

DEPT. NAT. RES & ENV



PE905810

# ENCLOSURES FROM

SHELL DEVELOPMENT AUSTRALIA PTY LTD

ENCLOSUES TO WCR  
HAWKESDALE-1  
(W570)

PE905811

This is an enclosure indicator page.  
The enclosure PE905811 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905811 has the following characteristics:

ITEM\_BARCODE = PE905811  
CONTAINER\_BARCODE = PE905810  
NAME = Seismic Section for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = SEISMIC  
SUBTYPE = SECTION  
DESCRIPTION = Seismic Sections showing location of  
Moyné Falls-1 and Hawkesdale-1 in  
relation to structure (enclosure 1a  
from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/02/70  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE905812

This is an enclosure indicator page.  
The enclosure PE905812 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905812 has the following characteristics:

ITEM\_BARCODE = PE905812  
CONTAINER\_BARCODE = PE905810  
NAME = Reflection Time Contours for Horizon P  
for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = SEISMIC  
SUBTYPE = HZN\_CONTR\_MAP  
DESCRIPTION = Otway Basin Reflection Time Contours  
for Horizon P (enclosure 1b from WCR)  
for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 30/09/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

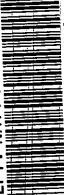
PE905813

This is an enclosure indicator page.  
The enclosure PE905813 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905813 has the following characteristics:

ITEM\_BARCODE = PE905813  
CONTAINER\_BARCODE = PE905810  
NAME = Reflection Time Contours for Horizon D  
for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = SEISMIC  
SUBTYPE = HZN\_CONTR\_MAP  
DESCRIPTION = Otway Basin Reflection Time Contours  
for Horizon D (enclosure 1c from WCR)  
for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 30/09/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)



PE905814

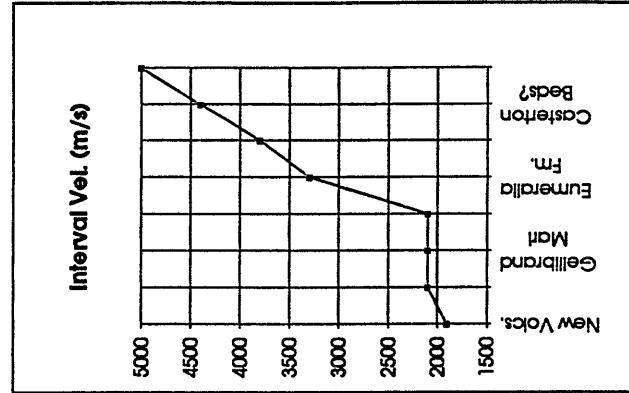
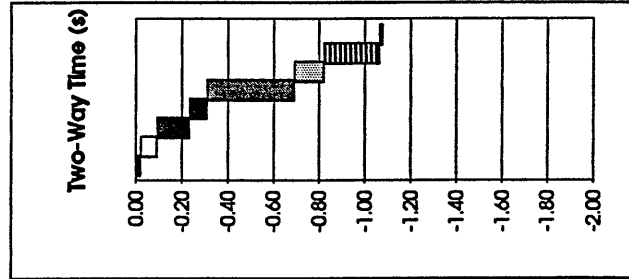
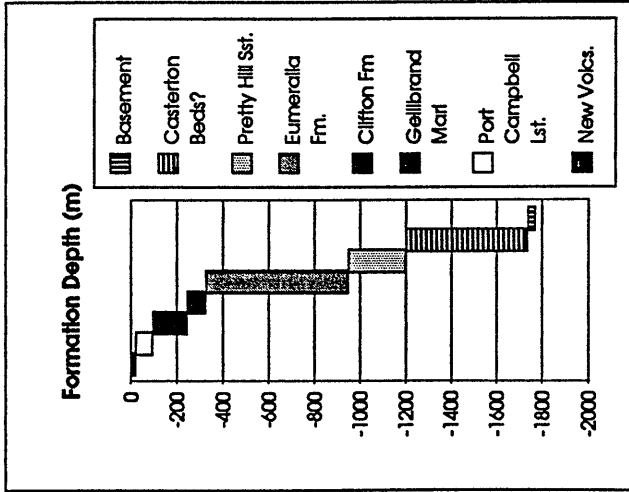
HAWKSD IT.XLS

**QIWAY BASIN**

Strat. log by - S. Tickell et al. (GS) 1991  
 Lat: -38.081388 Long: 142.298  
 KB Elev. (m ASL) 139 Grd. Elev. 135

**HAWKESDALE NO. 1**

Age	Unit	Remarks	Depth	Thickness	Int. Vel. (m/s)	T-time (s)	2-T-Time (s)	TWT Fm. top (s)
Pleist. - Recent	New Volcs.		-4	-22	1900	-0.01	-0.02	0.00
Miocene	Port Campbell Lst.	Heytesbury Gp.	-26	-72	2100	-0.03	-0.07	-0.02
Miocene	Gellibrand Marl		-98	-149	2100	-0.07	-0.14	-0.09
Miocene	Clifton Fm		-247	-82	2100	-0.04	-0.08	-0.23
E. Cret.	Eumeralla Fm.	Ohway Gp.	-329	-625	3300	-0.19	-0.38	-0.31
	Pretty Hill Sst.		-954	-251	3800	-0.07	-0.13	-0.69
	Casterton Beds?		-1205	-535	4400	-0.12	-0.24	-0.82
Paleozoic	Basement		-1740	-34	5000	-0.01	-0.01	-1.07
		ID	-1774	-1770		-0.54		-1.08



PE905815

This is an enclosure indicator page.  
The enclosure PE905815 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905815 has the following characteristics:

ITEM\_BARCODE = PE905815  
CONTAINER\_BARCODE = PE905810  
NAME = Velocity Function graph for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Well Velocity Function Graph (enclosure  
1e from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 31/03/70  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE905816

This is an enclosure indicator page.  
The enclosure PE905816 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905816 has the following characteristics:

ITEM\_BARCODE = PE905816  
CONTAINER\_BARCODE = PE905810  
NAME = Structural Section for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_CORRELATION  
DESCRIPTION = Structural Section of Pretty Hill-1,  
Moyne Falls-1, Hawkesdale-1 and  
Woolsthorpe-1 (enclosure 2a from WCR)  
for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/02/70  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)



PE905817

This is an enclosure indicator page.  
The enclosure PE905817 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905817 has the following characteristics:

ITEM\_BARCODE = PE905817  
CONTAINER\_BARCODE = PE905810  
NAME = Geological Section before and after  
drilling for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = CROSS\_SECTION  
DESCRIPTION = Geological Section before and after  
drilling (enclosure 2b from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 31/03/70  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE905818

This is an enclosure indicator page.  
The enclosure PE905818 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE905818 has the following characteristics:

ITEM\_BARCODE = PE905818  
CONTAINER\_BARCODE = PE905810  
NAME = E' Lg Correlation in Otway Group for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_CORRELATION  
DESCRIPTION = E' Log Correlation in Otway Group  
(enclosure 2c from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 31/03/70  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR =  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE601480

This is an enclosure indicator page.  
The enclosure PE601480 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE601480 has the following characteristics:

ITEM\_BARCODE = PE601480  
CONTAINER\_BARCODE = PE905810  
NAME = Composite Well Log sheet 1 of 2  
BASIN = OTWAY  
PERMIT = PEP 5  
TYPE = WELL  
SUBTYPE = COMPOSITE\_LOG  
DESCRIPTION = Composite Well Log, Sheet 1 of 2  
(enclosure from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 30/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = Hawkesdale-1  
CONTRACTOR = SHELL DEVELOPMENT (AUSTRALIA) PTY LTD  
CLIENT\_OP\_CO = SHELL/FROME-BROKEN HILL PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE601481

This is an enclosure indicator page.  
The enclosure PE601481 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE601481 has the following characteristics:

ITEM\_BARCODE = PE601481  
CONTAINER\_BARCODE = PE905810  
NAME = Composite Well Log sheet 2 of 2  
BASIN = OTWAY  
PERMIT = PEP 5  
TYPE = WELL  
SUBTYPE = COMPOSITE\_LOG  
DESCRIPTION = Composite Well Log, Sheet 2 of 2  
(enclosure from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 30/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = Hawkesdale-1  
CONTRACTOR = SHELL DEVELOPMENT (AUSTRALIA) PTY LTD  
CLIENT\_OP\_CO = SHELL/FROME-BROKEN HILL PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604447

This is an enclosure indicator page.  
The enclosure PE604447 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604447 has the following characteristics:

ITEM\_BARCODE = PE604447  
CONTAINER\_BARCODE = PE905810  
NAME = Induction Electrical log (1:200) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Electrical Induction Log, 1:200,  
(enclosure 4b from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 13/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604448

This is an enclosure indicator page.  
The enclosure PE604448 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604448 has the following characteristics:

ITEM\_BARCODE = PE604448  
CONTAINER\_BARCODE = PE905810  
NAME = Induction Electrical log (1:500) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Electrical Induction Log, 1:500,  
(enclosure 4a from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 13/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604449

This is an enclosure indicator page.  
The enclosure PE604449 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604449 has the following characteristics:

ITEM\_BARCODE = PE604449  
CONTAINER\_BARCODE = PE905810  
NAME = Borehole Compensated Sonic Log-Gamma  
Ray (1:200) for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Borehole Compensated Sonic Log -Gamma  
Ray, 1:200, (enclosure 4d from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604450

This is an enclosure indicator page.  
The enclosure PE604450 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604450 has the following characteristics:

ITEM\_BARCODE = PE604450  
CONTAINER\_BARCODE = PE905810  
NAME = Borehole Compensated Sonic Log-Gamma  
Ray (1:500) for Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Borehole Compensated Sonic Log -Gamma  
Ray, 1:500, (enclosure 4c from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)



PE604451

This is an enclosure indicator page.  
The enclosure PE604451 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604451 has the following characteristics:

ITEM\_BARCODE = PE604451  
CONTAINER\_BARCODE = PE905810  
NAME = Formation Density Log (1:200) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Compensated Formation Density Log,  
1:200, (enclosure 4f from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 13/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604452

This is an enclosure indicator page.  
The enclosure PE604452 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604452 has the following characteristics:

ITEM\_BARCODE = PE604452  
CONTAINER\_BARCODE = PE905810  
NAME = Formation Density Log (1:500) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Compensated Formation Density Log,  
1:500, (enclosure 4e from WCR) for  
Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 13/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604453

This is an enclosure indicator page.  
The enclosure PE604453 is enclosed within the  
container PE905810 at this location in this  
document.

The enclosure PE604453 has the following characteristics:

ITEM\_BARCODE = PE604453  
CONTAINER\_BARCODE = PE905810  
NAME = Continuous Dipmeter (1:500) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Continuous Dipmeter, 1:500, (enclosure  
4g from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604454

This is an enclosure indicator page.  
The enclosure PE604454 is enclosed within the  
container PE905810 at this location in this  
document.

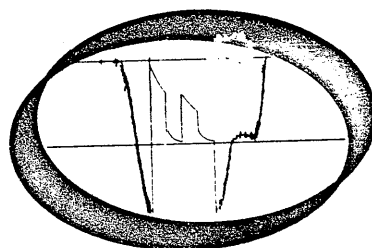
The enclosure PE604454 has the following characteristics:

ITEM\_BARCODE = PE604454  
CONTAINER\_BARCODE = PE905810  
NAME = Continuous Dipmeter (1:200) for  
Hawkesdale-1  
BASIN = OTWAY BASIN  
PERMIT = PEP/5  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Continuous Dipmeter, 1:200, (enclosure  
4g from WCR) for Hawkesdale-1  
REMARKS =  
DATE\_CREATED = 28/12/69  
DATE\_RECEIVED =  
W\_NO = W570  
WELL\_NAME = HAWKESDALE-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = SHELL DEVELOPMENT (AUS) PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

ENCLOSURE 5A:

# Formation Testing Service Report

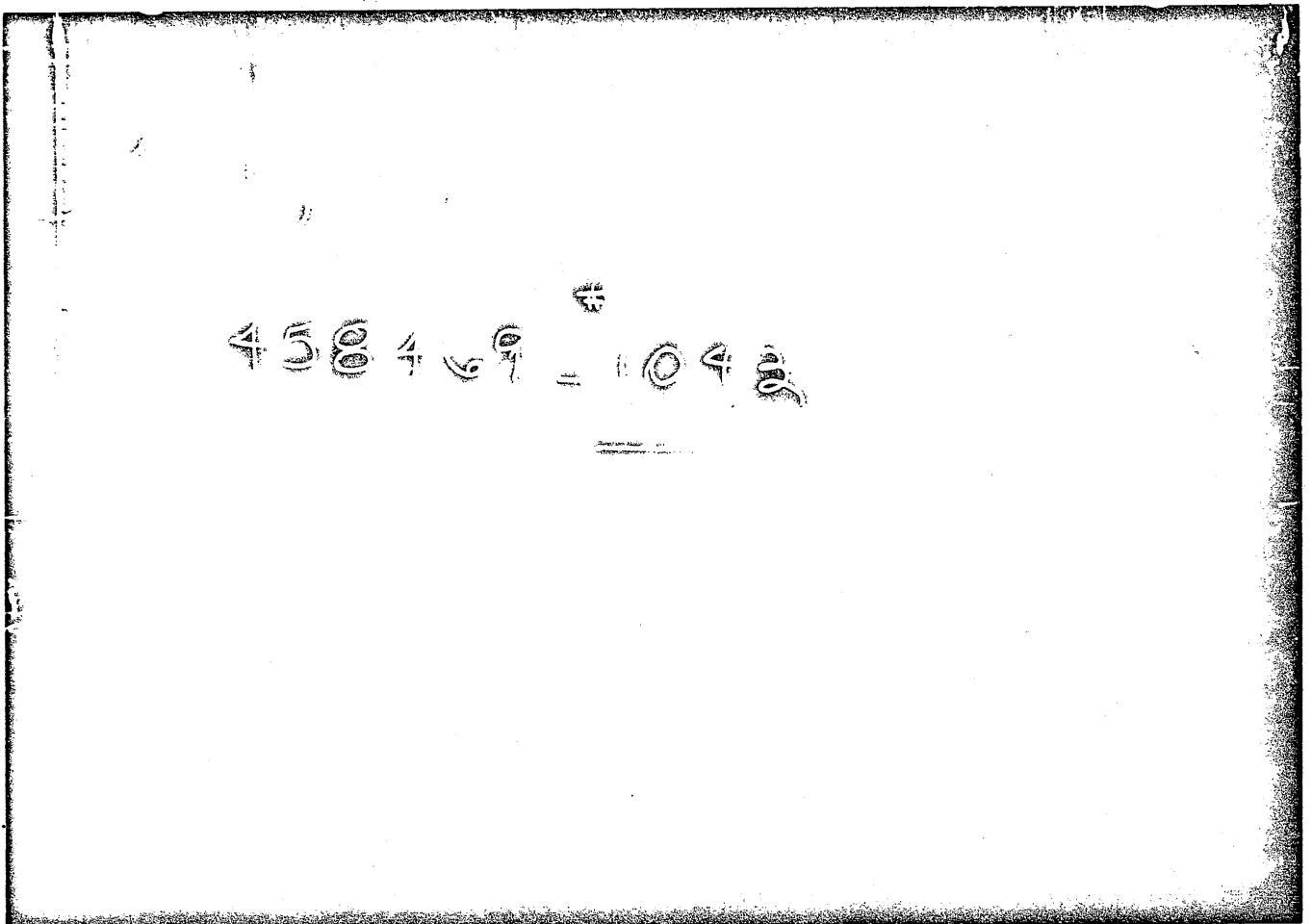
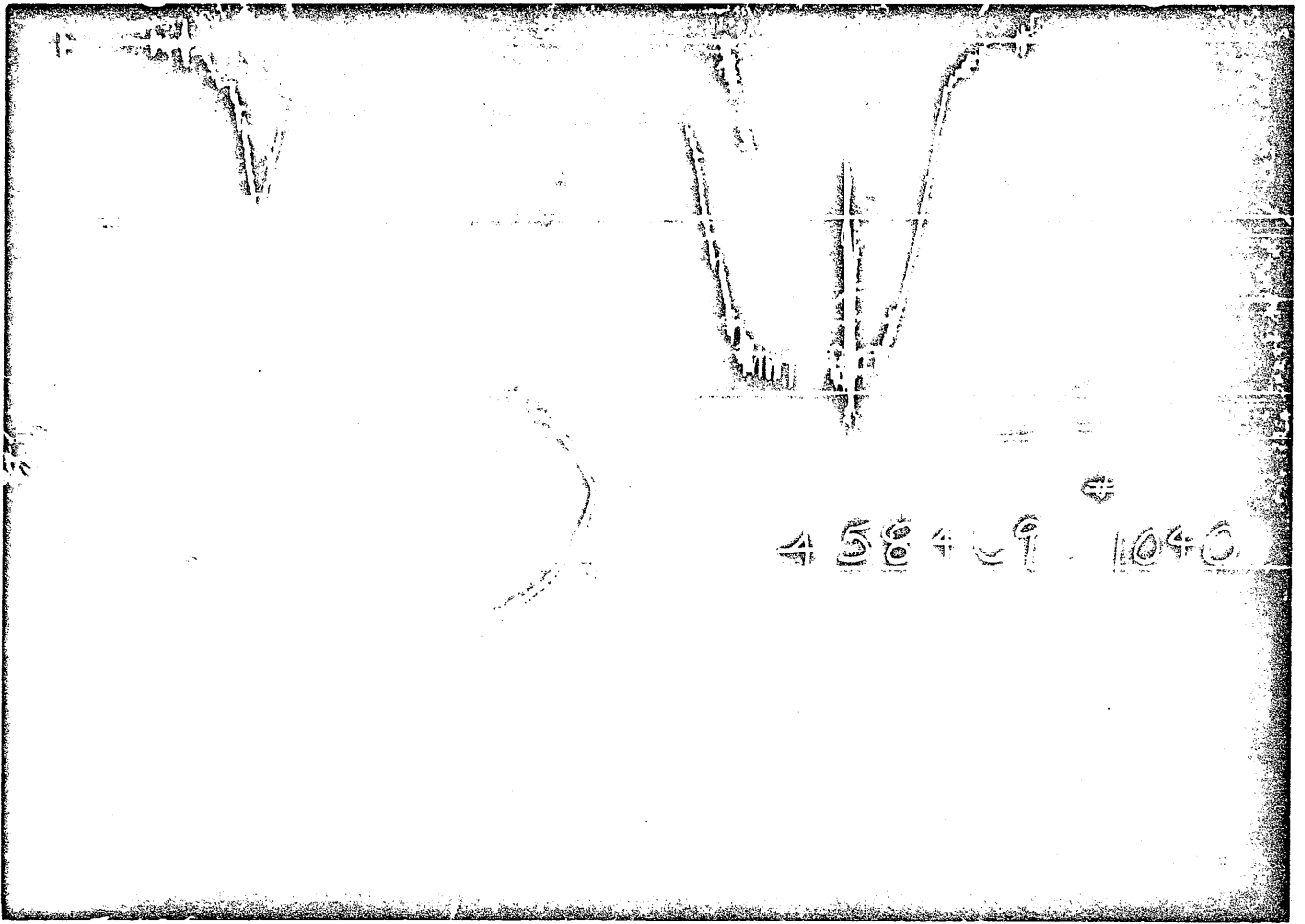


**HALLIBURTON SERVICES**

DUNCAN, OKLAHOMA

WCR HAWKESDALE No. 1

ENCL. 5a



Each Horizontal Line Equal to 1000 p.s.i.

**FLUID SAMPLER DATA**

Sampler Pressure \_\_\_\_\_ P.S.I.G. at Surface

Recovery, Cu. Ft. Gas \_\_\_\_\_  
 cc. Oil \_\_\_\_\_  
 cc. Water \_\_\_\_\_  
 cc. Mud \_\_\_\_\_  
 Tot. Liquid cc. \_\_\_\_\_

Gravity \_\_\_\_\_ ° API @ \_\_\_\_\_ °F.

Gas/Oil Ratio \_\_\_\_\_ cu. ft./bbl.

RESISTIVITY \_\_\_\_\_ CHLORIDE CONTENT \_\_\_\_\_

Recovery Water \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm

Recovery Mud \_\_\_\_\_ @ \_\_\_\_\_ °F.

Recovery Mud Filtrate \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm

Mud Pit Sample \_\_\_\_\_ @ \_\_\_\_\_ °F.

Mud Pit Sample Filtrate \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm

Mud Weight 10.2 vis 48 cp

Date 12-12-69 Ticket Number 458469

Kind of Job OPEN HOLE Halliburton District SALE

Tester BENNETT & BURGESS Witness VEENEMA

Drilling Contractor RICHTER BAWDEN NM

**EQUIPMENT & HOLE DATA**

Formation Tested Pretty Hill Sandstone

Elevation 420' Ft.

Net Productive Interval 73' Ft.

All Depths Measured From Kelly Bushing

Total Depth 3603' Ft.

Main Hole/Casing Size 8 3/4"

Drill Collar Length 443 I.D. 2 1/2"

Drill Pipe Length 3067 I.D. 3"

Packer Depth(s) 3528' Ft.

Depth Tester Valve 3513' Ft.

Cushion TYPE NONE AMOUNT \_\_\_\_\_ Depth Back Pres. Valve 3507 Ft. Surface Choke 1" Bottom Choke 3/4"

Recovered	Feet of	
Recovered	Feet of	MISRUN... PACKER SEAT FAILURE.
Recovered	Feet of	
Recovered	Feet of	
Recovered	Feet of	

Remarks MISRUN... PACKER SEAT FAILURE.

TEMPERATURE	Gauge No. 1040		Gauge No. 1043		Gauge No.		TIME		
	Depth:	3517' Ft.	Depth:	3599' Ft.	Depth:	Ft.	Hour Clock		
Est. °F.	Blanked Off	NO	Blanked Off	YES	Blanked Off		24	Hour Clock	Tool Opened 6:35 P.M.
Actual 144°F.	Pressures		Pressures		Pressures		24	Hour Clock	Tool Closed 6:44 P.M.
Initial Hydrostatic	Field 1798	Office 1805	NO READINGS ARE AVAILABLE.			Field	Office	Reported Minutes	Computed Minutes
First Period	Flow Initial	-	-	CLOCK STOPPED...					
	Flow Final	-	-						
	Closed in	-	-						
Second Period	Flow Initial	-	-						
	Flow Final	-	-						
	Closed in	-	-						
Third Period	Flow Initial	-	-						
	Flow Final	-	-						
	Closed in	-	-						
Final Hydrostatic	Field 1798	Office 1805							

Legal Location Sec. - Twp. - Rng. \_\_\_\_\_

Lease Name HAWKESDALE 1

Well No. 1

Test No. 1

Field Area HAWKESDALE

Tested Interval 3528' - 3603'

County AUSTRALIA

State VICTORIA

Lease Owner/Company Name SHELL PROMEX





	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub .....	5.75"	2.75"	1'	
Water Cushion Valve .....				
Drill Pipe .....	4½"	3.00"	3067	
Drill Collars .....	6½"	2½"	433	
Handling Sub & Choke Assemblv .....	5.87"	2.85	2'	
Dual CIP Valve .....	5.03"	.87"	4' 8"	
Dual CIP Sampler .....				
Hydro-Spring Tester .....	5.00"	.75"	5'	3513'
Multiple CIP Sampler .....				
Extension Joint .....				
AP Running Case .....	5.00"	3.06"	4.16	3517'
Hydraulic Jar .....	5.00"	1.00"	3.40	
VR Safety Joint .....	5.00"	1.00"	2.40	
Pressure Equalizing Crossover .....				
Packer Assembly .....				
Distributor .....				
Packer Assembly .....				
Flush Joint Anchor .....				
Pressure Equalizing Tube .....				
Blanked-Off B.T. Running Case .....				
Drill Collars .....				
Anchor Pipe Safety Joint .....				
Packer Assembly .....	7 3/4"	1.53"	70.25	3528'
Packer Assembly .....				
Anchor Pipe Safety Joint .....				
Side Wall Anchor .....				
Drill Collars .....	6½"	2½"	26.57	
Flush Joint Anchor .....	5"	2.37"	44.00	
Blanked-Off B.T. Running Case .....	5"	2.75"	4'	3599'

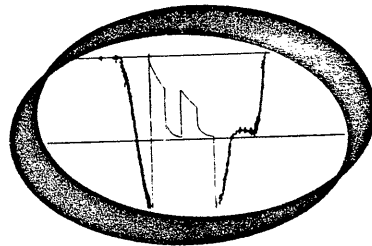
## NOMENCLATURE

<b>b</b>	= Approximate Radius of Investigation .....	Feet
<b>b<sub>1</sub></b>	= Approximate Radius of Investigation (Net Pay Zone h <sub>1</sub> ) .....	Feet
<b>D.R.</b>	= Damage Ratio .....	—
<b>EI</b>	= Elevation .....	Feet
<b>GD</b>	= B.T. Gauge Depth (From Surface Reference) .....	Feet
<b>h</b>	= Interval Tested .....	Feet
<b>h<sub>1</sub></b>	= Net Pay Thickness .....	Feet
<b>K</b>	= Permeability .....	md
<b>K<sub>1</sub></b>	= Permeability (From Net Pay Zone h <sub>1</sub> ) .....	md
<b>m</b>	= Slope Extrapolated Pressure Plot (Psi <sup>2</sup> /cycle Gas) .....	psi <sup>2</sup> /cycle
<b>OF<sub>1</sub></b>	= Maximum Indicated Flow Rate .....	MCF/D
<b>OF<sub>2</sub></b>	= Minimum Indicated Flow Rate .....	MCF/D
<b>OF<sub>3</sub></b>	= Theoretical Open Flow Potential with/Damage Removed Max. ....	MCF/D
<b>OF<sub>4</sub></b>	= Theoretical Open Flow Potential with/Damage Removed Min. ....	MCF/D
<b>P<sub>s</sub></b>	= Extrapolated Static Pressure .....	Psig.
<b>P<sub>f</sub></b>	= Final Flow Pressure .....	Psig.
<b>P<sub>ot</sub></b>	= Potentiometric Surface (Fresh Water *) .....	Feet
<b>Q</b>	= Average Adjusted Production Rate During Test .....	bbls/day
<b>Q<sub>1</sub></b>	= Theoretical Production w/Damage Removed .....	bbls/day
<b>Q<sub>g</sub></b>	= Measured Gas Production Rate .....	MCF/D
<b>R</b>	= Corrected Recovery .....	bbls
<b>r<sub>w</sub></b>	= Radius of Well Bore .....	Feet
<b>t</b>	= Flow Time .....	Minutes
<b>t<sub>o</sub></b>	= Total Flow Time .....	Minutes
<b>T</b>	= Temperature Rankine .....	°R
<b>Z</b>	= Compressibility Factor .....	—
<b>μ</b>	= Viscosity Gas or Liquid .....	CP
<b>Log</b>	= Common Log	

\* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,  
Fresh Water Corrected to 100° F.

ENCLOSURE 5B:

# Formation Testing Service Report

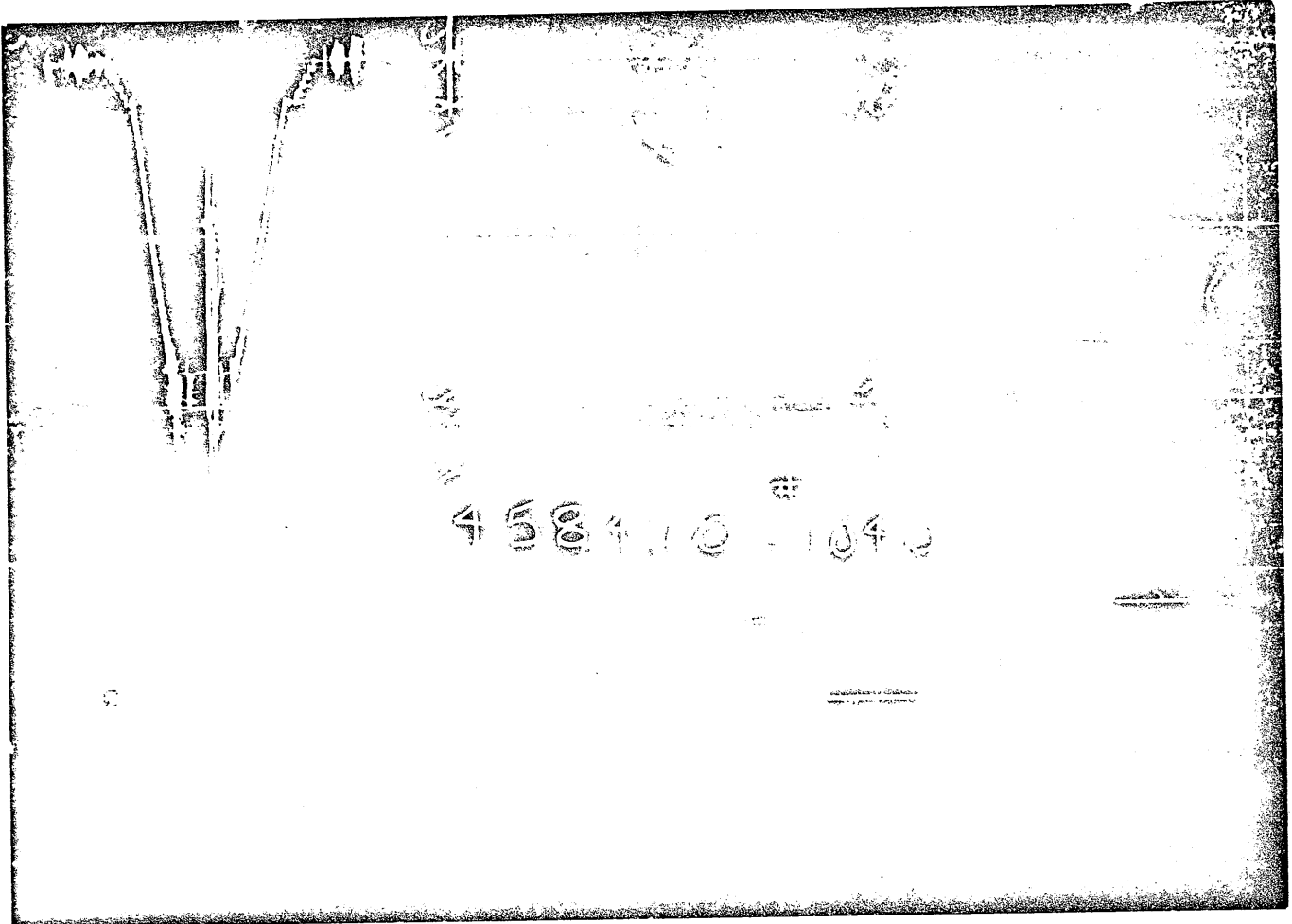


**HALLIBURTON SERVICES**

DUNCAN, OKLAHOMA

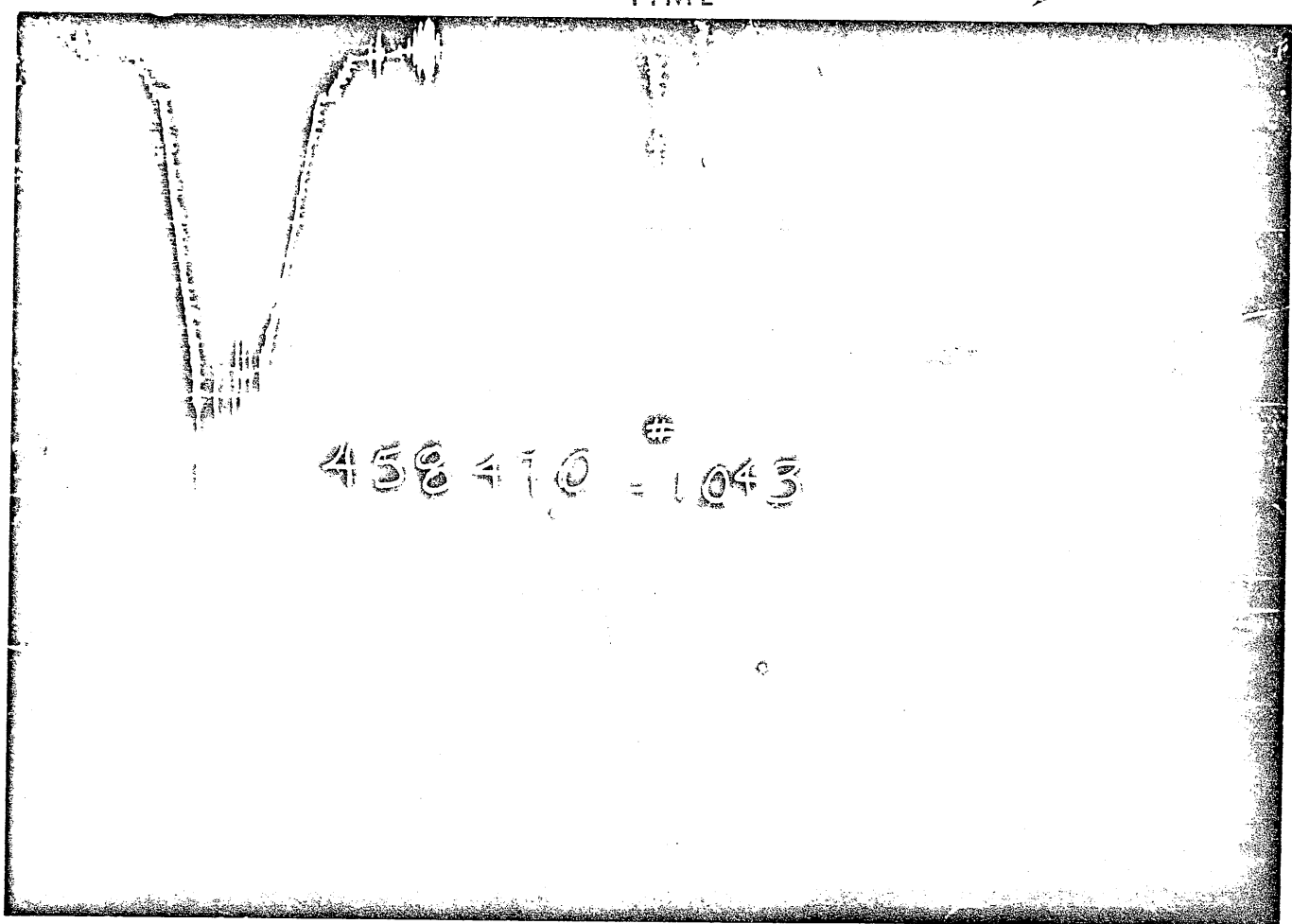
WCR HAWKESDALE No. 1

ENCL. 56



↑ PRESSURE ↓

← TIME →



Each Horizontal Line Equal to 1000 p.s.i.

**FLUID SAMPLER DATA**

Sampler Pressure \_\_\_\_\_ P.S.I.G. at Surface

Recovery: Cu. Ft. Gas \_\_\_\_\_  
 cc. Oil \_\_\_\_\_  
 cc. Water \_\_\_\_\_  
 cc. Mud \_\_\_\_\_  
 Tot. Liquid cc. \_\_\_\_\_

Gravity \_\_\_\_\_ ° API @ \_\_\_\_\_ °F.  
 Gas/Oil Ratio \_\_\_\_\_ cu. ft./bbl.

RESISTIVITY \_\_\_\_\_ CHLORIDE CONTENT \_\_\_\_\_

Recovery Water \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm  
 Recovery Mud \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm  
 Recovery Mud Filtrate \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm  
 Mud Pit Sample \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm  
 Mud Pit Sample Filtrate \_\_\_\_\_ @ \_\_\_\_\_ °F. \_\_\_\_\_ ppm  
 Mud Weight \_\_\_\_\_ 10.2 vis \_\_\_\_\_ 48 cp

Date **12-12-69** Ticket Number **458470**

Kind of Job **OPEN HOLE** Halliburton District **SALE**

Tester **BENNETT & BURGESS** Witness **VEEMAMA**

Drilling Contractor **RICHTER BAWDEN** NM

**EQUIPMENT & HOLE DATA**

Formation Tested **Fretty Hill Sandstone**

Elevation **420'** Ft.

Net Productive Interval **73** Ft.

All Depths Measured From **Kelly Bushing**

Total Depth **3603'** Ft.

Main Hole/Casing Size **8 3/4"**

Drill Collar Length **455** I.D. **2 1/4"**

Drill Pipe Length **3037** D. **3"**

Packer Depth(s) **3501'** Ft.

Depth Tester Valve **3486'** Ft.

Cushion TYPE **NONE** AMOUNT **NONE** Depth Back Pres. Valve **3480'** Surface Choke **1"** Bottom Choke **3/4"**

Recovered	Feet of	<b>MISRUN...</b>	Med. From Tester Valve
Recovered	Feet of		
Recovered	Feet of		
Recovered	Feet of		
Recovered	Feet of		

Remarks **MISRUN.....**

TEMPERATURE	Gauge No. 1040		Gauge No. 1043		Gauge No.		TIME	
	Depth:	3490' Ft.	Depth:	3599' Ft.	Depth:	Ft.	Hour Clock	
Est. °F.	24 Hour Clock		24 Hour Clock		Hour Clock		Tool	A.M.
	Blanked Off NO		Blanked Off YES		Blanked Off		Opened	P.M.
Actual 144°F.	Pressures		Pressures		Pressures		Tool	A.M.
	Field	Office	Field	Office	Field	Office	Closed	P.M.
Initial Hydrostatic	1798	1818	1870	1867			Reported	Computed
							Minutes	Minutes
First Period	Flow Initial	-	-	-	-	-		
	Flow Final	-	-	-	-	-		
	Closed in	-	-	-	-	-		
Second Period	Flow Initial	-	-	-	-	-		
	Flow Final	-	-	-	-	-		
	Closed in	-	-	-	-	-		
Third Period	Flow Initial	-	-	-	-	-		
	Flow Final	-	-	-	-	-		
	Closed in	-	-	-	-	-		
Final Hydrostatic	1798	1818	1870	1867				

Legal Location **HAWKSDALE**

Sec. - Twp. - Rng. \_\_\_\_\_

Lease Name **1**

Well No. **1**

Test No. **2**

Field Area **HAWKSDALE**

Tested Interval **3501' - 3603'**

County **AUSTRALIA**

State **VICTORIA**

Lease Owner/Company Name **SHELL - FROME**

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub .....	5.75"	2.75"	1'	
Water Cushion Valve .....				
Drill Pipe .....				
Drill Collars .....				
Handling Sub & Choke Assembly .....	5.87"	2.85"	2'	
Dual CIP Valve .....	5.03	.87"	4' 8"	
Dual CIP Sampler .....				
Hydro-Spring Tester .....	5.00"	.75"	5'	3486'
Multiple CIP Sampler .....				
Extension Joint .....				
AP Running Case .....	5.00"	3.06"	4.16	3490'
Hydraulic Jar .....	5.00"	1.00"	3.40	
VR Safety Joint .....	5.00"	1.00"	2.40	
Pressure Equalizing Crossover .....				
Packer Assembly .....				
Distributor .....				
Packer Assembly .....				
Flush Joint Anchor .....				
Pressure Equalizing Tube .....				
Blanked-Off B.T. Running Case .....				
Drill Collars .....				
Anchor Pipe Safety Joint .....				
Packer Assembly .....	7 3/4"	1.53"	70.25	3501'
Packer Assembly .....				
Anchor Pipe Safety Joint .....				
Side Wall Anchor .....				
Drill Collars .....	6 1/2"	2 1/2"	53.00	
Flush Joint Anchor .....	5"	2.37"	44.00	
Blanked-Off B.T. Running Case .....	5"	2.75"	4'	3599'

## NOMENCLATURE

<b>b</b>	= Approximate Radius of Investigation	Feet
<b>b<sub>1</sub></b>	= Approximate Radius of Investigation (Net Pay Zone h <sub>1</sub> )	Feet
<b>D.R.</b>	= Damage Ratio	—
<b>EI</b>	= Elevation	Feet
<b>GD</b>	= B.T. Gauge Depth (From Surface Reference)	Feet
<b>h</b>	= Interval Tested	Feet
<b>h<sub>1</sub></b>	= Net Pay Thickness	Feet
<b>K</b>	= Permeability	md
<b>K<sub>1</sub></b>	= Permeability (From Net Pay Zone h <sub>1</sub> )	md
<b>m</b>	= Slope Extrapolated Pressure Plot (Psi <sup>2</sup> /cycle Gas)	psi/cycle
<b>OF<sub>1</sub></b>	= Maximum Indicated Flow Rate	MCF/D
<b>OF<sub>2</sub></b>	= Minimum Indicated Flow Rate	MCF/D
<b>OF<sub>3</sub></b>	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
<b>OF<sub>4</sub></b>	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
<b>P<sub>s</sub></b>	= Extrapolated Static Pressure	Psig.
<b>P<sub>f</sub></b>	= Final Flow Pressure	Psig.
<b>P<sub>ot</sub></b>	= Potentiometric Surface (Fresh Water *)	Feet
<b>Q</b>	= Average Adjusted Production Rate During Test	bbls/day
<b>Q<sub>1</sub></b>	= Theoretical Production w/Damage Removed	bbls/day
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