BRIDGEWATER BAY-1

WELL COMPLETION REPORT

Bridgewater Bay No. 1

OIL and GAS DIVISION

ADDENDA

07 JUN 1984

W.C.R.

PHILLIPS PETROLEUM

66

PHILLIPS AUSTRALIAN OIL COMPANY

PERTH, WESTERN AUSTRALIA

W831

PE902250

WELL COMPLETION REPORT

Bridgewater Bay No. 1

PHILLIPS PETROLEUM 66

PHILLIPS AUSTRALIAN OIL COMPANY

PERTH, WESTERN AUSTRALIA

WELL COMPLETION REPORT

Bridgewater Bay No. 1

ADDENDA

CONTENTS

Addenda

*Interpretative and Confidential Data

ADDENDUM 1

FINAL REPORT

OFFSHORE NAVIGATION (AUSTRALIA) PTY. LTD.

PROJECT 1419

FOR

PHILLIPS AUSTRALIAN OIL COMPANY

VICTORIA, AUSTRALIA

WELL LOCATION BRIDGEWATER BAY #1

SEPTEMBER 1983

TABLE OF CONTENTS

I. INTRODUCTION

Offshore Navigation (Australia) Pty. Ltd.(ONA), under contract to Phillips Australian Oil Company (PHILLIPS), employed a Maxiran Radiopositioning System to position the Drilling Vessel (D/V) DIAMOND M EPOCH on a location that was designated by PHILLIPS as:

WELL LOCATION BRIDGEWATER BAY #1

The survey was conducted the Indian Ocean, off the coast of Victoria, Australia. The well was located approximately 17 kilometers, at a bearing of 192°, from Cape Bridgewater.

The ONA base of operation was established at Portland, Victoria on 3 September 1983.

II. FIELD OPERATIONS RECAP

The Maxiran system required to control this survey was stored in Melbourne and Portland from a previous operation. ONA personnel necessary for this operation travelled to Melbourne on 2 September 1983, and to Portland on 3 September. The Maxiran system was transported to Station Crows Hill on 4 September. The Maxiran system was calibrated at this station between 1200 and 1815 hours 4 September 1983. See "Maxiran Calibration" of this report for details.

On completion of the Maxiran calibration, the Maxiran base station equipment was transported to the three sites occupied to control the survey. Installation of the Maxiran base station equipment on these three sites was completed on 5 September 1983.

The ONA mobile operator and mobile equipment were transported via helicopter to the Drilling Vessel (D/V) DIAMOND M EPOCH on 6 September 1983, arriving on board the rig at 1345 hours that date. Installation of the Maxiran mobile equipment on board the D/V DIAMOND M EPOCH was completed at 2000 hours 6 September 1983.

II. FIELD OPERATIONS RECAP (continued)

Towing of the D/V DIAMOND M EPOCH to the well site was underway at 2400 hours 6 September 1983. Maxiran signals from Station Mount Warrnambool were acquired at 1500 hours 7 September, and signals were acquired from Station Cape Bridgewater at 1610 hours that date. Maxiran position fixes to assist the rig in navigating to Well Location BRIDGEWATER BAY #1 began at 1900 hours 7 September 1983.

The D/V DIAMOND M EPOCH arrived in the vicinity of the location area at 2400 hours 8 September 1983 and stood by for weather. The first anchor was set at 1030 hours 9 September. Some difficulty was experienced in setting the rig on location due to rough weather dragging the anchors. The anchors were secured, and the final Maxiran ranges were recorded at 0645 hours 16 September 1983. See Appendix A, Daily Operations Logs, of this report for details of operation.

II. FIELD OPERATIONS RECAP (continued)

The Maxiran mobile equipment and ONA mobile operator were transported to Portland by helicopter on 16 September 1983. The Maxiran mobile equipment was placed in storage in Portland. Dismantling of the three base stations was accomplished on 16 September. This equipment was placed in storage in Warrnambool, Victoria to await return transport to the ONA warehouse in Perth, W.A.

The ONA mobile operator was released from this survey on 16 September 1983. The remaining ONA personnel assigned to this survey were released on 17 September 1983.

III. GENERAL INFORMATION

A. Maxiran frequencies used were:

Mobile Transmitter	441 MHz
Base Transmitter	429 MHz

B. Satisfactory radiotelephone communications were maintained between the Maxiran stations on the frequency of 7840.0 (SSB) kilocycles.

C. The Maxiran field data was turned over to Mr. H. Stapleton, the PHILLIPS representative, on 16 September 1983. The final Maxiran ranges recorded were transmitted to the ONA office in Perth, W.A. for final computation.

D. Three Maxiran base station installations were provided by ONA for this survey.

E. Three Maxiran base station sites were occupied to control the survey. They were:

STATION CAPE BRIDGEWATER

STATION MOUNT RUSKIN

STATION MOUNT WARRNAMBOOL

III. GENERAL INFORMATION (continued)

In addition, Station Crows Hill was occupied to calibrate the Maxiran system, prior to the commencement of the survey.

F. The maximum range observed by the Maxiran system during this survey was 195 kilometers.

G. The Maxiran mobile equipment was checked daily for proper delay setting. The delay setting was determined by a Maxiran Calibration conducted on 4 September 1983.

IV. MAXIRAN CALIBRATION

The Maxiran system was calibrated on 4 September 1983, prior to the commencement of the Well Location BRIDGEWATER BAY #1 survey. For this calibration, the Maxiran system was transported to Station Crows Hill, and the equipment installed at two markers at this site. The Maxiran mobile equipment was installed at the Station Crows Hill marker, and the Maxiran base station equipment was installed at the calibration marker. The computed slope range of 1005 meters between the two markers was used to calibrate the system.

The following pages consist of the field report of this calibration.

(1)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM018	041	BEACON	NTL01	067 CODE 3
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTW 02	073	AMPLIFIER	NTW 02	055
AMPLIFIER P/S	NCW 01	038	AMPLIFIER P/S	NCW 01	020
PREAMP	SAW 12	111	PREAMP	SAW 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS RG8	74' ±13'		ANDREWS RG8	74' ±13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHz		TX. FREQUENCY	429 MHz	
RX. FREQUENCY	429 MHz		RX. FREQUENCY	441 MHz	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6015 KM

COMPUTED SLANT RANGE: 1005 KM

MOBILE ZERO SETTING IS: 5010 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1505

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

(2)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM018	041	BEACON	NTL01	089 CODE 3
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX TYPE	COAX LENGTH		COAX TYPE	COAX LENGTH	
ANDREWS-RG8	74' ±13'		ANDREWS-RG8	74' ±13'	
ANTENNA TYPE	ANTENNA HEIGHT		ANTENNA TYPE	ANTENNA HEIGHT	
OMNI	15'		QUADLPL	15'	
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
RX. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6000 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 4995 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1535 : 1605

SIGNED: J. O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
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(3)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM01B	041	BEACON	NTL01	036 CODE 5
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74' +13'		ANDREWS-RG8	74' +13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
RX. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6015 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 5010 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1605 : 1635

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
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(4)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMH018	041	BEACON	NTL01	064 CODE 5
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTH 02	073	AMPLIFIER	NTH 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX TYPE	LENGTH		COAX TYPE	LENGTH	
ANDREWS-RG8	74' ±13'		ANDREWS-RG8	74' ±13'	
ANTENNA TYPE	HEIGHT		ANTENNA TYPE	HEIGHT	
OMNI	15'		QUADLPL	15'	
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHz		TX. FREQUENCY	429 MHz	
RX. FREQUENCY	429 MHz		RX. FREQUENCY	441 MHz	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 5995 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 4990 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1700

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

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(5)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMH018	041	BEACON	NTL01	010 CODE 1
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74' +13'		ANDREWS-RG8	74' +13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
RX. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 5995 KM

COMPUTED SLANT RANGE: 1005 KM

MOBILE ZERO SETTING IS: 4990 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1700 : 1730

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
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(6)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" PREAMP TO DC BLOCK 8' RG8

MAXIRAN CALIBRATION REPORT

LINEAR IN "BYPASS" PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM018	041	BEACON	NTL01	006 CODE 1
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX TYPE	COAX LENGTH		COAX TYPE	COAX LENGTH	
ANDREWS RG8	74' ±13'		ANDREWS RG8	74' ±13'	
ANTENNA TYPE	ANTENNA HEIGHT		ANTENNA TYPE	ANTENNA HEIGHT	
OMNI	15'		QUADLPL	15'	
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHz		TX. FREQUENCY	429 MHz	
RX. FREQUENCY	429 MHz		RX. FREQUENCY	441 MHz	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6003 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 4998 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME: 1800

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

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(7) - different mobile linear

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" MAXIRAN CALIBRATION REPORT LINEAR IN "BYPASS"

PREAMP TO DC BLOCK 8' RG8 PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT.		
OPERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM018	041	BEACON	NTL01	006 CODE 1
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	006	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74' +13'		ANDREWS-RG8	74' +13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHz		TX. FREQUENCY	429 MHz	
RX. FREQUENCY	429 MHz		RX. FREQUENCY	441 MHz	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6003 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 4998 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME:

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

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different interrogator

(8)

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" PREAMP TO DC BLOCK 8' RG8

MAXIRAN CALIBRATION REPORT

LINEAR IN "BYPASS" PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION: CROWS HILL			LOCATION: CROWS HILL CAL. PT.		
PERATOR: J. O'REILLY			OPERATOR: D. HEAVERLO		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
ONITOR	NMM018	041	BEACON	NTL01	006 CODE 1
INTERROGATOR	NTM 01	050	CONTROL BOX	NCL 02	077
MPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
REAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74' ±13'		ANDREWS-RG8	74' ±13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
IPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
X. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
EATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 5998 KM

COMPUTED SLANT RANGE: 1005 KM

MOBILE ZERO SETTING IS: 4993 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME:

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
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(9)

Base Linear Amp in "Operate" mo

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" PREAMP TO DC BLOCK 8' RG8

MAXIRAN CALIBRATION REPORT

LINEAR IN "OPERATE" PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION:	CROWS HILL		LOCATION:	CROWS HILL CAL. PT	
OPERATOR:	J. O'REILLY		OPERATOR:	D. HEAVERLO	
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM018	041	BEACON	NTL01	006 CODE 1
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74' +13'		ANDREWS-RG8	74' +13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	OMNI	15'		QUADLPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
RX. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6014 KM

COMPUTED SLANT RANGE: 1005 KM

∴ MOBILE ZERO SETTING IS: 5009 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME:

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

(10) Mobile LPL Stock

OFFSHORE NAVIGATION, INC.

LINEAR IN "OPERATE" PREAMP TO DC BLOCK 8' RG8

MAXIRAN CALIBRATION REPORT

LINEAR IN "BYPASS" PREAMP TO DC BLOCK 8' RG8

DATE: 4 SEPT '83

MOBILE STATION			BASE STATION		
LOCATION:	CROWS HILL		LOCATION:	CROWS HILL CAL. PT.	
OPERATOR:	J. O'REILLY		OPERATOR:	D. HEAVERLO	
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NHM018	041	BEACON	NTL01	006 CODE 1
INTERROGATOR	NTM 01	009	CONTROL BOX	NCL 02	077
AMPLIFIER	NTN 02	073	AMPLIFIER	NTN 02	055
AMPLIFIER P/S	NCN 01	038	AMPLIFIER P/S	NCN 01	020
PREAMP	SAN 12	111	PREAMP	SAN 12	145
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	ANDREWS-RG8	74'+13'		ANDREWS-RG8	74'+13'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	QUAD LPL	15'		QUAD LPL	15'
INPUT VOLTAGE	115 VAC		INPUT VOLTAGE	115 VAC	
TX. FREQUENCY	441 MHZ		TX. FREQUENCY	429 MHZ	
RX. FREQUENCY	429 MHZ		RX. FREQUENCY	441 MHZ	
RX. GAIN SETTING	AGC		RX. GAIN SETTING	AGC	
WEATHER CONDITIONS	COOL, CLOUDY, WIND		WEATHER CONDITIONS	SAME	

OBSERVED RANGE IN CALIBRATE: 6009 KM

COMPUTED SLANT RANGE: 1005 KM

MOBILE ZERO SETTING IS: 5004 KM

OBSERVED RANGE IN OPERATE: 1005 KM TIME:

SIGNED: J O'Reilly

NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

V. WELL LOCATION INFORMATION

The following information pertains to the positioning of the D/V DIAMOND M EPOCH on Well Location BRIDGEWATER BAY #1

Coordinates of the desired location were obtained from PHILLIPS as:

Latitude	38°32'26".13 S	N = 5,734,126 meters
Longitude	141°21'42".06 E	E = 531,520 meters

The D/V DIAMOND M EPOCH was secured on location, and the following final Maxiran ranges were recorded at 0645 hours 16 September 1983, with the Maxiran mobile equipment installed on board the rig:

Sta. Mt. Ruskin to mobile antenna	64.858 kilometers
Sta. Bridgewater to mobile antenna	17.354 kilometers
Sta. Mt. Warrnambool to mob. antenna	122.859 kilometers

At the time these final Maxiran ranges were recorded, the drill stem was 20 meters, at a bearing of 029° True, from the Maxiran mobile antenna.

V. WELL LOCATION INFORMATION (continued)

FINAL COMPUTED COORDINATES - WELL LOCATION BRIDGEWATER BAY #1 (Drill stem)

Latitude 38°32'25".97 S N = 5,734,130 meters
Longitude 141°21'47".95 E E = 531,663 meters

RESIDUALS

Mt. Ruskin = -0.47 meter
Bridgewater = +0.48 meter
Mt. Warrnambool = -0.37 meter
Least square adjusted tie = .769 meter
From desired to final position = 142.77 m. @ 088.055° True

The final coordinates of the drill stem were derived by applying a propagation factor of .999945, and the reported offset and bearing, to the final Maxiran ranges recorded.

Coordinates of the desired and final position are expressed in the Universal Transverse Mercator Projection, Australian National Spheroid of Reference, Zone 54, Central Meridian 141° East, AUSTRALIAN GEODETIC DATUM.

VI. BASIC CONTROL

Coordinates of the three Maxiran base stations occupied to control this survey and of Station Crows Hill, occupied to calibrate the Maxiran system, were obtained from the Lands and Surveys Department, Victoria.

Universal Transverse Mercator Projection
Australian National Spheroid
Zone 54
Central Meridian 141° East
AUSTRALIAN GEODETIC DATUM

STATION CAPE BRIDGEWATER:

Latitude	38°23'17".21 S	N = 5,751,029 meters
Longitude	141°24'22".81 E	E = 535,487 meters
Elevation	135 meters	

STATION CROWS HILL:

Latitude	38°14'50".68 S	N = 5,766,393 meters
Longitude	141°49'48".04 E	E = 572,628 meters
Elevation	41 meters	

STATION MOUNT RUSKIN:

Latitude	38°02'54".56 S	N = 5,788,789 meters
Longitude	140°57'49".58 E	E = 496,821 meters
Elevation	38 meters	

VI. BASIC CONTROL

STATION MOUNT WARRNAMBOOL:

Latitude	38°18'25".83 S	N = 5,758,658 meters
Longitude	142°44'18".21 E	E = 651,993 meters
Elevation	219 meters	

VII. PERSONNEL

NAME	POSITION
Heaverlo, D.	Party Chief
O'Reilly, J.	Mobile Operator
Rounds, R.	Base Operator
Ward, G.	Base Operator
Wells, G.	Base Operator

VIII. DISTRIBUTION

Phillips Australian Oil Company
23rd Floor, City Centre Tower
48 St. Georges Terrace
Perth, W.A. 6000
AUSTRALIA

Attention: Mr. R.F.C. Chase — Four copies

Offshore Navigation, Inc.
Post Office Box 23504
Harahan, Louisiana 70183
U.S.A. — Two copies

Offshore Navigation (Australia) Pty. Ltd.
Post Office Box 291
Cloverdale, W.A. 6105
AUSTRALIA — One copy

STATION: CAPE BRIDGEWATER

LOCATED: The station is located near the township of Cape Bridgewater, approximately 19 kilometers west of Portland, Victoria, Australia.

ACCESS: From Portland, drive west for approximately 16 kilometers to a road fork. A sign indicating "Bridgewater Bay" will be on the left, and a sign indicating "Bridgewater Lakes" will be on the right. Take the left fork and drive to the village of Bridgewater, a distance of approximately 3 kilometers from the road fork.

On entering the village, turn left at the first intersection past the meeting hall, staying on the sealed road. If you continue straight at this point (towards Blow Holes), the road will become dirt. Just after making a hard right turn, a house will be seen to your left. This is the home of Mr. J. Doyle. The station is located on his property. A track, as indicated in the sketch, leads to the station site.

MARKER: The physical description of the marker was not submitted from the field operations. Mr. Doyle should be able to point out the marker. The Maxiran tower was erected 2 meters, at a bearing of 090° Magnetic, from the marker.

GENERAL: A 40-foot tower was erected at this station. A minimum tower height of 20 feet is required to clear surrounding obstructions. Clear vista has not been reported. Star stakes were used to secure the tower.

Mr. J. Doyle can be contacted at telephone number 055-26-7213. Permission must be obtained

STATION: CAPE BRIDGEWATER (continued)

from Mr. Doyle to set a station on his property. No rent was paid for the use of the property.

ELEVATION: 135 meters

SKETCH: See next page.

Coordinates of the trig marker were obtained from the Lands & Surveys Department, Victoria.

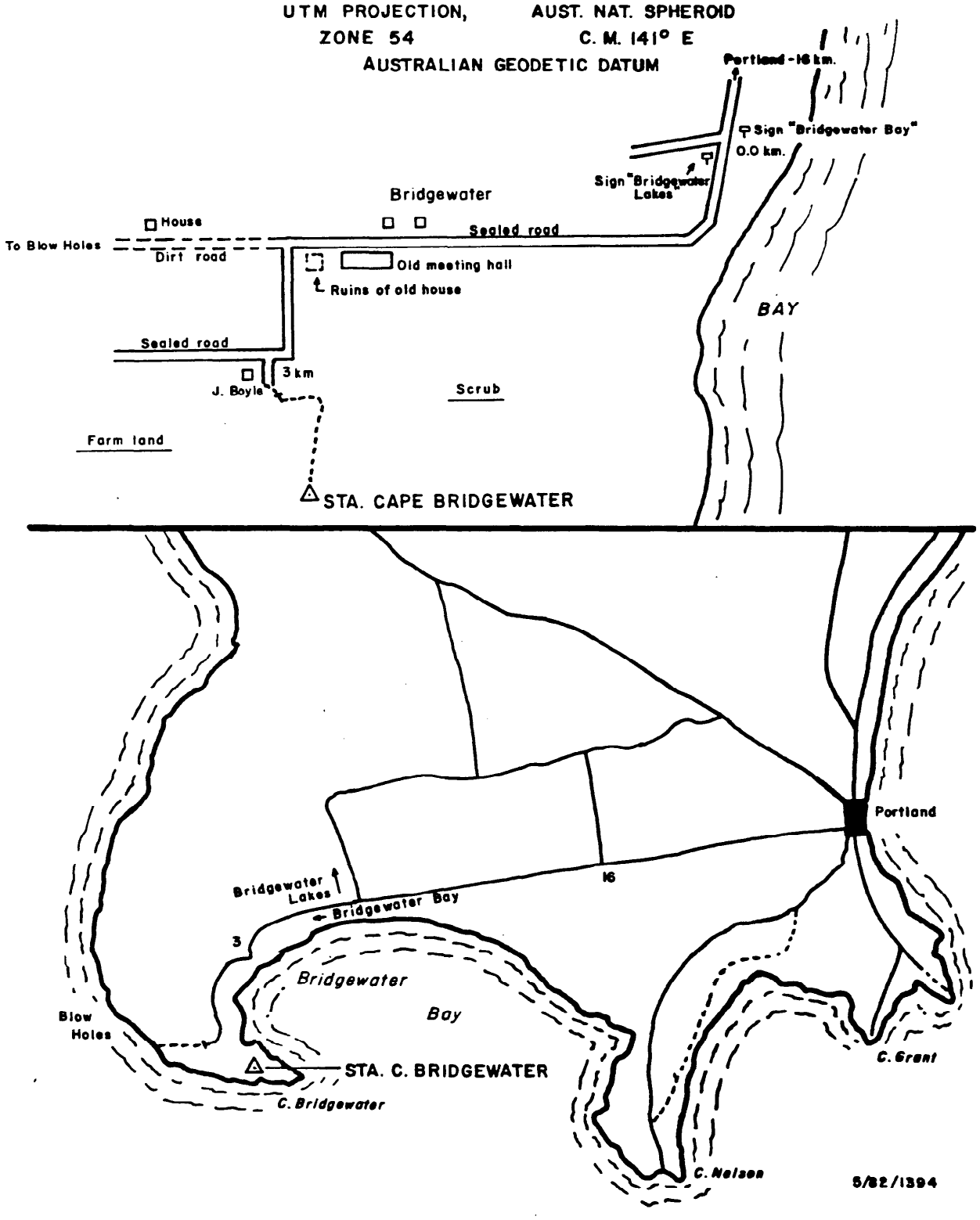
UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID
ZONE 54, C.M. 141° EAST ---------- A.G.D.

Lat. 38°23'17".21 S N = 5,751,029 meters
Long. 141°24'22".81 E E = 535,487 meters

STA. CAPE BRIDGEWATER ——— AUSTRALIA

LAT. 38°23' 17".21 S N 5,751,029 meters
LONG. 141°24' 22".81 E E 535,487 meters
ELEV. 135 meters

UTM PROJECTION, AUST. NAT. SPHEROID
ZONE 54 C. M. 141° E
AUSTRALIAN GEODETIC DATUM



STATION: CROWS HILL

LOCATED: Station Crows Hill is located approximately 50 kilometers by road from Portland, Victoria, Australia. The station is located on the highest hill in the area. This hill is used for sighting missing sea crafts. Portland Harbor and the sea are visible from the site. The station is approximately 5 kilometers from the beach and the Fitzroy River Outlet.

The ground around the station marker is made up of small rocks. The area around the station is farming land, and is a great fire risk in summer. All gates must be closed after use on this site. The key to the gates can be obtained from the farm house shown on the Sketch.

ACCESS: From Portland, travel 16 kilometers on the Henry Highway, and turn right at the intersection of Princess Highway. This road will pass through Narrawong (32 kilometers from Portland), and the small farming community of Tyrendarra. Twelve kilometers past Tyrendarra, turn right onto a road signposted "Fitzroy River Outlet". Drive on this road for approximately 5 kilometers to a fork, and turn right. Drive another 1 kilometer to where the road makes a sharp left bend, and a metal road continues straight. Continue straight at this point on the metal road, and pass up a gateway. Turn left at the second gateway, and follow the track to the station site.

MARKER: The trig marker stands approximately 14 feet high, and is made from 2-inch diameter pipe built in a triangular shape. This marker can be seen from the main road.

The ONA marker, consisting of a concrete block, with a 1/2-inch galvanized pipe protruding 1 feet above ground level, is located 5 feet from the trig. The galvanized pipe is marked "ONI".

STATION: CROWS HILL (continued)

GENERAL: All necessary supplies, labor, and water can be obtained in Portland. Some water may be available from the nearby farms, if required.

Strong winds can be experienced at this station. The weather is fairly changeable, and the site may be infested with flies. Some precautions should be taken. The months of April through August are very wet and cold.

A 40-foot tower was erected at this site, the minimum tower height required to clear surrounding obstructions. Clear vista is from 270° to 090°. Star stakes were used to secure the tower.

ELEVATION: 41 meters

SKETCH: See next page.

Coordinates of the trig marker were obtained from the Lands & Surveys Department, Victoria.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID
ZONE 54, C.M. 141° EAST ---------- A.G.D.

Lat. 38°14'50".68 S N = 5,766,393 meters
Long. 141°49'48".04 E E = 572,628 meters

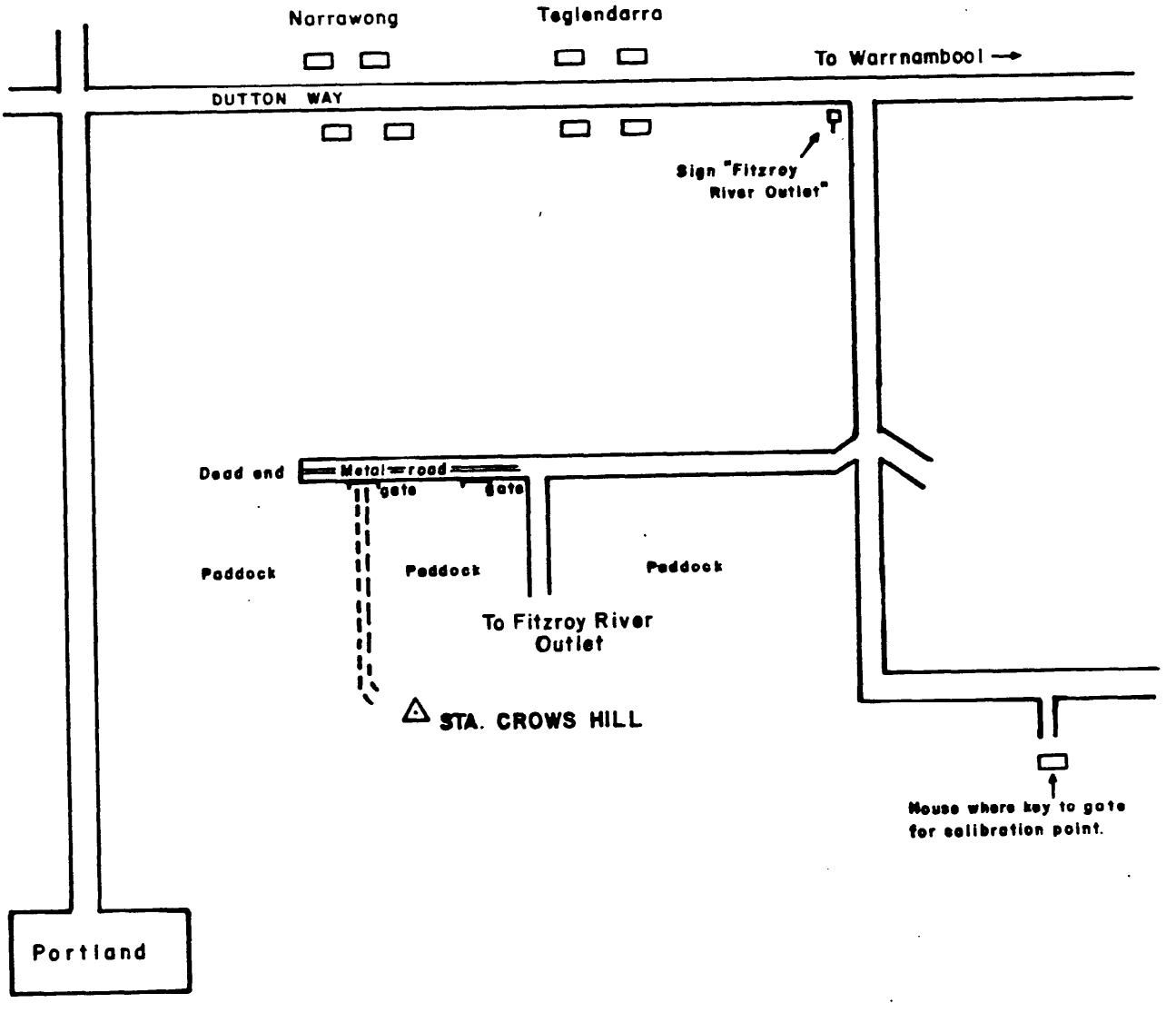
STA. CROWS HILL — AUSTRALIA

PHILLIPS COORDINATES

LAT. 38°14' 50".68 S
LONG. 141°49' 48".04 E
ELEV. 41 meters

N 5,766,393 meters
E 572,628 meters

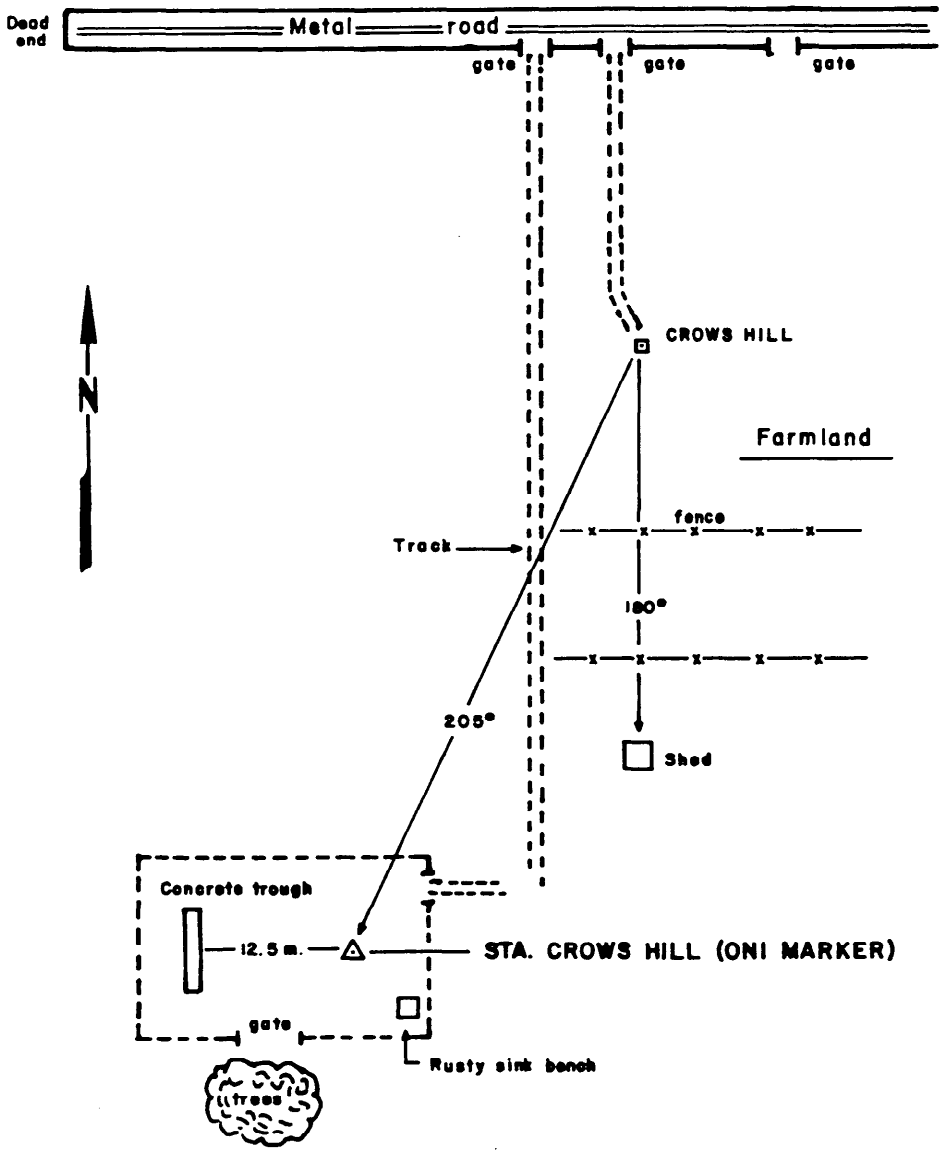
UTM PROJECTION, ZONE 54
AUST. NAT. SPHEROID
C.M. 141° E
AUSTRALIAN GEODETIC DATUM



9/83/1419

STA. CROWS HILL ——————— AUSTRALIA

STATION DETAILS



9/83/1419

STATION: MOUNT RUSKIN

LOCATED: Station Mount Ruskin is located on the Victoria-South Australia border, about 4 miles west of the township of Nelson, Victoria. The station is on a prominent hill, which can be seen from the Port Nelson - Mount Gambier Highway at the border sign. The station is in a large paddock on the farm of Mr. Max Holaway.

ACCESS: From the Portland, Victoria General Post Office building, set the vehicle's odometer to 0.00 kilometer, and travel on the North Princess Highway for 2.7 kilometers to a Shell garage. Turn left at this point, remaining on the Princess Highway, and drive to Nelson. At 65.2 kilometers, and in the township of Nelson, a Mobil garage will be passed. Continue on the Princess Highway, crossing a bridge that is over the Elenee River at 65.5 kilometers, pass the entrance to Mr. Holaway's house at 68.5 kilometers, and drive to a gate on the left hand side of the road at 69.3 kilometers, just past the Victoria - South Australia border. Turn left and go through the gate. Follow the track from the gate to the station, a distance of 1.4 kilometers. A four-wheel drive vehicle is required to negotiate the track during periods of wet weather.

MARKER: The station marker consists of a standard Victorian Department of Lands & Surveys marker, a circular concrete wheel with a metal pin in its center. A 12-foot steel quadruped sits over the marker.

Mr. Holaway's house is located approximately 1 kilometer, at a bearing of 080°, from the marker. A windmill and tank is approximately one-half kilometer away from the marker, at a bearing of 180°.

STATION: MOUNT RUSKIN (continued)

GENERAL: All food, fuel, oil, and water supplies can be purchased in either Nelson or Portland. Water from the bores in the station area is suitable for drinking. Labor is available in Portland at approximately $40.00 per day.

The station property owner, Mr. Max Holaway, must be notified when this station is to be occupied, and permission obtained. No rent was paid for the use of the property.

A 60-foot tower was erected at this station. A minimum tower height of 40 feet is required to clear surrounding obstructions. Clear vista is from 120° to 250°. Double star stakes are required to secure the tower, due to strong winds that can be experienced in this area. Difficulty can be experienced in trying to keep a tent up in these winds. A caravan, to house the equipment and operator, is required.

ELEVATION: 38 meters

SKETCH: See next page.

Coordinates of the trig marker were obtained from the Lands & Surveys Department, Victoria.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID
ZONE 54, C.M. 141° EAST ---------- A.G.D.

Lat. 38°02'54"56 S N = 5,788,789 meters
Long. 140°57'49"58 E E = 496,821 meters

STA. MOUNT RUSKIN——————AUSTRALIA

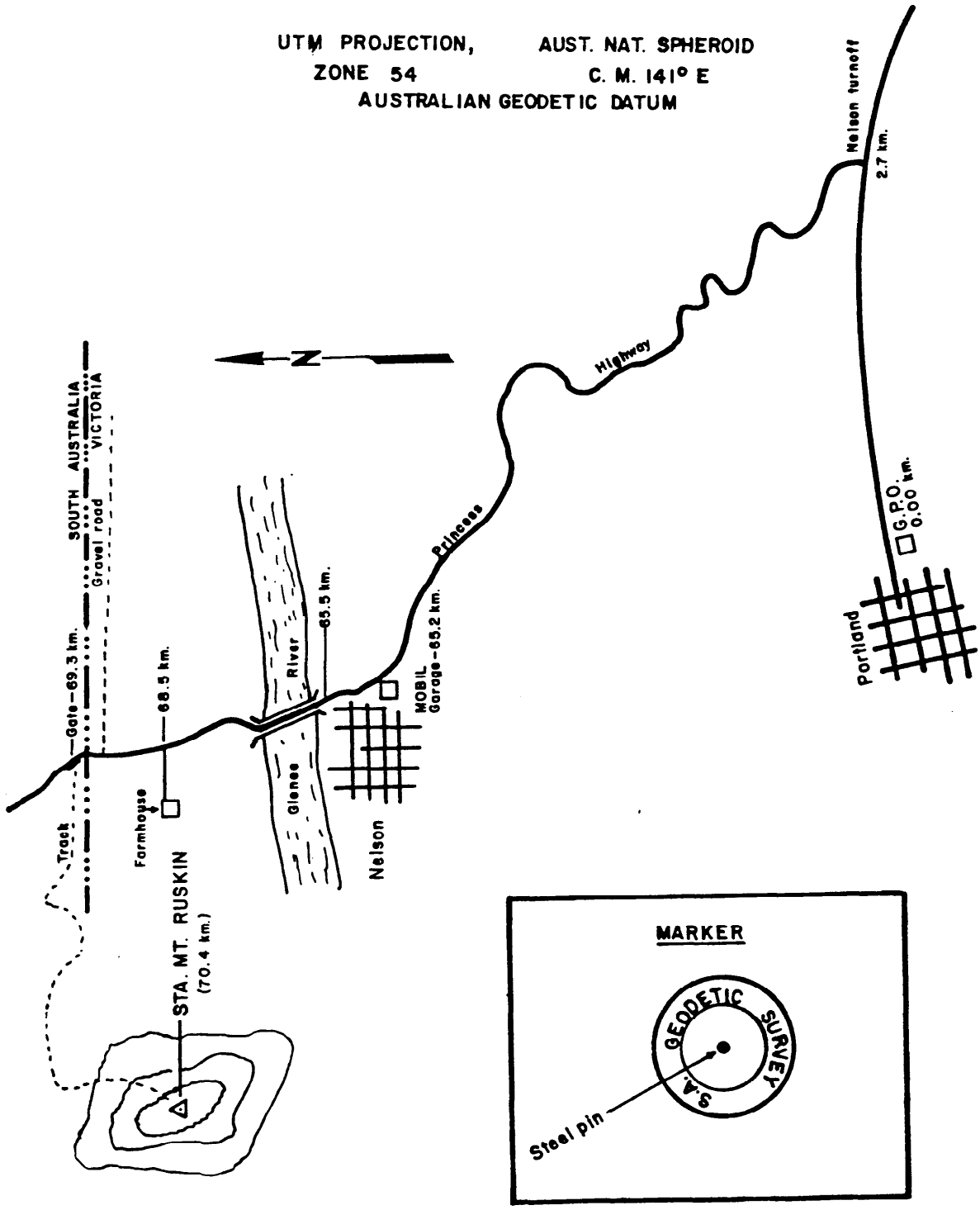
PHILLIPS COORDINATES

LAT. 38°02' 54".56 S — N 5,788,789 meters

LONG. 140°57' 49".58 E — E 496,821 meters

ELEV. 38 meters

UTM PROJECTION, AUST. NAT. SPHEROID
ZONE 54 C. M. 141° E
AUSTRALIAN GEODETIC DATUM



1/81/1201

STATION: MOUNT WARRNAMBOOL

LOCATED: Station Mount Warrnambool is located approximately 26 kilometers northeast of Warrnambool, Victoria, Australia. The hill on which the station site is located can be seen from the main road leading out of Warrnambool. There is a forestry lookout located on the only flat spot on the hill.

The hill is covered with grass, and slopes steeply on all sides.

ACCESS: From Warrnambool, proceed east on the Princess Highway for 25.2 kilometers, passing through the towns of Allansford (11.26 km.), and Panmure (21 km.). At 25.2 kilometers, a gate, old quarry, and fire tank will be seen on the left side of the road. Drive through the gate, and proceed about 0.8 kilometer to the farm house of Mr. J. O'Donaghue. This farm house is at the base of the hill (Mount Warrnambool). From the farm house, drive towards the dairy shed, then follow the track to the top of Mount Warrnambool, and the station site. A four-wheel drive vehicle was used to reach this station during a previous survey. The track to the station is very slippery when wet.

MARKER: The survey marker consists of a brass plaque set in a 9-inch square steel box 6 inches below ground level. The outside of the box is inscribed "GEODETIC SURVEY VICTORIA", and the inside is inscribed "TRIANGULATION STATION". A 12-1/2-foot high normal steel quadruped, with circular vanes, has been constructed directly over the marker. The forestry fire lookout hut is located 120 feet at a bearing of 270° from the marker. This hut is 10 feet high, octagonal in shape, and built in 1980.

GENERAL: All food supplies required can be obtained from any of the several large stores in Warrnambool. Fuel and oil can be obtained from the SHELL Depot in Warrnambool. Mr. Paynter is in charge. Water can be obtained from the farm house, with permission.

STATION: MOUNT WARRNAMBOOL (continued)

During the later part of the year, the prevailing winds at this site are mainly from the north-east at an average velocity of 40 knots. It can also become very cold and rainy at this time of the year.

Livestock need watching, as they tend to use anchors as back scratchers.

A caravan was used on this site during October 1980. The caravan was hired at very reasonable rates from Rex Caravan Hire in Warrnambool. The Shire Health Inspector insists that a portable toilet be brought to this site. This was also obtained from Rex Caravan Hire.

The station site is located on land owned by Mr. J. O'Donaghue (phone 055-676210). Permission to occupy the station site must be obtained from Mr. O'Donaghue and from the Warrnambool Shire Council. No rent was paid for its use.

A 60-foot tower was erected at this station. A minimum of 30 feet is required to give clear vista of 360°. Star stakes were used to secure the tower.

ELEVATION: 219 meters

SKETCH: See next page.

Coordinates of the trig marker were obtained from the Lands & Surveys Department, Victoria.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID
ZONE 54, C.M. 141° EAST ---------- A.G.D.

Lat. 38°18'25.83 S N = 5,758,658 meters
Long. 142°44'18.21 E E = 651,993 meters

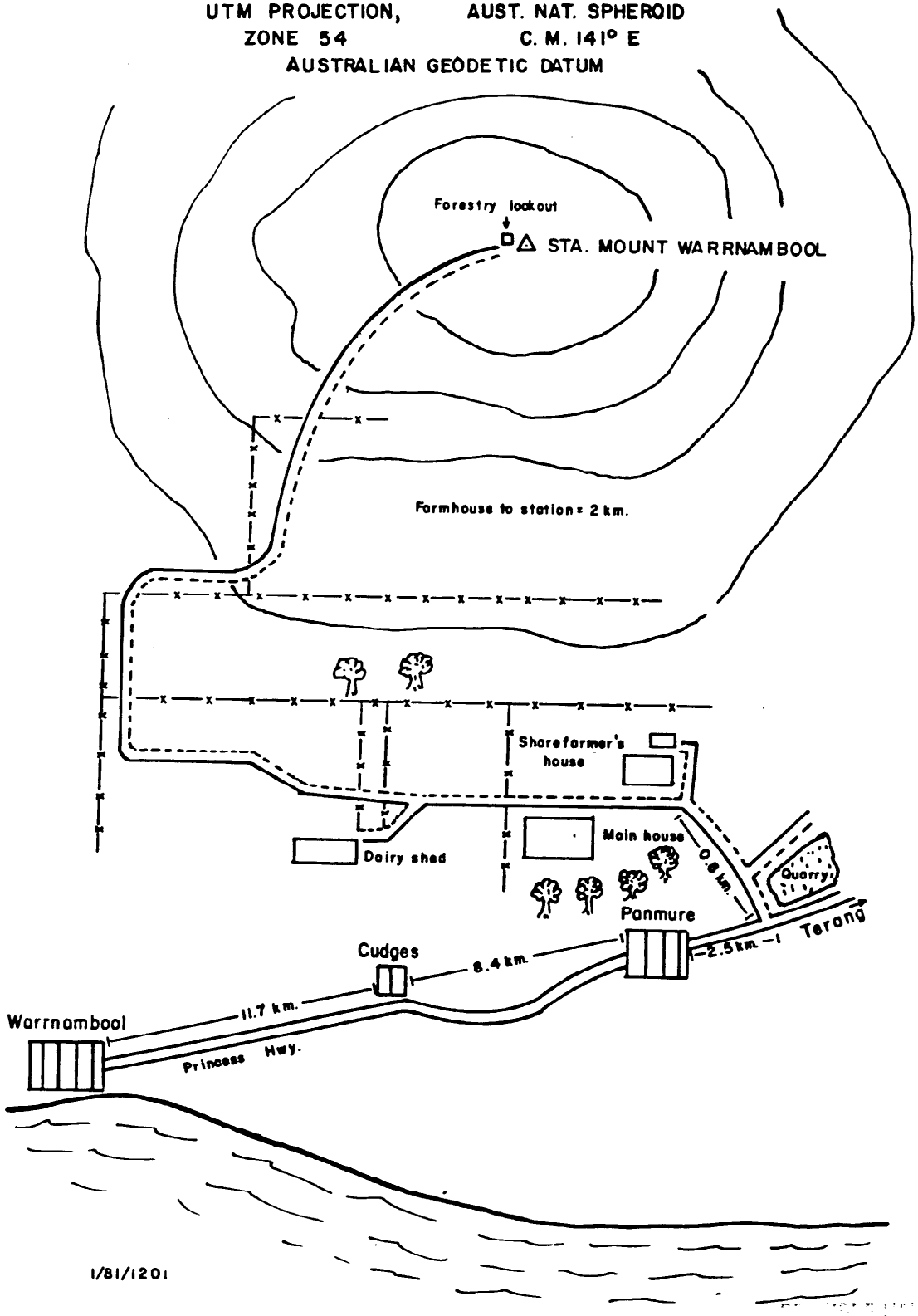
STA. MOUNT WARRNAMBOOL——AUSTRALIA

PHILLIPS COORDINATES

LAT.	38° 18' 25".83 S	N	5,758,658 meters
LONG.	142° 44' 18".21 E	E	651,993 meters
ELEV.	219 meters		

UTM PROJECTION, ZONE 54 — AUST. NAT. SPHEROID C. M. 141° E

AUSTRALIAN GEODETIC DATUM



1/81/1201

WELL BRIDGEWATER BAY NO. 1—AUSTRALIA

LAT. 38°32' 25".97 S N 5,734,130 meters
LONG. 141°21' 47".95 E E 531,663 meters

UTM PROJECTION, ZONE 54
AUST. NAT. SPHEROID
C.M. 141° E
AUSTRALIAN GEODETIC DATUM

9/83/1419

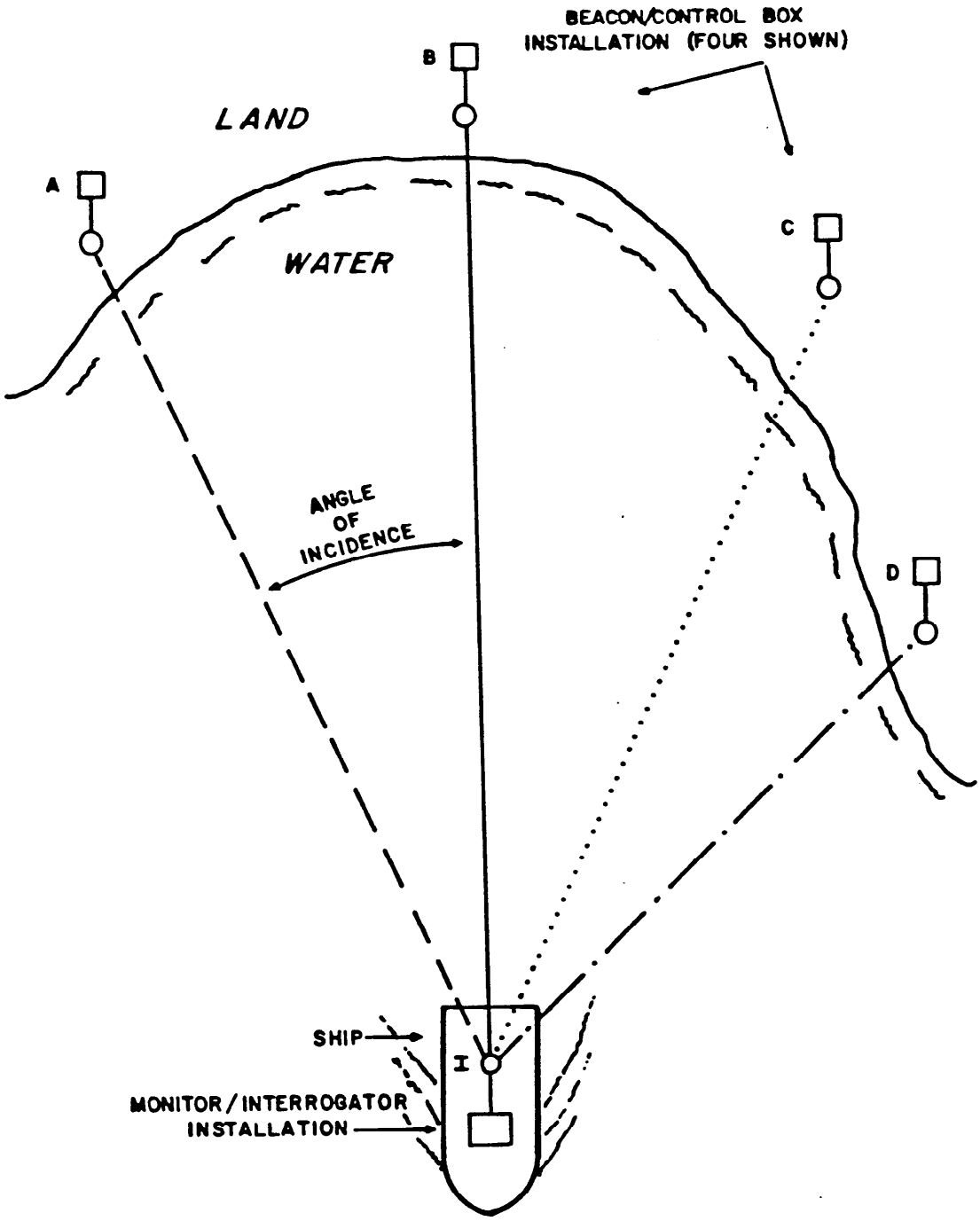
I. THE MAXIRAN RADIOPOSITIONING SYSTEM

The Maxiran Radiopositioning System is a precision electronic ranging system, capable of both manual and automatic tracking of range. It is especially useful for measuring distances across bodies of water.

The use of the Maxiran requires three or more electronic installations. For the purposes of this discussion, one of these installations is assumed to be aboard a ship (see Figure 1). This installation consists of the Maxiran Monitor and Interrogator. The other installations are located onshore. Each of these installations consist of a Maxiran Beacon and a Control Box. There are two or more of the Beacon Control Box installations situated at appropriate locations onshore.

In operation, the Monitor/Interrogator installation transmits a radio signal (containing a Beacon-Select code which addresses a selected Beacon) which is picked up by all of the Beacon/Control Box installations. Each Beacon decodes the received signal and decides whether the Beacon-Select code transmitted corresponds to that Beacon. If the Beacon-Select code is correct for a

FIGURE-1. TYPICAL MAXIRAN SYSTEM



APPENDIX A

DAILY OPERATIONS LOGS

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number H19 Date 2-3 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number well location Bridgewater No.

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 Kcs

Country AUSTRALIA Area/Prospect BRIDGEWATER - 1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For

O/T Requested By | Total System - Hours Operation for Client

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks Sept 2nd. Heaverlo and Rounds travel from perth to Melbourne.
Sept 3rd. Heaverlo, Rounds, O'Reilly, and Ward travel from Melbourne to portland. Wells travels from New Zealand to Melbourne.

Mobile Operators T. O'REILLY

Party Chief D Heaverlo

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

well location

Project Number 419 Date 4-5 SEPT 1983 Boat DIAMOND M EPOCH Client Bridgedwater No. Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 Kcs

Country AUSTRALIA Area/Prospect BRIDGEWATER - 1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
1200	1815	client	calibration Sept 4th.

O/T Requested By — Total System - Hours Operation for Client: 18¼ Hrs

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

Sept 4th. T1130 arrive at Sta Crows Hill
T1200 in operate.
T1815 complete calibration, see calibration sheets.
G. Wells travels to Warrnambool station.

Sept 5th. O'Reilly and Heaverlo to Warrnambool station to pick up truck.
O'Reilly continues on to Melbourne with Mobile equipment.
Heaverlo returns to Portland. Rounds and Ward set up Station Bridgewater.

Mobile Operators T. O'REILLY

Party Chief D. Heaverlo

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 1419 Date 6 SEPT '83 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 7840 KHZ

Country AUSTRALIA Area/Prospect BRIDGEWATER #1 Stepback Shot Point Interval

Mobile tation	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	WHIP

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay

OPERATING TIME

Time On	Time Off	Requested By	System Used For

O/T Requested By | Total System - Hours Operation for Client

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

1345: ARRIVE ABOARD "DIAMOND M EPOCH" VIA CHOPPER WITH MOBILE EQUIPMENT. COMMENCE INSTALLING SAME.

2000: MOBILE SYSTEM INSTALLED AND CHECKED OUT.

2400: AS ABOVE. ENROUTE LOCATION BRIDGEWATER #1 OFF PORTLAND VICTORIA.

Mobile Operators James D O'Reilly

Party Chief R Hawyle

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number: 419 Date: 7 SEPT 1983 Boat: DIAMOND M EPOCH Client Party Number:
Geophysical Company: Oil Company: PHILLIPS Radio Frequency: 1840 Kcs
Country: AUSTRALIA Area/Prospect: BRIDGEWATER - 1 Stepback: Shot Point Interval:

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0700	2400	CLIENT	RIG LOCATION

O/T Requested By | Total System - Hours Operation for Client: 17 Hr

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0700: MOBILE SYSTEM T
1500: ACQUIRE STA. WARRNAMBOOL 100+ KM. GOOD SIGNAL
1610: ACQUIRE STA. BRIDGEWATER 195+ KM. GOOD SIGNAL
1900: 2400: TAKING NAV FIXES. NO SIGNAL OF MT. RUSKIN

Mobile Operators: J. O'Riley
Party Chief: D. Heaverlo

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 1419 Date 8 SEPT '83 Boat DIAMOND M EPOCH Client Party Number
Geophysical Company Oil Company PHILLIPS Radio Frequency 7840 Kcs.
Country AUSTRALIA Area/Prospect BRIDGEWATER #1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By | Total System - Hours Operation for Client 24 hr.

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks 0700: ACQUIRE MT. RUSKIN STA 118 + K. GOOD SIG.

	RUS	BRIDGE	WARR
1130: 3wf	81.632	27.789	104.289
1200: " "	77.483	23.847	107.364
1230: " "	72.773	19.381	110.253
1302: " "	68.877	15.694	112.393
1349: " "	67.250	13.906	112.527
1410:	66.827	13.393	112.369
1534:	65.962	12.450	112.524
1550:	66.352	12.846	112.383
1603:	66.608	13.073	112.194
1815:	70.853	17.126	109.557

2400: STBY VICINITY BRIDGEWATER #1 AWAITING WEATHER - TOO ROUGH TO HANDLE ANCHORS AT PRESENT

Mobile Operators J O'Reilly

Party Chief D Heavey

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 1419 Date 9 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number
Geophysical Company Oil Company PHILLIPS Radio Frequency 7840 Kcs.
Country AUSTRALIA Area/Prospect BRIDGEWATER #1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0600	2400	CLIENT	RIG LOCATION

O/T Requested By

Total System - Hours Operation for Client: 24 hr

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks 0700: 3WF WARR 108.781 B.WATER 23.894 RUSK 77.262
1030: SET ⚓ #7 WAR 121.831 BWATER 17.062 RUSK 65.268

1235: ⚓ #2 ON BOTTOM
1729: 3WF WAR 122.977 B'WATER 17.369 RUSKIN 64.779
2400: RUNNING ANCHORS

Mobile Operators [signature]
Party Chief [signature]

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 1419 Date 10 SEPT '83 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 7840 Kcs

Country AUSTRALIA Area/Prospect BRIDGEWATER "J" Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	#41	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROWNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	136	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By — Total System - Hours Operation for Client: 24

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0000: RUNNING ANCHORS (PIGGYBACKS)

0830: 3WF WARR. 122.962 B.WATER 17.344 RUSKIN 64.759

2400: STBY ON LOCATION

Mobile Operators J O'Reilly

Party Chief D Reeves

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 1419 Date 11 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number
Geophysical Company Oil Company PHILLIPS Radio Frequency 7840 KCS
Country AUSTRALIA Area/Prospect BRIDGEWATER #1 Stepback Shot Point Interval

Mobile ation	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROHNOS	"	067	055	3	5021
PT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
1000	2400	CLIENT	RIG LOCATION

O/T Requested By — Total System - Hours Operation for Client 24

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks 0000: STBY ON LOCATION
0350: RIG DRAGGING - HIGH WINDS - NO SIG BRIDGEWATER OR WARR
0515: POSITION: RUSKIN 64.794 B'WATER 17.367
RIG HAS DRAGGED 130 FT. EAST SINCE LAST NIGHT
0700: FIX RUSKIN 64.789 BRIDGEWATER 17.360
1030: SAME
1720: SAME
2400: SAME POSITION: AWAITING WX

Mobile Operators J. Kelly
Party Chief D. Heaweld

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 419 Date 12 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 Kas

Country AUSTRALIA Area/Prospect BRIDGEWATER - 1 Stepback Shot Point Interval

Mobile ation	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By — Total System - Hours Operation for Client 24 Hrs

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0000: AWAITING CALMER WEATHER

1440: WORK BOATS AT RIG: START HANDLING ANCHORS - RESPOTTING DRAGGED ONES & PIGGY BACKING.

1530: 3WF WARR 122.972 D'WATER 17.368 RUSK 64.783 Δ TO MOONPOOL 104° 28 mtrs.

2400: WORKING ANCHORS - ANCHORS NOT HOLDING

Mobile Operators J O'Reilly

Party Chief A Hawes

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number: 419 Date: 13 SEPT 1983 Boat: DIAMOND M EPOCH Client Party Number:
Geophysical Company: Oil Company: PHILLIPS Radio Frequency: 1840 Kcs
Country: AUSTRALIA Area/Prospect: BRIDGEWATER - 1 Stepback: Shot Point Interval:

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROWNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By | Total System - Hours Operation for Client: 24 Hr

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0000: TENSIONING ANCHOR CABLES - ANCHORS DRAGGING
0810: FIX B'WATER 17.325 RUSKIN 64.842
MOONPOOL NOW 495 FT. EAST OF LOCATION
2105: FIX BWATER 17.319 RUSKIN 64.841
MOONPOOL 508 FT. 84.5° from LOCATION
2400: AS ABOVE - ANCHORS NOT HOLDING

Mobile Operators: J. O'Reilly
Party Chief: D. Heaveflo

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number: H19 Date: 14 SEPT 1983 Boat: DIAMOND M EPOCH Client Party Number:
Geophysical Company: Oil Company: PHILLIPS Radio Frequency: 7840 Kas
Country: AUSTRALIA Area/Prospect: BRIDGEWATER - 1 Stepback: Shot Point Interval:

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROWNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By: Total System - Hours Operation for Client: 24

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0000: STBY LOCATION
0645: FIX BWATER 17.316 RUSKIN 64.838
ANT TO MOONPOOL 103° 28 m
MOONPOOL TO LOC. 567' 86°
1530 * FIX WAR 122.807 BWATER 17.336 RUSKIN 64.876
ANT → MOONPOOL = 025° 28 mtr. =
616 FT. 264° MOONPOOL → LOCATION.
2000: POSITION AS ABOVE
2400: AS ABOVE - ANCHORS PROBLEMS

* MOVED MAXIRAN ANTENNA TO PORT SIDE OF HELIDECK PRIOR TO THIS FI

Mobile Operators: J. O'REILLY
Party Chief: D Hancock

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 419 Date 15 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 KHz

Country AUSTRALIA Area/Prospect BRIDGEWATER #1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	2400	CLIENT	RIG LOCATION

O/T Requested By — Total System - Hours Operation for Client: 24 HR

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0800 ! 3WF RUS 64.817 BRIDGEWATER 17.352 WARRN 122.832
20° 20 mtr. ANT TO DRILLSTEM
1040 ! 3WF 64.865 17.359 122.859
30° 20 mtr ANT TO DRILLSTEM
1245 ! 64.859 17.357 122.864
29° 20 mtr ANT TO DRILLSTEM ~ ALL LS TESTED
AND AT WORKING TENSION BEFORE THIS FIX

Mobile Operators James D Reilly

Party Chief D Hewett

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 419 Date 16 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 KcS

Country AUSTRALIA Area/Prospect BRIDGEWATER ~ 1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROWNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
0000	1130	CLIENT	RIG LOCATION

O/T Requested By — Total System - Hours Operation for Client: 11½ hrs

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks

0000 : ON LOCATION

0645 : FIX WARR 122.859 B'WATER 17.354 RUSK 64.858

ANT. TO DRILLSTEM = 20 m. 029°

1130 Secure stations. Demob mobile equipment.

1400 Fly mobile equipment to Portland airport. Heaverlo meets helicopter and stores mobile equipment. All base stations returned to Portland. O'Reilly to Melbourne.

Mobile Operators J. O'REILLY

Party Chief D. Heaverlo

Form N-1A SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.
MAXIRAN DAILY OPERATIONS LOG

Project Number 419 Date 17 SEPT 1983 Boat DIAMOND M EPOCH Client Party Number

Geophysical Company Oil Company PHILLIPS Radio Frequency 1840 KHz

Country AUSTRALIA Area/Prospect BRIDGEWATER - 1 Stepback Shot Point Interval

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441	009	041	073	OMNI

BASE STATIONS

Position	Operator	Frequency	Beacon	Amplifier	Code	Delay
WARRNAMBOOL	G. WELLS	429	010	036	1	5001
BRIDGEWATER	R. ROUNDS	"	067	055	3	5021
MT. RUSKIN	G. WARD	"	036	032	5	5021

OPERATING TIME

Time On	Time Off	Requested By	System Used For
none			

O/T Requested By | Total System - Hours Operation for Client

LOST TIME

From	To	Hours Lost	Reason(s)

Brief Operations Log & Remarks All equipment taken to Warrnambool and stored. Project completed. Crew returns to Perth.

Mobile Operators J. O'REILLY

Party Chief D. Heaverlo

Form N-1A

SEE INSTRUCTIONS ON REVERSE

APPENDIX B

THE MAXIRAN RADIOPOSITIONING SYSTEM

I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

Beacon, it responds by transmitting a radio signal reply. The Monitor measures the amount of time elapsed between the Interrogator's transmission and the received reply sent by the Beacon. Since, for all practical purposes, radio signals travel at a known speed, the time elapsed between transmission and response is a measure of the distance the radio signal travelled. The elapsed time is converted by the Monitor into distance and then displayed. Knowing the location of the land stations and the current distance from the ship to each of them, the position of the ship can be readily calculated.

For the purposes of this discussion, let us first assume that only two Beacons are being utilized. They are the Beacons marked "A" and "B" in Figure 1. Since the distance from Beacon "A" to the Interrogator (call it distance A1), and the distance from Beacon "B" to the Interrogator (call it distance B1) are now known (these distances are the distances displayed on the Monitor front panel), we can use some geometry to calculate the position of the ship with reference to Beacons "A" and "B".

I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

As illustrated in Figure 2, the distances of Al and Bl define two intersecting circles, one with a radius of length Al centered about Beacon "A", the other with radius of length Bl centered about Beacon "B". The two circles intersect at two points (marked I and I' in Figure 2). Obviously, the ship can only be located at one of the points. Since point I' happens to be located on land, we can safely assume that the ship is located at Point I.

There is always some uncertainty associated with the exact measurements of the Beacons. This is illustrated in Figure 3. Figure 3 illustrates an enlarged view of the intersection of the circles shown in Figure 2. If the tolerance of the measurements of Beacon "B" is plus-or-minus 5 meters, then the two solid lines in Figure 3 are 10 meters apart. The tolerance of the measurements of Beacon "A" should be the same as that of Beacon "B", but this is not always the case due to differences in geographical location. Under the above conditions, we only know that the ship is located somewhere in the shaded area of Figure 3.

FIGURE-2. SYSTEM WITH TWO BEACONS

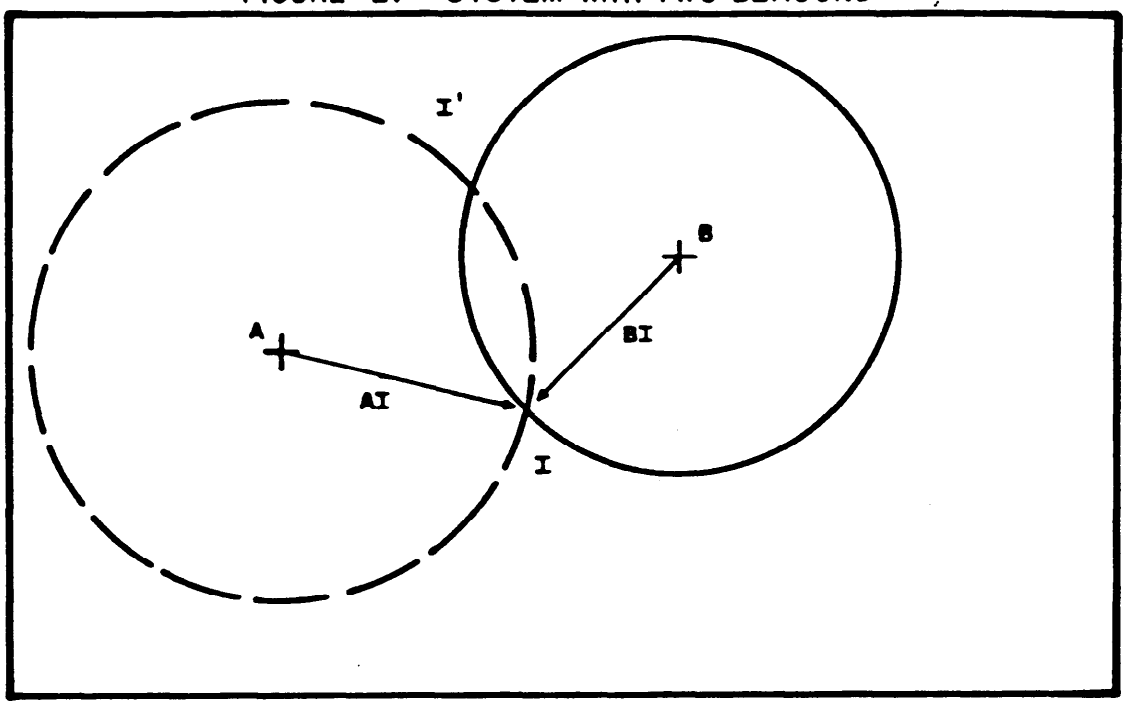
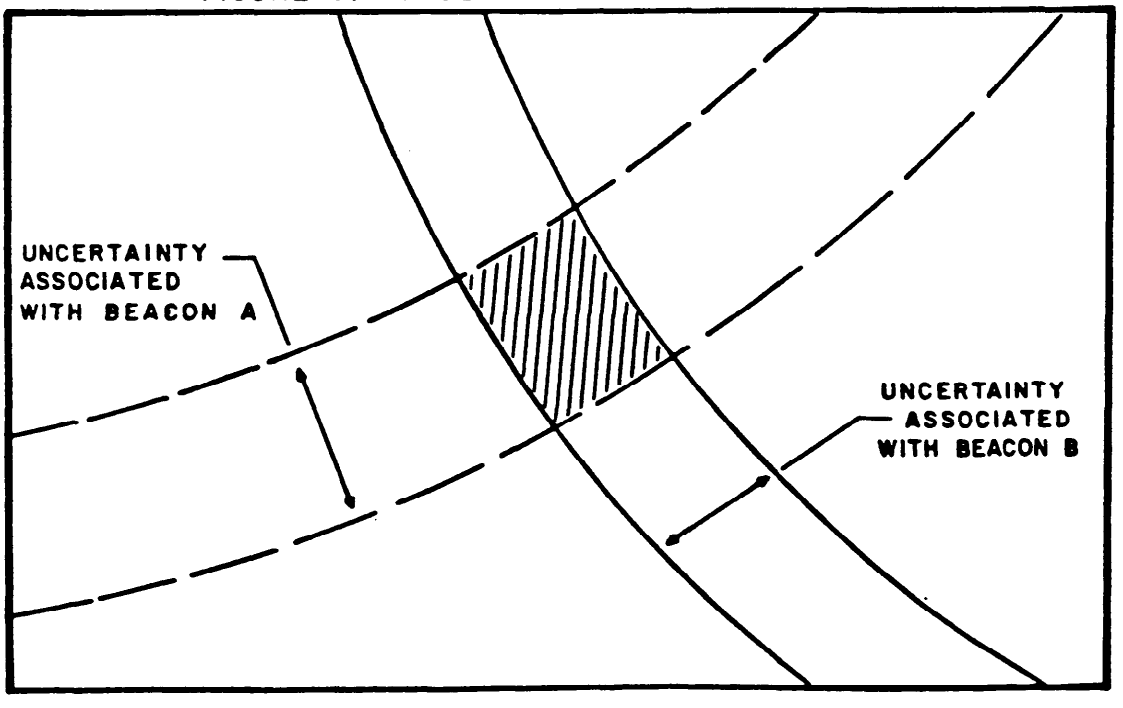


FIGURE-3. UNCERTAINTY WITH TWO BEACONS



I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

For the purposes of the following discussion, it is assumed that there are now three Beacons utilized. Now three circles are defined, instead of the two from the discussion above. The third distance, from Beacon "C" to the Interrogator (call it distance C1), defines a circle of radius length CI centered about Beacon "C". The new situation is illustrated in Figure 4. Notice that with the three circles, there is only one location where all three circles can intersect. This eliminates the ambiguity associated with using only two Beacons. Now there is no I' to worry about. An additional advantage of using three Beacons is illustrated in Figure 5. Now the area of uncertainty has been reduced even though the tolerance of Beacon "C"'s measurement isn't any better than that of the other Beacons.

As the ship moves along, one or more of the Beacons may become unusable for various reasons; out of range, too small or too great an operating angle, etc. If additional Beacons are situated on shore, they may be interrogated, as desired, to greatly expand the range and usability of the system.

FIGURE-4. SYSTEM WITH THREE BEACONS

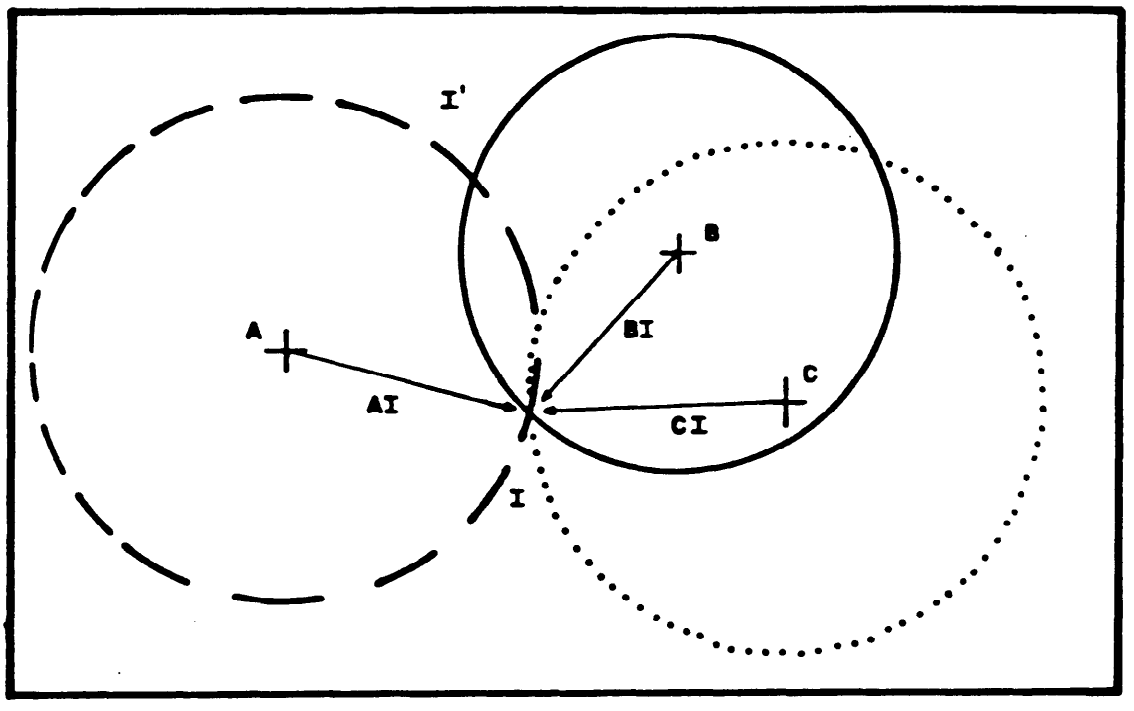
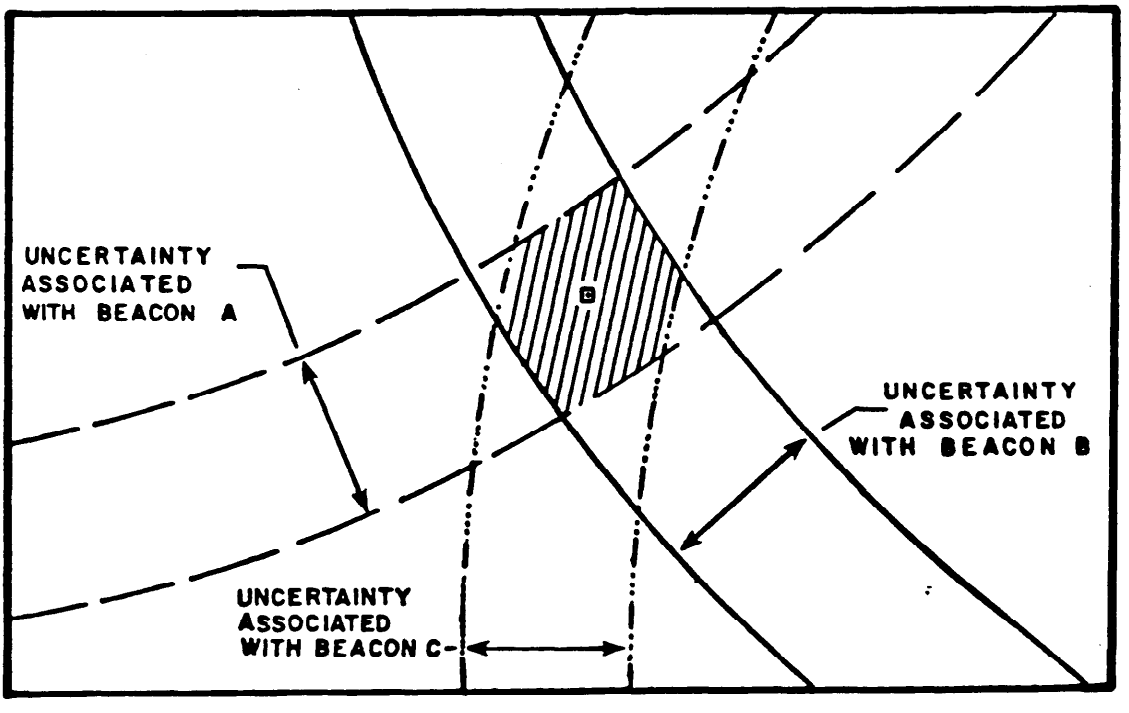


FIGURE-5. UNCERTAINTY WITH THREE BEACONS



I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

As many as three different Beacons may be selected at one time by the proper setting of the Monitor's Beacon-Select switches.

PE 900163

PHILLIPS AUSTRALIAN OIL CO

Bridgewater Bay-1

Geoservices Final Well Report

General

C O N T E N T S

GENERAL

Record of Operations

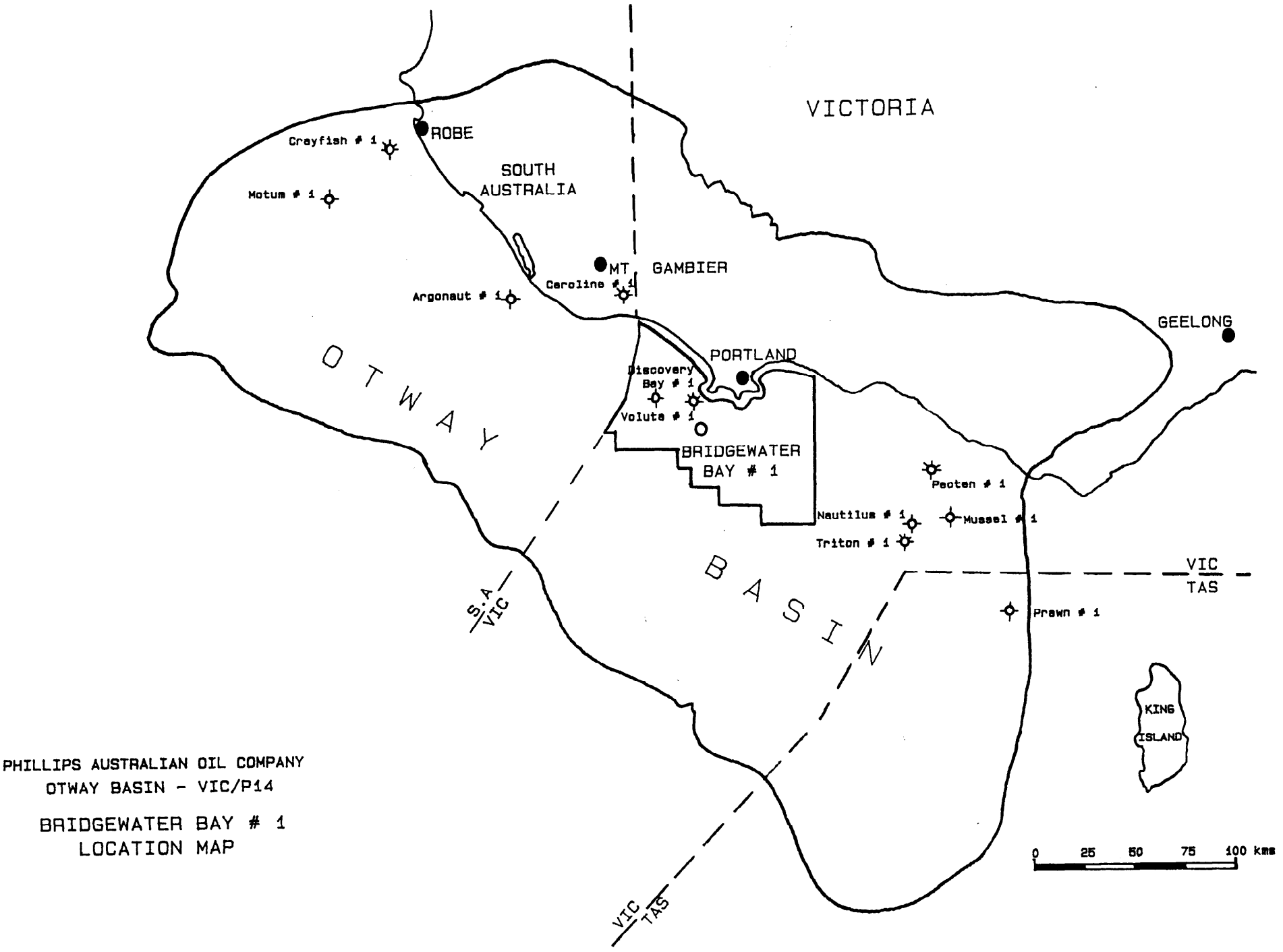
Overpressure Survey

Real Time Depth Plot

Geology

GENERAL WELL DATA

Company Name	:	Phillips Australian Oil Co.
Well Name	:	Bridgewater Bay # 1.
Permit Number	:	VIC/P14.
Contract Area	:	Cape Otway Basin.
State and Country	:	Victoria, Australia.
Location	:	Latitude 38 32 26.20" S.
	:	Longitude 141 21 47.59" E.
Water Depth	:	109.2 m (358 ft).
Elevation KB AMSL	:	22.2 m (73 ft).
Elevation KB	:	131.4 m (431 ft).
Total Depth	:	4200 m.
Spudded on	:	15 September 1983.
Reached TD on	:	2 December 1983.
Plugged in	:	December 1983.
Type of Well	:	Wildcat.
Primary Objective	:	Top of Otway Group (Faulted Anticline).
Drilling Contractor	:	Diamond "M".
Rig Name & Type	:	Diamond "M" Epoch - Semi-submersible.
Personnel (T.D.C)	:	Andy Buffin Nick Hardy Derek Shields.
Personnel (Loggers)	:	Dave Andrew James Guy.
	:	Chris Ruffle Gordon Beattie.



PHILLIPS AUSTRALIAN OIL COMPANY
OTWAY BASIN - VIC/P14

BRIDGEWATER BAY # 1
LOCATION MAP

WELL SUMMARY

BRIDGEWATER BAY # 1

Bridgewater Bay # 1 was a vertical exploration well in the centre of Permit VIC/P14. The exact location was at Shot Point 860 on seismic line OP 80 - 43. Bridgewater Bay # 1 was projected to penetrate the Waarre Formation, a sand body of Upper Cretaceous age (Cenomanian).

The objectives were :

Look at the Intra-Sherbrook Group (Brown Horizon).

Evaluate the hydrocabon potential of the Waarre Sands.

Bridgewater Bay # 1 was spudded on 15th September 1983 and reached T.D. on 2nd December 1983, after 78 days on location. A total of 32 new bits were used to drill the well. Overpresure was encountered at about 2950m and became a problem prior to running the 9 5/8" casing at 3549m.

Two depths at which lost circulation occured were encountered, one at 4052m and the second at 4101m. A total of 675 bbls of mud were lost. On both occasions circulation was regained and the well was drilled to a T.D. of 4200m.

After logging the 8 1/2" hole, the 9 5/8" casing was cut and the well was plugged and abandoned.

PE902251

This is an enclosure indicator page.
The enclosure PE902251 is enclosed within the container PE902250 at this location in this document.

The enclosure PE902251 has the following characteristics:

ITEM_BARCODE	= PE902251
CONTAINER_BARCODE	= PE902250
NAME	= BRIDGEWATER BAY 1 DRILL CURVE
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= BRIDGEWATER BAY 1 DRILL CURVE
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

Phillips Aust Co. Bridgewater Bay # 1 — BIT REPORT

BIT No	TYPE	SIZE	NOZZLES	DEP.IN	MTRGE	DRLNG HOURS	T/B/G	AVER M/HR	COST/M US $	WOB KLBS	RPM	FLOW	SPP	MW	HYDRO. POWER TTL	BIT /SI	Remarks
1	Hughes	26	T: 0.00	131.5		55.0 6.50	0/0/I	8.5	1683	5.0	110	950	0	8.60	0$$$$$$$$$		+36"H/O (open jets)
1RR	Hughes	26	22 22 22	186.5		317.5 14.50	0/0/I	21.9	528	15.0	105	925	2100	8.60	16141	2320 3.4	
2	SMITH DSJ	14 1/2	24 24 24	504.6		338.8 11.13	2/2/O	30.4	381	16.0	112	919	2290	9.20	17487	1718 7.9	17.5" U/Reamer
3	Smith SDT	14 1/2	24 24 24	843.0		277.0 20.20	6/3/O	13.7	737	27.4	120	905	2460	9.30	18499	1659 7.6	3/8" out gauge
4	Smith DSJ	14 1/2	24 24 24	1120.0		394.0 18.50	8/6/O	21.3	526	18.5	118	895	2555	9.20	19001	1587 7.3	1/4" out gauge
5	Hughes 1GJ	14 1/2	24 24 24	1514.0		89.0 8.00	6/5/O	11.1	1345	29.0	118	865	2500	9.10	17969	1417 6.5	1/8" out gauge
6	Smith FDGH	12 1/4	14 14 14	1515.0		83.0 0.75	0/0/I	$$$$	596	30.0	105	520	2000	9.20	8642	2688 17.9	Drilled cmt.
7	Smith SDGH	12 1/4	14 14 14	1603.0		209.0 14.10	8/7/O	14.8	855	36.5	105	572	2775	9.20	13189	3578 23.8	1/4" out gauge
8	Reed HS51J	12 1/4	14 14 14	1812.0		300.0 17.50	4/3/O	17.1	689	38.0	105	550	2845	9.40	13002	3250 21.7	1/16" out gauge
9	Reed HS51J	12 1/4	14 14 14	2112.0		112.0 14.10	6/5/I	7.9	1592	43.0	105	530	2825	9.50	12441	2939 19.6	
10	Smith FDGH	12 1/4	14 14 14	2224.0		119.0 7.30	4/3/O	16.3	1015	42.0	71	530	2850	9.50	12551	2939 19.6	3/16" out gauge
11	Smith FDGH	12 1/4	14 14 14	2343.0		91.0 14.50	3/3/O	6.3	2078	42.0	71	531	2870	9.50	12663	2956 19.7	1/4" out gauge
12	Smith F2	12 1/4	14 14 14	2434.0		35.0 8.37	1/2/I	4.2	4020	42.8	69	529	2846	9.50	12510	2922 19.5	
13	Diamax MS5	12 1/4	T: 1.05	2469.0						20.0	105	490	1750	9.50	7125$$$$$$$$$		Reaming
14	Smith SDGH	12 1/4	14 14 14	2469.0						5.0	140	520	1600	9.60	6913	2805 18.7	Twisted off
15	Smith SDGH	12 1/4	14 14 14	2469.0		30.0 3.53	1/2/I	8.5	3852	35.9	77	557	2520	9.60	11663	3447 23.0	
16	LX 27 HS	12 1/4	T: 1.10	2499.0		194.0 16.31		11.9	1455	33.1	600	686	3120	9.60	17784$$$$$$$$$		
17	D'max ADS2	12 1/4	T: 1.10	2693.0		176.0 28.30		6.2	2115	37.7	600	650	3145	9.70	16986$$$$$$$$$		
18	CHR R26LF	12 1/4	T: 1.05	2869.0		202.0 24.60		8.2	1601	24.6	600	665	3190	9.80	17627$$$$$$$$$		
19	Diamax MS5	12 1/4	T: 1.05	3071.0		42.0 10.01		4.2	5042	40.6	600	655	3330	9.80	18124$$$$$$$$$		
20	LX 27 HS	12 1/4	T: 1.10	3113.0		436.0 73.60		5.9	1742	49.8	600	652	3570	9.80	19341$$$$$$$$$		
21	LX 27 HS	12 1/4	T: 1.10	3549.0						25.0	110	600	3700	9.90	18446$$$$$$$$$		
22	Smith SDGH	12 1/4	12 12 12	3549.0			1/1/O			10.0	140	590	3200	10.50	15688	8302 55.3	1/16 out gauge
23	Smith SDGH	12 1/4	12 12 12	3549.0			2/2/O			8.0	140	575	3200	12.50	15289	9149 61.0	3/8 out gauge
24	Reed FP53J	12 1/4	14 14 14	3549.0			1/1/O			5.0	110	550	3050	12.50	13939	4322 28.8	1/4 out gauge
25	Smith FDT	8 1/2	11 11 11	3549.0			0/0/I			10.0	80	370	3100	14.00	9531	3867 53.5	Reaming
26	Smith FDGH	8 1/2	32 32 32	3549.0		2.0 1.80	8/2/O	1.158283		32.0	110	585	2885	15.00	14024	229 3.2	1/8 out gauge
27	Smith SVH	8 1/2	11 11 11	3551.0		4.0 1.82	4/2/I	2.229183		35.0	95	370	2960	15.00	9100	4143 57.3	
28	LX 27 HS	8 1/2	T: 0.75	3555.0		63.0 23.20		2.7	5635	29.5	600	345	3450	15.10	9390$$$$$$$$$		
29	Smith F2	8 1/2	11 11 11	3618.0		9.0 5.80	1/1/I	1.618808		33.9	70	345	3200	15.10	9173	3381 46.8	
30	Diamax MS5	8 1/2	T: 0.75	3627.0		429.0117.90		3.6	2620	26.3	600	400	3575	15.10	11882$$$$$$$$$		
31	LX 16	8 1/2	T: 0.75	4056.0		45.0 8.80		5.1	4778	19.8	600	365	3150	15.20	9554$$$$$$$$$		
32	Smith F2	8 1/2	32 32 32	4101.0		99.0 48.40	2/3/O	2.0	5380	41.8	65	295	1080	14.90	2647	29 0.4	1/16 out gauge

Phillips Aust Co Bridgewater Bay #1 MUD REPORT

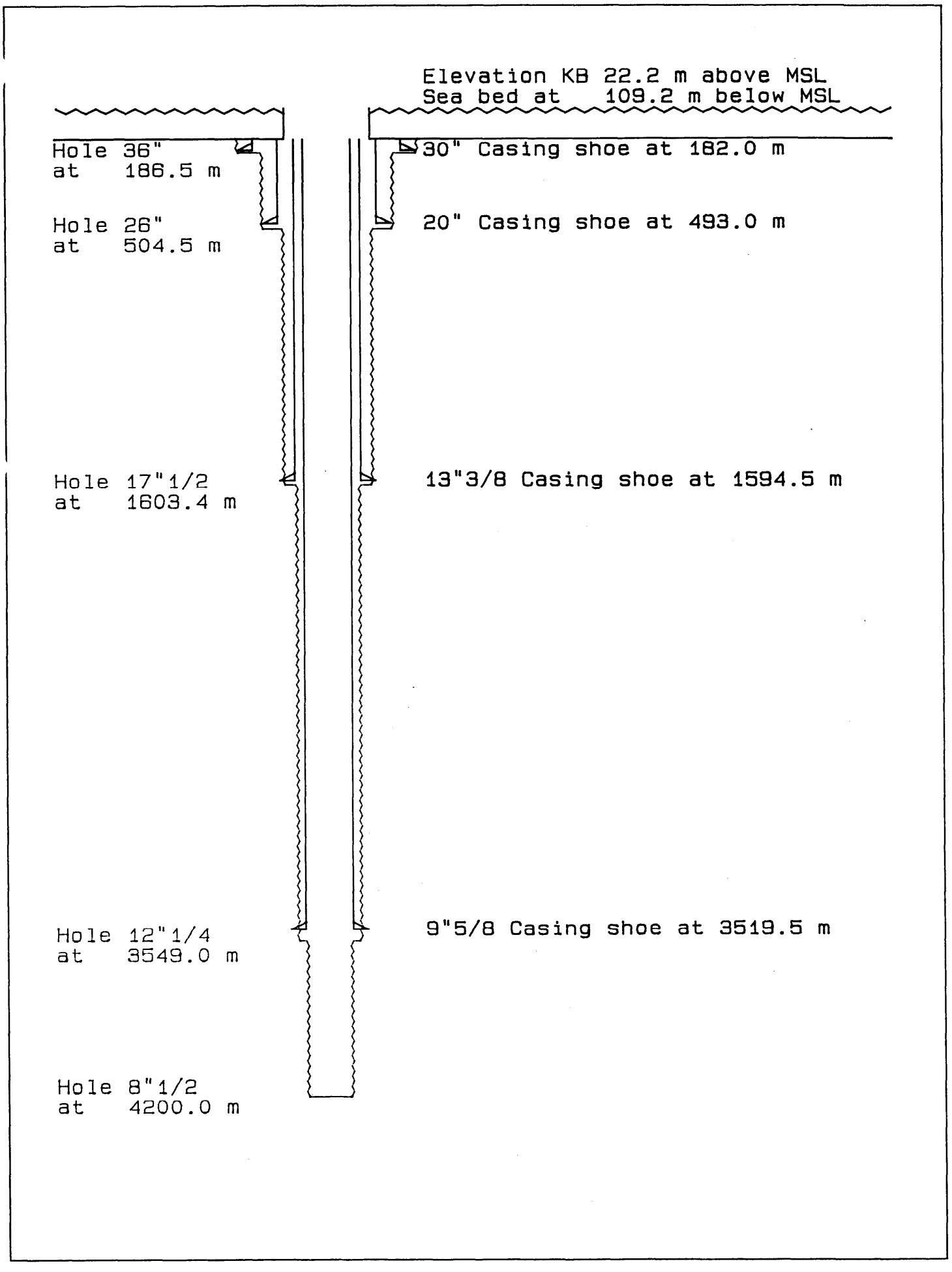
DEPTH m	WEIGHT ppg	FV	PV	YP	Gels		WL cc	CAKE thks /32	pH	pf	mf	Cl- ppm	OIL %	Ca++ ppm	N	K
800.0	9.30	35	6	6	1	15	30.0	2	10.5	0.2	0.2	15000	0.0	500	0.5849	0.3128
843.0	9.30	35	6	6	2	15	13.0	1	10.0	0.5	0.4	12000	0.0	120	0.5848	0.3128
880.0	9.20	37	7	8	2	13	13.0	1	10.0	0.2	0.3	13000	0.0	220	0.5524	0.4786
980.0	9.10	38	10	10	2	15	10.0	1	10.0	0.2	0.3	13000	0.0	120	0.5848	0.5214
1158.0	9.20	37	8	7	3	10	12.0	1	9.5	0.1	0.2	15000	0.0	300	0.5165	0.3209
1188.0	9.20	36	7	7	2	7	12.5	1	10.0	0.2	0.3	15000	0.0	300	0.5848	0.3650
1341.0	9.10	37	7	8	2	10	12.5	1	9.5	0.1	0.2	15000	0.0	350	0.5524	0.4786
1514.0	9.10	36	7	7	2	10	12.0	1	9.5	0.1	0.2	15000	0.0	300	0.5848	0.3650
1602.0	9.10	43	7	10	3	11	10.0	2	9.5	0.1	0.2	15000	0.0	300	0.4974	0.7645
1659.0	9.20	39	9	15	3	9	10.0	1	9.5	0.3	0.4	75000	0.0	50	0.4593	1.3684
1832.0	9.40	38	10	14	3	9	9.8	1	9.5	0.3	0.5	73000	0.0	50	0.5024	1.0462
2005.0	9.40	36	10	13	3	9	9.8	1	9.4	0.2	0.3	73000	0.0	50	0.5207	0.8943
2094.0	9.40	36	9	14	2	9	9.8	1	9.3	0.2	0.3	75000	0.0	50	0.4763	1.1795
2221.0	9.60	35	9	9	2	7	9.8	1	8.4	0.1	0.3	63000	0.0	560	0.5848	0.4692
2343.0	9.50	38	12	12	2	5	8.0	1	9.5	0.2	0.5	59000	0.0	100	0.5848	0.6256
2374.0	9.50	38	12	11	2	5	8.4	1	9.5	0.2	0.6	59500	0.0	80	0.6056	0.5268
2434.0	9.50	38	13	14	5	9	8.0	1	9.5	0.3	0.6	59000	0.0	100	0.5669	0.7871
2469.0	9.50	36	9	10	2	4	8.4	1	10.0	0.5	1.2	57500	0.0	100	0.5593	0.5808
2470.0	9.50	37	10	9	2	4	8.8	1	10.5	1.0	1.9	57000	0.0	60	0.6099	0.4236
2499.0	9.50	37	10	10	2	4	7.4	1	10.0	0.8	1.8	56500	0.0	50	0.5848	0.5214
2692.0	9.60	36	9	9	2	3	8.7	1	10.0	0.5	1.6	60000	0.0	80	0.5848	0.4692
2745.0	9.60	36	10	11	2	5	7.8	1	9.5	0.4	1.2	60000	0.0	100	0.5617	0.6322

Phillips Aust Co Bridgewater Bay #1 MUD REPORT

DEPTH m	WEIGHT ppg	FV	PV	YP	Gels		WL cc	CAKE thks /32	pH	pf	mf	Cl- ppm	OIL %	Ca++ ppm	N	K
2860.0	9.70	37	10	11	3	5	8.2	1	9.0	0.2	1.9	61500	0.0	180	0.5617	0.6322
2975.0	9.70	37	12	11	2	6	7.8	1	9.0	0.3	1.6	62000	0.0	200	0.6056	0.5268
3120.0	9.70	39	12	11	2	5	6.9	1	9.5	0.5	1.4	62000	0.0	160	0.6056	0.5268
3257.0	9.70	36	10	10	2	4	7.4	1	9.5	0.3	1.0	61000	0.0	160	0.5848	0.5214
3385.0	9.80	36	9	9	2	5	8.4	1	9.5	0.2	0.9	59500	0.0	160	0.5848	0.4692
3476.0	9.90	36	9	7	1	3	8.9	1	9.0	0.2	1.0	60500	0.0	140	0.6437	0.2889
3549.0	9.90	37	10	9	2	4	8.6	1	9.5	0.2	1.1	60000	0.0	160	0.6099	0.4236
3549.1	11.20	49	34	20	3	5	7.0	1	9.5	0.2	0.4	77000	0.0	120	0.7043	0.6679
3549.2	12.50	55	28	25	7	12	5.0	2	9.5	0.1	0.2	85000	9.0	80	0.6118	1.1678
3551.0	14.90	62	39	24	4	25	7.5	3	10.0	0.4	0.9	87500	6.0	100	0.6950	0.8263
3559.0	14.90	73	50	23	4	24	4.6	3	10.5	0.3	0.8	95000	6.0	400	0.7525	0.6688
3604.0	15.00	63	43	20	3	26	5.8	3	10.0	0.2	0.7	124000	5.0	280	0.7504	0.5846
3623.0	15.10	63	40	27	3	26	5.5	3	9.5	0.1	0.6	142000	5.0	360	0.6752	0.9940
3654.0	15.00	64	41	19	3	29	4.8	3	10.0	0.1	0.7	144000	4.0	160	0.7511	0.5544
3725.0	14.95	66	37	21	3	46	6.2	3	10.0	0.3	0.8	149000	3.0	80	0.7117	0.6853
3790.0	15.00	56	30	15	3	37	7.4	3	9.5	0.2	0.7	147000	4.0	280	0.7368	0.4547
3855.0	15.00	54	33	17	3	32	5.6	3	10.5	0.3	1.0	147500	1.0	140	0.7310	0.5238
3936.0	15.00	54	32	16	3	29	5.6	3	10.0	0.2	0.9	146500	1.0	140	0.7368	0.4850
4022.0	15.10	53	34	19	4	31	5.2	3	10.0	0.3	1.0	145000	1.0	100	0.7148	0.6141
4055.0	15.20	48	31	14	2	25	5.1	2	10.0	0.2	0.8	151000	2.0	160	0.7559	0.4037
4059.0	15.10	48	31	14	2	23	5.8	2	10.0	0.2	0.7	148000	1.0	200	0.7559	0.4037
4100.0	14.90	49	33	14	2	22	5.7	2	10.0	0.2	0.7	134000	1.0	200	0.7671	0.3930

Phillips Aust Co Bridgewater Bay #1 MUD REPORT

DEPTH m	WEIGHT ppg	FV	PV	YP	Gels	WL cc	CAKE thks /32	pH	pf	mf	Cl- ppm	OIL %	Ca++ ppm	N	K
4102.0	15.00	49	33	14	2	19	6.1	2	9.5	0.1	0.7	134500	1.0	200	0.7671	0.3930
4147.0	14.90	54	36	18	2	19	4.8	2	10.0	0.2	0.8	141000	1.0	220	0.7368	0.5457
4180.0	15.00	50	36	14	2	15	5.2	2	10.5	0.3	1.0	143000	1.0	120	0.7822	0.3806
4200.0	15.00	48	33	15	2	14	5.0	2	10.0	0.2	0.4	143000	1.0	140	0.7547	0.4338


Elevation KB 22.2 m above MSL
Sea bed at 109.2 m below MSL
Hole 36"
at 186.5 m
30" Casing shoe at 182.0 m
Hole 26"
at 504.5 m
20" Casing shoe at 493.0 m
Hole 17"1/2
at 1603.4 m
13"3/8 Casing shoe at 1594.5 m
Hole 12"1/4
at 3549.0 m
9"5/8 Casing shoe at 3519.5 m
Hole 8"1/2
at 4200.0 m

GEOSERVICES T.O.C

Phillips Aust Co. Bridgewater Bay # 1 16.9.83

CASING LIST

CASING SIZE: 30" TYPE: 1" Wall WEIGHT(lbs/ft): 309

CASING LENGTH: 53.50
SHOE DEPTH : 182.00

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
	12.61	12.61	169.39	Csg Shoe Jt.
1	12.00	24.61	157.39	
2	12.25	36.86	145.14	
3	12.47	49.33	132.67	
	4.17	53.50	128.50	Well Head

GEOSERVICES T.D.C

Phillips Aust Co. Bridgewater Bay # 1 17.9.83

CASING LIST

CASING SIZE: 20" TYPE: Cameron X-56 WEIGHT(lbs/ft): 133

CASING LENGTH: 353.52
SHOE DEPTH : 493.00

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
	12.66	12.66	480.34	Csg Shoe Jt
1	11.90	24.56	468.44	
2	11.89	36.45	456.55	
3	11.91	48.36	444.64	
4	11.91	60.27	432.73	
5	11.84	72.11	420.89	
6	11.86	83.97	409.03	
7	11.89	95.86	397.14	
8	11.90	107.76	385.24	
9	11.83	119.59	373.41	
10	11.91	131.50	361.50	
11	11.90	143.40	349.60	
12	11.89	155.29	337.71	
13	11.90	167.19	325.81	
14	11.90	179.09	313.91	
15	11.89	190.98	302.02	
16	11.90	202.88	290.12	
17	11.89	214.77	278.23	
18	11.90	226.67	266.33	
19	11.90	238.57	254.43	
20	11.89	250.46	242.54	
21	11.90	262.36	230.64	
22	11.90	274.26	218.74	
23	11.90	286.16	206.84	
24	11.90	298.06	194.94	
25	11.90	309.96	183.04	
26	11.84	321.80	171.20	
27	11.90	333.70	159.30	
28	11.90	345.60	147.40	
	6.02	351.62	141.38	Pup Joint
	1.90	353.52	139.48	Wellhead

CROSSWISE F.D.C

Phillips Rust Co. Bridgewater Dev #1 4.10.83

CASING LIST

CASING SIZE: 13 3/8" TYPE: Buttress K-80 WEIGHT(lbs/ft): 72

CASING LENGTH: 1465.41
SHOE DEPTH : 1564.55

Jt #	Length	Total Length	Depth From KB	Remarks
	12.00	12.00	1552.55	Shoe Joint
	12.37	24.45	1540.00	Float Collar Jt
1	11.77	36.22	1528.32	
2	11.83	48.05	1516.49	
3	11.91	59.97	1504.58	
4	11.91	71.88	1492.67	
5	11.71	83.59	1480.96	
6	11.80	95.40	1469.16	
7	11.80	107.20	1457.36	
8	11.43	118.82	1445.73	
9	11.76	130.58	1433.97	
10	11.48	142.06	1422.49	
11	11.70	153.76	1410.79	
12	11.77	165.53	1399.02	
13	11.97	177.50	1387.05	
14	11.69	189.19	1375.36	
15	11.74	200.93	1363.62	
16	10.94	211.87	1352.68	
17	11.67	223.54	1341.01	
18	11.62	235.16	1329.39	
19	11.73	246.89	1317.66	
20	11.62	258.51	1306.04	
21	11.75	270.26	1294.29	
22	11.74	282.00	1282.55	
23	11.75	293.75	1270.80	
24	11.91	305.66	1258.89	
25	12.03	317.69	1246.86	
26	11.86	329.55	1235.00	
27	12.03	341.58	1222.97	
28	11.54	353.12	1211.43	
29	12.06	365.18	1199.37	
30	11.70	376.97	1187.58	
31	11.56	388.53	1176.02	
32	11.57	400.10	1164.45	
33	11.91	412.01	1152.54	
34	11.79	423.80	1140.75	
35	11.72	435.52	1129.03	
36	11.76	447.28	1117.27	
37	11.77	459.05	1105.50	
38	12.06	471.11	1093.44	
39	12.04	483.15	1081.40	
40	11.82	494.97	1069.58	
41	11.33	506.30	1058.26	
42	11.91	518.20	1046.35	
43	11.83	530.03	1034.52	
44	11.86	541.89	1022.66	
45	11.73	553.62	1010.93	
46	12.04	565.66	998.89	
47	11.83	577.49	987.06	

Phillips Rust Co. Bridgewater Bay #1 4.10.83

CASING LIST

CASING SIZE: 13 3/8" TYPE: Buttress 8-30 WEIGHT(lbs/ft): 72

CASING LENGTH: 1465.41
SHOE DEPTH : 1504.55

Jt #	LENGTH	JOINT LENGTH	Depth From KB	Remarks
49	11.69	601.29	993.35	
50	11.70	612.99	981.65	
51	11.83	624.73	969.82	
52	11.83	636.56	957.99	
53	11.71	648.27	946.28	
54	11.68	659.97	934.60	
55	11.94	671.91	922.74	
56	11.56	683.37	911.18	
57	11.90	695.27	899.28	
58	11.74	707.01	887.54	
59	12.00	719.01	875.54	
60	11.99	730.91	863.64	
61	11.77	742.68	851.87	
62	12.06	754.74	839.81	
63	11.87	766.61	827.94	
64	11.83	778.44	816.11	
65	11.85	790.29	804.26	
66	12.01	802.30	792.25	
67	11.46	813.76	780.79	
68	11.67	825.43	769.12	
69	11.88	837.31	757.24	
70	11.57	848.88	745.67	
71	12.02	860.90	733.65	
72	11.74	872.64	721.91	
73	11.79	884.43	710.12	
74	11.69	896.12	698.43	
75	12.02	908.14	686.41	
76	12.02	920.16	674.39	
77	12.02	932.18	662.37	
78	11.65	943.83	650.72	
79	11.93	955.76	638.79	
80	11.31	967.07	627.48	
81	11.82	978.95	615.60	
82	12.03	990.98	603.57	
83	11.62	1002.60	591.95	
84	11.44	1014.04	580.51	
85	12.08	1026.12	568.43	
86	11.89	1038.01	556.54	
87	12.06	1050.07	544.48	
88	11.61	1061.68	532.87	
89	11.76	1073.44	521.11	
90	12.01	1085.45	509.10	
91	11.94	1097.39	497.16	
92	11.87	1109.26	485.29	
93	11.71	1120.97	473.58	
94	12.01	1132.98	461.57	
95	11.84	1144.82	449.73	
96	12.01	1156.83	437.72	
97	12.03	1168.86	425.69	
98	11.86	1180.72	413.83	

SPERRY-SUN SERVICES T.D.C.

Phillips Aust Co. Bridgewater Bay #1 4.10.83

CASING LIST

CASING SIZE: 13 3/8" TYPE: Buttress X-56 WEIGHT(lbs/ft): 72

CASING LENGTH: 1465.41
SHOE DEPTH : 1594.55

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
99	11.03	1182.78	401.85	
100	11.93	1204.63	389.92	
101	12.02	1216.65	377.90	
102	12.02	1228.67	365.88	
103	11.99	1240.56	353.99	
104	11.94	1252.50	342.05	
105	11.65	1264.15	330.40	
106	12.01	1276.16	318.39	
107	11.75	1287.91	306.64	
108	11.67	1299.58	294.97	
109	11.89	1311.47	283.08	
110	11.51	1322.98	271.57	
111	11.95	1334.93	259.62	
112	11.86	1346.79	247.76	
113	11.86	1358.65	235.90	
114	11.90	1370.55	224.00	
115	11.88	1382.43	212.12	
116	11.73	1394.21	200.34	
117	11.86	1406.07	188.48	
118	11.87	1417.94	176.61	
119	11.70	1429.64	164.91	
120	11.66	1441.30	153.25	
121	11.89	1453.19	141.36	
	12.22	1465.41	129.14	Wellhead

GEOSERVICES T.D.C

Phillips Rust Co. Bridgewater Bay # 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/N-80 WEIGHT(lbs/ft): 47

CASING LENGTH: 3399.51
SHOE DEPTH : 3510.50

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
	12.47	12.47	3507.03	Casing Shoe
	12.10	24.57	3494.93	Float Collar
1	11.93	36.50	3483.00	
2	11.98	48.48	3471.02	
3	11.91	60.39	3459.11	
4	11.70	72.09	3447.41	
5	12.04	84.13	3435.37	
6	12.02	96.15	3423.35	
7	11.75	107.90	3411.60	
8	11.82	119.72	3399.72	
9	11.98	131.70	3387.74	
10	11.73	143.43	3376.01	
11	12.02	155.51	3363.99	
12	12.03	167.54	3351.96	
13	12.03	179.57	3339.93	
14	11.98	191.55	3327.95	
15	12.01	203.56	3315.94	
16	11.98	215.54	3303.96	
17	11.98	227.52	3291.98	
18	11.98	239.50	3280.00	
19	11.98	251.48	3268.02	
20	11.82	263.30	3256.20	
21	11.50	274.80	3244.70	Type P-110
22	11.57	286.37	3233.13	
23	11.77	298.14	3221.36	
24	11.70	309.84	3209.66	
25	11.81	321.65	3197.85	
26	11.77	333.42	3186.08	
27	11.70	345.12	3174.38	
28	11.23	356.35	3163.15	
29	11.77	368.12	3151.38	
30	11.38	379.50	3140.00	
31	11.49	390.99	3128.51	
32	11.45	402.44	3117.06	
33	11.65	414.09	3105.41	
34	11.74	425.83	3093.67	
35	11.68	437.51	3081.99	
36	11.50	449.01	3070.49	
37	11.23	460.24	3059.26	
38	11.86	472.10	3047.40	
39	11.63	483.73	3035.77	
40	11.00	494.73	3024.77	
41	11.10	505.83	3013.67	
42	11.12	516.95	3002.55	
43	11.61	528.56	2990.94	
44	11.73	540.29	2979.21	
45	11.42	551.71	2967.79	
46	12.01	563.72	2955.78	
47	11.71	575.43	2944.07	
48	11.66	587.09	2932.41	

GEOSERVICES T.D.C

Phillips Aust Co. Bridgewater Bay # 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/N-80 WEIGHT(lbs/ft): 47

CASING LENGTH: 3399.51
SHOE DEPTH : 3519.50

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
49	12.00	599.09	2920.41	
50	11.62	610.71	2908.79	
51	11.88	622.59	2896.91	
52	11.87	634.46	2885.04	
53	11.20	645.66	2873.84	
54	11.58	657.24	2862.26	
55	12.07	669.31	2850.19	
56	11.77	681.08	2838.42	
57	12.00	693.08	2826.42	
58	11.80	704.88	2814.62	
59	11.61	716.49	2803.01	
60	11.63	728.12	2791.38	
61	11.70	739.90	2779.60	
62	11.50	751.40	2768.10	
63	11.59	762.99	2756.51	
64	11.80	774.79	2744.71	*Type N-80
65	12.02	786.81	2732.69	
66	11.84	798.65	2720.85	
67	12.05	810.70	2708.80	
68	11.81	822.51	2696.99	
69	11.71	834.22	2685.28	
70	11.65	845.87	2673.63	
71	11.75	857.62	2661.88	
72	11.70	869.32	2650.18	
73	11.98	881.30	2638.20	
74	11.76	893.06	2626.44	
75	11.79	904.85	2614.65	
76	11.98	916.83	2602.67	
77	11.93	928.76	2590.74	
78	11.76	940.52	2578.98	
79	10.90	951.42	2568.08	
80	12.08	963.50	2556.00	
81	11.58	975.08	2544.42	
82	11.64	986.72	2532.78	
83	12.02	998.74	2520.76	
84	11.77	1010.51	2508.99	
85	11.76	1022.27	2497.23	
86	11.96	1034.23	2485.27	
87	12.01	1046.24	2473.26	
88	12.01	1058.25	2461.25	
89	11.92	1070.17	2449.33	
90	11.97	1082.14	2437.36	
91	11.84	1093.98	2425.52	
92	11.95	1105.93	2413.57	
93	12.03	1117.96	2401.54	
94	11.77	1129.73	2389.77	
95	11.68	1141.41	2378.09	
96	11.76	1153.17	2366.33	
97	11.88	1165.05	2354.45	
98	12.02	1177.07	2342.43	

GEOSERVICES I.P.C

Phillips Aust Co. Bridgewater Bay # 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/N-80 WEIGHT(lbs/ft): 47

CASING LENGTH: 3399.51
SHOE DEPTH : 3519.50

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
99	11.97	1139.04	2330.46	
100	12.04	1201.08	2318.42	
101	11.93	1213.01	2306.49	
102	11.97	1224.98	2294.52	
103	11.42	1236.40	2283.10	
104	11.99	1248.39	2271.11	
105	11.88	1260.27	2259.23	
106	11.75	1272.02	2247.48	
107	11.89	1283.91	2235.59	
108	11.85	1295.76	2223.74	
109	11.73	1307.49	2212.01	
110	11.42	1318.91	2200.59	
111	11.65	1330.56	2188.94	
112	11.60	1342.55	2176.95	
113	11.91	1354.46	2165.04	
114	12.08	1366.54	2152.96	
115	11.88	1378.42	2141.08	
116	11.90	1390.32	2129.18	
117	11.84	1402.16	2117.34	
118	12.08	1414.24	2105.26	
119	11.97	1426.21	2093.29	
120	11.91	1438.12	2081.38	
121	11.80	1449.92	2069.58	
122	11.52	1461.44	2058.06	
123	11.72	1473.16	2046.34	
124	11.98	1485.14	2034.36	
125	11.43	1496.57	2022.93	
126	11.82	1508.39	2011.11	
127	11.70	1520.09	1999.41	
128	11.42	1531.51	1987.99	
129	11.95	1543.46	1976.04	
130	12.02	1555.48	1964.02	
131	12.01	1567.49	1952.01	
132	11.87	1579.36	1940.14	
133	11.92	1591.28	1928.22	
134	11.50	1602.87	1916.63	
135	11.87	1614.74	1904.76	
136	11.83	1626.57	1892.93	
137	11.87	1638.44	1881.06	
138	12.11	1650.55	1868.95	
139	11.93	1662.48	1857.02	
140	11.27	1673.75	1845.75	
141	11.83	1685.58	1833.92	
142	11.91	1697.49	1822.01	
143	11.89	1709.38	1810.12	
144	11.88	1721.26	1798.24	
145	12.06	1733.32	1786.18	
146	11.88	1745.20	1774.30	
147	11.80	1757.00	1762.50	
148	11.53	1768.53	1750.97	

GEOSERVICES W.D.C

Phillips Aust Co. Bridgewater Bay # 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/N-80 WEIGHT(lbs/Ft): 47

CASING LENGTH: 3399.51
SHOE DEPTH : 3519.50

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
149	11.84	1780.37	1739.13	
150	12.04	1792.41	1727.09	
151	11.61	1804.02	1715.48	
152	11.68	1815.70	1703.80	
153	12.01	1827.71	1691.79	
154	11.53	1839.24	1680.26	
155	11.72	1850.96	1668.54	
156	11.92	1862.84	1656.56	
157	11.93	1874.87	1644.63	
158	11.87	1886.74	1632.76	
159	11.98	1898.72	1620.78	
160	11.79	1910.51	1608.99	
161	11.91	1922.42	1597.08	
162	11.83	1934.25	1585.25	
163	12.05	1946.30	1573.20	
164	11.84	1958.14	1561.36	
165	11.80	1969.94	1549.56	
166	11.75	1981.69	1537.81	
167	11.21	1992.90	1526.60	
168	11.73	2004.63	1514.87	
169	11.79	2016.42	1503.08	
170	11.84	2028.26	1491.24	
171	11.83	2040.09	1479.41	
172	11.62	2051.71	1467.79	
173	12.02	2063.73	1455.77	
174	11.71	2075.44	1444.06	
175	11.90	2087.34	1432.16	
176	12.02	2099.36	1420.14	
177	11.63	2110.99	1408.51	
178	11.90	2122.89	1396.61	
179	11.88	2134.77	1384.73	
180	12.01	2146.78	1372.72	
181	11.95	2158.73	1360.77	
182	11.97	2170.70	1348.80	
183	11.94	2182.64	1336.86	
184	12.09	2194.73	1324.77	
185	11.84	2206.57	1312.93	
186	11.48	2218.05	1301.45	
187	11.90	2229.95	1289.55	
188	11.98	2241.93	1277.57	
189	11.84	2253.77	1265.73	
190	11.44	2265.21	1254.29	
191	11.73	2276.94	1242.56	
192	11.66	2288.60	1230.90	*Type L-80
193	11.81	2300.41	1219.09	
194	12.02	2312.43	1207.07	
195	10.82	2323.25	1196.25	
196	12.17	2335.42	1184.08	
197	11.59	2347.01	1172.49	
198	11.68	2358.69	1160.81	

Phillips West Co. Bridgewater Bay 3 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/S-80 WEIGHT(lbs/ft): 47

CASING LENGTH: 3399.51
SHOE DEPTH : 3519.50

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
199	11.20	2370.49	1149.01	
200	11.36	2382.35	1137.15	
201	11.20	2394.15	1125.35	
202	11.55	2405.70	1113.80	
203	12.16	2417.86	1101.64	
204	11.77	2429.63	1089.87	
205	11.74	2441.37	1078.13	
206	11.93	2453.30	1066.20	
207	12.00	2465.32	1054.18	
208	12.00	2477.32	1042.18	
209	11.89	2489.21	1030.29	
210	11.66	2500.91	1018.59	
211	11.76	2512.67	1006.83	
212	11.23	2523.90	995.60	
213	11.35	2535.25	984.25	
214	12.03	2547.31	972.22	
215	11.76	2559.07	960.46	
216	11.19	2570.26	949.27	
217	11.50	2581.76	937.77	
218	11.71	2593.47	926.07	
219	11.73	2605.19	914.35	
220	12.17	2617.36	902.18	
221	12.08	2629.44	890.10	
222	12.14	2641.58	877.96	
223	12.03	2653.61	865.93	
224	12.03	2665.64	853.90	
225	11.44	2677.08	842.46	
226	11.78	2688.86	830.68	
227	11.91	2700.77	818.77	
228	12.01	2712.78	806.76	
229	12.06	2724.84	794.70	
230	11.70	2736.54	783.00	
231	11.80	2748.34	771.20	
232	12.12	2760.46	759.08	
233	11.41	2771.87	747.67	
234	12.16	2784.03	735.51	
235	11.95	2795.98	723.56	
236	12.20	2808.18	711.36	
237	12.03	2820.21	699.33	
238	11.50	2831.71	687.83	
239	12.00	2843.71	675.83	
240	12.02	2855.73	663.81	
241	11.58	2867.31	652.23	
242	11.99	2879.30	640.24	
243	11.93	2891.23	628.31	
244	12.00	2903.23	616.31	
245	12.02	2915.25	604.29	
246	12.12	2927.37	592.17	
247	11.96	2939.33	580.21	
248	11.87	2951.20	568.34	

CROSSWISES T.D.C

Phillips Petr Co. Prudhoe Bay # 1 13.11.83

CASING LIST

CASING SIZE: 9 5/8" TYPE: L-80/N-80 WEIGHT(lbs/ft): 47

CASING LENGTH: 3399.51
SPOT DEPTH : 3512.50

Jt #	Length	TOTAL LENGTH	Depth From KB	Remarks
249	11.87	2962.99	556.51	
250	11.65	2974.64	544.86	
251	12.01	2986.65	532.85	
252	11.90	2998.55	520.95	
253	11.83	3010.38	509.12	
254	11.63	3022.01	497.49	
255	11.92	3033.93	485.57	
256	11.64	3045.57	473.93	
257	11.93	3057.50	462.00	
258	11.77	3069.27	450.23	
259	11.82	3081.09	438.41	
260	11.87	3092.96	426.54	
261	11.67	3104.63	414.87	
262	11.86	3116.49	403.01	
263	12.04	3128.53	390.97	
264	11.88	3140.41	379.09	
265	11.79	3152.20	367.30	
266	11.85	3164.05	355.45	
267	11.82	3175.87	343.63	
268	12.02	3187.89	331.61	
269	11.81	3199.70	319.80	
270	11.66	3211.36	308.14	
271	11.72	3223.08	296.42	
272	11.96	3235.04	284.46	
273	11.81	3246.85	272.65	
274	11.75	3258.60	260.90	
275	11.50	3270.10	249.40	
276	11.79	3281.89	237.61	
277	12.04	3293.93	225.57	
278	12.05	3305.98	213.52	
279	11.85	3317.83	201.67	
280	11.23	3329.06	190.44	
281	11.49	3340.55	178.95	
282	11.57	3352.12	167.38	
283	12.01	3364.13	155.37	
284	11.98	3376.11	143.39	
285	11.65	3387.76	131.74	
286	11.75	3399.51	119.99	Well Head

RECORD OF OPERATIONS

- Phase Summaries
- Daily Well Diary

36" PHASE REPORT

36" PHASE

SUMMARY

The well was spudded in 109m of water at 17.30 hrs. on 15th September 1983. Elevation of RKB above sea level was 22m. Bit # 1 HUGHES,26" + 36" H/O (open jets) was run in and drilled ahead to 186.5m. A survey was dropped at 162m, with 1 deg. deviation.450 bbls of high viscous mud were then pumped at TD and a second survey was dropped with 1 deg. deviation. The hole was further conditioned with 250 bbls of high viscous mud before pulling out to run the 30" casing.

WOB/RPM/ROP PRACTICES

One bit was used in this phase. The drilling time was 6.5 hrs. With an average ROP of 8.5m/hr.
Drilling practices are summarized below:

DEPTH INTERVAL m	ROP m/hr	WOB klbs	RPM	FR gpm
131.5-186.5	8.5	5	110	950

HYDRAULICS

To achieve good hole cleaning,high flow rates and annular velocities must be maintained. Although high flow rates were achieved during the phase, annular were low and this results in only the finest cuttings being removed. However since the phase is short and ROP's low cuttings build up will not be a serious problem. On reaching TD 450 bbls of high viscous mud were circulated prior to a survey and a further 250 bbls of high viscous were circulated before pulling out. This measure ensured good cuttings removal and a clean hole.

CASING AND CEMENTATION

The casing shoe joint,3 joints and a 4.2m well head housing of Vetco 30" (1" wall),310 lbs/ft casing were run in and set at 182m (597 ft). A stinger was made up and run in. The following were then pumped:

1) 150 bbls of seawater.
2) 1500 sacks of Class "G" cement at 15.8 ppg with 5.0 gal/stack of seawater.

CASING AND CEMENTATION /cont.

3) The cement was displaced by 20.4 bbls of seawater at a rate of 3 bbl/min.There was no bleed back.

The top of good cement was estimated to be at the sea bed.

CUTTINGS TRANSPORT TABLES

These tables will provide a quick look at hole cleaning and cuttings removal. By controlling the Rate of Penetration (ROP), then raising or lowering the flow rate, or changing the rheological properties of the mud, one can then decide upon the action necessary to provide the most efficient hole cleaning.

In the following tables the data has been calculated for the space between the Drill Collars (DC) and Open Hole (OH). For each interval the cutting sizes are given in decimal inches.

The following gives a brief explanation of the abriviations used:

Vs = slip velocity (m/min)

Vc = annular velocity minus slip velocity

Cf = cuttings generated at the bit
(gallons/gallons of mud)

Ca = cuttings in the annulus
(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

Interval: 131 m. to 186 m. ROP: 3.50 m/hr.

Flow rate 950.0 gpm. Ann.Vel: 5.74 m/min (DP/OH)
MW: 8.6 ppg PV 2 YP 2 Gel (10 sec) 1 YP/PV 1.00
n = 0.585 K = 0.143

Cuttings Density: 2.30 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	17.55	-11.31			
0.750	13.16	-7.42			
0.500	8.78	-3.03			
0.250	4.39	1.35	0.2358	0.0259	0.1098
0.125	1.23	4.51	0.7851	0.0259	0.0330
0.061	0.42	5.32	0.9263	0.0259	0.0279

Cuttings Density: 2.40 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	18.46	-12.72			
0.750	13.85	-8.11			
0.500	9.23	-3.49			
0.250	4.62	1.13	0.1962	0.0259	0.1319
0.125	1.31	4.43	0.7710	0.0259	0.0336
0.061	0.45	5.29	0.9215	0.0259	0.0281

Interval: 131 m. to 186 m. ROP: 3.50 m/hr.

Flow rate 950.0 gpm. Ann.Vel: 5.89 m/min (DC/OH)
MW: 8.6 ppg PV 2 YP 2 Gel (10 sec) 1 YP/PV 1.00
n = 0.585 K = 0.143

Cuttings Density: 2.30 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	18.02	-12.14			
0.750	13.52	-7.63			
0.500	9.01	-3.13			
0.250	4.51	1.38	0.2345	0.0259	0.1104
0.125	1.30	4.53	0.7789	0.0259	0.0332
0.061	0.45	5.44	0.9242	0.0259	0.0280

Cuttings Density: 2.40 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	18.96	-13.07			
0.750	14.22	-8.33			
0.500	9.48	-3.59			
0.250	4.74	1.15	0.1948	0.0259	0.1329
0.125	1.39	4.50	0.7645	0.0259	0.0339
0.061	0.48	5.41	0.9192	0.0259	0.0282

26" PHASE REPORT

26" PHASE

SUMMARY

The 26" hole was drilled from 186.5m (612 ft) to 504.5m (1655 ft) with one bit.

Bit # 2 HUGHES,26" (3*22),after drilling out the cement and casing shoe drilled ahead to 504.5m.A survey was dropped at 368m (1207 ft) but mis-ran twice.After the first attempt the well packed off (20-25000 klbs overpull) and high viscous slugs were pumped after both mis-runs, at the third attempt a deviation of 1 deg was recorded.A survey was dropped at TD with 1/2 deg. deviation and a wiper trip was made to the 30" casing shoe before the bit was pulled out.Whilst tripping out high viscous slugs of mud were circulated after pulling every 4th single. The hole was then conditioned before running in the 20" casing.

WOB/RPM/ROP PRACTICES

One bit drilled this phase in 15.0 hrs. with an average ROP of 21.9 m/hr. On bottom time was 19.5 hrs. which included surveys and circulating time.Drilling practices are summarized below:

DEPTH INTERVAL m	ROP m/hr	WOB klbs	RPM	FR gpm
186.5-504.5	21.9	15.0	105	925

HYDRAULICS

As with the 36" phase,high flow rates and annular velocities must be maintained to achieve good hole cleaning.Cutting removal was again facilitated by circulating the hole with high viscous mud pills,which conditioned and cleaned the hole prior to running the 20" casing.

CASING AND CEMENTATION

1 casing shoe joint,28 joints and an 8m well head of 20" Cameron X-56 133 lb/ft casing were run in and set at 493m (1618 ft),the following were then pumped:

1) 500 bbls of seawater at 8.3 bbl/min.
2) Lead Slurry: 1300 sacks of Class "G" cement at 12.8 ppg mixed with 10.8 gal/sack of mix water,2.5% Pre-hydrated gel at 9 lb/bbl and 0.5% CFR-2 at 1.8 lb/bbl were added.

CASING AND CEMENTATION /cont.

3) Tail Slurry: 500 sacks of Class "G" cement at 15.8 ppg mixed with 5.0 gal/sack of seawater.
4) The cement was displaced with 22.4 bbl of seawater at a rate of 7.5 bbl/min. There was no bleed back.

The top of good cement was estimated to be at the sea bed.

CUTTINGS TRANSPORT TABLES

These tables will provide a quick look at hole cleaning and cuttings removal. By controlling the Rate of Penetration (ROP), then raising or lowering the flow rate, or changing the rheological properties of the mud, one can then decide upon the action necessary to provide the most efficient hole cleaning.

In the following tables the data has been calculated for the space between the Drill Collars (DC) and Open Hole (OH). For each interval the cutting sizes are given in decimal inches.

The following gives a brief explanation of the abriviations used:

Vs = slip velocity (m/min)

Vc = annular velocity minus slip velocity

Cf = cuttings generated at the bit
(gallons/gallons of mud)

Ca = cuttings in the annulus
(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

Interval: 186 m. to 504 m. ROP: 21.90 m/hr.

Flow rate 925.0 gpm. Ann.Vel: 11.22 m/min (DP/OH)
MW: 8.6 ppg PV 2 YP 2 Gel (10 sec) 1 YP/PV 1.00
n = 0.585 K = 0.143

Cuttings Density: 2.30 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	24.16	-12.94			
0.750	13.12	-6.90			
0.500	12.08	-0.86			
0.250	6.04	5.18	0.4616	0.0357	0.0774
0.125	3.02	8.20	0.7308	0.0357	0.0489
0.061	0.30	10.42	0.9285	0.0357	0.0335

Cuttings Density: 2.40 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	25.41	-14.19			
0.750	19.06	-7.84			
0.500	12.71	-1.49			
0.250	6.35	4.87	0.4337	0.0357	0.0824
0.125	3.18	8.04	0.7169	0.0357	0.0498
0.061	0.35	10.36	0.9238	0.0357	0.0387

Interval: 186 m. to 504 m. ROP: 21.90 m/hr.

Flow rate 925.0 gpm. Ann.Vel: 11.80 m/min (DC/OH)
MW: 8.6 ppg PV 2 YP 2 Gel (10 sec) 1 YP/PV 1.00
n = 0.585 K = 0.143

Cuttings Density: 2.30 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	25.19	-13.39			
0.750	18.89	-7.09			
0.500	12.59	-0.80			
0.250	6.30	5.50	0.4663	0.0357	0.0766
0.125	3.15	8.65	0.7331	0.0357	0.0487
0.061	0.87	10.93	0.9261	0.0357	0.0386

Cuttings Density: 2.40 (Limestone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	26.49	-14.70			
0.750	19.87	-8.07			
0.500	13.25	-1.45			
0.250	6.62	5.17	0.4386	0.0357	0.0814
0.125	3.31	8.49	0.7193	0.0357	0.0497
0.061	0.93	10.87	0.9213	0.0357	0.0388

17 1/2" PHASE REPORT

17 ½" PHASE

SUMMARY

The BOP stack and riser string were run in and landed onto the wellhead. Initial BOP tests failed, after checking the test plug however, successful tests were obtained to a pressure of 5000 psi. A new BHA was made up and Bit #2 was run into the hole. Cement was tagged at 487m and the cement, float collar and casing shoe were drilled out with seawater.

The hole was displaced with mud and a LOT performed to 12.5 EMW, before drilling ahead into new formation.

Bit # 2 SMITH DSJ 14 3/4" + 17 ½" U/R (3*24), drilled from 504m to 843m a total of 339m. A survey at 667m recorded 1/2 deg. deviation, at 816m 1/2 deg. deviation and at 843m o degree deviation. The hole was then circulated bottoms up and the bit pulled out.

Bit # 3 SMITH SDT 14 3/4" + 17 1/2" (U/R (3*24) drilled from 843m to 1120m a total of 277m. Several tight spots were encountered during drilling. These were washed and reamed down. Seawater pills were circulated during reaming to alleviate bit balling and from 995m high viscous mud pills were circulated at every second connection. A survey at 995m showed 1/2 deg. deviation and at 1120m 3/4 deg. deviation. The hole was circulated before pulling out the bit.

Bit # 4 SMITH DSJ 14 3/4" + 17 1/2" U/R (3*24) drilled from 1129m to 1514m a total of 394m. The hole was washed and reamed at several spots throughout the drilling operations and circulated for seven minutes at each connection to ensure good hole cleaning. Surveys were dropped at 1276m 1/2 deg. deviation, 1424m, 1¼ deg. deviation and at 1514m ½ deg. deviation. The hole was circulated and the bit pulled out. A test tool was run in the hole to test the BOP's. After testing, the tool was stuck in the stack and a Schlumberger back off tool was used to back off one single above the packer. The fish was then successfully retrieved.

Bit # 5 HUGHES 1GJ 14 3/4" + 17 ½" U/R (3*24) drilled from 1514m to 1603m (13 3/8" casing point) a total of 89m. Again reaming was necessary throughout the bit run. A survey was dropped at 1603m ½ deg deviation and the hole conditioned before logging. A wiper trip was made to the 20" casing shoe, and the hole circulated before finally pulling out. Schlumberger was then rigged up and the open hole logged. The logs run were:

Run 1: SLS, DIL, GR.
Run 2: HDT, CALI
Run 3: Sidewall Cores (30 shot-28 recovered).

DEPTH INTERVAL m	ROP m/hr	WOB klbs	RPM	FP gpm
504-843	30.4	16.0	112	919
843-1120	13.7	27.4	120	905
1120-1514	21.3	18.5	118	895
1514-1603	11.1	29.0	113	865

HYDRAULICS

The phase drilled with generally high ROP values and although high flow rates were maintained,(average 900 gpm.),and good annular velocities were achieved (average 26.77 m/min - 87.8 ft/hr) between DC/CH,and (average 23.9 m/min - 78.6 ft/min) between DP/OH,further measures were taken to ensure good cutting removal and a clean hole.

Throughout the phase,with a fast penetration rate,a great deal of cuttings were generated at the bit,to remove these excessive amounts of cuttings the hole was circulated at connections and often seawater or high viscous mud pills were pumped.This served two purposes:

1) Cleaning the hole effeciently.
2) Reducing the possibility of any bit balling.

The mud system maintained similar PV,YP and Gel values throughout the phase and a good "n"-value (average 0.65) was achieved.The degree of non-Newtonian behavior shown is good and results in an effecient ability to clean and suspend cutting particals.

Cutting removal and hole cleaning throughout the phase is summarized in the cutting transport tables.

Annular flow was turbulent,but did not seem to cause any excessive hole damage,although the Schlumberger Caliper Log did show some washing out of the sand horizons.

In summary,the 17 1/2" phase was drilled with good hole cleaning parameters and cutting removal was successfully achieved without excessive hole damage.

CASING AND CEMENTATION

121 joints,a float collar,casing shoe joint,pup joint and hanger of Buttress N-80 (72 lb/ft) 13 3/8" casing were run in and landed.The casing shoe was set at 1594.5m (5231.5 ft) and the following were then pumped:

1) Circulation:1300 bbls of mud were pumped around the hole at 14 bpm,a total of 1 1/2 hours.
2) Pre-flush:25 bbls of water,the bottom plug was then released at a pressure of 3100 psi.
3) Lead Slurry:1697 sacks of class "G" cement at 12.8 ppg was mixed with 10.8 gal/sack of mixwater,2.5% prehydrated gel at 9 lb/bbl, 0.4% CFR-2 at 1.3 lb/bbl and 0.2% HR-6L at 0.08 gal/bbl were added.

CASING AND CEMENTATION /cont.

4) Tail Slurry:500 sacks of class "G" cement at 15.8 ppg was mixed with 5 gal/sack of drill water,0.1% HR-6L at 0.05 gal/sack was added.
5) Displacement:The cement was displaced with 20 bbls of water and 683 bbls of mud,at a rate of 9 bbl/min.The top plug was released at 3500 psi.The plug was then bumped to a pressure of 1400 psi and held for 30 minutes,there was no bleed back.

The estimated top of cement outside the casing was 341m (1120 ft) based on a Caliper calculated open hole volume.

It was however not possible to maintain pressure when the plug was bumped.The cement and casing were tested,with unsucessful results.An open ended drill string was run in and 200 ft of cement was pumped above the float collar.The cement and casing were again tested,this time sucessfully,to 2500 psi.The cement,float collar and casing shoe were then drilled out,the hole and casing cleaned and an EZSV bridge plug set at 1576m (5171 ft).

The following were then pumped:

1) Sting in and pressure to 1500 psi.Injection rate 10 bbl/minute.
2) Sting out.
3) Pump 62 bbl slurry:300 sacks class "G" cement at 15.8 ppg and 20 bbl mud.
4) Sting in and pressure up to 800 psi in the annulus.
5) Pump 70 bbls of mud and squeeze,final squeeze pressure 2100 psi.
6) Release annular pressure and sting out.
7) POOH with 4 stands and reverse circulate.

Final cement and casing tests were good and the bridge and cement was milled/drilled out.

Phillips Aust Co. Bridgewater Bay # 1 BIT REPORT

BIT No	TYPE	SIZE	NOZZLES	DEP.IN	MTRGE	DRLG HOURS	F/B/C	AVER COST/M $/HR	WOB OS $	KLBS	RPM	FLOW	SPP	HP	HYDRO. POWER TTL	HYDRO. POWER BIT /SI	Remarks
2	SMITH DSJ	14 1/2	24 24 24	504.6	338.0	11.13	2/2/0	30.4	381	16.0	112	910	3230	0.70	17437	1713	7.0	17.5" u/reamer
3	Smith 3DT	14 1/2	24 24 24	843.0	277.0	21.20	6/3/0	13.7	737	27.4	120	905	2460	0.39	13459	1659	7.6	3/8" out gauge
4	Smith DSJ	14 1/2	24 24 24	1120.0	394.0	13.59	8/6/0	21.3	526	18.5	113	905	2555	0.20	10001	1507	7.3	1/4" out gauge
5	Hughes 1GJ	14 1/2	24 24 24	1514.0	89.0	8.00	6/5/0	11.1	1345	28.0	118	855	2500	0.15	17259	1417	6.5	1/8" out gauge

CUTTINGS TRANSPORT TABLES

These tables will provide a quick look at hole cleaning and cuttings removal. By controlling the Rate of Penetration (ROP), then raising or lowering the flow rate, or changing the rheological properties of the mud, one can then decide upon the action necessary to provide the most efficient hole cleaning.

In the following tables the data has been calculated for the space between the Drill Collars (DC) and Open Hole (OH). For each interval the cutting sizes are given in decimal inches.

The following gives a brief explanation of the abriviations used:

Vs = slip velocity (m/min)

Vc = annular velocity minus slip velocity

Cf = cuttings generated at the bit
(gallons/gallons of mud)

Ca = cuttings in the annulus
(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

Interval: 504 m. to 343 m. ROP: 30.40 m/hr.

Flow rate 810.0 gpm. Ann.Vel: 24.41 m/min (DP/OH)
MW: 9.2 ppg PV 6 YP 6 Gel (10 sec) 2 YP/PV 1.00
n = 0.585 K = 0.423

Cuttings Density: 2.70 (Calcarenite)

Cutting size	Vs	Vc	Pct	CE	Ca
1.000	24.10	0.31	0.0125	0.0225	1.7975
0.750	18.00	6.33	0.2594	0.0225	0.0372
0.500	12.05	12.36	0.5063	0.0225	0.0447
0.250	6.03	18.38	0.7531	0.0225	0.0300
0.125	3.01	21.40	0.8766	0.0225	0.0258
0.061	0.82	23.59	0.9665	0.0225	0.0234

Interval: 504 m. to 343 m. ROP: 30.40 m/hr.

Flow rate 810.0 gpm. Ann.Vel: 27.46 m/min (DC/OH)
MW: 9.2 ppg PV 6 YP 6 Gel (10 sec) 2 YP/PV 1.00
n = 0.585 K = 0.423

Cuttings Density: 2.40 (Calcarenite)

Cutting size	Vs	Vc	Pct	CE	Ca
1.000	30.63	-3.17			
0.750	19.50	7.96	0.2899	0.0225	0.0760
0.500	13.00	14.46	0.5266	0.0225	0.0429
0.250	6.50	20.96	0.7633	0.0225	0.0295
0.125	3.25	24.21	0.8816	0.0225	0.0256
0.061	0.85	26.51	0.9654	0.0225	0.0234

Interval: 843 m. to 1120 m. ROP: 13.70 m/hr.

Flow rate 905.0 gpm. Ann.Vel: 24.01 m/min (DP/OH)
MW: 9.1 ppg PV 8 YP 8 Gel (10 sec) 3 YP/PV 0.89
n = 0.613 K = 0.516

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	20.52	3.42	0.1421	0.0103	0.0728
0.750	15.47	8.57	0.3566	0.0103	0.0290
0.500	10.31	13.73	0.5711	0.0103	0.0161
0.250	5.16	18.88	0.7855	0.0103	0.0132
0.125	1.80	22.24	0.9253	0.0103	0.0112
0.061	0.62	23.42	0.9744	0.0103	0.0103

Cuttings Density: 2.40 (Calcarenite)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	21.74	2.20	0.0955	0.0103	0.1004
0.750	16.31	7.73	0.3216	0.0103	0.0322
0.500	10.87	13.17	0.5477	0.0103	0.0169
0.250	5.44	18.60	0.7739	0.0103	0.0134
0.125	1.92	22.12	0.9202	0.0103	0.0112
0.061	0.66	23.38	0.9726	0.0103	0.0103

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	22.84	1.20	0.0500	0.0103	0.2071
0.750	17.13	6.91	0.2875	0.0103	0.0360
0.500	11.42	12.62	0.5250	0.0103	0.0177
0.250	5.71	18.33	0.7625	0.0103	0.0136
0.125	2.04	22.00	0.9152	0.0103	0.0113
0.061	0.70	23.34	0.9709	0.0103	0.0107

Interval: 843 m. to 1120 m. ROP: 13.70 m/hr.

Flow rate 905.0 gpm. Ann.Vel: 27.84 m/min (DC/OH)
MW: 9.1 ppg PV 9 YP 8 Gel (10 sec) 3 YP/PV 0.89
n = 0.613 K = 0.516

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	22.26	4.78	0.1767	0.0103	0.0535
0.750	16.70	10.35	0.3825	0.0103	0.0270
0.500	11.13	15.91	0.5884	0.0103	0.0176
0.250	5.57	21.43	0.7942	0.0103	0.0130
0.125	2.78	24.26	0.8971	0.0103	0.0113
0.061	0.72	26.33	0.9735	0.0103	0.0106

Cuttings Density: 2.40 (Calcarenite)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	23.48	3.57	0.1319	0.0103	0.0794
0.750	17.61	9.44	0.3490	0.0103	0.0297
0.500	11.74	15.31	0.5660	0.0103	0.0183
0.250	5.87	21.17	0.7830	0.0103	0.0132
0.125	2.93	24.11	0.8915	0.0103	0.0115
0.061	0.77	26.28	0.9716	0.0103	0.0105

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	24.66	2.39	0.0883	0.0103	0.1172
0.750	18.49	8.55	0.3162	0.0103	0.0327
0.500	12.33	14.72	0.5441	0.0103	0.0190
0.250	6.16	20.83	0.7721	0.0103	0.0134
0.125	3.08	23.96	0.8860	0.0103	0.0117
0.061	0.82	26.23	0.9698	0.0103	0.0107

Interval: 1120 m. to 1514 m. ROP: 21.30 m/hr.

Flow rate 895.0 gpm. Ann.Vel: 23.77 m/min (DP/OH
MW: 9.2 ppg PV 7 YP 7 Gel (10 sec) 2 YP/PV 1.00
n = 0.585 K = 0.409

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	22.07	1.71	0.0717	0.0163	0.2267
0.750	16.55	7.22	0.3038	0.0163	0.0535
0.500	11.03	13.74	0.5359	0.0163	0.0304
0.250	5.52	18.26	0.7679	0.0163	0.0212
0.125	2.76	21.01	0.8840	0.0163	0.0184
0.061	0.71	23.06	0.9700	0.0163	0.0168

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	24.41	-0.59			
0.750	18.30	5.43	0.2283	0.0163	0.0713
0.500	12.23	11.54	0.4855	0.0163	0.0335
0.250	6.12	17.66	0.7423	0.0163	0.0219
0.125	3.06	20.72	0.8714	0.0163	0.0187
0.061	0.81	22.96	0.9659	0.0163	0.0169

Interval: 1120 m. to 1514 m. ROP: 21.30 m/hr.

Flow rate 895.0 gpm. Ann.Vel: 26.74 m/min (DC/OH)
MW: 9.2 ppg PV 7 YP 7 Gel (10 sec) 2 YP/PV 1.00
n = 0.585 K = 0.409

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	23.75	2.99	0.1119	0.0163	0.1454
0.750	17.81	9.93	0.3339	0.0163	0.0487
0.500	11.88	14.97	0.5559	0.0163	0.0293
0.250	5.94	20.81	0.7780	0.0163	0.0209
0.125	2.97	23.78	0.8890	0.0163	0.0183
0.061	0.83	25.92	0.9691	0.0163	0.0168

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	31.79	-5.04			
0.750	19.75	7.00	0.2617	0.0163	0.0622
0.500	13.16	13.58	0.5073	0.0163	0.0320
0.250	6.58	20.16	0.7539	0.0163	0.0216
0.125	3.29	23.45	0.8769	0.0163	0.0185
0.061	0.94	25.81	0.9649	0.0163	0.0169

Interval: 1514 m. to 1603 m. ROP: 11.10 m/hr.

Flow rate 365.0 gpm. Ann.Vel: 22.93 m/min (DP/OH)
MW: 9.2 ppg PV 7 YP 8 Gel (10 sec) 2 YP/PV 1.14
n = 0.552 K = 0.643

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	21.74	1.24	0.0538	0.0038	0.1629
0.750	16.30	6.67	0.2904	0.0038	0.0302
0.500	10.87	12.11	0.5269	0.0038	0.0166
0.250	5.43	17.54	0.7635	0.0038	0.0115
0.125	1.90	21.00	0.9140	0.0038	0.0093
0.061	0.63	22.30	0.9705	0.0038	0.0090

Cuttings Density: 2.40 (Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	22.32	0.66	0.0287	0.0038	0.3054
0.750	16.74	5.24	0.2715	0.0038	0.0323
0.500	11.16	11.82	0.5144	0.0038	0.0171
0.250	5.58	17.40	0.7572	0.0038	0.0116
0.125	2.04	20.94	0.9112	0.0038	0.0096
0.061	0.70	22.28	0.9695	0.0038	0.0090

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	23.45	-0.47			
0.750	17.59	5.39	0.2346	0.0038	0.0374
0.500	11.72	11.25	0.4897	0.0038	0.0179
0.250	5.86	17.11	0.7449	0.0038	0.0118
0.125	2.17	20.80	0.9055	0.0038	0.0097
0.061	0.74	22.23	0.9676	0.0038	0.0091

Interval: 1514 m. to 1603 m. ROP: 11.10 m/hr.

Flow rate 365.0 gpm. Ann.Vel: 25.85 m/min (DC/OH)
MW: 9.2 ppg PV 7 YP 3 Gel (10 sec) 2 YP/PV 1.14
n = 0.552 K = 0.543

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	23.40	2.45	0.0947	0.0088	0.0026
0.750	17.55	8.30	0.3211	0.0088	0.0273
0.500	11.70	14.15	0.5474	0.0088	0.0160
0.250	5.85	20.00	0.7737	0.0088	0.0113
0.125	2.92	22.92	0.8866	0.0088	0.0099
0.061	0.73	25.06	0.9696	0.0088	0.0090

Cuttings Density: 2.40 (Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	24.02	1.03	0.0707	0.0088	0.1249
0.750	18.02	7.03	0.3039	0.0088	0.0239
0.500	12.01	13.04	0.5354	0.0088	0.0164
0.250	6.01	19.04	0.7677	0.0088	0.0114
0.125	3.00	22.05	0.8838	0.0088	0.0099
0.061	0.81	25.04	0.9686	0.0088	0.0091

Cuttings Density: 2.50 (Sand)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	25.24	0.61	0.0236	0.0088	0.3724
0.750	18.93	6.92	0.2677	0.0088	0.0328
0.500	12.62	13.23	0.5118	0.0088	0.0171
0.250	6.31	19.54	0.7559	0.0088	0.0116
0.125	3.15	22.69	0.8779	0.0088	0.0100
0.061	0.86	24.93	0.9655	0.0088	0.0091

12 1/4" PHASE REPORT

12 ¼" PHASE

SUMMARY

The 12 ¼" BHA was made up with Bit # 6, a SMITH FDGH (3*14). However, on running in a leak was found in the kill lines. So the bit was pulled to allow work to be done on the BOP stack. The BOP stack was then lowered and tested with no leaks. Bit # 6 was then rerun and tagged the cement at 1515m, which was drilled down to 1597m. There was no cement found between the float collar and the casing shoe. A leak off test performed at this depth gave an equivalent mud weight (EMW) of 12.9 ppg. The casing was then scraped and an EZSV bridge plug set at 1576m, which gave a good test. an RTTS was run into the hole and stung into the EZSV. This failed on being tested through the drill pipe. The casing was then re-cemented and squeezed (for details of this see 17 ½" PHASE CASING AND CEMENTATION section). Bit # 6 was then run into the hole again to drill out the cement from 1563m to the bridge plug at 1576. A mill bit was then used to drill out the bridge plug, after which the casing was tested and the cement held. The cement was drilled out to 1595m with Bit # 6RR at which point another leak off test was performed giving an EMW of 13.0 ppg. The 12 ¼" hole was then ready to be drilled. The bits used during this phase were as follows:

Bit # 7, a SMITH FDGH 12 ¼" (3*14) drilled from 1603m to 1812m, a total of 209m. Prior to drilling this phase the drilling mud was changed to KCl based fluid. A deviation survey taken just before pulling the bit gave 1 degree.
Bit # 8, a REED HS51J 12¼" (3*14) drilled from 1812m to 2112m, a total of 300m. Before drilling the last 3 stands had to be reamed. A survey gave 1 degree deviation. On pulling the bit the BOP's were tested with no problems.

Bit # 9, a REED HS51J 12 ¼" (3*14) drilled from 2112m to 2224m, a total of 112m. A survey taken prior to pulling the bit gave a 1/2 degree deviation.

Bit # 10, a SMITH FDGH 12 ¼" (3*14) drilled from 2224m to 2343m, a total of 119m. A ½ degree deviation was recorded on pulling the bit.

Bit # 11, a SMITH FDGH 12 ¼" (3*14) drilled from 2343m to 2434m, a total of 91m. There was no deviation found on dropping a survey.

Bit # 12, a SMITH F2 12 ¼" (3*14) drilled from 2434m to 2469m, a total of just 35m. This bit was pulled early after it was found to be drilling very slowly.

Bit # 13, a DIAMAX MS5 12 ¼" (TFA : 1.05), this diamond bit was run into the hole with a turbo, but undergauged hole was encountered at 1786m. The hole was reamed from 1786m to 1808m. A short trip was made here and the hole found to be in good condition. Reaming was then continued from 1808m down to 2235m. Another wiper trip here found the hole still

in good condition and reaming continued to 2335m. The bit was then pulled.

Bit # 14, a SMITH SDGH 12 ¼" (3*14) was then run in to 2191.5m and reamed down to 2243m. At this point a loss of 125000 lbs was recorded at 450 amps, from this it was deduced that a "twist-off" had occured.
On pulling the remainder of the string it was found that 10 stands and a double of drill pipe and the BHA were left in the hole.

A new fishing BHA was then made up with a 6 5/8" overshot. The fish was tagged at 1810m, but could not be latched onto. It was suspected that the fish was lying against the side of the hole. A second attempt was made whilst awaiting parts from town, but this was also unsucessful. A mill bit was then run in to mill the tool joint down about 60 cms. An 11 3/4" overshot was then run and sucessfully latched onto the fish, an overpull of about 30000 lbs was recorded whilst working the pipe. The fish was then pulled out and all the drill pipe laid down. A new BHA was made up to continue drilling:

Bit # 15, a SMITH SDGH 12 ¼" (3*14), reamed 2243m to 2469m, and drilled from 2469m to 2499m, a total of 30m. A ½ degree deviation was recorded.

Bit # 16, an LX 27 HS 12 ¼" (TFA : 1.1) was run in with a turbo and drilled from 2499m to 2693m, a total of 194m with a moderate rate of penetration.

Bit # 17, a DIAMAX ADS2 12 ¼" (TFA : 1.1) drilled from 2693m to 2869m, a total of 176m. A survey dropped prior to pulling the bit gave a deviation of 3/4 degree.

Bit # 18, a CHRISTENSEN P26LF 12 ¼" (TFA : 1.05) drilled from 2869m to 3071m, a total of 202m. A survey gave 3/4 degree.

Bit # 19, a DIAMAX MS5 12 ¼" (TFA : 1.1) drilled from 3071m to 3113m, a total of only 42m. This bit was pulled due to its very poor rate of penetration.

Bit # 20, an LX 27 HS 12 ¼" (TFA : 1.1) drilled from 3113m to 3549m, a total of 436m. The drilling rate was remarkably constant during the entire bit run.

The original T.D. was exceeded due to the fact that the sands which were expected in the Waarre Formation (Upper Cretaceous) had not been encountered. Palaeontological dating of a spot sample taken at 3495m gave a date of Upper Cretaceous age in the Belfast Formation. It was therefore thought that the Waarre Formation sands were located lower in the sequence.

Bit # 21, an LX 27 HS 12 ¼" (TFA : 1.1) was then run into the 13 3/8 casing shoe. Bad weather then prevented drilling.

During this bad weather 2 anchors shifted and the rig moved some 10m off location. After the storm the rig was relocated. Bit # 21 was then run into the hole and tagged a bridge at 3365m. The hole had to be reamed from here, however progress was slow and Bit # 21 was pulled to be replaced by a convetional rock bit, Bit # 22.

Bit # 22, a SMITH SDGH 12 ¼" (3*12) tagged the bridge at 3359m and reamed to 3443m, high torque and drag were encountered all the way. It was thought that this could possibly be due to the stabilisers, so the bit was pulled.

Bit # 23, a SMITH SDGH 12 ¼" (3*12) was run in without stabilisers to continue to ream. Reaming commenced at 3429m, but the bit had to be pulled back to the shoe to wait out another storm. Reaming was then continued from 3454m and was extremely slow with high torque and drag. When pulled, the bit was found to be severely undergauged (3/8 th).

Bit # 24, a REED FP53J 12 1/4" (3*14) reamed down to T.D. A wiper trip was made to ensure that the hole was in good condition prior to logging and casing. The following Schlumberger logs were run:

DIL - SLS - GR
LDL - CNL - Cal - GR
HDT
CST (51 side wall cores shot)

WOB/RPM/ROP PRACTICES

The phase was completed using a total of 18 bits for the 1946m drilled. The total drilling time was 222 hours, giving an average ROP throughout the phase of 8.8 m/hr (28.9 ft/hr). The total bottom hole time, including circulation and reaming (excluding W.O.W.), was 339 hours. The average ROP for this was 5.7 m/hr (18.8 ft/hr). The drilling practices are summerised in the table below :

DEPTH INTERVAL m	ROP m/hr	WOB klb	RPM	PP gpm
1602 - 1812	14.7	37	105	570
1812 - 2112	16.9	39	105	550
2112 - 2224	7.9	43	105	530
2224 - 2374	15.9	42	70	530
2374 - 2415	24.0	42	70	530
2415 - 2467	6.5	42	75	530
2467 - 2499	8.1	36	75	560
2499 - 2639	10.0	35	600	690
2639 - 2731	16.8	25	600	675
2731 - 2869	6.2	38	600	650
2869 - 3022	10.4	25	600	675
3022 - 3549	5.9	50	600	650

HYDRAULICS AND SOLIDS CONTROL

This section, as far as drilling is concerned, must be divided up into 2 sections:

Section I - Conventional Bits.
Section II - Diamond and Stratapax Bits.

Section I :

Bits # 7 to # 15 were all run using 3 * 14 nozzles. These gave extremely good percentage losses at the bit and good HP/SQ In values. The percentage losses ranged from 57% to 62.4% (accepted values range from 48% to 65%). The HP/SQ In values ranged from 3.1 to 4.0, this latter value is the extreme value of the accepted norm. These parameters gave rise to optimum drilling conditions and the corresponding rates of penetration were fairly good, especially at the start of the phase.

However, further down the hole the ROP's slowly decreased and it was for this reason that the conventional rock bits were exchanged for the diamond bits with turbo drill.

The n and k values ranged from 0.5 - 0.6 and o.6 - 1.0 respectively. These, together with the flow rates used, led to Laminar flow for most of the section. Turbulent flow was recorded during Bit # 10, but this was just in the turbulent range and appeared to have no adverse affect on the hole condition. The hole cleaning and cuttings transport was excellent throughout the section, with little cavings encountered whilst drilling. The mud weight was increased from 9.2 ppg to 9.5 ppg.

Section II:

Bits # 16 to 20 were all diamond or stratapax bits with TFA between 1.05 and 1.1. Percentage losses and HP/SQ In at the bits were all low for these runs. However, this is expected with this type of bit due to the fact that their manner of drilling is different to conventional rock bits. The percentage losses and HP/SQ In ranged from 18.7% to 24.5% and 1.0 to 1.4 respectively. According to the Power law the flow around the Drill Collars and the HWDP was tubulent during most of this phase. However, this appears to have had no adverse affect on the condition of the hole. This was probably due to the nature of the rock, which was not prone to washing out. The n and k values were very much the same as for the previous section and hole cleaning and cuttings transport were again excellent.

The problems came when the phase was interrupted for several days by storms, which had to be waited out at the 13 3/8" casing shoe. On going back into the hole it was found to have closed off from 3365m to T.D. The mud weight was slowly brought up from 9.9 ppg to 12.5 ppg over a period of several days. A final resort was to add 10% diesel which allowed the hole to be reamed to bottom. A lot of cuttings were obtained whilst reaming and the majority was siltstone. These cuttings had a blocky nature and this indicated some caving. The mechanism that caused the closure of the hole was suspected to be overpressuring. This was later proved when electric logs of the interval were studied. A secondary mechanism may have been hydration of the clays and claystones. T.D. was eventually reached and a wiper trip gave only a little drag and this was circulated out.

The mud used throughout this phase was a KCl (potassium chloride) based mud, this was used to try to prevent too much hydration of the clays.

CASING AND CEMENTATION

287 joints of 9 5/8" casing were run, in were this included 43 joints of P-110, 94 joints of L-80 and 150 joints of N-80 (all joints weighed 47 lb/ft). The casing shoe was set at 3519.5m. The casing was run in smoothly with no excessive drag recorded.

The casing was circulated for 2 hours with drill mud during which time heavy cavings and mud losses were encountered. The cementation then followed:

1). Preflush: 100 bbls of seawater at 1300 psi to release the bottom plug.

2). Lead Slurry: 840 sacks of "G" class cement mixed with :
14.2 gal/sack of drillwater.
3.7% Gel.
0.5% CFP-2.
This gave a weight of 12.0 ppg.

3). Tail Slurry: 500 sacks of "G" class cement with :
5.0 gal/sack of drillwater.
0.5% CFP-2.
0.8% Halad 22A.
0.1% HR-6L.
This gave a weight of 15.8 ppg.

4). Displacement: 816 bbls of drillmud was pumped at 4300 psi during 1 1/2 hours. The plug was then bumped for 15 mins before 2.25 bbl of mud was bled back.

The estimated top of cement, outside the casing, was 2081m (based on caliper log).

Phillips Aust Co. Bridgewater Bay # 1 BIT REPORT

BIT No	TYPE	SIZE	NOZZLES	DEP.IN	MTRGE	DRLNG HOURS	T/D/C	AVER COST/M M/HR	US $	WOB KLBS	RPM	FLOW	SPP	MW	HYDRO. POWER TTL	HYDRO. POWER BIT /SI	Remarks
7	Smith SDGH	12 1/4	14 14 14	1603.0	209.0	14.10	8/7/C	14.8	855	36.5	105	572	2775	9.20	13189	3576 23.8	1/4" out gauge
8	Reed HS51J	12 1/4	14 14 14	1812.0	300.0	17.50	4/3/O	17.1	689	39.0	105	550	2845	9.40	13002	3250 21.7	1/16" out gauge
9	Reed HS51J	12 1/4	14 14 14	2112.0	112.0	14.10	6/5/I	7.9	1592	43.0	105	530	2925	9.50	12441	2939 19.6	
10	Smith FDGH	12 1/4	14 14 14	2224.0	119.0	7.30	4/3/O	16.3	1015	42.0	71	530	2850	9.50	12551	2939 19.6	3/16" out gauge
11	Smith FDGH	12 1/4	14 14 14	2343.0	91.0	14.50	3/3/O	6.3	2078	42.0	71	531	2870	9.50	12663	2956 19.7	1/4" out gauge
12	Smith F2	12 1/4	14 14 14	2434.0	35.0	8.37	1/2/I	4.2	4020	42.0	69	522	2845	9.50	12510	2922 19.5	
13	Diamax MS5	12 1/4	T: 1.05	2469.0						20.0	105	490	1750	9.50	7125	$$$$$$$$	Bearing
14	Smith SDGH	12 1/4	14 14 14	2469.0						5.0	140	520	1600	9.60	6913	2305 19.7	Twisted off
15	Smith SDGH	12 1/4	14 14 14	2469.0	30.0	3.53	1/2/I	8.5	3852	35.9	77	557	2520	9.60	11663	3447 23.0	
16	LX 27 HS	12 1/4	T: 1.10	2499.0	194.0	16.31		11.9	1455	33.1	600	696	3120	9.60	17734	$$$$$$$$	
17	D'max ADS2	12 1/4	T: 1.10	2693.0	176.0	28.30		6.2	2115	37.7	600	650	3145	9.70	16986	$$$$$$$$	
18	CTP P26IF	12 1/4	T: 1.05	2869.0	202.0	24.60		8.2	1601	24.6	600	665	3150	9.80	17627	$$$$$$$$	
19	Diamax MS5	12 1/4	T: 1.05	3071.0	42.0	10.00		4.2	5042	40.6	600	655	3330	9.80	12124	$$$$$$$$	
20	LX 27 HS	12 1/4	T: 1.10	3113.0	436.0	73.60		5.9	1742	49.8	600	652	3570	9.80	19341	$$$$$$$$	
21	LX 27 HS	12 1/4	T: 1.10	3549.0						25.0	110	600	3700	9.90	12446	$$$$$$$$	
22	Smith SDGH	12 1/4	12 12 12	3549.0			1/1/C			10.0	140	500	3200	10.50	15608	8302 55.3	1/16 out gauge
23	Smith SDGH	12 1/4	12 12 12	3549.0			2/2/O			8.0	140	575	3200	12.50	15289	9149 61.0	3/8 out gauge
24	Reed FP53J	12 1/4	14 14 14	3549.0			1/1/O			5.0	110	550	3050	12.50	13039	4322 28.8	1/4 out gauge

CUTTINGS TRANSPORT TABLES

These tables will provide a quick look at hole cleaning and cuttings removal. By controlling the Rate of Penetration (ROP), then raising or lowering the flow rate, or changing the rheological properties of the mud, one can then decide upon the action necessary to provide the most efficient hole cleaning.

In the following tables the data has been calculated for the space between the Drill Collars (DC) and Open Hole (OH). For each interval the cutting sizes are given in decimal inches.

The following gives a brief explanation of the abriviations used:

Vs = slip velocity (m/min)

Vc = annular velocity minus slip velocity

Cf = cuttings generated at the bit
(gallons/gallons of mud)

Ca = cuttings in the annulus
(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

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(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

Interval: 1603 m. to 1812 m. ROP: 14.70 m/hr.

Flow rate 570.0 gpm. Ann.Vel: 47.31 m/min (DC/OH)
MW: 9.2 ppg PV 9 YP 15 Gel (10 sec) 3 YP/PV 1.67
n = 0.459 K = 1.749

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	31.79	15.53	0.3282	0.0086	0.0263
0.750	20.63	26.50	0.5641	0.0086	0.0153
0.500	13.75	33.56	0.7094	0.0086	0.0122
0.250	6.88	40.44	0.8547	0.0086	0.0101
0.125	3.44	43.88	0.9273	0.0086	0.0093
0.061	1.92	46.30	0.9785	0.0086	0.0088

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	30.03	17.20	0.3553	0.0086	0.0236
0.750	19.12	28.19	0.5959	0.0086	0.0145
0.500	12.75	34.57	0.7306	0.0086	0.0110
0.250	6.37	40.94	0.8653	0.0086	0.0100
0.125	3.19	44.13	0.9326	0.0086	0.0093
0.061	0.93	46.39	0.9804	0.0086	0.0088

Interval: 1812 m. to 2112 m. ROP: 16.00 m/hr.

Flow rate 550.0 gpm. Ann.Vel: 45.65 m/min (DC/OH)
MW: 9.4 ppg PV 10 YP 13 Gel (10 sec) 3 YP/PV 1.30
n = 0.521 K = 1.181

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	31.18	14.43	0.3171	0.0103	0.0325
0.750	20.26	24.79	0.5430	0.0103	0.0190
0.500	13.51	31.74	0.6953	0.0103	0.0148
0.250	6.85	38.70	0.8477	0.0103	0.0121
0.125	3.48	42.18	0.9238	0.0103	0.0111
0.061	1.06	44.59	0.9767	0.0103	0.0105

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	29.42	16.23	0.3555	0.0103	0.0289
0.750	19.32	26.34	0.5769	0.0103	0.0178
0.500	12.98	32.78	0.7179	0.0103	0.0143
0.250	6.44	39.21	0.8590	0.0103	0.0120
0.125	3.22	42.43	0.9295	0.0103	0.0111
0.061	0.96	44.59	0.9739	0.0103	0.0105

Interval: 2112 m. to 2224 m. ROP: 7.00 m/hr.

Flow rate 530.0 gpm. Ann.Vel: 43.99 m/min (DC/OH)
PV: 2.0 mPa Pv 8 YP 8 Gel (10 sec) 2 YP/Pv 1.00
n = 0.535 K = 0.441

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	30.52	13.41	0.3048	0.0050	0.0164
0.750	26.48	17.51	0.3981	0.0050	0.0135
0.500	15.27	21.72	0.5529	0.0050	0.0076
0.250	7.64	36.36	0.8264	0.0050	0.0060
0.125	3.82	40.18	0.9132	0.0050	0.0055
0.061	1.31	42.69	0.9703	0.0050	0.0051

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	28.73	15.15	0.3447	0.0050	0.0145
0.750	24.87	19.03	0.4325	0.0050	0.0115
0.500	14.12	29.36	0.6701	0.0050	0.0074
0.250	7.06	36.93	0.8393	0.0050	0.0059
0.125	3.53	40.46	0.9198	0.0050	0.0054
0.061	1.13	42.81	0.9731	0.0050	0.0051

Interval: 2224 m. to 2374 m. ROP: 15.00 m/hr.

Flow rate 530.0 gpm. Ann.Vel: 43.99 m/min (DC/OH)
PV: 2.0 mPa Pv 12 YP 12 Gel (10 sec) 2 YP/Pv 1.00
n = 0.535 K = 0.355

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	30.88	13.12	0.2982	0.0100	0.0337
0.750	21.33	22.66	0.5151	0.0100	0.0195
0.500	14.22	29.77	0.6767	0.0100	0.0143
0.250	7.11	36.88	0.8384	0.0100	0.0120
0.125	3.56	40.44	0.9192	0.0100	0.0103
0.061	1.12	42.87	0.9745	0.0100	0.0103

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	29.13	14.87	0.3380	0.0100	0.0297
0.750	19.74	24.26	0.5514	0.0100	0.0132
0.500	13.16	30.84	0.7009	0.0100	0.0143
0.250	6.58	37.42	0.8505	0.0100	0.0118
0.125	3.29	40.70	0.9252	0.0100	0.0109
0.061	1.02	42.93	0.9769	0.0100	0.0103

Interval: 2374 m. to 2415 m. ROP: 24.00 m/hr.

Flow rate 530.0 gpm. Ann.Vel: 43.99 m/min (DC/OH)
MW: 9.5 ppg PV 12 YP 11 Gel (10 sec) 2 YP/PV 0.92
n = 0.605 K = 0.723

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	30.83	13.12	0.2932	0.0152	0.0509
0.750	21.80	22.19	0.5045	0.0152	0.0301
0.500	14.53	29.46	0.6697	0.0152	0.0226
0.250	7.27	36.73	0.8348	0.0152	0.0132
0.125	3.63	40.36	0.9174	0.0152	0.0165
0.061	1.17	42.32	0.9734	0.0152	0.0156

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	29.13	14.87	0.3330	0.0152	0.0449
0.750	20.17	23.83	0.5416	0.0152	0.0280
0.500	13.44	30.56	0.6944	0.0152	0.0210
0.250	6.72	37.27	0.8472	0.0152	0.0179
0.125	3.36	40.63	0.9236	0.0152	0.0164
0.061	1.06	42.93	0.9759	0.0152	0.0155

Interval: 2415 m. to 2467 m. ROP: 6.50 m/hr.

Flow rate 530.0 gpm. Ann.Vel: 43.99 m/min (DC/OH)
MW: 9.5 ppg PV 13 YP 14 Gel (10 sec) 5 YP/PV 1.08
n = 0.567 K = 1.055

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	23.83	20.16	0.4583	0.0041	0.0090
0.750	17.87	26.12	0.5937	0.0041	0.0069
0.500	11.92	32.08	0.7291	0.0041	0.0056
0.250	5.96	38.04	0.8646	0.0041	0.0048
0.125	2.98	41.01	0.9323	0.0041	0.0044
0.061	0.83	43.16	0.9810	0.0041	0.0042

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Pct	Cf	Ca
1.000	23.17	20.82	0.4733	0.0041	0.0037
0.750	17.38	26.61	0.6049	0.0041	0.0068
0.500	11.59	32.41	0.7366	0.0041	0.0056
0.250	5.79	38.20	0.8683	0.0041	0.0047
0.125	2.90	41.10	0.9342	0.0041	0.0044
0.061	0.81	43.19	0.9817	0.0041	0.0042

Interval: 2467 m. to 2499 m. ROP: 3.19 m/hr.

Flow rate 560.0 gpm. Ann.Vel: 46.48 m/min (DC/OH)
MW: 9.5 ppg PV 10 YP 9 Gel (10 sec) 2 YP/PV 0.90
n = 0.610 K = 0.587

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	30.88	15.61	0.3358	0.0043	0.0144
0.750	26.74	19.74	0.4243	0.0043	0.0114
0.500	15.50	30.93	0.6666	0.0043	0.0073
0.250	7.75	38.73	0.8333	0.0043	0.0058
0.125	3.87	42.61	0.9166	0.0043	0.0053
0.061	1.33	45.15	0.9714	0.0043	0.0050

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	29.13	17.36	0.3734	0.0043	0.0130
0.750	25.22	21.26	0.4574	0.0043	0.0106
0.500	14.34	32.14	0.6915	0.0043	0.0070
0.250	7.17	39.31	0.8456	0.0043	0.0057
0.125	3.58	42.90	0.9229	0.0043	0.0052
0.061	1.21	45.23	0.9740	0.0043	0.0050

Interval: 2499 m. to 2639 m. ROP: 10.00 m/hr.

Flow rate 600.0 gpm. Ann.Vel: 57.27 m/min (DC/OH)
MW: 9.5 ppg PV 10 YP 10 Gel (10 sec) 2 YP/PV 1.00
n = 0.585 K = 0.713

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	29.13	28.15	0.4915	0.0049	0.0099
0.750	25.22	32.05	0.5596	0.0049	0.0087
0.500	14.43	42.79	0.7472	0.0049	0.0065
0.250	7.24	50.03	0.8736	0.0049	0.0056
0.125	3.62	53.65	0.9368	0.0049	0.0052
0.061	1.23	56.04	0.9785	0.0049	0.0050

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	28.52	28.76	0.5021	0.0049	0.0097
0.750	24.70	32.58	0.5688	0.0049	0.0085
0.500	14.08	43.19	0.7542	0.0049	0.0064
0.250	7.04	50.23	0.8771	0.0049	0.0055
0.125	3.52	53.75	0.9385	0.0049	0.0052
0.061	1.19	56.08	0.9792	0.0049	0.0050

Interval: 2630 m. to 2731 m. ROP: 16.30 m/hr.

Flow rate 675.0 gpm. Ann.Vel: 56.03 m/min (DC/OH)
MW: 9.8 ppg PV 10 YP 9 Gel (10 sec) 2 YP/PV 0.90
n = 0.610 K = 0.587

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	28.25	27.73	0.4359	0.0083	0.0168
0.750	24.46	31.57	0.5634	0.0083	0.0148
0.500	14.34	41.69	0.7441	0.0083	0.0112
0.250	7.17	48.86	0.8720	0.0083	0.0096
0.125	3.58	52.44	0.9360	0.0083	0.0089
0.061	1.25	54.73	0.9773	0.0083	0.0085

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.64	28.39	0.5067	0.0083	0.0165
0.750	23.94	32.09	0.5723	0.0083	0.0146
0.500	13.93	42.10	0.7514	0.0083	0.0111
0.250	6.97	49.06	0.8757	0.0083	0.0095
0.125	3.48	52.55	0.9378	0.0083	0.0089
0.061	1.20	54.83	0.9786	0.0083	0.0085

Interval: 2731 m. to 2869 m. ROP: 6.20 m/hr.

Flow rate 650.0 gpm. Ann.Vel: 53.95 m/min (DC/OH)
MW: 9.8 ppg PV 10 YP 9 Gel (10 sec) 2 YP/PV 0.90
n = 0.610 K = 0.587

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	28.25	25.71	0.4765	0.0032	0.0067
0.750	24.46	29.49	0.5466	0.0032	0.0058
0.500	14.25	39.70	0.7358	0.0032	0.0043
0.250	7.13	46.83	0.8679	0.0032	0.0037
0.125	3.56	50.39	0.9340	0.0032	0.0034
0.061	1.23	52.72	0.9772	0.0032	0.0033

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.64	26.31	0.4877	0.0032	0.0066
0.750	23.94	30.02	0.5563	0.0032	0.0057
0.500	13.85	40.11	0.7434	0.0032	0.0043
0.250	6.92	47.03	0.8717	0.0032	0.0037
0.125	3.46	50.49	0.9358	0.0032	0.0034
0.061	1.19	52.77	0.9780	0.0032	0.0033

Interval: 2849 m. to 3022 m. ROP: 10.40 m/hr.

Flow rate 575.0 gpm. Ann.Vel: 56.03 m/min (DC/OH)
MW: 9.9 ppg PV 10 YP 9 Gel (10 sec) 2 YP/PV 0.90
n = 0.610 K = 0.587

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.96	28.07	0.5010	0.0052	0.0103
0.750	24.21	31.81	0.5673	0.0052	0.0091
0.500	14.10	41.84	0.7467	0.0052	0.0069
0.250	7.10	48.93	0.8733	0.0052	0.0059
0.125	3.55	52.48	0.9367	0.0052	0.0055
0.061	1.23	54.80	0.9780	0.0052	0.0053

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.35	28.68	0.5118	0.0052	0.0101
0.750	23.69	32.34	0.5772	0.0052	0.0089
0.500	13.76	42.25	0.7540	0.0052	0.0063
0.250	6.89	49.14	0.8770	0.0052	0.0059
0.125	3.45	52.58	0.9385	0.0052	0.0055
0.061	1.19	54.84	0.9788	0.0052	0.0053

Interval: 3022 m. to 3549 m. ROP: 5.90 m/hr.

Flow rate 550.0 gpm. Ann.Vel: 53.95 m/min (DC/OH)
MW: 9.9 ppg PV 10 YP 10 Gel (10 sec) 2 YP/PV 1.00
n = 0.535 K = 0.713

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.96	25.99	0.4818	0.0030	0.0063
0.750	24.21	29.74	0.5512	0.0030	0.0055
0.500	13.77	40.19	0.7448	0.0030	0.0041
0.250	6.88	47.07	0.8724	0.0030	0.0035
0.125	3.44	50.51	0.9362	0.0030	0.0032
0.061	1.16	52.79	0.9785	0.0030	0.0031

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	27.35	26.60	0.4930	0.0030	0.0062
0.750	23.69	30.27	0.5609	0.0030	0.0054
0.500	13.37	40.58	0.7522	0.0030	0.0040
0.250	6.68	47.27	0.8761	0.0030	0.0035
0.125	3.34	50.61	0.9381	0.0030	0.0032
0.061	1.12	52.84	0.9793	0.0030	0.0031

8 1/2" PHASE REPORT

8 1/2" PHASE

SUMMARY

After running the 9 5/8" casing to 3519.5m, the surface lines and the BOP's were tested to satisfactory levels. The 12 1/4" BHA was then laid out and the new 8 ½" assembly picked up together with Bit # 25. This bit was run into the hole and tagged the cement at 3491m. It then drilled down through the cement, float collar and casing shoe to 3519m. A short time was then spent waiting on weather before continuing to try to drill out the rest of the rat hole. However, the hole had packed off and no headway could be made. The mud weight was then brought up to 13.0 ppg and another attempt was made at reaming, but to no avail. So the mud weight was increased to 14.0 ppg. This enabled reaming to continue down to 3530m, but high torque and drag values made it very difficult. The bit was then pulled to allow the stabilisers and the roller to be laid out. Bit # 26 (a SMITH FDGH) was then run in to 3519m where it encountered the hole fill. During reaming down to 3550m the mud weight was gradually brought up to 15.0 ppg thereby stabilizing the hole. A leak off test was performed at 3550m and this gave a value of 17.0 ppg E.M.W. (Equivalent Mud Weight). Bit # 26 then drilled a further meter to 3551, it drilled only 2m of new formation before being pulled. The drilling of the 8 ½" phase continued with the following bits:

Bit # 27, a SMITH SVH (3*11) drilled from 3551m to 3555m, a total of just 4m. It drilled with a junk basket due to the extreme wear that was found on Bit # 26. and the remains of Schlumberger sidewall core bullets were recovered in the basket. A lot of time was lost on this bit run due to the shortage of Barite, which could not be unloaded from the boats due to the large swell.

Bit # 28, a DIAMANT BOART LX 27 HS 8 ½" (TFA : 0.75) was run in the hole with turbodrill. The hole had to be washed and reamed from 3536m to T.D. The bit drilled from 3555m to 3618m, a total of 63m during which a good steady rate of penetration was maintained at about 22 min/m. Again during this bit run time was wasted waiting on the Barite to be unloaded from the boats. The bit was pulled early because it was thought that the penetration rate was too slow.

Bit # 29, a SMITH F2 8½" (3*11) was then run and drilled from 3618m to 3627m, a total of 9m. The slower rate of penetration caused the bit to be pulled after such a short run.

Bit # 30, a DIAMAX MS5 8½" (TFA : 0.75) with turbodrill drilled from 3627m to 4056m, a total of 429m. A very constant rate of penetration was maintained with this bit, at about 16.5 min/m. The bit drilled for nearly 118 hours over a period of 6 days. Tight hole at 4041m initiated an attempt to raise the mud weight from 15.0 ppg to 15.5 ppg. However, loss of circulation at 4052m caused the mud weight to be cut back from 15.5 ppg to 15.2 ppg, at which point circulation was regained/ A loss of 250 bbls was recorded.

Bit # 31, a DIAMAX LX 16 8 ½" (TFA : 0.75) with turbodrill drilled from 4056 to 4101m, a total of 45m. At 4101m a loss of circulation occured again, this time some 425 bbls of mud were lost before circulation was once more regained. A combination of decreasing the mud weight to 15.0 ppg and the use of Lost Circulation Mud (L.C.M.) enabled the circulation to be regained. On pulling the bit it was found that the hole would not take any mud, however, neither was it flowing. It was therefore assumed from this that the lost mud or formation fluid was returning into the hole as the pipe was pulled, but the flow was stopping as soon as the pipe stopped. This indicated that the hole hydraulics must have been very finely balanced.

Bit # 32, a SMITH F2 8½" (no jets) and slick drillcollar assembly drilled from 4101m to 4200m, a total of 99m. This was then called T.D. the hole was then circulated and conditioned to enable electric logs to be run. The following Schlumberger logs were run :

DIL - SLS - GR
LDL - CNL - Cal - GR
HDT
Velocity Survey
CST

WOB/RPM/ROP PRACTICES

The phase was completed using a total of 8 bits for the 651m drilled. A total drilling time of 208.4 hours gave rise to an average rate of penetration throughout the phase of 3.1 m/hr (10.3 ft/hr). The total bottom hole time, including circulation and reaming, was 323 hours. The average rate of penetration for this was 2.0 m/hr (6.6 ft/hr). The drilling parameters are summarised in the table below :

DEPTH INTERVAL m	METERAGE	ROP m/hr	WOB klb	RPM	FR gpm
3549 - 3555	6	1.9	36	95	370
3555 - 3618	63	2.7	30	600*	345
3618 - 3627	9	1.5	34	70	345
3627 - 4101	474	4.2	23	600*	380
4101 - 4200	99	2.0	42	65	295

*Drilling with Turbine

HYDRAULICS AND SOLIDS CONTROL

Hole problems were encountered immediately on running back to bottom after the 9 5/8" casing had been run. It had been detected from the electric logs that the hole was overpressured from about 2950m onwards. The mud weight was gradually brought up from 12.5 ppg to a maximum of 15.0 ppg to try to prevent the hole packing off. This worked for most of the phase and little or no reaming was necessary on wiper trips or round trips. An attempt to increase the mud weight to 15.5 ppg, however, led to a loss of circulation at 4052m. Circulation was regained by lowering the mudweight again to 15.2 ppg.

Further losses encountered at 4101m were cured by a further reduction of the mudweight from 15.2 to 15.0 ppg, and also by opening the circulating valve above the turbo drill and adding lost circulation material to the mud.

The reduction in mudweight allowed gas to escape from the formation into the mud and subsequently the background gas rose, and both trip gas and connection gas were recorded (the latter being 3 to 4 times the background value). On no occasion, though, did the well flow. On a couple of occasions the hole was possibly swabbed whilst tripping, but as soon as the pipe was stopped to perform a flow check, no flow was recorded. It was assumed that the mud system was almost perfectly balanced.

Hole cleaning was good thourghout the phase, as shown by the Cuttings Transport Tables (see end of Section). The n values remained constant at about 0.7 for the entire phase, whereas the k values started high but gradually decreased with depth to minimum of 0.5. This appeared to have no adverse affect upon the hole cleaning. Only during one bit run, # 26, was turbulent flow recorded around the drill collars and drill pipe. This bit, however, was used manly for reaming and the effects of turbulent flow appeared to be minimal.

There was no constant pattern in the bit runs and their hydraulics differed greatly. The two conventional bits run with jets, # 27 and # 29, had percentage losses at the bit of 63.6% and 62.8% respectively. However, their HP/Sq in values were well above the accepted normal at 7.5, both bits drilled poorly making a total of 13m between them. Perhaps, increasing the nozzle size to 3 * 13 might have lowered this high figure and enabled better drilling. There were 3 diamond bits run with turbines. All 3 had extremely low percentage losses at the bit, but this is expected with this type of bit due to their drilling action, all 3 drilled reasonably well. The 2 other bits run in this phase, # 26 and # 32, were both conventional bits run with open nozzles (i.e. 3 * 32). These were the first and last bits, respectively, that were run in this phase. The first was run with no jets for reaming and the latter to allow the pumping of L.C.M., if the need arose, without blocking the nozzles or the turbine.

Taking into account the adverse conditions encountered in this hole, the phase, once drilling had got under way, was completed in reasonably good time.

It was decided to plug and abandon this well at this depth.

Phillips Aust Co. Bridgewater Bay # 1 BIT REPORT

BIT No	TYPE	SIZE	NOZZLES	DEP.IN	MTRGE	DRLNG HOURS	T/B/G	AVER COST/M M/HR	COST/M US $	WOB KLBS	RPM	FLOW	SPP	MW	HYDRO. POWER TTL	HYDRO. POWER BIT	HYDRO. POWER /SI	Remarks
25	Smith FDT	8 1/2	11 11 11	3549.0		0/0/I				10.0	80	370	3100	14.00	9531	3367	53.5	Reaming
26	Smith FDGH	8 1/2	32 32 32	3549.0	2.0	1.80	8/2/O	1.158283		32.0	110	585	2885	15.00	14024	229	3.2	1/8 out gauge
27	Smith SVH	8 1/2	11 11 11	3551.0	4.0	1.82	4/2/I	2.229183		35.0	95	370	2960	15.00	9100	4143	57.3	
28	LX 27 HS	8 1/2	T: 0.75	3555.0	63.0	23.20		2.7	5635	29.5	600	345	3450	15.10	9890	$$$$$$$$$		
29	Smith F2	8 1/2	11 11 11	3618.0	9.0	5.80	1/1/I	1.618808		33.9	70	345	3200	15.10	9173	3381	46.8	
30	Diamax MS5	8 1/2	T: 0.75	3627.0	429.0	117.90		3.6	2620	26.3	600	400	3575	15.10	11882	$$$$$$$$$		
31	LX 16	8 1/2	T: 0.75	4056.0	45.0	8.80		5.1	4778	19.8	600	365	3150	15.20	9554	$$$$$$$$$		
32	Smith F2	8 1/2	32 32 32	4101.0	99.0	48.40	2/3/O	2.0	5380	41.8	65	295	1080	14.90	2647	29	0.4	1/16 out gauge

CUTTINGS TRANSPORT TABLES

These tables will provide a quick look at hole cleaning and cuttings removal. By controlling the Rate of Penetration (ROP), then raising or lowering the flow rate, or changing the rheological properties of the mud, one can then decide upon the action necessary to provide the most efficient hole cleaning.

In the following tables the data has been calculated for the space between the Drill Collars (DC) and Open Hole (OH). For each interval the cutting sizes are given in decimal inches.

The following gives a brief explanation of the abriviations used:

Vs = slip velocity (m/min)

Vc = annular velocity minus slip velocity

Cf = cuttings generated at the bit
(gallons/gallons of mud)

Ca = cuttings in the annulus
(gallons/gallons of mud)

Rct = cutting transport ratio (decimal percentage)
= cutting velocity/annular velocity

Interval: 3549 m. to 3555 m. ROP: 1.90 m/hr.

Flow rate 370.0 gpm. Ann.Vel: 92.14 m/min (DC/OH)
MW: 15.0 ppg PV 38 YP 22 Gel (10 sec) 3 YP/PV 0.58
n = 0.707 K = 1.061

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	12.73	79.41	0.8618	0.0008	0.0010
0.750	9.55	82.59	0.8964	0.0008	0.0009
0.500	6.37	85.77	0.9309	0.0008	0.0009
0.250	3.18	88.95	0.9655	0.0008	0.0009
0.125	1.59	90.55	0.9827	0.0008	0.0008
0.061	0.44	91.69	0.9952	0.0008	0.0008

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	11.95	80.19	0.8703	0.0008	0.0010
0.750	8.96	83.17	0.9027	0.0008	0.0009
0.500	5.98	86.16	0.9351	0.0008	0.0009
0.250	2.99	89.15	0.9676	0.0008	0.0009
0.125	1.49	90.64	0.9838	0.0008	0.0008
0.061	0.41	91.73	0.9956	0.0008	0.0008

Interval: 3555 m. to 3618 m. ROP: 2.70 m/hr.

Flow rate 345.0 gpm. Ann.Vel: 85.91 m/min (DC/OH)
MW: 15.0 ppg PV 42 YP 21 Gel (10 sec) 3 YP/PV 0.50
n = 0.737 K = 0.944

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	12.46	73.45	0.8550	0.0013	0.0015
0.750	9.35	76.57	0.8912	0.0013	0.0014
0.500	6.23	79.68	0.9275	0.0013	0.0014
0.250	3.12	82.80	0.9637	0.0013	0.0013
0.125	1.56	84.35	0.9819	0.0013	0.0013
0.061	0.42	85.49	0.9951	0.0013	0.0013

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	11.70	74.21	0.8638	0.0013	0.0015
0.750	8.77	77.14	0.8979	0.0013	0.0014
0.500	5.85	80.06	0.9319	0.0013	0.0014
0.250	2.92	82.99	0.9660	0.0013	0.0013
0.125	1.46	84.45	0.9830	0.0013	0.0013
0.061	0.39	85.52	0.9954	0.0013	0.0013

Interval: 3618 m. to 3627 m. ROP: 1.50 m/hr.

Flow rate 345.0 gpm. Ann.Vel: 85.91 m/min (DC/OH)
MW: 15.1 ppg PV 42 YP 21 Gel (10 sec) 3 YP/PV 0.50
n = 0.737 K = 0.944

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	12.25	73.66	0.8574	0.0007	0.0008
0.750	9.19	76.72	0.8930	0.0007	0.0008
0.500	6.13	79.79	0.9287	0.0007	0.0008
0.250	3.06	82.85	0.9643	0.0007	0.0007
0.125	1.53	84.38	0.9822	0.0007	0.0007
0.061	0.42	85.50	0.9952	0.0007	0.0007

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	11.49	74.43	0.8663	0.0007	0.0008
0.750	8.61	77.30	0.8997	0.0007	0.0008
0.500	5.74	80.17	0.9332	0.0007	0.0008
0.250	2.87	83.04	0.9666	0.0007	0.0007
0.125	1.44	84.48	0.9833	0.0007	0.0007
0.061	0.38	85.53	0.9955	0.0007	0.0007

Interval: 3627 m. to 4101 m. ROP: 4.20 m/hr.

Flow rate 380.0 gpm. Ann.Vel: 94.63 m/min (DC/OH)
MW: 15.1 ppg PV 30 YP 15 Gel (10 sec) 3 YP/PV 0.50
n = 0.737 K = 0.674

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	15.43	79.20	0.8369	0.0018	0.0021
0.750	10.33	84.30	0.8909	0.0018	0.0020
0.500	6.89	87.74	0.9272	0.0018	0.0019
0.250	3.44	91.19	0.9636	0.0018	0.0018
0.125	1.72	92.91	0.9818	0.0018	0.0018
0.061	0.53	94.10	0.9944	0.0018	0.0018

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	14.70	79.93	0.8447	0.0018	0.0021
0.750	9.68	84.95	0.8977	0.0018	0.0020
0.500	6.45	88.17	0.9318	0.0018	0.0019
0.250	3.23	91.40	0.9659	0.0018	0.0018
0.125	1.61	93.01	0.9829	0.0018	0.0018
0.061	0.48	94.14	0.9949	0.0018	0.0018

Interval: 4101 m. to 4200 m. ROP: 2.00 m/hr.

Flow rate 295.0 gpm. Ann.Vel: 73.46 m/min (DC/OH)
MW: 14.9 ppg PV 33 YP 14 Gel (10 sec) 2 YP/PV 0.42
n = 0.767 K = 0.592

Cuttings Density: 2.50 (Sand/Sandstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	17.86	55.60	0.7569	0.0011	0.0014
0.750	12.13	61.33	0.8349	0.0011	0.0013
0.500	8.09	65.37	0.8899	0.0011	0.0012
0.250	4.04	69.42	0.9450	0.0011	0.0012
0.125	2.02	71.44	0.9725	0.0011	0.0011
0.061	0.63	72.83	0.9915	0.0011	0.0011

Cuttings Density: 2.35 (Siltstone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	15.88	57.59	0.7839	0.0011	0.0014
0.750	10.37	63.09	0.8589	0.0011	0.0013
0.500	6.91	66.55	0.9059	0.0011	0.0012
0.250	3.46	70.01	0.9530	0.0011	0.0011
0.125	1.73	71.73	0.9765	0.0011	0.0011
0.061	0.51	72.95	0.9930	0.0011	0.0011

Cuttings Density: 2.30 (Claystone)

Cutting size	Vs	Vc	Rct	Cf	Ca
1.000	15.16	58.31	0.7937	0.0011	0.0014
0.750	9.74	63.72	0.8674	0.0011	0.0013
0.500	6.50	66.96	0.9116	0.0011	0.0012
0.250	3.25	70.21	0.9558	0.0011	0.0011
0.125	1.62	71.84	0.9779	0.0011	0.0011
0.061	0.48	72.98	0.9935	0.0011	0.0011

WELL DIARY

WELL DIARY

Drilling Day # 1 (15.9.83)

Pick up FBG,running tool and bumper-sub,run FBG to bottom.
RKB to seabed 131.5m (431 ft),survey 1/4 deg.
POOH with running tool and lay down.
Pick up 6 joints Grade "E" for 30" casing stinger.
Pick up 36" BHA and tie guide ropes.
Spud well and drill ahead from 131.5m to 162m (532 ft).
Drop survey at 162m,1 deg deviation.
Drill ahead from 162m to 180.5m (592 ft).

Drilling Day # 2 (16.9.83)

Continue drilling ahead from 180.5m to 186.5m (612 ft).
Circulate and spot 450 bbls high viscous mud.
Drop survey at 186.5m,1 deg deviation and pull one stand.
Pick up kelly and pump 250 bbls high viscous mud,POOH.
Rig up to run 30" casing.
RIH with 30" casing,land casing and make up cement head.
Hook up cement lines and cement 30" casing.
POOH with running tool and land.
Make up new BHA and wait on cement.
Tag cement at 179.8m (590 ft),drill out cement and casing shoe.
Drill ahead from 186.5m to 256m (841 ft).

Drilling Day # 3 (17.9.83)

Continue drilling ahead from 256m to 368m (1207 ft).
Drop survey at 368m,mis-run.Well packed off (20-25000 klbs overpull).
Pick up kelly,break circulation and spot 60 bbls high viscous mud.
Drop second survey,mis-run.
Pick up kelly,pump 20 bbls high viscous mud and drop third survey 1 deg. deviation.
Drill ahead from 368m to 504.5m (1655 ft).
POOH,pumping 20 bbls high viscous mud every 4th single.
Rig up to run 20" casing.
RIH with 20" casing,land casing.

Drilling Day # 4 (18.9.83)

Hook up cement lines and cement 20" casing.
Wait on weather.

Drilling Day # 5 (19.9.83)

Wait on weather.

Drilling Day # 6 (20.9.83)

Wait on weather.

Drilling Day # 7 (21.9.83)

Wait on weather.

Drilling Day # 8 (22.9.83)

Wait on weather.

Drilling Day # 9 (23.9.83)

Wait on weather.

Drilling Day # 10 (24.9.83)

Wait on weather.
Pick up BOP stack and prepare to run riser string.
Run in BOP stack and riser.

Drilling Day # 11 (25.9.83)

Continue running in BOP's and riser.
Test kill line,blocked and blew off.
Replace kill line with old kelly hosing.
Land BOP's and riser string.
Nipple up flowline and diverter.
Pick up test plug and RIH to test BOP stack and riser choke/kill lines.
Test lower pipe rams to 5000 psi,failed.
Lift test plug and rotate,test second time ,failed.
Test upper rams and kill lines,failed.
POOH with test plug and check test plug.
RIH and wash down well head.
Test lower,middle and upper pipe rams,tested okay.
Test choke and kill lines and Hydril,tested okay.
POOH with test plug.
RIH with new Bit # 3 SMITH DSJ 14 3/4" (+ 17 1/2" U/R).
Tag cement at 487m,drill out cement and float collar.

Drilling Day # 12 (26.9.83)

Continue drilling out cement and float collar.
Drill into new formation and displace hole with mud.
Perform LOT to 12.5 EMW.
Drop survey at 667m,1/2 deg. deviation.
Continue drilling ahead from 667m (2188 ft) to 816m (2677 ft).
Drop survey at 816m,1/2 deg. deviation.

Drilling Day # 12 (26.9.83)

Drill ahead from 819m to 843m (2766 ft).
Circulate at 843m and drop survey prior to POOH.

Drilling Day # 13 (27.9.83)

Continue POOH.
Retrieve survey,0 deg. deviation,and change bit.
RIH with new bit # 4 SMITH SDT,14 3/4" + 17 1/2" U/R (3*24).
On bottom and circulate.
Drill ahead from 843m to 901m (2956 ft).
High torque values-lift off bottom.
On bottom and drill ahead from 901m to 908m (2979 ft).
Land one single,wash and ream over tight spot from 899m to 908m.
Drill ahead from 908m to 977m (3205 ft).
Ream tight hole at 977m.
Circulate seawater pill and drill ahead from 977m to 982m (3222 ft).

Drilling Day # 14 (28.9.83)

Continue drilling ahead from 982m to 995m (3264 ft).
Drop survey at 995m,1/2 deg. deviation.
Drill ahead from 995m to 1120m (3675 ft) pumping mud pill every second connection.
Circulate at 1120m and drop survey prior to POOH.
POOH with bit # 4 and retrieve survey,3/4 deg. deviation.
RIH with test tool and test BOP's.
Test tool stuck in stack,work on test tool.

Drilling Day # 15 (29.9.83)

Continue working test tool,waiting on weather to rig up Schlumberger.
Rig up to run Schlumberger.
Run in with Schlumberger back off tool.
Detonate charge at tool joint and back off one single above packer.
POOH with 14 singles.
Make up new assembly with "up" jars,bumper sub and 14 3/4" bladed stab.

Drilling Day # 16 (30.9.83)

Wait on weather.
RIH,latch onto fish and jar.
Free tool from well head (300 klbs).
POOH slowly,no revolution,and lay down BHA.
Make up new BHA and RIH with new bit # 5 SMITH DSJ 14 3/4"+17 1/2" U/R.
Drill ahead from 1120m,pumping pills to clean bit and under-reamer.

Drilling Day # 17 (1.10.83)

Continue drilling ahead circulating at each connection to clean hole.
Circulate at 1276m (4188 ft) and drop survey,1/2 deg. deviation.
Continue drilling ahead from 1276m to 1424m (4672 ft).
Drop survey at 1424m,1 1/4 deg. deviation.
Drill ahead from 1424m to 1461m (4793 ft).
Ream one single at 1461m.
Drill ahead from 1461m to 1470m (4823 ft).
Ream one single at 1470m.
Drill ahead from 1470m to 1489m (4885 ft).
Ream one single at 1489m.
Drill ahead from 1489m.

Drilling Day # 18 (2.10.83)

Continue drilling ahead to 1514m (4967 ft).
Circulate and drop survey at 1514m.
POOH to change bit and retrieve survey,1/2 deg. deviation.
RIH with new Bit # 5 HUGHES 1GJ 14 3/4" + 17 1/2" U/R (3*24).
On bottom and drill ahead from 1514m.
Tight hole at 1526m (5006 ft),work pipe and circulate.
Ream one single at 1526m.
Drill ahead from 1526m to 1544m (5066 ft).
Ream one single at 1544m.
Drill ahead from 1544m to 1603m (5259 ft),drop survey.
Pump slug and POOH for wiper trip to 20" casing shoe.
Retrieve survey 1/2 deg. deviation.

Drilling Day # 19 (3.10.83)

RIH from 20" casing shoe.
On bottom and circulate bottoms up.
Pump slug and POOH with bit # 5.
Bit on surface,rig up to run Schlumberger.
Run Schlumberger logs.
  Run # 1; SLS,DIL,GR.
  Run # 2; HDT,CALI.
  Run # 3; Sidewall Cores.
Rig down Schlumberger.
RIH for wiper trip.
On bottom and circulate.

Drilling Day # 20 (4.10.83)

Continue circulating on bottom.
POOH to run 13 3/8" casing.
RIH to retrieve wear bushings.
Run in with 13 3/8" casing.

Drilling Day # 21 (5.10.83)

Run in and land casing.
Circulate around casing.
Rig up Halliburton and pump cement.
Displace mud and bump plug - unable to maintain pressure.
Pressure up to 1100 psi - pressure drops 450 psi.
Flush riser with mud.
Pump up pressure to 1150 psi - pressure drops 730 psi.
POOH with landing string & stinger and wash hanger.
RIH with cement cleaning tool and wash hanger assembly;POOH.
Pick up seal assembly and RIH.
Set seal assembly.Close middle pipe rams,test assembly to 5000 psi.
Test BOP´s and casing.POOH with seal assembly.
RIH with 1*7 3/4" DC and 5*DP.Rig up circulating head.
Circulate and close middle rams,test casing.
POOH with DC and DP.
RIH with wear bushing,set bushing and POOH.
RIH open-ended and tag cement at 1581m (5187 ft).

Drilling Day # 22 (6.10.83)

Circulate inside 13 3/8" casing.
Rig up Halliburton,pump cement to 200 ft. above float collar.
POOH with 4 stands and reverse circulate.
POOH and make up new BHA with 12 1/4" bit.
RIH with 5 stands and test casing.
Circulate with Halliburton,shut in at rams and test to 2500 psi.
POOH with test string.
RIH with Bit # 6 SMITH FDGH 12 1/4" (3*14),to drill out cement.
POOH,leak in kill line.
Prepare to pull out with BOP stack.
Unlatch Hydril and land BOP´S on moonpool.

Drilling Day # 23 (7.10.83)

Work on BOP´S.
Run in BOP´S and riser,test choke and kill lines - tested okay.
Pick up test plug and test BOP´s,nipple up flow line.
POOH with test plug.
RIH with Bit # 6RR.
Tag cement at 1515m (4970 ft).
Break down stands and circulate off bottom.
Drill out cement.
Tag float collar at 1582m (5190 ft) and drill out.
Tag casing shoe at 1594.5m (5231 ft).No cement between float collar and casing shoe.
Wash down to 1597m (5240 ft).
Circulate 3 hours to clean hole.
Circulate around riser through kill line.

Drilling Day # 24 (8.10.83)

Rig up to perform LOT - EMW=12.9 ppg.
Pump slug and POOH with Bit # 6.
Pick up cement scraper and RIH to 1583.5m (5195 ft).
Scrape casing and circulate.
POOH with cement scraper.
Rig up to run Schlumberger.
Run in with EZSV-bridge plug and set at 1576m (5171 ft).
Rig down Schlumberger.
Rig up Halliburton to test plug.
Attempt to test plug - test unsucessful.
Rig down Halliburton and RIH with RTTS.
Tag EZSV and set RTTS at 1575m (5167 ft).
Rig up Halliburton to test plug.
Tested through annulus,held 10 minutes at 2500 psi,tested okay.
Tested through DP,no test achieved.
POOH with RTTS.

Drilling Day # 25 (9.10.83)

Continue POOH with RTTS.
RIH with open ended drill pipe to bridge plug.
Circulate and wash casing 4.5m (15 ft) above plug.
Rig up Halliburton and cement head.
Sting in and pressure up to 1500 psi - sting out.
Pump slurry,sting in and pressure up to 800 psi.
Squeeze cement,release pressure and sting out.
POOH 4 stands and reverse circulate.
POOH with stinger assembly.
RIH with mill.
Circulate on bottom and mill cement from 1537m (5042 ft).
Mill ahead from 1537m to 1563.5m (5130 ft).
Pump slug and POOH with mill.

Drilling Day # 26 (10.10.83)

Continue POOH with mill.
RIH with Bit # RR6.
Circulate and ream from 1536m to 1563m.
Drill out cement from 1563m to 1576m.
Tag bridge plug - attempt to drill out plug.
POOH with Bit # 6RR.
RIH with mill.
Rig up Halliburton and test casing - tested okay.
Mill out bridge plug.
Mill from 1576m to 1576.9m (5173.5 ft).
Pump slug and POOH.

Drilling Day # 27 (11.10.83)

Continue POOH with mill.
RIH with Bit # 6RR.
Slip and cut lines.
Circulate on bottom and commence drilling out cement.
Circulate at 1585m (5200 ft) before testing casing - tested to 2500 psi.
Drill ahead to 1595m (5232 ft) and circulate.
Perform LOT.
POOH with Bit 6RR and make up new BHA.
RIH with new BHA and Bit # 7,Smith SDGH 12 1/4" (3*14).
Circulate to change over mud system - KCl mud.
Drill ahead from 1603m (5260 ft).
Circulate off bottom at 1606m 5269 ft) and perform LOT - EMW=13 ppg.
Drill ahead from 1606m to 1623m (5341 ft).

Drilling Day # 28 (12.10.83)

Continue drilling ahead from 1628m to 1812m (5945 ft).
Drop survey and POOH with Bit # 7.
Retrieve survey,1 deg. deviation.
RIH with Bit # 8,Reed HS 51J 12 1/4" (3*14).
Ream down three singles and drill ahead from 1812m to 1827m (5994 ft).

Drilling Day # 29 (13.10.83)

Drill ahead from 1827m to 2112m (6929 ft).
Circulate prior to dropping survey.
Drop survey - tool hung up.
Pump slug and POOH with Bit # 8 to retrieve survey.

Drilling Day # 30 (14.10.83)

Continue POOH with Bit # 8 and retrieve survey,1 deg. deviation.
Pressure test BOP stack - Tested okay.
RIH with new Bit # 9,Reed HS 51J 12 1/4" (3*14)
On bottom and drill ahead from 2112m to 2219m (7280 ft).

Drilling Day # 31 (15.10.83)

Continue Drilling ahead very slowly from 2219m to 2224m (7296 ft).
Drop survey and POOH with Bit # 9.
Retrieve survey,1/2 deg. deviation.
RIH with new Bit # 10,Smith FDGH 12 1/4" (3*14).
Drill ahead from 2224m to 2338m (7670 ft).

Drilling Day # 32 (16.10.83)

Continue drilling ahead from 2338m to 2343m (7687 ft).
Circulate at 2343m and drop survey.

Drilling Day # 32 (16.10.83)/cont

Pump slug and POOH with Bit # 10
Retrieve Survey - 1/2 degree deviation.
RIH with Bit # 11 - SMITH FDGH 12 1/4" (3*14).
Drill ahead from 2343m

Drilling Day # 33 (17.10.83)

Drilling ahead from 2431m
Drop survey at 2434m - 0 degree deviation.
POOH to retrieve survey and change bit.
RIH with Bit # 12 - SMITH F2 12 ¼" (3*14).
Drill ahead from 2434m to 2469m
Drop survey at 2469m - 0 degree deviation.
POOH to retrieve survey and change bit.

Drilling Day # 34 (18.10.83)

Continue POOH.
Pick up Turbine and RIH with Bit # 13 - DIAMAX MS5 12 1/4" (TFA; 1.05)
Slip and cut line at 13 3/8" shoe.
Continue RIH.
Encountered undergauge hole at 1796m.
Ream from 1796m to 1808m.
Pump slug and POOH - short trip.
RIH and ream from 1808m to 2174m.

Drilling Day # 35 (19.10.83)

Continue reaming from 2174m to 2235m.
POOH 3 stands for wiper trip.
RIH and ream from 2235m to 2235.5m
POOH.
RIH with Bit # 14 - SMITH SDGH 12 1/4" (3*14) on conventional BHA.
Ream from 2191.5m to 2243m.
Twisted off with 450 amps - lost 125 000 lbs of drill string.
POOH.

Drilling Day # 36 (20.10.83)

Continue POOH.
Pick up new BHA for fishing.
RIH and tag fish at 1810m.
Attempt to latch onto fish - failed.
POOH and break down fishing assembly.
Wait on new fishing tools.
Make up 11 3.4 overshot and RIH.
Attempt to latch onto fish.

Drilling Day # 37 (21.10.83)

Continue to try to latch onto fish - failed.
POOH with overshot.
Pick up skirted mill bit and RIH.
Mill tool joint from 1810m to 1810.5m.
Circulate at 1810.5m.
Pump slug and POOH.
Make up 11 3/4" overshot assembly.
RIH to try to latch onto fish.
Latch onto fish and pull free with 75000 lbs O/P.
POOH with fish - 25-50000 lbs drag.

Drilling Day # 38 (22.10.83)

Continue POOH with fish.
Lay down all pipes in fish for inspection.
Make up new 12 1/4" BHA with Bit # 15 - SMITH SDGH (3*14)
on conventional BHA
RIH to 2243m
Ream from 2243m to 2284m

Drilling Day # 39 (23.10.83)

Continue reaming from 2284m to 2469m.
Drill ahead from 2469m to 2499m.
Make a wiper trip to shoe.
RIH to circulate and condition mud.
Drop survey - 1/2 degree.
POOH.
Make up turbo assembly with Bit # 16 - LX 27 HS (TFA: 1.1).
RIH and tag fill at 2235m.
Ream from 2235m to 2323m.
Continue RIH and hit bridge at 2386m.

Drilling Day # 40 (24.10.83)

Ream from 2386m to 2499m.
Drill ahead from 2499 to 2646m.

Drilling Day # 41 (25.10.83)

Continue drilling from 2646m to 2693m.
Pull back to 2659m and ream back to bottom.
Drop survey - misrun.
Pump slug and POOH.
Run in to test BOP stack - good test.
Pick up Bit # 17 - DIAMAX ADS2 (TFA : 1.05).
RIH to 1573m - slip and cut 42m of line.
Continue RIH.
Drill ahead from 2693m to 2734m.

Drilling Day # 42 (26.10.83)

Continue drilling from 2734m to 2854m.
A slow pump rate test was performed at 2845m.

Drilling Day # 43 (27.10.83)

Continue drilling from 2854m to 2869m.
Drop survey at 2869m - 3/4 degree deviation.
Pump slug and POOH.
Pick up Bit # 18 - CHRISTENSEN R26LF 12 1/4" (TFA: 1.05).
RIH.
Tagged bridge at 2647m.
Ream from 2647m to 2672m.
Continue RIH to bottom - drag of 10 - 15 klbs.
Drill ahead from 2869m to 2967m.

Drilling Day # 44 (28.10.83)

Continue drilling from 2967m to 3071m.
Drop survey at 3071m - 3/4 degree deviation.
Pump slug and POOH.
Make up Bit # 19 - DIAMAX MS5 12 1/4" (TFA: 1.1).

Drilling Day # 45 (29.10.83)

RIH with Bit # 19.
Drill ahead from 3071m to 3113m.
Drop survey at 3113m - 3/4 degree deviation.
Pump slug and POOH.
Check flow - negative.
Make up Bit # 20 - LX 27 HS 12 1/4" (TFA: 1.05).
RIH with Bit # 20.

Drilling Day # 46 (30.10.83)

Continue RIH - no drag, no fill.
Drill ahead from 3113m to 3220m.
Circulate whilst working on mud pumps.
Drill ahead from 3220m to 3247m.

Drilling Day # 47 (31.10.83)

Continue drilling from 3247m to 3267m.
Circulate whilst working on Pump # 1.
Drill ahead from 3267m to 3277m.
Circulate whilst working on Pump # 2.
Drill ahead from 3277m to 3366m.

Drilling Day # 48 (1.11.83)

Continue drilling from 3366m to 3413m.
POOH to "E" grade DP laying down 31 joints of S-135 DP.
Pick up "E" grade drill pipe.
RIH to 3410m and ream to 3413m.
Drill ahead from 3413m to 3424m.
Repair "pop-off" valve on pump # 1.
Drill ahead from 3424m to 3460m.

Drilling Day # 49 (2.11.83)

Continue drilling from 3460m to 3532m.
Work on pump # 2 whilst circulating.
Drill ahead from 3532m to 3549m.
Drop survey at 3549m - 3/4 degree.
Pump slug and POOH laying down 118 joints S-135 DP.

Drilling Day # 50 (3.11.83)

Continue POOH with Bit # 20.
Pick up Stack Jet and RIH.
POOH with Stack Jet.
RIH with BOP test plug and test BOP's - O.K.
RIH with Bit # 21 - LX 27 HS 12 1/4" (TFA : 1.1).
Hang off.
Secure rig and W.O.W - displace Riser with sea water.

Drilling Day # 51 (4.11.83)

Continue W.O.W.
Anchors #2 and #3 slipping.
Unlatch Riser as rig is blown off location.

Drilling Day # 52 (5.11.83)

Run out anchors #2 and #3.

Drilling Day # 53 (6.11.83)

Run Riser assembly.
Test Riser connector to 2500 psi: Kill + choke lines to 5000 psi.
Slip and cut 37m of line.
RIH picking up "E" grade drill pipe.
Circulate at 2443m.
Continue RIH to tight spot at 3366m.
Ream from 3366m to 3380m.
Excessive drag (100000 lbs) and torque (500 amps).
Pump slug and POOH.

Drilling Day # 54 (7.11.83)

Continue POOH.
Pick up Bit # 22 - SMITH SDGH 12 1/4" (3*12).
RIH to 3359m.
Ream from 3359m to 3390m.
Circulate at 3390m to build up mud weight to 10.1 ppg.
Continue reaming from 3390m to 3440m.
Circulate to build up mud weight to 10.5 ppg.
Pump slug and POOH.

Drilling Day # 55 (8.11.83)

Continue POOH.
Perform a LOT at 13 3/5" casing shoe - EMW of 13.2 ppg.
Continue POOH (no drag).
Pick up Bit # 23 - SMITH SDGH 12 1/4" (3*12).
RIH to 3429m.
Ream from 3429m to 3479m.
Circulate to build up mud weight to 11.5 ppg.
Pull back to casing shoe and hang off to W.O.W.

Drilling Day # 56 (9.11.83)

Continue W.O.W.
RIH to 3455m.
Ream from 3455m to 3479m (high torque).
Circulate to build up mud weight to 12.0 ppg.
Continue reaming to 3483m (high torque and drag).
Circulate to build up mud weight to 12.5 ppg.
Continue reaming to 3489m.

Drilling Day # 57 (10.11.83)

Reaming from 3489m to 3499m.
Pump slug and POOH.
Pick up Bit # 24 - REED FP53J 12 1/4" (3*14).
RIH to 3491m.
Ream down to 3548m (adding 200 bbls of diesel to mud system).
Circulate and condition mud at 3548m.

Drilling Day # 58 (11.11.83)

Make a wiper trip to 2789m - no drag.
RIH - tight spot at 3435m (25000 lbs drag).
Circulate and condition hole.
Pump slug and POOH.
Rig up to run Schlumberger logs.
1st run : DIL - SLS - GR.
2nd run : LDL - CNL - Cal - GR.

Drilling Day # 59 (12.11.83)

Continue logging (2nd run).
3rd logging run - HDT.
4th logging run - CST.
Rig up 9 5/8" hang off assembly.
RIH to 13 3/8" casing shoe.
Slip and cut line.
Ream from 3540m to TD.
Circulate and condition hole prior to running casing.
POOH - no drag.

Drilling Day # 60 (13.11.83)

Continue POOH.
Retrieve wear bushings.
Run 9 5/8" casing.
Rig up cement head and circulate through the casing.
Pump 40 bbls of sea water to drop ball.

Drilling Day # 61 (14.11.83)

Cement 9 5/8" casing and displace.
RIH to wash and clean well head.
Make up seal assembly and test to 5000 psi - good test.
Test surface lines and pipe rams - good test.
Lay down 12 1/4" assembly and pick up 8 1/2" BHA.
RIH with Bit # 25 - SMITH FDT 8 1/2" (3*11).
W.O.W.
RIH and tag cement at 3491m.

Drilling Day # 62 (15.11.83)

Circulate at 3491m.
Drill out cement, Float Collar and Casing Shoe.
Clean rat hole down to 3519m and W.O.W.
Hole packed off at 3519m.
Build mud weight up to 13.0 ppg.
Attempt to ream - hole packed off.
Circulate and build mud weight up to 14.0 ppg.
Wash and ream from 3519m to 3530m (high torque and drag).
POOH and lay down roller reamer and stabilisers.
RIH with Bit # 26 - SMITH FDGH 8 1/2" (no jets).

Drilling Day # 63 (16.11.83)

Tag fill at 3519m (slip and cut line).
Ream to 3549m - start drilling 8 1/2" hole.
Build up mud weight to 14.5 ppg.
Drill down to 3550m - bring mud weight up to 15.0 ppg.
Pull up inside casing shoe and perform L.O.T - EMW = 17.0 ppg.

Drill ahead from 3550.5m to 3551m
Build up mud weight whilst circulating.
Pump slug and POOH.

Drilling Day # 64 (17.11.83)

RIH with Bit # 27 - SMITH SVH 8 1/2" (3*11)
Circulate at 3551m with junk basket.
Pull up inside casing shoe and wait on arrival of Barite
RIH and drill to 3555m.
Pump slug and POOH, lay out junk basket.
RIH with Bit # 28 - LX 27 HS 8 1/2" TFA: 0.75 and Turbo.

Drilling Day # 65 (18.11.83)

Wash and ream from 3536 to 3555
Drill to 3558m.
Pull to shoe to wait on Barite.
RIH and drill to 3593m.

Drilling Day # 66 (19.11.83)

Drill to 3618m.
Pump slug and POOH.
Make up new BHA with Bit # 29 - SMITH F2 8 1/2" (3*11)
RIH and drill to 3620m

Drilling Day # 67 (20.11.83)

Drill to 3627m
Work junk basket then POOH
RIH Bit # 30 LX 27 HS 8 1/2" TFA 0.75 and Turbo.
Drill to 3640m.

Drilling Day # 68 (21.11.83)

Drill to 3713m. Average ROP 3 m/hr.

Drilling Day # 69 (22.11.83)

Drill to 3782m. Average ROP 3.5 m/hr.
Several delays due to pump breakdowns.

Drilling Day # 70 (23.11.83)

Drill to 3856m. Average ROP 3.8 m/hr.
Short trip, 7 stands, at 3829m.

Drilling Day # 71 (24.11.83)

Drill to 3928m - average ROP 4 m/hr.
Occasional high torque.

Drilling Day # 72 (25.11.83)

Drill to 4007m - average ROP 4.2 m/hr.

Drilling Day # 73 (26.11.83)

Drill to 4041m.
POOH for short trip - 10 stands for tight hole
RIH to drill ahead.
Increase mud weight to 15.5 ppg by 4049m.
Loss of returns at 4052m.
Circulate off bottom and reduce mud weight to 15.2 ppg.
Complete returns - 250 bbls lost.
Drill to 4056m.
Stop drilling due to gas cut mud.
Gas peak at 4055m was 34%.
Circulate to condition mud.
Short trip - 10 stands.
Circulate with 15.2 ppg mud.
POOH 5 stands at 4056m.

Drilling Day # 74 (27.11.83)

Hole not taking mud - RIH
Circulate bottom-up - T.G. of 9.6%.
POOH - overpull of upto 150 klbs.
Test BOP's - good test.
RIH with Bit # 31 - DIAMAX LX 16 8 1/2" (TFA : 0.75).
Circulate at casing shoe - 1% T.G.
RIH.

Drilling Day # 75 (28.11.83)

Tag bottom of hole - no fill.
Drill ahead from 4056m to 4101m.
Lost circulation at 4101m - lose 425 bbl.
Circulation returns.
Pump slug and POOH - hole not taking mud.
Lower mud weight to 15.0 ppg.
Pump slug and POOH - hole still not taking mud.
Circulate and build up slug.
Pump slug and POOH - hole still not taking mud.
Circulate whilst mixing up mud.

Drilling Day # 76 (29.11.83)

Circulate at 3738m
Squeeze 11 bbls of 14.9 ppg mud at 470 psi - E.M.W. 15.6 ppg
POOH to shoe and circulate bottoms up (no gas).
Observe well.
Squeeze 10 bbls of 14.9 ppg mud at 600 psi (bled back 10 bbls)
E.M.W. 15.8 ppg)
Lay down turbine.
Pick up Bit # 32 - a SMITH F2 8 1/2" (no jets).
RIH to 3511m and circulate.

Drilling Day # 77 (30.11.83)

Continue circulating at 3511m.
RIH to T.D. - no fill.
Drill ahead from 4101m to 4135m.
10 stand wiper trip - no drag.
RIH - no fill.
Drill ahead to 4138m.

Drilling Day # 78 (1.12.83)

Drill ahead from 4138m to 4163m.
10 stand wiper trip - overpull of 35000 lbs.
RIH - no fill.
Drill ahead to 4180m.

Drilling Day # 79 (2.12.83)

10 stand wiper trip - overpull of 50000 lbs.
RIH - no fill.
Drill ahead to 4200m (T.D.).
Circulate and condition hole prior to logging.
Wiper trip to 9 5/8" casing shoe and observe well.
RIH and circulate.
Drop survey at 4200m - 5 1/4 degrees.
POOH.

Drilling Day # 80 (3.12.83)

Continue POOH.
Rig up to run Schlumberger.
Run # 1 DIL/SLS/GR.
Run # 2 LDT/CNL/GR.
Re-run # 2.
Re-run # 2.

BRIDGEWATER BAY # 1

GAS AND OVERPRESSURE SUMMARY

Some overpressure was expected in Bridgewater Bay # 1 in the Belfast Formation (Upper Cretaceous), so the indicators for overpressure were all monitored very carefully. These included the Dcs Exponent, the Flow-line Temperature and any gas shows. However, it was not until after a period of waiting on weather that it was suspected that the well had already penetrated the overpressure zone. Whilst out of the hole, the clays in the formation had swollen appreciably, and it was difficult to re-enter the hole. The mud weight had to be brought up from 9.9 ppg to 12.5 ppg to enable reaming to proceed and the 9 5/8" casing to be run. Whilst drilling this section of the hole, no connection gas recorded nor was there any leftward deflection of the Dcs exponent noted (the Dcs was erratic at this stage and therefore unreliable). It was not until the electric logs had been run that the overpressure was confirmed. The Sonic logs (DIL) gave the best indication of the presence of overpressure. At 2950 m a small leftward deflection in the Sonic curve could be noted, a leftward deflection indicates an increasing return time and hence an opposite trend to that which is expected in the Sonic curve. It was not until 3050m that the main leftward deflection occured (10-20 micro/sec). The Sonic trend did not really settle down to a constant value again until about 3300m.
Calculations of the overpressure using single cycle log plots gave readings, for the formation pressure, of between 12.5 ppg and 13.0 ppg.

Dcs EXPONENT

During the drilling of the top formations (mainly calcarenite) it was difficult to set a good trend due to the lack of shale points and the erratic nature of the Dcs exponent curve. It was not until about 3100m that the curve began to beome reliable, unfortunately, as it was later discovered from the Sonic logs, the overpressure zone had already been penetrated.

After 3100m the Dcs exponent showed a reasonably constant curve, which ran almost vertically (the Dcs exponent is expected to gradually increase with depth under normal pressure conditions). At the start of the 8 1/2" phase the Dcs exponent normal trend had to be shifted to account for the change in hole size. Towards the end of the 8 1/2" phase the Dcs curve again took a leftward deflection and this seems to correlate well with the increase in sand content of the formation, particularly from 4050m.

The values of the "Pf" and the "Frac" given by the Dcs exponent are reasonably good after the curve became less erratic, and correlation between some sand bands and the Dcs curve are good, particularly in the middle section of the hole.

FLOW-LINE TEMPERATURE

The flow-line temperature was fairly erratic due to various factors, i.e. wiper trips, bit changed and additions to the mud system. A plot of Delta T (Temperature Out - Temperature In) gives one only a slight indication of a change in trend. However, the plot of the Estimated Bottom Hole Temperature gives a distinct negative change in trend at about 2950m (this correlates well with the Sonic log). This continues down to about 3400m and could be classified as a transition zone to the overpressured formation. At 3400m a positive (as compared to the normal) trend change occurs and this is then assumed to be the end of the transition zone.

This temperature plot appears to correlate fairly well with the Sonic log and this therefore must be considered as a piece of corroborative evidence for the presence of overpressure.

GAS SUMMARY

Very little gas was found in the top hole, surface gas associated with calcarenite down to 845m was generally less than 0.2% methane, with no ethane or heavier gases present.

Some gas peaks associated with coal bands at 900- 920m and again at 950 - 960m were recorded, but these were still only traces.

No gas was then recorded until 2430m which was found to be associated with the siltstone and claystone of the Upper Belfast Formation (Upper Cretaceous). This gradually rose to a maximum value at 2645m (a peak of 2.5% methane with 0.2% ethane and traces of propane). From this point the gas levels decreased to traces again at 2800m. From 2835m the gas levels once more began to rise and reached a maximum at 3010m of 4% methane, 0.17% ethane and 0.04% propane - no butane or iso-propane was recorded at all. After this peak the gas dropped back again to less than 0.2% total gas and remained constant at this level until the 9 5/8" casing was run at 3549m (casing set at 3519.5). No connection gas was recorded up to this point even during the latter stages, which were later discovered to be overpressured.

The mud weight was brought up from 12.5 ppg to 15.1 ppg after the casing due to the overpressure detected by the electric logs and also the adverse hole conditions (later the mud weight was brought up to 15.5 ppg). Subsequently, the gas levels decreased to almost zero and were never greater than 0.1% total gas down to 4052m. At this point circulation was lost and the mud weight had to be decreased to 15.0 ppg. or there abouts. This lower mud weight allowed the gas readings to increase to around 0.2% methane. It also gave rise to substantial amounts of connection gas (approximately 3 to 4 times the background gas level) and to large volumes of trip gas, which often had to be circulated out. The highest level recorded was at 4052m where 34% total gas was circulated out (30% of which was methane).

However, gas levels did not cause any major problems whilst drilling this well.

OVERBURDEN COEFFICIENTS

There are two sets of coefficients derived from two separate formulae which are used to calculate the Formation Overburden Stress Gradient (S) and the Stress Ratio (K) :

$$S = a(\text{In depth})\ 2 + b\ (\text{In depth}) + c$$

where the three constants a,b and c are the three "S" coefficients usually written as aS, bS and cS.

$$K = a(\text{In depth}) + b$$

where a and b are the K coefficients - aK and bK

The S coefficients are of the most use and are used in the Dcs exponent plots to calculate the Formation Pressure Gradient (pf) which is given by :

$$FPG = S - (S - H)\ (dcs/dcn)\ 1.2$$

dcn = the "normal" dcs value in unpressured shales.
H = the normal hydrostatic gradient (ppg).

The K values are used to calculate the Formation Fracture Gradient (Frac) using the following formular :

$$FFG = ((19.23^* S) - FPG)K + FPG$$

The S and K coefficients for Bridgewater Bay # 1 were taken from two different sources. The S values were derived from the electric logs of Discovery Bay. From the logs the shale points are found and their Sonic velocities are fed into the off-line computer. The computer then works out a curve of best fit for the points and from this calculates the aS, bS and cS values (see the Overburden Gradient plot at the end of the section).

The K values, on the other hand, are taken from the Leak off Test data of Voluta # 1. The coefficients are then calculated by hand using the following formulae :

$$V = (FPG - FPG)/(FFG + S - 2\ FPG)$$

V = Poisson's ratio

$$K = V/(1-V)$$

$$K = a(\text{Ind depth}) + b$$

The corresponding values were obtained :

aS = 0.012373	aK = 0.2031
bS = -0.078196	bK = -2.8379
cS = 0.762405	

These were entered into the computer and have been used during the drilling of Bridgewater Bay # 1.

OVERPRESSURE SURVEY

- Summary
- D Exponent Plot
- Temperature Plot

OVERPRESSURE SUMMARY

BRIDGEWATER BAY # 1

GAS AND OVERPRESSURE SUMMARY

Some overpressure was expected in Bridgewater Bay # 1 in the Belfast Formation (Upper Cretaceous). So the indicators for overpressure were all monitored very carefully. These included the Dcs Exponent, the Flow-line Temperature and any gas shows. However, it was not until after a period of waiting on weather that it was suspected that the well had already penetrated the overpressure zone. Whilst out of the hole, the clays in the formation had swollen appreciably, and it was difficult to re-enter the hole. The mud weight had to brought up from 9.9 ppg to 12.5 ppg to enable reaming to proceed and the 9 5/8" casing to be run. Whilst drilling this section of the hole, no connection gas recorded nor was there any leftward deflection of the Dcs exponent noted (the Dcs was erratic at this stage and therefore unreliable). It was not until the electric logs had been run that the overpressure was confirmed. The Sonic logs (DIL) gave the best indication of the presence of overpressure. At 2950m a small leftward deflection in the Sonic curve could be noted, a leftward deflection indicates an increasing return time and hence an opposite trend to that which is expected in the Sonic curve. It was not until 3050m that the main leftward deflection occured (10-20 micro/sec). The Sonic trend did not really settle down to a constant value again until about 3300m.

Calculations of the overpressure using single cycle log plots gave readings, for the formation pressure, of between 12.5 ppg and 13.0 ppg.

Dcs EXPONENT

During the drilling of the top formations (mainly calcarenite) it was difficult to set a good trend due to the lack of shale points and the erratic nature of the Dcs exponent curve. It was not until about 3100m that the curve began to become reliable, unfortunately, as it was later discovered from the Sonic logs, the overpressure zone had already been penetrated.

After 3100m the Dcs exponent showed a reasonably constant curve, which ran almost vertically (the Dcs exponent is expected to gradually increase with depth under normal pressure conditions). At the start of the 8 1/2" phase the Dcs exponent normal trend had to be shifted to account for the change in hole size. Towards the end of the 8 1/2" phase the Dcs curve again took a leftward deflection and this seems to correlate well with the increase in sand content of the formation, particularly from 4050m.

The values of the "Pf" and the "Frac" given by the Dcs exponent are reasonably good after the curve became less erratic, and correlation between some sand bands and the Dcs curve are good, particularly in the middle section of the hole.

FLOW-LINE TEMPERATURE

The flow-line temperature was fairly erratic due to various factors, i.e. wiper trips, bit changes and additions to the mud system. A plot of Delta T (Temperature Out - Temperature In) gives one only a slight

indication of a change in trend. However, the plot of the Estimated Bottom Hole Temperature gives a distinct negative change in trend at about 2950m (this correlates well with the Sonic log). This continues down to about 3400m and could be classified as a transition zone to the overpressured formation. At 3400m a positive (as compared to the normal) trend change occurs and this is then assumed to be the end of the transition zone.

This temperature plot appears to correlate fairly well with the Sonic log and this therefore must be considered as a piece of corroborative evidence for the presence of overpressure.

GAS SUMMARY

Very little gas was found in the top hole, surface gas associated with the calcarenite down to 845m was generally less than 0.2% methane, with no ethane or heavier gases present.

Some gas peaks associated with coal bands at 900 - 920m and again at 950 - 960m were recorded, but these were still only traces.

No gas was then recorded until 2430m which was found to be associated with the siltstone and claystone of the Upper Belfast Formation (Upper Cretaceous). This gradually rose to a maximum value at 2645m (a peak of 2.5% methane with 0.2% ethane and traces of propane). From this point the gas levels decreased to traces again at 2800m. From 2835m the gas levels once more began to rise and reached a maximum at 3010m of 4% methane, 0.17% ethane and 0.04% propane - no butane or iso-propane was recorded at all. After this peak the gas dropped back again to less than 0.2% total gas and remained constant at this level until the 9 5/8" casing was run at 3549m (casing set at 3519.5m). No connection gas was recorded up to this point even during the latter stages, which were later discovered to be overpressured.

The mud weight was brought up from 9.9 ppg to 15.1 ppg after the casing due to the overpressure detected by the electric logs and also the adverse hole conditions (later the mud weight was gradually brought up to 15.5 ppg). Subsequently, the gas levels decreased to almost zero and were never greater than 0.1% total gas down to 4052m. At this point circulation was lost aand the mud weight had to be decreased to 15.0 ppg, or there abouts. This lower mud weight allowed the gas readings to increase to around 0.2% methane. It also gave rise to substantial amounts of connection gas (approximately 3 to 4 times the background gas level) and to large volumes of trip gas, which often had to be circulated out. The highest level recorded was at 4052m where 34% total gas was circulated out (30% of which was methane).

However, gas levels did not cause any major problems whilst drilling this well.

OVERBURDEN COEFFICIENTS

There are two sets of coefficients derived from two separate formulae which are used to calculate the Formation Overburden Stress Gradient (S) and the Stress Ratio (K) :

$$S = a(\ln \text{depth})^2 + b(\ln \text{depth}) + c$$

where the three constants a, b and c are the three "S" coefficients usually written as aS, bS and cS.

$$K = a(\ln \text{depth}) + b$$

where a and b are the K coefficients - aK and bK.

The S coefficients are of the most use and are used in the Dcs exponent plots to calculate the Formation Pressure Gradient (Pf) which is given by :

$$FPG = S - (S - H)(dcs/dcn)^{1.2}$$

dcn = the "normal" dcs value in unpressured shales.
H = the normal hydrostatic gradient (ppg).

The K values are used to calculate the Formation Fracture Gradient (Frac) using the following formula:

$$FFG = ((19.23 * S) - FPG)K + FPG$$

The S and K coefficients for Bridgewater Bay # 1 were taken from two different sources. The S values were derived from the electric logs of Discovery Bay. From the logs the shale points are found and their Sonic velocities are fed into the off-line computer. The computer then works out a curve of best fit for the points and from this calculates the aS, bS and cS values (see the Overburden Gradient plot at the end of the section).

The K values, on the other hand, are taken from the Leak Off Test data of Voluta # 1. The coefficients are then calculated by hand using the following formulae :

$$V = (FFG - FPG)/(FFG + S - 2\ FPG)$$

V = Poisson's ratio.

$$K = V/(1-V)$$

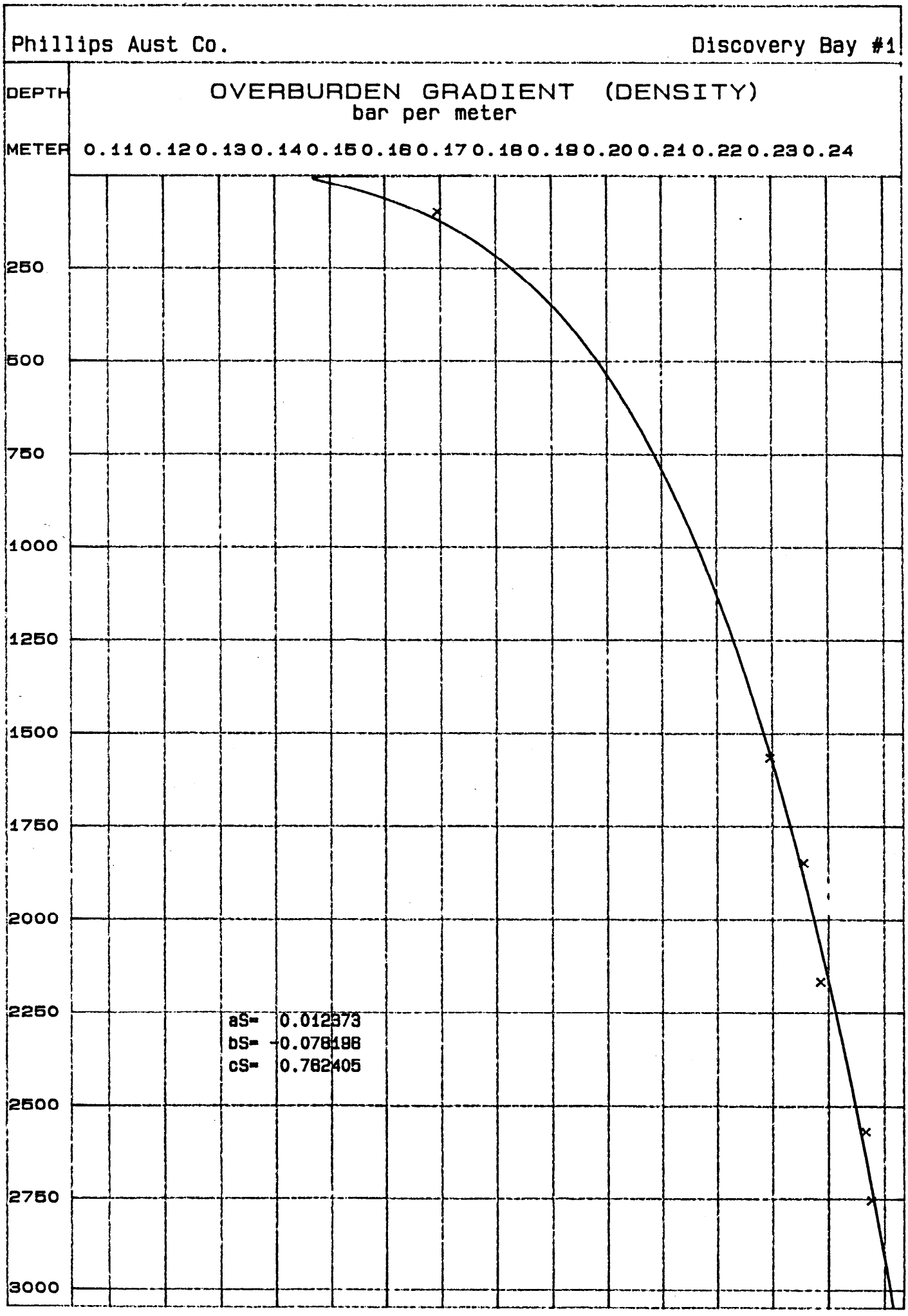
$$K = a(\ln \text{depth}) + b$$

The corresponding values were obtained :

aS = 0.012373	aK = 0.2031
bS = -0.078196	bK = -2.8379
cS = 0.762405	

These were entered into the computer and have been used during the drilling of Bridgewater Bay # 1

Phillips Aust Co. Discovery Bay #1



PE600356

This is an enclosure indicator page.
The enclosure PE600356 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600356 has the following characteristics:

ITEM_BARCODE	= PE600356
CONTAINER_BARCODE	= PE902250
NAME	= D-EXPONENT PLOT DEPTH 440 TO 1000
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 440 TO 1000
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600357

This is an enclosure indicator page.
The enclosure PE600357 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600357 has the following characteristics:

ITEM_BARCODE	= PE600357
CONTAINER_BARCODE	= PE902250
NAME	= D-EXPONENT PLOT DEPTH 1040 TO 1600
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 1040 TO 1600
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600358

This is an enclosure indicator page.
The enclosure PE600358 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600358 has the following characteristics:

ITEM_BARCODE	= PE600358
CONTAINER_BARCODE	= PE902250
NAME	= D-EXPONENT PLOT DEPTH 1640 TO 2200
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 1640 TO 2200
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600360

This is an enclosure indicator page.
The enclosure PE600360 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600360 has the following characteristics:

ITEM_BARCODE	= PE600360
CONTAINER_BARCODE	= PE902250
NAME	= D-EXPONENT PLOT DEPTH 2840 TO 3400
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 2840 TO 3400
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600359

This is an enclosure indicator page.
The enclosure PE600359 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600359 has the following characteristics:

ITEM_BARCODE	= PE600359
CONTAINER_BARCODE	= PE902250
NAME	= D-EXPONENT PLOT DEPTH 2240 TO 2800
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 2240 TO 2800
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600361

This is an enclosure indicator page.
The enclosure PE600361 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600361 has the following characteristics:

ITEM_BARCODE	= PE600361
CONTAINER_BARCODE	= PE902250
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PERMIT	= VIC/P14
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SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 4040 TO 4600
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600362

This is an enclosure indicator page.
The enclosure PE600362 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600362 has the following characteristics:

ITEM_BARCODE	= PE600362
CONTAINER_BARCODE	= PE902250
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BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= D-EXPONENT PLOT DEPTH 3440 TO 4000
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600363

This is an enclosure indicator page.
The enclosure PE600363 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600363 has the following characteristics:

ITEM_BARCODE	= PE600363
CONTAINER_BARCODE	= PE902250
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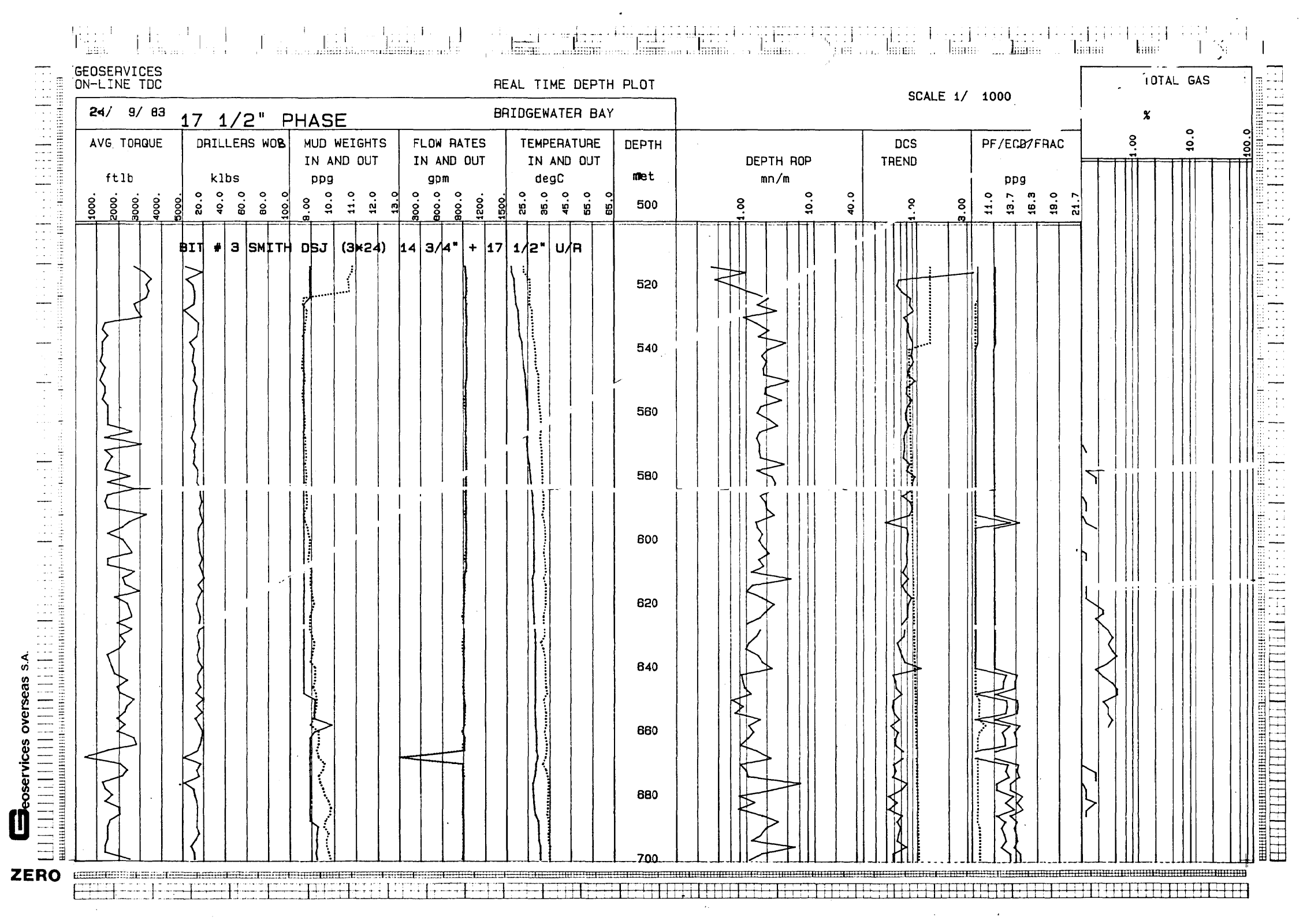
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= TEMPERATURE PLOT
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

REAL TIME DEPTH PLOT

- Depth Plot reduced to A4



Geoservices overseas S.A.

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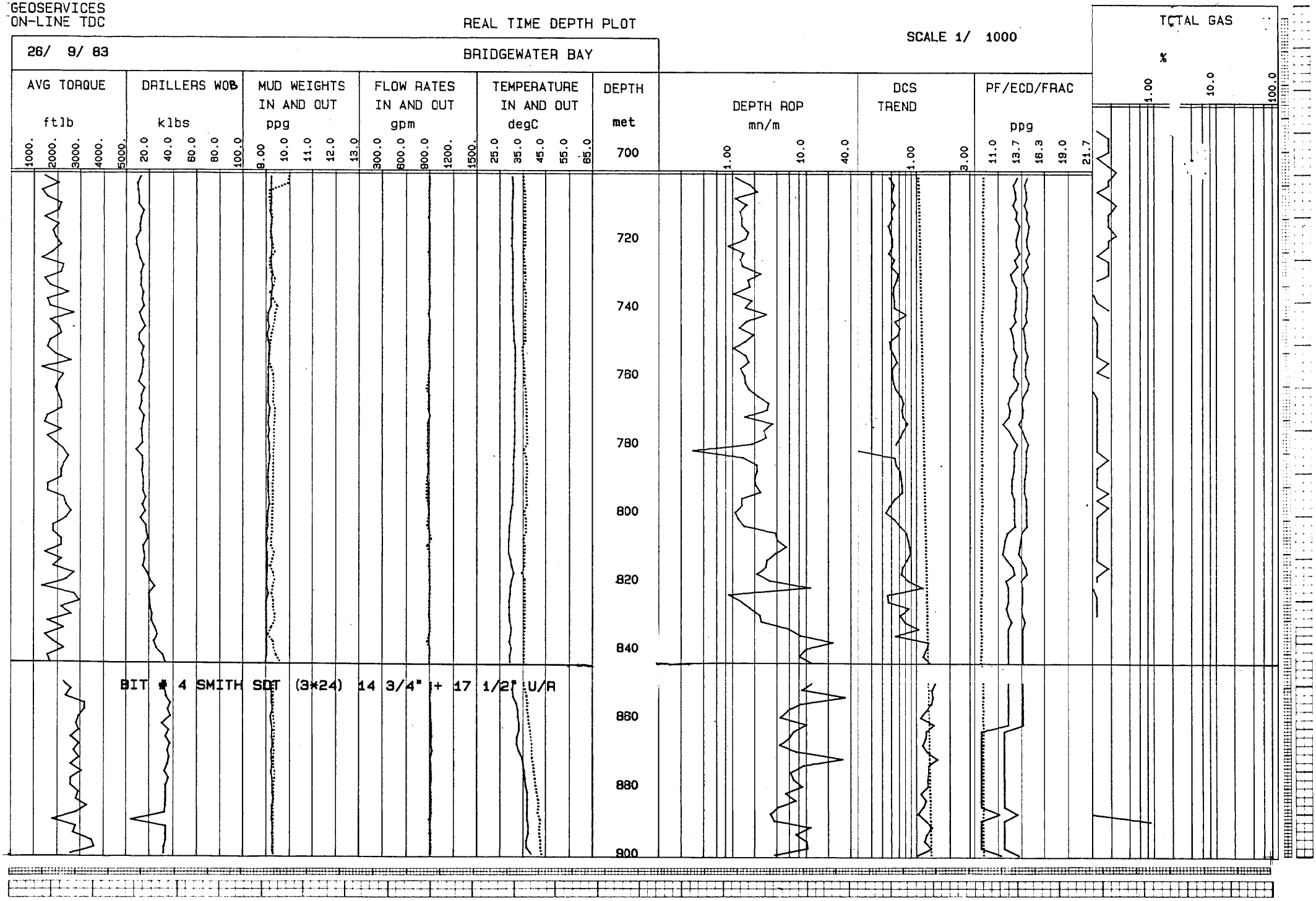


Geoservices overseas S.A.

ZERO

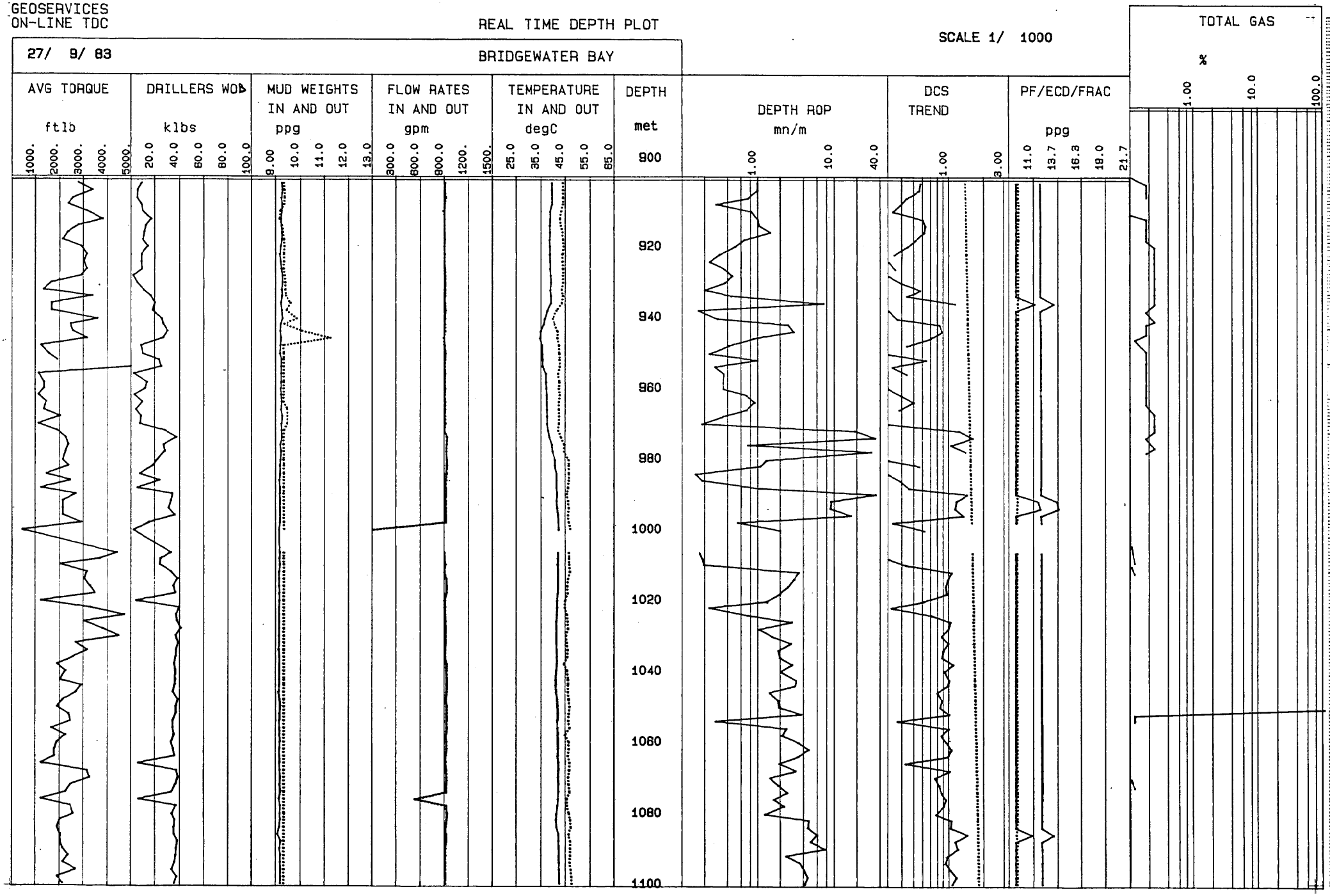
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

27/ 9/ 83

BRIDGEWATER BAY



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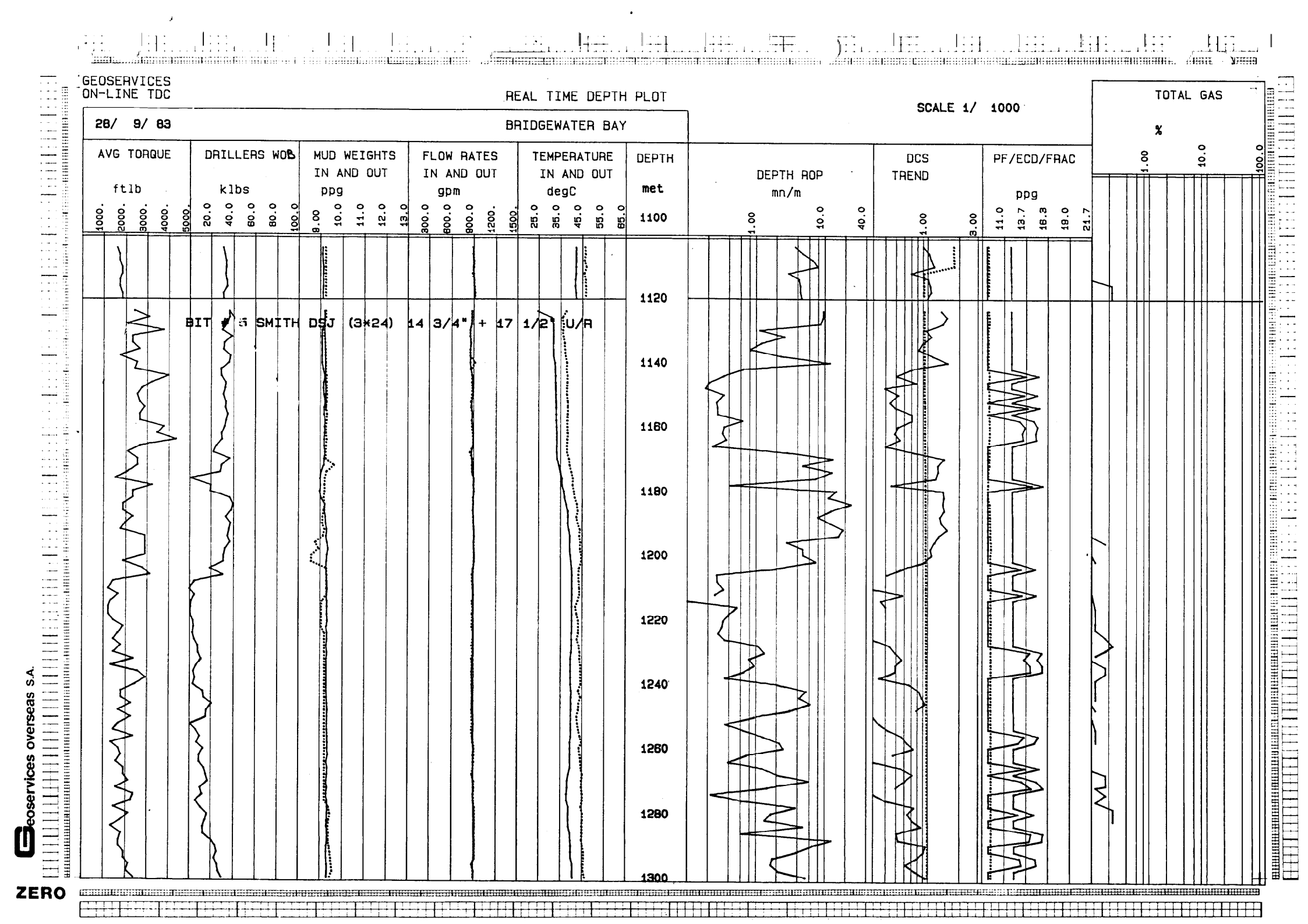

GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
28/ 9/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
8.00
10.0
11.0
12.0
13.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURE
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
1100
1120
1140
1160
1180
1200
1220
1240
1260
1280
1300
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 5 SMITH DSJ (3x24) 14 3/4" + 17 1/2" U/R
Geoservices overseas S.A.
ZERO

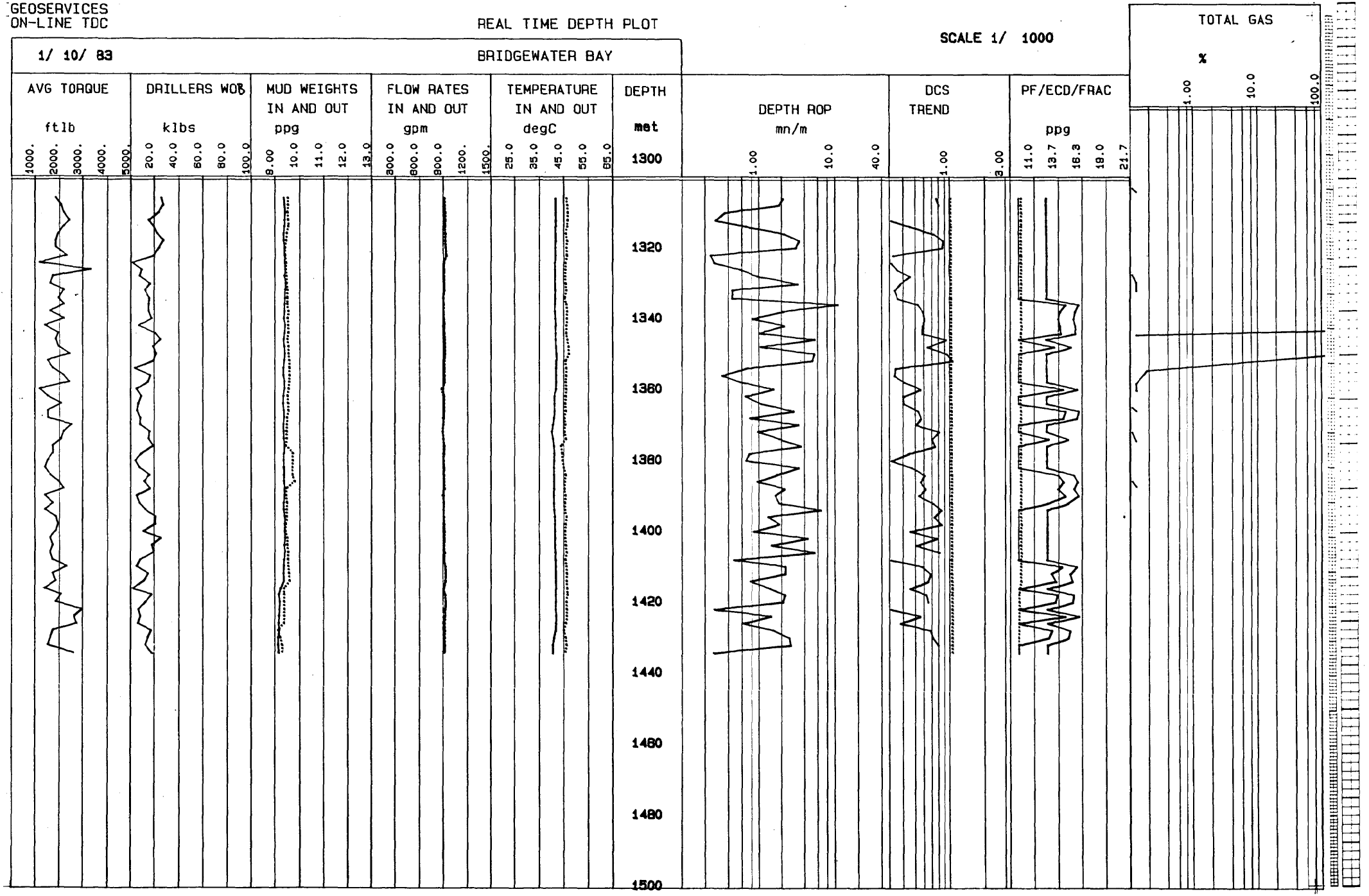
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

1/ 10/ 83

BRIDGEWATER BAY



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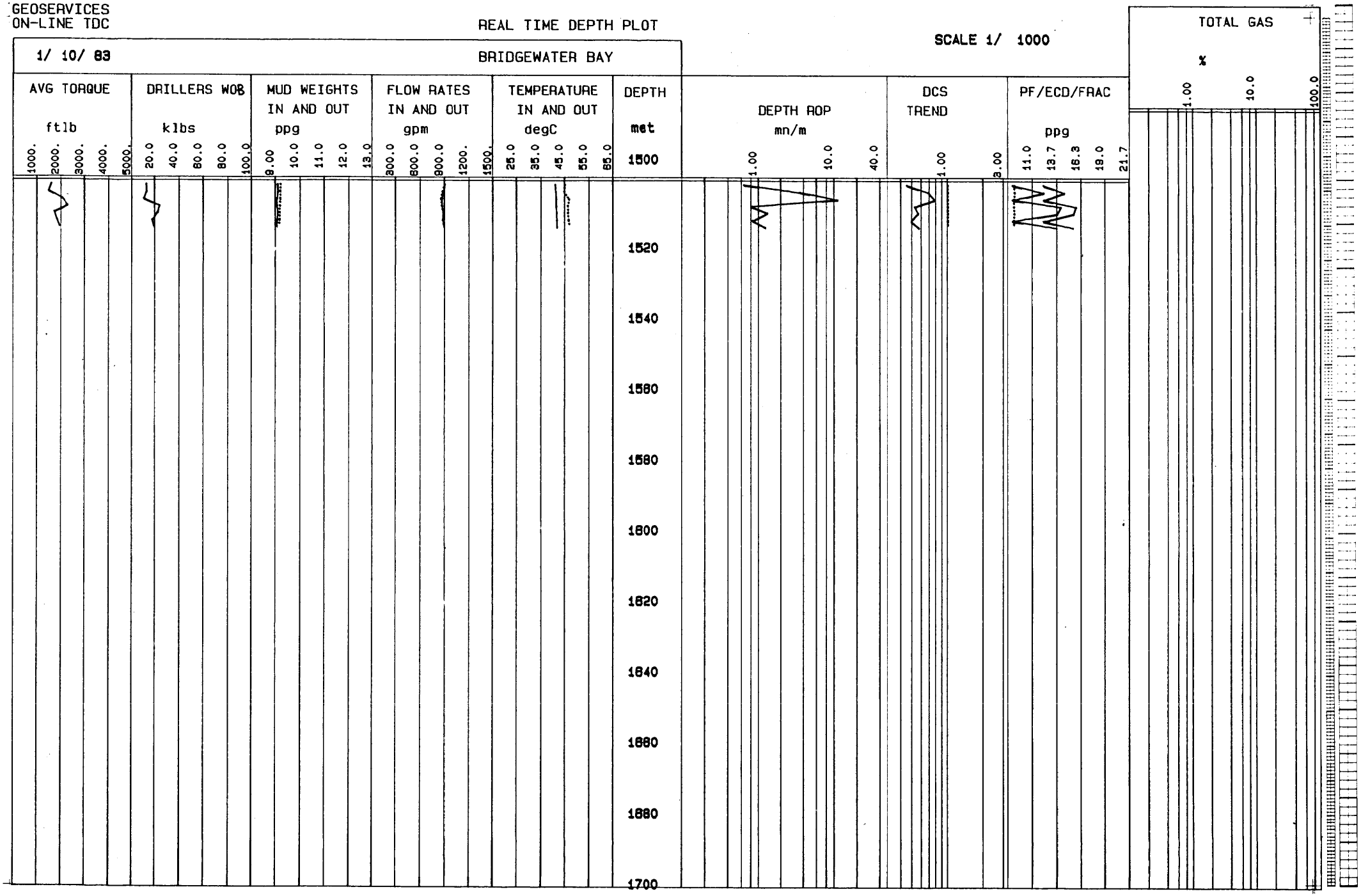
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

1/ 10/ 83

BRIDGEWATER BAY



Geoservices overseas S.A.

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GEOSERVICES
ON-LINE TDC

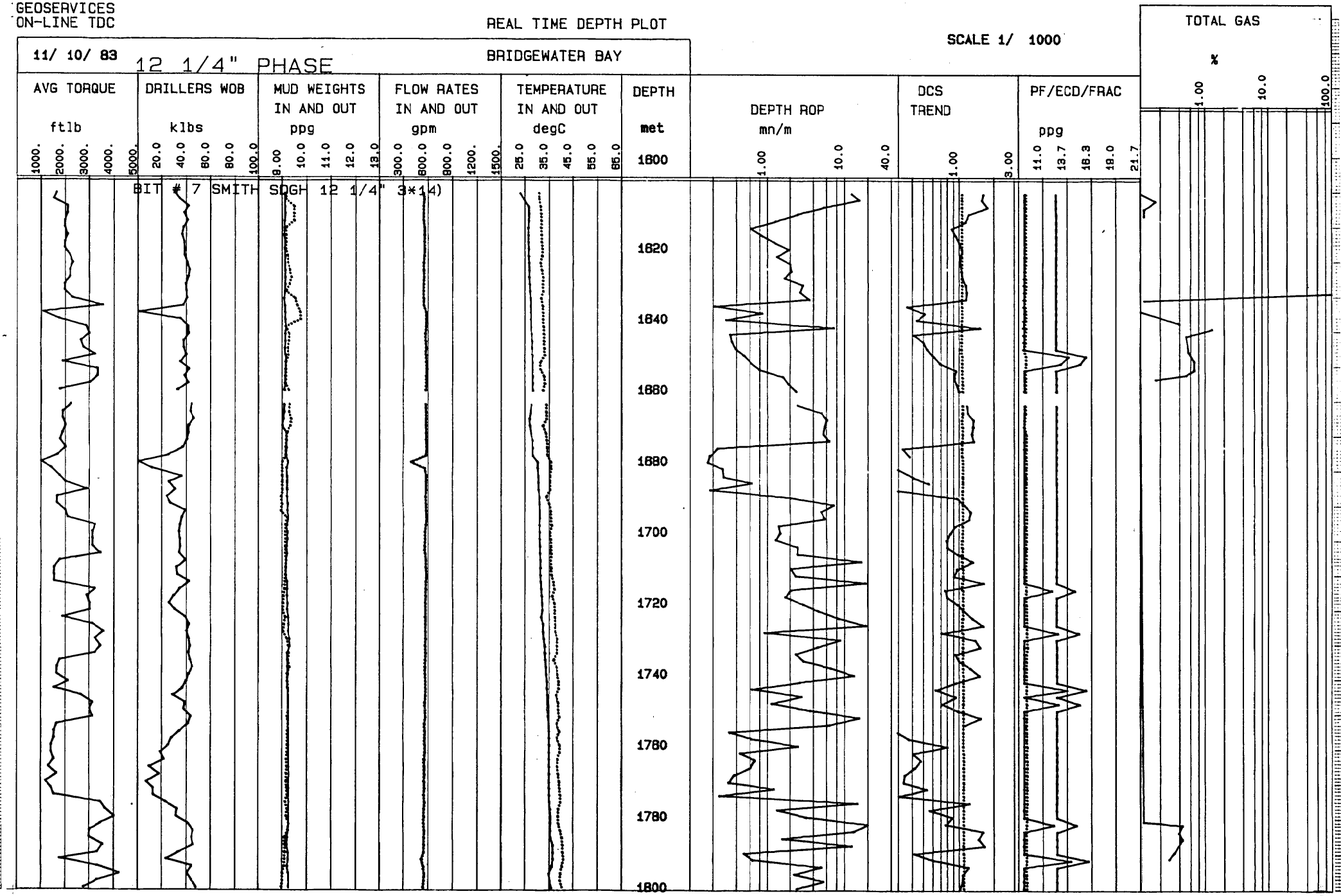
REAL TIME DEPTH PLOT

SCALE 1/ 1000

11/ 10/ 83

12 1/4" PHASE

BRIDGEWATER BAY

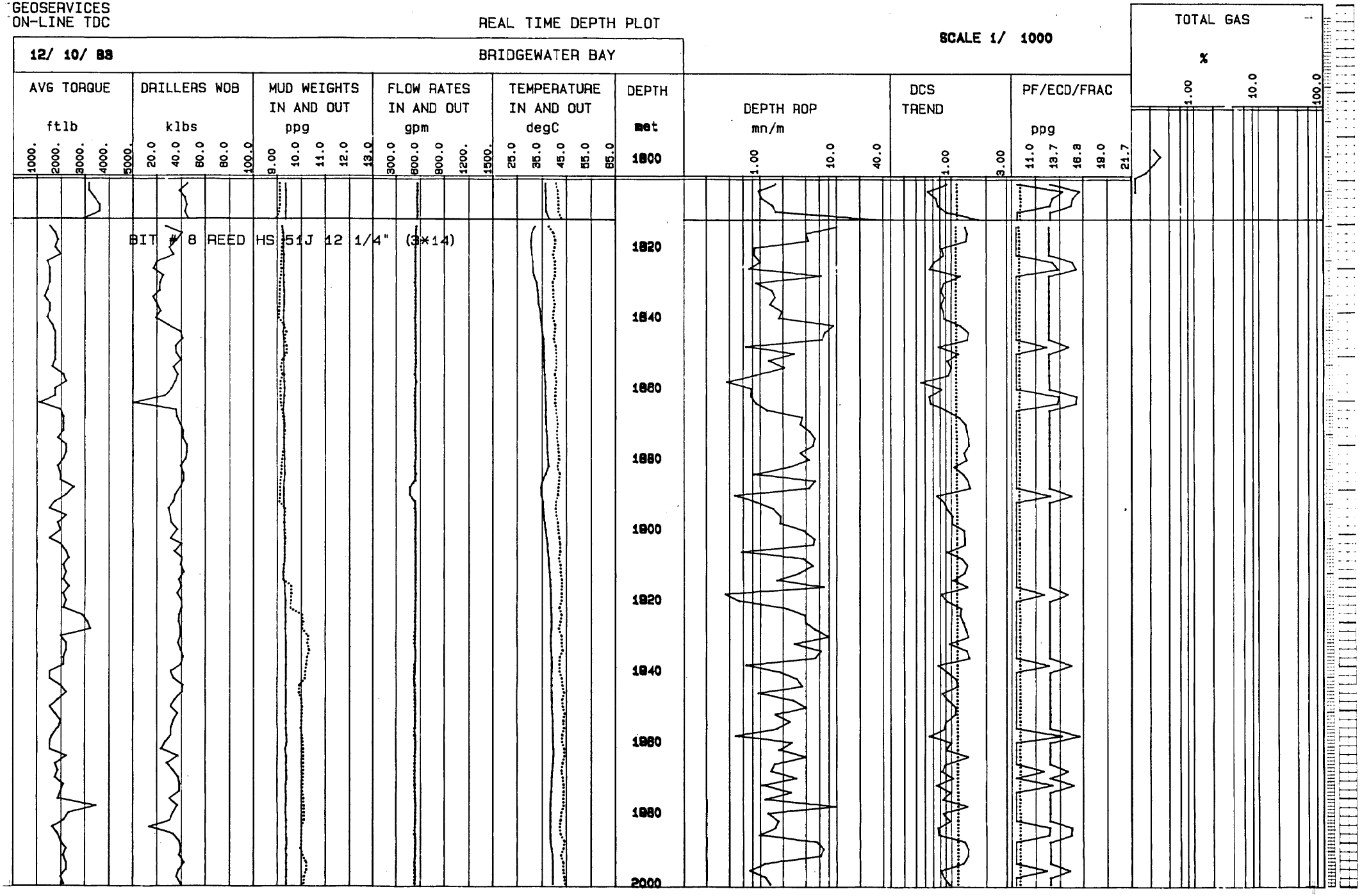


ZERO

GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

12/ 10/ 93 — BRIDGEWATER BAY — **SCALE 1/ 1000**



geoservices overseas S.A.

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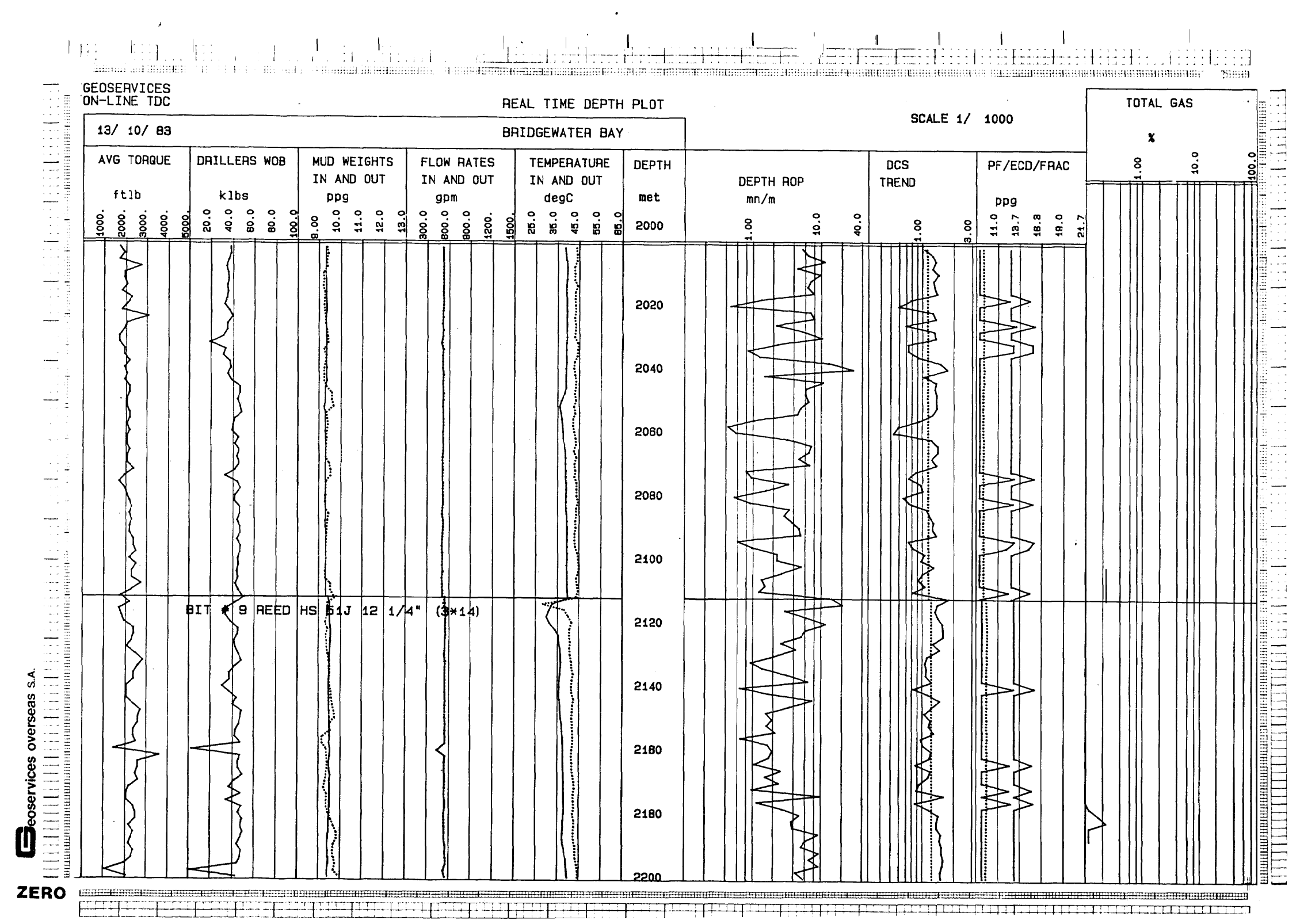

GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
13/ 10/ 83
BRIDGEWATER BAY
SCALE 1/ 1000
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
9.00
10.0
11.0
12.0
13.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURE
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
2000
2020
2040
2060
2080
2100
2120
2140
2160
2180
2200
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 9 REED HS 51J 12 1/4" (3*14)
Geoservices overseas S.A.
ZERO

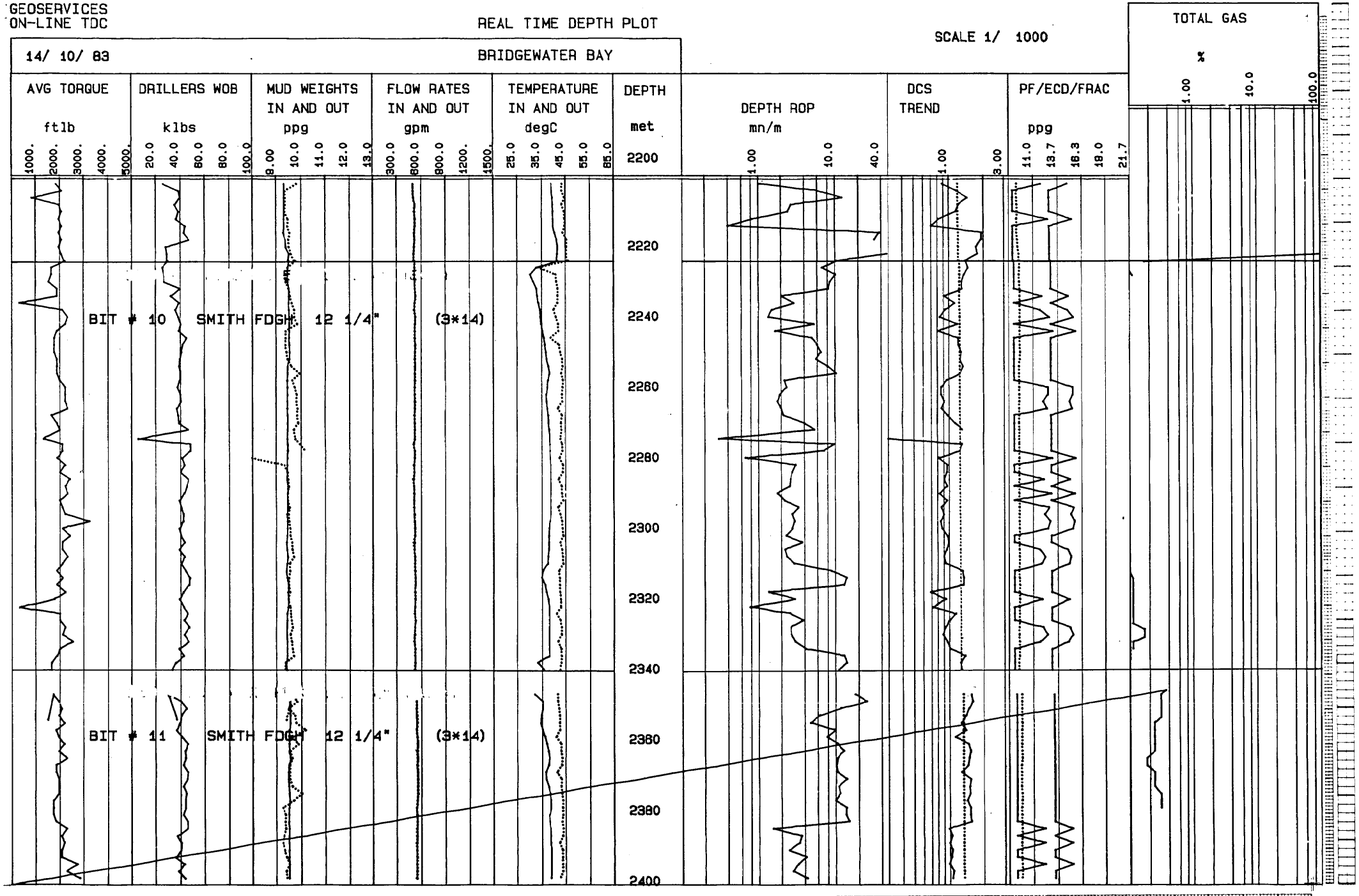
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

14/ 10/ 83

BRIDGEWATER BAY



Geoservices overseas S.A.

ZERO

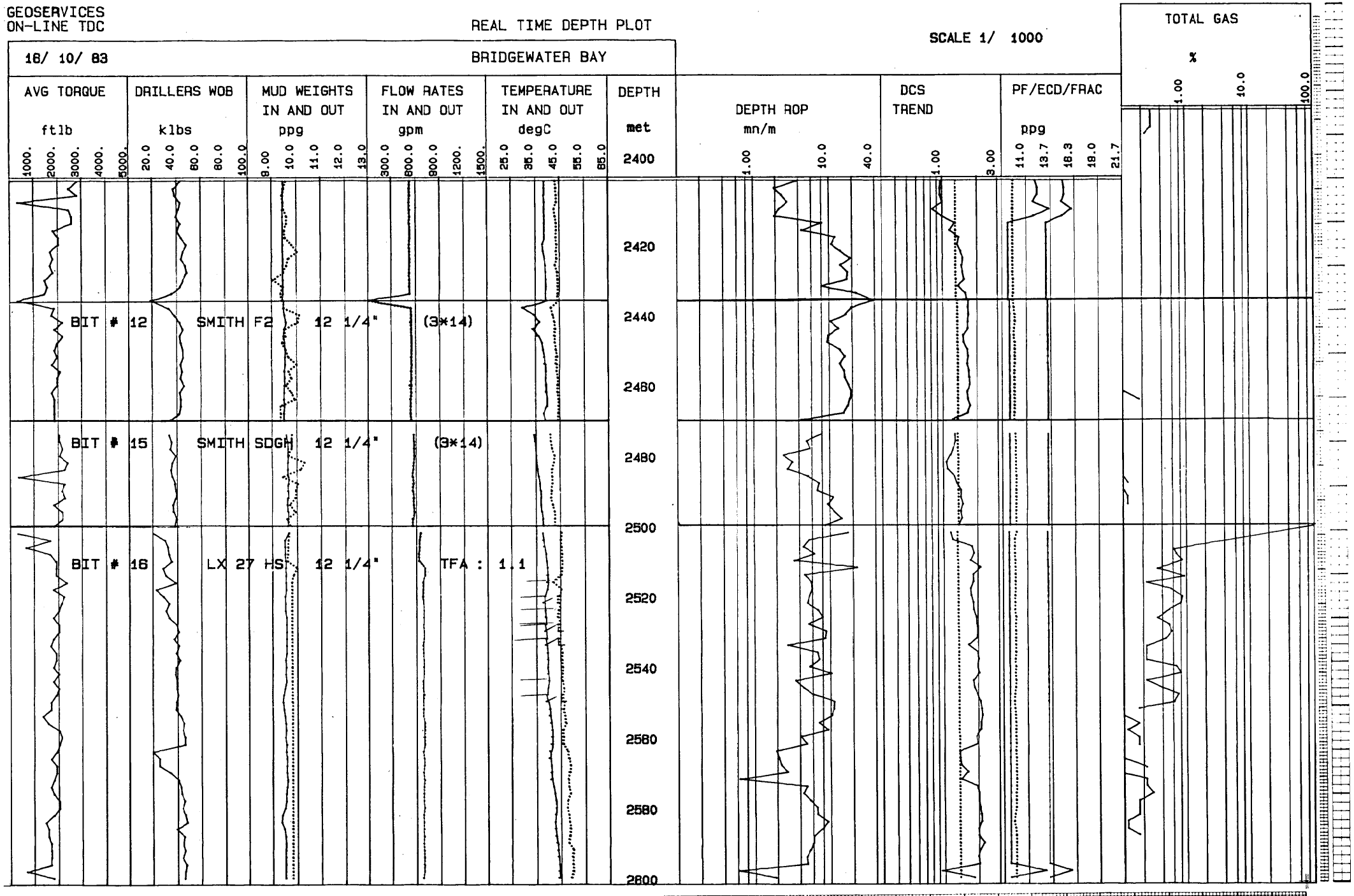
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

16/ 10/ 83

BRIDGEWATER BAY



Geoservices overseas S.A.

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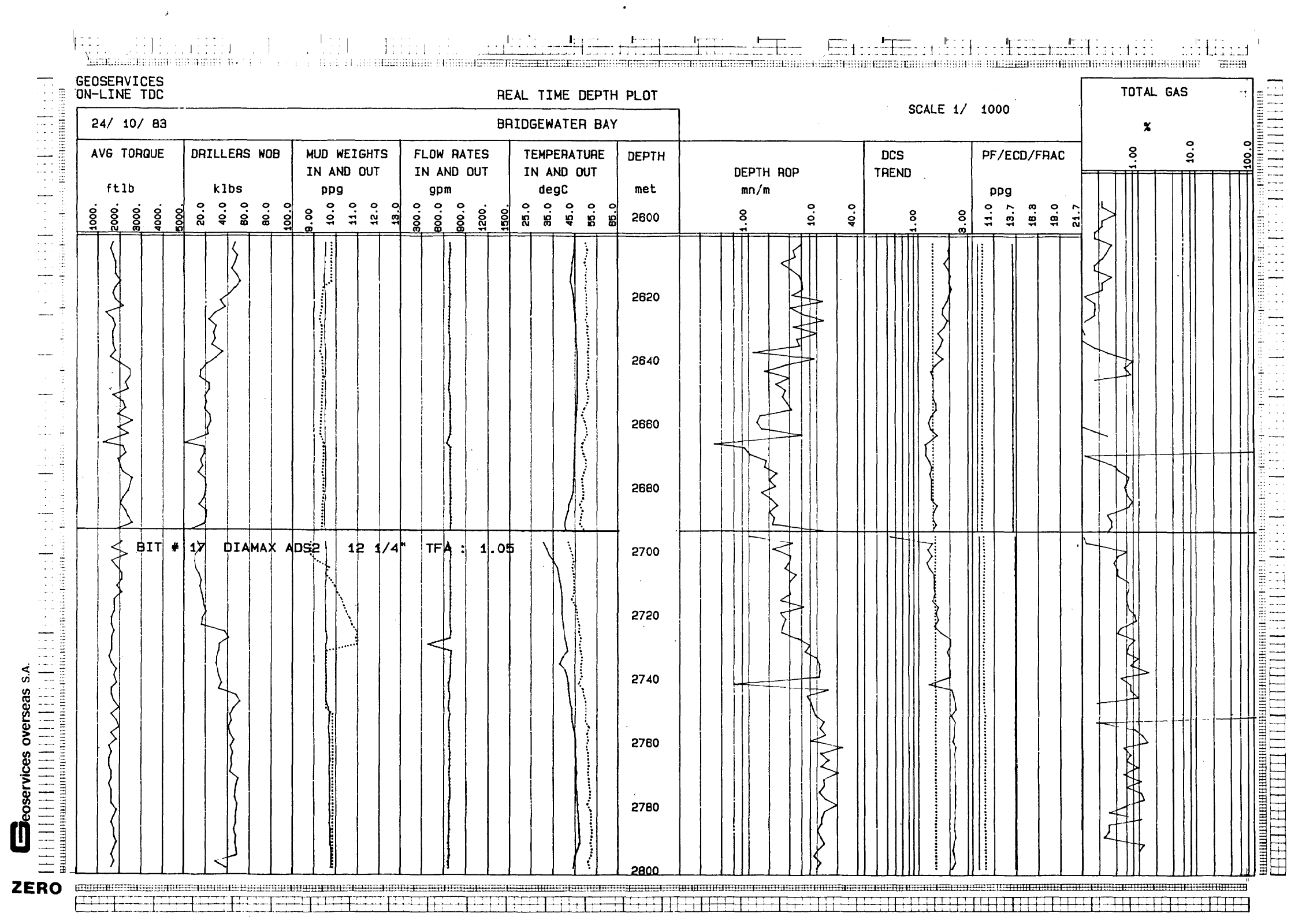
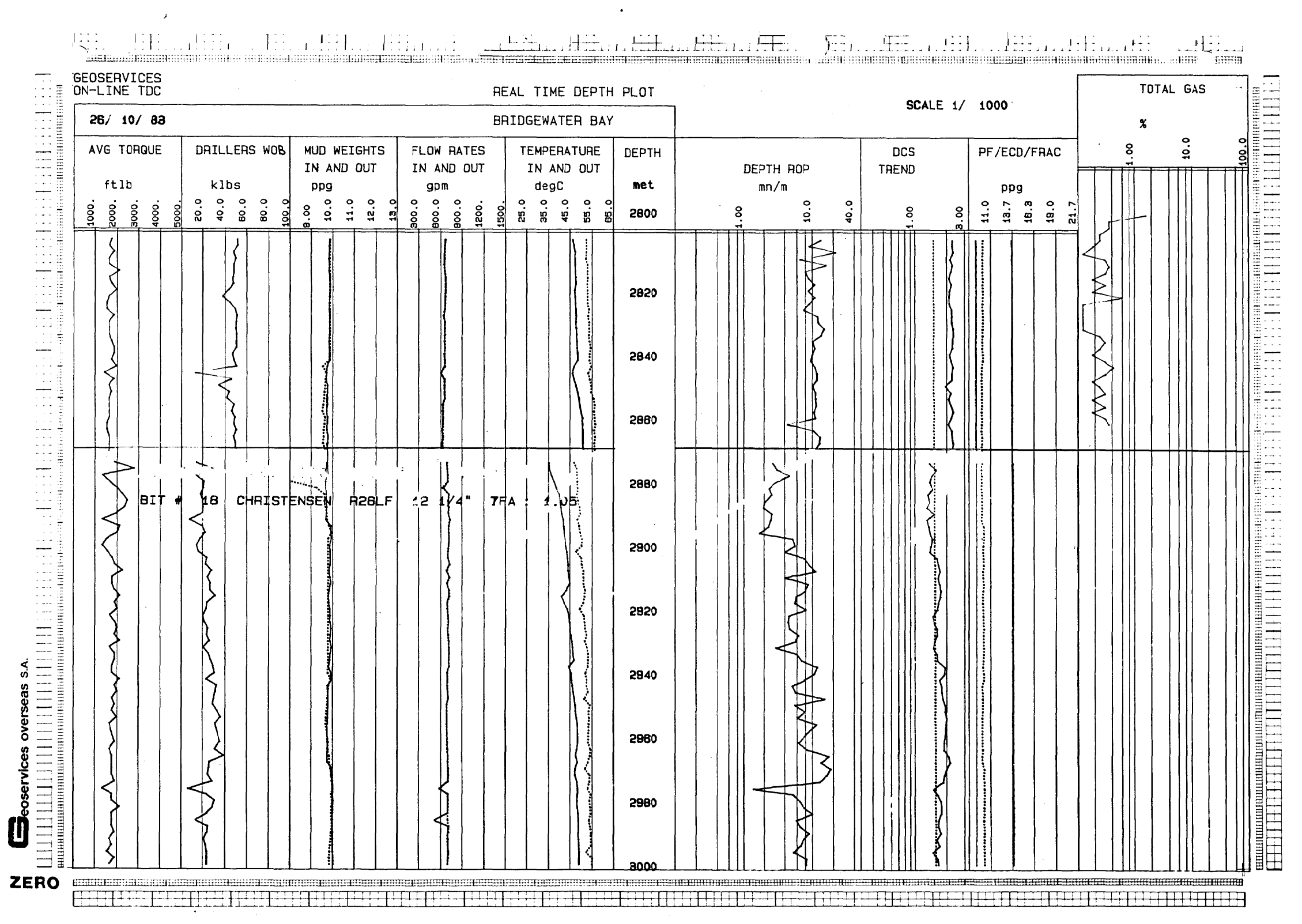
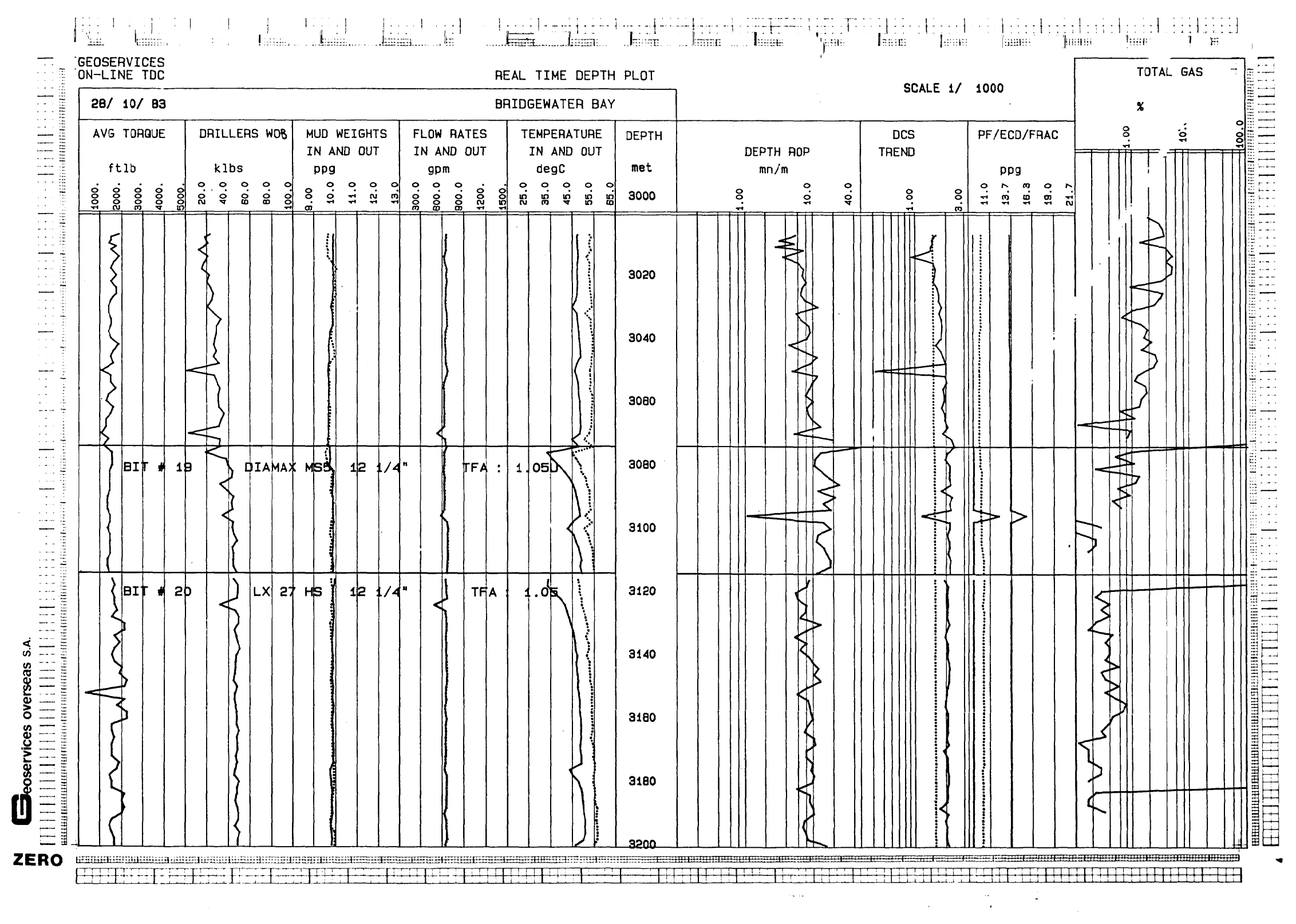

GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
24/ 10/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
9.00
10.0
11.0
12.0
13.0
FLOW RATES
IN AND OUT
gpm
300.0
800.0
900.0
1200.
1500.
TEMPERATURE
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
2600
2620
2640
2660
2680
2700
2720
2740
2760
2780
2800
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.8
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 17 DIAMAX ADS2 12 1/4" TFA : 1.05
Geoservices overseas S.A.
ZERO


GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
26/ 10/ 88
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
9.00
10.0
11.0
12.0
13.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURE
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
2800
2820
2840
2860
2880
2900
2920
2940
2960
2980
3000
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 18 CHRISTENSEN R28LF 12 1/4" TFA : 1.05
Geoservices overseas S.A.
ZERO



Geoservices overseas S.A.

ZERO

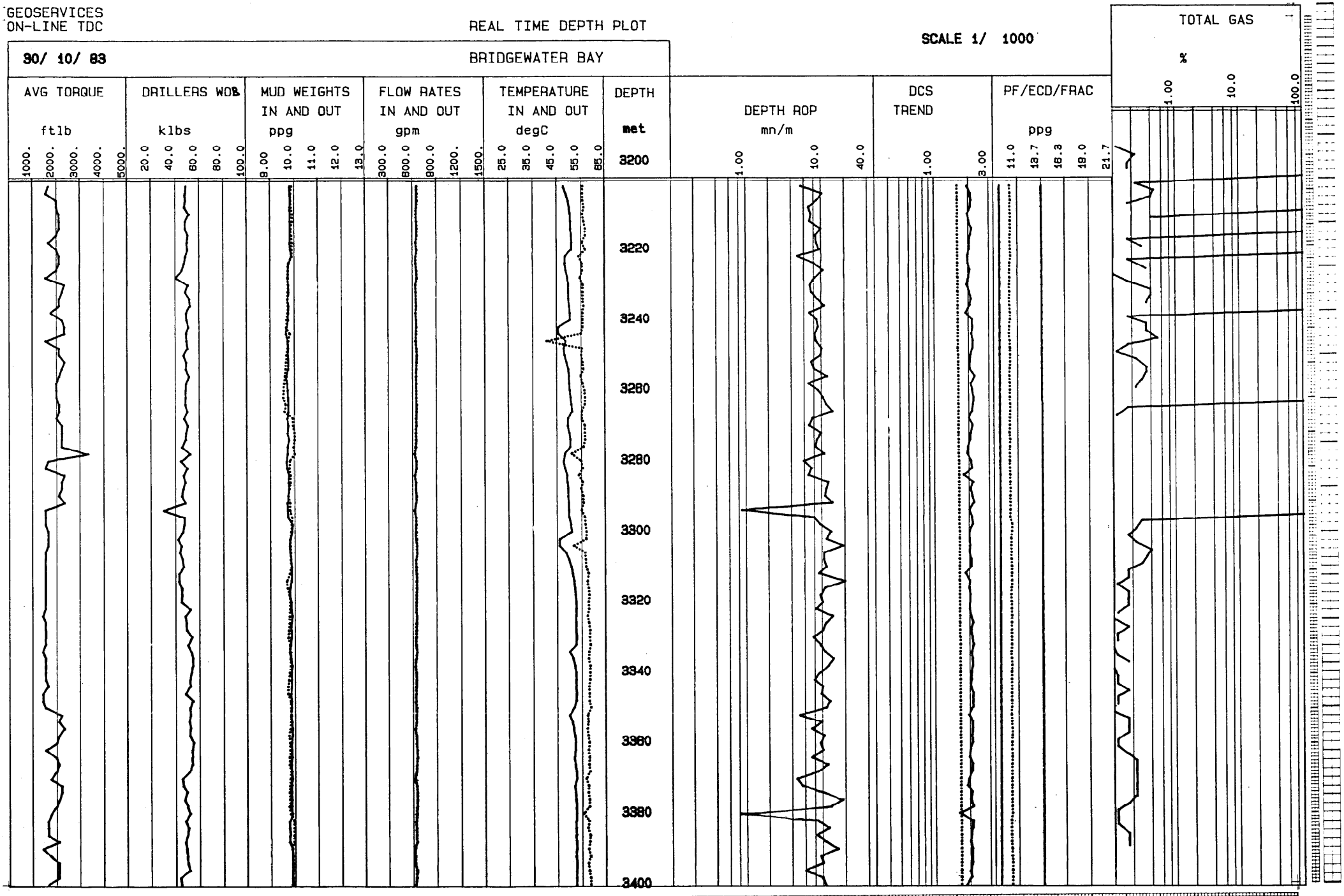
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

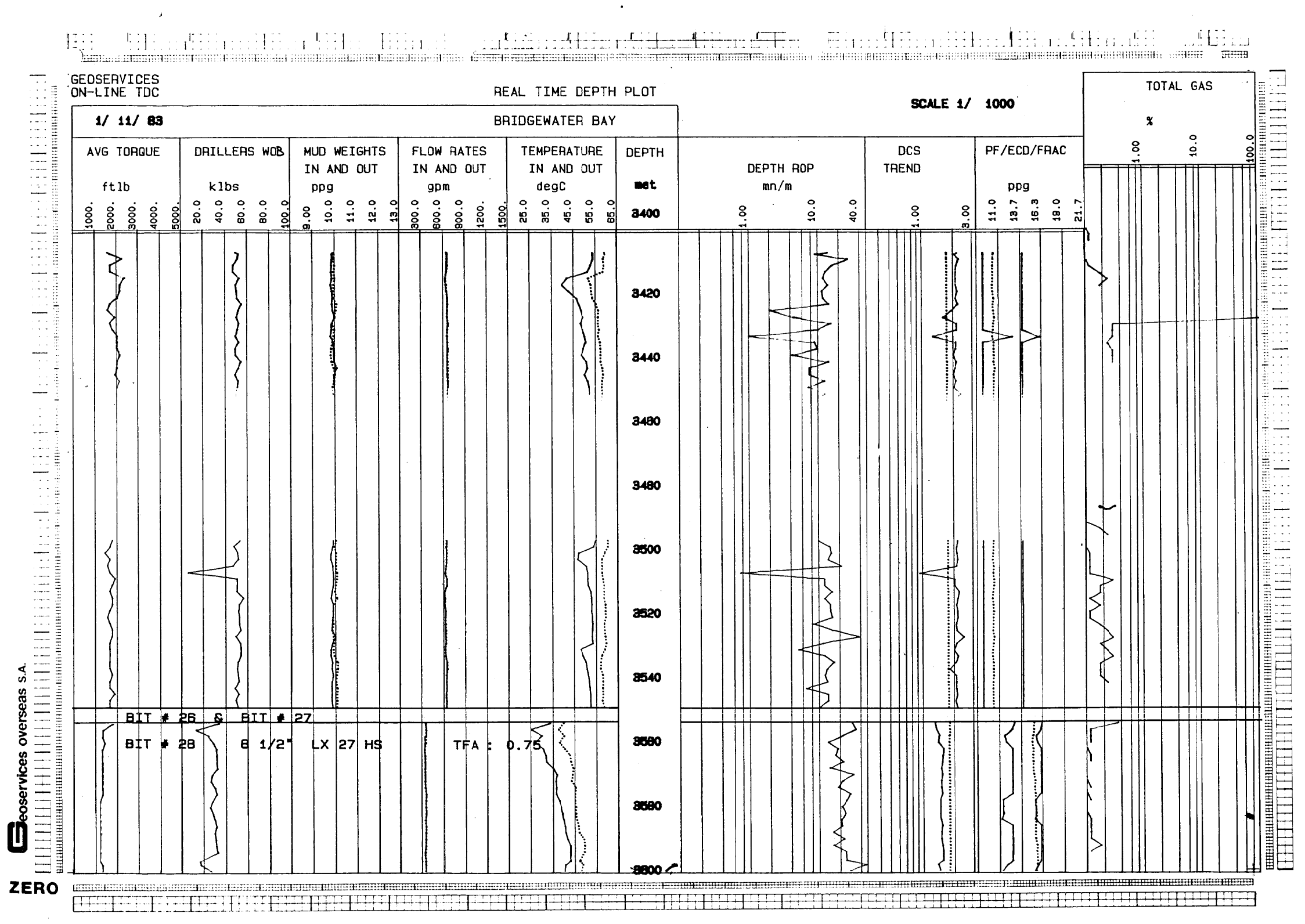
30/ 10/ 83

BRIDGEWATER BAY



Geoservices overseas S.A.

ZERO


GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
1/ 11/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
9.00
10.0
11.0
12.0
13.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURE
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
3400
3420
3440
3460
3480
3500
3520
3540
3560
3580
3600
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 26 & BIT # 27
BIT # 28
8 1/2"
LX 27 HS
TFA : 0.75
Geoservices overseas S.A.
ZERO

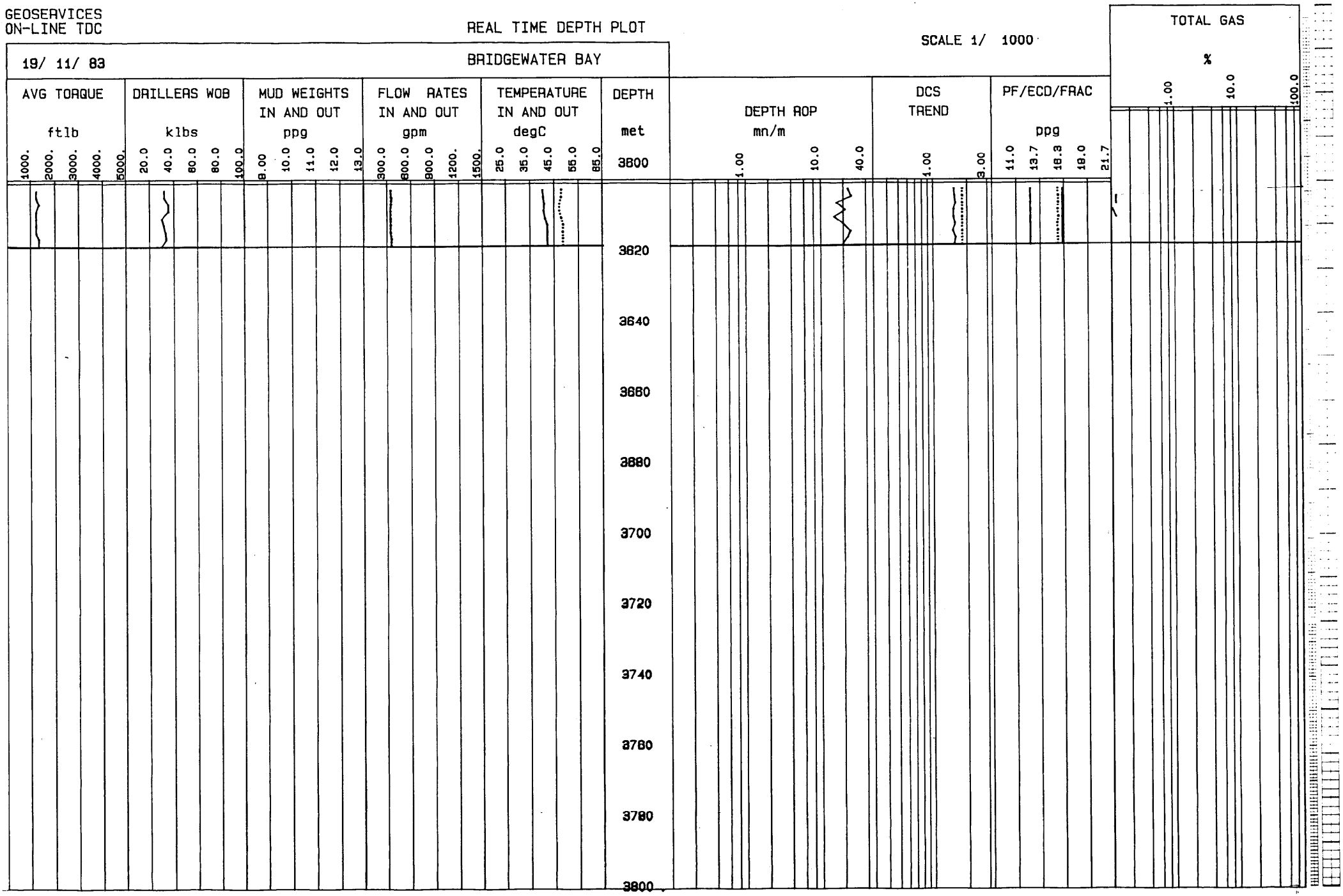
GEOSERVICES
ON-LINE TDC

REAL TIME DEPTH PLOT

SCALE 1/ 1000

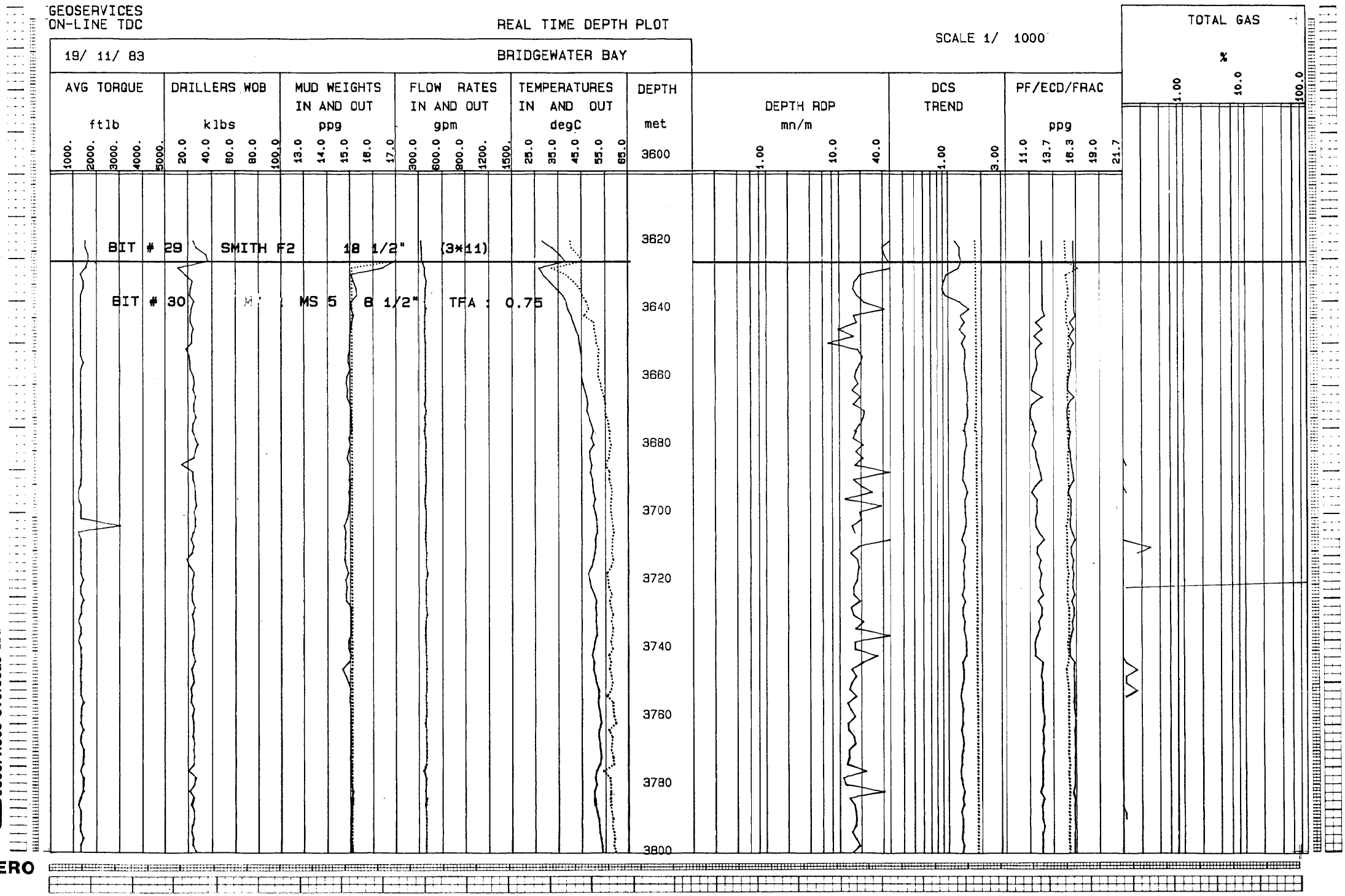
19/ 11/ 83

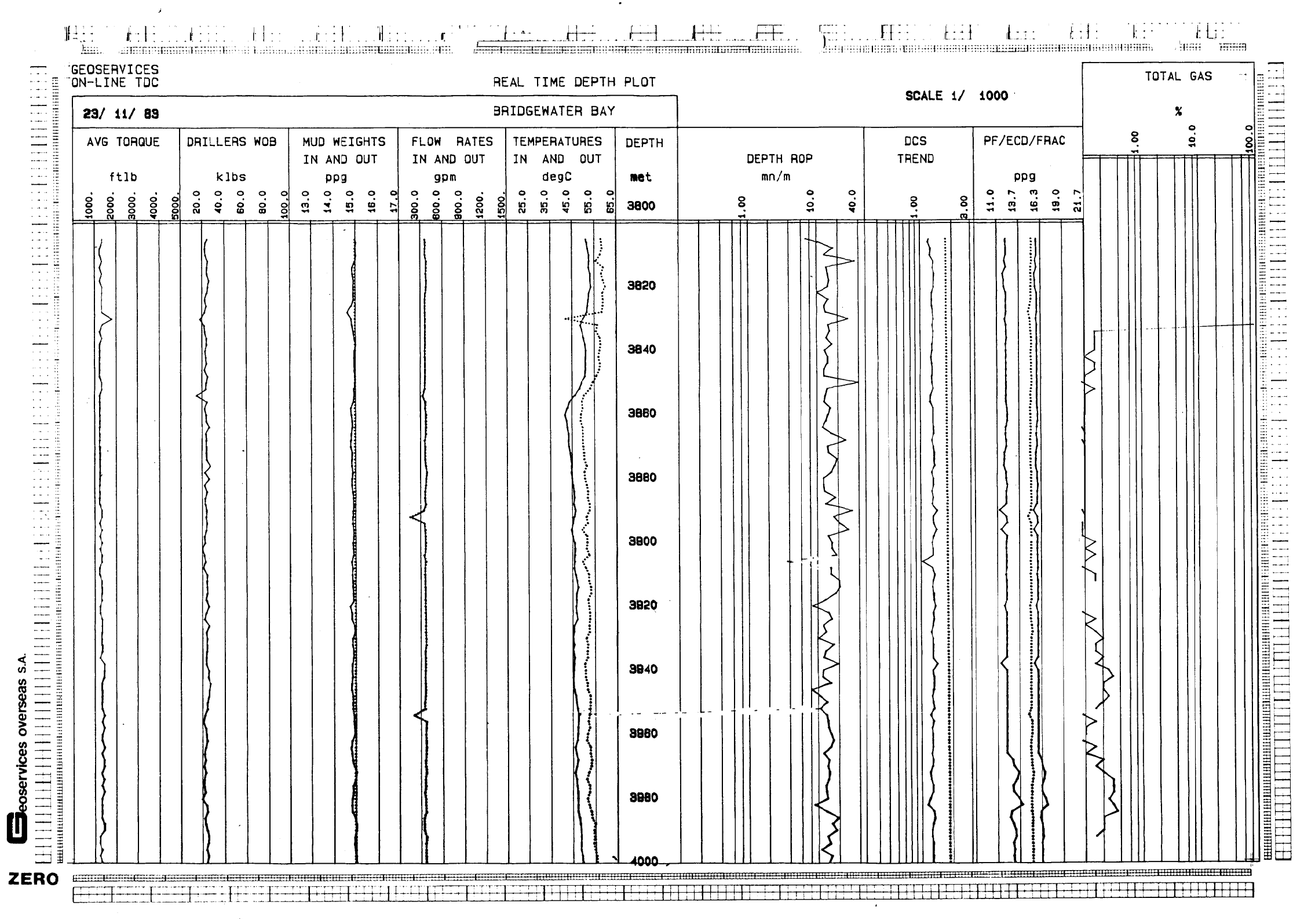
BRIDGEWATER BAY

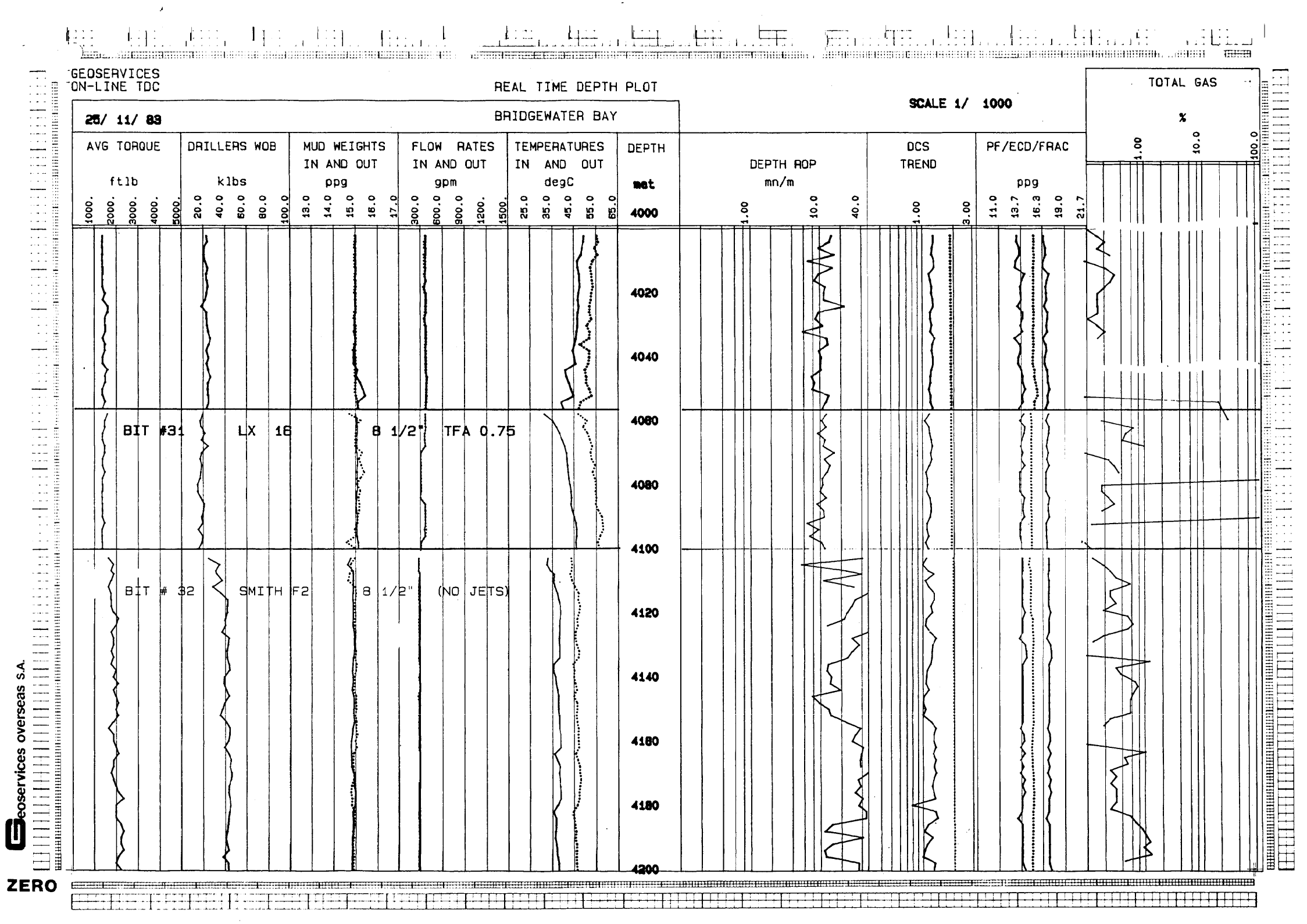


Geoservices overseas S.A.

ZERO


GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
19/ 11/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
13.0
14.0
15.0
16.0
17.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURES
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
3600
3620
3640
3660
3680
3700
3720
3740
3760
3780
3800
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT # 29
SMITH F2
18 1/2"
(3*11)
BIT # 30
MS 5
8 1/2"
TFA : 0.75
Geoservices overseas S.A.
ZERO


GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
23/ 11/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
13.0
14.0
15.0
16.0
17.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURES
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
met
3800
3820
3840
3860
3880
3900
3920
3940
3960
3980
4000
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
Geoservices overseas S.A.
ZERO


GEOSERVICES
ON-LINE TDC
REAL TIME DEPTH PLOT
SCALE 1/ 1000
25/ 11/ 83
BRIDGEWATER BAY
AVG TORQUE
ftlb
1000.
2000.
3000.
4000.
5000.
DRILLERS WOB
klbs
20.0
40.0
60.0
80.0
100.0
MUD WEIGHTS
IN AND OUT
ppg
13.0
14.0
15.0
16.0
17.0
FLOW RATES
IN AND OUT
gpm
300.0
600.0
900.0
1200.
1500.
TEMPERATURES
IN AND OUT
degC
25.0
35.0
45.0
55.0
65.0
DEPTH
mst
4000
4020
4040
4060
4080
4100
4120
4140
4160
4180
4200
DEPTH ROP
mn/m
1.00
10.0
40.0
DCS
TREND
1.00
3.00
PF/ECD/FRAC
ppg
11.0
13.7
16.3
19.0
21.7
TOTAL GAS
%
1.00
10.0
100.0
BIT #31
LX 16
8 1/2"
TFA 0.75
BIT # 32
SMITH F2
8 1/2"
(NO JETS)
Geoservices overseas S.A.
ZERO

PE900690

This is an enclosure indicator page.
The enclosure PE900690 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900690 has the following characteristics:

ITEM_BARCODE	= PE900690
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 440 TO 1000
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 440 TO 1000
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900691

This is an enclosure indicator page.
The enclosure PE900691 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900691 has the following characteristics:

ITEM_BARCODE	= PE900691
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 1040 TO 1600
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 1040 TO 1600
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900692

This is an enclosure indicator page.
The enclosure PE900692 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900692 has the following characteristics:

ITEM_BARCODE	= PE900692
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 1640 TO 2200
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 1640 TO 2200
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900693

This is an enclosure indicator page.
The enclosure PE900693 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900693 has the following characteristics:

ITEM_BARCODE	= PE900693
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 2240 TO 2800
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 2240 TO 2800
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900694

This is an enclosure indicator page.
The enclosure PE900694 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900694 has the following characteristics:

ITEM_BARCODE	= PE900694
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 2840 TO 3400
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 2840 TO 3400
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900695

This is an enclosure indicator page.
The enclosure PE900695 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900695 has the following characteristics:

ITEM_BARCODE	= PE900695
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 3440 TO 4000
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 3440 TO 4000
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE900696

This is an enclosure indicator page.
The enclosure PE900696 is enclosed within the container PE902250 at this location in this document.

The enclosure PE900696 has the following characteristics:

ITEM_BARCODE	= PE900696
CONTAINER_BARCODE	= PE902250
NAME	= LITHOLOGY REPORT DEPTH 4040 TO 4600
BASIN	= OTWAY
PERMIT	= VIC/P14
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= LITHOLOGY REPORT DEPTH 4040 TO 4600
REMARKS	=
DATE_CREATED	= *
DATE_RECEIVED	= *
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= Geoservices
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

GEOLOGY

- Lithology Plot
- Masterlog

ADDENDUM 3

Seismograph Service Limited

SEISMOGRAPH SERVICE LIMITED

WELL GEOPHONE SURVEY

and

CALIBRATED VELOCITY LOG REPORT

BRIDGEWEWATER BAY NO. 1

WELL GEOPHONE SURVEY AND CALIBRATED VELOCITY LOG

REPORT

SEISMOGRAPH SERVICE LIMITED
WELL GEOPHONE SURVEY FIELD REPORT
AIR GUN

WELL NAME BRIDGEWATER BAY No.1 COUNTRY AUSTRALIA (offshore) JOB NO. Q-100

CLIENT PHILLIPS AUSTRALIAN OIL COMPANY. WELL LOCATION 38° 32' 26" S 141° 21' 42" E DATE OF SURVEY 3rd December 1983.

RIG NAME & HEADING Diamond M. Epoc 237°

WELL GEOPHONE REF. LEVEL K.B. ELEVATION OF REF. LEVEL 23.0m GUN OFFSET DISTANCE 48m

TYPE GEOPHONE GCH 100 HT ELEVATION OF SEA BED 109m GUN DEPTH 8m

TYPE INSTRUMENT DCR / DCA ELEVATION OF GROUND N/A GUN HYDROPHONE DEPTH 11m

GUN CHAMBER SIZE 80cu in DEPTH CASING & SIZE 9 5/8" @ 3519.5 GUN DIRECTION 177°

EQUIPMENT NO. SAMPLE INTERVAL 2ms MULTIPLEX TIME 3 seconds

CASSETTES ~~REWOUND~~/NOT REWOUND NO. OF CASSETTES 4 (four)

Tape Counter	Record No.	Depth Well Geophone M or Ft.	No. of Shots	Time Recorded Hours	T ms	GAIN dB Record	GAIN dB DHA	Filter Setting High Cut Hz.	Gun Pressure p.s.i.	REMARKS
L01-0103	1	900	3	00:40		15	21	ON	2000	
0104-0105	2	2718	2	01:23		30	"	"	"	
L06-0110	3	4180	5	02:06		42/ 33/36	21/24	"	"	
0111-0113	4	4104	3			36	24	"	"	
0114-0116	5	4017	3	02:34		"	"	"	"	
L17-0119	6	3900	3			"	"	"	"	
0120-0122	7	3700	3	03:01		"	"	"	"	
L23-0125	8	3500	3			36/33	"	"	"	
0126-0128	9	3350	3			33	"	"	"	
.29-0131	10	3150	3	03:31		"	"	"	"	
0201-0203	11	2925	3			"	"	"	"	
204-0206	12	2630	3			30/27	"	"	"	
0207-0209	13	2500	3	04:05		27	"	"	"	
210-0212	14	2375	3			"	"	"	"	
0213-0215	15	2190	3			24	"	"	"	
0216-0219	16	2050	4	04:32		"	"	"	"	
220-0222	17	1850	3			21	"	"	"	
0223-0225	18	1700	3	04:52		"	"	"	"	

WELL SEISMIC DATUM // DEPTH WEATHERING // ELEVATION VELOCITY // WEATHERING VELOCITY ///

ELEVATION REF. DATUM MSL. DIRECTION GUN HYDROPHONE BREAKS DOWN

DIRECTION WELL PHONE BREAKS DOWN OPERATORS BAKER / MUNN

ADDRESS DATA SHOULD BE SENT

REMARKS

Sheet 2 of 2

SEISMOGRAPH SERVICE LIMITED
WELL GEOPHONE SURVEY FIELD REPORT
AIR GUN

WELL NAME _____ COUNTRY _____ JOB NO. _____

CLIENT _____ WELL LOCATION _____ DATE OF SURVEY _____

_____ _____ RIG NAME & HEADING _____

WELL GEOPHONE REF. LEVEL _____ ELEVATION OF REF. LEVEL _____ GUN OFFSET DISTANCE _____

TYPE GEOPHONE _____ ELEVATION OF SEA BED _____ GUN DEPTH _____

TYPE INSTRUMENT _____ ELEVATION OF GROUND _____ GUN HYDROPHONE DEPTH _____

GUN CHAMBER SIZE _____ DEPTH CASING & SIZE _____ GUN DIRECTION _____

EQUIPMENT NO. _____ SAMPLE INTERVAL _____ MULTIPLEX TIME _____

CASSETTES REWOUND/NOT REWOUND NO. OF CASSETTES _____ _____

Tape Counter	Record No.	Depth Well Geophone M or XX	No. of Shots	Time Recorded Hours	T ms	GAIN dB		Filter Setting High Cut Hz.	Gun Pressure p.s.i.	REMARKS
						Record	DHA			
0226-0232	19	1555	7	05:04		21/8	24	ON	2000	
0301-0308	20	1400	8			18	"	"	"	
0309-0311	21	1205	3	05:31		18/15	"	"	"	
0312-0316	22	1010	4			15	"	"	"	
0317-0320	23	900	4			"	"	"	"	
0321-0325	24	700	5	06:05		12/9/6	"	"	"	
0326-0330	25	500	5			3/0	"	"	"	
0401-0409	26	300	9	06:34		0	"	"	"	

WELL SEISMIC DATUM _____ DEPTH WEATHERING _____ ELEVATION VELOCITY _____ WEATHERING VELOCITY _____

ELEVATION REF. DATUM _____ DIRECTION GUN HYDROPHONE BREAKS _____

DIRECTION WELL PHONE BREAKS _____ OPERATORS _____

ADDRESS DATA SHOULD BE SENT _____

_____

REMARKS _____

_____

_____

PE600011

This is an enclosure indicator page.
The enclosure PE600011 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600011 has the following characteristics:

ITEM_BARCODE	= PE600011
CONTAINER_BARCODE	= PE902250
NAME	= BRIDGEWATER BAY 1 DISPLAY OF WELL VELOCITY SURVEY RECORDS
BASIN	= Otway
PERMIT	=
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= BRIDGEWATER BAY 1 DISPLAY OF WELL VELOCITY SURVEY RECORDS
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= SEISMOGRAPHIC SERVICE LTD.
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600352

This is an enclosure indicator page.
The enclosure PE600352 is enclosed within the
container PE902250 at this location in this document.

The enclosure PE600352 has the following characteristics:

ITEM_BARCODE	=	PE600352
CONTA INER_BARCODE	=	PE902250
NAME	=	BRIDGEWATER BAY 1 DISPLAY OF WELL VELOCITY RECORDS ADDENDUM 3
BASIN	=	OTWAY
PERMIT	=	VIC/P14
TYPE	=	WELL
SUBTYPE	=	VELOCITY_CHART
DESCRIPTION	=	BRIDGEWATER BAY 1 DISPLAY OF WELL VELOCITY RECORDS ADDENDUM 3
DATE_CREATED	=	
DATE_RECEIVED	=	7/06/1984
W_NO	=	W831
WELL_NAME	=	BRIDGEWATER BAY 1
CONTRATOR	=	Seismograph Service Ltd
CLIENT_OP_CO	=	PHILLIPS AUSTRALIAN OIL COMPANY

PE900697

This is an enclosure indicator page.
The enclosure PE900697 is enclosed within the
container PE902250 at this location in this document.

The enclosure PE600352 has the following characteristics:

ITEM_BARCODE	=	PE900697
CONTA INER_BARCODE	=	PE902250
NAME	=	Bridgewater Bay 1 Borehole Geophysical Data Printout
BASIN	=	OTWAY
PERMIT	=	VIC/P14
TYPE	=	WELL
SUBTYPE	=	VELOCITY_CHART
DESCRIPTION	=	Bridgewater Bay 1 Borehole Geophysical Data Printout
DATE_CREATED	=	
DATE_RECEIVED	=	
W_NO	=	W831
WELL_NAME	=	BRIDGEWATER BAY 1
CONTRATOR	=	Seismograph Service Ltd
CLIENT_OP_CO	=	PHILLIPS AUSTRALIAN OIL COMPANY

SEISMOGRAPH SERVICE (ENGLAND) LTD
WELL SURVEY DIVISION

COMPANY: PHILLIPS AUSTRALIAN OIL COMPANY

WELL: BRIDGEWATER BAY NO.1

LISTING OF : TWO-WAY TRAVEL TIME IN SECONDS BELOW DATUM OF MEAN SEA LEVEL

VERTICAL DEPTH IN METRES BELOW DATUM OF MEAN SEA LEVEL

VELOCITIES IN M/SEC

REFLECTION COEFFICIENTS

TWO-WAY TRANSMISSION LOSS

ELEVATION OF KB AT 23.Ø METRES ABOVE DATUM OF MEAN SEA LEVEL

TIMES START AT TOP OF VELOCITY LOG AT Ø.4919 SECONDS TWØ-WAY TIME

TIME INCREMENT IS Ø.ØØ2Ø SECONDS TWO-WAY TIME

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
Ø.4919	476.9	1938.9	1938.9	1938.9		
Ø.4939	479.5	2588.8	1941.5	1941.9	Ø.1436	Ø.ØØ2Ø6
Ø.4959	482.1	2581.6	1944.1	1944.9	-Ø.ØØ14	Ø.ØØ2Ø6
Ø.4979	484.6	2573.9	1946.6	1947.9	-Ø.ØØ15	Ø.ØØ2Ø6
Ø.4999	487.2	2550.6	1949.Ø	1950.7	-Ø.ØØ45	Ø.ØØ2Ø6
Ø.5Ø19	489.8	2563.8	1951.5	1953.5	Ø.ØØ26	Ø.ØØ2Ø6
Ø.5Ø39	492.3	2556.1	1953.9	1956.2	-Ø.ØØ15	Ø.ØØ2Ø6
Ø.5Ø59	494.9	2551.Ø	1956.2	1958.9	-Ø.ØØ1Ø	Ø.ØØ2Ø6
Ø.5Ø79	497.4	2556.5	1958.6	1961.7	Ø.ØØ11	Ø.ØØ2Ø6
Ø.5Ø99	5ØØ.Ø	2616.Ø	1961.2	1964.6	Ø.Ø115	Ø.ØØ2Ø8
Ø.5119	5Ø2.6	2602.5	1963.7	1967.5	-Ø.ØØ26	Ø.ØØ2Ø8
Ø.5139	5Ø5.3	2668.6	1966.4	1970.8	Ø.Ø125	Ø.ØØ2Ø9
Ø.5159	5Ø7.9	2615.Ø	1968.9	1973.7	-Ø.Ø1Ø2	Ø.ØØ21Ø
Ø.5179	51Ø.5	2609.5	1971.4	1976.5	-Ø.ØØ11	Ø.ØØ21Ø
Ø.5199	513.2	2640.8	1974.Ø	1979.5	Ø.ØØ6Ø	Ø.Ø211
Ø.5219	515.8	2641.5	1976.5	1982.4	Ø.ØØØ1	Ø.Ø211
Ø.5239	518.5	2661.4	1979.2	1985.5	Ø.ØØ38	Ø.Ø211
Ø.5259	521.1	2641.6	1981.7	1988.4	-Ø.ØØ37	Ø.Ø211
Ø.5279	523.8	2688.1	1984.4	1991.5	Ø.ØØ87	Ø.Ø212
Ø.5299	526.5	2671.Ø	1987.Ø	1994.5	-Ø.ØØ32	Ø.Ø212
Ø.5319	529.2	2675.7	1989.5	1997.5	Ø.ØØØ9	Ø.Ø212
Ø.5339	531.8	2654.7	1992.Ø	2ØØØ.4	-Ø.ØØ39	Ø.Ø212
Ø.5359	534.4	2641.3	1994.5	2ØØ3.1	-Ø.ØØ25	Ø.Ø212
Ø.5379	537.1	2648.3	1996.9	2ØØ5.9	Ø.ØØ13	Ø.Ø212
Ø.5399	539.8	267Ø.9	1999.4	2ØØ8.8	Ø.ØØ42	Ø.Ø212
Ø.5419	542.4	264Ø.Ø	2ØØ1.7	2Ø11.5	-Ø.ØØ58	Ø.Ø213
Ø.5439	545.1	2649.9	2ØØ4.1	2Ø14.2	Ø.ØØ19	Ø.Ø213
Ø.5459	547.7	2677.Ø	2ØØ6.6	2Ø17.Ø	Ø.ØØ51	Ø.Ø213
Ø.5479	55Ø.4	2638.8	2ØØ8.9	2Ø19.6	-Ø.ØØ72	Ø.Ø213
Ø.5499	553.Ø	2666.7	2Ø11.3	2Ø22.4	Ø.ØØ53	Ø.Ø214
Ø.5519	555.7	2672.2	2Ø13.7	2Ø25.1	Ø.ØØ1Ø	Ø.Ø214
Ø.5539	558.4	27Ø5.Ø	2Ø16.2	2Ø28.Ø	Ø.ØØ61	Ø.Ø214
Ø.5559	561.1	2717.5	2Ø18.7	2Ø3Ø.9	Ø.ØØ23	Ø.Ø214
Ø.5579	563.9	2722.5	2Ø21.2	2Ø33.8	Ø.ØØØ9	Ø.Ø214
Ø.5599	566.6	274Ø.4	2Ø23.8	2Ø36.7	Ø.ØØ33	Ø.Ø214
Ø.5619	569.3	2698.2	2Ø26.2	2Ø39.5	-Ø.ØØ78	Ø.Ø215
Ø.5639	572.Ø	2696.7	2Ø28.6	2Ø42.2	-Ø.ØØØ3	Ø.Ø215
Ø.5659	574.7	2685.2	2Ø3Ø.9	2Ø44.8	-Ø.ØØ21	Ø.Ø215
Ø.5679	577.4	2687.3	2Ø33.2	2Ø47.4	Ø.ØØØ4	Ø.Ø215
Ø.5699	58Ø.Ø	2655.6	2Ø35.4	2Ø49.9	-Ø.ØØ59	Ø.Ø215
Ø.5719	582.7	2688.2	2Ø37.7	2Ø52.4	Ø.ØØ61	Ø.Ø216
Ø.5739	585.4	268Ø.8	2Ø39.9	2Ø55.Ø	-Ø.ØØ14	Ø.Ø216
Ø.5759	588.1	2669.8	2Ø42.1	2Ø57.4	-Ø.ØØ21	Ø.Ø216
Ø.5779	59Ø.7	2676.6	2Ø44.3	2Ø59.9	Ø.ØØ13	Ø.Ø216
Ø.5799	593.4	2687.Ø	2Ø46.5	2Ø62.4	Ø.ØØ19	Ø.Ø216
Ø.5819	596.1	2677.7	2Ø48.7	2Ø64.8	-Ø.ØØ17	Ø.Ø216
Ø.5839	598.7	2644.7	2Ø5Ø.7	2Ø67.1	-Ø.ØØ62	Ø.Ø216
Ø.5859	6Ø1.4	2638.2	2Ø52.7	2Ø69.3	-Ø.ØØ12	Ø.Ø216
Ø.5879	6Ø4.Ø	2598.7	2Ø54.6	2Ø71.3	-Ø.ØØ76	Ø.Ø217
Ø.5899	6Ø6.5	2549.7	2Ø56.3	2Ø73.1	-Ø.ØØ95	Ø.Ø217
Ø.5919	6Ø9.1	2558.2	2Ø58.Ø	2Ø74.9	Ø.ØØ17	Ø.Ø218
Ø.5939	611.7	2583.4	2Ø59.7	2Ø76.9	Ø.ØØ49	Ø.Ø218
Ø.5959	614.3	2623.9	2Ø61.6	2Ø78.9	Ø.ØØ78	Ø.Ø218
Ø.5979	617.Ø	2666.6	2Ø63.7	2Ø81.2	Ø.ØØ81	Ø.Ø219
Ø.5999	619.5	2562.4	2Ø65.3	2Ø83.Ø	-Ø.Ø199	Ø.Ø223
Ø.6Ø19	622.1	262Ø.2	2Ø67.2	2Ø85.Ø	Ø.Ø112	Ø.Ø224
Ø.6Ø39	624.8	2609.8	2Ø69.Ø	2Ø86.9	-Ø.ØØ2Ø	Ø.Ø224
Ø.6Ø59	627.4	263Ø.4	2Ø7Ø.8	2Ø89.Ø	Ø.ØØ39	Ø.Ø224

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
Ø.6Ø79	63Ø.Ø	2631.Ø	2Ø72.7	2Ø91.Ø	Ø.ØØØ1	Ø.Ø224
Ø.6Ø99	632.7	2671.4	2Ø74.6	2Ø93.2	Ø.ØØ76	Ø.Ø225
Ø.6119	635.3	2645.3	2Ø76.5	2Ø95.2	-Ø.ØØ49	Ø.Ø225
Ø.6139	638.Ø	2683.6	2Ø78.5	2Ø97.4	Ø.ØØ72	Ø.Ø226
Ø.6159	64Ø.7	2663.Ø	2Ø8Ø.4	2Ø99.5	-Ø.ØØ39	Ø.Ø226
Ø.6179	643.4	2668.4	2Ø82.3	21Ø1.6	Ø.ØØ1Ø	Ø.Ø226
Ø.6199	646.Ø	2675.3	2Ø84.2	21Ø3.7	Ø.ØØ13	Ø.Ø226
Ø.6219	648.6	2622.1	2Ø85.9	21Ø5.5	-Ø.Ø1ØØ	Ø.Ø227
Ø.6239	651.3	2635.5	2Ø87.7	21Ø7.4	Ø.ØØ25	Ø.Ø227
Ø.6259	654.Ø	2682.9	2Ø89.6	21Ø9.5	Ø.ØØ89	Ø.Ø228
Ø.6279	656.6	266Ø.9	2Ø91.4	2111.5	-Ø.ØØ41	Ø.Ø228
Ø.6299	659.3	2655.9	2Ø93.2	2113.5	-Ø.ØØØ9	Ø.Ø228
Ø.6319	662.Ø	2686.1	2Ø95.1	2115.5	Ø.ØØ56	Ø.Ø228
Ø.6339	664.7	2689.9	2Ø96.9	2117.6	Ø.ØØØ7	Ø.Ø228
Ø.6359	667.4	27Ø6.7	2Ø98.8	2119.7	Ø.ØØ31	Ø.Ø228
Ø.6379	67Ø.Ø	2655.7	21ØØ.6	2121.6	-Ø.ØØ95	Ø.Ø229
Ø.6399	672.7	2649.7	21Ø2.3	2123.4	-Ø.ØØ11	Ø.Ø229
Ø.6419	675.3	2647.4	21Ø4.Ø	2125.3	-Ø.ØØØ4	Ø.Ø229
Ø.6439	678.Ø	2663.8	21Ø5.7	2127.2	Ø.ØØ31	Ø.Ø229
Ø.6459	68Ø.6	2649.1	21Ø7.4	2129.Ø	-Ø.ØØ28	Ø.Ø229
Ø.6479	683.3	2637.Ø	21Ø9.1	213Ø.7	-Ø.ØØ23	Ø.Ø229
Ø.6499	685.9	2645.Ø	211Ø.7	2132.5	Ø.ØØ15	Ø.Ø229
Ø.6519	688.5	2635.3	2112.3	2134.2	-Ø.ØØ18	Ø.Ø229
Ø.6539	691.2	2641.2	2113.9	2136.Ø	Ø.ØØ11	Ø.Ø229
Ø.6559	693.8	2659.5	2115.6	2137.7	Ø.ØØ34	Ø.Ø229
Ø.6579	696.5	2668.9	2117.3	2139.6	Ø.ØØ18	Ø.Ø229
Ø.6599	699.2	2688.7	2119.Ø	2141.4	Ø.ØØ37	Ø.Ø23Ø
Ø.6619	7Ø1.9	2686.Ø	212Ø.7	2143.3	-Ø.ØØØ5	Ø.Ø23Ø
Ø.6639	7Ø4.6	2723.7	2122.5	2145.3	Ø.ØØ7Ø	Ø.Ø23Ø
Ø.6659	7Ø7.4	275Ø.Ø	2124.4	2147.3	Ø.ØØ48	Ø.Ø23Ø
Ø.6679	71Ø.1	2753.1	2126.3	2149.4	Ø.ØØØ6	Ø.Ø23Ø
Ø.6699	712.9	2752.1	2128.2	2151.5	-Ø.ØØØ2	Ø.Ø23Ø
Ø.6719	715.6	2738.4	213Ø.Ø	2153.4	-Ø.ØØ25	Ø.Ø23Ø
Ø.6739	718.3	272Ø.9	2131.8	2155.4	-Ø.ØØ32	Ø.Ø23Ø
Ø.6759	721.Ø	2717.7	2133.5	2157.2	-Ø.ØØØ6	Ø.Ø23Ø
Ø.6779	723.8	2715.Ø	2135.2	2159.1	-Ø.ØØØ5	Ø.Ø23Ø
Ø.6799	726.5	2771.9	2137.1	2161.1	Ø.Ø1Ø4	Ø.Ø232
Ø.6819	729.3	2794.Ø	2139.Ø	2163.3	Ø.ØØ4Ø	Ø.Ø232
Ø.6839	732.1	2749.1	214Ø.8	2165.2	-Ø.ØØ81	Ø.Ø232
Ø.6859	734.8	2726.1	2142.5	2167.1	-Ø.ØØ42	Ø.Ø233
Ø.6879	737.5	2686.Ø	2144.1	2168.8	-Ø.ØØ74	Ø.Ø233
Ø.6899	74Ø.2	2698.2	2145.7	217Ø.5	Ø.ØØ23	Ø.Ø233
Ø.6919	742.9	2739.6	2147.4	2172.3	Ø.ØØ76	Ø.Ø234
Ø.6939	745.7	2743.3	2149.1	2174.2	Ø.ØØØ7	Ø.Ø234
Ø.6959	748.5	2789.9	2151.Ø	2176.2	Ø.ØØ84	Ø.Ø234
Ø.6979	751.3	2863.6	2153.Ø	2178.5	Ø.Ø13Ø	Ø.Ø236
Ø.6999	754.1	2815.2	2154.9	218Ø.6	-Ø.ØØ85	Ø.Ø237
Ø.7Ø19	757.Ø	2889.6	2157.Ø	2182.9	Ø.Ø13Ø	Ø.Ø238
Ø.7Ø39	759.8	2779.5	2158.8	2184.9	-Ø.Ø194	Ø.Ø242
Ø.7Ø59	762.6	2771.Ø	216Ø.5	2186.7	-Ø.ØØ15	Ø.Ø242
Ø.7Ø79	765.4	2815.6	2162.3	2188.8	Ø.ØØ8Ø	Ø.Ø243
Ø.7Ø99	768.3	2853.7	2164.3	219Ø.9	Ø.ØØ67	Ø.Ø243
Ø.7119	771.1	2845.1	2166.2	2193.Ø	-Ø.ØØ15	Ø.Ø243
Ø.7139	773.9	2783.3	2167.9	2194.9	-Ø.Ø11Ø	Ø.Ø244
Ø.7159	776.7	2799.1	2169.7	2196.8	Ø.ØØ28	Ø.Ø244
Ø.7179	779.5	2864.1	2171.6	2199.Ø	Ø.Ø115	Ø.Ø246
Ø.7199	782.5	2948.4	2173.8	22Ø1.4	Ø.Ø145	Ø.Ø248
Ø.7219	785.5	3ØØ2.Ø	2176.1	22Ø4.Ø	Ø.ØØ9Ø	Ø.Ø249

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
Ø.7239	788.5	2962.6	2178.2	22Ø6.5	-Ø.ØØ66	Ø.Ø249
Ø.7259	791.4	2938.Ø	218Ø.3	22Ø8.8	-Ø.ØØ42	Ø.Ø249
Ø.7279	794.3	29Ø2.5	2182.3	2211.Ø	-Ø.ØØ61	Ø.Ø25Ø
Ø.7299	797.3	2969.2	2184.5	2213.5	Ø.Ø114	Ø.Ø251
Ø.7319	8ØØ.2	2958.9	2186.6	2215.8	-Ø.ØØ17	Ø.Ø251
Ø.7339	8Ø2.9	2658.4	2187.9	2217.2	-Ø.Ø535	Ø.Ø279
Ø.7359	8Ø5.7	2789.1	2189.5	2218.9	Ø.Ø24Ø	Ø.Ø284
Ø.7379	8Ø8.5	2869.1	2191.4	222Ø.9	Ø.Ø141	Ø.Ø286
Ø.7399	811.5	2979.Ø	2193.5	2223.3	Ø.Ø188	Ø.Ø29Ø
Ø.7419	814.6	31Ø3.1	2195.9	2226.2	Ø.Ø2Ø4	Ø.Ø294
Ø.7439	818.2	3536.Ø	2199.5	223Ø.7	Ø.Ø652	Ø.Ø335
Ø.7459	821.5	3348.9	22Ø2.6	2234.5	-Ø.Ø272	Ø.Ø342
Ø.7479	824.8	325Ø.Ø	22Ø5.4	2237.8	-Ø.Ø15Ø	Ø.Ø344
Ø.7499	828.1	3323.5	22Ø8.4	2241.4	Ø.Ø112	Ø.Ø345
Ø.7519	831.4	3325.8	2211.4	2245.Ø	Ø.ØØØ3	Ø.Ø345
Ø.7539	834.4	3Ø42.8	2213.6	2247.5	-Ø.Ø444	Ø.Ø365
Ø.7559	838.Ø	3598.7	2217.2	2252.1	Ø.Ø837	Ø.Ø432
Ø.7579	841.1	3Ø95.6	2219.6	2254.8	-Ø.Ø751	Ø.Ø486
Ø.7599	844.2	3Ø22.6	2221.7	2257.1	-Ø.Ø119	Ø.Ø487
Ø.7619	847.1	289Ø.3	2223.4	2259.Ø	-Ø.Ø224	Ø.Ø492
Ø.7639	85Ø.3	3197.4	2226.Ø	2262.Ø	Ø.Ø5Ø4	Ø.Ø516
Ø.7659	853.7	3464.8	2229.2	2266.Ø	Ø.Ø4Ø1	Ø.Ø532
Ø.7679	857.Ø	3267.5	2231.9	2269.1	-Ø.Ø293	Ø.Ø54Ø
Ø.7699	86Ø.3	3328.2	2234.8	2272.5	Ø.ØØ92	Ø.Ø541
Ø.7719	863.3	2995.1	2236.7	2274.7	-Ø.Ø527	Ø.Ø567
Ø.7739	866.Ø	2734.9	2238.Ø	2276.Ø	-Ø.Ø454	Ø.Ø586
Ø.7759	869.7	3638.2	2241.6	228Ø.6	Ø.1417	Ø.Ø775
Ø.7779	873.2	349Ø.4	2244.8	2284.5	-Ø.Ø2Ø7	Ø.Ø779
Ø.7799	876.4	3266.7	2247.5	2287.6	-Ø.Ø331	Ø.Ø789
Ø.7819	879.5	3Ø18.4	2249.4	2289.7	-Ø.Ø395	Ø.ØBØ4
Ø.7839	881.9	2417.2	2249.9	229Ø.1	-Ø.11Ø6	Ø.Ø916
Ø.7859	884.3	2396.4	225Ø.2	2290.3	-Ø.ØØ43	Ø.Ø917
Ø.7879	886.7	24Ø4.9	225Ø.6	2290.6	Ø.ØØ18	Ø.Ø917
Ø.7899	889.Ø	2317.8	225Ø.8	2290.7	-Ø.Ø184	Ø.Ø92Ø
Ø.7919	891.3	232Ø.9	2251.Ø	2290.8	Ø.ØØØ7	Ø.Ø92Ø
Ø.7939	893.6	2331.5	2251.2	2290.9	Ø.ØØ23	Ø.Ø92Ø
Ø.7959	896.Ø	2394.Ø	2251.5	2291.1	Ø.Ø132	Ø.Ø921
Ø.7979	898.4	2392.8	2251.9	2291.4	-Ø.ØØØ3	Ø.Ø921
Ø.7999	9Ø1.Ø	2595.9	2252.8	2292.2	Ø.Ø4Ø7	Ø.Ø936
Ø.8Ø19	9Ø3.5	242Ø.3	2253.2	2292.5	-Ø.Ø35Ø	Ø.Ø947
Ø.8Ø39	9Ø5.9	2498.6	2253.8	2293.1	Ø.Ø159	Ø.Ø95Ø
Ø.8Ø59	9Ø8.4	2443.7	2254.3	2293.5	-Ø.Ø111	Ø.Ø951
Ø.8Ø79	91Ø.8	2435.8	2254.7	2293.8	-Ø.ØØ16	Ø.Ø951
Ø.8Ø99	913.2	2368.5	2255.Ø	2294.Ø	-Ø.Ø14Ø	Ø.Ø953
Ø.8119	915.7	2468.Ø	2255.5	2294.5	Ø.Ø2Ø6	Ø.Ø957
Ø.8139	918.1	2424.3	2255.9	2294.8	-Ø.ØØ89	Ø.Ø957
Ø.8159	92Ø.5	239Ø.5	2256.3	2295.Ø	-Ø.ØØ7Ø	Ø.Ø958
Ø.8179	922.9	2429.6	2256.7	2295.4	Ø.ØØ81	Ø.Ø958
Ø.8199	925.3	2416.7	2257.1	2295.7	-Ø.ØØ27	Ø.Ø958
Ø.8219	927.7	2347.4	2257.3	2295.8	-Ø.Ø146	Ø.Ø96Ø
Ø.8239	93Ø.1	2447.3	2257.8	2296.2	Ø.Ø2Ø8	Ø.Ø964
Ø.8259	932.6	2441.3	2258.2	2296.5	-Ø.ØØ12	Ø.Ø964
Ø.8279	934.9	238Ø.3	2258.5	2296.7	-Ø.Ø127	Ø.Ø966
Ø.8299	937.2	2299.6	2258.6	2296.8	-Ø.Ø173	Ø.Ø968
Ø.8319	939.6	2375.1	2258.9	2296.9	Ø.Ø162	Ø.Ø971
Ø.8339	942.1	2455.5	2259.3	2297.3	Ø.Ø166	Ø.Ø973
Ø.8359	944.6	2497.9	2259.9	2297.8	Ø.ØØ86	Ø.Ø974
Ø.8379	947.1	2489.4	226Ø.5	2298.3	-Ø.ØØ17	Ø.Ø974

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
Ø.8399	95Ø.4	33Ø7.3	2263.Ø	23Ø1.2	Ø.1411	Ø.1154
Ø.8419	953.3	2961.7	2264.6	23Ø3.Ø	-Ø.Ø551	Ø.118Ø
Ø.8439	956.7	3391.7	2267.3	23Ø6.2	Ø.Ø677	Ø.1221
Ø.8459	959.5	2777.2	2268.5	23Ø7.4	-Ø.Ø996	Ø.13Ø8
Ø.8479	962.1	2628.Ø	2269.3	23Ø8.3	-Ø.Ø276	Ø.1315
Ø.8499	964.8	272Ø.8	227Ø.4	23Ø9.3	Ø.Ø173	Ø.1317
Ø.8519	968.2	3385.7	2273.Ø	2312.4	Ø.1Ø89	Ø.142Ø
Ø.8539	972.7	4452.Ø	2278.1	2319.7	Ø.136Ø	Ø.1579
Ø.8559	975.9	3191.8	228Ø.3	2322.2	-Ø.1649	Ø.18Ø8
Ø.8579	978.5	26Ø3.9	2281.Ø	2322.9	-Ø.1Ø14	Ø.1892
Ø.8599	981.5	3Ø33.1	2282.8	2324.8	Ø.Ø762	Ø.1939
Ø.8619	984.Ø	2488.Ø	2283.2	2325.2	-Ø.Ø987	Ø.2Ø18
Ø.8639	986.5	2491.2	2283.7	2325.6	Ø.ØØØ6	Ø.2Ø18
Ø.8659	989.Ø	2555.4	2284.3	2326.1	Ø.Ø127	Ø.2Ø19
Ø.8679	991.6	2517.5	2284.9	2326.6	-Ø.ØØ75	Ø.2Ø19
Ø.8699	994.1	2492.5	2285.4	2327.Ø	-Ø.ØØ5Ø	Ø.2Ø2Ø
Ø.8719	996.5	2468.8	2285.8	2327.3	-Ø.ØØ48	Ø.2Ø2Ø
Ø.8739	999.1	2572.1	2286.4	2327.9	Ø.Ø2Ø5	Ø.2Ø23
Ø.8759	1ØØ1.6	2518.2	2287.Ø	2328.3	-Ø.Ø1Ø6	Ø.2Ø24
Ø.8779	1ØØ4.1	2482.3	2287.4	2328.7	-Ø.ØØ72	Ø.2Ø25
Ø.8799	1ØØ6.6	2541.Ø	2288.Ø	2329.2	Ø.Ø117	Ø.2Ø26
Ø.8819	1ØØ9.2	2545.Ø	2288.6	2329.7	Ø.ØØØ8	Ø.2Ø26
Ø.8839	1Ø11.7	25Ø5.1	2289.1	233Ø.1	-Ø.ØØ79	Ø.2Ø26
Ø.8859	1Ø14.1	2445.6	2289.4	233Ø.4	-Ø.Ø12Ø	Ø.2Ø27
Ø.8879	1Ø16.7	2552.Ø	229Ø.Ø	233Ø.9	Ø.Ø213	Ø.2Ø31
Ø.8899	1Ø19.3	2571.4	229Ø.6	2331.5	Ø.ØØ38	Ø.2Ø31
Ø.8919	1Ø21.8	2581.9	2291.3	2332.1	Ø.ØØ2Ø	Ø.2Ø31
Ø.8939	1Ø24.4	2592.5	2292.Ø	2332.7	Ø.ØØ21	Ø.2Ø31
Ø.8959	1Ø27.1	2621.6	2292.7	2333.4	Ø.ØØ56	Ø.2Ø31
Ø.8979	1Ø29.6	2557.9	2293.3	2333.9	-Ø.Ø123	Ø.2Ø33
Ø.8999	1Ø32.2	2583.4	2293.9	2334.5	Ø.ØØ5Ø	Ø.2Ø33
Ø.9Ø19	1Ø34.8	2592.5	2294.6	2335.1	Ø.ØØ18	Ø.2Ø33
Ø.9Ø39	1Ø37.4	2614.5	2295.3	2335.8	Ø.ØØ42	Ø.2Ø33
Ø.9Ø59	1Ø4Ø.Ø	2566.4	2295.9	2336.3	-Ø.ØØ93	Ø.2Ø34
Ø.9Ø79	1Ø42.7	27Ø9.8	2296.8	2337.2	Ø.Ø272	Ø.2Ø39
Ø.9Ø99	1Ø45.3	2622.9	2297.5	2337.8	-Ø.Ø163	Ø.2Ø42
Ø.9119	1Ø47.9	26Ø8.5	2298.2	2338.5	-Ø.ØØ28	Ø.2Ø42
Ø.9139	1Ø5Ø.5	2593.3	2298.9	2339.1	-Ø.ØØ29	Ø.2Ø42
Ø.9159	1Ø53.1	2578.7	2299.5	2339.6	-Ø.ØØ28	Ø.2Ø42
Ø.9179	1Ø55.7	2631.8	23ØØ.2	234Ø.3	Ø.Ø1Ø2	Ø.2Ø43
Ø.9199	1Ø58.3	2557.Ø	23ØØ.8	234Ø.8	-Ø.Ø144	Ø.2Ø44
Ø.9219	1Ø6Ø.7	2451.4	23Ø1.1	2341.Ø	-Ø.Ø211	Ø.2Ø48
Ø.9239	1Ø63.2	2516.2	23Ø1.5	2341.4	Ø.Ø13Ø	Ø.2Ø49
Ø.9259	1Ø65.8	2594.5	23Ø2.2	2342.Ø	Ø.Ø153	Ø.2Ø51
Ø.9279	1Ø68.3	2481.9	23Ø2.6	2342.3	-Ø.Ø222	Ø.2Ø55
Ø.9299	1Ø7Ø.9	2543.9	23Ø3.1	2342.8	Ø.Ø123	Ø.2Ø56
Ø.9319	1Ø73.4	2582.2	23Ø3.7	2343.3	Ø.ØØ75	Ø.2Ø57
Ø.9339	1Ø76.1	2613.Ø	23Ø4.3	2343.9	Ø.ØØ59	Ø.2Ø57
Ø.9359	1Ø78.6	2593.9	23Ø5.Ø	2344.5	-Ø.ØØ37	Ø.2Ø57
Ø.9379	1Ø81.2	2579.3	23Ø5.6	2345.Ø	-Ø.ØØ28	Ø.2Ø57
Ø.9399	1Ø83.9	2634.4	23Ø6.2	2345.6	Ø.Ø1Ø6	Ø.2Ø58
Ø.9419	1Ø86.5	2635.5	23Ø6.9	2346.3	Ø.ØØØ2	Ø.2Ø58
Ø.9439	1Ø89.1	264Ø.4	23Ø7.7	2347.Ø	Ø.ØØØ9	Ø.2Ø58
Ø.9459	1Ø91.8	2695.8	23Ø8.5	2347.8	Ø.Ø1Ø4	Ø.2Ø59
Ø.9479	1Ø94.5	269Ø.6	23Ø9.3	2348.5	-Ø.ØØ1Ø	Ø.2Ø59
Ø.9499	1Ø97.3	2736.6	231Ø.2	2349.4	Ø.ØØ85	Ø.2Ø59
Ø.9519	11ØØ.Ø	2757.Ø	2311.1	235Ø.3	Ø.ØØ37	Ø.2Ø59
Ø.9539	11Ø2.7	2724.1	2312.Ø	2351.2	-Ø.ØØ6Ø	Ø.2Ø6Ø

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
Ø.9559	11Ø5.5	2745.8	2312.9	2352.1	Ø.ØØ4Ø	Ø.2Ø6Ø
Ø.9579	11Ø8.2	2728.6	2313.8	2352.9	-Ø.ØØ31	Ø.2Ø6Ø
Ø.9599	1111.Ø	2762.6	2314.7	2353.9	Ø.ØØ62	Ø.2Ø6Ø
Ø.9619	1113.8	2815.7	2315.7	2354.9	Ø.ØØ95	Ø.2Ø61
Ø.9639	1116.6	2771.9	2316.7	2355.9	-Ø.ØØ78	Ø.2Ø61
Ø.9659	1119.3	2698.1	2317.5	2356.6	-Ø.Ø135	Ø.2Ø63
Ø.9679	1121.9	2658.1	2318.2	2357.3	-Ø.ØØ75	Ø.2Ø63
Ø.9699	1124.6	2645.3	2318.9	2357.9	-Ø.ØØ24	Ø.2Ø63
Ø.9719	1127.2	26Ø4.5	2319.4	2358.4	-Ø.ØØ78	Ø.2Ø64
Ø.9739	1129.8	2629.6	232Ø.1	2359.Ø	Ø.ØØ48	Ø.2Ø64
Ø.9759	1132.4	264Ø.4	232Ø.7	2359.6	Ø.ØØ2Ø	Ø.2Ø64
Ø.9779	1135.1	2639.5	2321.4	236Ø.3	-Ø.ØØØ2	Ø.2Ø64
Ø.9799	1137.8	27Ø3.7	2322.2	2361.Ø	Ø.Ø12Ø	Ø.2Ø65
Ø.9819	114Ø.5	2722.7	2323.Ø	2361.8	Ø.ØØ35	Ø.2Ø65
Ø.9839	1143.2	2729.6	2323.8	2362.6	Ø.ØØ13	Ø.2Ø65
Ø.9859	1146.Ø	2717.7	2324.6	2363.4	-Ø.ØØ22	Ø.2Ø65
Ø.9879	1148.7	27Ø5.3	2325.4	2364.1	-Ø.ØØ23	Ø.2Ø65
Ø.9899	1151.4	269Ø.8	2326.1	2364.8	-Ø.ØØ27	Ø.2Ø65
Ø.9919	1154.1	27Ø5.9	2326.9	2365.6	Ø.ØØ28	Ø.2Ø66
Ø.9939	1156.7	2679.9	2327.6	2366.2	-Ø.ØØ48	Ø.2Ø66
Ø.9959	1159.5	2746.Ø	2328.4	2367.1	Ø.Ø122	Ø.2Ø67
Ø.9979	1162.2	2756.7	2329.3	2367.9	Ø.ØØ2Ø	Ø.2Ø67
Ø.9999	1165.Ø	28Ø7.7	233Ø.2	2368.9	Ø.ØØ92	Ø.2Ø68
1.ØØ19	1167.8	2743.8	2331.1	2369.7	-Ø.Ø115	Ø.2Ø69
1.ØØ39	117Ø.6	2767.1	2331.9	237Ø.5	Ø.ØØ42	Ø.2Ø69
1.ØØ59	1173.3	2776.Ø	2332.8	2371.4	Ø.ØØ16	Ø.2Ø69
1.ØØ79	1176.1	2778.Ø	2333.7	2372.3	Ø.ØØØ4	Ø.2Ø69
1.ØØ99	1179.Ø	2858.3	2334.7	2373.3	Ø.Ø143	Ø.2Ø7Ø
1.Ø119	1182.2	3252.3	2336.6	2375.4	Ø.Ø645	Ø.21Ø3
1.Ø139	1185.3	3ØØØ.9	2338.Ø	2377.Ø	-Ø.Ø271	Ø.21Ø9
1.Ø159	1188.3	3ØØ1.7	2339.3	2378.4	-Ø.Ø13Ø	Ø.211Ø
1.Ø179	1191.2	2871.6	234Ø.4	2379.5	-Ø.Ø222	Ø.2114
1.Ø199	1194.Ø	2859.9	2341.4	238Ø.5	-Ø.ØØ2Ø	Ø.2114
1.Ø219	1196.9	2858.2	2342.4	2381.5	-Ø.ØØØ3	Ø.2114
1.Ø239	1199.7	2757.4	2343.2	2382.3	-Ø.Ø179	Ø.2117
1.Ø259	12Ø2.3	2673.3	2343.9	2382.9	-Ø.Ø155	Ø.2119
1.Ø279	12Ø5.Ø	2659.5	2344.5	2383.5	-Ø.ØØ26	Ø.2119
1.Ø299	12Ø7.6	2582.9	2344.9	2383.9	-Ø.Ø146	Ø.2121
1.Ø319	121Ø.2	26Ø2.1	2345.4	2384.3	Ø.ØØ37	Ø.2121
1.Ø339	1212.8	2672.1	2346.1	2384.9	Ø.Ø133	Ø.2122
1.Ø359	1215.5	264Ø.5	2346.6	2385.4	-Ø.ØØ6Ø	Ø.2122
1.Ø379	1218.1	2637.3	2347.2	2386.Ø	-Ø.ØØØ6	Ø.2122
1.Ø399	122Ø.9	2815.7	2348.1	2386.9	Ø.Ø327	Ø.2131
1.Ø419	1223.7	2811.4	2349.Ø	2387.7	-Ø.ØØØ8	Ø.2131
1.Ø439	1226.6	28Ø3.7	2349.9	2388.6	-Ø.ØØ14	Ø.2131
1.Ø459	1229.2	2688.2	235Ø.5	2389.2	-Ø.Ø21Ø	Ø.2134
1.Ø479	1231.9	2652.1	2351.1	2389.7	-Ø.ØØ68	Ø.2135
1.Ø499	1234.5	26Ø8.Ø	2351.6	239Ø.2	-Ø.ØØ84	Ø.2135
1.Ø519	1237.2	2726.7	2352.3	239Ø.9	Ø.Ø222	Ø.2139
1.Ø539	124Ø.1	2916.9	2353.4	2392.Ø	Ø.Ø337	Ø.2148
1.Ø559	1242.8	27Ø1.2	2354.Ø	2392.6	-Ø.Ø384	Ø.216Ø
1.Ø579	1245.7	2816.7	2354.9	2393.5	Ø.Ø2Ø9	Ø.2163
1.Ø599	1248.5	2816.8	2355.8	2394.3	Ø.ØØØØ	Ø.2163
1.Ø619	1251.5	3Ø16.8	2357.Ø	2395.7	Ø.Ø343	Ø.2172
1.Ø639	1254.3	2757.7	2357.8	2396.4	-Ø.Ø449	Ø.2188
1.Ø659	1257.2	2914.6	2358.8	2397.5	Ø.Ø277	Ø.2194
1.Ø679	1259.8	26Ø5.5	2359.3	2397.9	-Ø.Ø56Ø	Ø.2218
1.Ø699	1262.5	275Ø.2	236Ø.Ø	2398.6	Ø.Ø27Ø	Ø.2224

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.0719	1265.3	2758.4	2360.7	2399.3	0.0015	0.2224
1.0739	1268.3	3041.7	2362.0	2400.7	0.0488	0.2243
1.0759	1271.0	2711.5	2362.7	2401.3	-0.0574	0.2268
1.0779	1273.8	2734.1	2363.4	2401.9	0.0041	0.2268
1.0799	1276.5	2755.6	2364.1	2402.6	0.0039	0.2269
1.0819	1279.4	2826.7	2364.9	2403.5	0.0127	0.2270
1.0839	1282.3	2956.9	2366.0	2404.6	0.0225	0.2274
1.0859	1285.1	2757.7	2366.7	2405.3	-0.0349	0.2283
1.0879	1288.0	2902.1	2367.7	2406.3	0.0255	0.2288
1.0899	1290.8	2867.4	2368.6	2407.3	-0.0060	0.2288
1.0919	1293.6	2805.4	2369.4	2408.1	-0.0109	0.2289
1.0939	1296.4	2789.9	2370.2	2408.8	-0.0028	0.2289
1.0959	1299.2	2807.5	2371.0	2409.6	0.0031	0.2289
1.0979	1302.0	2801.6	2371.8	2410.4	-0.0010	0.2289
1.0999	1304.9	2871.5	2372.7	2411.3	0.0123	0.2291
1.1019	1307.9	2961.8	2373.8	2412.4	0.0155	0.2292
1.1039	1310.7	2783.3	2374.5	2413.1	-0.0311	0.2300
1.1059	1313.7	3029.5	2375.7	2414.4	0.0424	0.2314
1.1079	1316.7	2996.7	2376.8	2415.6	-0.0054	0.2314
1.1099	1319.4	2686.4	2377.4	2416.1	-0.0546	0.2337
1.1119	1322.2	2818.1	2378.2	2416.9	0.0239	0.2341
1.1139	1325.2	2983.9	2379.3	2418.0	0.0286	0.2347
1.1159	1327.9	2695.2	2379.8	2418.5	-0.0508	0.2367
1.1179	1330.8	2916.5	2380.8	2419.5	0.0394	0.2379
1.1199	1333.8	2981.4	2381.9	2420.6	0.0110	0.2380
1.1219	1336.7	2977.2	2382.9	2421.7	-0.0007	0.2380
1.1239	1339.7	3003.5	2384.0	2422.9	0.0044	0.2380
1.1259	1342.7	2932.5	2385.0	2423.9	-0.0120	0.2381
1.1279	1345.5	2841.1	2385.8	2424.7	-0.0158	0.2383
1.1299	1348.4	2845.1	2386.6	2425.5	0.0007	0.2383
1.1319	1351.3	2941.3	2387.6	2426.5	0.0166	0.2385
1.1339	1354.2	2940.6	2388.6	2427.5	-0.0001	0.2385
1.1359	1357.0	2768.6	2389.2	2428.1	-0.0301	0.2392
1.1379	1360.0	2992.8	2390.3	2429.3	0.0389	0.2404
1.1399	1362.9	2925.5	2391.2	2430.2	-0.0114	0.2405
1.1419	1365.8	2880.1	2392.1	2431.1	-0.0078	0.2405
1.1439	1368.9	3136.2	2393.4	2432.5	0.0426	0.2419
1.1459	1371.8	2859.6	2394.2	2433.3	-0.0461	0.2435
1.1479	1374.8	3019.7	2395.3	2434.4	0.0272	0.2441
1.1499	1377.7	2870.5	2396.1	2435.3	-0.0253	0.2446
1.1519	1380.6	2943.4	2397.1	2436.2	0.0125	0.2447
1.1539	1383.5	2897.7	2398.0	2437.1	-0.0078	0.2447
1.1559	1386.6	3032.3	2399.0	2438.3	0.0227	0.2451
1.1579	1389.6	3010.9	2400.1	2439.4	-0.0036	0.2451
1.1599	1392.5	2959.8	2401.1	2440.4	-0.0085	0.2452
1.1619	1395.5	2976.8	2402.1	2441.4	0.0029	0.2452
1.1639	1398.5	2973.9	2403.0	2442.4	-0.0005	0.2452
1.1659	1401.4	2886.7	2403.9	2443.2	-0.0149	0.2453
1.1679	1404.2	2828.6	2404.6	2444.0	-0.0102	0.2454
1.1699	1406.9	2688.8	2405.1	2444.4	-0.0253	0.2459
1.1719	1409.7	2782.6	2405.7	2445.0	0.0171	0.2461
1.1739	1412.6	2894.4	2406.6	2445.8	0.0197	0.2464
1.1759	1415.5	2943.0	2407.5	2446.8	0.0083	0.2465
1.1779	1418.4	2833.7	2408.2	2447.5	-0.0189	0.2467
1.1799	1421.1	2766.0	2408.8	2448.1	-0.0121	0.2469
1.1819	1424.1	2949.8	2409.7	2449.0	0.0322	0.2476
1.1839	1426.9	2879.2	2410.5	2449.8	-0.0121	0.2477
1.1859	1429.8	2820.7	2411.2	2450.5	-0.0103	0.2478

TIME	DEPTH	INT.VELT.	AVG.VELT.	RMS VELT.	REFLECT.	
1.1879	1432.6	2859.Ø	2412.Ø	2451.2	Ø.ØØ67	Ø.2479
1.1899	1435.6	2964.8	2412.9	2452.2	Ø.Ø182	Ø.2481
1.1919	1438.6	3ØØ2.8	2413.9	2453.2	Ø.ØØ64	Ø.2481
1.1939	1441.7	3114.1	2415.1	2454.4	Ø.Ø182	Ø.2484
1.1959	1444.7	2995.8	2416.Ø	2455.4	-Ø.Ø194	Ø.2487
1.1979	1447.6	2932.9	2416.9	2456.3	-Ø.Ø1Ø6	Ø.2488
1.1999	145Ø.4	2733.4	2417.4	2456.8	-Ø.Ø352	Ø.2497
1.2Ø19	1453.3	292Ø.4	2418.3	2457.7	Ø.Ø331	Ø.25Ø5
1.2Ø39	1456.3	3ØØ2.2	2419.2	2458.7	Ø.Ø138	Ø.25Ø6
1.2Ø59	1459.1	2795.Ø	2419.8	2459.3	-Ø.Ø357	Ø.2516
1.2Ø79	1461.9	2836.5	242Ø.5	2459.9	Ø.ØØ74	Ø.2516
1.2Ø99	1465.1	3167.5	2421.8	2461.3	Ø.Ø551	Ø.2539
1.2119	1467.9	28Ø7.1	2422.4	2461.9	-Ø.Ø6Ø3	Ø.2566
1.2139	147Ø.7	28Ø4.9	2423.Ø	2462.5	-Ø.ØØØ4	Ø.2566
1.2159	1473.6	2928.Ø	2423.9	2463.3	Ø.Ø215	Ø.257Ø
1.2179	1476.5	2874.6	2424.6	2464.Ø	-Ø.ØØ92	Ø.257Ø
1.2199	1479.4	2899.9	2425.4	2464.8	Ø.ØØ44	Ø.2571
1.2219	1482.5	3Ø55.1	2426.4	2465.9	Ø.Ø261	Ø.2576
1.2239	1485.4	29ØØ.Ø	2427.2	2466.7	-Ø.Ø26Ø	Ø.2581
1.2259	1488.3	2914.9	2428.Ø	2467.5	Ø.ØØ26	Ø.2581
1.2279	1491.2	2958.6	2428.8	2468.4	Ø.ØØ74	Ø.2581
1.2299	1495.4	4168.7	2431.7	2472.1	Ø.1698	Ø.2795
1.2319	1498.4	3Ø12.Ø	2432.6	2473.Ø	-Ø.1611	Ø.2982
1.2339	15Ø1.5	3Ø56.8	2433.6	2474.1	Ø.ØØ74	Ø.2982
1.2359	15Ø4.4	2964.5	2434.5	2475.Ø	-Ø.Ø153	Ø.2984
1.2379	15Ø7.4	2932.6	2435.3	2475.8	-Ø.ØØ54	Ø.2984
1.2399	151Ø.3	2946.4	2436.1	2476.6	Ø.ØØ23	Ø.2984
1.2419	1513.2	2864.Ø	2436.8	2477.3	-Ø.Ø142	Ø.2986
1.2439	1517.1	39Ø3.3	2439.2	248Ø.2	Ø.1536	Ø.3151
1.2459	152Ø.2	3151.2	244Ø.3	2481.5	-Ø.1Ø66	Ø.3229
1.2479	1523.1	2844.1	2441.Ø	2482.1	-Ø.Ø512	Ø.3247
1.2499	1525.8	2751.7	2441.5	2482.5	-Ø.Ø165	Ø.3248
1.2519	1528.6	28Ø2.7	2442.Ø	2483.1	Ø.ØØ92	Ø.3249
1.2539	1531.4	2794.7	2442.6	2483.6	-Ø.ØØ14	Ø.3249
1.2559	1534.1	2673.5	2443.Ø	2483.9	-Ø.Ø222	Ø.3252
1.2579	1536.9	2794.1	2443.5	2484.4	Ø.Ø221	Ø.3256
1.2599	1539.6	2743.5	2444.Ø	2484.9	-Ø.ØØ91	Ø.3256
1.2619	1542.2	26ØØ.7	2444.2	2485.1	-Ø.Ø267	Ø.3261
1.2639	1544.8	2595.1	2444.5	2485.2	-Ø.ØØ11	Ø.3261
1.2659	1547.4	2594.Ø	2444.7	2485.4	-Ø.ØØØ2	Ø.3261
1.2679	155Ø.Ø	2591.6	2445.Ø	2485.6	-Ø.ØØØ5	Ø.3261
1.2699	1552.9	2886.4	2445.6	2486.3	Ø.Ø538	Ø.3281
1.2719	1555.8	2854.6	2446.3	2486.9	-Ø.ØØ55	Ø.3281
1.2739	1558.5	2715.1	2446.7	2487.3	-Ø.Ø251	Ø.3285
1.2759	1561.1	2641.2	2447.Ø	2487.5	-Ø.Ø138	Ø.3286
1.2779	1563.8	27Ø1.7	2447.4	2487.9	Ø.Ø113	Ø.3287
1.2799	1566.4	257Ø.6	2447.6	2488.Ø	-Ø.Ø249	Ø.3291
1.2819	1569.Ø	2575.3	2447.8	2488.1	Ø.ØØØ9	Ø.3291
1.2839	1571.5	2575.Ø	2448.Ø	2488.3	-Ø.ØØØ1	Ø.3291
1.2859	1574.1	2565.3	2448.2	2488.4	-Ø.ØØ19	Ø.3291
1.2879	1576.7	2559.6	2448.4	2488.5	-Ø.ØØ11	Ø.3291
1.2899	1579.2	2577.6	2448.6	2488.7	Ø.ØØ35	Ø.3291
1.2919	1581.8	258Ø.4	2448.8	2488.8	Ø.ØØØ5	Ø.3291
1.2939	1584.4	2577.4	2449.Ø	2488.9	-Ø.ØØØ6	Ø.3291
1.2959	1587.Ø	2552.5	2449.1	2489.Ø	-Ø.ØØ49	Ø.3292
1.2979	1589.5	2587.4	2449.3	2489.2	Ø.ØØ68	Ø.3292
1.2999	1592.1	2581.8	2449.5	2489.3	-Ø.ØØ11	Ø.3292
1.3Ø19	1594.7	2626.2	2449.8	2489.6	Ø.ØØ85	Ø.3292

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.3Ø39	1597.4	2614.7	245Ø.1	2489.7	-Ø.ØØ22	Ø.3292
1.3Ø59	16ØØ.2	2821.5	245Ø.6	249Ø.3	Ø.Ø38Ø	Ø.33Ø2
1.3Ø79	16Ø2.9	2686.4	2451.Ø	249Ø.6	-Ø.Ø245	Ø.33Ø6
1.3Ø99	16Ø5.6	2717.9	2451.4	2491.Ø	Ø.ØØ58	Ø.33Ø6
1.3119	16Ø9.Ø	3417.1	2452.9	2492.6	Ø.114Ø	Ø.3393
1.3139	1611.6	2555.1	2453.Ø	2492.7	-Ø.1443	Ø.3531
1.3159	1614.2	26Ø4.4	2453.3	2492.9	Ø.ØØ96	Ø.3532
1.3179	1616.8	2634.Ø	2453.5	2493.1	Ø.ØØ57	Ø.3532
1.3199	1619.5	2711.5	2453.9	2493.5	Ø.Ø145	Ø.3533
1.3219	1622.3	2767.6	2454.4	2493.9	Ø.Ø1Ø2	Ø.3534
1.3239	1625.1	2812.Ø	2454.9	2494.4	Ø.ØØ8Ø	Ø.3534
1.3259	1627.9	2827.3	2455.5	2495.Ø	Ø.ØØ27	Ø.3534
1.3279	163Ø.7	2828.5	2456.1	2495.5	Ø.ØØØ2	Ø.3534
1.3299	1633.5	2724.7	2456.5	2495.9	-Ø.Ø187	Ø.3537
1.3319	1636.3	2794.7	2457.Ø	2496.3	Ø.Ø127	Ø.3538
1.3339	1639.Ø	2733.2	2457.4	2496.7	-Ø.Ø111	Ø.3538
1.3359	1641.7	2654.3	2457.7	2496.9	-Ø.Ø146	Ø.354Ø
1.3379	1644.3	2611.9	2457.9	2497.1	-Ø.ØØ8Ø	Ø.354Ø
1.3399	1647.2	2922.4	2458.6	2497.8	Ø.Ø561	Ø.356Ø
1.3419	165Ø.1	2882.9	2459.2	2498.4	-Ø.ØØ68	Ø.3561
1.3439	1652.7	2631.6	2459.5	2498.6	-Ø.Ø456	Ø.3574
1.3459	1655.3	2633.7	2459.8	2498.8	Ø.ØØØ4	Ø.3574
1.3479	1658.Ø	2633.7	246Ø.Ø	2499.Ø	Ø.ØØØØ	Ø.3574
1.3499	166Ø.9	2944.5	246Ø.7	2499.8	Ø.Ø557	Ø.3594
1.3519	1663.8	29Ø7.2	2461.4	25ØØ.4	-Ø.ØØ64	Ø.3594
1.3539	1666.4	2626.8	2461.6	25ØØ.6	-Ø.Ø5Ø7	Ø.3611
1.3559	1669.2	2739.7	2462.Ø	25Ø1.Ø	Ø.Ø21Ø	Ø.3614
1.3579	1672.Ø	282Ø.1	2462.6	25Ø1.5	Ø.Ø144	Ø.3615
1.3599	1674.8	2754.3	2463.Ø	25Ø1.9	-Ø.Ø118	Ø.3616
1.3619	1677.7	2985.6	2463.8	25Ø2.6	Ø.Ø4Ø3	Ø.3626
1.3639	1681.1	33Ø9.Ø	2465.Ø	25Ø4.Ø	Ø.Ø514	Ø.3643
1.3659	1683.8	2735.8	2465.4	25Ø4.4	-Ø.Ø948	Ø.37ØØ
1.3679	1686.6	2824.2	2465.9	25Ø4.9	Ø.Ø159	Ø.37Ø2
1.3699	1689.3	2729.1	2466.3	25Ø5.2	-Ø.Ø171	Ø.37Ø4
1.3719	1692.4	3Ø8Ø.Ø	2467.2	25Ø6.1	Ø.Ø6Ø4	Ø.3727
1.3739	1695.2	2799.9	2467.7	25Ø6.6	-Ø.Ø476	Ø.3741
1.3759	1698.2	3Ø19.7	2468.5	25Ø7.4	Ø.Ø378	Ø.375Ø
1.3779	17Ø1.Ø	2765.4	2468.9	25Ø7.8	-Ø.Ø44Ø	Ø.3762
1.3799	17Ø3.8	2795.9	2469.4	25Ø8.3	Ø.ØØ55	Ø.3762
1.3819	17Ø6.8	2973.9	247Ø.1	25Ø9.Ø	Ø.Ø3Ø8	Ø.3768
1.3839	17Ø9.6	2861.2	247Ø.7	25Ø9.5	-Ø.Ø193	Ø.377Ø
1.3859	1712.5	2824.5	2471.2	251Ø.Ø	-Ø.ØØ65	Ø.3771
1.3879	1715.2	2719.7	2471.6	251Ø.3	-Ø.Ø189	Ø.3773
1.3899	1718.Ø	2789.3	2472.Ø	251Ø.8	Ø.Ø126	Ø.3774
1.3919	172Ø.7	2723.Ø	2472.4	2511.1	-Ø.Ø12Ø	Ø.3775
1.3939	1723.3	26Ø2.9	2472.6	2511.2	-Ø.Ø226	Ø.3778
1.3959	1725.9	2628.2	2472.8	2511.4	Ø.ØØ48	Ø.3778
1.3979	1728.5	2558.7	2472.9	2511.4	-Ø.Ø134	Ø.3779
1.3999	1731.1	26ØØ.5	2473.1	2511.6	Ø.ØØ81	Ø.3779
1.4Ø19	1733.7	26Ø4.1	2473.3	2511.7	Ø.ØØØ7	Ø.3779
1.4Ø39	1736.3	2591.9	2473.5	2511.8	-Ø.ØØ23	Ø.378Ø
1.4Ø59	1738.9	265Ø.Ø	2473.7	2512.Ø	Ø.Ø111	Ø.378Ø
1.4Ø79	1742.Ø	3Ø49.Ø	2474.5	2512.9	Ø.Ø7ØØ	Ø.3811
1.4Ø99	1744.5	2556.6	2474.6	2512.9	-Ø.ØØ78	Ø.3858
1.4119	1747.1	26Ø6.4	2474.8	2513.1	Ø.ØØ96	Ø.3859
1.4139	175Ø.Ø	2842.3	2475.3	2513.6	Ø.Ø433	Ø.3871
1.4159	1752.8	2838.1	2475.9	2514.1	-Ø.ØØØ7	Ø.3871
1.4179	1755.4	2562.6	2476.Ø	2514.1	-Ø.Ø51Ø	Ø.3887

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.4199	1758.1	2734.6	2476.3	2514.4	Ø.Ø325	Ø.3893
1.4219	176Ø.9	2771.5	2476.8	2514.8	Ø.ØØ67	Ø.3893
1.4239	1764.1	3233.2	2477.8	2516.Ø	Ø.Ø769	Ø.3929
1.4259	1767.1	2977.2	2478.5	2516.7	-Ø.Ø412	Ø.394Ø
1.4279	1769.8	2687.3	2478.8	2516.9	-Ø.Ø512	Ø.3956
1.4299	1772.4	2613.6	2479.Ø	2517.1	-Ø.Ø139	Ø.3957
1.4319	1775.1	2669.2	2479.3	2517.3	Ø.Ø1Ø5	Ø.3957
1.4339	1777.7	2657.7	2479.5	2517.5	-Ø.ØØ22	Ø.3957
1.4359	178Ø.3	252Ø.3	2479.6	2517.5	-Ø.Ø265	Ø.3962
1.4379	1782.9	2634.5	2479.8	2517.7	Ø.Ø222	Ø.3965
1.4399	1785.5	2637.1	248Ø.Ø	2517.8	Ø.ØØØ5	Ø.3965
1.4419	1788.2	2637.8	248Ø.2	2518.Ø	Ø.ØØØ1	Ø.3965
1.4439	179Ø.7	2571.4	248Ø.4	2518.1	-Ø.Ø127	Ø.3966
1.4459	1793.3	2546.1	248Ø.4	2518.1	-Ø.ØØ49	Ø.3966
1.4479	1795.8	2529.7	248Ø.5	2518.1	-Ø.ØØ32	Ø.3966
1.4499	1798.3	2529.7	248Ø.6	2518.1	Ø.ØØØØ	Ø.3966
1.4519	18ØØ.9	25Ø9.5	248Ø.6	2518.1	-Ø.ØØ4Ø	Ø.3966
1.4539	18Ø3.4	2525.Ø	248Ø.7	2518.1	Ø.ØØ31	Ø.3966
1.4559	18Ø6.Ø	26ØØ.6	248Ø.8	2518.3	Ø.Ø147	Ø.3967
1.4579	18Ø8.6	262Ø.1	2481.Ø	2518.4	Ø.ØØ37	Ø.3967
1.4599	1811.3	2654.7	2481.3	2518.6	Ø.ØØ65	Ø.3968
1.4619	1813.9	2678.1	2481.5	2518.8	Ø.ØØ44	Ø.3968
1.4639	1816.7	2799.7	2482.Ø	2519.2	Ø.Ø222	Ø.3971
1.4659	1819.5	2757.2	2482.4	2519.6	-Ø.ØØ76	Ø.3971
1.4679	1822.4	2949.5	2483.Ø	252Ø.2	Ø.Ø337	Ø.3978
1.4699	1825.2	2781.4	2483.4	252Ø.6	-Ø.Ø293	Ø.3983
1.4719	1827.8	2627.7	2483.6	252Ø.7	-Ø.Ø284	Ø.3988
1.4739	183Ø.7	2886.5	2484.1	2521.3	Ø.Ø469	Ø.4ØØ1
1.4759	1833.5	2763.4	2484.5	2521.6	-Ø.Ø218	Ø.4ØØ4
1.4779	1836.3	2781.6	2484.9	2522.Ø	Ø.ØØ33	Ø.4ØØ4
1.4799	1839.1	2796.Ø	2485.3	2522.4	Ø.ØØ26	Ø.4ØØ4
1.4819	1841.9	2819.9	2485.8	2522.8	Ø.ØØ43	Ø.4ØØ4
1.4839	1844.5	2636.5	2486.Ø	2522.9	-Ø.Ø336	Ø.4Ø11
1.4859	1847.3	278Ø.5	2486.4	2523.3	Ø.Ø266	Ø.4Ø15
1.4879	185Ø.1	2746.Ø	2486.7	2523.6	-Ø.ØØ63	Ø.4Ø15
1.4899	1852.9	28Ø4.6	2487.2	2524.Ø	Ø.Ø1Ø6	Ø.4Ø16
1.4919	1855.9	2998.Ø	2487.9	2524.7	Ø.Ø333	Ø.4Ø23
1.4939	1858.6	2781.6	2488.2	2525.1	-Ø.Ø374	Ø.4Ø31
1.4959	1861.4	2781.9	2488.6	2525.4	Ø.ØØØØ	Ø.4Ø31
1.4979	1864.2	28Ø4.9	2489.1	2525.8	Ø.ØØ41	Ø.4Ø31
1.4999	1867.Ø	274Ø.4	2489.4	2526.1	-Ø.Ø116	Ø.4Ø32
1.5Ø19	1869.9	2935.5	249Ø.Ø	2526.7	Ø.Ø344	Ø.4Ø39
1.5Ø39	1872.8	288Ø.9	249Ø.5	2527.2	-Ø.ØØ94	Ø.4Ø4Ø
1.5Ø59	1875.7	29Ø2.Ø	2491.1	2527.8	Ø.ØØ37	Ø.4Ø4Ø
1.5Ø79	1878.6	2885.1	2491.6	2528.3	-Ø.ØØ29	Ø.4Ø4Ø
1.5Ø99	1881.5	2881.3	2492.1	2528.8	-Ø.ØØØ7	Ø.4Ø4Ø
1.5119	1884.2	274Ø.Ø	2492.4	2529.1	-Ø.Ø251	Ø.4Ø44
1.5139	1887.Ø	2765.5	2492.8	2529.4	Ø.ØØ46	Ø.4Ø44
1.5159	1889.7	2735.6	2493.1	2529.7	-Ø.ØØ54	Ø.4Ø44
1.5179	1892.5	2768.4	2493.5	253Ø.Ø	Ø.ØØ6Ø	Ø.4Ø44
1.5199	1895.4	292Ø.7	2494.Ø	253Ø.5	Ø.Ø268	Ø.4Ø48
1.5219	1898.2	2863.8	2494.5	2531.Ø	-Ø.ØØ98	Ø.4Ø49
1.5239	19Ø1.1	2859.9	2495.Ø	2531.5	-Ø.ØØØ7	Ø.4Ø49
1.5259	19Ø3.8	27Ø1.2	2495.3	2531.7	-Ø.Ø285	Ø.4Ø54
1.5279	19Ø6.5	2715.Ø	2495.6	2531.9	Ø.ØØ25	Ø.4Ø54
1.5299	19Ø9.2	27Ø3.Ø	2495.8	2532.2	-Ø.ØØ22	Ø.4Ø54
1.5319	1912.1	2856.8	2496.3	2532.6	Ø.Ø277	Ø.4Ø58
1.5339	1914.9	2788.Ø	2496.7	2533.Ø	-Ø.Ø122	Ø.4Ø59

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.5359	1917.8	2974.5	2497.3	2533.6	Ø.Ø324	Ø.4Ø66
1.5379	192Ø.6	2793.8	2497.7	2534.Ø	-Ø.Ø313	Ø.4Ø71
1.5399	1923.4	28ØØ.9	2498.1	2534.3	Ø.ØØ13	Ø.4Ø71
1.5419	1926.2	272Ø.Ø	2498.4	2534.6	-Ø.Ø147	Ø.4Ø73
1.5439	1929.Ø	2796.9	2498.8	2534.9	Ø.Ø139	Ø.4Ø74
1.5459	1931.7	2715.Ø	2499.Ø	2535.2	-Ø.Ø149	Ø.4Ø75
1.5479	1934.4	2769.Ø	2499.4	2535.5	Ø.ØØ99	Ø.4Ø76
1.5499	1937.2	273Ø.3	2499.7	2535.8	-Ø.ØØ7Ø	Ø.4Ø76
1.5519	1939.9	2743.9	25ØØ.Ø	2536.Ø	Ø.ØØ25	Ø.4Ø76
1.5539	1943.Ø	3Ø93.9	25ØØ.8	2536.8	Ø.Ø6ØØ	Ø.4Ø97
1.5559	1945.9	2878.8	25Ø1.2	2537.3	-Ø.Ø36Ø	Ø.41Ø5
1.5579	1948.6	2738.Ø	25Ø1.5	2537.6	-Ø.Ø251	Ø.41Ø9
1.5599	1951.4	28Ø2.5	25Ø1.9	2537.9	Ø.Ø116	Ø.41Ø9
1.5619	1954.3	2899.Ø	25Ø2.4	2538.4	Ø.Ø169	Ø.4111
1.5639	1957.1	2815.7	25Ø2.8	2538.8	-Ø.Ø146	Ø.4112
1.5659	196Ø.Ø	2884.6	25Ø3.3	2539.3	Ø.Ø121	Ø.4113
1.5679	1962.9	2867.1	25Ø3.8	2539.7	-Ø.ØØ31	Ø.4113
1.5699	1965.7	285Ø.7	25Ø4.2	254Ø.1	-Ø.ØØ29	Ø.4113
1.5719	1968.6	29Ø1.6	25Ø4.7	254Ø.6	Ø.ØØ88	Ø.4114
1.5739	1972.1	3486.3	25Ø6.Ø	2542.Ø	Ø.Ø915	Ø.4163
1.5759	1975.1	2919.9	25Ø6.5	2542.6	-Ø.Ø884	Ø.42Ø9
1.5779	1977.9	2823.2	25Ø6.9	2542.9	-Ø.Ø168	Ø.421Ø
1.5799	198Ø.9	2997.9	25Ø7.5	2543.6	Ø.Ø3ØØ	Ø.4216
1.5819	1983.9	3ØØ7.1	25Ø8.2	2544.2	Ø.ØØ15	Ø.4216
1.5839	1986.8	2896.1	25Ø8.7	2544.7	-Ø.Ø188	Ø.4218
1.5859	1989.7	2963.Ø	25Ø9.2	2545.2	Ø.Ø114	Ø.4218
1.5879	1992.6	29Ø4.2	25Ø9.7	2545.7	-Ø.Ø1ØØ	Ø.4219
1.5899	1995.6	292Ø.4	251Ø.2	2546.2	Ø.ØØ28	Ø.4219
1.5919	1998.5	2921.3	251Ø.8	2546.7	Ø.ØØØ1	Ø.4219
1.5939	2ØØ1.5	3ØØ2.Ø	2511.4	2547.4	Ø.Ø136	Ø.422Ø
1.5959	2ØØ5.1	3611.7	2512.8	2549.Ø	Ø.Ø922	Ø.4269
1.5979	2ØØ8.2	3113.9	2513.5	2549.8	-Ø.Ø74Ø	Ø.43Ø1
1.5999	2Ø11.4	3167.4	2514.3	255Ø.6	Ø.ØØ85	Ø.43Ø1
1.6Ø19	2Ø14.5	31Ø3.Ø	2515.1	2551.4	-Ø.Ø1Ø3	Ø.43Ø2
1.6Ø39	2Ø17.6	3Ø78.9	2515.8	2552.1	-Ø.ØØ39	Ø.43Ø2
1.6Ø59	2Ø21.Ø	3427.1	2516.9	2553.4	Ø.Ø535	Ø.4318
1.6Ø79	2Ø24.Ø	299Ø.6	2517.5	2554.Ø	-Ø.Ø68Ø	Ø.4344
1.6Ø99	2Ø27.1	3168.3	2518.3	2554.8	Ø.Ø289	Ø.4349
1.6119	2Ø3Ø.5	3374.3	2519.4	2556.Ø	Ø.Ø315	Ø.4355
1.6139	2Ø33.8	3257.6	252Ø.3	2557.Ø	-Ø.Ø176	Ø.4356
1.6159	2Ø37.1	333Ø.8	2521.3	2558.1	Ø.Ø111	Ø.4357
1.6179	2Ø4Ø.4	3248.Ø	2522.2	2559.1	-Ø.Ø126	Ø.4358
1.6199	2Ø43.7	3328.9	2523.2	256Ø.2	Ø.Ø123	Ø.4359
1.6219	2Ø46.9	3187.7	2524.Ø	2561.Ø	-Ø.Ø217	Ø.4361
1.6239	2Ø5Ø.Ø	3141.4	2524.8	2561.8	-Ø.ØØ73	Ø.4362
1.6259	2Ø53.1	3133.8	2525.5	2562.6	-Ø.ØØ12	Ø.4362
1.6279	2Ø56.2	3Ø86.2	2526.2	2563.3	-Ø.ØØ77	Ø.4362
1.6299	2Ø59.5	3266.8	2527.1	2564.3	Ø.Ø284	Ø.4367
1.6319	2Ø62.7	316Ø.9	2527.9	2565.1	-Ø.Ø165	Ø.4368
1.6339	2Ø65.9	327Ø.Ø	2528.8	2566.1	Ø.Ø17Ø	Ø.437Ø
1.6359	2Ø69.1	32ØØ.7	2529.6	2567.Ø	-Ø.Ø1Ø7	Ø.437Ø
1.6379	2Ø72.3	3123.3	253Ø.3	2567.7	-Ø.Ø122	Ø.4371
1.6399	2Ø75.4	3149.9	2531.1	2568.5	Ø.ØØ42	Ø.4371
1.6419	2Ø79.Ø	3568.4	2532.3	257Ø.Ø	Ø.Ø623	Ø.4393
1.6439	2Ø82.1	3171.6	2533.1	257Ø.8	-Ø.Ø589	Ø.4413
1.6459	2Ø85.4	3213.4	2534.Ø	2571.7	Ø.ØØ65	Ø.4413
1.6479	2Ø88.5	3154.3	2534.7	2572.5	-Ø.ØØ93	Ø.4413
1.6499	2Ø91.7	3217.5	2535.5	2573.3	Ø.ØØ99	Ø.4414

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CPT.	TRN.LOSS
1.6519	2Ø94.9	3213.1	2536.4	2574.2	-Ø.ØØØ7	Ø.4414
1.6539	2Ø98.1	3179.4	2537.1	2575.Ø	-Ø.ØØ53	Ø.4414
1.6559	21Ø1.3	3219.7	2538.Ø	2575.9	Ø.ØØ63	Ø.4414
1.6579	21Ø4.6	3242.9	2538.8	2576.8	Ø.ØØ36	Ø.4414
1.6599	21Ø7.9	3266.6	2539.7	2577.8	Ø.ØØ36	Ø.4414
1.6619	2111.2	332Ø.6	254Ø.6	2578.8	Ø.ØØ82	Ø.4415
1.6639	2114.4	3196.Ø	2541.4	2579.6	-Ø.Ø191	Ø.4417
1.6659	2117.8	34Ø1.4	2542.4	258Ø.7	Ø.Ø311	Ø.4422
1.6679	2121.3	3484.6	2543.6	2582.Ø	Ø.Ø121	Ø.4423
1.6699	2124.5	3289.3	2544.5	2583.Ø	-Ø.Ø288	Ø.4428
1.6719	2127.8	3268.1	2545.3	2583.9	-Ø.ØØ32	Ø.4428
1.6739	2131.Ø	3231.2	2546.2	2584.8	-Ø.ØØ57	Ø.4428
1.6759	2134.5	3457.3	2547.2	2586.Ø	Ø.Ø338	Ø.4434
1.6779	2138.1	3557.9	2548.4	2587.4	Ø.Ø143	Ø.4436
1.6799	2141.3	3272.7	2549.3	2588.3	-Ø.Ø417	Ø.4445
1.6819	2144.5	3162.8	255Ø.Ø	2589.1	-Ø.Ø171	Ø.4447
1.6839	2147.7	3175.Ø	255Ø.8	2589.8	Ø.ØØ19	Ø.4447
1.6859	215Ø.9	3224.4	2551.6	259Ø.7	Ø.ØØ77	Ø.4447
1.6879	2154.2	3282.Ø	2552.4	2591.6	Ø.ØØ89	Ø.4448
1.6899	2157.5	3287.1	2553.3	2592.5	Ø.ØØØ8	Ø.4448
1.6919	216Ø.8	33Ø6.9	2554.2	2593.5	Ø.ØØ3Ø	Ø.4448
1.6939	2164.1	3367.2	2555.2	2594.6	Ø.ØØ9Ø	Ø.4448
1.6959	2167.3	3162.8	2555.9	2595.3	-Ø.Ø313	Ø.4454
1.6979	2171.2	3874.8	2557.4	2597.2	Ø.1Ø12	Ø.451Ø
1.6999	2174.6	346Ø.4	2558.5	2598.4	-Ø.Ø565	Ø.4528
1.7Ø19	2177.8	3188.Ø	2559.2	2599.1	-Ø.Ø41Ø	Ø.4537
1.7Ø39	2181.2	3414.3	256Ø.2	26ØØ.2	Ø.Ø343	Ø.4543
1.7Ø59	2184.6	336Ø.8	2561.2	26Ø1.3	-Ø.ØØ79	Ø.4544
1.7Ø79	2188.Ø	337Ø.8	2562.1	26Ø2.3	Ø.ØØ15	Ø.4544
1.7Ø99	2191.5	3489.5	2563.2	26Ø3.5	Ø.Ø173	Ø.4545
1.7119	2194.8	3323.7	2564.1	26Ø4.5	-Ø.Ø243	Ø.4549
1.7139	2198.1	33Ø8.6	2565.Ø	26Ø5.4	-Ø.ØØ23	Ø.4549
1.7159	22Ø1.6	3551.Ø	2566.1	26Ø6.7	Ø.Ø353	Ø.4555
1.7179	22Ø4.9	3279.8	2566.9	26Ø7.6	-Ø.Ø397	Ø.4564
1.7199	22Ø8.3	34Ø5.3	2567.9	26Ø8.7	Ø.Ø188	Ø.4566
1.7219	2211.5	3218.8	2568.7	26Ø9.4	-Ø.Ø282	Ø.457Ø
1.7239	2214.8	3237.1	2569.5	261Ø.3	Ø.ØØ28	Ø.457Ø
1.7259	2218.1	3296.6	257Ø.3	2611.2	Ø.ØØ91	Ø.4571
1.7279	2221.4	3354.2	2571.2	2612.1	Ø.ØØ87	Ø.4571
1.7299	2224.6	315Ø.9	2571.9	2612.8	-Ø.Ø313	Ø.4577
1.7319	2227.9	3281.3	2572.7	2613.7	Ø.Ø2Ø3	Ø.4579
1.7339	2231.1	3257.3	2573.5	2614.5	-Ø.ØØ37	Ø.4579
1.7359	2234.5	3328.1	2574.4	2615.5	Ø.Ø1Ø8	Ø.4579
1.7379	2237.9	34Ø9.2	2575.3	2616.5	Ø.Ø12Ø	Ø.458Ø
1.7399	2241.2	3363.3	2576.2	2617.5	-Ø.ØØ68	Ø.458Ø
1.7419	2244.6	3334.5	2577.1	2618.4	-Ø.ØØ43	Ø.4581
1.7439	2247.7	313Ø.1	2577.7	2619.1	-Ø.Ø316	Ø.4586
1.7459	225Ø.8	31Ø6.7	2578.3	2619.7	-Ø.ØØ38	Ø.4586
1.7479	2253.9	3145.Ø	2579.Ø	262Ø.3	Ø.ØØ61	Ø.4586
1.7499	2257.1	3126.Ø	2579.6	2621.Ø	-Ø.ØØ3Ø	Ø.4586
1.7519	226Ø.2	3162.6	258Ø.3	2621.7	Ø.ØØ58	Ø.4586
1.7539	2263.4	3191.2	2581.Ø	2622.4	Ø.ØØ45	Ø.4587
1.7559	2266.6	317Ø.2	2581.6	2623.1	-Ø.ØØ33	Ø.4587
1.7579	2269.7	3Ø86.7	2582.2	2623.6	-Ø.Ø133	Ø.4588
1.7599	2272.9	3193.1	2582.9	2624.4	Ø.Ø17Ø	Ø.4589
1.7619	2276.2	3314.2	2583.7	2625.3	Ø.Ø186	Ø.4591
1.7639	2279.5	3363.8	2584.6	2626.2	Ø.ØØ74	Ø.4591
1.7659	2283.Ø	3489.3	2585.6	2627.3	Ø.Ø183	Ø.4593

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.7679	2286.4	3324.5	2586.5	2628.2	-Ø.ØØ242	Ø.4596
1.7699	2289.5	3Ø88.1	2587.Ø	2628.8	-Ø.ØØ369	Ø.46Ø4
1.7719	2292.7	3243.4	2587.8	2629.6	Ø.ØØ245	Ø.46Ø7
1.7739	2295.9	3213.4	2588.5	2630.3	-Ø.ØØØ47	Ø.46Ø7
1.7759	2299.2	3273.2	2589.3	2631.1	Ø.ØØ092	Ø.46Ø7
1.7779	23Ø2.6	3386.Ø	259Ø.2	2632.1	Ø.ØØ169	Ø.46Ø9
1.7799	23Ø5.9	3358.4	2591.Ø	2633.Ø	-Ø.ØØØ41	Ø.46Ø9
1.7819	23Ø9.3	3379.4	2591.9	2634.Ø	Ø.ØØØ31	Ø.46Ø9
1.7839	2312.7	3383.3	2592.8	2634.9	Ø.ØØØØ6	Ø.46Ø9
1.7859	2316.1	3413.1	2593.7	2635.9	Ø.ØØØ44	Ø.46Ø9
1.7879	2319.6	3533.4	2594.8	2637.1	Ø.ØØ173	Ø.4611
1.7899	2323.1	3477.8	2595.8	2638.2	-Ø.ØØØ79	Ø.4611
1.7919	2326.6	3481.Ø	2596.7	2639.3	Ø.ØØØØ5	Ø.4611
1.7939	233Ø.Ø	3452.1	2597.7	264Ø.3	-Ø.ØØØ42	Ø.4611
1.7959	2333.5	3439.9	2598.6	2641.4	-Ø.ØØØ18	Ø.4611
1.7979	2336.9	3426.8	2599.6	2642.4	-Ø.ØØØ19	Ø.4611
1.7999	234Ø.4	3482.9	26ØØ.5	2643.4	Ø.ØØØ81	Ø.4612
1.8Ø19	2343.9	3496.6	26Ø1.5	2644.5	Ø.ØØ2Ø	Ø.4612
1.8Ø39	2347.4	3528.3	26Ø2.6	2645.7	Ø.ØØ45	Ø.4612
1.8Ø59	235Ø.7	3258.8	26Ø3.3	2646.4	-Ø.ØØ397	Ø.462Ø
1.8Ø79	2353.9	3238.8	26Ø4.Ø	2647.2	-Ø.ØØØ31	Ø.462Ø
1.8Ø99	2357.1	3212.9	26Ø4.7	2647.9	-Ø.ØØ4Ø	Ø.462Ø
1.8119	236Ø.4	3223.9	26Ø5.3	2648.6	Ø.ØØ17	Ø.4621
1.8139	2363.6	3241.5	26Ø6.Ø	2649.3	Ø.ØØ27	Ø.4621
1.8159	2366.8	3187.7	26Ø6.7	2649.9	-Ø.ØØ84	Ø.4621
1.8179	237Ø.Ø	32Ø6.1	26Ø7.3	265Ø.6	Ø.ØØ29	Ø.4621
1.8199	2373.2	3188.Ø	26Ø8.Ø	2651.3	-Ø.ØØ28	Ø.4621
1.8219	2376.5	3287.1	26Ø8.7	2652.1	Ø.ØØ153	Ø.4622
1.8239	2379.9	3393.6	26Ø9.6	2653.Ø	Ø.ØØ159	Ø.4624
1.8259	2383.4	3512.2	261Ø.6	2654.1	Ø.ØØ172	Ø.4625
1.8279	2386.9	35Ø4.9	2611.6	2655.2	-Ø.ØØ1Ø	Ø.4625
1.8299	239Ø.4	35Ø5.9	2612.5	2656.2	Ø.ØØØ1	Ø.4625
1.8319	2393.9	3496.6	2613.5	2657.3	-Ø.ØØ13	Ø.4625
1.8339	2397.5	3584.Ø	2614.6	2658.5	Ø.ØØ123	Ø.4626
1.8359	24ØØ.9	3478.3	2615.5	2659.5	-Ø.ØØ15Ø	Ø.4627
1.8379	24Ø4.4	3465.1	2616.4	266Ø.5	-Ø.ØØ19	Ø.4627
1.8399	24Ø7.9	3478.Ø	2617.4	2661.5	Ø.ØØ19	Ø.4627
1.8419	2411.6	3699.2	2618.5	2662.9	Ø.ØØ3Ø8	Ø.4632
1.8439	2415.3	3672.1	2619.7	2664.2	-Ø.ØØ37	Ø.4632
1.8459	2419.Ø	3723.4	262Ø.9	2665.6	Ø.ØØ69	Ø.4633
1.8479	2422.6	3586.4	2621.9	2666.7	-Ø.ØØ187	Ø.4635
1.8499	2426.Ø	3472.9	2622.8	2667.7	-Ø.ØØ161	Ø.4636
1.8519	2429.6	3544.9	2623.8	2668.8	Ø.ØØ1Ø3	Ø.4637
1.8539	2433.3	3756.8	2625.1	267Ø.3	Ø.ØØ29Ø	Ø.4641
1.8559	2437.Ø	3628.4	2626.1	2671.5	-Ø.ØØ174	Ø.4643
1.8579	244Ø.5	3539.3	2627.1	2672.6	-Ø.ØØ124	Ø.4644
1.8599	2444.Ø	3485.1	2628.Ø	2673.6	-Ø.ØØ77	Ø.4644
1.8619	2447.4	3415.8	2628.9	2674.5	-Ø.ØØ1ØØ	Ø.4644
1.8639	245Ø.9	35Ø7.3	2629.8	2675.5	Ø.ØØ132	Ø.4645
1.8659	2454.5	3613.8	263Ø.9	2676.7	Ø.ØØ149	Ø.4647
1.8679	2458.1	36ØØ.3	2631.9	2677.9	-Ø.ØØ19	Ø.4647
1.8699	2461.8	3638.4	2633.Ø	2679.1	Ø.ØØ53	Ø.4647
1.8719	2465.4	36Ø4.2	2634.Ø	268Ø.2	-Ø.ØØ47	Ø.4647
1.8739	2469.Ø	3585.Ø	2635.1	2681.3	-Ø.ØØ27	Ø.4647
1.8759	2472.5	3585.9	2636.1	2682.5	Ø.ØØØ1	Ø.4647
1.8779	2476.2	3615.Ø	2637.1	2683.6	Ø.ØØ4Ø	Ø.4647
1.8799	2479.8	362Ø.6	2638.2	2684.8	Ø.ØØØ8	Ø.4647
1.8819	2483.5	3699.Ø	2639.3	2686.1	Ø.ØØ1Ø7	Ø.4648

1.8839	2487.1	3625.5	2640.3	2687.3	-0.0100	0.4648
1.8859	2490.6	3539.3	2641.3	2688.3	-0.0120	0.4649
1.8879	2494.1	3429.2	2642.1	2689.2	-0.0158	0.4650
1.8899	2497.4	3352.8	2642.9	2690.0	-0.0113	0.4651
1.8919	2500.7	3292.5	2643.6	2690.7	-0.0091	0.4651
1.8939	2504.0	3289.6	2644.2	2691.4	-0.0004	0.4651
1.8959	2507.5	3496.6	2645.1	2692.4	0.0305	0.4656
1.8979	2511.0	3529.8	2646.1	2693.4	0.0047	0.4656
1.8999	2514.5	3508.8	2647.0	2694.4	-0.0030	0.4656
1.9019	2518.0	3447.8	2647.8	2695.3	-0.0088	0.4657
1.9039	2521.4	3415.0	2648.6	2696.1	-0.0048	0.4657
1.9059	2525.0	3618.7	2649.6	2697.3	0.0289	0.4661
1.9079	2528.8	3734.4	2650.8	2698.6	0.0157	0.4663
1.9099	2532.4	3625.0	2651.8	2699.7	-0.0149	0.4664
1.9119	2536.1	3669.7	2652.9	2700.9	0.0061	0.4664
1.9139	2539.7	3610.6	2653.9	2702.0	-0.0081	0.4665
1.9159	2543.2	3535.4	2654.8	2703.0	-0.0105	0.4665
1.9179	2546.7	3537.6	2655.7	2704.0	0.0003	0.4665
1.9199	2550.3	3550.0	2656.6	2705.0	0.0018	0.4665
1.9219	2553.8	3537.8	2657.6	2706.0	-0.0017	0.4665
1.9239	2557.4	3541.0	2658.5	2707.0	0.0004	0.4665
1.9259	2560.9	3540.5	2659.4	2708.0	-0.0001	0.4665
1.9279	2564.4	3533.4	2660.3	2709.0	-0.0010	0.4665
1.9299	2568.1	3704.6	2661.4	2710.3	0.0236	0.4668
1.9319	2571.8	3651.6	2662.4	2711.4	-0.0072	0.4668
1.9339	2575.4	3648.7	2663.4	2712.5	-0.0004	0.4668
1.9359	2579.1	3689.7	2664.5	2713.7	0.0056	0.4669
1.9379	2582.8	3678.0	2665.5	2714.9	-0.0016	0.4669
1.9399	2586.5	3670.7	2666.6	2716.1	-0.0010	0.4669
1.9419	2590.3	3780.5	2667.7	2717.4	0.0147	0.4670
1.9439	2594.2	3968.8	2669.1	2719.0	0.0243	0.4673
1.9459	2598.1	3900.4	2670.3	2720.4	-0.0087	0.4673
1.9479	2602.1	3924.3	2671.6	2721.9	0.0031	0.4673
1.9499	2605.9	3868.9	2672.8	2723.4	-0.0071	0.4674
1.9519	2609.7	3816.7	2674.0	2724.7	-0.0068	0.4674
1.9539	2613.3	3532.2	2674.9	2725.7	-0.0387	0.4682
1.9559	2616.8	3523.4	2675.7	2726.6	-0.0012	0.4682
1.9579	2620.2	3441.7	2676.5	2727.4	-0.0117	0.4683
1.9599	2623.7	3421.6	2677.3	2728.2	-0.0029	0.4683
1.9619	2627.1	3472.2	2678.1	2729.1	0.0073	0.4683
1.9639	2630.6	3438.5	2678.9	2729.9	-0.0049	0.4683
1.9659	2634.2	3585.4	2679.8	2730.9	0.0209	0.4685
1.9679	2637.7	3500.2	2680.6	2731.8	-0.0120	0.4686
1.9699	2641.2	3501.0	2681.5	2732.7	0.0001	0.4686
1.9719	2644.8	3616.9	2682.4	2733.7	0.0163	0.4688
1.9739	2648.4	3622.3	2683.4	2734.8	0.0007	0.4688
1.9759	2652.1	3681.4	2684.4	2735.9	0.0081	0.4688
1.9779	2655.8	3695.6	2685.4	2737.0	0.0019	0.4688
1.9799	2659.5	3711.2	2686.4	2738.2	0.0021	0.4688
1.9819	2663.1	3635.7	2687.4	2739.2	-0.0103	0.4689
1.9839	2666.7	3610.1	2688.3	2740.3	-0.0035	0.4689
1.9859	2670.3	3616.9	2689.3	2741.3	0.0009	0.4689
1.9879	2674.0	3650.9	2690.2	2742.4	0.0047	0.4689
1.9899	2677.6	3612.3	2691.2	2743.4	-0.0053	0.4689
1.9919	2681.2	3594.0	2692.1	2744.4	-0.0025	0.4689
1.9939	2684.8	3623.8	2693.0	2745.4	0.0041	0.4689
1.9959	2688.6	3792.7	2694.1	2746.6	0.0228	0.4692
1.9979	2692.3	3641.8	2695.0	2747.7	-0.0203	0.4694

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.9999	2696.Ø	3688.Ø	2696.Ø	2748.8	Ø.ØØ63	Ø.4694
2.ØØ19	2699.8	3813.2	2697.2	2750.Ø	Ø.Ø167	Ø.4696
2.ØØ39	2703.6	3822.Ø	2698.3	2751.3	Ø.ØØ12	Ø.4696
2.ØØ59	2707.5	3873.Ø	2699.4	2752.7	Ø.ØØ66	Ø.4696
2.ØØ79	2711.4	3900.1	2700.6	2754.Ø	Ø.ØØ35	Ø.4696
2.ØØ99	2715.2	3802.7	2701.7	2755.3	-Ø.Ø126	Ø.4697
2.Ø119	2718.9	3786.4	2702.8	2756.5	-Ø.ØØ22	Ø.4697
2.Ø139	2722.7	3770.8	2703.9	2757.7	-Ø.ØØ21	Ø.4697
2.Ø159	2726.5	3791.3	2705.Ø	2758.9	Ø.ØØ27	Ø.4697
2.Ø179	2730.3	3757.6	2706.Ø	2760.1	-Ø.ØØ45	Ø.4697
2.Ø199	2734.1	3789.3	2707.1	2761.3	Ø.ØØ42	Ø.4697
2.Ø219	2737.8	3725.3	2708.1	2762.4	-Ø.ØØ85	Ø.4697
2.Ø239	2741.5	3759.3	2709.1	2763.6	Ø.ØØ45	Ø.4698
2.Ø259	2745.3	3732.4	2710.1	2764.7	-Ø.ØØ36	Ø.4698
2.Ø279	2749.Ø	3705.1	2711.1	2765.8	-Ø.ØØ37	Ø.4698
2.Ø299	2752.8	3830.3	2712.2	2767.Ø	Ø.Ø166	Ø.4699
2.Ø319	2756.6	3784.9	2713.3	2768.2	-Ø.ØØ6Ø	Ø.4699
2.Ø339	2760.4	3819.6	2714.4	2769.4	Ø.ØØ46	Ø.4699
2.Ø359	2764.2	3812.Ø	2715.4	2770.7	-Ø.ØØ1Ø	Ø.4699
2.Ø379	2768.1	3844.Ø	2716.5	2771.9	Ø.ØØ42	Ø.47ØØ
2.Ø399	2771.9	3829.3	2717.6	2773.2	-Ø.ØØ19	Ø.47ØØ
2.Ø419	2775.7	3763.2	2718.7	2774.3	-Ø.ØØ87	Ø.47ØØ
2.Ø439	2779.5	3798.1	2719.7	2775.5	Ø.ØØ46	Ø.47ØØ
2.Ø459	2783.3	3844.7	2720.8	2776.7	Ø.ØØ61	Ø.47ØØ
2.Ø479	2787.2	3873.5	2721.9	2778.Ø	Ø.ØØ37	Ø.47ØØ
2.Ø499	2791.1	3881.8	2723.1	2779.3	Ø.ØØ11	Ø.47ØØ
2.Ø519	2794.9	3830.8	2724.2	2780.5	-Ø.ØØ66	Ø.47Ø1
2.Ø539	2798.7	3804.7	2725.2	2781.7	-Ø.ØØ34	Ø.47Ø1
2.Ø559	2802.6	3856.9	2726.3	2782.9	Ø.ØØ68	Ø.47Ø1
2.Ø579	2806.4	3882.1	2727.4	2784.2	Ø.ØØ32	Ø.47Ø1
2.Ø599	2810.3	3841.3	2728.5	2785.4	-Ø.ØØ53	Ø.47Ø1
2.Ø619	2814.1	3836.2	2729.6	2786.7	-Ø.ØØØ7	Ø.47Ø1
2.Ø639	2818.Ø	3870.6	2730.7	2787.9	Ø.ØØ45	Ø.47Ø1
2.Ø659	2821.8	3842.5	2731.8	2789.1	-Ø.ØØ36	Ø.47Ø1
2.Ø679	2825.6	3814.5	2732.8	2790.3	-Ø.ØØ37	Ø.47Ø1
2.Ø699	2829.5	3829.8	2733.9	2791.5	Ø.ØØ2Ø	Ø.47Ø1
2.Ø719	2833.3	3864.3	2735.Ø	2792.7	Ø.ØØ45	Ø.47Ø1
2.Ø739	2837.2	3887.5	2736.1	2794.Ø	Ø.ØØ3Ø	Ø.47Ø2
2.Ø759	2841.1	3863.3	2737.2	2795.2	-Ø.ØØ31	Ø.47Ø2
2.Ø779	2845.Ø	3883.3	2738.3	2796.5	Ø.ØØ26	Ø.47Ø2
2.Ø799	2848.9	3909.4	2739.4	2797.8	Ø.ØØ34	Ø.47Ø2
2.Ø819	2852.8	3939.2	2740.5	2799.1	Ø.ØØ38	Ø.47Ø2
2.Ø839	2856.7	3915.Ø	2741.7	2800.4	-Ø.ØØ31	Ø.47Ø2
2.Ø859	2860.6	3911.6	2742.8	2801.6	-Ø.ØØØ4	Ø.47Ø2
2.Ø879	2864.6	3947.8	2743.9	2803.Ø	Ø.ØØ46	Ø.47Ø2
2.Ø899	2868.5	3873.5	2745.Ø	2804.2	-Ø.ØØ95	Ø.47Ø2
2.Ø919	2872.3	3882.6	2746.1	2805.4	Ø.ØØ12	Ø.47Ø2
2.Ø939	2876.2	3822.5	2747.1	2806.6	-Ø.ØØ78	Ø.47Ø3
2.Ø959	2880.Ø	3869.9	2748.2	2807.8	Ø.ØØ62	Ø.47Ø3
2.Ø979	2883.9	3896.2	2749.3	2809.Ø	Ø.ØØ34	Ø.47Ø3
2.Ø999	2887.9	3943.8	2750.4	2810.3	Ø.ØØ61	Ø.47Ø3
2.1Ø19	2891.9	3977.5	2751.6	2811.6	Ø.ØØ43	Ø.47Ø3
2.1Ø39	2895.8	3987.3	2752.8	2813.Ø	Ø.ØØ12	Ø.47Ø3
2.1Ø59	2899.9	4018.1	2754.Ø	2814.4	Ø.ØØ38	Ø.47Ø3
2.1Ø79	2903.9	4031.Ø	2755.2	2815.8	Ø.ØØ16	Ø.47Ø3
2.1Ø99	2907.9	4032.7	2756.4	2817.2	Ø.ØØØ2	Ø.47Ø3
2.1119	2911.9	3979.2	2757.6	2818.5	-Ø.ØØ67	Ø.47Ø4
2.1139	2915.9	3967.3	2758.7	2819.8	-Ø.ØØ15	Ø.47Ø4

2.1159	2919.8	3918.9	2759.8	2821.1	-Ø.ØØ61	Ø.47Ø4
2.1179	2923.7	3874.Ø	276Ø.9	2822.2	-Ø.ØØ58	Ø.47Ø4
2.1199	2927.5	3811.5	2761.9	2823.3	-Ø.ØØ81	Ø.47Ø4
2.1219	2931.3	3789.1	2762.8	2824.4	-Ø.ØØ3Ø	Ø.47Ø4
2.1239	2935.1	38Ø4.9	2763.8	2825.5	Ø.ØØ21	Ø.47Ø4
2.1259	2939.Ø	3886.5	2764.9	2826.7	Ø.Ø1Ø6	Ø.47Ø5
2.1279	2942.9	3891.6	2765.9	2827.9	Ø.ØØØ7	Ø.47Ø5
2.1299	2946.7	3863.Ø	2767.Ø	2829.Ø	-Ø.ØØ37	Ø.47Ø5
2.1319	295Ø.6	3919.9	2768.Ø	283Ø.2	Ø.ØØ73	Ø.47Ø5
2.1339	2954.5	3894.Ø	2769.1	2831.4	-Ø.ØØ33	Ø.47Ø5
2.1359	2958.4	39Ø9.4	277Ø.2	2832.6	Ø.ØØ2Ø	Ø.47Ø5
2.1379	2962.3	39Ø3.1	2771.2	2833.8	-Ø.ØØØ8	Ø.47Ø5
2.1399	2966.2	3857.7	2772.2	2834.9	-Ø.ØØ59	Ø.47Ø6
2.1419	297Ø.Ø	3832.8	2773.2	2836.Ø	-Ø.ØØ32	Ø.47Ø6
2.1439	2973.9	3882.8	2774.3	2837.2	Ø.ØØ65	Ø.47Ø6
2.1459	2977.8	3873.Ø	2775.3	2838.3	-Ø.ØØ13	Ø.47Ø6
2.1479	2981.6	38ØØ.5	2776.2	2839.4	-Ø.ØØ94	Ø.47Ø6
2.1499	2985.4	38Ø8.6	2777.2	284Ø.4	Ø.ØØ11	Ø.47Ø6
2.1519	2989.3	3855.2	2778.2	2841.5	Ø.ØØ61	Ø.47Ø7
2.1539	2993.Ø	3798.8	2779.1	2842.6	-Ø.ØØ74	Ø.47Ø7
2.1559	2996.9	383Ø.6	278Ø.1	2843.7	Ø.ØØ42	Ø.47Ø7
2.1579	3ØØØ.7	3833.7	2781.1	2844.7	Ø.ØØØ4	Ø.47Ø7
2.1599	3ØØ4.6	3868.2	2782.1	2845.9	Ø.ØØ45	Ø.47Ø7
2.1619	3ØØ8.4	3836.2	2783.1	2846.9	-Ø.ØØ42	Ø.47Ø7
2.1639	3Ø12.3	3884.3	2784.1	2848.1	Ø.ØØ62	Ø.47Ø7
2.1659	3Ø16.2	3881.8	2785.1	2849.2	-Ø.ØØØ3	Ø.47Ø7
2.1679	3Ø2Ø.Ø	3791.3	2786.Ø	285Ø.2	-Ø.Ø118	Ø.47Ø8
2.1699	3Ø23.8	3827.6	2787.Ø	2851.3	Ø.ØØ48	Ø.47Ø8
2.1719	3Ø27.5	3655.8	2787.8	2852.1	-Ø.Ø23Ø	Ø.4711
2.1739	3Ø31.Ø	356Ø.8	2788.5	2852.8	-Ø.Ø132	Ø.4712
2.1759	3Ø34.6	3548.6	2789.2	2853.5	-Ø.ØØ17	Ø.4712
2.1779	3Ø38.1	353Ø.Ø	2789.9	2854.2	-Ø.ØØ26	Ø.4712
2.1799	3Ø41.6	3491.2	279Ø.5	2854.9	-Ø.ØØ55	Ø.4712
2.1819	3Ø45.Ø	3447.Ø	2791.1	2855.5	-Ø.ØØ64	Ø.4712
2.1839	3Ø48.4	3412.8	2791.7	2856.1	-Ø.ØØ5Ø	Ø.4713
2.1859	3Ø51.8	3386.2	2792.2	2856.6	-Ø.ØØ39	Ø.4713
2.1879	3Ø55.2	3365.Ø	2792.8	2857.1	-Ø.ØØ31	Ø.4713
2.1899	3Ø58.6	3369.6	2793.3	2857.6	Ø.ØØØ7	Ø.4713
2.1919	3Ø61.8	3211.9	2793.7	2857.9	-Ø.Ø24Ø	Ø.4716
2.1939	3Ø65.1	331Ø.1	2794.1	2858.4	Ø.Ø15Ø	Ø.4717
2.1959	3Ø68.3	3254.2	2794.6	2858.8	-Ø.ØØ85	Ø.4717
2.1979	3Ø71.6	3231.7	2795.Ø	2859.1	-Ø.ØØ35	Ø.4717
2.1999	3Ø74.8	3265.4	2795.4	2859.5	Ø.ØØ52	Ø.4717
2.2Ø19	3Ø78.1	3235.6	2795.8	2859.9	-Ø.ØØ46	Ø.4718
2.2Ø39	3Ø81.3	3191.9	2796.2	286Ø.2	-Ø.ØØ68	Ø.4718
2.2Ø59	3Ø84.4	3159.4	2796.5	286Ø.5	-Ø.ØØ51	Ø.4718
2.2Ø79	3Ø87.6	3213.6	2796.9	286Ø.8	Ø.ØØ85	Ø.4718
2.2Ø99	3Ø9Ø.9	3235.6	2797.3	2861.2	Ø.ØØ34	Ø.4718
2.2119	3Ø94.1	322Ø.7	2797.6	2861.5	-Ø.ØØ23	Ø.4718
2.2139	3Ø97.2	313Ø.4	2797.9	2861.8	-Ø.Ø142	Ø.4719
2.2159	31ØØ.4	3142.8	2798.3	2862.1	Ø.ØØ2Ø	Ø.472Ø
2.2179	31Ø3.5	3151.1	2798.6	2862.3	Ø.ØØ13	Ø.472Ø
2.2199	31Ø6.7	3144.8	2798.9	2862.6	-Ø.ØØ1Ø	Ø.472Ø
2.2219	31Ø9.9	32ØØ.9	2799.2	2862.9	Ø.ØØ88	Ø.472Ø
2.2239	3113.1	323Ø.2	2799.6	2863.3	Ø.ØØ46	Ø.472Ø
2.2259	3116.3	3246.6	28ØØ.Ø	2863.6	Ø.ØØ25	Ø.472Ø
2.2279	3119.7	3331.1	28ØØ.5	2864.1	Ø.Ø128	Ø.4721
2.2299	3123.1	3413.3	28Ø1.1	2864.6	Ø.Ø122	Ø.4722

2.2319	3126.4	3330.1	2801.5	2865.1	-0.0123	0.4723
2.2339	3129.7	3307.9	2802.0	2865.5	-0.0033	0.4723
2.2359	3133.1	3325.9	2802.5	2866.0	0.0027	0.4723
2.2379	3136.4	3332.8	2802.9	2866.4	0.0010	0.4723
2.2399	3139.7	3278.8	2803.4	2866.8	-0.0082	0.4723
2.2419	3142.9	3266.1	2803.8	2867.2	-0.0019	0.4723
2.2439	3146.2	3278.1	2804.2	2867.6	0.0018	0.4723
2.2459	3149.5	3276.9	2804.6	2868.0	-0.0002	0.4723
2.2479	3152.8	3343.5	2805.1	2868.4	0.0101	0.4724
2.2499	3156.2	3321.0	2805.5	2868.9	-0.0034	0.4724
2.2519	3159.5	3382.1	2806.1	2869.4	0.0091	0.4724
2.2539	3162.9	3399.2	2806.6	2869.9	0.0025	0.4724
2.2559	3166.3	3408.7	2807.1	2870.4	0.0014	0.4724
2.2579	3169.7	3338.1	2807.6	2870.8	-0.0105	0.4725
2.2599	3173.0	3334.7	2808.1	2871.3	-0.0005	0.4725
2.2619	3176.4	3338.6	2808.5	2871.7	0.0006	0.4725
2.2639	3179.7	3304.0	2809.0	2872.1	-0.0052	0.4725
2.2659	3182.9	3270.3	2809.4	2872.5	-0.0051	0.4725
2.2679	3186.2	3239.7	2809.8	2872.9	-0.0047	0.4725
2.2699	3189.4	3247.8	2810.1	2873.2	0.0012	0.4725
2.2719	3192.7	3251.5	2810.5	2873.6	0.0006	0.4725
2.2739	3195.9	3212.4	2810.9	2873.9	-0.0060	0.4725
2.2759	3199.1	3206.8	2811.2	2874.2	-0.0009	0.4725
2.2779	3202.4	3303.7	2811.7	2874.6	0.0149	0.4726
2.2799	3205.7	3286.9	2812.1	2875.0	-0.0026	0.4727
2.2819	3208.9	3178.0	2812.4	2875.3	-0.0168	0.4728
2.2839	3212.1	3198.2	2812.7	2875.6	0.0032	0.4728
2.2859	3215.2	3189.5	2813.1	2875.9	-0.0014	0.4728
2.2879	3218.4	3201.7	2813.4	2876.2	0.0019	0.4728
2.2899	3221.6	3129.9	2813.7	2876.4	-0.0113	0.4729
2.2919	3224.7	3103.0	2813.9	2876.6	-0.0043	0.4729
2.2939	3227.7	3065.4	2814.2	2876.8	-0.0061	0.4729
2.2959	3230.8	3093.5	2814.4	2877.0	0.0046	0.4729
2.2979	3234.0	3137.0	2814.7	2877.2	0.0070	0.4729
2.2999	3237.1	3141.6	2815.0	2877.4	0.0007	0.4729
2.3019	3240.3	3176.0	2815.3	2877.7	0.0054	0.4730
2.3039	3243.5	3257.1	2815.7	2878.1	0.0126	0.4730
2.3059	3246.9	3350.3	2816.1	2878.5	0.0141	0.4731
2.3079	3250.2	3257.8	2816.5	2878.9	-0.0140	0.4733
2.3099	3253.4	3223.1	2816.9	2879.2	-0.0053	0.4733
2.3119	3256.7	3278.1	2817.3	2879.5	0.0084	0.4733
2.3139	3259.9	3283.4	2817.7	2879.9	0.0008	0.4733
2.3159	3263.1	3188.0	2818.0	2880.2	-0.0148	0.4734
2.3179	3266.3	3176.0	2818.3	2880.5	-0.0019	0.4734
2.3199	3269.6	3282.5	2818.7	2880.8	0.0165	0.4736
2.3219	3272.8	3204.3	2819.0	2881.1	-0.0120	0.4736
2.3239	3276.0	3200.9	2819.3	2881.4	-0.0005	0.4736
2.3259	3279.0	3054.9	2819.6	2881.6	-0.0233	0.4739
2.3279	3282.1	3032.0	2819.7	2881.7	-0.0038	0.4739
2.3299	3285.2	3084.0	2820.0	2881.9	0.0085	0.4740
2.3319	3288.3	3095.5	2820.2	2882.1	0.0019	0.4740
2.3339	3291.4	3101.3	2820.4	2882.3	0.0009	0.4740
2.3359	3294.5	3160.2	2820.7	2882.5	0.0094	0.4740
2.3379	3297.7	3186.8	2821.0	2882.8	0.0042	0.4740
2.3399	3300.8	3112.8	2821.3	2883.0	-0.0117	0.4741
2.3419	3304.0	3196.3	2821.6	2883.3	0.0132	0.4742
2.3439	3307.2	3227.8	2822.0	2883.6	0.0049	0.4742
2.3459	3310.4	3158.2	2822.2	2883.8	-0.0109	0.4743

2.3479	3313.6	3196.3	2822.6	2884.1	Ø.ØØ6Ø	Ø.4743
2.3499	3316.7	31Ø8.2	2822.8	2884.3	-Ø.Ø14Ø	Ø.4744
2.3519	3319.8	3122.8	2823.1	2884.5	Ø.ØØ24	Ø.4744
2.3539	3323.Ø	3146.Ø	2823.3	2884.8	Ø.ØØ37	Ø.4744
2.3559	3326.1	3166.3	2823.6	2885.Ø	Ø.ØØ32	Ø.4744
2.3579	3329.2	3Ø94.5	2823.9	2885.2	-Ø.Ø115	Ø.4745
2.3599	3332.3	31Ø9.6	2824.1	2885.4	Ø.ØØ24	Ø.4745
2.3619	3335.5	3142.6	2824.4	2885.6	Ø.ØØ53	Ø.4745
2.3639	3338.6	31Ø1.6	2824.6	2885.8	-Ø.ØØ66	Ø.4745
2.3659	3341.7	31ØØ.8	2824.8	2886.Ø	-Ø.ØØØ1	Ø.4745
2.3679	3344.8	3145.3	2825.1	2886.2	Ø.ØØ71	Ø.4745
2.3699	3348.Ø	3131.1	2825.4	2886.4	-Ø.ØØ23	Ø.4745
2.3719	3351.1	313Ø.4	2825.6	2886.7	-Ø.ØØØ1	Ø.4745
2.3739	3354.2	3Ø96.7	2825.9	2886.8	-Ø.ØØ54	Ø.4746
2.3759	3357.3	3153.1	2826.1	2887.1	Ø.ØØ9Ø	Ø.4746
2.3779	336Ø.2	2837.4	2826.1	2887.Ø	-Ø.Ø527	Ø.4761
2.3799	3363.3	3119.9	2826.4	2887.2	Ø.Ø474	Ø.4772
2.3819	3366.5	3168.9	2826.7	2887.5	Ø.ØØ78	Ø.4773
2.3839	3369.6	3Ø85.7	2826.9	2887.7	-Ø.Ø133	Ø.4774
2.3859	3372.6	3Ø83.7	2827.1	2887.8	-Ø.ØØØ3	Ø.4774
2.3879	3375.8	3127.2	2827.4	2888.Ø	Ø.ØØ7Ø	Ø.4774
2.3899	3379.Ø	326Ø.3	2827.7	2888.4	Ø.Ø2Ø8	Ø.4776
2.3919	3382.3	3229.Ø	2828.1	2888.7	-Ø.ØØ48	Ø.4776
2.3939	3385.5	32Ø9.Ø	2828.4	2889.Ø	-Ø.ØØ31	Ø.4776
2.3959	3388.6	3156.7	2828.6	2889.2	-Ø.ØØ82	Ø.4777
2.3979	3391.9	3249.8	2829.Ø	2889.5	Ø.Ø145	Ø.4778
2.3999	3395.3	3413.6	2829.5	289Ø.Ø	Ø.Ø246	Ø.4781
2.4Ø19	3398.5	325Ø.2	2829.8	289Ø.3	-Ø.Ø245	Ø.4784
2.4Ø39	34Ø1.8	33Ø4.9	283Ø.2	289Ø.7	Ø.ØØ83	Ø.4784
2.4Ø59	34Ø5.1	3276.6	283Ø.6	2891.Ø	-Ø.ØØ43	Ø.4785
2.4Ø79	34Ø8.3	32Ø6.5	283Ø.9	2891.3	-Ø.Ø1Ø8	Ø.4785
2.4Ø99	3411.6	3265.6	2831.3	2891.6	Ø.ØØ91	Ø.4786
2.4119	3415.Ø	3427.5	2831.8	2892.1	Ø.Ø242	Ø.4789
2.4139	3418.4	3374.Ø	2832.2	2892.5	-Ø.ØØ79	Ø.4789
2.4159	3421.7	3263.4	2832.6	2892.9	-Ø.Ø167	Ø.479Ø
2.4179	3424.6	2958.3	2832.7	2892.9	-Ø.Ø491	Ø.48Ø3
2.4199	3427.7	3Ø7Ø.6	2832.9	2893.1	Ø.Ø186	Ø.48Ø5
2.4219	343Ø.8	3122.1	2833.1	2893.3	Ø.ØØ83	Ø.48Ø5
2.4239	3434.Ø	3169.9	2833.4	2893.5	Ø.ØØ76	Ø.48Ø5
2.4259	3437.1	3Ø8Ø.3	2833.6	2893.7	-Ø.Ø143	Ø.48Ø6
2.4279	344Ø.3	3211.9	2833.9	2893.9	Ø.Ø2Ø9	Ø.48Ø9
2.4299	3443.4	3158.2	2834.2	2894.2	-Ø.ØØ84	Ø.48Ø9
2.4319	3446.7	3285.2	2834.5	2894.5	Ø.Ø197	Ø.4811
2.4339	345Ø.1	3364.Ø	2835.Ø	2894.9	Ø.Ø119	Ø.4812
2.4359	3453.4	3366.9	2835.4	2895.3	Ø.ØØØ4	Ø.4812
2.4379	3456.9	3482.2	2835.9	2895.9	Ø.Ø168	Ø.4813
2.4399	3459.9	3ØØ4.6	2836.1	2896.Ø	-Ø.Ø736	Ø.4841
2.4419	3463.2	3255.6	2836.4	2896.3	Ø.Ø4Ø1	Ø.485Ø
2.4439	3466.4	3187.5	2836.7	2896.5	-Ø.Ø1Ø6	Ø.485Ø
2.4459	3469.7	3346.9	2837.1	2896.9	Ø.Ø244	Ø.4853
2.4479	3473.1	3348.6	2837.6	2897.3	Ø.ØØØ3	Ø.4853
2.4499	3476.5	3467.3	2838.1	2897.8	Ø.Ø174	Ø.4855
2.4519	3479.9	3363.Ø	2838.5	2898.2	-Ø.Ø153	Ø.4856
2.4539	3483.3	3392.8	2838.9	2898.7	Ø.ØØ44	Ø.4856
2.4559	3486.7	344Ø.7	2839.4	2899.2	Ø.ØØ7Ø	Ø.4856
2.4579	349Ø.1	3382.1	2839.9	2899.6	-Ø.ØØ86	Ø.4857
2.4599	3493.5	336Ø.4	284Ø.3	29ØØ.Ø	-Ø.ØØ32	Ø.4857
2.4619	3496.9	34Ø9.4	284Ø.8	29ØØ.4	Ø.ØØ72	Ø.4857

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
2.4639	3500.2	3287.8	2841.1	2900.8	-0.0182	0.4859
2.4659	3503.4	3268.8	2841.5	2901.1	-0.0029	0.4859
2.4679	3506.7	3281.7	2841.8	2901.4	0.0020	0.4859
2.4699	3510.0	3308.6	2842.2	2901.8	0.0041	0.4859
2.4719	3513.4	3346.9	2842.6	2902.2	0.0058	0.4859
2.4739	3516.5	3159.7	2842.9	2902.4	-0.0288	0.4863
2.4759	3519.6	3105.0	2843.1	2902.6	-0.0087	0.4864
2.4779	3522.9	3241.2	2843.4	2902.8	0.0215	0.4866
2.4799	3526.3	3372.8	2843.8	2903.3	0.0199	0.4868
2.4819	3529.6	3382.8	2844.3	2903.7	0.0015	0.4868
2.4839	3533.0	3388.7	2844.7	2904.1	0.0009	0.4868
2.4859	3536.5	3448.0	2845.2	2904.6	0.0087	0.4869
2.4879	3539.9	3394.8	2845.6	2905.0	-0.0078	0.4869
2.4899	3543.3	3400.6	2846.1	2905.4	0.0009	0.4869
2.4919	3546.8	3500.7	2846.6	2906.0	0.0145	0.4870
2.4939	3550.2	3475.8	2847.1	2906.5	-0.0036	0.4870
2.4959	3553.7	3475.1	2847.6	2907.0	-0.0001	0.4870
2.4979	3557.2	3493.9	2848.1	2907.5	0.0027	0.4870
2.4999	3560.7	3470.7	2848.6	2908.0	-0.0033	0.4870
2.5019	3564.3	3589.1	2849.2	2908.6	0.0168	0.4872
2.5039	3567.8	3551.3	2849.8	2909.2	-0.0053	0.4872
2.5059	3571.4	3524.7	2850.3	2909.7	-0.0038	0.4872
2.5079	3574.9	3529.8	2850.9	2910.2	0.0007	0.4872
2.5099	3578.4	3507.8	2851.4	2910.8	-0.0031	0.4872
2.5119	3582.0	3599.6	2852.0	2911.4	0.0129	0.4873
2.5139	3585.5	3515.4	2852.5	2911.9	-0.0118	0.4873
2.5159	3589.0	3491.0	2853.0	2912.4	-0.0035	0.4874
2.5179	3592.5	3491.9	2853.5	2912.9	0.0001	0.4874
2.5199	3596.0	3556.4	2854.1	2913.5	0.0091	0.4874
2.5219	3599.6	3505.6	2854.6	2914.0	-0.0072	0.4874
2.5239	3603.0	3472.4	2855.1	2914.5	-0.0048	0.4874
2.5259	3606.6	3561.0	2855.6	2915.1	0.0126	0.4875
2.5279	3610.0	3442.9	2856.1	2915.5	-0.0169	0.4877
2.5299	3613.5	3479.5	2856.6	2916.0	0.0053	0.4877
2.5319	3617.0	3474.9	2857.1	2916.5	-0.0007	0.4877
2.5339	3620.5	3480.0	2857.6	2917.0	0.0007	0.4877
2.5359	3624.0	3496.8	2858.1	2917.5	0.0024	0.4877
2.5379	3627.4	3478.0	2858.6	2918.0	-0.0027	0.4877
2.5399	3630.9	3454.8	2859.0	2918.4	-0.0033	0.4877
2.5419	3634.4	3459.5	2859.5	2918.9	0.0007	0.4877
2.5439	3637.8	3495.4	2860.0	2919.4	0.0052	0.4877
2.5459	3641.4	3524.9	2860.5	2919.9	0.0042	0.4877
2.5479	3645.0	3608.6	2861.1	2920.5	0.0117	0.4878
2.5499	3648.5	3547.6	2861.7	2921.1	-0.0085	0.4878
2.5519	3652.0	3509.5	2862.2	2921.6	-0.0054	0.4878
2.5539	3655.5	3426.0	2862.6	2922.0	-0.0120	0.4879
2.5559	3659.0	3504.9	2863.1	2922.5	0.0114	0.4880
2.5579	3662.4	3390.4	2863.5	2922.9	-0.0166	0.4881
2.5599	3665.8	3473.1	2864.0	2923.4	0.0121	0.4882
2.5619	3669.4	3590.8	2864.6	2923.9	0.0167	0.4883
2.5639	3672.9	3433.8	2865.0	2924.4	-0.0223	0.4886
2.5659	3676.4	3493.4	2865.5	2924.9	0.0086	0.4886
2.5679	3679.9	3500.5	2866.0	2925.4	0.0010	0.4886
2.5699	3683.3	3468.0	2866.5	2925.8	-0.0047	0.4886
2.5719	3686.8	3436.5	2866.9	2926.3	-0.0046	0.4886
2.5739	3690.2	3479.7	2867.4	2926.7	0.0062	0.4887
2.5759	3693.7	3441.9	2867.8	2927.2	-0.0055	0.4887
2.5779	3697.1	3466.8	2868.3	2927.6	0.0036	0.4887

2.5799	37ØØ.6	3476.1	2868.8	2928.1	Ø.ØØ13	Ø.4887
2.5819	37Ø4.1	348Ø.7	2869.2	2928.5	Ø.ØØØ7	Ø.4887
2.5839	37Ø7.5	3439.9	2869.7	2929.Ø	-Ø.ØØ59	Ø.4887
2.5859	3711.Ø	35Ø3.9	287Ø.2	2929.5	Ø.ØØ92	Ø.4888
2.5879	3714.6	3529.3	287Ø.7	293Ø.Ø	Ø.ØØ36	Ø.4888
2.5899	3718.1	3523.7	2871.2	293Ø.5	-Ø.ØØØ8	Ø.4888
2.5919	3721.7	3566.9	2871.7	2931.Ø	Ø.ØØ61	Ø.4888
2.5939	3725.3	3671.6	2872.3	2931.7	Ø.Ø145	Ø.4889
2.5959	3729.Ø	3643.1	2872.9	2932.3	-Ø.ØØ39	Ø.4889
2.5979	3732.5	3564.2	2873.5	2932.8	-Ø.Ø1Ø9	Ø.489Ø
2.5999	3736.1	3548.1	2874.Ø	2933.3	-Ø.ØØ23	Ø.489Ø
2.6Ø19	3739.6	3546.4	2874.5	2933.9	-Ø.ØØØ2	Ø.489Ø
2.6Ø39	3743.3	3641.1	2875.1	2934.5	Ø.Ø132	Ø.489Ø
2.6Ø59	3746.9	3635.7	2875.7	2935.1	-Ø.ØØØ7	Ø.489Ø
2.6Ø79	375Ø.6	3659.4	2876.3	2935.7	Ø.ØØ32	Ø.4891
2.6Ø99	3754.3	3718.3	2876.9	2936.4	Ø.ØØ8Ø	Ø.4891
2.6119	3758.Ø	3744.1	2877.6	2937.1	Ø.ØØ35	Ø.4891
2.6139	3761.7	3687.5	2878.2	2937.7	-Ø.ØØ76	Ø.4891
2.6159	3765.5	3749.Ø	2878.9	2938.4	Ø.ØØ83	Ø.4892
2.6179	3769.Ø	3559.6	2879.4	2939.Ø	-Ø.Ø259	Ø.4895
2.6199	3772.5	35Ø3.7	2879.9	2939.4	-Ø.ØØ79	Ø.4895
2.6219	3776.1	3575.Ø	288Ø.4	294Ø.Ø	Ø.Ø1Ø1	Ø.4896
2.6239	3779.7	3558.1	288Ø.9	294Ø.5	-Ø.ØØ24	Ø.4896
2.6259	3783.1	3433.1	2881.3	294Ø.9	-Ø.Ø179	Ø.4897
2.6279	3786.7	3556.2	2881.9	2941.4	Ø.Ø176	Ø.4899
2.6299	379Ø.1	3442.1	2882.3	2941.8	-Ø.Ø163	Ø.49ØØ
2.6319	3793.5	34Ø5.3	2882.7	2942.2	-Ø.ØØ54	Ø.49Ø1
2.6339	3797.Ø	35Ø3.9	2883.1	2942.7	Ø.Ø143	Ø.49Ø2
2.6359	38ØØ.6	354Ø.5	2883.6	2943.2	Ø.ØØ52	Ø.49Ø2
2.6379	38Ø4.3	3726.8	2884.3	2943.8	Ø.Ø256	Ø.49Ø5
2.6399	38Ø7.8	3517.6	2884.8	2944.3	-Ø.Ø289	Ø.49Ø9
2.6419	3811.3	3551.8	2885.3	2944.8	Ø.ØØ48	Ø.49Ø9
2.6439	3815.Ø	3633.3	2885.8	2945.4	Ø.Ø113	Ø.491Ø
2.6459	3818.6	3599.6	2886.4	2946.Ø	-Ø.ØØ47	Ø.491Ø
2.6479	3822.1	355Ø.8	2886.9	2946.5	-Ø.ØØ68	Ø.491Ø
2.6499	3825.7	3551.8	2887.4	2947.Ø	Ø.ØØØ1	Ø.491Ø
2.6519	3829.2	3526.6	2887.9	2947.5	-Ø.ØØ36	Ø.4911
2.6539	3832.7	3484.9	2888.3	2947.9	-Ø.ØØ6Ø	Ø.4911
2.6559	3836.2	351Ø.7	2888.8	2948.4	Ø.ØØ37	Ø.4911
2.6579	3839.8	356Ø.5	2889.3	2948.9	Ø.ØØ7Ø	Ø.4911
2.6599	3843.2	348Ø.Ø	2889.7	2949.3	-Ø.Ø114	Ø.4912
2.6619	3846.7	3464.1	289Ø.2	2949.7	-Ø.ØØ23	Ø.4912
2.6639	385Ø.2	3484.6	289Ø.6	295Ø.2	Ø.ØØ3Ø	Ø.4912
2.6659	3853.7	3521.2	2891.1	295Ø.6	Ø.ØØ52	Ø.4912
2.6679	3857.2	3495.6	2891.5	2951.1	-Ø.ØØ37	Ø.4912
2.6699	386Ø.7	3445.8	2891.9	2951.5	-Ø.ØØ72	Ø.4912
2.6719	3864.3	361Ø.6	2892.5	2952.Ø	Ø.Ø234	Ø.4915
2.6739	3867.7	3481.7	2892.9	2952.5	-Ø.Ø182	Ø.4917
2.6759	3871.2	34Ø7.Ø	2893.3	2952.8	-Ø.Ø1Ø8	Ø.4917
2.6779	3874.6	3454.3	2893.7	2953.2	Ø.ØØ69	Ø.4918
2.6799	3878.1	35Ø3.4	2894.2	2953.7	Ø.ØØ71	Ø.4918
2.6819	3881.6	353Ø.5	2894.7	2954.1	Ø.ØØ39	Ø.4918
2.6839	3885.2	35Ø7.1	2895.1	2954.6	-Ø.ØØ33	Ø.4918
2.6859	3888.7	3525.1	2895.6	2955.1	Ø.ØØ26	Ø.4918
2.6879	3892.2	3564.9	2896.1	2955.6	Ø.ØØ56	Ø.4918
2.6899	3895.8	3573.Ø	2896.6	2956.1	Ø.ØØ11	Ø.4918
2.6919	3899.5	3647.2	2897.1	2956.6	Ø.Ø1Ø3	Ø.4919
2.6939	39Ø3.Ø	3571.5	2897.6	2957.2	-Ø.Ø1Ø5	Ø.4919

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
2.6959	3906.6	3568.4	2898.1	2957.7	-0.0004	0.4919
2.6979	3910.2	3581.3	2898.6	2958.2	0.0018	0.4919
2.6999	3913.5	3297.1	2898.9	2958.4	-0.0413	0.4928
2.7019	3916.8	3299.6	2899.2	2958.7	0.0004	0.4928
2.7039	3920.3	3506.1	2899.7	2959.1	0.0303	0.4933
2.7059	3923.9	3581.5	2900.2	2959.6	0.0106	0.4933
2.7079	3927.6	3721.7	2900.8	2960.3	0.0192	0.4935
2.7099	3931.2	3617.4	2901.3	2960.8	-0.0142	0.4936
2.7119	3934.7	3464.4	2901.7	2961.2	-0.0216	0.4938
2.7139	3938.3	3600.8	2902.3	2961.7	0.0193	0.4940
2.7159	3941.9	3610.8	2902.8	2962.3	0.0014	0.4940
2.7179	3945.4	3537.6	2903.2	2962.7	-0.0102	0.4941
2.7199	3949.0	3549.6	2903.7	2963.2	0.0017	0.4941
2.7219	3952.5	3551.0	2904.2	2963.7	0.0002	0.4941
2.7239	3956.2	3663.6	2904.8	2964.3	0.0156	0.4942
2.7259	3959.8	3640.9	2905.3	2964.8	-0.0031	0.4942
2.7279	3963.4	3595.7	2905.8	2965.3	-0.0062	0.4942
2.7299	3967.0	3547.6	2906.3	2965.8	-0.0067	0.4943
2.7319	3970.5	3559.1	2906.7	2966.3	0.0016	0.4943
2.7339	3974.1	3550.3	2907.2	2966.7	-0.0012	0.4943
2.7359	3977.7	3638.9	2907.8	2967.3	0.0123	0.4943
2.7379	3981.3	3625.7	2908.3	2967.8	-0.0018	0.4943
2.7399	3984.9	3514.6	2908.7	2968.3	-0.0156	0.4945
2.7419	3988.5	3661.6	2909.3	2968.8	0.0205	0.4947
2.7439	3992.1	3533.9	2909.7	2969.3	-0.0177	0.4948
2.7459	3996.1	4017.6	2910.5	2970.2	0.0640	0.4969
2.7479	4000.0	3891.6	2911.2	2970.9	-0.0159	0.4970
2.7499	4003.9	3910.9	2912.0	2971.7	0.0025	0.4970
2.7519	4007.7	3876.2	2912.7	2972.5	-0.0045	0.4970
2.7539	4011.6	3825.0	2913.3	2973.2	-0.0067	0.4971
2.7559	4015.3	3728.0	2913.9	2973.8	-0.0128	0.4971
2.7579	4018.9	3634.5	2914.5	2974.4	-0.0127	0.4972
2.7599	4022.6	3657.2	2915.0	2974.9	0.0031	0.4972
2.7619	4026.2	3628.4	2915.5	2975.4	-0.0040	0.4972
2.7639	4029.8	3619.1	2916.0	2975.9	-0.0013	0.4972
2.7659	4033.4	3557.6	2916.5	2976.4	-0.0086	0.4973
2.7679	4037.0	3554.0	2916.9	2976.9	-0.0005	0.4973
2.7699	4040.5	3529.8	2917.4	2977.3	-0.0034	0.4973
2.7719	4044.0	3554.4	2917.8	2977.8	0.0035	0.4973
2.7739	4047.6	3585.0	2918.3	2978.2	0.0043	0.4973
2.7759	4051.2	3586.7	2918.8	2978.7	0.0002	0.4973
2.7779	4054.6	3430.9	2919.2	2979.1	-0.0222	0.4975
2.7799	4058.1	3444.3	2919.6	2979.4	0.0020	0.4976
2.7819	4061.5	3467.0	2919.9	2979.8	0.0033	0.4976
2.7839	4065.1	3582.3	2920.4	2980.3	0.0163	0.4977
2.7859	4068.6	3503.2	2920.8	2980.7	-0.0112	0.4978
2.7879	4072.1	3479.2	2921.2	2981.1	-0.0034	0.4978
2.7899	4075.5	3377.2	2921.6	2981.4	-0.0149	0.4979
2.7919	4079.0	3470.7	2922.0	2981.8	0.0137	0.4980
2.7939	4083.2	4281.3	2922.9	2982.9	0.1046	0.5035
2.7959	4087.5	4294.9	2923.9	2984.0	0.0016	0.5035
2.7979	4091.8	4236.8	2924.9	2985.1	-0.0068	0.5035
2.7999	4095.7	3957.0	2925.6	2985.9	-0.0341	0.5041
2.8019	4099.8	4083.0	2926.4	2986.9	0.0157	0.5042
2.8039	4104.0	4231.4	2927.3	2987.9	0.0179	0.5043
2.8059	4108.1	4103.0	2928.2	2988.9	-0.0154	0.5045
2.8079	4112.3	4104.5	2929.0	2989.8	0.0002	0.5045
2.8099	4116.5	4230.0	2929.9	2990.9	0.0151	0.5046

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CPT.	TRN.LOSS
2.8119	4120.9	4424.3	2931.0	2992.2	0.0225	0.5048
2.8139	4125.3	4405.8	2932.1	2993.4	-0.0021	0.5048
2.8159	4129.8	4515.1	2933.2	2994.8	0.0123	0.5049
2.8179	4134.1	4231.4	2934.1	2995.8	-0.0324	0.5054
2.8199	4138.0	3964.4	2934.8	2996.6	-0.0326	0.5059
2.8219	4141.9	3921.4	2935.5	2997.4	-0.0054	0.5060
2.8239	4146.0	4047.9	2936.3	2998.2	0.0159	0.5061
2.8259	4150.0	3965.8	2937.1	2999.0	-0.0102	0.5061
2.8279	4154.0	4005.4	2937.8	2999.9	0.0050	0.5061
2.8299	4157.8	3831.5	2938.4	3000.5	-0.0222	0.5064
2.8319	4162.0	4164.6	2939.3	3001.5	0.0416	0.5072
2.8339	4166.2	4287.1	2940.3	3002.6	0.0145	0.5073

ADDENDU

SYNTHETIC SEISMOGRAM REPORT

BRIDGEWATER BAY NO. 1

Phillips Petroleum Company Far East (Singapore)
Seismic Stratigraphy Section

Well : Phillips Bridgewater Bay No. 1 is located S 38° 32' 26" and E 141° 21' 42" or approximately SP 857 Line OP 80-43 in the Otway Basin, Victoria, Australia. The well was plugged and abandoned Dec. 12, 1983 with a TD of 4200 M (RKB).

Logs : Sonic and density logs were edited to remove cycle skips and noise. The sonic log was interpolated from the start of the log at 493 M (RKB) to the sea floor at 132.5 M (RKB). A break in the log was input at the sea floor in order to generate a sea floor reflection. Both the sonic and density logs were converted from RKB (23.5 M) to MSL prior to generating synthetic seismograms. Over the intervals 0 to 1600 M, 3050 to 3875 M, and 4150 to 4179 M (MSL) the density log either was not recorded or was of poor quality. Gardner's equation was utilized to estimate the density response within these intervals.

Check Shots: Check shots were reviewed and edited. Table 1 is a listing of all available check shots for the well. Figure 1 is a plot of the difference between the time-depth curve derived from integrating the sonic log without checkshots and the time-depth curve derived from the check shot corrected sonic log. The check shots at 1182, 1377, and 1532 M gave an anomalous "off-trend" correction to the sonic log, and a preliminary synthetic seismogram, which

check shots were selected for the final correction and are listed in Table 2. In addition, a pseudo check shot was applied at the sea floor (109 M, MSL). The difference plot for these check shots is shown in Figure 2. Figure 3 shows the derivative of the curve in Figure 2; this derivative is the actual correction rate applied to the sonic log. Tables 3 and 4 are listings of the final, check shot corrected, time-depth function.

Wavelets : Two Ricker wavelets and two extracted wavelets were utilized for constructing synthetic seismograms (Enclosures 1-4). The 20 and 25 Hz zero phase Ricker wavelets (Figs. 4-7) provide good matches to the 1981 GSI processing. The extracted wavelets (Figs. 8-11) were obtained through autocorrelation analysis of the Phillips Singapore 1984 reprocessed version of Line OP 80-43. The analysis window was 1.5 - 2.5 sec and included all traces in the interval SP 570 - SP 1213.

Other Displays :

Enclosure 5 is an interpretation montage showing the correlation between the Bridgewater Bay synthetic seismogram and the Phillips Singapore reprocessed version of Line OP 80-43. Enclosure 6 is a condensed log display showing the synthetic seismogram, resistivity log, and gamma ray log.

TABLE 1 : LIST OF ALL AVAILABLE CHECK SHOTS

Depth in Meters (MSL)	Two Way Time (MS) (MSL)
477	490
877	781
987	869
1182	1012
1377	1146
1532	1254
1677	1366
1827	1476
2027	1610
2167	1696
2352	1808
2477	1878
2607	1950
2695	1998
2902	2106
3127	2234
3327	2358
3477	2450
3677	2568
3877	2680
3994	2746
4081	2796
4157	2832

CHECKSHOT CORRECTION (ALL CHECKSHOTS)

FIGURE 1

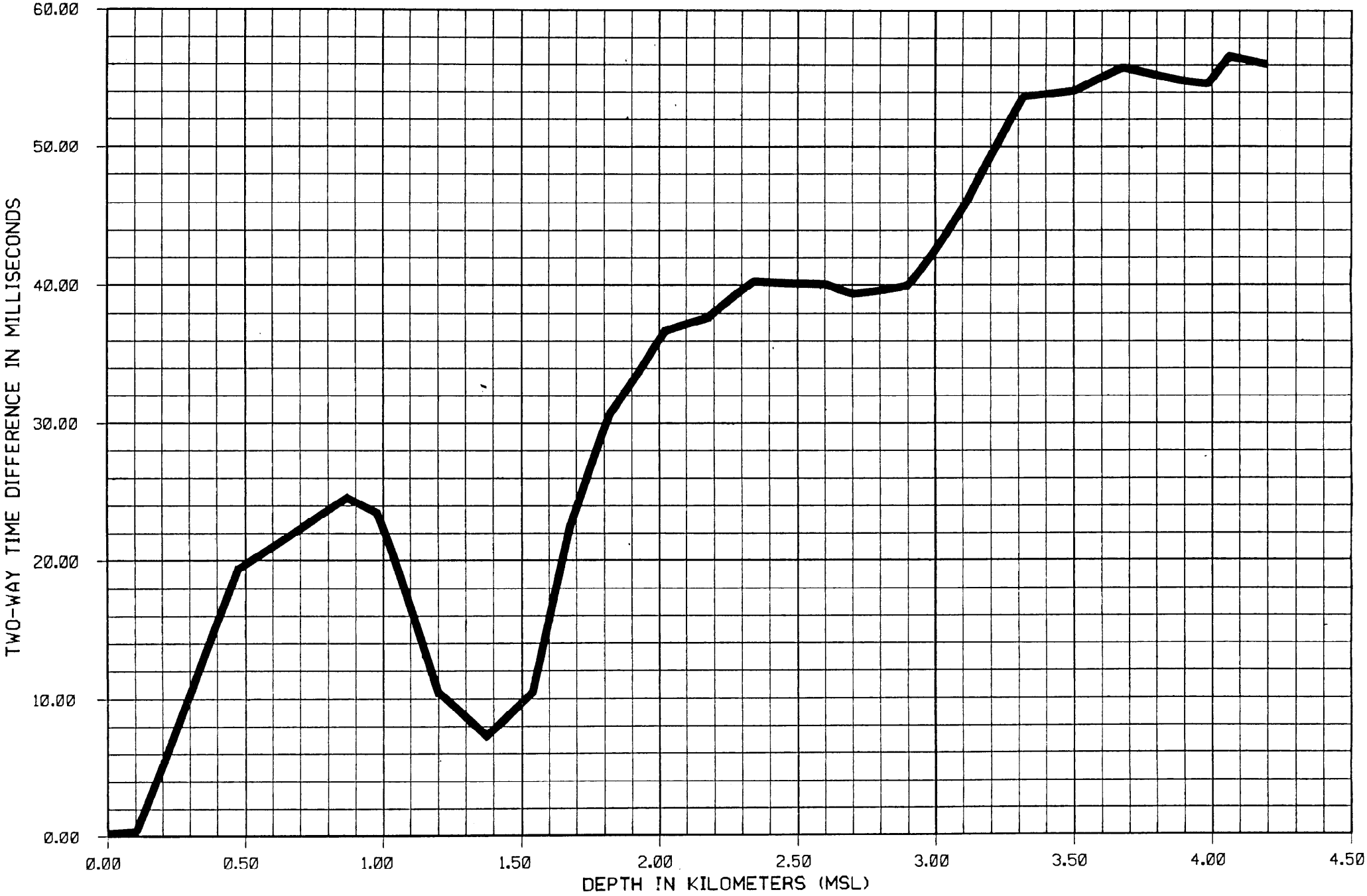
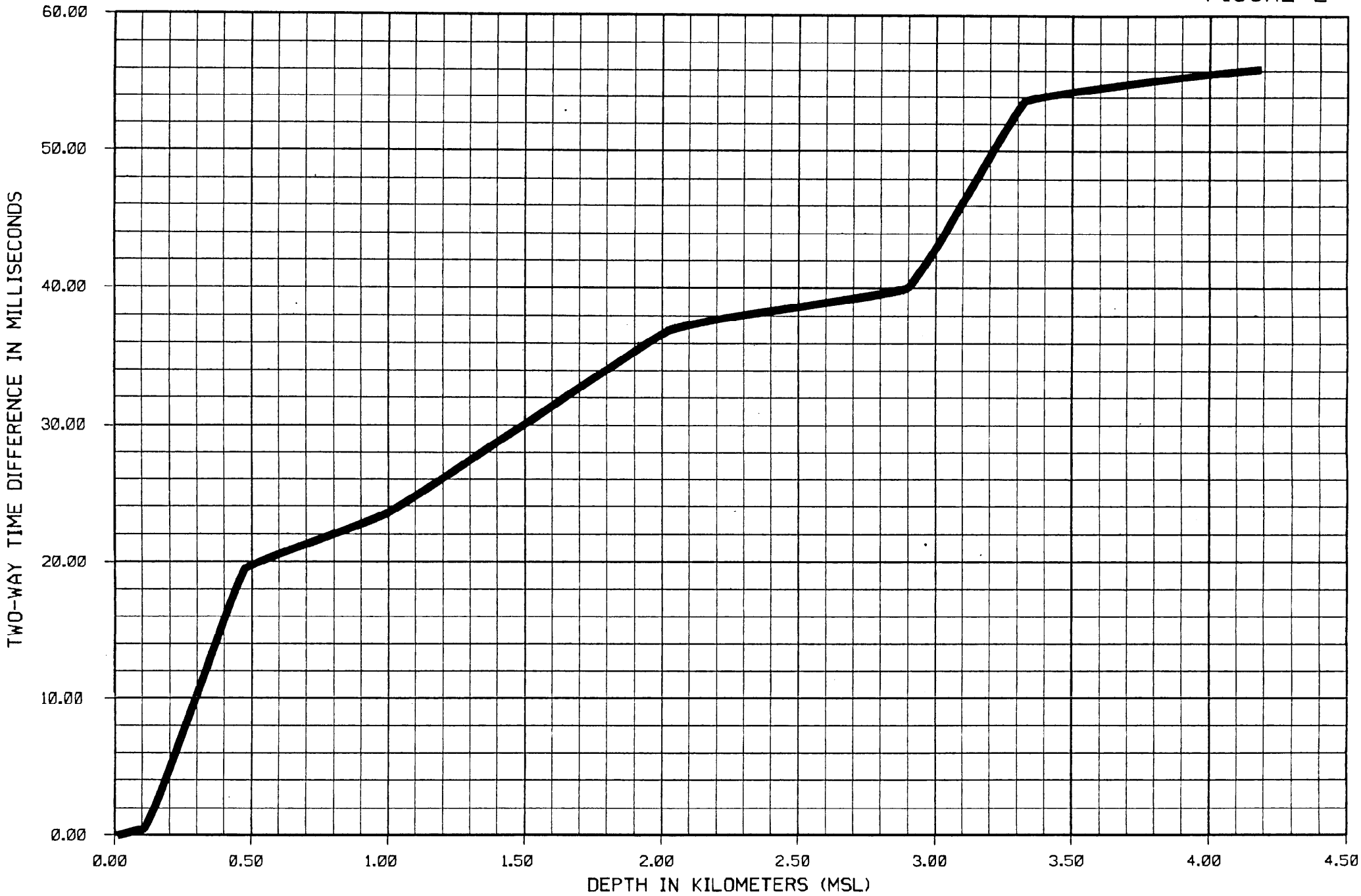


TABLE 2 : CHECK SHOTS APPLIED FOR SYNTHETIC SEISMOGRAM

Depth in Meters (MSL)	Two Way Time (MS) (MSL)
109	143
477	490
987	869
2027	1610
2902	2106
3327	2358
4157	2832

CHECKSHOT CORRECTION (FINAL)

FIGURE 2



CORRECTION RATE (FINAL)

FIGURE 3

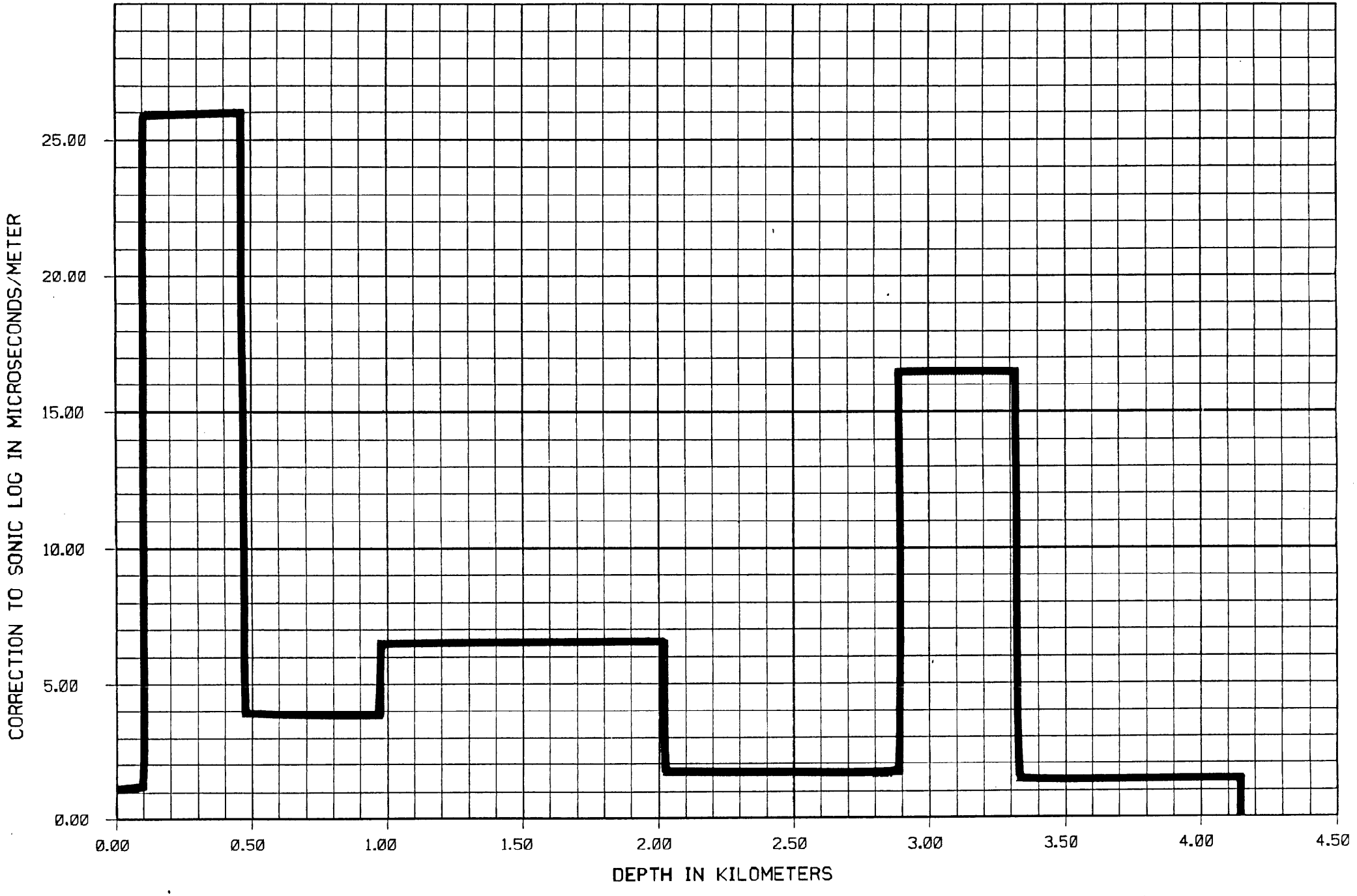


TABLE 3 : DEPTH - TIME LISTING

DATE - 16-FEB-84 TIME - 08:13:29

BRIDGEWATER BAY WELL

LOG DESCRIPTION: DEPTH-TIME w/CHECK SHOTS Referenced to MSL

DEPTH INCREMENT = 5.00 METERS DEPTH FIRST READING = 0.00 DEPTH LAST READING = 4175.00

Time Values in Two-Way Time

DEPTH	READING VALUES	5	10	15	20	25	30	35	40	45
0.00	0.00112	6.56299	13.12486	19.68673	26.24860	32.81048	39.37239	45.93430	52.49621	59.05812
50.00	65.62003	72.18194	78.74384	85.30576	91.86766	98.42957	104.99148	111.55339	118.11530	124.67721
100.00	131.23904	137.80080	144.14481	149.39584	154.62959	159.84616	165.04568	170.22835	175.39421	180.54333
150.00	185.67586	190.79195	195.89162	200.97510	206.04242	211.09375	216.12910	221.14864	226.15248	231.14070
200.00	236.11340	241.07076	246.01286	250.93970	255.85136	260.74805	265.62979	270.49677	275.34897	280.18658
250.00	285.00961	289.81824	294.61255	299.39258	304.15839	308.91016	313.64795	318.37177	323.08173	327.77798
300.00	332.46060	337.12961	341.78516	346.42728	351.05615	355.67172	360.27417	364.86353	369.43985	374.00323
350.00	378.55380	383.09158	387.61658	392.12909	396.62900	401.11655	405.59140	410.05408	414.50455	418.94278
400.00	423.36884	427.78284	432.18509	436.57520	440.95364	445.32028	449.67520	454.01843	458.35016	462.67035
450.00	466.97910	471.27649	475.56256	479.83743	484.10104	488.35388	492.35324	496.27710	500.23709	504.19681
500.00	508.10327	511.92920	515.77954	519.59235	523.36768	527.11792	530.88751	534.69940	538.46393	542.25665
550.00	546.02039	549.76459	553.45972	557.13434	560.83221	564.54291	568.28894	571.99957	575.72839	579.45062
600.00	583.21631	587.07343	590.96338	594.77954	598.59668	602.40845	606.21387	609.95990	613.68256	617.42010
650.00	621.20428	624.93988	628.70227	632.40002	636.12079	639.87915	643.63147	647.40369	651.18219	654.94464
700.00	658.67236	662.35382	665.97253	669.59265	673.25671	676.91388	680.49890	684.15808	687.87958	691.52734
750.00	695.09637	698.62769	702.16815	705.76239	709.26111	712.85248	716.36566	719.72089	723.09906	726.53784
800.00	729.83807	733.53851	737.03046	740.22015	743.07416	746.20178	749.24658	752.47809	755.41632	758.80255
850.00	762.07251	765.10590	768.13159	771.53790	774.48334	777.66956	781.18970	785.74725	790.47351	795.06689
900.00	799.45972	803.83264	808.22534	812.71918	817.18280	821.62701	826.15533	830.63538	835.27008	839.62885
950.00	843.29114	846.72681	850.14319	854.10065	856.85986	859.42139	863.42877	867.29254	871.57770	875.88721
1000.00	880.20807	884.51215	888.76111	893.12598	897.31854	901.45587	905.61438	909.74219	913.86707	917.89740
1050.00	922.01947	926.15253	930.43726	934.69128	938.98865	943.11664	947.24579	951.34082	955.36536	959.33624
1100.00	963.21478	967.09229	970.98816	974.79248	978.68744	982.72943	986.82037	990.85571	994.77905	998.67944
1150.00	1002.64832	1006.63318	1010.51758	1014.33612	1018.19659	1022.01288	1025.59180	1028.81506	1032.23608	1035.78833
1200.00	1039.43750	1043.26013	1047.17346	1051.00952	1054.80469	1058.44507	1062.16150	1066.03552	1069.62537	1073.34436
1250.00	1076.83337	1080.52051	1084.25049	1087.95813	1091.49902	1095.21484	1098.85645	1102.44324	1105.98730	1109.62927
1300.00	1113.25928	1116.86218	1120.39380	1123.83801	1127.47937	1130.97290	1134.59680	1138.01233	1141.40662	1144.94080
1350.00	1148.49194	1151.96375	1155.48975	1159.01868	1162.35510	1165.79785	1169.31567	1172.79297	1176.20776	1179.62024
1400.00	1183.12744	1186.73596	1190.42297	1193.93494	1197.57080	1201.07837	1204.69409	1208.21448	1211.63379	1215.02869
1450.00	1218.63867	1222.09717	1225.66357	1229.01880	1232.65173	1236.14380	1239.67957	1242.98108	1246.44800	1249.32227
1500.00	1252.82471	1256.21411	1259.69263	1263.17627	1265.89392	1269.50891	1272.97876	1276.47217	1279.91016	1283.58276
1550.00	1287.24207	1290.53564	1294.03125	1297.60938	1301.29822	1304.78938	1308.68091	1312.39490	1316.09717	1319.73730
1600.00	1323.19348	1326.75061	1329.79285	1333.44629	1336.94751	1340.32861	1343.66321	1347.08948	1350.53088	1354.14661
1650.00	1357.36316	1361.10266	1364.61353	1367.82178	1371.29297	1374.67603	1377.98154	1381.00256	1384.32935	1387.98936
1700.00	1390.81897	1394.16846	1397.44128	1400.85669	1404.23230	1407.83545	1411.51111	1415.16541	1418.65723	1422.03259
1750.00	1425.45459	1429.00171	1432.43176	1435.51013	1438.98254	1442.55225	1446.20850	1449.79004	1453.38818	1457.10144
1800.00	1460.84241	1464.54028	1468.13281	1471.61401	1475.00098	1478.24561	1481.67212	1485.06042	1488.41309	1491.89551
1850.00	1495.30249	1498.56628	1501.91309	1505.25781	1508.54431	1511.77271	1514.99707	1518.35950	1521.78784	1525.08240
1900.00	1528.35535	1531.79919	1535.28784	1538.52246	1541.76538	1545.16431	1548.59558	1551.99316	1555.46069	1558.53357
1950.00	1561.99280	1565.26794	1568.58826	1571.88904	1575.04028	1577.96436	1581.25000	1584.43237	1587.60596	1590.86353
2000.00	1594.03857	1596.75964	1599.74744	1602.78662	1605.72766	1608.78857	1611.77991	1614.82263	1617.90894	1620.98938
2050.00	1624.15173	1627.38416	1630.48242	1633.61682	1636.72131	1639.91504	1642.85645	1645.98787	1649.16309	1652.27258
2100.00	1655.43848	1658.51355	1661.53027	1664.63818	1667.50549	1670.55151	1673.61499	1676.54016	1679.39026	1682.52686
2150.00	1685.64722	1688.67834	1691.69092	1694.66626	1697.44580	1700.35828	1703.38391	1706.33325	1709.26965	1712.23206
2200.00	1715.14978	1718.09753	1721.06433	1724.13525	1727.10498	1730.17810	1733.24182	1736.20544	1739.12964	1742.08887
2250.00	1745.26465	1748.42822	1751.56677	1754.66467	1757.85510	1760.89441	1763.83972	1766.65430	1769.82581	1772.89197

TABLE 3 : DEPTH - TIME LISTING

DATE - 16-FEB-84 TIME - 08:13:29

BRIDGEWATER BAY WELL

LOG DESCRIPTION: DEPTH-TIME w/CHECK SHOTS Referenced to MSL

DEPTH INCREMENT = 5.00 METERS DEPTH FIRST READING = 0.00 DEPTH LAST READING = 4175.00

Time Values in Two-Way Time

DEPTH	READING VALUES 5		10	15	20	25	30	35	40	45
2300.00	1775.90112	1778.80627	1781.72705	1784.64636	1787.43787	1790.28162	1793.13184	1795.98889	1798.82349	1801.62891
2350.00	1804.51855	1807.57813	1810.63562	1813.69153	1816.78833	1819.87256	1822.77283	1825.57776	1828.38660	1831.20154
2400.00	1833.98315	1836.82703	1839.57397	1842.25195	1844.92371	1847.74255	1850.54126	1853.21130	1855.99255	1858.77734
2450.00	1861.57190	1864.31360	1867.04211	1869.78674	1872.54761	1875.30640	1878.05457	1880.75635	1883.54016	1886.45142
2500.00	1889.45581	1892.47375	1895.30322	1898.14917	1901.06091	1903.85278	1906.55579	1909.31152	1912.09082	1914.92773
2550.00	1917.76343	1920.61230	1923.42419	1926.24695	1928.97620	1931.73328	1934.46094	1937.21985	1939.92566	1942.47009
2600.00	1945.05005	1947.63196	1950.25818	1953.11816	1956.01501	1958.94397	1961.84180	1964.67981	1967.57068	1970.36060
2650.00	1973.13403	1975.85950	1978.57410	1981.34619	1984.14111	1986.89124	1989.68835	1992.45117	1995.15344	1997.87915
2700.00	2000.52515	2003.14429	2005.72266	2008.36292	2011.01489	2013.67615	2016.35498	2019.00671	2021.69226	2024.36890
2750.00	2027.05701	2029.69934	2032.32544	2034.95752	2037.57495	2040.22559	2042.87537	2045.47656	2048.08594	2050.69849
2800.00	2053.32666	2055.92017	2058.53394	2061.15332	2063.76978	2066.38843	2069.00073	2071.60449	2074.19995	2076.79004
2850.00	2079.36426	2081.91626	2084.48096	2087.03906	2089.62842	2092.24243	2094.84229	2097.41846	2099.96069	2102.48682
2900.00	2104.99658	2107.60913	2110.26636	2112.94482	2115.65845	2118.40283	2121.20068	2124.00439	2126.76221	2129.49683
2950.00	2132.24292	2134.97925	2137.70605	2140.45068	2143.21558	2145.96460	2148.73804	2151.52808	2154.28882	2157.07373
3000.00	2159.84204	2162.59961	2165.36279	2168.08936	2170.87427	2173.65625	2176.46069	2179.26880	2182.10767	2184.98682
3050.00	2187.90112	2190.85010	2193.85645	2196.88110	2199.92676	2202.96704	2206.04565	2209.16260	2212.24512	2215.33789
3100.00	2218.48608	2221.63110	2224.76440	2227.83887	2230.82910	2233.75317	2236.74121	2239.71851	2242.74683	2245.76636
3150.00	2248.79907	2251.76904	2254.71143	2257.62354	2260.55371	2263.53320	2266.51465	2269.56201	2272.61719	2275.68262
3200.00	2278.75732	2281.78101	2284.88208	2287.97632	2291.08032	2294.29004	2297.49731	2300.66260	2303.80347	2306.83325
3250.00	2309.82666	2312.89038	2315.90186	2319.01392	2322.04956	2325.14233	2328.39404	2331.62134	2334.81616	2337.97266
3300.00	2341.10693	2344.19092	2347.29834	2350.41333	2353.60913	2356.74268	2359.82251	2362.83887	2365.88403	2368.90259
3350.00	2371.91528	2374.94214	2378.18408	2381.29834	2384.35278	2387.42847	2390.50415	2393.60693	2396.74829	2399.70557
3400.00	2402.75464	2405.80396	2408.90112	2411.85425	2414.80664	2418.13232	2421.47681	2424.68774	2427.81274	2430.90503
3450.00	2433.92505	2436.89478	2440.09009	2443.14038	2446.15088	2449.11670	2452.08179	2455.09204	2458.06177	2461.08960
3500.00	2464.12231	2467.23096	2470.30859	2473.35498	2476.37036	2479.35449	2482.31201	2485.27246	2488.20581	2491.13037
3550.00	2494.00562	2496.89819	2499.79517	2502.62183	2505.45190	2508.31226	2511.16528	2513.99438	2516.87524	2519.74438
3600.00	2522.58374	2525.43896	2528.34253	2531.23730	2534.12817	2536.99097	2539.90356	2542.80249	2545.67529	2548.46582
3650.00	2551.30347	2554.20972	2557.10425	2560.02075	2562.86377	2565.78735	2568.66211	2571.58618	2574.48145	2577.38696
3700.00	2580.27759	2583.16943	2586.05103	2588.91260	2591.76807	2594.51001	2597.29248	2600.12720	2602.95459	2605.71216
3750.00	2608.46265	2611.17188	2613.85840	2616.54932	2619.37402	2622.22852	2625.03857	2627.94458	2630.82324	2633.75391
3800.00	2636.62158	2639.34546	2642.18384	2644.97949	2647.79614	2650.62549	2653.47388	2656.35034	2659.18677	2662.09448
3850.00	2664.97168	2667.83228	2670.73315	2673.52124	2676.44043	2679.35034	2682.20898	2685.08008	2687.93335	2690.76880
3900.00	2693.56055	2696.39868	2699.23389	2702.29102	2705.23389	2708.05933	2710.80273	2713.70435	2716.53198	2719.36865
3950.00	2722.22290	2725.03540	2727.83936	2730.66846	2733.52197	2736.35791	2739.13672	2741.97729	2744.78687	2747.44434
4000.00	2750.02515	2752.61621	2755.24927	2757.94678	2760.70654	2763.46094	2766.24341	2769.06543	2771.90649	2774.75000
4050.00	2777.52710	2780.43774	2783.35840	2786.15698	2789.01245	2791.93872	2794.76733	2797.07422	2799.44287	2801.93311
4100.00	2804.39404	2806.74976	2809.22095	2811.62891	2813.91772	2816.19360	2818.42871	2820.82715	2823.37109	2825.88306
4150.00	2828.42041	2830.94922	2833.48267	2835.86157	2838.15479	2840.46924				

TABLE 4 : TIME - DEPTH LISTING

DATE - 16-FEB-84 TIME - 08:13:33 PAGE 1

LOG DESCRIPTION: TIME-DEPTH w/CHECK SHOTS

TIME INCREMENT = 4.00 MS TWO-WAY TIME FIRST READING = 2.00 TIME LAST READING = 2842.00

TIME	READING VALUES	+4	+8	+12	+16	+20	+24	+28	+32	+36
2.00	1.52085	4.57187	7.61978	10.66769	13.71560	16.76351	19.81142	22.85933	25.90723	28.95513
42.00	32.00302	35.05091	38.09881	41.14670	44.19460	47.24249	50.29038	53.33828	56.38617	59.43406
82.00	62.48196	65.52985	68.57775	71.62564	74.67353	77.72143	80.76932	83.81721	86.86510	89.91300
122.00	92.96089	96.00878	99.05671	102.10468	105.15265	108.20235	111.76550	115.57719	119.39852	123.22949
162.00	127.07007	130.92032	134.78024	138.64981	142.52916	146.41827	150.31718	154.22586	158.14436	162.07271
202.00	166.01088	169.95894	173.91689	177.88480	181.86267	185.85048	189.84828	193.85611	197.87395	201.90189
242.00	205.93980	209.98782	214.04601	218.11443	222.19296	226.28169	230.38066	234.48981	238.60931	242.73907
282.00	246.87904	251.02942	255.19016	259.36124	263.54263	267.73456	271.93692	276.14972	280.37302	284.60684
322.00	288.85120	293.10617	297.37167	301.64777	305.93451	310.23196	314.54001	318.85880	323.18826	327.52847
362.00	331.87946	336.24121	340.61383	344.99731	349.39163	353.79688	358.21301	362.63995	367.07806	371.52692
402.00	375.98691	380.45807	384.94019	389.43335	393.93759	398.45306	402.97977	407.51736	412.06625	416.62640
442.00	421.19781	425.78043	430.37433	434.97961	439.59619	444.22415	448.86353	453.51431	458.17648	462.85016
482.00	467.53528	472.23203	476.99603	482.10297	487.16711	492.23395	497.28430	502.44751	507.68887	512.90533
522.00	518.19617	523.50079	528.83051	534.10175	539.38995	544.65955	549.97424	555.31531	560.73218	566.18396
562.00	571.57660	576.96722	582.31116	587.68146	593.05360	598.39862	603.63025	608.76044	613.97345	619.21704
602.00	624.47040	629.71252	635.05463	640.42499	645.77472	651.06042	656.39667	661.75659	667.16327	672.49963
642.00	677.82782	683.14148	688.43182	693.74127	699.10474	704.51282	710.03882	715.55988	721.01538	726.52747
682.00	732.06140	737.47382	742.90753	748.43945	754.11194	759.76898	765.33868	771.03271	776.60492	782.41705
722.00	788.38123	794.21729	800.21057	805.64679	811.55890	818.14069	824.66693	831.23779	837.74103	843.88507
762.00	849.87805	856.44348	862.85992	869.10950	875.48029	880.88165	885.26917	889.51471	893.83234	898.25513
802.00	902.94464	907.50409	911.98071	916.42401	920.93219	925.41278	929.83313	934.29681	938.59961	943.12878
842.00	947.67096	953.70349	959.81934	964.87317	972.73792	978.12988	983.44885	988.16638	992.79744	997.37677
882.00	1002.09473	1006.73566	1011.41693	1016.04254	1020.81213	1025.67004	1030.46252	1035.31616	1040.16541	1045.12573
922.00	1049.97729	1054.82007	1059.50879	1064.17004	1068.85034	1073.62610	1078.48401	1083.35864	1088.28247	1093.30933
962.00	1098.43225	1103.57642	1108.71594	1113.99121	1119.15466	1124.09766	1128.98938	1133.94312	1139.00317	1144.13953
1002.00	1149.17590	1154.22266	1159.32019	1164.56201	1169.74609	1174.98450	1180.63867	1186.78064	1192.48730	1198.08813
1042.00	1203.39636	1208.48608	1213.68738	1218.91357	1224.41919	1229.78528	1234.95386	1240.47827	1245.89417	1251.64978
1082.00	1257.12170	1262.35681	1268.01465	1273.36206	1278.81592	1284.39404	1290.01892	1295.50977	1301.02173	1306.66321
1122.00	1312.29321	1318.02588	1323.52319	1329.12915	1334.98279	1340.86646	1346.55701	1352.36902	1357.83862	1363.55078
1162.00	1369.49048	1375.29639	1380.98328	1386.77905	1392.63477	1398.37756	1404.02539	1409.40845	1415.09167	1420.59607
1202.00	1426.28882	1431.83167	1437.64941	1443.53491	1449.14783	1454.85522	1460.46704	1466.36499	1471.89917	1477.63135
1242.00	1483.55420	1489.34741	1495.98035	1501.82532	1507.55981	1513.23328	1520.15674	1525.66699	1531.48279	1537.27209
1282.00	1542.84241	1548.29260	1554.19983	1559.95715	1565.53174	1570.95154	1576.36975	1581.78540	1587.17297	1592.60461
1322.00	1598.16333	1603.93176	1610.28052	1615.77332	1621.54602	1627.50012	1633.35693	1639.24390	1644.78906	1651.01233
1362.00	1656.24597	1662.46387	1668.11389	1674.01184	1680.61499	1686.49841	1692.67786	1698.78760	1704.73352	1710.84277
1402.00	1716.69897	1722.43457	1727.93750	1733.41455	1738.96838	1744.95581	1750.78711	1756.37256	1762.44421	1768.60950
1442.00	1774.22192	1779.73645	1785.29590	1790.80981	1796.21899	1801.53210	1807.01587	1812.64111	1818.53430	1824.63855
1482.00	1830.48853	1836.38782	1842.34436	1848.12415	1854.01221	1860.12878	1866.09192	1872.25525	1878.42883	1884.46655
1522.00	1890.31079	1896.41199	1902.42346	1908.21130	1914.16931	1920.34656	1926.19849	1931.99988	1937.88855	1944.22449
1562.00	1950.01160	1956.06384	1962.15100	1968.24695	1975.05420	1981.25879	1987.47705	1993.68005	1999.93640	2006.99768
1602.00	2013.72620	2020.56628	2026.99817	2033.61853	2040.15137	2046.62512	2052.88867	2059.26392	2065.63989	2071.99512
1642.00	2078.64478	2085.01685	2091.35547	2097.73096	2104.17944	2110.74341	2117.33130	2124.09937	2130.62549	2137.70703
1682.00	2144.17188	2150.57397	2157.19043	2163.89795	2170.98608	2177.64209	2184.43530	2191.27344	2197.96680	2204.82983
1722.00	2211.52588	2218.11841	2224.67651	2231.24756	2238.07666	2244.85962	2251.13527	2257.48364	2263.92285	2270.22827
1762.00	2276.87085	2283.83862	2290.27808	2296.79346	2303.62354	2310.47290	2317.46899	2324.50293	2331.52734	2338.53296
1802.00	2345.67505	2352.41797	2358.97168	2365.49414	2371.96118	2378.64844	2385.74976	2392.87329	2400.03076	2407.06543

TABLE 4 : TIME - DEPTH LISTING

DATE - 16-FEB-84 TIME - 08:13:33

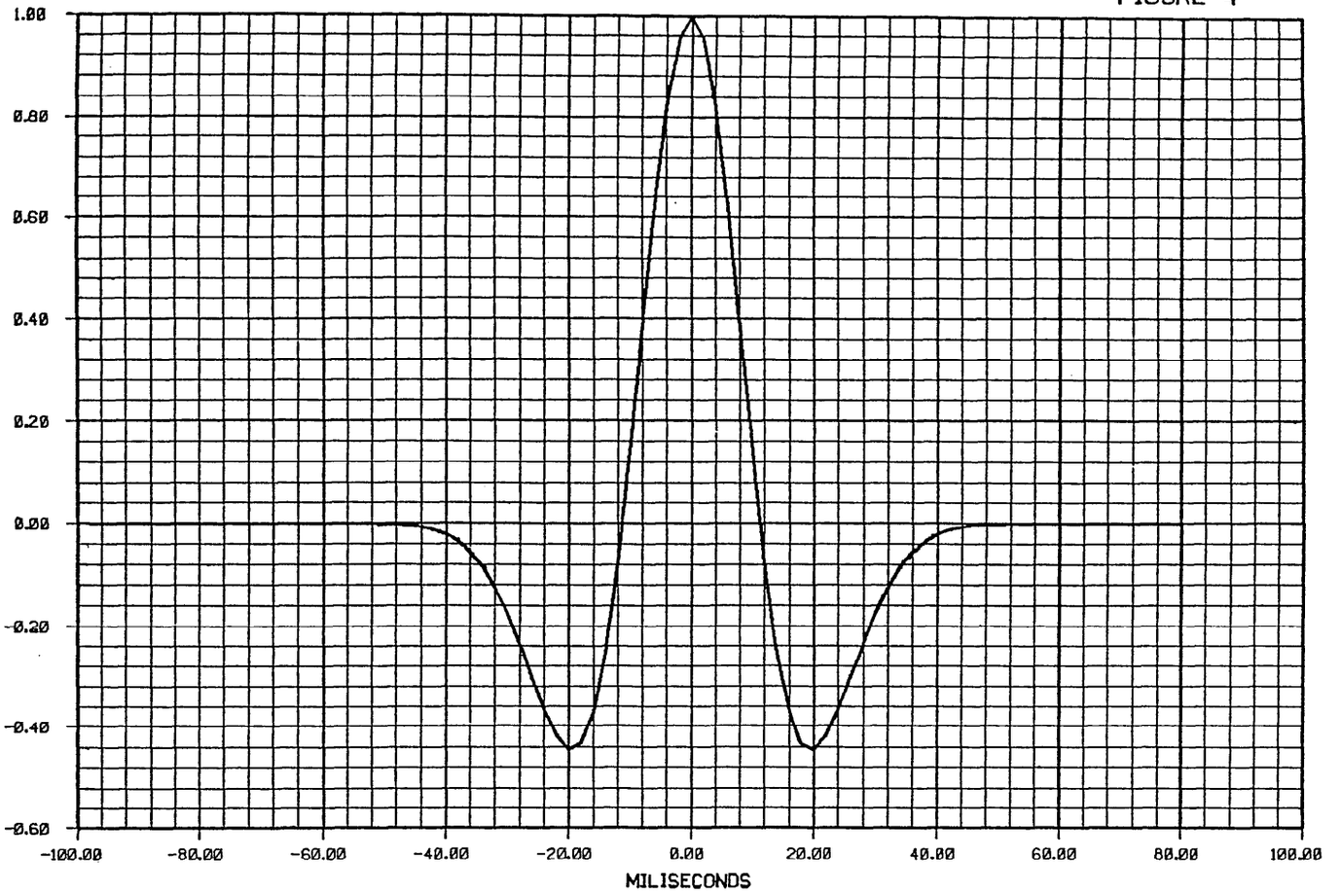
LOG DESCRIPTION: TIME-DEPTH w/CHECK SHOTS

TIME INCREMENT = 4.00 MS TWO-WAY TIME FIRST READING = 2.00 TIME LAST READING = 2842.00

TIME	READING VALUES	+4	+8	+12	+16	+20	+24	+28	+32	+36
1842.00	2414.52808	2421.93750	2429.00415	2436.43750	2443.64404	2450.76782	2458.07764	2465.38672	2472.63135	2479.90210
1882.00	2487.25439	2494.23535	2500.89893	2507.70776	2514.74097	2521.61475	2528.99756	2536.27344	2543.36597	2550.41211
1922.00	2557.48438	2564.55029	2571.85156	2579.15674	2586.42212	2594.09912	2601.83911	2609.50537	2616.53955	2623.38110
1962.00	2630.26782	2637.27905	2644.32935	2651.58398	2658.96948	2666.17261	2673.38989	2680.56348	2687.89868	2695.22607
2002.00	2702.80908	2710.52710	2718.10791	2725.61133	2733.11084	2740.57642	2748.00342	2755.57227	2763.18604	2770.80176
2042.00	2778.34253	2786.00952	2793.67236	2801.29639	2808.98169	2816.63354	2824.26880	2831.91431	2839.61548	2847.34985
2082.00	2855.16528	2862.98560	2870.71582	2878.37378	2886.14160	2894.03491	2901.97021	2909.49878	2916.95752	2924.27344
2122.00	2931.43164	2938.61816	2945.90112	2953.21973	2960.53760	2967.81348	2975.06543	2982.26294	2989.48608	2996.67407
2162.00	3003.92725	3011.16382	3018.42969	3025.61475	3032.74585	3039.81250	3046.74390	3053.57227	3060.23169	3066.84399
2202.00	3073.40430	3079.92725	3086.35083	3092.85938	3099.22852	3105.58643	3111.99512	3118.59326	3125.41431	3132.11060
2242.00	3138.78271	3145.38525	3152.03418	3158.78711	3165.66943	3172.43359	3179.14136	3185.72534	3192.27124	3198.72852
2282.00	3205.36255	3211.80664	3218.27197	3224.55444	3230.77759	3237.11206	3243.61475	3250.28003	3256.84863	3263.36938
2322.00	3269.91968	3276.32739	3282.46924	3288.71899	3295.04614	3301.40845	3307.92017	3314.35132	3320.61230	3326.99854
2362.00	3333.59204	3340.19214	3346.83008	3353.47314	3359.70679	3366.17651	3372.67334	3379.16626	3385.62695	3392.10718
2402.00	3398.75415	3405.32080	3411.82593	3418.64478	3424.79004	3430.77197	3437.05981	3443.51807	3450.12671	3456.84961
2442.00	3463.17944	3469.75122	3476.46191	3483.14648	3489.89648	3496.53149	3503.01563	3509.49731	3516.06641	3522.72485
2482.00	3529.47314	3536.26758	3543.03784	3549.99146	3556.90991	3563.92358	3570.95605	3577.93726	3585.01074	3591.95459
2522.00	3598.97705	3605.97681	3612.86035	3619.77612	3626.74023	3633.63013	3640.57080	3647.72510	3654.64209	3661.52148
2562.00	3668.51929	3675.37476	3682.31201	3689.16162	3696.06958	3702.99268	3709.91162	3716.90894	3724.08179	3731.25293
2602.00	3738.29419	3745.51709	3752.85718	3760.26123	3767.59692	3774.60107	3781.64551	3788.60376	3795.43237	3802.60254
2642.00	3809.67993	3816.81226	3823.89771	3830.91895	3837.94653	3844.83765	3851.80054	3858.75024	3865.82764	3872.66895
2682.00	3879.63354	3886.61401	3893.63696	3900.77637	3907.81812	3914.54321	3921.32349	3928.56079	3935.51514	3942.62451
2722.00	3949.60889	3956.70337	3963.82617	3970.85181	3977.96729	3985.04663	3992.14209	3999.95239	4007.64526	4015.09888
2762.00	4022.35669	4029.56860	4036.65576	4043.69897	4050.83374	4057.68921	4064.72485	4071.71143	4078.49365	4086.95410
2802.00	4095.13452	4103.36133	4111.52100	4120.18115	4129.03613	4137.25879	4145.22656	4153.16357	4161.04053	4169.66650
2842.00	4178.30811									

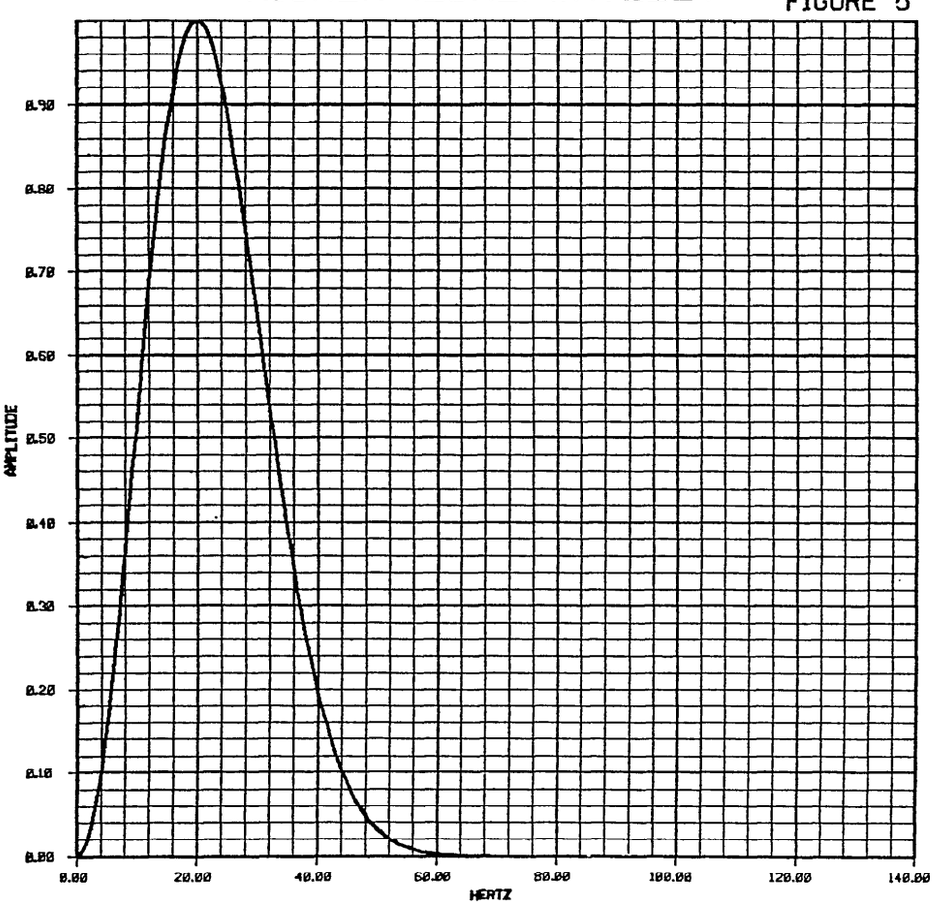
RICKER (20HZ) WAVELET

FIGURE 4



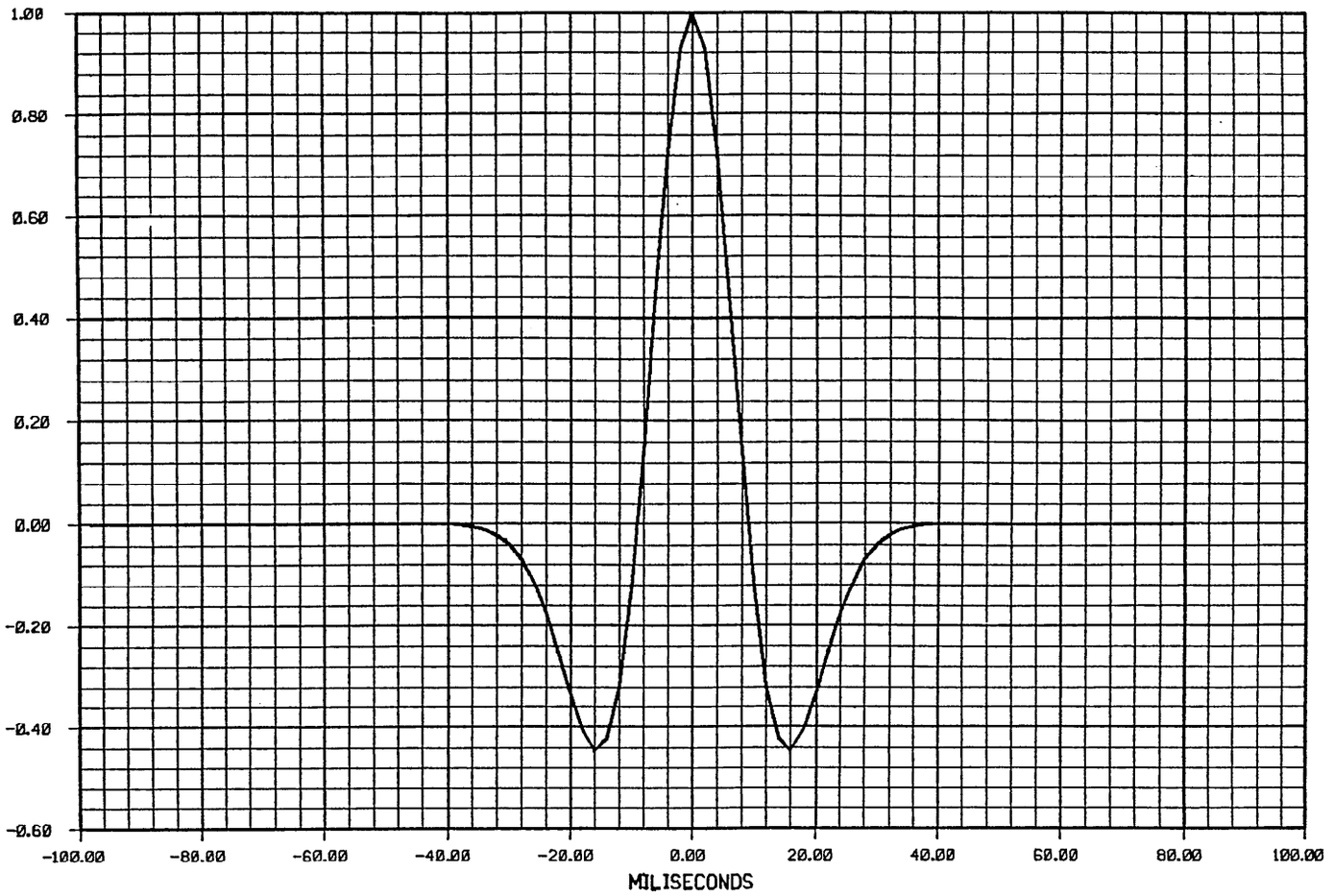
RICKER (20HZ) WAVELET

FIGURE 5



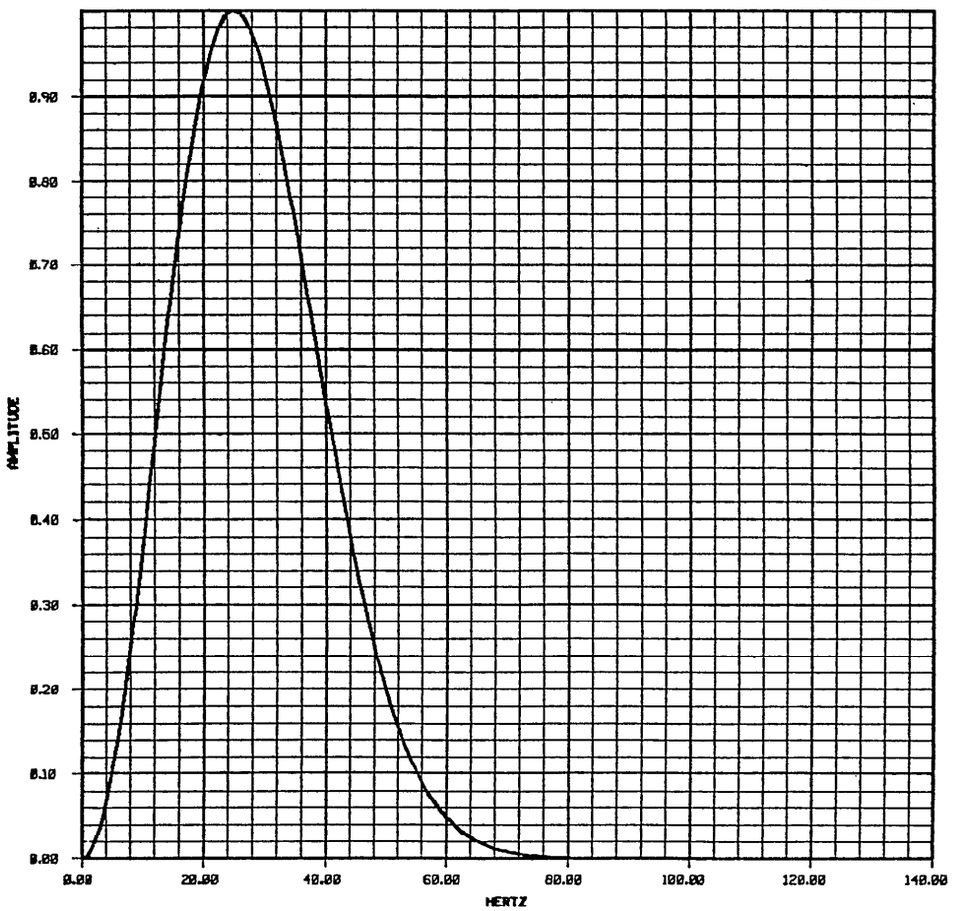
RICKER (25HZ) WAVELET

FIGURE 6



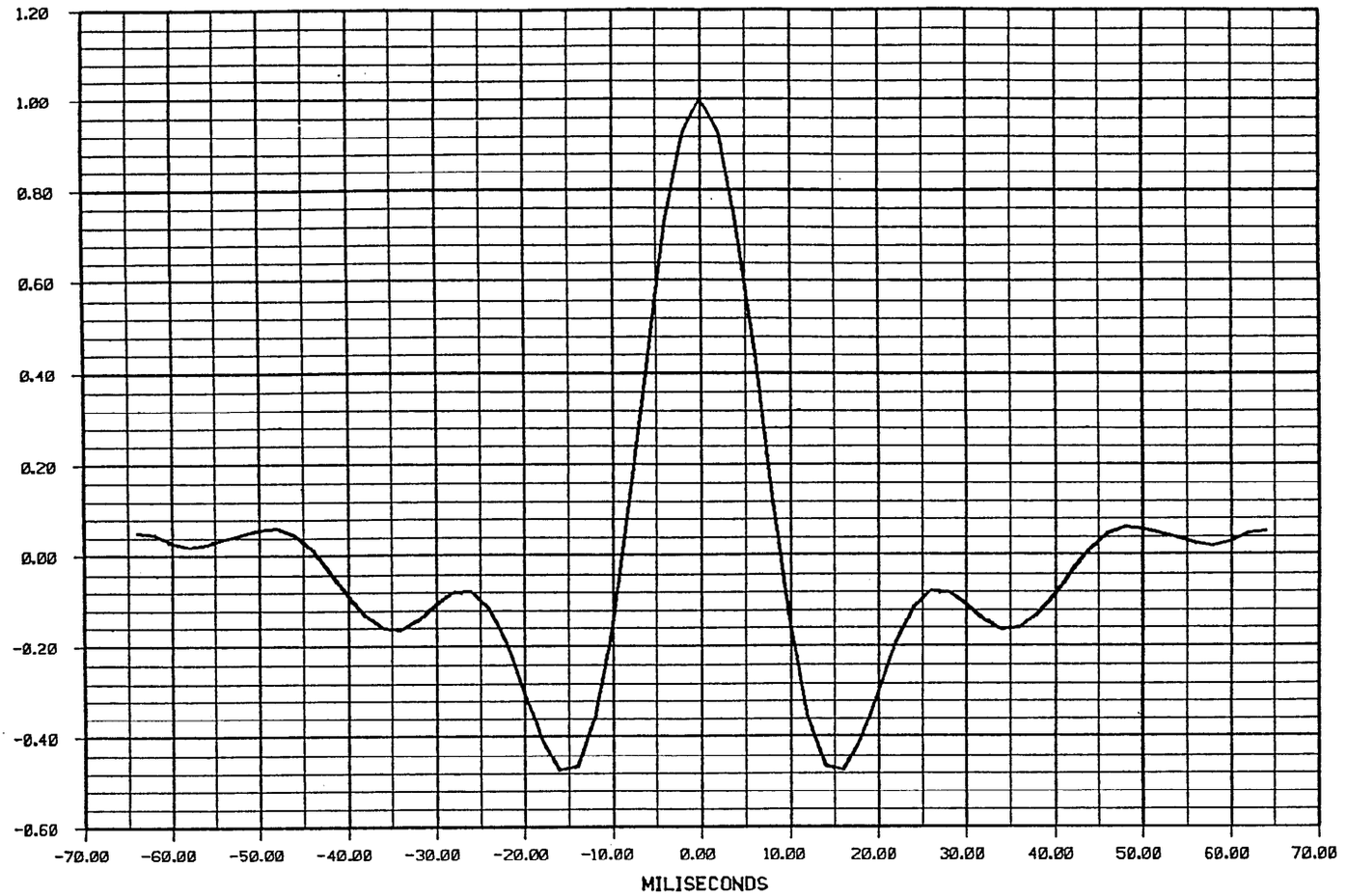
RICKER (25HZ) WAVELET

FIGURE 7



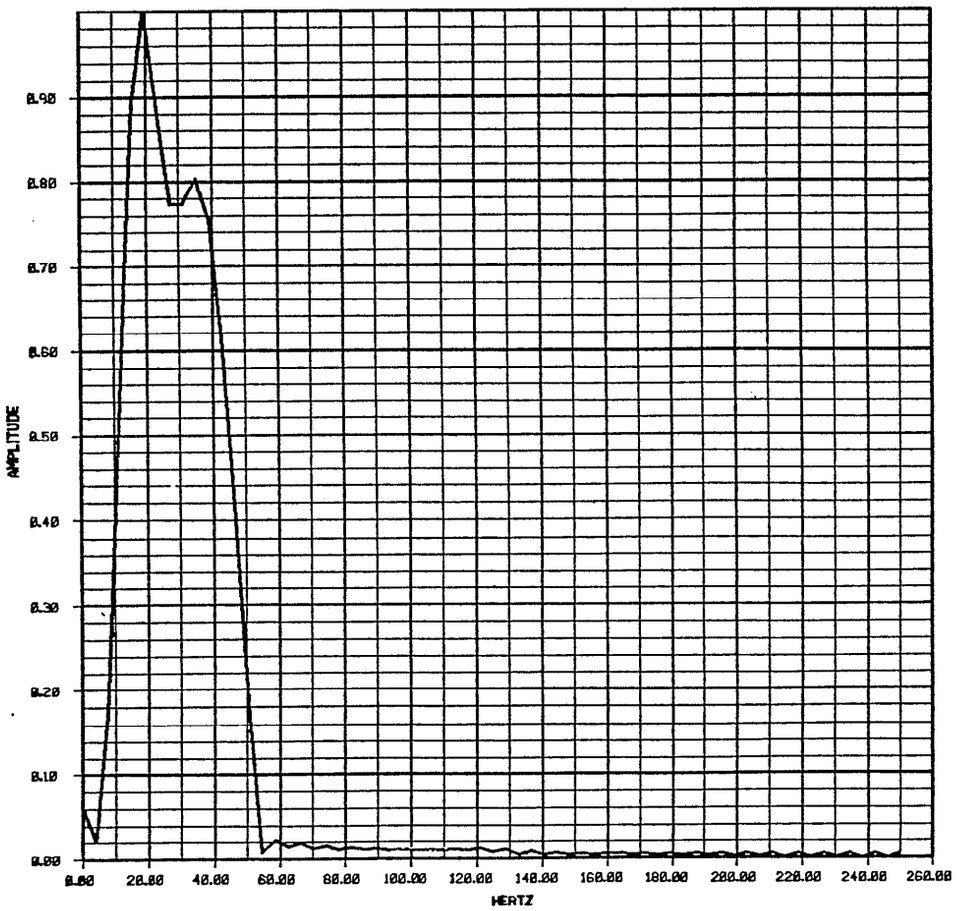
EXTRACTED ZERO PHASE WAVELET

FIGURE 8



EXTRACTED ZERO PHASE WAVELET

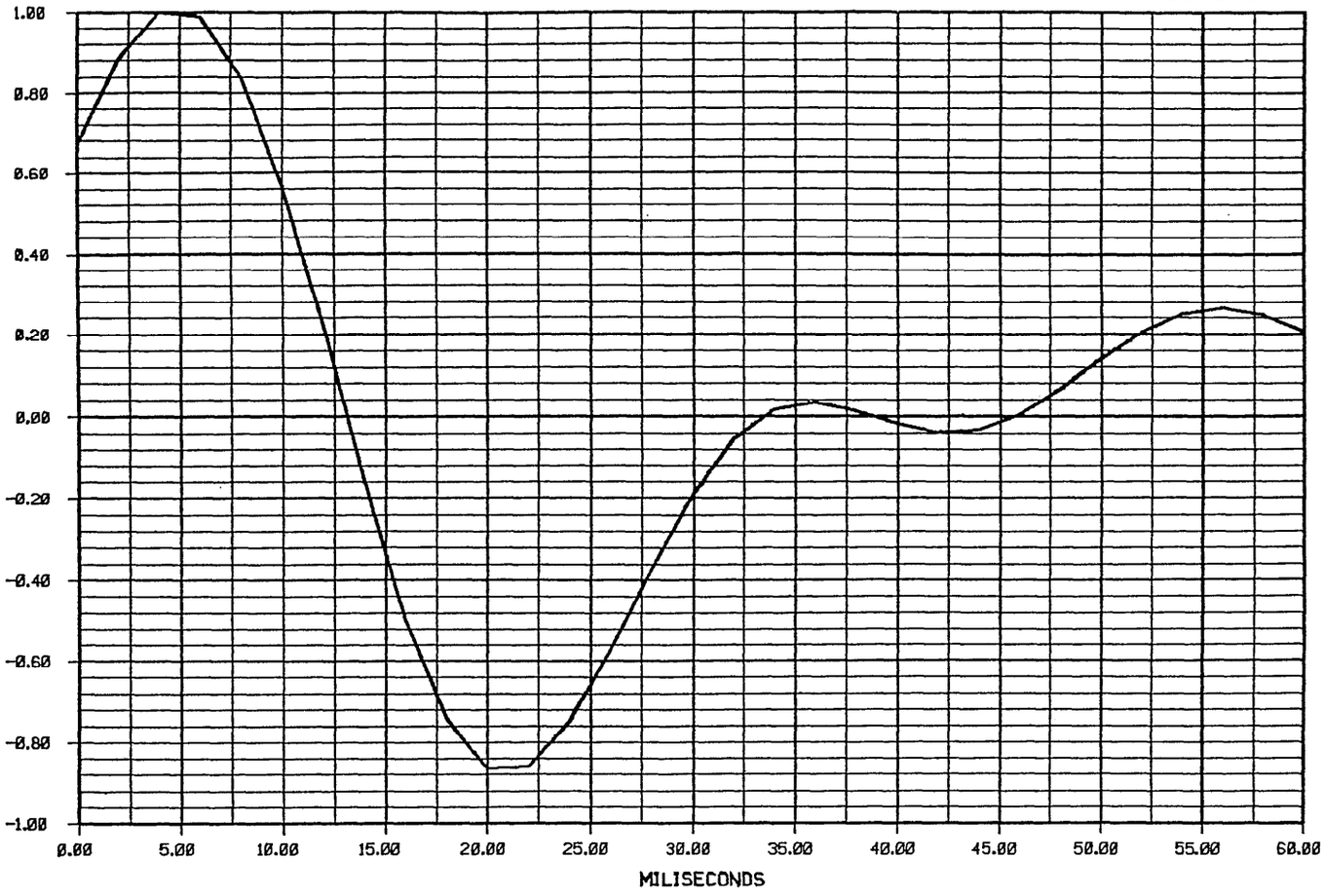
FIGURE 9



BRWB 1/PE902250/P 244

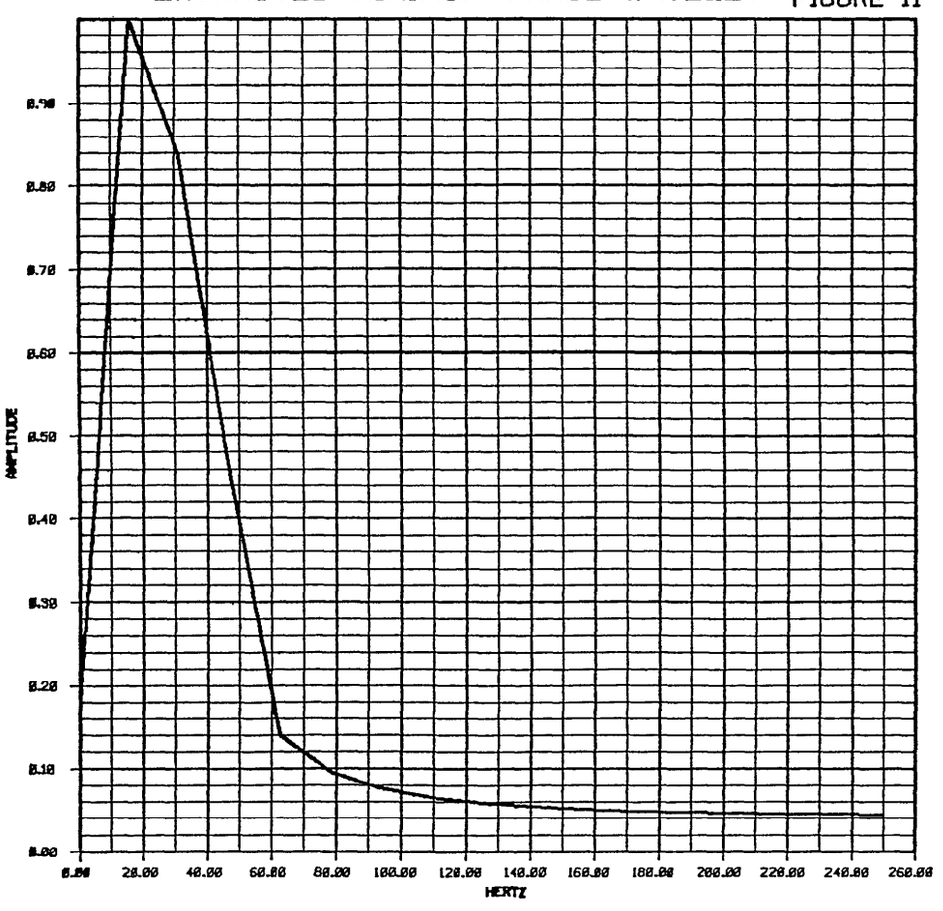
EXTRACTED MINIMUM PHASE WAVELET

FIGURE 10



EXTRACTED MINIMUM PHASE WAVELET

FIGURE 11



PE600364

This is an enclosure indicator page.
The enclosure PE600364 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600364 **has the following characteristics:**

ITEM-BARCODE	**=**	**PE600364**
CONTAINER_BARCODE	**=**	**PE902250**
NAME	**=**	**Bridgewater Bay 1 Synthetic Seismogram Enclosure 2**
BASIN	**=**	**Otway**
PERMIT	**=**	VIC/P14
TYPE	**=**	**WELL**
SUBTYPE	**=**	SYNTH_SEISMOGRAPH
DESCRIPTION	**=**	**Bridgewater Bay 1 Synthetic Seismogram, WCR Appendix 4 Enclosure 2**
REMARKS	**=**	*****
DATE-CREATED	**=**	3/01/84
DATE-RECEIVED	**=**	7/01/84
W_NO	**=**	**W831**
WELL-NAME	**=**	**Bridgewater Bay 1**
CONTRACTOR	**=**	**Phillips Petroleum Company Far East Synthetic Seismogram, Seismic Stratigraphy Section, Singapore**
CLIENT_OP_CO	**=**	**Phillips Petroleum Company**

(Inserted by DNRE – Vic **Govt Mines Dept)**

PE600002

This is an enclosure indicator page.
The enclosure PE600002 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600002 has the following characteristics:

ITEM_BARCODE	= PE600002
CONTAINER_BARCODE	= PE902250
NAME	= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM, ENCLOSURE 3, ADDENDUM 4
BASIN	= Otway
PERMIT	=
TYPE	= WELL
SUBTYPE	= SYNTH_SEISMOGRAPH
DESCRIPTION	= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM, ENCLOSURE 3, ADDENDUM 4
REMARKS	=
DATE_CREATED	= 3/01/84
DATE_RECEIVED	= 7/06/84
W_NO	= W831
WELL_NAME	= BRIDGEWATER BAY-1
CONTRACTOR	= PHILLIPS AUSTRALIAN OIL COMPANY
CLIENT_OP_CO	= PHILLIPS AUSTRALIAN OIL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE600365

This is an enclosure indicator page.
The enclosure PE600365 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600365 has the following characteristics:

ITEM-BARCODE	**= PE600365**
CONTAINER_BARCODE	**= PE902250**
NAME	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 1**
BASIN	**= OTWAY**
PERMIT	= VIC/P14
TYPE	**= WELL**
SUBTYPE	**= SYNTH_SEISMOGRAM**
DESCRIPTION	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 1**
REMARKS	**= ***
DATE-CREATED	= 3/01/84
DATE-RECEIVED	= 7/06/84
W_NO	**= W831**
WELL-NAME	**= BRIDGEWATER BAY-l**
CONTRACTOR	**=**
CLIENT_OP_CO	**= PHILLIPS AUSTRALIAN OIL COMPANY**

(Inserted by DNRE – Vic **Govt Mines Dept)**

PE600366

This is an enclosure indicator page.
The enclosure PE600366 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600366 has the following characteristics:

ITEM-BARCODE	**= PE600366**
CONTAINER_BARCODE	**= PE902250**
NAME	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 4**
BASIN	**= OTWAY**
PERMIT	= VIC/P14
TYPE	**= WELL**
SUBTYPE	**= SYNTH_SEISMOGRAM**
DESCRIPTION	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 4**
REMARKS	**= ***
DATE-CREATED	= 3/01/84
DATE-RECEIVED	= 7/06/84
W_NO	**= W831**
WELL-NAME	**= BRIDGEWATER BAY-l**
CONTRACTOR	**=**
CLIENT_OP_CO	**= PHILLIPS AUSTRALIAN OIL COMPANY**

(Inserted by DNRE - Vic **Govt Mines Dept)**

PE600367

This is an enclosure indicator page.
The enclosure PE600367 is enclosed within the container PE902250 at this location in this document.

The enclosure PE600367 has the following characteristics:

ITEM-BARCODE	**= PE600367**
CONTAINER_BARCODE	**= PE902250**
NAME	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 6**
BASIN	**= OTWAY**
PERMIT	= VIC/P14
TYPE	**= WELL**
SUBTYPE	**= SYNTH_SEISMOGRAM**
DESCRIPTION	**= BRIDGEWATER BAY 1 SYNTHETIC SEISMOGRAM ENCLOSURE 6**
REMARKS	**= ***
DATE-CREATED	= 3/01/84
DATE-RECEIVED	= 7/06/84
W_NO	**= W831**
WELL-NAME	**= BRIDGEWATER BAY-l**
CONTRACTOR	**=**
CLIENT_OP_CO	**= PHILLIPS AUSTRALIAN OIL COMPANY**

(Inserted by DNRE - Vic **Govt Mines Dept)**

PE900699

This is an enclosure indicator page.
The enclosure PE900699 **is enclosed within the container PE902250 at this location in this document.**

The enclosure PE900699 has the following characteristics:

ITEM-BARCODE	**PE900699**
CONTAINER_BARCODE	**PE902250**
NAME	**BRIDGEWATER BAY 1 INTERPRETATION OF SYNTHETIC SEISMOGRAM ENCLOSURE 5**
BASIN	**OTWAY**
PERMIT	VIC/P14
TYPE	**WELL**
SUBTYPE	**SYNTH_SEISMOGRAPH**
DESCRIPTION	**INTERPRETATION OF SYNTHETIC SEISMOGRAM ENCLOSURE 5**
REMARKS	*
DATE-CREATED	28/02/84
DATE-RECEIVED	
W_NO	**W831**
WELL-NAME	**Bridgewater Bay 1**
CONTRACTOR	
CLIENT_OP_CO	**PHILLIPS AUSTRALIAN OIL COMPANY**

(Inserted by DNRE - Vic **Govt Mines Dept)**