PR95-60

COLIN HIGGINS
&
ASSOCIATES
PR95-60
[redacted]

WELL : EAST MEREENIE 37
SPUD DATE : 27/05/95
DEPTH LOGGED
FROM : 50m **TO** : 1600m
DATE LOGGED
FROM : 30/05/95 **TO** : 18/06/95

MUD LOGGING ENGINEERS
1. M.HOBBY
2. M.PURVINS
3. K.RATMAN
4.

COMPANY : SANTOS LTD
RIG : MEREENIE RIG#1
FIELD : AMADEUS BASIN N.T.
STATE : N.T.
COORDINATES : 24°00'31.4"S
: 131°36'14.23"E
ELEVATION G.L. 725m
K.B. 731m

LITHOLOGY & ENGINEERING SYMBOLS

▨ SST : COARSE GRAIN SANDSTONE	▨ SST : VERY FINE GRAIN	▤ LST : LIMESTONE	▨ DOL : DOLOMITE ▨
▨ SST : MEDIUM GRAIN	▤ SLST : SILTSTONE	■ C : COAL	G GLAUC : GLAUCONITE
▨ SST : FINE GRAIN	▤ CLY/CLYST : CLAYSTONE	▦ ANHD : ANHYDRITE	◆ PY : PYRITE
		▤ CARB : CARBONACEOUS	⊛ FOSS : FOSSILS

▲ CASING SHOE
Ꝟ DRILL STEM TEST INTERVAL
▮ CORE INTERVAL
⫶ PERFORATIONS

ABBREVIATIONS

NB : NEW BIT
CB : CORE BIT
WOB : WEIGHT ON BIT
RPM : REVS PER MINUTE
SPM : STROKES PER MINUTE
PP : PUMP PRESSURE

CO : CIRCULATE OUT
NR : NO RETURNS
DS : DEVIATION SURVEY
WT : WIPER TRIP
LAT : LOGGED AFTER TRIP
POH : PULLED OUT OF HOLE
LCM : LOST CIRCULATION MATERIAL

DST : DRILL STEM TEST
REC : RECOVERY
TG : TRIP GAS
CG : CONNECTION GAS
SWC : SIDEWALL CORE
GTS : GAS TO SURFACE
NGTS : NO GAS TO SURFACE

GCW : GAS CUT WATER
SGCM : SLIGHTLY GAS CUT MUD
OCM : OIL CUT MUD
OTS : OIL TO SURFACE
NOTS : NO OIL TO SURFACE
BOPD : BARRELS OF OIL PER DAY
BWPD : BARRELS OF WATER/DAY

COND : CONDENSATE
Q : FLOW RATE
RTSTM : RATE TOO SMALL TO MEASURE

MUD DATA ABBREVIATIONS

MW : MUD WEIGHT (ppg)
V : FUNNEL VISCOSITY (sec/qt)
pH :
WL WATER LOSS (ml/30 minutes)
CK : FILTER CAKE THICKNESS (32nd inch)

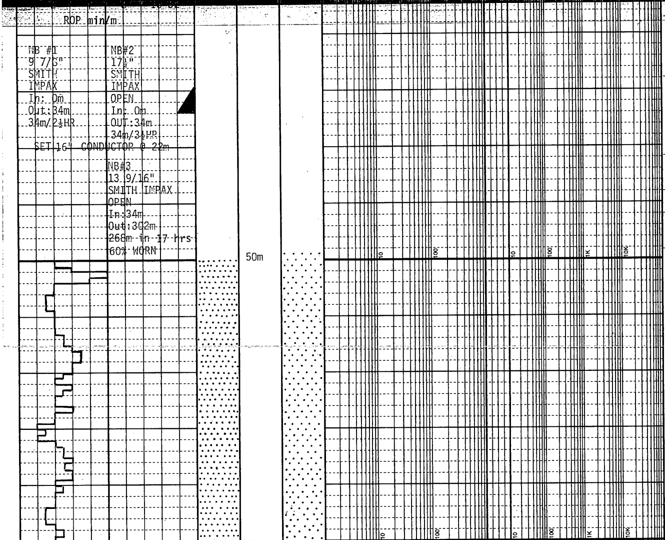
Cl : SALINITY (ppm chlorides)
SOL : SOLIDS (% by volume)
Rm : RESISTIVITY OF MUD at °F
Rmf : RESISTIVITY OF MUD FILTRATE at °F
Rw : RESISTIVITY OF WATER at °F

OPEN/CASED HOLE DATA

HOLE SIZE	HOLE DEPTH	CASING SIZE	CASING SHOE
17 1/2"	34m	16"Cond	
13 9/16"	302m		
13 1/2"	691m	10 3/4"	690.78m
9 7/8"	1340m		
8 1/2"	1600m		

VERTICAL SCALE 1:200

DRILLING RATE (min/m) CALCIMETRY DOLIMETRY	INTERPRETED LITHOLOGY	DEPTH (ft)	OBSERVED LITHOLOGY (%)	TOTAL GAS UNITS 1 unit = 100ppm	OIL SHOW TRACE POOR FAIR GOOD	CHROMATOGRAPHIC ANALYSIS (ppm) C1 METHANE C2 ETHANE C3 PROPANE C4 BUTANE C5 PENTANE C6 HEXANE	LITHOLOGICAL DESCRIPTION MUD DATA DRILL STEM TESTS REMARKS, ETC.



NB #1
9 7/8"
SMITH
IMPAX
In: 0m
Out: 34m
34m/2½HR

NB#2
17½"
SMITH
IMPAX
OPEN
In: 0m
OUT: 34m
34m/3½HR

SET 16" CONDUCTOR @ 22m

NB#3
13 9/16"
SMITH IMPAX
OPEN
In: 34m
Out: 302m
268m in 17 hrs
60% WORN

SPUD DATE: 27/5/95
TIME: 23:00 HR
DRILL 17½" HOLE F/ 0m - 34m W/AIR

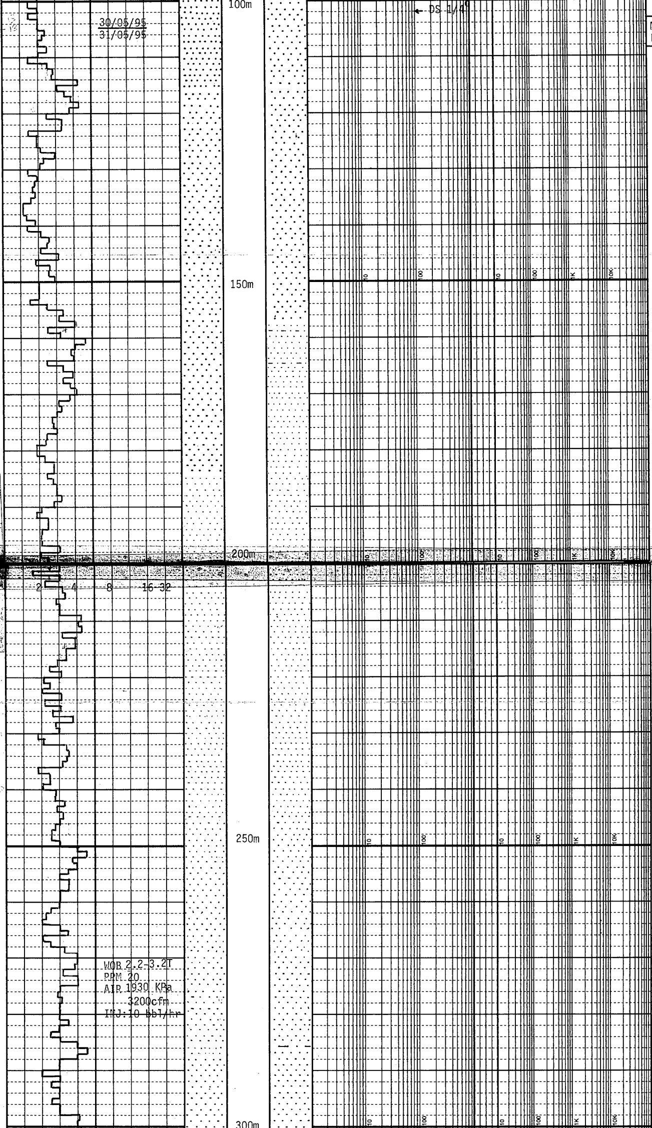
DRILL 13 9/16" HOLE W/ AIR F/34m USING AIR HAMMER

COMMENCE LOGGING AT 50m ON 30/5/95

50m-80m

SANDSTONE: red brn, occ clr, perd med-fn, vfn i/p, lse, sbang-sbrnd, mod-wl srt, pr vis 0, no shows.

80m-150m
SANDSTONE: lt orgn-brn, f-med, sbrn-rnd, pr srtd, lse, mod-gd infr 0, n/s.



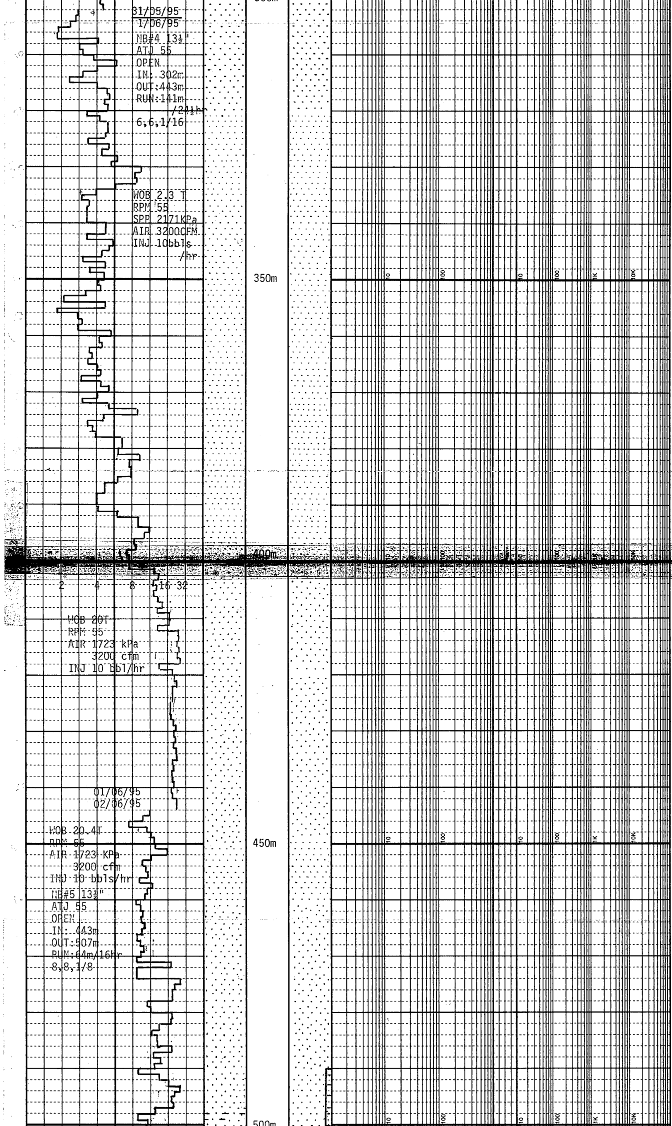
MIST DRILL 13 9/16" HOLE
FROM 105m

150m- 230m
SANDSTONE:lt organ-brn,f-med,sbang-sbrnd,pr srtd,occ frm aggs w/ calc cmt,mod-gd infr 0,n/s.
SILTSTONE(tr):lt organ-brn, frm,micmic,sblky.

130m- 250m
SANDSTONE:organ-brn,lt brn-wh,fri-lse,f-med,pred med, wl srtd,sbang-ang,tr sil cmt,mod-gd vis 0,n/s.

250m-300m
SANDSTONE:orng-red brn, freq clr,fn-vfn qtz grn, ang-sb ang, occ sbrnd, mod-wl cons fri-mod hd, wk sil cmt, pr vis 0, no show.

TRACES SILTSTONE: red brn, sl frm, sblky,mic.



300m-320m
SANDSTONE(type 1):orgn-brn, f-med,pred med,mod srtd,ang sbang,occ lith incls,str sil cmt,hd-v hd,mod vis Ø, no show.
(type 2):clr,lt orgn stnd, med,ang-sbang,wl srtd,lse, gd infr Ø,no show.

320m- 360m
SANDSTONE(type1):pred wh, occ lt orgn,f-med,pred f, wl srtd,sbang-sbrnd,tr sil cmt,frm-hd,gd vis Ø,no show
(type 2):clr,lt orgn stnd, f-med,sbang-sbrnd,wl srtd, lse,gd infr Ø,no show.

360m- 400m
SANDSTONE:lt orgn-pnk,f-med,sbang-sbrnd,mod-wl srtd ,lse,mod-gd infr Ø,no show.

400m-430m
SANDSTONE: wh-clr,v crs-med prly srt,sbrnd-wl rndd crs qtz grn, ang-sband med grn, mod cmt,sil cmt,fri-sl hd, hd i/p,pr vis Ø, no show

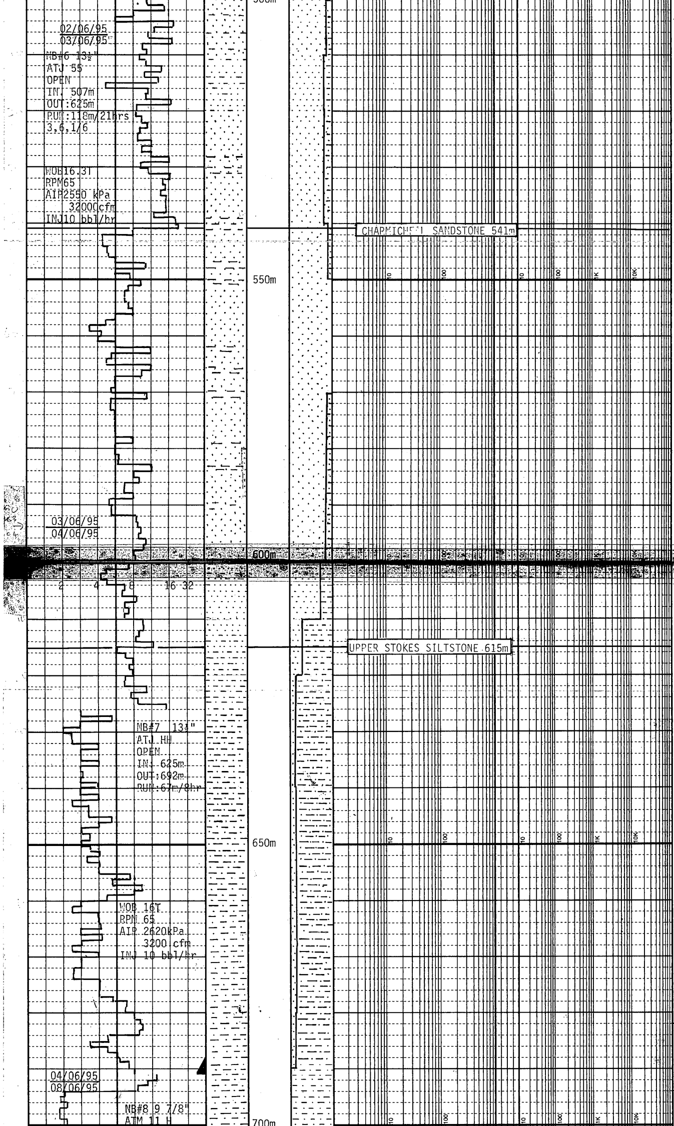
430m- 444m
SANDSTONE:trnsp-trnsl, occ orng tint,wl rndd crs grn, sbang-sbrnd med grn,occ elong, mod wl cmt, succ,fri -hd, pr vis Ø, no show.

444m-480m
SANDSTONE:clr-lt orgn,f-med ,occ crs,pred med,sbang-sbrnd,mod-pr srtd,lse,fri i/p,tr sil cmt,tr brn arg mtx,mod infr Ø,no show.

480m-500m
SANDSTONE:trnsp-trnsl wl wl consl qtz grn, occ rnd clr qtz grn, occ yel,orng, pred med,mod srt,ang-sbang, wl cmt,hd,succ,pr visØ, no show.

510m- 520m
SANDSTONE: A/A, inc elong

SILTSTONE:brn-rd,v aren,fri frm, sl hd i/p



520m-541m
SANDSTONE:clr-lt brn,f-med, occ sbrnd clr crs grns,pr srtd,lse-fri,tr sil cmt,mod infr Ø.no show.
SILTSTONE:lt brn-lt grny gy ,arg,micmic,sft-frm,sbfiss-sblky.

541m-570m
SANDSTONE:trsnp-trnsl,orng, med-fn,mod srtd,ang-sbang, sbrnd i/p,wl cmt,sil cmt. fri-hd,pr vis Ø,no show.
SILTSTONE:orng-brn,aren,frm sblky,fiss.

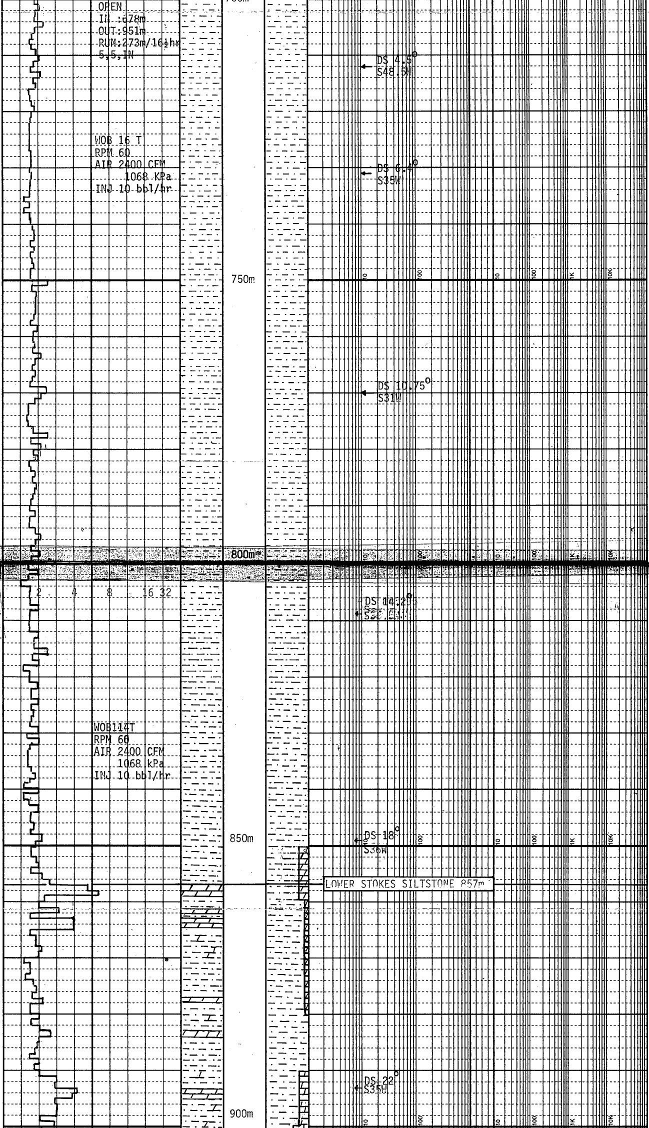
570m-615m
SANDSTONE:cl-orng,med,occ fn,wl srtd,sbrnd-rnd,wl cmt,arg mtx,pr vis Ø,no show.
SILTSTONE:a/a.

615m-650m
SILTSTONE:brn,grny gy,arg, frm-hd,sblky-sbfiss.
SANDSTONE:trnsl-lt gy,med-crs,wl srtd,ang-sbang,sil cmt,tr-mod arg mtx,frm-fri, pr vis Ø,no show.

650m-700m
SILTSTONE:rd brn,grny gy, arg, aren i/p,frm-hd,blky-sblky,sbfiss.
SANDSTONE:a/a.

DRILL 13½"HOLE TO 691m.SET 10 3/4" CASING AT 690.78m.

ROTARY DRILL 9 7/8" HOLE W/ MIST F/ 691m.



700m-750m
SILTSTONE(type1,60%):rd-brn,arg,micmic,tr vf qtz grns in mtx,frm,sblky-sbfiss.
(type 2,40%):grny gy,sil, micmic,tr glauc,hd,sblky.

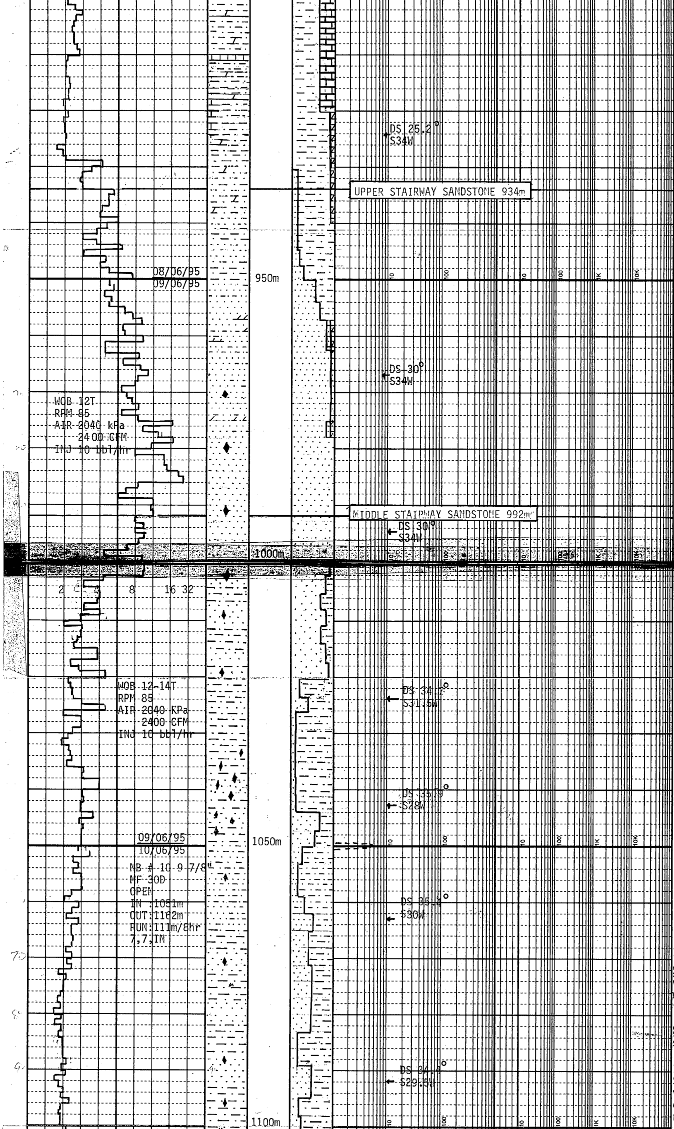
750m-800m
SILTSTONE:a/a,grny gy SLTST dcr w/ dpth.

SILTSTONE: A/A,

800m-857m
SILTSTONE:dk brn, gn-gy i/p aren, brit-hd,sblky,sbfiss.

857m-890m
SILTSTONE:rd brn, aren,mmic plty,hd,sblky,sbfiss.
DOLOMITE:brt rd-pink, cyxln brit-v hd,blky

NOTE:ABRUPT CHANGE IN COLOR OF SLST F/RD BRN T/GY @390m
890m- 920m
SILTSTONE:dk-gy,frm-hd,v hd i/p,blky.



LMST:gy-lt gy, blky, cyxln, occ slty, grad to dol SST I/p, dull min fluo, hd-v hd

920m-930m
SILTSTONE: A/A, inc calc, inc hd.
LIMESTONE:a/a

930m- 950m
SANDSTONE:wh-buff,occ trnsp fn-vfn agg qtz grn, v wl srt, ang-sbang, dol cmt, wl cmt, hd, no vis Ø, no show.

REAM F/ 950m-1050m

950m-969m
SANDSTONE:wh,lt gy,vf-f,wl srtd,sbang-sbrnd,mod dol cmt,frm-hd,pr vis Ø,n/s.
SILTSTONE:grny gy,arg,cmn vf qtz grns inc,frm-hd, sblky,fiss i/p.
DOLOMITE:off wh,lt brn,mxln -crptxln,hd,sblky-sbfiss.

969m-992m
SANDSTONE:wh,lt gy,vf-f, wl srtd,sbang-ang,str sil cmt,hd,pr vis Ø,n/s,tr pyr cmt.
SILTSTONE:med gy,brny gy, hd,micmic,sblky.

992m-1020m
SANDSTONE: trnsp, fn-v fn, mod srt, ang, wl cmt, sil cmt, pyritic, fri-hd, no vis Ø, no show.

SANDSTONE: A/A, inc slty mtx.

1020m-1050m

SILTSTONE:dk gy, occ gy, aren, tr pyr, hd, sbfiss, sbblky.

SILTSTONE: A/A, abnt pyr.

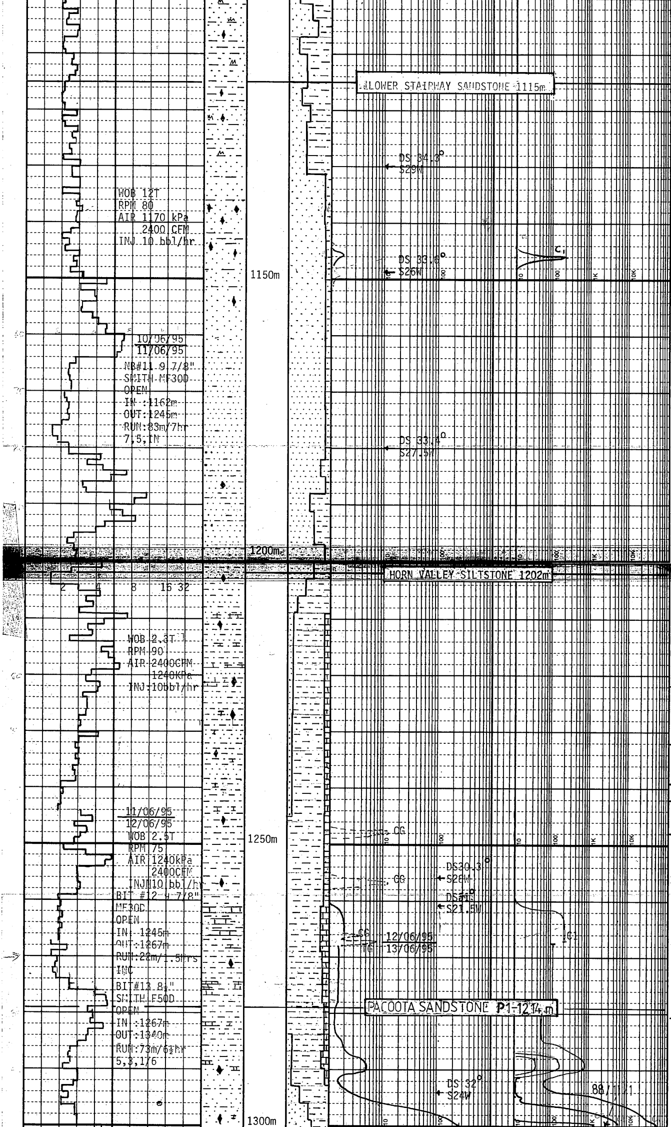
1050m- 1070m
SILTSTONE:med gy,dk gy,arg, micmic,hd,sblky-sbfiss.
SANDSTONE:lt gy,off wh,vf-f,wl srtd,sbang-ang,str sil cmt.pr vis Ø,nO show.

1070m-1090m

SANDSTONE:wh, frstd i/p,fn-vfn,suc,mod srt,and-sbang, wl cmt, silcmt, pyritic, fri-hd,no vis Ø, no show.

SILTSTONE:dk gy,mmic,hd, sblky-sbfiss

1090m-1115m
SANDSTONE:dk gy-off wh, fn-v fn, mod srt, v wl cmt,sil cmt, v pryitic,fri,occ hd, nil vis Ø, no show.



SILTSTONE:med-dkgy,aren, sb-blky, sbfiss, tr pyr, mmic.

1115m-1134m
SANDSTONE:clr,frstd,lse,med-v fn,sbang-sbrnd, occ sbrnd crs grn, mod-wl srt,wl cmt i/p, abnt pyr, mod hd -hd, occ fri,mod vis Ø, no show.

SILTSTONE: A/A, inc aren, sli disp.

1134m-1179m
SANDSTONE:clr,frstd,wh,lse med-v fn qtz grn,mod-wl srt, wl cmt i/p,abnt pyr,mod hd-hd,occ fri,mod vis Ø, no show

SANDSTONE:clr-wh,occ frstd, gy,fn-v fn aggs sbang grn, lse crs sbrnd grn,prly srt, sl dol mtx,tr pyr,hd-vhd,pr vis/inf Ø,no show.

INCREASE IN CAVINGS.

1179m- 1202m
SANDSTONE:lt brn,lt gy,vf-f,occ med-crs,clr,frst lse grns,wl srtd,ang-sbang,str sil cmt,wh arg mtx,frm-hd, pr vis Ø,no show.
SILTSTONE:med-dk gy,aren, micmic,frm-hd,sblky.

1202m-1209m
SILTSTONE:med gy,dk gy,aren ,micmic,carb spks,frm,fiss-sblky.
SANDSTONE:lt brn,off wh,f, wl srtd,ang-sbang,wl cmt w/ sil cmt,pr vis Ø,no show.

1209m-1245m
SILTSTONE:med gy,arg,micmic,tr carb spks,frm-hd, sblky-fiss.
SANDSTONE:brn,vf-f,ang-sbang,wl srtd,dol cmt,abund lt brn slty mtx i/p,pr vis Ø,no show.
LIMESTONE:lt gy,lt brny gy, hd,mxln,aren i/p,sblky.

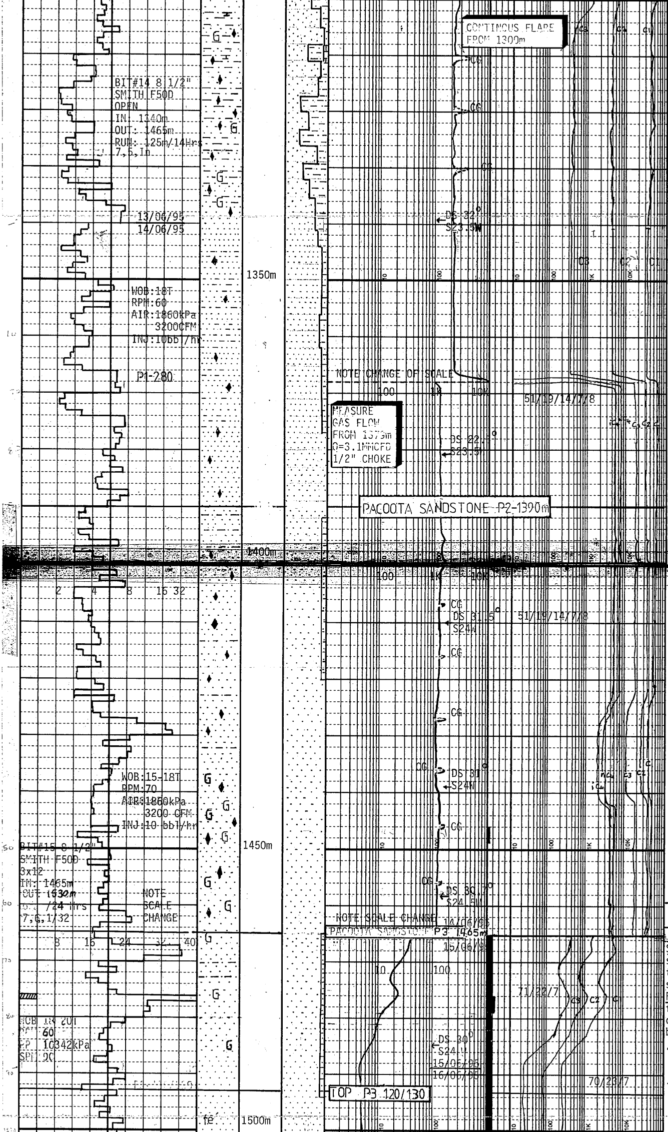
1245m RUN LOGS: SUIT #1
RUN 1: FMS4-GR-AMS

REAM TO BOTTOM F/1223m
T/1245m W/ BIT #12

1245m-1268m

SILTSTONE: dk gy,sl aren, mmic, frm-mod hd,blky,sbfiss

LIMESTONE:lt gy, aren, cxyln blky-sblky.
1268m-1284m
SILTSTONE:med gy,dk gy,micmic,tr carb spks,frm-hd, fiss-sblky.
LIMESTONE:grny-brn,hd,mxln, blky.
1284m- 1298
SILTSTONE:med gy,arg,micmic ,tr-mod carb spks,hd,sblky-sbfiss.
SANDSTONE:lt brn,fn-crs,ang-sbang,pr srtd,str sil cmt, tr wh arg mtx i/p,hd,pr vis Ø,no show.



1296m-1310m
SANDSTONE:pred clr,wh,frstd i/p,crs-med,ang,occ sbang, wl cmt, sil cmt,sl-mod hd, mod vis Ø, no show.

1310m-1340m
SANDSTONE:clr,wh i/p,med-fn, sbrnd med grn,sbang-ang fn grn,mod wl srt,fri,lse,abnt pyr aggs,hd,occ sli fri,pr vis/inf Ø,no show.
SILTSTONE:dk-med gy,hd,mmic, fiss,calc i/p,pyr,grad to SHALE i/p.

1340m-1347m
SANDSTONE:trnsl,f-med,pr srtd,sbang-ang,pttd,lse, mod infr Ø,no show.
SILTSTONE:med gy,arg,mic-mic,frm-hd,fiss-sblky.

1347m-1356m
SANDSTONE:clr-trnsl,med-crs ,wl srtd,sbang-ang,lse,gd infr Ø,no show.
SILTSTONE:a/a.

1356m-1366m
SANDSTONE:clr-trnsl,f-med, mod srtd,sbang-sbrnd,lse, mod-gd infr Ø,no show.
SILTSTONE:a/a.

1366m-1370m
SANDSTONE:clr,occ wh,med-occ crs,mod wl srt,sang-sb rnd, lse, abnt pyr, fr-gd inf Ø, no show.

1370m-1400m
SANDSTONE:clr,med,occ crs, wl srt,ang-sbrnd,v lse, gd inf Ø, no show.

1400m-1425m

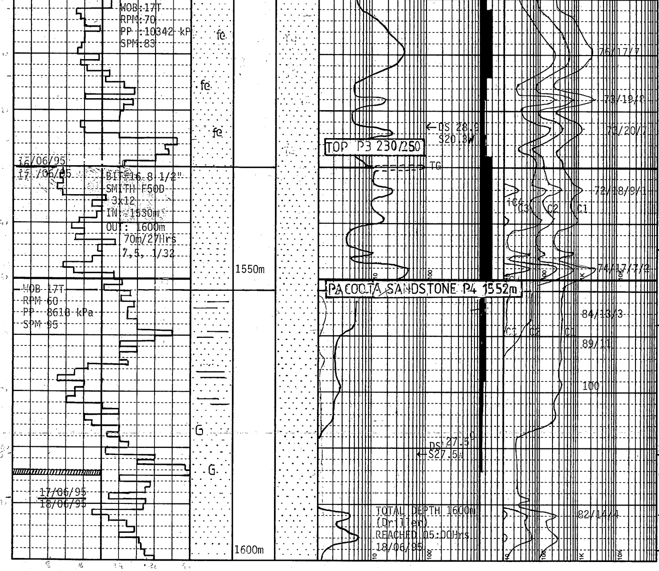
SILTSTONE:dk gy,aren,mmic, brit-hd, v pyritic, sblky, sbfiss.
SANDSTONE:clr, occ wh, med, crs i/p, wl srt, sbang- sb rnd, lse, tr pyr aggs, gd inf Ø, no show.

1425m-1447m
SANDSTONE:clr, fn-v fn, v wl srt, ang, lse, abnt pyr, v hd, mod inf Ø, tr SLST, no show.

1447m- 1465m
SANDSTONE:clr, med-fn, wl srt, sbang-sbrnd,lse, abnt pyr & gc, fair inf Ø, no show.
FLU:@ 1449m: tr-5% pin point flu ,no cut.

DRILL W/MUD F/1465m

1465m-1493m
SANDSTONE:clr, crs-med,mod srt,ang-sbang,wk sil cmt, tr gc, mod vis Ø, tr-mod shows.
FLU:30% dull patchy blu-wh flu w/occ brt pin pts,v wk crsh cut - no cut, tr resid brn ring.
SILTSTONE:dk gy, splintery, frm-hd,sblky-sbfiss.
1493m-1513m
SANDSTONE:mod rd/brn Fe stn inc w/ dpth,trnsl,clr,med-crs,occ fn mod hd aggs,occ -mod com med-v crs,lse,qtz gns,ang-occ rnd,pr srtd,sil



cmt,occ rd slty mtx,pr vis ø,flu a/a.

1513m- 1530m

SANDSTONE:clr, v sl rd-brn tint i/p,crs-med, pr srt, ang-sbang, wl cmt,med aggs, occ lse v crs qtz grn, sil cmt, hd , tr SLST, pr vis ø flu a/a.

1530m- 1552m

SANDSTONE:clr,v lt r[illegible] brn i/p,[illegible],occ [illegible],mod wl srtd,sbang,crs gns rnd unless broken,wk-mod sil cmt,lse i/p,[illegible] FLU: :50%,dl ptchy,blu wh w/ occ mod bri yel wh pin pt,no cut to wk crsh cut,tr res.

MUD DATA @ 1519m

MW 8.8	WL 5.0
FV 55	pH 8.5
PV 12	Cl 34K
YP 13	

1552m- 1584m

SANDSTONE:trnsp-trnsl, lt rd brn-brn, crs-med, mod-wl srt,ang-sbang, wk sil cmt, tr CLYST, fri-hd, pr vis ø FLU:25%, a/a except,no cut, no res.

1584m- 1600m

SANDSTONE:trnsl,lt rd brn, bimodal,pred med,fri-mod hd aggs,sbang,wk-mod sil cmt, pr vis ø,com trnsl,crs-v crs lse,sbrnd-rnd qtz gns,fr inf ø,tr flu a/a.

RUN SCHLUMBERGER LOGS
1)DLL-MSFL-GR-LDL-CNL-NGS-SP
2)FMS4-GR-AMS