

★  
**NORSKE MURPHY OIL COMPANY**

FORRETNINGSAVDELING AV UTENLANDSK AKSJESELSKAP

---

Mr. O. Christiansen

27 March, 1969

*I like sketch  
for log.*

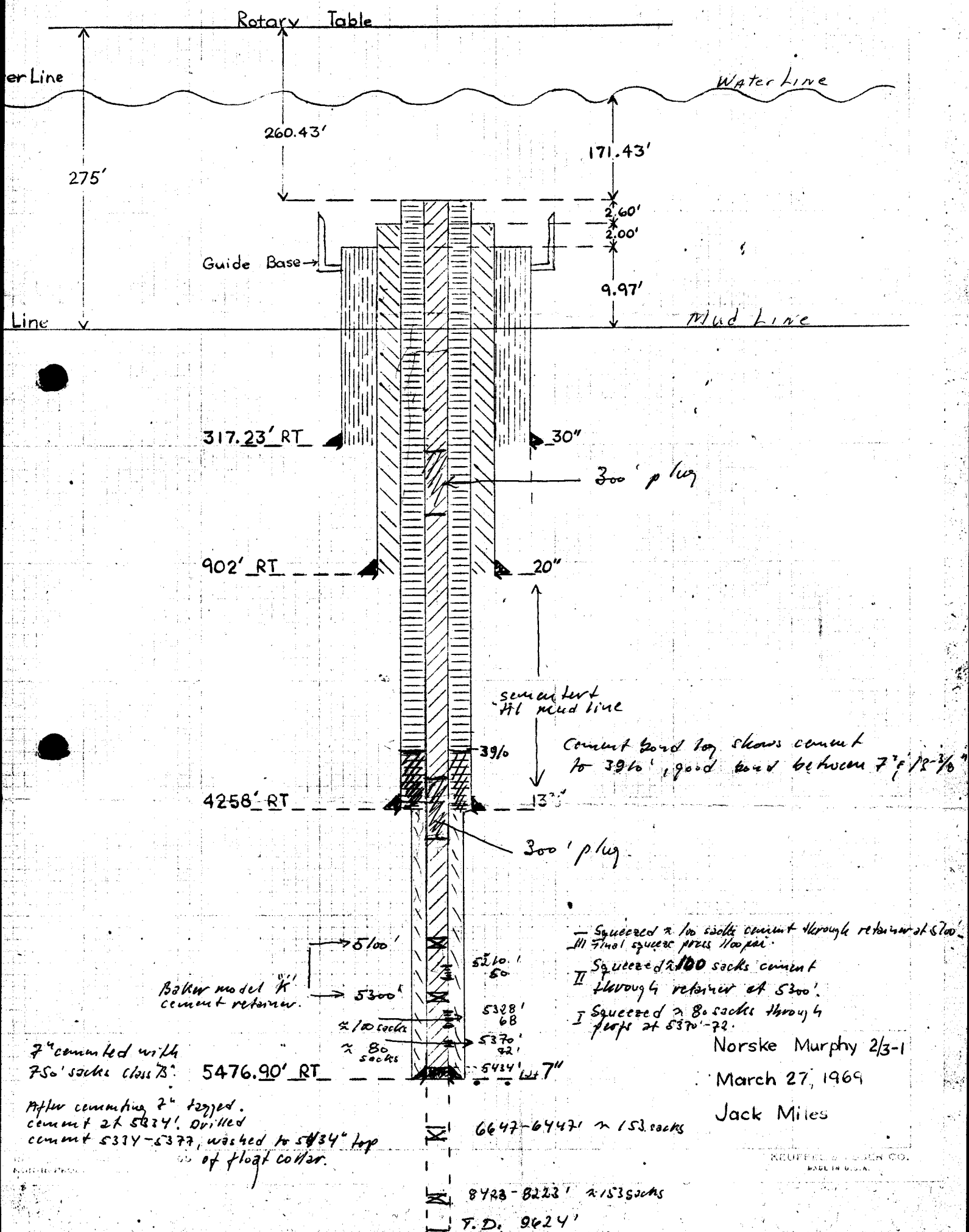
2. Permanent Abandonment.
  - a. Test lower zone.
  - b. Set CI retainer and squeeze off lower zone perforations.
  - c. Perforate and test upper zone.
  - d. Set CI retainer and squeeze off upper zone perforations.
  - e. Set 200' cement plug.  
(100' above and below the 13 3/8 shoe)
  - f. Set 200' cement plug from +200' below mud line to -400' below mud line.
  - g. Cut off and salvage everything 15' b. m. l.

Enclosed is a detailed sketch of pipe and guide base.

Sincerely yours,



Jack Miles  
Norske Murphy Oil Co.



Rotary Table

er Line

Water Line

275'

260.43'

171.43'

Guide Base

2.60'

2.00'

9.97'

Line v

Mud Line

317.23' RT

30"

300' plug

902' RT

20"

sement  
#1 mud line

Cement bond log shows cement to 3960', good bond between 7' & 12-3/4'

4258' RT

3960'

13"

300' plug

Baker model K cement retainer

7500'

5300'

~ 100 sacks

~ 80 sacks

5160'

60

5328'

68

5370'

92

5434'

1st 7"

- I Squeezed ~ 100 sacks cement through retainer at 5200'. All final squeeze press 1100 psi.
- II Squeezed ~ 100 sacks cement through retainer at 5300'.
- I Squeezed ~ 80 sacks through pumps at 5370'-72.

7" cemented with 750' sacks class B: 5476.90' RT

After cementing 7" tagged cement at 5374'. Drilled cement 5374-5377, washed to 5434' top of float collar.

6647-6447' ~ 153 sacks

8423-8223' ~ 153 sacks

T.D. 9624'

Norske Murphy 2/3-1

March 27, 1969

Jack Miles

★  
**NORSKE MURPHY OIL COMPANY**

FORRETNINGSAVDELING AV UTENLANDSK AKSJESELSKAP

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<b>ID / OLJE</b>
<b>00295 *28.3.69</b>
SAKSBI: <i>OKC</i>
ARKIV: <i>450 M-56</i>

27 March, 1969

Mr. O. Christiansen  
Ministry of Industry  
Akersgt. 42  
Oslo - Dep.

The two methods of abandonment of the Norske Murphy 2/3-1 are:

1. Temporary Abandonment.
  - a. Test lower zone.
  - b. Set CI retainer and squeeze off lower zone perforations.
  - c. Perforate and test upper zone.
  - d. Set CI retainer and squeeze off upper zone perforations.
  - e. Set 200' cement plug  
(100' above and below the 13 3/8 shoe).
  - f. Set 200' cement plug from  $\pm$  200' below mud line to  $\pm$  400' below mud line.
  - g. Set pinger on structure.
  - h. Set corrosion cap and unwater buoy 100' below water.

continued/

Mr. O. Christiansen

27 March 1969

2. Permanent Abandonment

- a. Test lower zone.
- b. Set CI retainer and squeeze off lower.
- c. Perforate and test upper zone.
- d. Set CI retainer and squeeze off upper zone perforation.
- e. Set 200' cement plug  
(100' above and below the 13 3/8 shoe).
- f. Set 200' cement plug from  $\pm$  200' below mud line  
to  $\pm$  400' below mud line.
- g. Cut off and salvage everything  $\pm$  15' below mud line.

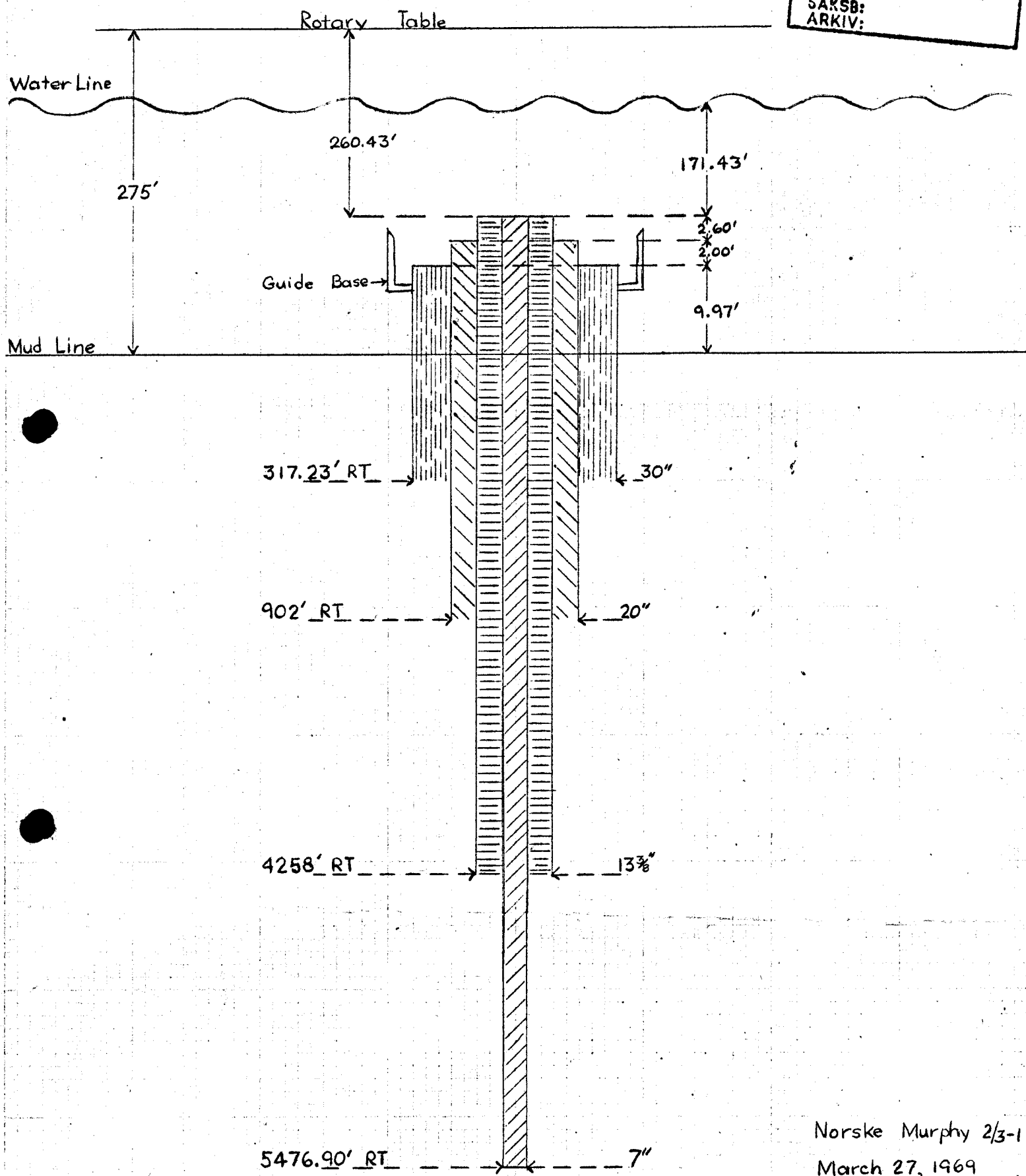
Enclosed is a detailed sketch pipe and guide base.

Sincerely yours



Jack Miles  
Norske Murphy Oil Co.

**ID/OLJE**  
**00295 \*28.3.69**  
 SAKSB:  
 ARKIV:



Norske Murphy 2/3-1  
 March 27, 1969  
 Jack Miles

783/70

REPORT ON DEMOLITION OF WELLHEADS AT  
LOCATIONS 2/3-1 and 2/3-2  
FOR NORSKE-MURPHY OIL COMPANY

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REPORT ON DEMOLITION OF WELLHEADS AT  
LOCATIONS 2/3-1 and 2/3-2  
FOR NORSKE-MURPHY OIL COMPANY

---

Introduction

It will be recalled that this operation was initiated in the latter part of last year, but was called off as a result of unfavourable weather conditions.

Resumption took place on 7th June, 1970, and the operation lasted through to 19th June.

The objective was to complete a demolition of the wellheads which remained subsequent to drilling at locations 2/3-1 and 2/3-2. It is considered that these objectives were satisfactorily achieved.

Personnel

A diving team comprised on one diving supervisor, an explosives expert and three divers were mobilized for this operation.

Equipment

Standard air diving equipment was used, both surface demand and standard gear.

The operation was carried out from the M.V. 'Jacomina' under charter from Smit McLaren Limited.

Operation Summary

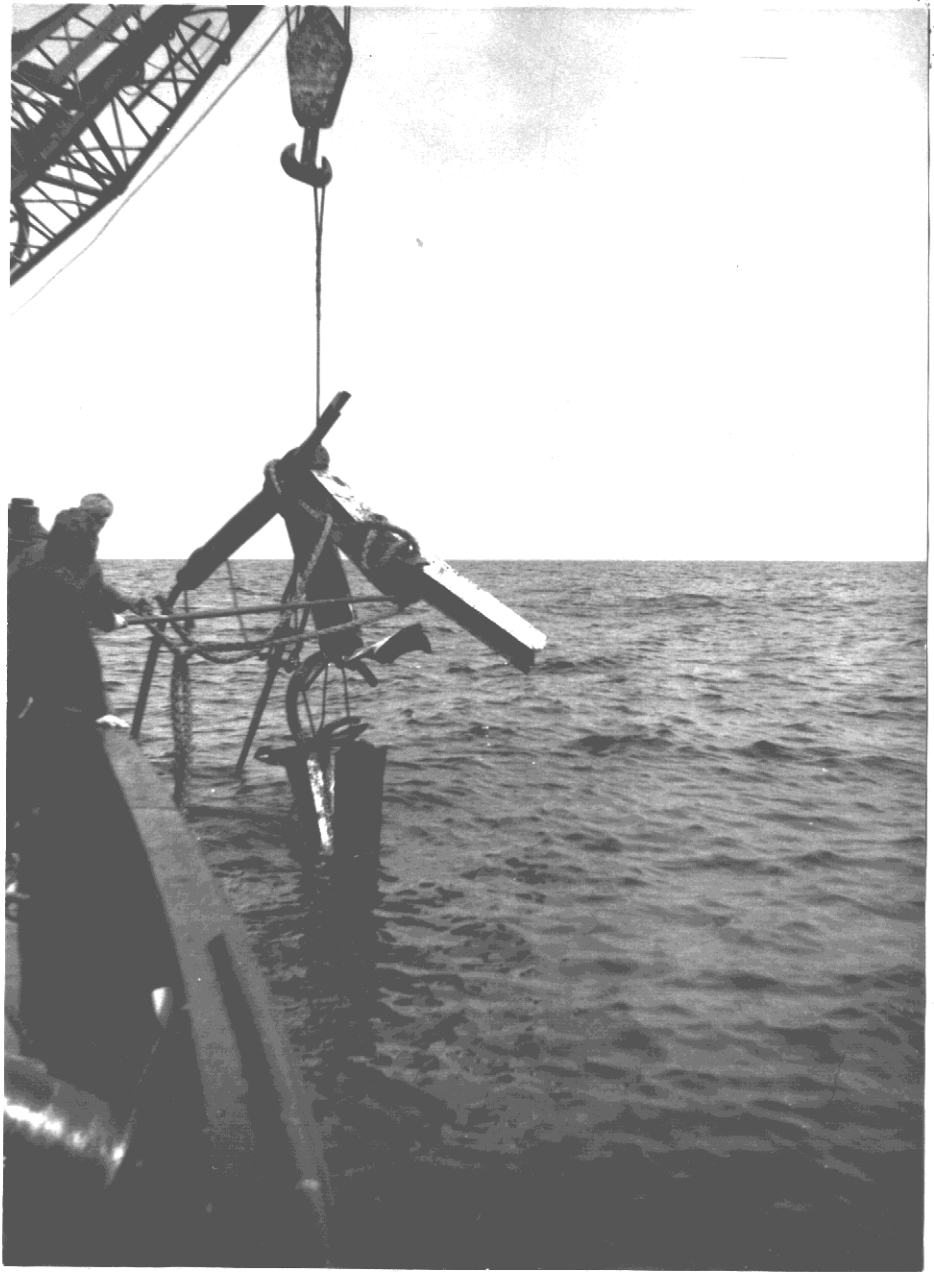
No undue difficulties were encountered. Well no. 2/3-2 was found to have fractures around the 30" casing and permanent guide base. The explosion, although placed well below the sea-bed profile, as indicated in Fig. 1, was sufficient to completely demolish all components of the wellhead above the water. Subsequently, all the larger pieces were recovered at the surface, see photograph.

The operation at location 2/3-1 was exactly similar to the previous task and the procedures used were identical. Sonar profiles show pieces of the wellhead scattered on the bottom subsequent to demolition.

Details of the operations at each well location are given in Appendix I, which is a copy of the certificates actually issued on the job site. Data pertaining to individual dives is given as Appendix II.

  
DIVCON INTERNATIONAL INC.

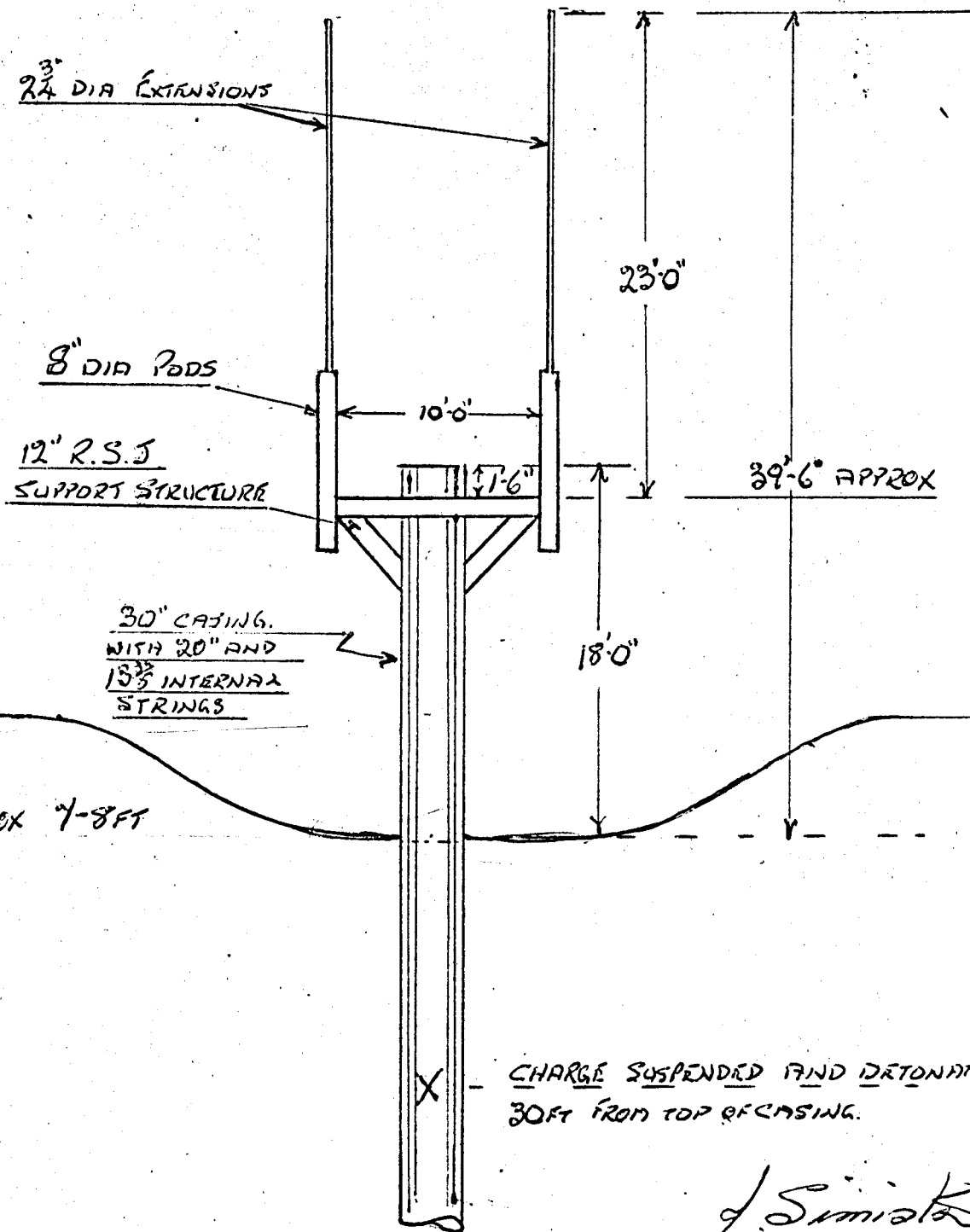




RECOVERY OF DEMOLISHED WELLHEAD  
LOCATION 2/3-2

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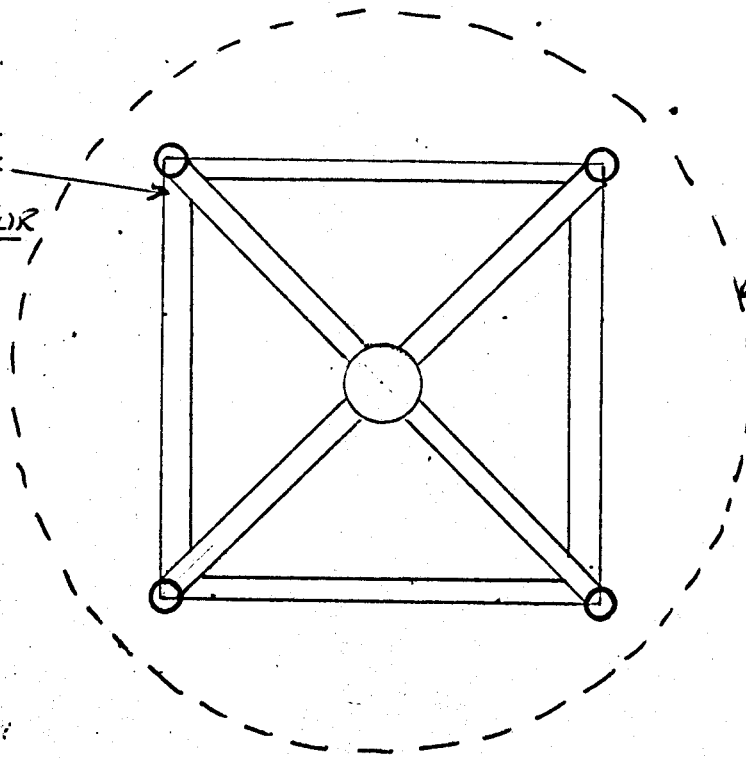
ELEVATION OF WELL N<sup>o</sup> 2/3.2 PRIOR TO DEMOLITION



*J. Simister*

PLAN OF WELL N° 2/3.2. PRIOR TO DEMOLITION

SUPPORT STRUCTURE  
APPROX 16'6" ABOVE SCOUR  
8'6" ABOVE MEAN SEA-  
-BED LEVEL



SCOUR APPROX 30 FT  
DIA. AROUND 30" CASING  
4-8 FT DEEP

AFTER DEMOLITION ON INSPECTION IT WAS FOUND THAT THE WELL HAD DISINTEGRATED. THE ONLY SALVAGABLE PARTS BEING TWO PODS AND PIECES OF SUPPORT STRUCTURE, THE REST BEING SCATTERED ABOUT ON THE SEABED IN SMALL FRAGMENTS.

*J. S. Smith*

APPENDIX I

INTER-OFFICE CORRESPONDENCE

DIVCON INTERNATIONAL

To:

Date:

From:

Subject:

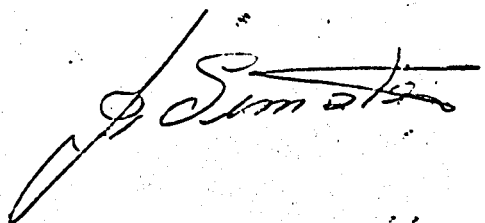
REPORT ON DEMOLITION OF NORSE MURPHY WELLS:

N<sup>os</sup> 2/3.2. 2/3.1.

WELL: N<sup>o</sup> 2/3.2. DEMOLISHED 15.45 HRS 11.6.70

ON INSPECTION BY DIVERS OF THIS WELL IT WAS NOTED THAT THERE WERE FRACTURES AROUND THE 30" CASING PROBABLY CAUSED BY THE DEMOLITION CHARGE LAYED AND DETONATED IN AUGUST 1969.

THE "HIGHLAND BAKER" REPORTED THAT THE WELL WAS PROTRUDING 30FT ABOVE SEABED. THIS WAS DUE TO THE EXTENSIONS ON THE GUIDE PITS. THE ACTUAL LENGTH OF THE CASING <sup>WAS</sup> 10FT ABOVE TWIN SEA BED LEVEL. A CHARGE WAS PLACED AND SUSPENDED APPROX 30FT INTO THE 13 3/8" CASING. AFTER DETONATION AN INSPECTION DIVE WAS CARRIED OUT WITH A VIEW TO RECOVERY OF THE WELLSHEAD BUT COMPLETE DISINTEGRATION HAD OCCURED AND ALL THAT WAS RECOVERABLE WAS TWO GUIDE POSTS AND PART OF THE SUPPORT STRUCTURE THIS WAS LIFTED AND BROUGHT ASHORE ABOARD THE VESSEL "JACOMINA"



INTER-OFFICE CORRESPONDENCE

DIVCON INTERNATIONAL

To:

Date:

From:

Subject:

Well No 2/3.1.

WATER DEPTH 186FT. 15<sup>th</sup> JUNE 70

INSPECTION DIVE WAS MADE ON THE BELYS LAID BY THE  
NIMMO AND SIAZER. THE WELL WAS LOCATED AND A LINE SECURED  
TO IT. THE NIGHT ABOVE SEABED LEVEL WAS 8 FT ABOVE TO THE  
TOP OF THE 30" CASING AND THERE WAS NO CORROSION CAS ON.  
DUE TO THE WEATHER IT WAS DECIDED TO DETONATE THE  
CHARGE BEFORE LIFTING SLUGS WERE PLACED ON IT AND A CHARGE  
WAS PLACED IN THE 6" CASING BEING SUSPENDED 10 FT BELOW SEABED  
LEVEL THIS WAS DETONATED AT 15.15 HRS 16<sup>th</sup> JUNE.  
INSPECTION DIVE COULD BE MADE DUE TO THE STATE OF THE  
SEA BUT TO ENSURE THAT THE WELL WAS DETONATED A NUMBER OF  
READINGS WERE MADE OVER THE AREA WITH THE "ECHO" SOUNDER (SEE  
ACCOMPANYING GRAPH) TO ASCERTAIN THAT THE WELL WAS DETONATED  
THE "ECHO" SOUNDER SHOWS THAT THE WELL IS DETONATED AND  
LYING ON THE SEABED IN THE SCOUR WHICH WAS APPROX 8 FT DEEP.

*S. Simister*

# DIVCON

INTERNATIONAL

COMPANY
2/3-2
LOCATION
PURCHASE ORDER

DIVER	Wilkes	TENDER	Manson
STANDBY	Burrows	TENDER	Cook
RANK OPERATOR		BOTTOM TIME	9 mins

LS	10.05						
RE							
BU	10.14						

**JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.**

The diver reported that there was insufficient air and the dive was called off after he reached 120'. A blockage was found at the non return end of the hose. This was cleared and diving resumed.

Large gear used.

BANK PRESSURE AT BEGINNING OF DIVE .....	_____	POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____	POUNDS
BANK PRESSURE END OF DIVE .....	_____	POUNDS

10th June 70

DATE

197'

WATER DEPTH

PIP TABLE

COMPANY

2/3-2

LOCATION

PURCHASE ORDER

# DIVCON

## INTERNATIONAL

DIVER	Burrows	TENDER	Manson
STANDBY	Cook	TENDER	
RAC OPERATOR		BOTTOM TIME	13 mins

LS:	11.34	A.10'	11.57			
RB:	11.37	L.10'	12.07			
BL:	11.47	A.S.	12.08			
30'	11.50					
30'	11.51					
20'	11.52					
20'	11.56					

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

Diver located the wellhead and secured a coreline line to it. Also checked the water depth and height of casing from seabed: 80 ft.

Narse gear used.

BANK PRESSURE AT BEGINNING OF DIVE .....	_____	POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____	POUNDS
BANK PRESSURE END OF DIVE .....	_____	POUNDS

COMPANY
2/3-2
LOCATION
PURCHASE ORDER

# DIVCON

## INTERNATIONAL

10th June, 1970
DATE
182'
WATER DEPTH
P/P TABLE

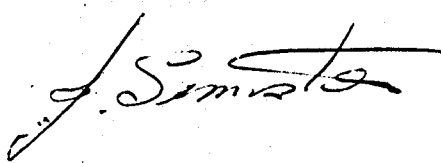
DIVER	Cooke	TENDER	Wilkes
STANDBY	Manson	TENDER	
RACK OPERATOR		BOTTOM TIME	9 mins

LS	12.32		A.S.	12.50			
RB	12.35						
BL	12.41						
.20'	12.44						
.20'	12.45						
.10'	12.46						
.10'	12.49						

**JOB REMARKS, ADDITIONAL EQUIPMENT, ETC.**

The diver secured a 6" corlene line on the structure around the wellhead for sending down the lifting wire and also examined the top of the 13<sup>3</sup>/<sub>8</sub> casing for damage for placing the charge in. No visible obstructions.

Large gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....	_____	POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____	POUNDS
BANK PRESSURE END OF DIVE .....	_____	POUNDS



10th June, 70

COMPANY

2/3-2

LOCATION

PURCHASE ORDER

# DIVCON INTERNATIONAL

DATE

182'

WATER DEPTH

PIP TABLE

DIVER **Manson**

TENDER **Cooke**

STANDBY **Wilkes**

TENDER

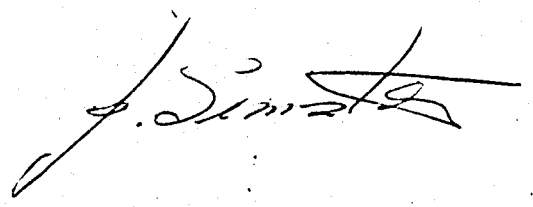
RANK OPERATOR

BOTTOM TIME **10 mins**

LS	15.44		A.S.	16.09			
RB	15.49						
BL	15.54						
A.20'	15.56						
L.20'	16.00						
A.10'	16.01						
L.10'	16.08						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

An attempt was made to place a lifting wire on the wellhead but the wire is too heavy for the diver. The dive is called off and the wire lifted to surface for resetting  
 Large gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....

BANK PRESSURE ON LEAVING BOTTOM .....

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

10th June, 1970

DATE

182'

WATER DEPTH

PIP TABLE

# DIVCON

INTERNATIONAL

COMPANY

2/3-2

LOCATION

PURCHASE ORDER

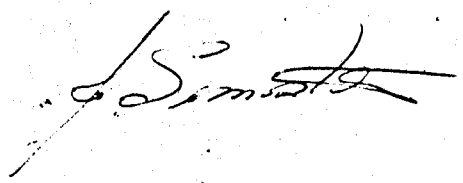
DIVER Wilkes	TENDER Burrows
STANDBY Cooke	TENDER
RACK OPERATOR	BOTTOM TIME 9 mins + 8 = 17 mins

LS:	17.05						
RB:	17.08						
BL:	17.13						
.S.	17.16						

### JOB REMARKS, ADDITIONAL EQUIPMENT, ETC.

The Diver attempted to place and secure the lifting wire on the casing but it is still too heavy for handling. As the diver left bottom he was overcome by C.O.2. The diver was brought to surface by P. Cooke (Standby) .. The diver complained of "niggles" in L.Elbow and he was put in R.Chamber.

Narse Gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....	_____	POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____	POUNDS
BANK PRESSURE END OF DIVE .....	_____	POUNDS

11th June 70

DATE

182'

WATER DEPTH

PIP TABLE

# DIVCON

## INTERNATIONAL

COMPANY

2/3-2

LOCATION

PURCHASE ORDER

DIVER Cooke

TENDER Manson

STANDBY Burrows

TENDER Wilkes

RACK OPERATOR

BOTTOM TIME 10 mins

L	09.46		A.S.	10.15			
R	09.49						
B	09.56						
A. 20'	10.02						
L. 20'	10.06						
A. 10'	10.07						
L. 10'	10.14						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

attempt was made to place the charge in the casing. Owing to the buoy wire being foul of the 6" corlene rope and shot rope the dive was called of as the charge could not be got down to the Well. Narse gear used.

BANK PRESSURE AT BEGINNING OF DIVE .....

BANK PRESSURE ON LEAVING BOTTOM .....

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

11th June 70

DATE

182'

WATER DEPTH

PIP TABLE

COMPANY

2/3-2

LOCATION

PURCHASE ORDER

# DIVCON

INTERNATIONAL

DIVER Wilkes

STANDBY Manson

RANK OPERATOR

TENDER Burrows

TENDER Cooke

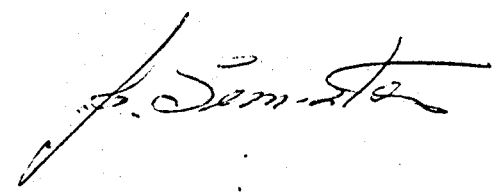
BOTTOM TIME 10 mins

LS	12.02						
RB	12.05						
BL	12.12						
A.20'	12.15						
A.10'	12.20						
A.5	12.28						

**JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.**

The diver was sent down to clear the foul lines but failed to do so

standard diving gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....

BANK PRESSURE ON LEAVING BOTTOM .....

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

11th June 70

DATE

182'

WATER DEPTH

PIP TABLE

A2

# DIVCON

## INTERNATIONAL

COMPANY
2/3-2
LOCATION
PURCHASE ORDER

**DIVER** Cooke

**STANDBY** Burrows

**RACK OPERATOR**

**TENDER** Manson

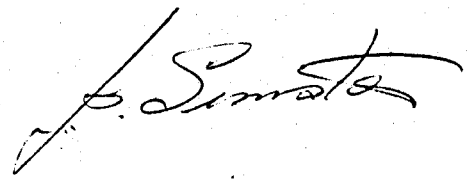
**TENDER** Wilkes

**BOTTOM TIME** 14 mins + 10 mins Total 24 mins

LS:	14.51		Surface	15.25½			
RB:	14.54		Chamber Bottom 20'	15.29			
BL:	15.05		L. 20'	15.40			
A. 30'	15.08		A. 10'	15.41			
L. 30'	15.13		L. 10'	16.06			
A. 20'	15.14		A. S.	16.07			
L. 20'	15.25						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

The diver placed the charge in the casing. Owing to the heavy swell, surface decompression was carried out. Standard diving gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....

BANK PRESSURE ON LEAVING BOTTOM .....

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

\_\_\_\_\_ POUNDS

COMPANY

LOCATION

PURCHASE ORDER

# DIVCON INTERNATIONAL

15th June 1970

DATE

197'

WATER DEPTH

P/P TABLE

DIVER Wilkes

TENDER Manson

STANDBY Burrows

TENDER Cooke

RANK OPERATOR

BOTTOM TIME 6 mins

LS	09.11						
RB	09.14						
BL	09.17						
.20'	09.21						
.10'	09.23						
.5	09.28						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

1 diver attempted to put a lifting wire on the wellhead for recovery and give a report of demolition. No success on the dive

Standard Gear used.

BANK PRESSURE AT BEGINNING OF DIVE .....

\_\_\_\_\_ POUNDS

BANK PRESSURE ON LEAVING BOTTOM .....

\_\_\_\_\_ POUNDS

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS

COMPANY
23-2
LOCATION
PURCHASE ORDER

# DIVCON

## INTERNATIONAL

15th June, 1970
DATE
197
WATER DEPTH
PIP TABLE

DIVER	Cooke	TENDER	Manson
STANDBY	Burrows	TENDER	Wilkes
RACK OPERATOR		BOTTOM TIME	14 mins

LS:	10.03						
RB:	10.05						
BL:	10.17						
A 30'	10.20						
A 20'	10.22						
A 10'	10.27						
A 6'	10.38						

**JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.**

The diver carried out an examination of the result of demolishing the wellhead and to secure lifting strops. His report is that the wellhead is completely shattered and all that can be recovered for evidence is part of the structure and pods. These were recovered.

Standard Diving Gear Used.

*[Handwritten Signature]*

BANK PRESSURE AT BEGINNING OF DIVE .....	_____	POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____	POUNDS
BANK PRESSURE END OF DIVE .....	_____	POUNDS

15th June 70

DATE

183'

WATER DEPTH

PIP TABLE

COMPANY

/3-1

LOCATION

PURCHASE ORDER

# DIVCON

INTERNATIONAL

DIVER Burrows

TENDER Cooke

STANDBY Manson

TENDER Wilkes

RACK OPERATOR

BOTTOM TIME 7 mins

LS	16.43						
RB	16.47						
BL	16.50						
.20'	16.53						
.10'	16.55						
.S.	16.59						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

The diver secured a down line to the wellhead and reported that there was no corrosion on it.

Parse diving gear used.

BANK PRESSURE AT BEGINNING OF DIVE .....

\_\_\_\_\_ POUNDS

BANK PRESSURE ON LEAVING BOTTOM .....

\_\_\_\_\_ POUNDS

BANK PRESSURE END OF DIVE .....

\_\_\_\_\_ POUNDS



16th June, 70

DATE

183'

WATER DEPTH

PIP TABLE

COMPANY

3-1

LOCATION

PURCHASE ORDER

# DIVCON

## INTERNATIONAL

DIVER	Wilkes	TENDER	Cooke
STANDBY	Burrows	TENDER	Manson
RACK OPERATOR	BOTTOM TIME 4 mins + 6 mins = 10 mins		

LS:	12.05	L.S.	12.26			
RB:	12.09	R.B.	12.29			
BL:	12.09	L.B.	12.32			
A.S.	12.12	A. 20'	12.35			
		A. 10'	12.37			
		A.S.	12.41			

**JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.**

An attempt was made to place the explosives in the wellhead, on the first dive the diver reported that the down line was snagged up. Nothing was achieved on the second diver either after being told how to overcome this contingency

Standard gear used.

*J. Simister*

BANK PRESSURE AT BEGINNING OF DIVE .....	_____ POUNDS
BANK PRESSURE ON LEAVING BOTTOM .....	_____ POUNDS
BANK PRESSURE END OF DIVE .....	_____ POUNDS

16th June 70

DATE

183'  
WATER DEPTH

P/P TABLE

COMPANY

3-1

LOCATION

PURCHASE ORDER

# DIVCON

INTERNATIONAL

DIVER Cooke

TENDER Manson

STANDBY Burroughs

TENDER Wilkes

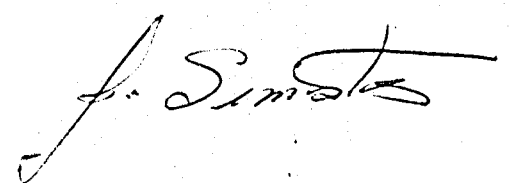
RANK OPERATOR

BOTTOM TIME 11 mins

LS	14.10						
RB	14.13						
BL	14.21						
A 20'	14.24						
A 10'	14.29						
A S	14.37						

### JOB, REMARKS, ADDITIONAL EQUIPMENT, ETC.

The Diver placed the demolition charge in the wellhead, the charge blown at 15.15 hrs.  
Standard gear used.



BANK PRESSURE AT BEGINNING OF DIVE .....  
BANK PRESSURE ON LEAVING BOTTOM .....  
BANK PRESSURE END OF DIVE .....

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ POUNDS

DEMOLISHED WELL 2/3.1

ANCHOR CABLE

DEMOLISHED WELL 2/3.1

