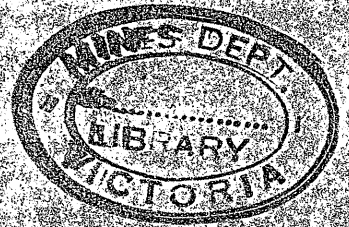


- 4 MAY 1961



VELOCITY SURVEY
OF
PORT CAMPBELL NO. 3
VICTORIA, AUSTRALIA
FOR
FROME-BROKEN HILL CO. PTY. LTD.

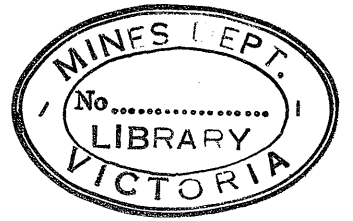
ATTACHMENT TO WCR
FOR PORT CAMPBELL-3

W465

ROBERT H. RAY Co.
2500 BOLSOVER
HOUSTON 5, TEXAS

W465

- 4 MAY 1961



VELOCITY SURVEY
OF
PORT CAMPBELL NO. 3
VICTORIA, AUSTRALIA
FOR
FROME-BROKEN HILL CO. PTY. LTD.

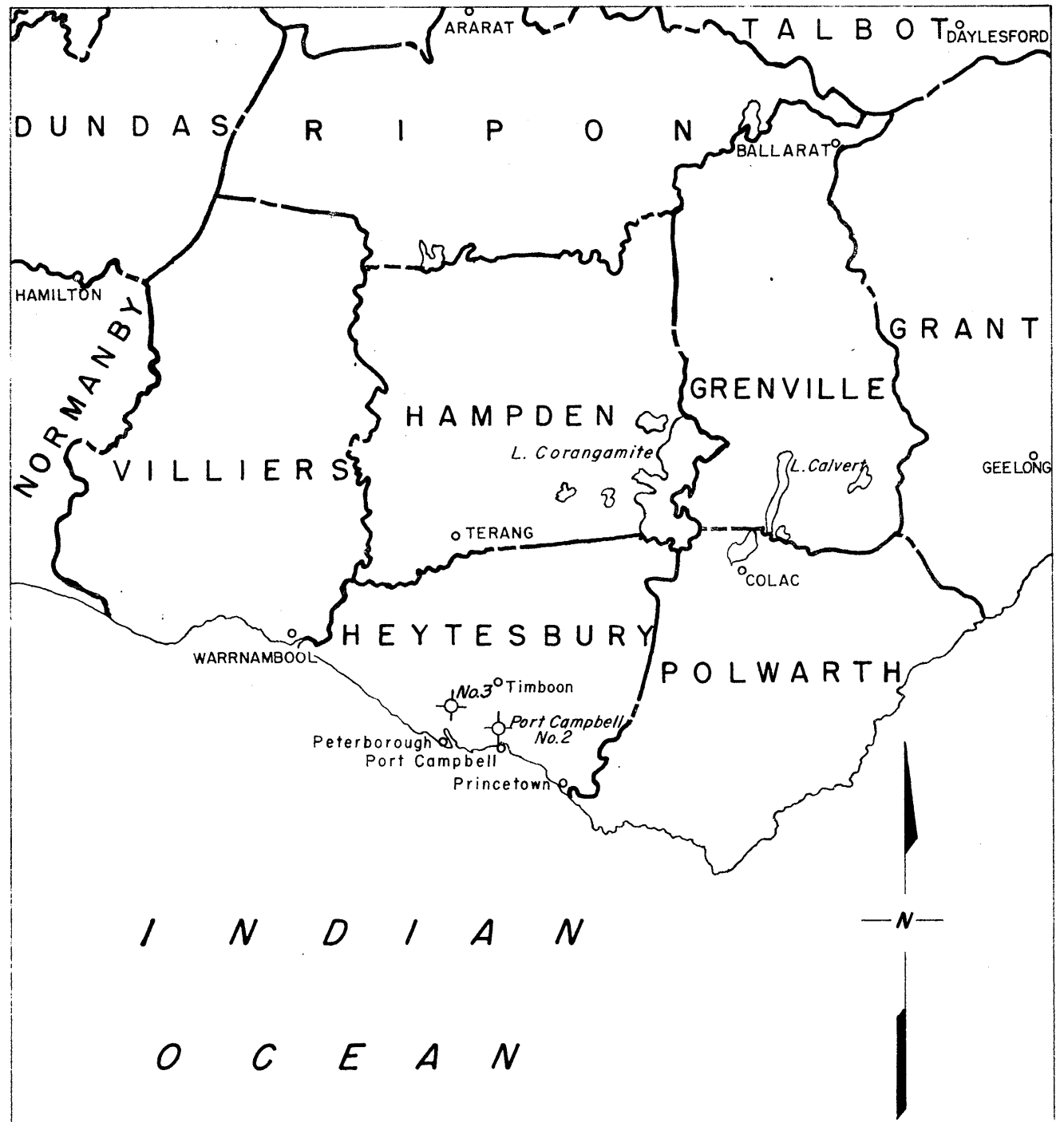
ROBERT H. RAY SERVICE COMPANY, INC.

HOUSTON, TEXAS

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- I. Index Map
- II. Summary of Survey
- III. Layout Diagram of Survey
- IV. Reduced Seismograms of Survey
 - Well Velocity Calculation Sheet
 - Well Velocity Summary Sheet
 - Graphic Presentation of Velocities
 - Plot of Refraction Arrivals from Reflection Seismograms*

*Reflection Seismograms are S.P.s 1164, 1165, 1166 and 1167 of Line 53



I N D I A N
O C E A N

LOCATION MAP
OF
PORT CAMPBELL No.3
VICTORIA, AUSTRALIA
FOR
FROME BROKEN HILL CO. PTY. LTD.
FEBRUARY, 1961

SUMMARY OF WELL VELOCITY SURVEY OF PORT CAMPBELL NO. 3

The velocity survey of Port Campbell No. 3 was conducted in accordance with specifications and standards of the Southern Well Shooting Association. This procedure is shown graphically by the layout diagram in this report.

Two shot holes were drilled to ninety feet in depth at Location No. 1 five hundred feet east of the well location and five holes of this depth were drilled at No. 2 location placed five hundred feet to the west. The holes were set out in an arc array with a spacing of twenty five feet between them. Shot hole charges varied from five to twenty five pounds of dynamite in single holes, the mean depth of charge being used for calculations.

Since the location of the well falls near the intersection of Lines 42 and 53 of the exploratory survey a reflection spread was not secured across the well. Weathering information was obtained from the plots of three spreads shot north-south along Line 53 adjacent to the location. The first arrivals from these spreads show an interface velocity of 7000 feet per second; this velocity has been used in the computation of results to a datum of +210 feet.

The data secured are of excellent quality. The records from three shallow depth points show interference from casing and, or, cable breaks which were easily distinguished from the true breaks. A

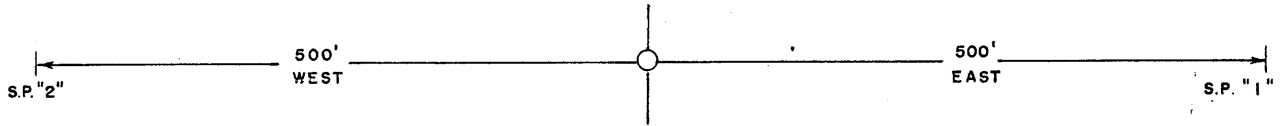
uniformly increasing velocity with depth has resulted, the only variation in interval velocities being through the Waarre section where a decrease is shown of approximately 10,600'/s through the Belfast Mudstone to 9,200'/s in the Waarre.

Respectfully submitted,

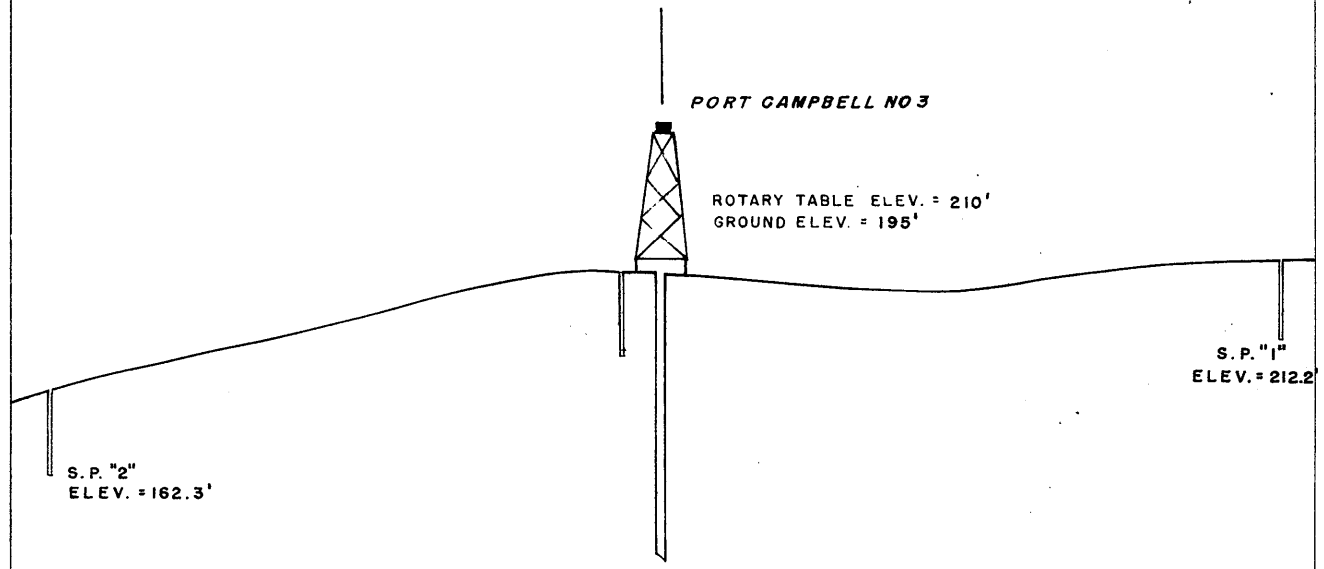
ROBERT H. RAY SERVICE COMPANY, INC.

By Francis Sewell, Party Chief

February 26, 1961



NOTE: FIVE SHOT HOLES AT LOCATION "2" 25' APART
 UP-HOLE SEISMOMETER 10 FEET FROM HOLE
 REFERENCE GEOPHONE 20 FEET NORTH OF WELL
 TWO SHOT HOLES AT LOCATION "1" 25' APART



PORT CAMPBELL NO 3
 ROTARY TABLE ELEV. = 210'
 GROUND ELEV. = 195'

ALL WELL GEOPHONE DEPTHS ARE
 MEASURED FROM ROTARY TABLE

LAYOUT AND DIAGRAM
 OF THE
 VELOCITY SURVEY
PORT CAMPBELL No.3
VICTORIA, AUSTRALIA
 FOR
FROME BROKEN HILL CO. PTY. LTD.
 FEBRUARY, 1961

PE907161

This is an enclosure indicator page.
The enclosure PE907161 is enclosed within the container
PE907160 at this location in this document.

The enclosure PE907161 has the following characteristics:

ITEM_BARCODE = PE907161
CONTAINER_BARCODE = PE907160
 NAME = Well Velocity Calculation Form
 BASIN =
 PERMIT =
 TYPE = WELL
 SUBTYPE = VELOCITY_CHART
DESCRIPTION = Well Velocity Calculation Form,
 (Enclosure from Velocity Survey
 Report), by Frome-Broken Hill Co., for
 Port Campbell-3
REMARKS =
DATE_CREATED = 26/02/1961
DATE_RECEIVED =
 WELL_NO = W465
 WELL_NAME = Port Campbell-3
CONTRACTOR =
CLIENT_OP_CO = Frome-Broken Hill Co.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907162

This is an enclosure indicator page.
The enclosure PE907162 is enclosed within the
container PE907160 at this location in this
document.

The enclosure PE907162 has the following characteristics:

ITEM_BARCODE = PE907162
CONTAINER_BARCODE = PE907160
NAME = Well Velocity Summary Sheet
BASIN = OTWAY
PERMIT = PEP6
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Well Velocity Survey Summary Sheet,
(Enclosure from Velocity Survey),
Surveyed by Robert H. Ray Service
Company Inc., 26 February 1961, for Port
Campbell-3
REMARKS =
DATE_CREATED = 26/02/61
DATE_RECEIVED = 4/05/61
W_NO = W465
WELL_NAME = PORT CAMPBELL-3
CONTRACTOR = ROBERT H. RAY SERVICE CO
CLIENT_OP_CO = FROME-BROKEN HILL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE907163

This is an enclosure indicator page.
The enclosure PE907163 is enclosed within the
container PE907160 at this location in this
document.

The enclosure PE907163 has the following characteristics:

ITEM_BARCODE = PE907163
CONTAINER_BARCODE = PE907160
NAME = Refraction Breaks Diagram
BASIN = OTWAY
PERMIT = PEP6
TYPE = SEISMIC
SUBTYPE = CHART
DESCRIPTION = Refraction Breaks Diagram, (Enclosure
from Velocity Survey), for Port
Campbell-3
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 4/05/61
W_NO = W465
WELL_NAME = PORT CAMPBELL-3
CONTRACTOR =
CLIENT_OP_CO = FROME-BROKEN HILL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE907164

This is an enclosure indicator page.
The enclosure PE907164 is enclosed within the
container PE907160 at this location in this
document.

The enclosure PE907164 has the following characteristics:

ITEM_BARCODE = PE907164
CONTAINER_BARCODE = PE907160
NAME = Velocity Survey Traces, 1 of 2
BASIN = OTWAY
PERMIT = PEP6
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Velocity Survey Field Traces, 1 of 2,
(Enclosure from Velocity Survey), for Port Campbell-3
REMARKS =
DATE_CREATED = 26/02/61
DATE_RECEIVED =
W_NO = W465
WELL_NAME = PORT CAMPBELL-3
CONTRACTOR =
CLIENT_OP_CO = FROME-BROKEN HILL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)

PE907165

This is an enclosure indicator page.
The enclosure PE907165 is enclosed within the
container PE907160 at this location in this
document.

The enclosure PE907165 has the following characteristics:

ITEM_BARCODE = PE907165
CONTAINER_BARCODE = PE907160
NAME = Velocity Survey Traces, 2 of 2
BASIN = OTWAY
PERMIT = PEP6
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Velocity Survey Field Traces, 2 of 2,
(Enclosure from Velocity Survey), for Port Campbell-3
REMARKS =
DATE_CREATED = 26/02/61
DATE_RECEIVED =
W_NO = W465
WELL_NAME = PORT CAMPBELL-3
CONTRACTOR =
CLIENT_OP_CO = FROME-BROKEN HILL COMPANY

(Inserted by DNRE - Vic Govt Mines Dept)