

Santos (BOL) Ltd
(A.C.N. 000 670 575)

EXPLORATION & DEVELOPMENT - SA

CROFT 1
WELL PROPOSAL

T Conroy / M Majedi
October 2000

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1. Geophysical Prognosis

WELL DATA SUMMARY

WELL NAME: Croft 1				WELL TYPE: Gas Exploration			
LICENCE: PEP 154		BUDGET STATUS: 2001 Budget Item		Latitude: 38 32 26.5" S		Longitude: 142 46 21.32" E	
EQUITY:		Investment (\$mm)		Seismic Reference: Inline 2132 Curdievale 3D CDP 10081		Ground Level: 51.5m (Prelim)	
Voting (%)				Rotary Table: 56.2m		Proposed Total Depth: 2176m RT (-2120m)	
Santos	90%	Santos	\$1.157 MM	Rig: OD&E 30		Nearby Facilities: Heytesbury	
Beach Petroleum	10%	Beach Petroleum	\$0.129 MM				
TOTAL 100.00%		TOTAL \$1.286 mm (P&A) **					
Resource Estimate (Recoverable)				Cost Estimates			
Mean Success Volume: 4.4 BCF		Mean Expected Volume: 1.8 BCF		P&A: \$1.286 MM		C&S: \$1.589 MM	
Objectives/Fluid Contacts				Stratigraphic Prognosis			
Primary		Secondary		Formation		Depth (m-KB)	
Waarre Sandstone (gas)						Depth (m-SS)	
				Clifton		-442	
				Mepunga		-505*	
				Dilwyn		-545*	
				Pember		-870*	
				Pebble Pt		-943	
				Paaratte		-1047	
				Skull Ck		-1508	
				Belfast		-1725	
				Flaxmans		-1920*	
				WAARRE		-1979	
				Eumeralla		-2072	
				TD		-2120	
						*Geological Picks	
Formation Evaluation				Hole Design/Drilling Issues			
Wireline Logging:				Well Class: Down size monobore/Exploration			
PEX-HRS		TD to Surface Casing to Surface		Hole Type: Down size monobore		Hole Size Casing Depth	
SDT (WFT)		TD to Surface Casing (WFT across Waarre Sst)		9 7/8"		7 5/8" Surface to 475m	
MCFL-CALI		TD to 10 m above top Pember		6 3/4"		3 1/2" Surface to TD	
PEX-LDL-CNL		TD to 100' above Waarre Sst (dependent on shows and reservoir development)		Drill Fluid: KCI/PHPA/Polymer			
SWC's:				Deviation			
20 programmed				Sub-Surface Targets:			
MDT's:				Croft 1 is a vertical well. An accuracy of 25m radius from seismic reference at TD has been requested. The critical structural direction is to the south of the wellsite.			
20 point pressure survey				Other Information/Hazards:			
Velocity Survey:				No hazardous zones in offset wells			
yes. Minimum survey points				No shallow gas expected			
Mudlogging:				Waarre Sandstone has excellent reservoir properties (porosity 20%, permeability up to 20 darcies)			
10m Samples from Surface Casing to approx 1000m		3m samples thereafter to TD		Nearby Wells and Duration:			
Samples as per well programme				Flaxmans 189 days (TD 3514m)			
Formation Testing:				Curdie 40 days (TD 2596m)			
None Programmed							
Coring:							
None programmed							
REMARKS/RECOMMENDATIONS:							
Southerly deviation is critical. Directional surveys to be taken every 150 m.							
Approved by::		Project Leader:		Team Leader:		Operations Geology	
						Drilling Engineer:	

ALL COORDINATES WITHIN THIS DOCUMENT USE AN AGD84 DATUM

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2. EXECUTIVE SUMMARY

Croft 1 is proposed as an Otway Basin gas exploration well to be located in the PEP 154 licence, approximately 12 km north west of the town of Peterborough, 4.9 km south west of the Boggy Creek CO₂ field and 11.6 km west of the producing Wallaby Creek gas field. The Croft Structure is situated within the Port Campbell Embayment and the productive Waarre Sandstone play fairway, (Figure 1).

The PEP 154 Licence is held 90% Santos (operator) and 10% Beach Petroleum N.L. The Croft Structure is a tilted-fault block closure defined by the Curdievale 3D seismic. The well is expected to intersect a Waarre Sandstone reservoir with mean average net pay of 35 m.

The prognosed stratigraphic succession is summarised in Figures 2 and 3.

3. GEOLOGICAL RISK ASSESSMENT

3.1 Play Analysis

The Croft Prospect is mapped as a tilted-fault block closure with the primary reservoir being the Waarre Sandstone; both vertical and cross-fault seal are provided by a thick Belfast Mudstone (Figure 4). Structures are charged from mature source beds located within the underlying Eumeralla and / or Crayfish Group, with migration directly into the reservoir or via fault conduits. The play has proven successful in the nearby Mylor, Fenton Creek, North Paaratte, Wallaby Creek and Iona gas fields as well as the Boggy Creek CO₂ field. Croft as with each of these fields exhibits a strong amplitude anomaly at the Waarre Sandstone horizon, interpreted as being indicative of well-developed, gas saturated reservoir.

3.2 Trap

Interpretation and mapping of the Croft prospect was based on the Curdievale 3D survey, which was recorded in early 2000. The Curdievale 3D data quality is good over the Croft structure.

Several migrated volumes including migrated stacks with and without spectral whitening and both near and far offset migrated stacks were generated and used for interpretation. Due to better horizon continuity and amplitude preservation the migrated stack volume without spectral whitening was used for horizon interpretation. Far and near offset volumes were used for amplitude extraction and AVO analysis.

A coherency cube (similarity volume) was also generated and used in conjunction with other volumes for fault interpretation.

Main mapping was carried out at near top Waarre Sandstone, which is the primary target reservoir (Enclosure 1 & Figure 5). The Waarre sand package has a distinctive seismic characteristic and therefore a high degree of consistency was maintained on mapping this unit. It should be noted however, due to uncertainty in phase and polarity of the Curdievale volume and lateral variations within the Waarre, alternative options for the top Waarre event were investigated.

Well ties were performed for Boggy Creek 1, Callista 1 and Curdie 1. The Curdie 1 ties (Figure 6) however may not be a valid tie for the Waarre, as the well appears to have penetrated a fault plane at this level. Figure 6 shows an arbitrary line through

Curdie 1 to the proposed Croft 1 location. Figures 7 and 8 are strike and dip lines respectively through the proposed Croft 1 location.

A phase analysis trial was conducted using Boggy Creek 1 and Callista 1 but the results obtained are considered inconclusive. Boggy Creek 1 showed data to be between -75 and 60 degrees from zero phase whilst Callista 1 showed between 30 and 135 degrees.

As a consequence of the uncertainties associated with the seismic pick for the top Waarre sand over the Croft structure, alternative options were considered as possibly reflecting the near top Waarre. The integrity of the closure area was examined using these alternative picks. The final mapping however was carried out using the preferred pick which ties with Callista 1 and forms a consistent pick throughout the Curdievale data volume (but is one leg high at Boggy Creek 1 welltie).

The top Belfast Mudstone was interpreted on a selected grid in order to adequately evaluate its seal efficiency over the Croft structure. A time-interval map Belfast to Waarre was generated to investigate the seal thickness (Figure 9).

The Croft structure is a relatively simple tilted fault block structure located between Curdie 1 and Flaxman 1 (Figure 10). A strong amplitude event is prominent within the Waarre sand unit over the Croft prospect. Similar events over all gas fields within Port Campbell region suggest that the amplitude anomaly is likely related to the presence of gas in these structures. Furthermore, near and far offset volumes were also used to evaluate the amplitude anomaly over the Croft structure. Figure 11 is a line over the Croft structure from the near and far offset volume. It clearly shows that the amplitude within the Waarre sand unit is much brighter in the far offset compared to the near offset. Figures 12, 13 and 14 are displays of amplitudes extracted from within the Waarre sand unit (a window between 25 ms above to 50 ms below the Waarre sand horizon). Figure 14 is particularly encouraging as amplitudes from far offset minus near offset clearly indicate an AVO anomaly across the Croft structure.

A possible illuminated 'flat spot' may also be observed over the Croft prospect (see Figure 8) which further supports the presence of gas

The location for the proposed Croft 1 well was selected on inline 2132 CDP 10081. This location is at a near crestal position, and about 50 metres away from the main fault at the Waarre sand level.

Depth conversion for the prognosis was performed using Curdie 1 velocities. The results of this conversion are presented in Attachment 1.

3.3 Reservoir

The Waarre Sandstone reservoir was deposited as the initial post-rift sequence at the commencement of the Turonian time under non-marine to marginal marine conditions. The section is sub-divided into three sub-units – Waarre "A", "B" & "C". The lower A unit represents a basal transgressive systems tract (TST) characterised by flooding of an incised valley with sediments deposited under marginal marine / estuarine conditions. The basal portion of Unit A is represented by either sand (as in Curdie 1) or shale (Boggy Creek 1 and Callista 1). This section is overlain by the widespread predominantly argillaceous Unit B, which was deposited under estuarine conditions. Unit C followed and is characterised by initial estuarine / deltaic conditions succeeded

by high energy sands as the transgression pushed the sediments up the valley system. Figure 15 illustrates this model.

The Waarre Sandstone thickens to the south in the Port Campbell Embayment. The proximity to the Boggy Creek Field where good reservoir is encountered provides high confidence that similar good reservoir will be found in Croft 1. Nearby water wet Curdie 1 has an average porosity of 12% and a maximum porosity of 17% from logs. This reduced porosity could be a result of the Waarre sands not having early hydrocarbon emplacement, and thus being subject to increased diagenesis from the nearby fault and greater depth of burial. The strong amplitude anomaly associated with the Croft prospect is likely to be an indication of good porosity.

A review of the local wells shows some variability in Waarre sand quality. In Boggy Creek 1 a maximum core permeability of 10.1 Darcies and average core permeabilities of 4.5 Darcies were measured. Drill stem tests confirmed the potential of the reservoir with test rates of 4.5 MMCFD. Howmains 1 represents an interfluvial environment with only minor Waarre sand development. No log porosity estimate can be generated for Flaxmans 1, due to the poor Waarre coverage of the sonic log and its spurious nature. Log displays for Boggy Creek 1, Curdie 1, Flaxmans 1 and Howmains 1 are presented in Figures 16, 17, 18 and 19 and as a stratigraphic cross section (Enclosure 2).

3.4 Seal

All Otway Basin successes in the Port Campbell Embayment area have been from high side, tilted fault and horst blocks. The ultimate top seal to Waarre reservoirs is the marine Belfast Mudstone. While a potential waste or "thief" zone exists between the Waarre sands and the Belfast seal, the Flaxmans Formation, deposited under transitional marine conditions is most likely to act as a seal.

A review of the cross-fault seal in proposed Croft 1 suggests that leakage will not occur as the bounding fault displacement (~140ms) is considerably less than the thickness of the Belfast Mudstone (+300ms).

3.5 Charge

Hydrocarbons are produced in the Port Campbell Embayment with the Eumeralla Formation and/or the Crayfish Group being the source beds. Analyses of the condensates and oils from the area suggest a non-marine origin with both algal and higher land plant components (Type III Kerogen). Maturation studies indicate that the top of the hydrocarbon window lies at about 2500m (SS). Thus mature Eumeralla source units which underlie the local gas fields are most likely to charge directly into the overlying structures through source-reservoir juxtaposition or via fault conduits. This model is proposed for Croft 1, which is positioned in a similar setting to the nearby, existing gas fields.

With many of the structures being present prior to the Belfast deposition, the timing of generation and migration does not appear to be a major issue.

3.5 CO₂ Issues

The distribution of CO₂ within the Port Campbell area appears to be related to the introduction of a restricted CO₂ volume at a number of locations and its subsequent migration. The CO₂ is considered to be from a mantle source and is likely to have occurred in conjunction with the emplacement of an igneous body during the Miocene.

A review of the high-resolution aeromagnetic data has been undertaken in an effort to understand the distribution of deep-seated faulting, believed to be the conduit for CO₂ migration and the emplacement of igneous bodies. The preliminary results of the study indicate the presence of an intrusive marginal to the coast and proximal to a major NNE-SSW lineament. This lineament appears to be coincident with major faulting identified on the seismic and is seen as a likely conduit for the Langley and Grumby CO₂. While an intrusive is not identified at nearby Boggy Creek, a similar trending lineament is mapped through the Boggy Creek well location.

4. RESOURCE DISTRIBUTION AND ECONOMIC EVALUATION

4.1 Resource Distribution

Distributions for local gas field parameters are estimated primarily from those at Boggy Creek 1, Curdie 1 and Flaxmans 1 with data from other nearby wells reviewed to provide details of the upper and lower limits.

4.1.1 Area

The seismic mapping shows a confident closure of around 165 acres (Enclosure 1). The P1 area represents the larger closure of Croft and Childers against the south-bounding fault.

4.1.2 Porosity

In the adjacent Curdie 1 and Boggy Creek 1 wells, average porosity of about 12% and 17% are calculated from the respective logs. Spot core porosities of over 27% were measured in Boggy Creek 1. A range of 10.1% to 22% average porosity for P99 & P1 respectively calculates a mean porosity of 15.1% for the proposed Croft 1.

4.1.3 Gas Saturation

A gas saturation distribution of 60-90% (min/max) captures all of the discoveries in the Port Campbell Embayment. Based on a lognormal distribution this calculates a mean of 73.8%, which approximates the Boggy Creek 1 Sgas average of 71.5%.

4.1.4 Net Pay

Boggy Creek 1 has a total net sand (in Waarre A, B & C) of 30.5m (100 ft), Callista 1 has a net sand of 28.2m (93 ft). The mean average net pay estimated for Croft is 35m (115 ft). Net / Gross ratios of 87% & 68% are recorded for the Waarre section in Callista 1 and Boggy Creek respectively with a range from 60% (P99) and 90% (P1) providing a mean 73.8% N/G for the proposed Croft 1.

4.1.5 Recovery Factor

The recovery factor for Santos' Mylor and Fenton Creek fields is estimated to be about 50%. The mean recovery factor of 49.6% is calculated for Croft based on

40% and 60% P90 and P10 respectively. Santos has no experience of these reservoirs in the Port Campbell area and the mean RF from the existing fields reflects the best estimate from reservoir engineering. It is believed that gas production could be influenced by a strong aquifer and hence the low assigned recovery factor.

4.1.6 Gas Composition

The ranges of gas compositions utilised for Croft are relatively narrow and reflect the variation between the Mylor 1 and Fenton Creek 1 gas compositions. No detailed information from other nearby fields is available although there is potential for the gas to be drier. The main risk in Croft regarding this issue is the percentage of CO₂ and this is incorporated in the shrinkage factor low side of 80%.

4.1.7 Flow Rate

Flow rates used range between 3 MMCFD and 30 MMCFD. These estimates are based on the results of the Mylor and Fenton Creek extended production tests where Mylor 1 flowed at 25mmcf on a 3/4" choke, Fenton Creek 1 flowed 17mmcf on a 1/2" choke and Boggy Creek 1 flowed at 4.5 MMCFD on a 1/2" choke on open hole DST.

4.2 Location

The proposed Croft 1 is located about 12km north west of the town of Peterborough. The site is located near native bushland area and utmost attention needs to be given to environmental and landholder issues.

WP:00/083 Rev. 0

WELL NAME:**Croft 1****LOCATION:**12 km NW of the Peterborough township and 4.9 km SW of
Boggy Creek 1

Latitude: 38° 32' 26.5" S

Longitude: 142° 46' 21.32" E

Seismic Reference: Line 2132 Curdievale 3D Survey
CDP 10081

Easting: 654485 m E

Northing: 5732687 m N

LICENCE:

PEP 154

COST ESTIMATE:

P&A \$mm 1.29

C&S \$mm 1.59

ATTACHMENT 1

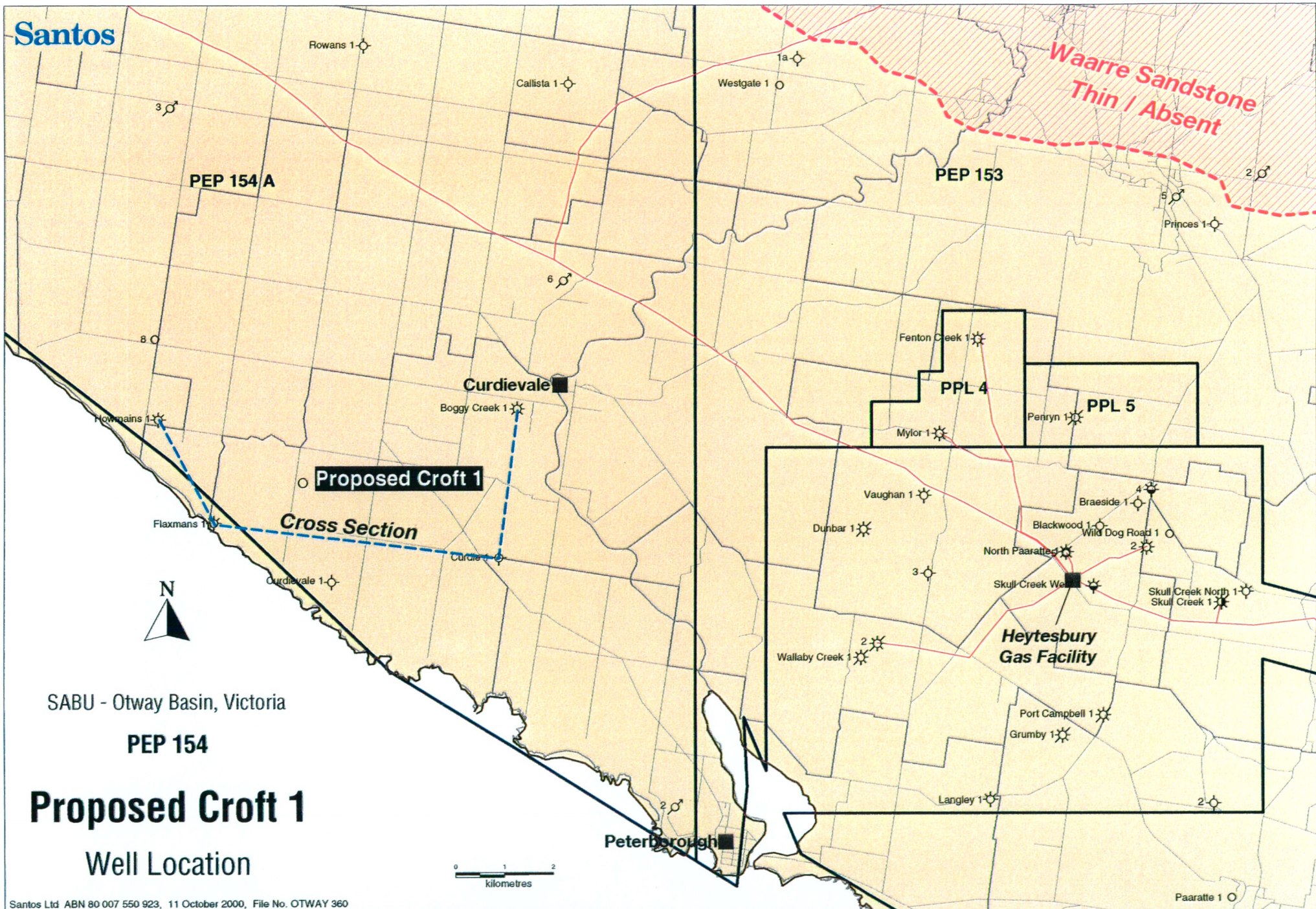
GEOPHYSICAL PROGNOSIS

ATTACHMENT 1

GEOPHYSICAL PROGNOSIS

CURDIE 1											
PROP.CROFT 1											
	TWT (ms)	DEPTH (m-ss)	Isopach (m)	VAV (m/s)	VINT* (m/s)	TWT (ms)	DEPTH (m-ss)	ERROR (+/-m)	Isopach (m)	VAV (m/s)	VINT* (m/s)
CLIFF	458	428		1869		473	442			1869	
PEB.P	860	959	531	2230	2642	852	943		501	2213	2642
PAAR	968	1095	136	2262	2519	935	1047		105	2240	2519
SKUL	1300	1672	577	2572	3476	1200	1508		461	2513	3476
BELF	1410	1852	180	2627	3273	1333	1725		218	2589	3273
WAAR	1745	2410	558	2762	3331	1485	1979	+/- 20m	253	2665	3331
EUME	1800	2513	103	2792	3745	1535	2072		94	2700	3745
(TD)		2557	44				2120		48		

Santos

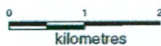


SABU - Otway Basin, Victoria

PEP 154

Proposed Croft 1

Well Location



909132 01A

PE909132 - color 01

Figure 1

809132 015
909132 015

PE909132-color002

OTWAY BASIN STRATIGRAPHIC COLUMN

Santos

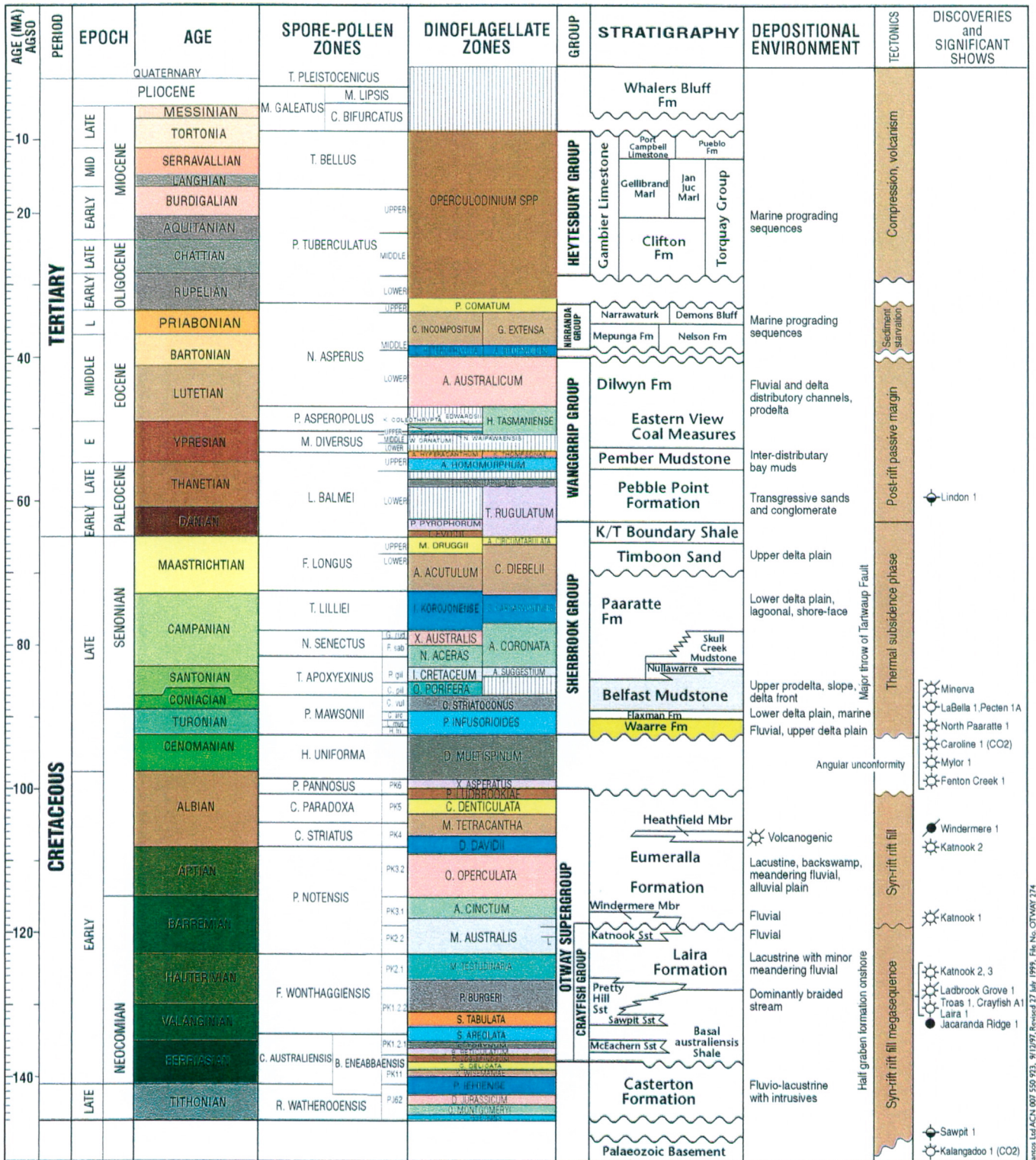


Figure 2

Santos Ltd ACH 007 550 933 - 9/12/97, Revised 27 July 1998, File No. OTWAY 734

CROFT 1 STRATIGRAPHIC COLUMN

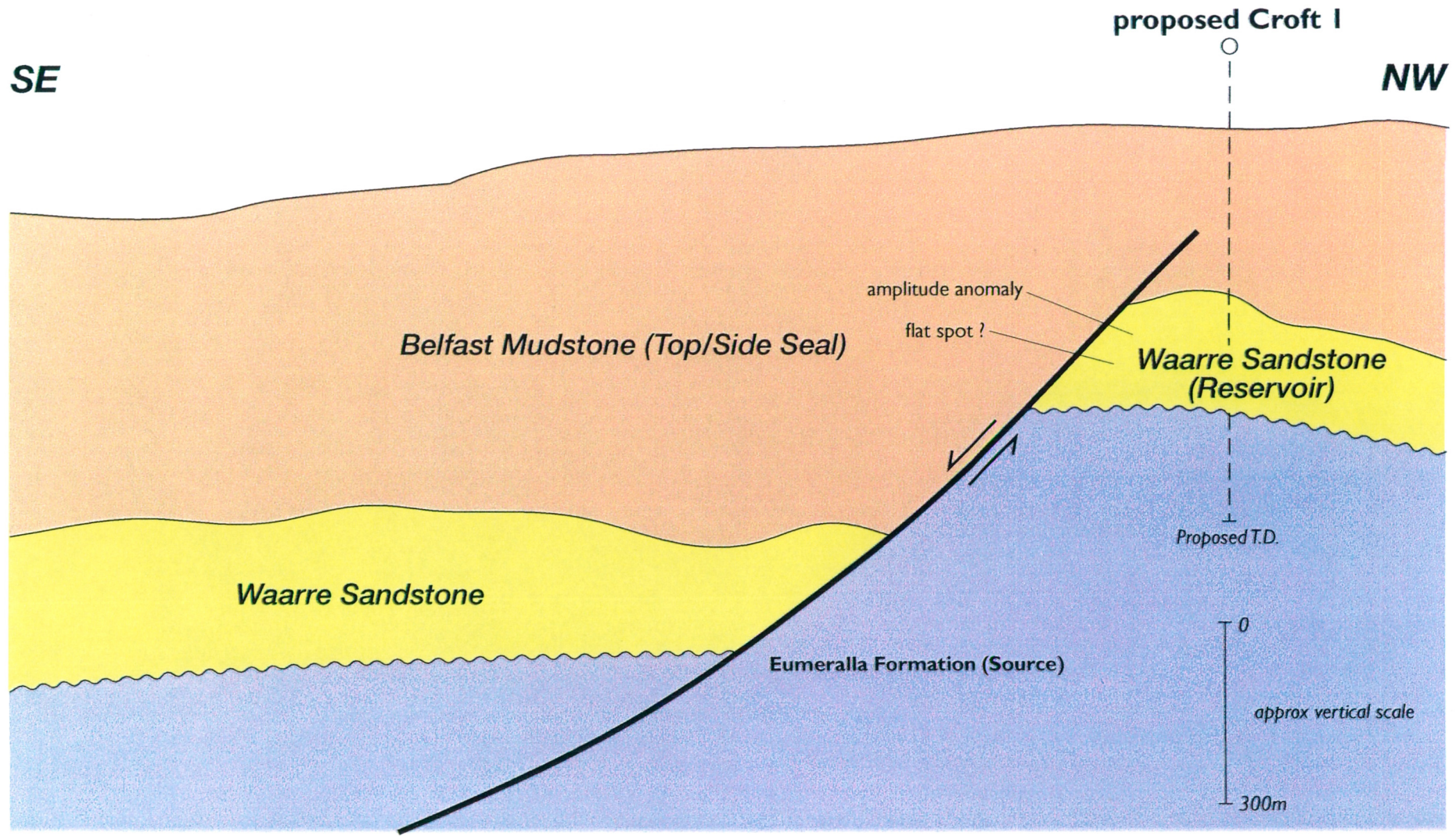
Santos Ltd ABN 80 007 550 923, Sept 2000, File No. OTWAY 362

Lat.: 38° 32' 26.5"S (ANS) Long.: 142° 46' 21.32"E (ANS)
Seismic : Curdievale 3D Inline 2132, CDP 10081
G.L.: 51.5m(prelim) R.T.: - (prelim)

AGE	FORMATION	ELEV.(m) SUBSEA PROGN.	LITHOLOGY	COMMENTS	CASING	CORING	TESTING	LOGGING	MONITORING		ANALYSIS	
									GAS	CUTTING		
TERTIARY	MIocene											
	OLIGOCENE	HEYTESBURY GROUP (INCLUDING CLINTON FM)										
	EOCENE	NIRRANDA GROUP (INCLUDING MEPUNGA FM)										-442 500mSS
	PALEO.	PEMBER										-870
		PEBBLE PT										-943 1000mSS
CRETACEOUS	LATE	PAARATTE	-1047	PRIMARY OBJECTIVE T.D.	3 1/2" @ T.D. if required	NO CONVENTIONAL CORES 1 GUN (20 SIDEWALL CORES)	20 MDT POINTS	GR-DLL : T.D. TO SURFACE SDT : T.D. TO SURFACE CASING MSFL-CALI : T.D. TO 10m ABOVE TOP PEMBER LDL/LDS-CNL : T.D. TO 100m ABOVE EUMERALLA FORMATION (DEPENDENT ON SHOWS AND RESERVOIR DEVELOPMENT)	GAS DETECTOR AND GAS CHROMATOGRAPH FROM SURFACE TO T.D.	3m INTERVALS	PALYNOLOGY : SANTOS, ADELAIDE	
		SKULL CREEK	-1508 1500mSS									
		BELFAST	-1725									
		FLAXMANS	-1920									
	EARLY	WAARRE	-1979 2000mSS									
	EUMERELLA	-2072 -2120										

Figure 3

Otway Basin, Victoria - PEP 154
Proposed Croft I
Diagrammatic Structural Cross Section

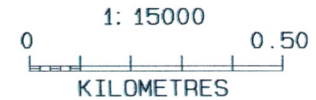
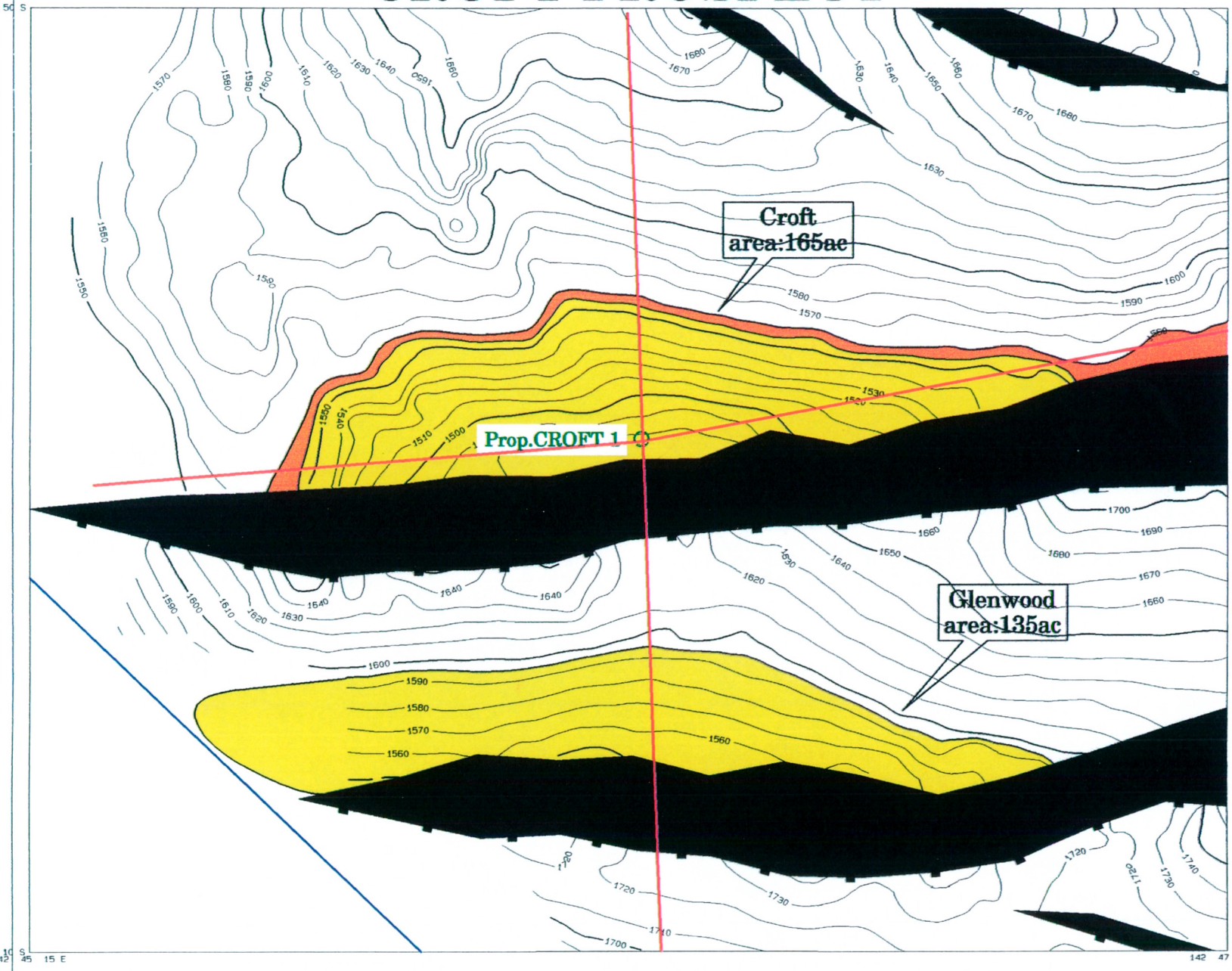


September 2000
OTWAY 359

FIGURE 4

909132 017 PEP 154 - color 003

CROFT PROSPECT



UNIVERSAL TRANSVERSE MERCATOR PROJECTION
 AUSTRALIAN NATIONAL SPHEROID
 CENTRAL MERIDIAN 141 00 00 E
 Mapsheet datum: "Unknown"

Santos

TWT
 Near Top Waarre Sand
 September 2000
 M. Majedi

FIGURE 5

Date: October 01, 2000	Author: M. Majedi	Scale:
Drawing Interval: 50	Drawn:	
Projection: AUSTRALIAN NATIONAL SPHEROID	Title No.:	

909132 018

PE909132-color 04

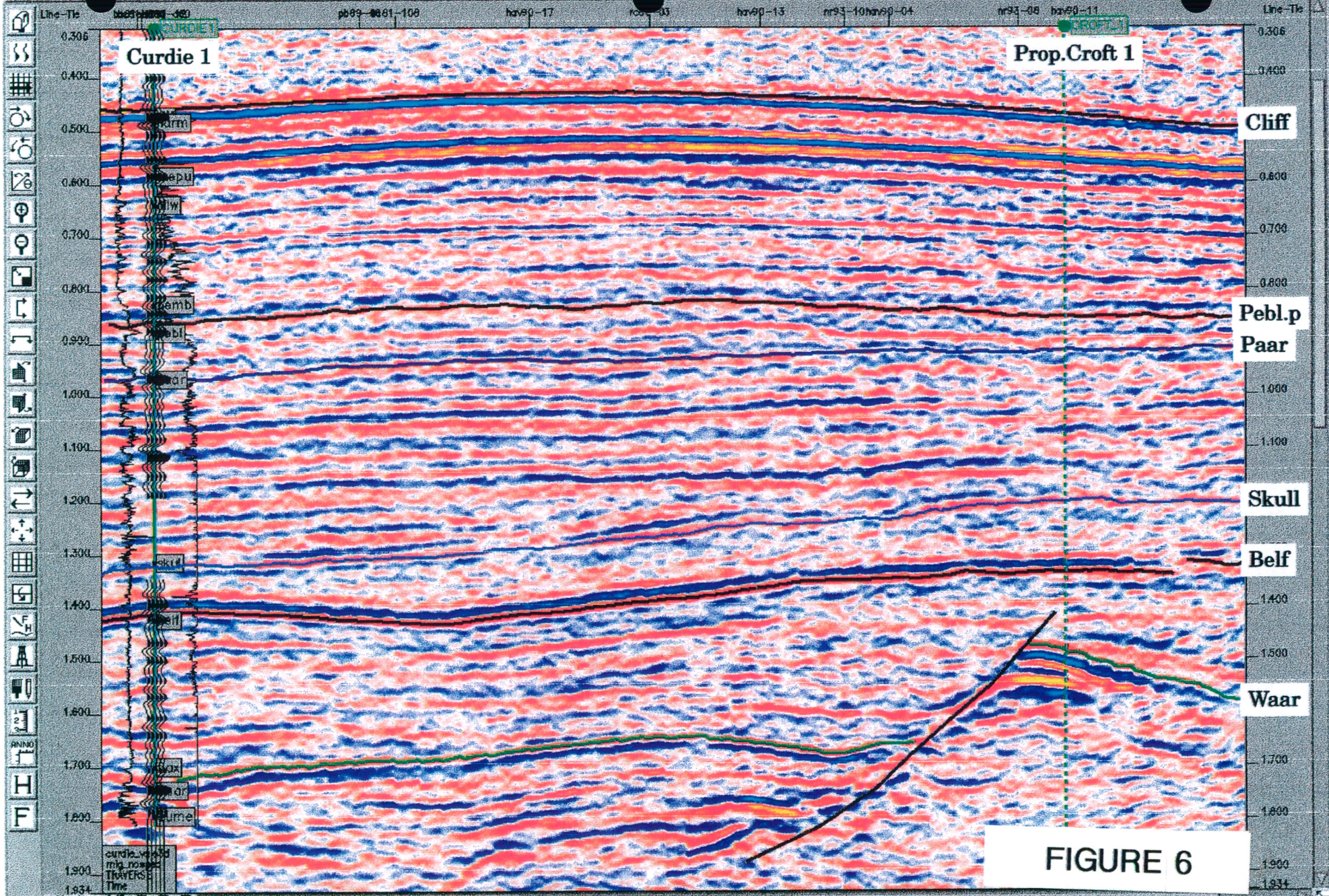


FIGURE 6

909132 019 PE909132 - color 005

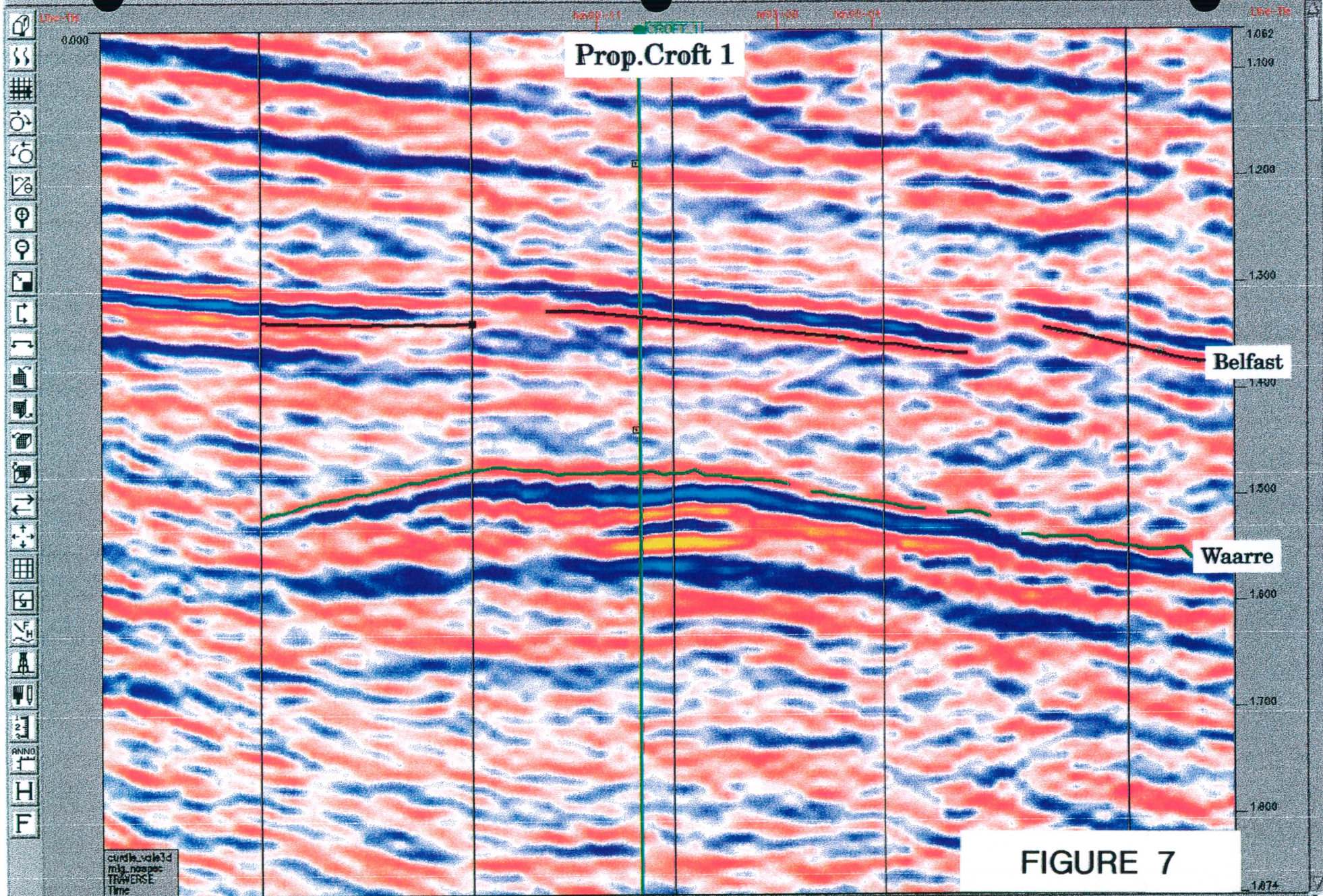


FIGURE 7

A V I W @

Horizon: **belf_cv**
 Fault: **F**

Interpret (Point) Schlumberger

X...	653620.14	Y...	5732611.69
CDP...	10039	Z...	103 ms

909132 020

PE909132-color.pdf

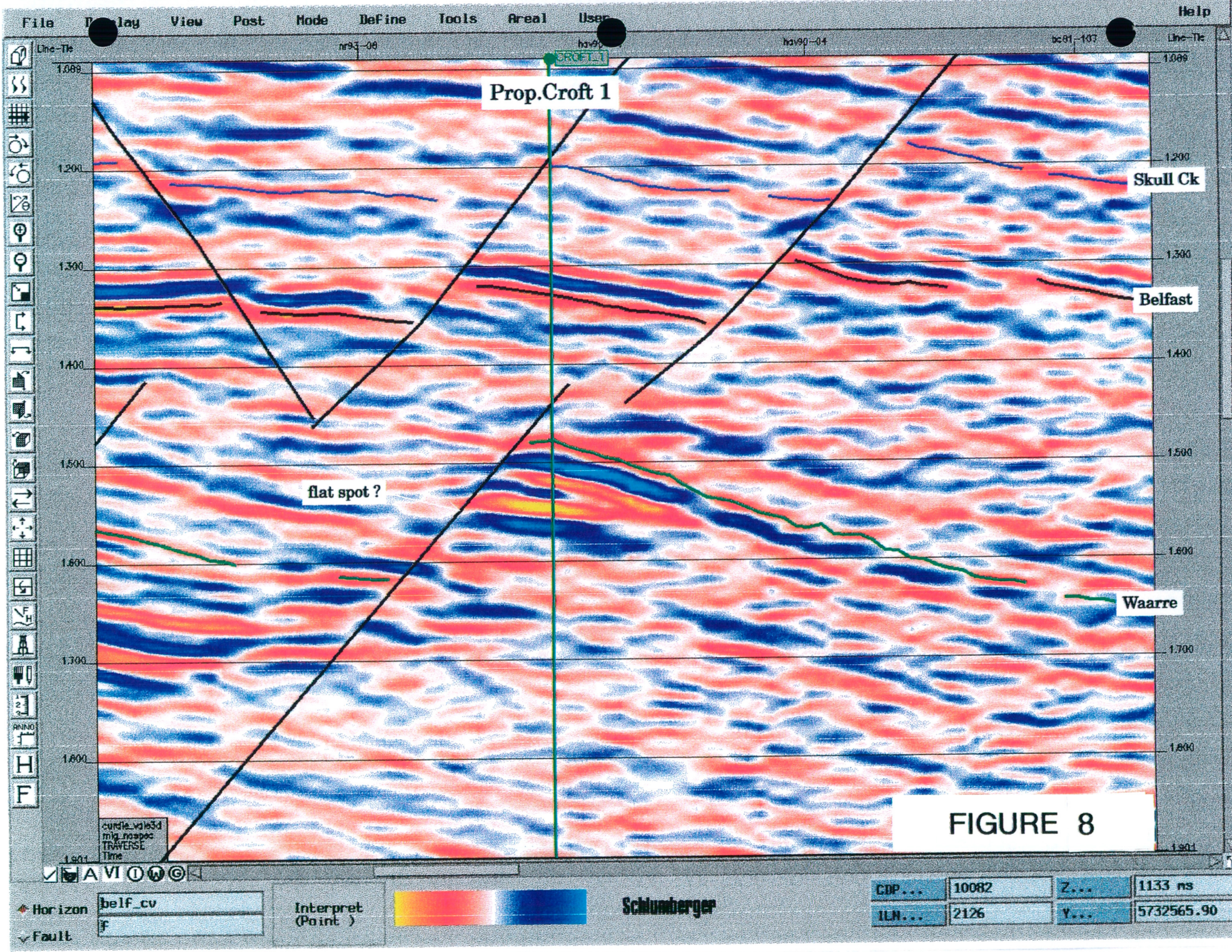
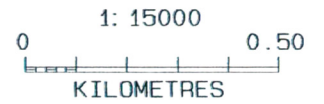
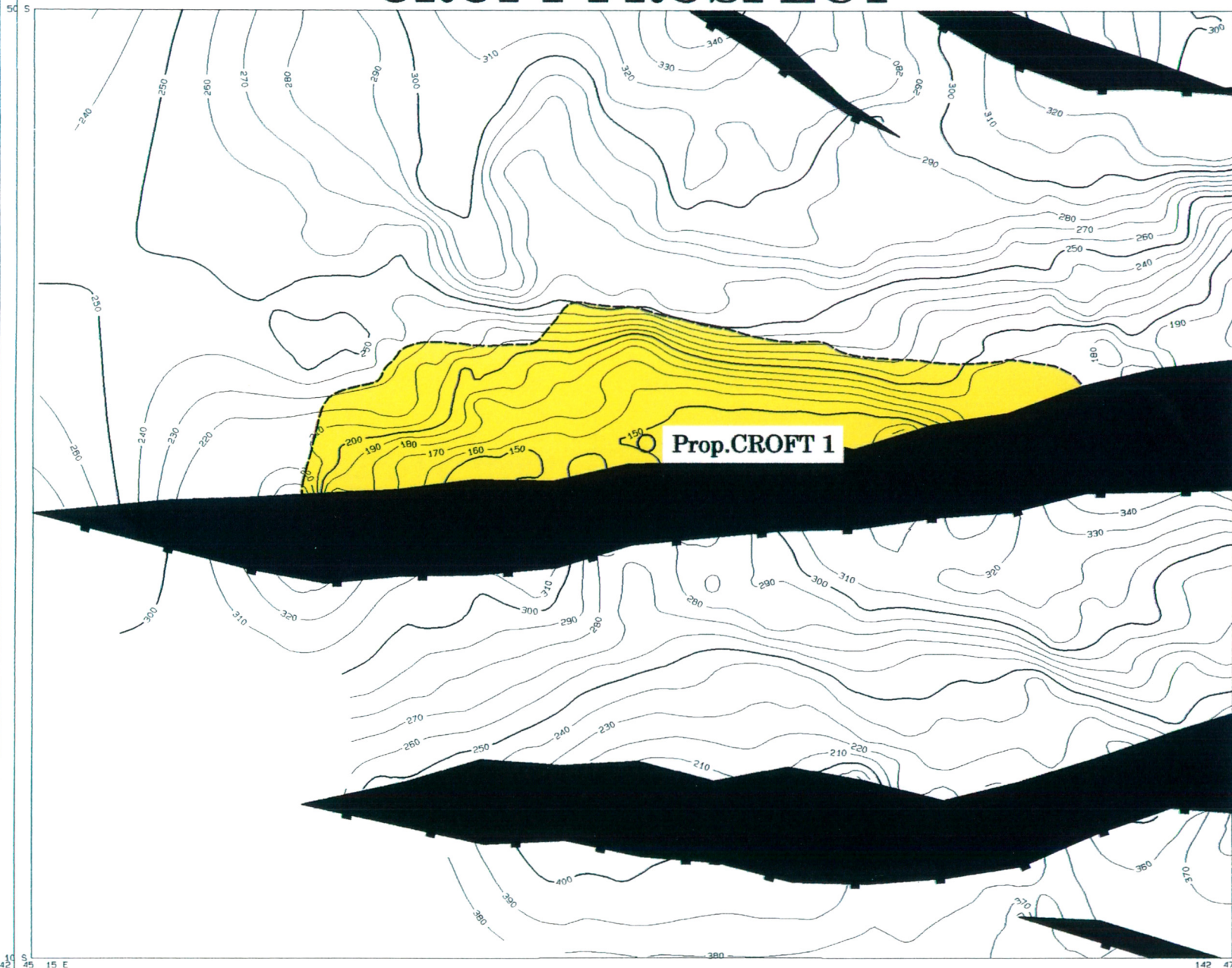


FIGURE 8

909132 021

PE909132-color07

CROFT PROSPECT



UNIVERSAL TRANSVERSE MERCATOR PROJECTION
 AUSTRALIAN NATIONAL SPHEROID
 CENTRAL MERIDIAN 141 00 00 E
 Mapsheet datum: "Unknown"

Santos

Belfast - Waarre Time Interval
 September 2000
 M. Majedi

FIGURE 9

Date: October 09, 2005	Author:	Scale:
Checked: [blank]	Drawn:	Proj. No.:
Project: AUSTRALIAN NATIONAL		

909132 022

PE909132-color 008

Near Top Waarre
Surface

Mcintee Prospect

Croft Prospect

BOGGY CREEK 1

CURDIE 1

FIGURE 10

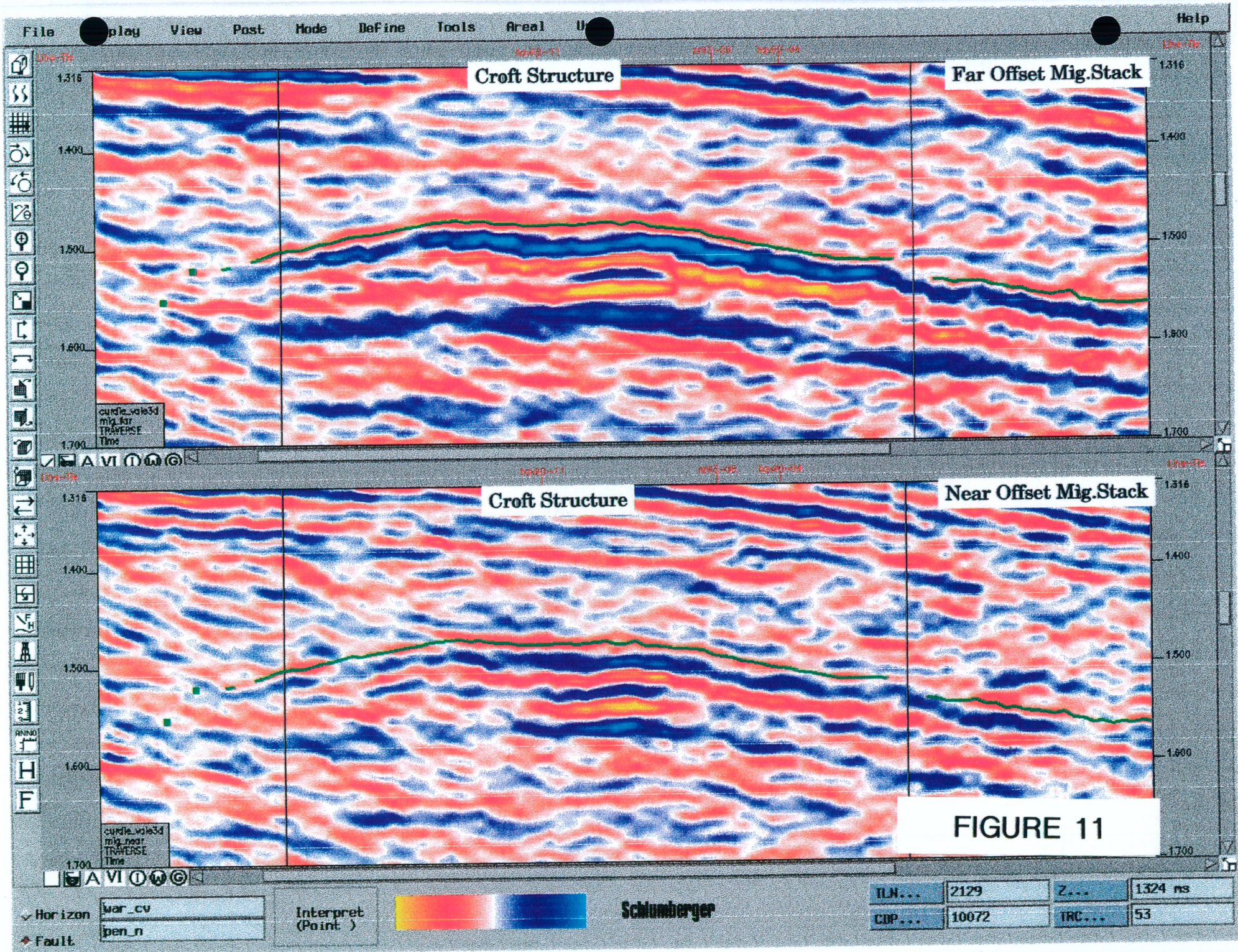
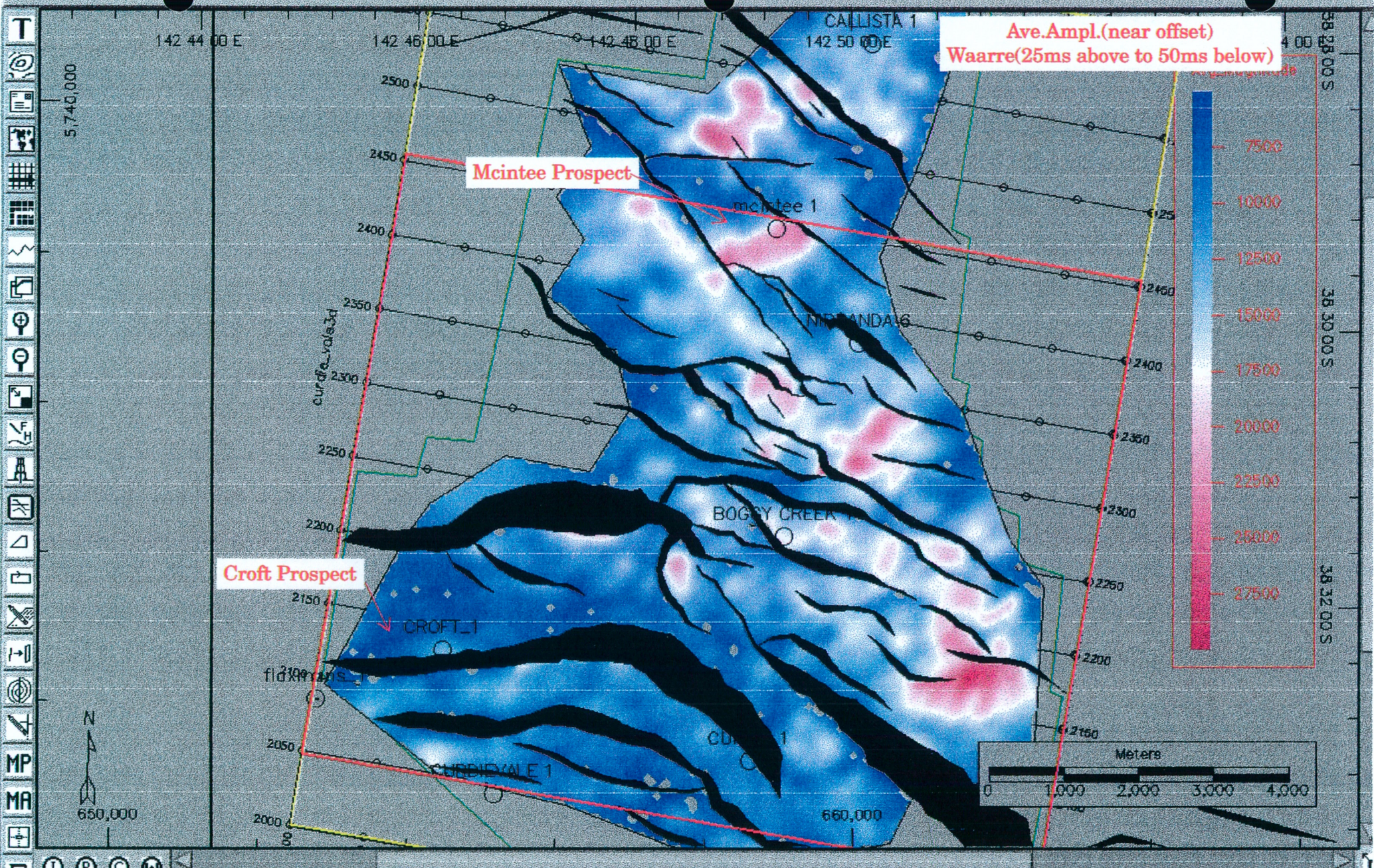


FIGURE 11

909132 024

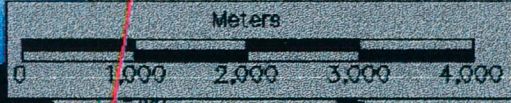
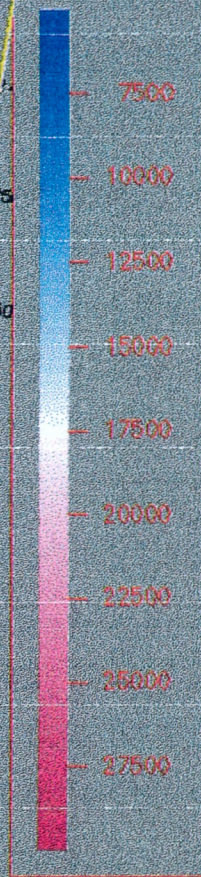
PE909132-color 010



Mcintee Prospect

Ave.Ampl.(near offset)
Waarre(25ms above to 50ms below)

Croft Prospect

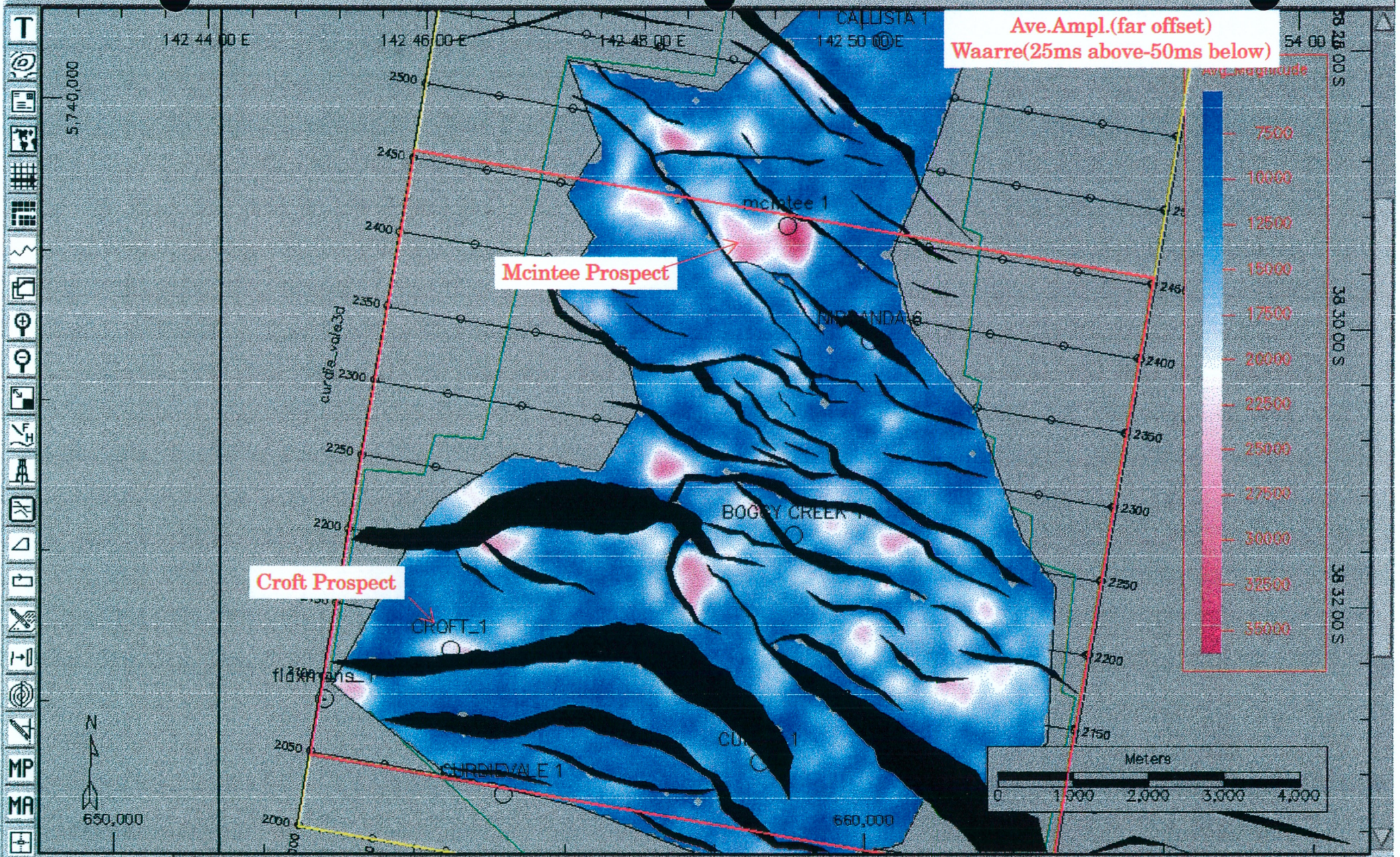


Map: cv_waar_ampl_near	CDP:	SP:
Svy:	H:	HZ:

FIGURE 12

909132 025

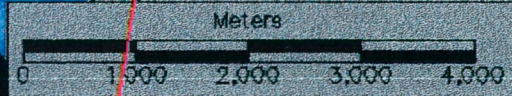
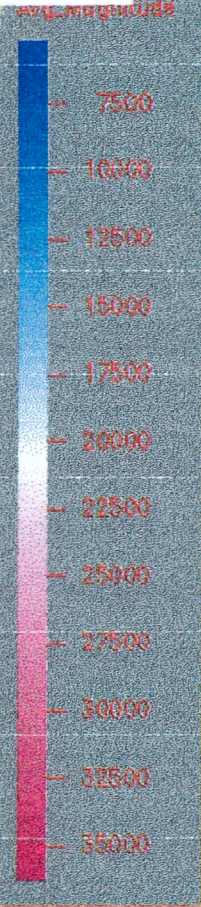
PE909132 - color 011



Ave. Ampl. (far offset)
Waarre (25ms above-50ms below)

Mcintee Prospect

Croft Prospect



Send lines or paths

Map: cv_waar_ampl_far

CDP:

SP:

Svy:

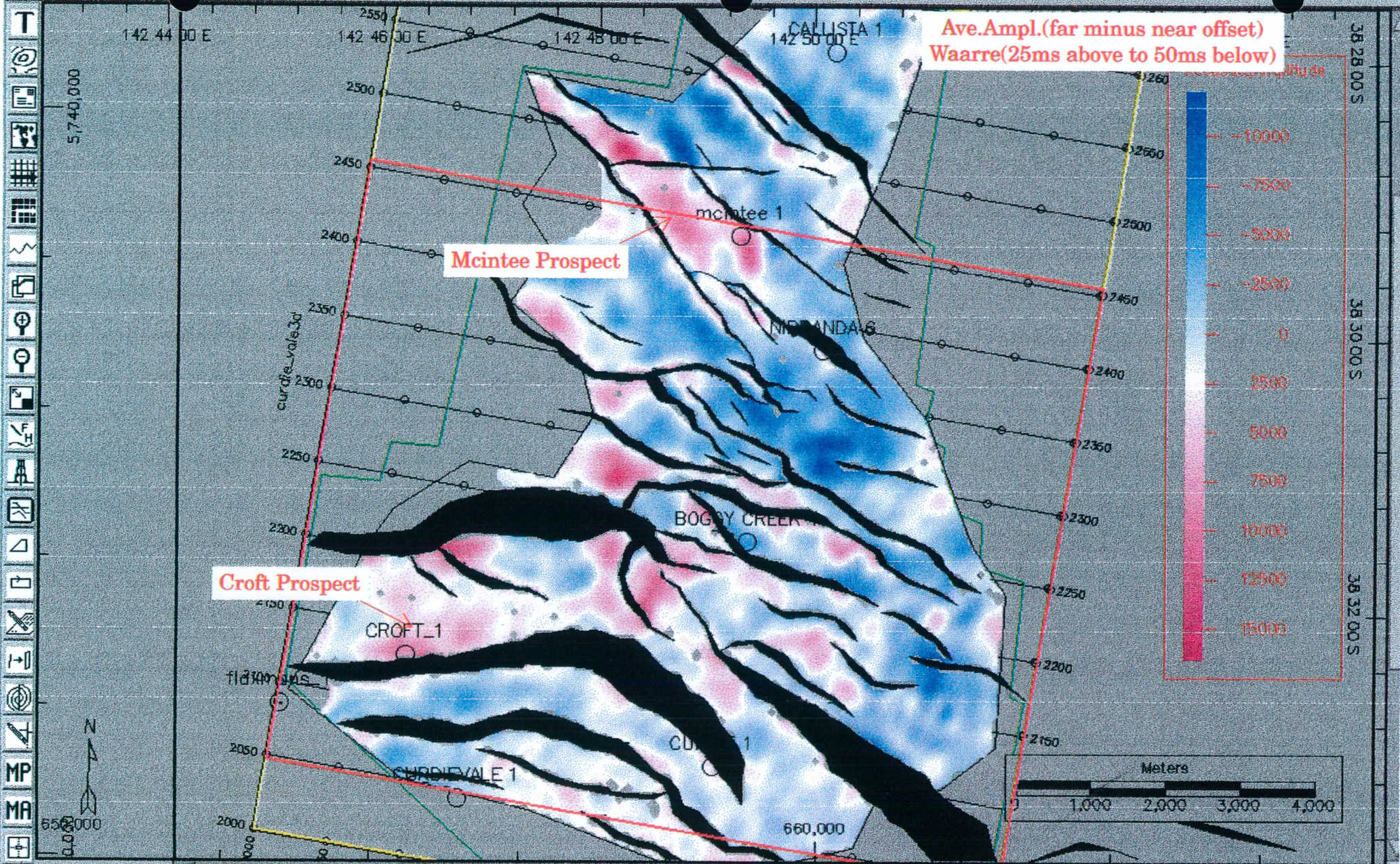
H:

HZ:

FIGURE 13

909132 026

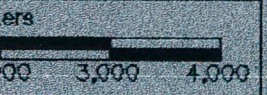
PE909132_color 012



Ave.Ampl.(far minus near offset)
 Waarre(25ms above to 50ms below)

McIntee Prospect

Croft Prospect



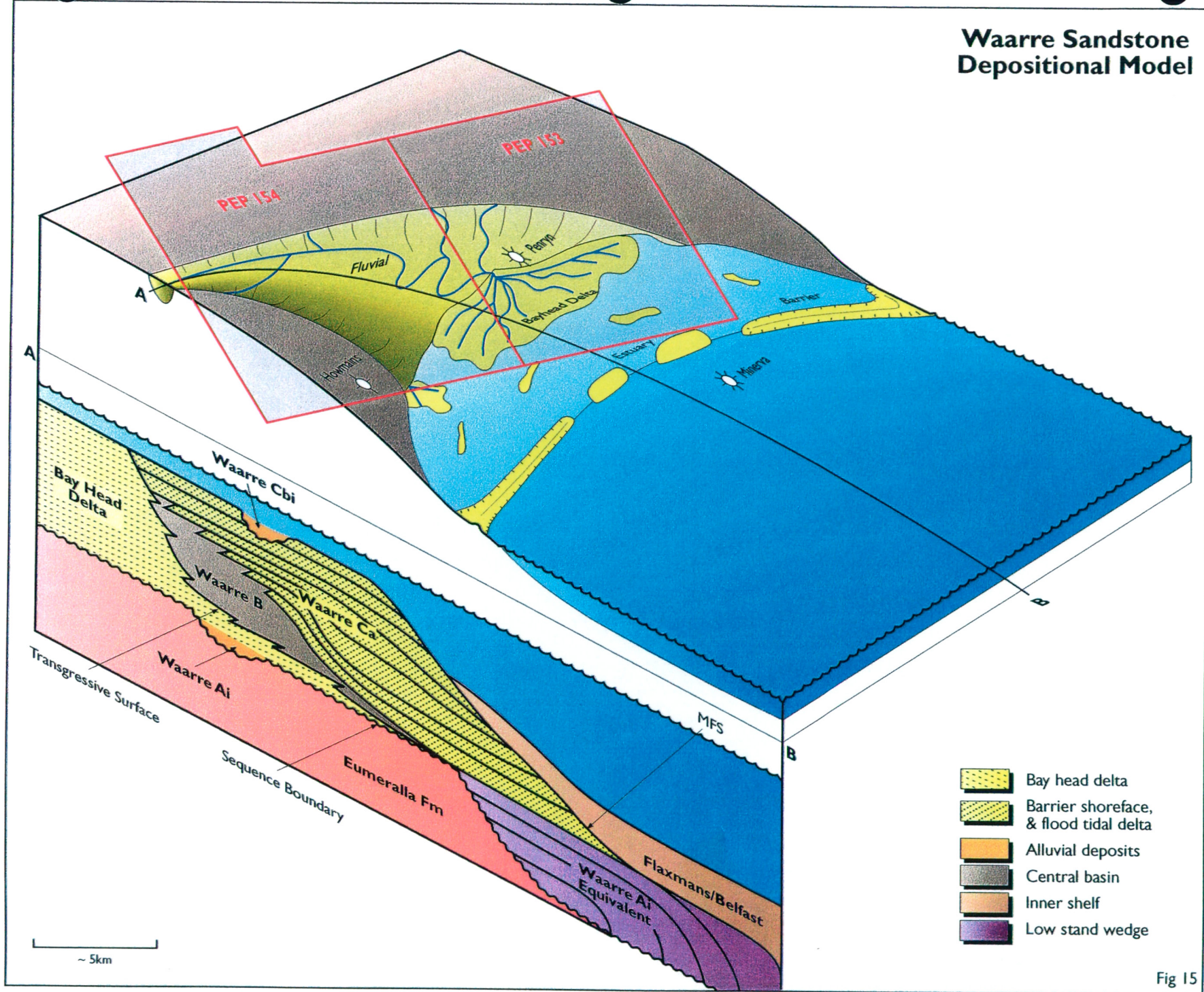
Map: cv_waar_ampl_far-ne:	CDP:	SP:
Svy:	H:	HZ:

FIGURE 14

909132 027

PE9909132-color 013

Waarre Sandstone Depositional Model



- Bay head delta
- Barrier shoreface, & flood tidal delta
- Alluvial deposits
- Central basin
- Inner shelf
- Low stand wedge

FIGURE 15

Fig 15

OTWAY 366

909132 028

PE909132-color014

Santos

SANTOS LIMITED

Santos

BOGGY_CREEK_1

RIG RELEASED : 12 JAN 1992

KB/RT (METRES) : 35.0

TOTAL DRILLED DEPTH (METRES) : 1900.0

Vertical Units METRES

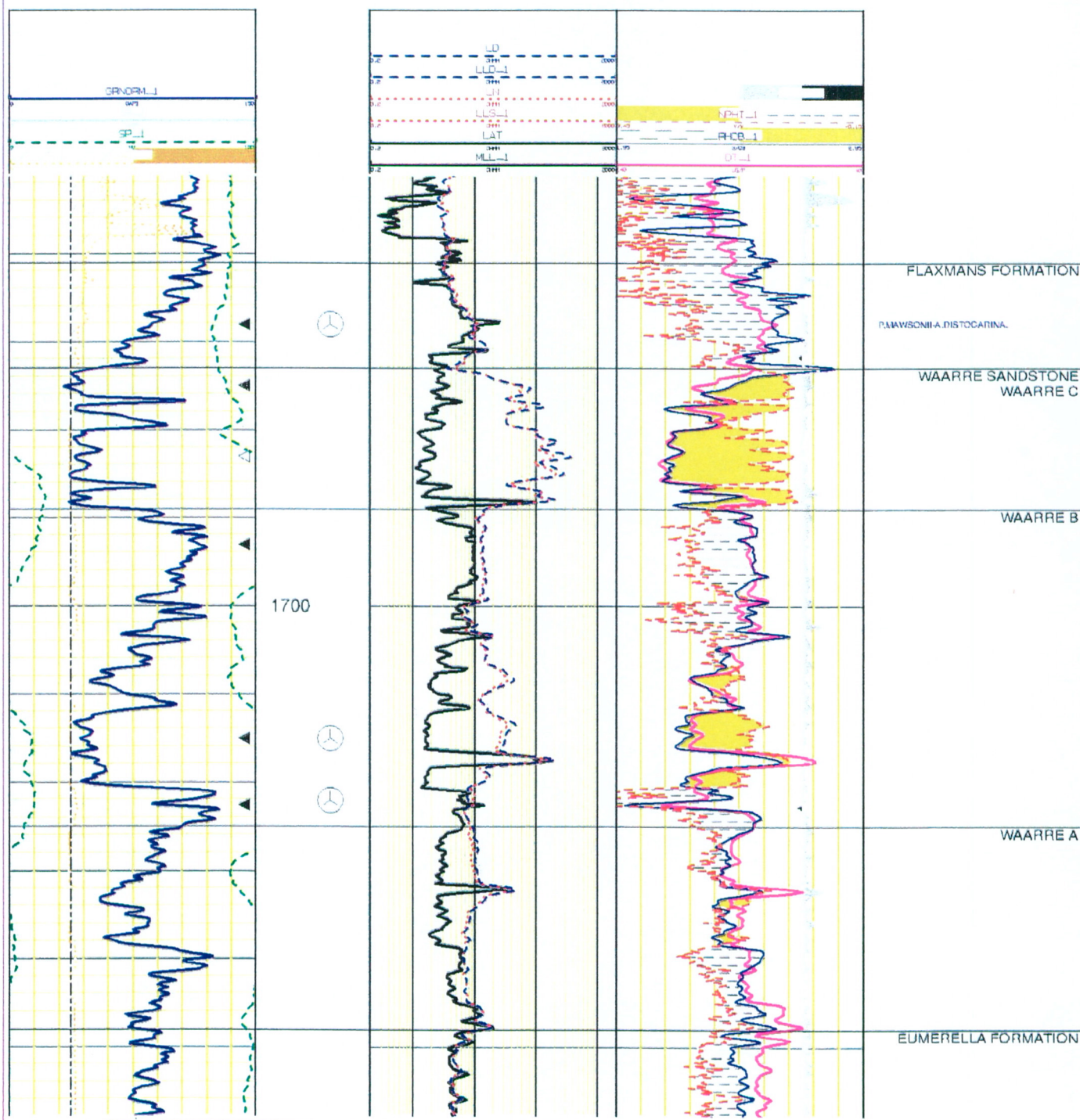


FIGURE 16

Santos

SANTOS LIMITED

Santos

CURDIE_1

RIG RELEASED : 27 MAR 1982

KB/RT (METRES) : 43.0

TOTAL DRILLED DEPTH (METRES) : 2600.0

Vertical Units METRES

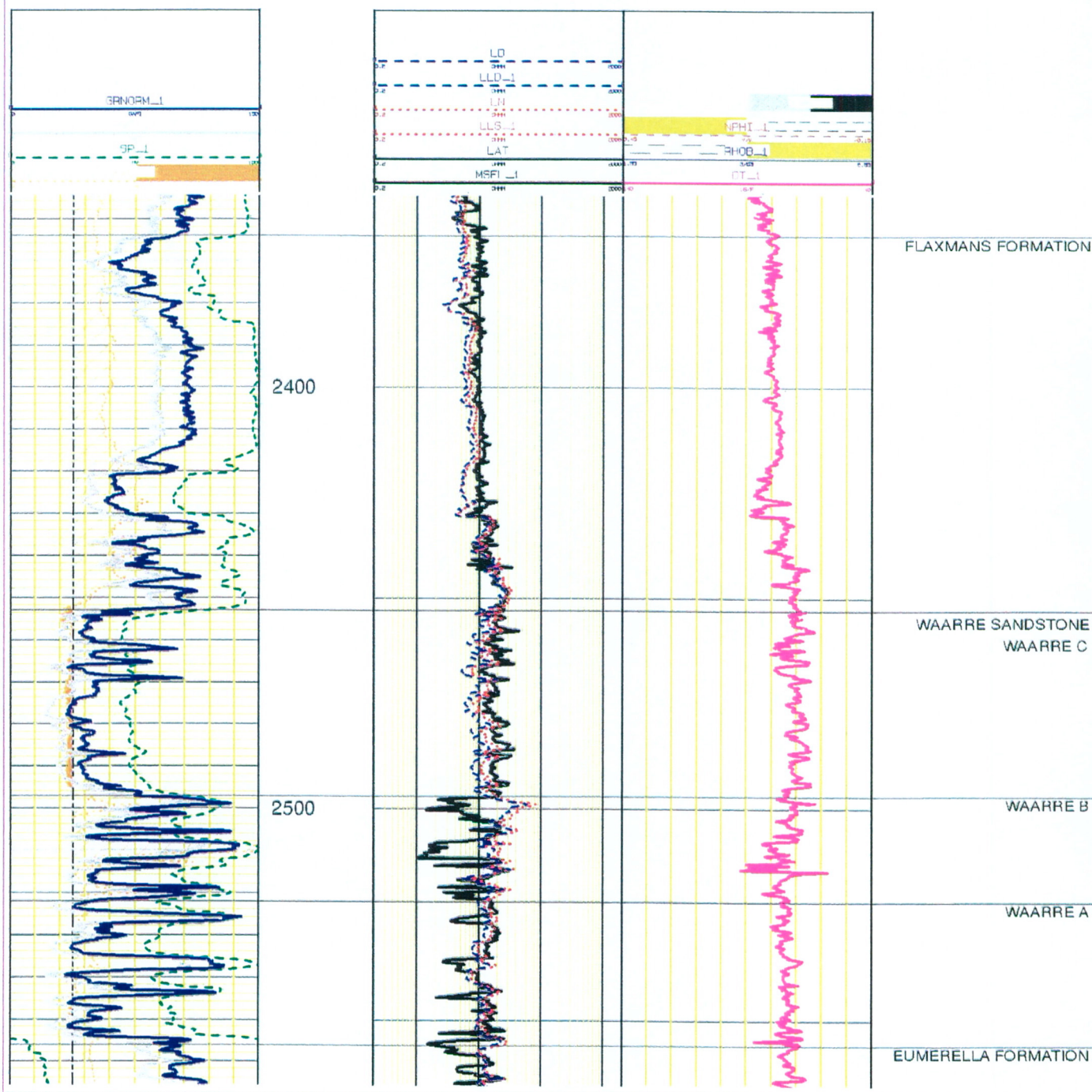


FIGURE 17

Santos

SANTOS LIMITED

Santos

FLAXMANS_1

RIG RELEASED : 08-NOV-1981

KB/RT : 87.36
METRES)

TOTAL DRILLED DEPTH : 3513.73
METRES)

Vertical Unit: METRES

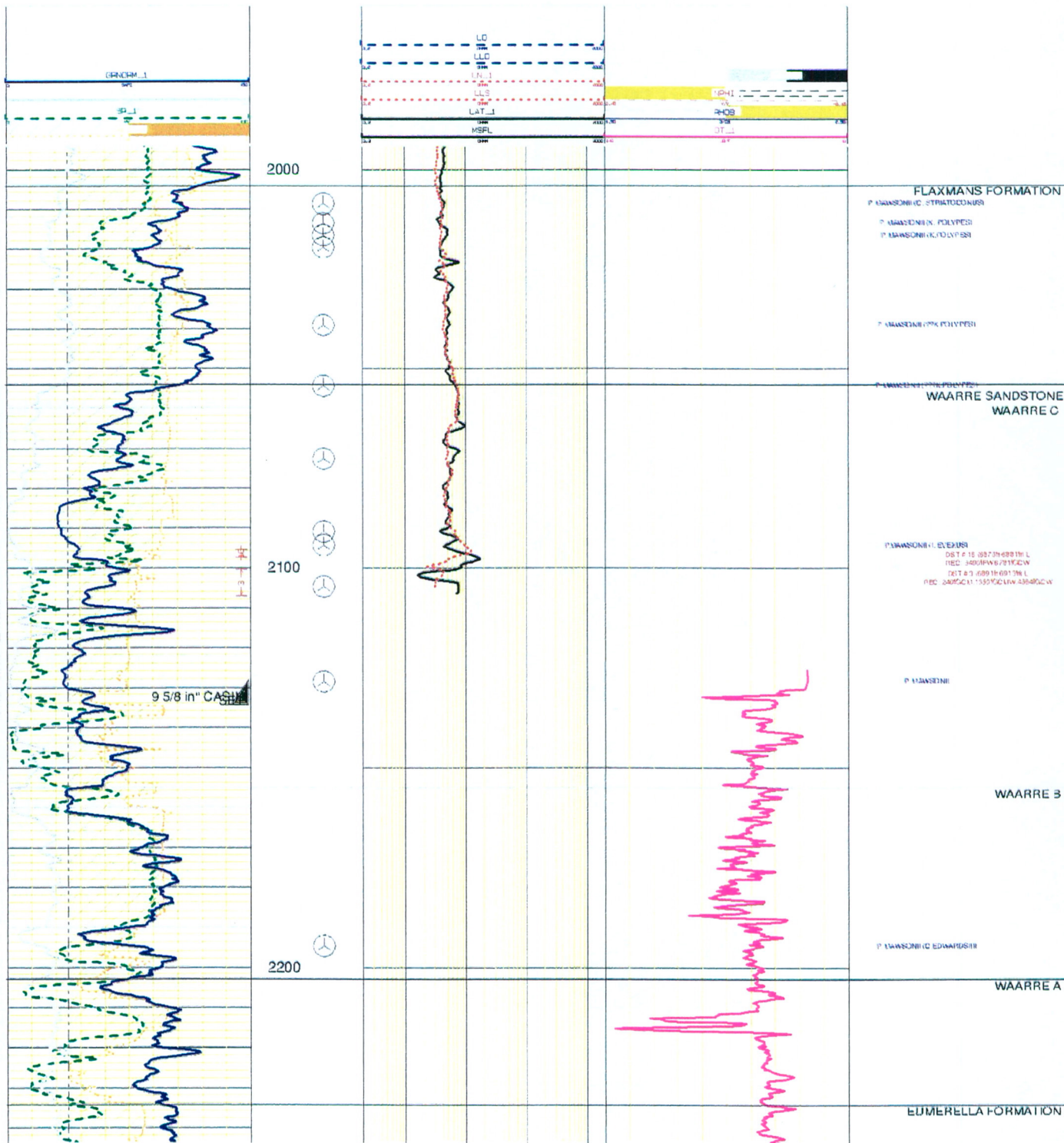


FIGURE 18

Santos

SANTOS LIMITED

Santos

HOWMAINS_1

RIG RELEASED 22-JUL-1994

KB/RT : 49.0
(METRES)

TOTAL DRILLED DEPTH : 2150.0
(METRES)

Vertical Units METRES

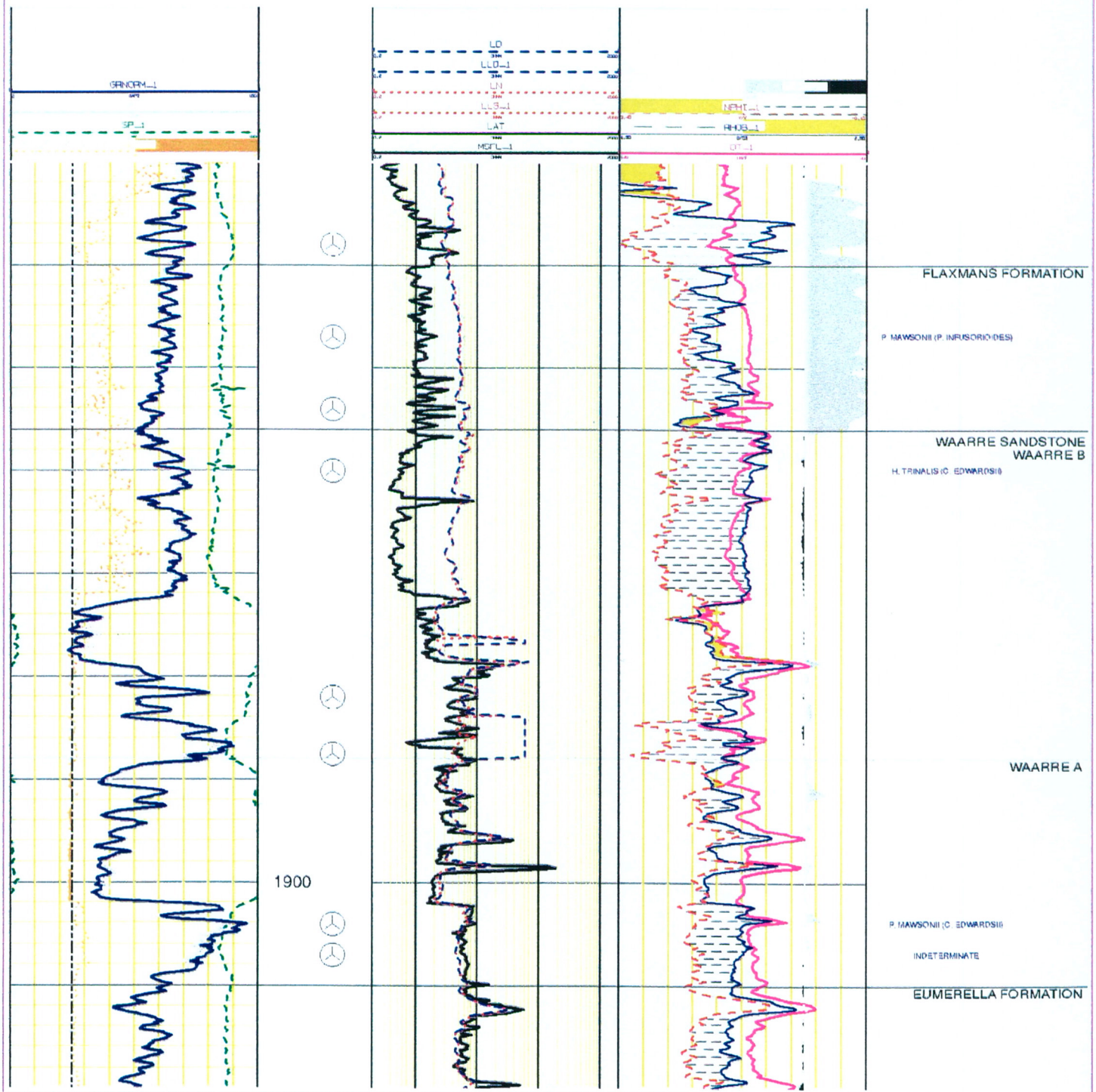


FIGURE 19

Prospect : CROFT
Drilling Opp. : CROFT 1
Formation : WAAR
Reservoir target : WAARRE
Primary target : Y
Target type : GAS
Joint venture(s) : 100% PEP154

MEPS = 1.443 bcf
@ flow 3.000 mmcf/d

Independent risk (single horizon);
Pg = Pcl * Prs * Psl * Pch
= 0.85 * 0.90 * 0.90 * 0.67
= 0.46
Pc = Ppl * Pg * Pmeps
= 1.00 * 0.46 * 0.89
= 0.41

Group Share : 100 %

	Min	P90 Low	P50 Mid	Mean	P10 High	Max	
--NRV--							
Trap Geometry Correction Factor : 0.60							
Pool area	50.000 *	79.778	141.507	156.388	251.000 *	400.486	acres
Gross interval	50.000 *	79.756	141.421	156.275	250.764	400.000 *	ft
Net/Gross	0.600 *	0.657	0.735	0.738	0.822	0.900 *	%100
Ave net pay	21.618	34.788	62.354	69.165	111.763	179.851	ft
100% NRV	1999.101	3894.270	8823.514	10816.620	19992.038	38944.701	ac.ft
--SALES GAS--							
100% NRV	1999.101	3894.270	8823.514	10816.620	19992.038	38944.701	ac.ft
Porosity	0.101	0.120 *	0.149	0.151	0.185	0.220 *	%100
Sh	0.600 *	0.657	0.735	0.738	0.822	0.900 *	%100
1/Bg	176.076	180.000 *	184.932	184.974	190.000 *	194.234	
OGIP yield	565.702	690.233	881.017	897.138	1124.536	1372.086	mcf/ac.ft
OGIP	1.651	3.311	7.774	9.704	18.252	36.604	bcf
RF	0.339	0.400 *	0.490	0.496	0.600 *	0.708	%100
Shrinkage	0.800 *	0.831	0.872	0.872	0.914	0.950 *	%100
Sales gas yld	210.188	273.013	376.268	388.241	518.574	673.576	mcf/ac.ft
Untruncated	0.674	1.422	3.320	4.064	7.754	16.359	bcf
Truncated	1.443	1.864	3.625	4.405	8.063	16.359	bcf
Expected	0.591	0.764	1.485	1.804	3.303	6.701	bcf
Flow rate	3.000 *	5.031	9.487	10.723	17.888	30.000 *	mmcf/d
--GAS LIQUIDS--							
OGIP	1.651	3.311	7.774	9.704	18.252	36.604	bcf
C2 Rec	0.339	0.400 *	0.490	0.496	0.600 *	0.708	%100
C3C4 Rec	0.339	0.400 *	0.490	0.496	0.600 *	0.708	%100
C5+ Rec	0.339	0.400 *	0.490	0.496	0.600 *	0.708	%100
C2 yield	0.001 *	0.001	0.001	0.001	0.001	0.001 *	bbls/mmcf
C3C4 yield	0.001 *	0.001	0.001	0.001	0.001	0.001 *	bbls/mmcf
C5+ yield	10.000 *	10.953	12.247	12.294	13.695	15.000 *	bbls/mmcf
(Untruncated)							
Ethane	0.000	0.000	0.000	0.000	0.000	0.000	bcf
LPG	0.000	0.000	0.000	0.000	0.000	0.000	mmbbls
Condensate	0.009	0.020	0.047	0.057	0.110	0.232	mmbbls
(Truncated)							
Ethane	0.000	0.000	0.000	0.000	0.000	0.000	bcf
LPG	0.000	0.000	0.000	0.000	0.000	0.000	mmbbls
Condensate	0.020	0.026	0.051	0.062	0.114	0.232	mmbbls
(Expected)							
Ethane	0.000	0.000	0.000	0.000	0.000	0.000	bcf
LPG	0.000	0.000	0.000	0.000	0.000	0.000	mmbbls
Condensate	0.008	0.011	0.021	0.025	0.047	0.095	mmbbls

PE909133

This is an enclosure indicator page.
The enclosure PE909133 is enclosed within the
container PE909132 at this location in this
document.

The enclosure PE909133 has the following characteristics:

ITEM_BARCODE = PE909133
CONTAINER_BARCODE = PE909132
 NAME = Encl.1 Waarre Sand Time Map
 BASIN = OTWAY
 ONSHORE? = Y
 DATA_TYPE = SEISMIC
 DATA_SUB_TYPE = ISOCHRON_MAP
 DESCRIPTION = Encl.1 Waarre Sand Time Map, by Santos
 [BOL] Pty Ltd, W1315, PEP154.
 REMARKS =
 DATE_WRITTEN = 30-SEP-2000
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Santos (BOL) Pty Ltd
 WELL_NAME = Croft-1
CONTRACTOR =
 AUTHOR =
 ORIGINATOR = Santos (BOL) Pty Ltd
 TOP_DEPTH =
 BOTTOM_DEPTH =
ROW_CREATED_BY = CD000_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE909134

This is an enclosure indicator page.
The enclosure PE909134 is enclosed within the
container PE909132 at this location in this
document.

The enclosure PE909134 has the following characteristics:

ITEM_BARCODE = PE909134
CONTAINER_BARCODE = PE909132
NAME = Encl.2 Stratigraphic Cross Section
BASIN = OTWAY
ONSHORE? = Y
DATA_TYPE = SEISMIC
DATA_SUB_TYPE = ISOCHRON_MAP
DESCRIPTION = Encl.2 Stratigraphic Cross Section,
Howmains-1, Flaxmans-1, Curdie-1, Boggy
Creek-1, by Santos [BOL] Pty Ltd,
W1315, PEP154. Enclosure 2 contained
within "Croft-1 Well Proposal Report"
[PE909132].
REMARKS =
DATE_WRITTEN = 26-SEP-2000
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Santos (BOL) Pty Ltd
WELL_NAME = Howmains-1
CONTRACTOR =
AUTHOR =
ORIGINATOR = Santos (BOL) Pty Ltd
TOP_DEPTH =
BOTTOM_DEPTH =
ROW_CREATED_BY = CD000_SW

(Inserted by DNRE - Vic Govt Mines Dept)