AND whit-ltgy-gn porph hd blkly
 f gr plag & pyrox pheno
 plag weath to kaol abnt
 chlor stn
 WT 8.7 pH 11
 VIS 36 WL 21.8
 FC 3 SOL 3
 CI- 1500 YP 19



DIOR	felic/dior int wh lt gy bm sl tri sft-hd brit ang microxtin to f gr tr maf abnt v f gr qtz tr brn, wh gneiss
WIDEN HOLE	12 1/4"-17 1/2"
FELD	wht mixln mhd brit ang biky-pty occ anch frac
DAC	m-occ lty sme porph pred aphan-sme v f gr tex vhd ang biky plag tr qtz xtals tr pyrox
CARBIDE LAG	1774 stks 44 units 29.5 min 60 cpm
CI-	1425
H ₂ present	
FLD	wht mixln sft-mhd massive tr mafic pred plag feld weath to kaol & calc
AND	wht-lty-gn porph hd biky f gr plag & pyrox pheno plag weath to kaol abnt chlor stn
WT	8.7 pH 11
VIS	36 WL 21.8
FC	3 SOL 3
CI-	1500 YP 19
TR	pyr f-m gr in grd mass
FLD	buff-bgs-wh aph frm- hd spl frac occ sity tr pyr occ weath to lt tn kaol and calc occ grn stn due to chlor
TR	qtz xtals f-c pred m cl- wh
RYL	vol gl pred cl occ brn- gy-bik vhd conc frac
DAC	pepper clrd biky v hd v f qtz grns occ pheno sme pyr occ grd to and
CI-	1540
CLY	tan-lty v sft m-valc silty vsolu pred kaol from alterd plag feld



AND	lt-gy-bn sme wht blu op-sil trnal hd blkly ang aphan-occ porph occ fgr plag & pyrox pheno tr qtz xtals tr mafic sme lim stn sl chlor stn
CI-	975
DAC	wht-lt-gy-bn sme gn aphan-porph op-sil trnal vhd ang blkly plag & pyrox pheno tr mafic & biot plag occ alter to kaol sme chlor stn tr pyr
RYL	wht-lt-gy hd ang blkly aphan-vf-fgr plag & pyrox pheno tr mafic sme chlor stn
CARBIDE	LAG 2330 stks 15 units 40min 58cpm
DIAB	lt-gy-wht-sme bn hd blkly f-mgr plag & pyrox tr mafic & biot sme chlor stn occ plag weath to kaol
CLY	gn-gn-gy vsft m-v calc stky vsolu
TR	chlorite
WT	8.9 pH 11
VIS	40 WL 20.4
FC	3 SOL 4
CI-	700 YP 25
CLYST	lt-m gn occ gy brn frm mass-blky occ wxy sl-m calc stky and sndy i/p chlor stn sl bent grds to cly
SND	f-m cl-milky wh occ gm tnt sa-sr occ xtals strf pred qtz occ tuang to form qtzf
DAC	pepper clrd aphan but occ qtz and plag pheno grdmass vf qtz blkly occ spl
TR	vf pyr grns
AND	m-d gy aphan blkly hd sme qtz grns in matrix
TR	m-c qtz grns and xtals pred milky occ cl and grns tnt



CI - 450

QTZ f-c pred c pred xtals
sme sph balls and ang
grns

CARBIDE LAG 2627 stks
165-units 45-mins 58-cpm

BENT It tr-tr pily frm-sft
wxy expands and decays
when exposed to water

DAC It-mgy aphan-vf grttx
sme porph vhd ang bily
f-m plag pheno vf-f pyrox
pheno sl tr qtz xtals tr chlor
stn in plag

AND wht-ltgy aphan-vf grttx
hd ang bily occ plag pheno
sme pyrox pheno occ vf qtz
xtals tr chlor stn in plag

CI - 350

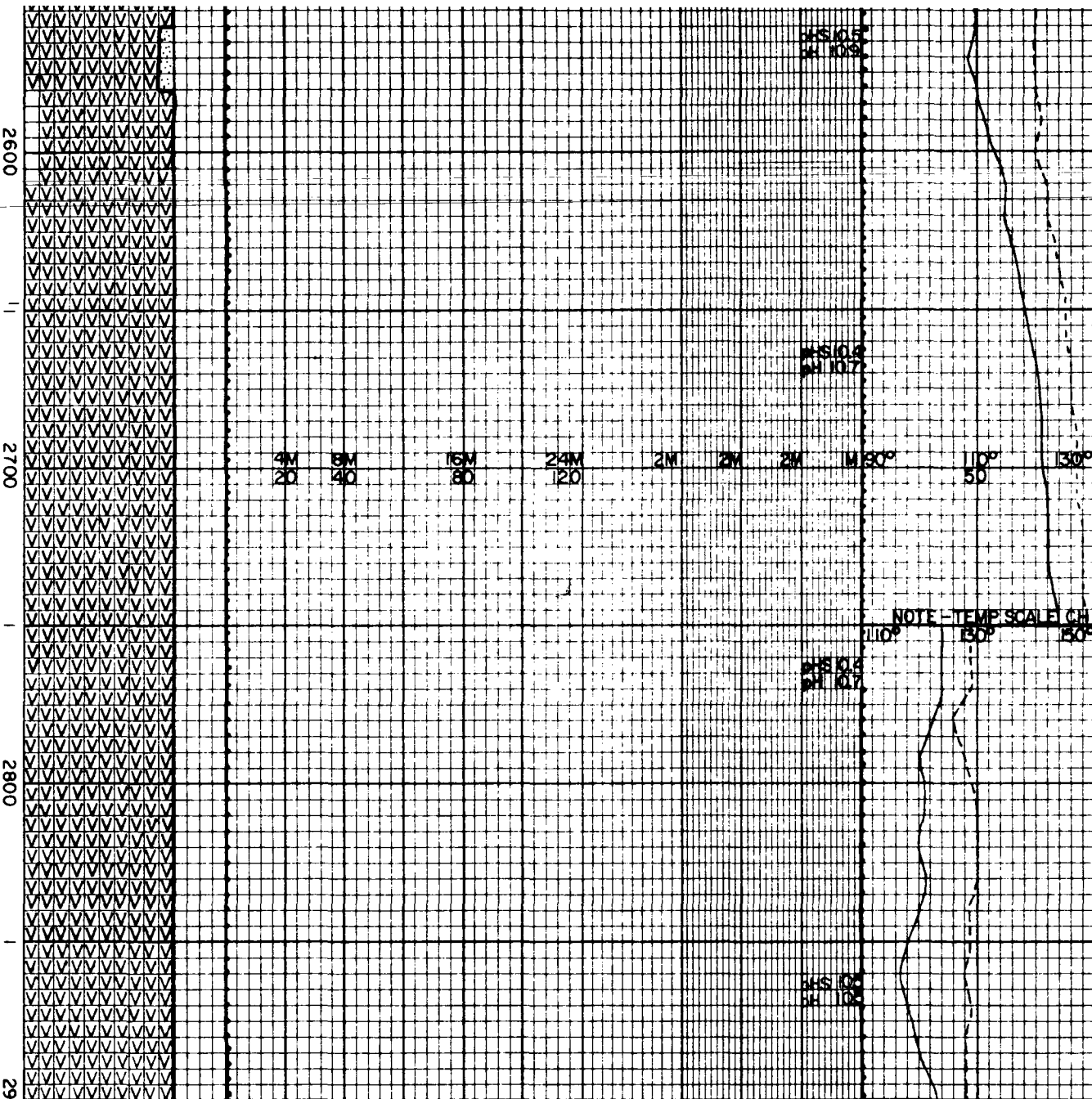
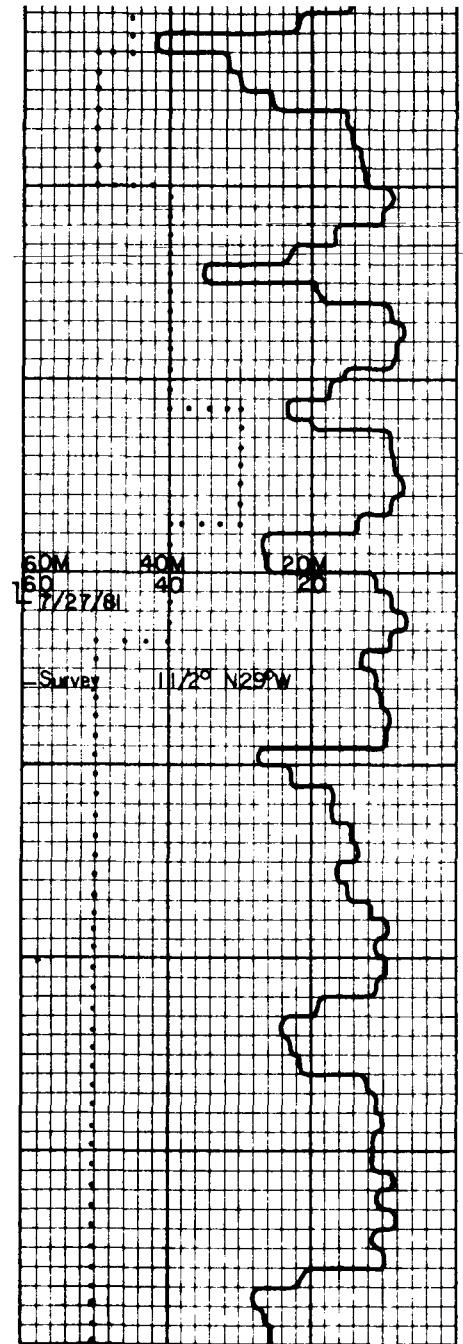
TR bas dk gy trgn & rd aphan
f-mgr olv & plag pheno vf
gr pyrox pheno tr lim &
chlor stn

WT 8.9 pH 11

VIS 35 WL 22.4

FC 3 SOL 4

CI - 300 YP 11



CI - 450

QTZ f-c pred c. pred xtals
sme sph balls and ang
grns

CARBIDE LAG 2627 stks
165 units 45 mins 58 cpm

BENT litn-tn pty frm-stf
wxy expands and decays
when exposed to water

DAC lit-mgy aphan-vf gr tex
sme porph vhd ang blkly
f-m plag pheno vf-f pyrox
pheno sltr qtz xtals tr chlor
stn in plag

AND wht-litgy aphan-vf gr tex
hd ang blkly occ plag pheno
sme pyrox pheno occ vf qtz
xtals tr chlor stn in plag

CI - 350

TR bas dk gy trgn & rd aphan
f-mgr olv & plag pheno vf
gr pyrox pheno tr lim &
chlor stn

WT 8.9 pH 11

VIS 35 WL 22.4

FC 3 SOL 4

CI - 300 YP 11

AND m-dk gy occ gn stn pred
aphan occ lit gn wxy frm
-stf chlor pheno sme
qtz frac fill

BAS m-dk gy v hd blkly obnt
cl-miky wh occ grn fnt
qtz frac fill sme pyr grm

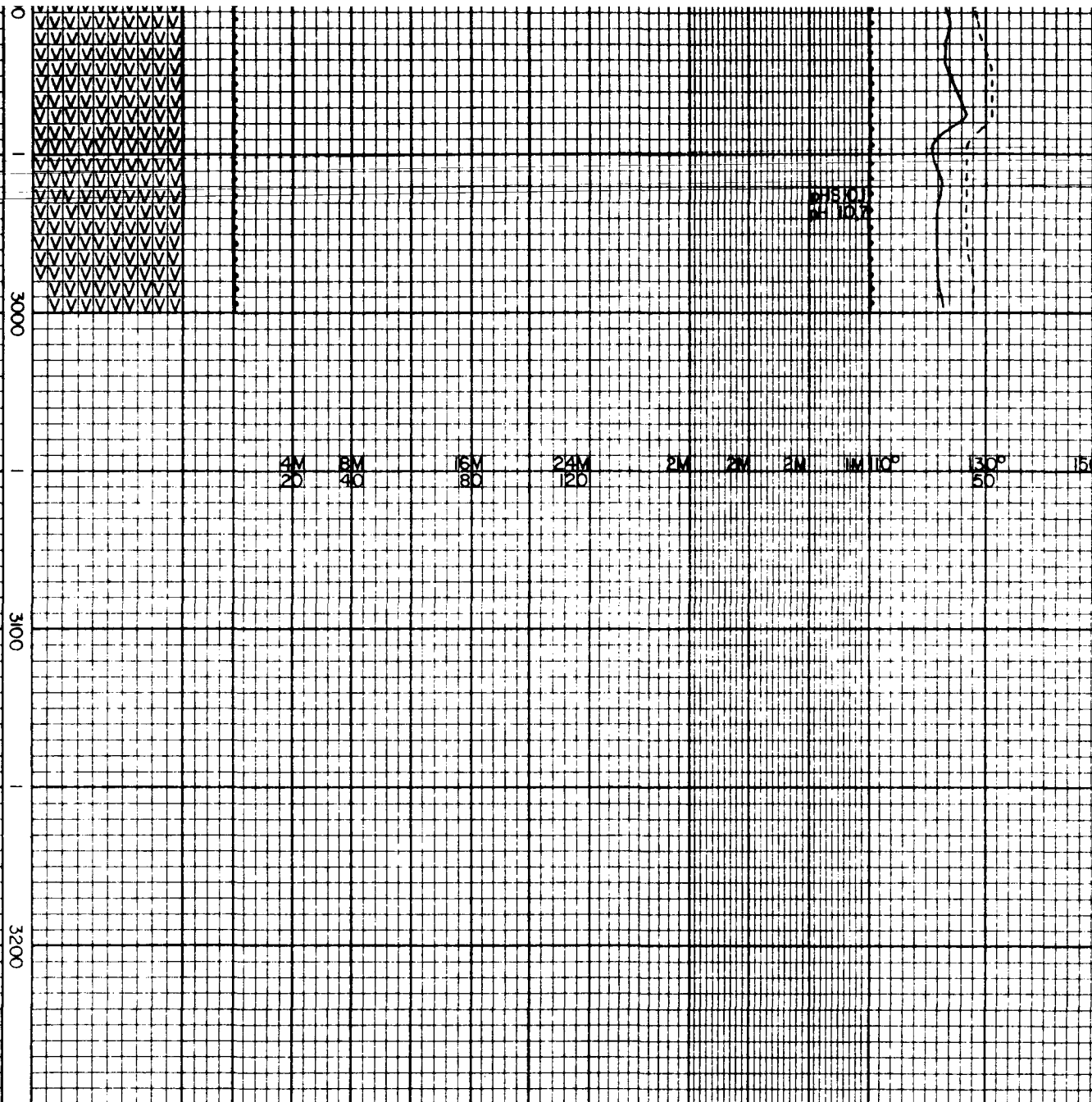
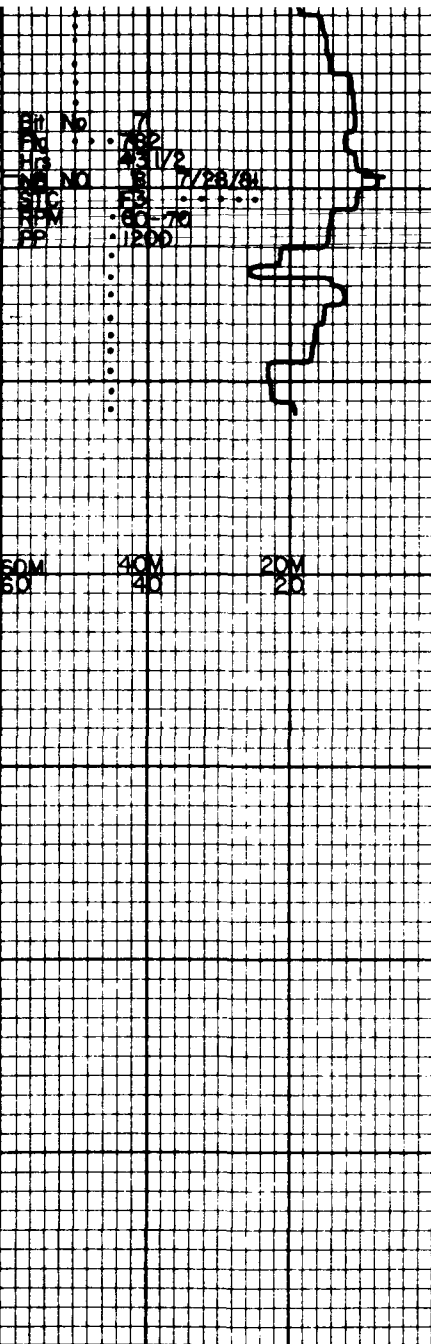
TR clyst lit tan-brn frm-stf
bent

BAS m-dk gy hd-vhd blkly
occ qtz frac fill sme
rd fe stn occ sl cal

CI - 280

NOTE seems to be increase in
qtz frac fill with increase
in drilling rate

TR calc xtals



BAS m-dk gy nd bky-spl
 abnt wh qtz frac fill
 tr chlor

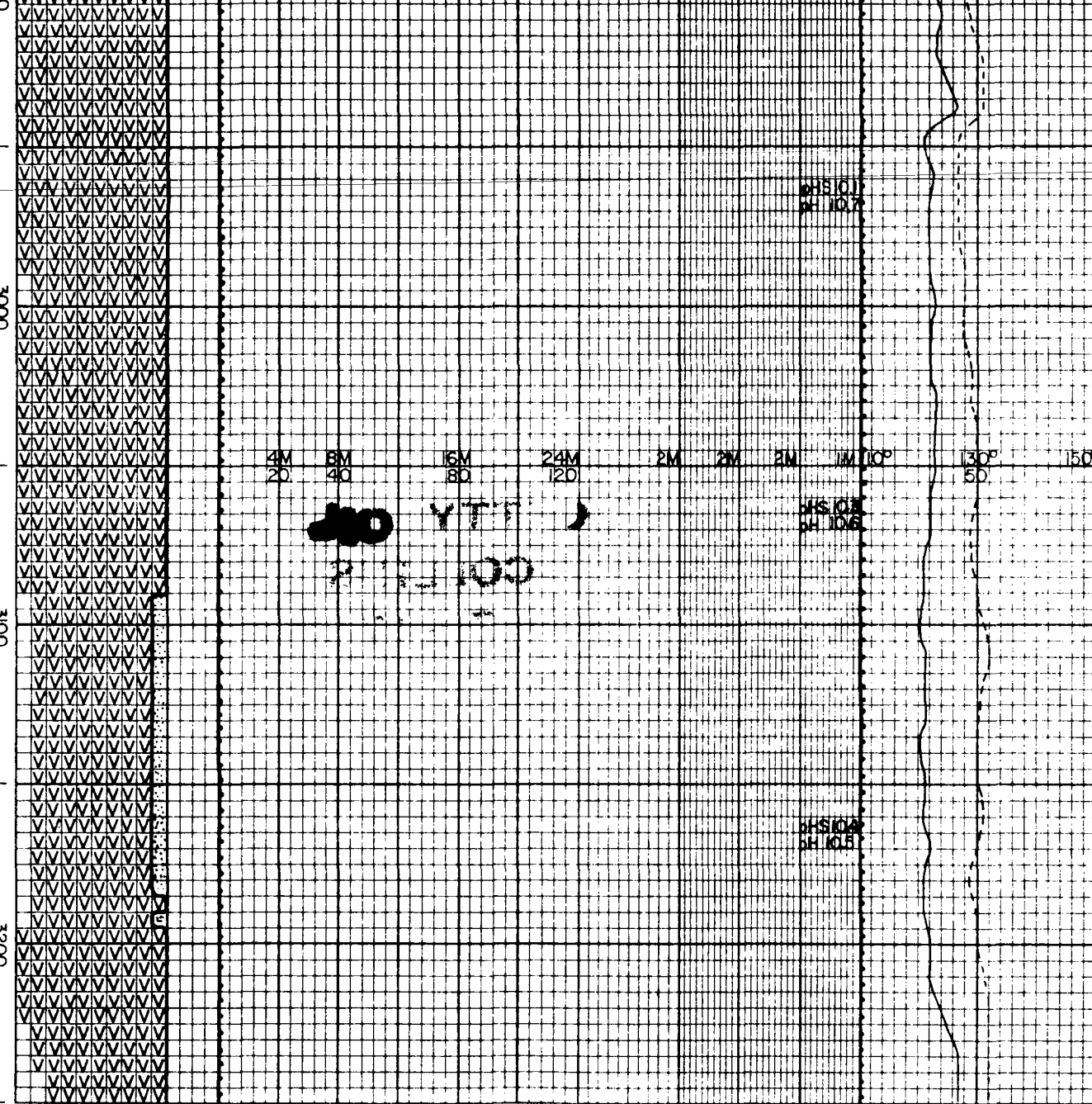
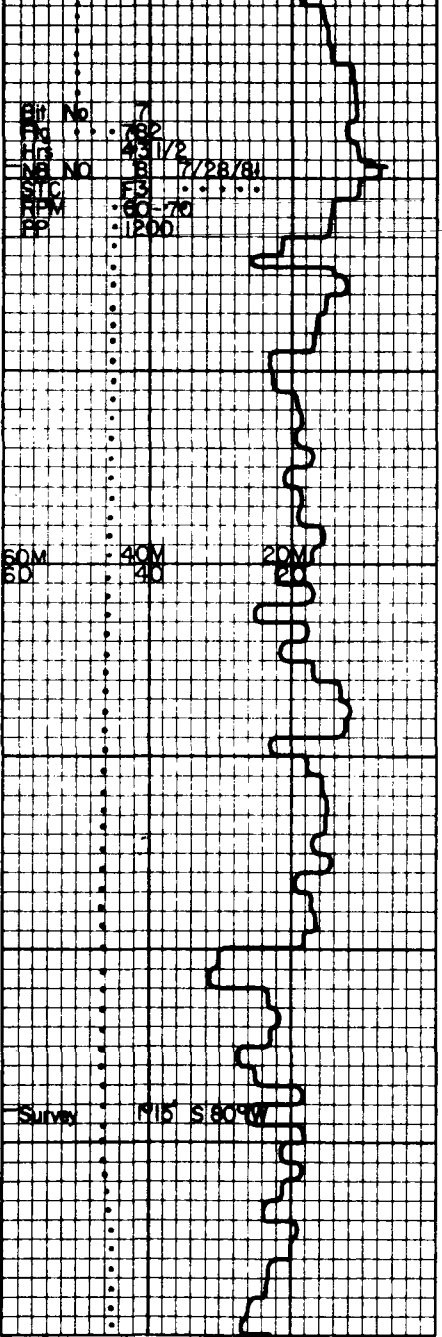
AND gy aphan-vf gr tex vhd ang
 biky vf gr plag pheno vf gr
 pyrox pheao tr qtz idals tr
 calc frac fill

CI- 325

CARBIDE LAG 3060 shes
 126 units 53min 58cpm

BAS m-dk gy sme bn rd aphan-
 porph vhd ang biky vf olv
 pheno f-m plag pheno vf-
 f pyrox pheno bn rd lim stn
 occ gn chlor stn in plag tr
 qtz frac fill

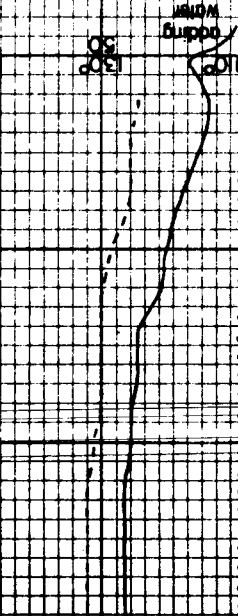
WT 8.9 pH 10.5
 VIS 35 WL 21.8
 FC 3 SOL 4
 CI- 300 YP 17



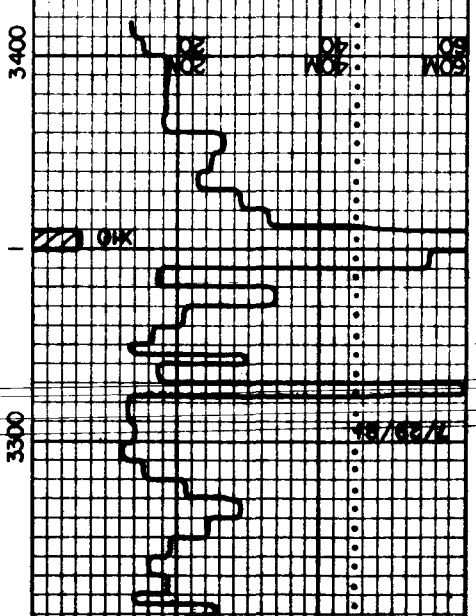
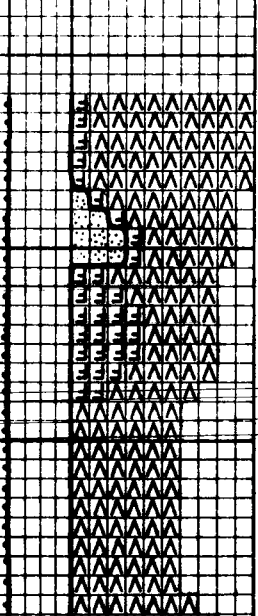
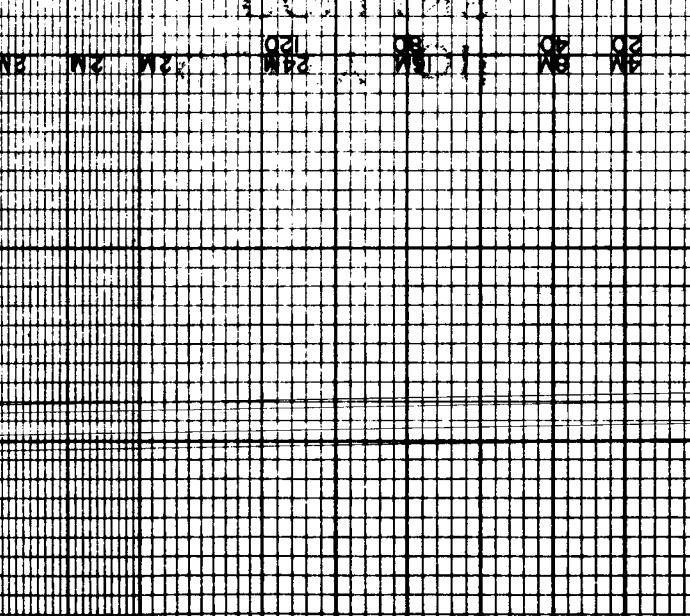
BAS m-dk gy hd blk-y-spl
 abnt wh qtz frac fill
 tr chlor
 AND gy aphan-vf gr tex vhd ang
 blk-y vf gr plag pheno vf gr
 pyrox pheno tr qtz xtals tr
 calc frac fill
 CI- 325
 CARBIDE LAG 3060 strk
 126 units 53 min 58 cpm
 BAS m-dk gy sme bn rd aphan-
 porph vhd ang blk-y vf oliv
 pheno f-m plag pheno vf-
 f pyrox pheno bn rd lim stn
 occ gn chlor stn in plag tr
 qtz frac fill
 WT 8.9 pH 10.5
 VIS 35 WL 21.8
 FC 3 SOL 4
 CI- 300 YP 17
 TR calc xtals
 DIAB m-dk gy brn occ brk rd
 and gn stn hd blk-y occ
 sl pty sme qtz frac fill
 tr calc frags
 BAS lt grn-m grn stn blk-y-
 mass hd vf-f qtz xtals
 occ calc xtals alt to snd
 koal sme vf oliv grns in
 matrix grdg to diab
 QTZ f-c pred m cl-wh occ
 gn and yw tnt occ fus
 to form qtz f m calc cmt
 CI- 250
 BAS lt grn-m grn occ dk gy
 mass m calc often alt
 to clyst grdg-diab
 TR rhy glass multiclrd and
 ch1
 CLY tan-lt gy vsft calc slstky
 vsolu sl koal
 DAC lt-mgy-gn gy-gn vf gr tex
 hd blk-y f-occ m plag pheno
 vf-occ pyrox pheno sme
 vf qtz xtals occ chlor stn
 AND gn gy-gn vf gr tex hd blk-y
 ang vf-f plag & pyrox pheno
 sltr vf gr qtz xtals

tan-ywbn-in sft-wfrm ang
 bily m-v-coalc sme grdg to
 cly
 gv-gy gn vf-fgr tek hd bily
 occ ang f-m plug pheno vf-
 f pyrox pheno fr vf qtz hole
 abnt chlcr sht grdg fo des
 dk-gy-blk ophan vhd ang
 bily vf plug @ pyrox pheno
 fr vf olv pheno
 300
 crmy-wht mckdn vfrm-hd
 ang bily occ conch frac vf-
 sme m pyrox pheno sht bld
 CARBIDE LAG
 3350 sths
 59cpm
 57mm
 WT 8.7
 VIS 37
 FC 300
 CI- 300
 PH 10.5
 WL 22.6
 SOL 4
 YP 14

CLYST
 DIAB
 BAS
 FLD
 CI-
 CI-
 ISO
 ISO



PH 10.5
 PH 10.5
 PH 10.6



36

3500

3400

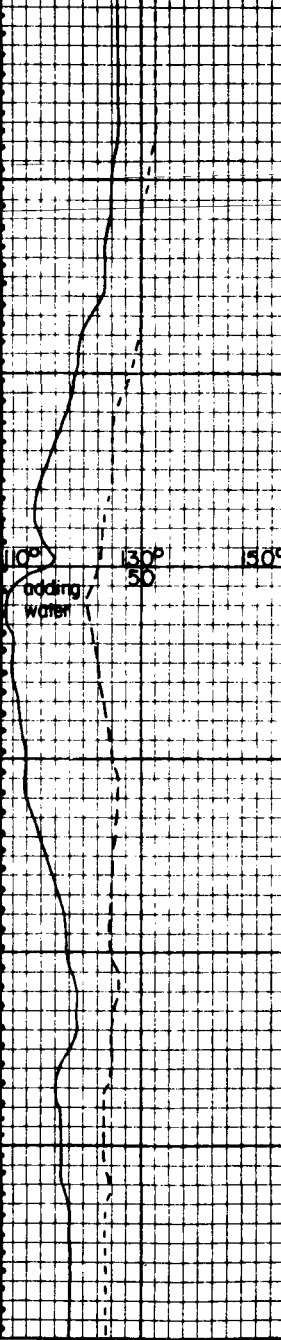
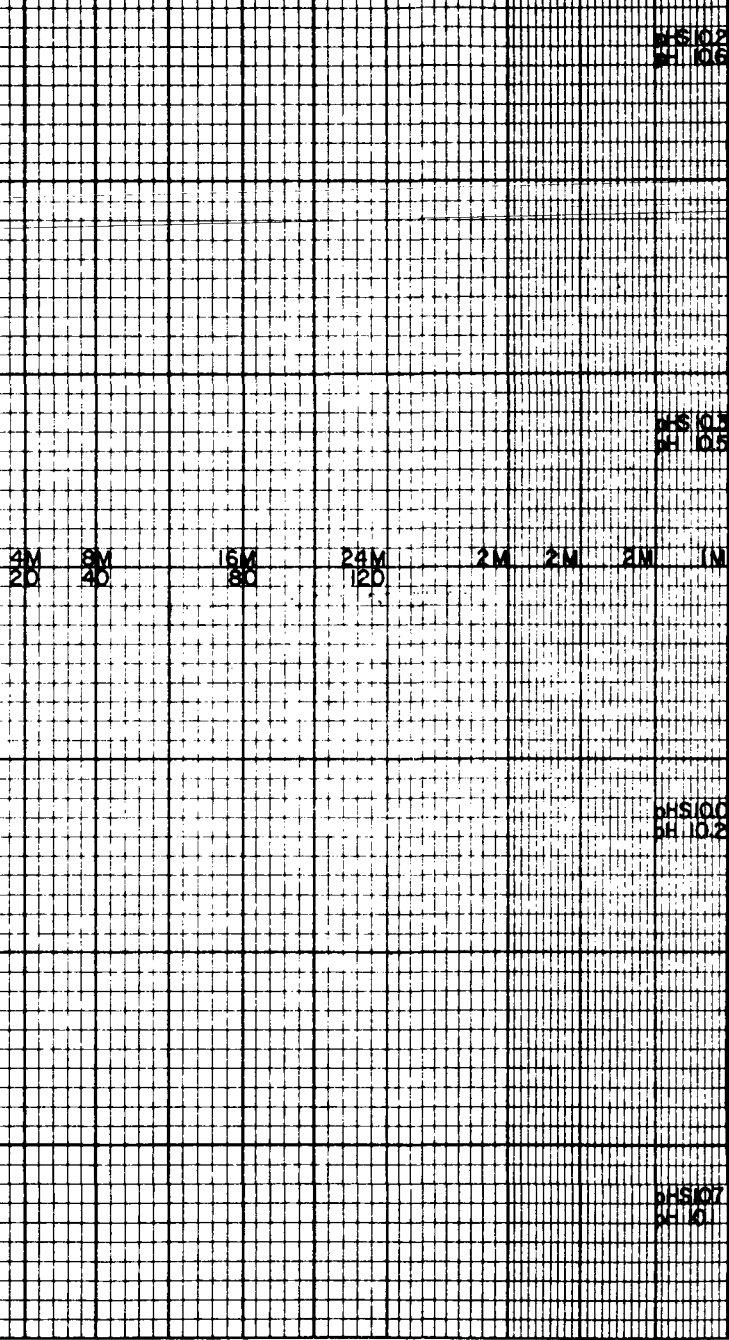
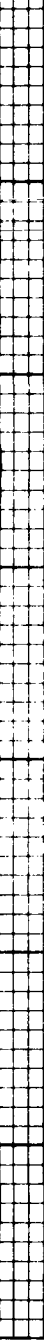
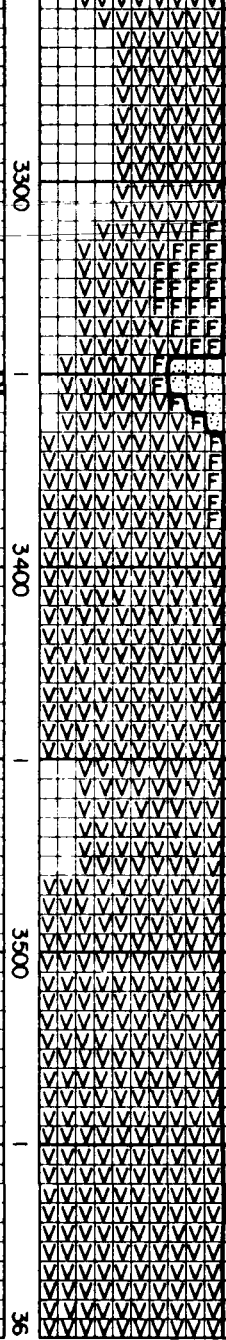
3300

7/29/BL

60M 40M 20M

Survey 2PD 580°W

x10



CLYST tan-ywbn-bn sft-slfrm ang
blky m-v calc sme grdg to
cly

DIAB gy-gy gn vf-fgr tex hd blky
occ ang f-m plag pheno vf-
fpyrox pheno tr vf qtz xtals
abnt chlor stn grdg to dec

BAS dk gy-blk aphan vhd ang
blky vf plag B pyrox pheno
tr vf ol pheno

CI- 300

FLD crmy-whit micxn vfrn-hd
ang blky occ conc frac vf-
sme m pyrox pheno sl tr biot

CARBIDE LAG 3350 stks
65 units 57 min 59 cpm

WT	8.7	pH	10.5
VIS	37	WL	22.6
FC	3	SOL	4
CI-	300	YP	14

DAC lt gy-lt gn hd blky occ
sl plty micxtln aphan
occ conc frac tr pyr
alt to dk gy-brk brn
kaol

BAS dk gy-blk aphan blky
vhd tr pyr occ v thin
qtz frac fill

CLYST brk brn occ sl gy sty
plty-blky sl cal

CI- 270

TR calc xtals

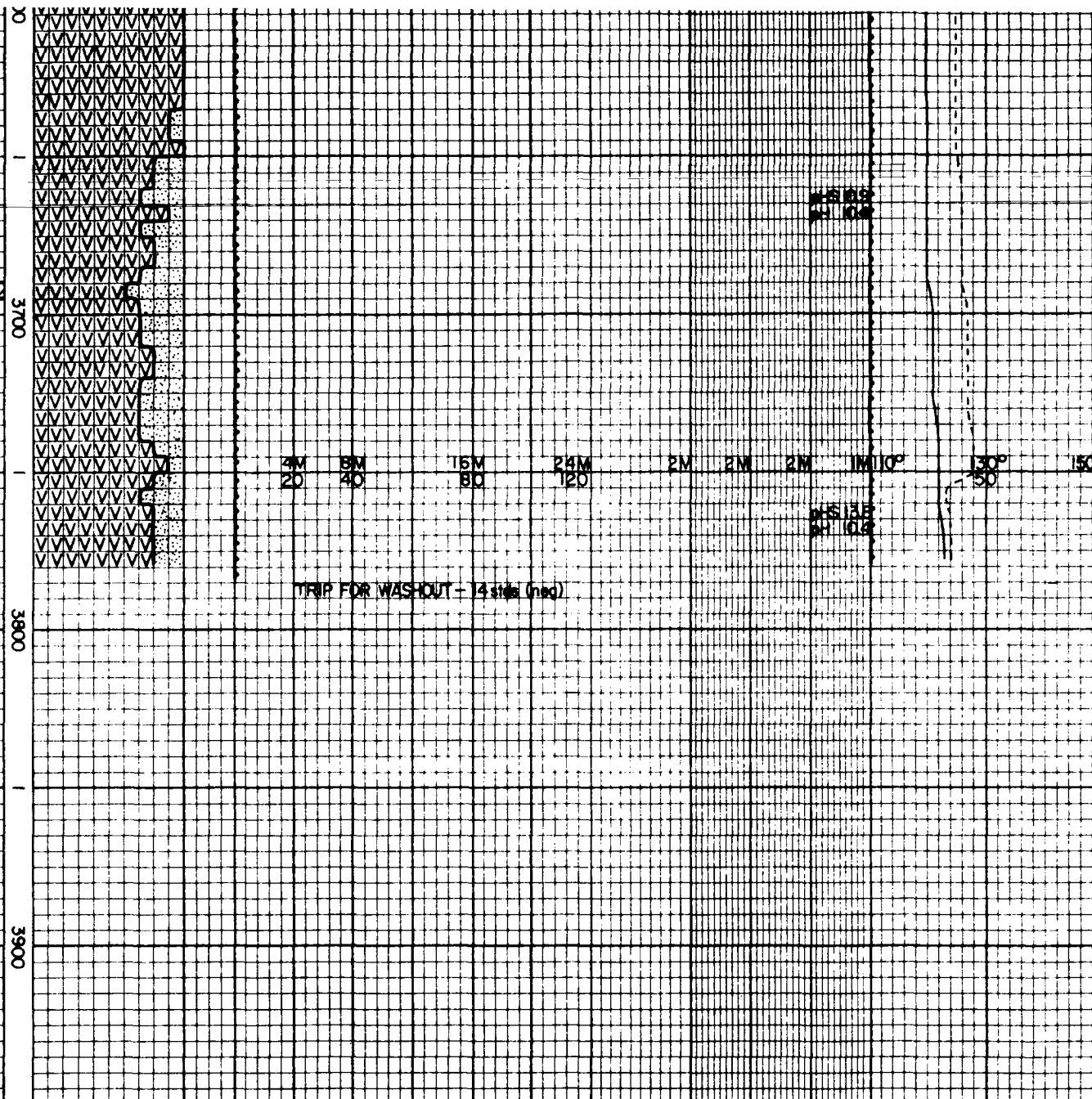
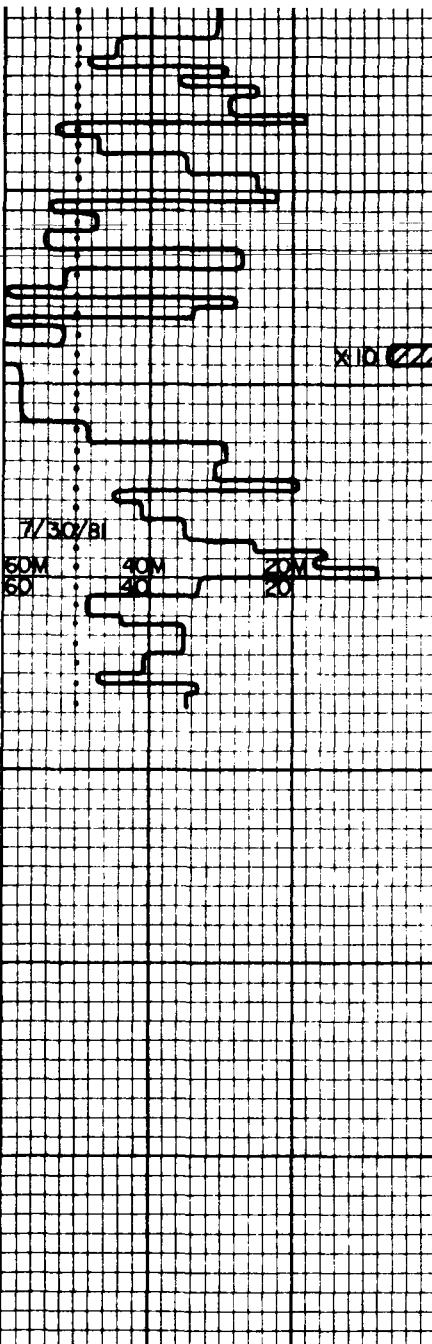
BAS blk occ dk gy aphan blky
micxtln v hd sme qtz
frac fill

TR m-t qtz grns cl-wh

BAS dk gy-blk sme gy aphan vhd
ang blky vf-occ m plag pheno
vf-tr pyrox pheno tr qtz B
calc frac fill

TR pyrite

AND m-occ dk gy aphan hd ang
blky vf plag B pyrox pheno
sme pyr B gn chlor stn



TR qtz from frac fill & vns
whi f-mgr hd blk

BAS dk gy-blk sme gy aphan
vhd blk occ ang vf-f plag
pheno vf pyrox pheno
occ pyr

CARBIDE LAG 3910 stks
136 units 65min 60cpm

QTZ gy hd blk m-vang sme
conch frac fld vnlts pyr
qtz is from vns

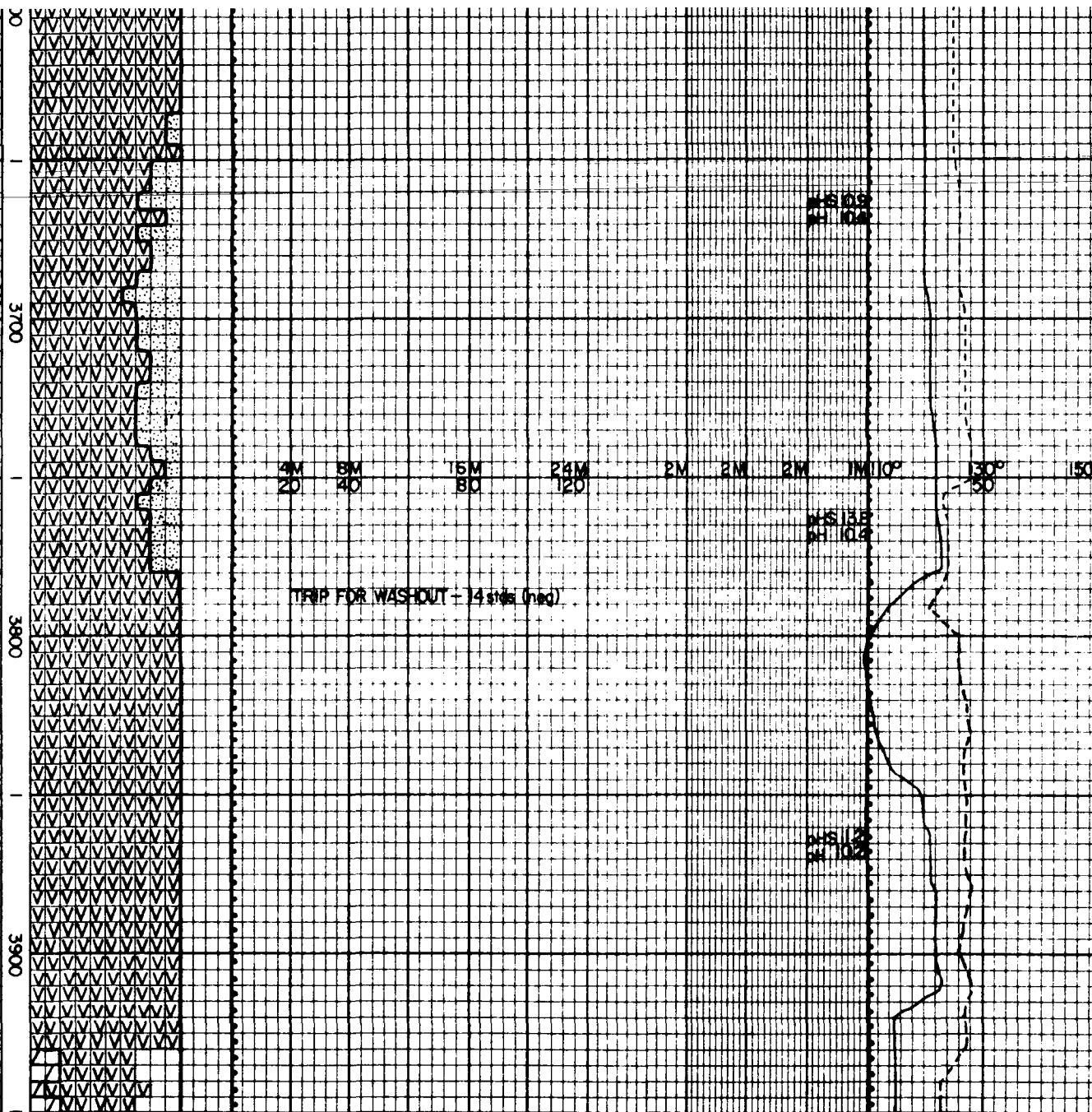
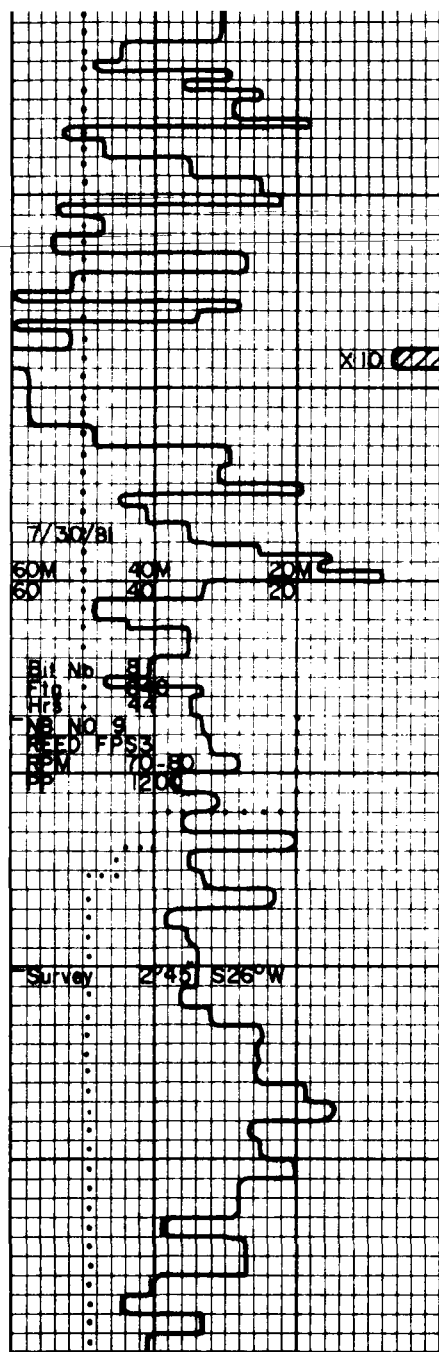
BAS m-dk gy-sme blk aphan
vhd ang blk vf-f plag
pheno vf pyrox pheno occ
pyr qtz-occ calc & fld frac
fill trgn chlor sm

CI- 300

QTZ gy-ft bn mic ln trnsl hd m-
vang blk sme conc frac
fld vnlts pyr qtz is from vns

HOLE PROBLEMS AFTER
WASHOUT TRIP
IS OF HOLE FILL

WT	7	pH	10.6
VIS	35	WL	22
FC	3	SOL	4
CI-	300	YP	11



TR qtz from frac fill & vns
wht f-mgr hd blk y

BAS dk gy-blk sme gy aphan
vhd blk occ ang vf-f plag
pheno vf pyrox pheno
occ pyr

CARBIDE LAG 3910 stks
136 units 65min 60cpm

QTZ gy hd blk y m-v ang sme
conc frac fld vns pyr
qtz is from vns

BAS m-dk gy-sme blk aphan
vhd ang blk vf-f plag
pheno vf pyrox pheno occ
pyr qtz-occ calc B fld frac
fill trgn chlor sm

CI- 300

QTZ gy-ftbn micxn trnsi hd m-
v ang blk sme conc frac
fld vns pyr qtz is from vns

HOLE PROBLEMS AFTER
WASHOUT TRIP
15 OF HOLE FILL

WT	7	pH	10.6
MS	35	WL	22
FC	3	SOL	4
CI-	300	YP	11

BAS blk occ dk gy blk occ
ang vhd aphan occ v
thn frac fill tr pyr

TR calc xtals

BAS blk occ dk gy occ ang
blk y vhd tr qtz xtals
and v thn veins frac fill

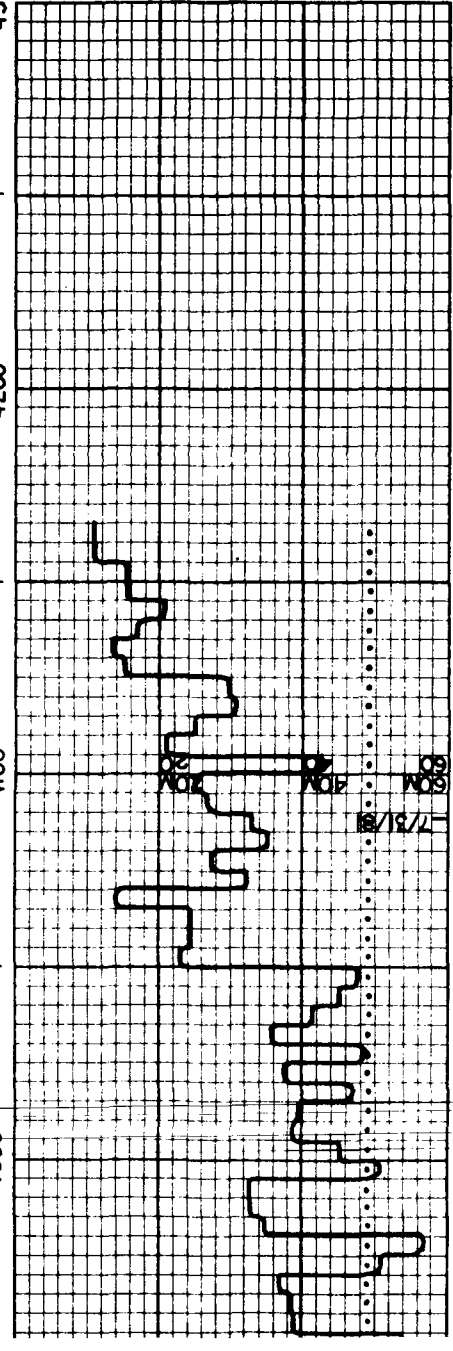
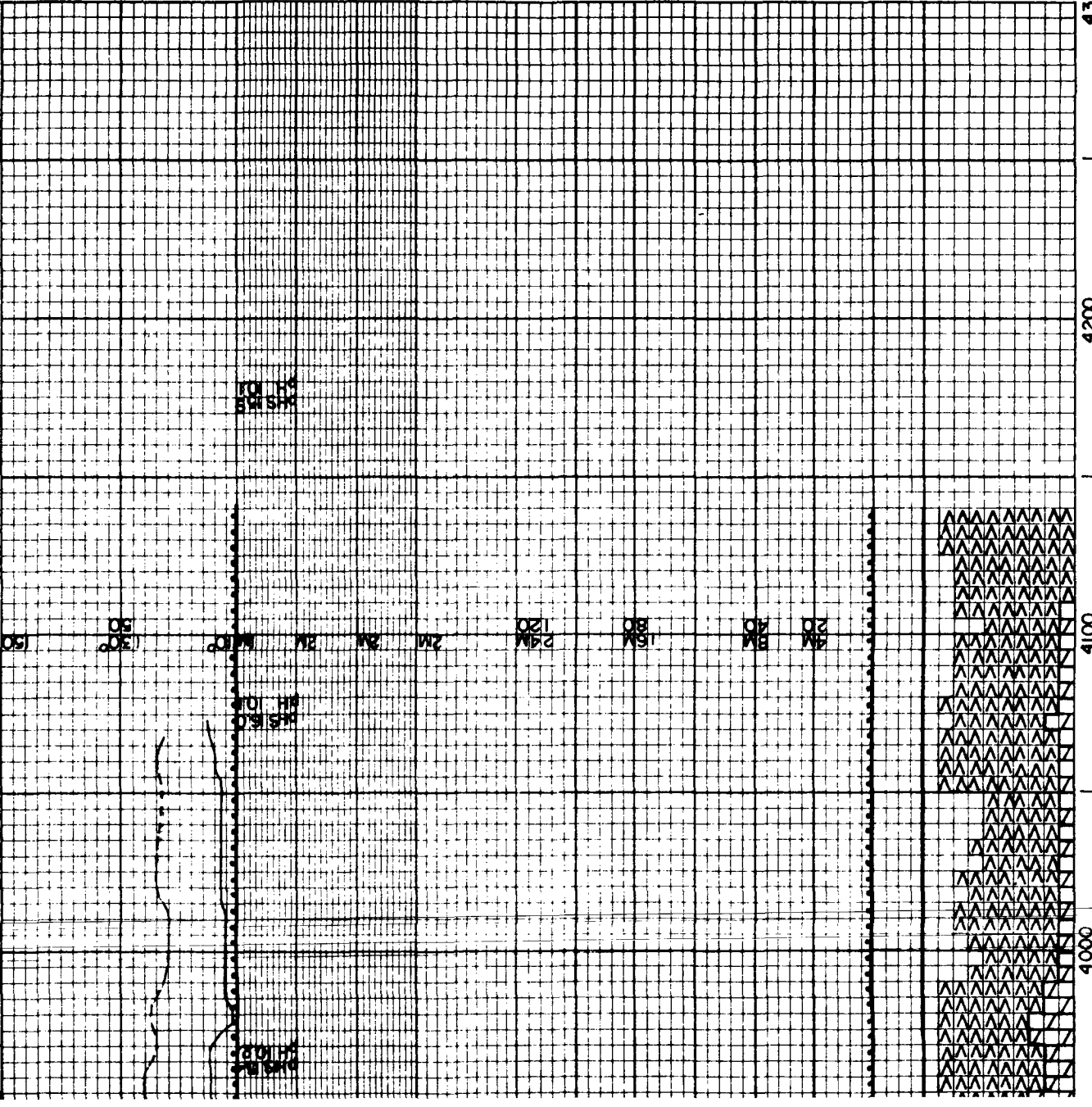
CI- 250

TR qtz xtals f-vf cl-wh

BAS blk occ dk gy ang blk y
vhd tr glass

SKN dk brn-blk sft fri mod
calc w/ micxtn wh cal

wh-gr hd and brn frond
 abnt micpyr abnt bas
 TR
 gn lith frags v calc
 CI- 300
 BAS
 blk hd ang, blk tr calc
 vns tr pyr abnt gbs
 tr breccia
 dk brn-blk sft fri mod
 calc w/mic wh calc
 TR
 calcite wh mod hd asoc
 w/das
 WT 8.9 pH 10.5
 VIS 37 WL 23
 RC 3 SOL 3.5
 CI- Z75 YP 10



43

4200

4100

4000

SON

210N

210N

210N

210N

210N

210N

210N

210N

210N

210N

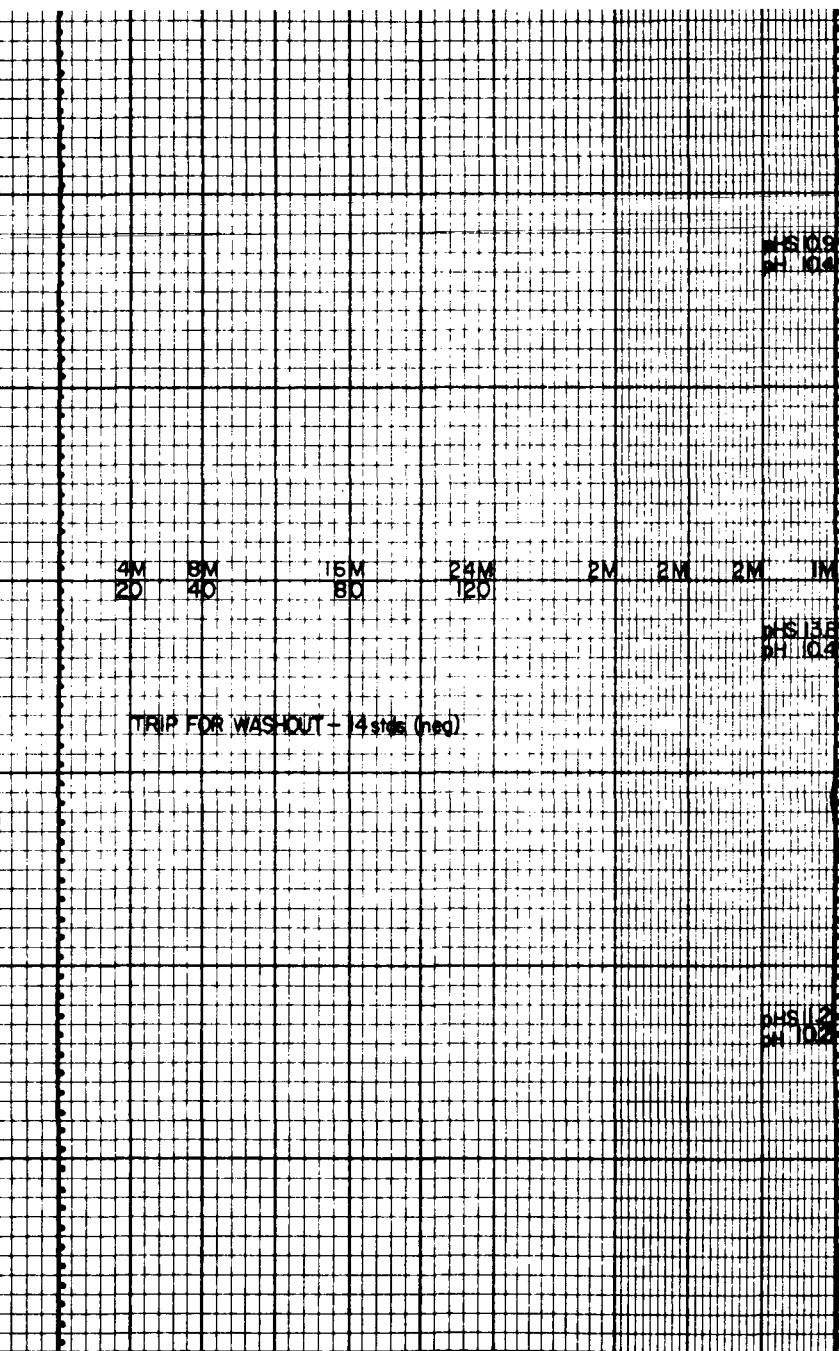
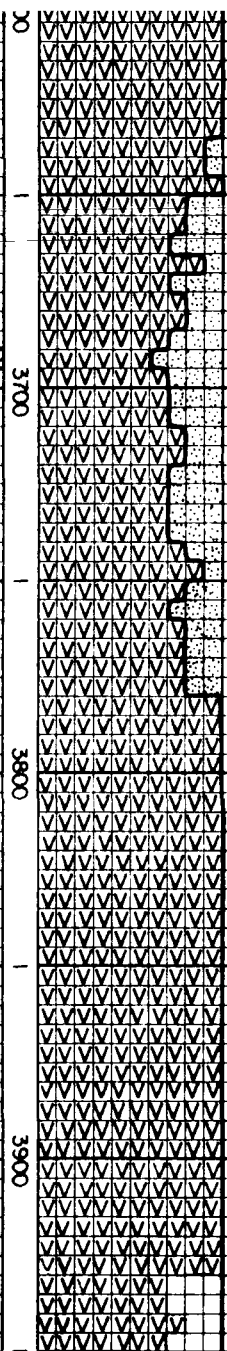
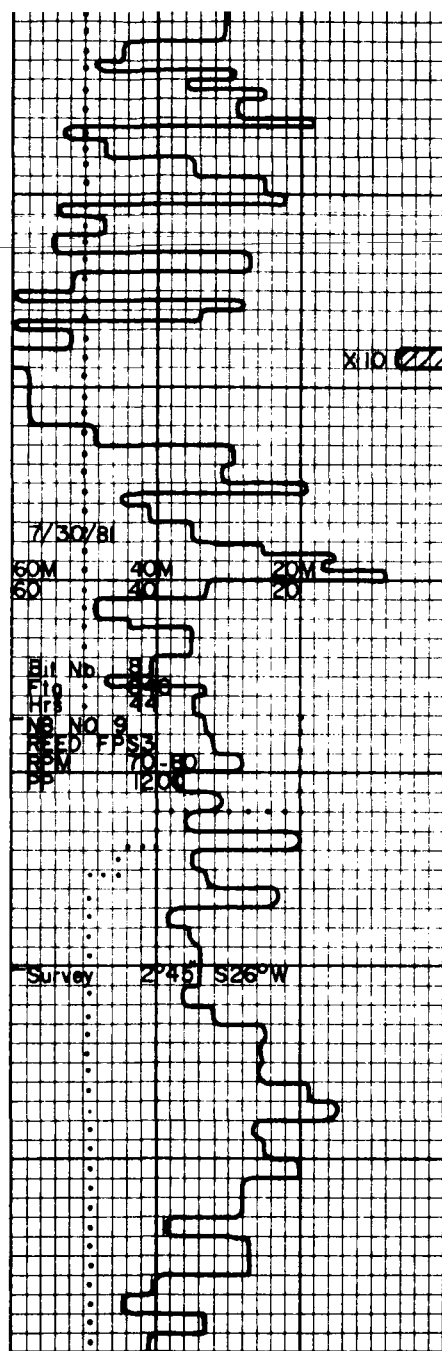
210N

210N

210N

210N

210N



TR	qtz from frac fill & vns whf f-mgr hd blkv
BAS	dk gy-blk sme gy aphan vhd blkv occ ang vf-f plag pheno vf pyrox pheno occ pyr
CARBIDE LAG	3910 stks 136 units 65 min 60cpm
QTZ	gy hd blkv m-v ang sme conch frac fld vnits pyr qtz is from vns
BAS	m-dk gy-sme blk aphan vhd ang blkv vf-f plag pheno vf pyrox pheno occ pyr qtz-occ calc B fld frac fill trgn chlor stn
CI-	300
QTZ	gy-ltbn mixtn trnsal hd m- v ang blkv sme conc frac fld vnits pyr qtz is from vns
HOLE PROBLEMS AFTER WASHOUT TRIP 15 OF HOLE FILL	
WT	7 pH 10.6
VIS	35 WL 22
FC	3 SOL 4
CI-	300 YP 11
BAS	blk occ dk gy blkv occ ang vhd aphan occ v thn frac fill tr pyr
TR	calc xtals
BAS	blk occ dk gy occ ang blkv v hd tr qtz xtals and v thn veins frac fill
CI-	250
TR	qtz xtals f-vf ci-wh
BAS	blk occ dk gy ang blkv v hd tr glass
BAS	dk brn-blk v hd fri mod calc w/micxtn wh cal frac fill

X10

7/30/BI
60M 60
40M 40
20M 20

Bit No
F10
F11
F12
F13
F14
F15
F16
F17
F18
F19
F20
F21
F22
F23
F24
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F100

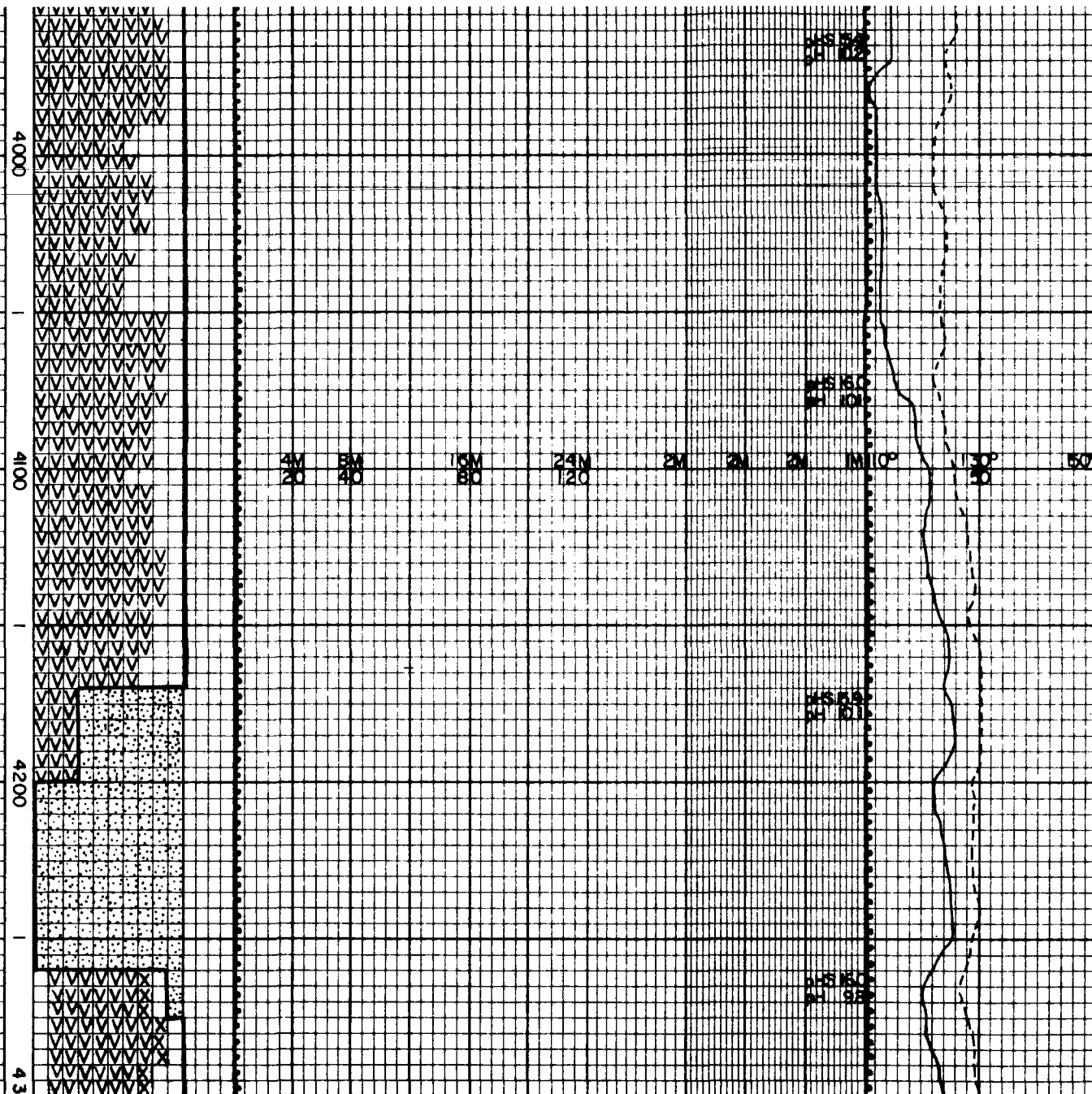
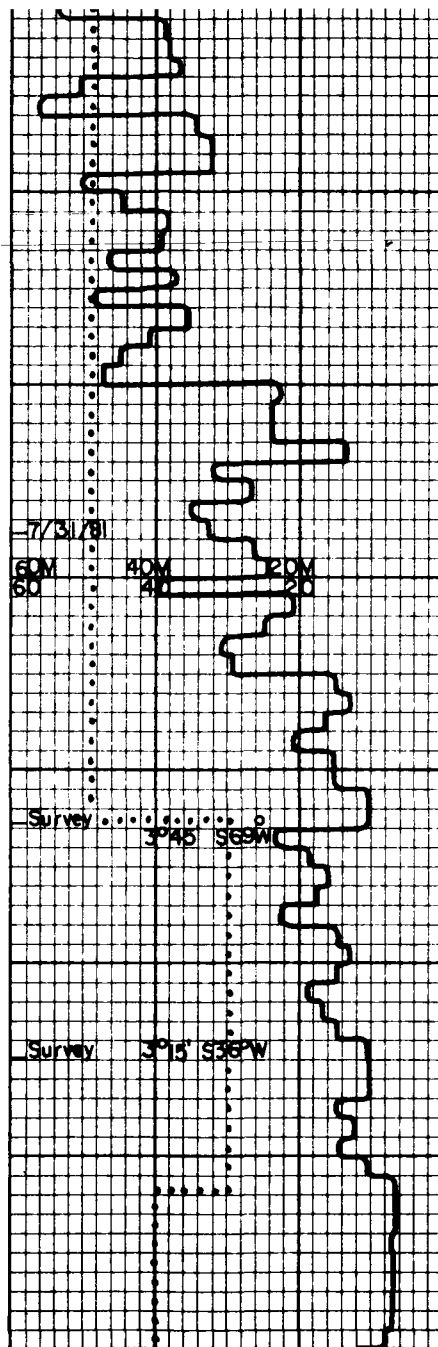
Survey 2°45' S 26°W

TRIP FOR WASHOUT - 14 stks (neg)

pH 10.9
pH 10.4

pH 13.8
pH 10.6

pH 11.2
pH 10.2



GLS wn-gy nang ora tron
abnt mic pyr abnt bas

TR gn lith frags v calc

CI- 300

BAS blk hd ang blk tr cal
vns tr pyr abnt gla
tr breccia

TR calcite wh mod hd oss
w/bas

BAS blk hd ang blk tr pyr
abnt cal frac fill mod-
v calc

WT	8.9	pH	10.6
VIS	37	WL	23
FC	3	SL	3.5
CT	275	YP	10

ABNT cal frac fill

GLS lt gy -ln vhd conc frac
transly thin vns of
frac fill sme pyr

BAS blk occ dk gy blk
ang occ v calc due
to calc frac fill tr
pyr

QTZT lt gy-wh-cl-m-f occ
c gm m arid whd
sr-ang pred sa tr pyr
and biot

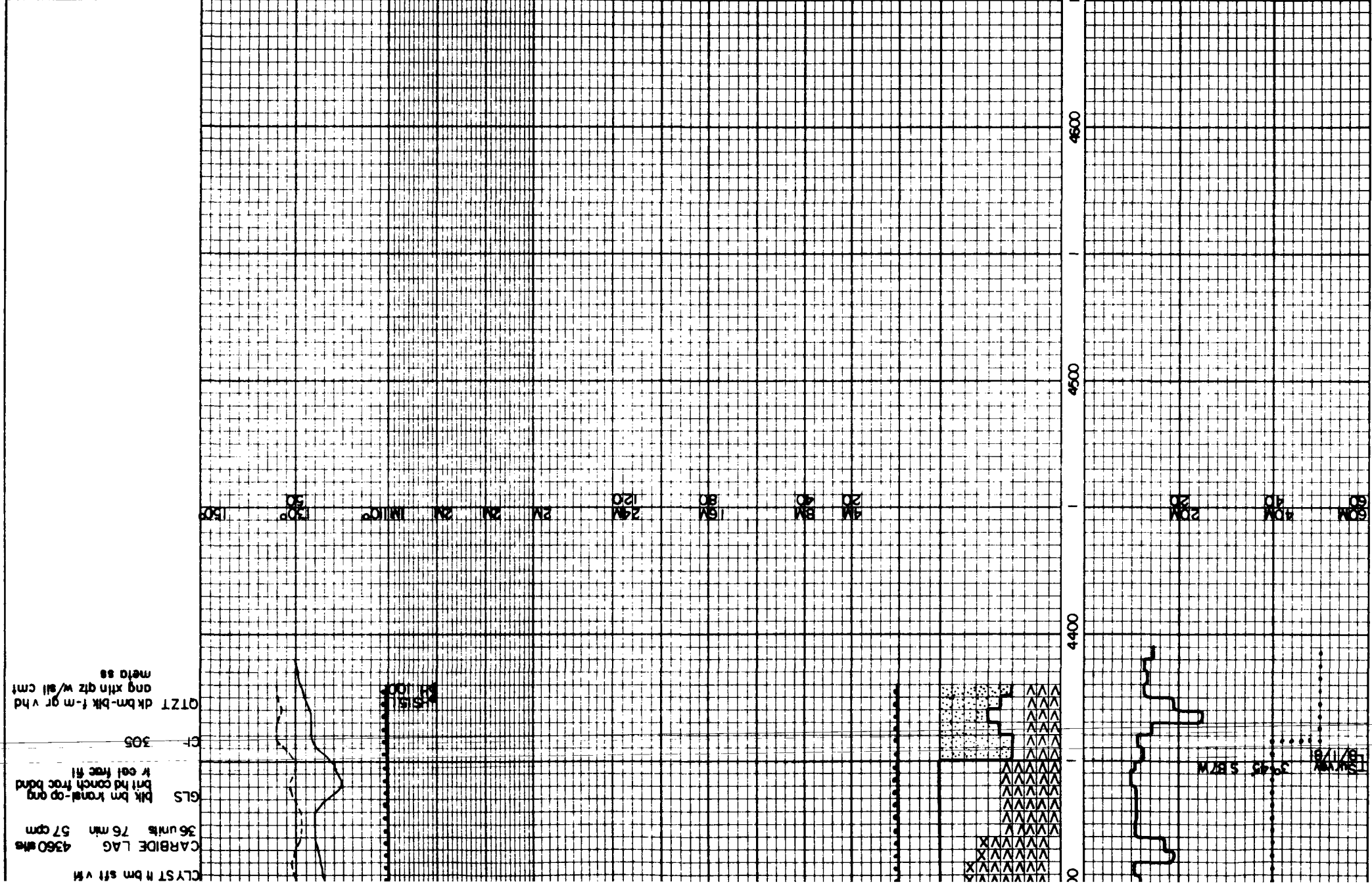
NOTE: qtz appears to be ss
except frac occurs
across the grms

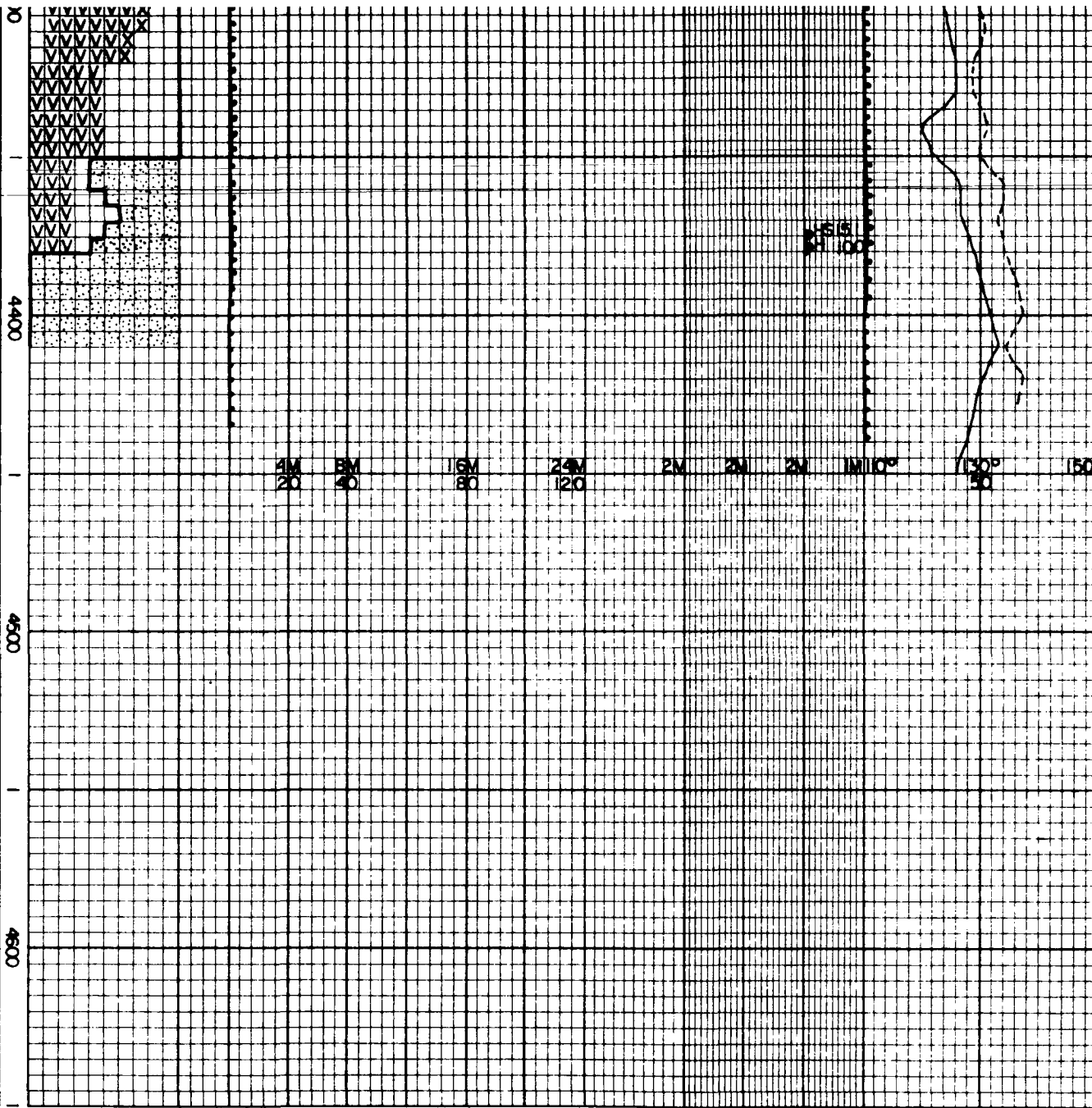
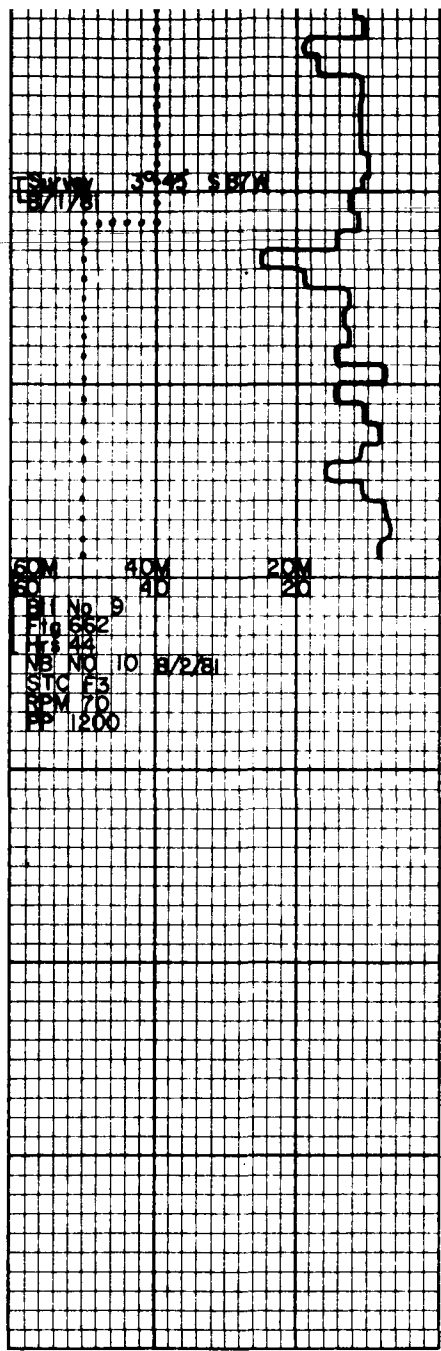
QTZT lt gy-dk gy med gr vhd
subang-ang pred qtz
w/tr maf tr fld meta
ss

CI- 260

SYEN lt gn-dk gr, wh f-m gr
plog w/tr alb twin abnt
calc frac fill v calc cu
sulf stn

BAS blk hd aphan blk ang
tr gla tr breccia





CLYST lt bm sft v ft

CARBIDE LAG 4360 atts
36 units 76 min 57 cpm

GLS blk bm transl-op ang
brit hd conch frac band
lr cal frac fil

CI- 305

QTZT dk bm-blk f-m gr v hd
ang xlin qtz w/all cmt
meta ss

WT	90	pH	10.5
VIS	38	WL	23
FC	3	SCL	4
CI-	300	YP	10

60M 40M 20M

60 40 20

100
200
300
400
500
600
700
800
900
1000
1100
1200

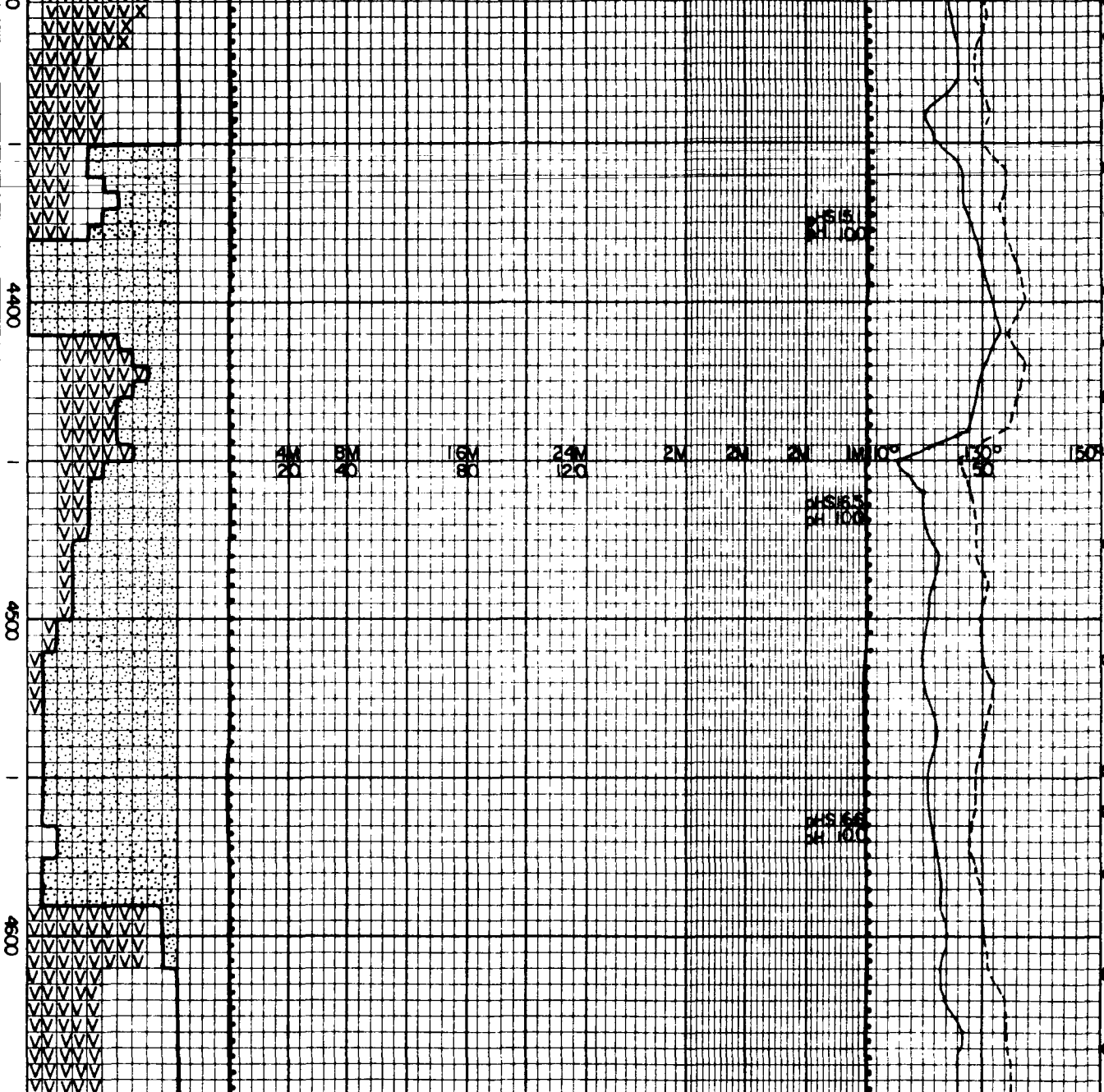
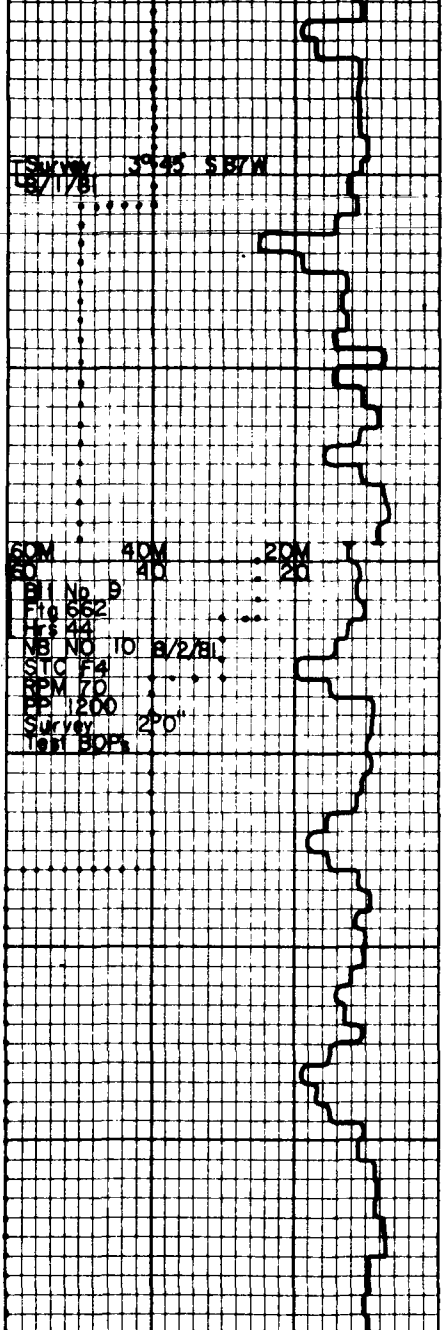
4M 8M 16M 24M 2M 2M 2M 1M 100° 150° 150°

20 40 80 120 20 20 20 100° 50

4400

4500

4600



CLYST #bm sft vfil

CARBIDE LAG 4360afte
36 units 76 min 57 cpm

GLS blk bm transl-op ang
brit hd conch frac band
tr cal frac fil

CI- 305

QTZT dk bm-blk f-m gr v hd
ang xfln qtz w/sil cmt
meta ss

WT	90	pH	10.5
VIS	38	WL	23
FC	3	SOL	4
CI-	300	YP	10

BAS dk gy-blk ang blkly occ
sl spl v hd tr qtz xtals
and pyr

TR gls mgy-lt gy transl
v thin pyr and calc frac
fill

CLYST dk gy-lt gy-brk brn-
dk gn frm-sft occ wxy
occ sily mass-sil pfty
when gn m-v calc and
v chlor

QTZT lt gy-wh-cl-dk gy f-m
pred f v hd blkly ang
sa-sr w ind sil cmt
occ calc xtal tr plag
and mus qtzl is meta ss

CI- 260

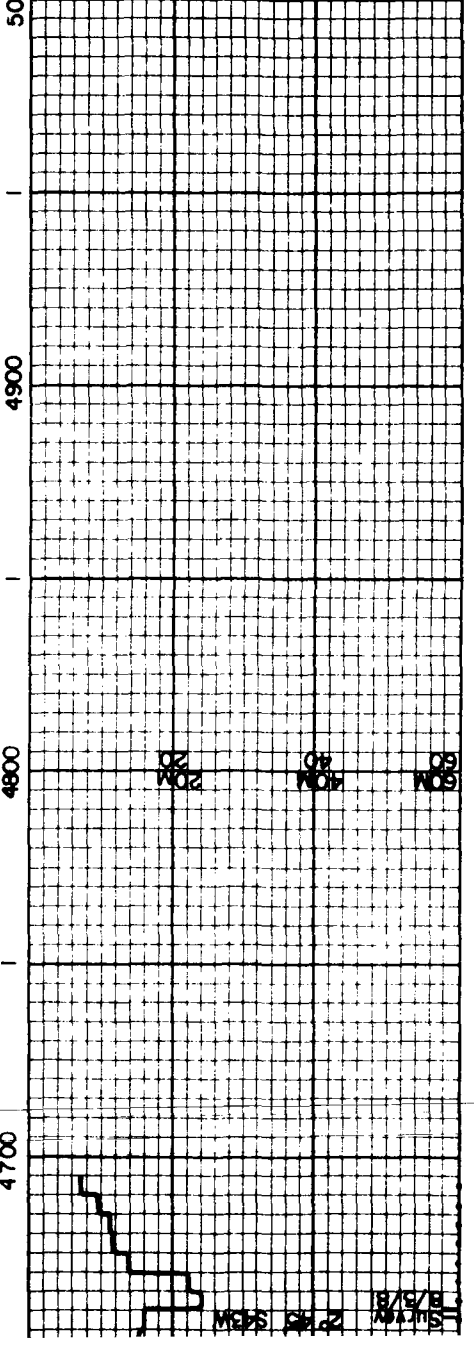
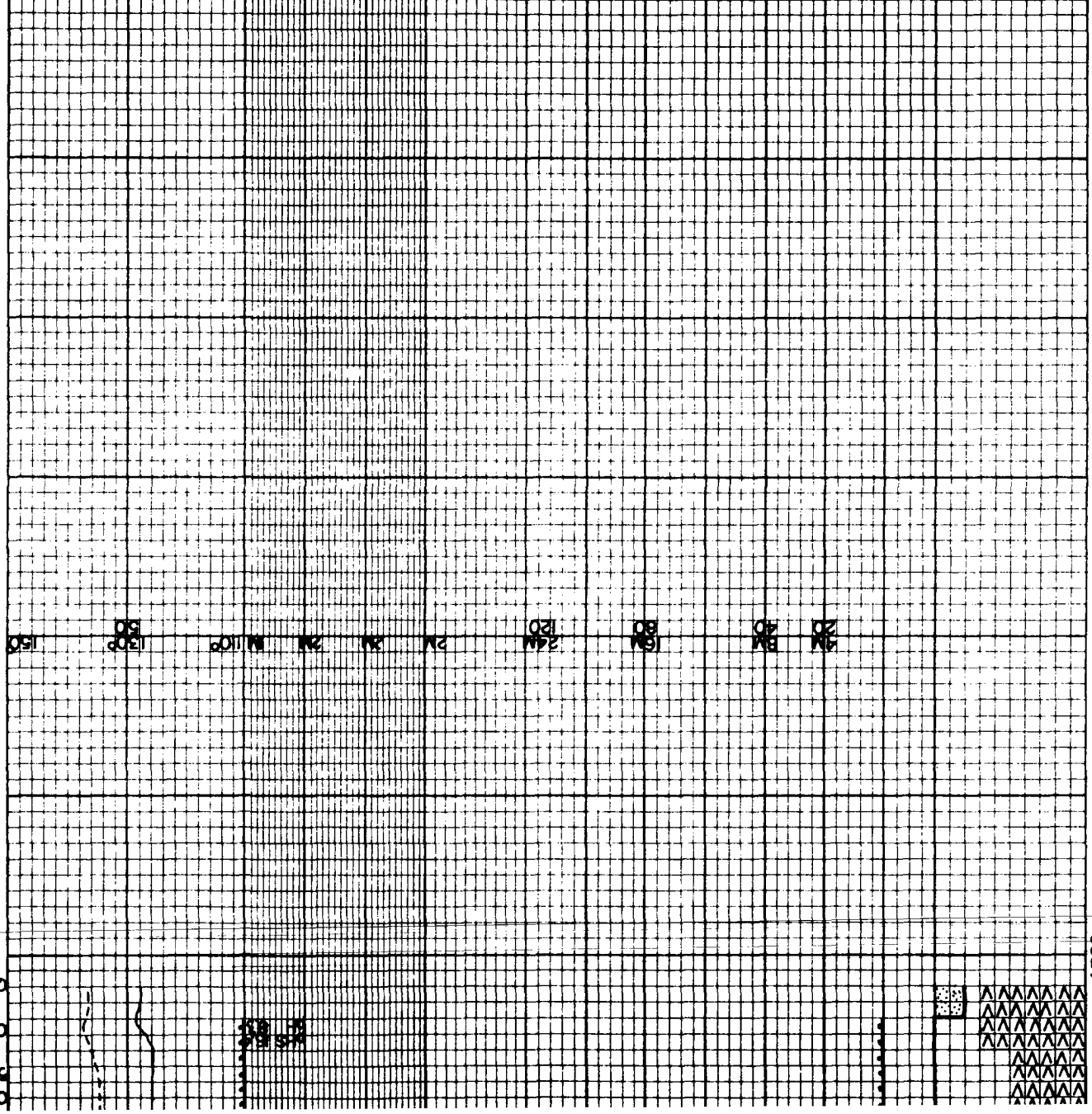
CLYST dk gy brn frm mass-sil
pfty shly

QZTZ lt gy-wh-cl-dk gy f gr
hd blkly ang-sbang sil
cmt tr muc,biot meta
ss

BAS dk gy-blk vhd blkly
ang aphan tr pyr tr
cal frac fil tr gls

GLS lt gy ang brit op tr
bas vns

CARBIDE LAG 4430 sth
 56 units 73 min 60 cpm
 CI- 250
 0171 dk gy-blk vhd blk y pres
 sborg-sbrd f'gr qtz w/
 unhed mat meho ss

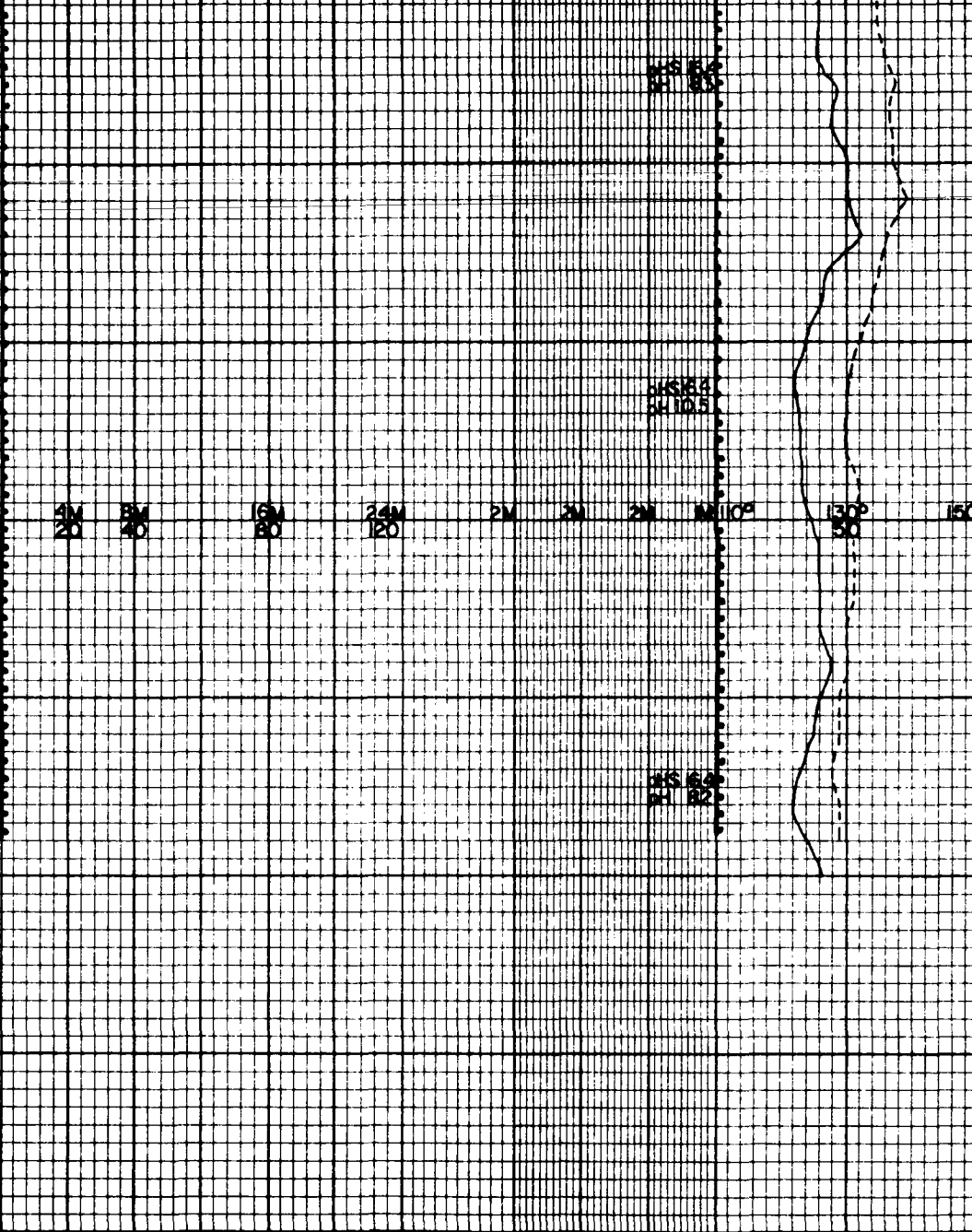
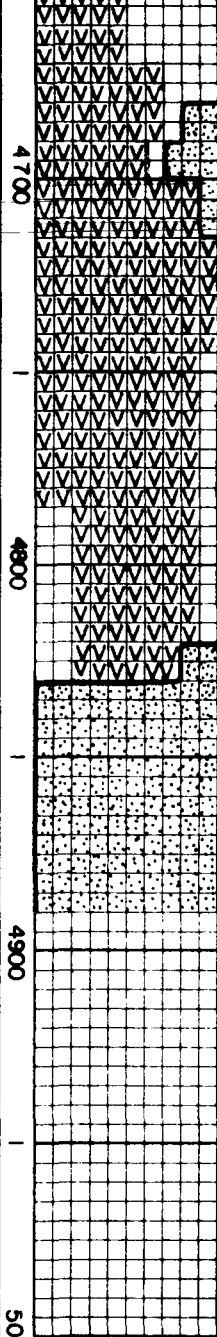
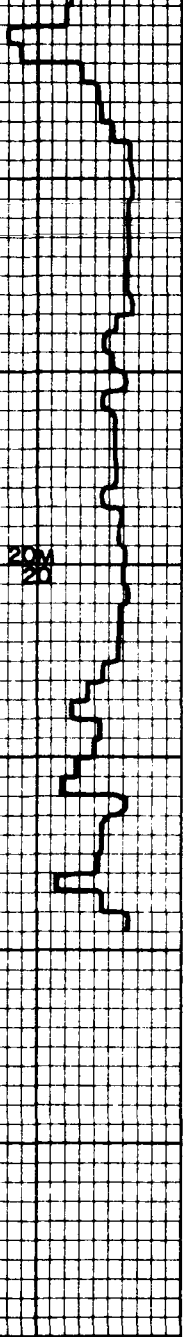


Survey 2°45 S45W
8/3/8

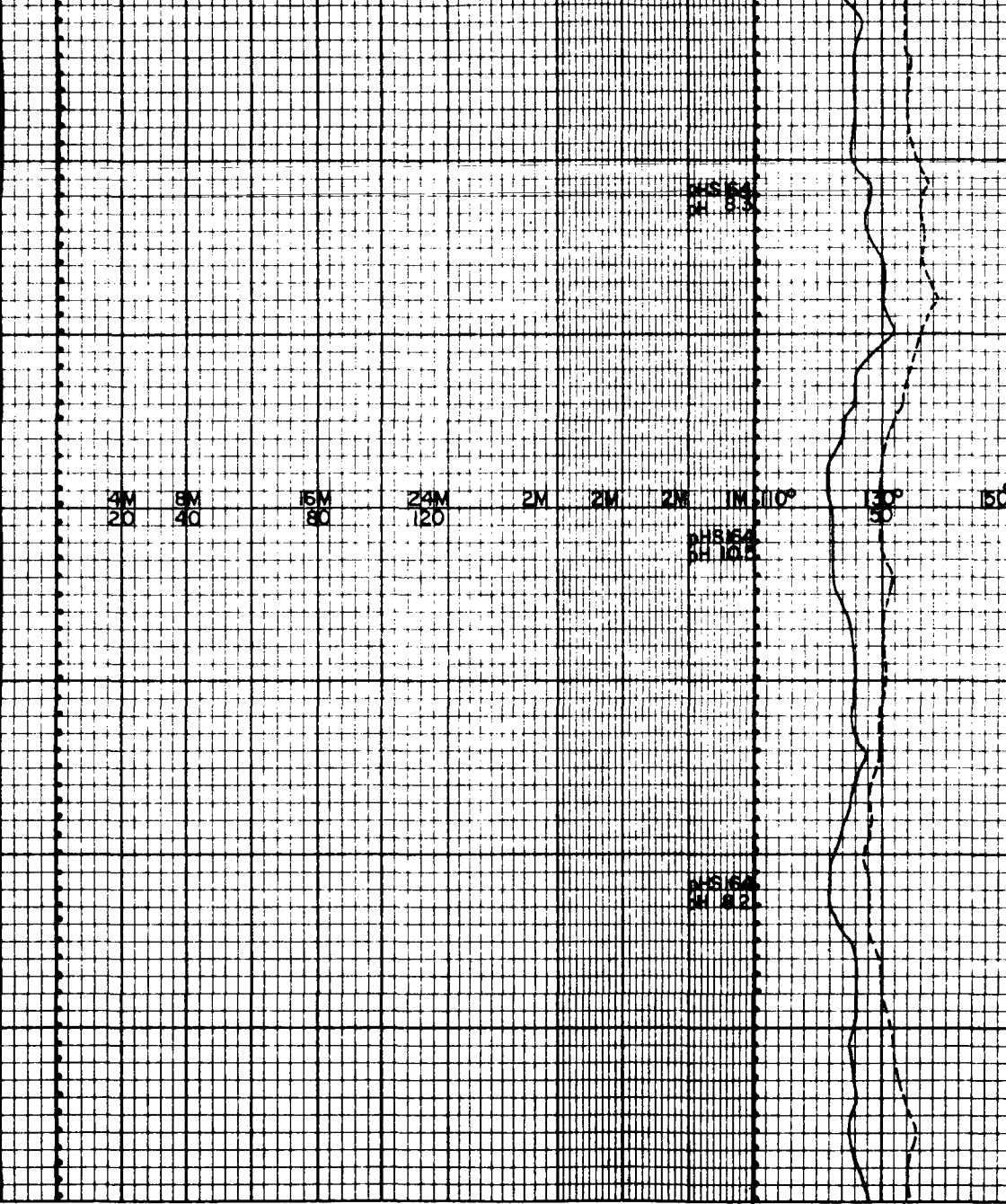
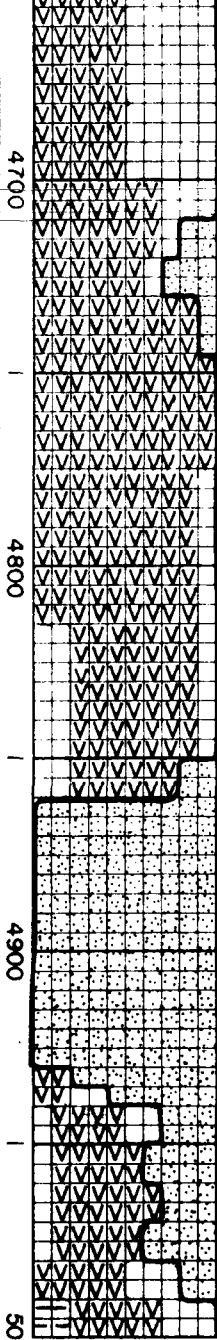
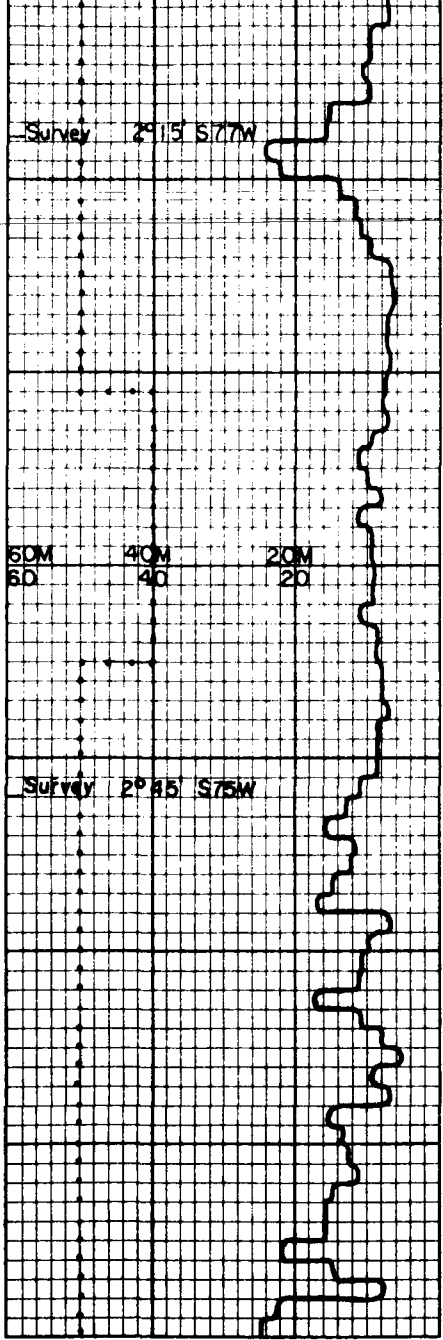
60M 60
40M 40
20M 20

Survey 2°45 S75W

8/4/8



CARBIDE LAG	4430 str
56units	73min 60cpm
CI-	250
QTZT	dk gy-blk v hd blk pred sbang-sbrd f gr qtz w/ anhed maf meta ss
WT	89 pH 10.5
VIS	37 WL 21
FC	3 SOL 4
CI	300 YP 12
BAS	dk gy-blk ang hd-v hd blk tr qtz thin veins of pyr & calc, slickensds fol
ABNT	pyr in grns xtals and veins
FN GR BAS	lt gy-lt bm conch frac ang brit tr pyr tr maf vns
CLYST	lt bm fri sft to bri gn v calc alt and/or cu sulf stn
QZTZ	lt-dk gy hd blk pred vf f gr sbang-sbrd xtln qtz gr sl calc tr pyr meta ss
CI-	280
QZTZ	



FN GR It gy ang brit op tr
BAS bas vns

CARBIDE LAG 4430stks
56 units 73 mins 60 cpm

QTZT dk gy-blk v hd blk pred
sbang-sbrd f gr qtz w/
anhed mat meta ss

CL 250

WT 89 pH 10.5
VIS 37 WL 21
FC 3 SOL 4
CL 300 YP 12

BAS dk gy-blk ong hd-vhd
blk tr qtz thin veins
of pyr & calc slickenside
fol

ABNT pyr in grns xtals and
veins

FN GR It gy-lt brn conc frac
BAS ong britl tr pyr & mat
vns

CLYST lt brn frist ft to britl gn
v calc alt and/or cu
sulf stn

QTZT lt-dk gy hd blk pred
vf-f gr sbang-sbrd xlin
qtz gr sl calc tr pyr
meta ss

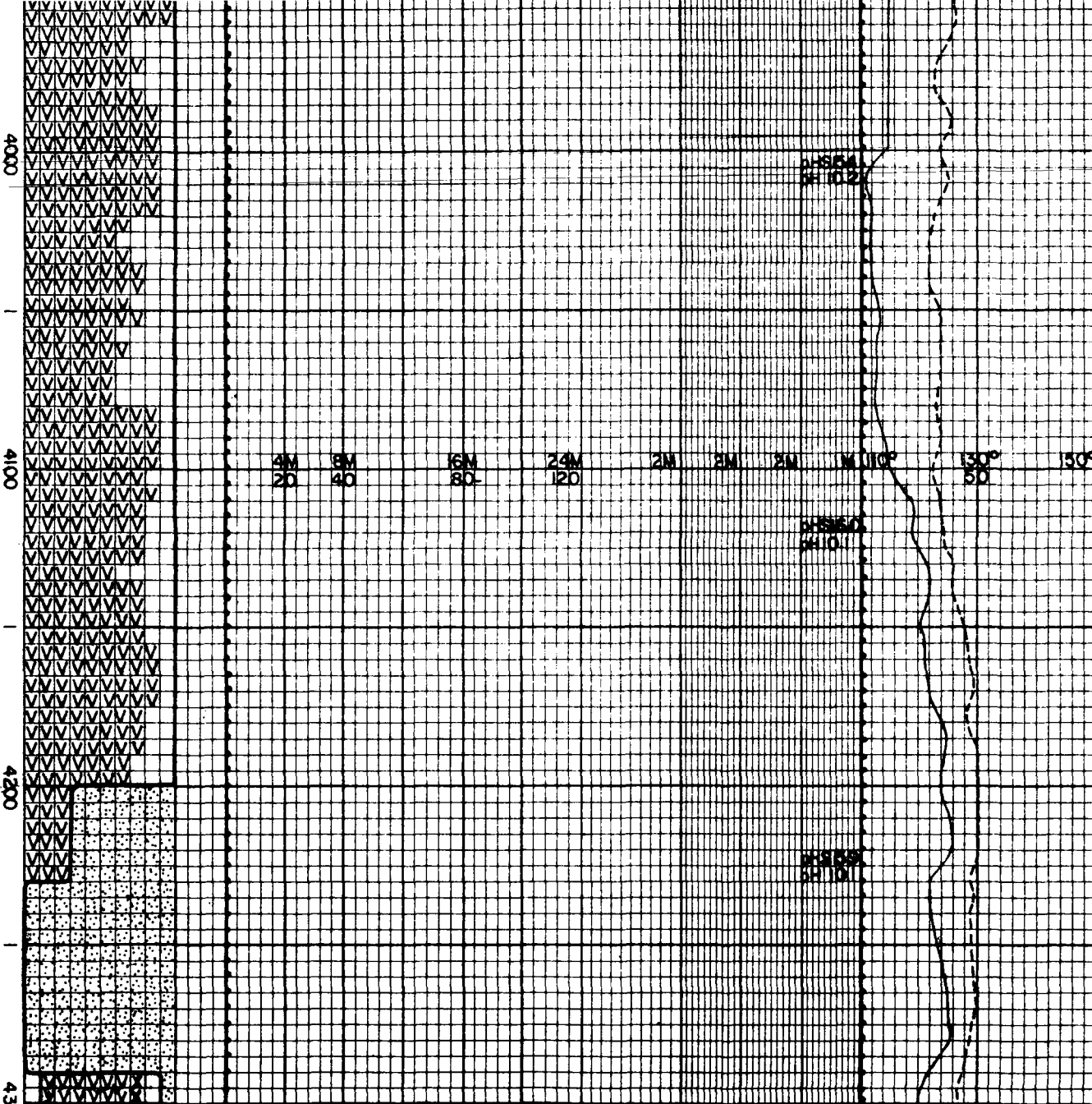
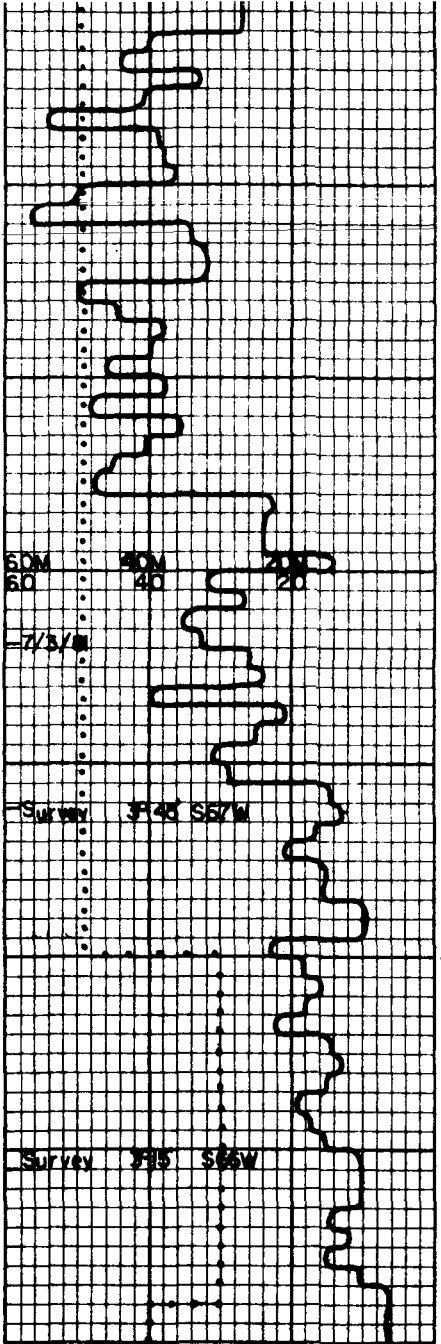
CI 280

QTZT lt dk gy h-v hd t-vf
so-sr occ ong w ind
blk-pity occ calc xtals
tr biot & pyr

CLYST lt gy-m gy frm-hd
sub pity occ sity occ
sl calc deformed sl
phyllitic

TR pyr in mass ag

BAS dk gy-blk blk ong hd
occ calc xtals and qtz
veins tr pyr grd g to
gls



BAS dk brn - blk v hd fri mod calc w/ micxtn wh cal frac fill

FN GR wh - gy hd ang brit transl
BAS abnt micpyr abnt bas

TR gn lith frogs v calc

CI 300

BAS blk hd ang blk tr calc vns tr pyr abnt gls tr breccia

TR calcite wh mod hd oes w/ bas

BAS blk hd ang blk tr pyr abnt calc frac fill mod -v calc

WT 89 pH 10.6
 MS 37 WL 23
 FC 3 SOL 35
 CI 275 YP 10

ABNT calc frac fill

FN GR lt gy - m v hd conc frac
BAS transl v thin veins of frac fill sme pyr

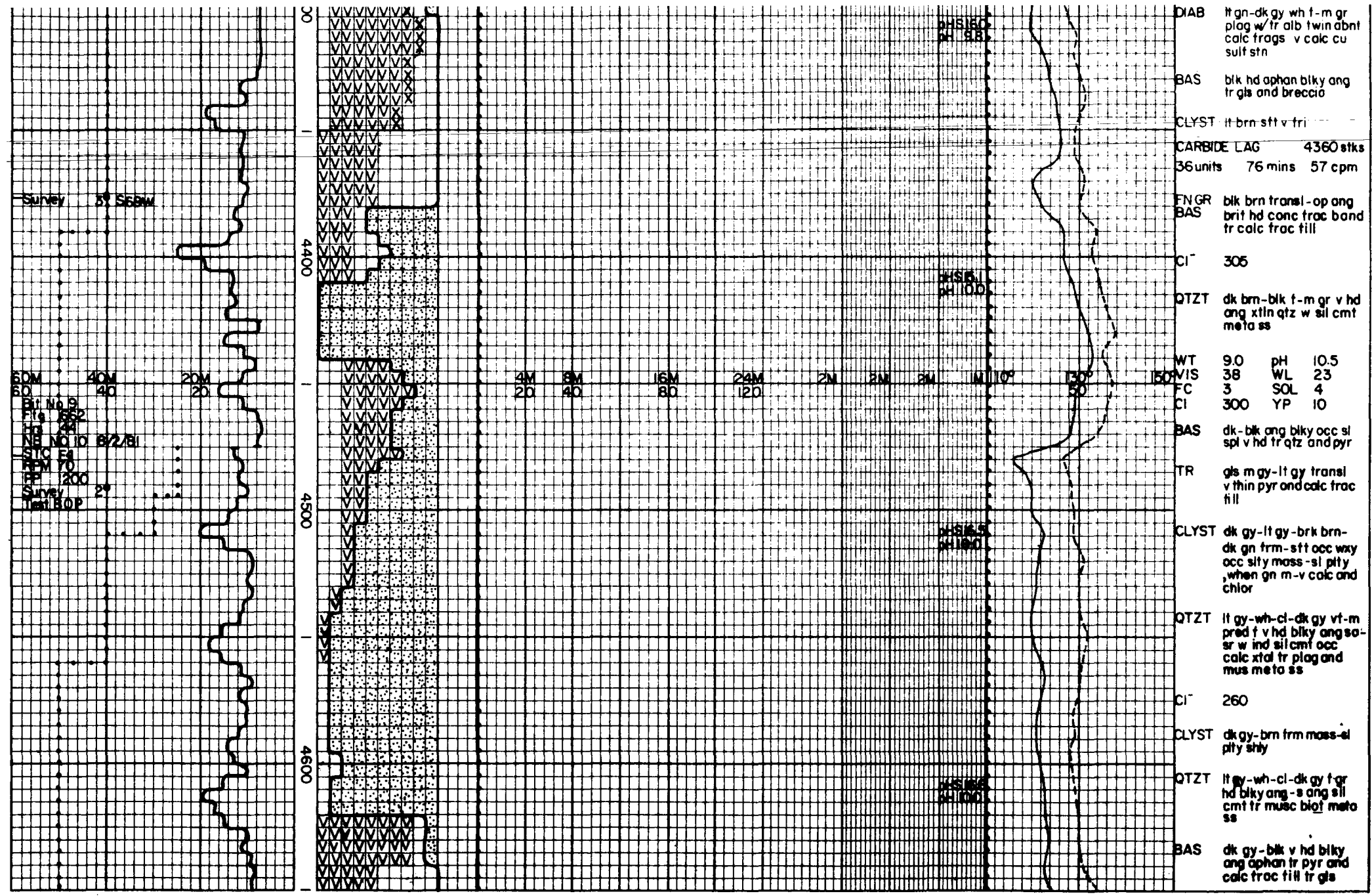
BAS blk occ dk gy blk ang occ v calc due to calc frac fill tr pyr

QTZT lt gy - wh - cl m - f occ c grn m artd w ind sr - ang pred sa tr pyr and biot

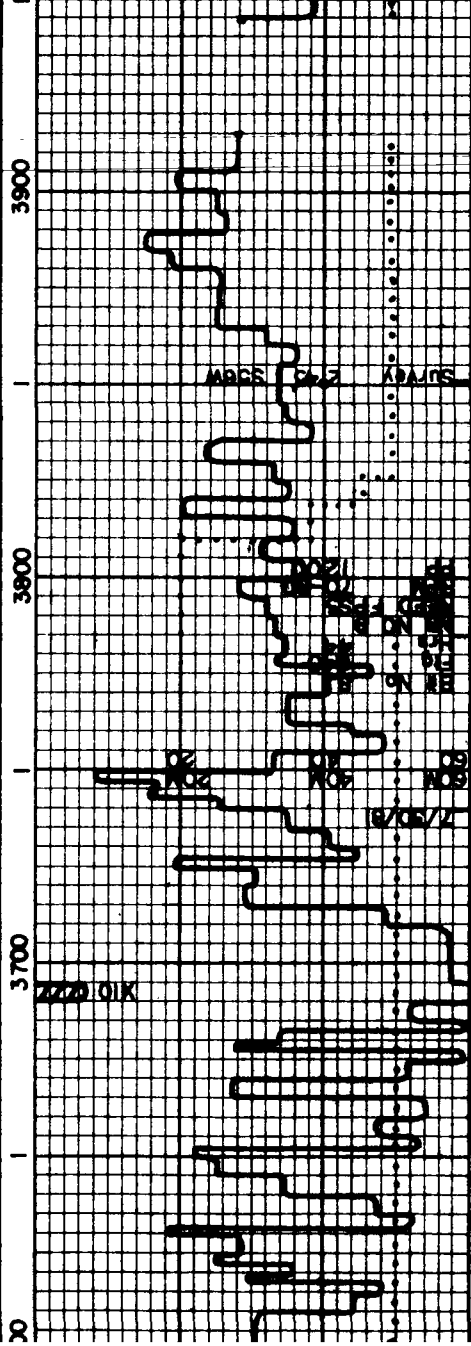
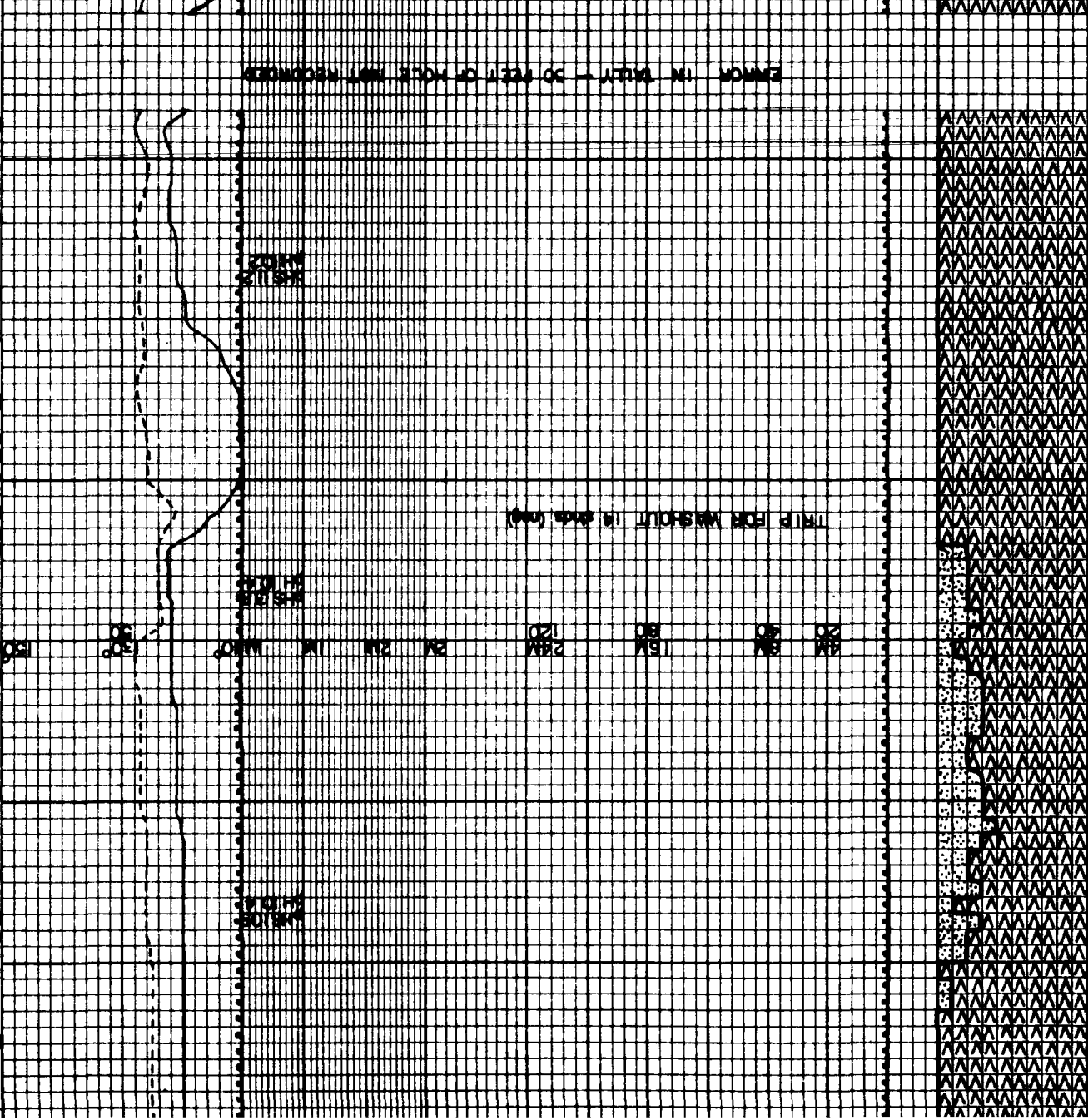
NOTE: qtzt appears to be ss except frac occurs across the grns

QTZT lt gy - dk gy med grn v hd sub ang - ang pred qtz w/ tr of mat fr tid meta ss

CI 260



TR
 dk from frac @ vns
 wh f-mg hd biky
 BAS
 dk gy-bk sme gy aphan
 vhd biky occ ang v-f-plag
 pheno vf pyrx pheno
 tr pyr
 CARBIDE LAG 3910 @ 10
 35units 65min 60cpm
 DTZ
 gyhd biky m-v-ang sme
 conch frac fld vns pyr
 qtz is from vns
 BAS
 m-dk-gv-sme bk aphan
 vhd ang biky v-f-plag
 pheno vf pyrx pheno occ
 pyr qtz occ calc @ fld frac
 fill tr gn chkr sh
 CT-
 300
 gy-bkm mchtn tmsh hd m
 veng biky sme conch frac
 fld vns pyr qtz is from vns
 HOLE PROBLEMS AFTER
 WASHOUT TRIP
 IS OF HOLE FILL
 WT 7
 MS 35
 FC 3
 CT 300
 BAS
 bk occ dk gy biky occ
 ang vhd aphan occ v
 thin frac fill tr pyr
 TR
 calc xtlc
 BAS
 bk occ dk gy occ ang
 biky vhd tr qtz xtlc
 and v thin vns frac fill
 CI-
 250
 TR
 qtz xtlc f-vf cl-wh
 BAS
 blk occ dk gy ang biky
 v hd tr glass



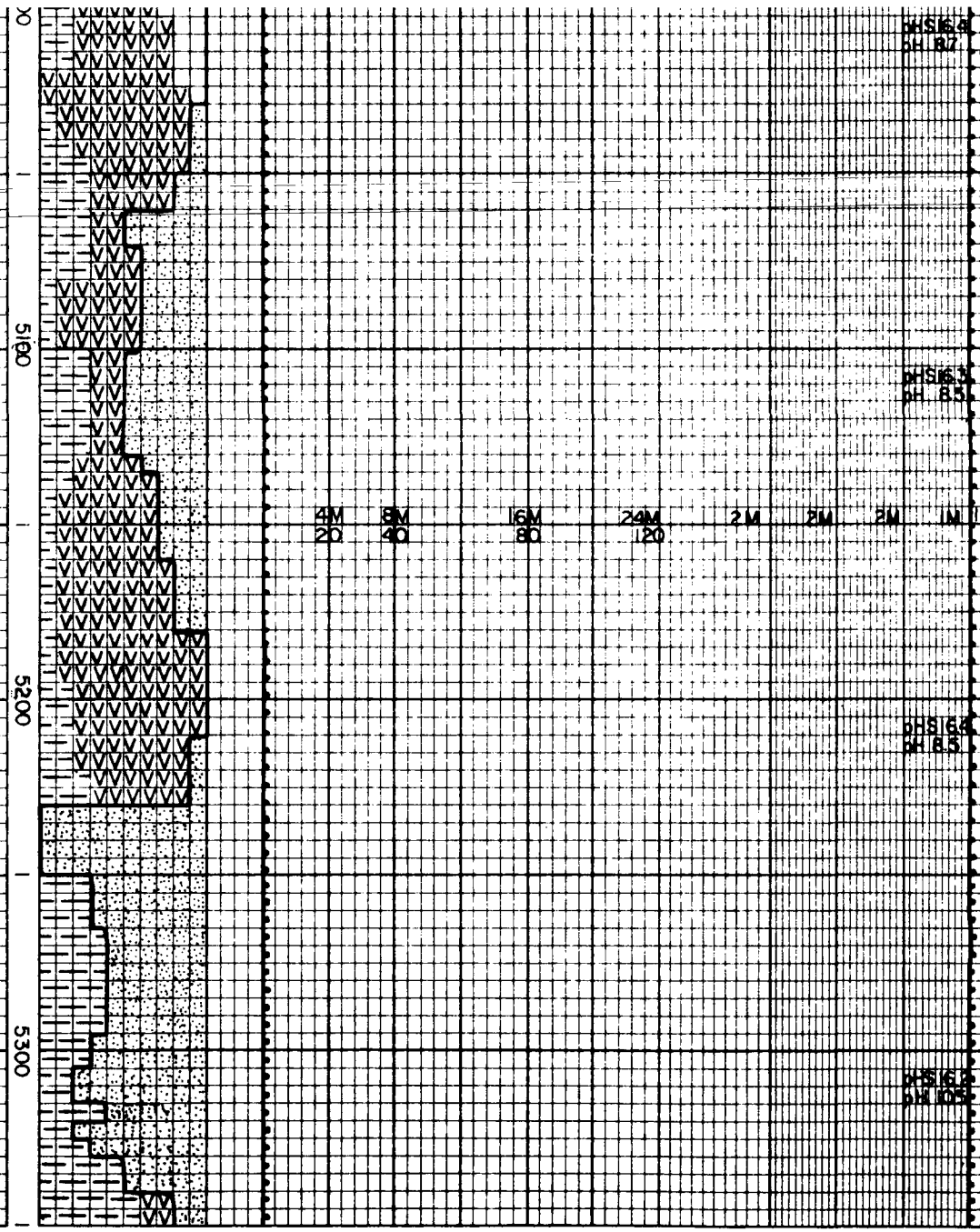
BIT No 10
 F# 580
 Tr 59
 NS NO 11 8/5/81
 Reel FPG2
 RPM 60
 PP 1100
 Survey 2°45

50M 50
 40M 40
 20M 20

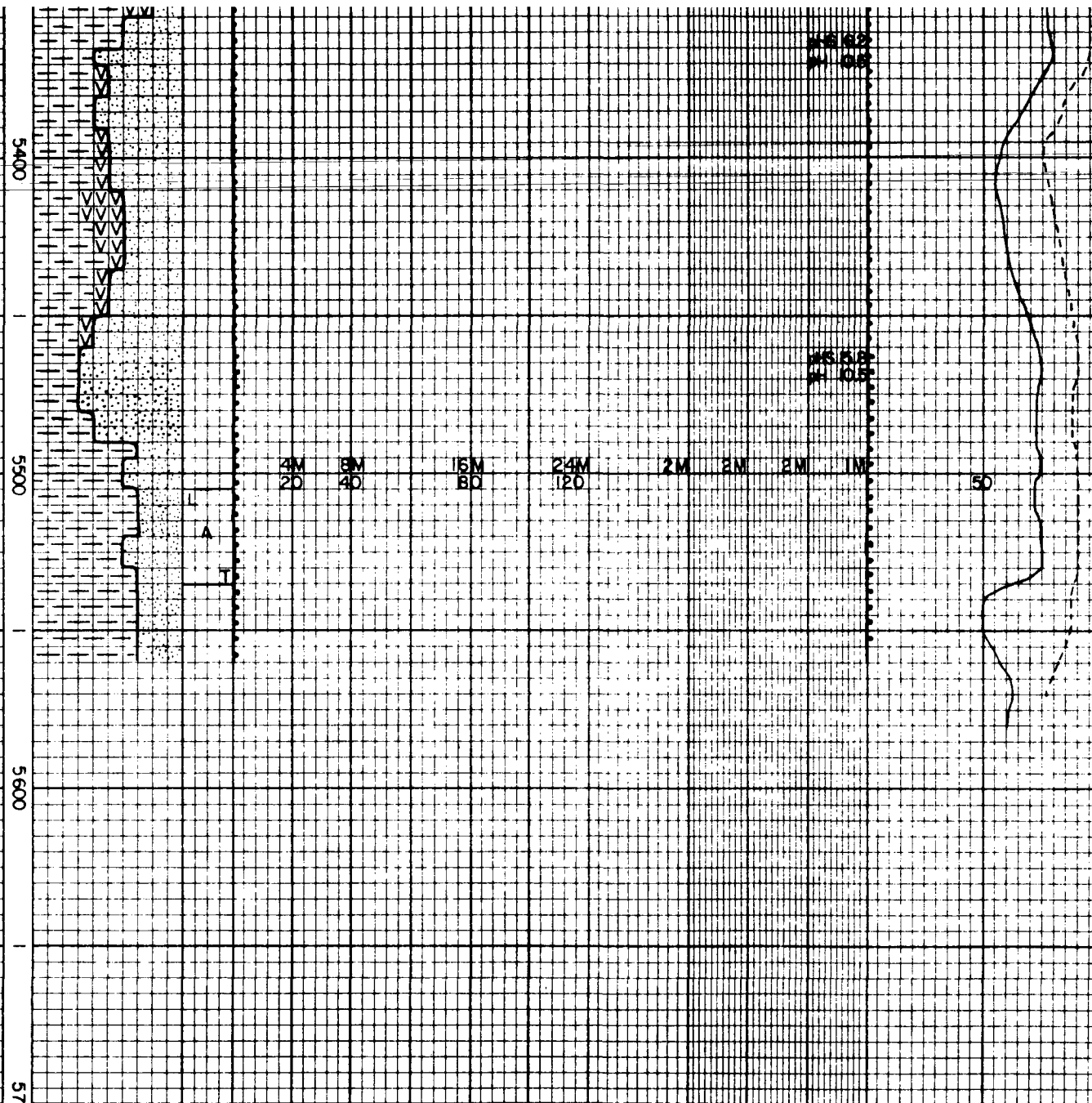
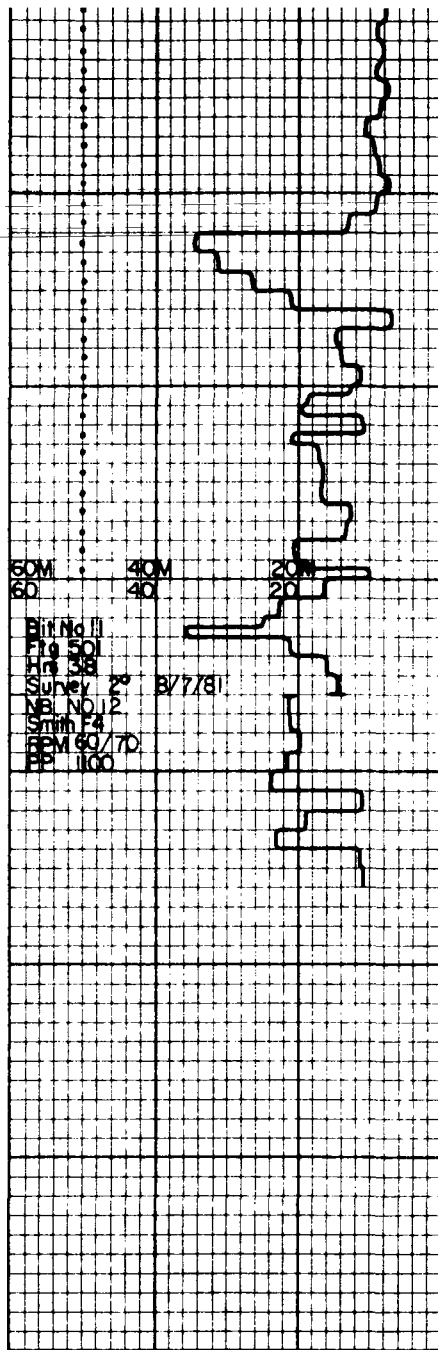
Survey 2°15 S88E

8/6/81

Survey 2°15 N85°W



TR tuff breccia lt gy mass
 hd f-vc ang gr occ
 sl calc
 CI 280
 QZT wh-cl xtals & grns m-f
 frac fill inter-veined
 with other rock
 WT 6.8 pH 9.8
 VIS 37 WL 20
 FC 2 SOL 4
 CI 275 YP 12
 ARG lt gy-mgy frm-hd sub
 pty occ silty occ sl calc
 deformed bedding sil
 phyllitic
 BAS dk gy-blk ang blk-
 sl spl hd-v hd occ
 grd to gls tr pyr
 & qtz grns
 CI 320
 QTZT dk gy brn-blk pty-
 blk hd-v hd metoss
 grd to meta silst tr
 biot
 TR calc xtals
 ARG dk gy-blk sft brit pty-
 blk v fis cal frac fil
 mic-mica graphitic
 QTZT wh-milky wh micxtln vhd
 v calc w/cal vns
 ARG dk gy-blk sft frm brit
 pty-blk v fis cal frac
 fil mic-mica graphitic
 QTZT lt-dk gy vf-f or vhd
 ang-sbrd abnt v fn gr
 biot v calc tr pyr meta
 ss
 FN GR
 BAS lt gy brit hd fri tr maf



ARG m-dkgy-srns...
sl calc pty-occ fias vng
brit mic mic graphitic occ
qtz frac fill

WT 8.9 pH 10.5
VIS 37 WL 19.8
EC 2 SOL 4
CI- 300 YP 15

BAS lt-dkgy vf-fgr tex hd brit
ang tr mafic & pyr sme qtz
frac fill

QTZT trnsi-whl-ltgy mioxh vhd
ang blk tr conc frac sme
w/calc frac fill tr pyr

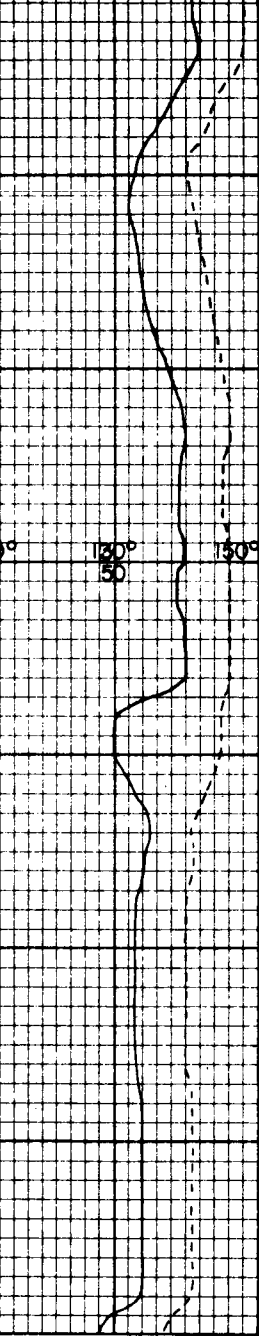
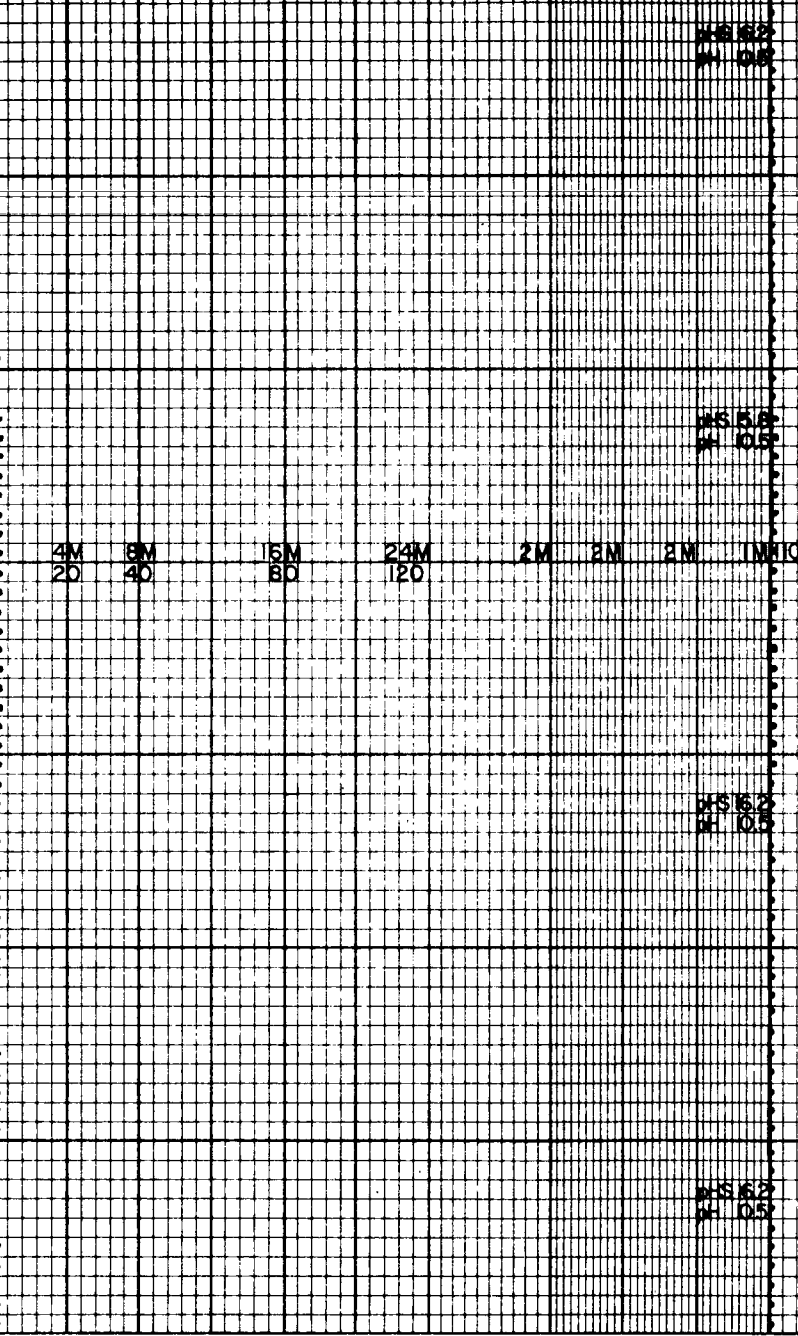
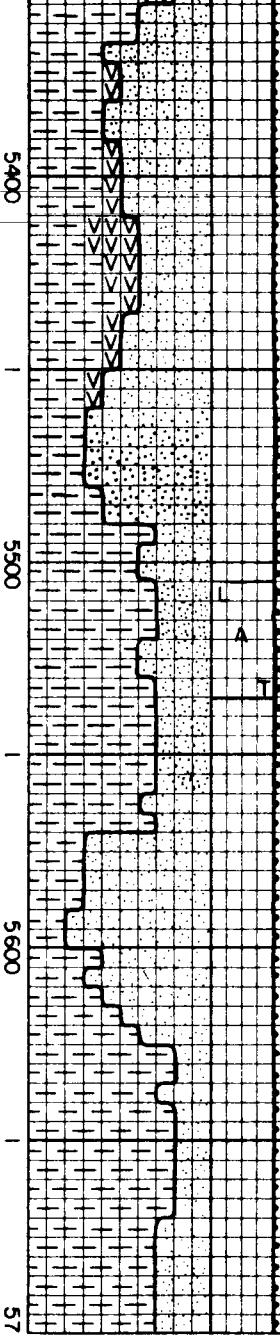
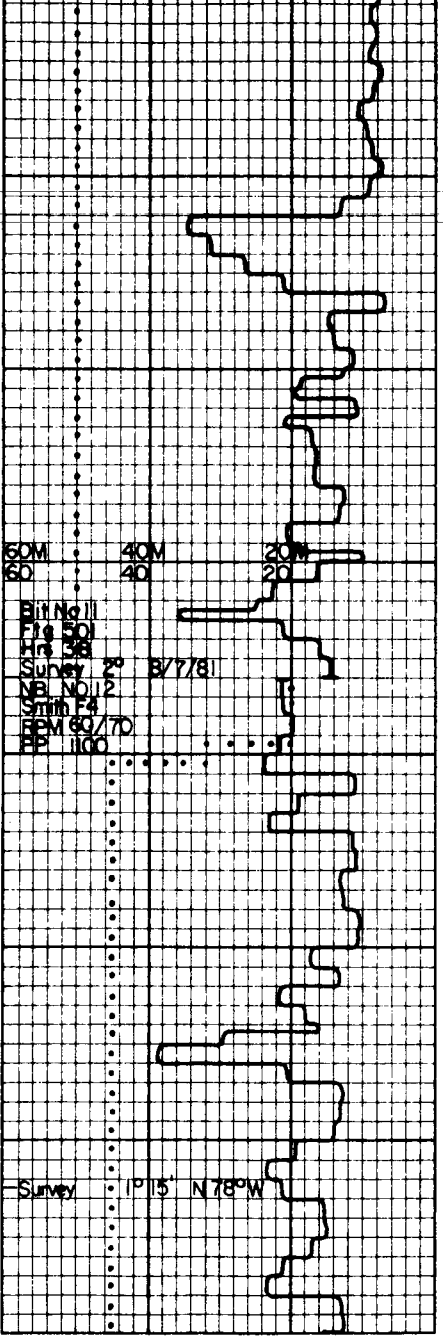
CARBIDE LAG 5552 stks
40 units 96 min 59 cpm

CI- 300

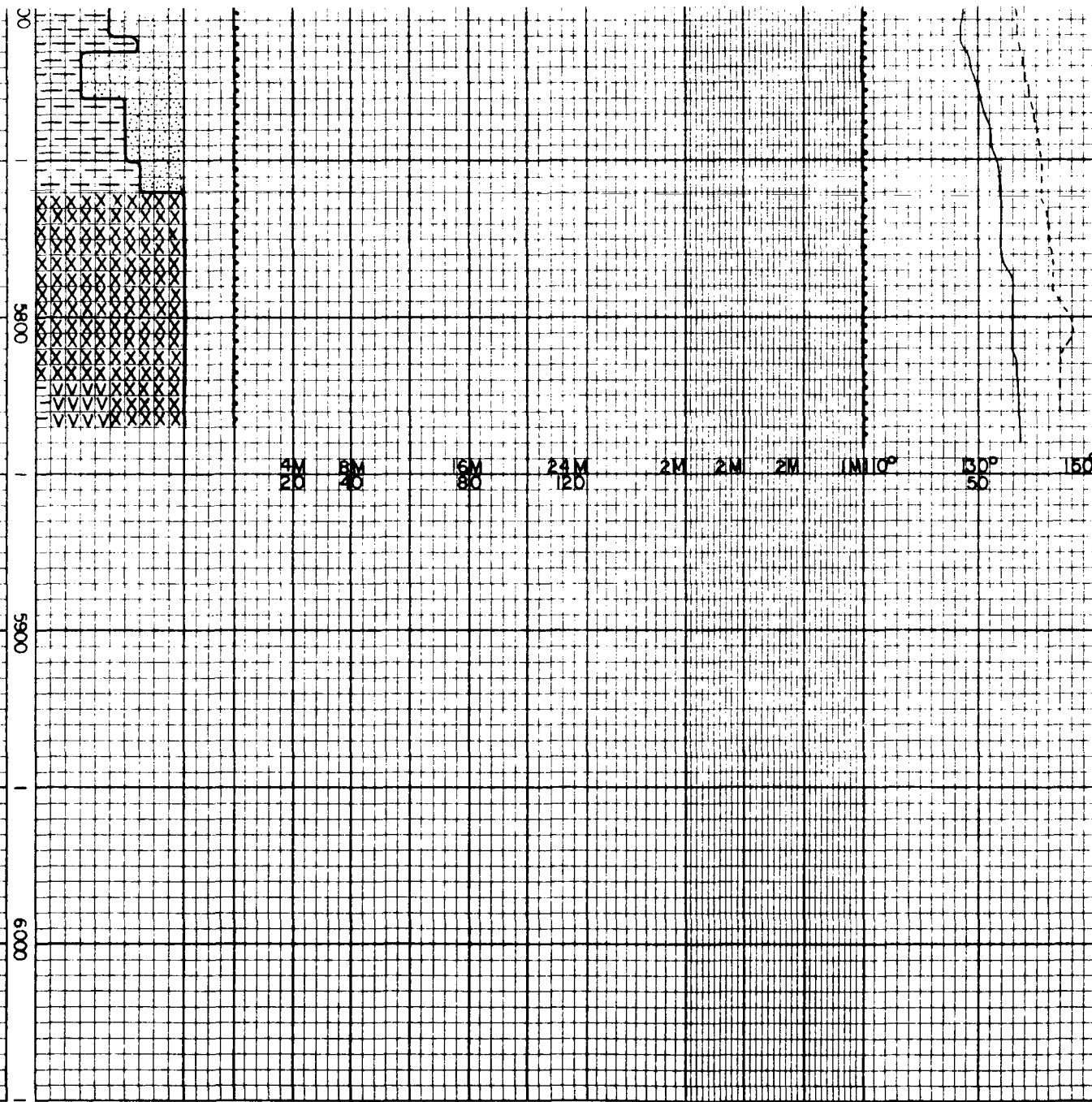
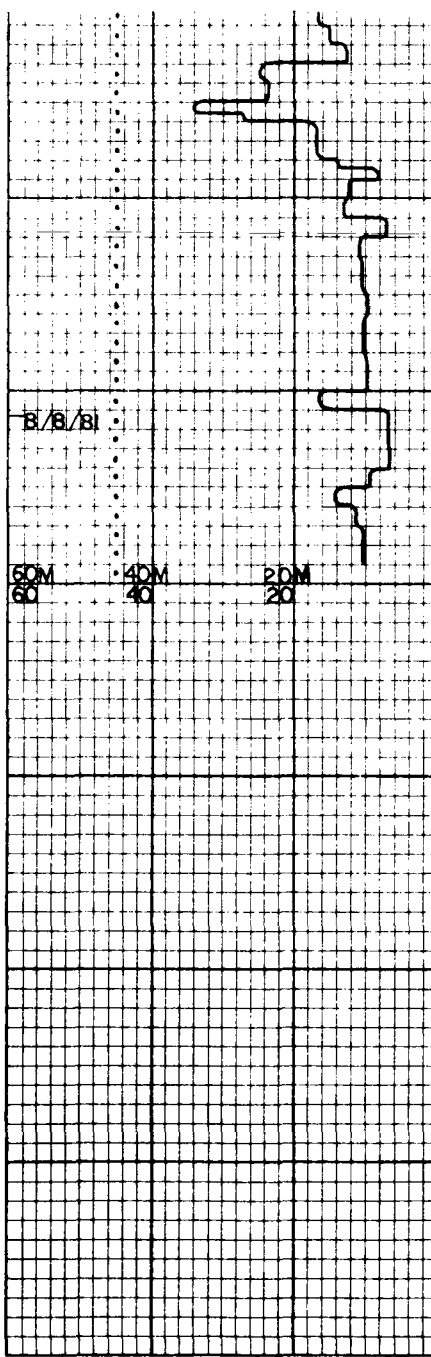
QTZT dkgy-occ blk vf-fgr vhd
sl calc silic cmt blk sme ang
occ qtz frac fill

ARG dk bm dkgy blk sft-frn
v brit pty-blky mic-mic
v fis tr fol

QTZT wh-miky wh v hd miodlr
blk tr dk gy vf-fgr
v calc meta ss



ARG	m-dkgy-smc blk vrrm-hd sl calc pty-occ fiss v ang brit micmic graphitic occ qtz frac fill
WT	8.9 pH 10.5
VIS	37 WL 19.8
FC	2 SOL 4
CI	300 YP 15
BAS	fr-dkgy vf-fgr tex hd brit ang tr mafic & pyr sme qtz frac fill
QTZT	trmsl-whit-ltgy micln vhd ang blkgy tr conc frac sme w/calc frac fill tr pyr
CARBIDE LAG	5552 stks 40 units 96 min 59 cpm
CI	300
QTZT	dkgy-occ blk vf-fgr vhd sl calc silic cmf blkgy sme ang occ qtz frac fill
ARG	dk bn dkgy blk sft-frm v brit pty-blky mic-mica v fis tr tot
QTZT	wh-miky wh v hd micln blkgy tr dkgy vf-fgr v calc meta ss
WT	8.9 pH 10.5
VIS	39 WL 19.4
FC	2 SOL 4
CI	300 YP 10
ARG	dkgy-occ blk vfrm-hd pty-sub fiss brit ang mic mica tr qtz & calc frac fill tr pyr
QTZT	whit-ltgy micln vhd ang blkgy conc frac sme pyr tr calc frac fill
QTZT	trmsl-whit-smelt gn micln-fgr tex vhd ang blkgy sl-m m calc occ pyr sme chlor sta tr qtz & calc frac fill
ARG	dk bn-dkgy-blk hd brit ang blkgy-pty mic mica tr qtz inclu



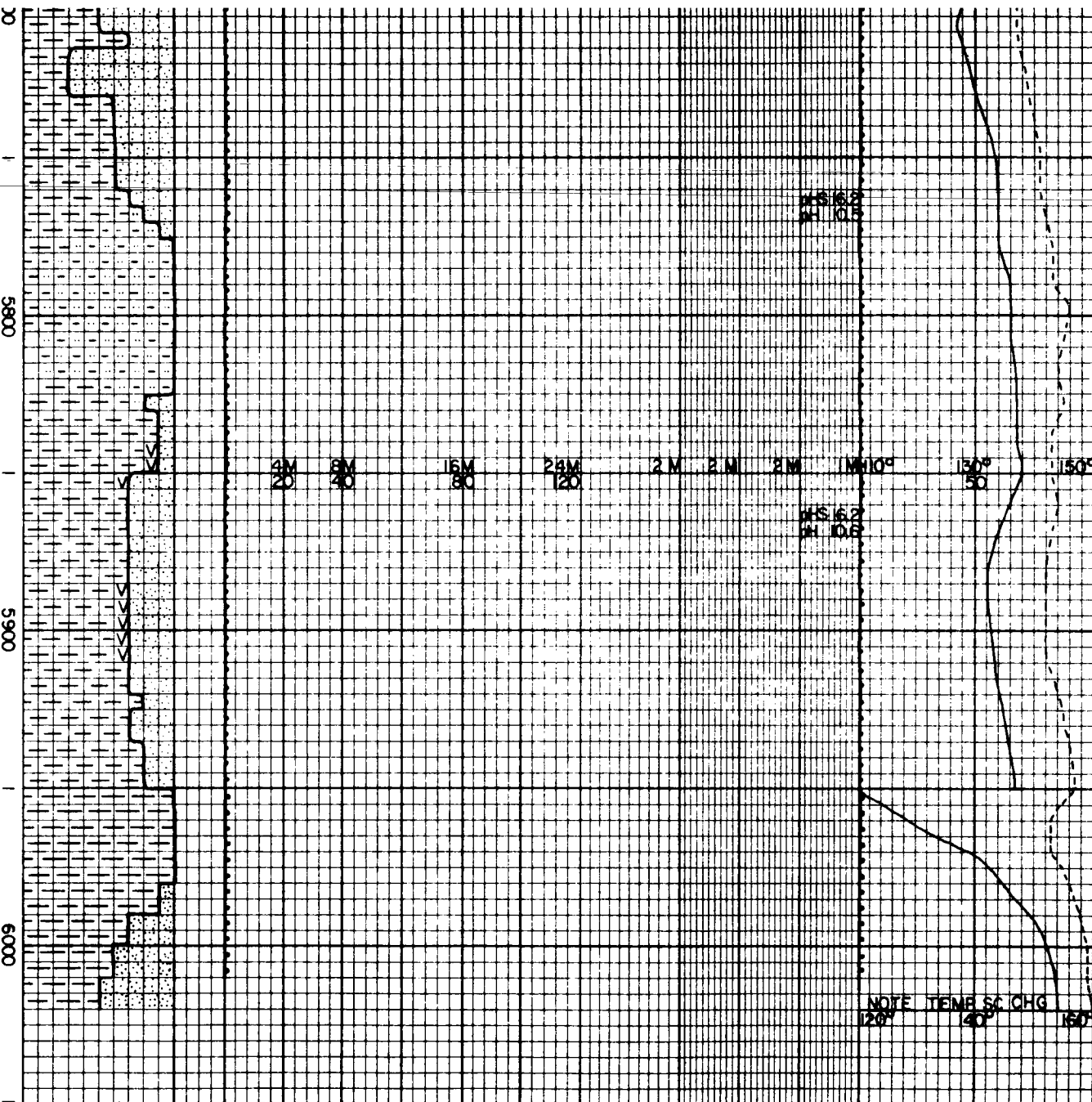
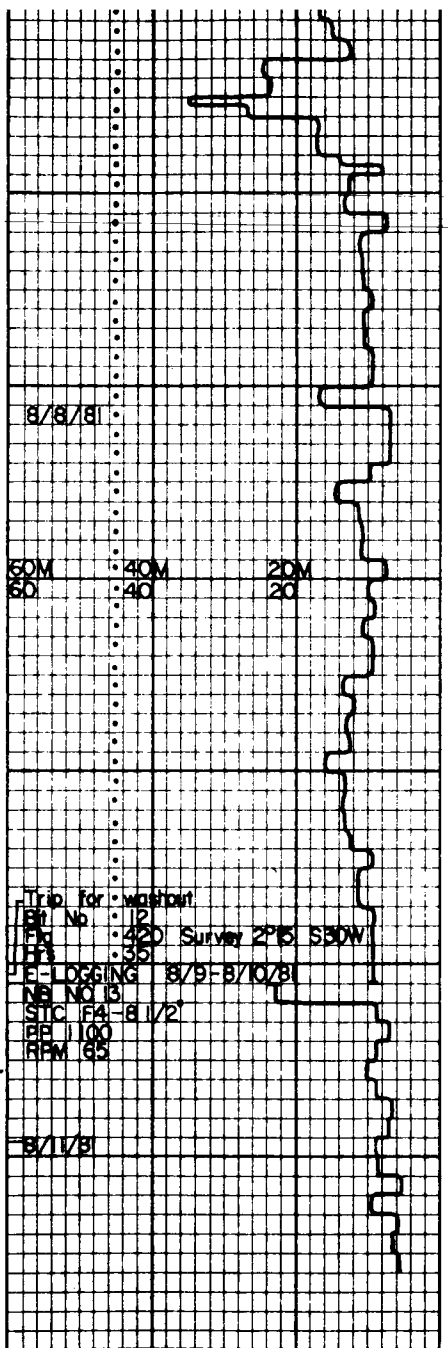
300
 QTZT msl-wht-ltgy mixln vhd
 ang blkly occ conch frac
 sme pyr tr calc frac fil

ARG dk gy-blk hd-vhd sl brit
 sl plty v blkly tr mic-mio
 tr pyr

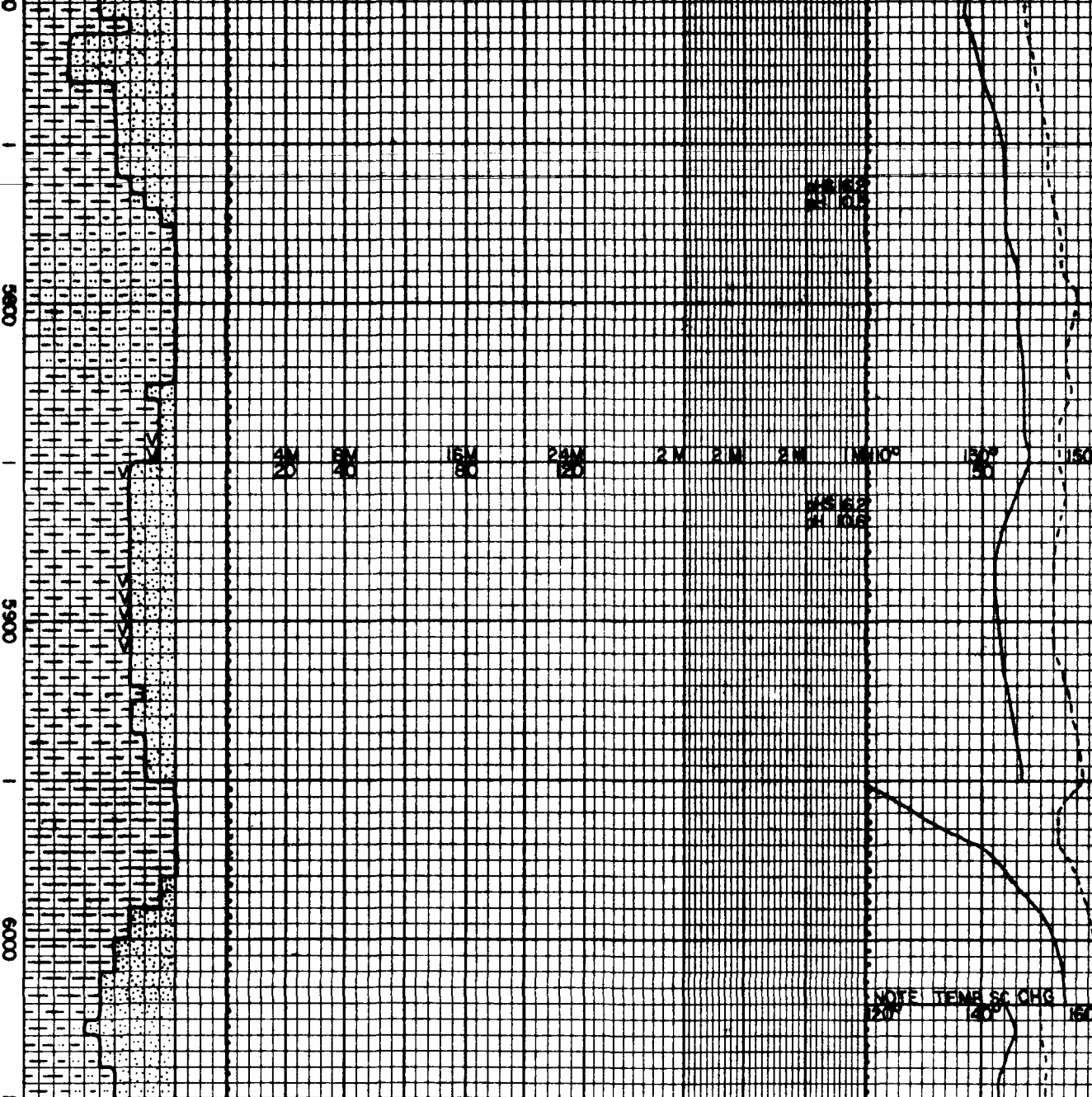
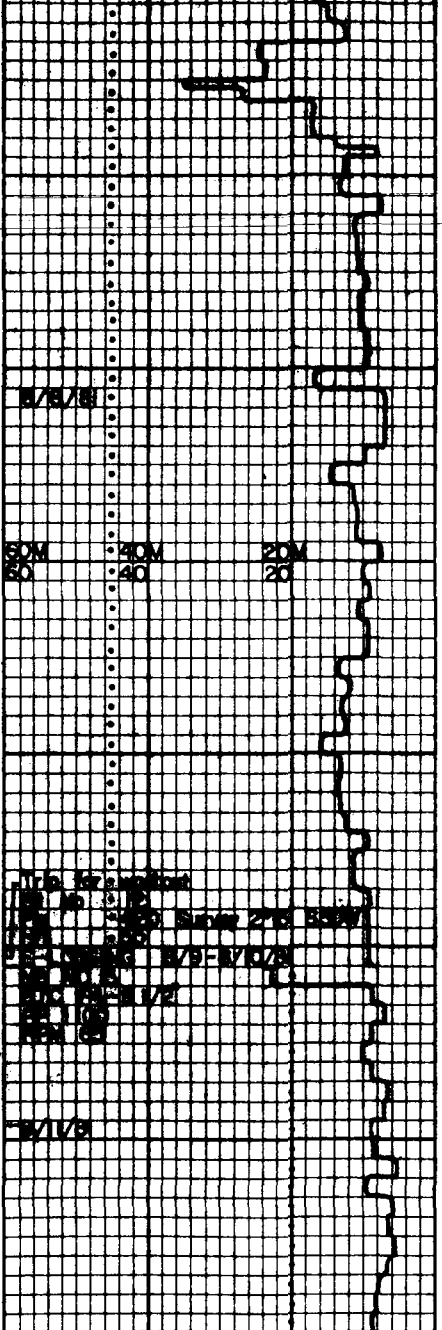
DIOR dk brn-dk gy vf-fgn
 v hd blkly abnt biot,qtz
 xenomorphic gran tr alb
 twin tr pyr biot qtz dior

DIOR dk brn-dkgn v fgr vhd
 blkly abnt biot,qtz xeno-
 morphic gran weath to
 chlor biot qtz dior

WT 8.9 pH 10.5
 VIS 36 WL 19
 FC 2 SOL 4
 CI- 300 YP 14



CI-	300
QTZT	trnsl-wht-ltgy micxln vhd ang blkly occ conc frac sme pyr tr calc frac fill
ARG	dkgy-blk hd-vhd sl brit sl pty vblkly tr mic mica tr pyr
META SLTST	m-dkgybn-bn hd-occ fri calc blkly ang vf-f-occ m qtz gr pyr sme biot sl chlor stn sl recrystallization
CI-	290
CLYST	tan-wht sme org sft-frm calc blkly festsn
WT	8.9 pH 10.5
VIS	36 WL 19
FC	2 SOL 4
CI-	300 YP 14
BAS	ltgy op vhd blkly ophan calc frac fill tr pyr
QTZT	lt-sme mgy occ trnsl-wht micxln-sme vf gr tex vhd ang blkly occ conc frac tr pyr
ARG	m-dkgy-occ blk vfr m-hd sl calc blkly-pty-sme fias ang mic mica occ pyr tr f-matz gr
QTZT	lt-sme mgy occ trnsl-wht micxln-sme vf gr tex vhd ang blkly occ conc frac tr pyr
CI-	300
ARG	lt brn-blk fri-hd v brit v fis pty v calc mic-mica tr pyr tr calc frac fill
QTZT	mlky wh-ltgy fri-hd micxtn sl calc tr pyr



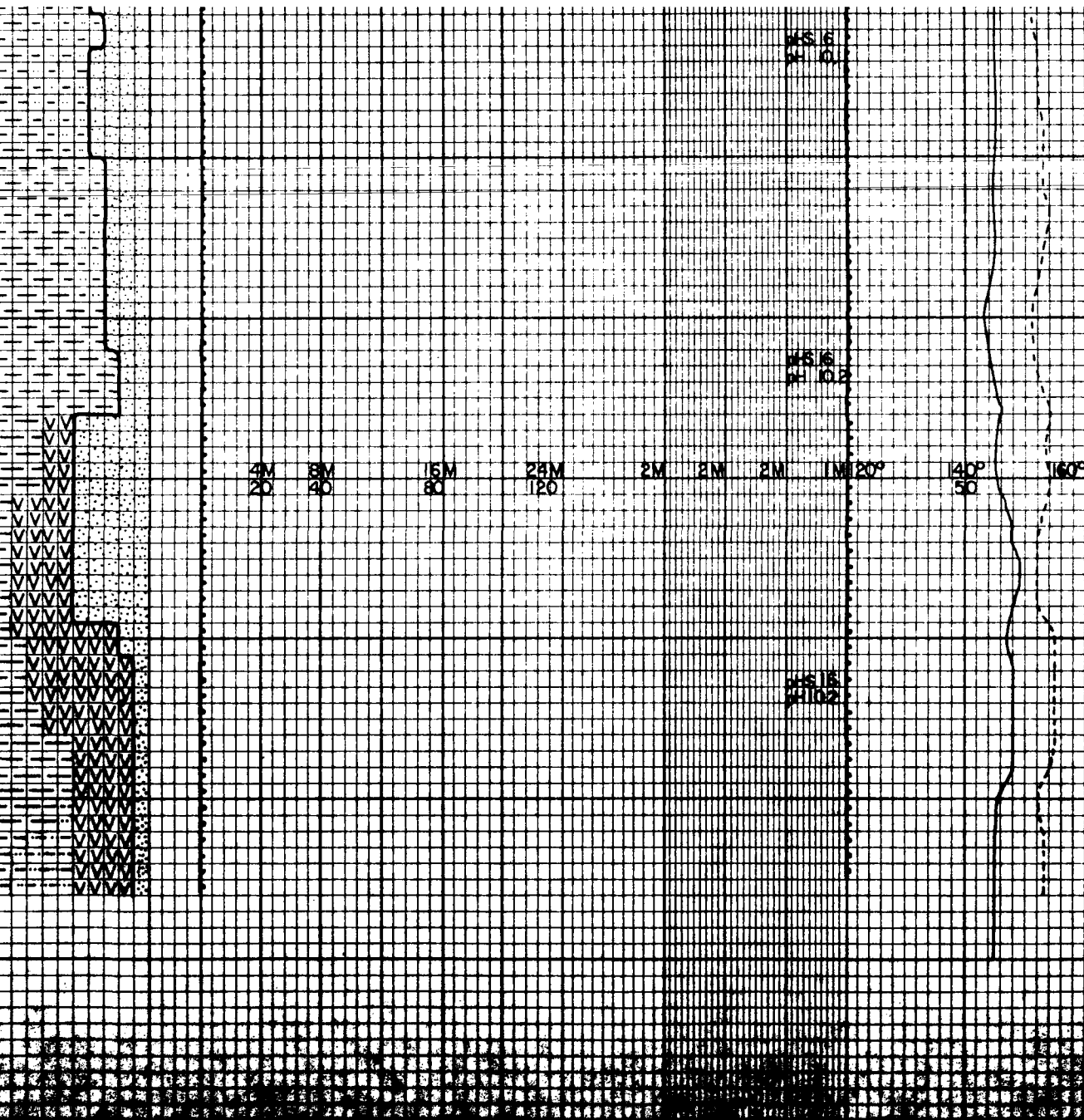
CI-	300		
QTZT	trml-wht-ltgy mtdn vhd ang blk occ conc frac ssm pyr tr calc frac fill		
ARG	dk gy-blk hd-vhd sl brit slpty vblky tr mic mica tr pyr		
META SLTST	m-dkgy/bn-bn hd-occfri calc blk ang vl-f-occ m qtz gr pyr ssm blot sl chta sm sl recrystallization		
CI-	290		
CLYST	tan-wht ssm ang sft-frm calc blk testn		
WT	8.9	pH	10.5
VIS	36	WL	19
FC	2	SOL	4
CI-	300	YP	14
BAS	lt gy op vhd blk aphan calc frac fill tr pyr		
QTZT	lt-sme mgy occ trml-wht mtdn-sme vl gr tax vhd ang blk occ conc frac tr pyr		
ARG	m-dkgy-occ blk vfr m-hd sl calc blk-pty-sme fise ang mic mica occ pyr tr f- mqtz gr		
QTZT	lt-sme mgy occ trml-wht mtdn-sme vl gr tax vhd ang blk occ conc frac tr pyr		
CI-	300		
ARG	lt brn-blk fri-hd v brit v flie pty v calc mic-mica tr pyr tr calc frac fill		
QTZT	mlky wh- lt gy fri-hd micxtin sl calc tr pyr		
NOTE	TEMP SC CHG		
WT	8.9	pH	10.5
VIS	36	WL	18.8
FC	2	SOL	4
CI-	300	YP	15

Survey 2°15' N 75° W

50M 40M 20M
60 40 20

5/12/81

6100
6200
6300



ME 1A
SILTST gy-gy bn sme gn calc hd
ang blk occ biot sme chlor
stm tr pyr

ARG occ m-dk gy-blk calc hd
v brit ang pty-occ fss mic
mica tr pyr occ qtz & calc
frac fill

META
SS lt gy-bn sme gn f-mgr calc
hd blk pred qtz w/ occ
mafic & biot occ pyr sme
chlor stm

CARBIDE LAG 5919 stks
12 units 102 min 58 cpm

QTZ wht-miky trnl vhd blk y and
from vns & frac fill

ARG dk brn-gy hd v brit pty
v fss mic-mica v calc
tr pyr

CI- 300

BAS blk vhd blk y aphan cal
frac fill

TR calcite from veins

QTZT wh-lt gy vhd blk y mica
sl calc tr pyr

META
SILTST gn-gy vf gr hd-vhd brit
abnt biot, qtz weath to
chlor

Survey 2°15' N 75° W

60M 60
40M 40
20M 20

8/12/8

Survey 1°45'

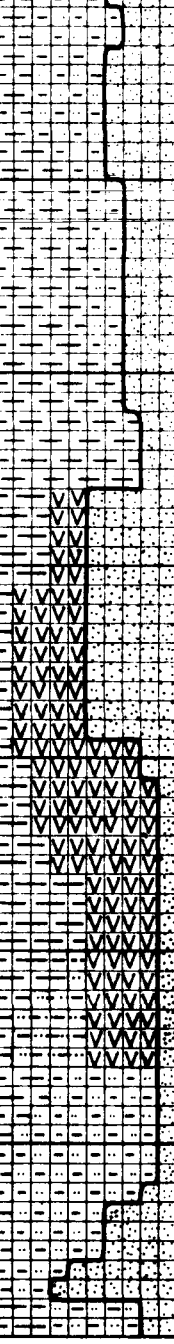
AP 16
P 16
N 16
S 16
E 16
W 16
NE 16
NW 16
SE 16
SW 16
N 16
S 16
E 16
W 16
NE 16
NW 16
SE 16
SW 16
N 16
S 16
E 16
W 16
NE 16
NW 16
SE 16
SW 16
N 16
S 16
E 16
W 16
NE 16
NW 16
SE 16
SW 16
N 16
S 16
E 16
W 16
NE 16
NW 16
SE 16
SW 16

0019

6200

6300

64



LAT

W.S. 16
1010

W.S. 16
1012

W.S. 16
1012

W.S. 16
1018

META SLTST gy-gy bn sme gn calc hd
ang blk occ biot sme chlor
stn tr pyr

ARG occ m-dk gy-blk calc hd
v brit ang plty-occ fis mic
mica tr pyr occ qtz & calc
frac fill

META SS lg-gy-bn sme gn f-mgr calc
hd blk pred qtz w/occ
mafic & biot occ pyr sme
chlor stn

CARBIDE LAG 5919 stks
12 units 102 min 58 cpm

QTZ wht-miky trmsl vhd blk ang
from vns & frac fill

ARG dk brn-gy hd v brit plty
v fis mic-mica v calc
tr pyr

CI- 300

BAS blk vhd blk aphan cal
frac fill

TR calcite from veins

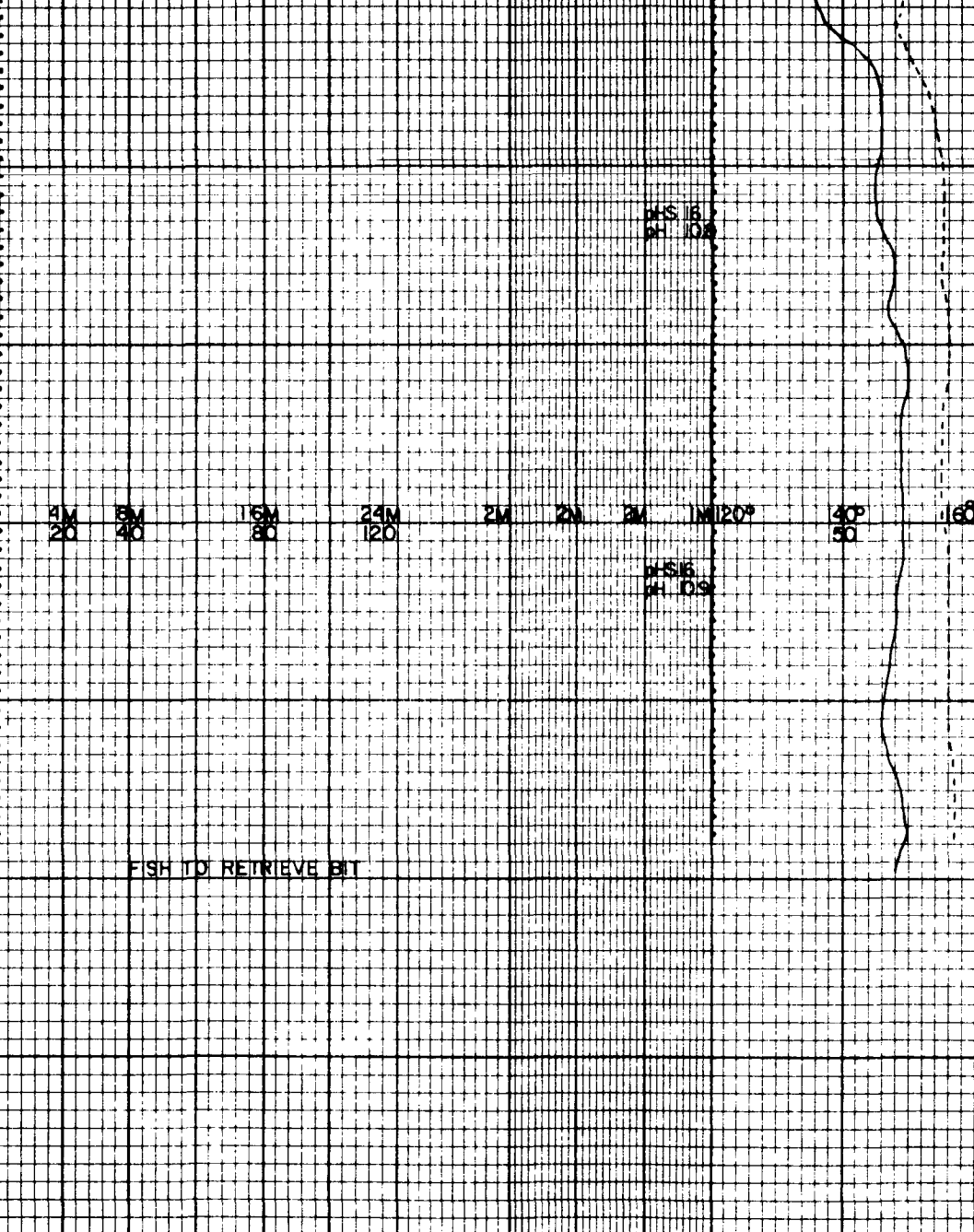
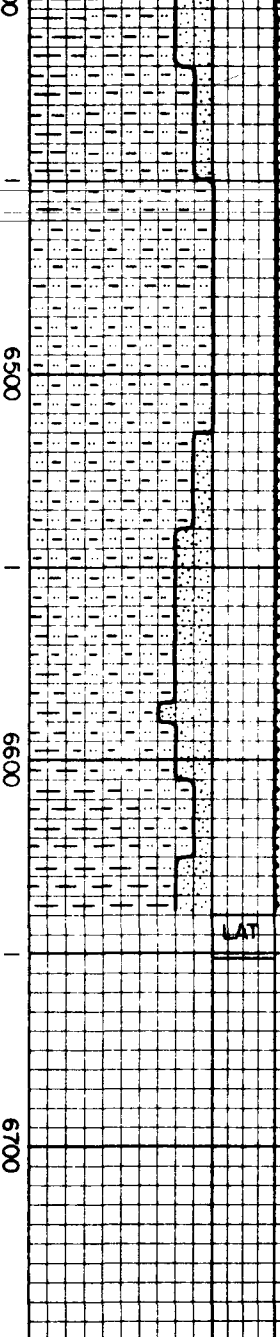
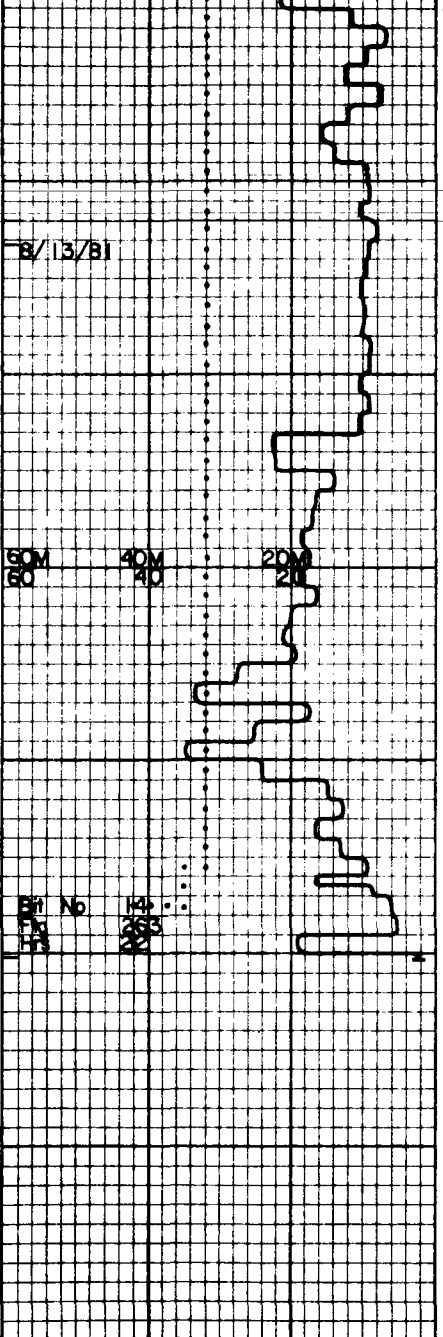
QTZT wh-it gy vhd blk mica
sl calc tr pyr

META SILTST gn-gy vf gr hd-vhd brit
qbnt biot, qtz weath to
chlor

WT 8.9 pH 10.5
VS 37 WL 18.6
FC 2 SOL 4
CI- 300 YP 15

ARG occ m-dk gy-blk hd calc
sme blk-gy-plty-occ fis ang
brit mic mica tr pyr sme qtz
frac fill

CI- 300



META SLTST	mlky wh-gy vf-f gr fri-hd blk pred qtz w/abnt biot (10-20%) tr plag lgh w/albtwin abnt (10%) pyr gn chlor stn
ARG	brn-gy plty vfls fri-hd mic-mica
CI-	300
META SLTST	wht-gy vf-fgr fri-hd blk pred qtz w/abnt biot tr plag tr pyr biot weath to chlor
WT	8.9 pH 10.8
VIS	39 WL 18
FC	2 SOL 4
CI-	300 YP 12
QTZT	wht-ltgy micxn-vfgr tex hd calc blk ang tr pyr
ARG	dk bn-dkgy frm-hd calc blk-occfiss occ ang mic mica occ biot & pyr grd to meta slst
META SS	wht-ltgy vf-fgr slfrm-hd v calc blk pred qtz w/plag & biot occ pyr occ biot after to chlor
CARBIDE LAG	5599 stks
4units	96.5min 58min
META SLTST	ltgy-ltbn-smagn frm-hd calc occ ang blk a bnt f-m qtz gr plag biot pyr tr musc occ biot & musc alter to chlor sme qtz & calc frac fill

B/13/B

50M 40M 20M

Bit No 2815

PHS 18
PH 10.8

PHS 18
PH 10.8

LAT

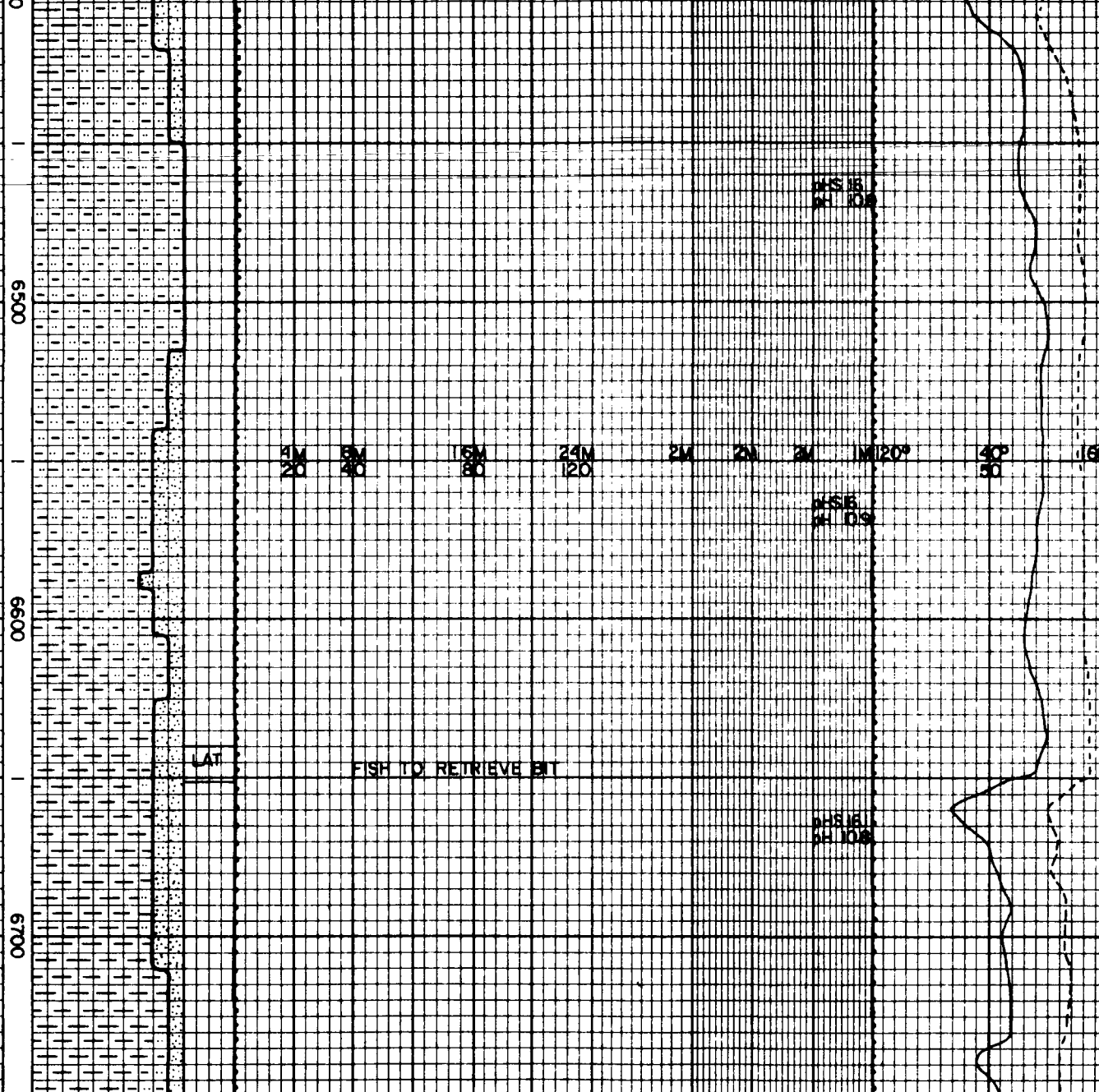
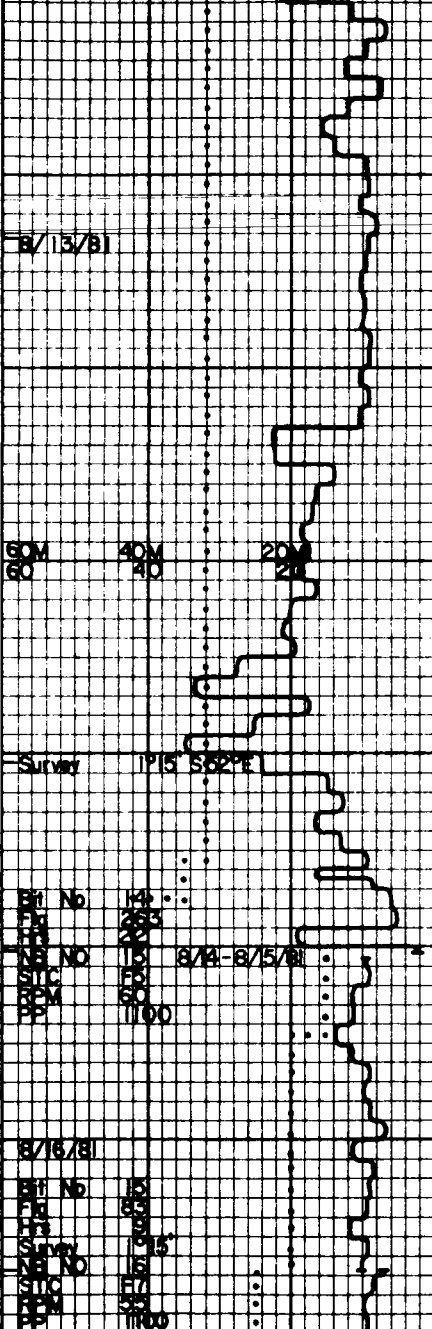
FISH TO RETRIEVE BIT

6500

6600

6700

4M 5M 15M 24M 2M 2M 2M 1M 120° 40° 60°



META SLTST mlky wh-gy vf-f gr fri-hd blk pred qtz w/abnt biot (10-20%) tr plag lath w/albtwin abnt (10%) pyr gn chlor stn

ARG brn-gy plty v fis fri-hd mic-mica-

CI 300

META SLTST wht-gy vf-fgr fri-hd blk pred qtz w/abnt biot tr plag tr pyr biot weath to chlor

WT 8.9 pH 10.8

VIS 39 WL 18

FC 2 SOL 4

CI- 300 YP 12

QTZT wht-ltgy micxn-vf gr tex hd calc blk ang tr pyr

ARG dk brn-dk gy frm-hd calc blk-occ fiss occ ang mic mica occ biot & pyr grdg to meta siltst

META SS wht-ltgy vf-fgr slfrm-hd v calc blk pred qtz w/plag & biot occ pyr occ biot alter to chlor

CARBIDE LAG 5599 stks
4 units 96.5 min 58 min

META SLTST ltgy-lt br-smagn frm-hd calc occ ang blk abnt f-m qtz gr plag biot pyr tr musc occ biot & musc alter to chlor sme qtz & calc frac fill

ARG dk gy-blk plty fiss hd v hd mic mica tr pyr & qtz

TR ely dk gy sft stky

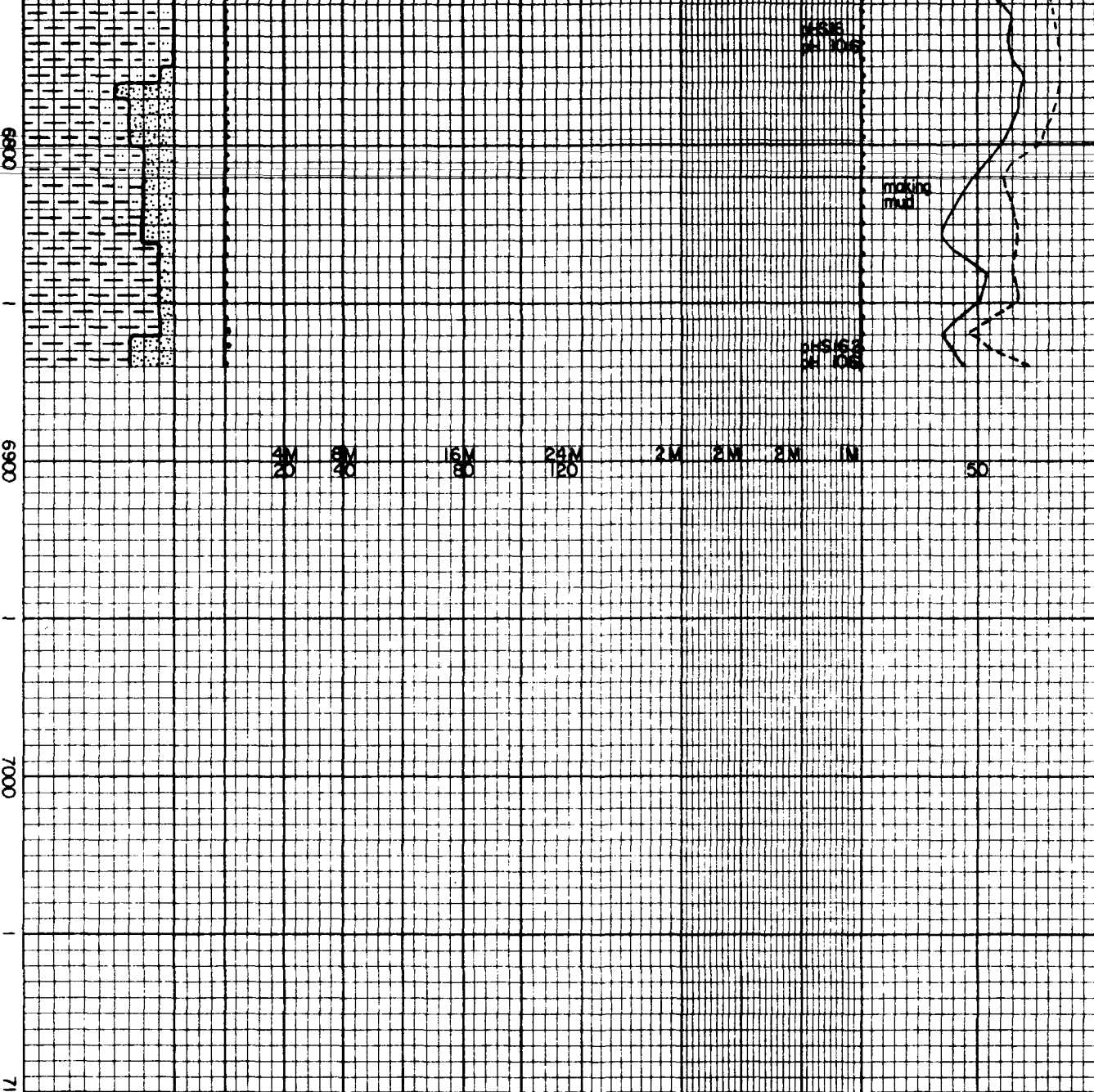
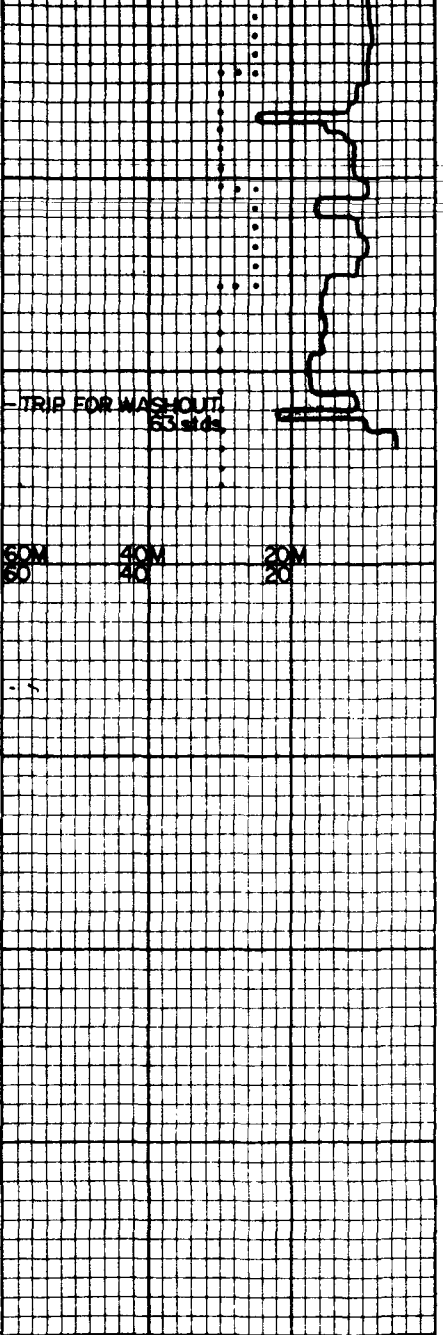
WT 8.9 pH 10.8

VIS 36 WL 18

FC 2 SOL 4

CI- 300 YP 12

QTZT wht-occ tan mass hd blk ang occ fisn from frac fill



ARG m-dk gy- blk occ gy bn hd
calc ang bly mic mica sme
mic pyr occ qtz B calc frac
fill trf-mqtz gr

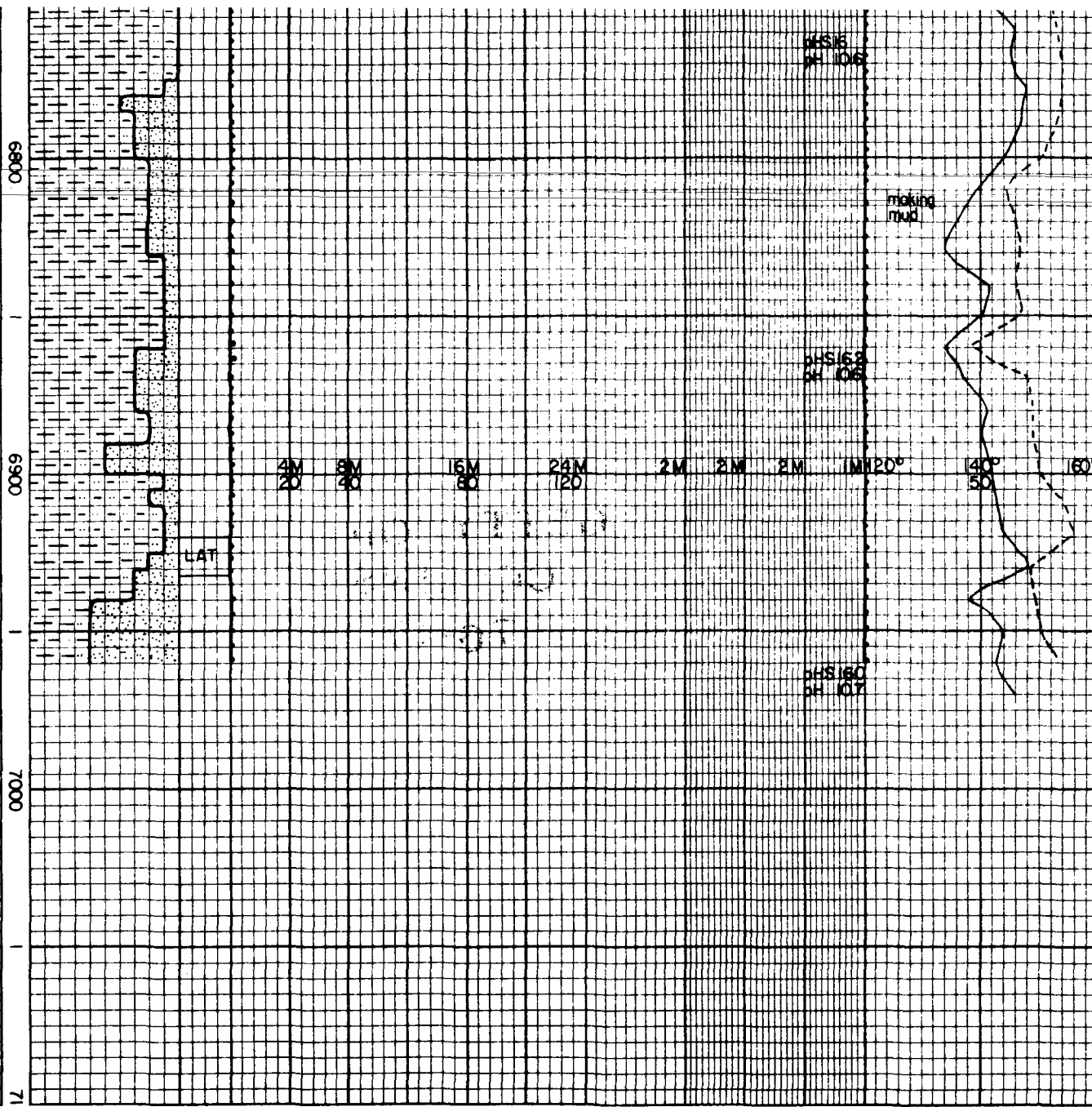
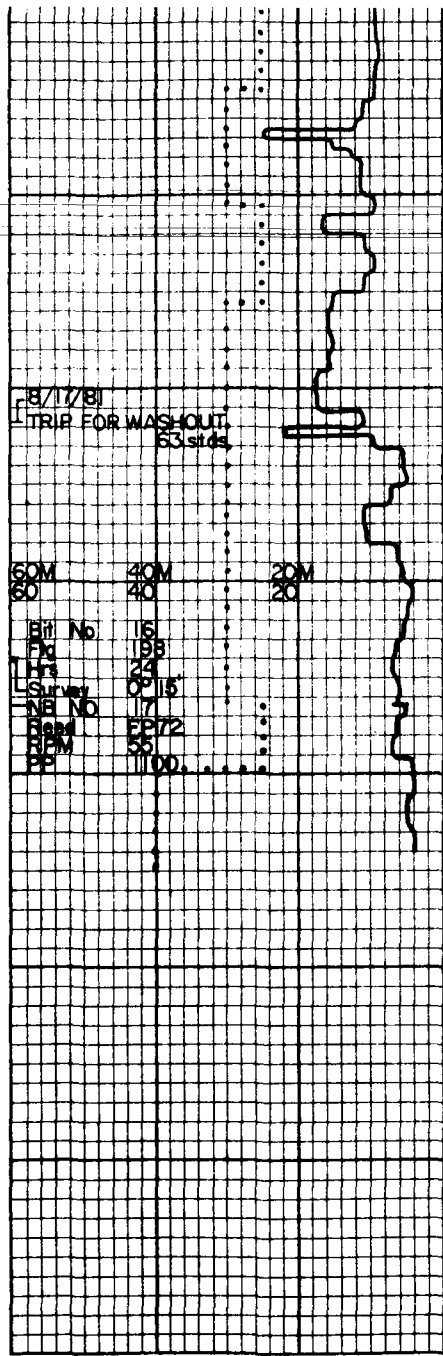
CI- 300

META
SLTST ff-m-occ dk gy frm-hd calc
bly ang abn qtz gr biot B
occ musc sme pyr grd gtoar

CARBIDE LAG 6113 stks
46 units 102 mins 59 cpm

WT 88 pH 106
VIS 36 WL 16
FC 2 SOL 4
CI- 300 YP 4

making mud



ARG m-dk gy-blk occ gy bn hd calc ang blk mic mica sme mic pyr occ qtz & calc frac fill trf-m qtz gr

CI- 300

META SLTST lt-m-occ dk gy frm-hd calc blk ang abnt qtz gr biot & occ musc sme pyr grd to ang

CARBIDE LAG 6113 stks
46 units 102 mins 59 cpm

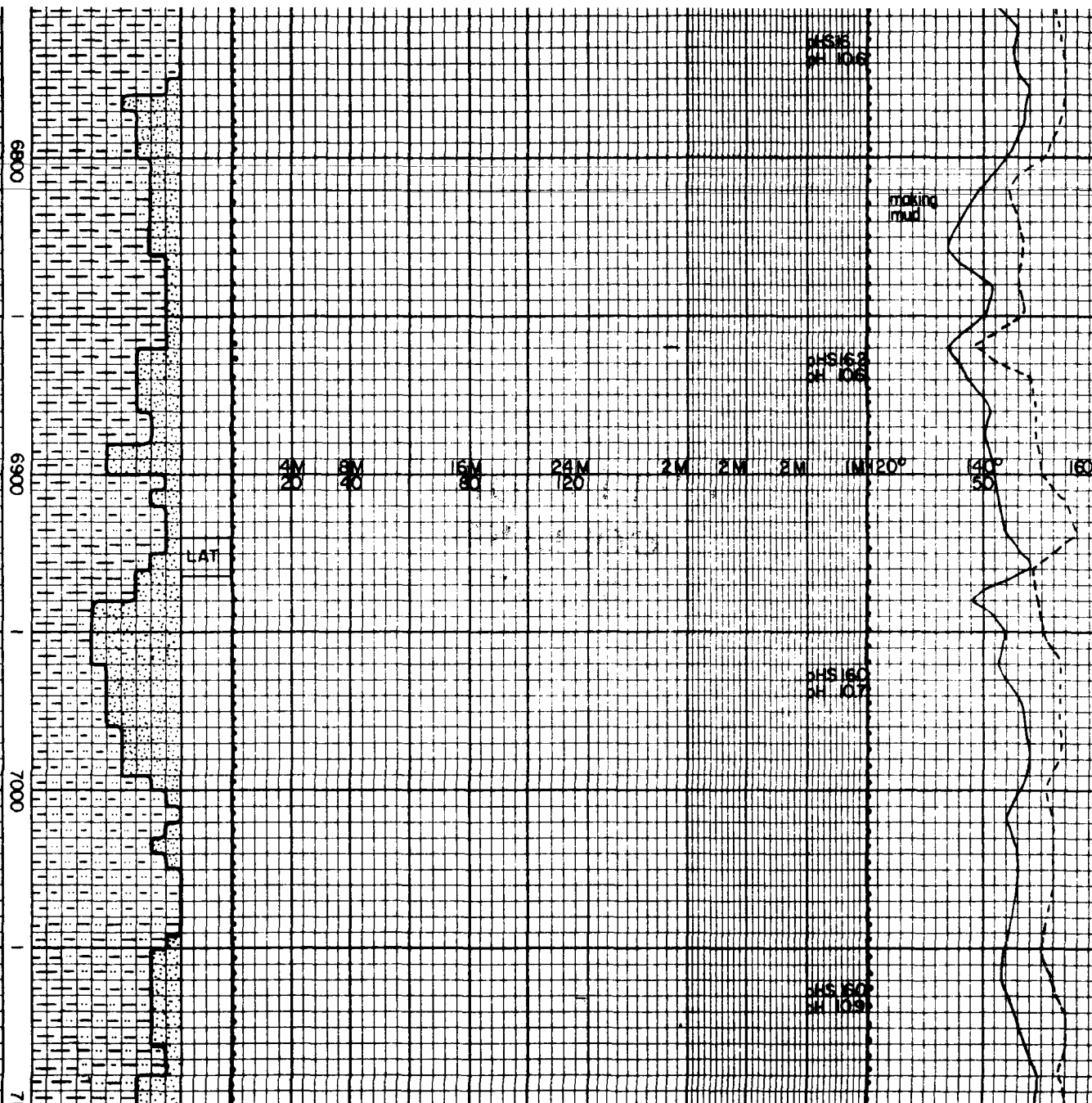
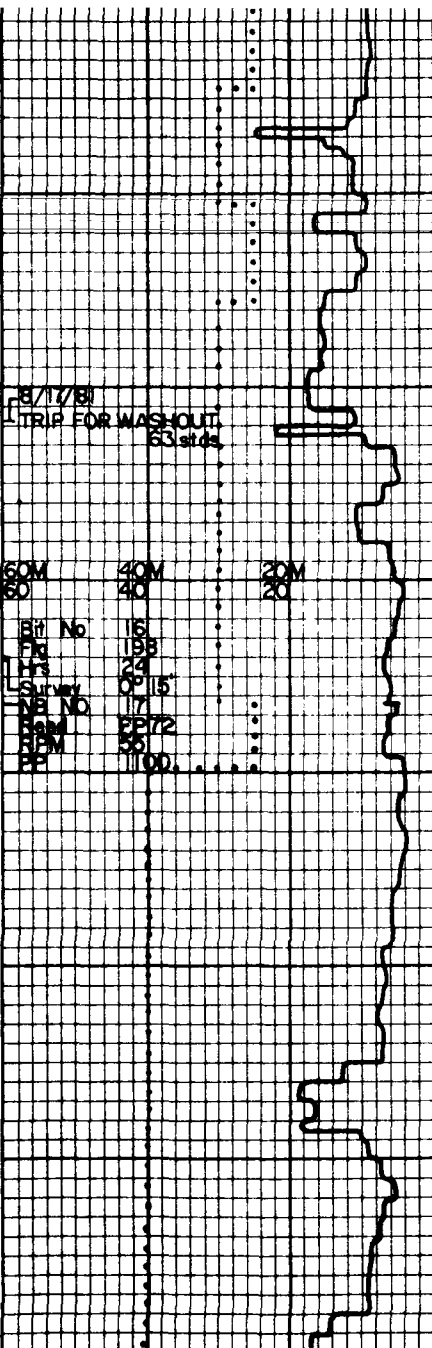
WT 88 pH 106
VIS 36 WL 16
FC 2 SOL 4
CI- 300 YP 4

META SS wht-ltgy vf-fgr tex frm-hd calc blk occ ang pred qtz w/sme plag biot occ pyr sl rextalization

QTZT wht-ltgy-ton-org bn mic blk vfgr tex hd calc blk ang sme conc frac tr pyr occ fe sm

CI- 280

LIGNITE ADDED TO MUD



ARG m-dk gy - blk occ gy bn hd calc ang blkly mic mica sme mic pyr occ qtz B calc frac fill trf-mqtz gr

CI 300

META SLTST lt-m-occ dk gy frm-hd calc blkly ang abnt qtz gr biot B occ musc sme pyr grd to arg

CARBIDE LAG 6113 stks
46 units 102 mins 59 cpm

WT 88 pH 10.6
VIS 36 WL 16
FC 2 SOL 4
CI 300 YP 4

META SS wht-ltgy vf-gr tex frm-hd calc blkly occ ang pred qtz w/sme plag biot occ pyr sl rextalization

QTZT wht-ltgy-tan-org bn mic ltr vf-gr tex hd calc blkly ang sme conc frac tr pyr occ fe stn

CI 280

LIGNITE ADDED TO MUD

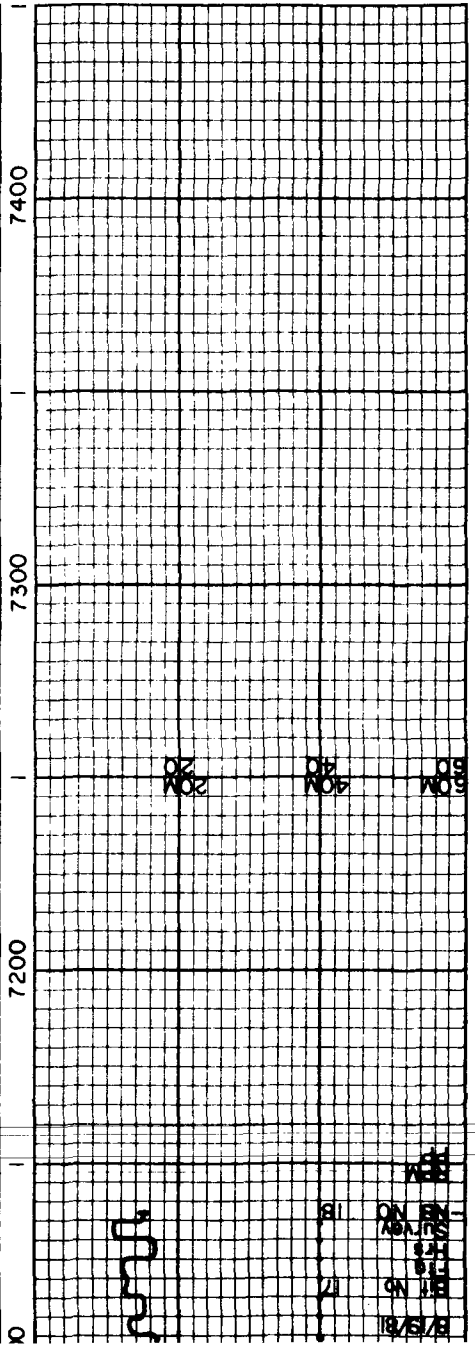
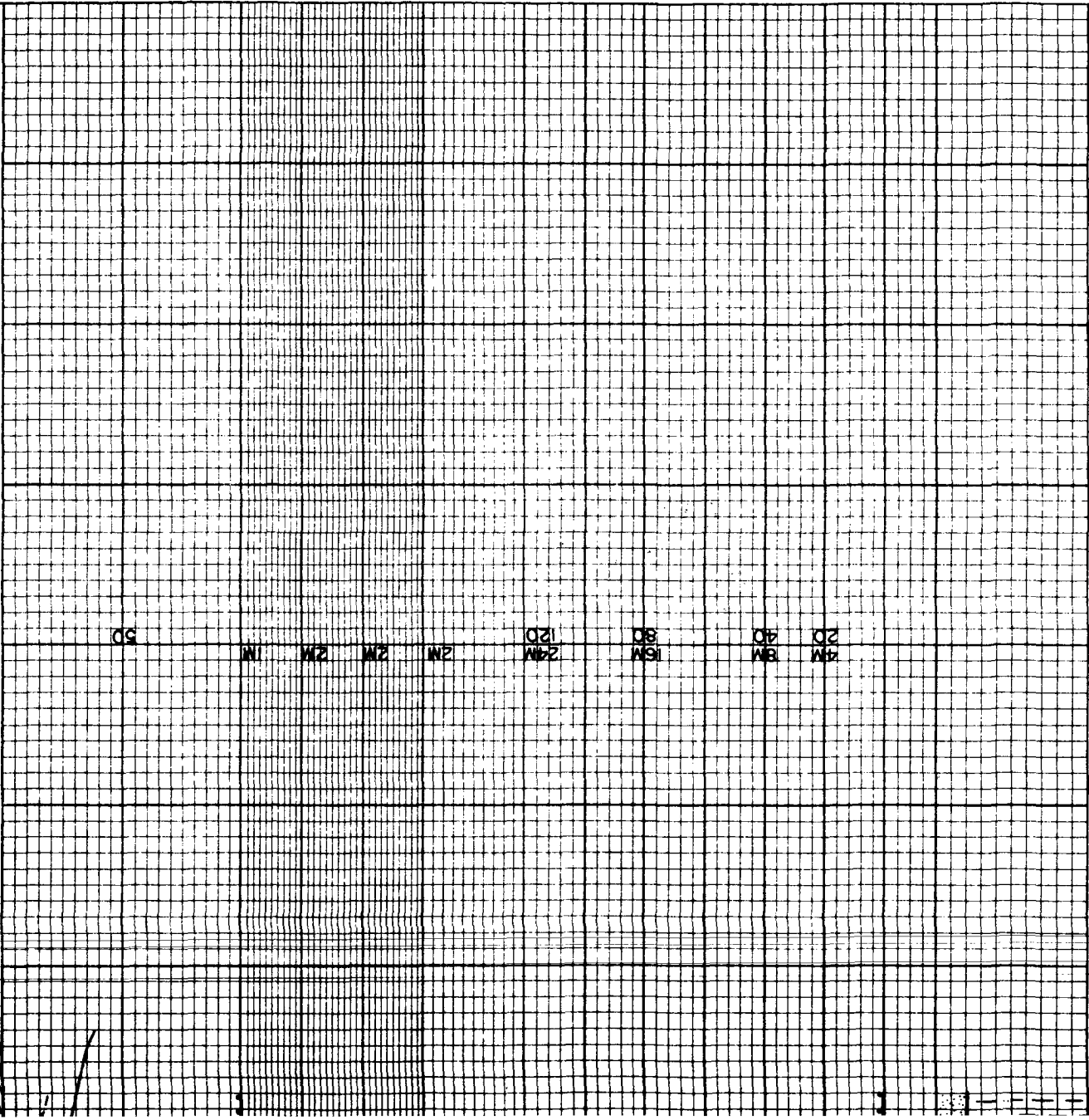
WT 8.9 pH 10.6
VIS 37 WL 16.4
FC 2 SOL 4
CI 300 YP 6

ARG m-dk gy-occ gy bn frm-hd sl-m calc blkly-occ fss m-vang mic mica tr mic pyr sl grd to meta sltst

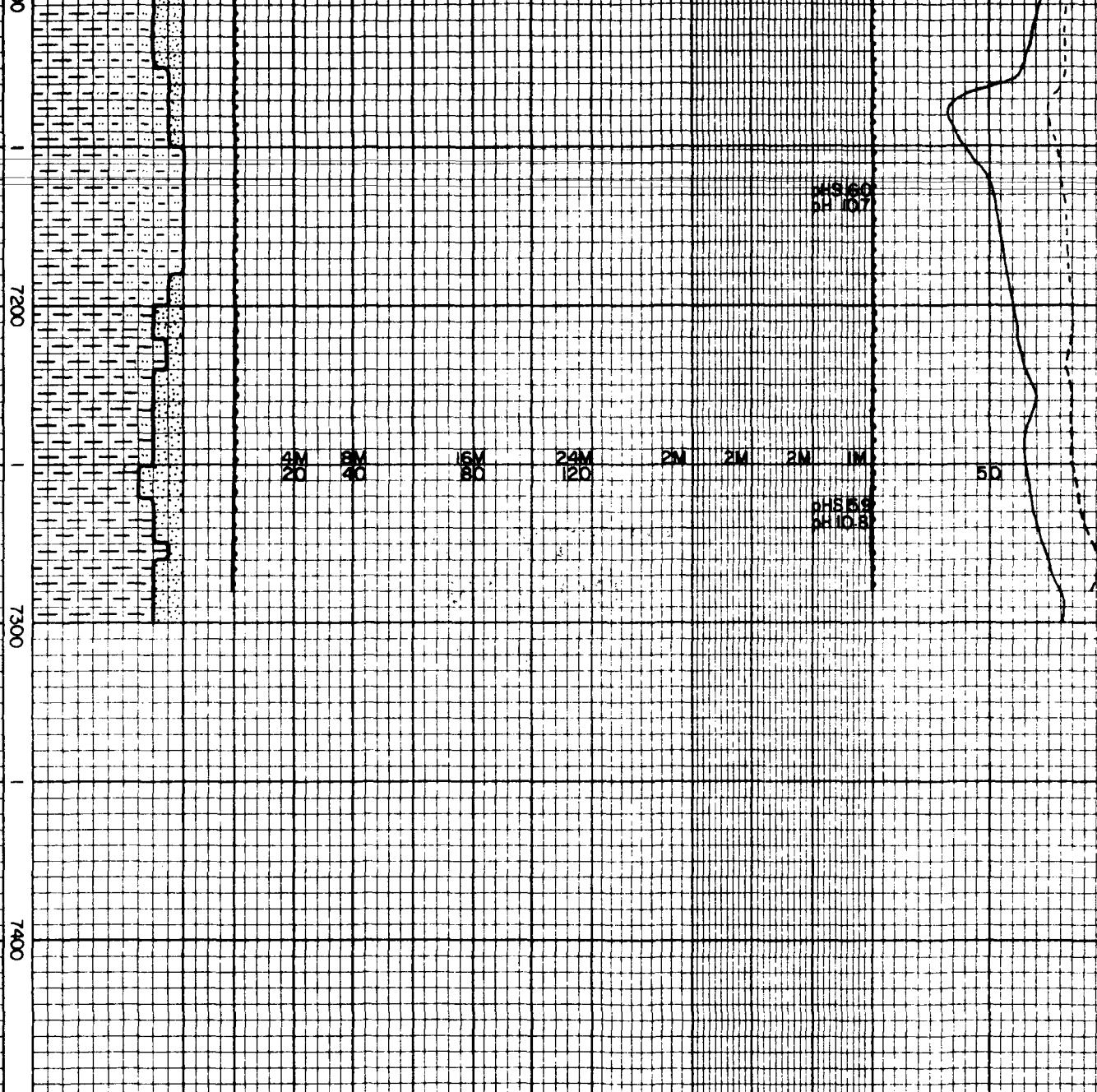
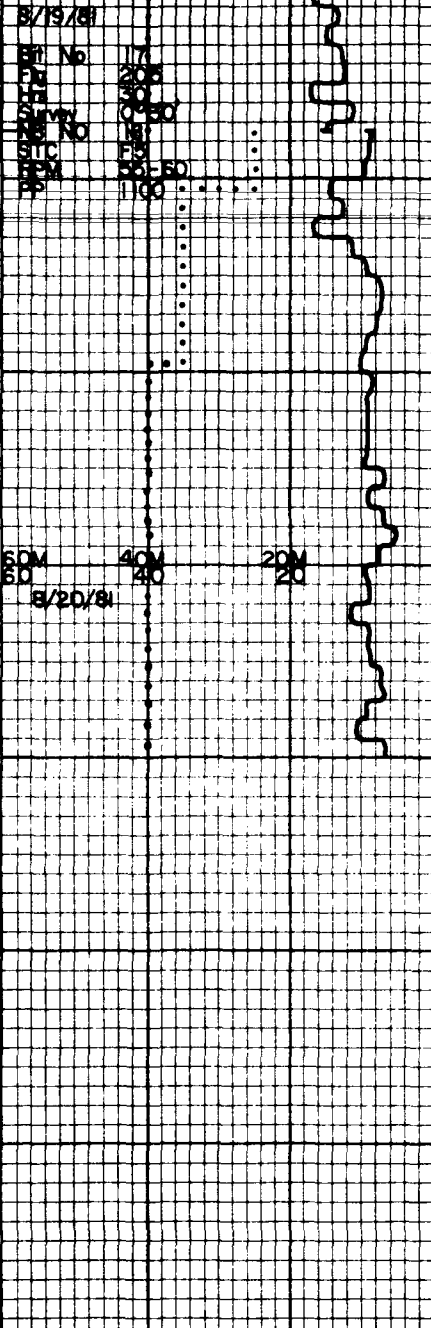
META SLTST trns-ltgy-mgy occ gn fri-vfrm voalc blkly abnt qtz plag biot sme musc occ pyr sme chlor stn

QTZT wht-lt gy hd-frm ang blkly ms fly xtals occ t-c fused grns forming meta ss tr pyr biot occ grn stn

WT 69
PH 408
CL 300
FC 2
VIS 38
WL SOL
YP 4
6 14
108



B/S/B
BIT NO
H/S
SURV
NO
18



ARG m-dkgy-smegybnfrm-hd
calc biky-ocfies m-vang
mic mica sme pyr sigrdg to
meta sltst

WT 8.9 pH 10.8
VIS 38 WL 14
FC 2 SOL 4
CI 300 YP 6

META SLTST lt-mgy-gybn fri-vfrm vcalc
biky sme ang abnt qtz plag
biot occ pyr

QTZT wh-cl-lt gy ang biky
mstly qtz frac sme
meta ss mass when so
tr biot

TR calc xtals

ARG m-dk gy hd-frm fiss
mic mica occ glassy app
tr pyr

WT 89 pH 106
VIS 37 WL 14.2
FC 2 SOL 4
CI 300 YP 12

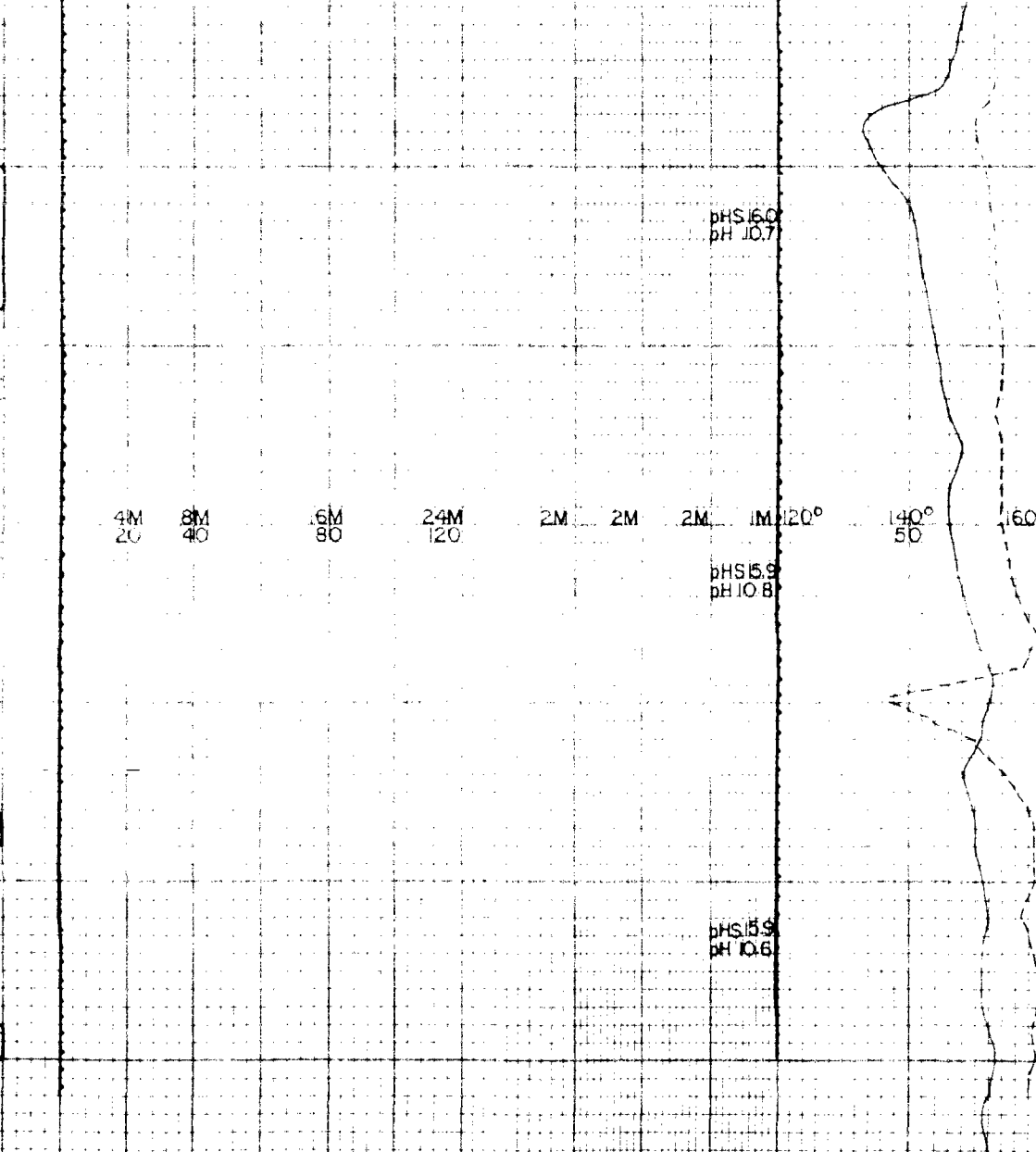
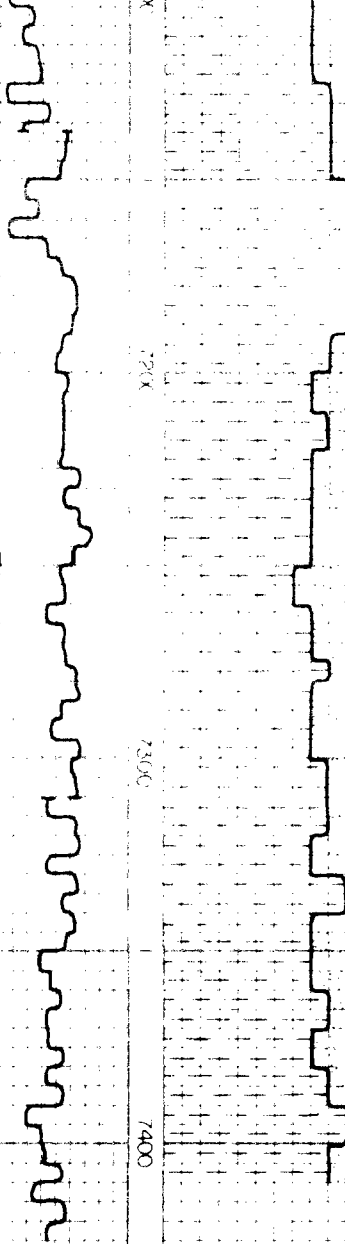
LIGNITE ADDED TO MUD

Bit No 8
 Log No 74
 Hrs 20.5
 Survey
 Job No 19
 Smith F5
 RPM 65
 PP 1200

60M 60
 40M 40
 20M 20
 8/20/81

Bit No 8
 Log No 74
 Hrs 20.5
 Survey
 Job No 19
 Smith F5
 RPM 65
 PP 1200

8/21/81



ARGs m-dk gy-sme gssk fr-m mic
 calc biky-occ fiss m-dk
 mic mica sme pyr sig drg to
 meta slst

WT	8.9	pH	10.8
VIS	38	WL	14
FC	2	SOL	4
CI	300	rP	6

META
 SLTST fr-m gy-gy bn fr-v fr-m calc
 alky sme ang abrit qtz plac
 biot occ pyr

QTZT wh-cl-lt gy ang biky
 mstly qtz frac sme
 meta ss mass when so
 tr biot

TR calc xtals

ARG m-dk gy hd fr-m fiss
 mic mica occ gissy app
 tr pyr

WT	8.9	pH	10.6
VIS	37	WL	14.2
FC	2	SOL	4
CI	300	YP	12

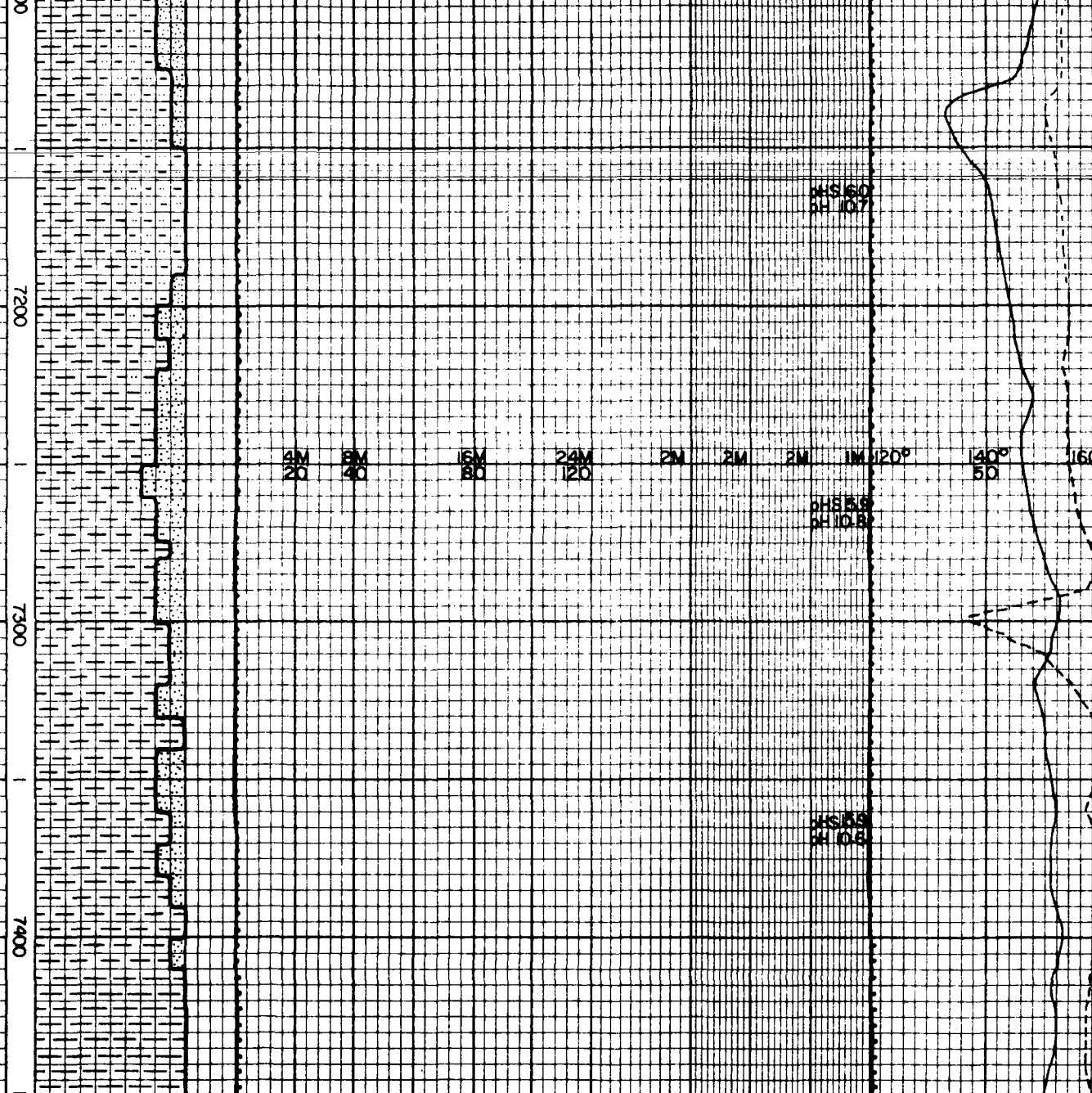
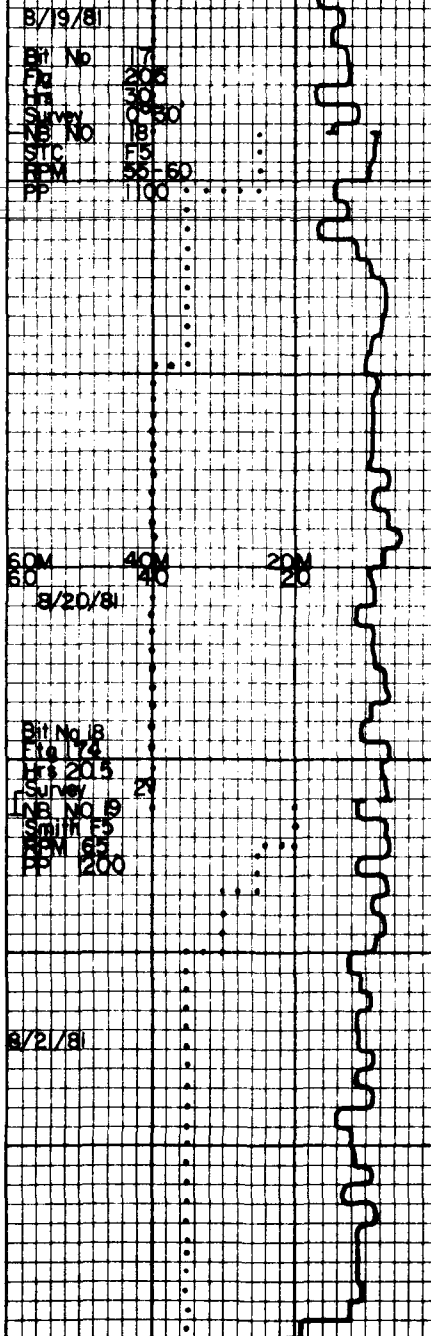
LIGNITE ADDED TO MUG

TR is buff-lt brn fr-m biky
 occ mass

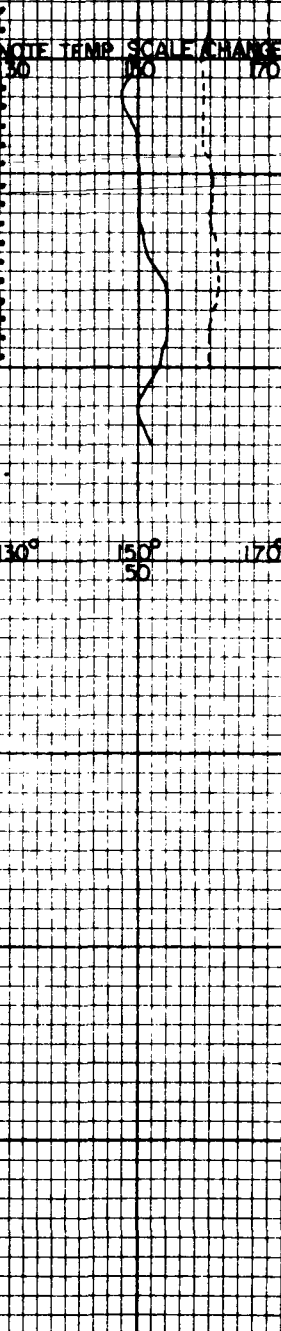
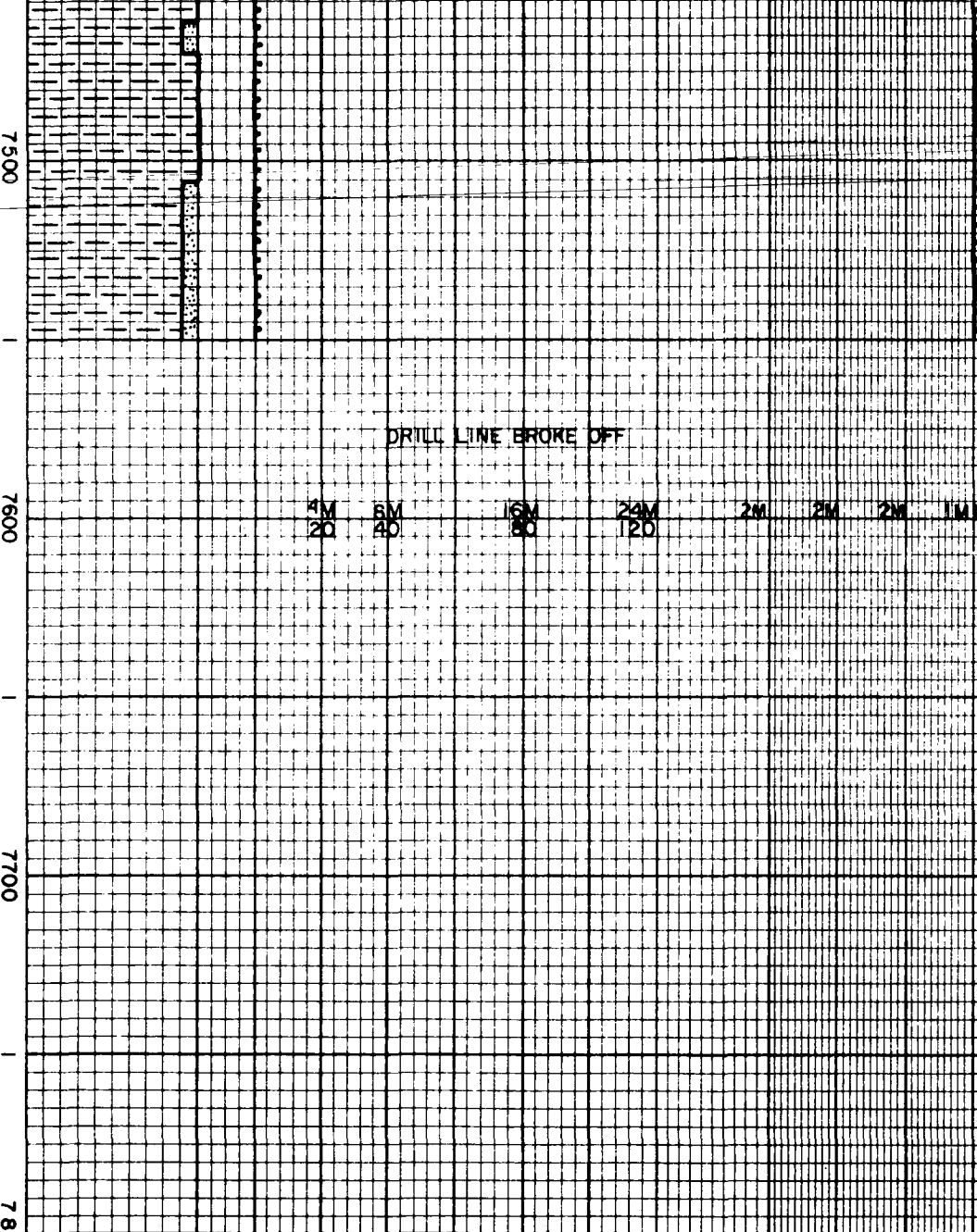
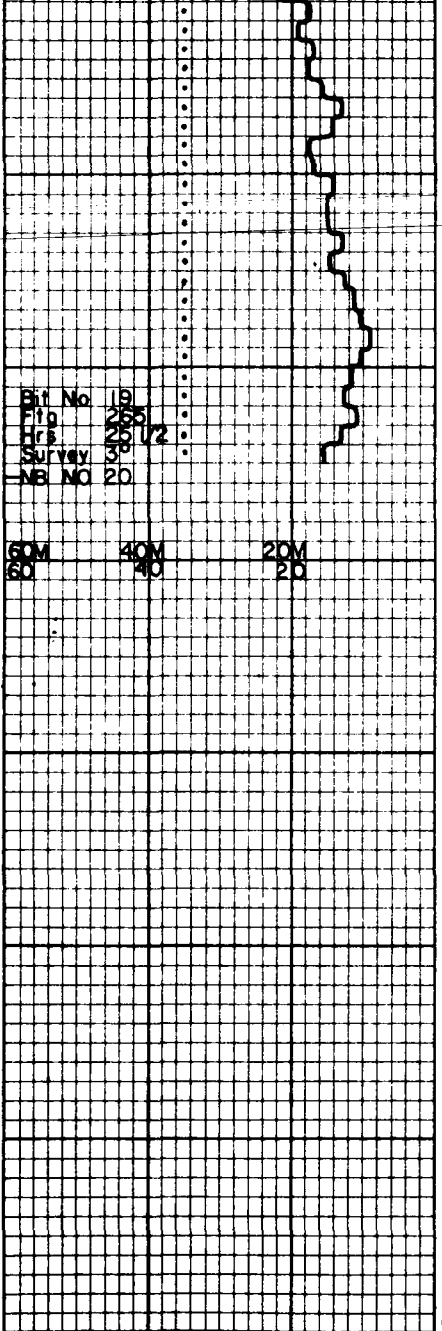
CI 350

QTZT wh-lt gy occ biky ang
 biky sl calc both frac
 fill and meta ss fused
 fr-m ang-sr grns tr pyr
 xtals biot

ARG m-lt gy fr-m-hd mstly
 fiss occ biky mic mica
 occ gissy app tr pyr
 xtals



ARG	m-dkgy-smegybfrn-hq calc biky-occfiss m-v and mic mica sme pyr sigrdg to meta sltst
WT	8.9 pH 10.8
VIS	38 WL 14
FC	2 SOL 4
CI-	300 YP 6
META SLTST	lt-mgy-gybnfri-vfrm vcalc biky sme ang abnt qtz plag biot occ pyr
QTZT	wh-cl-lt gy ang biky mstly qtz frac sme meta ss mass when so tr biot
TR	calc xtals
ARG	m-dk gy hd-frm fiss mic mica occ glassy app tr pyr
WT	8.9 pH 10.6
VIS	37 WL 14.2
FC	2 SOL 4
CI-	300 YP 12
LIGNITE ADDED TO MUD	
TR	ls buff-lt brn frm biky occ mass
CI-	350
QTZT	wh-lt gy occ blk ang biky sl calc both frac fill and meta ss fused t-m ang-sr grns tr pyr xtals biot
ARG	m-lt gy frm-hd mstly fiss occ biky mic mica occ glassy app tr pyr xtals
ARG	dk brn-lt gy fri-hd mic-mica plty-biky tr pyr
CI-	370



QTZT ll-dk gy hd vf-f gr pred
qtz xtl chlor sm meta
se

CARBIDE LAG 6140 stks
40 units 102 min 60spm

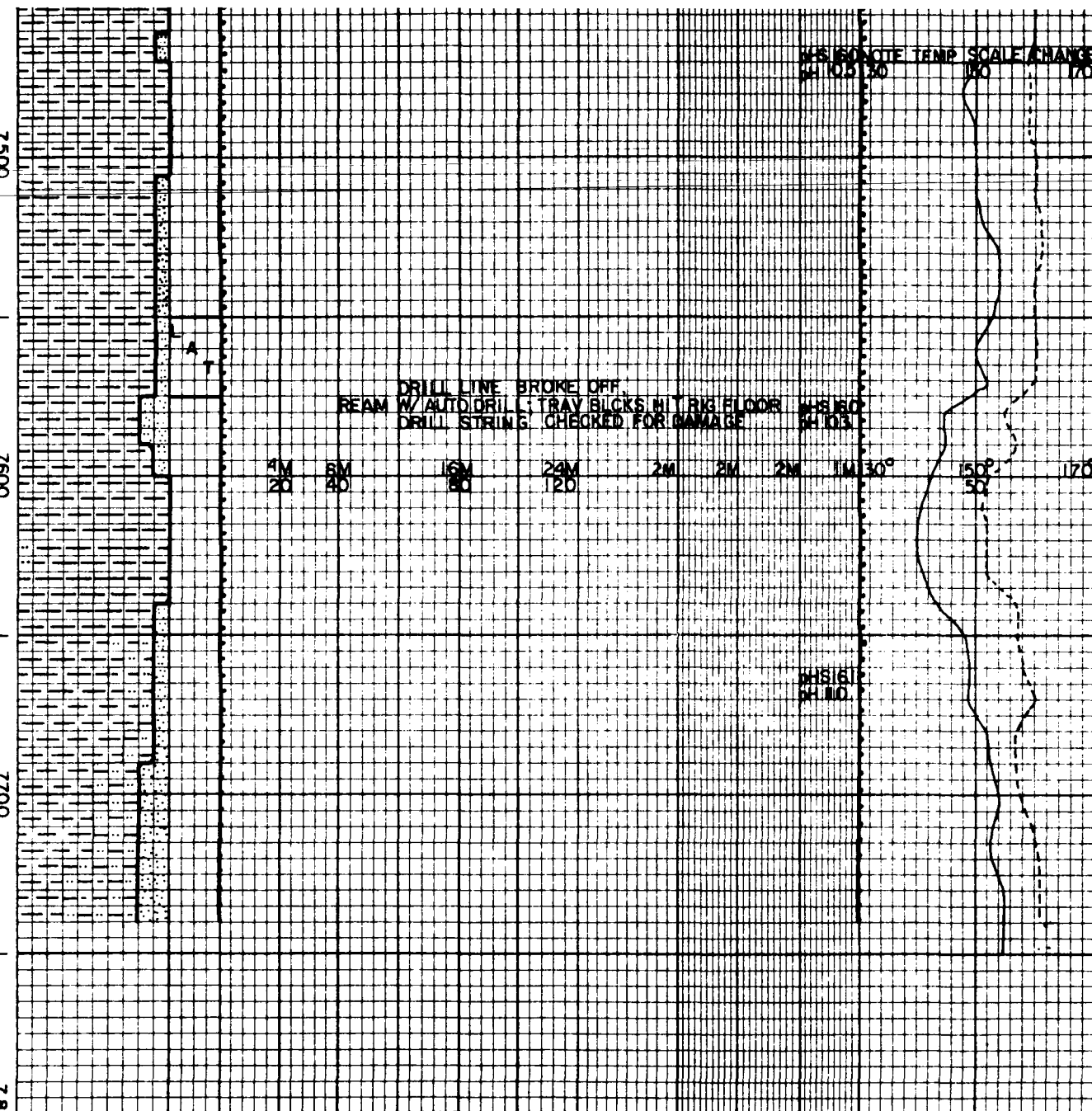
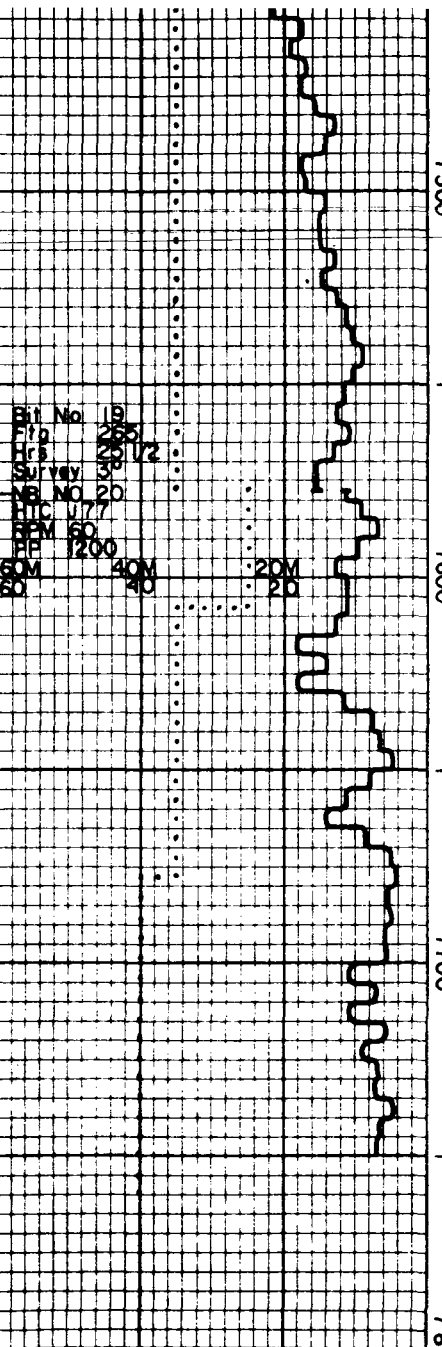
ARG dk brn-gy fri-hd mic-
mica pty-blky tr pyr

QTZT cl-milky wh vit hd blky
conch frac

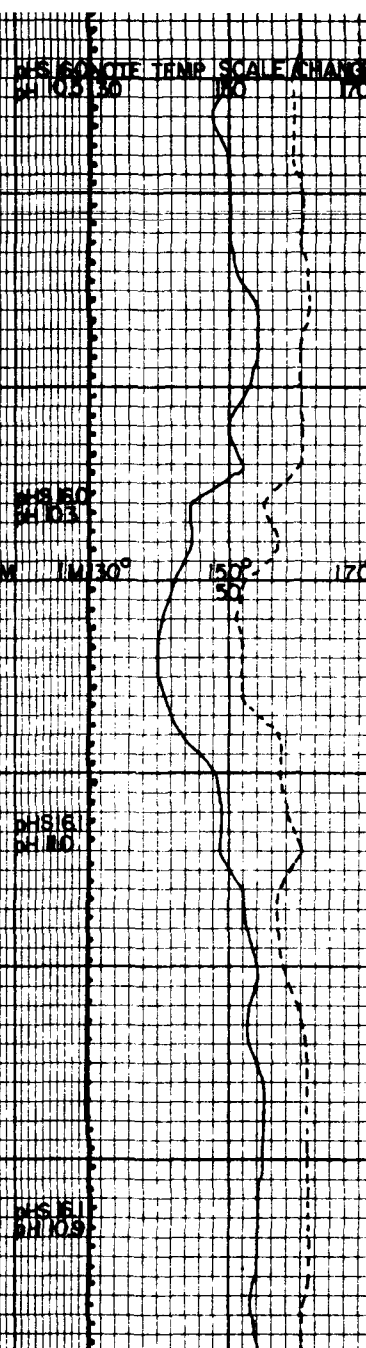
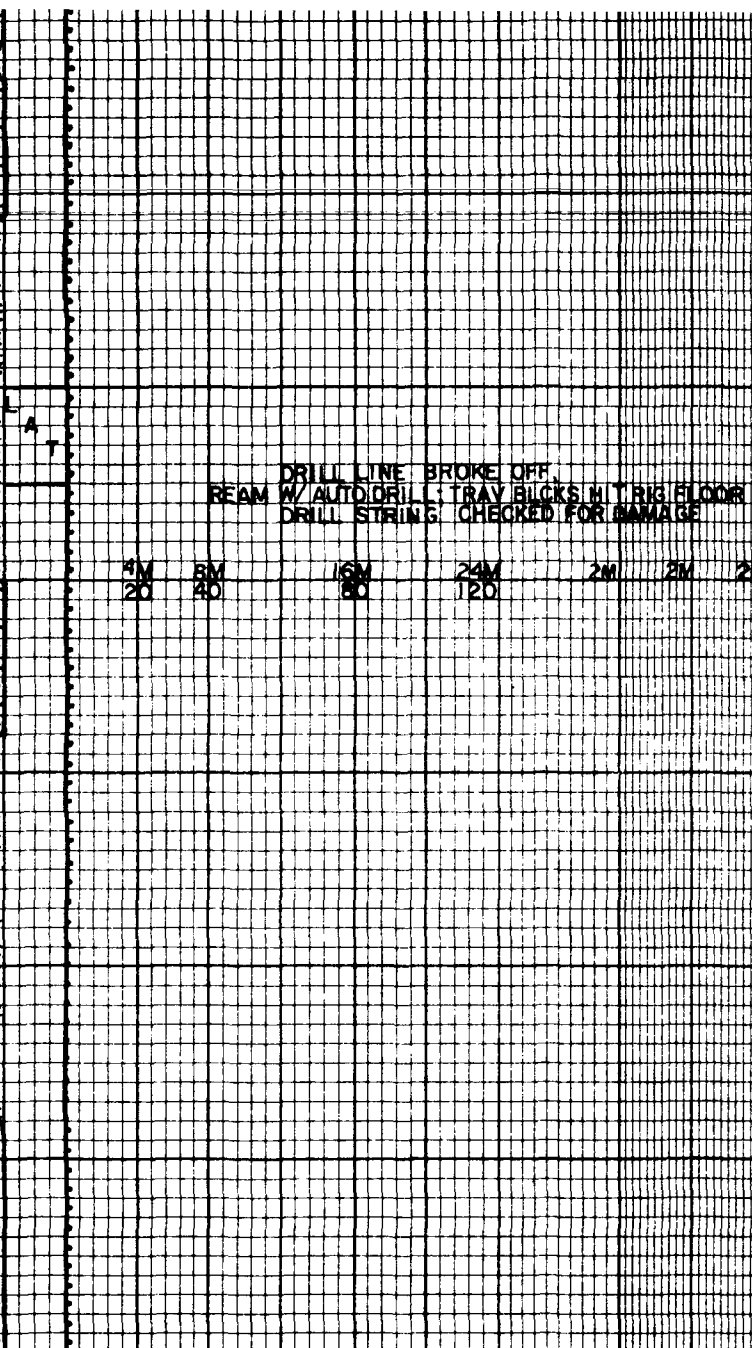
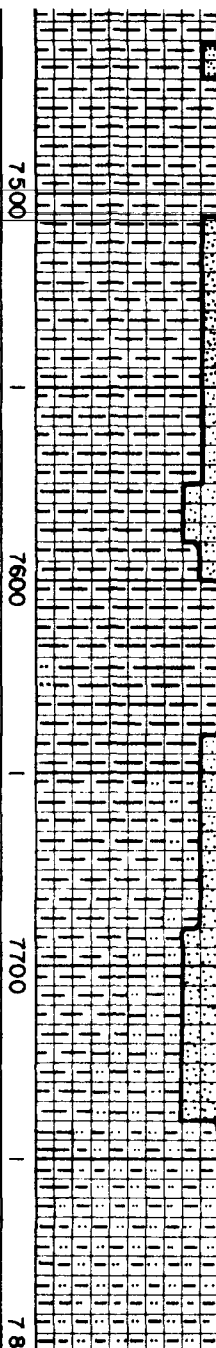
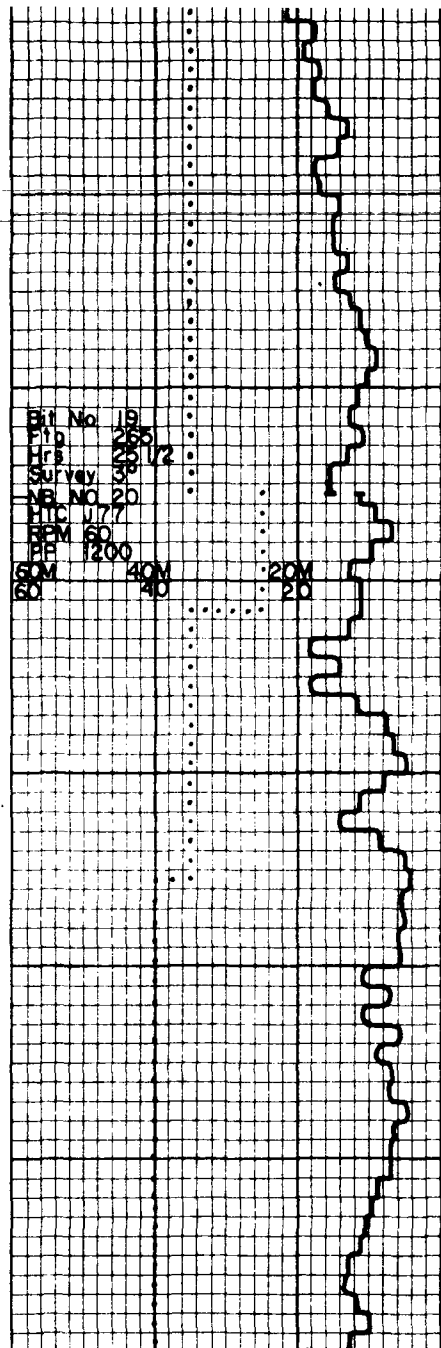
4M 8M 16M 24M 2M 2M 2M 1M 30° 150° 170°
20 40 80 120 20 20 20 30 50 170

7500
7600
7700
7800

Bit No 19
 Ftz 260
 Hrs 25 1/2
 Survey 3
 MB NO 20
 LHC 177
 RPM 50
 FE 1200
 60M 40M 20M
 60 40 20



QTZT 11-dk gy hd vf-f gr pred
 qtz xths chlor stm meta
 ss
 CARBIDE LAG 6140 stks
 40 units 102 min 60spm
 ARG dk brn-gy fri-hd mic-
 mica pfty-blky tr pyr
 QTZT cl-milky wh vit hd blky
 conch frac
 ARG silv-dk gy blk mic-mica
 pred pfty tr blky fri-hd
 tr calc frac fil
 CI 320
 META
 SLTST dk gy-blk vf-f gr fri blky
 50% anhed biot, 40%
 anhed-sbhed qtz, 10%
 sbhed plag w/tr alb twin
 TR clyst gn-brn v sft chlor
 stm
 ARG silv-blk, fri-hd, pfty-blky
 mic-mica
 QTZT lt gy-m gy blky-mass
 occ sl calc tr biot pyr
 musc
 CI 290
 WT 89 pH 11.0
 VIS 40 WL 15.4
 FC 2 SOL 4
 CI 300 YP 10

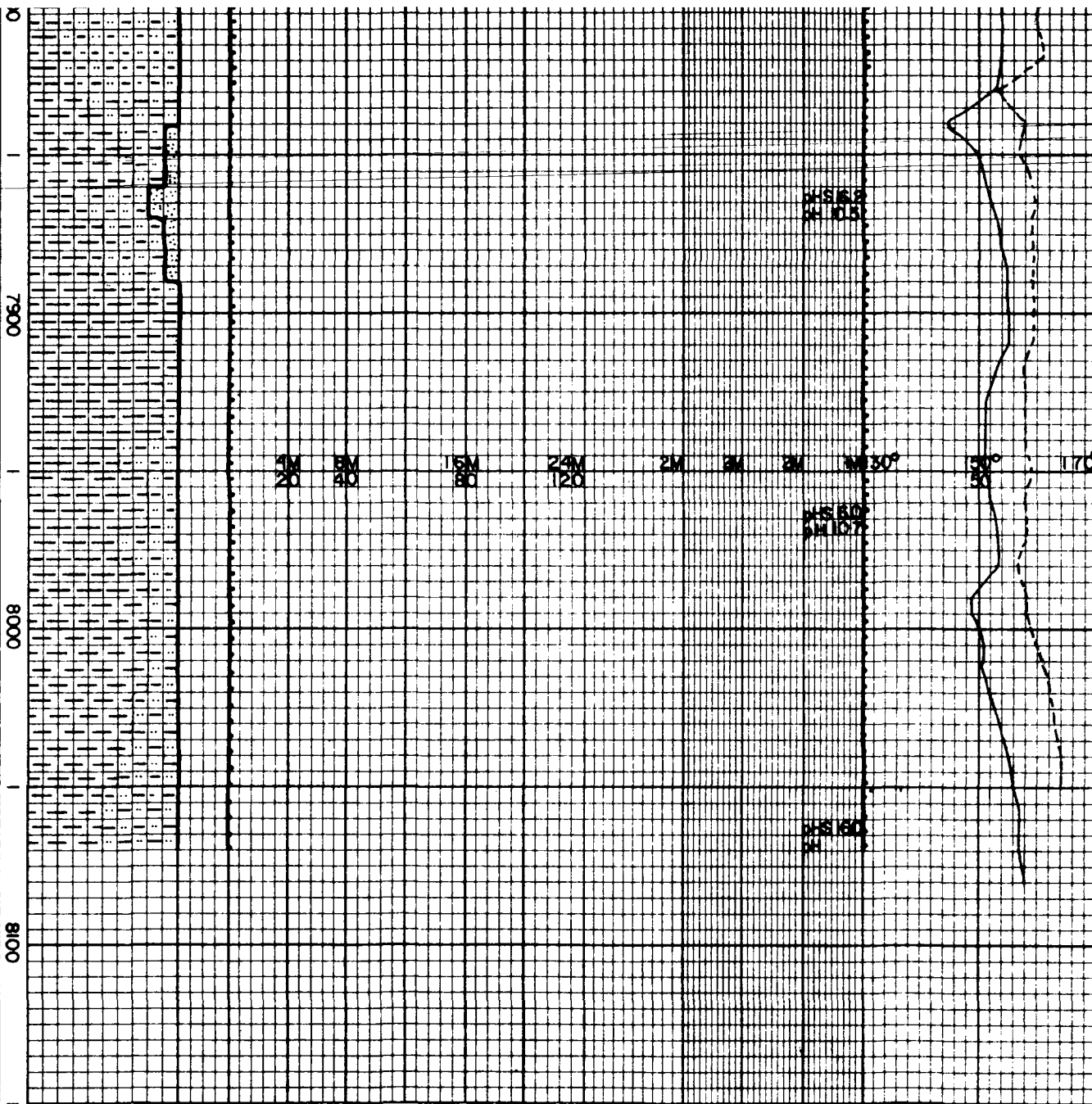
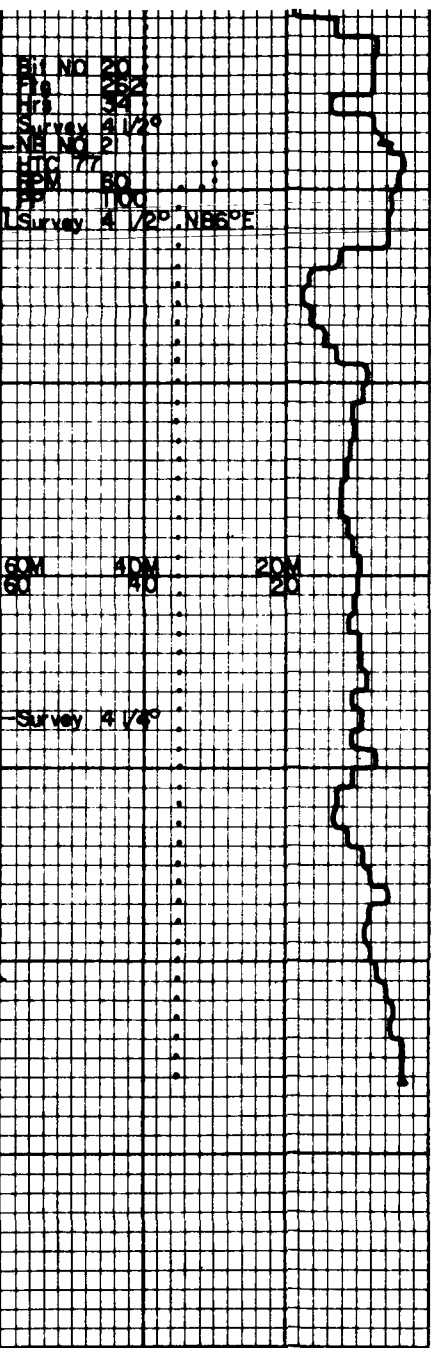


QTZT	11-dk gy hd vf-f gr pred qtz xfs chlor stm meta ss
CARBIDE LAG	6140 stks 40 units 102 min 60rpm
ARG	dk brn-gy fri-hd mic- mica pfty-blky tr pyr
QTZT	cl-mlky wh vit hd blky conch frac
ARG	slv-dk gy blk mic-mica pred pfty tr blky fri-hd tr calc frac fil
CI	320
META SLTST	dk gy-blk vf-f gr fri blky 50% anhed biot, 40% anhd-sbhd qtz, 10% sbhd plag w/ tr alb twin
TR	clyst gn-brn v sft chlor stm
ARG	slv-blk, fri-hd, pfty-blky mic-mica
QTZT	lt gy-m gy blky-mass occ sl calc tr biot pyr musc
CI	290
WT	89 pH 11.0
VIS	40 WL 15.4
FC	2 SOL 4
CI	300 YP 10
META SLTST	dk gy vf-f gr fri blky 40% anhed biot 30% anhd-sbhd qtz 30% anhd-sbhd plag w/ tr alb twin

Bit NO 20
 File 202
 Hrs 202
 Survey 4 1/2°
 NE NO 2
 HIC 77
 BOM 80
 PP 100
 Survey 4 1/2° N86°E

60M 40M 20M
 60 40 20

Survey 4 1/4°



TR clyst lt brn v sff
 WT 8.9 pH 10.5
 VIS 39 WL 15.2
 FC 2 SOL 4
 CI 300 YP 13

CARBIDE LAG 6093stks
 44 units 101mins 60cpm

ARG silv-dk gy mic-mica fri
 hd brit pty

META SLTST dk gy-blk vf-med gr
 hd blk 50-80% anhed
 qtz 30% anhed biot,
 10% anhed plag

CI 280

ARG silv-dk gy mic-mica fri
 hd brit pty

TR clyst lt brn v sff

META SLTST gy-dk gy hd occ fri
 mass occ calc v andy
 abnt biot & musc sheets
 fr pyr

ARG silv-gy mic micas
 hd v phyllitic

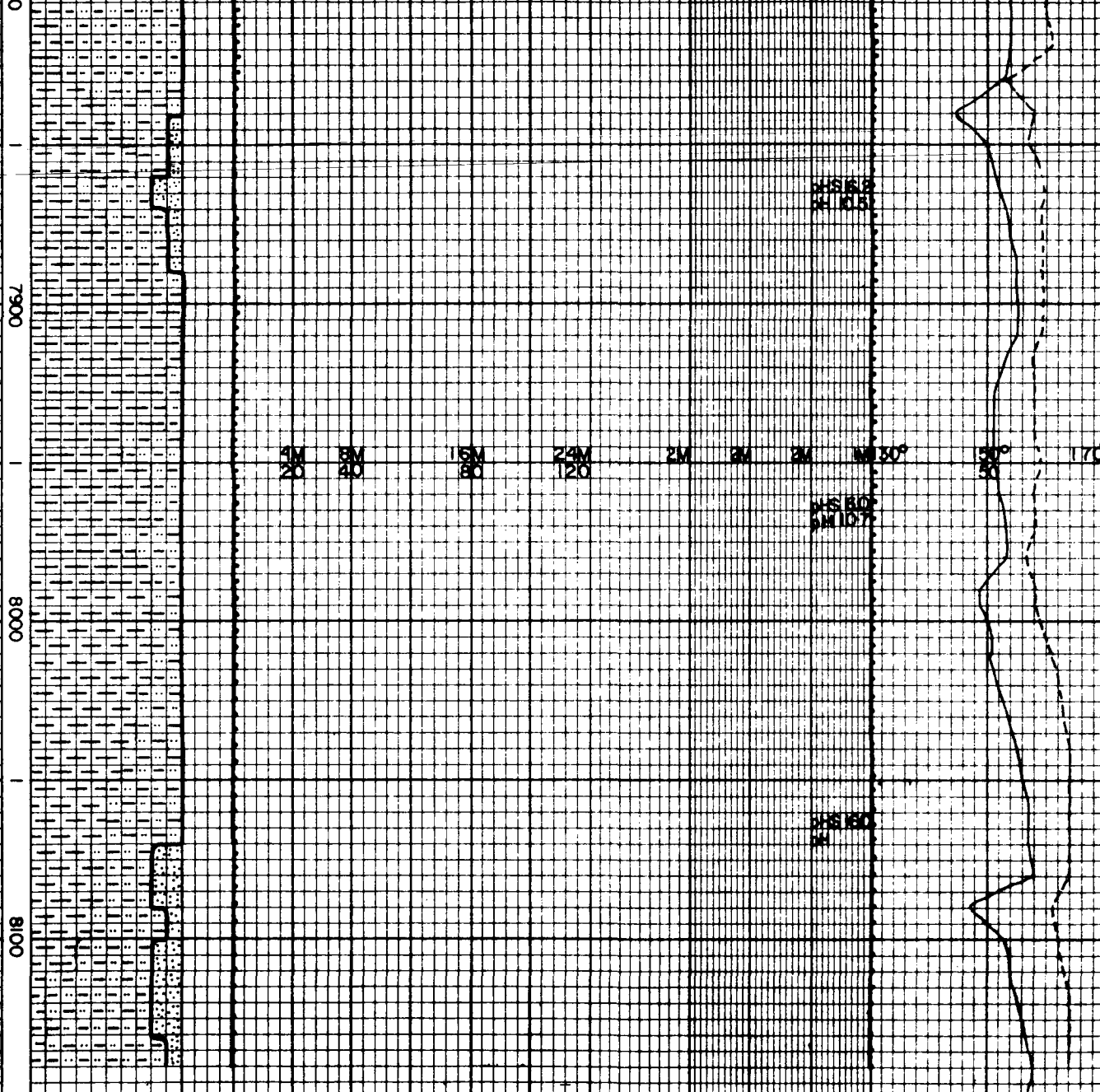
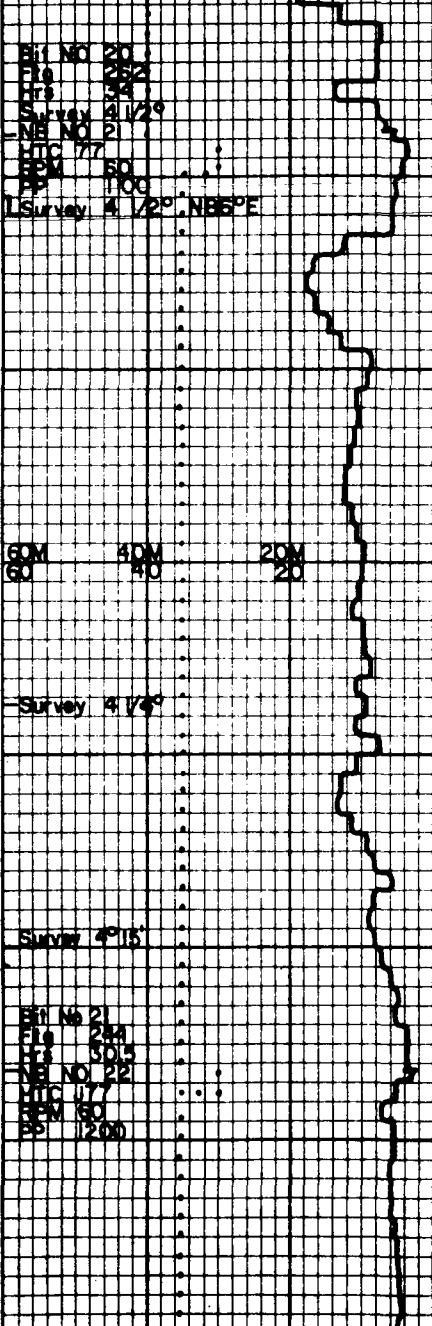
TR calc xtals

WT 8.9 pH 11
 VIS 39 WL 15.0
 FC 2 SOL 4
 CI 300 YP 9

PSI 62
 60 1031

PSI 60
 60 1077

PSI 60
 60



TR	dyst lt brn v sft		
WT	8.9	pH	10.5
VIS	39	WL	15.2
FC	2	SOL	4
CI	300	YP	13
CARBIDE LAG 6093stks 44 units 10lmins 60cpm			
ARG	silv-dk gy mic-micafri- hd brit pty		
META SLTST	dk gy- blk vf-med gr hd blkly 50-80% anhed qtz 30% anhed biot, 10% anhed plag		
CI-	280		
ARG	silv-dk gy mic-mica fri hd brit pty		
TR	dyst lt brn v sft		
META SLTST	gy-dk gy hd occ fri mass occ calc v andy abnt biot & musc sheets fr pyr		
ARG	silv-gy mic micafras hd v phyllitic		
TR	calc xtals		
WT	8.9	pH	11
VIS	39	WL	15.0
FC	2	SOL	4
CI	300	YP	9
QTZT	lt gy-gy f-m grn sa-s occ sub mass occ blkly sl calc calc abnt biot & musc xtals slty fr pyr		
META SLTST	lt gy-gy hd mass occ blkly andy abnt biot & musc xtals		

BH NO 20
 VIS 252
 FC 34
 Survey 4 1/2°
 NH NO 21
 HIC 77
 RPM 60
 RPM 100
 Survey 4 1/2° NB6°E

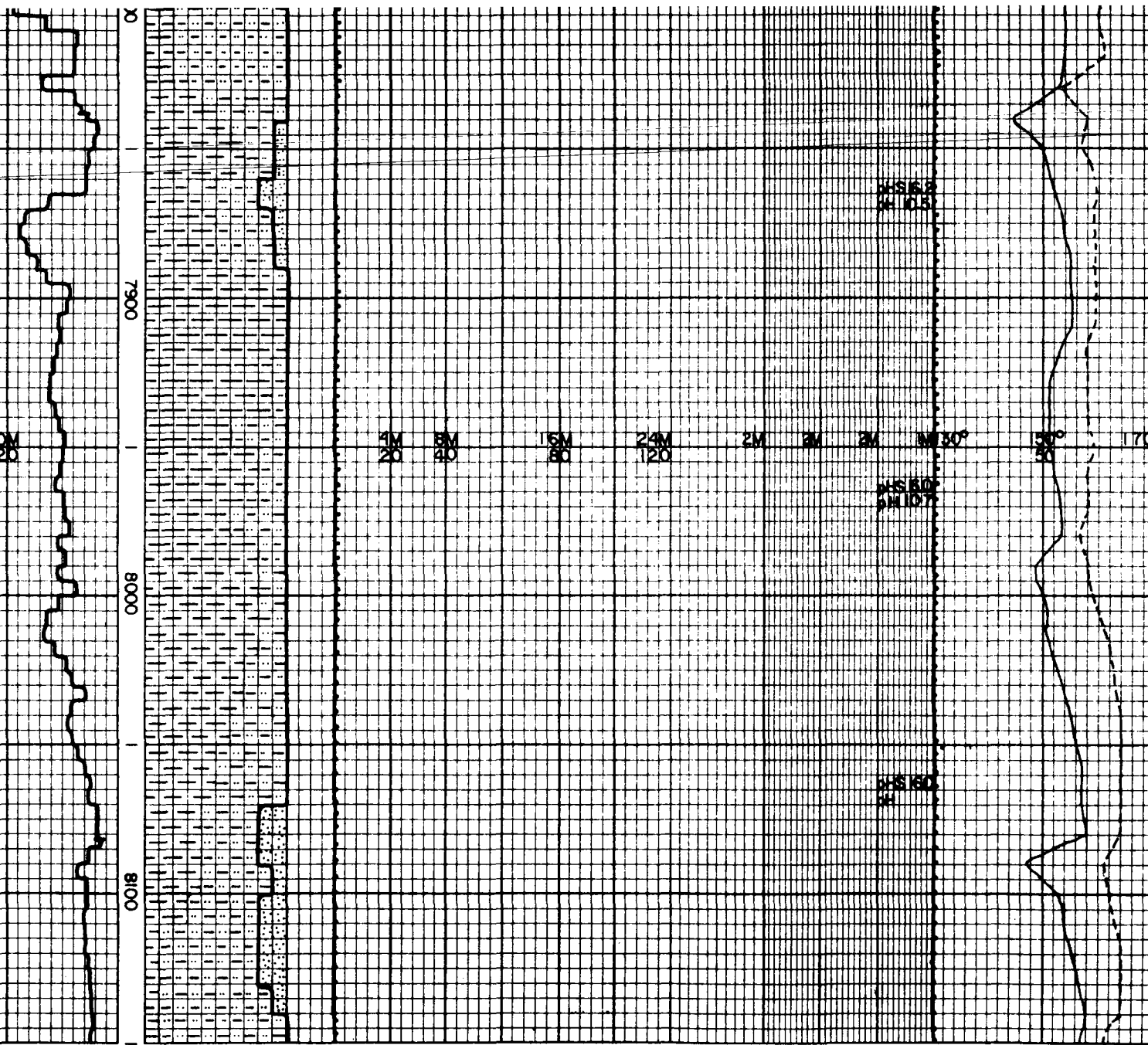
6M 60
 4M 40
 2M 20

Survey 4 1/2°

Survey 4°15'

BH NO 21
 VIS 244
 FC 30.5
 Survey 4 1/2°
 NH NO 22
 HIC 77
 RPM 60
 RPM 120

Survey 4°25' NB6°E



TR	cyst lt brn v sft		
WT	8.9	pH	10.5
VIS	39	WL	15.2
FC	2	SOL	4
CI	300	YP	13

CARBIDE LAG 6093atks
 44 units 101mins 60cpm

ARG silv-dk gy mic-micafri-
 hd brit pty

META
 SLTST dk gy-blk vf-med gr
 hd blkly 50-80% anhed
 qtz 30% anhed biot,
 10% anhed plag

CI- 280

ARG silv-dk gy mic-mica fri
 hd brit pty

TR cyst lt brn v sft

META
 SLTST gy-dk gy hd occ fri
 mass occ calc v andy
 abnt biot & musc sheets
 tr pyr

ARG silv-gy mic mica tiss
 hd v phyllitic

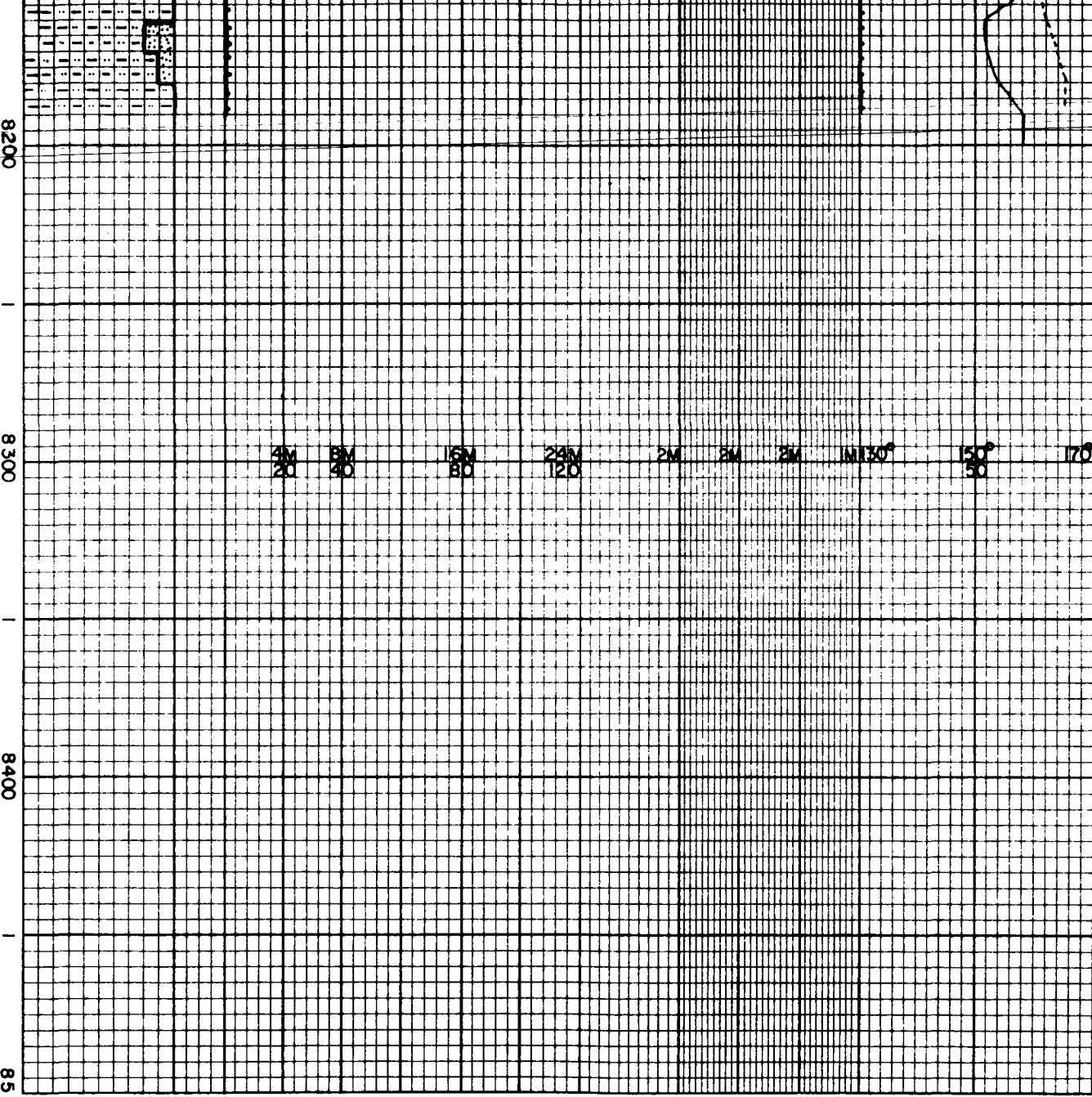
TR calc xtals

WT	8.9	pH	11
VIS	39	WL	15.0
FC	2	SOL	4
CI	300	YP	9

QTZT lt gy-gy f-m grn sa-sa
 occ sub mass occ
 blkly sl calc calc abnt
 biot & musc xtals silty
 tr pyr

META
 SLTST lt gy-gy hd mass
 occ blkly endy abnt
 biot & musc xtals

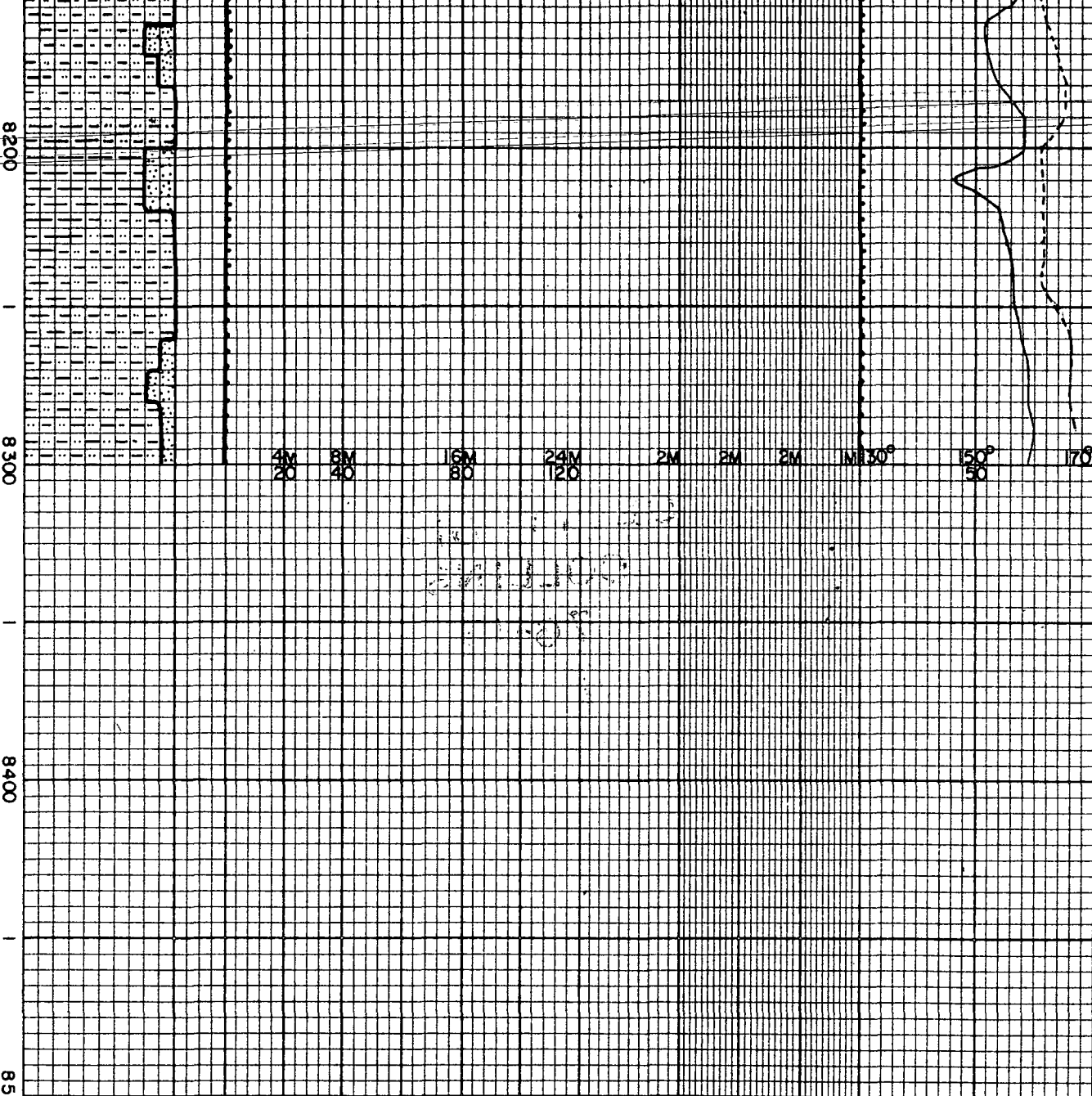
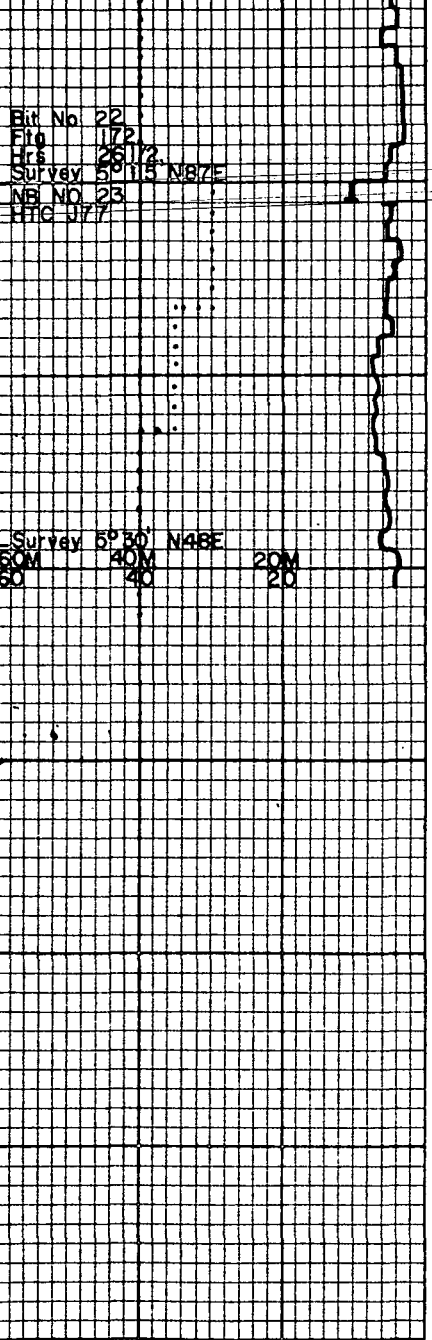
Bit No. 22
Figs 172
Date 2/2
Survey 5045
NE NO 23
HTC 177



CF 300
META SLTST
miky wh-dk gy vf-fgr
fri-hd blk 40% anhhd
blot 60% anhhd qtz

Bit No. 22
 Ftg 172
 Hrs 26 1/2
 Survey 59 15 NBZE
 NSI NO. 23
 UTC 077

Survey 59 30 N48E
 60M 40M 20M
 60 40 20



CI 300
 META SLTST mlky wh-dk gy vf-fgr
 fri-hd-blky 40% anhed
 biot 60% anhed qtz
 ARG dk gy mic-mica fm-hd
 brit plty
 QTZT mlky wh-lt gy micxln
 hd blky
 WT 8.9 pH 11
 VIS 37 WL 152
 FC 2 SOL 4
 CI 300 YP 7
 META SLTST lt gy-gy v hd-hd blky
 -mass sndy abnt biot
 & plag f-m xtals

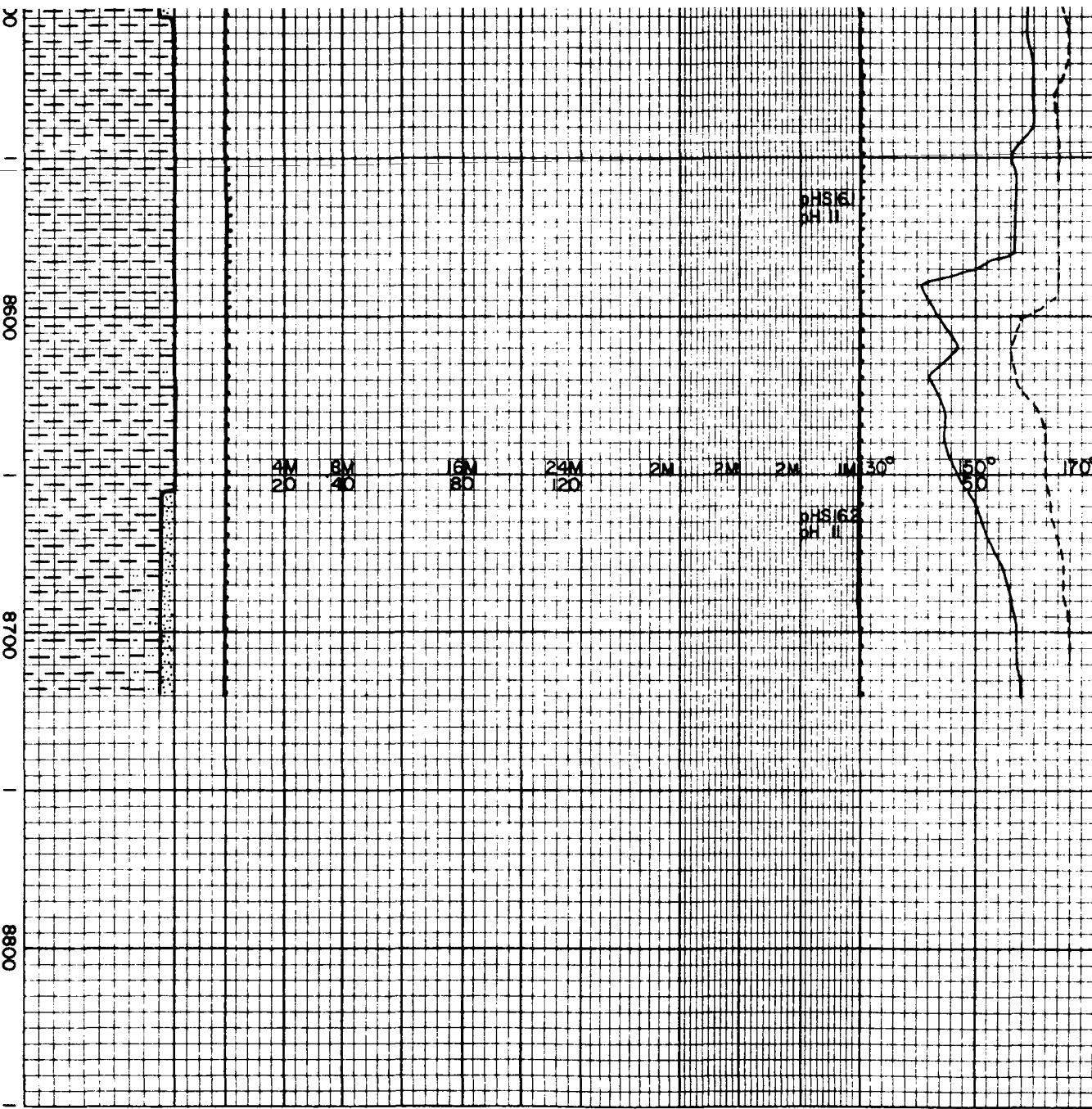
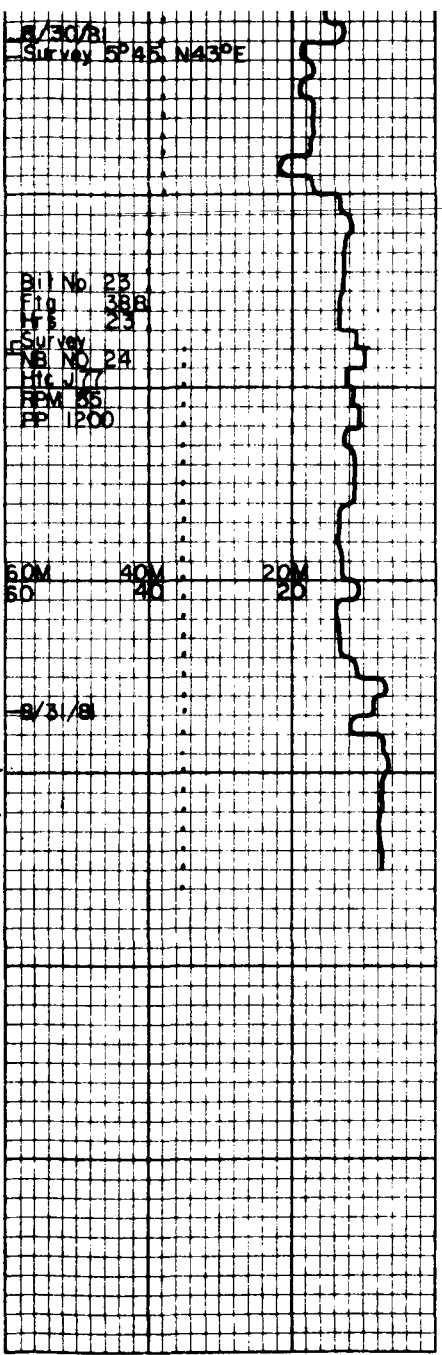
4M 8M 16M 24M 2M 2M 2M 1M 30° 150° 170°
 20 40 80 120 50

8/30/81
 Survey 5°45' N43°E

Bit No
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 Log No
 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024
 Date
 8/30/81
 Time
 1200

60M 40M 20M
 60 40 20

8/31/81



WT	89	pH	11
MS	37	WL	15.2
FC	2	SOL	4
CI-	300	YP	12

ARG silv-gy hd-frm fiss mic mica v phyllitic

TR meta sltst vt-f pred qtz

CARBIDE LAG 6620stks
 6 units 110 mins 60 cpm

ARG silv-gy hd-frm pty occ blk mic mica v phyllitic

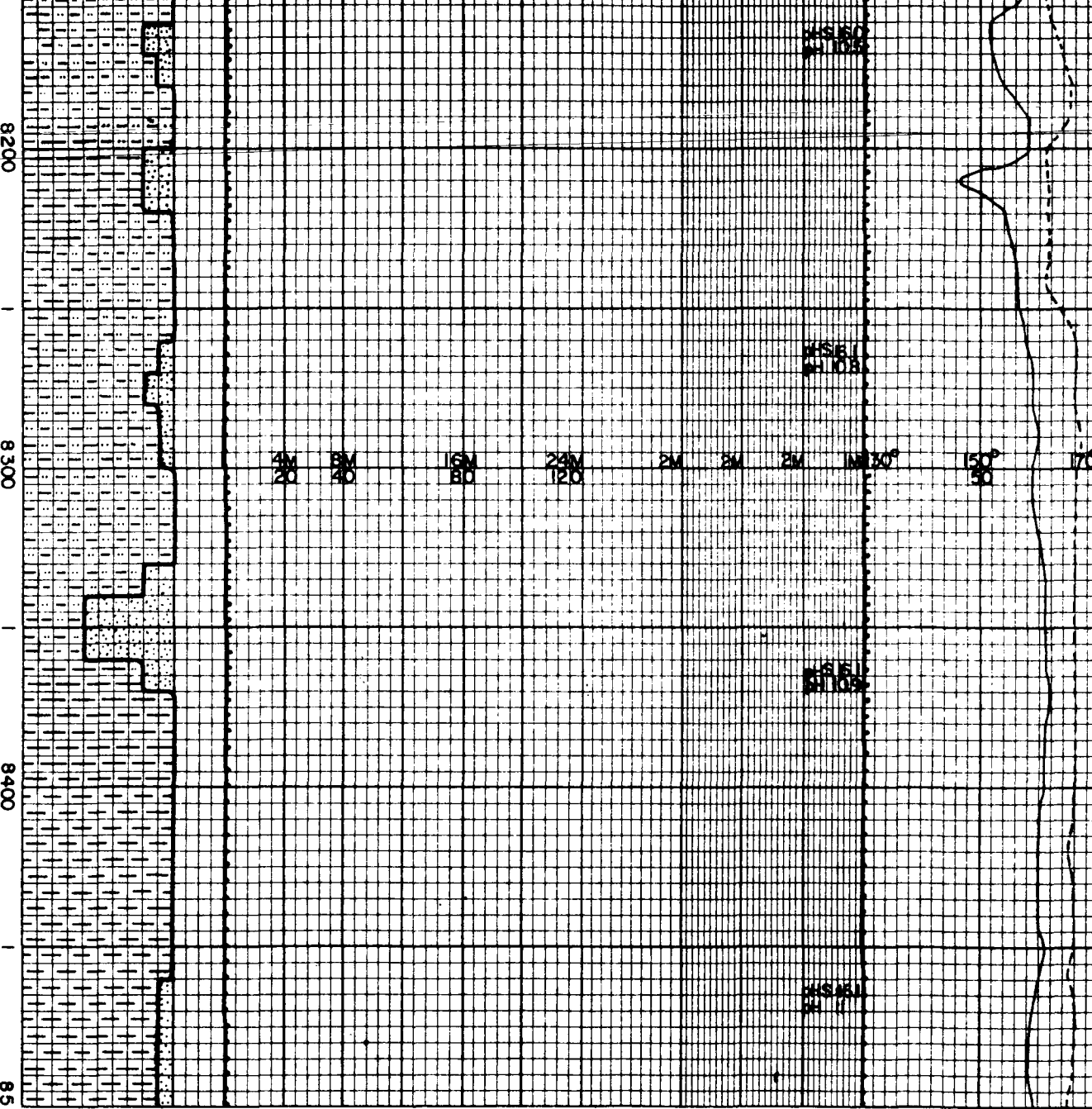
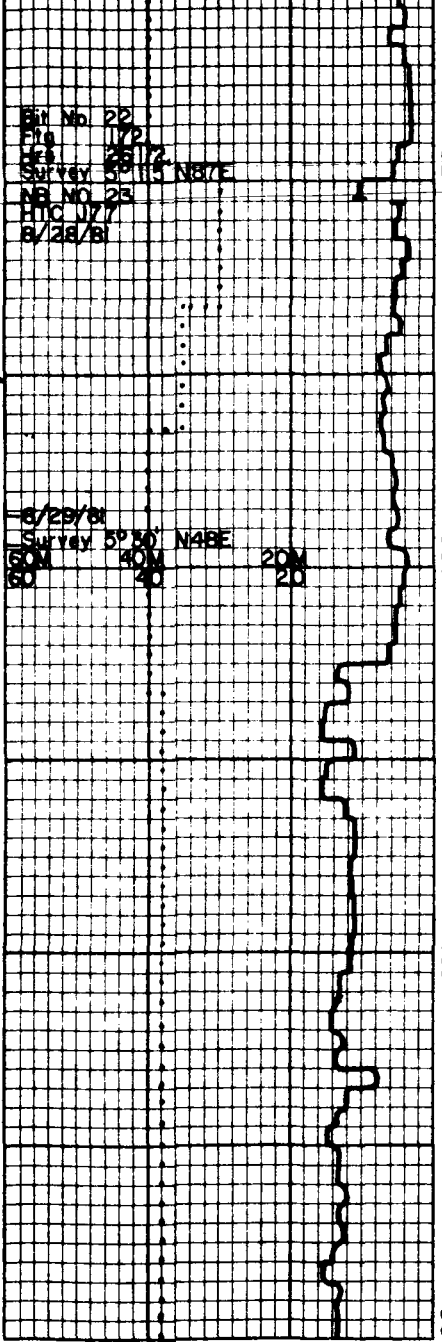
QTZT wh-gy hd ang occ mass both trac fill & f-m meta ss tr biot & musc

CI- 320

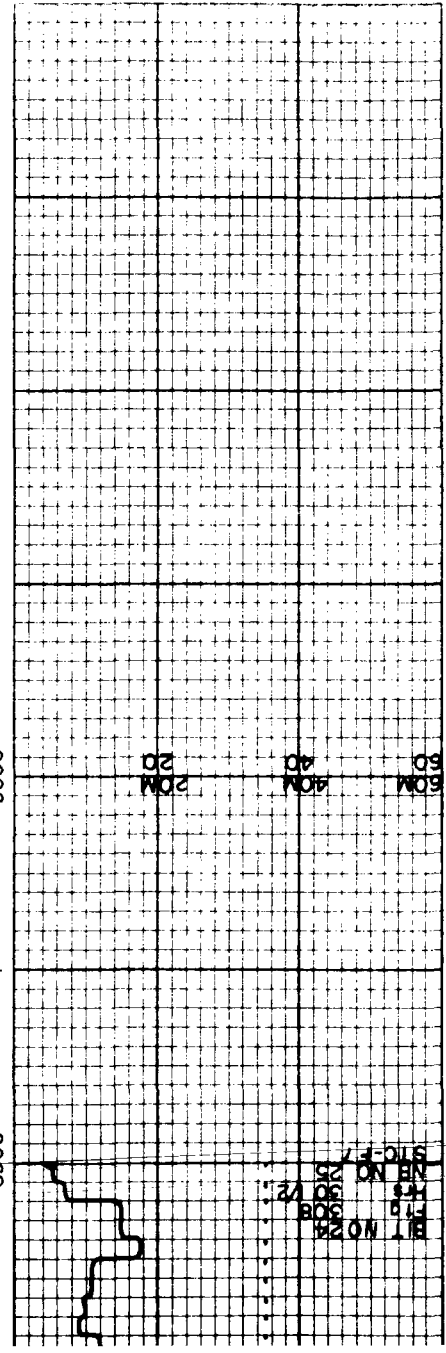
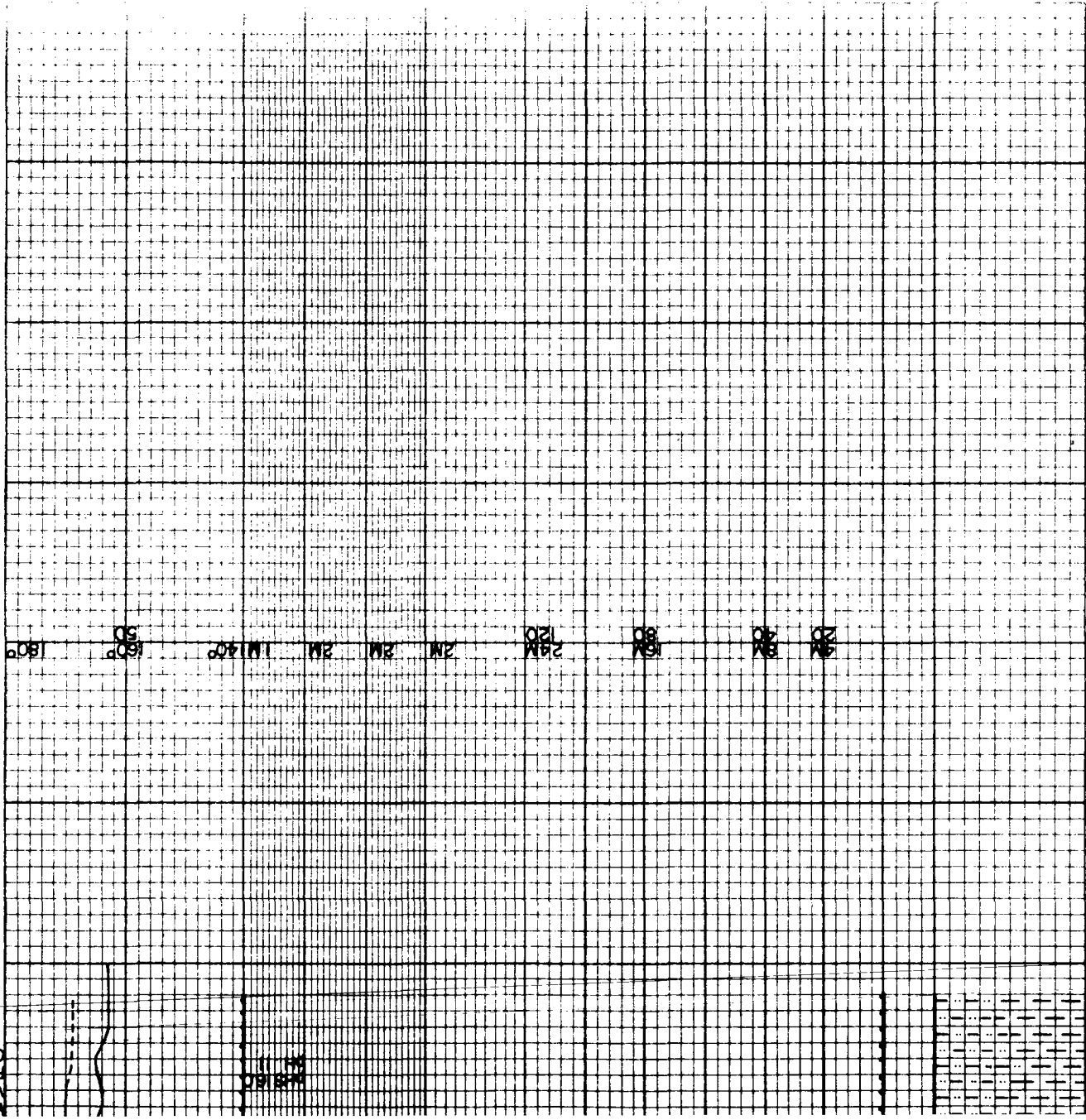
META SLTST mlkywh-gy vhd-hd blk-mass abnt biot plag xtals

Well No. 22
 Log 17p
 Date 28/12
 Survey 5° 15' N 87° E
 NE NO 23
 HIC 177
 B/28/B

8/29/81
 Survey 5° 50' N 86° E
 80M 40M 20M 20M



CI- 300
 META SLTST mlky wh-dk gy vf-fgr fri-hd blkly 40% anhhd biot 60% anhhd qtz
 ARG dk gy mic-mica frm-hd brit plty
 QTZT mlky wh-ft gy micxtn hd blkly
 WT 8.9 pH 11
 VIS 37 WL 15.2
 FC 2 SOL 4
 CI 300 YP 7
 META SLTST lt gy-gy v hd-hd blkly -moss sndy abnt biot B plag f-m xtals
 ARG silv-dk gy micxtn fri plty v fis v brit
 META SLTST mlky wh-dk gy vf-fgr hd-vhd blkly 50-60% anhhd biot, 30-40% anhhd-sbhd qtz, 10-20% anhhd-sbhd plag w/tr alb twin
 CI- 300
 ARG sil-gy-dk gy hd-trm fias occ blkly mic mica occ intbd with qtz frac fill tr pyr
 TR clyst brk brn frm-stt mass-plty silty
 QTZT lt gy-wh-dk gy hd angboth frac fill B vf-f meta ss
 CI- 280
 TR calc xtals



WT 89
 VIS 45
 FC 2
 CL 300
 YP 4
 SOL 166
 WL 10
 PH 11

11
 11

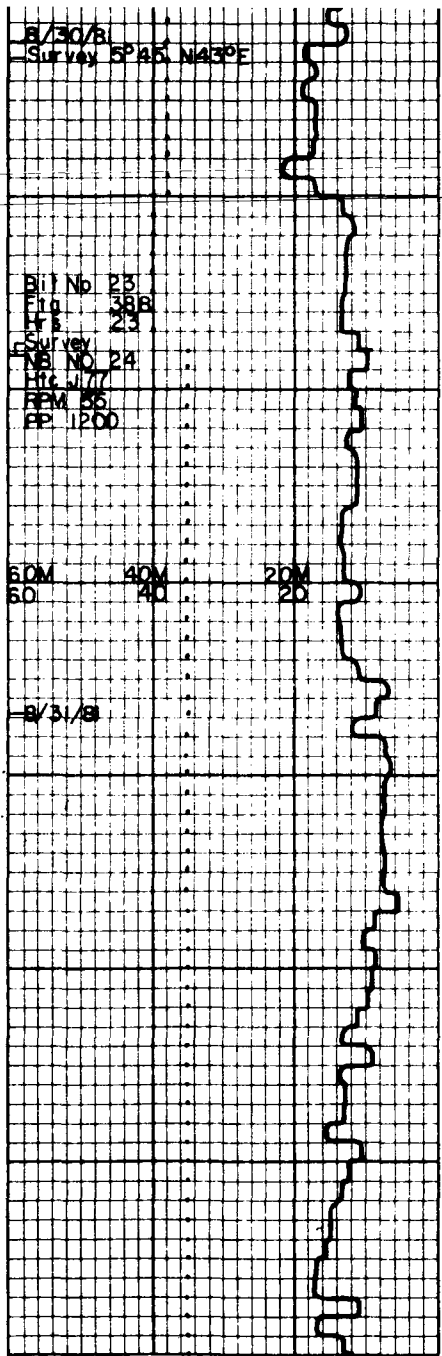
BIT NO 22
 FILE NO 30
 SIB NO 12
 SIB-F-1

B/30/B1
Survey 5° 45' N 43° E

BIT No 23
FID 23
Survey No 24
H.C. 1/27
REV 56
PP 1200

60M 60
40M 40
20M 20

B/31/B1



00
8600
8700
8800

4M 20 8M 40 16M 80 24M 120 2M 2M 2M 1M 30° 150° 170°

BHS161
BH II

BHS162
BH II

BHS160
BH II

NOTE TEMP SCALE CHRS
1200 1500 1800

WT	89	pH	11
MS	37	WL	15.2
FC	2	SOL	4
CI-	300	YP	12

ARG silv-gy hd-frm fiss mic mica v phyllitic

TR meta sltst vf-f pred qtz

CARBIDE LAG 6620stks
6 units 110mins 60cpm

ARG silv-gy hd-frm pty occ blk mic mica v phyllitic

QTZT wh-gy hd ang occ mass both frac fill B f-m meta ss tr biot B musc

CI- 320

META SLTST mlky wh-gy vhd-hd blk-mass abnt biot plag xtals

ARG silv-dk gy hd-frm v fis pty graphic

META SLTST mlky wh-lt gy vf-f gr hd-vhd blk 50%-60% anhd biot 40-50% sbhd qtz, 0-10% anhd plag tr pyr

CI- 280

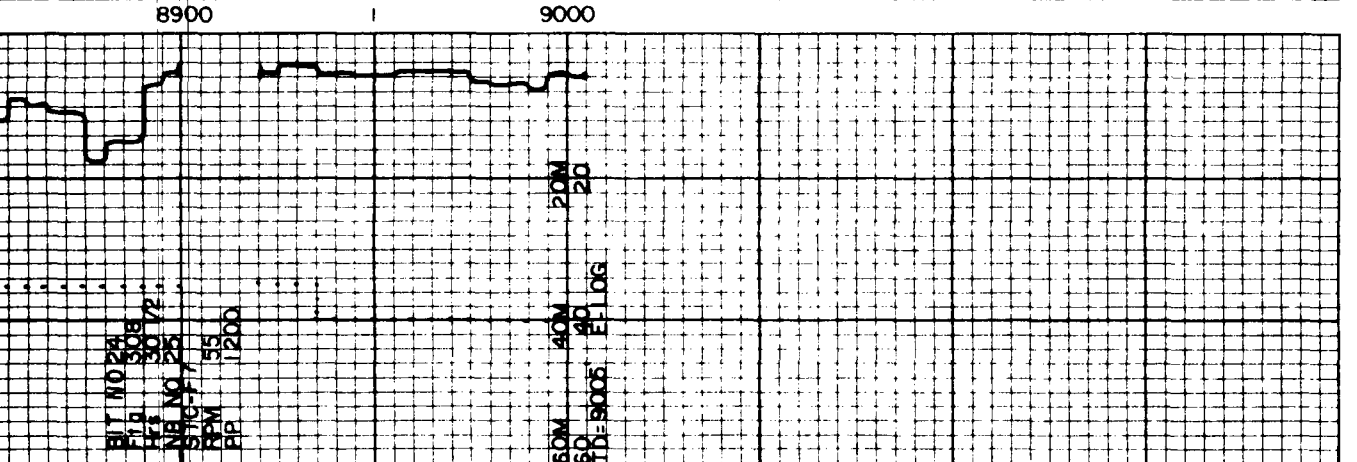
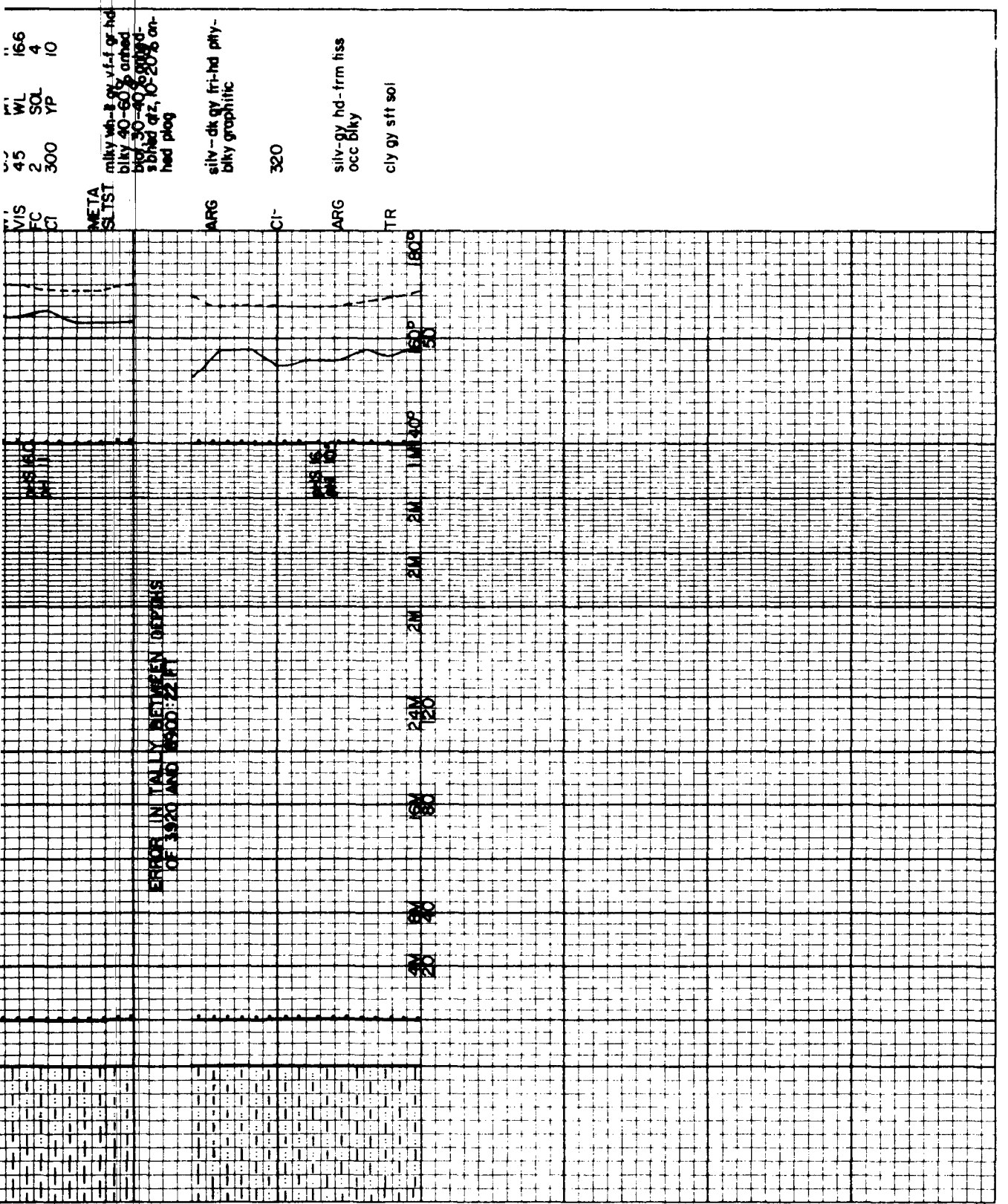
ARG silv-dk gy fri-hd pty blk graphic

META SLTST mlky wh-gy hd-vhd blk-mass abnt biot B plag xtals

11 166
 WL 4
 SOL 4
 YP 10
 45
 2
 300

MIS
 FC
 CT
 META
 SLTST
 ARG
 CI-
 ARG
 TR

milky wh-2 qtz v.f.f gr-hd
 blkly 40-60% armed
 blkly 30-40% armed
 sb-hd at 2, 10-20% on
 head plug
 silv-dk qtz fri-hd phy-
 blkly graphitic
 320
 silv-gy hd-frm fiss
 occ blkly
 clay gy stt soil





Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, NV 89114

OCT 30 1981

Mr. Dennis Nielson
University of Utah Research Institute
Earth Science Laboratory
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Dear Mr. Nielson:

GETTY OIL CO., CONTRACT DE-AC08-79ET27009 DELIVERABLES

We are reviewing our records to verify that all deliverables associated with drilling the Beowawe geothermal exploratory hole, have been received by this office in accordance with the Contract provisions.

DLN
COLLINS 76-17

Please review your records to ensure that the same deliverables plus the drill hole cuttings have been received by your organization. You may indicate such receipt by signing in the space provided below and returning this letter to me.

Sincerely,

J. N. Fiore
Project Engineer
Energy Applications Division

EAD:JNF-1419

Signature Dennis Nielson 12/21/81
Dennis Nielson Date



RECEIVED

Getty Oil Company | Post Office Box 11148, Bakersfield, California 93389 • Telephone: (805) 325-9599

DEC 14 1981

Western Exploration and Production Division

U U R I

December 11, 1981

Mr. J. B. Cotter, Director
Energy Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Dear Mr. Cotter:

Subject: Contract DE-AC08-79ET27009, Beowawe, Phase I Invoice

The invoice has been prepared at this office and sent to our Los Angeles office for billing. You should be receiving an invoice within two weeks for \$32,845.00 calculated at \$5.05 per foot, times 6,504 feet.

The payment of this invoice should clear the financial obligation of the D.O.E. for this Phase I of the project.

Thank you for your letter dated November 18, 1981, which brought this oversight to our attention.

Sincerely,

GETTY OIL COMPANY

N. J. Kappeler

N. J. KAPPELER
Division Exploration Manager

NJK:WCH:cjm
Attachment

cc: Mr. D. K. Parker, Finance
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Mr. D. Nielson, UURI
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

12/14/81

*Dick: For your inf.
Most likely*

*This is
Dennis Nielson*

Dan



Getty Oil Company | Post Office Box 11148, Bakersfield, California 93389 • Telephone: (805) 325-9599

Western Exploration and Production Division

October 30, 1981

University of Utah Research Institute
Earth Science Lab
Suite 120
420 Chipeta Way
Salt Lake City, Utah 84108

Attention: Dennis Nielson

Dear Dennis:

Enclosed are two copies each of the drilling summary, blowdown test summary, and geochemical water analysis for Getty Oil Company's Collins 76-17 geothermal well, Eureka County, Nevada. Should any questions arise concerning Collins 76-17 please call me.

Sincerely,

GETTY OIL COMPANY

GEORGE ROSZKOWSKI
Geologist

GAR:lm

Please acknowledge receipt by signing and returning one copy of this letter.

Dennis Nielson

Date: 11/30/81



Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, NV 89114

NOV 18 1981

Mr. N. J. Kappeler
Getty Oil Company
P. O. Box 11148
Bakersfield, CA 93389

Dear Mr. Kappeler:

CONTRACT DE-AC08-79ET27009, BEOWAWE, PHASE I INVOICE

Our records indicate that Getty has completed all Contract Phase I work including transmittal of deliverables to the Government, but Getty has not submitted the associated Phase I invoice for reimbursement. According to the data received by this office, Getty is entitled to reimbursement for approximately 6,504 ft. of shallow gradient hole data. Please review your records for verification and submit the appropriate invoice so that financial closeout of the Contract can be completed.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. B. Cotter".

J. B. Cotter, Director
Energy Applications Division

EAD: JNF-1442

cc: D.K. Parker, Finance
Dennis Nielson, UURI,
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108



Getty Oil Company | Post Office Box 11148, Bakersfield, California 93389 • Telephone: (805) 325-9599

Western Exploration and Production Division

October 6, 1981

Contracting Office
U.S. Department of Energy
P.O. Box 14100
Las Vegas, Nevada 87114

Attention: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 9-1-81 to 9-30-81

Gentlemen:

Getty Oil Company's Collins 76-17 geothermal well was drilled to 9,005' T.D. in Ordovician Valmy formation on 9-2-81. Logs run to T.D. included: DIL/SP, FDC/CNL/GR, temperature and dipmeter. Bottom hole temperature was 312° F. 9 5/8" casing was set to 5,923' and 2 7/8" tubing run to T.D. on 9-13-81.

Wireline temperature surveys will be conducted after a suitable incubation period has elapsed.

Unless otherwise instructed, this is the final monthly report for the aforementioned contract with completion date of September 30, 1981.

Very truly yours,

GETTY OIL COMPANY

N. J. KAPPELER

Division Exploration Manager

NJK:GAR:lm

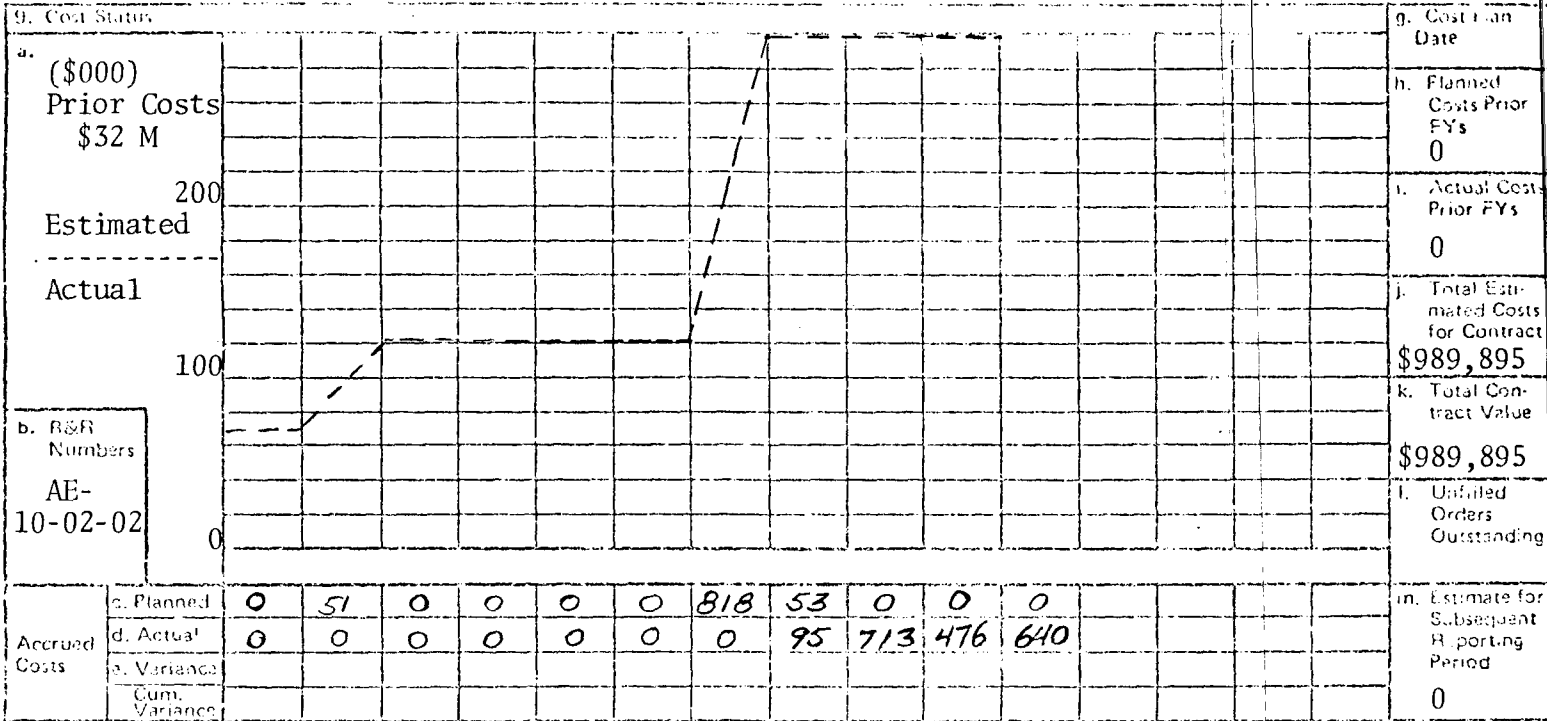
cc: Dennis Nielson ✓
UURI Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore - Las Vegas, Nv.

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment - Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93388 (1980) (Beowawe)		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	8. FY1979
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11. Major Milestone Status

a. Permits	[]
b. Drill 14 500' Holes	
c. Drill One 1500' Hole	[]
d. Drill 9000' Expl. Hole	[]
e. Flow Test	[]
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | Post Office Box 11148, Bakersfield, California 93389 • Telephone: (805) 325-9599

Western Exploration and Production Division

October 6, 1981

Contracting Office
U.S. Department of Energy
P.O. Box 14100
Las Vegas, Nevada 87114

Attention: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 9-1-81 to 9-30-81

Gentlemen:

Getty Oil Company's Collins 76-17 geothermal well was drilled to 9,005' T.D. in Ordovician Valmy formation on 9-2-81. Logs run to T.D. included: DIL/SP, FDC/CNL/GR, temperature and dipmeter. Bottom hole temperature was 312° F. 9 5/8" casing was set to 5,923' and 2 7/8" tubing run to T.D. on 9-13-81.

Wireline temperature surveys will be conducted after a suitable incubation period has elapsed.

Unless otherwise instructed, this is the final monthly report for the aforementioned contract with completion date of September 30, 1981.

Very truly yours,

GETTY OIL COMPANY


N. J. KAPPELER

Division Exploration Manager

NJK:GAR:lm

cc: Dennis Nielson ✓
UURI Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore - Las Vegas, Nv.

1. Contract Identification Geothermal Reservoir Assessment - Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93388 (1980) (Beowawe)	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	8. FY1979
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9. Cost Status														g. Cost Plan Date		
a. (\$000) Prior Costs \$32 M Estimated Actual															h. Planned Costs Prior FYs 0	
															i. Actual Costs Prior FYs 0	
															j. Total Estimated Costs for Contract \$989,895	
															k. Total Contract Value \$989,895	
b. R&R Numbers AE-10-02-02															l. Unfiled Orders Outstanding	
Accrued Costs	c. Planned	0	51	0	0	0	0	818	53	0	0	0				m. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	95	713	476	640				n. Estimate for Subsequent Reporting Period
	e. Variance															0
	f. Cum. Variance															0

11. Major Milestone Status	
a. Permits	<input type="checkbox"/>
b. Drill 14 500' Holes	<input type="checkbox"/>
c. Drill One 1500' Hole	<input type="checkbox"/>
d. Drill 9000' Expl. Hole	<input type="checkbox"/>
e. Flow Test	<input type="checkbox"/>
f.	<input type="checkbox"/>
g.	<input type="checkbox"/>
h.	<input type="checkbox"/>
i.	<input type="checkbox"/>

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
---	--



Getty Oil Company | Post Office Box 11148, Bakersfield, California 93389 • Telephone: (805) 325-9599

Western Exploration and Production Division

September 24, 1981

University of Utah Research Institute
Earth Science Lab
Suite 120
420 Chipeta Way
Salt Lake, UT 84108

Attention: Dennis Nielson

Dear Dennis:

Enclosed are two copies each of blueline and one copy each of reproducible sepia logs from Getty Oil Company's Collins 76-17 geothermal test well, Eureka County, Nevada.

Schlumberger	✓1.	Temperature Log	1890'-8980'
	✓2.	DIL/SFL	5900'-8980'
	✓3.	FDC/CNL/GR	5900'-8980'
	✓4.	HDT	5900'-8980'
	✓5.	HDT (computed)	5900'-8980'
(one copy):	✓6.	Dipmeter (Cluster Listing)	5894'-8968'
The Analysts	✓1.	Lithology Log	138'-9000'
Dresser Atlas	✓1.	Temperature Log (2)	0'-\$955'
	✓2.	DIFL/SP (5"=100')	90'-\$956'
	✓3.	DIFL/SP (2"=100')	90'-\$956'
	✓4.	CDL/CNL/GR (5"=100')	90'-\$955'
	✓5.	CDL/CNL/GR (2"=100')	90'-\$955'
	✓6.	Diplog	1880'-\$955'
	✓7.	Diplog (computed)	1880'-\$955'
	✓8.	BHC	90'-\$955'

Should you require assistance or information concerning Collins 76-17, please call me. Subsequent wireline temperature surveys are planned and copies of the results will be forwarded to you as soon as possible.

Sincerely,

GETTY OIL COMPANY

GEORGE ROSZKOWSKI
Geologist

GR:drg
Enclosures

Dennis Nielson
University of Utah Research Institute
September 24, 1981
Page 2

Please acknowledge receipt by signing and returning one copy
of this letter.

Dated: 1 October, 1981.


Dennis Nielson



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

September 2, 1981

U.U.R.I. Earth Science Lab.
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

ATTENTION: Dennis Nielsen

Dear Dennis:

Joe Fiore requested me to provide U.U.R.I. one reproducible and one blue line copy of Getty Oil Company's gradient hole locations for the Beowawe area, Eureka and Lander Counties, Nevada. I believe the enclosed copies are satisfactory.

Please call me if you need additional information concerning our Beowawe gradient hole project.

Yours truly,

GETTY OIL COMPANY

A handwritten signature in cursive script that reads "George Roszkowski".

GEORGE ROSZKOWSKI
Geologist

GAR:lm

enclosure



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

September 1, 1981

Contracting Office
U.S. Department of Energy
P.O. Box 14100
Las Vegas, Nevada 87114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 8-1-81 to 9-1-81

Gentlemen:

Getty Oil Company's Collins 76-17 geothermal well is currently at 8900 feet and drilling ahead to 9000± feet total depth. Maximum flow line temperature is 171° F. The Ordovician Valmy formation composed of siliceous sediments was encountered at 4170 feet and has continued to present depth.

The well was logged 8-10-81 from 1890 feet to 5955 feet. Logs run include: DIL, temperature, FDC/CNL/GR, sonic, and dipmeter. Bottom hole temperature was 195°F.

Very truly yours,
GETTY OIL COMPANY


N. J. KAPPELER

Division Exploration Manager

NJK:GAR:lm

cc: Dennis Nielsen
U. U. R. I. Earth Science Lab.
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore - Las Vegas, Nevada

1. Contract Identification Geothermal Reservoir Assessment - Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27000
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93388 (1980) (Beowawe)		5. Contract Start Date 10/1/78	
		6. Contract Completion Date 9/30/81	

7. Month:	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	8. FY1979
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9. Cost Data															g. Cost Plan Date	
a. (\$000) Prior Costs \$32 M Estimated 200 Actual 100															h. Planned Costs Prior FYs 0	
															i. Actual Costs Prior FYs 0	
															j. Total Estimated Cost for Contract \$989,895	
															k. Total Contract Value \$989,895	
b. RFR Numbers AE-10-02-02															l. Unfilled Orders Outstanding	
Accrued Costs	c. Planned	0	51	0	0	0	0	818	53	0	0					m. Estimate for Subsequent Reporting Period 0
	d. Actual	0	0	0	0	0	0	0	95	713	492					
	e. Variance															
	f. Cum. Variance															

11. Major Milestone Status																
a. Permits	[]															
b. Drill 14 500' Holes	[]															
c. Drill One 1500' Hole	[]															
d. Drill 9000' Expl. Hole	[]															
e. Flow Test	[]															
f.																
g.																
h.																
i.																

12. Remarks																
13. Signature of Contractor's Project Manager and Date										14. Signature of Government Technical Representative and Date						



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

August 5, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 7-1-81 to 8-1-81

Gentlemen:

Getty Oil Company spudded Collins 76-17 geothermal test well on July 6, 1981. Total depth as of August 1, 1981 was 4,417 feet. Tertiary basalts and andesites were encountered from the surface to 4,170 feet. The Ordovician Valmy formation composed of silicious sediments is expected to continue from 4,170 feet to 9,000+ feet total depth.

20 inch casing was set at 85 feet and 13-3/8 inch casing at 1,895 feet. The following logs were run July 16, 1981 to 1,890 feet: DIL, CNL/FDC/GR, sonic, and temperature. BHT at 1,890 feet was 118° F.

Very truly yours,

GETTY OIL COMPANY


N. J. KAPPELER
Division Exploration Manager

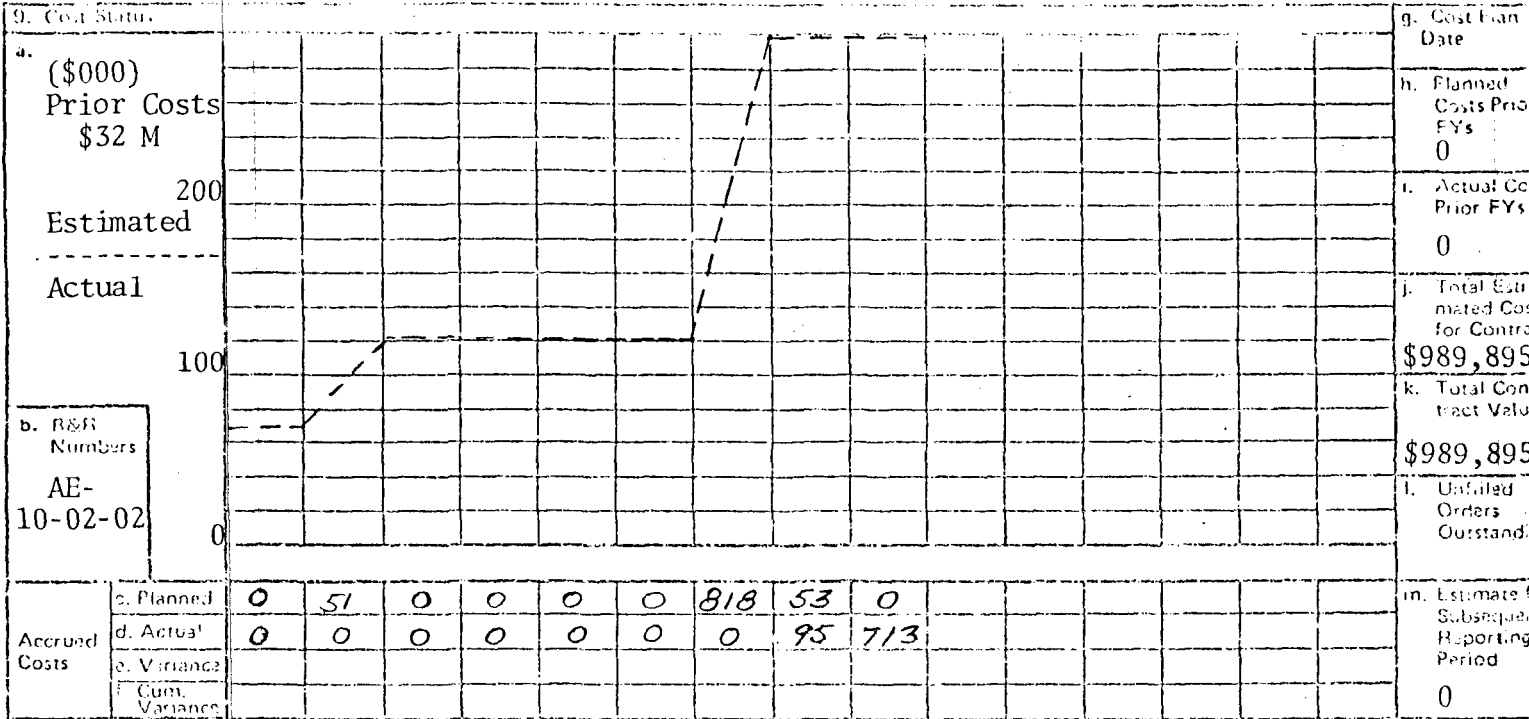
NJK:GAR:bt

cc: Dennis Nielsen
UURI Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore - Las Vegas, NV

1. Contract Identification Geothermal Reservoir Assessment - Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93388 (1980) (Beowawe)	5. Contract Start Date 10/1/78	
		6. Contract Completion Date 9/30/81

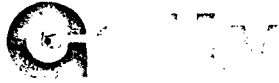
7. Months	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	8. FY1979
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11. Major Milestone Status	
a. Permits	[]
b. Drill 14 500' Holes	
c. Drill One 1500' Hole	[]
d. Drill 9000' Expl. Hole	[]
e. Flow Test	[]
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
---	--



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

July 7, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-ACO8-79ET-27009
Beowawe Area, Nevada
Period 6-1-81 to 7-1-81

Gentlemen:

Getty Oil Company has completed preparations for drilling Collins 76-17 9000' geothermal test well. An access road to the drill site from the Beowawe-Crescent Valley highway has been improved and the drill site has been constructed.

Brinkerhoff-Signal rig #2 will spud July 6, 1981.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:GAR:bt

Attachments

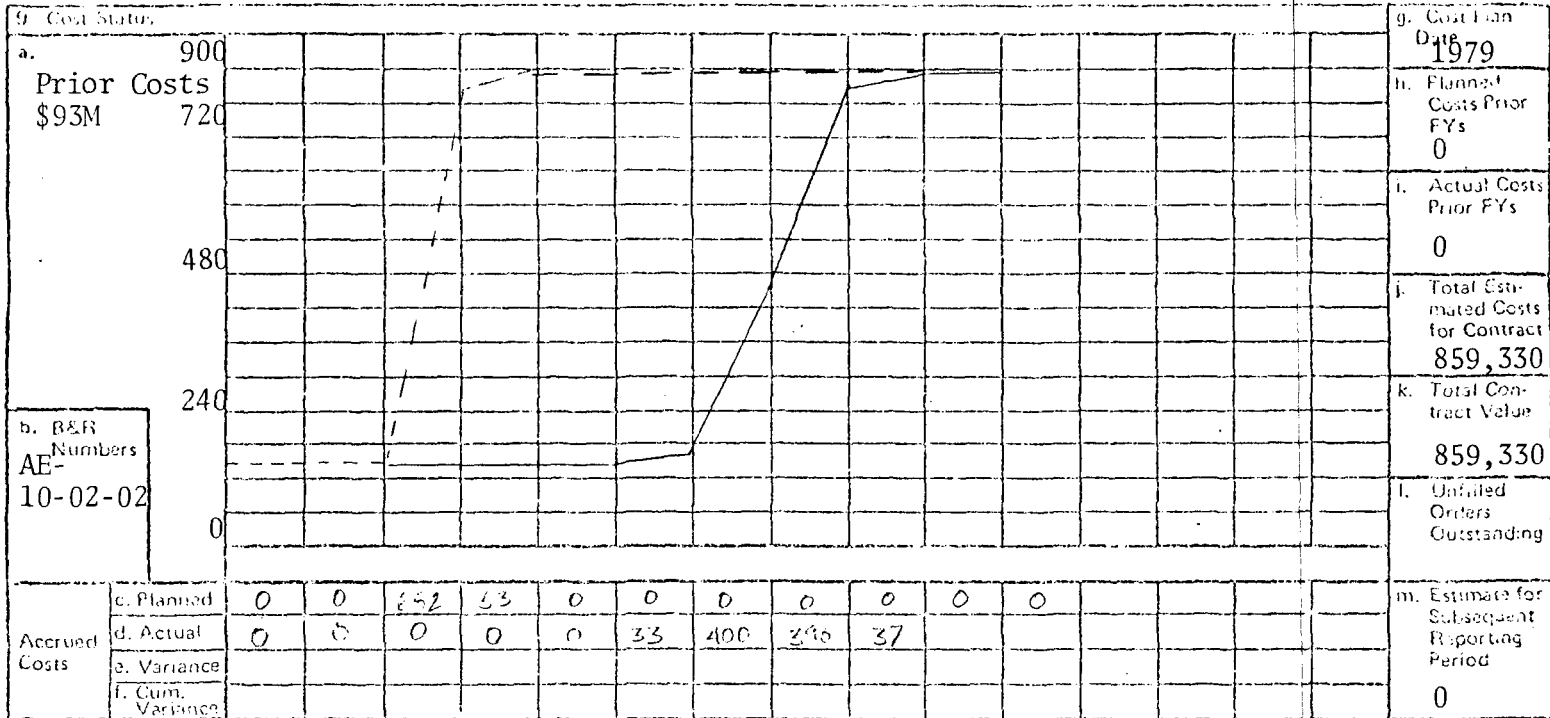
cc: Dennis Nielson
UURI Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore - Las Vegas, NV

CONTRACT MANAGEMENT SUMMARY REPORT

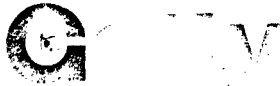
1. Contract Identification Northern Basin & Geothermal Reservoir Assessment-Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27008
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93388 (1980) (Colado)		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/80

7. Months	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	8. FY
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11. Major Milestone Status																	
a. Permits																	
b. Drill Second 1500' Hole				<input type="checkbox"/>													
c. Drill 8000' Expl. Hole								<input type="checkbox"/>									
d. Flow Test																<input type="checkbox"/>	
e.																	
f.																	
g.																	
h.																	
i.																	

12. Remarks																
13. Signature of Contractor's Project Manager and Date										14. Signature of Government Technical Representative and Date						



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

June 3, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 5-1-81 to 6-1-81

Gentlemen:

The location of a drill site for Getty Oil Company's 9000' geothermal test well, Collins 76-17, has been established in the southeast quarter of Section 17, T. 31 N., R. 48 E., M.D.B.&M., Eureka County, Nevada.

Ground survey of the location, construction of the drill pad, and improvement of an access road to the drill site has commenced. Approximate spud date is August 1, 1981.

Very truly yours,

GETTY OIL COMPANY

s/ J. W. Woffington
J. W. WOFFINGTON
for N. J. KAPPELER
Division Exploration Manager

NJDK:JWW:GAR:bt

Attachments

cc: Dennis Nielson
UURI Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore - Las Vegas, NV

CONTRACT MANAGEMENT SUMMARY REPORT

OHM-DOE 526
(1/78)

1. Contract Identification Geothermal Reservoir Assessment - & Range		Northern Basin		2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27009	
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308						5. Contract Start Date 10/1/78	
						6. Contract Completion Date 9/30/81	

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status																g. Cost Plan Date			
a.																h. Planned Costs Prior FYs			
(\$000)																i. Actual Costs Prior FYs			
Prior Costs \$32 M																j. Total Estimated Costs for Contract			
Estimated 200																k. Total Contract Value			
Actual 100																l. Unfilled Orders Outstanding			
b. B&R Numbers																m. Estimate for Subsequent Reporting Period			
AE-10-02-02 0																0			
Accrued Costs		c. Planned	0	0	0	0	35	0	0	0	51	0	0	0	0	213	53		
		d. Actual	0	0	0	8	18	7	0	0	0	0	0	0	0	0			
		e. Variance																	
		f. Cum. Variance																	

11. Major Milestone Status	
a. Permits	<input type="checkbox"/>
b. Drill 14 500' Holes	<input type="checkbox"/>
c. Drill One 1500' Hole	<input type="checkbox"/>
d. Drill 9000' Expl. Hole	<input type="checkbox"/>
e. Flow Test	<input checked="" type="checkbox"/>
f.	
g.	
h.	
i.	

12. Remarks	
13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

May 5, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-ACO8-79ET-27009
Beowawe Area, Nevada
Period 4-1-81 to 5-1-81

Gentlemen:

After careful consideration of the Chevron data from the D.O.E. and proprietary well package at Beowawe, Getty Oil Company has decided to re-evaluate its drilling plans for a "test well" at Beowawe.

The location of a tentative drill site has been tabled for the time being until additional study can be made of all of the existing data available at Beowawe.

Very truly yours,

GETTY OIL COMPANY


N. J. KAPPELER
Division Exploration Manager

NJK:WAS:JJD:bt
Enclosures

cc: Dennis Nielson
UURI - Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore - Las Vegas, NV w/enclosures



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

April 3, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 3-1-81 to 4-1-81

Gentlemen:

A letter agreement of confirmation from the Mono Power Company has been received which will expedite the proposed drill site selection and construction at Beowawe.

Current plans are to formulate an agreement with Brinkerhoff-Signal Drilling Company to insure rig availability when the drill site is ready. A tentative spud date has been set for August 1, 1981. Brinkerhoff-Signal's rig #2 is currently being used at Colado, Nevada.

Very truly yours,

GETTY OIL COMPANY

Q/S N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:WAS:JJD:bt

cc: Dennis Nielson
UURI - Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore-Las Vegas, NV w/enclosure

Enclosures

CONTRACT MANAGEMENT SUMMARY REPORT

DD FORM 101-578
(1-78)

FORM NO. 101-578

1. Project Identification Geothermal Reservoir Assessment - & Range		Northern Basin					2. Reporting Period 1-1-81 through 2-2-81					3. Contract Number DE-AC08-79FT-27009							
4. Contractor Name and Address Getty Oil Co. P.O. Box 5257 Bakersfield, CA 95308										(1980)					(Beowawe)				
															5. Date of Report 10/1/78				
															6. Contract Start Date 9/30/81				

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status																	g. Contract One	
a. (\$000)																	b. Planned Costs Prior FYs	
Prior Costs \$32 M																	0	
Estimated 200																	Actual Cost Prior FYs	
Actual 100																	0	
b. B&R Numbers																	j. Total Estimated Costs for Contract	
AE-10-02-02 0																	\$989,895	
																	k. Total Contract Value	
																	\$989,895	
																	l. Unfilled Orders Outstanding	
																	m. Estimate for Subsequent Reporting Period	
																	0	
Accrued Costs																		
c. Planned																	0	
d. Actual																	0	
e. Variance																		
f. Cum. Variance																		
0																	0	

11. Major Milestone Status																
a. Permits																
b. Drill 14 500' Holes																
c. Drill One 1500' Hole																
d. Drill 9000' Expl. Hole																
e. Flow Test																
f.																
g.																
h.																
i.																

12. Remarks																
13. Signature of Contractor's Project Manager and Date																
14. Signature of Government Technical Representative and Date																

Western Exploration and Production Division

March 3, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 2-2-81 to 3-1-81

Gentlemen:

Plans are currently being formulated to drill a "deep" test well at Beowawe rather than a phase II intermediate well. A tentative location has been selected near the SE corner of Section 17 - T31N, R48E, Eureka County.

A location on private Mono Power-Getty lands would expedite the location and site approval, ensuring that a well might be spudded by July of this year.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:WAS:JJD:bt

Enclosure

cc: Dennis Nielson ✓
UURI - Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore-Las Vegas, NV w/enclosure



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

February 5, 1981

U. S. Department of Energy
Office of Engineering and Energy Applications
P. O. Box 14100
Las Vegas, Nevada 89114

Attention: Contracting Officer

Gentlemen:

Re: Contract DE-AC08-79ET-27009
Beowawe Area, Eureka County,
Nevada - Transmittal of
Geothermal Data

The following data is being sent to you pursuant to contractual agreements. This information is the final results of logging the last four wells at Beowawe. The only remaining item in Phase I will be the abandonment of the fourteen wells drilled as part of the DOE contract captioned above.

1. Two complete temperature logging runs on all fourteen wells at Beowawe, Nevada.
2. A complete drilling summary of fourteen gradient holes.

A triplicate set of this data has been sent to the UURI at Salt Lake City, Utah, as per your instructions.

Sincerely yours,

GETTY OIL COMPANY

o/s Wayne A. Shaw
Wayne A. Shaw
Senior Geologist

WAS:blc
Enclosures

cc: Mr. Dennis Nielson ✓
UURI-Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Mr. Joe Fiore, Las Vegas, Nevada



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

February 5, 1981

Contracting Officer
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Attention: Engineering and Energy Application Division

Gentlemen:

Re: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 1-1-81 to 2-1-81
Report #22

The second and final temperature logs were run on the last four wells drilled. A period of 60 plus days was allowed for these wells to incubate before the final log run. Verbal permission has been received via phone from the U.S.G.S. District Office in Reno for the abandonment of all of the gradient holes drilled thus far. This will be accomplished very shortly.

Plans are still being made to drill an intermediate well at Beowawe, but an alternate site might be selected on private Getty-Mono leases rather than Federal lands.

Very truly yours,

GETTY OIL COMPANY

ORIGINAL SIGNED BY

II. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:WAS:JJD:blc
Enclosure

cc: Dennis Nielson, with enclosure
UURI-Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore, Las Vegas, Nevada, with enclosure

CONTRACT MANAGEMENT SUMMARY REPORT

FORM ODE 536
1/78

FORM APPROVED
OMB NO. 381-0190

1. Contract Identification Geothermal Reservoir Assessment - & Range		Northern Basin		2. Reporting Period 1-1-81 through 2-2-81		3. Contract Number DE-AC08-79ET-27009	
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308						5. Contract Start Date 10/1/78	
						6. Contract Completion Date 9/30/81	

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status																g. Cost Plan Date				
a. (\$000)																h. Planned Costs Prior FYs				
Prior Costs																0				
\$32 M																i. Actual Costs Prior FYs				
200																0				
Estimated																j. Total Estimated Costs for Contract				
-----																\$989,895				
Actual																k. Total Contract Value				
100																\$989,895				
b. B&R Numbers																l. Unfilled Orders Outstanding				
AE-10-02-02																0				
Accrued Costs		c. Planned	0	0	0	0	35	0	0	0	51	0	0	0	0	0	218	53	m. Estimate for Subsequent Reporting Period	
		d. Actual	0	0	0	8	18	9	0	0	0	0	0	0	0	0	0	0	0	
		e. Variance																		
		f. Cum. Variance																		

11. Major Milestone Status															
a. Permits		[] []													
b. Drill 14 500' Holes		[]													
c. Drill One 1500' Hole		[]													
d. Drill 9000' Expl. Hole		[]													
e. Flow Test		[]													
f.															
g.															
h.															
i.															

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

January 6, 1981

Contracting Officer
DEPARTMENT OF ENERGY
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-ACO8-79ET-27009
Beowawe Area, Nevada
Period 12-1-80 to 1-1-81
Report #21

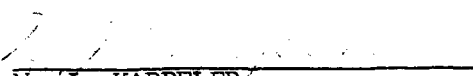
Gentlemen:

Plans are still being formulated before proceeding with the drilling of an intermediate gradient hole as part of Phase II under the contract terms.

Application will be made to the U.S.G.S. for drill site approval as soon as the location is selected.

Very truly yours,

GETTY OIL COMPANY


N. J. KAPPELER
Division Exploration Manager

NJK:WAS:JJD:bt

cc: Dennis Nielson
UURI - Earth Science Lab
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore - Las Vegas, NV



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

December 2, 1980

Contracting Officer
DEPARTMENT OF ENERGY
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-ACO8-79ET-27009
Beowawe Area, Nevada
Period 11-1-80 to 12-1-80
Report #20

Gentlemen:

The results of the initial temperature data from the gradient holes appears to be very encouraging and supports the possibility of a resistivity anomaly lying westerly of the Dunphy Fault, and at right angles to the Beowawe range front fault.

Plans are now being formulated to proceed with the drilling of an intermediate well at a location yet to be finalized.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER
N. J. KAPPELER
Division Exploration Manager

NJK:WAS:JJD:bt

cc: Dennis Nielson
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore - Las Vegas, NV



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

November 6, 1980

Contracting Officer
DEPARTMENT OF ENERGY
P. O. Box 14100
Las Vegas, NV 89114

ATTENTION: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 9-1-80 to 11-1-80
Report #19

Gentlemen:

Drilling operations on the fourteen (14) 500 foot thermal gradient hole program was completed. A final run of temperature logs has been made. A second run will be completed on November 7, 1980. Preliminary assessment of the data indicates that Getty Oil will proceed with the drilling of a 1500 foot gradient hole at a location to be determined after final interpretation of the data.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:JJD:bt

cc: ✓ Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

FORM NO. E 535
(1/78)

FORM APPROVED
OMB NO. 32R-0100

1. Contract Identification Northern Basin Geothermal Reservoir Assessment - & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308 (1980) (Beowawe)		5. Contract Start Date 10/1/78 6. Contract Completion Date 9/30/81

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status																g. Cost Plan Date			
a. (\$000) Prior Costs \$32 M 200 Estimated ----- Actual 100 0																h. Planned Costs Prior FYs 0			
																i. Actual Costs Prior FYs 0			
																j. Total Estimated Costs for Contract \$989,895			
																k. Total Contract Value \$989,895			
b. B&R Numbers AE-10-02-02																l. Unfilled Orders Outstanding			
																m. Estimate for Subsequent Reporting Period 0			
Accrued Costs	c. Planned	0	0	0	0	35	0	0	0	51	0	0	0	0	818	53			
	d. Actual	0	0	0	8	18	9	0											
	e. Variance																		
	f. Cum. Variance																		

11. Major Milestone Status	
a. Permits	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
b. Drill 14 500' Holes	<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div>
c. Drill One 1500' Hole	<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div>
d. Drill 9000' Expl. Hole	<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div>
e. Flow Test	<input type="checkbox"/>
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

September 8, 1980

Contracting Officer
DEPARTMENT OF ENERGY
P. O. Box 1400
Las Vegas, NV 89114

Attention: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 8-1-80 to 9-1-80
Report #18

Gentlemen:

Drilling operations on the fourteen 500 foot thermal gradient hole program is continuing. Eight holes have been completed and we are currently drilling the ninth. It is anticipated that the program will be completed during September, 1980. Temperature logging has not yet been done on the drilled holes, but will be conducted after all holes are drilled.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:JJD:bt

cc: Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Joe Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Northern Basin Geothermal Reservoir Assessment - & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81
		(1980)	(Beowawe)

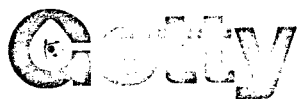
7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000) Prior Costs \$32 M Estimated Actual																h. Planned Costs Prior FYs 0
																i. Actual Costs Prior FYs 0
																j. Total Estimated Costs for Contract \$989,895
																k. Total Contract Value \$989,895
b. B&R Numbers AE-10-02-02	0															l. Unfilled Orders Outstanding
Accrued Costs															m. Estimate for Subsequent Reporting Period 0	
c. Planned	0	0	0	0	35	0	0	0	51	0	0	0	0	218	53	
d. Actual	0	0	0	8	18											
e. Variance																
f. Cum. Variance																

11. Major Milestone Status																
a. Permits																
b. Drill 14 500' Holes																
c. Drill One 1500' Hole																
d. Drill 9000' Expl. Hole																
e. Flow Test																<input type="checkbox"/>
f.																
g.																
h.																
i.																

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

August 5, 1980

Contracting Officer
DEPARTMENT OF ENERGY
P. O. Box 1400
Las Vegas, Nevada 89114

Attention: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 7-1-80 to 8-1-80
Report #17

Gentlemen:

Drilling operations on the fourteen 500 foot thermal gradient hole program was commenced on July 11, 1980. Your holes have been completed. It is anticipated that the program will be completed during August, 1980.

Very truly yours,

GETTY OIL COMPANY

ORIGINAL SIGNED BY
N. J. KAPPELER

N. J. KAPPELER
Division Exploration Manager

NJK:WAS:s

✓ cc: Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Northern Basin Geothermal Reservoir Assessment - & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308	(1980)	(Beowawe)
		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY	1979
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9. Cost Status																g. Cost Plan Date																																																																
a. (\$000) Prior Costs \$32 M Estimated ----- Actual b. B&R Numbers AE-10-02-02	<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>																																																																															h. Planned Costs Prior FYs 0
i. Actual Costs Prior FYs 0																																																																																
j. Total Estimated Costs for Contract \$989,895																																																																																
k. Total Contract Value \$989,895																																																																																
l. Unfilled Orders Outstanding																																																																																
m. Estimate for Subsequent Reporting Period 0																																																																																
Accrued Costs	c. Planned	0	0	0	0	35	0	0	0	51	0	0	0	0	813	53																																																																
	d. Actual	0	0	0	8																																																																											
	e. Variance																																																																															
	f. Cum. Variance																																																																															

11. Major Milestone Status	
a. Permits	[] []
b. Drill 14 500' Holes	[]
c. Drill One 1500' Hole	[]
d. Drill 9000' Expl. Hole	[]
e. Flow Test	[]
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

July 3, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Attn: Engineering and Energy Application Division

Re: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 6-1-80 to 7-1-80
Report #16

Gentlemen:

The drilling contractor, Western Geophysical Company, has had further delay, but is now finished with drilling for another operator.

They are moving to our project area on 7-8-80 and plan to spud first well on 7-9-80.

Our Cultural Resources Inventory at Beowawe by the University of Nevada Desert Research Institute was successfully concluded, and no further action will be required by the Bureau of Land Management before the drilling program is initiated.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:WAS:ges

cc: Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Northern Basin Geothermal Reservoir Assessment - & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P.O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000) Prior Costs \$32 M 200 Estimated Actual 100															h. Planned Costs Prior FYs 0	
															i. Actual Costs Prior FYs 0	
															j. Total Estimated Costs for Contract \$989,895	
															k. Total Contract Value \$989,895	
b. B&R Numbers AE-10-02-02 0															l. Unfilled Orders Outstanding	
Accrued Costs c. Planned d. Actual e. Variance f. Cum. Variance	0	0	0	0	35											m. Estimate for Subsequent Reporting Period 0

11. Major Milestone Status		
a. Permits	<input style="width: 100px; height: 15px;" type="text"/>	
b. Drill 14 500' Holes	<input style="width: 100px; height: 15px;" type="text"/>	
c. Drill One 1500' Hole	<input style="width: 100px; height: 15px;" type="text"/>	
d. Drill 9000' Expl. Hole	<input style="width: 100px; height: 15px;" type="text"/>	
e. Flow Test		<input type="checkbox"/>
f.		
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

June 2, 1980

Contracting Officer
Department of Energy
P.O. Box 1400
Las Vegas, Nevada 89114

Attention: Engineering and Energy Application Division

RE: Contract DE-AC08-79ET-27009
Beowawe Area, Nevada
Period 4-1-80 to 5-1-80
Report #15

Gentlemen:

The fourteen shallow gradient hole locations and access routes to the drill sites were staked and flagged during the first week of May.

Western Geophysical Company has had a slight delay in their work schedule and will tentatively begin the drilling program during the last week of June, 1980. Desert Research Institute is currently conducting the Cultural Research Inventory and should be finished by the middle of June.

• Very truly yours,

GETTY OIL COMPANY

N.J. Kappeler
Division Exploration Manager

NJK:esp

cc: Dr. H.P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

May 1, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Attention: Engineering and Energy Applications Division

Re: Contract DE-AC08-79ET-27008
Beowawe Area, Nevada
Period 4-1-80 to 5-1-80
Report #15

Gentlemen:

The Notice of Intent to Conduct Geothermal Resource Exploration Operations has been approved and the drilling of the first of fourteen (14) shallow temperature gradient holes at Beowawe should commence on or about the 1st of June, 1980.

A contract has been negotiated with Western Geophysical Company to do the drilling and Desert Research Institute - UNR has tentatively been engaged to do the Cultural Resource Inventory in the meantime.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:WAS:sm

cc: ✓ Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

UNIVERSITY OF UTAH RESEARCH INSTITUTE

UURI

EARTH SCIENCE LABORATORY
420 CHIPETA WAY, SUITE 120
SALT LAKE CITY, UTAH 84108
TELEPHONE 801-581-5283

April 11, 1980

Mr. Jesse Dingman, Natural Resources Manager
Bureau of Land Management
Elko District Office
2002 Idaho Street
Elko, Nevada 89801

Dear Mr. Dingman:

Enclosed is a fully executed copy of the "Notice of Intent to Conduct Geothermal Resource Exploration Operations" - Notice No. NOI-NI-05-80.

We do appreciate the assistance and consideration you have given to us. Your ability to expedite this notice has allowed us to conduct our research in a very timely manner.

Sincerely yours,



W. L. Forsberg
Associate Director/
Administration

WLF:gm

Enclosure

cc: JCW, Inc.
✓ H. R. Ross
W. O. Ursenbach
S. H. Ward
P. M. Wright

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Notice Number
DOI-11-05-80

NOTICE OF INTENT TO CONDUCT GEOTHERMAL RESOURCE
EXPLORATION OPERATIONS

Applicant(s) University of Utah Research Institute	Address (include zip code) 420 Chipeta Way, Suite 100 Salt Lake City, Utah 84108
Operator Earth Science Laboratory Division	Address (include zip code) 420 Chipeta Way, Suite 120 Salt Lake City, Utah 84108
Contractor(s) JCW, Inc.	Address (include zip code) 1973 West North Temple Salt Lake City, Utah 84116

hereby apply for authorization to conduct exploration operations pursuant to the provisions of 43 CFR 3209 now or hereafter in force across and upon the following-described lands (give description of lands by township, attach map or maps showing lands to be entered or affected)

See Attachment No. 1

Type of operations to be conducted (give brief description)

Research for geothermal resources (see Attachment No. 2)

Exploration operations will be conducted during the period (date) from March 31, 1980 to March 30, 1981

Attached \$ Surety bond Rider to Nationwide bond Rider to Statewide bond Bond to be furnished

Upon completion of exploration operations the undersigned agrees to notify the Authorized Officer that authorized exploration operations have been completed in conformance with the general and special terms and stipulations of the notice.

The undersigned hereby agrees (1) that he will not enter upon the described land until he has been informed in writing whether there are special stipulations applicable to his Notice of Intent, as to either time or method of operation or otherwise, and, if there are such stipulations, what those stipulations are, (2) that he will comply with those special stipulations, if any; and (3) that he will not enter upon the described lands until his entry has been approved by the Authorized Officer.

The undersigned agrees to be bound by the terms and conditions of this notice to conduct exploration operations when approved by the Authorized Officer.

The undersigned agrees that the filing of this Notice under the regulations (43 CFR Subpart 3209) does not vest or confer any preference right to a geothermal resources lease.

The undersigned agrees further that all exploration operations shall be conducted pursuant to the following terms and conditions:

1. Exploration operations shall be conducted in compliance with all Federal, State, and local laws, ordinances, or regulations which are applicable to the area of operations including, but not limited to, those pertaining to fire, sanitation, conservation, water pollution, fish, and game. All operations hereunder shall be conducted in a prudent manner.
2. Due care shall be exercised in protecting the described lands from damage. All necessary precautions shall be taken to avoid any damage other than normal wear and tear to improvements on the land including, but not limited to, gates, bridges, roads, culverts, cattle guards, fences, dams, dikes, vegetative cover, improvements, stock watering, and other facilities.
3. All drill holes shall be capped when not in use and appropriate procedures shall be taken to protect against

hazards in order to protect the lives, safety, or property of other persons or of wildlife and livestock.

4. All vehicles shall be operated at a reasonable rate of speed and, in the operation of vehicles, due care shall be taken to safeguard livestock and wildlife in the vicinity of operations. Existing roads and trails shall be used wherever possible. If new roads and trails are to be constructed, the Authorized Officer must be consulted prior to construction as to location and specifications. Reclamation and/or reseeding of new roads and trails shall be made as requested by the Authorized Officer.
5. Upon expiration, conclusion, or abandonment of operations conducted pursuant to this Notice, all equipment shall be removed from the land, and the land shall be restored as nearly as practicable to its original condition by such measures as the Authorized Officer may specify. All geophysical holes shall be safely plugged. The Authorized Officer shall be furnished a Notice of Completion of Geothermal Resource Exploration Operations (Form 3200-3) immediately upon cessation of all such operations and shall be further informed of the completion of reclamation work as soon as possible.
6. Location and depth of water sands encountered shall be disclosed to the Authorized Officer.

(Continued on reverse)

Form 3200-9 (December 1973)

7. Operator shall contact the Authorized Officer, prior to actual entry upon the land in order to be appraised of practices which shall be followed or avoided in the conduct of exploration operations pursuant to the terms of this Notice and applicable regulations. Operator will conduct no operations on the land unless the attached bond is in good standing.
8. Due care shall be exercised to avoid scarring or removal of ground vegetative cover.
9. All operations shall be conducted in such a manner to avoid (a) blockage of any drainage systems; (b) changing the character, or causing the pollution or siltation of rivers, streams, lakes, ponds, waterholes, seeps, and marshes; and (c) damaging fish and wildlife resources or habitat. Cuts or fills causing any of the above-mentioned problems will be repaired immediately in accordance with specifications of the Authorized Officer.
10. Vegetation shall not be disturbed within 300 feet of waters designated by the Authorized Officer, except at approved stream crossings.
11. Surface damage which induces soil movement and/or water pollution shall be subject to corrective action as required by the Authorized Officer.
12. Trails and campsites shall be kept clean. All garbage and foreign debris shall be eliminated as required by the Authorized Officer.
13. Operator shall protect all survey monuments, witness corners, reference monuments, and bearing trees against destruction, obliteration, or damage. He shall, at his expense reestablish damaged, destroyed, or obliterated monuments and corners, using a licensed surveyor, in accordance with Federal survey procedures. A record of the reestablishment shall be submitted to the Authorized Officer.
14. Operator shall make every reasonable effort to prevent, control, or suppress any fires started by the operator, and

to report, as soon as possible, to the Authorized Officer location and size of fires, and assistance needed to suppress such fires. Operator shall inform the Authorized Officer as soon as possible of all fires, regardless of location, noted, or suppressed by independent action.

15. No work shall be done within one-half mile of a developed recreation site without specific written authority from the Authorized Officer. Any travel within one-half mile of a recreation site shall be over existing roads or trails.
16. Use of explosives within one-half mile of designated waters is prohibited unless approved, in writing, by the Authorized Officer.
17. If operations conducted under the provisions of this Notice causes any damage to the surface of the national resource lands, such as, but not limited to, soil erosion, pollution of water, injury or destruction of live-stock or wildlife, or littering, operator shall, within 48 hours, file with the Authorized Officer a map showing exact location of such damage and a written report containing operator's plans for correcting or minimizing damage, if possible.
18. Violation of, or failure to comply with any of these terms and conditions shall result in immediate shutdown of field operations until deficiency is corrected. Failure to correct deficiency within the time period allowed by the Authorized Officer shall result in forfeiture of bond.
19. The Bureau of Land Management reserves the right to close any area to operators in periods of fire danger or when irreparable damage to natural resources is imminent.
20. Contractor shall be liable for assuring compliance with all terms and conditions of this Notice and all actions of his designated operator, agents, and employees.
21. Where continuation of the operation will result in irreparable damage to the land and other natural resources this Notice will be immediately cancelled by the Authorized Officer.

22. Special Stipulations:

1. BETWEEN ~~LINE~~ POINTS 445 ON LINE THE LINE SHALL BE BROKEN OR WIRE MOVED 1/4 MILE SOUTH TO AVOID KNOWN EAGLE NESTS.
2. USE OF HEAVY EQUIPMENT SHALL BE APPROVED IN ADVANCE

W. Partridge
 (Signature of Applicant)

(Date)

W. L. Lindsey
 (Signature of Operator)

3-26-80
 (Date)

We hereby agree to the special stipulations added and made a part of this Notice to conduct exploration operations.

Wayne Dehnbauer
 (Signature of Holder of Notice)

9 Apr. 80
 (Date)

W. L. Lindsey
 (Signature of Operator)

4/9/80
 (Date)

hereby approve this Notice to conduct exploration operations.

John E. Dwyer
 (Signature of Authorized Officer)

Manager Elko R.A.
 (Title)

4/11/80
 (Date)

Attachment No. 1

Geographic Area

T30N, R48E, Sec. 2,3,4,5,6

T31N, R47E, Sec. 12,24,25,36

T31N, R48E, Sec. 1 through 36

T31N, R49E, Sec. 7,18,19

T32N, R48E, Sec. 31,32,33



Getty Oil Company | P.O. Box 5237, Bakersfield, California 93308

California Exploration and Production Division

April 3, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Attn: Engineering and Energy
Applications Division

Re: Contract DE-AG08-79ET-27009
Beowawe, Nevada
Period 3-1-80 to 4-1-80
Report No. 14

Gentlemen:

Corrected copies of applications for the drilling of fourteen 500 foot gradient holes were submitted to the U.S.G.S. on March 17, 1980, and we are now awaiting approval.

Very truly yours,

GETTY OIL COMPANY


N. J. KAPPELER
Division Exploration Manager

NJK:ere

cc: Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

Joe Hols

2814 Lake City, Room 84108
430 S. Kingsley Ave., Suite 130
University of New Mexico
Earth Science Laboratory
Attn: Dr. H. B. Ross

Mike

Division Exploration and Production
M. J. KUBITZ

CELLS OIL COMPANY

Attn: Mike Ross

Notes were submitted to the U.S.G.S. on March 11, 1980 and we are now awaiting
collected copies of applications for the drilling of test wells in the area.

Conclusion:

Applications Division
Attn: Management and Planning

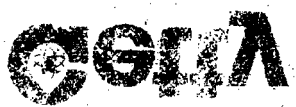
Report No. 14
Period 2-1-80 to 4-1-80
Program: Research
No: Contract DE-AC08-79-OR-21000

725 Lakeside, Nevada 89114
P.O. Box 1400
Department of Energy
Contracting Officer

California Exploration and Production Division

April 2, 1980

Cells Oil Company | P.O. Box 2531, Bakersfield, California 93308



CONTRACT MANAGEMENT SUMMARY REPORT

1. Project Identification Geothermal Reservoir Assessment - Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308 (1980) (Beowawe)		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	8. FY	1979
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9. Cost Status																g. Cost Plan Date																																																																	
a. (\$000) Prior Costs \$32 M 200 Estimated ----- Actual 100 b. B&R Numbers AE- 10-02-02 0																h. Planned Costs Prior FYs 0																																																																	
																i. Actual Costs Prior FYs 0																																																																	
																j. Total Estimated Costs for Contract \$989,895																																																																	
																k. Total Contract Value \$989,895																																																																	
															l. Unfilled Orders Outstanding																																																																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="width:10%; vertical-align: top;"> Accrued Costs </td> <td style="text-align: center;">c. Planned</td> <td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">35</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">51</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td> <td rowspan="4" style="width:10%; vertical-align: top;"> m. Estimate for Subsequent Reporting Period 0 </td> </tr> <tr> <td style="text-align: center;">d. Actual</td> <td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: center;">e. Variance</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: center;">f. Cum. Variance</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																Accrued Costs	c. Planned	0	0	0	0	0	0	35	0	0	0	51	0	0	0	0	m. Estimate for Subsequent Reporting Period 0	d. Actual	0	0	0													e. Variance																f. Cum. Variance															
Accrued Costs	c. Planned	0	0	0	0	0	0	35	0	0	0	51	0	0	0		0	m. Estimate for Subsequent Reporting Period 0																																																															
	d. Actual	0	0	0																																																																													
	e. Variance																																																																																
	f. Cum. Variance																																																																																

11. Major Milestone Status	
a. Permits	<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
b. Drill 14 500' Holes	<div style="display: flex; justify-content: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
c. Drill One 1500' Hole	<div style="display: flex; justify-content: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
d. Drill 9000' Expl. Hole	<div style="display: flex; justify-content: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
e. Flow Test	<div style="display: flex; justify-content: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

March 4, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Attn: Engineering and Energy Applications Division

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 2-1-80 to 3-1-80
Report No. 13

Gentlemen:

Locations for fourteen 500 foot gradient holes were selected and field checked during February. An application for the drilling was submitted to the U.S.G.S. on February 26, 1980.

Very truly yours,
GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:ges

✓cc: Dr. H. P. Ross
Earth Science Lab
Univ. of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

J. Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment - Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
(1980) (Beowawe)		6. Contract Completion Date 9/30/81

7. Months	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000) Prior Costs \$32 M 200 Estimated ----- Actual 100 0															h. Planned Costs Prior FYs 0	
															i. Actual Costs Prior FYs 0	
															j. Total Estimated Cost for Contract \$989,895	
															k. Total Contract Value \$989.895	
b. B&R Numbers AE-10-02-02															l. Unfiled Orders Outstanding	
m. Estimate for Subsequent Reporting Period																
Accrued Costs	c. Planned	d. Actual	e. Variance	f. Cum. Variance												
	0	0	0	0	0	0	35	0	0	0	51	0	0	0	0	

11. Major Milestone Status	
a. Permits	<div style="display: flex; justify-content: space-around; width: 100%;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
b. Drill 14 500' Holes	<div style="display: flex; justify-content: center; width: 100%;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
c. Drill One 1500' Hole	<div style="display: flex; justify-content: center; width: 100%;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
d. Drill 9000' Expl. Hole	<div style="display: flex; justify-content: center; width: 100%;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
e. Flow Test	<div style="display: flex; justify-content: center; width: 100%;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
f.	
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

February 1, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Attention: Engineering and Energy Applications Division

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 1-1-80 to 2-1-80
Report No. 12

Gentlemen:

Locations have been selected for fourteen 500 foot gradient holes on the basis of the geophysical data. These locations will be checked on the ground for access with the least environmental disturbance prior to filing for permits. We anticipate filing for permits during March 1980.

Very truly yours,

GETTY OIL COMPANY

N. J. Kappeler
N. J. Kappeler
Division Exploration Manager

NJK:mmp

✓ cc: Dr. H. P. Ross
Earth Science Lab
Univ. of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

J. Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27008	
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93308				5. Contract Start Date 10/1/78	
				6. Contract Completion Date 9/30/80	

7. Months	J	F	M	A	M	J	J	A	S					8. FY
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9. Cost Status													g. Cost Plan Date 1979		
a. Prior Costs \$93M													h. Planned Costs Prior FYs 0		
Estimated													i. Actual Cost Prior FYs 0		
Actual													j. Total Estimated Costs for Contract 859,330		
b. B&R Numbers AE - 10-02-02													k. Total Contract Value 859,330		
													l. Unfilled Orders Outstanding		
													m. Estimate for Subsequent Reporting Period 0		
Accrued Costs		c. Planned	0	0	45	0	0	0	0	682	55				
		d. Actual	0												
		e. Variance													
		f. Cum. Variance													

11. Major Milestone Status

a. Permits													
b. Drill Second 1500' Hole		<input type="checkbox"/>											
c. Drill 8000' Expl. Hole													
d. Flow Test													<input type="checkbox"/>
e.													
f.													
g.													
h.													
i.													

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

FORM OGE 536
(1/78)

FORM APPROVED
OMB NO. 351-01

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27008
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93308			5. Contract Start Date 10/1/78
			6. Contract Completion Date 9/30/80

7. Months	J	F	M	A	M	J	J	A	S					8. FY
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9. Cost Status														g. Cost Plan Date 1979
a. Prior Costs \$93M														h. Planned Costs Prior FYs 0
Estimated														i. Actual Cost Prior FYs 0
Actual														j. Total Estimated Costs for Contract 859,330
b. B&R Numbers AE - 10-02-02														k. Total Contract Value 859,330
c. Planned														l. Unfilled Orders Outstanding
d. Actual														m. Estimate for Subsequent Reporting Period 0
e. Variance														
f. Cum. Variance														

11. Major Milestone Status														
a. Permits	[]													
b. Drill Second 1500' Hole	[]													
c. Drill 8000' Expl. Hole	[]													
d. Flow Test	[]													
e.														
f.														
g.														
h.														
i.														

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

FORM DOC 536
(7/79)

FORM APPROVED
OMB NO. 3881-01

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27008	
4. Contractor (Name and Address) Getty Oil Company P. O. Box 5237 Bakersfield, CA 93308 (1980) (Colado)				5. Contract Start Date 10/1/78	
				6. Contract Completion Date 9/30/80	

7. Months	J	F	M	A	M	J	J	A	S					8. FY
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9. Cost Status														g. Cost Plan Date 1979	
a. Prior Costs \$93M	900													h. Planned Costs Prior FYs 0	
	720													i. Actual Costs Prior FYs 0	
	480													j. Total Estimated Costs for Contract 859,330	
	Estimated													k. Total Contract Value 859,330	
b. B&R Numbers AE - 10-02-02	240													l. Unfilled Orders Outstanding	
	0													m. Estimate for Subsequent Reporting Period 0	
Accrued Costs	c. Planned	0	0	45	0	0	0	0	682	55					
	d. Actual	0													
	e. Variance														
	f. Cum. Variance														

11. Major Milestone Status													
a. Permits	<input type="checkbox"/>												
b. Drill Second 1500' Hole	<input type="checkbox"/>												
c. Drill 8000' Expl. Hole	<input type="checkbox"/>												
d. Flow Test	<input type="checkbox"/>												
e.													
f.													
g.													
h.													
i.													

12. Remarks

13. Signature of Contractor's Project Manager and Date C. J. K... 1980	14. Signature of Government Technical Representative and Date
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Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

January 2, 1980

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 11-1-79 to 1-1-80
Report #11

Gentlemen:

The geophysical survey reports are still being evaluated by this department. Results of these evaluations will be utilized in the formulation of the gradient hole program at Beowawe.

Very truly yours,

GETTY OIL COMPANY


N. J. Kappel
Division Exploration Manager

NJK:WAS:ges
Enc.

cc: (3) Dr. H. P. Ross
Earth Science Lab
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

(1) J. Fiore

Contract Identification: Geothermal Reservoir Assessment Northern Basin & Range													2. Reporting Period _____ through _____			3. Contract Number DE-AC08-79ET-2700E																																																																													
Contractor (Name and Address): Getty Oil Co. P. O. Box 5237 Wakersfield, CA 93308													5. Contract Start Date 10/1/78			6. Contract Completion Date 9/30/81																																																																													
Months: O N D J F M A M J J A S O N D													a. FY 1979																																																																																
Major Milestone Status													g. Cost Plan Date																																																																																
Estimated Actual (\$000) 200 100 0													h. Planned Costs Prior FYs 0			i. Actual Costs Prior FYs 0			j. Total Estimated Cost for Contract \$989,895			k. Total Contract Value \$989,895																																																																							
													l. Unfilled Orders Outstanding 0			m. Estimate for Subsequent Reporting Period 0																																																																													
													<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>c. Planned</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td>0</td><td>35</td><td>0</td> </tr> <tr> <td>d. Actual</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> <tr> <td>e. Variance</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> <tr> <td>f. Cum. Variance</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> </table>													c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	d. Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
													c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0																																																																	
													d. Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0																																																																	
e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																														
f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																														
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Permits</td><td colspan="12">[] [] []</td></tr> <tr> <td>Gravity & Resist Survey</td><td colspan="12">[]</td></tr> <tr> <td>Fill 14 10' Holes</td><td colspan="12">[]</td></tr> <tr> <td>Fill One 100' Hole</td><td colspan="12"></td><td>Jan-Mar 1980</td></tr> <tr> <td>Fill 9,000' Depth Hole</td><td colspan="12"></td><td>Oct-Feb 1981</td></tr> <tr> <td>Flow Test</td><td colspan="12"></td><td>June 1981</td></tr> </table>													Permits	[] [] []												Gravity & Resist Survey	[]												Fill 14 10' Holes	[]												Fill One 100' Hole													Jan-Mar 1980	Fill 9,000' Depth Hole													Oct-Feb 1981	Flow Test													June 1981
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Remarks																																																																																													
Signature of Contractor's Project Manager and Date													14. Signature of Government Technical Representative and Date																																																																																

Contract Description Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-2700E
Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

Months: O N D J F M A M J J A S O N D a. FY 1979

	g. Cost Plan Date	
(\$000)	h. Planned Costs Prior FYs	0
Estimated	i. Actual Costs Prior FYs	0
Actual	j. Total Estimated Cost for Contract	\$989,895
B&R Numbers 1E-02-02	k. Total Contract Value	\$989,895
200	l. Unfilled Orders Outstanding	0
100	m. Estimate of Subsequent Reporting Period	0
0		0

Planned	0	0	0	0	0	0	0	0	32	-0	0	0	0	0	35	0	m. Estimate of Subsequent Reporting Period	
Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0		
Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Major Milestone Status	
Permits	
Gravity & Resist Survey	
Drill 14 300' Holes	
Drill One 500' Hole	Jan-Mar 1980
Drill 9,000' Expl. Hole	Oct-Feb 1981
Flow Test	June 1981

Remarks

Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

November 16, 1979

Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Attention: Mr. J. B. Cotter
Contracting Officer

Re: Geophysical Data
Beowawe Area
Eureka & Lander Counties, Nevada
Contract DE-AC08-79ET27009

Gentlemen:

In accordance with Appendix A, Paragraphs D.1. and D.2. of Contract DE-AC08-79ET27009, we are forwarding one copy of Part A and Part B of the results of the geophysical surveys in the Beowawe Prospect, as submitted to Getty Oil by Electrodyne Surveys. A triplicate set of the report, along with one set of eleven reproducible plates, has been forwarded to the University of Utah Research Institute at Salt Lake City, as per your instructions.

Please acknowledge receipt of the above data by signing and returning the enclosed duplicate copy of this letter.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:RPJ:js

cc: Dr. H. P. Ross
U.U.R.I.
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

GETTY OIL COMPANY
P. O. Box 5237
Bakersfield, CA 93388

TRANSMITTAL OF IMPORTANT MAIL – GOC

DATE

November 16, 1979

FORM GO 1-203 FEB. 74

FROM: N. J. Kappeler

SUBJECT AREA

Beowawe, Nevada

PH. OR CO.

SURVEYS BY

Electrodyne

YEAR 1979

TO: Earth Science Laboratory
U.U.R.I.
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108
Attn: Dr. H. P. Ross

INTERP BY

YEAR

RECORD TRADE

TRANSMITTAL OF

WE TRANSMIT VIA

THE FOLLOWING.

QUANTITY	KIND	DESCRIPTION OF ITEM	SECURITY NO.	DISPOSITION
1 ea	Sepia	Copies of Plates I through XI		

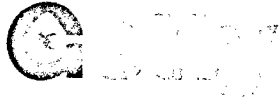
PLEASE SIGN AND RETURN THE PINK COPY OF THIS MEMORANDUM.

SIGNED Howard P. Ross Nov. 28, 1979

ABOVE ITEMS RECEIVED, EXCEPT AS NOTED:

WHITE COPY - Addressee
PINK COPY - Addressee, for Signature and Return to Sender.
YELLOW COPY - "Hold" File; Reading File on Return of Pink Copy.
Printed in U.S.A.

SIGNED _____
DATE _____



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

November 1, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 10-1-79 to 11-1-79
Report #10

Gentlemen:

Copies of geophysical studies have been submitted. Results are being evaluated and gradient holes will be selected after Chevron Oil Company data is integrated into our work.

Very truly yours,

GETTY OIL COMPANY

o/s George M. Thompson

George M. Thompson
Acting Division Exploration Manager

GMT/JJD/s

Enclosure

cc: (3) Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

(1) J. Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	R. FY 1979
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																g. Cost Plan Date	
Cost Status																h. Planned Costs Prior FYs	
(\$000)																0	
Estimated																i. Actual Costs Prior FYs	
Actual																0	
																j. Total Estimated Costs for Contract	
																\$989,895	
																k. Total Contract Value	
																\$989,895	
																l. Unfilled Orders Outstanding	
																0	
	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major Milestone Status	
Permits	[] [] []
Gravity & Resist Survey	[]
Drill 14 500' Holes	[]
Drill One 500' Hole	Jan-Mar 1980
Drill 9,000' Expl. Hole	Oct-Feb 1981
Flow Test	June 1981

Remarks

Signature of Contractor's Project Manager and Date o/s George M. Thompson / Nov. 1979	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	R. FY 1979
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Cost Status																g. Cost Plan Date	
(\$000) 200 Estimated Actual 100 0																h. Planned Costs Prior FYs	
																0	
																i. Actual Cost Prior FYs	
																0	
																j. Total Estimated Costs for Contract	
																\$989,895	
																k. Total Contract Value	
																\$989,895	
																l. Unfilled Orders Outstanding	
																0	
B&R Numbers																m. Estimate for Subsequent Reporting Period	
AE-1-02-02	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	
Periods	d. Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Major Milestone Status	
Permits	[] [] []
Gravity & Resist Survey	[]
Drill 14 500' Holes	[]
Drill One 500' Hole	Jan-Mar 1980
Drill 9,000' Expl. Hole	Oct-Feb 1981
Flow Test	June 1981

Remarks

Signature of Contractor's Project Manager and Date o/s George M. Thompson 1 Nov. 1979	14. Signature of Government Technical Representative and Date _____
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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Cost Status																g. Cost Plan Date	
(\$000) Estimated Actual																h. Planned Costs Prior FYs	
																0	
																i. Actual Cost Prior FYs	
																0	
																j. Total Estimated Costs for Contract	
															\$989,895		
															k. Total Contract Value		
															\$989,895		
															l. Unfilled Orders Outstanding		
															0		
Planned	0	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period
Actual	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Major Milestone Status	
Permits	[] [] []
Gravity & Resist. Survey	[]
Drill 14 500' Holes	[]
Drill One 500' Hole	Jan-Mar 1980
Drill 9,000' Expl. Hole	Oct-Feb 1981
Flow Test	June 1981

Remarks	
Signature of Contractor's Project Manager and Date	14. Signature of Government Technical Representative and Date
o/s George M. Thompson 1 Nov. 1979	



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

October 5, 1979

~~Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114~~

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 9-1-79 to 10-1-79
Report #9

Gentlemen:

The final geophysical report has been received from Electrodyne, Inc. of Reno, Nevada. This report will be evaluated and the results considered before selection of a series of temperature observation gradient hole locations. Chevron Oil Company of San Francisco has tentatively agreed to provide us with their gradient hole data upon the Malpais Scarp which will aid in the location and depth determination of our gradient hole program at Beowawe.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:WAS:s

Enclosure

cc: (3) Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research
420. Chipeta Way, Suite 120
Salt Lake City, Utah 84108

(1) J. Fiore

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY	1979
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9. Cost Status																g. Cost Plan Date																																																																			
a. (\$000) Estimated Actual																h. Planned Costs Prior FYs 0																																																																			
																i. Actual Cost Prior FYs 0																																																																			
																j. Total Estimated Costs for Contract \$989,895																																																																			
																k. Total Contract Value \$989,895																																																																			
																l. Unfilled Orders Outstanding																																																																			
																m. Estimate for Subsequent Reporting Period 0																																																																			
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="width:5%;">Accrued Costs</td> <td style="width:10%;">c. Planned</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td>0</td><td>35</td><td>0</td> </tr> <tr> <td>d. Actual</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td> </tr> <tr> <td>e. Variance</td> <td>0</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td> </tr> <tr> <td>f. Cum. Variance</td> <td>0</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	d. Actual	0	0	0	0	0	0	0	0	32	0	0	0				e. Variance	0	0	0							0	0	0				f. Cum. Variance	0	0	0														
	Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35		0																																																																	
		d. Actual	0	0	0	0	0	0	0	0	32	0	0	0																																																																					
		e. Variance	0	0	0							0	0	0																																																																					
f. Cum. Variance		0	0	0																																																																															

11. Major Milestone Status	
a. Permits	[] [] []
b. Gravity & Resist Survey	[]
c. Drill 14 500' Holes	[]
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER 10/5/79	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27009	
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308				5. Contract Start Date 10/1/78	
				6. Contract Completion Date 9/30/81	

7. Months	Q	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date				
a. (\$000)	Estimated Actual	[Grid for cost status]															h. Planned Costs Prior FYs 0		
																	i. Actual Cost Prior FYs 0		
																	j. Total Estimated Costs for Contract \$989,895		
																	k. Total Contract Value \$989,895		
																	l. Unfilled Orders Outstanding 0		
																	m. Estimate for Subsequent Reporting Period 0		
b. B&R Numbers AE-10-02-02																			
Accrued Costs		c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0		
		d. Actual	0	0	0	0	0	0	0	0	32	0	0	0					
		e. Variance	0	0	0														
		f. Cum. Variance	0	0	0														

11. Major Milestone Status		
a. Permits	[]	[]
b. Gravity & Resist Survey	[]	
c. Drill 14 500' Holes	[]	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER 10/5/79	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY	1979
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9. Cost Status																g. Cost Plan Date	
a.	(\$000)	Estimated	Actual														
b. B&R Numbers																h. Planned Costs Prior FYs	
AE-10-02-02																0	
c. Planned																i. Actual Cost Prior FYs	
0 0 0 0 0 0 0 0 0 32 0 0 0 0 35 0																0	
d. Actual																j. Total Estimated Costs for Contract	
0 0 0 0 0 0 0 0 0 32 0 0 0																\$989,895	
e. Variance																k. Total Contract Value	
0 0 0																\$989,895	
f. Cum. Variance																l. Unfilled Orders Outstanding	
0 0 0																0	
Accrued Costs																m. Estimate for Subsequent Reporting Period	
0 0 0 0 0 0 0 0 0 32 0 0 0																0	

11. Major Milestone Status		
a. Permits		
b. Gravity & Resist Survey		
c. Drill 14 500' Holes		
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER 10/5/79	14. Signature of Government Technical Representative and Date
---	--



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

September 13, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P.O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 8-1-79 to 9-1-79
Report #8

Gentlemen:

The preliminary electro-magnetic, gravity, and magnetic survey report has been received in our offices from Electrodyne, Inc., of Reno, Nevada. The results are being appraised while awaiting the final report promised by the contractor for the third week in September. At that time, based on the final interpretation and conclusions, locations will be selected for the shallow gradient hole with estimated depth up to 500'.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:WAS:met

Enclosure

cc (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

U.S. DEPARTMENT OF ENERGY

CONTRACT MANAGEMENT SUMMARY REPORT

FORM DOE 536
(1/78)

FORM APPROVED
OMB NO. 38R-0190

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status																g. Cost Plan Date	
a. (\$000)	Estimated Actual															h. Planned Costs Prior FYs	
																0	
																i. Actual Cost Prior FYs	
																0	
																j. Total Estimated Costs for Contract	
																\$989,895	
																k. Total Contract Value	
																\$989,895	
																l. Unfilled Orders Outstanding	
																0	
b. B&R Numbers AE-10-02-02															m. Estimate for Subsequent Reporting Period		
														0			
Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	n. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

11. Major Milestone Status	
a. Permits	<input type="checkbox"/>
b. Gravity & Resist Survey	<input type="checkbox"/>
c. Drill 14 500' Holes	<input type="checkbox"/>
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER <i>9/14/79</i>	14. Signature of Government Technical Representative and Date
--	---

U.S. DEPARTMENT OF ENERGY

CONTRACT MANAGEMENT SUMMARY REPORT

FORM DOE 536
(1/78)

FORM APPROVED
OMB NO. 38FF-0190

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date
a. (\$000)															h. Planned Costs Prior FYs
Estimated															i. Actual Costs Prior FYs
Actual															j. Total Estimated Costs for Contract
b. B&R Numbers AE-10-02-02															k. Total Contract Value
c. Planned															l. Unfilled Orders Outstanding
d. Actual															m. Estimate for Subsequent Reporting Period
e. Variance															
f. Cum. Variance															

11. Major Milestone Status															
a. Permits															
b. Gravity & Resist Survey															
c. Drill 14 500' Holes															
d. Drill One 1,500' Hole															Jan-Mar 1980
e. Drill 9,000' Expl. Hole															Oct-Feb 1981
f. Flow Test															June 1981
g.															
h.															
i.															

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER 9/14/79	14. Signature of Government Technical Representative and Date
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U.S. DEPARTMENT OF ENERGY

CONTRACT MANAGEMENT SUMMARY REPORT

FORM DOE 536
(1/78)

FORM APPROVED
OMB NO. 38R-0100

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____		3. Contract Number DE-AC08-79ET-27009	
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308			5. Contract Start Date 10/1/78	
			6. Contract Completion Date 9/30/81	

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status														g. Cost Plan Date					
a. (\$000)														h. Planned Costs Prior FYs					
Estimated														i. Actual Cost Prior FYs					
Actual														j. Total Estimated Costs for Contract					
b. B&R Numbers AE-10-02-02														k. Total Contract Value					
														l. Unfilled Orders Outstanding					
Accrued Costs		c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period	
		d. Actual	0	0	0	0	0	0	0	0	32	0	0					0	
		e. Variance	0	0	0														
		f. Cum. Variance	0	0	0														

11. Major Milestone Status		
a. Permits	<input type="checkbox"/>	<input type="checkbox"/>
b. Gravity & Resist Survey	<input type="checkbox"/>	
c. Drill 14 500' Holes	<input type="checkbox"/>	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER <i>9/14/79</i>	14. Signature of Government Technical Representative and Date
---	---



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

August 1, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 6-1-79 to 8-1-79
Report #7

Gentlemen:

The electromagnetic, gravity, and magnetic surveys programmed for Phase I, Beowawe Area, are being interpreted by the contractor, reports will be completed by August 10, 1979. Suitability and locations for the series of 500 foot gradient holes will then be determined on the basis of the aforementioned surveys.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:JJD:blb

Enclosure

cc: (3) Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

1. Contract Identification: **Geothermal Reservoir Assessment Northern Basin & Range**

2. Reporting Period: _____ through _____

3. Contract Number: **DE-AC08-79ET-27009**

Contractor (Name and Address):
**Getty Oil Co.
P. O. Box 5237
Bakersfield, CA 93308**

5. Contract Start Date: **10/1/78**

6. Contract Completion Date: **9/30/81**

Months: O M D J F M A M J J A S O N D a. FY **1979**

Estimated Actual	(\$000)	B&R Numbers DE-02-02	0	0	0	0	0	0	0	32	0	0	0	0	35	0	3. Cost Plan Date	m. Estimate for Subsequent Reporting Period																																																																															
																	4. Planned Costs Prior FYs		0																																																																														
																	5. Actual Costs Prior FYs		0																																																																														
																	6. Total Estimated Costs for Contract		\$989,895																																																																														
																	7. Total Contract Value		\$989,895																																																																														
																	8. Unfilled Orders Outstanding		0																																																																														
																	<table border="1"> <tr> <td>c. Planned</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td>0</td><td>35</td><td>0</td> </tr> <tr> <td>d. Actual</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>32</td><td>0</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>e. Variance</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>f. Cum. Variance</td> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	d. Actual	0	0	0	0	0	0	0	0	32	0						e. Variance	0	0	0	0	0	0	0	0	0	0						f. Cum. Variance	0	0	0	0	0	0	0	0	0	0						
																	c. Planned		0	0	0	0	0	0	0	0	32	0	0	0	0	35	0																																																																
																	d. Actual		0	0	0	0	0	0	0	0	32	0																																																																					
																	e. Variance		0	0	0	0	0	0	0	0	0	0																																																																					
f. Cum. Variance	0	0	0	0	0	0	0	0	0	0																																																																																							

Major Milestone Status

Permits	[]	[]	[]
Seismicity & Geologic Survey	[]		
Drill 14 200' Holes		[]	
Drill One 500' Hole			Jan-Mar 1980
Drill 9,000' Expl. Hole			Oct-Feb 1981
Flow Test			June 1981

Remarks

Signature of Contractor's Project Manager and Date: **O/S N. J. KARPELER** 8-1-79

14. Signature of Government Technical Representative and Date



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

August 1, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 6-1-79 to 8-1-79
Report #7

Gentlemen:

The electromagnetic, gravity, and magnetic surveys programmed for Phase I, Beowawe Area, are being interpreted by the contractor, reports will be completed by August 10, 1979. Suitability and locations for the series of 500 foot gradient holes will then be determined on the basis of the aforementioned surveys.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:JJD:blb

Enclosure

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Contract Identification: **Geothermal Reservoir Assessment Northern Basin & Range** 2. Reporting Period: _____ through _____ 3. Contract Number: **DE-AC08-79ET-27009**

Contractor (Name and Address): **Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308** 5. Contract Start Date: **10/1/78** 6. Contract Completion Date: **9/30/81**

Months: O N D J F M A M J J A S O N D 3. FY: 1979

Cost Status	3. Cost Plan Date	4. Planned Costs Prior FYs	5. Actual Cost Prior FYs	6. Total Estimated Costs for Contract	7. Total Contract Value	8. Unfilled Orders Outstanding
Estimated		0	0	\$989,895	\$989,895	
Actual						
I&R Numbers: E-02-02						

	c. Planned	d. Actual	e. Variance	f. Cum. Variance	9. Estimate for Subsequent Reporting Period
	0 0 0 0 0 0 0 0 0 32 -0 0 0 0 35 0	0 0 0 0 0 0 0 0 0 32 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0

Major Milestone Status

Permits			
Gravity & Resist Survey			
Drill 14 20' Holes			
Drill One 500' Hole			Jan-Mar 1980
Drill 9,000' Expl. Hole			Oct-Feb 1981
Flow Test			June 1981

Remarks

Signature of Contractor's Project Manager and Date: **O/S N. J. KARPELER 8-1-79** 14. Signature of Government Technical Representative and Date



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

August 1, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 6-1-79 to 8-1-79
Report #7

Gentlemen:

The electromagnetic, gravity, and magnetic surveys programmed for Phase I, Beowawe Area, are being interpreted by the contractor, reports will be completed by August 10, 1979. Suitability and locations for the series of 500 foot gradient holes will then be determined on the basis of the aforementioned surveys.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

NJK:JJD:blb

Enclosure

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
Contractor (Name and Address) Petty Oil Co. P. O. Box 5237 Wakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	a. FY 1979
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Estimated Actual (\$000)																g. Cost Plan Date
																h. Planned Costs Prior FYs 0
																i. Actual Costs Prior FYs 0
																j. Total Estimated Costs for Contract \$989,895
																k. Total Contract Value \$989,895
																l. Unfilled Orders Outstanding 0
																m. Estimate for Subsequent Reporting Period 0

c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period 0
d. Actual	0	0	0	0	0	0	0	0	32	0						
e. Variance	0	0	0													
f. Cum. Variance	0	0	0													

Major Milestone Status

Permits																
Drillability & Test Survey																
Drill 14 20' Holes																
Drill One 500' Hole																Jan-Mar 1980
Drill 9,000' Expl. Hole																Oct-Feb 1981
Flow Test																June 1981

Remarks

13. Signature of Contractor's Project Manager and Date O/S N. J. KAPPELER 8-1-79	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | P.O. Box 5237, Bakersfield, California 93308

California Exploration and Production Division

June 4, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 5-1-79 to 6-1-79
Report #6

Gentlemen:

The electromagnetic, gravity and magnetic surveys programmed for Phase I, Beowawe Area, are being interpreted by the contractor in Reno, Nevada, and reports are anticipated to be completed between June 1 and June 15, 1979. Suitability and locations for the series of 500-foot gradient holes will then be determined on the basis of the aforementioned surveys.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

o/s N. J. Kappeler

N. J. Kappeler
Division Exploration Manager

NJK:JJD:js

Enclosure

- cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108
- (1) Accounting Reports Branch
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

782 A6822, 782222 20114
P. O. BOX 14100
DEPARTMENT OF ENERGY

(1) ACCOUNTING REPORTS DIVISION

2812 P&K CITY, 2812 28108
430 OFFICE BLDG, SUITE 130
UNIVERSITY OF TEXAS SYSTEM
EARTH SCIENCE DEPARTMENT

cc: (2) DR. H. B. ROSS

ENCLOSURE

WAK:JPD:js

DIVISION EXHIBITION NUMBER
N. 1. 2808121

WELLS OIL COMPANY

WELLS OIL COMPANY

One copy of FORM DOE-220 is attached.

The parts of the aforementioned exhibits
the series of 201-2002 exhibit pages will then be determined on
between 1981 and 1982. Exhibits and records for
in Reno, Nevada, and records are suggested to be compared
Bureau of Economic Geology, are being interpreted by the committee.
The aforementioned exhibits and magnetic exhibits are suggested for

completion:

REPORT NO
RELATION 2-1-82 to 9-1-82
BUREAU OF ENERGY

RE: CONTRACT DE-AC08-78ET-31008

782 A6822, 782222 20114
P. O. BOX 14100
DEPARTMENT OF ENERGY
EXHIBITIONS DIVISION
ATTENTION: ENGINEERING & ENERGY
CONSTRUCTION OFFICE

JUNE 4, 1982

California Exhibition and Production Division

WELLS OIL COMPANY | P.O. BOX 2551, BERKELEY, CALIFORNIA 94708



1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78	
		6. Contract Completion Date 9/30/81	

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000)																h. Planned Costs Prior FYs
																0
																i. Actual Cost Prior FYs
																0
																j. Total Estimated Costs for Contract
															\$989,895	
															k. Total Contract Value	
															\$989,895	
															l. Unfilled Orders Outstanding	
															0	
															m. Estimate for Subsequent Reporting Period	
															0	

Estimated
Actual

200

100

0

b. B&R Numbers
AE-
10-02-02

Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	0								
	e. Variance	0	0	0	0	0	0	0	0								
	f. Cum. Variance	0	0	0	0	0	0	0	0								

11. Major Milestone Status		
Permits	[]	[]
Gravity & Resist Survey	[]	
Drill 14 500' Holes	[]	
Drill One 1,500' Hole		Jan-Mar 1980
Drill 9,000' Expl. Hole		Oct-Feb 1981
Flow Test		June 1981

2. Remarks

13. Signature of Contractor's Project Manager and Date o/s N. J. Kappeler 6-4-79	14. Signature of Government Technical Representative and Date
---	---

Contract Identification: **Geothermal Reservoir Assessment Northern Basin & Range** 2. Reporting Period _____ through _____ 3. Contract Number **DE-AC08-79ET-27009**

Contractor (Name and Address): **Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308** 5. Contract Start Date **10/1/78** 6. Contract Completion Date **9/30/81**

Months: O N D J F M A M J J A S O N D 3. FY 1979

Cost Status																	g. Cost Plan Date
(\$000)																	h. Planned Costs Prior FYs
																	0
																	i. Actual Costs Prior FYs
																	0
Estimated																	j. Total Estimated Costs for Contract
																	\$989,895
Actual																	k. Total Contract Value
																	\$989,895
																l. Unfilled Orders Outstanding	
																0	

B&R Numbers
AE-1-02-02

	c. Planned	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	m. Estimate for Subsequent Reporting Period
Planned	0	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	0
Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum. Variance	0	0	0														0

Major Milestone Status

Permits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gravity & Resist Survey	<input type="checkbox"/>		
Drill 14 500' Holes	<input type="checkbox"/>		
Drill One 500' Hole			Jan-Mar 1980
Drill 9,000' Expl. Hole			Oct-Feb 1981
Flow Test			June 1981

Remarks

Signature of Contractor's Project Manager and Date: **o/s N. J. Kappeler 6-4-79** 14. Signature of Government Technical Representative and Date

1. Contract Identification: **Geothermal Reservoir Assessment Northern Basin & Range**

2. Reporting Period _____ through _____

3. Contract Number
DE-AC08-79ET-27009

4. Contractor (Name and Address)
**Getty Oil Co.
P. O. Box 5237
Bakersfield, CA 93308**

5. Contract Start Date
10/1/78
6. Contract Completion Date
9/30/81

7. Months: O N D J F M A M J J A S O N D 8. FY 1979

Cost Status (\$000)													g. Cost Plan Date	
	Estimated													
Actual														i. Actual Costs Prior FYs
														j. Total Estimated Costs for Contract
														k. Total Contract Value
														l. Unfilled Orders Outstanding

B&R Numbers
AE-0-02-02

	c. Planned	d. Actual	e. Variance	f. Cum. Variance													m. Estimate for Subsequent Reporting Period
Planned	0	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	0
Actual	0	0	0	0	0	0	0	0	0								
Variance	0	0	0	0													
Cum. Variance	0	0	0	0													0

9. Major Milestone Status

Permits			
Gravity & Resist Survey			
Drill 14 500' Holes			
Drill One 500' Hole			Jan-Mar 1980
Drill 9,000' Expl. Hole			Oct-Feb 1981
Flow Test			June 1981

10. Remarks

13. Signature of Contractor's Project Manager and Date
o/s N. J. Kappeler 6-4-79

14. Signature of Government Technical Representative and Date



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

May 7, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET-27009
Beowawe, Nevada
Period 4-1-79 to 5-1-79
Report #5

Gentlemen:

The electromagnetic, gravity and magnetic surveys programmed for Phase I, Beowawe Area, are being processed and interpreted by the contractor in Reno, Nevada and reports are anticipated to be completed between May 15th and June 1, 1979. Suitability and locations for the series of 500-foot gradient holes will then be determined on the basis of the aforementioned surveys.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

D/s J. W. Woffington

J. W. Woffington
Division Exploration Manager

JWW:JJD:js

Encl.

cc: (3) Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308			5. Contract Start Date 10/1/78
			6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000) Estimated ----- Actual ----- b. B&R Numbers AE-10-02-02																h. Planned Costs Prior FYs 0
																i. Actual Cost Prior FYs 0
																j. Total Estimated Costs for Contract \$989,895
																k. Total Contract Value \$989,895
																l. Unfilled Orders Outstanding
																m. Estimate for Subsequent Reporting Period 0

11. Major Milestone Status															
E															
Permits	[] [] []														
Gravity & Resist Survey	[]														
Drill 14 500' Holes	[]														
Drill One 1,500' Hole															
Drill 9,000' Expl. Hole															
Flow Test															

2. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 5/7/79	14. Signature of Government Technical Representative and Date
--	---

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308			5. Contract Start Date 10/1/78
			6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
-----------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-------------------

9. Cost Status															g. Cost Plan Date	
a. (\$000)															h. Planned Costs Prior FYs 0	
Estimated															i. Actual Cost Prior FYs 0	
Actual															j. Total Estimated Costs for Contract \$989,895	
b. B&R Numbers AE-10-02-02															k. Total Contract Value \$989,895	
															l. Unfilled Orders Outstanding	
m. Estimate for Subsequent Reporting Period 0																
Accrued Costs																
c. Planned	0	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0
d. Actual	0	0	0	0	0	0	0									
e. Variance	0	0	0													
f. Cum. Variance	0	0	0													

1. Major Milestone Status	
c. Permits	[] [] []
d. Gravity & Resist Survey	[]
e. Drill 14 500' Holes	[]
f. Drill One 1,500' Hole	Jan-Mar 1980
g. Drill 9,000' Expl. Hole	Oct-Feb 1981
h. Flow Test	June 1981

2. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 5/7/79	14. Signature of Government Technical Representative and Date
--	---

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308			5. Contract Start Date 10/1/78
			6. Contract Completion Date 9/30/81

7. Months: O N D J F M A M J J A S O N D 8. FY **1979**

9. Cost Status		g. Cost Plan Date																
a. (\$000)	b. S&R Numbers AE-10-02-02																	h. Planned Costs Prior FYs
																		i. Actual Costs Prior FYs
																		0
																		j. Total Estimated Costs for Contract
																		\$989,895
																		k. Total Contract Value
																		\$989,895
																		l. Unfilled Orders Outstanding
Accrued Costs		c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period
		d. Actual	0	0	0	0	0	0	0									0
		e. Variance	0	0	0													
		f. Cum. Variance	0	0	0													

1. Major Milestone Status

Permits			
Gravity & Resist Survey			
Drill 14 500' Holes			
Drill One 1,500' Hole			Jan-Mar 1980
Drill 9,000' Expl. Hole			Oct-Feb 1981
Flow Test			June 1981

2. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 5/7/79	14. Signature of Government Technical Representative and Date
--	---



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

April 11, 1979

Contracting Officer
Attention: Engineering & Energy
Applications Division
Department of Energy
P.O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET 27009
Beowawe, Nevada
Period 3-1-79 to 4-1-79
Report #4

Gentlemen:

The electromagnetic, gravity, and magnetic geophysical surveys programmed for Phase I-Beowawe Area have been completed as of March 12, 1979. Work consisting of the following surveys were made during this report period.

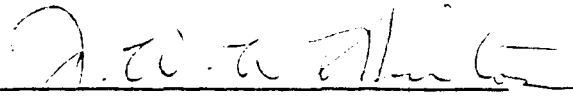
5 sets ER (modified Schlumberger) soundings - 2 soundings per station
233 gravity and magnetic sites
9 MT-AMT sites
108 EM including 9 repeated from different locations for a total of 117 source locations

This data is being processed and interpreted by the contractor in Reno, Nevada and a report is anticipated around May 15th or June 1, 1979.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY


J. W. Woffington
Division Exploration Manager

JWW:jh

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
Salt Lake City, Utah 84108

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months

O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

8. FY 1979


9. Cost Status															g. Cost Plan Date	
a. (\$000) Estimated Actual																h. Planned Costs Prior FYs
																0
																i. Actual Costs Prior FYs
																0
																j. Total Estimated Costs for Contract
															\$989,895	
															k. Total Contract Value	
															\$989,895	
															l. Unfilled Orders Outstanding	
															0	
															m. Estimate for Subsequent Reporting Period	
															0	

Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	n. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

11. Major Milestone Status

a. Permits							
b. Gravity & Resist Survey							
c. Drill 14 500' Holes							
d. Drill One 1,500' Hole							Jan-Mar 1980
e. Drill 9,000' Expl. Hole							Oct-Feb 1981
f. Flow Test							June 1981
g.							
h.							
i.							

12. Remarks

13. Signature of Contractor's Project Manager and Date 	14. Signature of Government Technical Representative and Date
--	--

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date		
a. (\$000) Estimated Actual															h. Planned Costs Prior FYs 0		
															i. Actual Costs Prior FYs 0		
															j. Total Estimated Costs for Contract \$989,895		
															k. Total Contract Value \$989,895		
															l. Unfiled Orders Outstanding 0		
b. B&R Numbers AE-10-02-02															m. Estimate for Subsequent Reporting Period 0		
Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	
	d. Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	e. Variances	0	0	0													
	f. Cum. Variances	0	0	0													

11. Major Milestone Status		
a. Permits	<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>	
b. Gravity & Resist Survey	<div style="border: 1px solid black; width: 200px; height: 20px; margin: 0 auto;"></div>	
c. Drill 14 500' Holes	<div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div>	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date <i>J. W. W. [Signature]</i> 4/11/79	14. Signature of Government Technical Representative and Date
---	---

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date	
a. (\$000) Estimated ----- Actual																h. Planned Costs Prior FYs
																0
																i. Actual Costs Prior FYs
																0
																j. Total Estimated Costs for Contract
																\$989,895
																k. Total Contract Value
																\$989,895
																l. Unfilled Orders Outstanding
																0
															m. Estimate for Subsequent Reporting Period	
															0	

b. B&R Numbers
AE-10-02-02

Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0
	d. Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

11. Major Milestone Status	
a. Permits	[] [] []
b. Gravity & Resist Survey	[]
c. Drill 14 500' Holes	[]
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date 	14. Signature of Government Technical Representative and Date
--	--



Getty Oil Company | P.O. Box 5237, Bakersfield, California 93308

California Exploration and Production Division

March 7, 1979

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET 27009
Beowawe, Nevada
Period 1/31/79 to 2/28/79
Report #3

Gentlemen:

During February, 1979, electromagnetic, gravity and magnetics work was begun and the following progress was made:

98 E.M. sites were occupied

211 Gravity and magnetic locations were occupied.

Based on the E.M. work, the number of MT and AMT locations to be occupied were reduced from 27 to 9, but the length of recording per location was increased from 28 to 56 seconds, providing considerable depth of penetration in areas found to be of primary prospective significance.

By March 14th, 108 E.M. sites, 234 gravity and magnetic locations and 9 scaler MT and AMT sites will have been occupied, concluding the geophysical field work.

One copy of Form DOE-536 is attached.

Very truly yours,

GETTY OIL COMPANY

o/s J. W. Woffington

J. W. Woffington
Division Exploration Manager

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
Univ. of Utah Research
Salt Lake City, Utah 84108

2512 1230 0121 1230 2512
UNIT: OF RESEARCH
RESEARCH DIVISION

cc: (2) DR. W. B. ROSS

RESEARCH DIVISION
W. B. ROSS
DR. W. B. ROSS

CELLS OF COMPLEX

CELLS OF COMPLEX

one copy of form 101-220 is attached.

the following data were:

and a series of 100 and 200 cycles were observed, consisting
of 100 and 200 cycles, respectively.

biological significance:

considerable amount of variation in time taken to be of normal
cell position was observed from 20 to 25 seconds. Duration
observed were reduced from 25 to 20 and the length of recording
based on the E.M. work, the number of 100 and 200 cycles to be

100 and 200 cycles were observed.

as E.M. cycles were observed.

work was reduced and the following progress was made:

working normally, 1000, electrodynamic, 25000 and 50000

conclusion:

Report #2

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION

RESEARCH DIVISION



CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY	1979
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9. Cost Status															g. Cost Plan Date		
2. (\$000) Estimated Actual																h. Planned Costs Prior FYs	
																0	
																i. Actual Costs Prior FYs	
																0	
																j. Total Estimated Costs for Contract	
																\$989,895	
																k. Total Contract Value	
																\$989,895	
																l. Unfilled Orders Outstanding	
																0	
d. B&R Numbers AE-10-02-02	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

11. Major Milestone Status		
a. Permits	[] [] []	
b. Gravity & Resist Survey	[]	
c. Drill 14 500' Holes	[]	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 3/5/79	14. Signature of Government Technical Representative and Date
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1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308	5. Contract Start Date 10/1/78	
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status															g. Cost Plan Date			
a. (\$000) Estimated Actual																h. Planned Costs Prior FYs		
																0		
																i. Actual Costs Prior FYs		
																0		
																j. Total Estimated Costs for Contract		
																\$989,895		
																k. Total Contract Value		
																\$989,895		
																l. Unfilled Orders Outstanding		
																0		
b. B&R Numbers AE-10-02-02	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period	
	d. Actual	0	0	0	0	0												0
	e. Variance	0	0	0														
	f. Cum. Variance	0	0	0														

11. Major Milestone Status	
a. Permits	[] [] []
b. Gravity & Resist Survey	[]
c. Drill 14 500' Holes	[]
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 3/5/79	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status																g. Cost Plan Date		
a. (\$000) Estimated Actual																h. Planned Costs Prior FYs		
																0		
																i. Actual Costs Prior FYs		
																0		
																j. Total Estimated Costs for Contract		
																\$989,895		
																k. Total Contract Value		
																\$989,895		
																l. Unfilled Orders Outstanding		
																0		
b. B&R Numbers AE- 10-02-02	c. Planned	0	0	0	0	0	0	0	0	32	0	0	0	0	35	0	m. Estimate for Subsequent Reporting Period	
	d. Actual	0	0	0	0	0												0
	e. Variance	0	0	0														
	f. Cum. Variance	0	0	0														

11. Major Milestone Status		
a. Permits	<input style="width:100px; height:15px;" type="text"/> <input style="width:100px; height:15px;" type="text"/> <input style="width:100px; height:15px;" type="text"/>	
b. Gravity & Resist Survey	<input style="width:200px; height:15px;" type="text"/>	
c. Drill 14 500' Holes	<input style="width:150px; height:15px;" type="text"/>	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington 3/5/79	14. Signature of Government Technical Representative and Date
---	--



Getty Oil Company | P. O. Box 5237, Bakersfield, California ⁹³³⁸⁸~~93300~~ • Telephone: (805) 399-2961

Western Exploration and Production Division

January 4, 1979

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET27009
Beowawe Area, Nevada
Period 10-1-78 to 12-31-78
Report #1

Gentlemen:

Work during this period has consisted of the initiation of securing permits for Phase I, geophysical surveys.

We expect to complete permitting on or about February 15, 1979. A contractor has been engaged for field operations which will be commenced as soon as permitting is completed.

Very truly yours,

GETTY OIL COMPANY

o/s J. W. Woffington

J. W. Woffington
Division Exploration Manager

JWW:JJD:js

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research Institute
391 Chipeta Way
Salt Lake City, Utah 84108



Getty Oil Company | P. O. Box 5237, Bakersfield, California ⁹³³⁸⁸~~93308~~ • Telephone: (805) 399-2961

Western Exploration and Production Division

January 4, 1979

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET27009
Beowawe Area, Nevada
Period 10-1-78 to 12-31-78
Report #1

Gentlemen:

Work during this period has consisted of the initiation of securing permits for Phase I, geophysical surveys.

We expect to complete permitting on or about February 15, 1979. A contractor has been engaged for field operations which will be commenced as soon as permitting is completed.

Very truly yours,

GETTY OIL COMPANY

J/s J. W. Woffington

J. W. Woffington
Division Exploration Manager

JWW:JJD:js

cc: (3) Dr. H. P. Ross /
Earth Science Laboratory
University of Utah Research Institute
391 Chipeta Way
Salt Lake City, Utah 84108



Getty Oil Company | P. O. Box 5237, Bakersfield, California ⁹³³⁸⁸~~93308~~ • Telephone: (805) 399-2961

Western Exploration and Production Division

January 4, 1979

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET27009
Beowawe Area, Nevada
Period 10-1-78 to 12-31-78
Report #1

Gentlemen:

Work during this period has consisted of the initiation of securing permits for Phase I, geophysical surveys.

We expect to complete permitting on or about February 15, 1979. A contractor has been engaged for field operations which will be commenced as soon as permitting is completed.

Very truly yours,

GETTY OIL COMPANY

o/s J. W. Woffington

J. W. Woffington
Division Exploration Manager

JWW:JJD:js

cc: (3) Dr. H. P. Ross ✓
Earth Science Laboratory
University of Utah Research Institute
391 Chipeta Way
Salt Lake City, Utah 84108



Getty Oil Company | P. O. Box 5237, Bakersfield, California ⁹³³⁸⁸ 93308 • Telephone: (805) 399-2961

Western Exploration and Production Division

February 5, 1979

Contracting Officer
Attn: Engineering & Energy
Applications Division
Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Re: Contract DE-AC08-79ET 27009
Beowawe, Nevada
Period 12/31/78 to 1/31/79
Report #2

Gentlemen:

Work during this period has consisted of securing permits for Phase I, Geophysical Surveys.

Permitting is nearing completion. We expect to commence field operations on February 10, 1979. One copy of Form DOE 536 is attached.

Very truly yours,

GETTY OIL COMPANY

s/ J. W. Woffington

J. W. Woffington
Division Exploration Manager

JWW:js

cc: (3) Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research Institute
391 Chipeta Way
Salt Lake City, Utah 84108

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979																																																																																																						
9. Cost Status																																																																																																																						
a. (\$000) Estimated Actual b. B&R Numbers AE-10-02-02	<table border="1" style="width:100%; height: 200px;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																																																																																																					g. Cost Plan Date
h. Planned Costs Prior FYs 0																																																																																																																						
i. Actual Costs Prior FYs 0																																																																																																																						
j. Total Estimated Costs for Contract \$989,895																																																																																																																						
k. Total Contract Value \$989,895																																																																																																																						
l. Unfilled Orders Outstanding																																																																																																																						
Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	32	32	32	32	67	67	m. Estimate for Subsequent Reporting Period																																																																																																					
d. Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																					
e. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																					
f. Cum. Variance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																					

11. Major Milestone Status	
a. Permits	<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div> </div>
b. Gravity & Resist Survey	<div style="border: 1px solid black; width: 200px; height: 15px; margin: 10px auto;"></div>
c. Drill 14 500' Holes	<div style="border: 1px solid black; width: 150px; height: 15px; margin: 10px auto;"></div>
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date 0/9 J. W. Woffington 2/5/79	14. Signature of Government Technical Representative and Date
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CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range		2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78	6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status																g. Cost Plan Date	
a. (\$000)																h. Planned Costs Prior FYs	
																0	
Estimated																i. Actual Costs Prior FYs	
																0	
Actual																j. Total Estimated Costs for Contract	
																\$989,895	
b. B&R Numbers AE-10-02-02																k. Total Contract Value	
																\$989,895	
															l. Unfilled Orders Outstanding		
Accrued Costs	c. Planned	0	0	0	0	0	0	0	0	32	32	32	32	32	67	67	m. Estimate for Subsequent Reporting Period
	d. Actual	0	0	0	0												
	e. Variance	0	0	0													
	f. Cum. Variance	0	0	0													

11. Major Milestone Status	
a. Permits	[] [] []
b. Gravity & Resist Survey	[]
c. Drill 14 500' Holes	[]
d. Drill One 1,500' Hole	Jan-Mar 1980
e. Drill 9,000' Expl. Hole	Oct-Feb 1981
f. Flow Test	June 1981
g.	
h.	
i.	

12. Remarks

13. Signature of Contractor's Project Manager and Date o/s J. W. Woffington <i>2/5/79</i>	14. Signature of Government Technical Representative and Date
--	---

CONTRACT MANAGEMENT SUMMARY REPORT

1. Contract Identification Geothermal Reservoir Assessment Northern Basin & Range	2. Reporting Period _____ through _____	3. Contract Number DE-AC08-79ET-27009
4. Contractor (Name and Address) Getty Oil Co. P. O. Box 5237 Bakersfield, CA 93308		5. Contract Start Date 10/1/78
		6. Contract Completion Date 9/30/81

7. Months	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	8. FY 1979
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9. Cost Status																g. Cost Plan Date	
a. (\$000) Estimated <hr style="width:50px; margin-left:0;"/> Actual																	h. Planned Costs Prior FYs 0
																	i. Actual Costs Prior FYs 0
																	j. Total Estimated Costs for Contract \$989,895
																	k. Total Contract Value \$989,895
																	l. Unfilled Orders Outstanding
																	m. Estimate for Subsequent Reporting Period

11. Major Milestone Status		
a. Permits	[] [] []	
b. Gravity & Resist Survey	[]	
c. Drill 14 500' Holes	[]	
d. Drill One 1,500' Hole		Jan-Mar 1980
e. Drill 9,000' Expl. Hole		Oct-Feb 1981
f. Flow Test		June 1981
g.		
h.		
i.		

12. Remarks

13. Signature of Contractor's Project Manager and Date o/B J. W. Woffington 2/5/79	14. Signature of Government Technical Representative and Date
---	--