ID 3373

SICILY CR100

ARETHUSA-1

DRILLING PROGRAMME

International Oil Development Limited

April 1984

CONTENTS

LIST OF FIGURES

1. WELL DATA

Block Identification:	CR 100 HO Zone C	
Licencee:	LASMO (Operator)	78.75%
	TCR	11.25%
	Italmin	10.00%
Well Name:	Arethusa No. 1	
Well Status:	Exploration - Tight hole	
Location:	36° 29' 46.5"N 14° 56' 58.3"E (Gauss B Proj. 15° Cent. Meridian Speroid Int. 1910) S.P. 555, Line LT83-01	
Water Depth:	82m (269ft)	
KB Elevation:	10m (33ft)	
Drilling Unit:	Glomar Grand Banks drillship	
Projected Total Depth:	3300m (10,827ft) (or 500m into L. Jurassic Siracusa formation)	
Objectives: Primary:	Lower Jurassic Siracusa/Modica Formation	
Secondary:	Middle/Upper Jurassic Buccheri Formation	

2. PROSPECT SUMMARY

2.1 Introduction

The Arethusa prospect in Licence CR100 is located approximately 20km from shore, off the southeast coast of Sicily, in the Malta Channel (Fig. 1). It lies in an established hydrocarbon province, in which some 500 million barrels of recoverable oil have been discovered to date. The latest significant discovery (Vega Field), development plans for which are currently underway, lies just over 25km from the prospect.

2.2 Technical Evaluation

The prospect is situated in an area known as the Ragusa or Iblean platform (Fig. 2). This relatively stable tectonic element is bounded on the east by the Malta escarpment, on the southwest by the linear system comprising the Malta horst and Pantelleria graben, and on the north by the Central Sicily Tertiary basin. The hydrocarbon habitat was established during the Mesozoic, at which time the area was part of the North African continental margin.

The well is designed to test the hydrocarbon potential of the Jurassic reservoirs. The principal objective is the Lower Jurassic Siracusa/Modica reservoir formation sealed by the Buccheri pelagic marl unit. However, the Buccheri is known in some places to be a reservoir as well, with a seal provided by the overlying Chiaramonte Formation. An oil source is provided by the Streppenosa black shale. The trend of optimum reservoir facies at the Siracusa/Modica level is interpreted to lie across the north of the block on trend with Vega field and to intersect the major structural feature in the block.

2.2.1 Reservoir Objectives

Siracusa/Modica Formation

The Siracusa Formation consists of platform limestones which are deposited widely over the Sicily/Malta area. The well location is at the margin of the platform and a major block-faulted basin, where it is anticipated that reservoir characteristics will be enhanced by fracturing and dolomitization. The establishment of open marine conditions led to the deposition of the time-equivalent Modica Formation in the basin itself, overlying the Streppenosa black shales. The Modica consists of carbonates and marls, fine grained in the basin centre and coarsening towards the margins. Close to the Siracusa limestone platform the Modica is represented by coarser grained calcarenites derived directly from the contemporaneous Siracusa shelf and bank edge carbonates (Fig. 3) which would also be a reservoir objective.

The Vega No. 1 well (Fig. 1), the Vega Field discovery well, drilled in 1981, tested 16°API, 2.5% sulphur oil at a rate of 4200 bbls per day from a thick porous Siracusa dolomite. The delineation well, Vega No. 3, drilled in 1982 produced at the rate of 14,500 bopd, pump assisted, from the same reservoir. The gross pay zone is reported as 253m. The Perla Field, discovered in 1976, produces from the Siracusa Formation at a rate of 3000 bopd. Oil gravity is 14° API.

The best reservoir potential is confined to the zone of transition from platform carbonate (Siracusa) to platform edge talus (Modica), along which carbonate build-ups are also possible. This zone is interpreted to run approximately east-west through the northern part of CR100, through the Arethusa prospect (Fig. 2). The Siracusa/ Modica may be up to 1600m thick.

Buccheri Formation

A possible secondary objective is the Middle/Upper Jurassic Buccheri Formation, the fractured basinal carbonates of which are rumoured to have produced up to 300 bopd of heavy gravity oil in the Spada Mare well and between 500 and 600 barrels of 43° API oil per day in the Palma well. Such developments are unpredictable however, and no commercial production has yet been obtained from this interval.

2.2.2 Structure

The Arethusa feature incorporates a number of similarities to the Vega field. Its location in the northeast corner of the block is illustrated on Figure 5. It lies on the major arch which plunges southwestward across block CR100.

Two seismic lines crossing the prospect are included in this programme as Fig. 6 and 7. Seismic line LT83-01 (Fig. 6) running up the crest of the arch, illustrates the key elements of the play. Porous 'Siracusa' platform edge facies is interpreted to be present within the thickened Lower Jurassic interval in Block CR100, while to the northeast, the thinned Lower Jurassic interval is interpreted as the tight, basinal, 'Modica' facies. The same Lower Jurassic 'Siracusa' platform edge is also visible on seismic across the Vega field.

The Arethusa prospect consists then of a structural/stratigraphic trap at the level of the Lower Jurassic Siracusa carbonates. Closure in a NW/SE direction is provided by the end Cretaceous folding along the main arch (Fig. 7) whilst closure to the northeast is provided stratigraphically by facies change to tight, basinal, Modica carbonates. A strong element of stratigraphic trapping is also thought to exist in the Vega field where the gross oil column appears to exceed mapped structural closure.

This prospect has been chosen for the first well on the block, which will be drilled in the vicinity of S.P. 555, seismic line LT83-01. The predicted well section is illustrated on Figure 4. The well will be drilled to a total depth of 3300m, or 500m into the Siracusa.

2.2.3 Source Potential

The Hettangian-Sinemurian Streppenosa formation is the accepted source rock for oil in this area.

The Streppenosa carbonates, dark grey clays and black shales were deposited in the basin adjacent to the Siracusa limestone platform under anoxic conditions. No quantitative information is available on the Streppenosa, but it is generally believed to be the source of the oil discovered to date in the southeast Sicily area.

Considerable variability is seen in the gravity of oil in the area:

i) Common oil type is heavy, napthenic crude (Vega field is 16°API, 2% sulphur).

ii) Lighter crude (Mila, 33°API, Palma, 42°API) occurs locally.

The basal Streppenosa in the deep basin probably began to generate hydrocarbons by the end of the Jurassic, but generation from the younger Streppenosa probably did not occur till late or post Cretaceous times. This maturation sequence allows for charging of reservoirs of different age at different times, and helps to explain the differences in oil character.

3. ANTICIPATED FORMATION TOPS AND PROGNOSED LITHOLOGIES

Fig. 4 summarises the anticipated stratigraphy of the Arethusa-1 well. A list of the formation tops is as follows:

	Depth RKB (m)	Depth Subsea (m)
Top Tertiary		254
Top Cretaceous Amerillo		1272
Top Cretaceous Hybla		2026
Top L. Jurassic Siracusa		2770
T.D.		3300 (or 500m into Siracusa)

The anticipated lithologies of the formations to be encountered are as follows:

Quaternary-Pliocene (82m-254m)

Light grey bioclastic limestone grading downwards into calcarenite with intercalations of grey clays.

Gessi Fm. (254m-600m approx.)

Predominantly evaporites with interbeds of pinkish white limestone and greenish claystones. Marls and clays containing radiolaria at the base.

Tellaro Fm. (600m-900m approx.)

Grey, greenish and brown clays and marls with abundant microfossils and macrofossil fragments and occasional beds of siltstone.

Ragusa Fm. (900m-1272m)

Milky white calcarenite with abundant microfossils and occasional chalky or dolomitised beds towards the base. Towards the base also the calcarenite grades into a mudstone/wackestone with common brown chert and occasional grey to white marls.

Amerillo Fm. (1272m-2026m)

Predominantly mudstone, grey to cream, grading to chalk with traces of chert and marl, but in the lower part the mudstone grades to wackestone/packstone with abundant foraminifera.

Hybla Fm. (2026m-2380m approx.)

Alternating dark grey to greenish marls and clays and white marly limestone (mudstone/wackestone and chalk) with radiolaria.

Chiaramonte Fm. (2380m-2595m approx.)

Grey to white, marly mudstone/wackestone occasionally chalky with interbeds of grey-greenish marls and shales. Towards the middle of the formations the marls are pinkish. In the lower part of the formation the mudstone/wackestone is bioclastic and contains light grey and orange chert. The limestone becomes marly and possibly pinkish towards the base, with abundant microfossils.

Buccheri Fm. (2595m-2770m)

Alternating marls and limestones. The marls grade from being grey-greenish and occasionally reddish, mottled and nodular at the top to being light grey to light brown towards the base. The limestones grade from grey to whitish wackestones with abundant radiolaria and light beige mudstones with traces of chert at the top, through green to grey and yellowish wackestone/packstones to light brown packstone/grainstones with rounded grains at the base.

Siracusa and Modica Formations (2770m to T.D.)

Siracusa:

White to milky white packstone/grainstones, often dolomitic, with ooliths, rounded intraclasts, macrofossil debris, forams and algal remains. Fracture and intercrystalline prosotiy. The limestones grade to wackestone/mudstones, white and pinkish towards the base, with brown chalk.

Modica:

Limestones of varying, but generally fine-grained lithologies, ranging from light grey to brown packstone with ooliths, intraclasts and bioclastic material, to grey to cream mottled calcarenite with chert, to limestone breccia, which grade into grey to light brown wackestone/mudstone, with chert and occasional chalk. Interbedded with dark grey to black shale.

Note: Volcanics could be present in any part of the sequence, especially in the Ragusa, Amerillo and Siracusa/Modica Formations.

4. SAMPLING LOGGING AND CORING REQUIREMENTS

The data distribution list is given in Fig. 8. Daily and weekly geological reports will be required.

4.1 Sampling Programme

Samples will be caught at 5m intervals from the 20" casing shoe (450m) to the 13 3/8" casing point (1490m) and at 2m intervals from the 13 3/8" casing shoe to TD (3300m). Sample interval for geochemical samples should be 30m from the 20" casing shoe to TD. Sample intervals may be modified according to the rate of penetration at the discretion of the wellsite geologist.

As hydrocarbon-bearing carbonates may be present below approximately 2600m, drilling should be controlled below that depth to allow reliable lithology identification.

All sample bags and envelopes must clearly be marked with the well name and depth interval in waterproof ink.

8 sets of samples are required as follows:-

A. 2 sets of unwashed samples (approx. 500 grams).

These samples are required for palaeontological and palynological analysis. Samples should be despatched on a regular basis addressed to:-

a) Palaeoservices Ltd.,
Unit 15, Paramount Industrial Estate,
Sandown Road,
Watford,
WD2 4XA,
England

b) LASMO International Oil Development Ltd.,
c/o Rockall Data Storage,
Trinity Trading Estate,
Sittingbourne,
Kent,
England.

Att: Andy Lee

B. 5 sets of washed and dried samples (approx. 50 grams). These should be despatched on a regular basis addressed to:-
3 sets to:-

a) LASMO International Oil Develpment Ltd.
c/o Rockall Data Storage,
Trinity Trading Estate,
Sittingbourne,
Kent,
England

Att: Andy Lee

b) T.C.R.,
Suite 3700, Bow Valley Square 4,
250 Sixth Avenue SW,
Calgary,
Canada

c) Italmin,
c/o Rigo and Associates,
9 Lungotevere Michelangelo,
00192 Rome,
Italy

One set to LASMO Siracusa for later despatch to the Italian Authorities.

One additional set of washed and dried samples (approx. 50 grams) should be kept on the rig for the duration of the well for reference purposes. Upon completion of the well this set should be despatched to:-

LASMO International Oil Development Ltd.
c/o Rockall Data Storage,
Trinity Trading Estate,
Sittingbourne,
Kent,
England

Att: Andy Lee

C. One set of canned geochemical samples (approx. 500 grams). Bactericide should be added to each can prior to sealing. Samples of drilling mud should be collected with the first and last samples and also at any time there is a significant change in mud properties. Cans should be dispatched on a regular basis addressed to:-

Palaeochem Ltd.,
Unit 14, Paramount Industrial Estate,
Sandown Road,
Watford,
WD2 4XA,
England

Samples will be collected of any hydrocarbon liquids recovered.

All samples will be despatched in boxes which should be clearly labelled inside and out with the well name and address of recipient. Depth intervals should be labelled on the inside of the container only.

A record of all despatched samples must be kept in the logging unit or company office on the rig. LASMO's office in London should be informed by telex of sample type, destination and depth interval of all shipments made from the rig via boat and/or helicopter. Time, date and identification of transport should also be noted.

LASMO's wellsite geologist may alter distribution instructions as necessary.

LASMO's wellsite geologist should hand carry the most recent unwashed sample to London on each crew change. Arrangements for this sample to be picked up by Palaeoservices will be made.

4.2 Mud Logging Programme

The mud logging crew will be at the well site in good time to bring the unit up to optimum operating efficiency prior to drilling out the 20" casing.

The mud logging contractor will provide the following services:-

4.2.1 Conventional Mud Logging System

i) Continuous monitoring of total gas content of mud.
ii) Cutting gas/blender.
iii) Continuous chromatographic analysis of hydrocarbon gases in mud.
iv) Mud weight in/out.
v) Continuous monitoring of drilling rate.
vi) Continuous monitoring of pump stroke rate and totalised.
vii) Existing rig P.V.T. system alarmed.
viii) Lithology interpetation and description using high quality binocular microscope.
ix) Fluoroscopic examination of drill cuttings.
x) Connection gas notation.
xi) Trip gas notation.
xii) Mud properties, drilling parameters notation.
xiii) Collection, washing and packing of logged cutting samples.
ixv) Pit volume (totalised, recorded and alarmed).
xv) Torque, indicated and chart recorded.
xvi) Drafting facilities for mud log.
xvii) Chemicals: acid, solvent, phenolphtalein, etc.
xviii) Pump pressure recorded.
ixx) Hydrogen sulphide detector with alarm.
xx) Special messenger services if required.
xxi) Calcimetric measurement of drill cuttings.
xxii) Assistance with coring operations if required.

4.2.2 Online Computer System

i) Formation pore pressure.
ii) Formation porosity percentage.
iii) 'D' exponent.
iv) Rate of penetration.
v) Weight on bit/hook load.
vi) Rotary r.p.m.
vii) Time of day.
viii) Total depth.
ix) Accumulative drilling hours.
x) Operational cost per metre.
xi) Bearing condition of drill bit.
xii) Equivalent circulating density.
xiii) Frac gradient calculation.
ixv) Kill programme.
xv) Hydraulics analysis and optimisation programme.
xvii) Remote visual display of computer outputs in LASMO representative's office.

4.2.3 Data Reporting

i) Daily specified data available at morning report time for LASMO geologist.
ii) 4 prints of mud log sheets as completed.
iii) One copy of computer output at regular intervals.
iv) 3 copies of final complete mud log and end of job final reports. Original sepias of same.

4.2.4 Daily checks of equipment as specified, with written record of same. Regular inventories of consumables. Records of sample and data shipments.

4.3 Coring Programme

4.3.1 Conventional Cores

One 60ft core will be taken at Top Siracusa level in a significant porosity development, whether shows are recorded or not.

In the event of good shows, coring will continue to a maximum of three 60ft cores and the remainder of the section be drilled down.

Should shows occur at other levels, the wellsite geologist will recommend additional coring after consultation with LASMO, London.

Cores should be thoroughly cleaned with dry rags before packing. Cores should be clearly marked to show way-up by drawing two parallel lines along the length of the core using red and yellow indelible ink. From top to bottom RED marking should be on the RIGHT HAND SIDE.

Cores should be packed in 3ft boxes and padded with rags. Top and bottom should be marked on the inside and outside of boxes. The following information should be clearly marked on the inside of the box:

COMPANY: LASMO International Oil Development Ltd.
WELL: Arethusa-1
CORE NO:
BOX NO: of
BOX INTERVAL:

The same information, but not depth intervals should be marked on the outside of the boxes.

Special saturated core samples are required at 3ft intervals in pay zones. Each sample should be 4-6 inches long and should be numbered from top to bottom of the core. Special core samples should be wrapped first in cling-film, then in aluminium foil and packed along with the core in the correct position.

Cores should be desptached to:

4.3.2 Sidewall cores:

Starting from below 13 3/8" casing shoe sidewall cores should be taken at regular intervals (100-200m) for geochemical, reservoir and palaeostratigraphic studies. The sidewall coring programme is, however, dependent on recovery success.

Reservoir samples should be despatched to:

Palaeoservices Ltd.,
Unit 15, Paramount Industrial Estate,
Sandown Road,
Watford,
WD2 4XA,
England

The remainder to:

Palaeochem Ltd.,
Unit 14, Paramount Industrial Estate,
Sandown Road,
Watford,
WD2 4XA,
England

4.4 Electric Logging Programme

In 17 1/2" hole prior to running 13 3/8" casing (1500m-320m)

A) SLS/DIL/SP/GR; above 20" casing shoe (450m) adjust GR gain and run GR to mud line.

In 12 1/4" hole prior to running 9 5/8" casing (2650m-1500m)

A) SLS/DIL/SP/GR
B) LDT/CNL/GR)
C) DLL/MSFL/GR) over zones of interest.

D) SHDT
E) CST
F) RFT as required

In 8 1/2" hole prior to testing or plugging well (T.D.-2650m)

A) SLS/DIL/SP/GR
B) LDT/CNL/GR)
C) DLL/MSFL/GR) over zones of interest
D) SHDT
E) VSP
F) CST
G) RFT as required.

Cased Hole

Cement tops will be verified with HRT logs. If production testing is planned cement quality will be verified with CBL/VDL/CCL/GR.

All logs should be recorded on 1:200 and 1:500 scales.
In addition the following tools should be available.

i) Free point indicator (FPI)
ii) Back-off tool (BO)

The logging engineer should provide an inventory of all logging tools aboard at the beginning of the well, at monthly intervals and upon completion of logging operations. The inventory should list tools and report faults, etc.

Special attention should be paid to quality control. A LASMO log analyst should be available at the wellsite.

5. DRILLING POLICY SUMMARY

A drilling time chart is given in Fig. 9.

NOTE: All depths are subsea unless otherwise indicated.

a. Drill 36" hole from seabed at 82m to ± 140m.
b. Run and cement 4 joints of 30" casing, placing the shoe at ± 131m.
c. Drill 26" hole to ± 330m.
d. Run and cement 20" casing with shoe at ± 320m.
e. Install BOP stack and marine riser.
f. Drill out 20" casing shoe, drill 3m of new hole, balance the mud system and conduct a formation leak-off test.
g. Drill ahead in 17 1/2" hole to ± 1500m to the first Upper Cretaceous shale.
h. Run electric logs as programmed.
i. Run and cement 13 3/8" casing with shoe at ± 1490m.
j. Drill out 13 3/8" casing shoe, drill out 3m of new hole, balance mud system and conduct a formation leak-off test.

k. Drill ahead in 12 1/4" hole to ± 2650m ensuring the Siracusa Formation is not entered prior to setting casing.
l. Run electric logs as programmed.
m. Run and cement 9 5/8" casing with shoe at ± 2650m or approximately 6m off bottom of hole.
n. Drill out 9 5/8" casing shoe, drill 3m of new hole, balance the mud system and onduct a formation leak off test.
o. Drill ahead in 8 1/2" hole to ± 3300m.
p. Run electric logs as programmed.
q. Either

i) If flow testing is warranted in the Siracusa; run and cement a 7" casing liner to the depth required to permit testing the reservoir. Proceed with a testing programme. After testing suspend or abandon as necessary.

or

ii) If the hole is dry, abandon in accordance with Government regulations.

6. CASING AND CEMENTING PROGRAMME

Casing Size	Setting Depth	Cement Programme
30" x 1" wall API 5L Grade B	± 131m	Class G + 3% $CaCl_2$ Cement to Seabed.
20" x 0.438" wall 94 lb/ft ERW API 5L-X Grade X52	± 320m	Lead slurry Class G + 0.5 gal/sack Econolite Tail slurry Class G + 1% $CaCl_2$ Cement to seabed
13 3/8" 68 lb/ft K55 Buttress	± 1490m	Lead slurry Class G + 0.3 gal/sk Econolite + 0.35 gal/sk Halad 14 Tail slurry Class G + 0.3 gal/sk Halad 14 Cement back to 20" casing.
9 5/8" 47 lb/ft N80 Buttress	± 2650m	Lead slurry Class Geotherm + 0.3 gal/sk Econolite + 1.5 gal/sk Halad 14 Tail slurry Class Geotherm + 0.85 gal/sk Halad 14

7. BOP PROGRAMME

After setting 20" casing

1 x Shaffer Annular Preventer 18 3/4" x 5000 psi
1 x Shaffer LWS Shear/Blind Rams 18 3/4" x 10,000 psi
3 x Shaffer LWS Pipe Rams 18 3/8" x 10,000 psi

8. MUD PROGRAMME

Interval	Type	Weight
36".26" hole	Seawater with viscous flocullated gel slugs to clean hole on connections and to fill hole prior to running casing.	
17 1/2" hole	Gel/Spersene Dispersed system	9.0 - 9.5 ppg
12 1/4" hole	Gel/Spersene	9.5 - 10.0 ppg
8 1/2" hole	Gel/Spersene Dispersed system	8.5 - 9.0 ppg

9. DEVIATION SURVEY PROGRAMME

a) Totco surveys will be run at 30" casing depth and at 300 metre drilled intervals and each casing point thereafter.

b) A magnetic multishot will be run in 17 1/2" hole from total depth to the 20" casing shoe prior to setting 13 3/8" casing. A gyro survey will be run through the 20" casing.

c) Magnetic multishot surveys will be run at deeper casing points.

10. TESTING PROGRAMME

A detailed testing programme will be submitted separately after the objective reservoirs have been confirmed.

11. ABANDONMENT

A separate programme will be submitted as required.

12. CONFIDENTIALITY

The following rules are to be applied to ensure that data from Arethusa-1 remains confidential:

A. All personnel on the rig are to be made aware of "tight hole" status.

B. No non-essential personnel are to be on the rig floor or in the mud logging or Schlumberger units during drilling, coring or logging of any prospective formation.

C. All information leaving the rig other than in telexes (e.g. logs, core descriptions, etc.) shall be hand carried by LASMO personnel.

D. Any contractor conducting analyses on samples from the well (cuttings, core or fluid studies, etc.) will be made aware of "tight hole" status.

13. CONTACTS FOR WELLSITE GEOLOGY

A. Daily Geological Telex

To: S. J. Mills/A. J. Bryan
Copy: P. K. Wright/I. M. Patrick

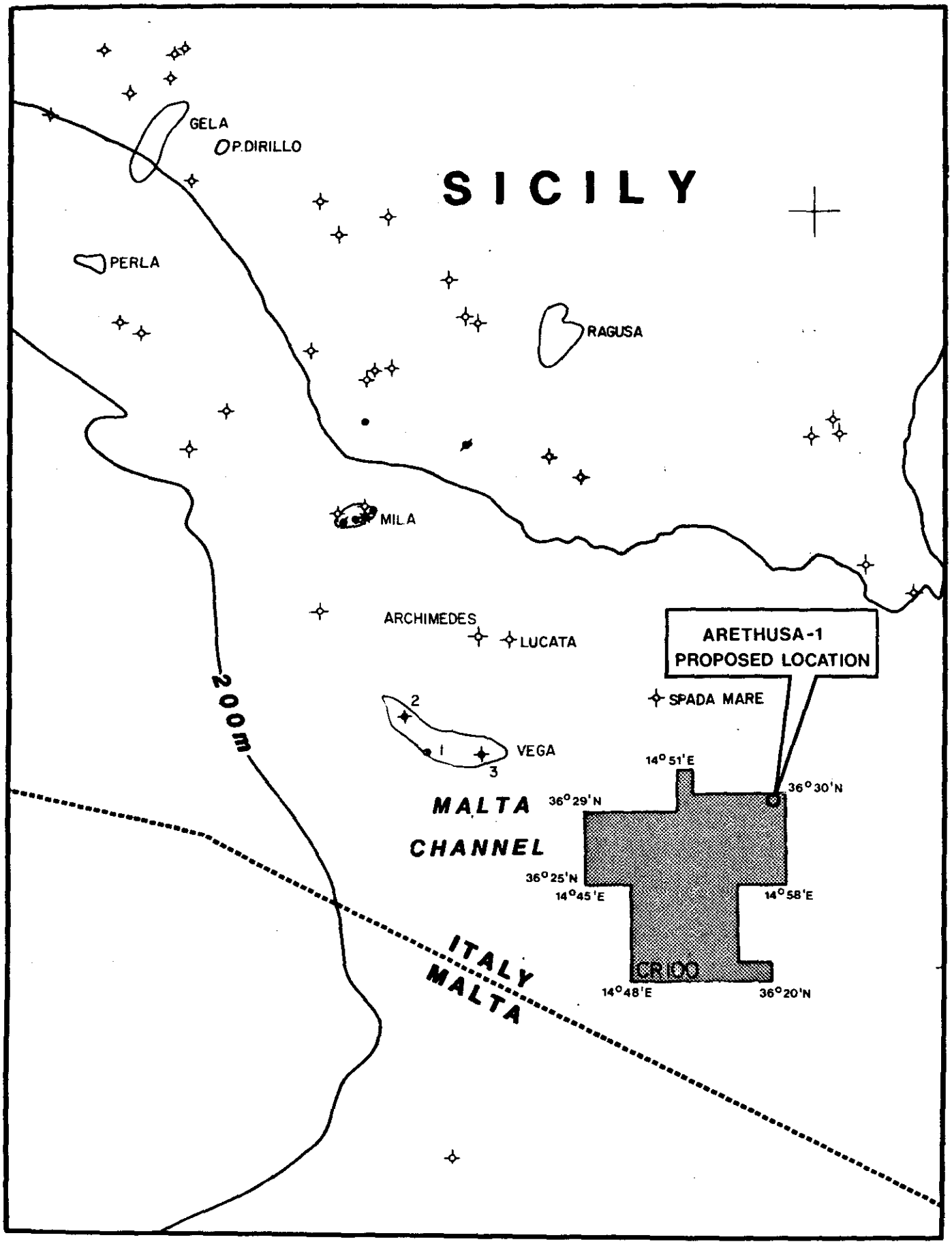
Telex will be checked and forwarded to partners from London.

B. Telephone Contact

(Daily call)	Office	Home
I. M. Patrick	01-600 8021	01-262 0209
P. K. Wright	01-600 8021	01-289 6546
A. J. Bryan	01-600 8021	Radlett (Herts) 6202

C. Siracusa Operations Contact

	Office	Home



LASMO LICENCE

OIL FIELD

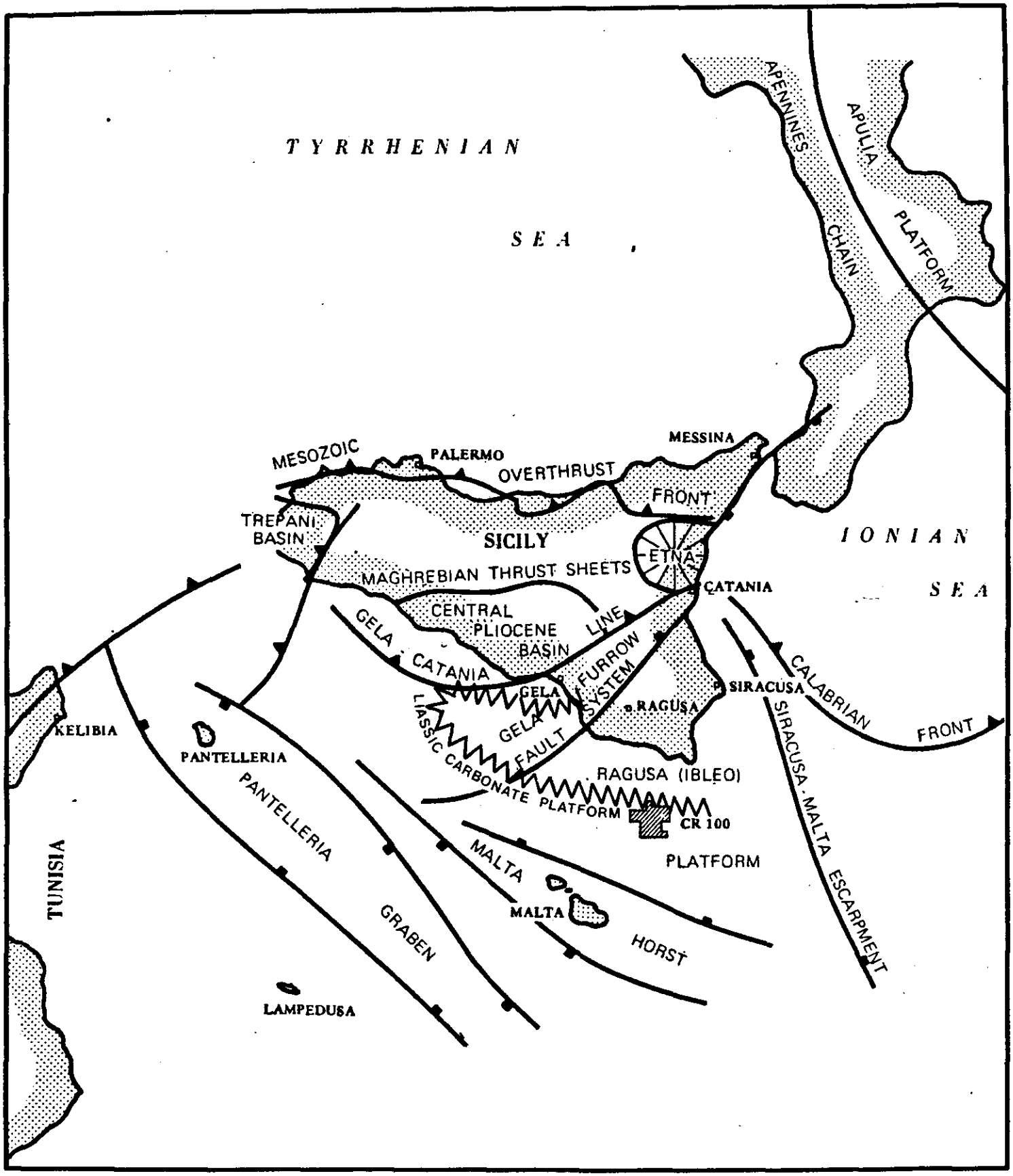
LASMO
International Oil Development Limited

OFFSHORE SICILY CR100

LOCATION PLAT

1:500,000

Fig.1



LASMO
International Oil Development Limited

OFFSHORE SICILY CR100

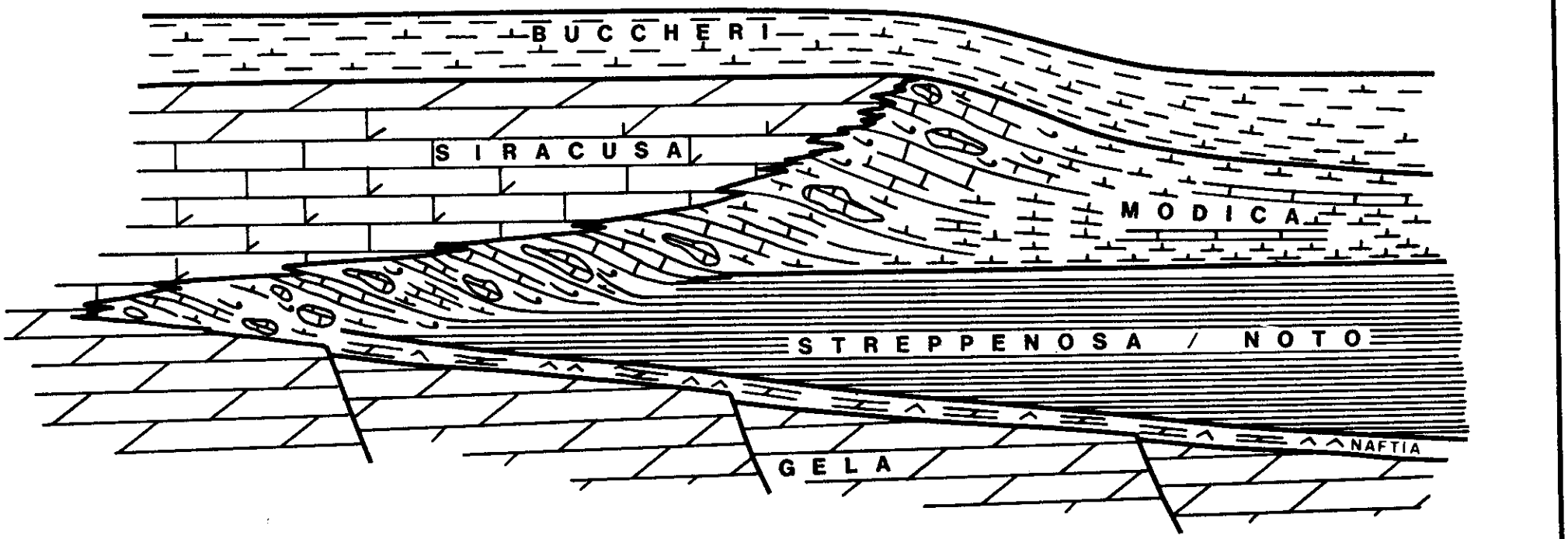
REGIONAL TECTONIC ELEMENTS

1:3,000,000

Fig. 2

GENERALISED FACIES RELATIONSHIPS
LATE TRIASSIC TO MIDDLE JURASSIC

(Nomenclature after Patacca et al ,1979)



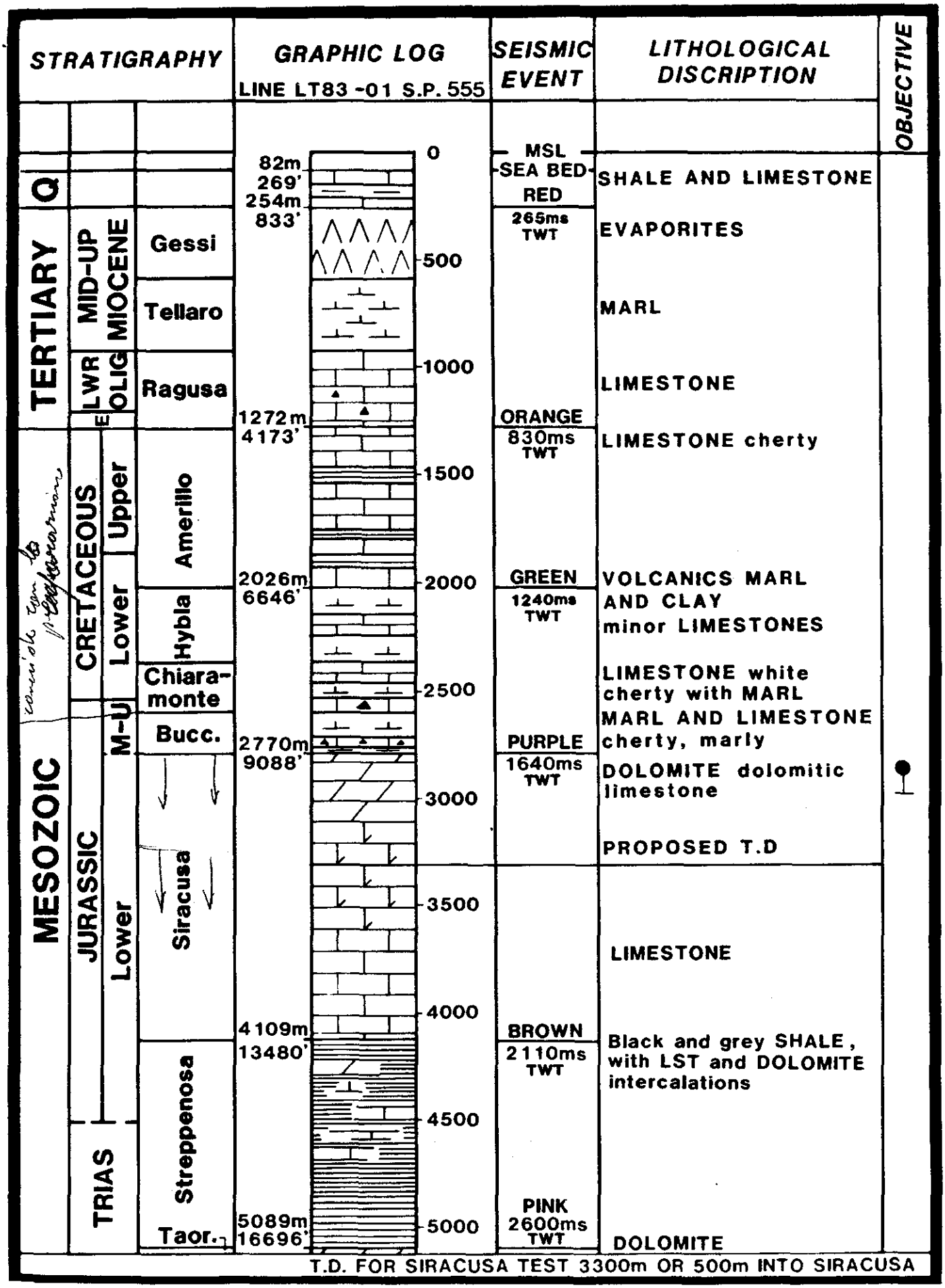
VERTICAL SCALE GREATLY EXAGGERATED

LASMO
International Oil Development Limited

OFFSHORE SICILY CR100

GENERALISED FACIES RELATIONSHIPS

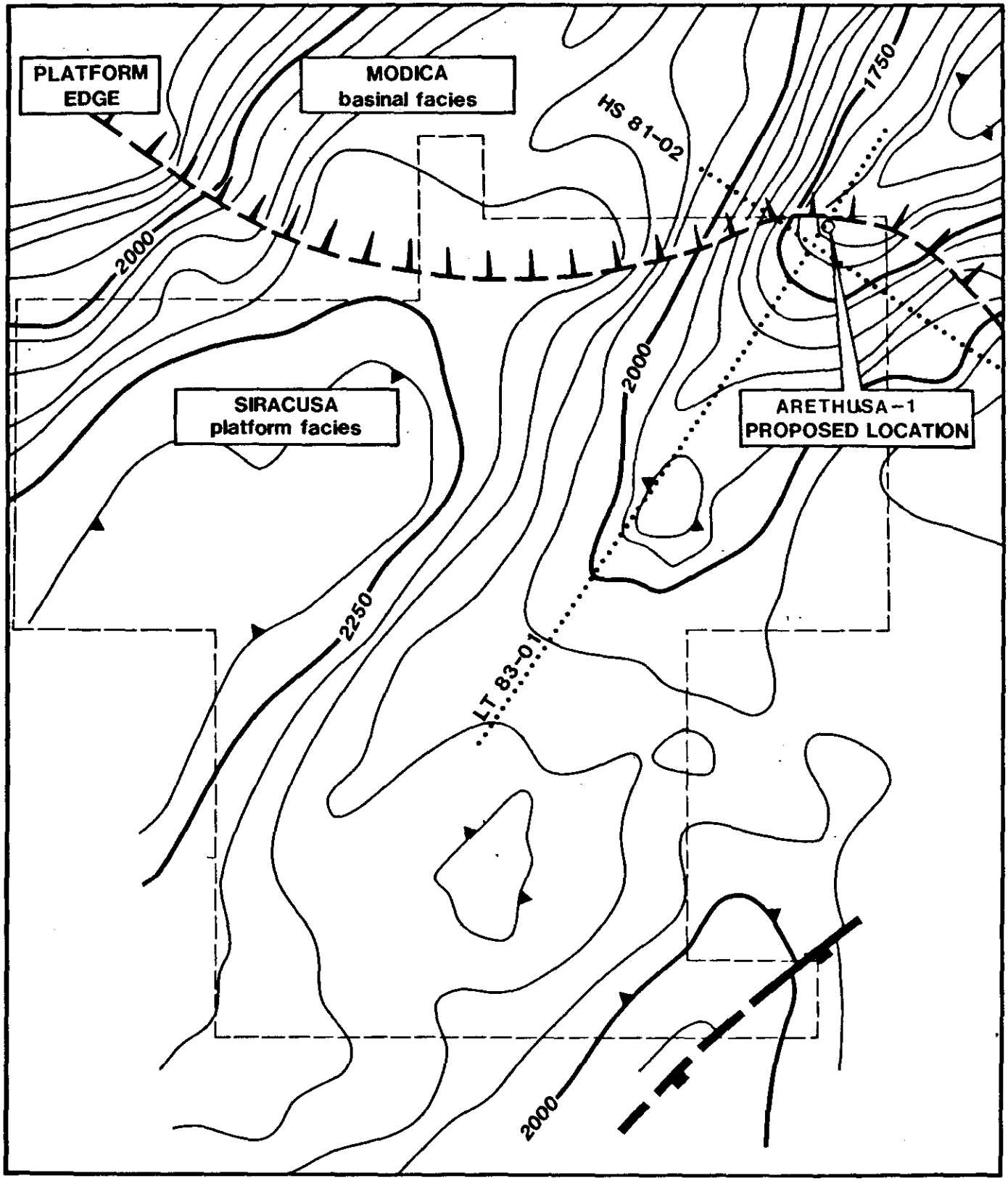
Fig. 3



EASMO
International Oil Development Limited

OFFSHORE SICILY CR100

ARETHUSA - 1
GEOLOGICAL PROGNOSIS



LEADS & PROSPECTS

SEISMIC LINES INCLUDED IN THE REPORT

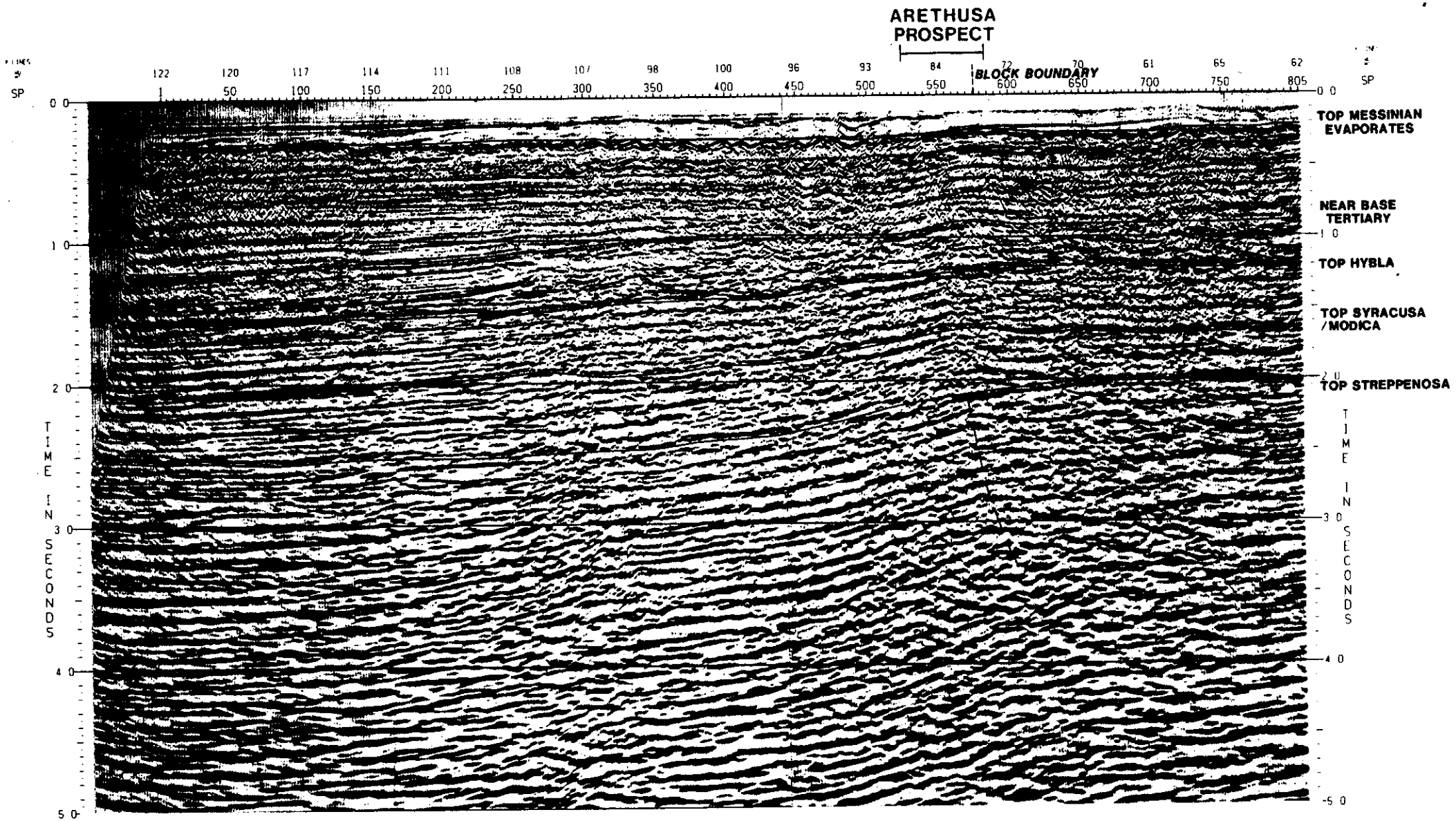
BLOCK BOUNDARY

SIRACUSA PLATFORM EDGE

TASMO
International Oil Development Limited

LEADS AND PROSPECTS CR 100
BASED ON
TOP LOWER JURASSIC
SIRACUSA / MODICA MAP

Fig. 5



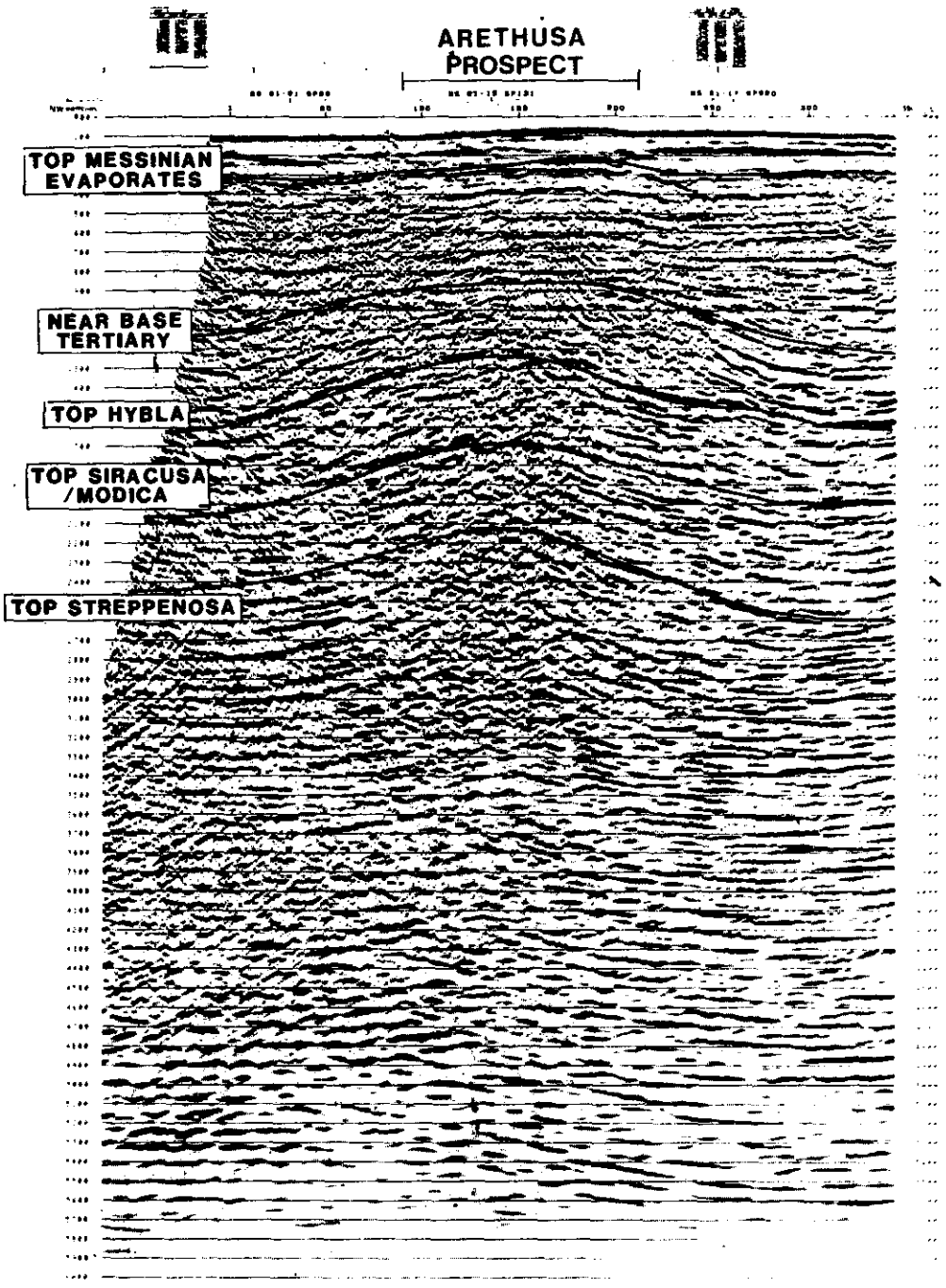
LASMO
International Oil Development Limited

OFFSHORE SICLY CR 100

SEISMIC LINE

LT 83-01

Fig. 6



LASMO
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OFFSHORE SICILY CR 100

SEISMIC LINE

HS 81-02

Fig.7

DATA DISTRIBUTION LIST

Well ARETHUSA-1

Country SICILY, ITALY

ITEM(S)	LASMO Wellsite	LASMO Siracusa	LASMO London	TCR	Italmin		Italian Authorities	Paleo-services	Paleochem	CORELAB	Rockall Sittingbrne	TOTAL(S)
WELL REPORTS												
DAILY GEOLOGICAL TELEX	1	1	1	(1)	(1)							3+(2)
DAILY DRILLING TELEX	1	1	1	(1)	(1)							3+(2)
WEEKLY GEOLOGICAL REPORT	1	1	1	(1)	(1)							3+(2)
WEEKLY DRILLING REPORT	1	1	1	(1)	(1)							3+(2)
WELL LOGS												
LITHOLOGY LOG ORIGINAL	1			(1)	(1)		(1)					1+(3)
LITHOLOGY LOG PRINT(S)	1	1	2	(1)	(1)		(1)					4+(3)
MUD LOG ORIGINAL	1			(1)	(1)		(1)					1+(3)
MUD LOG PRINT(S)	1	1	2	(1)	(1)		(1)					4+(3)
SCHLUMBERGER FIELD ORIGINAL			1									1
SCHLUMBERGER FIELD PRINT(S)	1	1	2	(1)	(1)		(1)					4+(3)
SCHLUMBERGER FINAL ORIGINAL			1	(1)	(1)		(1)					1+(3)
SCHLUMBERGER FINAL PRINT(S)	1	1	2	(1)	(1)		(1)					4+(3)
SCHLUMBERGER EDIT TAPES			1	(1)								1+(1)
WELL SAMPLES												
UNWASHED AIR DRIED BAGGED								1			1	2
WASHED DRIED ENVELOPES	1			1	1		(1)				1	4+(1)
CANNED (+MUD SAMPLES)									1			1
CORES												
SIDEWALL								1				1
CONVENTIONAL								1				1
FLUID SAMPLES												
WATER: 5 LITRE												
OIL: 1 LITRE												
OIL: 5 GALLON												
OIL 45 GALLON												
R.F.T. SAMPLES												
P.V.T. SAMPLES												

REMARKS:

All Wellsite items will be transferred to LASMO, London at the completion of the Well

FLUID SAMPLING TO BE ADVISED.

N.B. Items in brackets ( ) will be distributed by LASMO London

Fig.

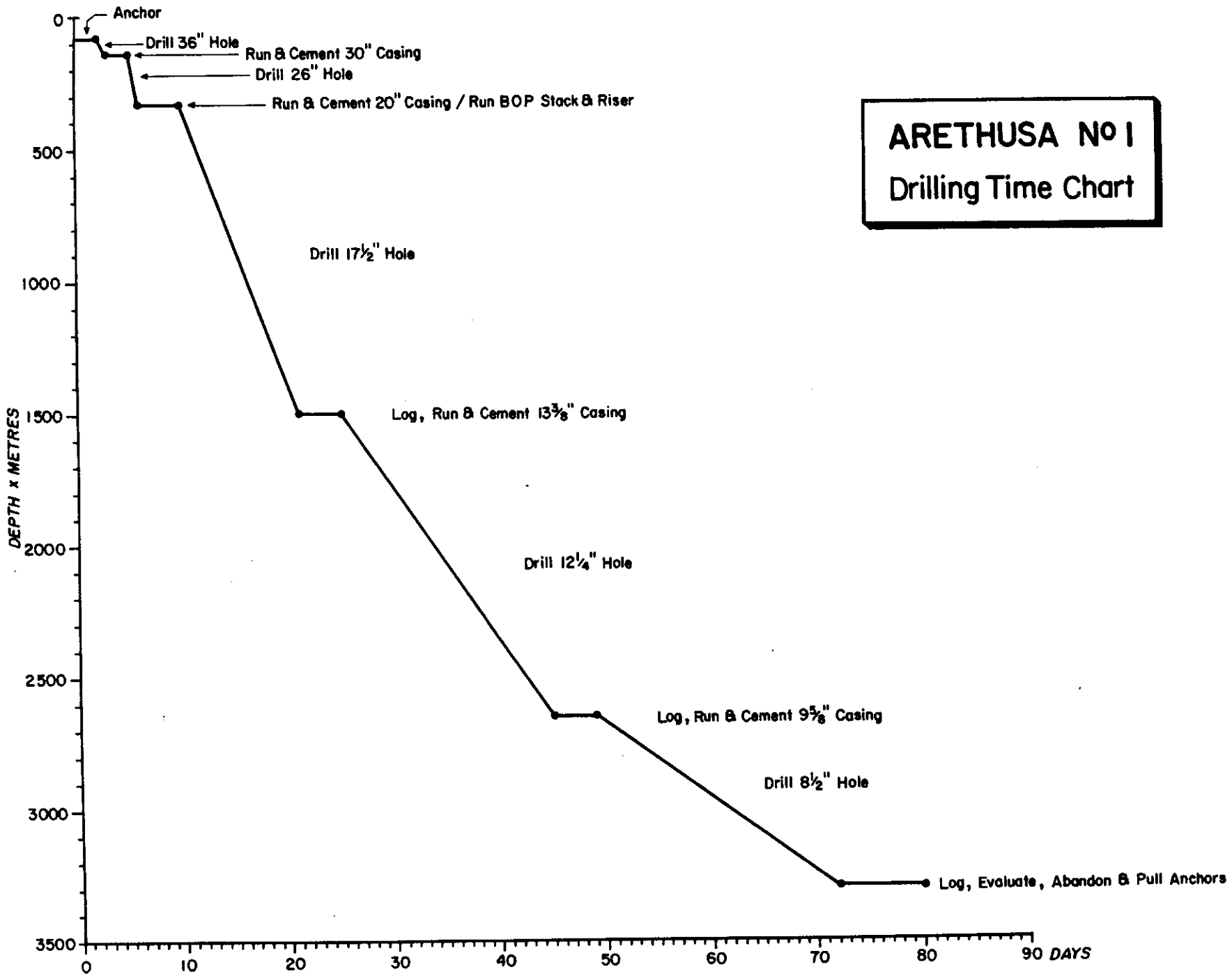
ARETHUSA No 1
Drilling Time Chart
Anchor
Drill 36" Hole
Run & Cement 30" Casing
Drill 26" Hole
Run & Cement 20" Casing / Run BOP Stack & Riser
Drill 17½" Hole
Log, Run & Cement 13⅜" Casing
Drill 12¼" Hole
Log, Run & Cement 9⅝" Casing
Drill 8½" Hole
Log, Evaluate, Abandon & Pull Anchors
DEPTH x METRES
0
500
1000
1500
2000
2500
3000
3500
0
10
20
30
40
50
60
70
80
90 DAYS

Fig. 9