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913520 001
(26 pages)

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Dolphin-2 WCR

913520 002

WELL COMPLETION REPORT

DOLPHIN 2

Gippsland Basin, Victoria

Compiled by
M. C. Galloway
April, 1990

913520 003

WELL COMPLETION REPORT

DOLPHIN 2

Gippsland Basin, Victoria

DOLPHIN2/1

DOLPHIN 2WELL COMPLETION REPORTCONTENTS

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WELL COMPLETION REPORT
DOLPHIN 2

6: CASING RECORD.

Type	Size (Inches)	Weight (ppf)	Grade	Thread	Number of Joints	No. of Cntrlrs	Length (m)	Depth (mMDRT)
Surface	:10-3/4	40.50	K-55	BUTT	66 - Includes float & shoe joints	15	795.12	823.92
Production	: 7-5/8	26.40	N-80	LTC	2		17.50	
	7-5/8	29.00	N-80	LTC	37		438.54	
	7-5/8	26.40	N-80	BUTT	71 - Includes float & shoe joints	25	823.82	1308.66
Tubing	: 4-1/2	12.75	J-55	EUE	121 - Excludes SSSV, Pup jts, 2 GLM's, X nipples, HC Pkr, RN Nipple and Wireline guide		1179.24	1207.94

7: CEMENTING RECORD.

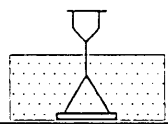
String Cemented	Cement Type	Dry Cmt Volume (sx)	Cement Additives	Mix Water (bbls)	Slurry Volume (bbls)	Slurry Density (ppg)	Cement Top (mMDRT)	Csg Test Pressure (psi)
Surface	Lead : BC101	1200	3.1% Prehydrated Bentonite BWOW	351.0 Fresh	470.3	12.3	Surface	1500
	Tail : BC101	300	Neat	36.0 Seawater	62.0	15.8		
Production	Lead : BC101		3.1% Prehydrated Bentonite BWOW	65.0 Fresh	87.8	12.4	570.0 Calc'd	3000
	Tail : BC101	300	HALAD 322L, 5gal/10bbl mixwater HR6L, 2gal/10bbl mixwater	36.0	62.0	15.8		
Liner	: No Liner.							

Note : BC101 = Blue Circle Type 101

SCHEMATIC	DESCRIPTION	OD (in)	MIN ID (in)	Length (m)	MDKB (m) TOP	TVDKB (m) TOP
	RT to elevation of top of tubinghead adaptor flange			28.80		
	Tubing hanger, WKM, 4 1/2" Stainless, 4-1/2" DSS-HTC			0.68	28.80	
	Crossover to 4-1/2" EUE pin			0.75	29.48	
	Tubing tension			0.30	30.23	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 29 Jts	4.500	3.958	273.95	30.53	
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.84	304.48	
	Flow coupling, 4 1/2", Otis P/N 11FN853	5.619	3.865	0.89	306.32	
	SSV Landing Nipple, 4 1/2", Otis XXO, P/N 711XX038111, w/ X nipple profile, 3.813" Pkg bore	6.220	3.813	0.69	307.21	307.2
	Flow coupling, 4 1/2", Otis P/N 11FN853	5.619	3.865	0.89	307.90	
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.82	308.79	
	Surface Casing, 10 3/4", 40.5 lb/ft, K-55 Butt	10.750	10.050	795.50	823.90	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 53 Jts	4.500	3.958	506.56	310.61	
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.84	617.17	
	Sidepocket Gas lift Mandrel, 4 1/2", Otis WB, P/N 215WB50721 with 1" pocket, with BK latch	6.620	3.863	2.20	619.01	619.0
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.66	621.21	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 1 Jt	4.500	3.958	9.42	622.87	
	"X" Landing Nipple, 4 1/2", Otis P/N 711X38105, with 3.813" Packing Bore	5.030	3.813	0.47	632.29	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 26 Jts	4.500	3.958	245.99	632.76	
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.84	1076.75	
	Sidepocket Gas lift Mandrel, 4 1/2", Otis WB, P/N 215WB50721 with 1" pocket, with BK latch	6.620	3.863	2.20	1080.59	1080.5
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.86	1082.79	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 1 Jt	4.500	3.958	9.42	1084.65	
	"X" Landing Nipple, 4 1/2", Otis P/N 711X38105, with 3.813" Packing Bore	5.030	3.813	0.47	1094.07	
	Tubing - 4 1/2" 12.75lb/ft, J-55, 10 Jts	4.500	3.958	94.36	1094.54	
	Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	1.86	1188.90	
Packer, 7 5/8"x 4.5", Otis HC hydr set, P/N 212HC7522, X nipple profile, 3.813 pkg bore, c/w overshot seat and J latch	6.440	3.813	2.30	1190.76	1190.7	
Millicut extension, Otis, 5", LTC, p * p, P/N 92C4764	5.050	4.194	2.20	1193.06		
Xover, 5" LCT b 4 1/2" EUE p, N-80, Otis P/N 92C2135	5.590	3.848	0.23	1195.26		
Pup joint - 4 1/2" 12.75lb/ft, L-80	4.500	3.958	2.38	1195.49		
Tubing - 4 1/2" 12.75lb/ft, J-55, 1 Jt	4.500	3.958	9.38	1197.87		
"RN" Landing nipple, 4 1/2", Otis P/N 11RN36838, with 3.688 Packing bore, 3.456 Nege	5.619	3.456	0.47	1207.25		
Wireline guide, Esso, 4 1/2" EUE A/B mod	5.750	3.883	0.22	1207.72		
Bottom of Tubing				1207.94	1207.9	
PERFORATIONS 1241.00 -- 1253.00m ELECTRIC LOG PBD (calculated)				12.00	1241.00	
					1296.00	
Production Casing, 7 5/8", 29/26.4 lb/ft, N-80, 110 Jts	7.625	6.969	1279.86	1309.00		

DOLPHIN 2 COMPLETION

Appr. No.	Date	Revision	Evl Ckd
0	3/90	Original issue	TJR



Wellhead

Type : WKM Solid Block, Type SH, 7-1/16", 3000 WP

Xmas tree cap : 4-1/16" 3000WP API

Xmas tree bore : 4.892

Back pressure valve: 4" CIW BPV

Comments

Date Completed : October 31 1989

Average angle : Vertical

Max angle : 3.456

Minimum ID : 2.500

ID through SSSV : --

Tbg wt + overpull : --

WELL: DOLPHIN 2

II SAMPLES

INTERVAL

Cuttings: 10m intervals
from 150m above expected
Top of Latrobe to Top
of Latrobe, then 5m
intervals to T.D.

TYPE

3 set of washed and oven
dried cuttings.

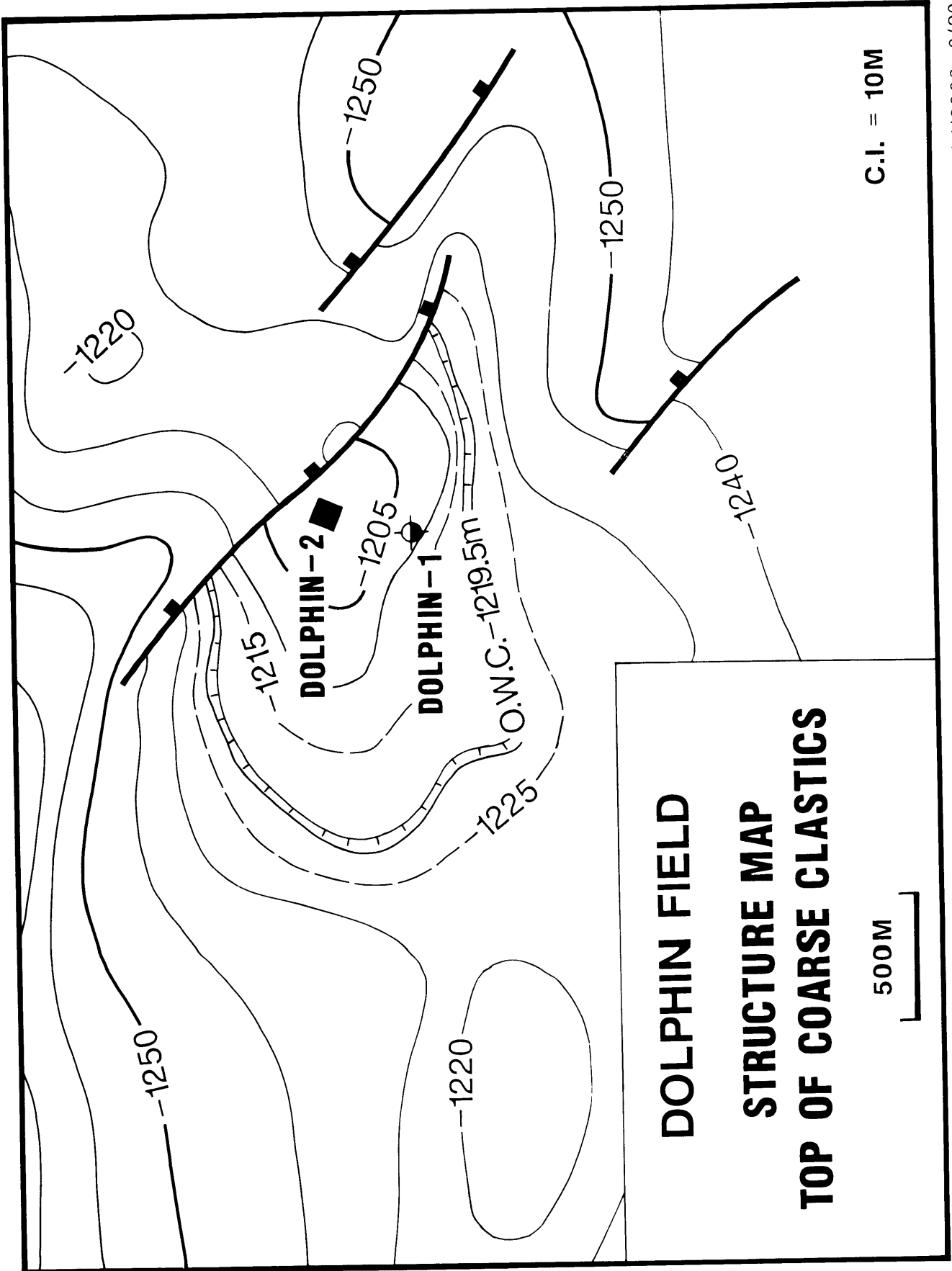
III WIRELINE LOGS + SURVEYS

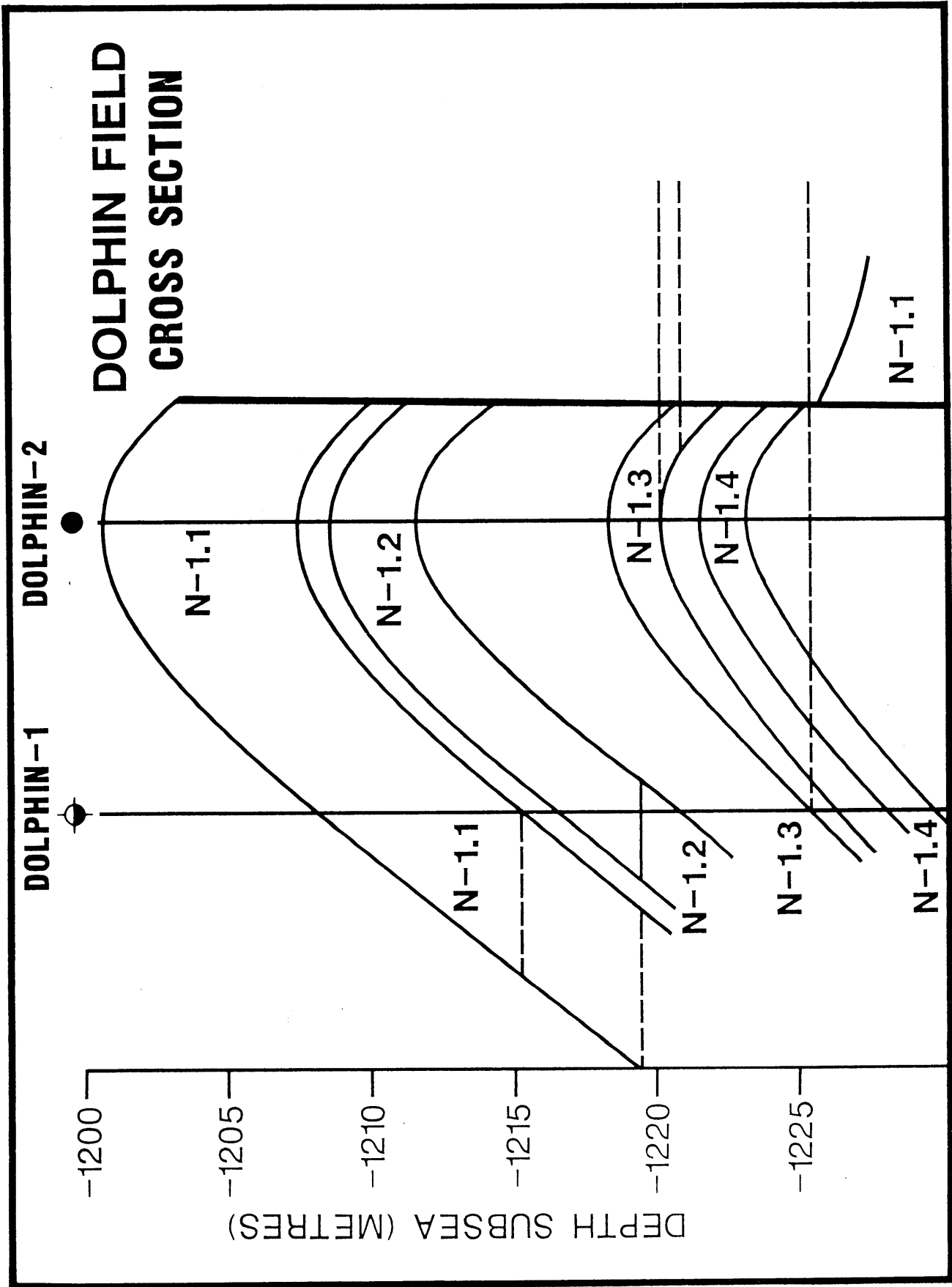
TYPE	SCALE	FROM (M) TO (M)
DLT-LDT-CNT-GR-MSFL-AMS	1:200	1310.0 - 824.0
DLT-MSFL-GR-CAL	1:500	1310.0 - 1150.0
BHC-SONIC-GR-CAL	1:500, 1:200	1303.0 - 1150.0
LDT-CNT-GR-CAL	1:500	1310.0 - 824.0
RFT		1298.0 - 1241.5

DOLPHIN 2

IV FORMATION TOPS / ZONES							
NAME	TOP			-GROSS INTERVAL m TVT	NET OIL SECTION		REMARKS
	m MDKB	Predicted m TVDSS	Actual m TVDSS		m MT	m TVT	
Top of Latrobe	1222.0	1165.0	1180.0				
Top of Coarse Clastics	1240.0	1188.0	1198.0				
LPO	1261.5		1219.5	21.5	11.5		
OWC	1261.5	1219.5					Not observed in well.
Total depth	1322.0	1280.0	1280.0				

V GEOLOGICAL ANALYSIS (Pre-Drilling Prognosis Vs actual results)	
<p>Dolphin is low relief NE-SW trending structure, fault dependant and fault bounded by a NW-SE fault to the NE (see figure). This fault juxtaposes Lakes Entrance Formation swelling clays against the reservoir thus forming a trap. Dolphin 2 was a vertical well located to intersect the crest of the structure and updip from the discovery well, Dolphin 1 which was drilled in 1967. The top of the N reservoir came in 10m low to prediction and the N-1.1, N-1.2 and N-1.3 reservoir sands were oil filled, no contacts were seen. The base of the N-1.3 sand is at the OWC seen in Dolphin-1. The N-1.4 and deeper sands were all clearly water filled.</p>	





Appendix- 1
Drill Data

ESSO AUSTRALIA LTD.
DOLPHIN MONOPOD
DOLPHIN #2
OCTOBER 1989

26 OCT 1989 @ 3:12

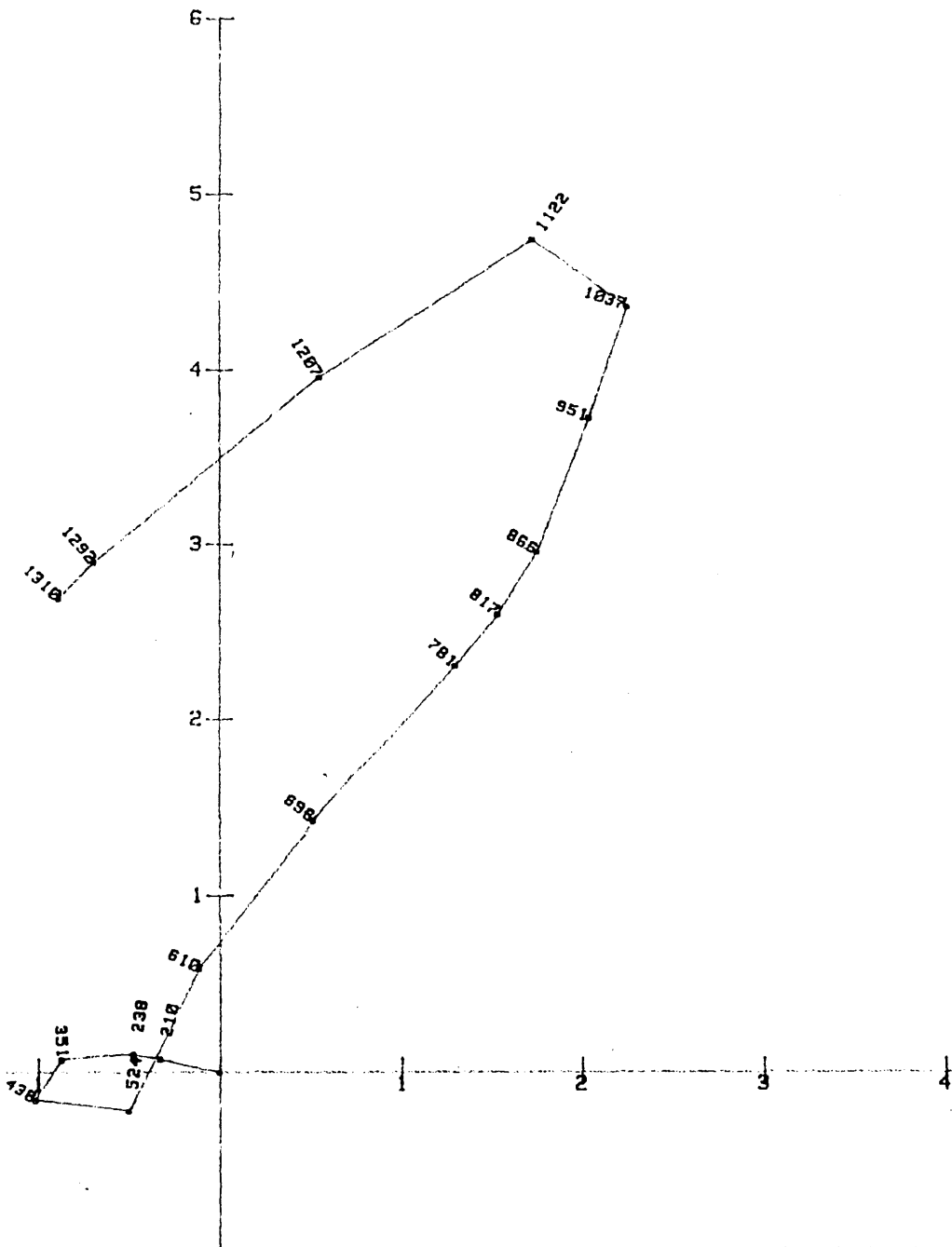
DATA DRILL

HORIZONTAL PLOT



SCALE: 1 MTRS/INCH

BHL: 3 MTRS
@ N 18.18 W
TVD: 1310 MTRS
MD: 1310 MTRS



DATA DRILL

ESSO AUSTRALIA LTD.
DOLPHIN HOMOPOD
DOLPHIN #2
OCTOBER 1989

SMITH INT. MUD SURVEY DATA
GRID DECLINATION 13.3 EAST
DEPTHS REF. RI.

913520 014

File Name: DOL2_SUR

*** RECORD OF SURVEY ***

Calculated by DATA DRILL's CADDS System

Radius of Curvature Method
All Angles are Decimal

MEASURED DEPTH (M)	INCL ANGLE (DEG)	D R I F T AZIMUTH (DEG)	COURSE LENGTH (M)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (M)		C L O S U R E DISTANCE (M)		DOGLEG SEVERITY (DEG/30 M)
80.00	0.00	0.00	0.00	80.00	0.00 N	0.00 E	0.00	0.00	0.00
WELL ASSUMED VERTICAL TO 80M (MUD LINE)									
20 INCH CONDUCTOR DRIVEN TO 162M									
209.90	.30	283.30	129.90	209.90	.08 N	.33 W	.34	283.30	.07
239.50	.30	274.50	28.60	238.50	.10 N	.48 W	.49	281.96	.05
351.50	.10	257.30	113.00	351.50	.07 N	.87 W	.87	274.81	.05
438.10	.30	167.30	86.60	438.10	.16 S	1.02 W	1.03	261.23	.11
524.00	.60	27.00	85.90	523.99	.22 S	.50 W	.55	246.21	.30
609.80	.60	24.20	85.80	609.79	.59 N	.11 W	.60	349.07	.01
695.60	.80	50.60	85.80	695.58	1.41 N	.52 E	1.51	20.09	.13
780.90	.80	31.90	85.30	780.88	2.31 N	1.30 E	2.65	29.40	.09
817.00	.40	16.00	36.10	816.97	2.60 N	1.54 E	3.02	30.59	.35
10 3/4 INCH CASING RUN TO 824M									
865.60	.60	16.80	48.60	865.57	2.96 N	1.75 E	3.41	30.69	.20
951.00	.50	23.80	85.40	950.97	3.73 N	2.04 E	4.25	28.69	.04
1036.60	.40	12.60	85.60	1036.56	4.36 N	2.25 E	4.91	27.27	.05
1121.60	.70	239.30	85.00	1121.56	4.74 N	1.73 E	5.05	20.02	.36
1206.90	1.20	233.40	85.30	1206.85	3.96 N	.55 E	4.00	7.92	.18
1292.00	1.00	225.60	85.10	1291.93	2.90 N	.69 W	2.98	346.59	.09

DATADRIIL

ESSO AUSTRALIA LTD.
DOLPHIN MONDFOO

DOLPHIN #2
OCTOBER 1989

913520 015

MEASURED DEPTH (M)	INCL ANGLE (DEG)	D R I F T AZIMUTH (DEG)	COURSE LENGTH (M)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (M)		C L O S U R E DISTANCE AZIMUTH SKEWNESS (M) (DEG) (M/100 M)		
1310.00	.80	220.40	18.00	1309.93	2.69 N	.88 W	2.83	341.82	.36

BOTTOM HOLE CLOSURE: 2.83 Meters at 341.82 Degrees

Appendix 2
Quantitative Log Analysis

913520 017

DOLPHIN 2

QUANTITATIVE LOG ANALYSIS

INTERVAL : 1235m - 1280m
ANALYST : A. R. GILBY
DATE : NOVEMBER, 1989

DOLPHIN_2

ANALYSIS SUMMARY.

Net porosity cut-off.....: 0.100 volume per volume
 Net water saturation cut-off...: 0.500 volume per volume

Net Porous Interval based on Porosity cut-off only.
 Both Porosity and Sw cut-offs invoked when generating Hydrocarbon-Metres.

GROSS INTERVAL (mRKB)	GROSS INTERVAL		NET POROUS INTERVAL				NET POROUS INTERVAL		NET POROUS INTERVAL		NET POROUS INTERVAL		HYDRO- CARBON METRES
	(top)	(base)	Gross (mtrs)	Net (mtrs)	Net to Gross	Vsh	Mean (Dev.)	Mean (Dev.)	Mean (Dev.)	Mean (Dev.)	Sw	Mean (Dev.)	
1242.2-1249.2	7.0	6.4	91 %	0.073	(0.067)	0.263	(0.040)	0.206	(0.117)	1.345			
1250.0-1253.8	3.8	3.0	79 %	0.232	(0.069)	0.237	(0.021)	0.216	(0.081)	0.561			
1260.0-1262.2	2.2	1.8	82 %	0.097	(0.072)	0.252	(0.017)	0.130	(0.065)	0.396			
1263.2-1265.2	2.0	1.4	70 %	0.191	(0.099)	0.233	(0.028)	1.000	(0.000)	0.000			
1268.0-1271.0	3.0	1.4	47 %	0.425	(0.084)	0.134	(0.024)	1.000	(0.000)	0.000			
1278.6-1280.0	1.4	1.2	86 %	0.201	(0.074)	0.181	(0.022)	1.000	(0.000)	0.000			

PE650778

This is an enclosure indicator page.
The enclosure PE650778 is enclosed within the
container PE913520 at this location in this
document.

The enclosure PE650778 has the following characteristics:

ITEM_BARCODE = PE650778
CONTAINER_BARCODE = PE913520
 NAME = Well Completion Log for Dolphin-2
 BASIN = GIPPSLAND
 ONSHORE? = N
 DATA_TYPE = WELL
 DATA_SUB_TYPE = COMPLETION_LOG
 DESCRIPTION = Well Completion Log for Dolphin-2,
 Scale 1:500, Suite 1, Run 1,
 1150m-1322m, Esso Australia Resources
 Ltd., October 1989.
 REMARKS =
 DATE_WRITTEN = 31-OCT-1989
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Australia Resources Ltd.
WELL_NAME = Dolphin-2
CONTRACTOR =
AUTHOR =
ORIGINATOR = Esso Australia Resources Ltd.
TOP_DEPTH = 1150
BOTTOM_DEPTH = 1322
ROW_CREATED_BY = FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE650779

This is an enclosure indicator page.
The enclosure PE650779 is enclosed within the
container PE913520 at this location in this
document.

The enclosure PE650779 has the following characteristics:

ITEM_BARCODE = PE650779
CONTAINER_BARCODE = PE913520
NAME = Computer Processed Log for Dolphin-2
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = WELL_LOG
DESCRIPTION = Computer Processed Interpretation Log
for Dolphin-2, Scale 1:200, Run 1 & 99,
1235m-1280m, By Solar for Esso
Australia Ltd., November 1989.
REMARKS =
DATE_WRITTEN = 30-NOV-1989
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Australia Ltd
WELL_NAME = Dolphin-2
CONTRACTOR = Solar
AUTHOR =
ORIGINATOR = Esso Australia Ltd
TOP_DEPTH = 1235
BOTTOM_DEPTH = 1280
ROW_CREATED_BY = FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

Appendix 3

Mud Log

PE650780

This is an enclosure indicator page.
The enclosure PE650780 is enclosed within the
container PE913520 at this location in this
document.

The enclosure PE650780 has the following characteristics:

ITEM_BARCODE = PE650780
CONTAINER_BARCODE = PE913520
NAME = Mud Log, Scale 1:500 for Dolphin-2
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = MUD_LOG
DESCRIPTION = Mud Log, Scale 1:500 for Dolphin-2,
162m-1310m, Esso Exploration and
Production Australia, October 1989.
REMARKS =
DATE_WRITTEN = 22-OCT-1989
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Exploration and Production
Australia Inc.
WELL_NAME = Dolphin-2
CONTRACTOR =
AUTHOR =
ORIGINATOR = Esso Exploration and Production
Australia Inc.
TOP_DEPTH = 162
BOTTOM_DEPTH = 1310
ROW_CREATED_BY = FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

Appendix 4

RFT Report

Dolphin-2 RFT Report

The primary objective of the Dolphin-2 RFT testing was to obtain an RFT fluid sample from the N-1.1 reservoir. The fluid sample was shipped to PetroLab for PVT testing related to the precipitation of asphaltenes in the presence of LPG. Both Perch and Dolphin are candidates for LPG re-injection from Longford. In addition, an RFT pretest pressure survey was run to confirm the interpreted oil-water contact of the N-1 reservoir sands observed in the Dolphin-1 exploration well.

The data obtained during the pretest pressure survey and fluid sampling run are summarised in Exhibit 1. A plot of the 11 valid pretest seats is presented in Exhibit 2. Because of the thinness of the sands, only a limited number of pressure seats could be obtained. In addition, the sands appear to be differentially drawdown making contact determination difficult. Therefore, a definitive interpretation of fluid contacts from this data alone has not been attempted.

Exhibit 1: DOLPHIN-2 RFT DATAPressure Seats:

Seat	Seat m MDRT	Depth m TVDSS	Formation Pressure (psia)	Hydrostatic Pressure (psia)	Comments
1/1	1298.0	1255.8	1809.85	2262.20	Good
1/2	1281.0	.	.	.	Tight
1/3	1286.0	1243.8	1792.99	2243.24	Good
1/2A	1279.5	.	.	.	Seal failure
1/2B	1279.0	1236.8	1784.11	2232.01	Good
1/4	1269.5	1227.3	1772.79	2216.64	Good
1/5	1264.0	1221.8	1763.89	2207.50	Good
1/6	1260.5	1218.3	1764.76	2202.00	Good
1/7	1254.5	.	.	.	Tight
1/8	1251.0	1208.8	1757.58	2185.74	Good
1/9	1248.0	1205.8	1755.40	2181.07	Good
1/10	1243.5	1201.3	1751.10	2173.41	Unstable
1/11	1241.5	.	.	.	Tight
1/5A	1264.0	1221.8	1764.99	2209.50	Unstable
1/4A	1269.5	1227.3	1773.92	2219.66	Good
1/5B	1264.3	1222.1	1765.51	2211.29	Good
1/10A	1243.5	1201.3	1751.67	2175.31	Good
2/12	1243.5	1201.3			Good samples

Sample Data:

	6 gal	2-3/4 gal
Initial hydrostatic pressure (psia)	2178.26	.
Initial formation pressure (psia)	1756.02	.
Initial flowing pressure (psia)	1707.16	1738.06
Final flowing pressure (psia)	1724.34	1754.66
Final hydrostatic pressure (psia)	.	2179.70
Chamber opening pressure (psig)	400	preserved
Gas recovered (cuft)	21.0	(chamber: RFS-AE1220)
H2S (ppm)	NA	
CO2 (%vol)	0.3	
Oil recovered (cc)	17000	
Oil gravity (API @ F)	48.0	
Water/filtrate (cc)	3250	
Water analysis Cl- (ppm)	12000	
Mud analysis Cl- (ppm)	16000	

DOLPHIN-2 OPEN HOLE RFT PRESSURE DATA

OCTOBER 26-27TH 1989

913520 026

