ESSO EXPLORATION NORWAY INC.

GEOLOGICAL SUMMARY

COMPLETION REPORT

30/10-3

Stavanger

WVN

September 1974

ESSO 30/10-3

Geologic Summary

C o n t e n t s

I. Introduction:

A. Well Designation: Esso 30/10-3
B. Well Classification: Wildcat
C. Well Location:

1) Country - Norway, offshore
2) License - 030
3) Coordinates - Latitude: 60° 03' 12.3" N
Longitude: 2° 10' 02.2" E
4) Seismic Location: Line SC 73-27, SP 2390
5) Water Depth: 346'

II. Purpose of the Well:

30/10-3 was drilled in order to:

A. Evaluate the Lower Eocene sand (Frigg Field Clastic Tongue)

B. Field Confirmation Test (ODIN Field)

III. Results of the well:

Esso 30/10-3 well reached a total depth of 7399 feet and bottomed in the Paleocene sand. The Frigg Clastic Tongue and Paleocene sand were present as predicted.

The Paleocene sand was void of hydrocarbon shows.

The Frigg Clastic Tongue was 140 feet thick and had a net pay of 58 feet of which 44 feet is good clean gas sand and 14 feet of oil sand.

Cuttings from 580 feet to 2310 feet (Pliocene-Miocene Undiff.) consisted of sand and shells (Coquina). From 2310 feet to 3980 feet (Oligocene) the section consisted of sand, coquina and traces of lignite between 2560 feet and 3980 feet. From 3980 feet to 7160 feet (Eocene) the section consisted of shale and sand. Between 3980 feet and 5230 feet the section is grey shale with stringers of thin micritic limestone. From 5230 feet to 5980 feet the section is predominantly grey shale with minor traces of micritic limestone. From 5985 feet to 6660 feet a green shale unit is present. At 6660 feet (Top Frigg Clastic Tongue) the lithology changed to a sand and continued to a depth of 6800 feet. From 6800 feet to 7160 feet the section consisted of red brown shales and sands. The Eocene "A" is present at 6970 feet. From 7160 feet to 7399 feet (Paleocene) the section is predominantly sand with some thin grey shales.

IV. Well History

A. General

1) Spud Date: Aug. 8, 1974
2) Completion Date: Midnight Aug 31, 1974
3) Status: P & A
4) Total Depth: 7399'
5) K.B.: 78'

B. Contractor and Rig:

1) Norsedrill - Drill Master

C. Casing:

1) 30" at 547'
2) 13 3/8" at 2295'

D. Mud Program:

The mud used was a seawater, lignosulfonate system.

E. Drilling Problems:

No drilling problems were encountered during the entire operations. Some anchor problems were experienced due to the sandy sea floor.

F. Coring:

1) Conventioned Coring (see part V.B - 2)

a) Core No. 1 (6594' - 6624')
b) Core No. 2 (6624' - 6653')
c) Core No. 3 (6653' - 6683')
d) Core No. 4 (6683' - 6712')
e) Core No. 5 (6712' - 6742')
f) Core No. 6 (6742' - 6772')

2) Sidewall cores (see part V.B - 3)

Run No. 1 - shot 24, recovered 17

G. Logging

1) Geoservices

a) Drilling rate
b) Lithology
c) Cutting gas
d) Mud gas
e) Chromatograph
f) H_2S Detector
g) Shale density
h) Core analysis

2) Schlumberger

Type of Log	Interval	Run No.
a) IES	7335-2301'	1
b) SGR-C	7334-2301'	1
	GR to 425 (mud line)	
c) FDC-CNT	7340-6355'	1
d) HDT	7345-5000'	1

B. Contractor and Rig:

1) Norsedrill - Drill Master

C. Casing:

1) 30 inch at 545 feet
2) 20 inch at 1216 feet
3) 13 3/8 inch at 3616 feet
4) 9 5/8 inch at 7005 feet

D. Mud Program:

The mud program used was a seawater, lignosulfonate system.

E. Drilling Problems:

Some drilling problems were encountered due to shale cavings. After drilling to 6648 feet it was necessary to condition the hole several days due to caving shales. While drilling at 7044' three caves were lost in the hole and while attempting to recover the cones, six feet of the bottom drilling string was left in the hole. The six feet fish was recovered after several attempts. Later after setting 9 5/8 inch casing the hole was drilled to total depth, with some minor shale caving problems.

F. Coring:

1) Conventional Coring (see part V.B - 2)
   a. core no. 1 (6638' - 6643')
   b. core no. 2 (6643' - 6649')
2) Sidewall Coring (see part V.B - 3)

Run no.	Depth	Shot	Rec.	Remarks
1	7044	24	22	1 misfire 1 broken
2	9037	24	18	4 misfire 2 norecover

G. Logging:

1) Geoservices

   a. Drilling rate
   b. Lithology
   c. Cutting gas
   d. Mud gas
   e. Chromatograph
   f. H_2S Detector
   g. Shale density
   h. Core analysis

2) Schlumberger

Type of Log	Interval (feet)	Run Nos.
a. Dual Induction - Laterolog	malfunction	(1)
	3624' - 7030'	1
	7005' - 9040'	2
b. Induction Electric log	1216' - 3673'	1

3) Velocity Survey

a) Run one at 7399'

H. Testing:

1) Production Test Results: None

2) Fromation Interval Test Results:

Run No.	Depth	Initial Flow	Last Flow	Last Build up	Amerada Pressures (bomb 1 and bomb 2) Formation	Hydrostatic	P.E. No.	Recovery
1	6795	0	0	0	0	0	-	Failure
2	6785	2979	2980	3017	3190	3850	22214	9750 cc water 500 cc mud
2	6785	2967	2970	3010	3183	3844	30460	
3	6735	2875	2833	2993	3087	3817	22214	.6 cfg 1250 cc oil
3	6735	2861	2825	2982	3074	3808	30460	8250 cc filtrate 500 cc mud
4	6723	2876	2874	2995	2995	3812	22214	.1 cfg 400 cc oil
4	6723	2867	2863	2993	2993	3813	30460	9350 cc filtrate
5	6695	2956	2969	2990	2990	3790	22214	32.5 cfg
5	6695	2949	2957	2979	2979	3783	30460	1000 cc filtrate 500 cc mud

I. Abandonment:

30/10-3 well was abandoned as follows

1) Plug No. 1 7050' to 6700'
2) Plug No. 2 6700' to 6328'
(tagged cement at 6325')
3) Plug No. 3 2450' to 2100'
(tagged top cement 2130')
4) Plug No. 4 725' to 525'
5) Blew off wellhead, pulled wellhead and permanent base plate with 15' of 30" casing.
6) Ran T.V. and observed clean sea floor.
7) Jumped divers and observed clean sea floor.

V. STRATIGRAPHY

A. Table of Stratigraphy 30/10-3 (RT 78')

Stratigraphic Units	Drill Depth	Sub-sea	Thickness
	424 *	346	
Pleistocene - Miocene	~~454~~'	(- ~~376~~') 105,5	1856'
Oligocene	2310'	(- 2232') 675,6	1870'
Eocene	3980'	(- 3902') 1184,6	3180'
Green Shale Unit	5985'	(- 5907') 1795,8	675'
Frigg Clastic Unit	6660'	(- 6582') 2001,3	140'
Eocene "A" (Balder) Top Eocen sand & Shale	6970'	(- 6892') 2096,0 Marker	2044,0
Paleocene	7160'	(- 7082') 2153,9	239' Drilled
T.D.	7399'	(- 7321') 2226,7	

*/ corrected by MMB dec-85 on basis of completion log

GOC = -2021,4 mSS
OWC = -2025,3 mSS

All values in mSS are adjusted (-4,7 m) 16' to fit field GOC of 2021.0 m (except for sea floor)
MMB - dec - 85

(KB = 78,5, GOC = 6725,5 'RKB)

B. Lithologic Description:

1) Sample Description (Wellsite)

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration Norway	30/10-3 (Odin)
DATE:	**COUNTRY**
10 August 1974	NORWAY

HOLE SIZE: $17\frac{1}{2}$" GEOL.: B.McK.

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
		Very poor returns - little sample coming over shaker converted to mud system.	
590-640	100	Sand - qtz, lithic, chert, shell frags, a-sr, m-gran loose, very fossiliferous, clear-grey with cream fossil frags. Probably washing away clay. (Cement common). At 644' problems making connection, had to ream out casing shoe - stabilizer hanging up?	
640-660	80	Clay- sandy, silty, tr. glauc, grey, non calc. sticky.	
	20	Sand - qtzose, fine -v.c. some lithics, fossiliferous	
660-750	100	Clay - v. sticky, sandy, grey, tr. fossils	
750-780	60	Clay - grey - dk grey, silty, soft, sticky, calcareous, tr sand, fossils.	
	30	Fossils mostly shells frags.	
	10	Sand - Qurtzose minor lithic, m-c, sr-r	
780-810	40	Clay, sandy	Up to 64 units
	30	Fossil frags.	(C, only)
	30	Sand - clear, loose, m-vc, sr-r qtz.	
810-840	10	Clay	
	20	Fossils	
	70	Sand, qtz and lithics, common pyrite in part, clear -dk gy, f-gran, sa-well r. loose - poorly cemented	NS
840-870	60	Sand	
	40	Fossils, cream-dk grey, fresh shells and fragments minor bryozoa.	
870-900	30	Sand	
	70	Fossils	
	tr	Limestone, detrital (sandy), grey, firm-hd	
900-930	20	Clay	
	60	Fossils shells, cream (coquina)	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration Norway	30/10-3 (Odin)
DATE:	COUNTRY
10th August, 1974	NORWAY

HOLE SIZE: 17½ GEOL.:B.McK.

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
900-930	20	Sand, pyritic, tr. glauc.	
	tr	Limestone v. sandy, tr. glauc.	
930-1020	90	Coquina, lt grey fossil frags, strongly abraded, bryozoa common fresh shells rare	
	10	Sand	
1020-1080	100	Coquina abundant bryozoa loose lt grey skeletal frags tr qtz sand.	
1080-1110	100	Coquina, white - lt gr, abundant bryozoa, also shell frags, forams and skeletal frags, loose, tr. glauc tr. f-m qtz. sand, sli cemented, occ pyrite.	
1110-1140	50	Coquina tending to skeletal detrital limest.	
	50	Sand, glauc, pyritic, clear - lt grn m-vc, mostly loose qtz. sr- well rounded tr. white mica, some loosely cemented, calcareous.	Muddier samples
1140-1170	10	Clay, grey soft sticky.	
	20	Fossils tr. limestone	
	70	Sand quartzose glauc. tr. pyr. tr calc. material, clear - lt grn, f-c, sr-well rounded, s-f sorting tr white mica, chlorite (?)	
1170-1200	20	Clay	
	50	Fossils skeletal frags.	
	30	Sand, qtz, glauc. calc. cement in pt vf-m, f sorting, sa - well r. tr mica lignite(?)	
1200-1230	30	Clay tending sli firm claystone v. sandy. lt grey - grey.	
	50	Fossils mainly shells (pelecypods)	
	20	Sand, vf-m, occ c-gran	
1230-1270	100	Skeletal detrital limestone buff, fossil frags, cemented, sli fin, sandy, glauc, micac tr lignite m, grained, minor loose fossils, quartz.	
1270-1300	80	Skeletal detrital Limestone aa	
	20	Clay v. sandy, lt grey.	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration Norway	30/10-3 (Odin)
DATE:	**COUNTRY**
11 August, 1974.	NORWAY

HOLE SIZE: 17½ GEOL.: B.McK.

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
1300-1360	20	Clay, lt gy-grey v. sandy	v.muddy samples
	80	Skeletal limestone, fossil frags bryozoa, forams, echinoid spine sponge spicules, v. sandy, v. micac buff, loose - sli consol.	
1360-1390	20	Clay, sandy sticky v. silty	
	80	Skeletal limestone, v. sandy, glauc, micac, cemented in pt fm-hd	
1390-1420	40	Fossils, bryozoa common, also shells and frags forams, clean	
	60	Sand(stone) v. silty, clean calc cement in pt, abundant loose silt-f sand (especially from de-silter) common mica, minor glauc.	
1420-1480	70	Sand loose c qtz, rd, minor silty sand aa, glauc minor mica	
	30	Fossils predominantly shell frags cream	
1480-1510	50	Sand qtzose m-c, loose, sa-r tr mica occ glauc.	
	50	Fossils shells cream-dk gy.	
1510-1570	70	Sand vf-c, sa-r, poor sorting loose quartz.	
	20	Fossils glauc replacement common	
	10	Lignite blk, sli fm.	
1570-1600	70	Sand, f-vc.	
	20	Lignite	
	10	Fossils tr. glauc.	
1600-1630	90	Sand m-vc, fair sorting, sr-r, qtz, v. glauc, pyritic tr mica.	
	10	Fossils	
1630-1690	80	Sand, green sand in pt, glauc, pyritic mostly qtz m-vc, sr-r.	
	20	Fossils/Skeletal limestone, cemented in part.	
1690-1720	100	Qtz sand, v. clear unconsolidated, m-vc, f-g sorting, sr-well r. tr. greensand, fossils.	
1720-1780	80	Qtz sand aa	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration Norway	30/10-3 (Odin)
DATE:	**COUNTRY**
11-12 Aug. 1974	NORWAY

HOLE SIZE: 17½" GEOL.: B.McK.

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
1720-1780	20	Lignite	
1780-1810	80	Qtz sand	
	10	Lignite	
	10	Fossils	
1810-1840	80	Sand, tr lithic, greensand sli pyr.	
	15	Fossils	
	5	Lignite	
1840-1870	80	Sand tr clay	
	20	Fossils mostly shell frags.	
1870-1900	90	Sand, vf-vc.	
	10	Fossils	
1900-1930	100	Sand, m-c tr fossils	
1930-2020	80	Sand	
	20	Fossils, fresh shell frags.	
2020-2050	50	Fossils, mainly shell frags relatively unabraded	
	40	Sand	
	10	Lignite	
2050-2080	70	Fossils	
	30	Sand	
2080-2110	70	Fossils	
	30	Sand tr. clay, becoming siltier, finer	
2110-2140	30	Fossils	
	70	Sand, silty, silt-m tr. clay.	

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WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
EENI	30/10-3
DATE:	COUNTRY
12 August 1974	Norway

HOLE SIZE: 17½" GEOL.: Bruce McKay

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
2140-70	90	Sand, silt - m, sa - st, p. sorting	
	10	Fossils, shell fragments	
2170-	70	Sand, becoming coarser, silt - c sa-r p. sorting	
2230		unconsolidated	
	30	Fossil fragments	
2230-90	70	Sand, f-vc tr mica	
	20	Fossil fragments	
2290-320	90	Sand m-vc	
	10	Fossils	
22320-64	75	Sand	
	20	Fossils	
	5	Lignite	
		13 3/8" casing shoe: 2295 ft.	
2380	90	Cement	
	5	Q grains med to coarse, wh to translac. a/a	
	5	Shell frags	
2910	80	Cement	
	10	Q grains a/a + fn to v fn grains	
	10	Shell fgmts a/a	
2440	60	Cement	NS
	30	Q grains a/a - Sand poorly sorted a/a, subrdd to rdd	
	10	Shell frags a/a	
		Tr mica, glauconite	
		Note abundant v fn to fn loose sand f. screen desanders	
2500	40	Cement	
	40	Sand a/a	
	20	Shell fgmts a/a (mostly pelecypods) + some biyozoars, corals, echinids, fastropods.	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration
WELL [illegible]/Offshore): 30/10-3
DATE: August 16, 1974
COUNTRY: Norway
HOLE SIZE: 8½ GEOL.: M.B.

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
/2560	20	Cement	NS
	50	SS a/a v poor std, fn to coarse	
	30	Shell fgmts a/a	
	tr	Lignite - sdst, shaly, dk bn glauconite (up to 5%)	
/2620	10	Cement	NS
	70	Sand a/a	
	20	Shell fgs a/a	
	tr	a/a Lignite (up to 5%) - Sdstone shaly, dk bn -	
		glauconite	
/2680	5	Cement	NS
	55	Sand a/a	
	20	Shell fgs a/a	
	20	Lignite and dk bn sdstone (calc cmt)	
	tr	Glauconite	
/2740	40	Sand a/a	NS
	30	Shell fgs a/a	
	30	Lignite and dk bn sdstone a/a	
	tr	Glauconite, chlorite, drilling cmt	
/2800	50	Sand a/a	NS
	25	Shell fgmts a/a	
	25	Lignite and dk bn ss a/a	
	tr	Glauconite (up to 5%) - Forams Chlorite - drllg	
		cmt.	
/	50	Sand a/a	NS
	25	Shell fgmts a/a	
	5	Lignite	
	25	SS, dk bn to dk gy, soft, fn to med grn (calc cmt)	
		(up to 30%)	
	tr	a/a (glauconite up to 5%)	
		Pyrite	

Gjøstein 351:24

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration | WELL (Onshore/Offshore): 30/10-3

HOLE SIZE: 8½ | GEOL.: MB | DATE: 16 August 1974 | COUNTRY: Norway

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
/2920	10	Sand a/a (v. coarse)	NS
	10	Shell frags a/a	
	70	Shaly Sdstone dk bn to dk gy, fn grained - w/	
		glauconite - calc cmt	
	10	Lignite w/pyrite	
	tr	Glauconite - Forams - corals - mica -	
/2980	20	Sand a/a	NS
	10	Shell fgs a/a	
	65	Shaly sdst a/a	
	5	Lignite a/a	
	tr	a/a	
/3040	75	Shaly sdstone (or siltstone) dk bn to dk gy, v fn	NS
		to fn grn, w/glauc. grains a/a	
	10	Shell fgs a/a	
	10	SS a/a	
	5	Lignite w/pyrite a/a	
	tr	Glauconite - mica - forams	
/3070	80	Sandstone, locally shaly, blk bn to dk gy -	NS
		clac cemt, a/a - lt to med gy layers	
	10	Shell frags (large) - pelecypods, corals bryoz.	
	5	Lignite w/pyrite	
	5	Q grains med to coarse	
	tr	a/a	
/3100		a/a forams abdt.	NS
/3160		a/a - lt gy to med gy layers more abdt (well	NS
		consolidated)	
	tr	a/a (glauconite, forams)	
		Note locally, the dk bn layers are very soft and	
		friable.	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration

WELL (Onshore/Offshore): 30/10-3

HOLE SIZE: 8½ GEOL.: MB

DATE: 17 August 1974

COUNTRY: Norway

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
/3220		a/a (lt gy med gy domint)	NS
	tr	Glauconite - mica - no lignite	
		Note dk gy - bn layers are v. fn grain and soft -	
		finely micaceous	
/3280		a/a	
	tr	a/a no lignite	
/3340		a/a dk bn dk gy domint - v fn grn	
	tr	Shell frags - forams - lignite -qtz grains -	
		glauconite.	
/3400	95	Sdstone, shaly, dk bn dk gy a/a - few lt gy consolid	
		layers	NS
	5	Shell frags - Forams	
	tr	Lignite	
/3460		a/a Forams	
	tr	Chlorite - lignite	
/3520		a/a - v. soft siltstone, dk bn, micaceous - few	NS
		lt gy consol. layers.	
	tr	Q grains, transluc, fin to med gr, subrdd - shell	
		frags -	
/3580		a/a (clayey siltstone or silty shales)	NS
	tr	a/a - Forams	
/3640		a/a	NS
	tr	Q grains, a/a -	
/3700		a/a	NS
	tr	Q grains, moderat. sorted (up to 5%) Forams -	
		glauconite	
/3760		a/a	NS
	tr	a/a	
/3820		a/a	
	tr	(v. few) a/a	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration
WELL (Onshore/Offshore): 30/10-3
HOLE SIZE: 8½
GEOL.: MB
DATE: August 17, 1974
COUNTRY: Norway

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
/3880		a/a (silty sandy shales, mica -ceons) w/glauc.	
		grains - dk bn -	NS
	tr	Q grains a/a - shell frags + forams lignite (all	
		v. few)	
		Note cement is calcareous and shaly	
/3940		a/a	
	tr	a/a	NS
/4000		a/a dk bn - dk gy	
		calc. (to dolomitic?) cmt	NS
	tr	v. few a/a	
-4050		a/a	
-4120		a/a	NS
-4180		a/a	NS
	tr	v. few small forams, lignite (v. few)	NS
→ Change bit		at 41 90 ft.	
-4210		a/a	
	tr	Forams - lignite	NS
→4240	90	Silty, sandy shale, dk gy - gy bn a/a	
	10	Lst, micritic - detrital, w/small Q grains, buff to	NS
		yellow - med hd -	
	tr	Q grains rdd to subrdd	
→4270	95	Silty sdy sh a/a	
	5	Lst a/a, w/v. small glauc grains	NS
	tr	Q grains a/a, Forams, lignite	
→4300	100	Silty sdy sh a/a	
	tr	Lst a/a	NS
	tr	White tubes (Annelids?), non calcareous	
→4330	100	a/a silt sdy sh	
	tr	Lst a/a	NS
	tr	Tubes a/a - Q grains (v. few)	

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
17 August 1974	Norway

HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
→4360	95	Silty sdy sh a/a, more glauconitic	NS
	5	Lst a/a	
	tr	Forams (arenaceous)	
→4390	95	Silty sdy sh a/a, more glauc, some frags of green	NS
		silty sdy sh (gy gn)	
	5	Lst a/a (more friable)	
	tr	Forams a/a, white "tubes" a/a	
→4420		a/a	NS
→4450		a/a	NS
	tr	few Q grains	
→4480	95	Silty sh a/a (up to 100%)	NS
	5	Lst a/a (down to tr)	
	tr	a/a	
→4510	50	Silty sdy sh a/a (dk bn-gy)	NS
	45	Sh, v slightly silty, v. fn grn/much more than the	
		dk bn-gy one/ med gy to gy gn, non calcareous,	
		v. fn micaceous, soft.	
	5	Lst, lt gy to lt buff, a/a	
	tr	a/a	
→4540	40	Silty sdy sh, dk gy bn a/a	NS
	55	Sh, gy to gy gn a/a	
	5	Lst a/a	
	tr	a/a + fn grained sdy dolomite	
→4570	25	Silty sdy sh a/a	NS
	70	Sh, gy to gy green, soft, a/a - w/some pyrite	
		nodules (small	
	5	Lst a/a	
	tr	None	
→4600		a/a	NS
	tr	few Q grains, various sizes, subrdd pyrite (v. few)	
		glauconite.	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
17 August 1974	Norway

HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
→ 4630	35	Sdy silty sh a/a	NS
	60	Sh, gy-gy gn a/a	
	5	Lst a/a (down to traces)	
	tr	a/a	
→ 4660	25	Sdy silty sh a/a	
	75	Sh gy-gy gn a/a	
	tr	Lst a/a - pyrite	
→ 4690		a/a	NS
	tr	Lst a/a - few Q grns - glauconite	
→ 4720	30	Sdy silty sh a/a	
	60	Sh gy-gy gn a/a	
	10	Lst, wh to yell, fn grn, micrit. to detrital -	
		(up to 15%)	
	tr	Pyrite - glauconite (abdt) - few forams.	
→ 4780		a/a	NS
		Lst up to 20% - this lst is interbedded in the gy-	
		gn shales.	
	tr	Pyrite and glaucon. abdt	
→ 4840	15	Sdy silty sh a/a	
	80	Sh, gy-gy green (gy green domint)	
	5	Lst a/a	
	tr	Pyrite - glauconite abdt - some large shell frags	
→ 4900	10	Sdy silty sh a/a	NS
	85	Sh, gy-gy gn (gy green domt)	
	5	Lst a/a (down to Traces)	
	tr	Few Q grains, little pyrite + glauc.	
→ 4960	5	Sdy sh a/a	NS
	85	Sh gy gn aa	
	10	Lst a/a	
	tr	a/a	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
18 August, 1974	Norway

HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
→ 5020		a/a	NS
→ 5080	90	Sh gy green aa	NS
	5	Sh silty dk bn aa	
	5	Lst aa	
5140		a/a	NS
5200		a/a (sh gy and gy-green 50% each)	NS
5260	100	Sh gy med gy, gy green layers, more compact than above. Slight dolom - gy colour domint	NS
	tr	Sh silt dk bn, lst aa - v finely xte pyrite - glauconite	
5320		a/a	NS
5380	95	Sh, dk gy - med gy, v. slig. silty v fn grn - v. few gy green layers.	NS
	5	Lst, buff - yellow, micritic, more or less dolomitic, interbedd in the shale (up to 10%)	
5440	90	Sh a/a (fissile)	NS
	10	Lst a/a, micritic to ctl (v.fn)	
	tr	Silty dk bn sh a/a - pyrite (not addt) v. fin. xtl.	
5500		a/a	NS
	tr	a/a	
5560	90	Sh a/a + some layers of same lithology, but of gy - dk gy bn colour.	NS
	10	Lst a/a buff, yell, brown	
	tr	a/a - few Q grains, trans lucert, rdd -	
5620		a/a (some green sh a/a)	NS
	tr	a/a	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration | WELL (Onshore/Offshore): 30/10-3

HOLE SIZE: 8½ | GEOL.: MB | DATE: 18 August, 1974 | COUNTRY: Norway

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
/5650	100	Sh, v. fnely silty to non silty, gy to dk gy,	NS
		splintery break, moder. hd, fissile - non calcareous	
		some gy green layers (few) a/a	
	tr	Lst a/a - few Q grains - Pyrite a/a - no glauconite	
		- few fgms of ctl calcite	
/5680	95	Sh a/a	NS
	5	Lst a/a	
	tr	a/a + white "tubes" a/a (root epigeny?)	
Change bit at 5685 ft.			
/5710	100	Sh a/a	NS
	tr	Lst a/a, white "tubes" a/a, sh, silty sdy dk bn	
		a/a	
5740		a/a	NS
	tr	a/a - Pyrite a/a - lignite - wh, "tubes" more freqnt	
		(not calcite, not siliceous, not hard) not	
		anhydrite)	
5770		a/a	NS
	tr	a/a (mainly lst a/a, occ dolomitic	
5800		a/a	NS
	tr	a/a (a/a buff, yell, brn) Pyrite.	
		Note Lst occurs also in lenticular inclusions in the	
		dk gy sh.	
5830		a/a (a litt. more gn sh)	NS
	tr	Lst a/a Pyrite	
5860	70	Sh, gy-dk gy a/a	NS
	30	Sh, med gy to occ. gy-green both v fn grain, occ	
		silty.	
	tr	a/a (mainly lst)	

Gjøstein 351:24

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration | WELL (Onshore/Offshore): 30/10-3

HOLE SIZE: 8½ | GEOL.: MB | DATE: 19 August 1974 | COUNTRY: Norway

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
5890	60	Sh, dk gy a/a	NS
	40	Sh, med gy to med gy green a/a	
	tr	a/a (mainly lst). v few glauconite grains.	
5920	70	Sh dk gy a/a	
	30	Sh med gy to med gy green a/a	
	tr	Lst a/a - some pyrite	
5950	60	Sh dk gy a/a	NS
	40	Sh, med gy to med gy green, soft, slightly silty,	
		v fn grn - non calc.	
	tr	Lst, dolomitic a/a (up to 5%) v. fine pyrite xtls	
5980	50	Sh dk gy a/a	NS
	50	Sh, med gy to med gy green a/a	
	tr	Lst a/a	
6010		a/a	NS
	tr	Lst a/a	
6040	60	Sh, dk gy a/a	NS
	40	Sh, med gy - gy gn a/a	
	tr	Lst a/a	
6070	70	Sh dk gy a/a	NS
	30	Sh med gy gn aa	
	tr	a/a	
6100	80	Sh dk gy a/a	NS
	20	Sh, med gy gn a/a	
	tr	a/a	
6130	60	Sh dk gy a/a	NS
	40	Sh, med gy - med gy gn a/a	
	tr	a/a	
6160	70	Sh dk gy a/a	
	30	Sh, med gy to gy gn a/a	NS
	tr	a/a	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
19 August 1974	Norway

HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
6190		a/a	NS
	tr	LST a/a	
6220	60	Sh, dk gy, slightly silty a/a	NS
	40	Sh med gy - gy gn a/a - to lt med gy-gn	
	tr	Lst a/a - white "tubes" a/a (Annelids?)	
6250	70	Sh dk gy a/a	NS
	30	Sh med gy - gy gn a/a	
	tr	Lst a/a - wh "tubes" -	
6280	60	Sh dk gy a/a	
	40	Sh med gy-gn a/a (the colour becomes lighter)	
	tr	Lst (less abdt) - Pyrite	
6310	50	Sh dk gy a/a	NS
	50	Sh med gy-gn a/a (green neatly domint)	
	tr	Lst a/a (dolomitic or even dolomite)same colour.	NS
6340		a/a (both shales are variations in colour of the	
		same lithology) it is not only interbedding - the	
		general colour is lighter then above.	
	tr	Lst a/a	
6370		a/a	NS
6400	60	Sh dk gy a/a	NS
	40	Sh med gy - gy a/a	
	tr	Lst a/a(v. few frags)	
6430	50	Sh dk gy a/a	NS
	50	Sh, med gy, lt gy green, green a/a	
	tr	Lst a/a	
6460		a/a	NS

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration
WELL (Onshore/Offshore): 30/10-3
DATE: 19 August 1974
COUNTRY: Norway
HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
6490		a/a	NS
	tr	a/a (few lst frags)	
6520	40	Sh dk gy a/a	
	60	Sh, lt gy green red gy, green a/a	NS
	tr	Lst a/a	
6540	30	Sh dk gy, a/a	NS
	30	Sh dk bn to bn	
	40	Sh med gy green	
	tr	a/a	
6550	50	Sh dk bn to bn a/a	NS
	50	Sh med gy to gy gn a/a	
	tr	Lst a/a (few) pyrite.	
	tr	(v. few) SS white, to lt green, soft v. fn to fn grn	
6570	60	Sh med gy to gy gn a/a	NS
	40	Sh dk bn to bn a/a	
	tr	a/a (including few Sdstone frags a/a)	
6580		a/a	NS
	tr	a/a including SS a/a (fn grn)	
6590		a/a	
	tr	a/a (v. few SS frags)	
6594		a/a	
	tr	a/a (v. few SS frags)	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration Norway
WELL (~~Onshore~~/Offshore): 30/10-3
DATE: 20 Aug. 1974
COUNTRY: Norway
HOLE SIZE: 8½ GEOL.: MB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
		Coring Core No. 1	
6600	40	Sh, dk bn to bn a/a	NS
	40	Sh, lt gy to med gy green a/a	
	20	Sh dk gy a/a	
	tr	Lst a/a (v.few) - SS, soft, friable v.fn grain	
		(to fn grn) gy-bn.	
6610	60	Sh dk bn to bn a/a	NS
	30	Sh lt to med gy gn a/a	
	10	Sh dk gy a/a	
	tr	Pyrite - SS a/a, more fgt, some lt gy fgs.	
6620		a/a	NS
	tr	Pyrite - SS a/a (is probably sandy equivalents of the	
		dk bn to bn shale) This SS is micaceous, looks	
		rather rich in organich matter - cement locally	
		slightly dolomitic.	
August 21, 1974		Coring Core No. 2	
6630	50	Sh dk bn to bn a/a	NS
	40	Sh lt gy to med gy gn a/a	
	10	Sh dk gy a/a	
	tr	SS gy - bn a/a (up to 5%)	
6640		a/a (same lithology as core no. 1)	NS
6650		a/a	
		Coring Core No. 3	
6660	50	Sh dk bn to bn a/a	
	20	Sh lt gy to med gy gn a/a	
	30	Sh dk gy a/a	
	tr	Sh red, pyrite, SS a/a	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
Aug. 21-25	Norway

HOLE SIZE: $8\frac{1}{2}$ GEOL.: DJB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
6660-72	90	Shale	
	10	Sand	20 - 30 VGMS
		10.5 lbs	
		Core No. 4	
6672-	100	Sand	10 VGMS
6712	tr	Shale	
		10.9 lbs	
		Core No. 5	
6712-42	100	Sand	5 VGMS
	tr	Shale	
		10.4 lbs	
		Core No. 6	
6742-72	100	Sand	
	tr	Shale	
		10.9 lbs	
		Begin drlg at 2:30 A.M. Aug. 25	Trip gas 49 VGMS
6772-90	90	Shale - cavings, gry grn, dk gry, grn	Baroid sk
	10	Sandstone - white, wtz, md to crse orns. tr pyrite	all cavings also
6790-	90	Shale cavings	Drlg at 50'/hr
6800	10	Sandstone - as above	w/J-33
6800-30	90	Shale - cavings	
	10	Sandstone - as above	Drlg at 70'/hr
6830-60	90	Shale cavings	100'/hr
	10	Sandstone	
	tr	Limestone - yellow micritic - granular	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	COUNTRY
Aug. 25, 1974	Norway

HOLE SIZE: 8½ GEOL.: SH & DJB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
7040-70	20	Sh, red brn, brn, clay to med hd.	
	70	Sh, lt gry to med gry, lt grn gry, micac, slty,	
	5	SS, aa	
	5	Clay, wh, sticky, slty.	
	tr	Pyrite, lignite.	
7070-85	30	Sh, red brn aa	
	35	Sh, lt gry to med gry, lt gry grn aa	
	30	SS, aa	
	5	Clay, wh, aa	
	tr	Pyrite	
			Drlg increases
7085-	20	Sh red brn aa	from 25-40'/hr
7100	60	Sh, lt gry to med gry, lt grn, micac, slty	
	5	Clay, wh, sticky, slt calc to vy calc (marl)	
	10	Sltst to vy fn ss, lt gry to med gry, micac	
		glauconitic, slt calc. Some sd grains of med size.	
	5	Tuffaceous material, wh w/dk streaks, soft TR	
		lignite, pyrite, Dolomite, buff, grainy	
7100-30	20	Sh, red brn	5 VGMS
	60	Sh, lt gry	
	20	Sand, uncons qtz grns	
	tr	Tuff, pyrite, dolomite.	
7130-60	70	Sandstone - white, fg, v. calc, well cons.	
	20	Shale - lt gry	
	10	Shale - red brn	
	tr	Limestone, pyrite, tuff	

Gjøstein 351:24

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration

WELL (Onshore/Offshore): 30/10-3

DATE: Aug 25, 1974

COUNTRY: Norway

HOLE SIZE: 8½ GEOL.: DJB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
7160-70	60	Shale - red, lt gry, dk gry, mica, pyrite	J-33
	40	Sandstone - white, fg, well cons, well sorted, calc	bit torques
	tr	Dolomite	up at 7200'
7170-90	60	Sandstone - As above	
	40	Shale - as above	
7190-	50	Sandstone - as above	TNB or
7208	50	Shale - as above	Fish for lost
			cones
7208-20	40	Shale - lt gry, red brn, dlc gry mica silty	no cones
	60	Sandstone - white vfg-fg, subrd calc	just balled
	tr	Tuff - lt gry - calc, silty	TG 165 VGMS
			C_1 - 58000 ppm
			C_2 - 1300 ppm
7220-40	40	Sandstone - as above	
	40	Shale - dk gry	
	20	Shale - lt gry, rd brn	
	tr	Dolomite, ls, pytite, calcite, lig	
7240-50	50	Sandstone - as above	2 VGMS
	50	Shale - dk gry + md gry, mica, silty	
	tr	Limestone tan micritic	
	tr	Pyrite, tr tuff	
7250-70	60	Sandstone - aa	
	40	Shale - aa	
	tr	Pyrite	
	tr	Tuff	
	tr	Ls	

Gjøstein 351:24

WELLSITE SAMPLE DESCRIPTION

COMPANY:	WELL (Onshore/Offshore)
Esso Exploration	30/10-3
DATE:	**COUNTRY**
Aug. 26, 1974	Norway

HOLE SIZE: 8½ GEOL.: DJB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
7270	60	Sandstone - gh fg-mg, calc, firm poorly sorted,	2 VGMS
		poor Ø	
	30	Shale - dk gry	
	10	Tuffaceous Siltstone - lt gry silty	
	tr	Limestone micritic - granular	
	tr	Pyrite	
7280-85	70	Sandstone	
	20	Tuffaceous S.H	Burrow types
	10	Shale	w/pyrite
	tr	Limestone, white, lt gry, yellow, buff	Trace shells
	tr	Pyrite	
7280-	80	Sandstone - aa	Burrows
7300	20	Shale - dk gry, mica firm	No Show
	tr	Ls	
	tr	Pyrite	
	tr	Tuff	
7300-10	60	Sandstone - aa	
	30	Shale - aa - drk gry	
	10	Tuffaceous siltstone - aa, interbedded w/shale	
		dk gry	
	tr	Ls, pyrite	
7310-30	60	Sandstone	
	40	Shale - aa	
7330-40	50	Sandstone - aa	AB pyrite
	50	Shale - md gry, silty, micaceous	6 VGMS
	tr	Tuff siltstone as above	
7340-60	60	Shale - aa	
	40	Sandstone	
	tr	Tuff	

Gjøstein 35124

WELLSITE SAMPLE DESCRIPTION

COMPANY: Esso Exploration

WELL (Onshore/Offshore): 30/10-3

DATE: Aug 26, 1974

COUNTRY: Norway

HOLE SIZE: 8½ GEOL.: DJB

DEPTH Ft/M	LITH %	LITHOLOGIC DESCRIPTION	SHOWS & REMARKS
7360-70	60	Shale - md gry, mica, silty, pyrite	15-20'/hr
	40	Sandstone - white, fg - crse, poorly sorted, sub	2-3 VGMS
		and - sub rd, calc	
	tr	Tuffaceous siltstone interbedded w/md gry sh	
	tr	Limestone - yellow granular	
7370-80	70	Shale - aa	2 VGMS
	30	Sandstone - aa	
7380-97	70	Shale - aa	3 VGMS
	30	Sandstone - aa	
	tr	Tuffaceous Siltstone - aa	
	tr	Ls - aa	
		T.D. 7397 3:00 p.m. Aug. 26, 1974	

Gjøstein 35124

2) Core Description (Conventional)

CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

DATE: 20 Aug. 74 GEOL: M. Bleriot

WELL: 30/10-3

COUNTRY (Onshore/Offshore): Norway

CORE No: 1

INTERVAL: 6594-6626 (32 FE)

FROM: 6594 TO: 6602

RECOVERY: FT/Mt. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6594'									Shale, fisssile, dk gy to dk gy gn, parallel laminated, slightly silty		
6595'										No	
6596			1°		No						
6597'							x		Inclusions of v fn to fn grn silt-stone to sdstone, slightly dolom cement, wh to lt gy to lt gn to yellow same inclusions, dolomitic yellow to lt gn. They are followed by v. small inclusions scattered in the sh.	No	
6598'											
6599'									Sh a/a - curved parrallel laminations		
6600'									Inclusions of dolomite or dolom lst, beige to brn yell., very sdy fn grn, locally ctld - no grading int sh- sharp edges, but eroded.		
6601'											

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL:

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 1 INTERVAL: FROM: 6602 TO: 6610

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6602									Sh, a/a, dk gy - very fissile - sticky - somewhat fractured	No	
6603'											
6604'									Friction surface on top -Sandy to silty dolomite, med to lt gn, fn to v fn grn - shaly - med hd to hd - grading down - ward into the dk gy sh.	No	
6605'			1°								
6606											
6607'									Sh a/a locally wavy		
6608'											
6609'									Sh a/a loc. wavy		
6610'											

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL:

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 1

INTERVAL: FROM: 6610 TO: 6618

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6610'									Laminations parallel to locally wavy - v. fn. Sh a/a w/ bronw - gy bn purpale layers (variations in the colour, not bedded) - silty lt gy layers	No	
6611'		1°									
6612'											
6613'									Sh a/a		
6614'		1°							Silty v. fn grn white to lt gy layers (thick no 1 to 2 cm)		
6615'									Sh a/a w/ silty lt gy v fn layers.		
6616		1°									
6617'											
6618'											

CONVENTIONAL CORE DESCRIPTION

COMPANY:

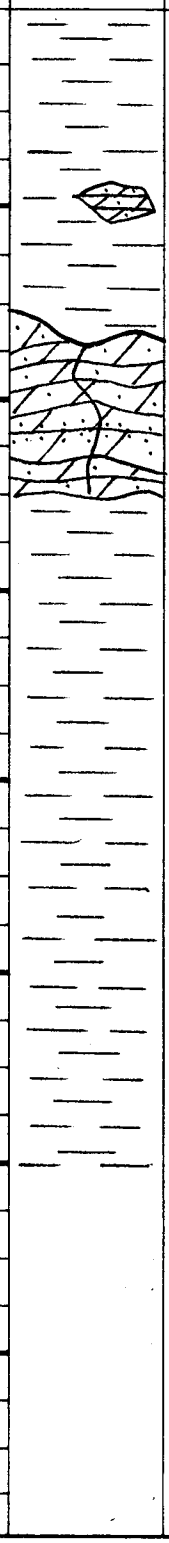
WELL:

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 1 INTERVAL: FROM: 6618 TO: 6626

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6618'							Sh a/a		
6619'							Inclusion of silty dol. mite		
6620'							Silty dolomite, v. fn. grn yell - gy to bn - parallel laminae, wavy - grades into sh downwds and upwds - friction surface on top - some coarse layers in middle part (fn grained) - vertically fractured.	No	
6621'									
6622'							Sh a/a very fragmented some lt gy finely silty layers a/a		
6623'									
6624									

CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

DATE: 21 Aug. 74 GEOL: M. Bleriot

WELL: 30/10-3

COUNTRY (On/Offshore): Norway

CORE No: 2 INTERVAL: 30 feet FROM: 6626 TO: 6656

RECOVERY: 29 FT/M. 97 %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6624'							x		Lst detrit. skel, v. hard buff to yell bn.		
6625'									Sh, dy gy, fissile, fractured, even parallel laminated.		
6626'											
6627'									Sh a/a		
6628'											
6629'									Sh, dk gy gn, fissile fractured, even to wavy parallel		
6630'									Sh dk gy, some dk gy gn, some (few) purple bn lay. Fin. ctld pyrite - v fn grn even to wavy parallel		
6631'											
6632'											

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL:

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 2 INTERVAL: FROM: TO:

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6632'									
6633'							Sh a/a, dk gy silty		
6634'									
6635'									
6636'							Sh a/a		
6637'									
6638'							Sh, dk gy to black to purple bn, silty		
							becomming more black downwards		
6639'							Sh black to bn black (organic sh)		
6640'									

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: 30/10-3

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 2 INTERVAL: FROM: TO:

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6640'									Sh, black a/a abdt xtld pyrite (v. fine)		
6641'											
6642'									Sh, dk gy a/a		
6643'											
6644'		1°		X					Fn grn SS to siltstone, gy gn to med gn, dolomitic cement, grading into lst dolomitic, fn to v. fn grn buff to yell bn. parallel even lamin.		
6645'									Sh dk gy a/a Sh black aa		
6646'									Sh dk gy a/a		
6647'									Sh dk gy a/a		
6648'											

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: 30/12-7

COUNTRY (On/Offshore)

DATE: GEOL:

CORE No: 2 INTERVAL: FROM: TO:

RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Environ
6648'							gy a/a		
6649'							Sh, black a/a fractured, w / num friction surfaces		
6650'									
6651'							Sh, dk gy to gy green, silty Fn grn dolomitic siltstone a/a (inclusions)		
6652'							Dolomite, sdy, lt gy to lt gy gn a/a Sh black a/a		
6653'	NO RECOVERY						Lst, v. hd, v fn grn, skeldetrital, slightly silty, buff - yell bn, fractured rextl. vuggy (few vugs w/xtd calcite)		

CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

WELL:

COUNTRY (On/Offshore): Norway

DATE: 22 Aug. GEOL.: D.J.B.

CORE No: 3 INTERVAL: FROM: 6653 TO: 6682.7

RECOVERY: 29.7 FT/M. 100 %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P	F	G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6653									Shale, applegreen, fissile, occ silty.		
									Note: Entire core No. 3 cut and left in alum. liners.		
6654											
6655											
6656											
6657											
6658											
6659											
6660											
6661											

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6661							Sandstone - white to lt gry, vfg to fg, subrd, well cons v. micaceous Shale dk gray fissile, silty, alternating w/vfg sandstone. Stringer 1/8" - 1/6" thick	Strong Gas Odor No Fl Or Cut	
6662									
6663									
6664									
6665									
6666									
6667							Sandstone as above fg to med grn Bldg gas		
6668									
6669									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6669							Sandstone , med to v crse		
6670							Sandstone - vfg		
6671							Shale - gry to dk gry occ grn, fissile alternating w/ sandstone vfg		
6672								Strong Gas Odor No Fl or Cut	
6673							Sandstone crse		
6674									
6675									
6676							Sandstone med to crse grned bldg gas		
6677									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6677							Sandstone - white, med to crse grn subrd, micaceous Bldg gas		
6678									
6679									
6680								STRONG GAS ODOR	
6681									
6682							Alternating shale and sand		
6682.7									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

DATE: 23 August GEOL.: Hansbiem, Aamoff, DJB

WELL: 30/10-3

COUNTRY (On/Offshore): Norway

CORE No: 4 INTERVAL: FROM: 6682 TO: 6712

RECOVERY: 30/29.5 FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6682							Sandstone - white, med to crse grn, poorly sorten, subrd to sub ang, micaceous, fairly well cons		
6683							Shales dk gry Alternating w/vfg sandstones		
6684							Sandstone - as above		
6685								Good Gas Odor No Fluor No cut	
6686									
6687									
6688									
6689							occ pebble sixed grns		
6690									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6690						Sandstone - white, med to crse grn tr glauc. Poorly sorted		
6691							No Fluor No Cut	
6692								
6693							GOOD GAS ODOR Weak Cut	
6694								
6695						occ v. crse		
6696							Good Fluor Decreasing to weak Flour Cold Cut	
6697						Occ pebble sized grns		
6698								

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6698							Sandstone - white med to crse		
6699								Good Gold Fluor St Gold Cut	
6700									
6701							Shale - dk gry, fissile micaceous	GOOD GAS ODOR	
6702							Sandstone - white, med to v. crse		
6703									
6704								No Fluor - V. Weak Cut	
6705									
6706									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

WELL: | COUNTRY (On/Offshore)

DATE: GEOL.:

CORE No: | INTERVAL: FROM: TO: | RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6706							Sandstone, white, med-crse subrd - sub ang, micaceous, poorly sorted	GOOD GAS ODOR NO FLUOR - V. WEAK CUT	
6707									
6708									
6709									
6710									
6711									

Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

DATE: Aug 24 GEOL.: SF + DJB

WELL: 30/10-3

COUNTRY (On/Offshore): Norway

CORE No: 5 INTERVAL: FROM: 6712 TO: 6742

RECOVERY: 30/30 FT/M. 100 %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality	Enviror
6712							Sandstone - white, fg to crse grn, poorly sorted micaceous, friable, non calc, sl glauconitic	GAS ODOR NO CUT NO FLUOR	
6713									
6714									
6715									
6716									
6717									
6718									
6719									
6720							Gas/ Oil Contact		

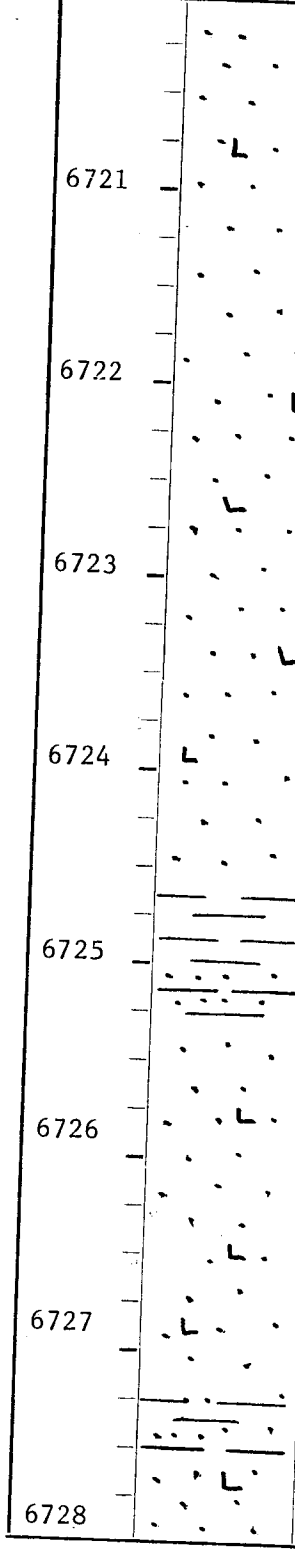
Gjøstein 3512

CONVENTIONAL CORE DESCRIPTION

COMPANY:

DATE: GEOL.: WELL: COUNTRY (On/Offshore)

CORE No: INTERVAL: FROM: TO: RECOVERY: FT/M. %



DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS) Gas	SHOWS Type-Quality	Environ
6720							Oil contact at 6720		
6721							Sandstone - white, fg to v. crse	OIL STAIN BRIGHT YELLOW CUT	
6722									
6723									
6724									
6725							Shale - dk gry Shale - dk gry alternating w/ sandstone vfg	BLDG OIL	
6726							Sandstone - white fg grading to crse	GOLD FLUOR	
6727									
6728							Shale dk gry atternating w/ sandstone fg		

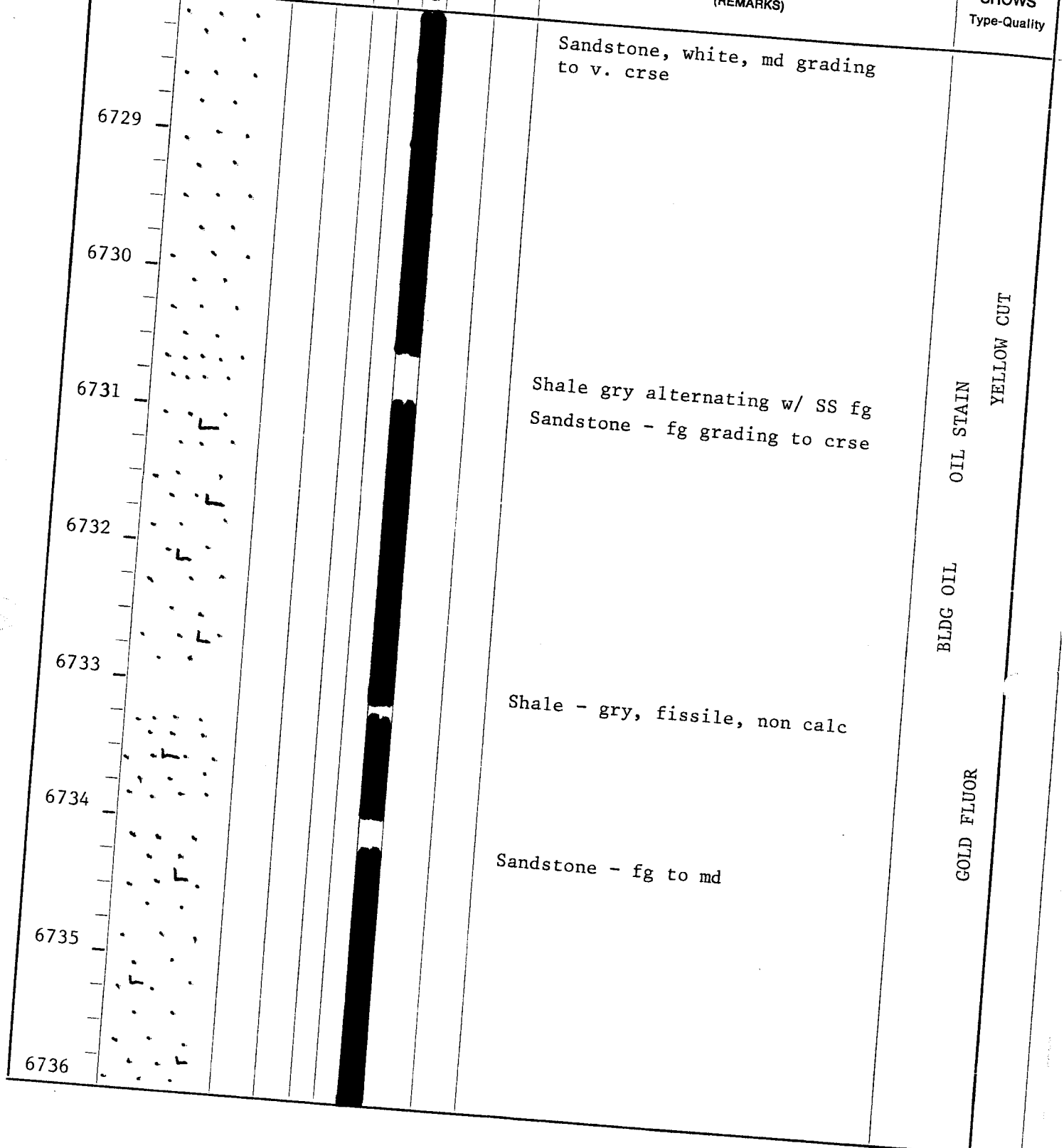
Gjøstein 35126

CONVENTIONAL CORE DESCRIPTION

DATE: GEOL.: COMPANY:

CORE No: 5 INTERVAL: WELL: COUNTRY (On/Offshore)

FROM: TO: RECOVERY: FT/M. %



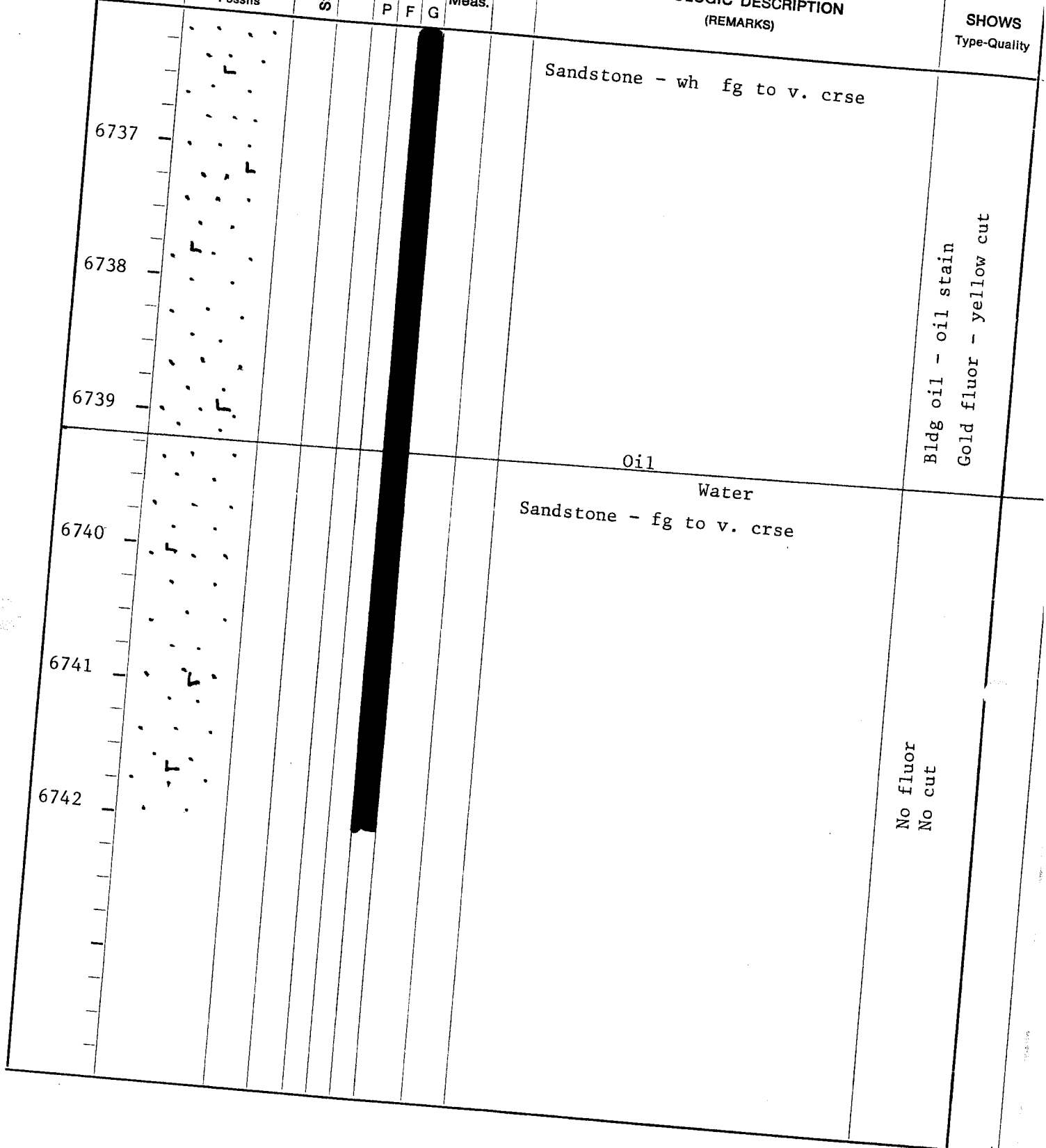
Gjøstein 35126

CONVENTIONAL CORE DESCRIPTION

DATE: GEOL.: COMPANY:

CORE No: 5 INTERVAL: WELL: COUNTRY (On/Offshore)

FROM: TO: RECOVERY: FT/M. %



CONVENTIONAL CORE DESCRIPTION

COMPANY: Esso Exploration

DATE: Aug. 24 GEOL.: S.H. + D.J.B.

WELL: 30/10-3

COUNTRY (On/Offshore): Norway

CORE No: 6 INTERVAL: FROM: 6742 TO: 6772

RECOVERY: 30/29 FT/M. 97 %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	POROSITY % Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality
6742							Sandstone - white, fg to coarse, poorly sorted friable, non calc, micaceous, sub ang - sub round	No shows
6743								
6744								
6745								
6746								
6747								
6748							Shale - dk gry	
6749							Sandstone - md grn	
6750								

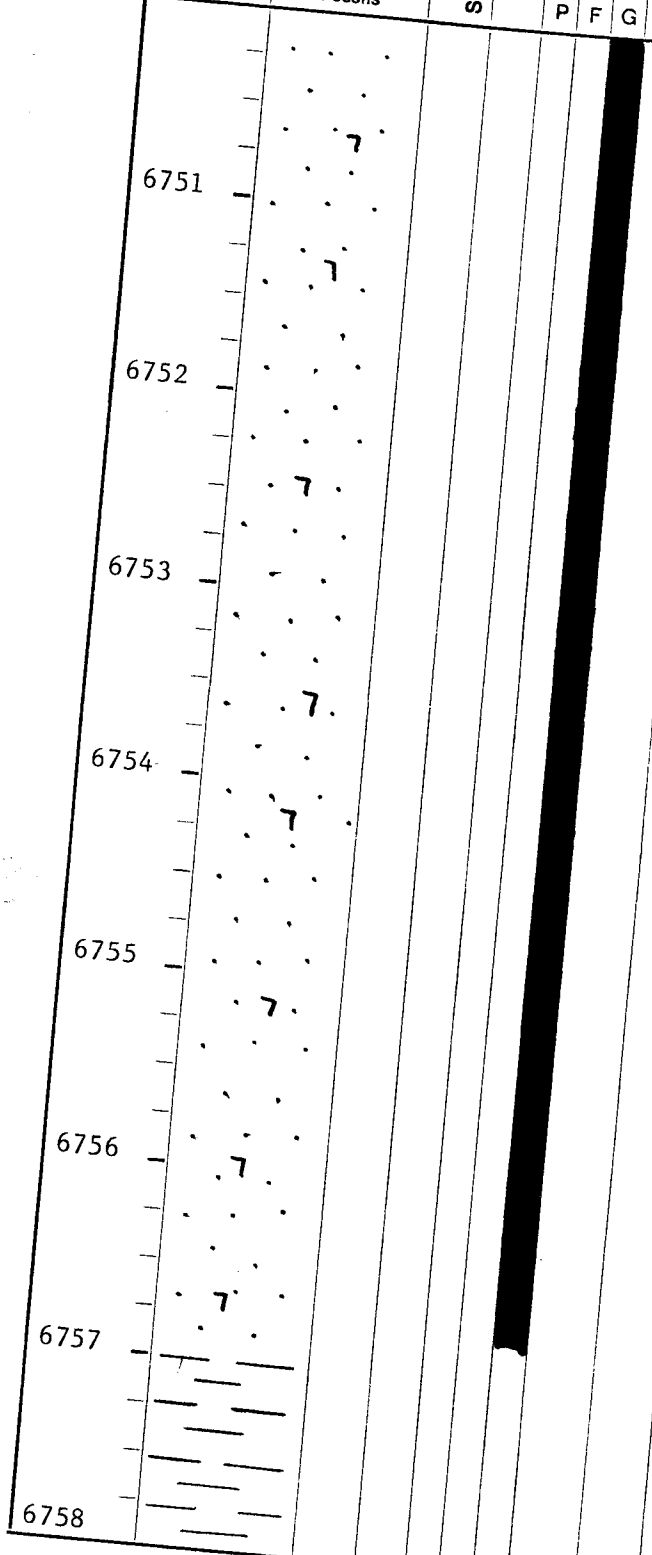
Gjøstein 35126

CONVENTIONAL CORE DESCRIPTION

DATE: GEOL.: COMPANY:

CORE No: 6 INTERVAL: FROM: TO: WELL: COUNTRY (On/Offshore)

RECOVERY: FT/M. %



LITHOLOGIC DESCRIPTION (REMARKS)

Sandstone , white, qtz md to crse grn, poorly sorted, non calc, sub ang to sub round, tr glauc micaceous

Shale, dk gry fissile

SHOWS Type-Quality

NO SHOWS

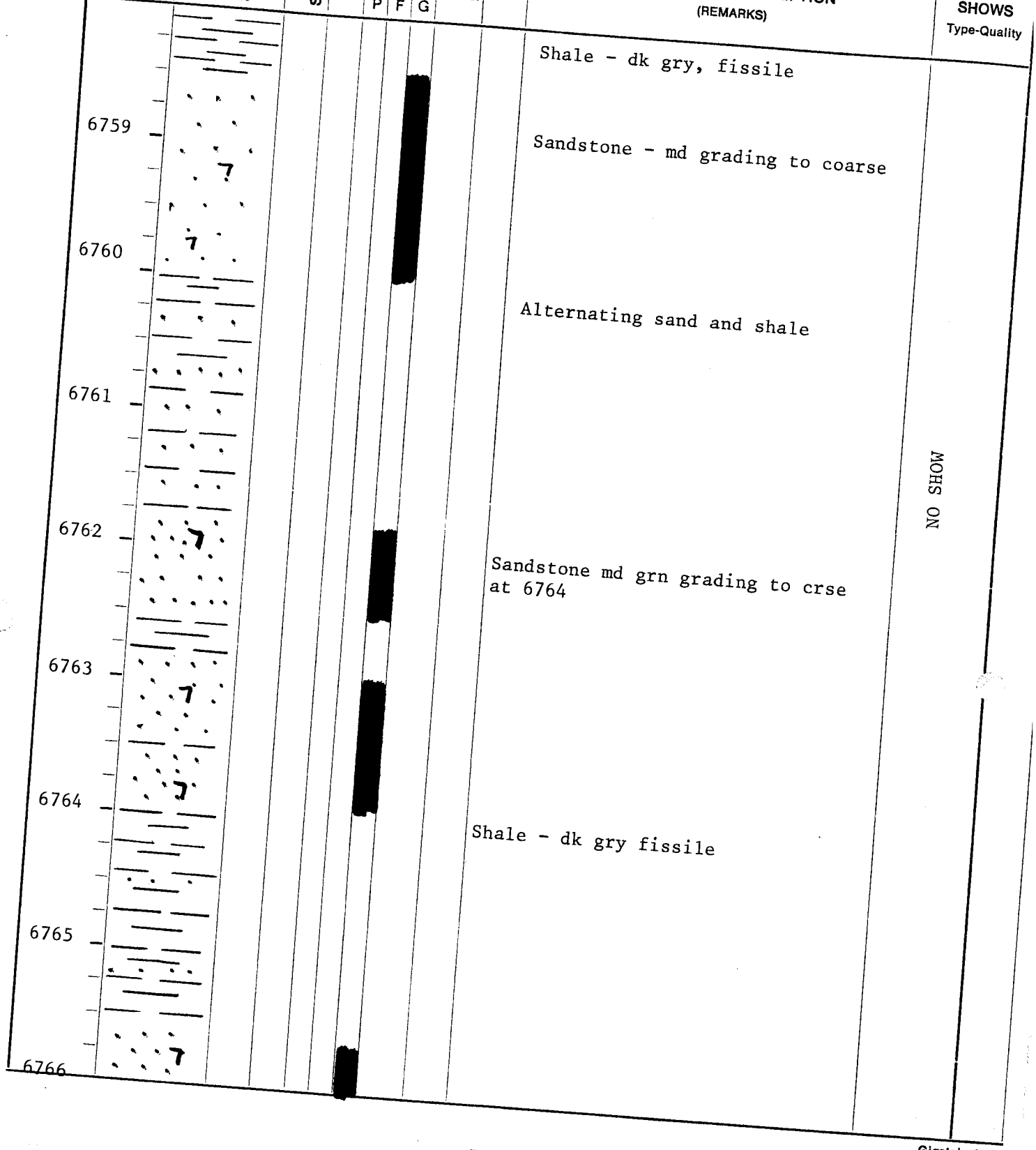
Gjøstein 35126

CONVENTIONAL CORE DESCRIPTION

DATE: GEOL.: COMPANY:

CORE No: 6 INTERVAL: WELL: COUNTRY (On/Offshore)

FROM: TO: RECOVERY: FT/M. %



Gjøstein 35126

CONVENTIONAL CORE DESCRIPTION

DATE: GEOL.: COMPANY:

CORE No: 6 INTERVAL: WELL: COUNTRY (On/Offshore

FROM: TO: RECOVERY: FT/M. %

DEPTH	LITHOLOGY Contacts Accessories Fossils	Sed. Structures	DIP	POROSITY % OBSER. P F G	Meas.	K	LITHOLOGIC DESCRIPTION (REMARKS)	SHOWS Type-Quality
6766							Sandstone, white, friable, md grn grading to coarse	NO SHOW
6767								
6768								
6769								
6770								
6771								
6772								

Gjøstein 35126

3) Sidewall Core Description

SIDEWALL CORE DESCRIPTION

COMPANY: Esso Exploration | WELL: 30/10-3

RUN NO: 1 | TYPE: | HOLE SIZE: 8½ | DATE: August 28 | GEOL.: DJB

DEPTH	REC.	LITHOLOGIC DESCRIPTION	POROSITY	SHOW
7290	1 1/4	Shale - md gry, micaceous, silty		
7284	1 1/4	Sandstone - white, fg to crse, calc	fair	none
7180	1 1/4	Siltstone - lt gry calc, sandy micaceous		
7000	1"	Siltstone - lt gry, calc, sand, mica		
6814	1½	Shale - dk gry, mica		
6600	1 1/4	Marl - lt gry		
6400	1 3/4	Shale - md gry, soft		
6000	1½	Shale - med gry, soft, mica		
5800	1 1/4	Shale - md gry, firm.		
5400	1½	Shale - md gry, firm		
5200	1½	Shale - dk gry brn, micaceous		
4800	1 1/4	Shale - gry brn, micaceous		
4600	1½	Shale - gry brn, micaceous		
4300	1½	Shale - gry brn, mica, silty		
4200	1½	Shale - gry brn, mica, silty		
4000	1½	Shale - med gry, silty		
3500	1½	Shale, md gry, silty		

Gjøstein 35125

VI. RESERVOIRS:

The Paleocene contained approximately 150 feet of reservoir sands. The remainder of the section drilled was shale. No shows were encountered.

The Eocene section contained a good sand reservoir (Frigg Clastic Tongue) from 6660 feet to 6800 feet. The sand is white, medium to coarse grained, fine to very fine grained, slightly micaceous, friable and unconsolidated. The sand contained oil and gas.

VII. HYDROCARBON SHOWS:

The only shows present in the well were in the EOCENE (Frigg Clastic Tongue) from 6660 feet to 6800 feet. Logs and cores indicate that approximately 78 feet of this interval contains oil and gas, to an oil-water contact of 6738 feet.

VIII CONCLUSION:

Well 30/10-3 was drilled to evaluate the Eocene sand (Frigg Clastic Tongue) and the upper portion of the Paleocene sand. The primary objective was the Frigg Clastic Tongue.

The expected pay section of the Frigg Clastic Tongue come in 32 feet structually lower than expected and had a thickness of 140 feet of which 78 feet contained gas and oil. The Paleocene sands has no shows.

LOCATION PLAT

Company: ESSO EXPLORATION NORWAY INC.

Field No: 030

Block No: 30/10

Well No: 30/10-3

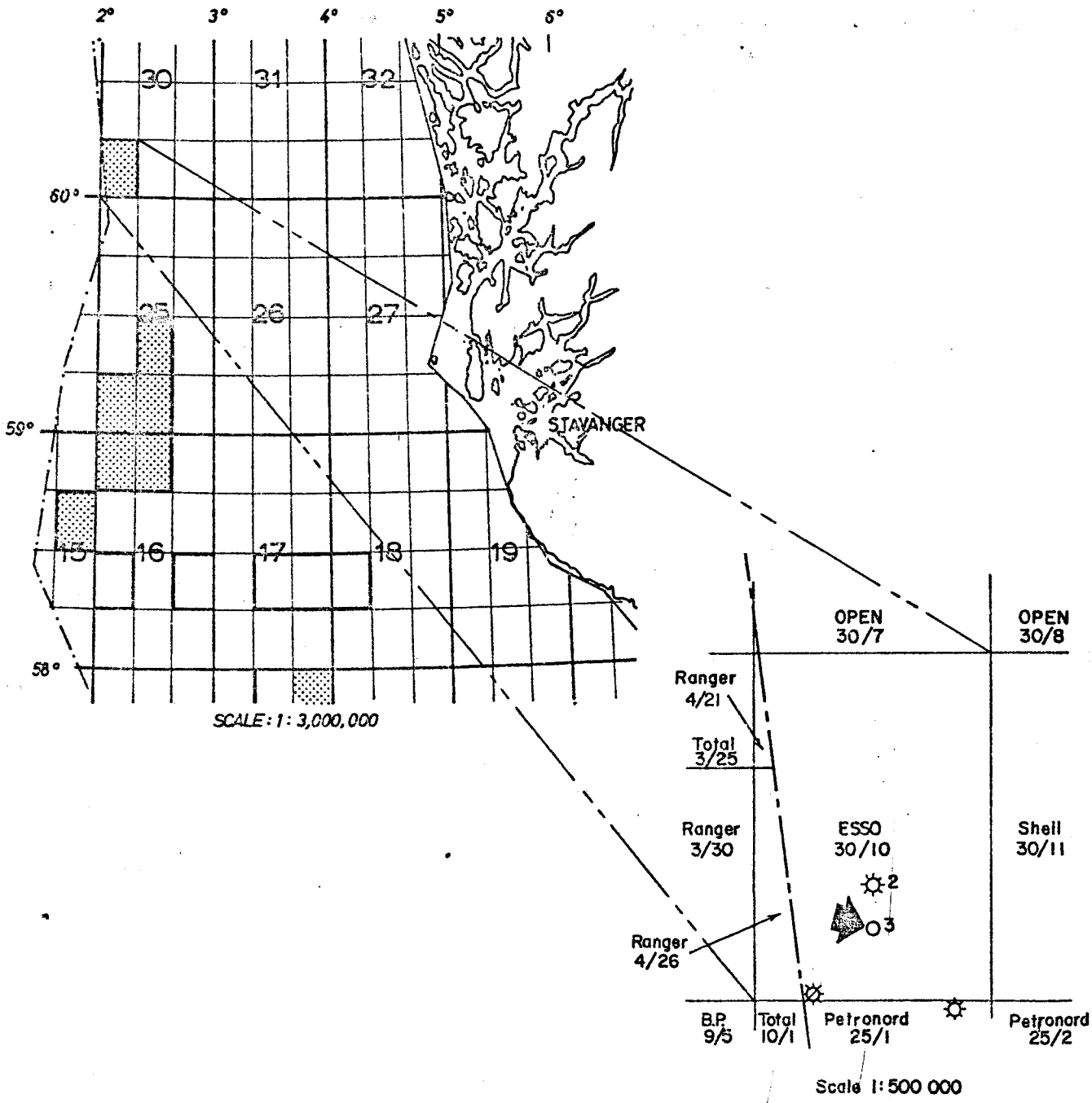
Seismic line: CS-73-27, sp 2390

Geographic coordinates:

Latitude: 60° 03' 12,3" N

Longitude: 02°10' 02,2" E

Water depth: 315 *feet.*



DATE : SEP. 1974