SIMON PETROLEUM TECHNOLOGY

WELL: 15/6-5

Print: 1871F	Units: [✓ M] F	Top	Bottom	Scale	TD
Length: 31 FT	Initials: JPK	145	3845	1/500	3824

DIGITAL WIRELINE LOGS PACKAGE
1994

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SIMON PETROLEUM TECHNOLOGY

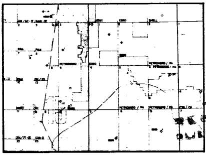
COMPLETION LOG

Mb.101.1

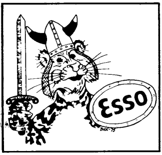
COMPLETION-Ø

Esso Exploration and Production Norway Inc.

15/6-5 COMPLETION LOG

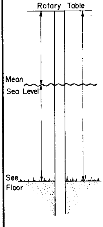


9 JUN 1981



COUNTRY: Norway
CONCESSION: PL 029
COORDINATES:
Long.: E 1°45'50.745"
Lat.: N 58°30'29.868"
Well Classification: Field Appraisal
STATUS: Plugged and Abandoned
Elev. KB: 24 m
Water Depth: 108 m
Total Depth: 3824 m
Deepest Form. Penetrated: Triassic
Date Spudded: 10/10/77
Date Compl.: 30/11/77
RIG: Drillmaster
Contractor: Norsedrill
MUD-Logging: Geoservices
Electric Logging: Schlumberger
Remarks:

ELEVATION
(not to scale)



RUN N°	DATE	MEAS. INTERVAL (m)	BIT SIZE	BHT °F	SPACINGS	MUD Type	MUD Grad psi/1000	MUD API WtrL	MUD Resistivity in Ohm m/temp °F Schl surf	MUD Resistivity in Ohm m/temp °F Schl BHT	MUD FILTR Resistivity in Ohm m/temp °F Schl surf
ISF-Sonic											
1	15/10	166-383	17½		Fresh w. ligno				1.2/64		1.07/64
2	20/10	373.5- 1196.5	17½	104	Sea water				0.39/72	0.27/ 104	0.36/66
3	31/10	1197.5- 2848	12 1/4	215	Gel/CMC				0.35/ 66	0.11/ 215	0.24/62
4	19/11	2838.5- 3717	8½	205	Sea water				0.474/ 84	0.19/ 205	0.293/58
5	22/11	3524-3822	8½	229	Gel/CMC/Ligno				0.454/ 78	0.16/ 229	0.308/63
Cement bond log											
1	17/10	153.5-348									
2	21/10	372-1165									
Temperature log											
1	2/11	1800- 2738	12 1/4	172							
FDC-CNL											
1	19/11	2838.5- 3718.5	8½	218	Sea water Gel/ligno				0.474/ 84	0.19/ 205	0.293/58
IES											
1	22/11	3250- 3824	8½	226	Gel/ligno				0.454/ 78	0.161/ 226	0.308/63
Dipmeter											
1	24/11	2838.5- 3823	8½	234	Gel/ligno				0.454/ 78	0.155/ 234	0.308/63

LITHOLOGIC SYMBOLS
(PROVISIONALLY APPROVED FOR FIELD TESTING)

?	CLAY (NONFISSILE) - CLAYSTONE < 03mm
– –	CLAY (FISSILE) OR SHALE < 03mm
∿∿∿	MUDSTONE
∿∿∿	SILT, COARSE (03-06mm) AND SILSTONE
·	SAND (06-2 mm) AND SANDSTONE
○	GRANULE BOULDER (> 2mm) AND CONGLOMERATE
Q	QUARTZ
▭	FELDSPAR
↗	LITHIC OR ROCK FRAGMENTS
◆	PYRITE
ϕ	SIDERITE
△	CHERT
■	COAL
▬	CARBONACEOUS MATTER
∽	GLAUCONITE
'	PHOSPHATE
V	VOLCANIC ASH OR BENTONITE
˥	MICA
++	GYPSUM
+	ANHYDRITE
×	HALITE
✱	POTASSIUM OR MAGNESIUM SALTS

┴┬	LIMESTONE
┴┬	DOLOMITIC LIMESTONE ⊥⊥ VERY DOLOMITIC
⁄┴	CALCAREOUS DOLOMITE ⊥⊥ VERY CALCAREOUS
⁄⁄	DOLOMITE
∽	MARL

SPECIFY TYPE OF CARBONATE BY ADDING TO BASIC LIMESTONE OR DOLOMITE SYMBOL THE APPROPRIATE ABBREVATION AS SHOWN BELOW

M	M = MICRITIC LIMESTONE
G	G = GRAIN LIMESTONE (FOR GENERAL USE)
S	S = SKELETAL LIMESTONE (FRAGMENTED AND NONFRAGMENTED)
P	P = PELLETAL LIMESTONE
F	F = FRAMEBUILDER LIMESTONE
O	O = OOLITIC LIMESTONE
K	K = CHALK
D	D = DETRITAL LIMESTONE
L	L = LUMP LIMESTONE
m	m = MICROCRYSTALLINE OR MICROGRAINED < 03mm

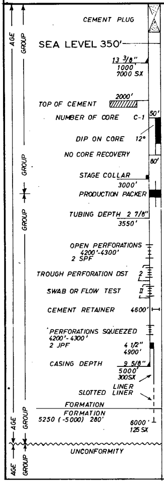
IGNEOUS ROCKS

⁘	IGNEOUS ROCKS IN GENERAL (WRITE OUT THE NAME WHERE THE SPECIFIC TYPE IS KNOWN)

METAMORPHIC ROCKS

▨	METAMORPHIC ROCKS IN GENERAL (WRITE OUT THE NAME WHERE THE SPECIFIC TYPE IS KNOWN)

9 JUN 1981



◔	SHOW OR STAIN	●	OIL PRODUCTION
◔	HYDROCARBON CUT	☼	GAS PRODUCTION
◕	FLUORESCENCE	✹	CONDENSATE PRODUCTION
☼	GAS SHOW	○	WATER PRODUCTION
	ABOVE SYMBOLS MAY BE COMBINED	◒	INTERPRETED OIL PRODUCTIVE
‖	DEVIATED OR SIDETRACKED HOLE	☼	INTERPRETED GAS PRODUCTIVE
2	OPEN HOLE DST [2 MISRUN	◯	INTERPRETED WATER BEARING
II	OPEN HOLE SWAB OR FLOW TEST	○	INTERPRETED CONDENSATE PRODUCTION
—○	WIRE LINE TEST		
←	SWC w/ RECOVERY		

SWC w/ NO RECOVERY
+ PO SO = SHOT OFF PO = PULLED OFF
MF = MISFIRE DB DAMAGED BULLET

— ◔ ☼	SWC WITH SHOW
●→	BLOWOUT OF OIL
☼→	BLOWOUT OF GAS
○→	WATER FLOW
v	LOSS OF DRILLING FLUID AND PERCENTAGE
v v	LOST CIRCULATION COMPLETELY
OEM 9,2 - 8%	MUD TYPE WEIGHT & OIL CONTENT

DEVIATION SURVEY	1°
DIRECTIONAL SURVEY	3° N 50° E
NORMAL FAULT WITH DISPLACEMENT	300'
REVERSE FAULT WITH DISPLACEMENT	300'
DIPMETER SURVEY WITH DIP DIRECTION AND ANGLE	10° Az 225°
LOG RUNS WITH SCALES	10 mV R-1 20 OHMS 1000 MMHOS 15 mV R-2 50 OHMS 2000 MMHOS

1/500 Schlumberger

SIMULTANEOUS

INDUCTION RESISTIVITY SONIC

ISF · SONIC

COUNTRY NORWAY
FIELD or LOCATION WILDCAT
WELL 15/6-5
COMPANY ESSO EXPRO.

COMPANY ESSO EXPRO. NORWAY INC.

WELL 15/6-5

FIELD WILDCAT

COUNTRY NORWAY NORTH SEA

LOCATION 58° 30' 29.837'' N.
1° 45' 50.703'' E.
Sec. ______ Twp. ______ Rge. ______

Other Services:
IES, FDC-CNL
HDT, RFT, CST

Permanent Datum: MSL, Elev. 0.0
Log Measured From KB, 23.9M Ft. Above Perm. Datum
Drilling Measured From KB

Elev: K.B. 23.9 M.
D.F. 23.5 M.
G.L. -132 M.

Date	15 OCT 77	20 OCT 77	31 OCT 77	19 NOV 77	22 NOV 77
Run No.	1	2	3	4	5
Depth–Driller	385.7 M	1210.4 M	2850.6 M	3718.56 M	3825 M.
Depth–Logger	383.2 M	1208.2 M	2848.3 M	3719.5 M	3824 M.
Btm. Log Interval	382.9 M	1207.9 M	2848 M	3717 M	3822 M.
Top Log Interval	166.5 M	373.8 M	1197.5 M	2838.5 M	3524 M.
Casing–Driller	30'' @ 166.8	20'' @ 373.5	13⅜'' @ 1197.6	9⅝'' @ 2839.76	9⅝'' @ 2839.76
Casing–Logger	166 M	373.8 M	1197.5 M	2838.5 M	2838.5 M.
Bit Size	17½''	17½''	12¼''	8½''	8½''
Type Fluid in Hole	FRESH WATER LIGNOSULHO	SEAWATER GEL/CMC	SEAWATER GEL/CMC	SEAWATER GEL/CMC/LIGNO	SEAWATER GEL/CMC/LIGNO
Dens. | Visc.	8.7 | 42	9.1 | 37	10.2 | 29	11.4 | 62	11.2 | 71
pH | Fluid Loss	- | 720 ml	9.1 | 22 ml	10.4 | 5.6 ml	10.4 | 4.8 ml	10.1 | 5.7 ml
Source of Sample	FLOWLINE	FLOWLINE	FLOWLINE	FLOWLINE	FLOWLINE
Rm @ Meas. Temp.	1.2 @ 64 °F	.39 @ 72 °F	0.35 @ 66 °F	.474 @ 84 °F	.454 @ 78 °F
Rmf @ Meas. Temp.	1.07 @ 64 °F	.36 @ 66 °F	0.24 @ 62 °F	.293 @ 58 °F	.308 @ 63 °F
Rmc @ Meas. Temp.	1.22 @ 64 °F	.41 @ 66 °F	0.41 @ 62 °F	.693 @ 48 °F	.697 @ 51 °F
Source: Rmf | Rmc	M | M	M | M	M | M	M | M	M. | M.
Rm @ BHT	- @ NR °F	.27 @ 104 °F	0.11 @ 215 °F	.19 @ 205 °F	.16 @ 229 °F
Time Since Circ.	3 HRS.	4 HRS.	10 HRS.	11.5 HRS.	15.5 HRS.
Max. Rec. Temp.	NR °F	104 °F	215 °F	206 °F	229 °F
Equip. | Location	4303 | ONY	4303 | ONY	4303 | ONY	4303 | ONY	4303 | ONY
Recorded By	R. MIRZWINSKI	R. MIRZ.	R. MIRZ.	M. CAMBERS	M. CHAMBERS
Witnessed By	K. CILETTE	R. KOENIC	B. HALLSTEIN	R. KOENIC	KOENIC/HALLSTEIN

FOLD HERE The well name, location and borehole reference data were furnished by the customer

This Log Made from Digital Tape

EQUIPMENT DATA

Run Nº	Induction Panel	Induction Cartridge	Induction Sonde	Sonic Panel	Sonic Oscil.	Sonic Cartridge	Sonic Sonde	Aux and Memory Panel SRP-	Aux and Memory Panel MDU-	Aux and Memory Panel LP-	G R Cartridge	Tape Recorder	Caliper
1	UD 709	QB 757	VA 756	JG 159	B 615	EA 176	NA1058	CC814	AB 738	-	JAA527	E 1926	-
2	"	"	"	"	"	"	"	"	"	"	"	"	"
3	"	"	"	"	"	"	"	"	"	"	"	"	"
4	UD 713	QB 713	VA 717	"	"	"	"	"	"	"	"	"	"

LOGGING DATA

Run Nº	Gamma Ray Time Constant	Gamma Ray Speed	Stand-off inches	Centering Device	Zero cond. adjusted at Surface	Zero cond. adjusted at Depth	RSFL averaged Yes	RSFL averaged No	Max. hole deviation
1	2	1800'/HR	1½	ECCENT.	N/A	N/A	-	X	NA °@ -
2	1	3600'/HR	"	"	"	"	"	"	" °@ -
3	"	"	"	"	"	"	"	"	" °@ "
4	"	"	"	NONE	"	"	"	"	3 °@ 12200'

CALIBRATION DATA

Run Nº	Gamma Ray API Scale	Gamma Ray Background CPS	Gamma Ray Total CPS	
1	0-165	N/A	N/A	SRP-CC USED
2	"	"	"	"
3	"	"	"	"
4	"	"	"	"

REMARKS SLF-E RUN WITH PEH-A TTI RECORDED 35.5 FEET DEEP
RUN 1: POOR SONIC DUE TO LARGE HOLE
RUN 2: INDUCTION SHIFTED X2 FROM FIELD PRINT TO CORRECT FOR OSCILLATOR MALFUNCTION
RUN 3: " " " " " " " " " " "
RUN 4: PLAYED BACK TO CORRECT TRUE DEPTH
WAVE MOTION COMPENSATOR USED : MAX. HEAVE = 2 M.

EQUIPMENT DATA

Induction Panel	Induction Cartridge	Induction Sonde	Sonic Panel	Sonic Osci.	Sonic Cartridge	Sonic Sonde	Aux and Memory Panel SRP-	Aux and Memory Panel MDU-	LP	G R Cartridge	Tape Recorder	Caliper
D 713	QB 713	VA 717	JC 159	B 615	EA 176	NA1058	CC 814	AB 738	-	JAA527	E 1926	-

1981

LOGGING DATA

Gamma Ray Time Constant	Gamma Ray Speed	Stand-off inches	Centering Device	Zero cond. adjusted at Surface	Zero cond. adjusted at Depth	RSFL averaged Yes	RSFL averaged No	Max. hole deviation
1	3600'/HR.	1½	NONE	N/A	N/A	-	X	3 °@ 12200'

CALIBRATION DATA

Gamma Ray API Scale	Gamma Ray Background CPS	Gamma Ray Total CPS	
0-165	N/A	N/A	SRP-CC USED

SPONTANEOUS POTENTIAL
millivolts

10

Depths

RESISTIVITY
ohms - m

DEEP INDUCTION R_{LD}

0.2 1.0 10 100 1000 2000

SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000

TTI

10 msec

1 m sec

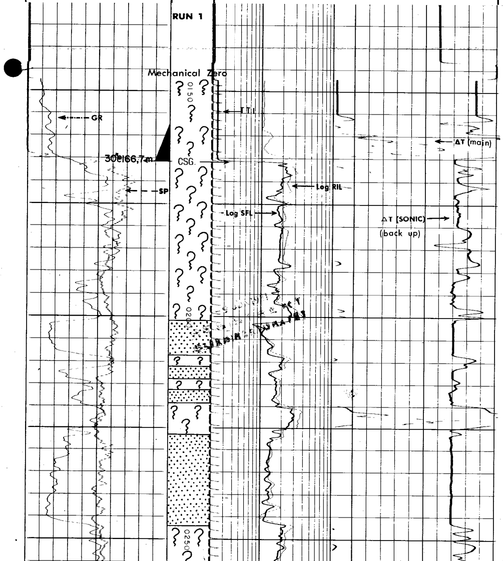
GAMMA RAY
api units

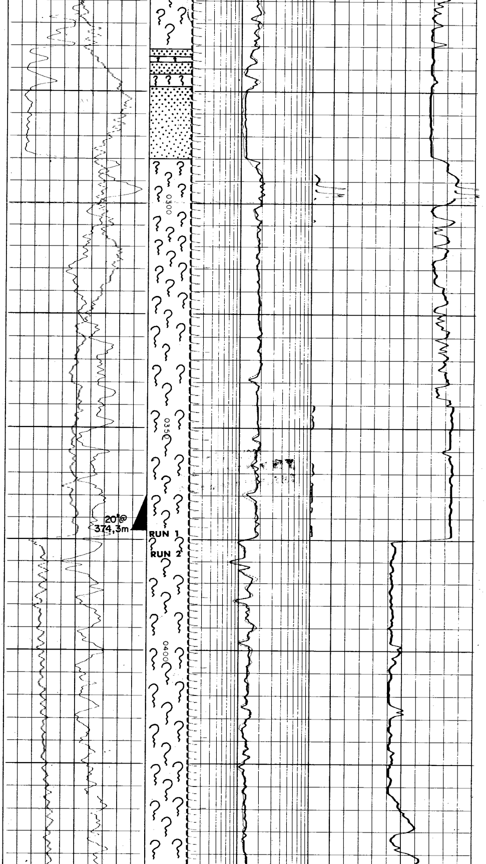
0 100

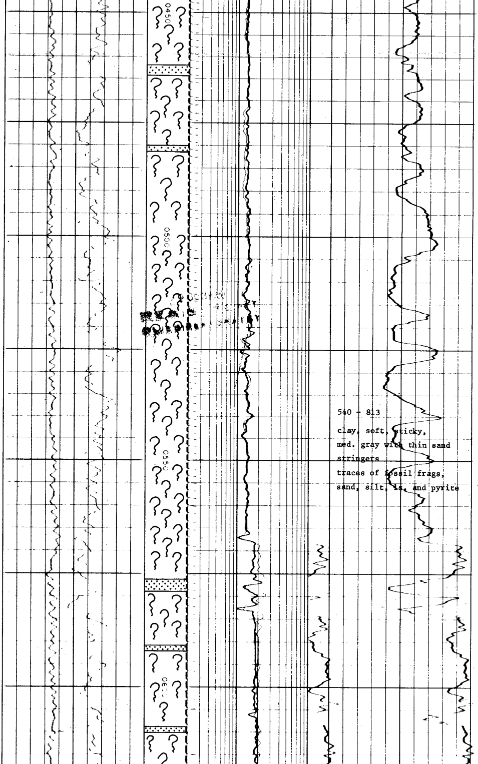
1/500

INTERVAL TRANSIT TIME Δ t
microsecond per foot

140 40



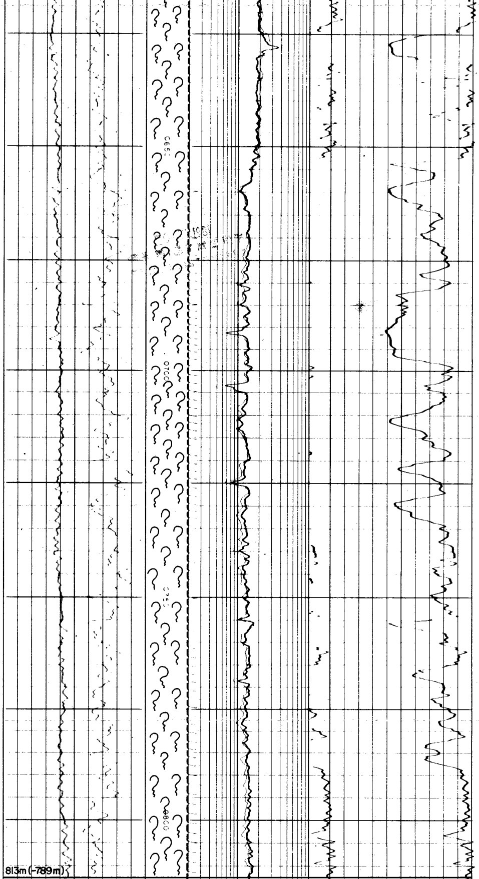


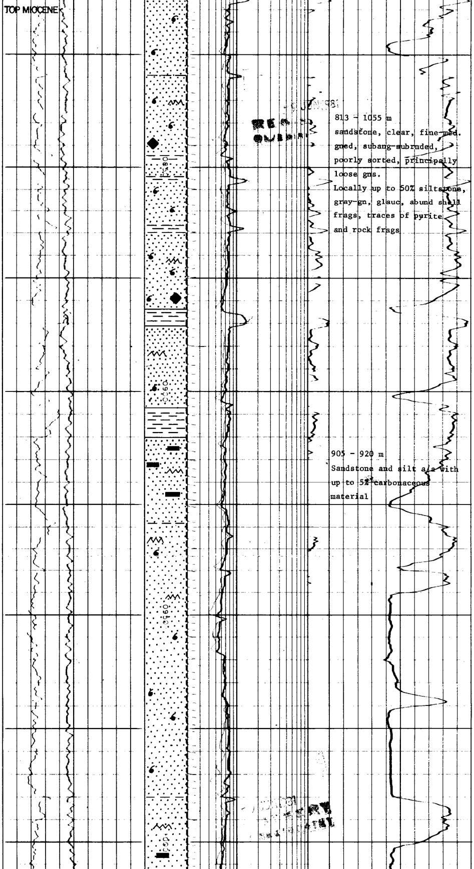


540 - 813

clay, soft, sticky, med. gray with thin sand stringers

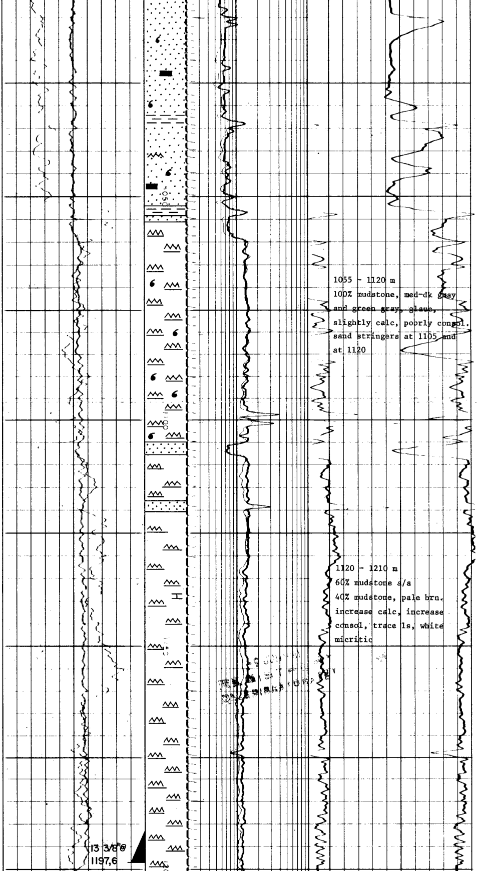
traces of fossil frags, sand, silt, ls, and pyrite





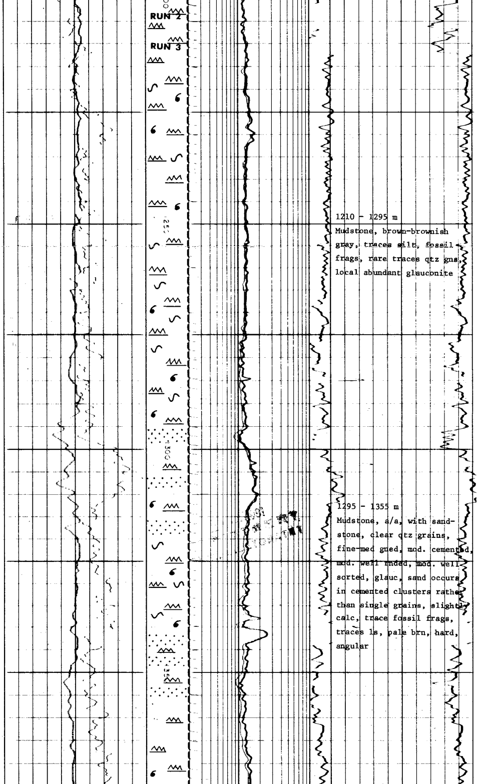
813 - 1055 m
sandstone, clear, fine-med. gned, subang-subrnded, poorly sorted, principally loose gns.
Locally up to 50% siltstone, gray-gn, glauc, abund shell frags, traces of pyrite and rock frags

905 - 920 m
Sandstone and silt a/a with up to 5% carbonaceous material



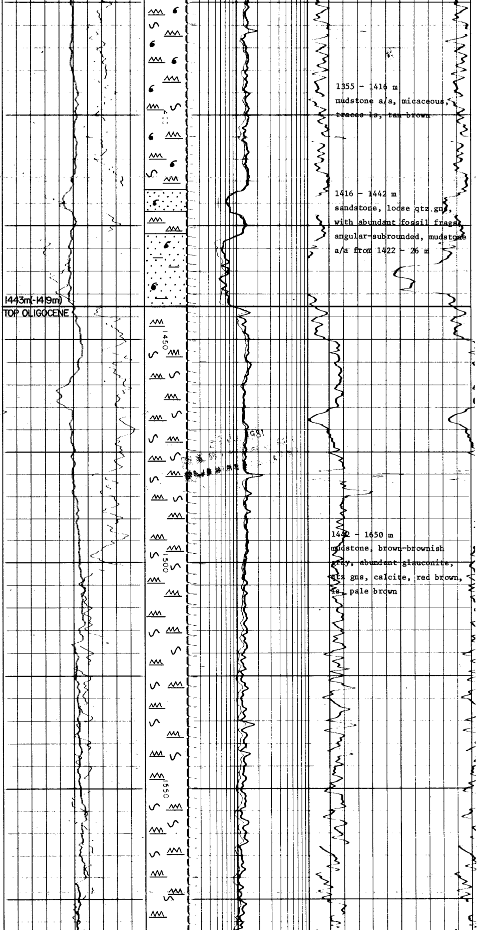
1055 - 1120 m
100% mudstone, med-dk gray and green gray, glauc, slightly calc, poorly consol. sand stringers at 1105 and at 1120

1120 - 1210 m
60% mudstone a/a
40% mudstone, pale brn. increase calc, increase consol, trace ls, white micritic



1210 - 1295 m
Mudstone, brown-brownish gray, traces silt, fossil frags, rare traces qtz gns, local abundant glauconite

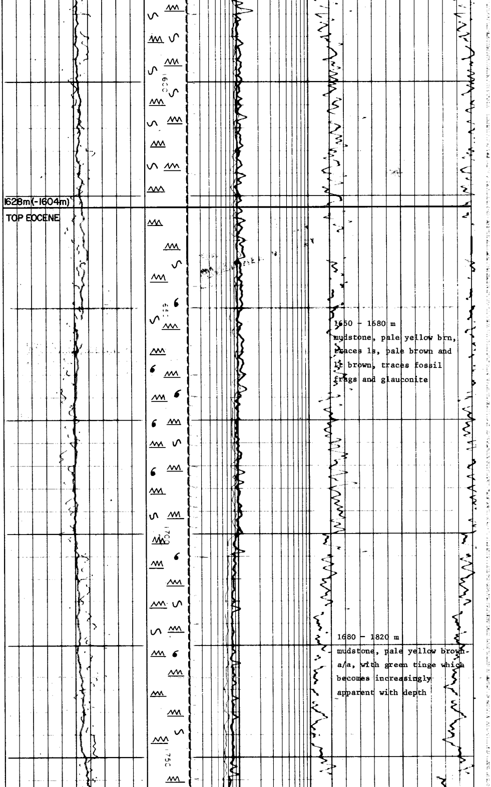
1295 - 1355 m
Mudstone, a/a, with sandstone, clear qtz grains, fine-med gned, mod. cemented, mod. well rnded, mod. well sorted, glauc, sand occurs in cemented clusters rather than single grains, slightly calc, trace fossil frags, traces ls, pale brn, hard, angular



1355 - 1416 m
mudstone a/a, micaceous, traces ls, tan brown

1416 - 1442 m
sandstone, loose qtz gns, with abundant fossil frags, angular-subrounded, mudstone a/a from 1422 - 26 m

1442 - 1650 m
mudstone, brown-brownish gray, abundant glauconite, qtz gns, calcite, red brown, ls, pale brown

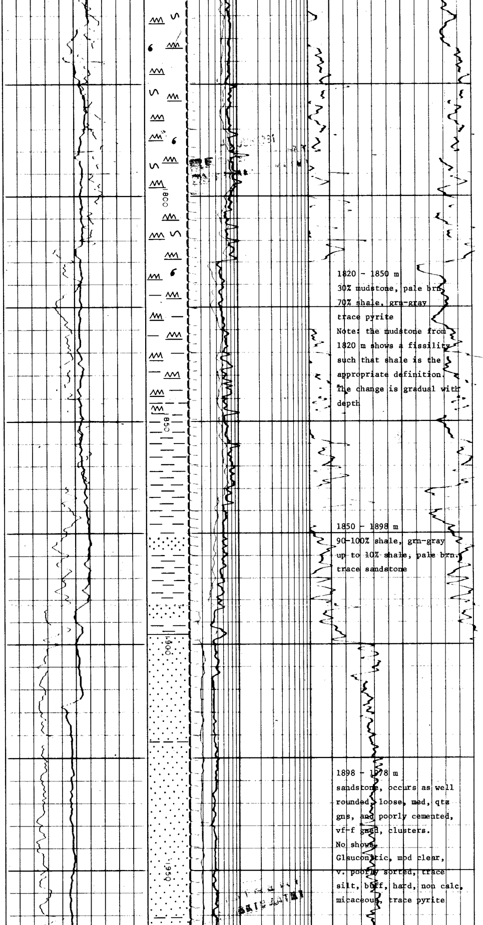


1628m(-1604m)

TOP EOCENE

1650 - 1680 m
mudstone, pale yellow brn, traces ls, pale brown and lt brown, traces fossil frags and glauconite

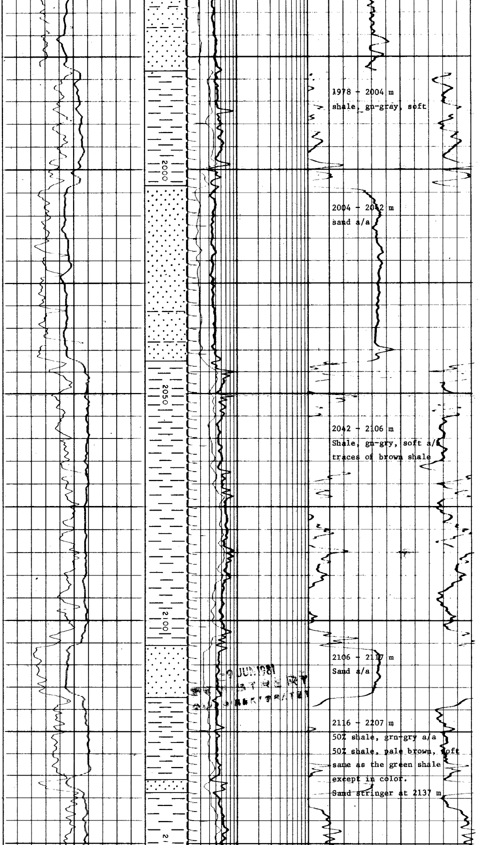
1680 - 1820 m
mudstone, pale yellow brown-a/a, with green tinge which becomes increasingly apparent with depth



1820 - 1850 m
30% mudstone, pale brn
70% shale, grn-gray
trace pyrite
Note: the mudstone from 1820 m shows a fissility such that shale is the appropriate definition. The change is gradual with depth

1850 - 1898 m
90-100% shale, grn-gray
up to 10% shale, pale brn.
trace sandstone

1898 - 1978 m
sandstone, occurs as well rounded, loose, med, qtz gns, and poorly cemented, vf-f gned, clusters.
No shows.
Glauconitic, mod clear, v. poorly sorted, trace silt, buff, hard, non calc, micaceous, trace pyrite



1978 - 2004 m
shale, gn-gray, soft

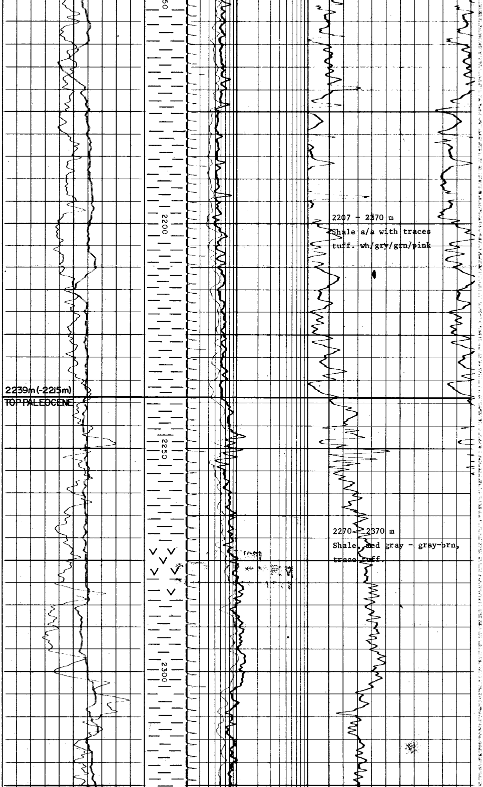
2004 - 2042 m
sand a/a

2042 - 2106 m
Shale, gn-gry, soft a/a
traces of brown shale

2106 - 2117 m
Sand a/a

2116 - 2207 m
50% shale, grn-gry a/a
50% shale, pale brown, soft
same as the green shale
except in color.
Sand stringer at 2137 m

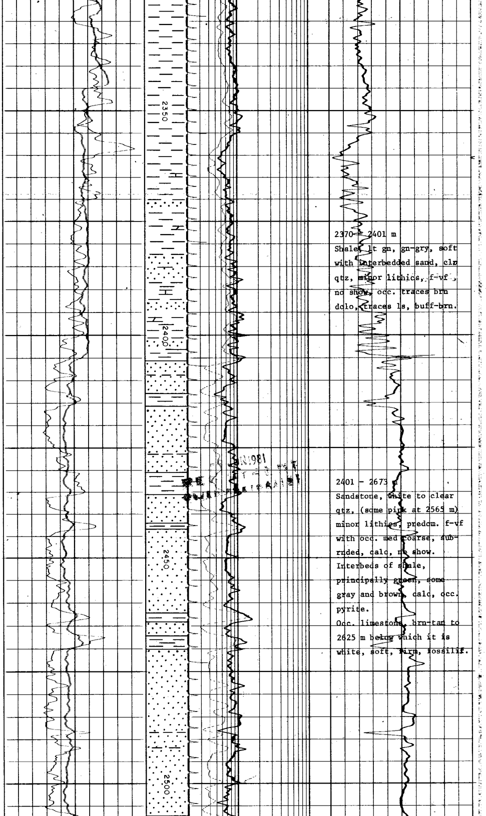
-9 JUN 1981



2239m (-2215m)
TOP PALEOCENE

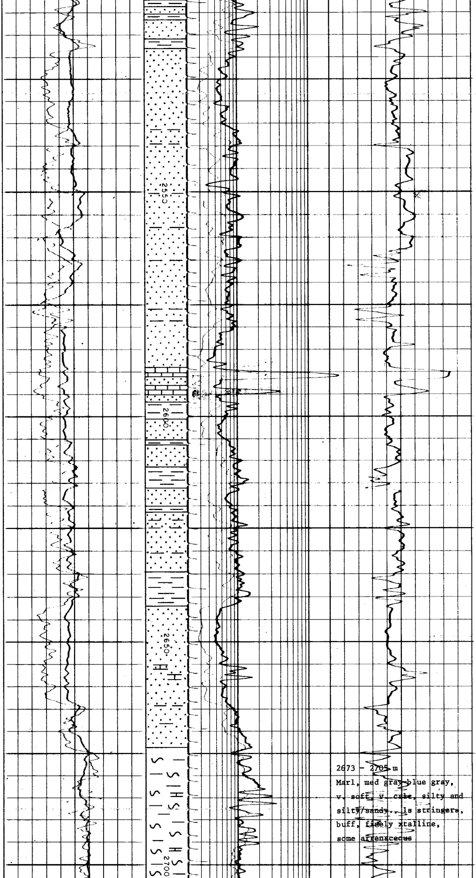
2207 - 2270 m
Shale a/a with traces
tuff. wh/gry/grn/pink

2270 - 2370 m
Shale, med gray - gray-brn,
trace tuff.

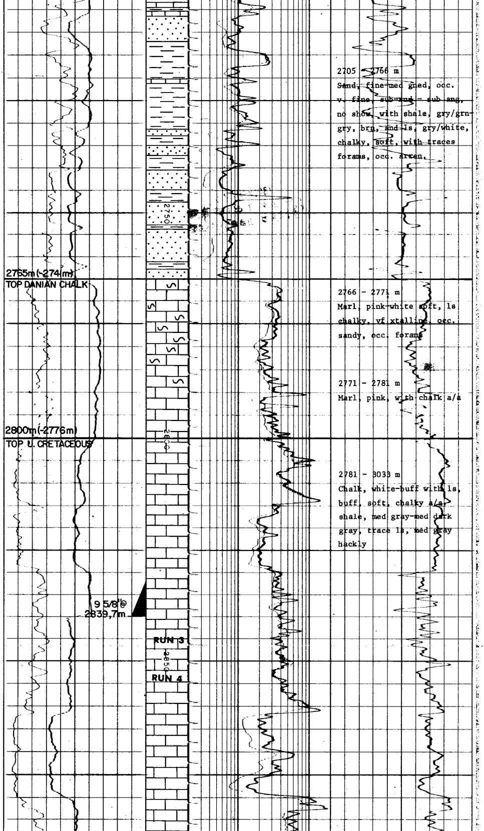


2370 – 2401 m
Shale, lt gn, gn-gry, soft with interbedded sand, clr qtz, minor lithics, f-vf, no show, occ. traces brn dolo, traces ls, buff-brn.

2401 – 2673 m
Sandstone, white to clear qtz, (some pink at 2565 m) minor lithics, predom. f-vf with occ. med coarse, sub-rnded, calc, no show.
Interbeds of shale, principally green, some gray and brown, calc, occ. pyrite.
Occ. limestone, brn-tan to 2625 m below which it is white, soft, firm, fossilif.



2673 - 2705 m
Marl, med gray-blue gray,
v. soft, v. calc, silty and
silty/sandy., ls stringers,
buff, finely xtalline,
some arrenacecus

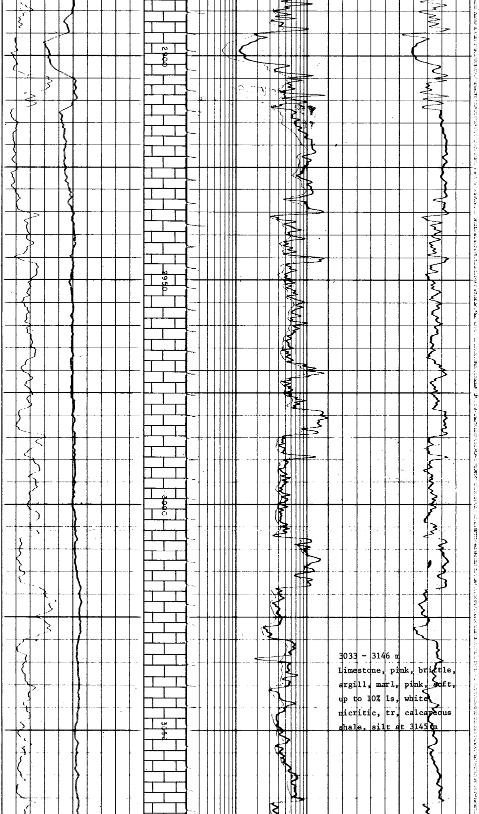


2705 - 2766 m
Sand, fine-med gned, occ.
v. fine, sub-rnd - sub ang,
no show, with shale, gry/grn-gry, brn, and ls, gry/white,
chalky, soft, with traces
forams, occ. arren.

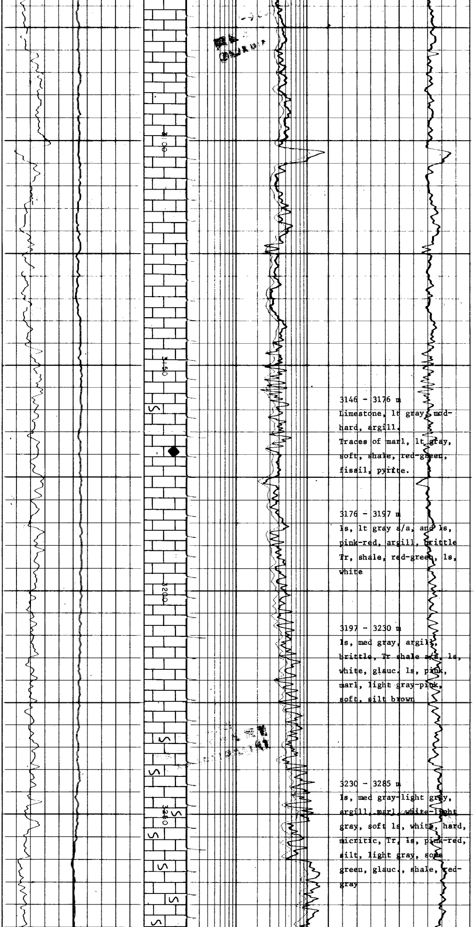
2766 - 2771 m
Marl, pink-white soft, ls
chalky, vf xtalline, occ.
sandy, occ. forams

2771 - 2781 m
Marl, pink, with chalk a/a

2781 - 3033 m
Chalk, white-buff with ls,
buff, soft, chalky a/a,
shale, med gray-med dark
gray, trace ls, med gray
hackly



3033 - 3146 m
Limestone, pink, brittle, argill, marl, pink, soft, up to 10% ls, white micritic, tr, calcareous shale, silt at 3145 m

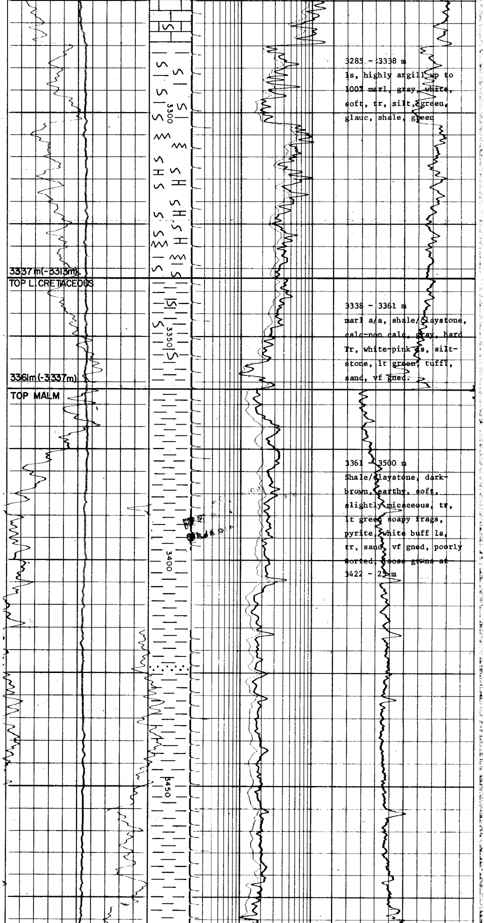


3146 - 3176 m
Limestone, lt gray, med-hard, argill.
Traces of marl, lt gray, soft, shale, red-green, fissil, pyrite.

3176 - 3197 m
ls, lt gray a/a, and ls, pink-red, argill, brittle
Tr, shale, red-green, ls, white

3197 - 3230 m
ls, med gray, argill, brittle, Tr shale a/a, ls, white, glauc. ls, pink, marl, light gray-pink, soft, silt brown

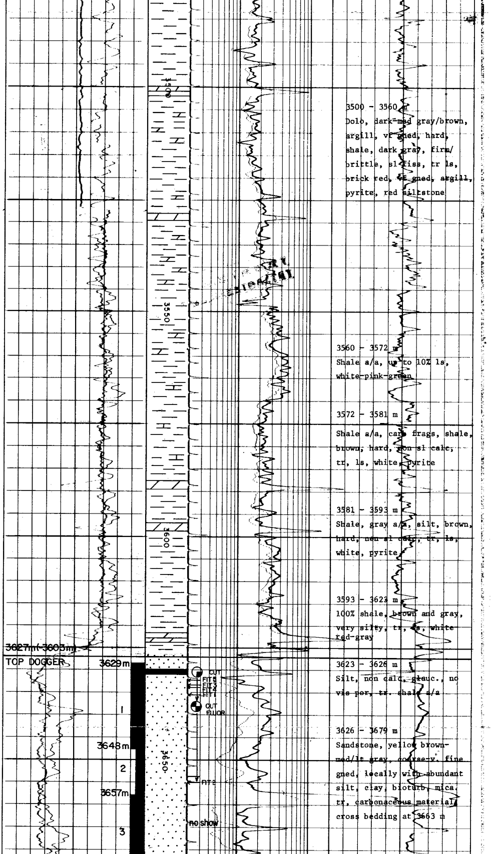
3230 - 3285 m
ls, med gray-light gray, argill, marl, white-light gray, soft ls, white, hard, micritic, Tr, ls, pink-red, silt, light gray, some green, glauc., shale, red-gray



3285 - 3338 m
ls, highly argill up to 100% marl, gray, white, soft, tr, silt, green, glauc, shale, green

3338 - 3361 m
marl a/a, shale/claystone, calc-non calc, gray, hard Tr, white-pink ls, siltstone, lt green, tuff?, sand, vf gned.

3361 - 3500 m
Shale/claystone, dark-brown, earthy, soft, slightly micaceous, tr, lt green soapy frags, pyrite, white buff ls, tr, sand, vf gned, poorly sorted, loose grains at 3422 - 25 m



3500 - 3560 m
Dolo, dark-med gray/brown, argill, vf gned, hard, shale, dark gray, firm/brittle, sl fiss, tr ls, brick red, vf gned, argill, pyrite, red siltstone

3560 - 3572 m
Shale a/a, up to 10% ls, white-pink-green

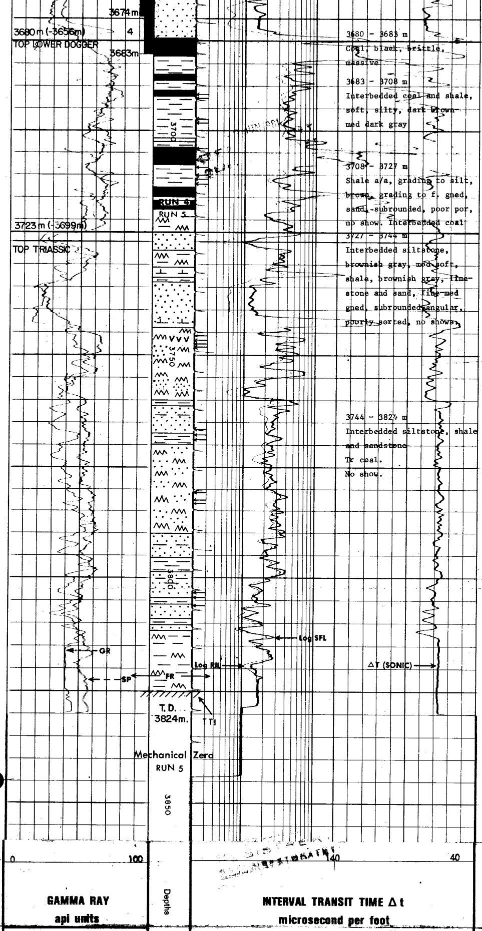
3572 - 3581 m
Shale a/a, carb frags, shale, brown, hard, non sl calc, tr, ls, white, pyrite

3581 - 3593 m
Shale, gray a/a, silt, brown, hard, non sl calc, tr, ls, white, pyrite

3593 - 3623 m
100% shale, brown and gray, very silty, tr, ls, white red-gray

3623 - 3626 m
Silt, non calc, glauc., no vis por, tr. shale a/a

3626 - 3679 m
Sandstone, yellow brown-med/lt gray, coarse-v. fine gned, locally with abundant silt, clay, bioturb, mica, tr, carbonaceous material, cross bedding at 3663 m



3680 - 3683 m
Coal, black, brittle, massive

3683 - 3708 m
Interbedded coal and shale, soft, silty, dark brown-med dark gray

3708 - 3727 m
Shale a/a, grading to silt, brown, grading to f. gned, sand, -subrounded, poor por, no show. Interbedded coal

3727 - 3744 m
Interbedded siltstone, brownish gray, mod soft, shale, brownish gray, limestone and sand, fine-med gned, subrounded-angular, poorly sorted, no shows.

3744 - 3824 m
Interbedded siltstone, shale and sandstone
Tr coal.
No show.

0.2 1.0 10 100 1000 2000

SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000

DEEP INDUCTION R_{ILD}

10
− |←→| +

SPONTANEOUS POTENTIAL
millivolts

Depths

TTI
10 m sec
1 m sec

RESISTIVITY
ohms - m

Schlumberger

SIMULTANEOUS
INDUCTION RESISTIVITY
SONIC
ISF - SONIC

FIT

FIT No. 1	3636 m	Rec. 3 Qts filtrate 15000 ppm Cl
FIT No. 2	3655.5 m	Rec. 3 Qts filtrate 14400 ppm Cl
FIT No. 3	3633 m	Rec. 1 gal filtrate 14500 ppm Cl
FIT No. 4	3633.4 m	Rec. 1 gal filtrate 14000 ppm Cl
FIT No. 5	3632.6 m	Rec. 2½ gal filtrate 14000 ppm Cl