

440001

TPR

OR-355A.

**Drilling Prognosis
Squid No. 1**

June, 1984

TPR

OR-355A

Weaver Oil & Gas Corporation, Australia

CONTENTS

INTRODUCTION

SEISMIC INTERPRETATION

SEISMIC TIME STRUCTURE MAPS

REPRESENTATIVE SEISMIC LINE

GEOLOGICAL SETTINGS

OBJECTIVE SECTION

OPENHOLE LOGGING & FORMATION EVALUATION

DRILLING DATA

LIST OF FIGURES & ENCLOSURES

INTRODUCTION

The Squid # 1 well, located on Permit T/15P, will test the structural and stratigraphic hydrocarbon potential of the Oligocene and Eocene section of the central area of the Bass basin. This well will also provide valuable information as to the sand reservoir quality and intra-formational sealing capacity and maturation of the source-rock shale package of this objective sequence.

SEISMIC INTERPRETATION

The Squid prospect was originally recognized on the old seismic lines ES-52 and B70A-9 as a lens-shape anomaly associated with a band of destructive interference at the Oligocene and deeper horizon levels. The seismic data quality in this area of the Bass basin is generally good, except within this band of interference.

The nearest well is Dondu # 1, 16 miles to the north, and is tied to the prospect through seismic line WB-81-5. The Pelican # 1 well is located 28 miles to the southwest and is also tied to the prospect through seismic lines WB-81-3. A synthetic seismogram has been constructed for the Pelican # 1 well (Fig 3). Other wells to the north, west and southwest are located at comparable distances but have not been tied with new Weaver lines to the prospect.

The prospect is defined by two Weaver seismic lines acquired in 1982, in addition to eight Weaver seismic lines acquired in 1981. Fourteen lines acquired through the late 60's and early 70's by the previous permit holders have also been used in the interpretation.

Preliminary Instantaneous Velocity studies by Seiscom Delta Inc., performed on line WB-81-01, indicate a reduction in velocity of some 2000 feet per seconds within the seismically defined Oligocene lens area. This intra-Oligocene area is also characterized by Polarity reversal, Phase, as well as Reflection strength and weighted Frequency departures from the regional. The nature of this Oligocene lens has not yet been determined conclusively. This lens, or at least its lower surface, appears to be the source of destructive interference noticed in the deeper section.

Weaver's 1981 seismic lines

WB-81-01
WB-81-02
WB-81-03 (tie to Pelican #1 Well)
WB-81-05
WB-81-06
WB-81-07
WB-81-08
WB-81-09

Weaver's 1982 seismic lines

WB-82-23
WB-82-24

SEISMIC TIME STRUCTURE MAPS

The final seismic interpretation of the Squid prospect was carried out by Exploration Associates International Inc. which are consultants to Weaver Oil and Gas Corporation, Australia on the Bass basin project.

Enclosure # 1 is a time structure map constructed at the top of the Oligocene lens reflector level. The scale is 1:50,000 and the contour interval is .005 seconds. This domal-feature has an area of closure of

1750 acres or approximately 710 hectares and a vertical relief of 30 feet or approximately 10 meters. The stratigraphic closure within the Oligocene lens is significantly larger than the structural closure.

Enclosure # 2 is an isochron map of the seismically defined Oligocene lens. The scale is 1:50,000 and the contour interval is .010 seconds. This feature covers an area of 27,500 acres or approximately 11,100 hectares and has a maximum thickness of 0.110 seconds.

Enclosure # 3 is a time structure map constructed at the Lower Malvacipolis Diversus Unconformity seismic reflector level. The scale is 1:50,000 and the contour interval is 0.010 seconds. At this level the Squid prospect is a fault bounded domal feature with an area of 7100 acres or approximately 2875 hectares, and a vertical relief of 300 feet or approximately 92 meters.

REPRESENTATIVE SEISMIC LINE

The Squid # 1 well will be located on seismic line WB-82-24 at shot point # 280 (Enclosure 4 and Figure 2). This seismic line was recorded by Weaver Oil and Gas Corporation, Australia and processed in May 1982, as part of its second generation of prospect definition seismic data acquisition. This NE-SW seismic line shows the prospective fault bounded domal feature at the Lower M. diversus seismic horizon level, the Lower M. diversus unconformity seismic horizon, the convergence between the depressed Eastern View Coal Measures seismic horizon and the underlying Lower M. diversus seismic horizon, as well as the base of the Oligocene lens, its top, and finally the top Oligocene reflector horizon. The reflectors and map levels are identified.

GEOLOGICAL SETTING

In the Bass basin area, the earliest period of sediment accumulation is most likely to date back to the Early Cretaceous period when large thicknesses of coarse clastics, volcanogenic detritus and muds filled major fault bounded troughs and half graben depressions. This first step in the evolution of the basin could be classified as its aborted rift valleys stage characterized by alluvial, fluvial, fluviodeltaic and lacustrine environments of deposition.

Considerably less structural activity took place during the Late Cretaceous period, or second stage of the basin. Slower basin-wide subsidence prevailed and sediments were derived from the margin areas of the basin as well as from elevated intra-basin areas. These reworked, or second generation sediments, were deposited under alluvial, fluvial and lacustrine conditions. Minor marine incursions may have taken place.

The Bass basin remained a barred basin throughout the Paleocene and Eocene. A time when reworked sand, shale and coal deposition was widespread within what appears to have been a swampy alluvial environment. Regional structural readjustments, in response to an accelerated late Eocene sediment loading, triggered a marine transgression from the northwest. Basal Oligocene coarse clastics were derived from the basin margin areas. These are overlain by widespread mudstones, marl and limestones deposited during the remainder of the Oligocene and Miocene periods. Marine carbonate shelf conditions prevailed thereafter.

Objective reservoir sands interbedded with shales of potential source rock quality have been identified within the Upper Cretaceous, Paleocene, Eocene and Oligocene section.

OBJECTIVE SECTION

The primary objective section of the Squid # 1 well consists of the sand, shale and coal sequence known as the Eastern View Coal Measures of Eocene, Paleocene and Upper Cretaceous age. The top of this objective section is predicted, on the basis of seismic data, to be at a depth of 6225 feet, or approximately 1898 meters below mean low seal level at the proposed well location. A similar stratigraphic sequence was tested and found to contain several gas and condensate, or light oil, bearing intervals in the Pelican # 1 well, to which the Squid prospect is tied seismically through line WB-81-03. This prospect is also tied seismically through line WB-81-05 to the Dondu well which tested an apparently barren Eastern View Coal Measures section.

The secondary objective section of the Squid # 1 well consists of a seismically defined intra-Oligocene lens assumed to contain an interbedded porous and permeable sand sequence. The top and base of this secondary objective section are predicted to be at depths of 4725 feet and 5150 feet or approximately 1440 meters and 1570 meters. Seismic ties to the Pelican # 1 well and Dondu # 1 well indicate that this lens is not present in either of the two wells.

The tertiary objective section of the Squid # 1 well consists of the basal Oligocene sand-shale sequence. The top and base of this tertiary objective section are predicted to be at depths of 5420 feet and

5770 feet, or approximately 1652 meters and 1759 meters. Seismic ties to the Pelican # 1 well indicate a similar sequence some 110 feet thick.

Ties to the Dondu # 1 well indicate a similar sequence some 375 feet thick.

The anticipated stratigraphic section is shown on figure No. 1.

OPENHOLE LOGGING AND FORMATION EVALUATION

The following suite of logs and wireline formation tests program has been specifically designed to evaluate the hydrocarbon potential of the Squid prospect.

The first run of logs will take place before the 13-3/8" surface casing is put in place.

Run # 1 Interval 850'-4100'
DIL-LSS-CAL-GR

The second run of logs will take place at total depth.

Run # 2 Interval 4100-'TD (9500')
DIL-LSS-CAL-GR

Should hydrocarbons be present, the second run of logs will be modified to include the following:

~~LDT-NIT-GR~~
DLL-MSFL-CAL

in addition:

Velocity Survey
HDT
CST (30 cores) or as required
RFT (10 pressure tests per chamber)
as required

DRILLING DATA

Mud Logging: Continuous from the 20" conductor casing shoe to total depth.

ANTICIPATED STRATIGRAPHIC SECTION

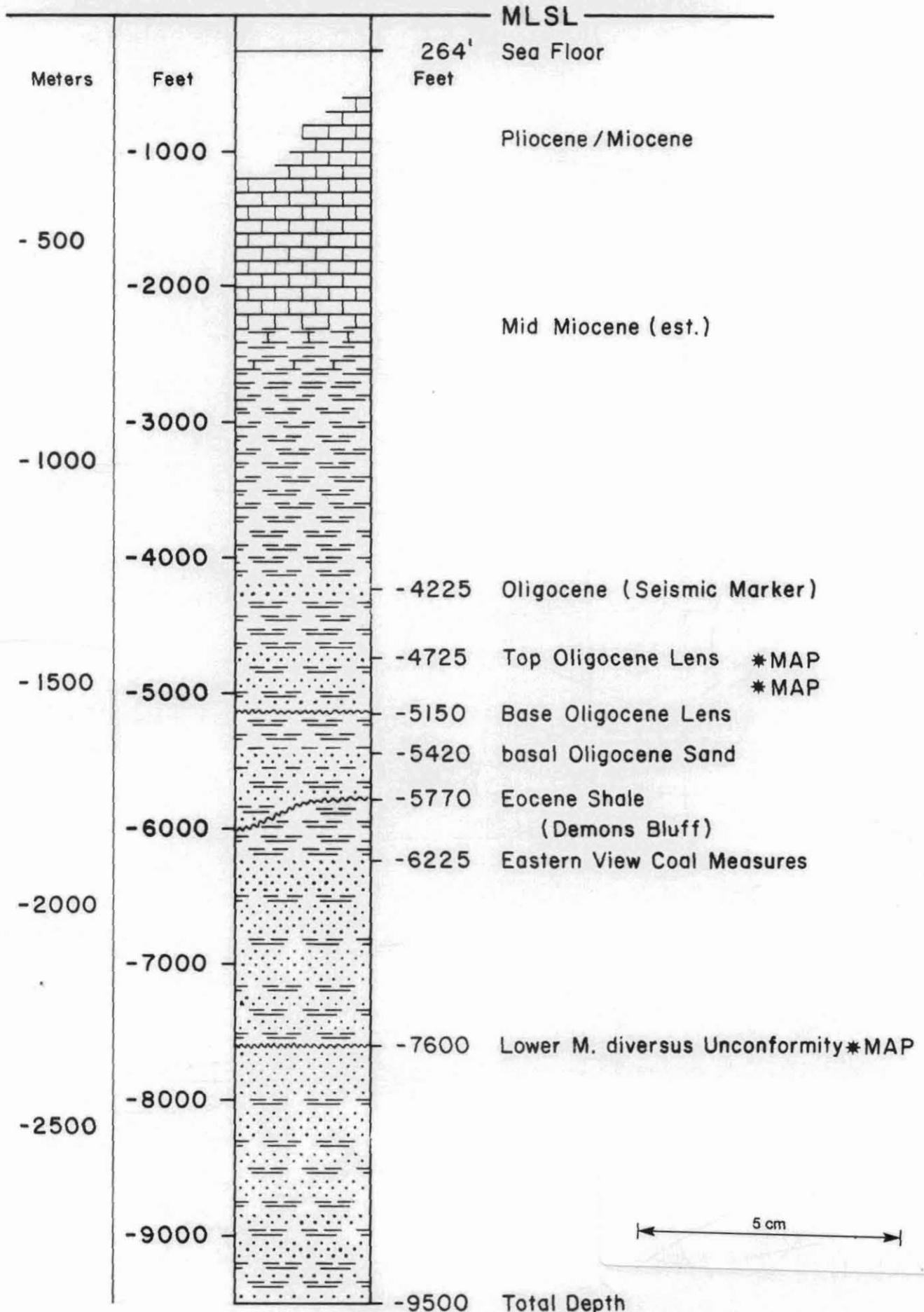
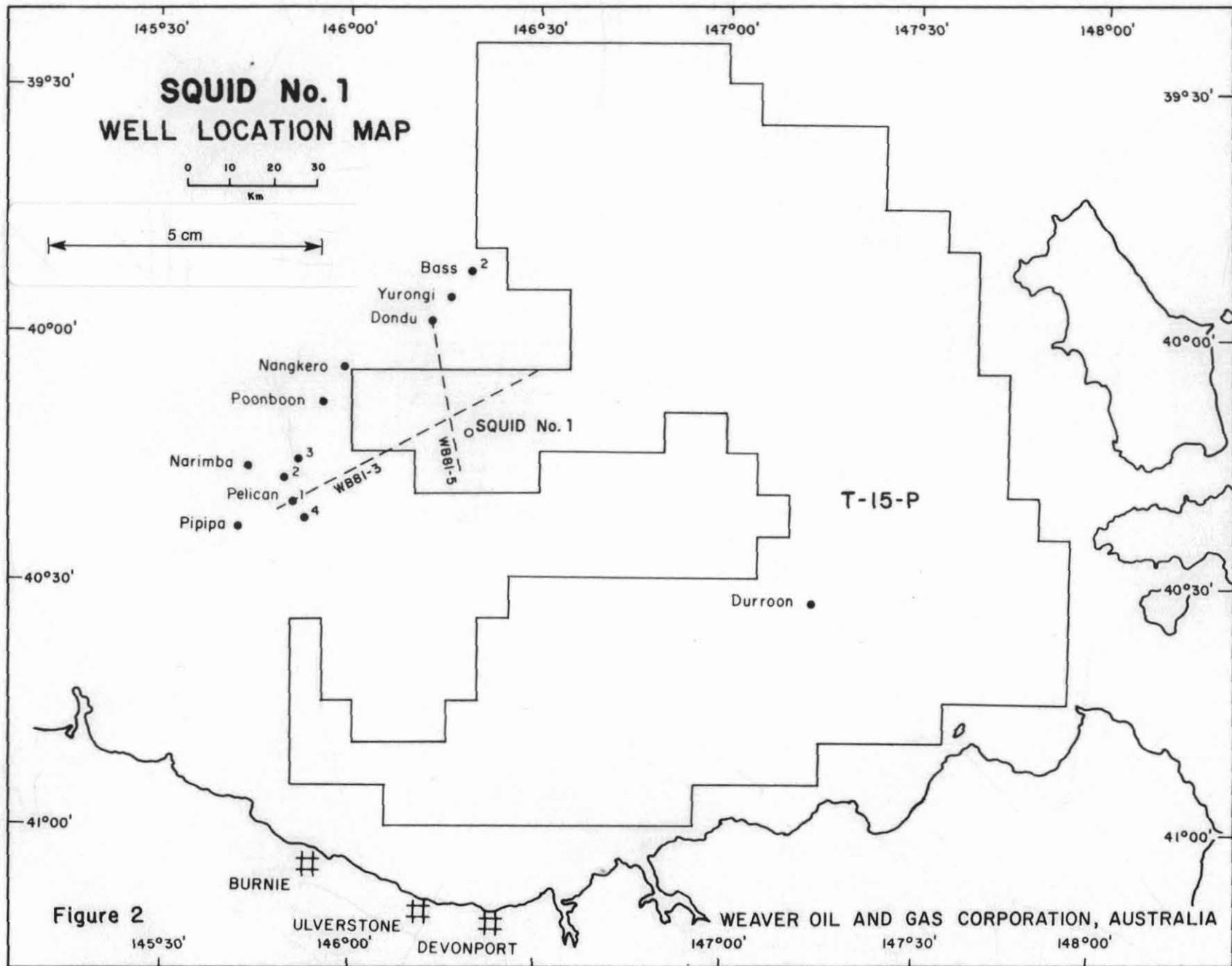


Figure 1

WEAVER OIL AND GAS CORPORATION, AUSTRALIA



440010

SYNTHETIC SEISMOGRAM

GTS CORP.

HOUSTON OFFICE 3724 DACOMA 77018

ESSO EXPL & PROD AUSTRALIA INC PELICAN #1 WILDCAT AUSTRALIA TASMANIA

M

LOG DATUM = 100

SEISMIC DATUM = 0

COMMENTS _____

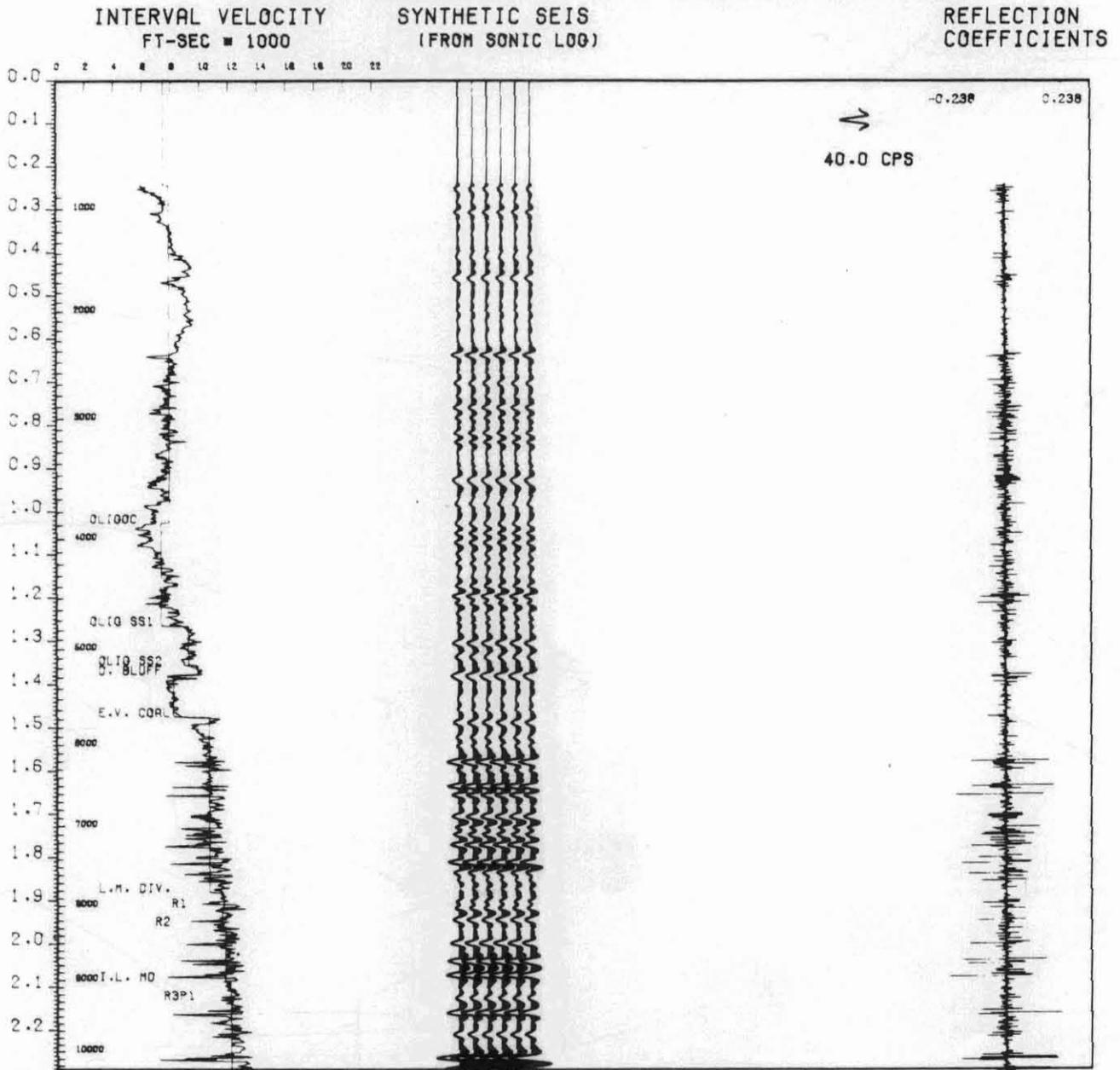


Figure 3

WEAVER OIL AND GAS CORPORATION, AUSTRALIA

Cuttings: Five sets of washed and dried cuttings will be caught every 30 feet from the conductor casing shoe down to a depth of 4100 feet. Sampling intervals may be varied as dictated by rapid drilling rates. Minimum sample size will have a weight of 100 grams. Sampling rate will be reduced to 10 feet over the interval 4100 feet to total depth.

Conventional Cores: Below the surface casing shoe, conventional cores will be cut only if significant hydrocarbon indications are encountered.

Sidewall Cores: Below the surface casing shoe, sidewall cores will be acquired only if significant hydrocarbon indications are encountered.

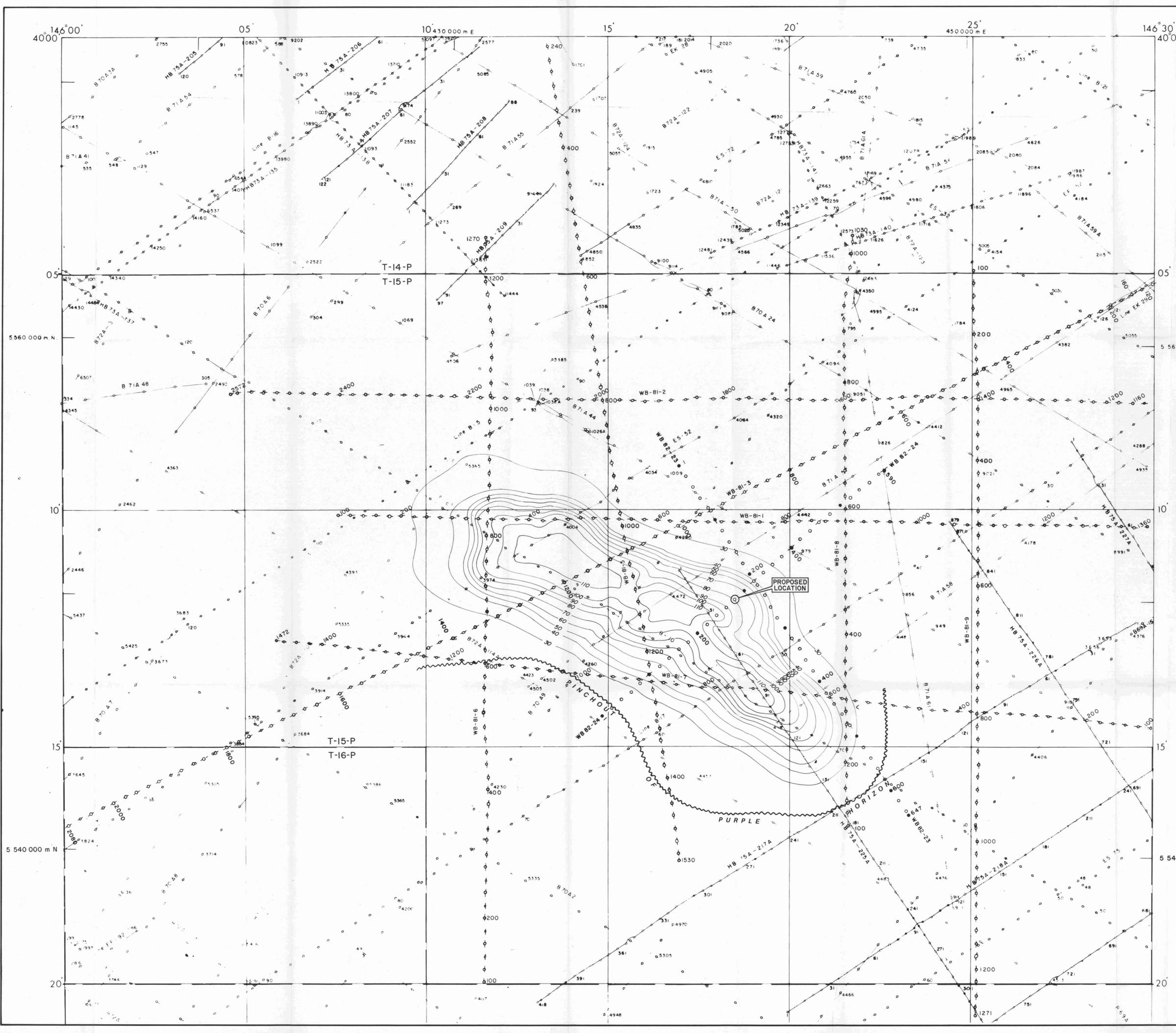
LIST OF FIGURES AND ENCLOSURES

FIGURE

- 1 Anticipated Stratigraphic Section
- 2 Well Location Map
- 3 Pelican # 1 Well Synthetic Seismogram

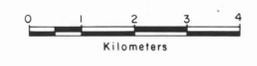
ENCLOSURE

- 1 Seismic Time Structure Map
Top Oligocene Lens
- 2 Isochron Map of the Oligocene Lens
- 3 Seismic Time Structure Map
Lower M. diversus Unconformity
- 4 Seismic Line WB-82-24



Enclosure 2

SCALE:
1:50,000



INTERPRETATION BY
EXPLORATION ASSOCIATES
INTERNATIONAL INC.

**WEAVER OIL AND GAS CORPORATION,
AUSTRALIA**

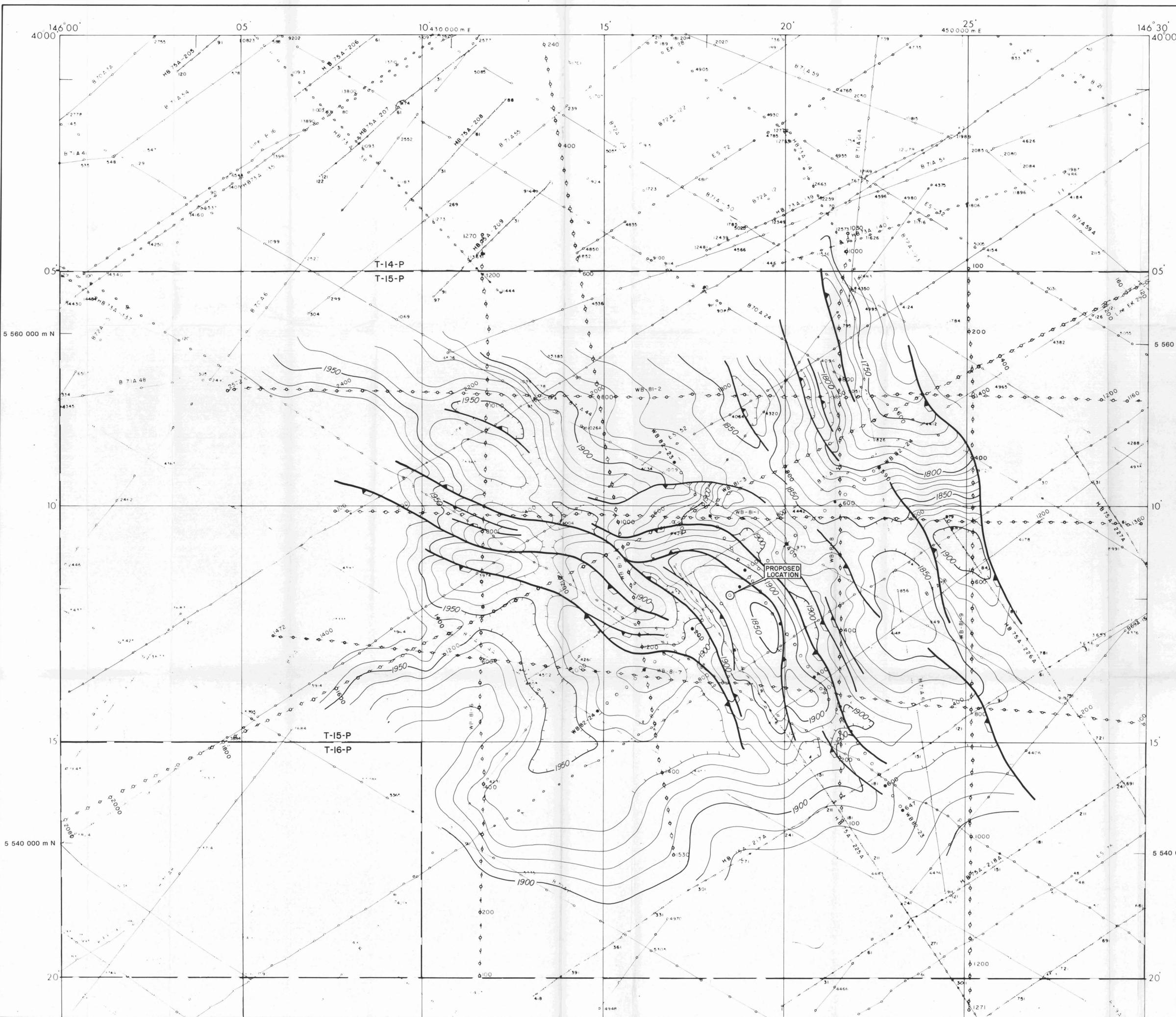
**BASS BASIN
T-15-P
Squid Prospect**

**ISOCHRON MAP
Oligocene Lens**

C.I. 10msec
Datum:
Date:

Interpretation by M.C.N.
Drafted by A.Z.
Revised:

06-3534



5 cm

Enclosure 3

SCALE:
1:50,000



INTERPRETATION BY
EXPLORATION ASSOCIATES
INTERNATIONAL INC.
440015

**WEAVER OIL AND GAS CORPORATION,
AUSTRALIA**

**BASS BASIN
T-15-P
Squid Prospect
STRUCTURE MAP
Lower M. Diversus
Unconformity**

C.I.: 10 msec
Datum:
Date:

Interpretation by: M.C.N.
Drafted by: G.D.E.
Revised:

OR-355A



WEAVER OIL & GAS
BASS BASIN
PERMIT T-15-P

SP 9

TIME	VRMS
0	1490
100	1490
800	2020
1800	2680
2800	3860
4000	5140

SP 89

TIME	VRMS
0	1490
100	1490
750	2100
1350	2340
1900	2740
2900	3860
4000	5140

SP 169

TIME	VRMS
0	1490
100	1490
800	2100
1350	2500
1900	2820
2800	3860
4000	5140

SP 249

TIME	VRMS
0	1490
100	1490
950	2100
1900	2740
2850	3860
4000	5140

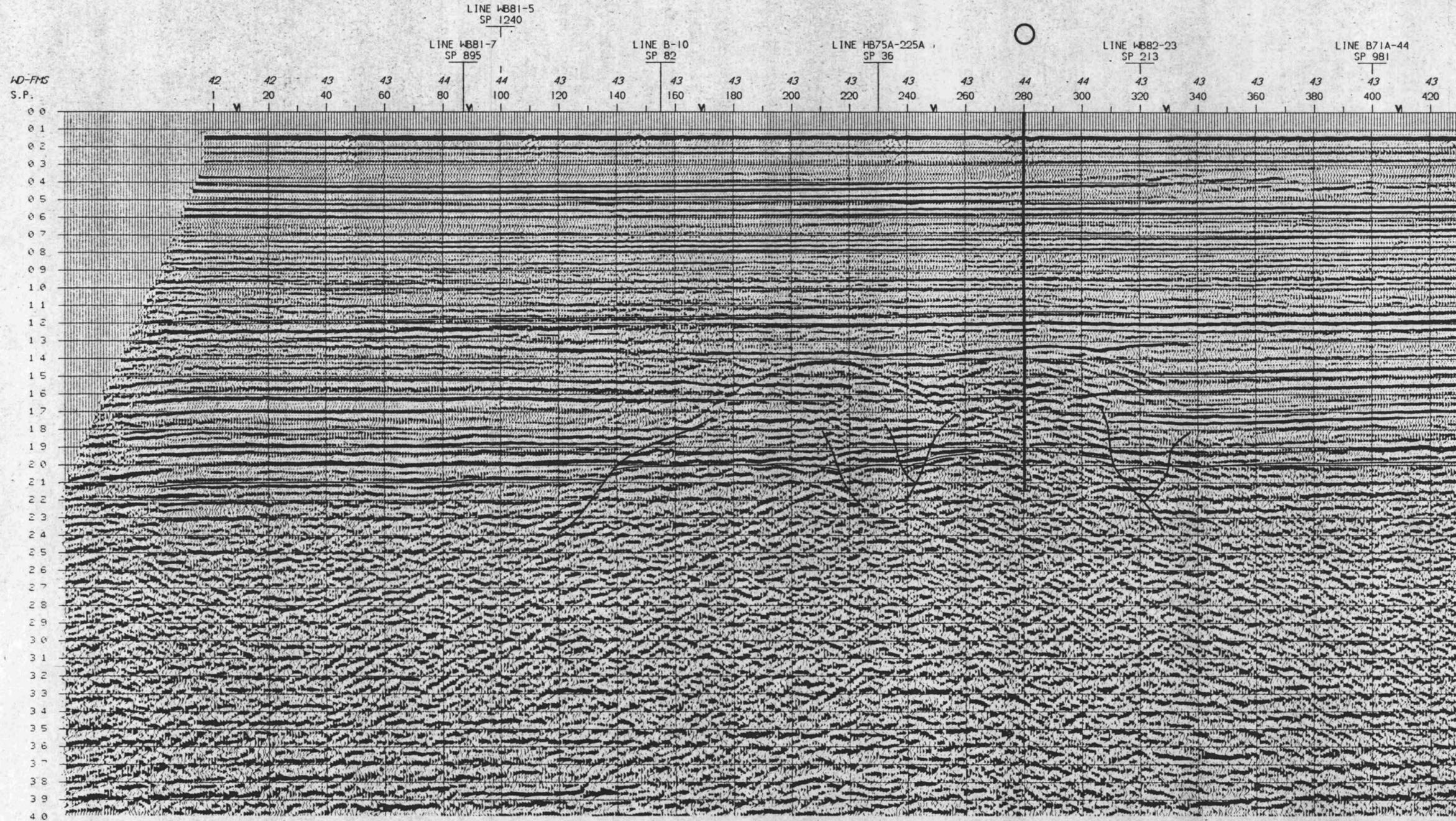
SP 329

TIME	VRMS
0	1490
100	1490
750	2020
1750	2580
2600	3380
4000	5140

SP 409

TIME	VRMS
0	1490
100	1490
900	2100
1900	2820
2700	4020
4000	5140

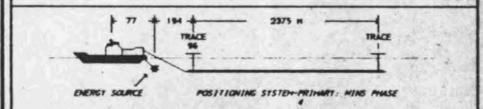
SQUID No.1
T.D.-9500'



- TOP OLIG. (JAN JUC)
- TOP OLIGOCENE LENS
- BASE LENS
- TOP DEMONS BLUFF
- TOP EVCM
- L.M.DIVERSUS UNCONF.
- L.M.DIVERSUS HORIZON

GeoCenter	DATE PROCESSED MAY 1982
	REEL NUMBER 4789
	CONTRACT NUMBER 4805

FIELD RECORDING	
RECORDED BY WESTERN GEOPHYSICAL	
DATE FEBRUARY 1982	SYSTEM DFSV
FORMAT SEG B	GAIN 36 DB
ENERGY SOURCE	
TYPE AIR GUNS	760 CU. INS. 4500 PSI.
ARRAY 10 GUNS	DEPTH 6 METERS
STREAMER	
LENGTH 2375 METERS	NO. TRACES 96
DEPTH 40 FT	GROUP INTERVAL 25 METERS
ARRAY 20	GEOP/TR OVER 25 METERS
PARAMETERS	
RECORDING FOLD 4800%	S.P. SPACING 25 METERS
SAMPLE INTERVAL 2 MS	RECORD LENGTH 5 SECONDS
RECORDING FILTER	CUT - 128HZ @ 700B/OCTAVE



DIGITAL PROCESSING		
SEQ	PROCESS	PARAMETERS
1	DEMULTIPLEX	BINARY GAIN RECOVERY OUTPUT 4 MS
2	GAIN	AMPLITUDE RECOVERY
3	CDP TRACE GATHER	4800%/ADJACENT TRACE SUM
4	PRE-FILTER	SEE BELOW
5	DECONVOLUTION	SEE BELOW
6	VELOCITY ANALYSIS	CONSTANT VELOCITY STACK OVER 6 CDP'S
7	NO. MUTE	NORMAL MOVEOUT MUTE APPLICATION
8	CDP STACK	4800%
9	FILTER	SEE BELOW
10	EQUALIZATION	DATA DEPENDENT

DECON	OPERATOR LENGTH	PREDICTIVE GAP	DERIVATION WINDOWS	APPLICATION WINDOWS
5	160	32	0 TO 3500	RECORD LENGTH

FILTER	CUT OFF POINT	6 DB POINT	6 DB POINT	CUT OFF POINT	APPLICATION TIMES FOR SHOTPOINTS SPECIFIED
9	12	15	56	86	0-1000
	4	6	32	40	3500-4000
4	4	6	56	86	RECORD LENGTH

SAMPLE RATE: 4MS; DATUM CORRECTION: 13 MS
 SCALES: HORIZONTAL 24 TR/IN VERTICAL 2.5 IN/SEC
 RECORDING POLARITY: NEG. VALUE EQUALS PRESSURE INCREASE
 PROCESSING POLARITY: POSITIVE NO. GIVES BLACK PEAK

06-355A