

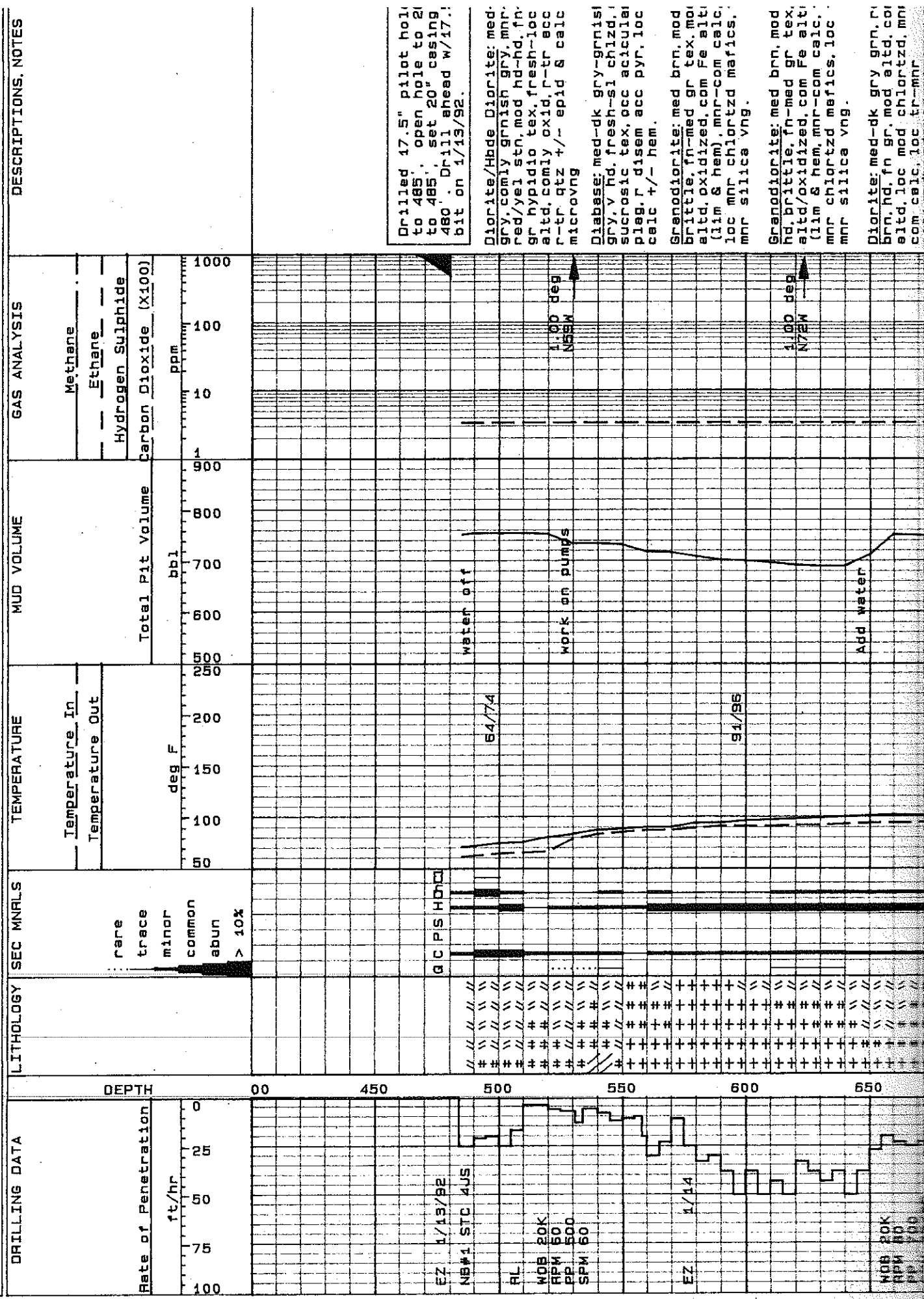




G E O T H E R M A L D A T A L O G  
 CALIFORNIA ENERGY COMPANY INCORPORATED NAVY 1 52B-7



Scale 1 : 600



hd, brittle, med gr, mod-highly altd/oxidized, com Fe altd (lim & hem), mnr-com calc, tr-loc mnr chlortzd mafics, loc tr silic vng.

Qtz Diorite: med gry-med red brn, hd, fn-med gr hypidid tex, mod altd, mnr-loc com Fe altd mafics (lim & hem), mnr calc, mnr chlortzd mafics.

Altered Zone: lt bluish grn, occ wht-grn, soft-si hd, comly brittle, pred bleached/chlzd, pred mass w/loc faint relicct tex, com-abun calc.

Hbde Diorite: med grnsh gry, occ med gry, loc brick red, si hd-hd, comly brit, v fn-med gr hypidid tex, porphyritic, pred fresh/si chlzd-si altd, v fn-fn felsic grndmass w/med hbde (<3 mm), tr-mnr disem hem, com calc/occ subhed.

Hbde Qtz Diorite: med-dk grnsh gry, occ med gry, comly red, si hd-hd, brit-dissagg frags, fn-pred med gr hypidid tex, pred fresh-si altd/chlzd, mnr-com red FeOx stn, tr biot, comly grdg to hbde dior.

Hbde Diorite: med-dk grnsh gry, com red, hd, loc brittle, fn-med gr hypidid tex, mod altd, com Fe altd (lim & hem), mnr-com calc, mnr chlortzd mafics.

Qtz Diorite: pred lt-med gry, mnr grnsh gry, mnr red brn, hd, loc brittle, fn-med gr hypidid tex, mod altd, mnr chlortzd mafics, mnr oxid mafics & hem vng, mnr calc, loc r. pyr aggs.

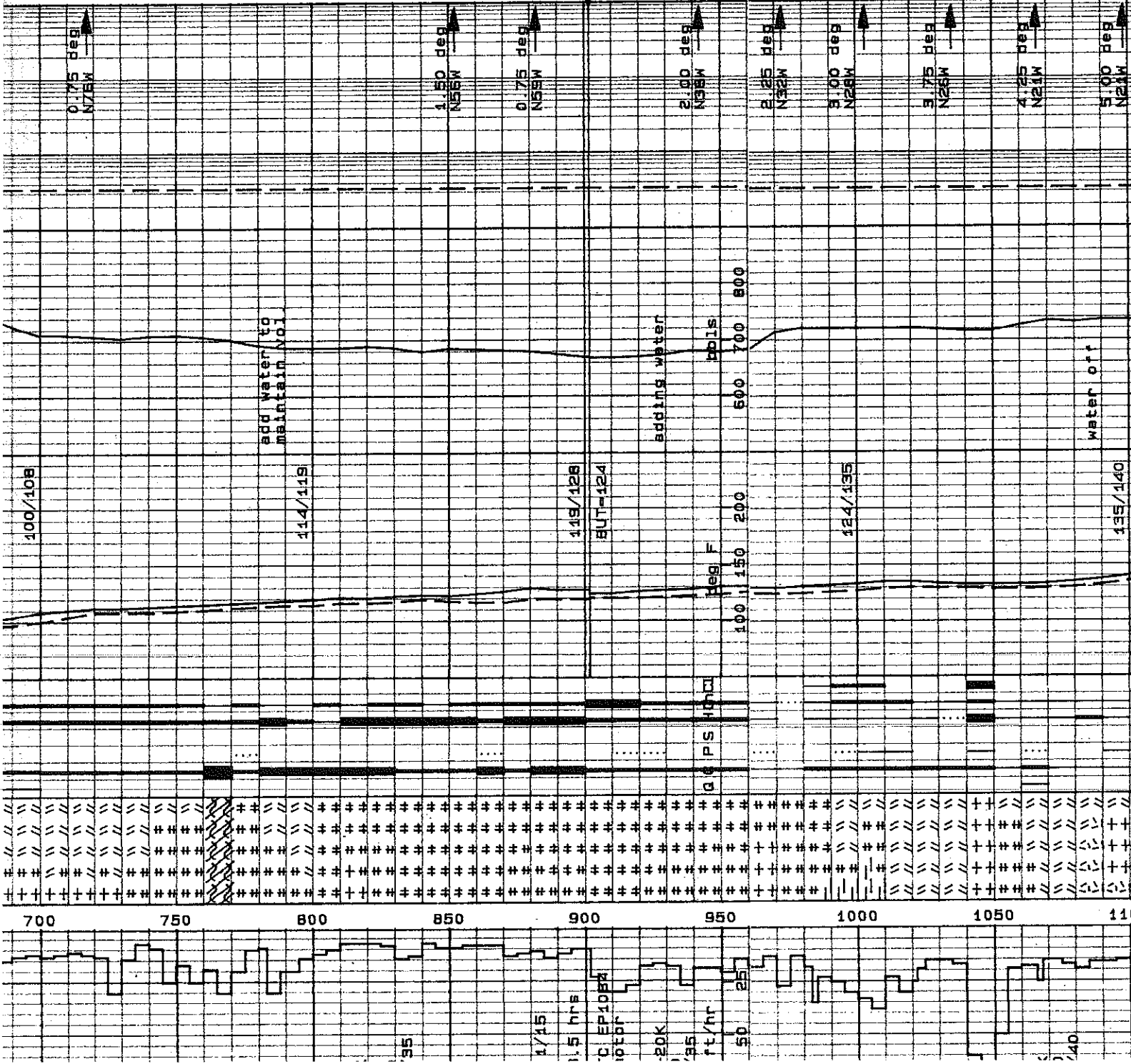
Granodiorite: lt gry-lt pnk gry, hd, med gr hypidid, pred si altd-tr mod altd, com chlzd mafs, com selvgs, occ feids altd t/wht clay, tr pyr aggr.

Clay: wht-lt gry, pred sol, si sticky, assoc w/frm-si hd chlzd clay/altd zone w/r slicks.

Diorite: med-dk grnsh gry-gry, hd-v hd, v fn-fn gr hypidid, fresh-si chlzd, mafic-rich, prob diabese.

Granodiorite: pred lt brick red, lt gry, sft-si hd, comly friable, fn-pred med gr, si-hl altd, med qtz grs w/feids altd to clay, abund red FeOx and red clay, tr disem & euh pyr, tr subhed calc.

Granite: lt pnk gry, lt gry, hd, med gr hypidid, pred si altd, com chlzd mafs, com selvgs, occ feids altd t/wht clay, tr pyr aggr.





occ brit, fn-med gr allo tex, fresh-si altd/loc fields to clay, r mns/chlzd, loc grdg to granite.

Granite: lt gry-lt org, hd, brittle, fn gr hypidlo tex, sl altd, mnr calc & calc vng, r dism hem.

Altered Zone: lt blu-lt grn mottled w/lt gry, mod hd, highly altd/rexln, mod-highly calcic, tr calc vng, r dism pyr, r dism hem.

Begin bypassing shakers at 1675', run 20% LCM mud.

Granite: pred lt gry, mnr amt lt grn, hd, fn gr hypidlo tex, sl altd, mnr calc & calc vng, tr dism pyr, r dism hem, r chlor wash.

Granite: pred lt gry, mnr amt lt grn, hd, fn-med gr hypidlo tex, sl altd, tr calc & calc vng, tr fn gr dism pyr, r chlor wash.

Felsic Dike: wht-lt gry, bleached app, hd-v hd, brittle, microxin-v fn gr w/fn-med gr qtz phenos, holoxln, sucrosic-salt-like app, r-tr v fn-fn amorph org garnets.

Hbde Qtz Diorite: pred med-dk grnsh gry, occ med-dk gry, mod hd-hd, fn-med gr hypidlo, sl altd-loc tr h1 altd, occ frsh, mafics pred chlzd, felds occ altd/chlzd, tr-mnr blot, tr sec epid, tr sec pyr aggr, loc r hem, r-tr calc vng.

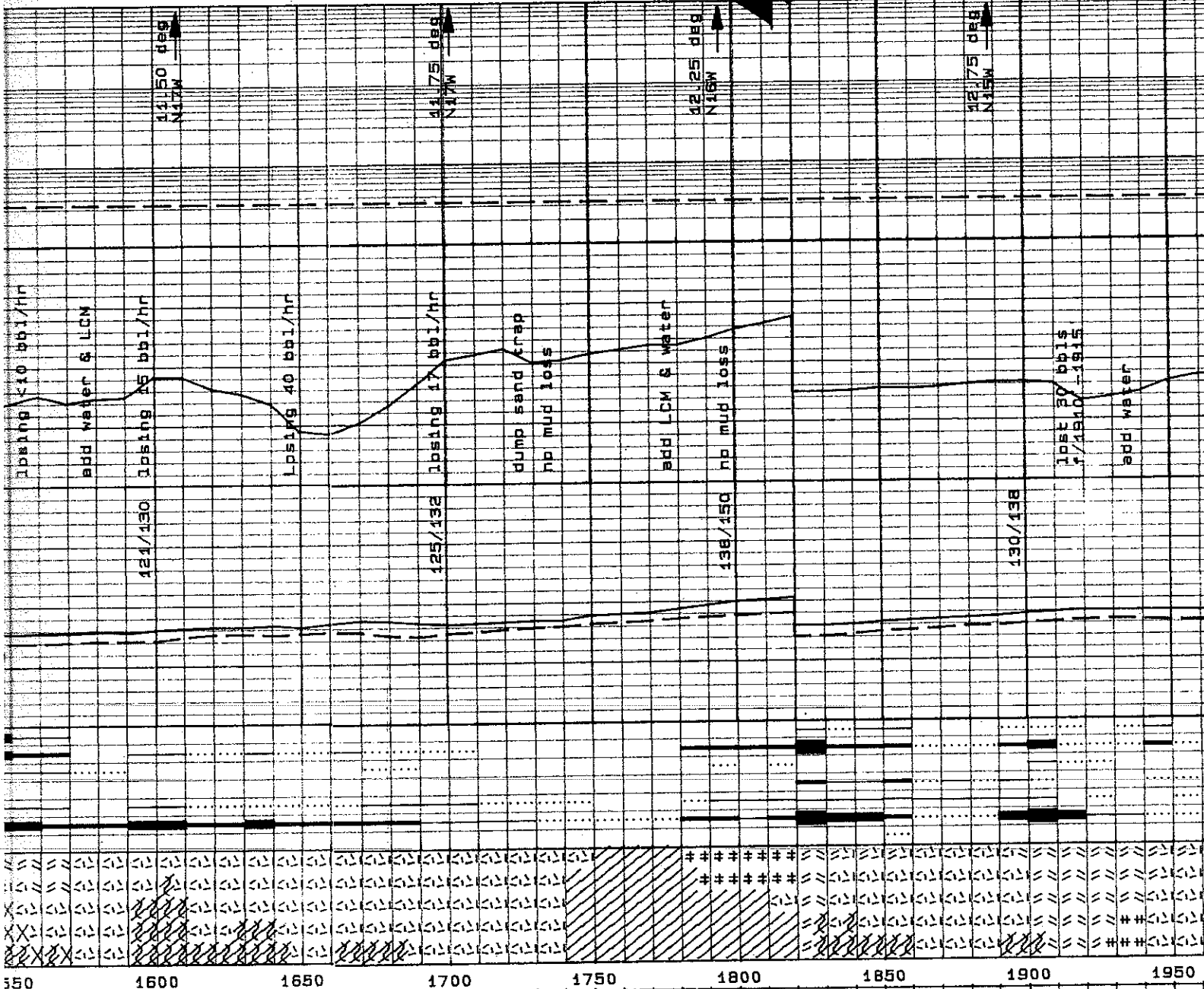
Drill 1 to 1820', Set 13 3/8" csg @ 1814', Drill ahead w/ 12 1/4" bit.

Granite: v lt gry-wht, cir, v hd, allo tex, fn-med gr, pred v frsh-mod altd @ contacts w/r chlzd biot, tr-mnr disem lt brn-si yel/gry sericite, r-tr v fn-fn gr sbhed-euh disem pyr.

Diorite: blk, dk grn/blk, dk gry, v hd, fn-med gr, hypidlo tex, pred mod frsh w/init mod chlt altn, sl-mod calc, tr epid, tr sphene, r pyr.

Granite: lt gry, wht, cir, loc lt grn/gry, v hd, med gr, allo tex, mod frsh w/mnr chlzd biot, non-si calc, tr v fn disem pyr, r v fn disem mag?

Granite: wht-lt gry, hd, fn gr



350 1600 1650 1700 1750 1800 1850 1900 1950

2/40 1/19 2/40 1.5 hr TC BUS 4/20-25 -50,000 0 7/35

Granite: wht-lt gry, hd, fn  
 allo tex, pred fresh, mnr  
 altd, r calc, r dism pyr, l  
 chlor.

Lost 60 bbls mud durin:  
 survey at 2010' KD.

Granite: pred wht-lt gry  
 amt lt grn, hd, fn gr all  
 fresh-sl altd, r-loc tr  
 r calc, r dism pyr.

Granite: pred wht-lt gry  
 amt pnk-lt org, hd, fn gr  
 tex, fresh-sl altd, c cal  
 chlor, r dism pyr, r dism

Begin bypassing shaker  
 2085, run 15% LCM in mu

Felsic Dike: wht-lt gry,  
 hd, fn gr-microxin tex, r  
 sl altd, r calc vng, r  
 chlorztd mica phenos, r  
 pyr, r dism hem.

Diorite: dk grn/gry, grn/  
 hd, v fn-fn gr, grn, hyp1  
 tex, mod-hi chizd, mod-v  
 loc sl clay altd remnan  
 laths, loc v fn disem &  
 micvnd hem.

Qtz Monzonite: lt gry, or  
 org/gry, v lt grn/gry, v  
 med gr, allo tex, biot hi  
 to chit, loc r-tr clay a  
 mnr,ls, v sericite, v he  
 disem mag.

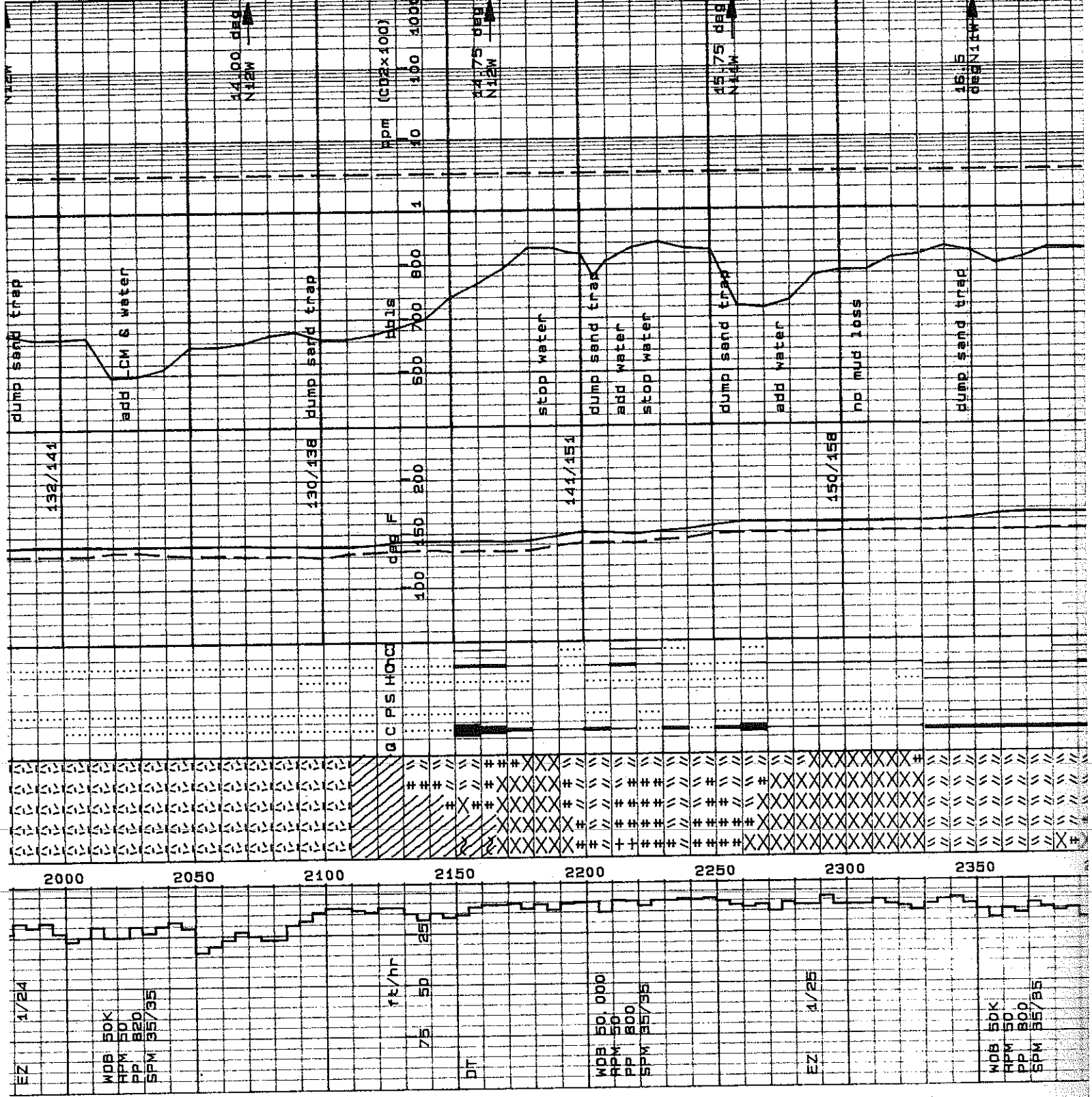
Diorite: blk, v dk gry, mn  
 grn/gry, v hd, pred fn gr  
 w/mnr med gr, hypidio te  
 v fresh w/tr chizd biot,  
 clay altd sphene xls, r  
 mnr-com disem mag, loc g  
 to Qtz Diorite.

Qtz Monzonite: wht-lt gr  
 org-pnk, hd, fn-med gr, pr  
 altd, tr-loc mnr calc, tr  
 chlorztd biot, tr dism e  
 pyr & pyr eggs.

Qtz Monzonite: pred wht-  
 gry, mnr lt grn, mnr pnk,  
 med gr hypidio tex, pred  
 altd, tr-loc mnr calc &  
 vng, tr chlorztd biot, r-  
 tr dism pyr.

Diorite: pred dk gry-blk  
 loc com med grnsh gry,  
 gr hypidio tex, pred sl  
 mnr mod altd, mnr calc &  
 vng, tr-mnr chlorztd maf  
 tr dism pyr & pyr vng, t  
 dism hem & hem vng.

Diorite: med-dk gry, med  
 grnsh gry, hd, fn gr hyp  
 tex, pred sl-mod altd, mnr  
 laths, v sericite, v he



EZ 1/24  
 WDB 50K  
 RPM 50  
 PP 820  
 SPM 95/95

ft/hr  
 75 50 25

DT  
 WDB 50,000  
 RPM 50  
 PP 800  
 SPM 95/95

EZ 1/25  
 WDB 50K  
 RPM 50  
 PP 800  
 SPM 95/95

shaded pyr & pyr mags, tr hem vng, tr wht clay.

Lost 60 bbis mud from 2410' to 2430'

Diorite: blk-dk gry, lt gry, yel/grn, v hd, pred fn gr, biot. pred v frsh w/tr chldz biot. sl calc, loc mnr amts med gr yel-yel/brn epid, tr v fn gr disem pyr, tr v fn gr mag.

Qtz Diorite: lt gry, clr, com blk-grn/blk biot, v hd, med gr, alio tex, mod-v frsh, non-s1 calc, mnr amts fn gr euh mag.

Diorite: blk, dk gry, lt gry, v hd, mod-v frsh, pred fn gr, loc w/schistose app, mod calc, mnr epid, mnr mag, tr hem, pyr.

Lost circ @ 2553'; lost 473 bbis f/2553'-2558'; spot 1cm pill; POH. Mix 1cm mud, RIH; pump 165 bbis to regain circ; resume drilling.

Pump cement plug at 2609', tag cement at 2426', drill out plug & continue drilling 12.25" hole.

Qtz Diorite: pred lt-med gry, mnr grnsh gry, hd, fn-med gr hypidic tex, sl altd, tr-mnr calc, tr chlortzd biot, r dism pyr.

Diorite: blk, gry, v hd, fn-med gr, hypidic tex, pred v frsh, sl calc, r epid, r hem, occ v r pyr.

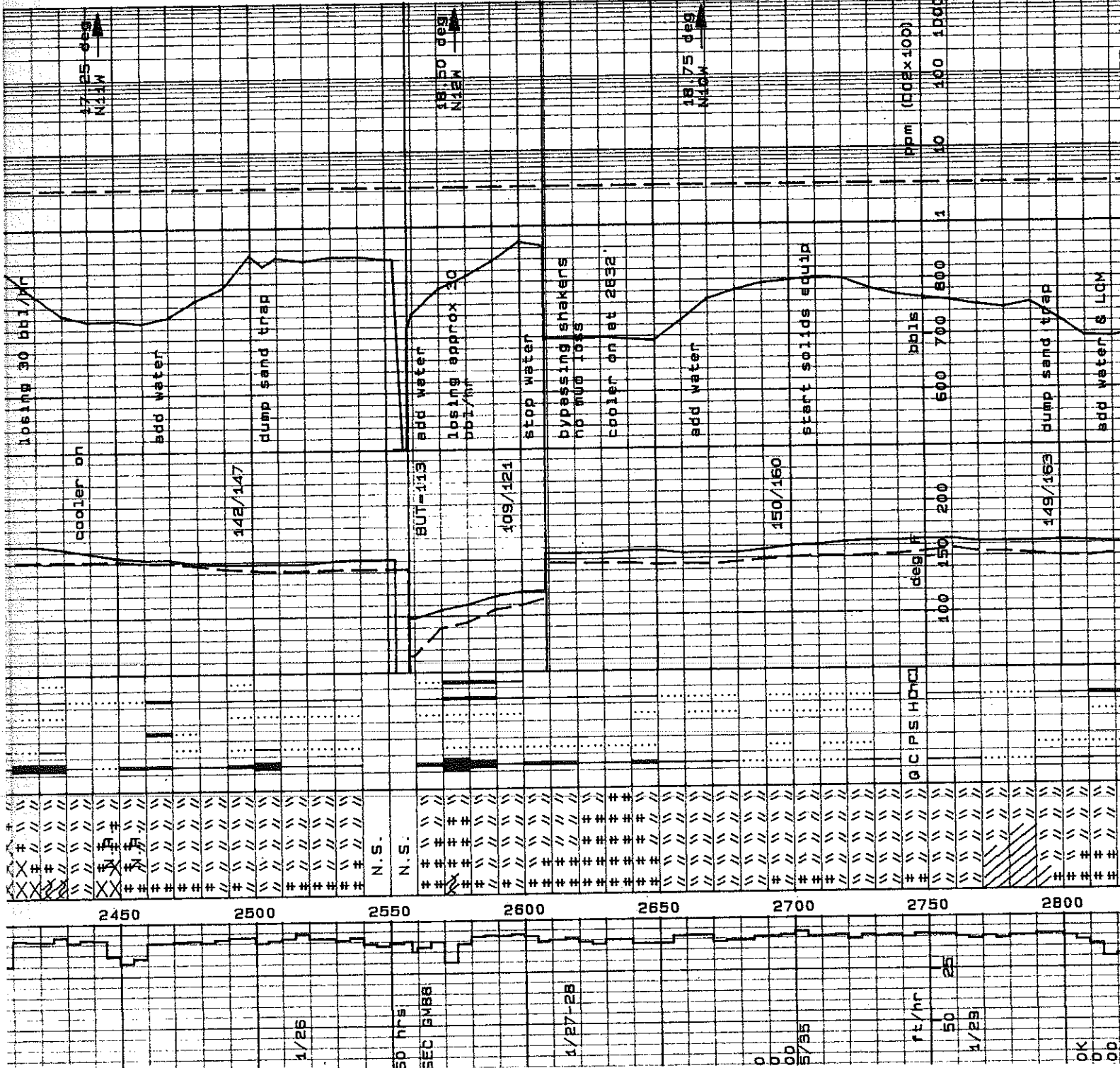
Diorite: blk, gry, grn/blk, gry/pnk, v hd, fn-med gr, pred v frsh, r-tr chldz mafs, com pnk slvgd kspar, sl calc, r-tr thn hem micvng, r-tr v fn disem pyr, mnr disem mag, loc grding to Qtz Diorite.

Diorite: blk, gry, pnk/gry, v hd, fn-med gr, mod-v frsh w/loc chldz altn, com slvgd kspar, sl-loc mod calc, r-tr epid, r sphene, mnr fn gr disem mag.

Diorite: dk gry-blk, hd-v hd, fn gr, frsh-sl altd, r-tr calc, r-tr chlor.

Silicic Dike: wht-lt gry, loc lt grn cst, v hd, pred microxin tex, tr mica phenos, tr fn gr dism mag.

Diorite: dk gry, med grnsh gry, hd-v hd, fn gr, pred sl altd, mnr-com highly altd, mod chlortzd, tr calc & calc vng.



2450 2500 2550 2600 2650 2700 2750 2800

ft/hr 150 25 1/28

OK 00 00

pred sl altd, mnr-loc ct  
highly altd, mod chlortz  
mnr calc, r-tr hem vng, r  
pyr.

Altered Zone: lt-med gr  
loc mottled, mod hd, high  
sltd/rexin, mod chlortz  
calcic, tr calc microvng  
hem vng, tr dism pyr.

Diorite: dk gry-blk, hd-  
fn-med gr, pred fresh-  
loc subschistose, r-tr  
tr chl, loc mnr hbde, r  
ksp, r pyr, loc grdg tr  
Diorite.

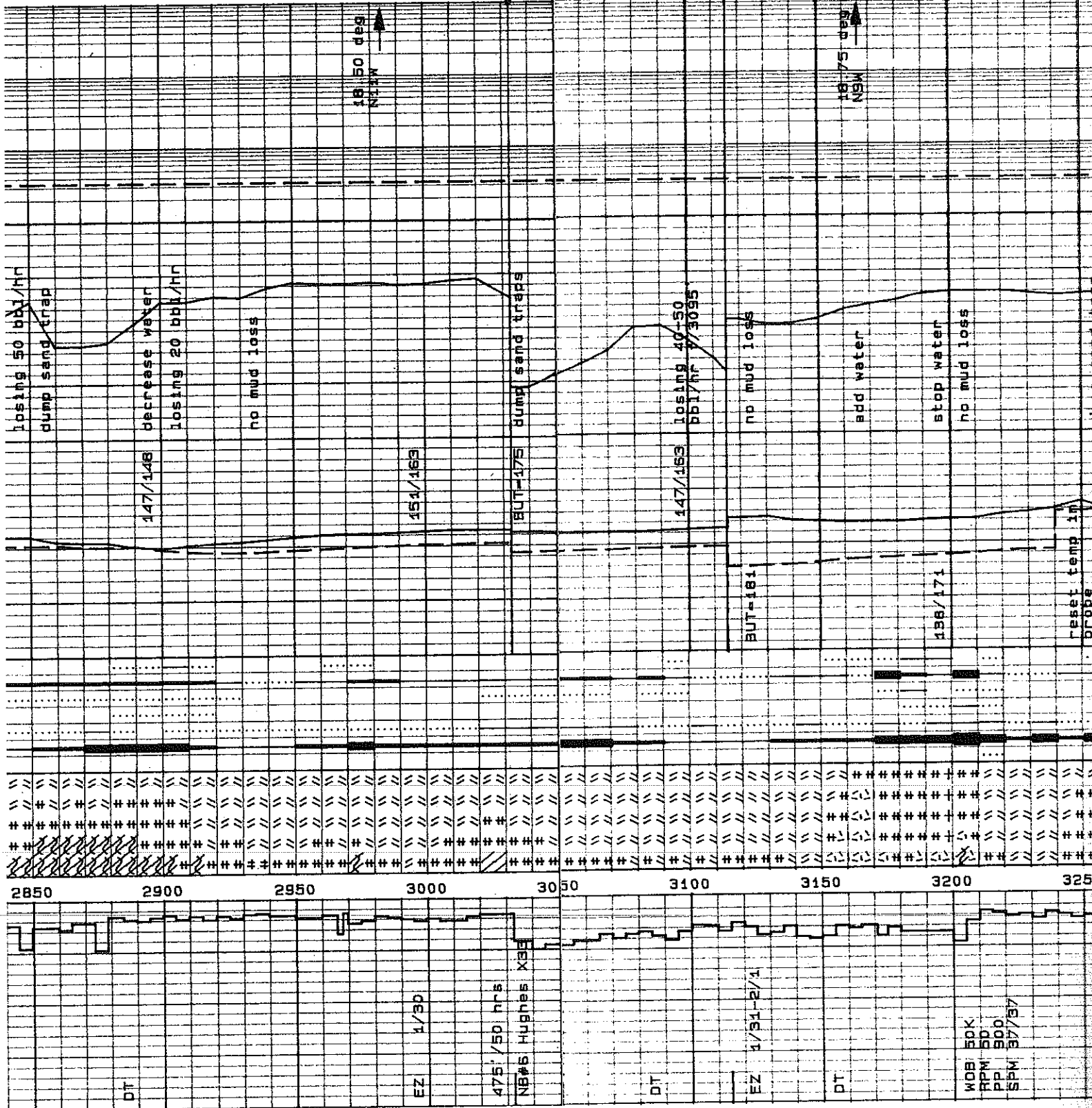
Qtz Diorite: lt gry, cir,  
grn/gry, v hd, pred med  
hypidic tex, pred frsh-  
altd w/tr chldz biot, r  
altd mnr ls, mod calc, r  
hem, loc com disem mag  
Diorite.

Diorite: med-dk gry, med  
grnsh gry, hd, fn gr hyl  
tex, sl altd, sl-mod chl  
mnr calc & calc vng, r  
pyr.

Qtz Diorite: lt-med gry,  
med grnsh gry, hd, fn-m  
hypidic tex, pred sl al  
amt mod altd, sl chlortz,  
calc & calc vng, tr dis  
r hem microvng.

Diorite: blk, grn/blk, gr  
grn/gry, v hd, fn-med gr  
chl altd biot, sl-mod c  
loc hi altd calc micng  
disem pyr, r slvgd kspa  
fn disem mag, r sphene.

Lost 100 bbls drig mu  
f/3095'-3115'. Pumped  
plug #1 at 3092', tag  
#1 at 3047', & drill o  
pump cement plug #2 at  
2909', tag plug #2 at  
& drill out, drill she  
from 3115' w/no mud l  
Granite: pale pnk-org/g  
cir, grn/gry, v hd, med g  
tex, com v fn grn chldz  
& grndmass, r clay altd  
sl calc, r disem v fn g  
pyr & mag, v r v fn dis  
Qtz Diorite: gry, grn/gr  
cir, v hd, fn-med gr, all  
pred mod-v chldz, tr-mn  
altd mnr ls, pred mod ca  
w/mnr v thn calc & hem  
micvng, pred maf ls chl  
biot w/tr hbde, com dis  
grs, tr euh disem pyr, r  
Diorite: blk, lt gry, mnr  
grn/gry, v hd, pred fn g  
v frsh w/tr-mnr calc m  
mnr v fn disem epid gr



DT  
EZ 1/30  
475' / 50 hrs  
NB#5 Hughes X33  
DT  
EZ 1/31-2/1  
DT  
WOB 5PK  
RPM 500  
PP 500  
SPM 57/57



Diorite med-dk gry, med  
grnsh gry, hd, fn gr hypidlo  
tex, pred sl altd, mnr amt mod  
altd, sl-mod chlortzd, mnr  
calc, r-tr dism euhed pyr, r  
hem microvng.

Diorite: med-dk gry, med  
grnsh gry, hd, fn gr hypidlo  
tex, sl-mod altd, sl chlortzd,  
mnr calc & calc vng, r dism  
euhed pyr, r hem microvng.

Qtz Diorite: lt-med gry, lt  
grnsh gry, hd, fn-med gr  
hypidlo tex, sl-mod altd, sl  
chlortzd, mnr calc, r dism pyr.

Qtz Diorite: lt-med gry, lt  
grnsh gry, hd, fn-med gr  
hypidlo tex, pred sl altd, mnr  
amt mod altd, sl chlortzd-loc  
mod chlortzd, mnr calc & calc  
vng, r dism pyr, r hem  
microvng.

Diorite: blk, gry, ptly clr, v  
hd, pred fn w/sec med gr, pred  
mod-v frsh w/r-tr chizd blot  
fiks, sl calc-w/occ thn  
calc/hem micvng, r pyr, tr  
epid, loc grdg to Qtz Diorite.

Lost 70 bbils mud from  
3472' to 3476', lost 15  
bbils from 3476' to 3490',  
no mud loss after 3490'.

Altered Zone: pred lt-med grn,  
mnr amt wht, sl-mod hd, highly  
altd/rexln, abun calc, mod  
chlortzd, tr dism euhed pyr &  
pyr vng, r-tr hem vng, tr  
calc/hem/pyr vng.

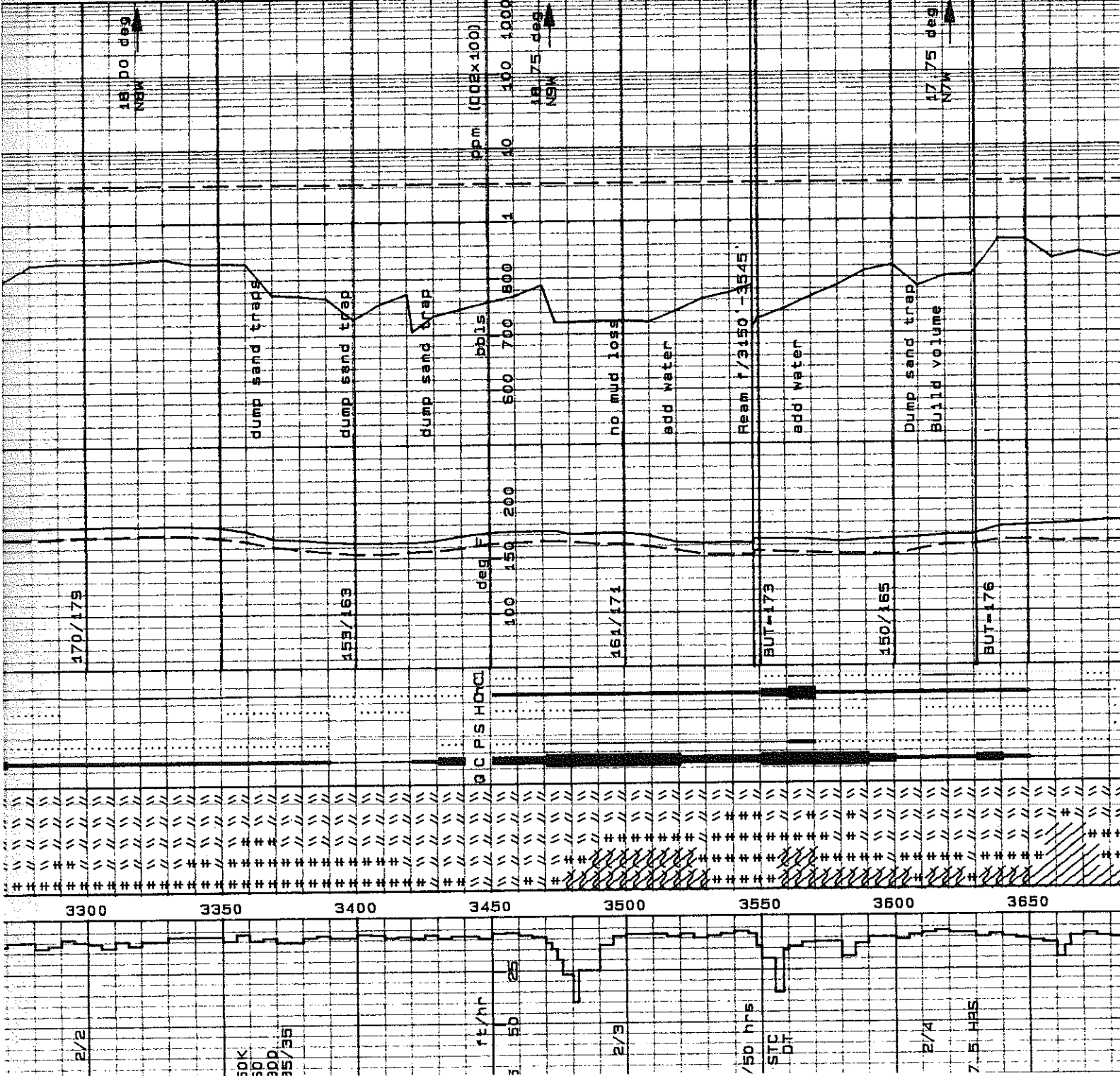
Qtz Diorite: lt-med gry, med  
grnsh gry, hd, fn-med gr  
hypidlo tex, pred mod altd,  
mnr amt highly altd, com calc,  
mod chlortzd, tr dism pyr, tr  
hem vng.

Altd Zone: lt grn/gry, gry, mod  
hd, hi chizd grndmass, v calc,  
loc tr-mnr clay altd mnrsl,  
loc tr-mnr euh pyr cubes, tr  
calc/hem micvng.

Diorite: blk, gry, ptly clr, v  
hd, pred fn w/sec med gr, pred  
mod-v frsh w/r-tr chizd blot  
fiks, sl calc-w/occ thn  
calc/hem micvng, r pyr, r epid,  
loc grdg to Qtz Diorite.

Altd Zone: lt grn/gry, gry, frm-  
hd, hi chizd, v calc, loc tr  
clay altd mnrsl, loc tr-mnr  
euh pyr, tr calc/hem micvng.

Lost approx 35 bbils mud @  
3655', no further mud loss.



mnr v fn gr chizd mats  
mag? grs. loc tr v fn i  
dism pyr, loc grdg to  
Monzonite/Gtz Diorite  
Diorite: pred blk w/cor  
gry, mnr grn/gry, v hd, r  
frsh-sl chlt & clay s;  
calc, r v thn calc/hem  
loc v r disem pyr.

Qtz Diorite: lt-med gr  
wht, fn-med gr, hypidio-  
tex, pred fresh, loc sl  
mefs, tr-mnr calc, loc f  
chlortzd, tr dism pyr, v  
vng, r-tr epid.

Felsic Dike: lt gry, whi  
pred v frsh w/tr calc,  
micvng, mnr v fn gr, sl  
mefs, loc tr v fn gr d;  
pyr, loc grdg to Qtz  
Monzonite/Gtz Diorite

Losing approx 64 bbl,  
f/3828 -3845, Losing  
approx 90 bbl/hr f/31  
3851.

Felsic Dike: wht-lt gr  
microxln w/microxln-v  
dism mafs, sucrosic t  
str silic, sl transl.  
Diorite: med-v dk gry, i  
gry, sl hd-pred hd, fn i  
hypidio, fresh-loc tr i  
tr-mnr chizd, tr-mnr hi  
loc tr sec epid, comly  
to qtz dior.

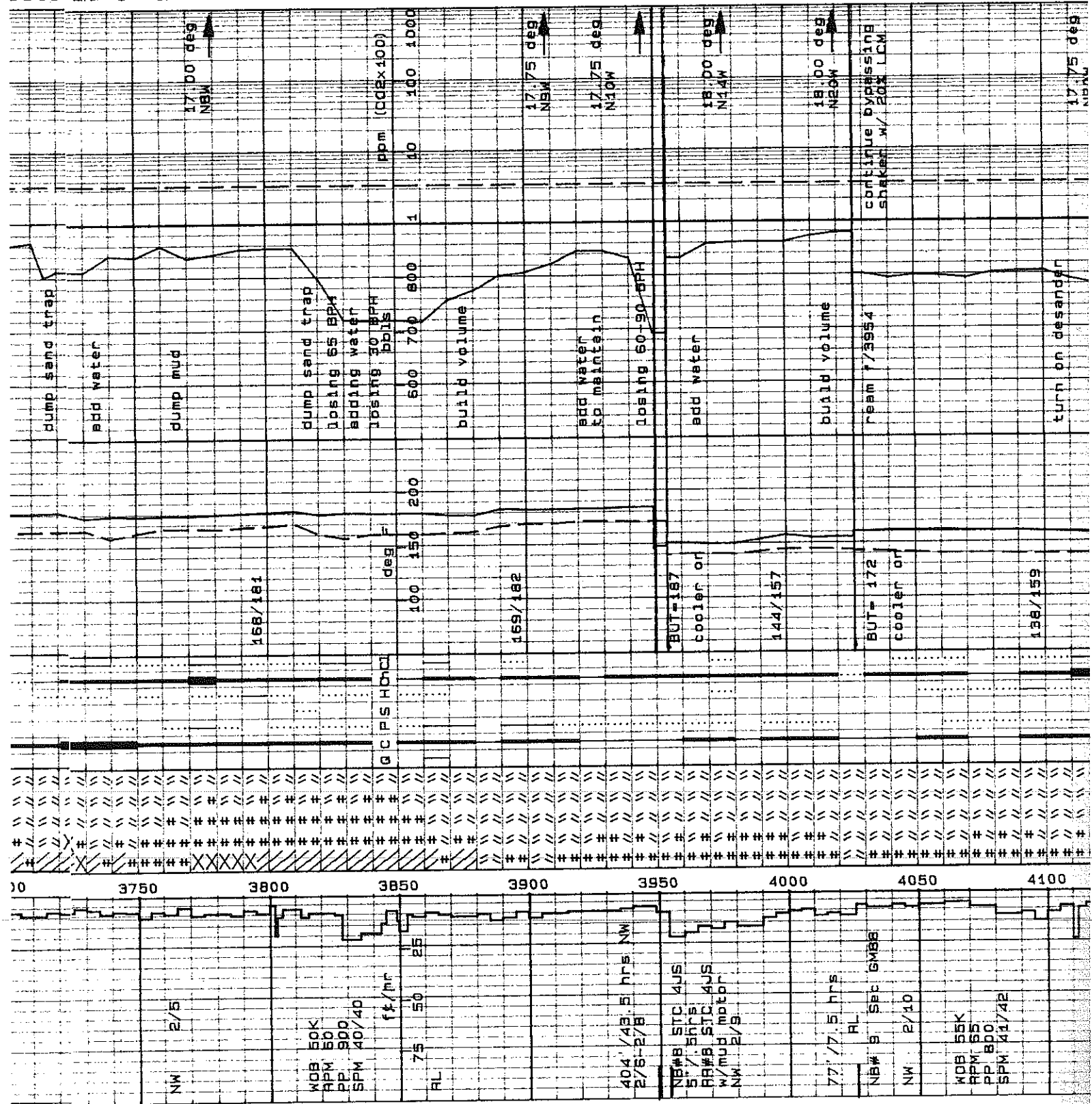
Losing <120 BPH f/39  
3943, Continue losing  
BPH t/3949.

Set cmt plug @ 3949  
3873. Lose circ @ sl  
set plug @ 3863, ta  
3818. Lose returns @  
pumping w/water, Mud  
w/20% LCM, regain re  
c/o cmt losing <10 B

Qtz Diorite: lt-med gr  
wht, fn gr, hypidio tex  
fresh, loc sl-mod altd  
calc, loc mod chlortzd  
tr dism pyr, r-tr epid  
Diorite: med-v dk gry,  
gry, pred hd, occ v hd,  
hypidio tex, pred fres  
tr mod altd, tr-mnr ch  
mnr hnbde, loc tr sec  
comly grdg to qtz dio

Diorite: med-v dk gry,  
gry, pred hd, occ firm,  
hypidio tex, pred fres  
tr mod-well altd, tr-m  
chizd, tr-mnr hnbde, lo  
sec pyr vng, loc tr he

Diorite: med-v dk gry,  
gry, pred hd, occ firm.



NW 2/5  
WOB 50K  
RPM 50  
PP 800  
SPM 40/40  
75 50 25  
RL  
404/49.5 hrs NW  
2/6-2/8  
NW#8 STC 4JS  
5/1.5 hrs  
RW#8 STC 4JS  
w/mud motor  
NW 2/9  
77/7.5 hrs  
RL  
NW 9 Sep 6MBA  
NW 2/10  
WOB 55K  
RPM 55  
PP 800  
SPM 41/42

tr sec pyr vng & tr euhd pyr  
 loc tr mnr hem/calc vng.  
 Qtz Diorite: med-dk gry, occ  
 med grnsh gry, mod hd-hd,  
 pred fn-med gr, hypidid tex,  
 fresh-loc tr mod altd, loc  
 chizd, tr-mnr hnbde, loc altd  
 to clay w/calc, tr sphene, r-  
 tr disem acc epid.

Lost 100 BPH f/4219' -4225',  
 add gel & LCM to 30%,  
 lost 25 BPH f/4225' -4230',  
 lost 50 BPH f/4230' -4239',  
 lost <75 BPH f/4239' -4252'.

Set 150' cement plug @  
 4252'. Stuck pipe @ 4161',  
 losing 100-180 BPH. Free  
 pipe, vis mud up w/20% LCM,  
 RIH & c/o firm cmt w/no  
 loss @ 4200'.

Granodiorite: lt-med dk gry,  
 occ lt grnsh gry, hd-v hd,  
 pred fn-med gr, hypidid tex,  
 fresh-loc tr v sl altd, loc  
 sl chizd, tr loc altd to clay  
 w/calc, r-tr disem acc epid @  
 pyr.

Silicic Dike: wht-lt gry, v hd,  
 microxln w/microxln-v fn  
 disem micas, sucrosic tex, v  
 fresh, r micxln org frags-  
 poss garnets, sl transl.

Diorite: med-v dk gry, blk, mnr  
 grn-gry, hd-v hd, occ firm, fn  
 gr, hypidid tex, pred fresh-  
 loc mnr-com mod-well altd, tr-  
 mnr mod chizd, tr-mnr hnbde,  
 loc tr sec pyr vng, tr euhd  
 pyr, loc r mnr hem/calc vng.

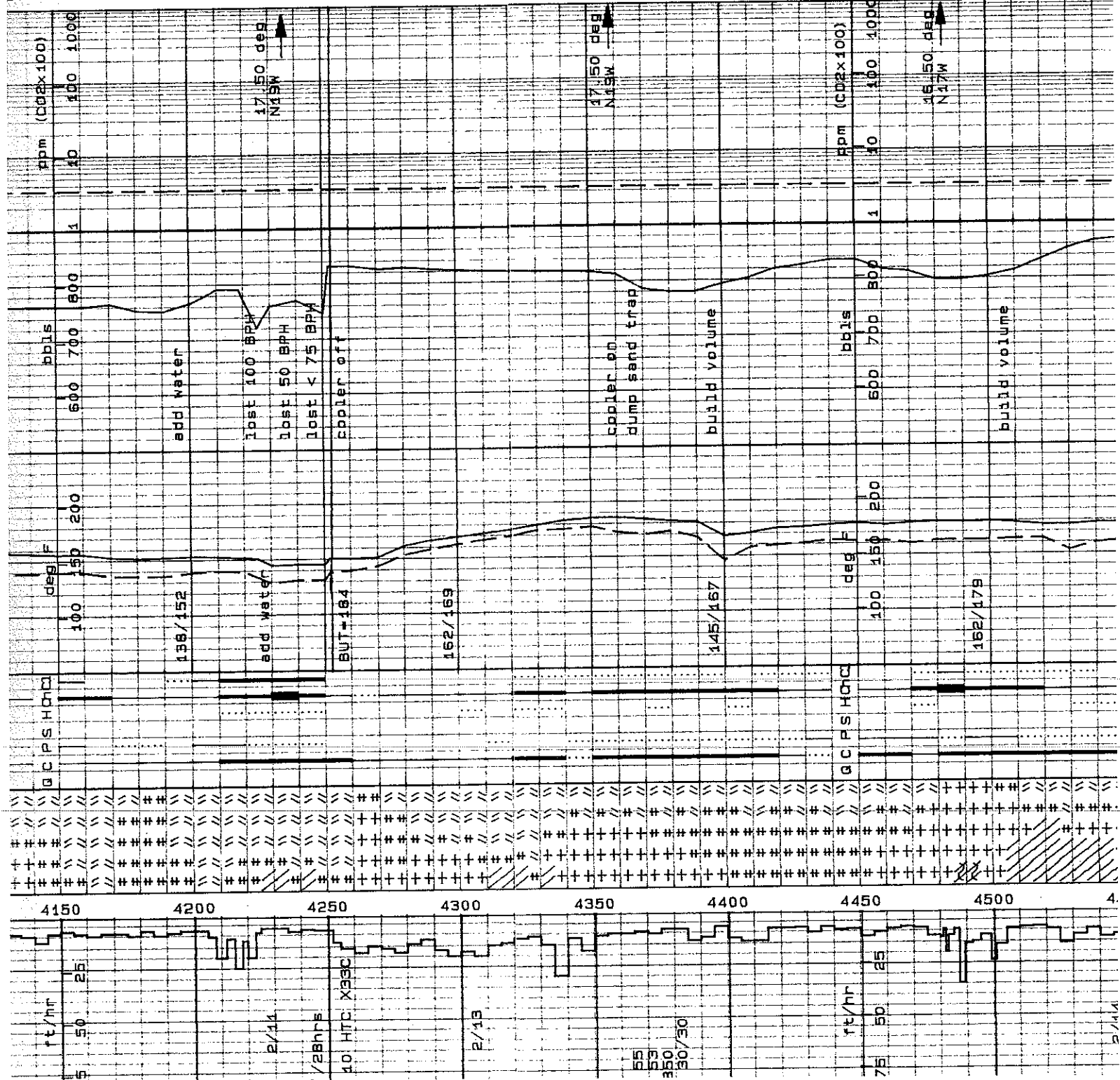
Qtz Diorite: lt-med gry, blk  
 w/occ grn/gry, v hd, pred med  
 gr, hypidid tex, pred v frsh  
 w/tr chizd biot, pred sl-loc  
 mod calc, tr disem mag, r  
 sphene & epid, tr disem euh  
 pyr.

Granodiorite: wht/clr, lt gry,  
 freq g/lt grn, v hd, pred med  
 gr, mod frsh-mod chizd, tr  
 clay altd mnrsls-loc grdg to  
 mnr altd zone, mod calc, tr  
 disem mag, tr disem euh pyr.

Granodiorite: wht-lt gry, hd-v  
 hd, med gr hypidid tex, sl  
 altd, mnr calc, tr chlor, r  
 dism pyr, r hem.

Felsic Dike: wht-lt gry, v hd,  
 brittle, microxln tex, mnr v  
 fn gr dism mag, r-tr v fn gr  
 dism pyr.

Qtz Diorite: lt-med gry, hd, fn-



gr dism hem.  
 Altered Zone: wht. lt-  
 loc mottled, sft-si hc  
 alt/rxl, com-abun  
 calc/chlor/clay alt. f  
 dism pyr & pyr aggs. r  
 hem & hem microvng.

Qtz Diorite: lt gry, gr  
 mnr grn/gry, v hd, pred  
 w/sec med gr, sl-loc r  
 chld, sl-mod calc, tr  
 r sphene, r-tr fn gr c  
 sbhed-euhed pyr, grdg  
 Diorite.

Diorite: blk, grn/blk, l  
 gry, v hd, pred fn w/st  
 gr, sl-mod altd, freq  
 biot loc sl chld, loc  
 schistose app ip, tr f  
 mod calc ip, r-tr cla;  
 mnr ls, disem pyr.

Granodiorite: v lt gr;  
 gry/grn, occ gry/org,  
 pred med gr w/com fn  
 allo tex, abun chlt a;  
 maf, sl calc, mnr fn;  
 mag, r fn gr disem pyr

Diorite: blk, dk gry, di  
 grn/gry, v hd, v fn-fn  
 mod chlt altn, sl-mod  
 biot pred maf w/tr hi  
 disem pyr.

Altd Zone: lt gry, grn,  
 mod-v hd, hi chld, bl  
 grndmass, v calc, loc i  
 pyr, tr calc/hem micv

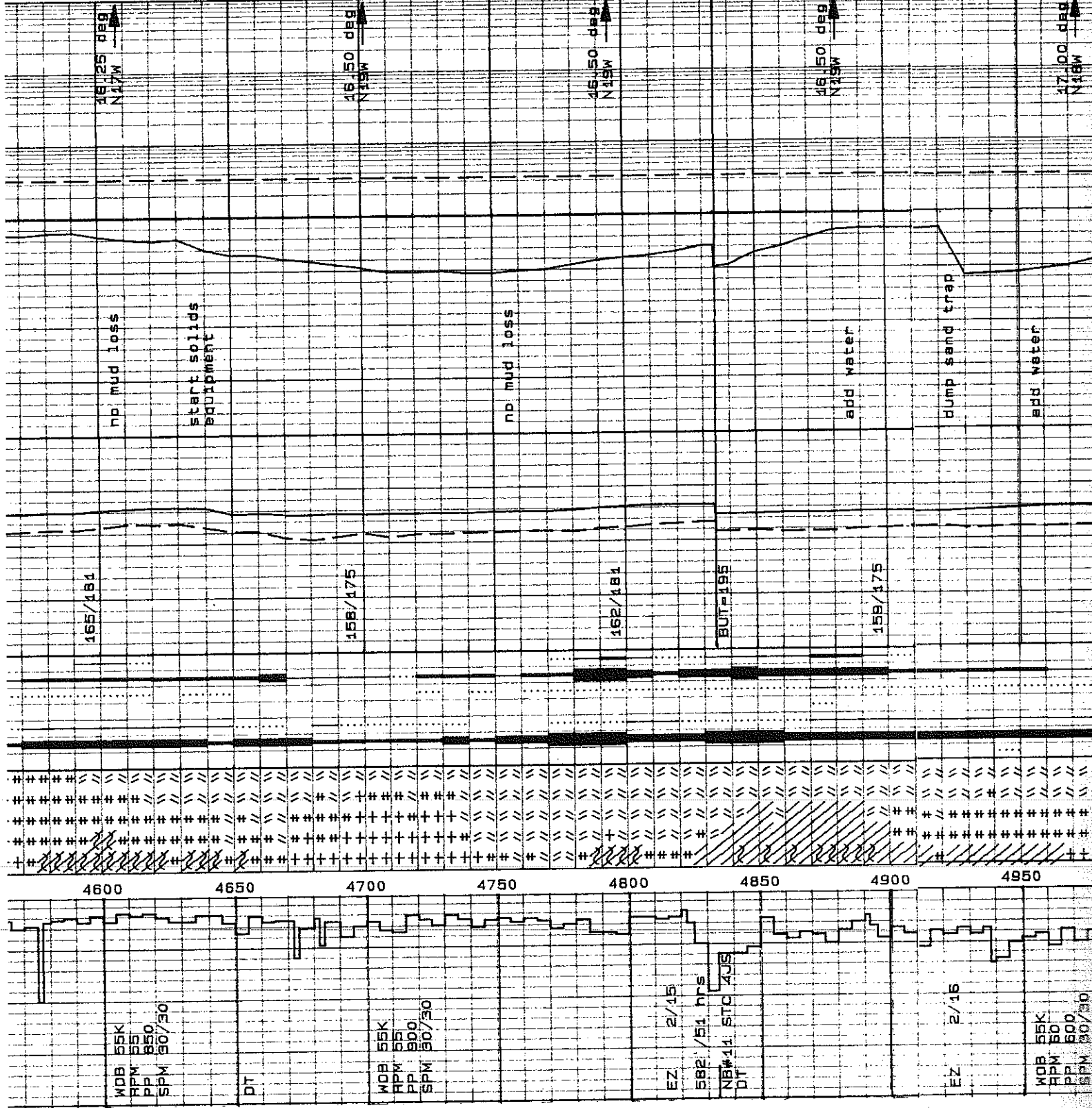
Diorite: med-dk gry, m  
 grnsh gry, hd, fn gr,  
 altd, mod amt mod-hig  
 mod chlor/zd, com cal  
 vng, tr euhed dism py  
 & vn hem. Felsic Dik  
 4950, has r cir eue  
 vug.

Felsic Dike: pred wht  
 loc mnr amt lt grn c  
 hd, brittle, microxin  
 fresh-si altd, tr dis  
 pyr, loc r-tr v fn gr

Altered Zone: wht, lt-  
 loc mottled, sft-si h  
 alt/rxl, com  
 calc/chlor/clay alt,  
 mnr dism ovr, r dism

Diorite: med-dk gry, m  
 grnsh gry, hd, fn gr,  
 altd, mod amt mod-hig  
 mod chlor/zd, com cal  
 vng, tr euhed dism py  
 & vn hem. Felsic Dik  
 4950, has r cir eue  
 vug.

Qtz Diorite: lt-med g  
 grnsh gry, hd, fn-med  
 vng, tr euhed dism py  
 & vn hem. Felsic Dik  
 4950, has r cir eue  
 vug.



WOB 55K  
 RPM 55  
 PP 500  
 SPM 50/30

DT

WOB 55K  
 RPM 55  
 PP 500  
 SPM 50/30

EZ 2/15  
 582' / 51 hrs  
 NB#11: STC 405  
 DT

EZ 2/15

WOB 55K  
 RPM 50  
 PP 500  
 SPM 50/30

Granodiorite: pred wht, lt gry, loc mnr lt grn & lt org, hd, fn-med gr hypidlo tex, pred sl-mod altd, com calc, tr-mnr chlortzd biot, tr ehued dism pyr.

Diorite: med-dk gry, med-dk grn, hd, fn gr hypidlo tex, pred sl-mod altd, mnr highly altd, mod chlortzd, com calc & calc vng, tr ehued dism pyr, r hem vng.

Qtz Diorite: lt-med gry, lt-med grnsh gry, hd, fn-med gr hypidlo tex, pred sl-mod altd, mnr amt highly altd, sl-mod chlortzd, com calc, tr ehued dism pyr & pyr eggs, r dism & vn pyr, r wht clay min.

Granodiorite: wht, v lt gry, occ sl crm/wht, loc r org/gry, v hd, med gr, allo tex, mod-hi chizd biot, sl-loc mod calc, tr ehued dism pyr, tr disem mag grs.

Granodiorite: wht, cir, lt gry, grn/gry, occ pnk/gry, v hd, med gr, allo tex, sl-mod chlt altd, r clay altn, decr calc, r-tr ehued disem pyr, tr disem mag.

Diorite: blk, grn/bik, grn/gry, fh, pred fn gr, hypidlo tex, sl schistose app, sl-mod calc, r disem pyr.

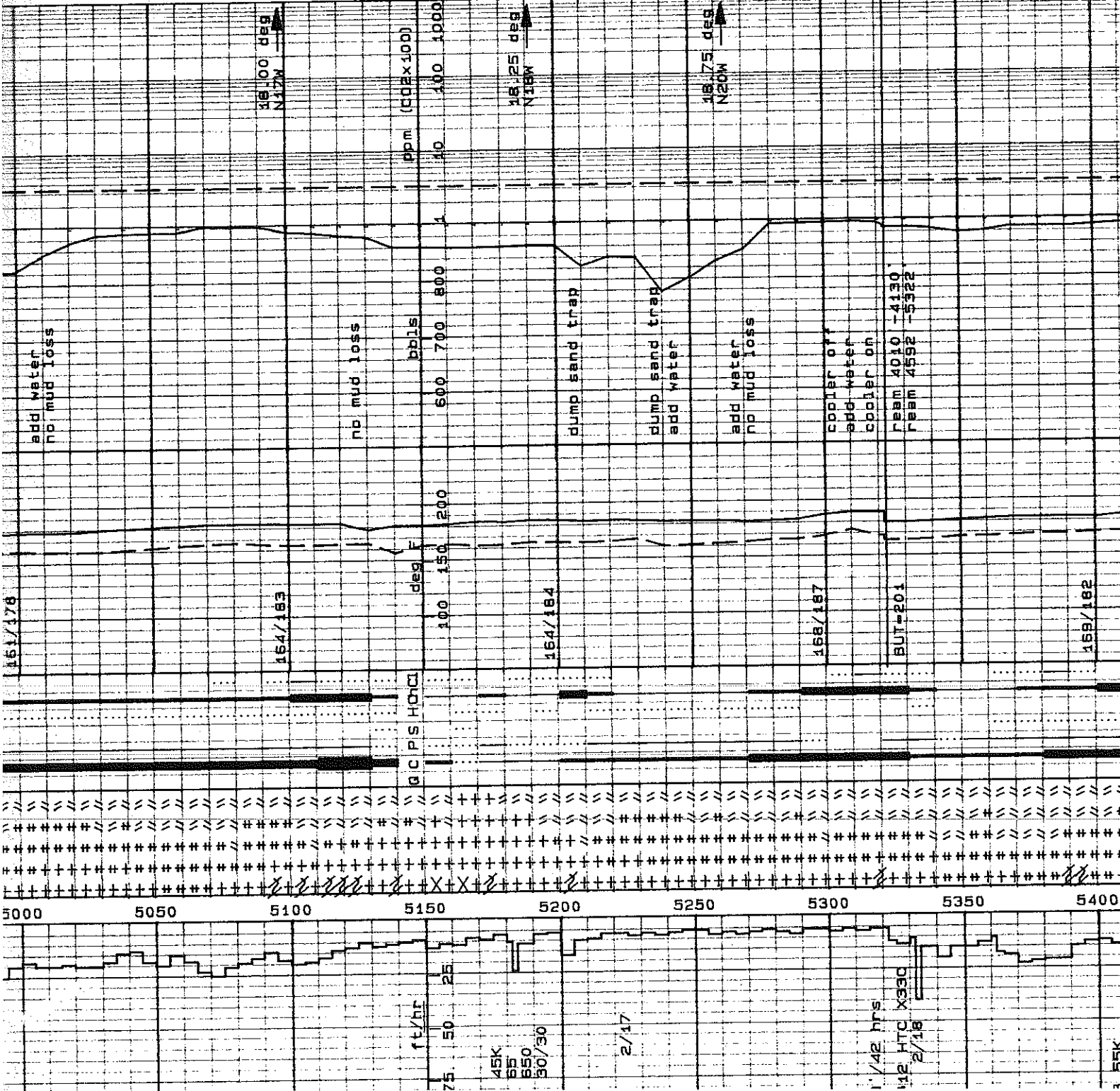
Qtz Diorite: lt-med gry, lt grnsh gry, hd, fn-med gr hypidlo tex, pred sl altd, mnr amt mod-highly altd, mnr-loc com calc, sl chlortzd mafics, tr dism pyr, r dism & vn hem, r wht clay min.

Diorite: pred med-dk gry, mnr amt med grnsh gry, hd-v hd, pred sl altd, mnr amt mod altd, mnr-loc com calc & calc vng, sl chlortzd mafics, tr ehued dism pyr & pyr eggs, r dism hem & hem vng, loc r wht clay min.

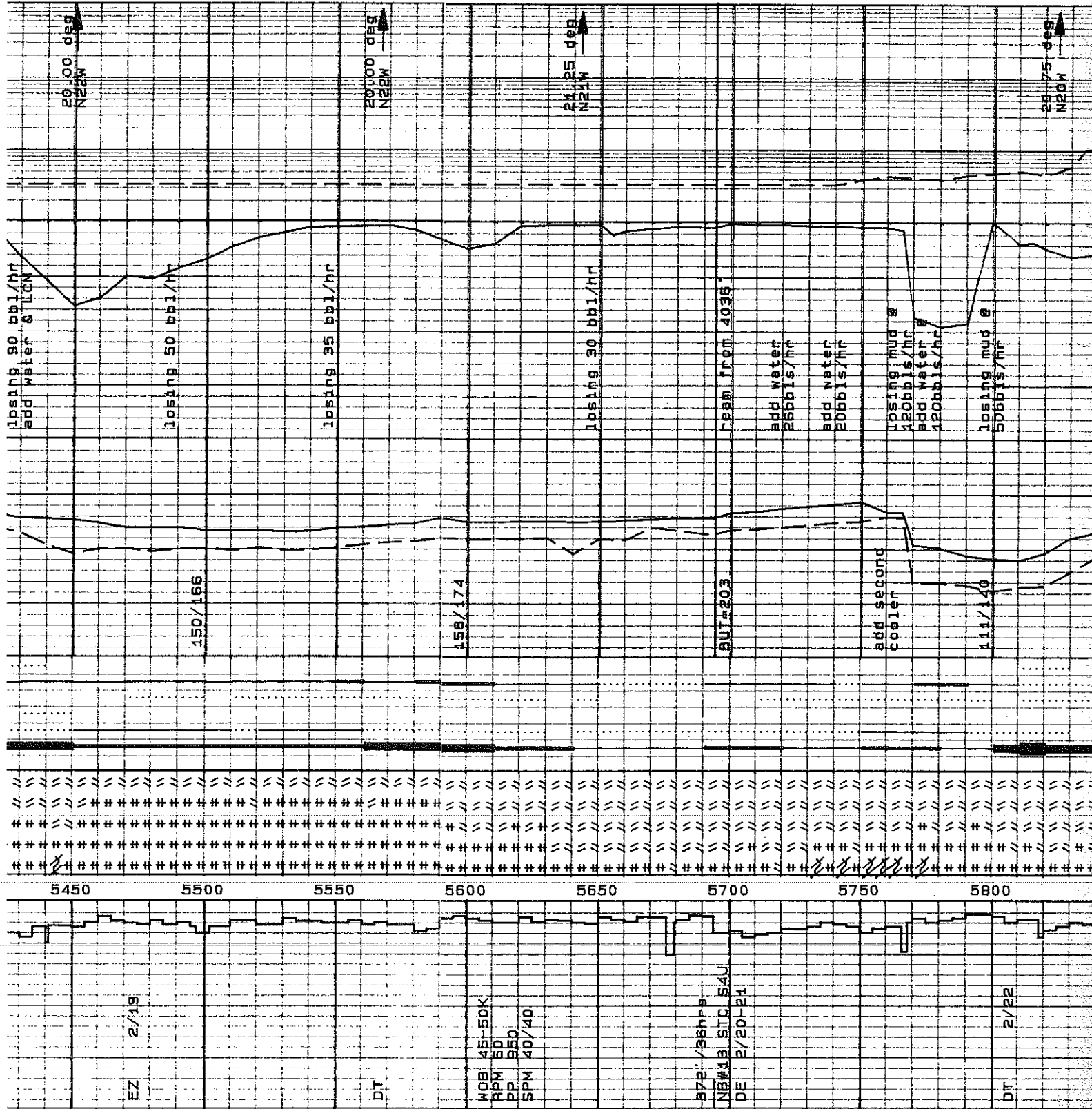
Qtz Diorite: lt-med gry, lt grnsh gry, hd-v hd, fn-med gr hypidlo tex, sl-mod altd, sl-mod chlortzd, com calc, r ehued dism pyr, r pyr agr, r wht-tan clay.

Diorite: blk, blk/gry, lt gry, v hd, v fn-fn gr, hypidlo tex, pred frsh-loc sl-mod chizd, sl-mod calc, tr epid ip, r hem/calc micvng, r-tr disem eh pyr.

Qtz Diorite: pred lt gry, blk, grn/gry, v hd, med gr, mod frsh-com mod-hi chizd, mod-v calc ip, tr compact sericite grs, loc tr-mnr disem pyr, r disem mag.



bbbls f/5420' -30')  
f/5430' -60')



20.00 deg  
N22W

20.00 deg  
N22W

21.25 deg  
N21W

28.75 deg  
N20W

losing 90 bbl/hr  
add water & LCM

losing 50 bbl/hr

losing 35 bbl/hr

losing 30 bbl/hr

ream from 4035

add water  
25 bbls/hr

add water  
20 bbls/hr

losing mud @  
120 bbls/hr  
add water  
120 bbls/hr

losing mud @  
50 bbls/hr

150/166

158/174

111/120

add second  
cooler

114/120

EZ 2/19

DT

MOB 45-5DK  
RPM 50  
BP 950  
SPM 40/40

375' / 35 hrs  
NE#13 STC 54U  
DE 2/20-21

DT 2/22

Qtz Diorite: lt-med  
pred fn gr hypidio  
amt med gr, sl altd, r  
sl chlorizd mafics, r  
pyr, r dism & vn hem

Qtz Diorite: pred lt-  
mnr amt dk gry, hd, pr  
hypidio tex, mnr amt  
sl altd, mnr calc, tr  
mafics, r-tr dism pyr  
& vn hem.

Qtz Diorite: pred lt-  
mnr amt lt grnsh gr  
pred fn gr hypidio  
amt med gr, pred sl  
mod altd, tr-mnr calc  
chlorizd mafics, r-tr  
pyr, r dism & vn hem.

Qtz Diorite: lt gry, c  
grn, gry, v hd, med gr,  
mod-hi chldz, mod-v  
tr-mnr disem pyr, r c

Qtz Diorite: lt-med s  
hd, pred fn gr hypidio  
mnr med gr, v sl altd  
calc, mnr-com chldz r  
tr dism pyr, r dism s

Diorite: blk, lt gry, c  
grn/gry, v hd, fn-med  
hypidio tex, pred mod  
w/tr chldz biot, sl-r  
w/occ hem/calc micv  
disem pyr, loc grd g t  
Diorite.

Diorite: blk, lt gry, c  
fn-med gr, hypidio te  
frsh w/occ r chldz b  
calc, r disem pyr.

Lost 200 bbls mud w  
attempting to break  
4000' while trippin  
into hole. Build up  
pump LCM pill at sh  
regain circ after p  
60 bbls.

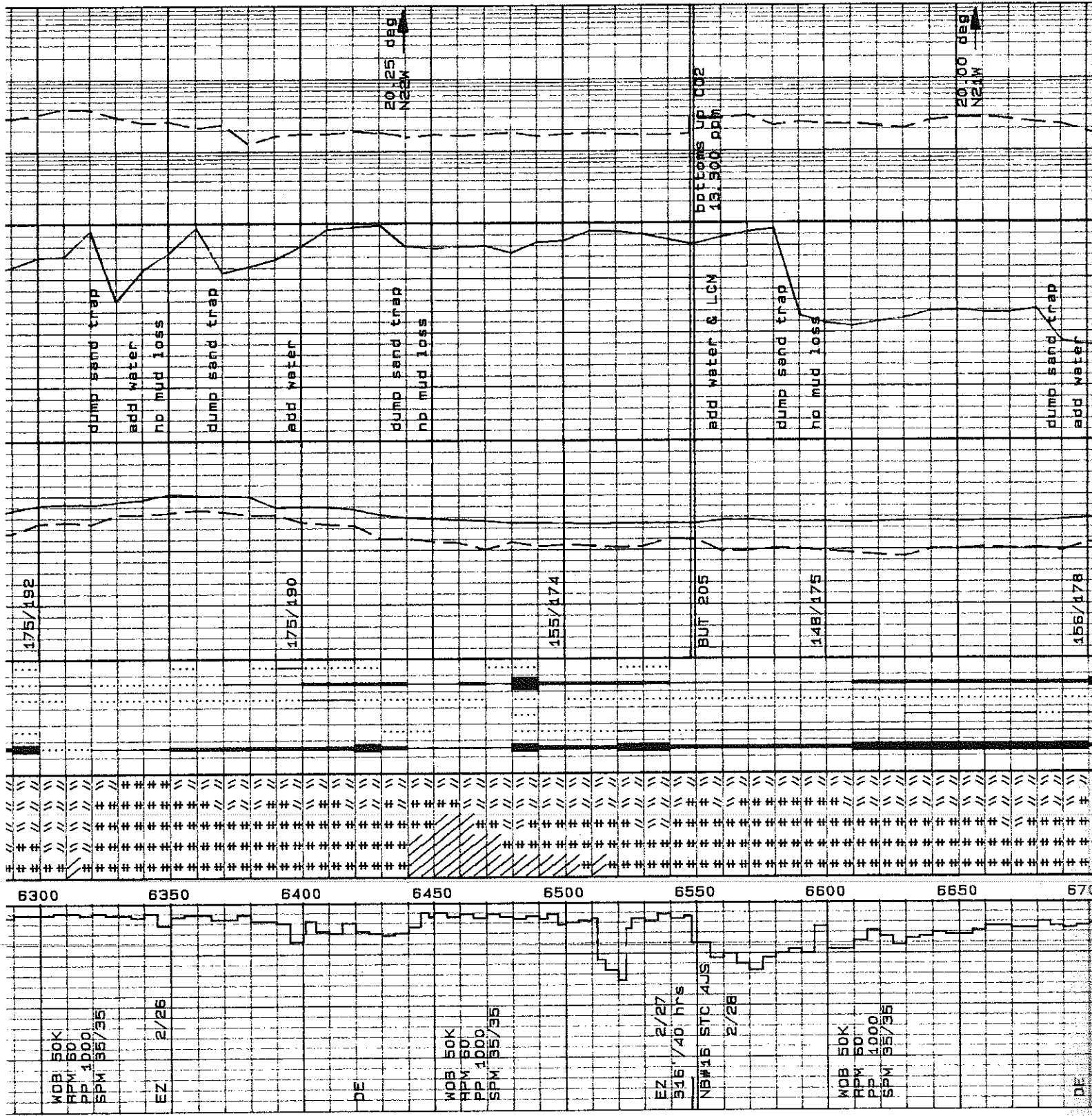
Losing circ @ 5766-  
Initial loss 100bbl  
275bbls in 30 min. D  
ahead losing mud @  
120bbl/hr.

Diorite: blk, lt gry, v  
pred fn gr, hypidio t  
frsh w/loc chldz bio  
calc, tr euh sphene, r  
disem euh pyr.

Diorite: blk, lt gry, v  
v fn gr, mod-v frsh w  
biot, mod-v calc, tr y



w/ tr-mnr chldz biot calc, tr sphene, r-tr disem pyr, r hem.  
 Diorite: blk, lt gry, w v fn gr, v frsh w/ tr chldz biot, r-tr calc sphene, vr fn gr dise hem.  
 Qtz Diorite: pred med amt lt gry, hd, pred s mnr mod altd, tr-mnr calc vng, r-tr chlort mafics, r hem vng, r w alt of fields.  
 Diorite: med-dk gry, h hypidlo tex, pred sl amt mod altd, mnr cal vng, sl chlortzd mafi wht clay alt of field hem & hem vng.  
 Qtz Diorite: lt-med g gr hypidlo tex, sl al chlortzd, mnr-com cal Felsic Dike: lt gry, w mott, v sl grn/wht, v pkish/wht, v hd, britt gr, v frsh w/ tr v fn maf, tr v fn-fn gr e  
 Qtz Diorite: med gry, gry, hd-v hd sl-mod a mnr calc, r-tr chlort mafics, r hem vng, r w clay fields.  
 Diorite: blk, lt gry, o occ grn/blk, v hd, v f v frsh w/ tr-com chl tr-mnr calc, r disem  
 Diorite: med-dk gry, l grnsh gry, pred hd, l fn gr hypidlo tex, sl altd, mnr-com calc, mo chlortzd, r-tr euhed r dism & vn hem, r wh alt of field.  
 Qtz Diorite: pred lt-mnr amt lt-med grnis mod hd-hd, pred fn gr tex, mnr amt med gr, s altd, mnr calc, sl chl mafics, r-tr euhed di dism & vn hem.  
 Diorite: med-dk gry w sl altd, lt-med grn w altd, fn gr, mod hd-hd mod altd, mnr amt hig com calc, mnr chlortz & chlor wash, loc tr tr euhed dism pyr, r-tr dism hem & hem vng.  
 Diorite: med-dk gry, l grn, mod hd-hd, fn gr tex, pred sl-mod altd highly altd, com calc chlortzd mafics, r-tr sericite, tr euhed di dism hem & hem vng.



WOB 50K RPM 50 PP 1000 SPM 55/35  
 EZ 2/26  
 DE  
 WOB 50K RPM 50 PP 1000 SPM 55/35  
 EZ 2/27 516/40 hrs  
 NBWAB STC AJS 2/28  
 WOB 50K RPM 50 PP 1000 SPM 55/35  
 DE



mod altd, mnr calc, mod chlortzd mafics, r-tr ehued dism pyr, r dism & vn hem.

Diorite: med-dk gry, blk, occ lt gry, wht, grn/blk, v hd-hd, v fn-fn gr, v frsh w/ tr-com chlzd biot, mnr-com calc, r-tr disem ehud pyr, r-tr hem, r-tr sericite.

Diorite: med-dk gry, blk, lt-med gry, mod hd-hd, fn gr hypidid hypidid tex, sl-mod altd, mnr hi altd, mnr-com calc, mod chlortzd mafics, r-tr sericite, tr ehued dism pyr, r dism hem.

Felsic DiKe: wht-lt gry, hd-v hd, brittle, microxln tex, com v fn gr mica, tr-loc mnr fn gr org min pos garnet.

Qtz Diorite: lt-med gry, lt grnsh gry, hd, fn gr hypidid tex, pred sl altd, mnr amt mod altd, mnr calc & calc vng, sl chlortzd mafics, r ehued dism pyr, r dism hem & hem vng.

Diorite: med-dk gry, lt-med grn, mod hd-hd, pred fn gr hypidid tex where sl altd, mod amt sl rexln where mod-highly altd, mnr calc, sl-mod chlortzd mafics, r dism pyr, r dism hem & hem vng.

Diorite: med-dk gry, blk, lt-med gry, mod hd-hd, fn gr hypidid tex, mod hi altd, mnr-com calc, mod chlortzd mafics, r ehued dism pyr, r dism hem.

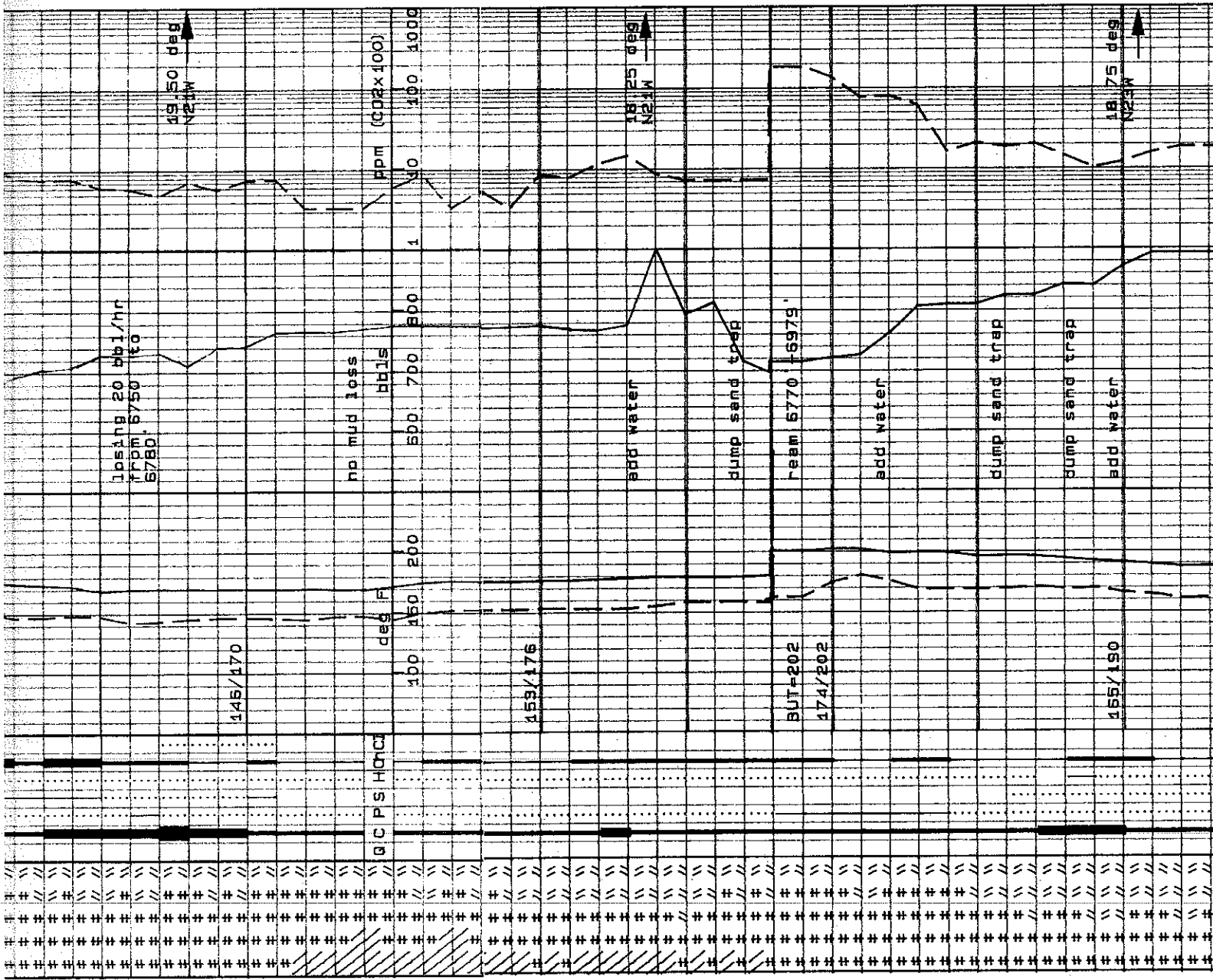
Qtz Diorite: lt-med gry, hd, fn gr hypidid tex, sl-mnr amt altd, mnr calc & calc vng, mod chlortzd mafics, r ehued dism pyr, r dism hem.

Shut well in at 6979' for 12 hours, run temperature survey, unable to get tool past 5330.

Qtz Diorite: lt-med gry, lt-med grnsh gry, hd, fn gr hypidid tex, pred sl altd, mnr amt mod altd, mnr calc & calc vng, sl-mod chlortzd, tr ehued dism pyr, r hem vng.

Diorite: med-dk gry, lt-med grn, blk, occ wht, mod hd-hd, fn gr hypidid tex, sl altd, sl-mod rexln, mnr-com calc sl-mod chlortzd mafics, r dism pyr, r dism hem & hem vng.

Qtz Diorite: lt-med gry, lt-med grnsh gry, hd-v hd, fn gr hypidid tex, sl-mod altd, mnr-



6750 6800 6850 6900 6950 7000 7050 7100

3 50K  
1 50  
1 1000  
1 35/35

2/29  
ft/hr

75 50 25

3 50K  
1 50  
1 1000  
1 35/35

1/40.5hrs  
#17 HTC X39C  
3/1-2

3 50K  
1 50  
1 1000  
1 35/35



calc/chlor alt. r-tr euhed  
dism pyr. r. dism hem & hem  
vng.

POH @ 7616', left 3 cones &  
bearings in hole, RIH  
w/magnet & junk basket, POH  
w/fish, RIH w/ARB#13 & junk  
sub. drlg 1/7616'

Altd Zone: wht-lt gry, gry/grn,  
grn-gry, mod hd-hd, v fn gr-  
amorph, hi chlor, mnr-com calc,  
r-tr fn-med gr disem pyr, r  
euhd pyr, mnr-loc wht-gry wht  
clay mnrls.

Felsic Dike: wht-lt gry, sl  
mott, v sl pkish gry wht, sl  
grnsh, hd-v hd, brittle,  
macroxl n tex, v fn gr, fresh,  
com v fn gr mica, tr fn gr  
chizd mafics, tr v fn euhd  
pyr.

Qtz Diorite: wht, lt-med gry,  
med grnsh gry, hd, fn gr  
hyalio tex, pred sl-mod altd,  
pt hi altd, mnr-com calc, sl-  
mod chlortzd mafics, r-tr fn  
euhd dism pyr, v r dism hem  
& hem/calc vng.

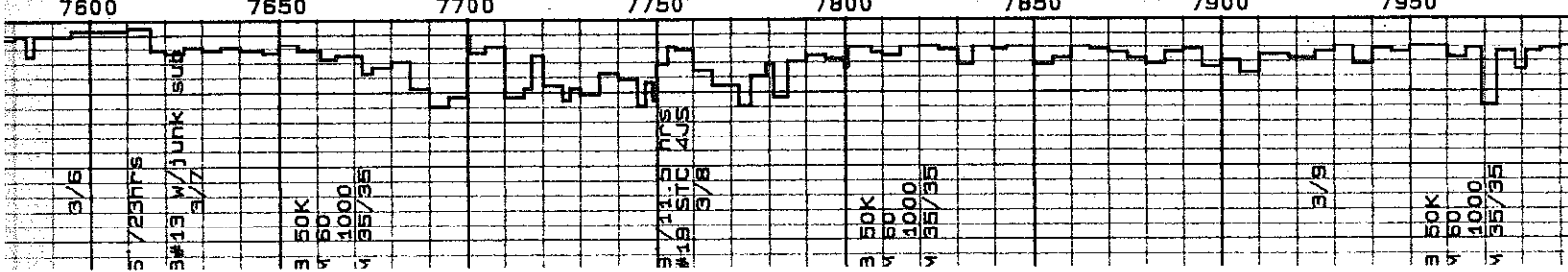
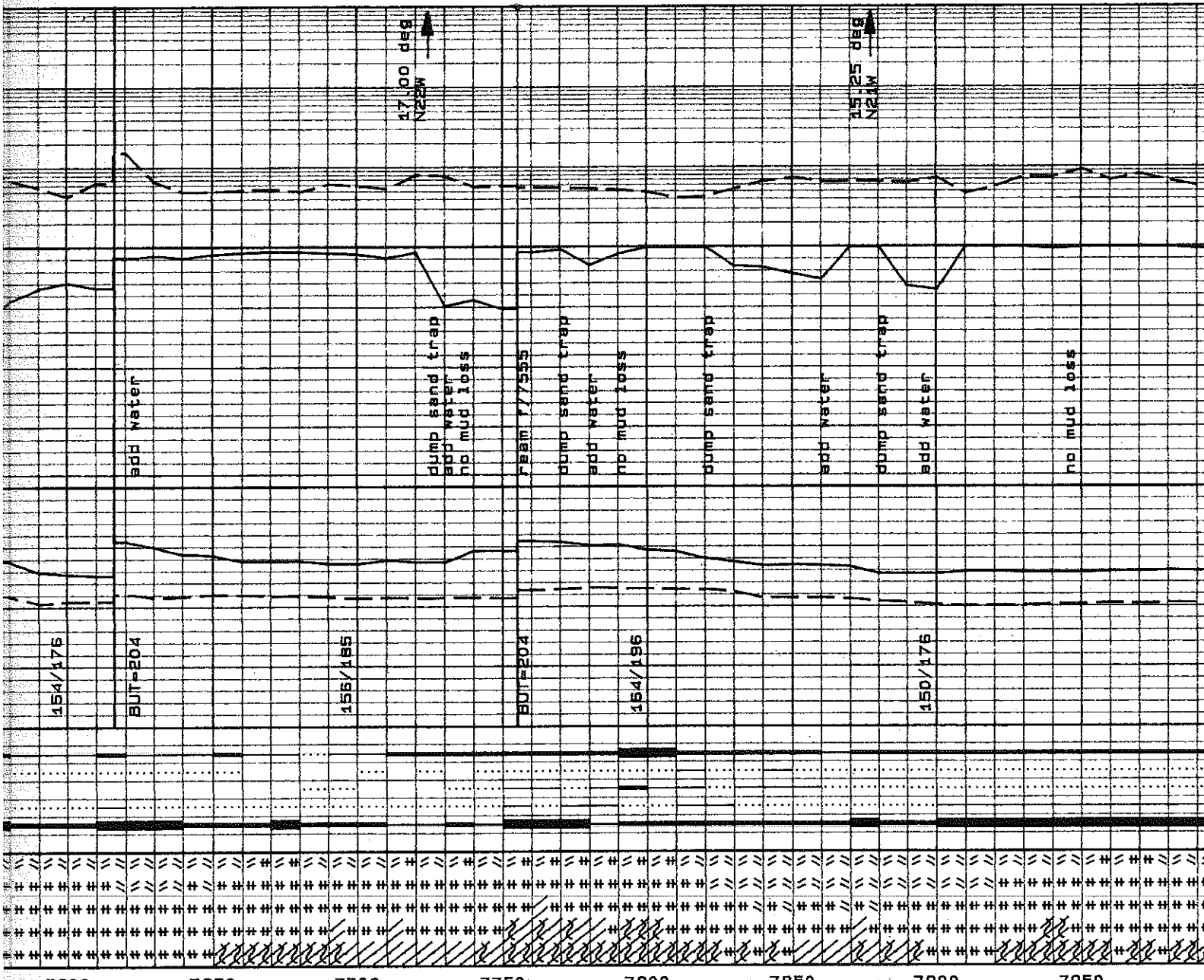
Altd Zone: wht-lt gry, gry/grn,  
grn, mod hd-hd, v fn gr-amorph,  
hi chlor, mnr-com calc, r-tr  
dism pyr, r. euhd pyr, mnr-loc  
wht-gry wht clay mnrls.

Qtz Diorite: wht, lt-med gry,  
med-dk grnsh gry, hd, fn gr  
hyalio tex, sl-mnr rexln, sl-  
mod altd, pt hi altd, mnr-com  
calc, mod chlortzd mafics, r-  
tr fn euhd dism pyr, altd  
felsic clay mnrls, tr-mnr  
sericite, r-tr hem.

Felsic Dike: wht-lt gry, sl  
pkish gry wht, grnsh, hd-v hd,  
brittle, microxl n tex, fresh,  
mnr v fn gr mica, tr fn gr  
chizd mafics, tr v fn euhd  
pyr, r-tr sericite assoc w/  
diorite.

Altered Zone: pred lt grn, mnr  
emt wht-lt gry, mod hd, v  
brittle, highly altd/rexln,  
com-abun calc assoc w/epid,  
chlor & sericite, r-tr euhd  
dism pyr, r hem vng.

Qtz Diorite: lt-med gry, lt-  
med grnsh gry, hd, fn gr  
hyalio tex where sl-mod  
altd, rexln where highly altd,  
com calc, mod chlortzd mafics,  
mnr-com epid assoc  
w/calc/chlor alt, mnr



Diorite: med-dk grnls  
 fn gr hypididio tex-si  
 pred mod altd, mnr em  
 altd, com calc, mod ch  
 mafics, mnr-loc com e  
 euhed dism pyr, r-tr  
 r hem vng.

Qtz Diorite: lt-med g  
 dk grnsh gry, wht, oc  
 hd, fn gr hypididio tex  
 rexin, si-mod altd, pt  
 mnr-com calc and vet  
 mod chlortzd mafics,  
 euhed dism pyr, mnr e  
 feldsac clay mnr, ls, t  
 sericite, r-tr hem.

Diorite: med-dk gry, w  
 lt-med grn, hd-v hd, f  
 altd, tr highly altd,  
 calc, r-tr euhed dism  
 dism hem, r sericite.

Qtz Diorite: wht, lt-n  
 med grnsh gry, si pk  
 hd, fn gr hypididio tex  
 rexin, mod-hi altd, tr  
 calc, mod chlortzd me  
 tr, fn euhed dism pyr  
 altd clay mnr, ls, tr-n  
 sericite, r-tr hem.

Qtz Diorite: lt-med s  
 med grnsh gry, trn  
 lt org, hd, pred fn gr  
 tex, mnr amt highly i  
 mnr-com calc, mod ch:  
 mafics, inc epid, r-tr  
 dism pyr, r-tr seric:  
 vng.

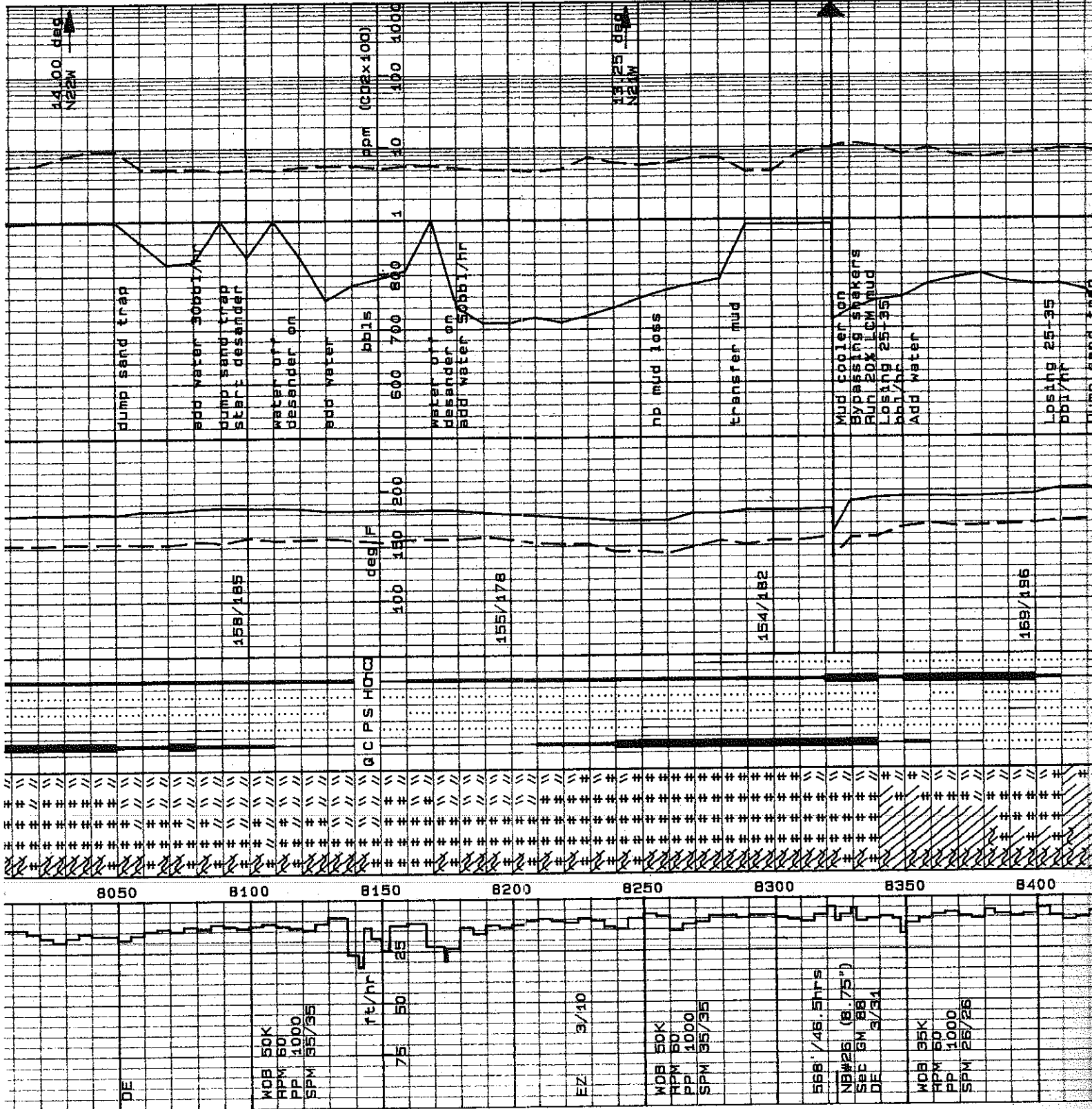
Altered Zone: pred 11  
 sft-mod pg, highly a:  
 com calc, mod chlort:  
 epid vng, tr euhed d:  
 pyr aggs, r-tr seric:  
 dism hem, r wht clay

Drill 12.25" hole 1  
 set 9.625" casing 1  
 unloaded hole.

Run 6" orifice tes  
 8323' for 8.5 hrs,  
 temp=302, final pre:

Run temperature sui  
 8323', continue dri  
 w/mud from 8323' w,  
 bit.

Qtz Diorite: lt-med i  
 med grnsh gry, mod i  
 pred fn gr hypididio  
 amt highly altd/rex  
 calc, mod chlortzd, m  
 com epid vng, tr des:  
 sericite, r hem, r wh  
 mnr.



DE  
 WDB 50K  
 RPM 50  
 PP 1000  
 SPM 55/55

EZ 3/10

WDB 50K  
 RPM 50  
 PP 1000  
 SPM 35/35

568' / 46.5 hrs  
 NB#26 (8.75")  
 Sec 6M 88  
 DE 3/31

WDB 35K  
 RPM 50  
 PP 1000  
 SPM 25/25



calc. occ vesicular-v  
 occ v euhed qtz, tr--  
 dism euhed pyr w/ oc  
 perfect cube, r pyr a  
 mnr wht sft clay mnr

Qtz Diorite: pred lt-  
 grnsh gry, mnr med-d  
 fn-med gr hypidic te  
 altd, tr chlorid bio  
 hnbde, r-tr dism pyr,  
 wht clay min.

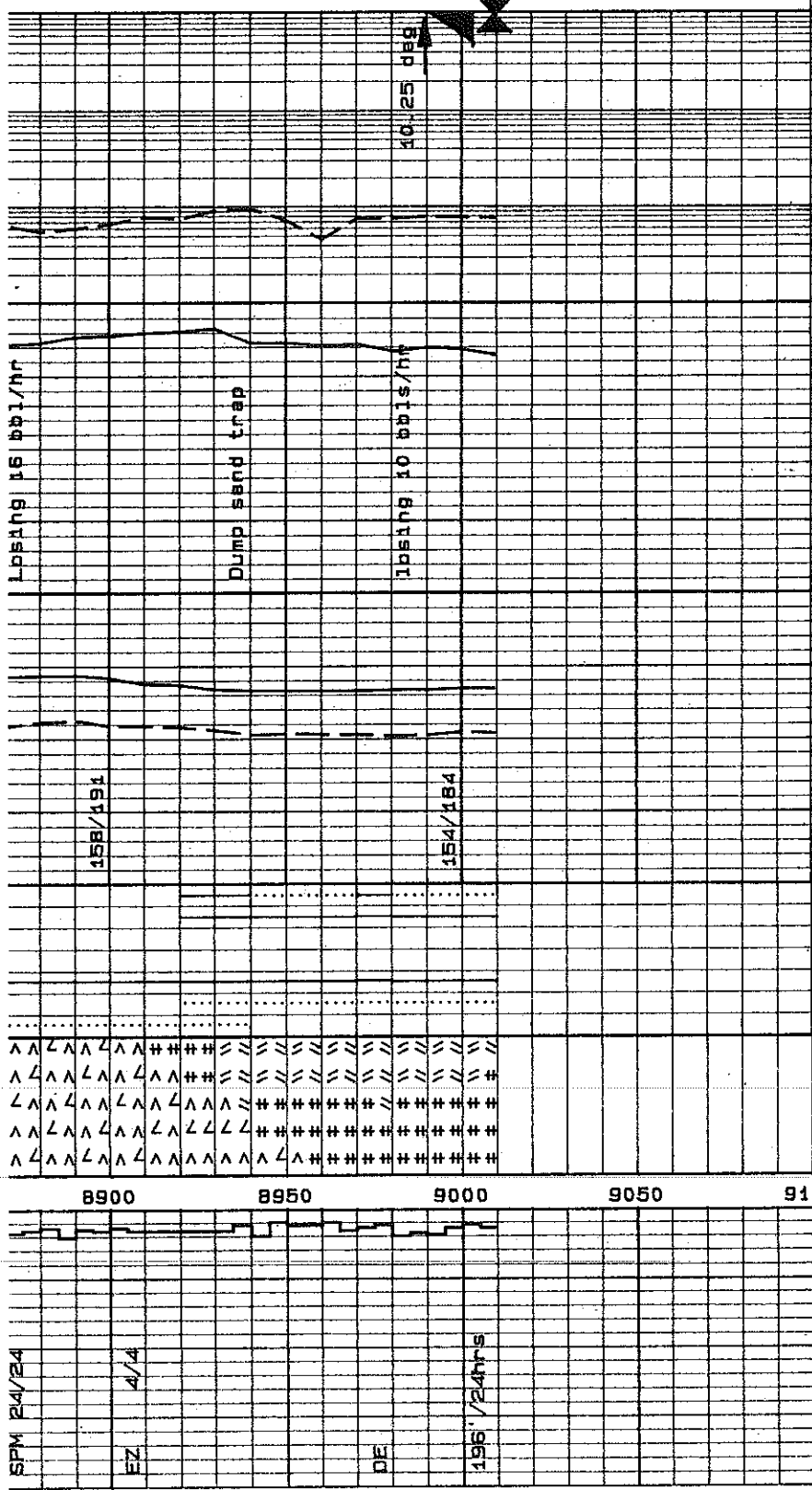
Diorite: med-dk gry, m  
 grnsh gry, hd, fn gr  
 tex, sl-mod altd, tr c  
 mafics, tr dism pyr, t  
 calc. r clay min.

Drill 8.75" hole to  
 Schlumberger ran 10

Run 7" slotted line  
 hanger at 4280', sho  
 9003'.

Run 4.125" orifice  
 9009' for 8.5 hrs, f  
 temp=338, final pres  
 5#.

Run 5.125" orifice  
 9009' for 8.25 hrs,  
 temp=319, final pres



SPM 24/24  
 EZ A/4  
 DE  
 196' / 24hrs