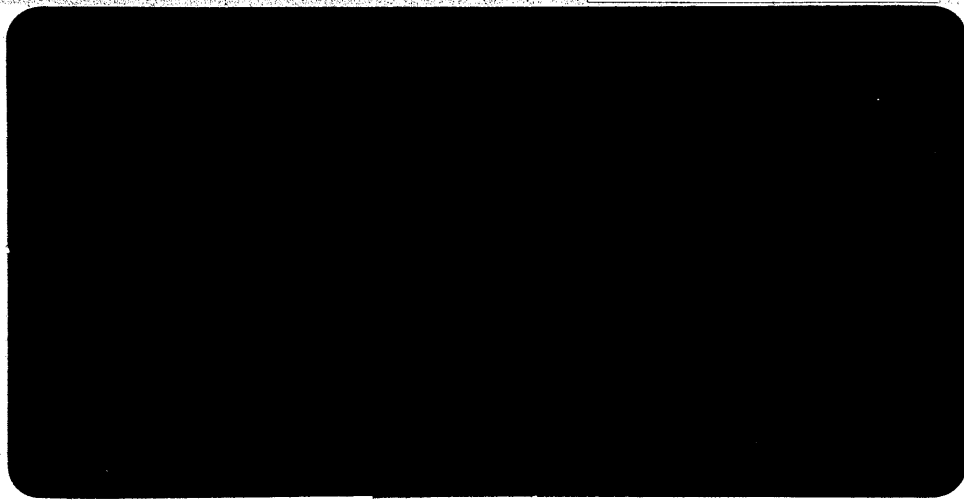


DEPT. NAT. RES & ENV
PE906325



AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

ATTACHMENT No. 1



ATTACHMENT 1

TO WCR SPEKE-1

(W870)

W870

GIPPSLAND BASIN

BASS STRAIT - VIC-P17

SPEKE NO. 1

FINAL TECHNICAL REPORT

16 AUG 1985 W.C.R.

OIL and GAS DIVISION

CH. FOUILLOUT

AAP WELSHPOOL

JUNE - JULY 1982

SUMMARY

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F3i	MAIN CONSUMPTION OF THE WELL
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F5c	DETAILED COMPOSITION OF CASING STRING 13 3/8"
F5c	DETAILED COMPOSITION OF CASING STRING 9 5/8"
F7	BIT RECORD

F3a Bis /10-81		WELL DATA			WELL: SPK 1																														
1) WELL NAME : <u>SPEKE NO. 1</u>			2) IDENT.: <u>SPK 1</u>																																
3) GEOGRAPHICAL AREA : <u>AUSTRALIA</u>			4) GEOLOGICAL BASIN : <u>GIPPSLAND</u>																																
5) FIELD :			6) BLOCK : <u>VIC P17</u>																																
7) PERMIT / HOLDERS :		8) PARTNERS :																																	
<u>VIC P17</u> <u>AUSTRALIAN</u> <u>AQUITAINE</u> <u>PETROLEUM</u> 25%		<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Name</th> <th style="width: 10%;">%</th> <th style="width: 30%;">Name</th> <th style="width: 10%;">%</th> </tr> </thead> <tbody> <tr> <td><u>AUSTRALIAN OCCIDENTAL</u></td> <td><u>25</u></td> <td><u>AGEX PTY LTD.</u></td> <td><u>12.5</u></td> </tr> <tr> <td><u>ALLIANCE RESOURCES</u></td> <td><u>25</u></td> <td></td> <td></td> </tr> <tr> <td><u>CONSOLIDATED PETROLEUM (AUSTRALIA)</u></td> <td><u>12.5%</u></td> <td></td> <td></td> </tr> </tbody> </table>				Name	%	Name	%	<u>AUSTRALIAN OCCIDENTAL</u>	<u>25</u>	<u>AGEX PTY LTD.</u>	<u>12.5</u>	<u>ALLIANCE RESOURCES</u>	<u>25</u>			<u>CONSOLIDATED PETROLEUM (AUSTRALIA)</u>	<u>12.5%</u>																
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9) OPERATOR : <u>AUSTRALIAN AQUITAINE PETROLEUM PTY. LTDL</u>			11) REFERENCE WELLS : Name _____ <u>OMEO NO. 1</u>																																
10) INITIAL STATUS		12) LOCATION COORDINATES																																	
Exploration 1 <input checked="" type="checkbox"/> Development 2 <input type="checkbox"/> Other 3 <input type="checkbox"/>		site Land 1 <input type="checkbox"/> Offshore 2 <input checked="" type="checkbox"/> Swamp 3 <input type="checkbox"/> Other 4 <input type="checkbox"/>		geographical coordinates Latitude <u>38° 30' 34.62" S</u> Longitude <u>147° 37' 11.79" E</u>																															
		reference meridian		U.T.M. coordinates LAMBERT coordinates																															
		Paris P <input type="checkbox"/>		X(m) _____																															
		Greenwich G <input checked="" type="checkbox"/>		Y(m) _____																															
				Z(m) _____																															
SITE		LAND		OFFSHORE																															
Distance RKB/ REF.		77 m																																	
Reference		GROUND		MUD LINE ZERO HYDRO																															
13) DRILLING OBJECTIVES																																			
Objective n°	Formation	Formation tops vertical depth	Departure	Direction																															
1	<u>TOP LATROBE</u>																																		
2	<u>INTRA LATROBE - BLUE</u>																																		
3	<u>" " - PURPLE</u>																																		
4	<u>" " - ORANGE</u>																																		
14) WELL COURSE			15) WAS THE OBJECTIVE REACHED ?																																
Vertical <input checked="" type="checkbox"/> 1 Deviated <input type="checkbox"/> Normal <input type="checkbox"/> Scourse <input type="checkbox"/> <input type="checkbox"/> 2 <input type="checkbox"/> 3			<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>yes</th> <th>no</th> <th>Formation tops vertical depth</th> <th>Departure</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>OBJECTIVE 1</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>1864 m</u></td> <td></td> <td></td> </tr> <tr> <td>OBJECTIVE 2</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>1984 m</u></td> <td></td> <td></td> </tr> <tr> <td>OBJECTIVE 3</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>2086 m</u></td> <td></td> <td></td> </tr> <tr> <td>OBJECTIVE 4</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				yes	no	Formation tops vertical depth	Departure	Direction	OBJECTIVE 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>1864 m</u>			OBJECTIVE 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>1984 m</u>			OBJECTIVE 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2086 m</u>			OBJECTIVE 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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OBJECTIVE 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																	
16) RESULTS			ABANDON																																
1 <input type="checkbox"/> Oil production 2 <input type="checkbox"/> Gas production 3 <input type="checkbox"/> Water production			4 <input type="checkbox"/> Shows but no reservoir 5 <input type="checkbox"/> Injection well 6 <input checked="" type="checkbox"/> Dry well																																
			7 <input type="checkbox"/> Temporarily plugged 8 <input checked="" type="checkbox"/> Plugged and abandoned 9 <input type="checkbox"/> Completed																																
17) DATES (·)			18) WELL END (··)																																
BEGINNING		END																																	
Well <u>13/6/84</u>		Drilling <u>5/7/84</u>		Total depth <u>2722 m</u> Vertical depth : _____																															
Drilling : <u>14/6/84</u>		Well <u>10/7/84</u>		Drilled footage : <u>2695 m</u> Lost footage : _____																															
				Total departure : _____ Direction : _____																															
TOTAL DURATION			19) COSTS																																
{ Drilling : <u>22</u> days { Well : <u>27.5</u> days			Before drilling _____ CURRENCY UNIT During drilling <u>SEE F3s bis page 4</u> After drilling _____ Total well _____																																

Imp. 4888 A SNEAP1 - RGM 965.004.011

Area management : AUSTRALIAN AQUITAINE PETROLEUM PTY LIMITED

Located : MIDLAND HIGHWAY, WELSHPOOL. VICTORIA 3966 AUSTRALIA

Land Base : SAME AS ABOVE

Located : SAME AS ABOVE

• SERVICE COMPANIES

- | | | | |
|------------------------|------------------------------|-----------------------------|----------------------------------|
| 1 - Mud | : <u>BAROID</u> | 13 - Under water T.V. | : _____ |
| 2 - Mud logging | : <u>GEOSERVICES</u> | 14 - Testing | : _____ |
| 3 - Production tests | : _____ | 15 - Well head | : <u>CAMERON</u> |
| 4 - Fishing | : _____ | 16 - Depollution | : _____ |
| 5 - Positioning | : <u>DECCA SURVEY</u> | 17 - Air transportation | : <u>LLOYD AVIATION</u> |
| 6 - Electrical logging | : <u>SCHLUMBERGER</u> | 18 - Sea transportation | : <u>AUST. OFFSHORE SERVICES</u> |
| 7 - Meteo | : _____ | 19 - Turbodrilling | : _____ |
| 8 - Diving | : <u>SOLUS OCEAN SYSTEMS</u> | 20 - Surveying | : _____ |
| 9 - H.P. Pumping | : _____ | 21 - Production logging | : _____ |
| 10 - Bulking | : _____ | 22 - Inspection of tubulars | : _____ |
| 11 - Casing | : _____ | | |
| 12 - Cementing | : <u>DOWELL</u> | | |

Beginning of well = first moving in date (if this date is known)

Beginning of drilling = spudding date, after driving or cementing of the conductor pipe on fixed platforms

End of drilling = date of last bit pulling out or end of electrical logging operations, or pressure surge at the end of production casing cementing operation

End of well = end of well plugging operations laying down included or end of completion

** - Depths to be calculated from the rotary table

- Drilled footage: distance RKB/ground (or mud line) not included, but side tracks resulting from fishing included

- Lost footage resulting from fishing or course modification without changing the geological objective. Should the geological objective vary, well name or number will change, and the previous well drilled footage is not considered as a lost footage

- Except change in geological objective requiring a side track, the formula is: Drilled footage - Lost footage = Total depth - Distance RKB/ground

(A) - WELL

OPERATOR :

Name : SPEKE 1

Country (3) [REDACTED]

Symbol(1) [REDACTED]

Contractor [REDACTED]

Field (2) [REDACTED]

Rig [REDACTED]

Status [REDACTED] Location [REDACTED] Trajectory [REDACTED]

Max. deviation (in degrees) [REDACTED] Type of drilling unit [REDACTED] Result [REDACTED] Well condition on rig release [REDACTED]

(4) (5) (6) (7) (8) (9)

DATES (Y/M/D) (10)

Beginning of the well : 13.06.84

Elevation RKB/land or sea-bed (m.s.l.) [REDACTED] m

Spud date : 14.06.84

Water depth, off-shore (m.s.l.) [REDACTED] m

End of drilling period : 7.07.84

Total depth (11) from RKB [REDACTED] m

End of the well : [REDACTED]

Meters drilled (12) [REDACTED] Meters lost (13) [REDACTED]

Drilling duration (15) D : [REDACTED]

Drilling efficiency (14) : m/day 115m/day m/month 3452 m

Well duration (16) D : [REDACTED]

Will the well be re-entered ? NO

(B) - RIG DESCRIPTION (17)

ELECTRIC TRANSMISSION

Comments on rig and equipments performance :

Equipment description (18) :

Pumps : 2 OILWELL A-1700 PT TRIPLEX

B.O.P. 18 3/4 x 10,000 BOP STACK DUAL CAMERON

2 HYDRIL 18 3/4 x 5,000

Drilling unit description (19) : SEMI SUBMERSIBLE

8 ANCHOR LINES : CHAIN 2 3/4"

(C) - PHASES (20)

METERAGE DRILLED (21)

METERAGE ENLARGED (22)

METERAGE CORED (23)

CASINGS DATA (25)

Ø		Depth		Rotary		Downhole motor		Ø		m		Ø		m		Ø		m		Ø		Setg. depth	
26"	228	26"	151														20"	218					
17 1/2"	1032	17 1/2"	804														13.3/8"	1020					
12 1/4"	1756	12 1/4"	724														9.5/8"	1744					
8 1/2"	2772	8 1/2"	1016																				

Total [REDACTED]

Rotating hours (26) [REDACTED]

Av. penetr. rate (m/h) 11.44 m/hr

Number of cores cut

[REDACTED]

(24)

The shaded spaces must be filled in according to the instruction sheet.

(D) - TIME ANALYSIS (27)

TIME DISTRIBUTION		HOURS	TOTALS		
			in hours (and %)	in days (and %)	
MOVING	D1 - Moving, rig-up, tear down	5 4 0 0	5.40 (5.15 %)	1.42	
	D2 - Waiting on weather				
	D3 - Other waiting				
DRILLING	Drilling-casing	F1 - Drilling (making new hole)	2 3 5 5 0	46.83 (69.83 %)	
		F2 - Drilling trips	5 3 0 0		
		F3 - Miscellaneous drilling operations	3 0 0 0		
		F4 - Casing and cementing	1 4 2 0 0		
	Formation evaluation	G1 - Cutting core		8.60 (13.04 %)	73.42 (85.22 %)
		G2 - Coring related operations and circulations for samples	3 5 0		
		G3 - Drill stem testing and related operations			
		G4 - Electrical logging and related operations	8 2 5 0		
Interruption of operations	A1 - Fishing and repair on casing string		1.55 (2.35 %)		
	A2 - Losses and kicks, mud conditioning				
	A3 - Waiting on weather	1 5 5 0			
	A4 - Other waiting				
COMPLETION PLUGGING	C1 - Completion, stimulation and production testing		6.35 (9.63 %)	2.64	
	C2 - Abandon, pulling casing	6 3 5 0			
	C3 - Waiting on weather				
	C4 - Other waiting				
TOTAL TIME ON THE WELL			6 5 9 5 0	27.48 D	

(E) - MUD AND CEMENT (28)

(F) - STUCKING - FISHING (29)

Ø Phase	Type of mud	Density		Total volume mixed (m³)	Quantity used (T)	
		mini	maxi		barite	L.C.M.
26"	BENTO + SEAWATER	1.00	1.02	329	9	
17½"	BENTO + SEAWATER	1.05	1.15	669	16	
12¼"	LOW SOLIDS POLYMER	1.04	1.12	668	58	
8½"	LOW SOLIDS POLYMER	1.10	1.15	265	7	
TOTAL				1961	90	

N° : Total time : _____ days

Comments on the drilling operations :

(Attach special reports if necessary)

Quantity of CEMENT used (T)

for casings for lost circul. for plugging

15.7

(G) - CASINGS USED

Ø	Type (30)	Weight or thickness (31)	Thread or connection type (32)	Grade (33)	Sour service ? (yes-not)	COMMENTS	Length m	Weight T
		23	CLAM	K56	NOT		144	
		68	B7C	K55	NOT		946	
		17	B7C	N80	NOT		1668	

(H) - DRILLING AND CORING BITS (34)

Ø		ROCK BITS		DIAMOND BITS	CORE HEADS	OTHER BITS
		tooth	insert			
26"	Number	1 U				
	Meterage	151				
17 1/2"	Number	1 U + 1				
	Meterage	804				
12 1/4"	Number	3				
	Meterage	724				
8 1/2"	Number	4	3			
	Meterage	315	701			
	Number					
	Meterage					
	Number					
	Meterage					
TOTAL	Number	10	3			
	Meterage	1994	701			

(J) - WELL CONDITION on rig release (36)

Abandoned { yes no } Completed { yes no }

Depths at wich casings are cut-off and tops of cements in annulus ?

9.5/8" CUT AT 130 m (970m)

13.3/8" CUT AT 120 m (420m)

20" CUT AT 87m (SEABED)

Depth and size of tubing -

Depths of perforations and packers ----

(i) - DRILL STEM TESTS during drilling period (35)

Type	Hole condition	N°	Interval tested		Failure cause	Fluids recovery	
			from	to		Nature	W. bal.

Depths of cement plugs and bridge plugs (felt or pressure tested ?)

CP NO.1: 2100 - 1980 m

CP NO.2: 1800 - 1700 m (1000psi)

CP NO.3: 160 - 90 m (400 psi)

Well head left on ?

NO

Transponder left on site { yes no } Type : _____

Fold here and send the original to « See Controle, Dt Forage, DPRO - PARIS ». Make photocopies and add operation reports F4 to F7 to constitute the Final Technical Report, to be sent to usual customers.

(K) - WELL COST (37)

ITEMS		COSTS (39) (currency used : AUST \$ x 10 ³)	TIME (in day)	COST PER DAY
ref.				
100	Location and access Post drill survey			
200	Move in and out - Rig up - Tear down		1.42	
310	Rig, during drilling period			43.9
320 - Consumables				
321	Fuel, gas, elect.. lubric., water			
322	Drilling and coring bits			
323	Mud products			
324	Cements and additives			
325	Casings and accessories			
326	Wellhead and accessories			
327	Other consumables			
		Total consumables 791		
		Total drilling cost		
330 - Rental and services			23.42	138.7
331	Electrical logging			
332	Cementing - pumping			
333	Drill-stem testing			
334	Mud logging, MWD			
335	Mud engineering and equip.			
336	Directional drilling			
337	Other rental and services			
		Total rental and services 606		
340	Supervision on site			
350	Transportation			
400	Completion - Plugging (38)		2.64	89
500	Insurances			
600	Operator overhead Running costs			
NOTE :				
THIS COST IS NOT FOR ACCOUNTANCY PURPOSE		Total well cost	27.48	182
Rate of conversion 1 A\$ = .8		Budget amount		

COMMENTS :

REF. 200 = MOB (K\$ 395) ANCHORING AND PREPARATION FOR DRILLING (K\$ 85). SECURE DECK AND DISANCHORING (K\$ 75). DEMOB (K\$ 295)

REF. 600 = PREPARATION OF PROGRAM (K\$ 50)
BASE COSTS (K\$ 160)
OPERATOR OVERHEADS (K\$ 98)

Drilling Manager

Name : _____

Date : _____

Signature : _____

• AREA •

LAND 1

SEA 2

SWAMP 3

LAKE 4

ALTITUDE : _____

WATER DEPTH : 55 m

DISTANCE FROM BASE : 170 Km

DISTANCE FROM SHORE : 40 Km

• RELIEF

Flat 1

Slightly undulate 2

Undulate 3

Very undulate 4

• SEA CONDITIONS

Calm 1

Medium 2

Strong 3

Very strong 4

• POLLUTION RISK

Low 1

Medium 2

High 3

Very high 4

• WEATHER

Equatorial 1

Hot 2

Temperate 3

Cold 4

Arctic 5

• POPULATION DENSITY

Nil 1

Low 2

Medium 3

High 4

Very high 5

MEANS USED

• NAME OF THE RIG (LAND) : _____

• SUPPORT •

• TYPE

Land 0

Artificial island 1

Jack-up 2

Drillship 3

Semi-submersible 4

Swamp barge 5

Non assisted Platform 6

Assisted platform 7

Tender 8

Other 9

• SEA SUPPORT NAME : DIAMOND M EPOCH

• PROPULSION:

Towed

Self propelled

Power : _____

Speed : _____

• POSITIONING

Mooring

Classical

Dynamic

Head : 251°

• DRILLING EQUIPMENT •

DRAWORK MANUFACTURER OILWELL E-3000 CONTRACTOR : DIAMOND M

• RANGE • Light 1 Medium 2 Heavy 3 Super Heavy 4 Extra Heavy 5

• TRANSMISSION • Mechanical 1 Electric 2 Hydraulic 3

• MAIN PUMPS • Number 2 Total hydraulic power : 3400 hp

• RIG DESIGN • Normal design 1 Compact 2 Portable 3 Helirig 4
Flexorig 5 Automatic racking 6 Winterised 7 other 8

• SURFACE OR SUBSEA EQUIPMENT

B.O.P. STACK	Diameter	API WP
Number 1	<u>18³/₄" CAMERON</u>	<u>10,000 PSI</u>
Number 2	<u>18³/₄" (BAG PREVENTER)</u>	<u>5,000 PSI</u>
Number 3	_____	_____

WELL HEAD	Manufacturer	Type	Diameter	API WP
Number 1	<u>CAMERON</u>	<u>LOW TORQUE</u>	<u>18³/₄"</u>	<u>10,000 PSI</u>
Number 2	_____	_____	_____	_____
Number 3	_____	_____	_____	_____

MUD LINE SUSPENSION: yes 1 no 0 Manufacturer : _____

RISER		Number 1	Number 2
Diameter :		<u>21" O.D</u>	_____
Connector :		<u>C.I.W "RCK"</u>	_____
Buoyancy system :		no <input checked="" type="checkbox"/> 0 yes <input type="checkbox"/> 1	no <input type="checkbox"/> 0 yes <input type="checkbox"/> 1

F3C Blk /10-81

TECHNICAL SECTION

WELL : SPK 1

• OPEN HOLE SECTIONS •		• CASINGS •				
DIAMETER	TOTAL DEPTH	DIAMETER	COMPOSITE STRING DIAMETERS	SHOE DEPTH	HANGER DEPTH	TOP CEMENT IN ANNULUS
26"	228 m	20"		218 m	74 m	SEABED
17½"	1032 m	13.3/8"		1020 m	75.32 m	420 m
12¼"	1756 m	9.5/8"		1744 m	74.95 m	970 m
8½"	2772 m	-	-	-	-	-

F3e Blk /10-81

TIME DISTRIBUTION

WELL : SPK 1

• ITEMS •		INTERVALS : Duration in hours								Duration	
		D	26"	17½"	12¼"	8½"	C	D		% by total duration	
MOVING	D1	Operations	21						13		34:00 5.15%
	D2	Waiting on weather									
	D3	Other waiting									
DRILLING - CASING	F1	Drilling (making new-hole)		11	55	50:30	119				235:30 35.7%
	F2	Drilling trips				10:30	42:30				53:00 8.04%
	F3	Miscellaneous drilling operations			12	10:30	9				31:30 4.77%
	F4	Casing and cementing		57:30	39	44					140:30 21.3%
FORMATION SURVEYS	G1	Cutting core									
	G2	Coring related operation and circulation for sample					3:30				3:30 0.53%
	G3	Drill-stem-testing and related operations									
	G4	Electrical logging and related operations			14	23	45:30				82:30 12.5%
INTERRUPTIONS OF OPERATIONS UNDER F & G	A1	Fishing and repair on casing string									
	A2	Losses kicks and mud conditioning									
	A3	Waiting on weather					15:30				15:30 2.35%
	A4	Other waiting									
COMPLETION AND PLUGGING	C1	Completion, stimulation and production testing									
	C2	Abandon, pulling casing						63:30			63:30 9.66%
	C3	Waiting on weather									
	C4	Other waiting									
DURATION BY INTERVAL →			21	68:30	120	138:30	235	63:30	13		659:30 100%
											659:30 100%

F3e' Bls/10-81

INTERRUPTIONS OF OPERATIONS

WELL : SPK 1

OPERATIONS IN PROGRESS	DURATION ↓ REASONS →	STICKING FISHING		LOSSES, FLOWING MUD TREATMENT		WAITING ON WEATHER		WAITING : OTHER	
		Number	Duration (h)	Number	Duration (h)	Number	Duration (h)	Number	Duration (h)
Moving (D2-D3)	Less than 24 h								
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
Drilling, casing formation surveys (A1-A2-A3-A4)	Less than 24 h					1	15:30		
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
Completion (C3-C4)	Less than 24 h								
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
TOTAL →							15:30		

TOTAL DURATION OF INTERRUPTIONS

{ During moving ----- : -----
 During drilling - Casing or formation surveys ----- : 15:30
 During completion and plugging ----- : -----
 TOTAL IN HOURS → 15:30
 TOTAL IN DAYS → -----

F3f Bis /10-81

MUD SUMMARY BY INTERVAL

WELL : SPK 1

INTERVAL 26" From : 77 m to : 228 m

Mud type used in this interval : GEL SEA WATER FLOC LIME

USEFUL DATA

Starting CASING

Diameter : -
 Hanger : -
 Shoe : -
 Casing : -
 Length : -

BALANCE OF VOLUMES
bbbl on m3

Initial volume : 0
 Added volume : 329.2 m3
 Evacuated volume : -
 Losses in formation : -
 Final volume : 0

DRILLING

Drilled (m or ft) { from: 77 m to: 228 m duration (date) { from: 14/6/84 to: 15/6/84
 Footage (m or ft) : 151 m in : 1 day
 Average dllg rate 15.9 drilling hours : 11.0
 Internal casing vol. : - Losses : -
 Pumping rate : 1.11 m3/min

MUD CHARACTERISTICS

CONSUMPTIONS

	mini	maxi	average	CHEMICALS	QUANTITY			COST		
					Total m ³ or T	Kg/ft or m drilled	Kg/m ³	Unit Price	Total Cost	%
Weight flow out flow	1.02			BULK AQUAGEL	15.64 T	103.57	47.5	340.36	5,323.23	
Viscosity M.V. A.V. P.V. Y.P.	100+			SACKS AQUAGEL	1755 Kg	11.62	5.33	14.00	546.00	
				CAUSTIC SODA	630 Kg	4.17	1.91	65.12	586.08	
				SODA ASH	840 Kg	5.56	2.55	13.88	291.48	
API WL HP-HT Pressure T°				LIME	550 Kg	3.64	1.67	6.75	148.50	
Ph				BULK BARYTE	9.09 T	60.19	61.39	208.18	1,892.36	
Pf										
Pm										
Ca ⁺⁺ (g/l)										
SO4Ca										
Clna										
CaCl2										
% water										
% oil										
oil/water ratio										
% solids										
Solids density										
% Sand										
T °C										

Depth (ft)	Lithology				
		TOTAL	28.51 T		8,787.65
		Total cost of { Interval : <u>26"</u> Drilled meter 151 m foot			
		Currency	:		
		Conversion rate used	:		

F3f Bis /10-81

MUD SUMMARY BY INTERVAL

WELL : SPK 1

INTERVAL : 17 1/2" From : 228 m to : 1032 m

Mud type used in this interval : GEL SEA WATER

USEFUL DATA

Starting CASING

Diameter : 20"
 Hanger : 74 m
 Shoe : 218 m
 Casing Length : 144 m3

BALANCE OF VOLUMES
bbbl on m3

Initial volume : 0
 Added volume : 699 m3
 Evacuated volume : 56 m3
 Losses in formation : -
 Final volume : 293 m3

DRILLING

Drilled (m or ft) { from : 228 m duration { from : 17/6/84
 { to : 1032 m (date) { to : 21/6/84
 Footage (m or ft) : 804 m in : 4 days
 Average dllg rate 16.65 drilling hours : 55
 Internal casing vol. : 40.4 m3 losses : -
 Pumping rate : 3.01 m3/min

MUD CHARACTERISTICS

CONSUMPTIONS

	mini	maxi	average	CHEMICALS	QUANTITY			COST		
					Total m ³ or T	Kg/ft or m drilled	Kg/m ³	Unit Price	Total Cost	%
Weight in flow	<u>1.05</u>	<u>1.15</u>	<u>1.12</u>							
Weight out flow	<u>1.11</u>	<u>1.15</u>	<u>1.13</u>	BULK AQUAGEL	<u>23.7 T</u>	<u>29.47</u>	<u>33.90</u>	<u>340.36</u>	<u>8,066.53</u>	
Viscosity	M.V.	<u>40</u>	<u>48</u>	SACKS AQUAGEL	<u>1710 Kg</u>	<u>2.12</u>	<u>2.44</u>	<u>14.60</u>	<u>532.00</u>	
	A.V.	<u>-</u>	<u>-</u>							
	P.V.	<u>7</u>	<u>11</u>							
	Y.P.	<u>13</u>	<u>22</u>	<u>16</u>	SODA ASH	<u>720 Kg</u>	<u>0.89</u>	<u>1.03</u>	<u>13.88</u>	<u>249.84</u>
Gels	0'	<u>7</u>	<u>12</u>	CALCIUM CHLORIDE	<u>50 Kg</u>	<u>0.06</u>	<u>0.07</u>	<u>11.46</u>	<u>22.92</u>	
	10'	<u>9</u>	<u>20</u>							
API WL	API	<u>16</u>	<u>54</u>							
	HP-HT	<u>-</u>	<u>-</u>	LIME	<u>450 Kg</u>	<u>0.56</u>	<u>0.64</u>	<u>6.75</u>	<u>121.50</u>	
API Pressure	Pressure	<u>-</u>	<u>-</u>							
	T°	<u>40</u>	<u>45</u>	DEXTRID	<u>770 Kg</u>	<u>0.96</u>	<u>1.10</u>	<u>51.60</u>	<u>1,806.00</u>	
Ph	<u>9.5</u>	<u>10</u>	<u>9.7</u>	CAUSTIC SODA	<u>1610 Kg</u>	<u>2.00</u>	<u>2.30</u>	<u>65.12</u>	<u>1,497.76</u>	
Pf	<u>0.2</u>	<u>0.3</u>	<u>0.2</u>							
Pm	<u>-</u>	<u>-</u>	<u>-</u>							
Ca ⁺⁺ (g/l)	<u>20</u>	<u>44</u>	<u>30</u>	CELPOL	<u>1320 Kg</u>	<u>1.02</u>	<u>1.18</u>	<u>106.06</u>	<u>3,499.98</u>	
SO4Ca	<u>-</u>	<u>-</u>	<u>-</u>							
ClNa	<u>19,000</u>	<u>19,500</u>	<u>19,200</u>	CONDET	<u>820 Kg</u>	<u>1.02</u>	<u>1.17</u>	<u>258.00</u>	<u>1,032.00</u>	
CaCl2	<u>-</u>	<u>-</u>	<u>-</u>							
% water	<u>-</u>	<u>-</u>	<u>-</u>	CMC L.V.	<u>350 Kg</u>	<u>0.43</u>	<u>0.50</u>	<u>45.85</u>	<u>641.90</u>	
% oil	<u>-</u>	<u>-</u>	<u>-</u>	BULK BARYTE	<u>16 T</u>	<u>19.90</u>	<u>22.88</u>	<u>208.18</u>	<u>3,330.88</u>	
oil/water ratio	<u>-</u>	<u>-</u>	<u>-</u>							
% solids	<u>-</u>	<u>-</u>	<u>-</u>							
Solids density	<u>-</u>	<u>-</u>	<u>-</u>							
% Sand	<u>-</u>	<u>-</u>	<u>-</u>							
T °C	<u>27</u>	<u>45</u>	<u>35</u>							

Depth (ft)	Lithology		
		TOTAL	<u>47.50 T</u>
			<u>20,801.31</u>
		Total cost of { Interval : <u>17 1/2"</u> { Drilled meter : <u>804 m</u> foot : _____ Currency : _____ Conversion rate used : _____	

F3f Bis /10-81

MUD SUMMARY BY INTERVAL

WELL : SPK 1

INTERVAL 12 1/4" From : 1032 m to : 1756 m

Mud type used in this interval : LOW SOLIDS POLYMER

USEFUL DATA

Starting CASING

Diameter : 1323/8"
 Hanger : 74.95 m
 Shoe : 1744 m
 Casing :
 Length : 1670.96 m3

BALANCE OF VOLUMES

CLEAN OUT PITS
 Initial volume : 0
 Added volume : 668 m3
 Evacuated volume : 190 m
 Losses in formation : -
 Final volume : 202 m3

DRILLING

Drilled (m or ft) { from: 1032 m to: 1756 m duration { from: 22/6/84 to: 26/6/84
 Footage (m or ft) : 724 m in : 4 days
 Average dllg rate 14.20 drilling hours : 50.5
 Internal casing vol. : 78 m3 Losses : -
 Pumping rate : 1.95 m3/min

MUD CHARACTERISTICS

CONSUMPTIONS

	mini	maxi	average	CHEMICALS	QUANTITY			COST		
					Total m ³ or T	Kg/ft or m drilled	Kg/m ³	Unit Price	Total Cost	%
Weight										
In flow	1.04	1.10	1.07							
Out flow	1.07	1.12	1.09	BULK AQUAGEL	15.0 T	20.71	22.45	340.36	5,105.40	
Viscosity	M.V.	44	58	46						
	A.V.	-	-	-	SODA ASH	800 Kg	1.10	1.19	13.88	277.60
	P.V.	7	12	9	DEXTRID	2948 Kg	4.07	4.41	51.60	6,914.40
	Y.P.	12	23	17						
Gels	0'	4	36	10	SODIUM BICARBONATE	160 Kg	0.22	0.23	16.98	67.92
	10'	9	45	20						
API WL	API	5.6	11	8	CAUSTIC SODA	700 Kg	0.96	1.01	65.12	651.20
	HP-HT	-	-	-						
	Pressure	-	-	-	Q-BROXIN	1025 Kg	1.41	1.50	29.50	1,209.50
T°	40	47	42							
Ph	9.5	10.5	9.6							
Pf	0.1	0.5	0.3	CEL POL	200 Kg	0.27	0.29	106.06	848.48	
Pm	-	-	-							
Ca ⁺ (g/l)	10	80	30	CMC L.V.	325 Kg	0.44	0.48	45.85	596.05	
SO4Ca	-	-	-							
Cl na	2,800	9,500	4,500	BARADEFOAM	20 LT	-	-	138.60	277.20	
CaCl2	-	-	-	BULK BARYTE	58 T	80.11	86.82	208.18	12,073.28	
% water	92	98	95							
% oil	NIL	NIL	NIL							
oil/water ratio	-	-	-							
% solids	2	6	4							
Solids density	-	-	-							
% Sand	TRC	0.25	0.12							
T °C	29	47	41							

Depth (ft)	Lithology

TOTAL 79.15 T 28,021.03

Total cost of { Interval : 12 1/4"
 Drilled meter : 1756 m
 Currency : _____
 Conversion rate used : _____

Imp. 4886 A SNEA(P) -RGM 966.004-971

F3f Bis /10-81

MUD SUMMARY BY INTERVAL

WELL : SPEKE⁺ 1

INTERVAL : 8 1/2" From : 1756 m to : 2772 m

Mud type used in this interval : LOW SOLIDS POLYMER

USEFUL DATA

Starting CASING

Diameter : 9 5/8"
 Hanger : _____
 Shoe : _____
 Casing Length : _____

BALANCE OF VOLUMES
bbi on m3

Initial volume : 200 m3
 Added volume : 265 m3
 Evacuated volume : 95 m3
 Losses in formation : -
 Final volume : 180 m3

DRILLING

Drilled (m or ft) { from : 1756 m duration { from : 27/6/84
 { to : 2772 m (date) { to : 6/7/84
 Footage (m or ft) : 1016 m in : 9 days
 Average dllg rate 8.53 drilling hours : 119
 Internal casing vol. 666.62 m3 losses : -
 Pumping rate : 1.15 m3/min

MUD CHARACTERISTICS

CONSUMPTIONS

	mini	maxi	average	CHEMICALS	QUANTITY			COST		
					Total m or T	Kg/ft or m drilled	Kg/m ³	Unit Price	Total Cost	%
Weight in flow	1.10	1.15	1.13							
Weight out flow	1.11	1.15	1.14	SACKS						
	-	-	-	AQUAGEL	8865 Kg	8.72	33.45	14.00	2,758.00	
Viscosity M.V.	42	55	49							
A.V.	-	-	-	DEXTRID	2354 Kg	2.31	8.88	51.60	5,521.20	
P.V.	14	18	16	BULK						
Y.P.	9	14	10	BARYTE	7 T	6.88	26.41	208.18	1,457.26	
Gels 0'	3	8	4							
10'	14	18	16	Q-BROXIN	425 Kg	0.42	1.60	29.50	501.50	
API WL API	4.4	7.5	5.2	CAUSTIC						
HP-HT	-	-	-	SODA	840 Kg	0.82	3.16	65.12	781.44	
Pressure										
T°	38	47	40	SODA ASH	720 Kg	0.70	2.71	13.88	249.84	
Ph	9.0	10.5	9.9	SODA						
Pf	0.1	0.3	0.2	BICARB.	400 Kg	0.39	1.50	16.98	169.80	
Pm	-	-	-							
Ca ⁺⁺ (g/l)	160	600	260	CELPOL	250 Kg	0.24	0.94	106.06	1,060.60	
SO4Ca	-	-	-							
Cl na	8,000	13,500	12,000	CMC L.V	250 Kg	0.24	0.94	45.85	458.50	
CaCl2	-	-	-							
% water	94	95	94	BARADEFOAM	20 Lt	-	-	6.93	138.60	
% oil	NIL	NIL	NIL							
oil/water ratio	-	-	-							
% solids	6	6	6							
Solids density	-	-	-							
% Sand	TRC	0.50	0.25							
T °C	39	47	41							

Depth (ft)

Lithology

TOTAL

21.10 T

13,097.00

Total cost of

{ Interval : 8 1/2"
 { Drilled meter : 1016 m
 foot

Currency :

Conversion rate used :

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COMPLETION STATUS

WELL: SPK 1

1) COMPLETION (If carried out by the drilling rig)

yes

no

2) - CASINGS, TUBINGS AND ANNULUS STATUS

CASING AND TUBING DIAMETER	SHOE DEPTH	HANGER DEPTH	CASING CUT DEPTH (event)	CEMENT TOPS		ANNULUS FLUIDS	
				OD	ID	NATURE	SG
20"	218 m	74 m		SEA BED			
13.3/8"	1020 m	75.32 m		420 m		MUD	1.14
9.5/8"	1744 m	74.95 m		970 m		MUD	1.09

Depths of perforations :

Tubing anchoring device and pocker depth(s) :

3) - CEMENT PLUGS AND BRIDGE PLUGS (CP and BP)

CEMENT PLUG (CP) BRIDGE PLUG (BP)	CMT PLUG	CMT PLUG	CMT PLUG						
FROM (m or ft)	2110	1800	160						
TO (m or ft)	1980	1700	90						
TESTED	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
BY { PRESSURE OR WEIGHT		1000 PSI	400 PSI						

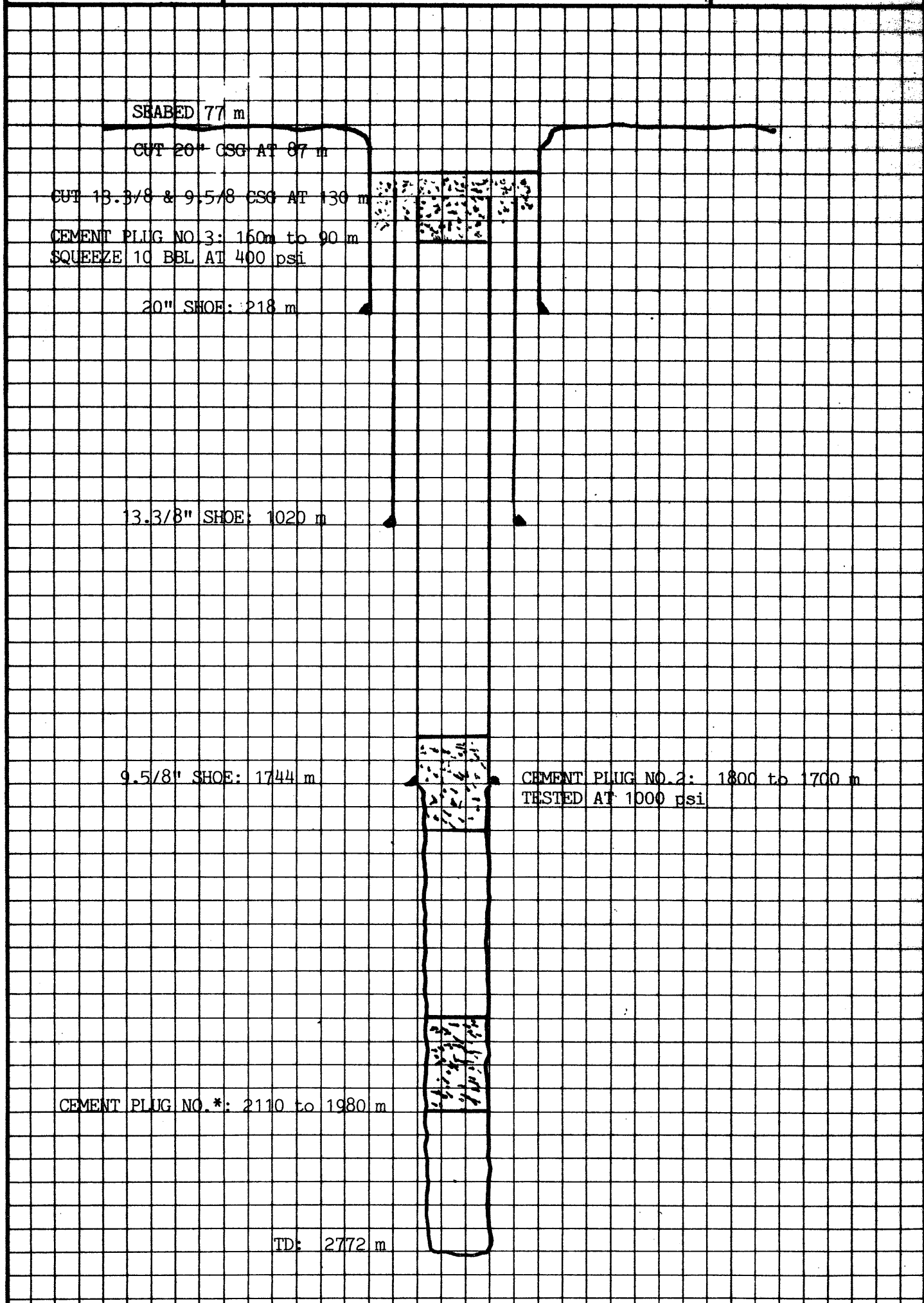
4) - WELL HEAD

Description of abandoned equipment : NIL

RELOCALIZATION DEVICE

{ yes
no

TYPE : _____



SRABED 77 m

CUT 20" CSG AT 87 m

CUT 13.3/8 & 9.5/8 CSG AT 130 m

CEMENT PLUG NO.3: 150m to 90 m

SQUEEZE 10 BBL AT 400 psi

20" SHOE: 218 m

13.3/8" SHOE: 1020 m

9.5/8" SHOE: 1744 m

CEMENT PLUG NO.2: 1800 to 1700 m
TESTED AT 1000 psi

CEMENT PLUG NO.*: 2110 to 1980 m

TD: 2772 m

ROCK BITS AND CORE BITS

BIT DIAMETER	CONE BITS				DIAMOND BITS			BITS		Total by interval
	Tooth tricone bits	Insert tricone bits	Removable center	Bicone bits	Drilling bits	Core bits	Removable center	Drag bits	Special bits	
26"	1									1
17½"	(1U) 2 (1)									2
12¼"	3									3
8½"	4	3								7
TOTAL →										<u>13</u>

CASINGS

Diameter	Weight (lbs/ Ft)	Thread	Grade	Length (Ft or m)	Observations
20"	133 ^{††}	CIW CC CONN.	X56	144	
13.3/8"	68 ^{††}	BTC	K55	946	
9.5/8"	47 ^{††}	BTC	N80	1668	

• CEMENTS •

Class	QUANTITY (T)			Class	QUANTITY (T)		
	Casing	Well abandon	Plugging losses		Casing	Well abandon	Plugging losses
G	157 T						
G		38 T					

CHEMICALS

CHEMICAL NAME	QUANTITIES ADDED m ³ or T	CHEMICAL NAME	QUANTITIES ADDED m ³ or T
BARYTE	91	LIME	1.000
GEL	66.500	CALCIUM CHLORIDE	0.050
SODA ASH	3.080	BARADEF OAM	40 L
DEXTRID	6.072	CONDET	0.820
CAUSTIC SODA	3.980		
SODIUM BICARBONATE	0.560		
Q-BROXIN	1.450		
CMC L.V	0.925		
CELPOL	1.770		

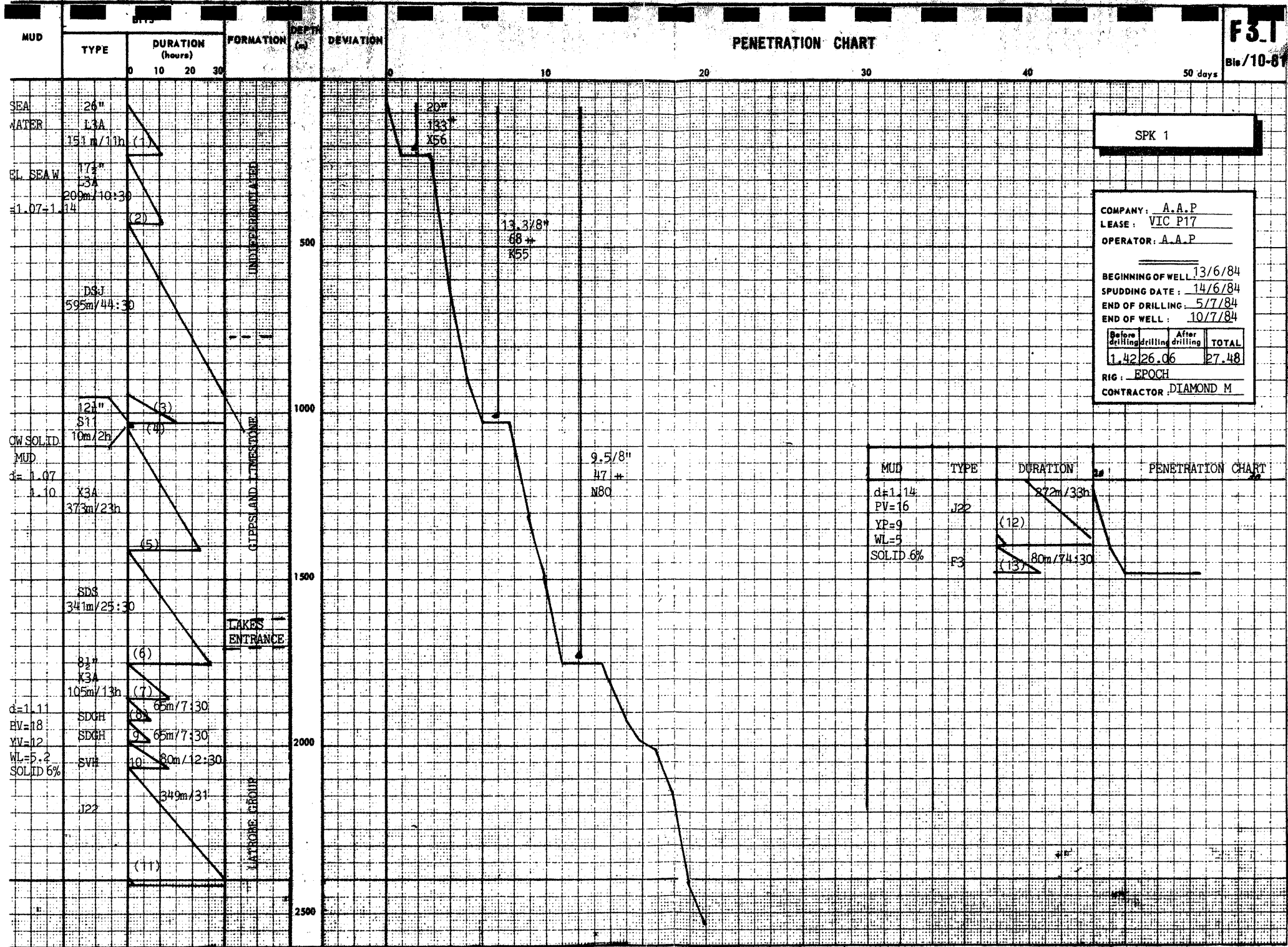
WATER - DIESEL/OIL (not added in mud)

FRESH WATER (m ³)	1835		
DIESEL-OIL (m ³)	292.5		

WELL HEADS, HANGERS (Ø - API working pressure - Type)

1 x 18 $\frac{3}{4}$ " x 10,000 - CAMERON WELLHEAD HOUSING	
1 x 18 $\frac{3}{4}$ " x 13.3/8" x 10,000 - CAMERON CASING HANGER	
1 x 18 $\frac{3}{4}$ " x 9.5/8" x 10,000 - CAMERON CASING HANGER	
1 x 18 $\frac{3}{4}$ " x 13.3/8" x 10,000 - TORQUE SET SEAL ASSEMBLY	
2 x 18 $\frac{3}{4}$ " x 9.5/8" x 10,000 - TORQUE SET SEAL ASSEMBLY	
1 x 13.3/8" - WEAR BUSHING	1 x 18 $\frac{3}{4}$ " SEAT PROTECTOR
1 x 9.5/8" WEAR BUSHING	

PENETRATION CHART



SPK 1

COMPANY: A.A.P
 LEASE: VIC P17
 OPERATOR: A.A.P

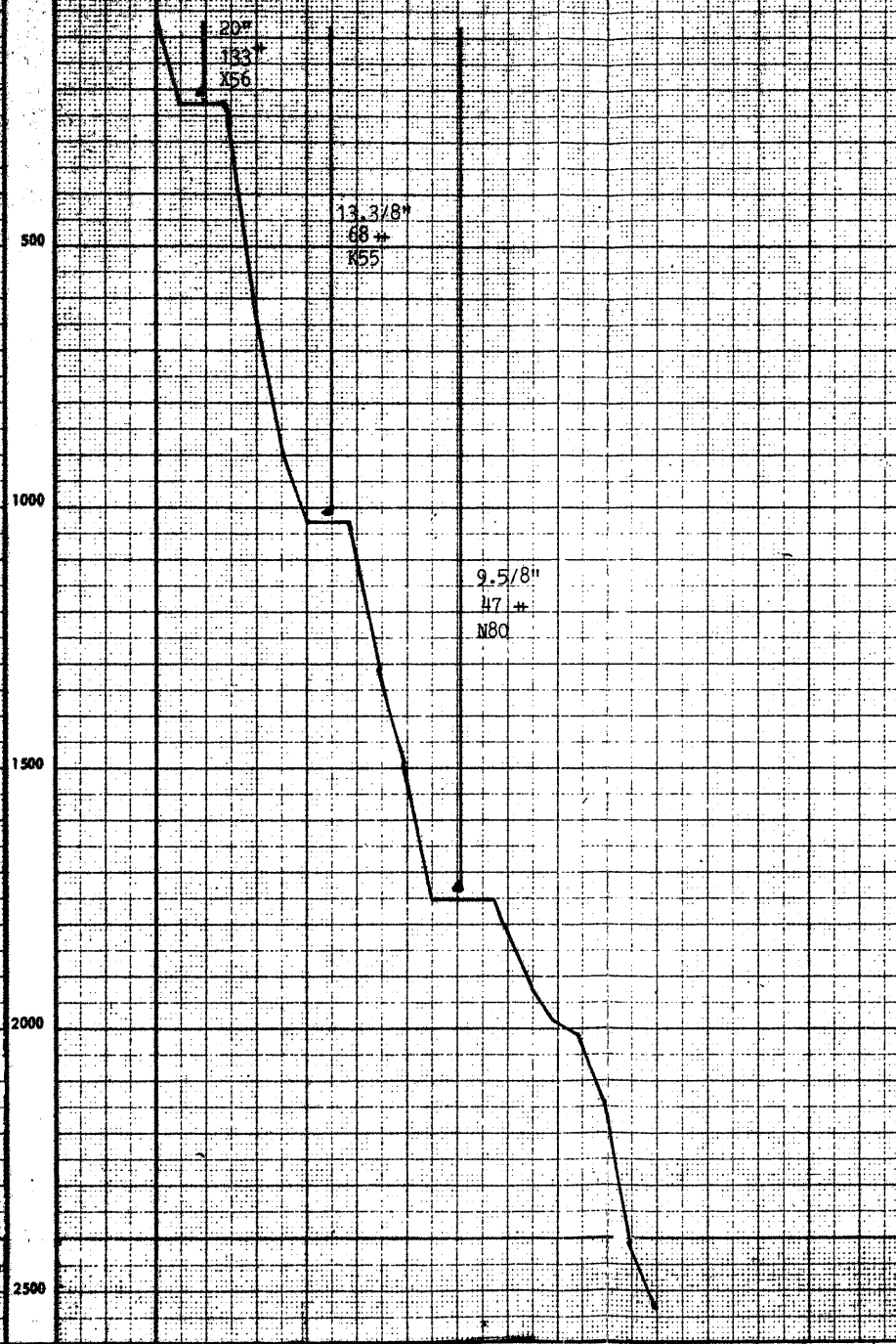
BEGINNING OF WELL: 13/6/84
 SPUDDING DATE: 14/6/84
 END OF DRILLING: 5/7/84
 END OF WELL: 10/7/84

Before drilling	After drilling	TOTAL
1.42	26.06	27.48

RIG: EPOCH
 CONTRACTOR: DIAMOND M

MUD	TYPE	DURATION	PENETRATION CHART
d=1.14 PV=16 YP=9 WL=5 SOLID 6%	J22	272m/33h (12)	
	F3	80m/74:30 (13)	

MUD	TYPE	DURATION (hours)	FORMATION
SEA WATER	26"	151m/11h (1)	UNDERSHUNTALED
EL. SEA W	17 1/2"	209m/10:30 (2)	UNDERSHUNTALED
	DSJ	595m/44:30	UNDERSHUNTALED
OW SOLID. MUD	12 1/2"	51 10m/2h (3)	UNDERSHUNTALED
	X3A	373m/23h (4)	UNDERSHUNTALED
	SDS	341m/25:30 (5)	UNDERSHUNTALED
	K3A	105m/13h (6)	UNDERSHUNTALED
	SDGH	65m/7:30 (7)	UNDERSHUNTALED
	SDGH	65m/7:30 (8)	UNDERSHUNTALED
	SVH	80m/12:30 (9)	UNDERSHUNTALED
	J22	349m/31 (10)	LATHONE GROUP
		(11)	LATHONE GROUP



CASING AND CEMENTING REPORT

F5a Bis

WELL (Country)	RIG (Contractor)	R K Height <input type="checkbox"/> B M.L. <input checked="" type="checkbox"/>	Ground <input type="checkbox"/> Casing <input checked="" type="checkbox"/> Liner <input type="checkbox"/>	CASING SHOE	Hanger depth (for liners) or changing ϕ casing depth :	OPERATION DATE
SPK 1 (AUSTRALIA)	EPOCH (DIAMOND M)	77m	ϕ 20"	Measured depth : 218 m Vertical depth : "		14/6/84

1 - WELL CONDITION

Open hole diameter : 26" Depth { Vertical : _____ m
 Measured : 228 m Deviation { Mini : 0° to _____ m
 Maxi : 0° to 228 m

Important casing (location - average diameter..): _____

Losses during drilling (levels, extent) _____

Reamer runs (number) _____ Reamer at _____ m from the bit

Previous casing : Diameter _____ Shoe at _____ m

Bo. Ps on well when running in (Type - equipment, test pressure) _____

MUD CHARACTERISTICS BEFORE INJECTING SLURRY	S.G.	W.L.	P.V.	Y.V.	VISCOSIMETER READINGS Vs. R.P.M.				
					600	300			

Observations : DRILLING W/SEAWATER RETURN ON SEA BED

2 - GENERAL COMPOSITION OF CASING STRING

ELEMENT	MFG. type	ϕ	Weight (lb/ft) or thickness	Thread or joint type	Grade	Special corrosion ?	Inside volume l/m	Length (m)	Number of joints
SHOE		20						0.60	X
COLLAR									X
CSG		20	133	CC CONN.	X56		177.76	131.20	11
18 $\frac{3}{4}$ - 10000 WELLHEAD HOUSING W/PILE JOINT								12.20	
Tripping joint : DP 5" 19.5" S135 + R TOOL								74.00	X
Drift diameter in the thickest joint 470.9 mm								TOTAL > 218 m	
Maximum permissible tension _____									
Theoretical weight of the casing string : _____ In air _____ in mud : _____									

3 - EQUIPMENT OF CASING STRING

CENTRALIZERS MGF : _____ TYPE : _____ NUMBER : _____ DEPTH/RKB : _____	SCRATCHERS MGF : _____ TYPE : _____ NUMBER : _____ DEPTH/RKB : _____	OTHER EQUIPMENT (Description - Location)
---	---	--

4 - RUNNING CASING

Making-up of joint : _____
 Grease type used for threads : LUBE SEAL
 Average torque to make-up the joints _____
 Filling frequency _____ EVERY JNT
 Intermediate circulation (duration - depth) _____
 Total running time (with circulations) 5 h 30 average rate _____ joints/h 2.18
 Troubles during running _____
 Bottom hole circulation : Duration 0:30 Rate 1000 L/min Pressure 2,000 PST
 Reciprocating : Duration _____ Rate _____ Amplitude _____
 M.D. indications after stop of bottom hole circulation : _____
 Observations : _____

5 - SINGLE STAGE OR FIRST STAGE CEMENTING

Service cy DOWELL
 Mixing pump BJ RECIRCULATING MIXER
 Slurry injection pump BJ PACEMAKER II
 Displacement pump(s) BJ PACEMAKER II
 Beginning of slurry making at 0015 h.
 End of slurry making at 0110 h.
 End of displacement at 0130 h.
 Pressure released in casing at _____ h.

Nature or class of cements	Sacks or bulk	Cement weight increase %	Water and additives used (nature : quantities)				TONNAGES USED
1 G	BULK	200%	FRESHWATER	3.8% BENTO	2% CACL2	31.5	T
2 G	BULK	"	"	0.5% THIXSET A	0.25% THIXSET B	8.5	T
3							T

CHARACTERISTICS OF SLURRIES	S.G.	P.V.	Y.V.	VISCOSIMETER READINGS VS R.P.M.					
				600	300				
1	1.47								
2	1.68								
3									

Slurry injection rate approx 6 BBLs/MIN Displacement rate _____
 Displacement fluid nature MUD d = 1.40 Pumped volume 132.5 bbls
 Pressure at the beginning of displacement _____ at the end _____ at the surge _____
 Estimated losses _____
 Casing string pressuring up at _____ Result _____
 Residual pressure (eventual) after bleeding off _____

6 - SETTING ON SPOOL

M.D. indication at the end of displacement _____
 M.D. indication after cement betting _____ setting tension on spool > T.
 Casing string set on spool _____ h. after the end of displacement
 Spool : MFG _____ Nominal dimensions _____ API WP.
 Suspension and seal type _____
 Additional seal (type - dimensions) _____
 Distance between the upper part of the spool and R.K.B. RKB TO WELLHEAD = 74 m
 Cut casing _____ cm above the spool

7 - CONTROL

Temperature well logging after _____ h. setting
 Cementing log after _____ h. setting Top cement annulus > m
 Result of these logs (or enclose a copy) _____
 Test casing string + B.O.P.(blind and pipe rams) Test pressure >
 Packer depth : _____
 Test result : _____

CASING AND CEMENTING REPORT

F5a Bis

WELL (Country)	RIG (Contractor)	R Ground <input type="checkbox"/> K Height <input type="checkbox"/> B M.L. <input checked="" type="checkbox"/>	Casing <input checked="" type="checkbox"/> Liner <input type="checkbox"/>	CASING SHOE	Hanger depth (for liners) or changing ϕ casing depth :	OPERATION DATE
SPK 1 (AUSTRALIA)	EPOCH (DIAMOND M)	77 m	13.3/8"	Measured depth : 1020 m Vertical depth :		20/6/84

1 - WELL CONDITION

Open hole diameter : 17 1/2" Depth { Vertical : _____ m
 Measured : 1032 m Deviation { Mini : 1/2 to 437 m
 Maxi : 3/4 to 1032 m

Important casing (location - average diameter..) :
20 - 21" : FROM 555 to 580 m

Losses during drilling (levels, extent) _____

Reamer runs (number) _____ Reamer at _____ m from the bit
 Previous casing : Diameter 20" Shoe at 218 m

Bo. Ps on well when running in (Type - equipment, test pressure) 18 3/4 x 10,000 - CAMERON (3x5" P. RAMS
 1 SHEAR RAMS) - BAG PREVENTER 2x 18 3/4 x 5,000 CAMERON TYPE D

MUD CHARACTERISTICS BEFORE INJECTING SLURRY	S.G.	W.L.	P.V.	Y.V.	VISCOSIMETER READINGS Vs R.P.M.						
					600	300					
	1.14	16.8	11	13							

Observations : _____

2 - GENERAL COMPOSITION OF
CASING STRING

ELEMENT	MFG. type	ϕ	Weight (lb/ft) or thickness	Thread or joint type	Grade	Special corrosion ?	Inside volume l/m	Length (m)	Number of joints
SHOE	FLOAT	13.3/8"	68	BTC	K55			0.55	X
		"	"	"	"		78.08	23.60	2
COLLAR	FLOAT	"	"	"	"			0.55	X
CASING		"	"	"	"		78.08	917.55	77
		18 3/4 x 13.3/8" CSG HANGER W/PUP JNT						2.43	
Tripping joint :		HWDP 5" + R.T						75.35	X
Drift diameter in the thickest joint <u>311.4 mm</u>							TOTAL >	1020 m	79
Maximum permissible tension <u>475 x 10³ daN</u>									
Theoretical weight of the casing string : <u>94.468 T</u> In air <u>80.657 T</u> In mud : _____									

3 - EQUIPMENT OF CASING STRING

CENTRALIZERS	SCRATCHERS	OTHER EQUIPMENT (Description - Location)
MGF : <u>WEATHERFORD</u>	MGF : _____	
TYPE : <u>ST3</u>	TYPE : _____	
NUMBER : <u>4</u>	NUMBER : _____	
DEPTH/RKB : _____	DEPTH/RKB : _____	
190 m		
200 m		
1000 m		
1012 m		

4 - RUNNING CASING

Making-up of joint : WEATHERFORD POWER TONG
 Grease type used for threads : LUBE SEAL
 Average torque to make-up the joints _____
 Filling frequency EVERY JOINT
 Intermediate circulation (duration - depth) _____
 Total running time (with circulations) 8 h average rate 9.8 joints/h
 Troubles during running _____
 Bottom hole circulation : Duration 45 min Rate 1650 l/min Pressure 875 PSI
 Reciprocating : Duration _____ Rate _____ Amplitude _____
 M.D. indications after stop of bottom hole circulation : _____
 Observations : CSG STRING SET IN WELLHEAD

5 - SINGLE STAGE OR FIRST STAGE CEMENTING

Service by DOWELL Beginning of slurry making at 0500 h
 Mixing pump BJ RECIRCULATING MIXER End of slurry making at 0605 h
 Slurry injection pump BJ PACEMAKER II End of displacement at 0655 h
 Displacement pump(s) " " Pressure released in casing at 0705 h

Nature or class of cements	Sacks or bulk	Cement weight increase %	Water and additives used (nature : quantities)			TONNAGES USED
1 G	BULK	10%	FRESH WATER	3.8% BENTONITE		24.8 T
2 G	"	"	"	"		26.1 T
3						

CHARACTERISTICS OF SLURRIES	S.G.	P.V.	Y.V.	VISCOSIMETER READINGS VS R.P.M.			
				600	300		
1	1.47						
2	1.85						
3							

Slurry injection rate 900 l/min Displacement rate 19.5 m3 at 1950 l/min
 AFTER: 1580 l/min
 Displacement fluid nature MUD Pumped volume 71.6 m3
 Pressure at the beginning of displacement 820 psi at the end 850 psi at the surge 2000 psi
 Estimated losses _____
 Casing string pressuring up at 2000 psi Result OK
 Residual pressure (eventual) after bleeding off _____

6 - SETTING ON SPOOL

M.D. indication at the end of displacement _____
 M.D. indication after cement bedding _____ setting tension on spool T
 Casing string set on spool _____ h. after the end of displacement
 Spool : MFG CAMERON Nominal dimensions 18 3/4" API WP. 10,000 psi
 Suspension and seal type CSG HANGER 18 3/4 x 13.3/8" - SEAL ASSLY
 Additional seal (type - dimensions) _____
 Distance between the upper part of the spool and R.K.B. 75.32 m
 Cut casing _____ cm above the spool

7 - CONTROL

Temperature well logging after _____ h. setting
 Cementing log after _____ h. setting Top cement annulus m
 Result of these logs (or enclose a copy) _____
 Test casing string + B.O.P.(blind and pipe rams) Test pressure
 Packer depth : _____
 Test result : _____

CASING AND CEMENTING REPORT

F5a Bis

WELL (Country)	RIG (Contractor)	R Ground <input type="checkbox"/> K Height <input type="checkbox"/> B M.L. <input checked="" type="checkbox"/>	Casing <input checked="" type="checkbox"/> Liner <input type="checkbox"/>	CASING SHOE	Hanger depth (for liners) or changing ϕ casing depth:	OPERATION DATE
SPK 1 (AUSTRALIA)	EPOCH (DIAMOND M)	77 m	9.5/8"	Measured depth: 1744 m Vertical depth: _____		26/6/84

Open hole diameter: 12 1/4" Depth { Vertical: _____ Measured: 1756 m } Deviation { Mini: 0.5 to 1756 m Maxi: 1.0 to 1313 m }

Important casing (location - average diameter..): _____

Losses during drilling (levels, extent) _____

Reamer runs (number) _____ Reamer at _____ m from the bit
 Previous casing : Diameter 13.3/8" Shoe at 1020 m
 Bo. Ps on well when running in (Type - equipment, test pressure) 18 $\frac{3}{4}$ - 100000 CAMERON (3x 5" P. RAMS
1x SHEAR RAMS) - BAG PREVENTOR 2x 18 $\frac{3}{4}$ - 5000 CAMERON TYPE D

MUD CHARACTERISTICS BEFORE INJECTING SLURRY	S.G.	W.L.	P.V.	Y.V.	VISCOSIMETER READINGS Vs. R.P.M.				
					600	300			
	1.09	7	18	14					

Observations _____

1 - WELL CONDITION

2 - GENERAL COMPOSITION OF CASING STRING

ELEMENT	MFG. type	ϕ	Weight (lb/ft) or thickness	Thread or joint type	Grade	Special corrosion ?	Inside volume l/m	Length (m)	Number of joints	
SHOE		9.5/8	47	BTC	N80			0.57	×	
		"	"	"	"		38.19	35.21	3	
COLLAR		"	"	"	"			0.43	×	
		"	"	"	"		38.19	1630.46	139	
CSG HANGER	+ Pp JNT							2.83		
Tripping joint:	HW	5"	50	4 1/2 I.F				74.95	×	
Drift diameter in the thickest joint	<u>216.5 mm</u>							TOTAL >	1744 m	142
Maximum permissible tension	<u>307 x 10³ DAN</u>									
Theoretical weight of the casing string:	<u>116.576 T</u>		In air		<u>100.255 T</u>		In mud: _____			

3 - EQUIPMENT OF CASING STRING

CENTRALIZERS	SCRATCHERS	OTHER EQUIPMENT (Description - Location)
MGF: <u>WEATHERFORD</u>	MGF: _____	
TYPE: <u>ST3</u>	TYPE: _____	
NUMBER: <u>6</u>	NUMBER: _____	
DEPTH/RKB: _____	DEPTH/RKB: _____	
1000 m		
1012 m		
1701 m		
1715 m		
1725 m		
1737 m		

4 - RUNNING CASING

Making-up of joint : WEATHERFORD POWER TONG
 Grease type used for threads : LUBE SEAL
 Average torque to make-up the joints 4
 Filling frequency EVERY 3 JOINTS
 Intermediate circulation (duration - depth) _____
 Total running time (with circulations) 8 h average rate 17.75 joints/h
 Troubles during running WASH DOWN LAST 6 m
 Bottom hole circulation : Duration 2 Rate 1300 l/Min Pressure 700 PSI
 Reciprocating : Duration _____ Rate _____ Amplitude _____
 M.D. indications after stop of bottom hole circulation : _____
 Observations : _____

5 - SINGLE STAGE OR FIRST STAGE CEMENTING

Service cy DOWELL Beginning of slurry making at 17:20 h
 Mixing pump BJ RECIRCULATING MIXER End of slurry making at 18:00 h
 Slurry injection pump BJ PACEMAKER II End of displacement at 19:35 h
 Displacement pump(s) " " " Pressure released in casing at _____ h

Nature or class of cements	Sacks or bulk	Cement weight increase %	Water and additives used (nature : quantities)			TONNAGES USED
1 G	BULK	BGT	17.7 m ³ FRESH WATER	87 GAL D80	17.4 GAL D81	38 T
2						T
3						T

CHARACTERISTICS OF SLURRIES	S.G.	P.V.	Y.V.	VISCOSIMETER READINGS VS R.P.M.					
				600	300				
1	1.85								
2									
3									

Slurry injection rate 750 L/Min Displacement rate _____
34.4 m³ at 1300 l/Min 27.8 m³ at 730 L/Min
 Displacement fluid nature MUD Pumped volume 62.28 m³
 Pressure at the beginning of displacement 450 PSI at the end 1000 PSI at the surge -
 Estimated losses _____
 Casing string pressuring up at _____ Result _____
 Residual pressure (eventual) after bleeding off _____

6 - SETTING ON SPOOL

M.D. indication at the end of displacement _____
 M.D. indication after cement betting _____ setting tension on spool _____ T
 Casing string set on spool _____ h. after the end of displacement
 Spool : MFG _____ Nominal dimensions _____ API WP.
 Suspension and seal type _____
 Additional seal (type - dimensions) _____
 Distance between the upper part of the spool and R.K.B. _____
 Cut casing _____ cm above the spool

7 - CONTROL

Temperature well logging after _____ h. setting
 Cementing log after _____ h. setting Top cement annulus _____ m
 Result of these logs (or enclose a copy) _____
 Test casing string + B.O.P.(blind and pipe rams) Test pressure 1500 PSI
 Packer depth : _____
 Test result : _____

DETAILED COMPOSITION OF THE CASING STRING

F5C Bis

Well site		Casing diameter		RKB height/ground M. L.		Shoe measured depth					
SPK 1		13.3/8"		77 m		1020 m					
Joint Number	Equip.†		Weight per foot, grade and thread of joints	Unit Length	Cumulated Length	Joint Number	Equip.†		Weight per foot, grade and thread of joints	Unit Length	Cumulated Length
	central.	scratch					central.	scratch			
Other equipments			Other equipments			Other equipments					
LANDING STRING + R.T			75.35			40		68** - K55 - BTC	11.78	555.07	
						41			12.02	567.09	
		18 3/4 x 13.3/8" CSG HANGER +	2.43	77.75		42			12.07	579.16	
		PUP JOINT				43			12.08	591.24	
1		68** - K55 - BTC	11.81	89.56		44			12.02	603.26	
2			11.85	101.41		45			11.83	615.09	
3			12.02	113.43		46			12.03	627.12	
4			11.92	125.35		47			10.95	638.07	
5			12.01	137.36		48			11.46	649.53	
6			11.95	149.31		49			11.94	661.47	
7			12.01	161.32		50			12.05	673.52	
8			11.96	173.28		51			12.08	685.60	
9			11.99	185.27		52			11.00	696.60	
10	1		12.01	197.28		53			12.08	708.68	
11	1		11.98	209.26		54			11.86	720.54	
12			11.80	221.06		55			11.71	732.25	
13			12.01	233.07		56			12.03	744.28	
14			11.86	244.93		57			12.07	756.35	
15			11.95	256.88		58			11.79	768.14	
16			11.64	268.52		59			12.04	780.18	
17			12.01	280.53		60			12.04	792.22	
18			11.99	292.52		61			12.08	804.30	
19			11.70	304.22		62			12.01	816.31	
20			12.04	316.26		63			11.82	828.13	
21			12.08	328.34		64			12.02	840.15	
22			12.06	340.40		65			12.07	852.22	
23			11.91	352.31		66			12.06	864.28	
24			11.93	364.24		67			12.08	876.36	
25			12.11	376.35		68			11.82	888.18	
26			12.05	388.40		69			11.69	899.87	
27			11.78	400.18		70			11.73	911.60	
28			12.08	412.26		71			12.07	923.67	
29			12.08	424.34		72			11.96	935.63	
30			12.08	436.42		73			11.62	947.25	
31			12.06	448.48		74			12.02	959.27	
32			11.73	460.27		75			11.87	971.14	
33			11.94	472.15		76			12.08	983.22	
34			12.08	484.23		77			12.08	995.30	
35			12.05	496.28				FLOAT COLLAR	0.55	995.85	
36			12.08	508.36		78	1		11.65	1007.50	
37			12.08	520.44		79	1		11.95	1019.45	
38			12.00	532.44				FLOAT SHOE	0.55	1020	
39			10.85	543.29							

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR from bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint. The composition of the extension string should be detailed.

DETAILED COMPOSITION OF THE CASING STRING

F5c Bis

Well site		Casing diameter		RKB height/ground		Shoe meas ^d depth					
SPK 1		9.5/8"		77 m		1744 m					
Joint Number	Equip. [†]		Weight per foot, grade and thread of joints	Unit Length	Cumulated Length	Joint Number	Equip. [†]		Weight per foot, grade and thread of joints	Unit Length	Cumulate Length
	central.	scratch					central.	scratch			
83			47 ⁺⁺ N80, BTC	11.91	1051.21	125			47 ⁺⁺ N80, BTC	11.76	1543.53
84				11.83	1063.04	126				11.82	1555.35
85				11.86	1074.90	127				11.54	1566.81
86				11.82	1086.72	128				11.77	1578.66
87				11.76	1098.48	129				11.80	1590.46
88				11.64	1110.12	130				11.60	1602.06
89				11.23	1121.35	131				11.76	1613.82
90				11.79	1133.14	132				11.95	1625.77
91				11.75	1144.89	133				11.68	1637.45
92				11.57	1156.46	134				11.83	1644.28
93				11.71	1168.17	135				11.82	1661.10
94				11.85	1180.02	136				11.67	1672.77
95				11.76	1191.78	137				11.74	1684.51
96				11.77	1203.57	138				11.57	1696.08
97				11.20	1214.75	139	1C			11.71	1707.79
98				11.94	1226.09				FLOAT COLLAR	0.43	1708.22
99				11.92	1238.61	140	1C			11.90	1720.12
100				11.64	1250.25	141	1C			11.31	1731.43
101				11.75	1262.00	142	1C			12.00	1743.43
102				11.72	1273.72				FLOAT SHOE	0.57	1744
103				11.66	1285.38						
104				11.52	1296.90						
105				11.66	1308.56						
106				11.96	1320.52						
107				11.72	1332.24						
108				11.79	1344.03						
109				11.49	1355.52						
110				11.82	1367.74						
111				11.91	1379.25						
112				11.88	1391.13						
113				11.70	1402.83						
114				11.41	1414.24						
115				11.57	1425.81						
116				11.70	1437.51						
117				11.98	1449.49						
118				11.80	1467.29						
119				11.98	1473.27						
120				11.81	1485.08						
121				11.56	1496.64						
122				11.63	1508.27						
123				11.70	1519.97						
124				11.80	1531.77						

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR from bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint. The composition of the extension string should be detailed.

DETAILED COMPOSITION OF THE CASING STRING

F5c Bis

Well site		SPK 1		Casing diameter		9-5/8"		RKB height/ground M. L.		77 m		Shoe measured depth		1744 m	
Joint Number	Equip.†		Weight per foot, grade and thread of joints	Unit Length	Cumulated Length	Joint Number	Equip.†		Weight per foot, grade and thread of joints	Unit Length	Cumulated Length				
	central	scratch					central	scratch							
			Other equipments												
LANDING STRING				74.95		40	47 ^{††} - N80 - BTC			11.82	547.88				
						41				11.47	559.35				
CSG HANGER & PUP. JNT				2.38	77.33	42				11.85	571.20				
						43				11.75	582.95				
1				11.80	89.13	44				11.96	594.91				
2				11.80	100.93	45				11.84	606.75				
3				11.83	112.76	46				11.80	618.55				
4				11.76	124.52	47				11.86	630.41				
5				11.70	136.22	48				11.82	642.23				
6				11.62	147.84	49				11.24	653.45				
7				11.75	159.59	50				11.73	665.20				
8				11.62	171.21	51				11.59	676.79				
9				11.66	182.87	52				11.57	688.36				
10				11.69	194.56	53				11.82	700.18				
11				11.96	206.52	54				11.77	711.95				
12				11.98	218.50	55				11.70	723.65				
13				11.84	230.34	56				11.75	735.40				
14				11.81	242.15	57				11.83	747.23				
15				11.90	254.05	58				11.87	759.10				
16				11.60	265.74	59				11.72	770.82				
17				11.80	277.54	60				11.73	782.55				
18				11.90	289.44	61				11.43	793.98				
19				11.78	301.22	62				11.80	805.78				
20				11.83	313.05	63				11.91	817.69				
21				11.86	324.91	64				11.80	829.49				
22				11.77	336.68	65				11.70	841.19				
23				11.73	348.51	66				11.22	852.41				
24				11.91	360.31	67				11.81	864.22				
25				11.65	371.97	68				11.86	876.08				
26				12.00	383.97	69				11.73	887.81				
27				11.74	395.71	70				11.67	899.48				
28				11.90	407.61	71				11.25	910.73				
29				11.06	418.67	72				11.24	921.97				
30				11.78	430.45	73				11.68	933.65				
31				11.75	442.20	74				11.82	945.47				
32				11.55	453.75	75				11.61	957.08				
33				11.58	465.33	76				11.75	968.83				
34				11.80	477.13	77				11.61	980.44				
35				11.91	489.04	78				11.86	992.30				
36				11.72	500.76	79	1C			11.85	1004.15				
37				11.83	512.59	80	1C			11.86	1016.01				
38				11.80	524.39	81				11.82	1027.83				
39				11.67	536.06	82				11.47	1039.30				

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR from bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint. The composition of the extension string should be detailed.

GENERAL DATA			DRILLING BIT						PERFORMANCES				PARAMETERS				MUD				DULL BIT CONDITION			TURBODRILLED									
Run number	Operation	Drive	Bit type	Bit Diameter	Manufacturer	Code IADC	Serial number	Nozzles			Operation starting depth	Footage in this operation	Drilling time (hours)	Drilling rate	Déviation	Weight on bit	R.P.M.	Flow rate	Pressure	Density (mud weight)	Plastic Viscosity (cp)	Solid content (%)	Water loss (cc)	T	B	G	Observations on grading	GEOLOGICAL FORMATION	Reason for tripping	Type of turbodrill	Turbodrill diameter	Turbodrill footage	Total time (hours)
								1 / 32	2 / 32	3 / 32																							
1U	F	R	T	26"	VAR.	L3A	52837	20	20	20	77	151	11	13.7	0°	0.2	30-50	1000 2300	350 800	SEA WATER													
2U	RA	R	T	17 1/2"	VAR.	L3A	52747	18	18	18	178	50	3:30	14.28		0-3	50	2900	1450	1.11	17												
"	F	"	"	"	"	"	"	"	"	"	228	209 + 569	10:30 15	19.9	1/2°	5/15	110	2600	1200	1.11	7		54	3	5	-	A-C						
3	F	"	"	"	SMI	DSJ	XC5026	"	"	"	437	595	44:30	13.37	1/2°	15 20	110	3100	2200	1.15	8		18				A-C	E					
4	RA	"	"	12 1/4"	REED	S11	A26059	-	-	-	996	36	2:30	14.4		0/5	50/60	2050	700	1.04	9	2	7.2										
4	F	"	"	"	"	"	"	-	-	-	1032	10	2	5	1°	16	70	"	"	7.07	12	4	6.2	2	2	-					E		
5	F	"	"	"	HUG	X3A	548 JF	13	13	13	1042	373	23	16.2	1 1/2°	20 27	110	2050	2100	1.10	11	6	5.6	5	6	-	M-C						
6	F	"	"	"	SMI	SDS	CK 9947	"	"	"	1415	341	25:30	13.37	1/2°	20 25	110	2050	2140	1.07	9	6	10.8	5	4	-	A-M	E					
4R	RA	"	"	"	REED	S11	A26059	-	-	-	1725	31	1	31		5/7	110	2100	850	1.09	18	6	7										
7	RA	"	"	8 1/2"	HUG	X3A	402 YA	14	14	14	1649	62	4	15.5		5/10	50	1200	800	1.11	21	6	4.8										
7	F	"	"	"	"	"	"	"	"	"	1756	105	13	8.07	1 1/2°	11 14	100	1250	880	1.11	19	6	5.8	5	7	-	AM				A		
8	F	"	"	"	SMI	SDGH	CE 3642	11	11	11	1861	65	7:30	8.66	1 1/2°	7	100	1150	1200	1.11	19	6	5.8	6	2	1/16	S-M				B		
9	F	"	"	"	"	"	BV 6302	13	13	13	1926	65	7:30	8.66	1 1/2°	7/9	100	1200	900	1.11	18	6	5.2	4	2	1/16	S-M				B		
10	F	"	"	"	SMI	SVH	CH 0889	13	13	13	1991	80	12:30	6.4	1 1/2°	11 16	100	1200	900	1.11	17	6	4.4	6	4	1/8	A-S				A		
11	F	"	"	"	HUG	J22	785 SS	12	12	12	2071	349	31	11.2	1 1/2°	18 20	70	1200	1100	1.12	15	6	5.2	3	5	1/16	S-A-M				D		
12	F	"	"	"	"	"	783 KL	12	12	12	2420	272	33	8.24	1°	18 20	70	1200	1200	1.14	16	6	5	5	8	-	S-A-M				A		
13	F	"	"	"	SMI	F3	XC 4089	12	12	12	2692	80	14:30	5.52		18 20	70	1200	1250	1.15	16		5				S-A-M				E		

OPERATION
 F - Drilling
 K - Coring
 T - Turbine
 RA - Redrilling (formation or cement)
 RA - Reaming and control trip, milling, washing over
 P - Pilot hole drilling
 E - Hole opening
 PE - Simultaneous plotting and hole opening
 Note: Use one line for each operation
 Ex.: Redrilling followed by drilling = 2 lines

DRIVE
 R - Rotary
 T - Turbine
 M - Bottom hole motor other than turbine
BIT DESIGN
 T - Tricones (rock bits)
 B - Biscans
 M - Other cone rock bits
 L - Mill
 D - Diamond bit
 C - Diamond core head
 A - Rock bit w/removable center
 E - Diamond bit w/removable center
 L - Drag bit
 S - Special

MANUFACTURER
 The code constitutes the first three letters of the manufacturer name
 HUG - Hughes
 SMF - Smith
 REE - Reed
 SEC - Security
 SMF - SMF
 DIA - Diamond bore
 DRI - Drilling service
 CHR - Christiansen
CODE
 IADC code for rock bits (SEE Formulare Foreur, p. 200 à 204).

DULL BIT CONDITION
 T1 - Tooth height 1/8 gone
 T2 - Tooth height 1/4 gone
 T3 - Tooth height 3/8 gone
 T4 - Tooth height 1/2 gone
 T5 - Tooth height 5/8 gone
 T6 - Tooth height 3/4 gone
 T7 - Tooth height 7/8 gone
 T8 - Tooth height all gone
 Bearing wear B1 to B8
 B1 - 1/8 of life elapsed
 B2 - 2/8 of life elapsed
 B8 - Out of service

OBSERVATION ON GRADING:
Teeth and cones
 CT - Chipped teeth
 ET - Eroded teeth or inserts
 BT - Broken teeth or inserts
 BU - Bit balled up
 RG - Rounded gauge teeth or inserts
 WG - Worn or lost gauge teeth or inserts
 FC - Flat crested
 EC - Eroded cone shell
 BS - Broken worn or lost spear point
Bearings
 OL - Conals locked
 BF - Bearing failure
 SF - Seal failure
 LC - Lost cone(s)
 BP - Broken bearing pins or journals
Bit body
 BL - Bent legs - Pinched
 PN - Plugged nozzle(s)
 EN - Eroded nozzle(s)
 LN - Lost nozzle(s)
 DB - Damaged nozzle(s)

FORMATION
 A - Clay
 C - Limestone of dolomite
 M - Marl or shale
 D - Chalk
 S - Sand
 G - Sandstone
 Q - Quartz
 V - Chert
 X - Granite
 K - Conglomerate
 I - Gypsum - Anhydrite
 L - Saltz
 The lithology drilled in the previous 24 Hrs will be defined by the codes of the last formations drilled, with a maximum of three placed in order of relative importance.
 Ex. (1) Ap : Plastic clay
 (2) AS : Clay and sand
 (3) Mct : Marl and soft limestone
 (4) MChv : Marl and tight dolomite w/Chert
 Additf necessary a small letter showing the formation characteristics : p : plastic ; h : tight ; f : laminated ; r : soft
 Ex. 1) A1 : laminated clay - 2) Ch : Tight dolomite

REASON FOR TRIPPING
 A - Penetration slowing down
 B - Increasing torque
 C - Hydraulic problems
 D - Maximum allowed rotating time reached, or bit dulled enough not to allow an other normal drilling run.
 E - Reason other than bit problems
 Ex. (1) Drilling modification
 (2) Casing
 (3) Test
 etc...