LASMO International Ltd

5789 BN

MARTINSICURO MARE 1 dir. COMPOSITE LOG

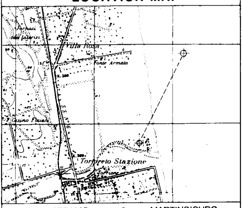
AREA	: **CENTRAL ADRIATIC SEA**	LOCATION (International Ellipsoid) :	
PERMIT	: **BR. 216 IM**	GEOGRAPHIC :	**42° 50' 19,9" N** (SURFACE)
CONTRACTOR/RIG	: **PERGEMINE/NATIONAL 1320**	(Monte Mario Datum 1940)	**01° 28' 35,7" E** (SURFACE)
DATE RIG OBTAINED	: **18 th DECEMBER 1989**		**42° 50' 52,4" N** (BOTTOM HOLE)
DATE WELL SPUDDED	: **18 th DECEMBER 1989**		**01° 29' 01,1" E** (BOTTOM HOLE)
DATE TD REACHED	: **2 nd APRIL 1990**	GAUSS - BOAGA :	**4,743,561** (SURFACE)
DATE RIG RELEASED	: **8th JULY 1990**	(Monte Mario Datum 1940)	**2,432,465** (SURFACE)
			4,744,559 (BOTTOM HOLE)
			2,433,055 (BOTTOM HOLE)
TOTAL DEPTH A	: **4364 M (MD)** **3978 M (TVD)**	GROUND ELEVATION	**3.43 M amsl**
		KB ELEVATION	**12.43 M amsl**

AGIP ARCHIVIO POZZI AGEO

E/PROF 07

SCALE 1 : 1,000 — FINAL STATUS: **PLUGGED & ABANDONED : GAS SHOWS**

LOCATION MAP



Prov. : TERAMO — Com. : MARTINSICURO
Sheet : 133 I SO — Scale : 1 : 25,000

PARTNERSHIP

–LASMO International LTD (Operator)	**50 %**
–SELM PETROLEUM s.r.l.	**30 %**
–PETREX S.p.A.	**20 %**

PERSONNEL

WELL SITE GEOLOGIST :	**Carlo CARUGO** **Riccardo LEONCINI**
DRILLING SUPERVISOR :	**Giovanni INDRI** **David NEWBOULD**

SERVICE COMPANIES

MUD LOGGING :	**GEOSERVICES**
WIRELINE LOGGING :	**SCHLUMBERGER**
SEISMIC OPERATIONS :	**SCHLUMBERGER**
TESTING :	**BAKER / SCHLUMBERGER**
CEMENTING :	**BJ SERVICES**
CASING :	**WEATHERFORD**
BIOSTRATIGRAPHY :	**Umberto FOLLADOR**
DIRECTIONAL DRILLING :	**NSC / GEO DATA**
MUD ENGINEERING :	**MILPARK**

DRILLING DATA

HOLE SIZE	INTERVAL(metres)
26"	13 - 157
17 1/2"	157 - 2036
12 1/4"	2036 - 3320
8 1/2"	3320 - 4364

DRILLING FLUID

INTERVAL (metres)	SYSTEM
13 - 157	BENTONITE/CMC/ FRESH WATER
157 - 4364	NEWDRILL POLYMER

CEMENT PLUGS

No.	INTERVAL (metres)
1	SIDETRACK 140 - 249
2	3729 - 3764
3	ABANDONMENT 3040 - 3190
4	1950 - 2100
5	850 - 1000
6	243 - 293
7	11 - 190

CASING DATA

SIZE	TYPE	SHOE DEPTH (metres)	CEMENT
30"	WALL	12	BUILT IN DURING SITE CONSTRUCTION
20"	K55 BTC 13 JTS-133 LB/FT	153	835 SX CLASS 'G' NEAT - 1900 g/l
13 3/8"	N80 BTC 168 JTS-72 LB/FT	2025	LEAD: 1520 SX CLASS 'G' + GEL 3% - 1560 g/l TAIL : 500 SX CLASS 'G' NEAT - 1900 g/l
9 5/8"	N80 BTC 24 JT-47 LB/FT P110 Fox 55 JT-53.5 LB/FT P110 BTC 193 JT-53.5 LB/FT	3310	3145 SX CLASS 'G' + 0.6% R12L + 0.8% CD31L - 1900 g/l
7"	N80 VAM 102 JT-32 LB/FT P110 VAM 1 JT-32 LB/FT	4340 Top Liner 3112	785 SX CLASS 'G' + 0.6% BA58L + 0.04% CD31L + 0.3% R-3 + 0.5% FL19L - 1900 g/l

LOGGING SUMMARY

DATE	LOG	RUN	INTERVAL (metres)	HOLE SIZE	REMARKS
02.02.90	DIS-SLS-GR-CAL	1	2033 - 153	17 1/2"	
08.02.90	GCT	1	1978 - 0	17 1/2"	
02.03.90	DIL-MSFL-GR-AS	1-2	3017 - 2025	12 1/4"	INTERMEDIATE LOG
02.03.90	PI-MSFL-GR-AS	1-2	3017 - 2025	12 1/4"	INTERMEDIATE LOG
10.03.90	FMS	1	3321 - 2025	12 1/4"	
10.03.90	PI-MSFL-AS-GR-SP	3	3321 - 2025	12 1/4"	
13.03.90	LDL-CNL-EATT-MLL-GR	1	3319 - 2025	12 1/4"	
13.03.90	MSD	1	3324 - 2030	12 1/4"	EPT/MLL Malfuncioning
18.04.90	PI-AS-MSFL-GR	4	4300 - 3309	8 1/2"	

DATE	LOG	RUN	INTERVAL (metres)	HOLE SIZE	REMARKS
18.04.90	CET	1-2	600 - 15	8 1/2"	
20.04.90	OBDT	2	4302 - 3314	8 1/2"	
24.04.90	CBL-VDL-CCL	1-2	4300 - 3120	7"LINER	45 BAR PRESSURE
25.04.90	VSP(source on sea)	-	4300 - 3320	7"LINER	
26.04.90	VSP(source on land)	-	4300 - 12	7"LINER	
27.04.90	CET	1	4000 - 3235	7"LINER	
06.05.90	HDL-CNL-GR-CCL	1	4025 - 3310	7"LINER	
07.05.90	CBL-VDL-GR-CCL	3	2700 - 2083	7"LINER	

RFT TEST

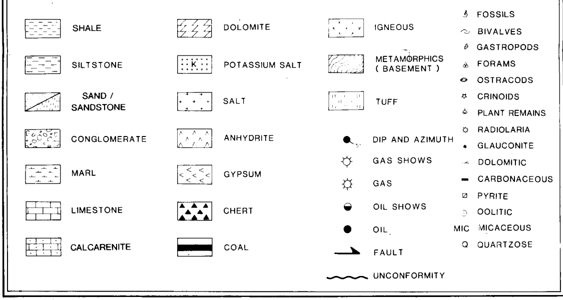
No.	DEPTH (metres)	GRADIENT (PSI/FT)	FM.P. (PSI)	REMARKS
1	3528.5	0.46	4696	TIGHT FORMATION
2	3526.9	0.46	4695	TIGHT FORMATION

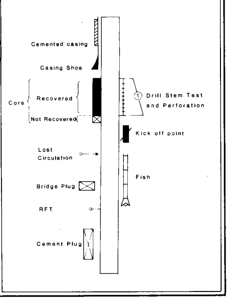
DST DATA

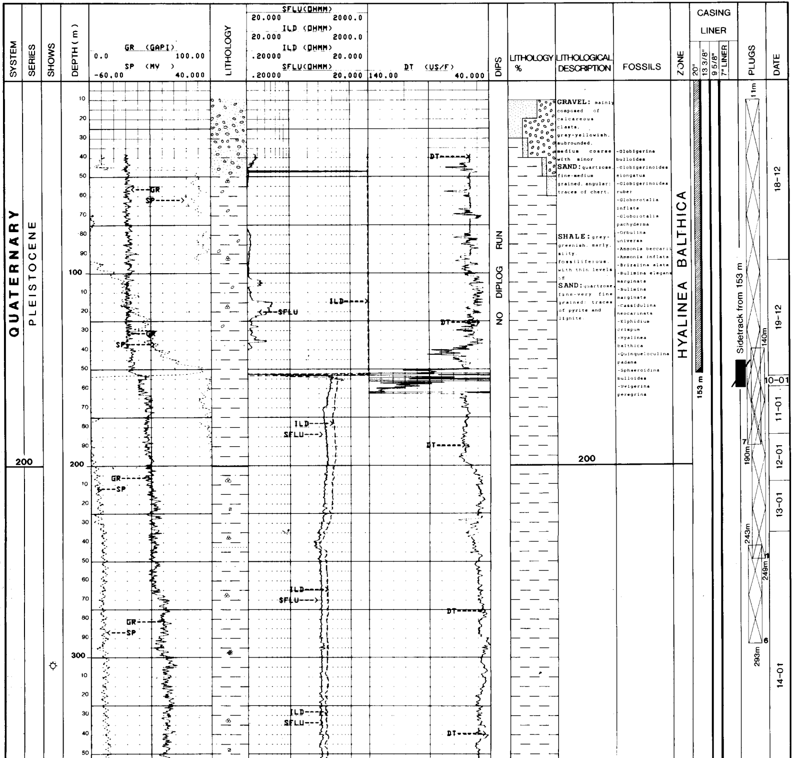
No.	INTERVAL (metres)	FORMATION	FINAL FLOW RATE	BHFP (PSI)	WHFP (PSI)	FSIP (PSI)	CHOKE SIZE	GOR (SCF/BBL)	API°	S.G.	REMARKS
1	3960 - 3966	M. PLIOCENE (SUBTHRUST)	n.a.	APPROX 1900	0	n.a.	16/64	n.a.	n.a.	n.a.	PCT·FAILURE-NO STABILISED BHP
2		M. PLIOCENE (SUBTHRUST)									ABORTED (STRING STUCK)
2a	3725 - 3826	M. PLIOCENE (SUBTHRUST)		800÷850	200÷217	4384	16/64	n.a.	n.a.	0.566	HIGH DEPLETION
3	3719 - 3721	M. PLIOCENE (SUBTHRUST)	APPROX 6000 cum/d	1650	200	5017	16/64	n.a.	n.a.	0.561	FLOW NOT STABILISED (SLOWLY INCREASING)
4		L. PLIOCENE (OVERTHRUST)									ABORTED (TCP GUNS MISFIRED)
4a	2381 - 2393	L. PLIOCENE (OVERTHRUST)	ESTIMAT 2000 cum/d	2200	0	4465	20/64	n.a.	n.a.		FORMATION WATER (36.000 PPM) TO SURFACE AFTER 14 Hrs. FLOW

LITHOLOGY

SYMBOLS







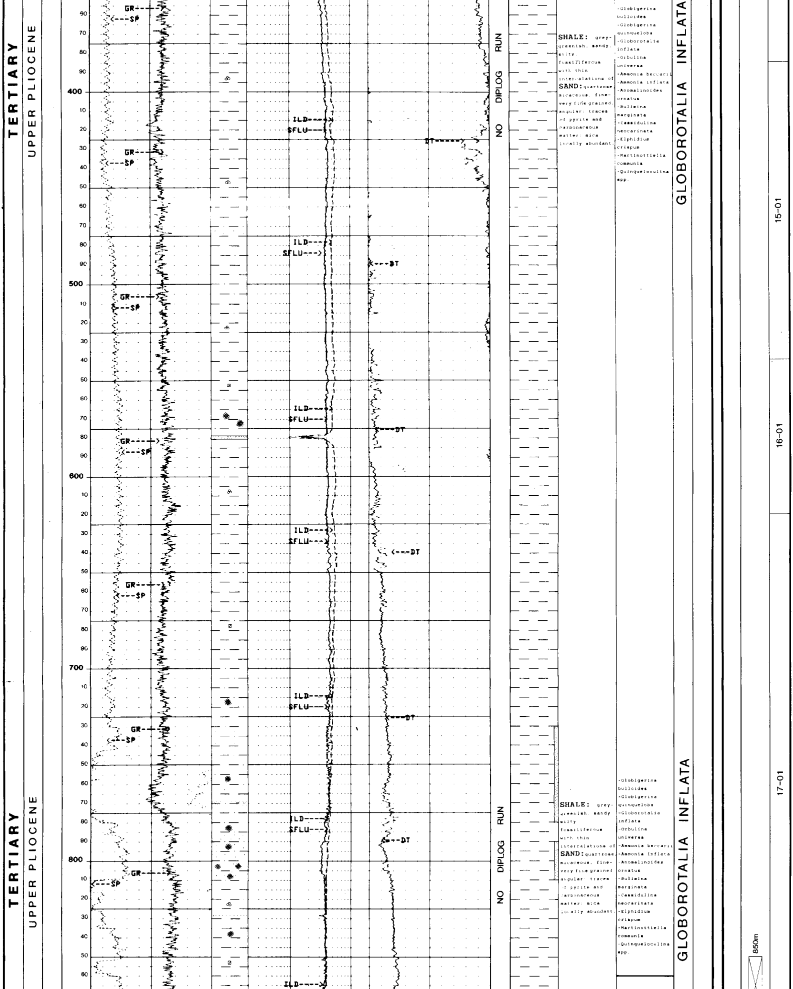
GRAVEL: mainly composed of calcareous clasts, grey-yellowish, subrounded, medium coarse with minor

SAND: quartzose, fine-medium grained, angular: traces of chert.

SHALE: grey-greenish, marly, silty, fossiliferous, with thin levels off

SAND: quartzose, fine-very fine grained: traces of pyrite and lignite.

- -Globigerina bulloides
- -Globigerinoides elongatus
- -Globigerinoides ruber
- -Globorotalia inflata
- -Globorotalia pachyderma
- -Orbulina universa
- -Ammonia beccarii
- -Ammonia inflata
- -Brizalina alata
- -Bulimina elegans marginata
- -Bulimina marginata
- -Cassidulina neocarinata
- -Elphidium crispum
- -Hyalinea balthica
- -Quinqueloculina padana
- -Sphaeroidina bulloides
- -Uvigerina peregrina

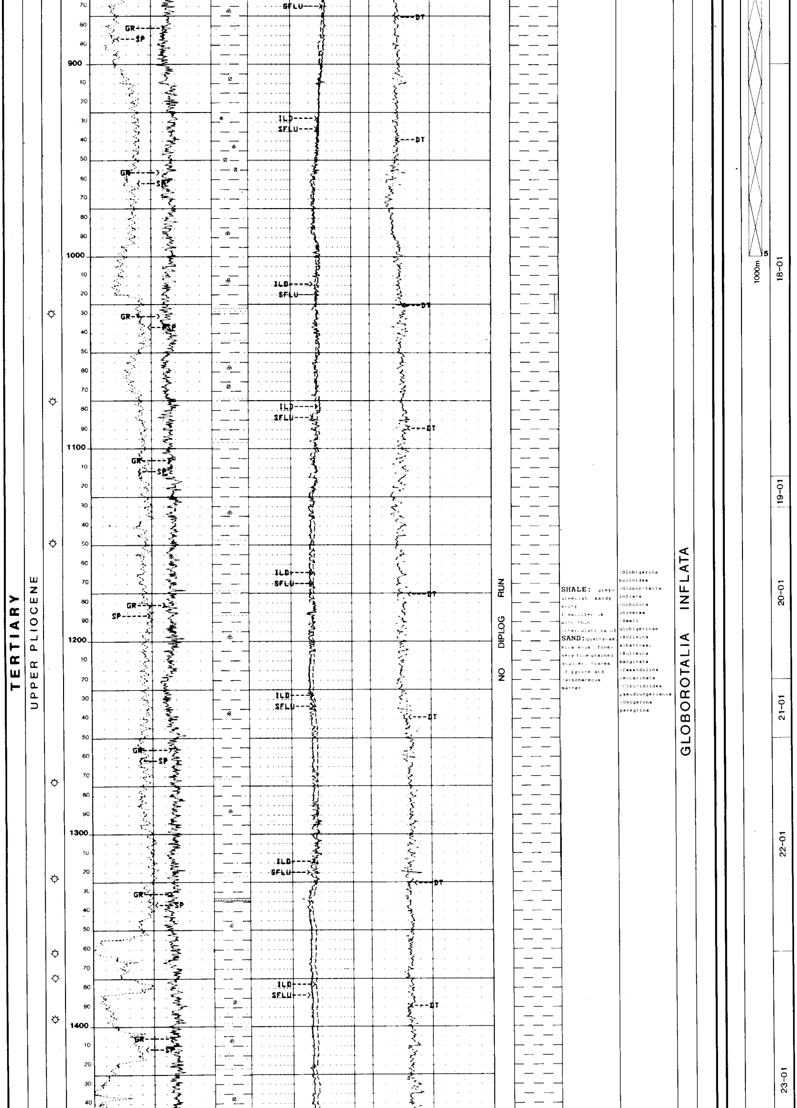


SHALE: grey-greenish, sandy, silty, fossiliferous with thin intercalations of **SAND:** quartzose, micaceous, fine-very fine grained, angular; traces of pyrite and carbonaceous matter; mica locally abundant.

- Globigerina bulloides
- Globigerina quinqueloba
- Globorotalia inflata
- Orbulina universa
- Ammonia beccarii
- Ammonia inflata
- Anomalinoides ornatus
- Bulimina marginata
- Cassidulina neocarinata
- Elphidium crispum
- Martinottiella communis
- Quinqueloculina spp.

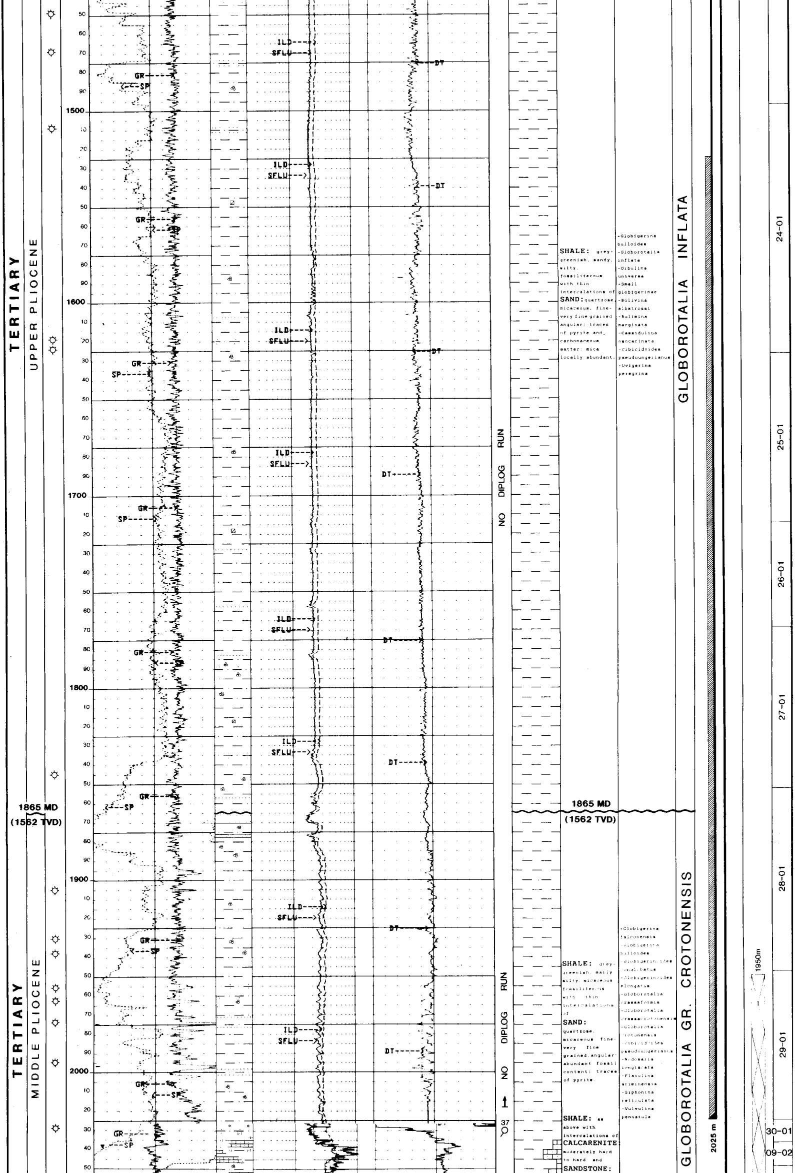
SHALE: grey-greenish, sandy silty fossiliferous with thin intercalations of **SAND:** quartzose, micaceous, fine-very fine grained angular; traces of pyrite and carbonaceous matter; mica locally abundant.

- Globigerina bulloides
- Globigerina quinqueloba
- Globorotalia inflata
- Orbulina universa
- Ammonia beccarii
- Ammonia inflata
- Anomalinoides ornatus
- Bulimina marginata
- Cassidulina neocarinata
- Elphidium crispum
- Martinottiella communis
- Quinqueloculina spp.



SHALE: grey-greenish sandy silty fossiliferous with thin intercalations of **SAND:** quartzose micaceous fine-very fine grained angular, traces of pyrite and carbonaceous matter.

- Globigerina bulloides
- Globorotalia inflata
- Orbulina universa
- Small globigerinae
- Bolivina albatrossi
- Bulimina marginata
- Cassidulina neocarinata
- Cibicidoides pseudoungerianus
- Uvigerina peregrina



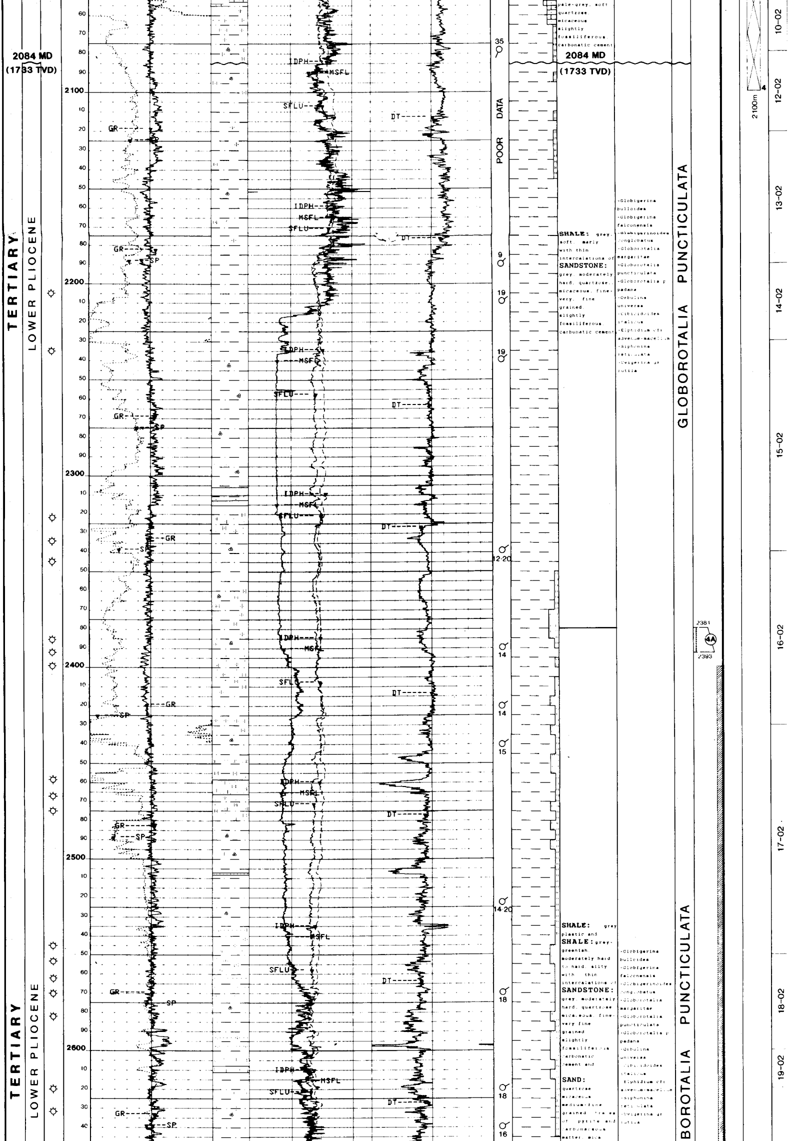
SHALE: grey-greenish, sandy, silty, fossiliterous with thin intercalations of **SAND:** quartzose, micaceous, fine-very fine grained angular; traces of pyrite and, carbonaceous matter; mica locally abundant.

- Globigerina bulloides
- Globorotalia inflata
- Orbulina universa
- Small globigerinae
- Bolivina albatrossi
- Bulimina marginata
- Cassidulina neocarinata
- Cibicidoides pseudoungerianus
- Uvigerina peregrina

SHALE: grey-greenish, marly silty, micaceous fossiliferous with thin intercalations of **SAND:** quartzose, micaceous fine-very fine grained, angular; abundant fossil content; traces of pyrite.

- Globigerina falconensis
- Globigerina bulloides
- Globigerinoides conglobatus
- Globigerinoides elongatus
- Globorotalia crassaformis
- Globorotalia crassacrotonensis
- Globorotalia crotonensis
- Cibicidoides pseudoungerianus
- Nodosaria longiscata
- Planulina ariminensis
- Siphonina reticulata
- Vulvulina pennatula

SHALE: as above with intercalations of **CALCARENITE:** moderately hard to hard and **SANDSTONE:**



pale-grey, soft quartzose, micaceous slightly fossiliferous, carbonatic cement

2084 MD
(1733 TVD)

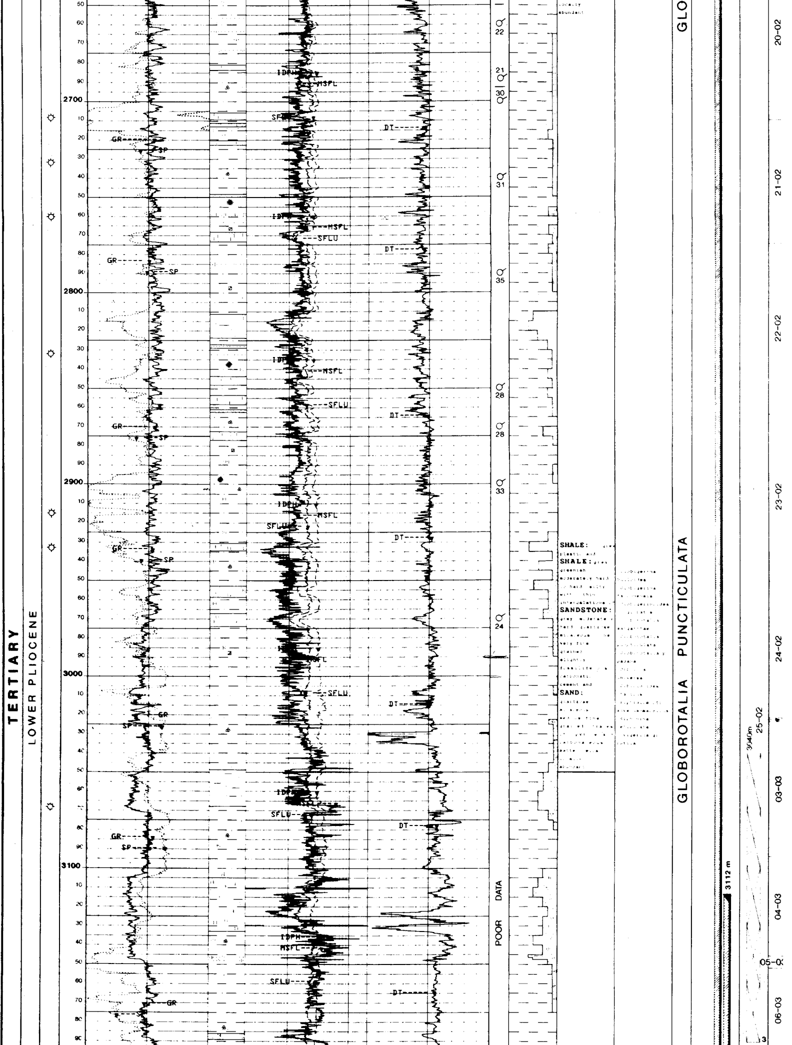
SHALE: grey, soft, marly with thin intercalations of **SANDSTONE:** grey, moderately hard, quartzose, micaceous, fine-very fine grained, slightly fossiliferous, carbonatic cement

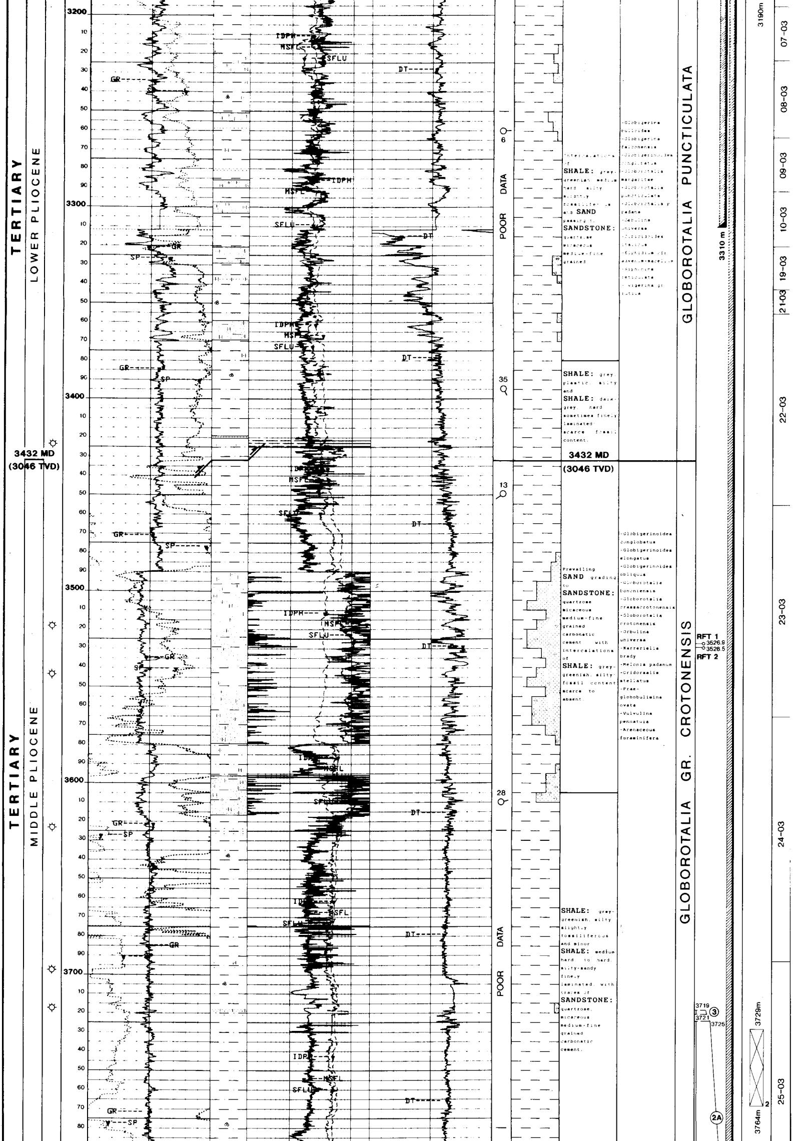
-Globigerina bulloides
-Globigerina falconensis
-Globigerinoides conglobatus
-Globorotalia margaritae
-Globorotalia puncticulata
-Globorotalia p padana
-Orbulina universa
-Cibicidoides italicus
-Elphidium cfr adveneum-macellum
-Siphonina reticulata
-Uvigerina gr rutila

SHALE: grey plastic and **SHALE:** grey-greenish, moderately hard to hard, silty with thin intercalations of **SANDSTONE:** grey, moderately hard, quartzose micaceous, fine-very fine grained slightly fossiliferous carbonatic cement and

SAND: quartzose micaceous medium-fine grained traces of pyrite and carbonaceous matter, mica

-Globigerina bulloides
-Globigerina falconensis
-Globigerinoides conglobatus
-Globorotalia margaritae
-Globorotalia puncticulata
-Globorotalia p padana
-Orbulina universa
-Cibicidoides italicus
-Elphidium cfr adveneum-macellum
-Siphonina reticulata
-Uvigerina gr rutila





Intercalations of **SHALE:** grey-greenish medium hard silty slightly fossiliferous and **SAND** passing to **SANDSTONE:** quartzose micaceous medium-fine grained

-Globigerina bulloides
-Globigerina falconensis
-Globigerinoides [illegible]
-Globorotalia margaritae
-Globorotalia puncticulata
-Globorotalia p padana
-Orbulina universa
-Cibicidoides italicus
-Elphidium cf. advenum-macellum
-Siphonina reticulata
-Uvigerina gr rutila

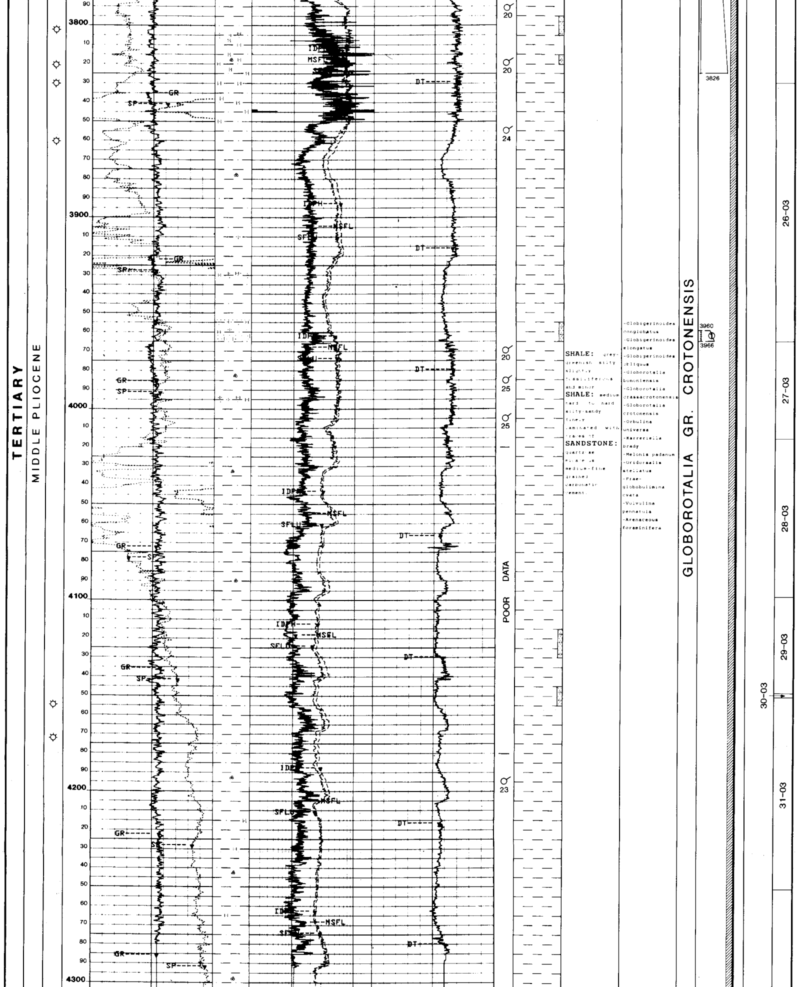
SHALE: grey, plastic, silty and **SHALE:** dark-grey, hard sometimes finely laminated scarce fossil content.

3432 MD
(3046 TVD)

Prevailing **SAND** grading to **SANDSTONE:** quartzose micaceous medium-fine grained carbonatic cement with intercalations of **SHALE:** grey-greenish, silty fossil content scarce to absent.

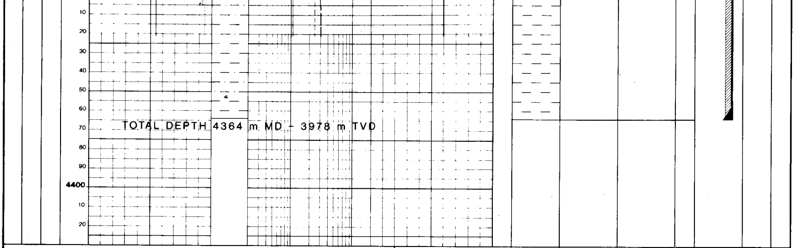
-Globigerinoides conglobatus
-Globigerinoides elongatus
-Globigerinoides obliquus
-Globorotalia bononiensis
-Globorotalia crassacrotonensis
-Globorotalia crotonensis
-Orbulina universa
-Karreriella brady
-Melonis padanum
-Cridorsalis stellatus
-Praeglobobulimina ovata
-Vulvulina pennatula
-Arenaceous foraminifera

SHALE: grey-greenish, silty slightly fossiliferous and minor **SHALE:** medium hard to hard, silty-sandy finely laminated, with traces of **SANDSTONE:** quartzose, micaceous medium-fine grained carbonatic cement.



SHALE: grey-greenish silty slightly fossiliferous and minor **SHALE:** medium hard to hard silty-sandy finely laminated with traces of **SANDSTONE:** quartzose micaceous medium-fine grained carbonatic cement.

- Globigerinoides conglobatus
- Globigerinoides elongatus
- Globigerinoides obliquus
- Globorotalia bononiensis
- Globorotalia crassacrotonensis
- Globorotalia crotonensis
- Orbulina universa
- Karreriella brady
- Melonis padanum
- Oridorsalis stellatus
- Praeglobobulimina ovata
- Vulvulina pennatula
- Arenaceous foraminifera



AGE	HOLE SIZE	INTERVAL (m MD)	SHOWS (DG % of C1)	MUD WEIGHT (KG/ℓ)
Upper Pliocene	17 1/2"	304 (1 hole)	1.5	1.08
Upper Pliocene	17 1/2"	1469 (1 hole)	4.3	1.17
Upper Pliocene	17 1/2"	1030	1.7	1.24
Upper Pliocene	17 1/2"	1075	2	1.24
Upper Pliocene	17 1/2"	1148	1.3	1.25
Upper Pliocene	17 1/2"	1270	2	1.25
Upper Pliocene	17 1/2"	1274	1.7	1.25
Upper Pliocene	17 1/2"	1323	3.3	1.28
Upper Pliocene	17 1/2"	1362	5.5	1.28
Upper Pliocene	17 1/2"	1374	4	1.28
Upper Pliocene	17 1/2"	1396	5.1	1.27
Upper Pliocene	17 1/2"	1447	3.9	1.27
Upper Pliocene	17 1/2"	1475	4.2	1.27
Upper Pliocene	17 1/2"	1509	5.5	1.27
Upper Pliocene	17 1/2"	1619	8.5	1.28
Upper Pliocene	17 1/2"	1623	8.5	1.28
Upper Pliocene	17 1/2"	1845	7	1.29
Middle Pliocene	17 1/2"	1905	2.7	1.26
Middle Pliocene	17 1/2"	1930	2.8	1.26
Middle Pliocene	17 1/2"	1938	2.8	1.26
Middle Pliocene	17 1/2"	1953	3.6	1.26
Middle Pliocene	17 1/2"	1958	2.9	1.26
Middle Pliocene	17 1/2"	1962	5.4	1.26
Middle Pliocene	17 1/2"	1977	10.2	1.28
Middle Pliocene	17 1/2"	1991	7.2	1.28
Middle Pliocene	17 1/2"	1997	12.2	1.28
Middle Pliocene	17 1/2"	2029	5.3	1.28
Lower Pliocene	12 1/4"	2206	1.7	1.32
Lower Pliocene	12 1/4"	2236	2.2	1.33
Lower Pliocene	12 1/4"	2316-2330	25-40	1.39
Lower Pliocene	12 1/4"	2331-2338	5-17	1.39
Lower Pliocene	12 1/4"	2338-2348	1.2-5	1.39
Lower Pliocene	12 1/4"	2384-2386	10	1.45
Lower Pliocene	12 1/4"	2387	40	1.45
Lower Pliocene	12 1/4"	2388	45	1.45
Lower Pliocene	12 1/4"	2391	36	1.45

AGE	HOLE SIZE	INTERVAL (m MD)	SHOWS (DG % of C1)	MUD WEIGHT (KG/ℓ)
Lower Pliocene	12 1/4"	2395	38	1.45
Lower Pliocene	12 1/4"	2396-2403	10-23	1.45
Lower Pliocene	12 1/4"	2458	13.5	1.45
Lower Pliocene	12 1/4"	2464	7.5	1.45
Lower Pliocene	12 1/4"	2464-2467	7.5-17	1.45
Lower Pliocene	12 1/4"	2468	43	1.45
Lower Pliocene	12 1/4"	2468-2476	25-35	1.45
Lower Pliocene	12 1/4"	2535-2554	4.4-8	1.45
Lower Pliocene	12 1/4"	2555-2558	10-17	1.45
Lower Pliocene	12 1/4"	2559-2561	24-26	1.45
Lower Pliocene	12 1/4"	2563-2568	31-39	1.45
Lower Pliocene	12 1/4"	2571	26	1.56
Lower Pliocene	12 1/4"	2572-2597	10-16	1.56
Lower Pliocene	12 1/4"	2620	15	1.59
Lower Pliocene	12 1/4"	2632	4.2	1.59
Lower Pliocene	12 1/4"	2696-2720	3-6.3	1.58
Lower Pliocene	12 1/4"	2732	7.5	1.67
Lower Pliocene	12 1/4"	2757-2763	10-28	1.67
Lower Pliocene	12 1/4"	2832	16	1.70
Lower Pliocene	12 1/4"	2916	1.6	1.72
Lower Pliocene	12 1/4"	2932-2934	1.8	1.72
Lower Pliocene	12 1/4"	3068	8.5	1.63
Lower Pliocene	8 1/2"	3425	2.2	1.49
Middle Pliocene	8 1/2"	3518	2.2	1.41
Middle Plicoene	8 1/2"	3544	1.1	1.41
Middle Plicoene	8 1/2"	3625	4.7	1.40
Middle Pliocene	8 1/2"	3697	1.6	1.40
Middle Pliocene	8 1/2"	3717	16.5	1.40
Middle Pliocene	8 1/2"	3803-3804	2.5	1.37
Middle Pliocene	8 1/2"	3820	2.1	1.37
Middle Pliocene	8 1/2"	3829	2.1	1.37
Middle Pliocene	8 1/2"	3932	1.2	1.45
Middle Plicoene	8 1/2"	3957-3965	13-45	1.45
Middle Pliocene	8 1/2"	4154	1.4	1.52
Middle Pliocene	8 1/2"	4177	1.3	1.53