00 Angalarri Sst
800 Jasper Gorge
880 Fitzmaurice Grp

PR84/157A

# CORE LAB Grapholog

**CORE LABORATORIES, INC.**

|  |  |
|---|---|
| COMPANY | QUEENSLAND PETROLEUM PTY LTD |
| WELL | BULLO RIVER No.1 |
| FIELD | WILDCAT |
| COUNTY | OP 225 |
| STATE | NTH. TERRITORY. |
| LOCATION |  |
| ELEVATION |  |

DEPTH LOGGED, FROM SURFACE 0m TO TD 969·65m FT.
DATE LOGGED 16th JULY – 7th AUGUST, 1984
CREW CHIEF FISH, Stephen FILE NO. FL 804
DRLG. FLUID FRESHWATER-GEL 0 TO 50m FT.
KCL-POLYMER 50m TO 969·65m FT.

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

## LEGEND

### ABBREVIATIONS

NB = NEW BIT
NCB = NEW CORE BIT
CO = CIRCULATED OUT
DST = DRILL STEM TEST
LAT = LOGGED AFTER TRIP
TG = TRIP GAS
NR = NO RETURNS
DS = DIRECTIONAL SURVEY
DC = DEPTH CORRECTION
**DEPTHS CORRESPOND TO DRILL PIPE MEASUREMENTS**
From RKB

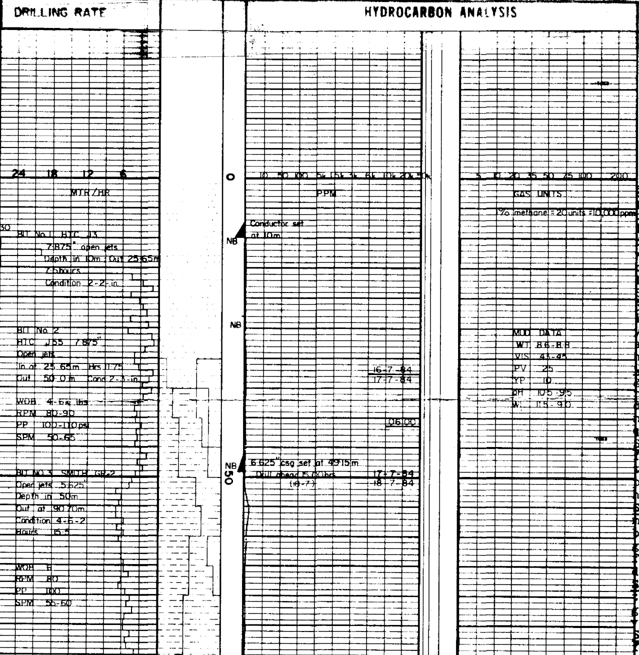
**RESISTIVITY, OHM-METERS**
Rm = MUD
Rmc = MUD CAKE
Rmf = MUD FILTRATE

**MUD DATA**
CK = CAKE THICKNESS 32nds
V = VISCOSITY API SECONDS
F = FILTRATE API CC'S
W = WEIGHT
S = SALINITY, ppm Cl

### LITHOLOGY

| | | | |
|---|---|---|---|
| SAND | SALT | COAL | Worm burrowing |
| CONG. | CLAY | DOLOMITE | |
| ANHYDRITE OR GYPSUM | SHALE | CHERT | |
| LIMESTONE | CHALK | SILTSTONE S= Siliceous | |

P= Pyrite C= Calcite ◊ = Qtz crystals Δ= Galena.



BIT No.1 BTC J3
7·875" open jets
Depth in 10m ; Out 25·65m
7·5hours
Condition 2-2-in.

BIT No 2
BTC J55 7·875"
Open jets
In at 25·65m Hrs 11·75
Out 50·0m Cond 2-3-in.

WOB 4-6K lbs
RPM 80-90
PP 100-110psi
SPM 50-65

BIT NO 3 SMITH GR-2
Open jets 5·625"
Depth in 50m
Out at 90·70m
Condition 4-5-2
Hours 15·5

WOB 6
RPM 80
PP 100
SPM 55-60

Conductor set at 10m

% methane = 20units = 10,000ppm

MUD DATA
WT 8·6-8·8
VIS 43-45
PV 25
YP 10
pH 10·5-9·5
WL 11·5-9·0

16-7-84
17-7-84

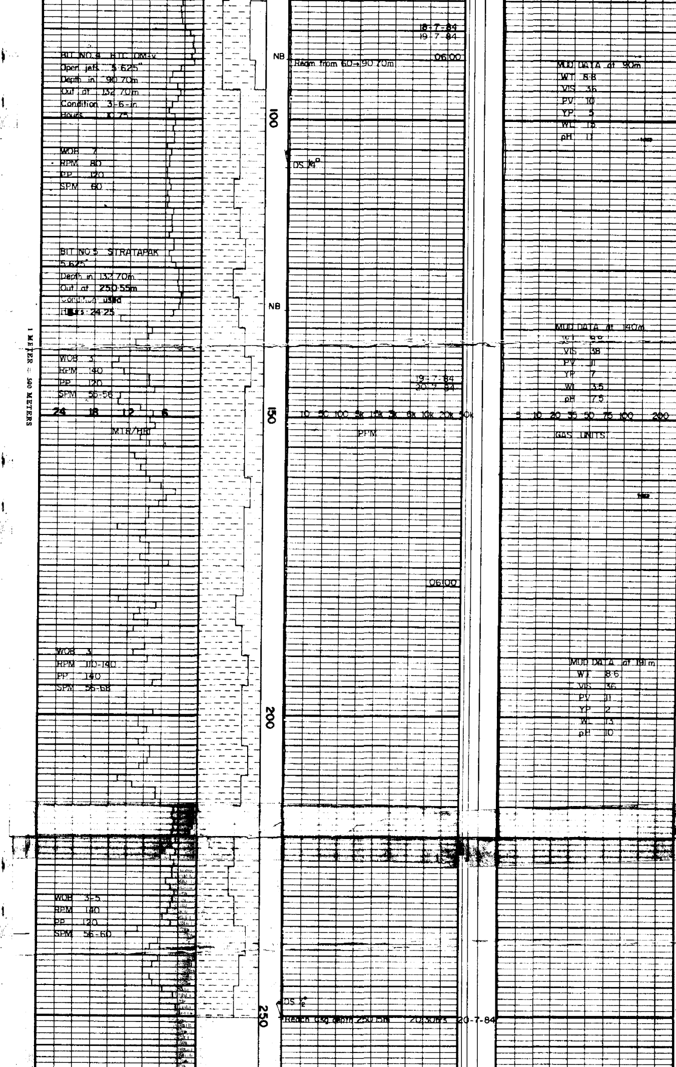
06:00

6·625" csg set at 49·15m
Drill ahead 15:00hrs (18-7)

17-7-84
18-7-84

## DESCRIPTIONS

SANDSTONE:to 16m;
pred pr consol,orn
clay mtx,vf-vc gr;
intbdd with vf,v h
d,silic,orng-brn +
wht sst bands,mod
calc with Fe stain
lse qtose,orng pre
SANDSTONE:from 16-
30m:lse qtz-hd,w
ind,m-f gr sst;clr
yell,wht,orng-red,
s rnd-sa,sil mtx,v
hd,v pr ø,qtzitic?
QTZITE:lt gy,lt gy
grn,grd from silic
pyr,v hd-w cons,
dense,vf silic sst
no ø,intbdd w smky
qtz.
SILTSTONE:m gy-gy,
fawn,v silic,grds
to vf sst-qtzite,
pyritic,glau abdt,
hd-britt,grd to SH
SHALE:from 50m:gy-
m gy,with lt grn
sec pred;silty,pyr
glauc,wxy-smth,sub
fiss-platy,britt/h
d-occ silic.
SANDSTONE:60-70m;l
t gy,fawn,lt gy-gr
glau+v sil(sec-0 ø
vf gr grd to sltst
SILTSTONE:v silic,
fawn,lt gy,lt grn,



BIT NO 4 BTC OMSV
Open jets 5.625"
Depth in 90.70m
Out at 132.70m
Condition 3-6-in
Hours 10.75

WOB 7
RPM 80
PP 120
SPM 60

BIT NO 5 STRATAPAK
5.625"
Depth in 132.70m
Out at 250.55m
Condition used
Hours 24.25

WOB 3
RPM 140
PP 120
SPM 55-56

WOB 3
RPM 110-140
PP 140
SPM 56-68

WOB 3-5
RPM 140
PP 120
SPM 56-60

MUD DATA at 90m
WT 8.8
VIS 36
PV 10
YP 5
WL 15
pH 11

MUD DATA at 140m
WT 8.8
VIS 38
PV 11
YP 7
WL 3.5
pH 7.5

MUD DATA at 191m
WT 8.6
VIS 36
PV 11
YP 2
WL 13
pH 10

glau incl,occ dolo-calc veins,qtzitic,m-w ind,platy,py

SANDSTONE:gy,grn,brn-fawn,wht;vf-m gr,sa-s rnd,m-w sr glau abdt,silic-v hd,no vis ø,min fl

SHALE:gn,lt gn,fawn,lt gy-grn,silty,mod fm-w ind,sub fiss-platy;gritty-smth,glau i/p,pyr grdg to silic silt

SILTSTONE:pred sil grdg to+from shale pred grn-lt grn,lt gy,glau+pyritic,m-w ind,platy-fiss;vf intbds vf sst,silic-sli dolom/calc

Tr dolomite,wht,tuff,sft-fri:tr SST glau,silic,also pink qtzose,abdt pyr,m gr,s ang,fri.

SHALE:lt gy-med gy-gn,sme fawn,silty-ip,sub fiss,platy,mod ind to sft,occ w ind,pyritic,gdg to Sltst ip,no shows

SILTSTONE:lt gy-gy-gn-brn,gdg to vfn Sst ip,blky to sub fiss,mod ind,pyriti glaucanitic,spkled appearance,gdg to Shale ip.

SHALE:lt gy tomed gy-gn,gdg to Sltst,earthy,pyritic,mod-p ind,sub fiss-platy glauc ip,no shows.

SILTSTONE:lt gy-gy-gn-brn,gdg from vfn Sst to Shale,blky,pyritic,glauc,spkled tr mica ip,mod ind,no shows,occ minor yell mnrl flor.

SHALE:to 220m:lt gy-m gy,gy-grn;occ fr pyr i/p,glau incl,mod-pr ind,sub fiss-platy,grdg to slt.

SILTSTONE:lt-m gy,silic,pyr+glau,mod ind,blky,occ grd to sst,also platy.

SHALE:mod gy,[illegible] slt more silty,silic.

SILTSTONE:gy,lt gy,less gy-gn;silic,occ tr vf intbdd sst,pyr minor glau occ,v occ mic mica,mod-w ind,fiss-platy.

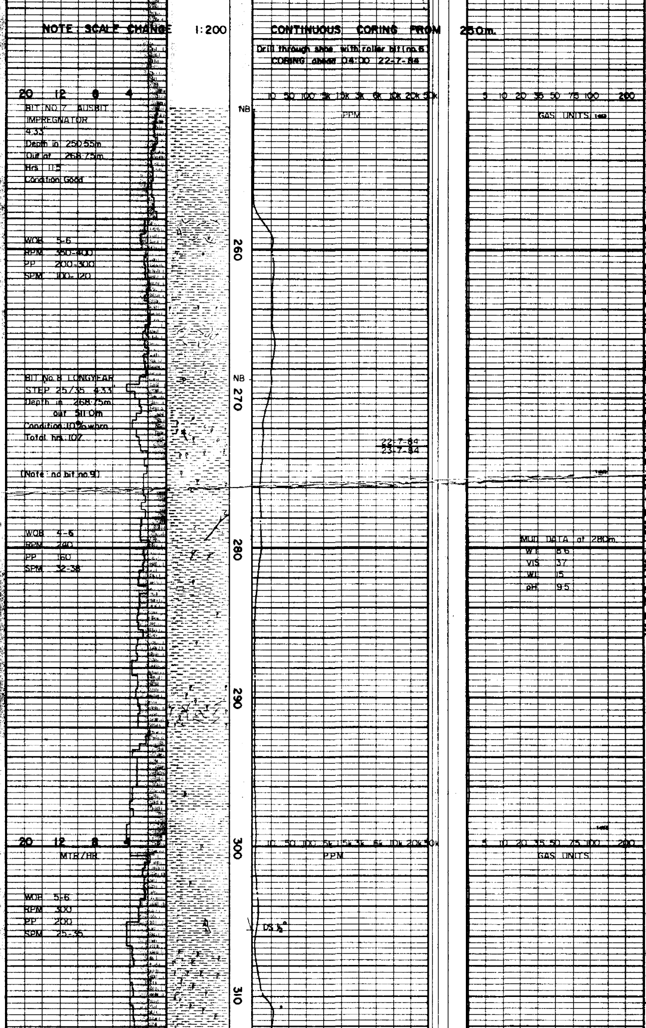
SHALE:lt-m gy,[illegible] gy/grn;silty,gritty,smth i/p,blky-less fiss/sub fiss;mod fm-britt,pyr,v silic.

SILTSTONE:a/a;tr SST f gr,glau,silic,pyr intbdd w sltst,occ sli calc-dolom.

NOTE: SCALE CHANGE 1:200

CONTINUOUS CORING FROM 250m.

Drill through shoe with roller bit (no.6)
CORING ahead 04:00 22-7-84



BIT NO 7 AUSBIT
IMPREGNATOR
4.33
Depth in 250.55m
Out at 268.75m
Hrs 11.5
Condition Good

WOB 5-6
RPM 350-400
PP 200-300
SPM 100-120

BIT No. 8 LONGYEAR
STEP 25/35 4.33
Depth in 268.75m
out 311.0m
Condition 10% worn
Total hrs. 107

(Note: no bit no. 9)

WOB 4-6
RPM 240
PP 160
SPM 32-38

MUD DATA at 280m.
WT 8.6
VIS 37
WL 15
pH 9.5

WOB 5-6
RPM 300
PP 200
SPM 25-35

1 METER = 500 METERS

**SHALE**: to [illegible]m. med gy-gy/gy/gn, silty to [illegible], gritty, mic mica, pyritic, occ calcitic, frm-mod-w ind, fiss-platy bdg mass, no ø-perm, no shows, dull yell mnrl flor w/ calc.

**SHALE**: to 260m. a/a calcite fracs abdnt 60°, pyrite abdnt.

**SHALE**: to 264m; a/a, dk-med gy, pyrite-calcite abdnt in vns

**Siltstone**; m-dk gy, mod ind, pyr-calc, intbd w/shale.

**SHALE**: to 267m. a/a, highly frac, 60°-horizontal.

**SHALE**: to 274m; med gy-gy, slty-rthy platy-fiss, mic mica pyr vns abdnt, calc-abdnt, frm-hd-brit, mass bdg, no ø-perm.

**SHALE**: to 278m, a/a sme brn col, wxy lp, occ pyr-calc, frm-hd med bdg.

**SHALE**: @ 27[illegible]m; a/a, lrge calc frac 20° rhomb xls abdnt.

**SHALE**: to 283, med gy-brn, wxy-slty, mic-mica, pyr-calc, frm-hd, brit, mass bdg, no ø, perm no shows.

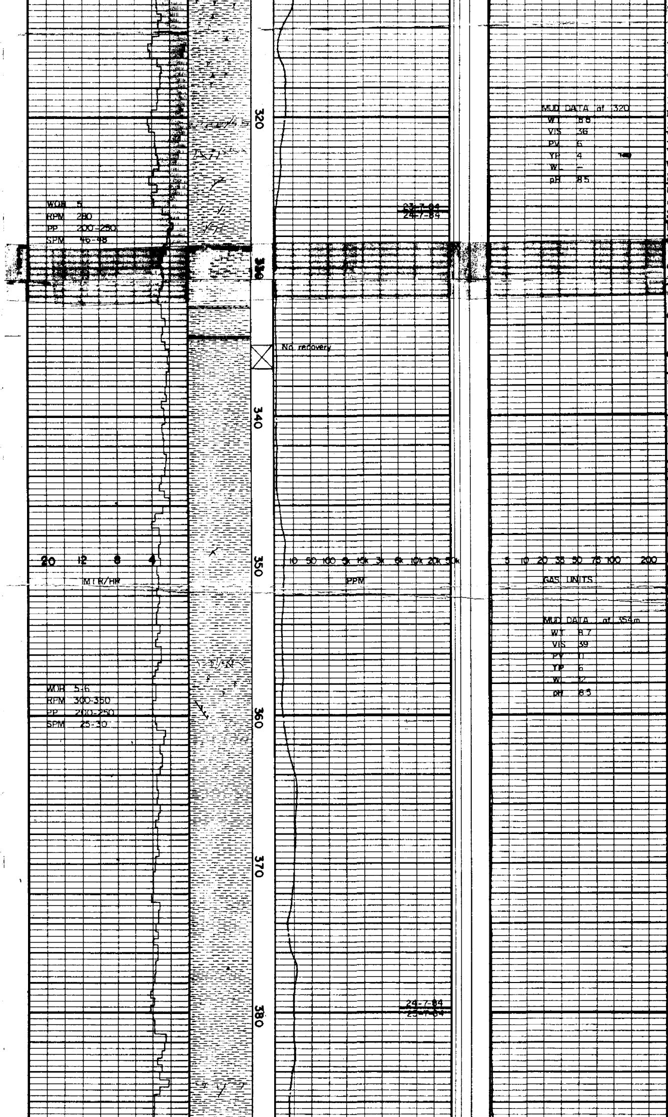
**SHALE** to 290m; m gy-gy, silty i/p, mica, pyr bec abdt, ethy-smth; fm-hd/brittle min calc-dolom veins @290 pyr abdt+calc fracts-60° thru horz.

**SHALE**: to 296m; dk gy-m gy, gy-brn; mic mica, silty-smth, occ pyr, dolom/calc; fm-hd, brittle, blky-subfiss.

**SHALE**: to 302m; dk gy, gy-brn; dense, v hd-v w ind, sub fiss, mic mica, platy-blky; less fract, amorph, pyr i/p.

**SHALE**: to 310m; dk gy-gy/brn, dense, amorph, mic mica, w/ occ calc-silic lam, w ind-hd, @305m micro fract, filled with galena, sft, vitr lustre, plty. @307.5m bec abdt in pyr+also tr galena, with silic vf lam.

**SHALE**: from 310m; dk gy, gy-brn; mic mica, abdt pyr, gritty-ethy,



dense,hd-w ind,blky-sub fiss,no shows.

SHALE:from [illegible]15m.dk gy,occ lt gy lam, sm-ethy,occ silty, dense,mic mica,sil, sli dolom ip,pyr,hd fiss,platy to blky, no shows.

SHALE:from 318m;a/a less pyr,@320m,Calc vns,intbd w/Dolomite wh,crm-gy,mod hd.

SHALE:to [illegible]5m;a/a s calcite vns abdnt occ fracs.

SHALE:to [illegible]31m;dk gy bl-gy,brn [illegible] ly gy-[illegible],fiss to platy,[illegible] mica, calc fracs abdnt ip [illegible]

gy,silty,smth;mic [illegible] sil,fm-hd,pyr+calc; @333m dolomite with calcite bds,crm-wht-lt gy;mic xln,hd. @335m dolom a/a.

SHALE:from 337m;med gy-grn,smth-talcy; fiss-sub fiss,platy, silic,mic mica,fm-hd/v w ind,dense.v occ calc bds+rare mic fra-ctures.

SHALE:from 343m;med gy-grn,smth-occ silty waxy-talcy;sub fiss-platy,occ blky,w ind.

SHALE:a/a,dense,med gy-med gy/grn.

@349.7m:micro-fract, filled with dolom.lt brn-fawn,mic xln,hd.

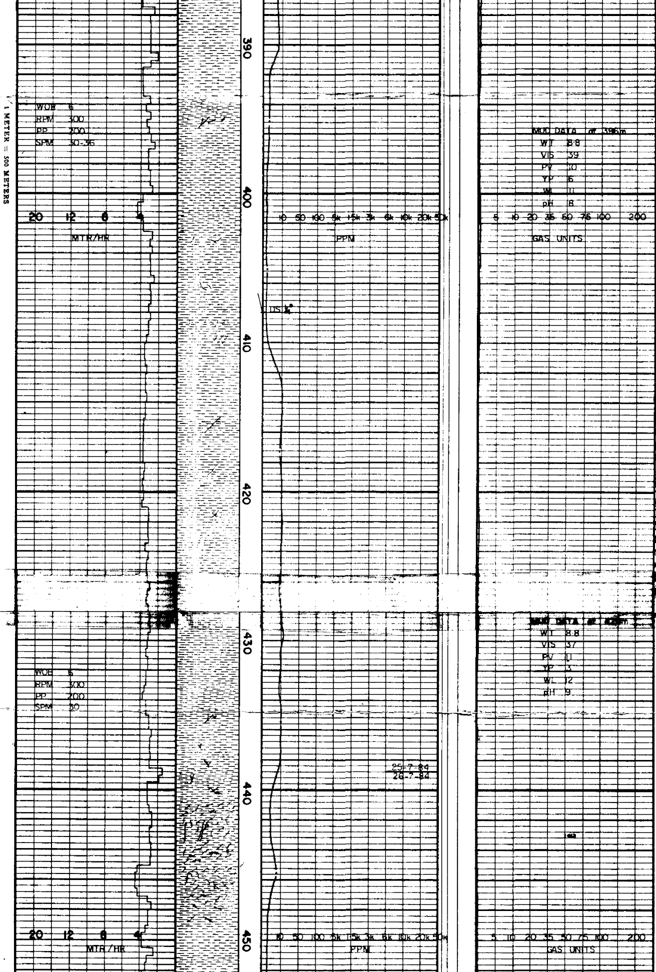
SHALE:to 355m;med gy-grn,med gy,smth-talcy mic mica,silic,silty i/p,mic pyritic,w ind dense,sub fiss-blky, @356m:SHALE:a/a,heavy fracturing+mic fract, calc+pyr abdt. @359.25-360.25m:fract @60°+,pyrite+rare galena filled+mica.

SHALE:360-370m. med gy-grn,smth-wxy talcy text,occ slty micro mica,v occ pyr,sub fiss-fiss, dense,w ind-hd-brit platy,occ blky,bdg massive,no ø/perm. no shows.

SHALE:370m-375m. a/a,med gy-gy/grn, mic mica,v occ pyr, occ sli calc mic-fracs,sil,w ind-hd-brit,mass bdg.

SHALE: from 375.1m. med gy/grn,intbd - with gy/red Shale, fn to thick lams-thn bdg,silty ip, pred smth-earthy, sub fiss-fiss,platy micro mica,sil,frm hd-vhd brit,mass-bdg,no ø or perm,no shows.

@v385m. v thn vns w/ calc,mica



| | |
|---|---|
| WOB | 6 |
| RPM | 300 |
| PP | 200 |
| SPM | 30-36 |

MUD DATA at 396m

| | |
|---|---|
| WT | 8.8 |
| VIS | 39 |
| PV | 10 |
| YP | 6 |
| WL | 11 |
| pH | 8 |

MUD DATA at [illegible]m

| | |
|---|---|
| WT | 8.8 |
| VIS | 37 |
| PV | 11 |
| YP | 3 |
| WL | 12 |
| pH | 9 |

| | |
|---|---|
| WOB | 6 |
| RPM | 300 |
| PP | 200 |
| SPM | 30 |

SHALE: a/a.
med gy/grn & red, intbd, thk lams to thn-med bd, red-grn @50/50, smth-earthy, occ silty, fiss-platy mic mica, hematite, sil, hd-v hd, brit, mass bdg, no ø or-perm, no shows.
@395.5m; calc frac 60°.

SHALE: to 402m; med gy-gy/grn, occ dk gy bds; smth-ethy, fiss, platy, mic mica, sil, fm-hd-britt.

SHALE: from 402m; med gy-grn+intbds red, bec more red; w ind-hd/britt, mica, fract i/p with calcite, no shows, dense, nil ø.

SHALE: from 407.5m; pred more red, gy-gn highly fract, pyr+calcite, f-med bds red/grn shale, dense pred a/a.

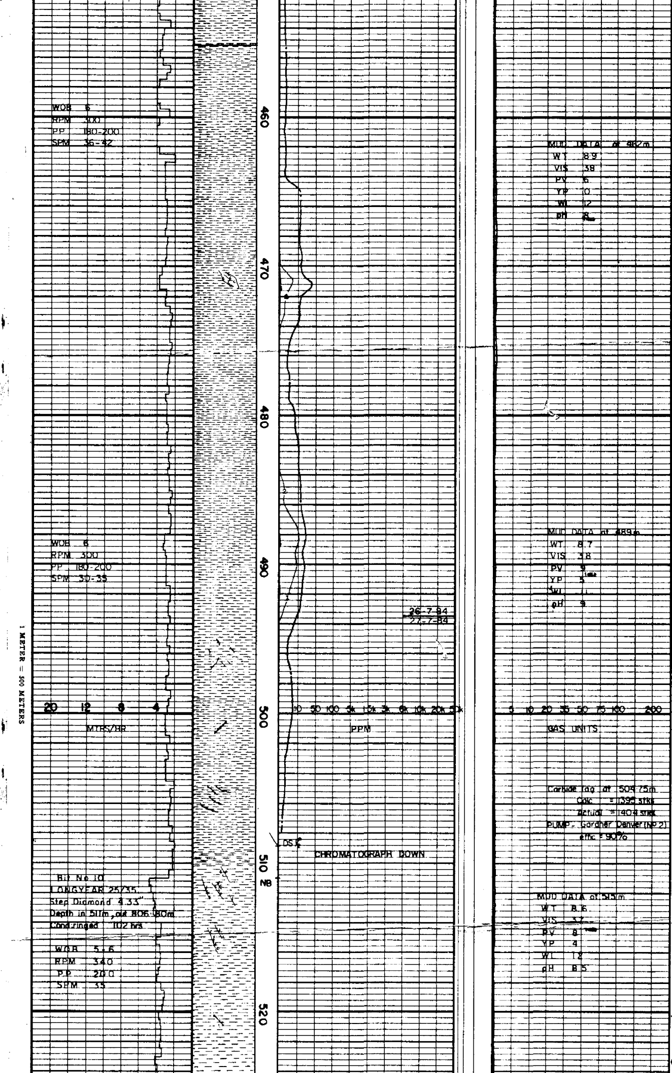
SHALE: to 415m; a/a, bec sli more red, + gy-gy/grn intbds+lm dense, mic mica, rare pyr, hd-v w ind, occ micro-fracts.

SHALE: to 428m; bec 60-70% red shale+ gy-grn, gy int bds++ lams, hd-w ind, britt i/p, sub fiss, occ fract with calcite, mic mica, massive with varying beds of gy-gy/grn, nil ø, no shows.

SHALE. [illegible]m.
90% red-gy Sh, with v fn gy gn lams, dense, fiss-splty, platy, v w ind-v hd, britt, micro mica, sil, rare calc frac vns, no ø or perm, no shows.

SHALE: to 440m.
pred red-gy a/a, mic mica, hematite, occ fracs 60°, calc

SHALE: to 449m;
red-gy-brn, v occ-gy-gn lams, thn, smth-earthy, fiss to blky mic mica, hematite, calcitic ip, tr pyr sil frm-hd-britt, bdg mass, no shows. Abdnt fracs-mic-frac horiz to vert, pred calc thn lams, also mic xls, poss mngese, s-phides, cl.



WOB 6
RPM 300
PP 180-200
SPM 36-42

MUD DATA at 462m
WT 8.9
VIS 38
PV 6
YP 10
WL 12
pH 8

MUD DATA at 489m
WT 8.7
VIS 38
PV 9
YP 5
WL 11
pH 9

WOB 6
RPM 300
PP 180-200
SPM 30-35

26-7-84
27-7-84

Carbide lag at 509.75m
Calc = 1395 stks
Actual = 1404 stks
PUMP - Gardner Denver (No 2)
effic = 90%

Bit No 10
LONGYEAR 25/35
Step Diamond 4.33"
Depth in 511m, out 806.80m
Cond: ringed 102 hrs

MUD DATA at 515m
WT 8.6
VIS 37
PV 8
YP 4
WL 12
pH 8.5

WOB 5.6
RPM 340
PP 200
SPM 35

SHALE: from 449-460m red-gy-brn, v occ gy-gn, smth-earthy, sub fiss-blky, mic mica, hematite, calc ip, (Mg SO3), sil, hd-v-hd, occ britt, mass bdg, noshows. Occ gy-gn, thn bd, smth, plty frm-hd, pred calc, sil no shows. @455 thn horiz vn, lt brn, calc, mic pyr.

SHALE: to 470m; dense amorphous, red shale with minor gy-grn, grn lam+bds; mic mi hematite, v hd-w ind fiss-sub fiss/blky, v calc, no shows. @470.25-45m fract, calcite filled (min flur-tr gas show)

SHALE: to 475m; a/a, v-mod calc. 95% red with minor red/grn, red-gy, gy/grn fine lam+bds; 1-5cm gy-gn bands, v hd-britt.

SHALE: from 475-490m pred red, red-brn; sli more gy, gy-grn lam+bds towards 490 dense, v hd-w ind, mod-v calc, fiss-sub fiss, platy, gritty-ethy; mic mica, occ calcite, rare pyr in gy-grn, no ø, occ in micro fract (rare), no shows.

SHALE: to 495m; red, gy-red/brn; int-bdd with thick lam+thin bds of lt gy-gy shale; smth-ethy, occ gritty, fiss, v calc, mic mica, hd-v hd-brittle, no shows.

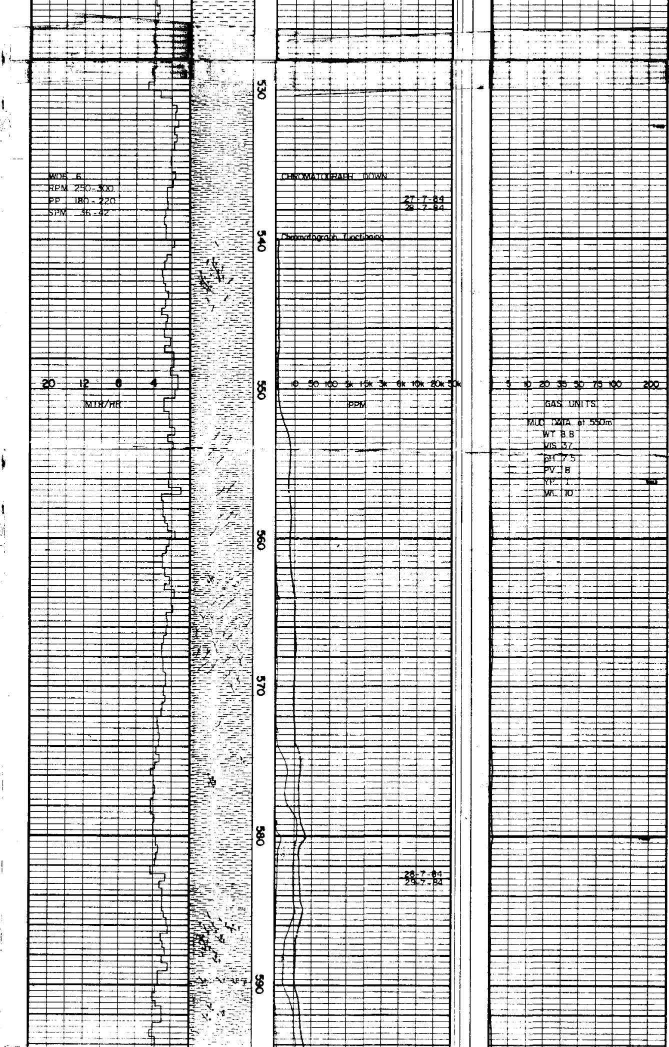
SHALE: from 495m; pred a/a, with abdt fracts +veins to 60°, wht-clr calcite xls vis i/p, fract-mic fract, very calc esp in lt gy-gy.

SHALE: to 510m; pred red-brn withred-gy, intbdd with gy-grn, lt gy-gy, occ crm; some fract with calc a/a, v calc, very w ind-hd, mic mica, rare pyr in fract, fissile-platy, dense, @ 501-med calcite lamin, wht.

SHALE: from 510m; pred red-brn (75%) with (25% crmy-wht, lt gy shale, v thin calcite veins, @65°, occ silty, micro mica, Fe rich clay, occ calcite; v calcareous, parallel lam, thin bdd fiss, platy, v w ind-hd

from 519.5m incr in lt grn bds.

SHALE: to 525m; pred a/a with pale grn bds +crm/lt gy minor, v w indurated; calcite @65° @521m.



to 529m [illegible] SLtstone+SANDSTONE: pale grn-gy, sil+calc, mod-w ind sltt pale orng+crm sili mod-w ind, spkld f-m qtzose, feld sst; slump struct @base v tight. no shows.

SHALE: to 540m; pred dk red-brn, minor grn+occ blk; grd to clystone i/p, mic m mod ind, fiss, pll + thin lam, non calc below sst above.

SHALE: to 545m; pred gy-grn, occ red/brn lam+bds, abdt fract calc+pyrite, mica, hd-v hd, occ britt, smth-ethy.

SHALE: to 550m; red/gy-gy/grn intbd, f-med bds, sil, Fe, tr pyr, non calc, smth, fm-v hd.

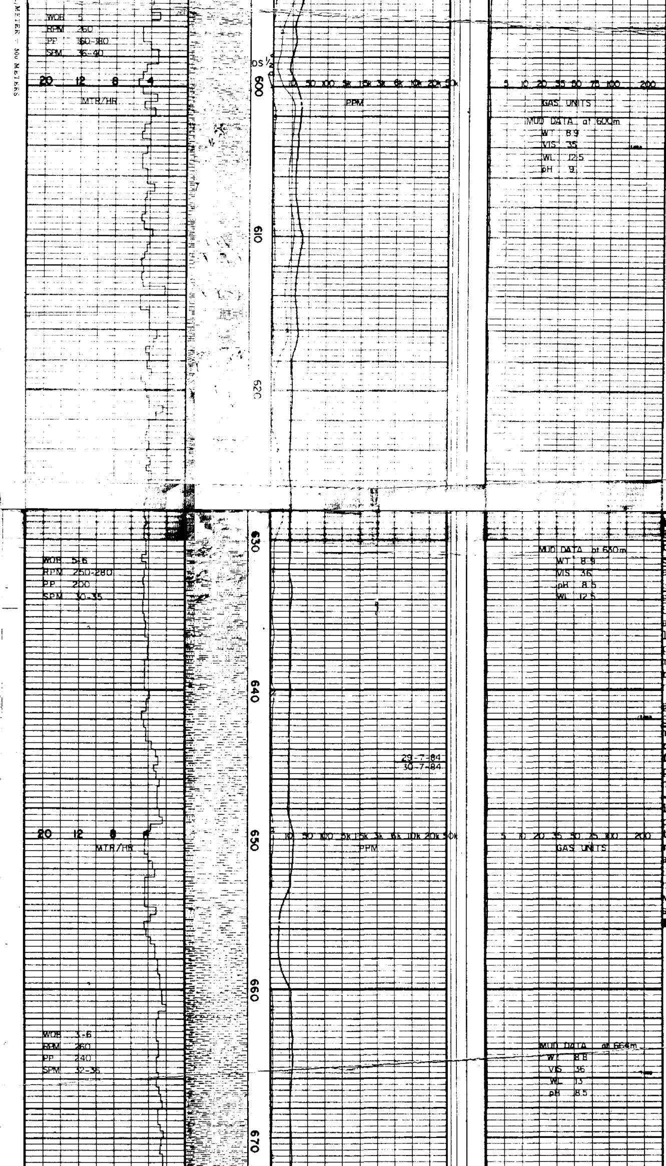
SHALE: to 555m; pred gn, gn-gy; a/a, minor fract, sli calc, occ pyrite, fiss-v platy, non calc, smth-occ talcy.

SHALE: to 560m; a/a, gy-grn, grn, with rd-brn @560; v smth-talcy, micro fract.

SHALE: 560m-570m. gn-gy, gy-blk, sme red-brn, severe fracturing, v sil, abdnt mica/MgSO4, smth-vitr non calc, v hd-w ind britt, thn lams to thn bdg, no ∅, perm in fracs only. Fracs Dolomite filled, crm-pink, occ pyr-calc.

SHALE: to 585m. dk gy-gy-lt gy, smth, talcy to gritty, sub fiss, micro mica, sil to vsil, v hd-britt, Intbd w/ SILTSTONE med-lt gy, grdg to v fn SST, w srt, mica abdnt (muscte-biote) v sil, cly mtx, poss alt fldspars, w ind, Sh/Sltst intbd thn lams to thn bdg, rpple X-strat, no shows, no ∅. Occ vns of pyrite, pred in Sh.

SHALE/SILTSTONE: to 592.5m. med gy, dk gy-lt gy, a/a, pyritic, med to mass bdg thn lams Sltst-Sst, incr to btm, rpple X-strat, fracs abdnt, horiz-vert, pyrite abdnt, occ calc, no shows.



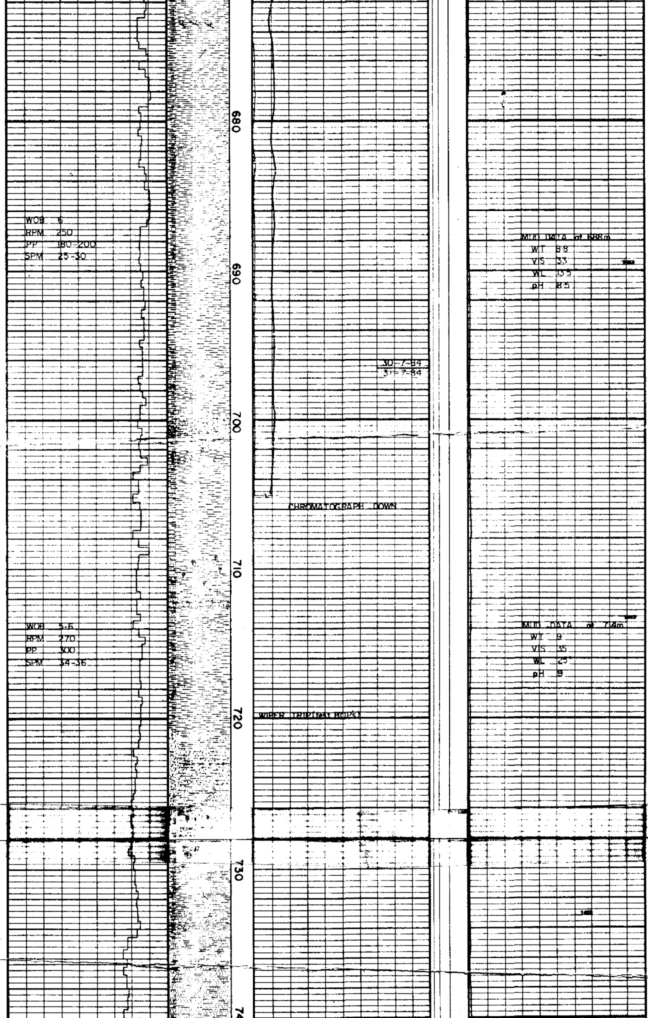
To @ 615m.
SHALE: med gy-gy, occ dk gy, smth-talcy-gritty, sub fiss-plty micr mica, pyr, calc in fracs, sil, hd vhd, SILTSTONE: gy-lt gy, gdg to fn gr Sst, w srt, mica abdnt ip, pyr, v sil, w ind, SANDSTONE: lt gy-crm v fn-fn gr, occ med, w srt, sub rnd gr, lith, mica, clymtx decomp flds, v sil, v hd-w ind, no ø or perm, no shows. All intbd, fn lams to thn bd, minor-ripple struc, X-strat occ frac-pyr, calc. more frac at base.

@ 617m to 621m.
SHALE/SILTSTONE/-SANDSTONE: a/a. massive slumping, and faulting, wavy-major X-bdg, fracturing W/ minor calc, minor folding, occ slip-fill, abdnt frac pyr-calc in fracs.

@ from 621m [illegible]
SHALE: gy-dkgy occ blk, mica, intbd w/ SILTSTONE: lt-med gy aren, mica, silic-& SANDSTONE: lt gy, v fn gr-gdg to aren qtzse Sltst, v sil; All, sil, alt flds, mica, vfn lams to thn bdg, pred parallel lam & bdg, minor, ripple & X-stratif, ø-nil, perm nil, no shows,

@ 640m to 655m.
SANDSTONE: lt gy-gy, mod w to w srt, sub rnd, mica, altered-felds, mica abdnt ip, pyr, v silic, cly mtx, hd-v w ind, SHALE: dk-med gy, smth talcy-ip, platy-sub fiss, pyr-occ calc, sil, frm to v hd, SILTSTONE: med gy occ dk, pyr, aren, v sil, gdg to Sst ip, no ø, or perm, no shows. All II bdg w/ X-strat &ripple structures, brks easy along bdg planes.
@655m to 658 Sst/Sltst bec less-gdg to pred Shale.

@658m to 665m.
Shale/Sandstone intbdd, SST; lt gy, vfn-gr, w srt, s rnd-s ang mic, sli calc, v sil, w ind, fn lams-thn-bd, also occ SLTST.
SHALE: 658m to 672m. med-dk gy to gy-gn, silic, mica, dense, sub fiss, blky non-calc, w ind hd, no-shows, intbd w/occ SLTST; gy to gy-gn, silic, shaley, w ind,



hd,mica.
SHALE: 672-74m;gy-gn,gn,silty,silic, mic mica,talcy text ip,mod-w ind,med-thk bd,mnr fracs.

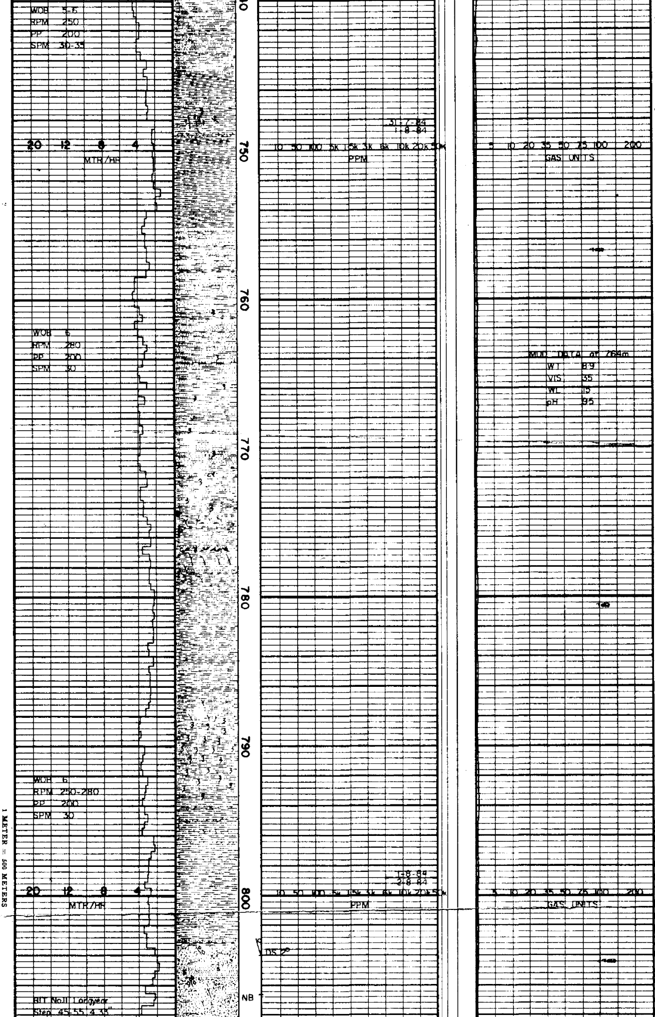
SHALE:674m to 693m. predom,red/brn w/ gn-gy/gn,occ gy-blk silty ip to cly;mic mica,Fe-hematite, blky to sub fiss, silic,mod wind to v hd,bdg-med to thk parallel,no ø or-permeability,no-shows;occ SLTST incl,mica abdnt,(biotite),wind-hd,sil. non calc,v fn lams.

SHALE:to @700m. gy/gn,gy,gy-blk, silty,earthy,occ-smth,pyr,mic mica, sub fiss,silic,frm-hd-w ind,thin to med bdg,no ø or perm intbd w/SLTST:gy-blk,shaley,mic mica sil,w ind,fn-med bdg,no shows.

to 728m;int/bdd,pred Sandstone,vf-occ f, lt gy-m gy,v silic, mica,non calc,v tight ripple-wavy-x strat, v hd-w ind,no shows; Siltstone;lt -m gy, occ dk gy,gy/grn, also v silic,aren, pyritic,calcitic i/p mod w ind-hd,v mica, spkld,aren grdg to vf silic sst a/a. Shale;dk gy-blk,gy, v f lam-v thin bds, smth-rough/ethy,v micaceous,breaks easily along shale bdg planes,dense i/p,sub fiss-platy,fm-hd.

towards 720 becomes vf bedded+lams;pred more SANDSTONE:a/a, lt gy-gy,v silic,occ calc,still pred vf-more fine gns;some x bdg+x strat-vert bdg+slup structures i/p;sst is felds-qtzose,v [illegible] no flur or shows.

SANDSTONE:to 745m. lt gy-gy,lt gy/grn, v fn-fn gr,mod to w srtd,sub ang-sub rnd,fldsp-alter flds incl,cly,dolomite, calc ip,qtzse-lith, abdnt mica,cmt sil sli calc,mod w ind-hd,v fn-thn lams, nil ø-or perm,no-shows;intbd w/SHALE med gy,dense,blky-



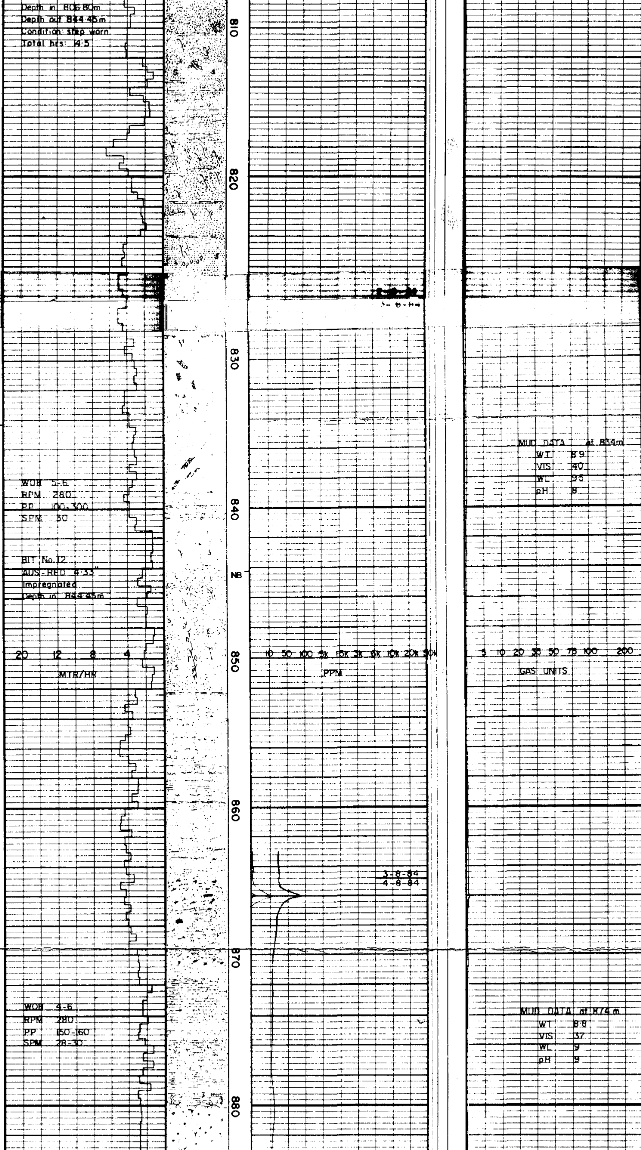
fiss,mod w ind-hd, mica,fn lams to thn bdg;intbd w/SLTST dk-med-lt gy,mica, gdg to vfn Sst,all x-strat,rpple,rare-x-bdg.

SHALE:745m to 753m med-dk gy,gy/gn/brn v smth,occ silty, fiss-plty,pyr,mic-mica,silic,w ind-britt,med-thk bdg, no ø or perm,no-shows,intbd w/SST/SLTST a/a.

@753 to 768m. pred SANDSTONE:lt-gy/gy,v fn-fn gr, w srt,sub ang,pyr ip,sli calc,dolom, fldsp,qtzse-lith, v silic,w ind,thn-lams to thn bd,v-low-nil ø,no perm, minor rpple,X-strat intbd w/SHALE;med gy,sub fiss,pyr,mica cly,smth-silty,sil, frm-hd,occ sft,thn lams-thn bd,bec thk to 768m,intbd SLTST. a/a. NB;worm burrowing from 760m. from 770-774m;int/bdd vf Sandstone, lt gy,felds,silic, sli calc,mica;and silty Shale;lt gy-med/dk gy,mica,hd, smth,slickenside. to 777m;pred a/a, major slump,fract, mvmt,calcite veins +infill,microfault to 784m;SHALE w/ minor sst/sltst bd silty,gy-grn,gy-dk gy,grd to clyst,sm-gritty,mic abdt, hd-dense i/p. @784-785 finely bd vf Sandstone,lt gy crm,calc clay mtx, hd,no shows. from 788m;numerous worm burrowings;in-t/bdd siltstone/ vf sst+shale bds-lam,pred a/a;minor fract,slump mvmt, lt-m/dk gy,silty, shale;sltst pred.

SHALE:794m-803.5m. med-dk gy,lt gy,smth to silty,sub fiss, cly ip,pyr,mica, mod-w ind-occsft,med tothn bd-thn lams, sil;intbd w/SLTST: dk gy,shaley,blky, abdnt mica,sil,thn lams,mnr X-strat, occ SST.

SANDSTONE:@803-813m lt gy-wh-crm,vfn-fn -med gr,mod-fr srt, sub ang-sub rnd,mica



alt flds,occpyr-abdnt qtzse,v silic,hd-w ind,sphides,occ Sh, blk-dk gy,mica;occ fracs,med qtz xls, calc,abdnt Cu-pyr.

@813m-818m;Sandstone a/a,med-vfn gr,v sil v w ind,wh-lt gy.

SANDSTONE:818-823m. med-fn,occ c gr,pr-mod srt,qtzse-liths, v silic,w ind,hi-fracd,calcite-dolomite occ qtz xls,abdnt-pyr.

SANDSTONE:823-830m. a/a,fn-med gr,less fracs,silty ip,pred [illegible] ip,[illegible] [illegible] bdr,no shows.

SANDSTONE:830-840m. crm-lt gy,fn-occ -med gr,mod to w srt, sub rnd-rndd,qtzse, sub fldspathic,silic cmt,ripple,Xstrat, lams,bdg-v thk,ø-pr to nil,sme in fracs, qtz filled fracs, pyr w/tr chalco-pyr, galena @838m.

SANDSTONE:to 847m. a/a,fn-occ med gr, sme wh cly mtx,sil cmt,rpple,X-lams, occ slup structures, horiz sil lams,sil sltst lams.

SANDSTONE:to 852m. lt gy-gy/blue,med gr,mod-pr srt,sub-rnd-sub ang,qtzse, flds,gy/gn liths,v silic,v hd-w ind,v pr-nil ø,qtz vns,calcite,v hd.

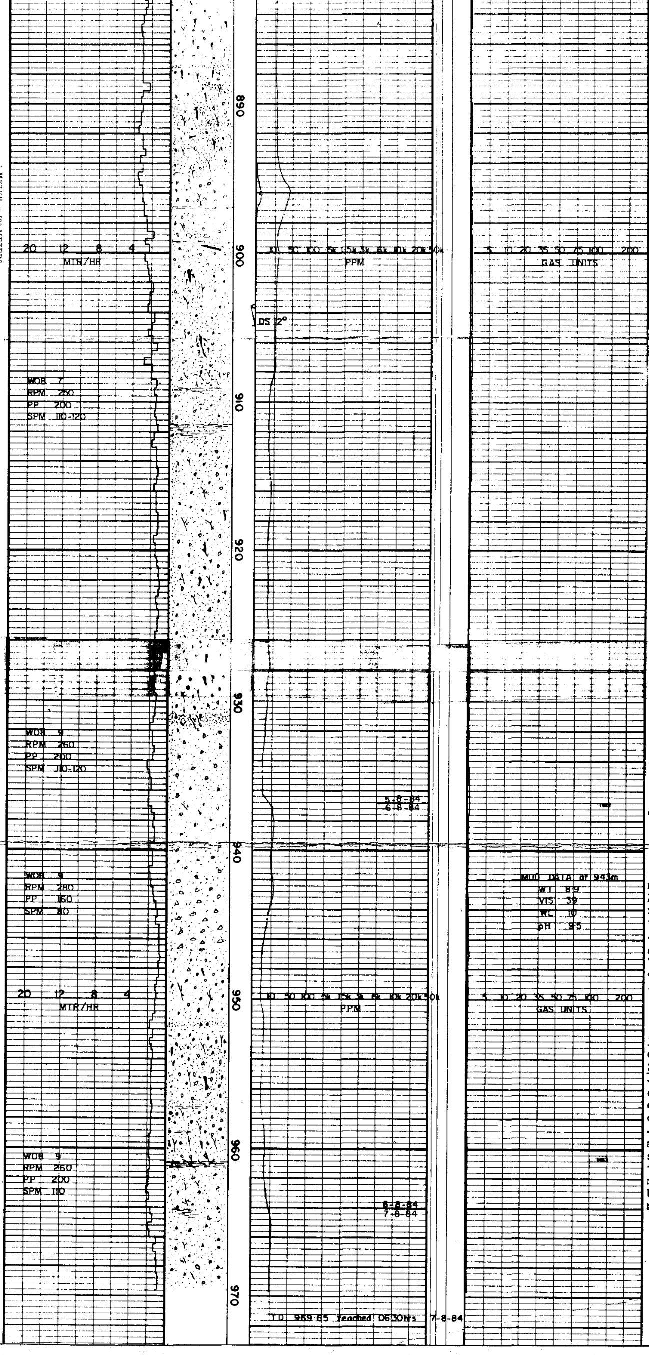
SANDSTONE:lt gy-crm, pred fn gr,occ med, s rnd-s ang,qtzse-clr,wh mtx,sme sil, w ind,rpple,X-lams, thk bd,v pr ø:intbd w/SHALE:med gy,silty ip-earthy,mica,pyr, mod hd,thn lams to med bd,no shows.

@860 to 865m. Sandstone;a/a,pred-fn gr,sub ang,pyr, lith,qtzse,v sil, intbd w/silty Shale.

@865m to 871m. SST; a/a,bec less edg to pred silty-SHALE:med-dk gy,also cly/Shale clasts,sft-frm,mica,silty.

to 880m;int/bdd SST lt gy-wht,vf-f gr, thin bds+lam,mica; SLTST,m-dk gy,aren mica abdt i/p,pyr, sil,mod ind;and SH, m-dk gy,silty,smth-ethy,mic mica,fm-v hd:@880m bdg deformed+min x-bdg,worm burrows.minor slump

SANDSTONE:from 880m



low grade meta,vc-gran/pbbl;qtzose-smky-lt gy/gy with grn-yell/grn chlor, pred non calc mtx; silic i/p,micaceous qtz+calcite veins; fract,rare pyr,v minor shale-silty bands+occ clasts; bec grner+blker towards 900m,occ alt felds incl,grn-blk liths/mtx,v hd-v w ind-occ britt;no ø, no shows.

from 900m:SANDSTONE a/a,grdg to conglom with more c-vc gr, bec grner,+more blk incl(sulphates?), fract+calcite veins more pred,no shows.

SANDSTONE:to 955m. low grade metamorphosed SST;c-vc gr, pbble-conglom,lt-gy-crm-gy/grn,qtzse,smky,w/chloritic gy-grn,grn mtx,alt fldsp ip,abdnt qtz, incl in veins,calcite ip,~~micaceous~~, talcy-smooth text, inclay mtx,silic, non calc,v w ind-v hd,massive bded, no ø,no permeability,no shows; -becoming less gy-grn (chloritic)to 955m. -occ med to fn gr intervals,fn lams-thn bded.

From @950m,low-grade metamorphosed-SANDSTONE; a/a. -becoming more fractured,incr gy in colour,fracs-55-60° calcitic-dolomitic. -occ SHALE intervals,gy-dk gy,blky-sub fiss,siliceous, talcy text,cly,hd-mod hd-sft,pred thn bdd,no ø,or perm, no shows.