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EL 234

COWARD SPRINGS

DATA RELEASE AT FIRST PARTIAL SURRENDER : PROGRESS REPORT FOR THE PERIOD 12/8/1975 TO 12/5/1976

Submitted by
Endeavour Oil Co. NL
1976

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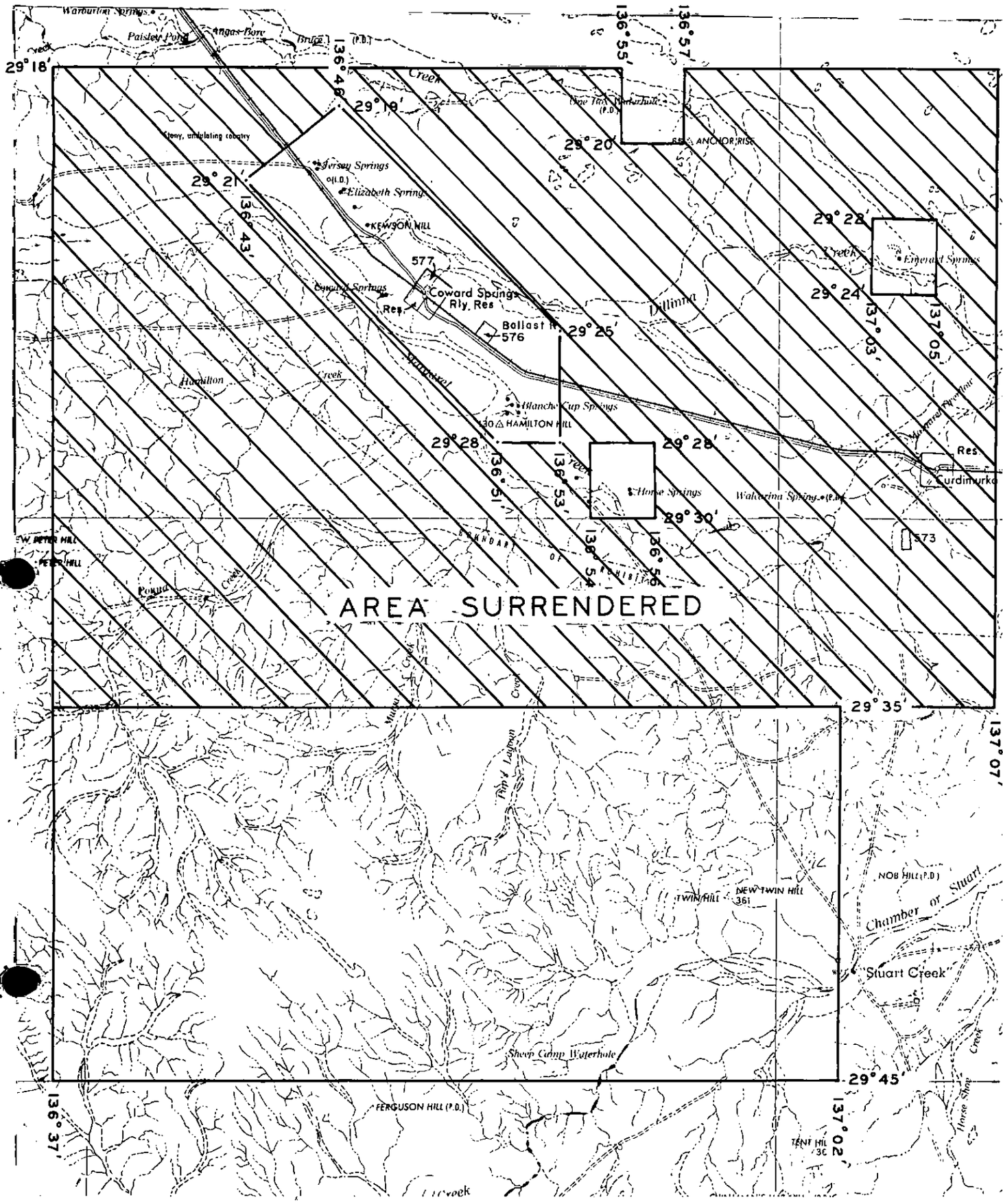
Government of South Australia
Department of State Development

SCHEDULE 'A'



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT : ENDEAVOUR OIL COMPANY N.L.

D.M. : 599 | 75 AREA : ~~2123~~ 745 Square Kilometres

1:250 000 PLANS : CURDIMURKA

LOCALITY : COWARD SPRINGS AREA – Approximately 120 kilometres west of Marree.

E.L. No. : 234 EXPIRY DATE : 11·2·77

234

D9A

CONTENTS ENVELOPE 2731

TENEMENT: EXPLORATION LICENCE No. 234

TENEMENT HOLDER: ENDEAVOUR OIL COMPANY

REPORTS:

NIXON, L.G.B. 1976
Endeavour oil Company N.L. Quarterly report for the period ending 12th May, 1976 (pgs. 1-10)

Plan:

Fig 1 Endervour Oil Comapny Bore Location plan (2731-1)

Geological survey Gamma Neutron log
Sturart's Creek No. 4 (2731-3)

Geological survey Resistivity Log
Stuart's Creek No. 4 (2731-2)

ENDEAVOUR OIL COMPANY N.L.

QUARTERLY REPORT FOR THE PERIOD ENDING 12th MAY, 1976

EXPLORATION LICENCE No. 234, COWARD SPRINGS

SOUTH AUSTRALIA

BY

L. G. NIXON 1976

L.G.B.NIXON and ASSOCIATES

ENDEAVOUR OIL COMPANY N.L.

QUARTERLY REPORT FOR THE PERIOD ENDING 12th MAY, 1976

EXPLORATION LICENCE No. 234, COWARD SPRINGS

SOUTH AUSTRALIA

BY

L. G. NIXON

L.G.E.NIXON and ASSOCIATES

CONTENTS

ATTACHMENTS

MAP NO.	TITLE	SCALE
FIG. I	Endeavour Oil Company N.L. Bore location Plan E.L. No. 234 Coward Springs, South Australia	1:250,000
APPENDIX I	Drill Logs	
APPENDIX II	Geophysical Logs	

L.G. NIXON

28th May, 1976

ENDEAVOUR OIL COMPANY N.L.

QUARTERLY REPORT FOR THE PERIOD ENDING 12th MAY, 1976

EXPLORATION LICENCE No. 234, COWARD SPRINGS

SOUTH AUSTRALIA

BY

L.G. NIXON

L.G.B. NIXON and ASSOCIATES

SUMMARY

Two holes were drilled in this Concession Area without intersecting any coal beds nor any other kind of mineral deposit of economic significance.

INTRODUCTION

Application for the Exploration Licence was made in order to cover any possible northwesterly extension to coal beds which were anticipated in E.L. 229.

Because of the depth of Mesozoic sediments encountered in the hole drilled at Margaret Creek and Coorie Appa it was expected that Hole No.4 would encounter about 900 feet of possible upper Palaeozoic and Mesozoic sediments.

Drilling on the Concession commenced on 24th March, 1976 on a Mesa approximately two miles southerly from the Margaret River Crossing. This elevated site was well away from any known mound springs.

WORK DONE

Drilling

Two holes were drilled in this Exploration Licence designated Hole No. 4 and Hole No. 5. Total footage drilled was 360 feet.

Hole No. 4 was located on top of a Mesa approximately two miles south of Horse Springs. This location is about four miles southeasterly the planned site. The main reason for moving the hole was to keep away from a line of mound springs extending from Warburton Springs in the northwest to Venable Springs in the southeast.

The second hole was drilled near the southern margin of the Concession.

GEOPHYSICS

Electrical logs consisting of S.P. and Spot Resistivity and Radiometric logs consisting of Gamma and Neutron logs were run in Hole No. 4 only.

SUMMARY OF DRILLING RESULTS

Hole No. 4 located on top of a Mesa, penetrated a sequence of dark-grey mudstone and clay with occasional zones containing shell fragments between the surface and 76 meters. From 76 meters to 94.5 meters there is a sequence of interbedded dark-grey clays and hard siliceous beds. The drill entered weathered basement at 315 feet and was stopped in hard grey, green and purple shales of pre Cambrian age at 325 feet.

Hole No. 5 was located near the southern edge of the Concession approximately four miles northwest of Tent Hill. This hole intersected weathered bedrock at approximately 15 feet and was stopped at 35 feet.

SUMMARY OF GEOPHYSICAL RESULTS

The Neutron and Resistivity curves show good correlation and a number of coincident peaks. These are best defined on the neutron log and occur at 19 meters, 25 meters, 31 meters, 76 meters, 80.4 meters and 90 meters.

The neutron peak at 19 meters coincides with a dark-grey gypsiferous clay, that at 25 meters is a fairly small peak on the neutron log

but does not show on the gamma or S.P. graphs and is only a minor peak on the resistivity curve, it is inferred that this is probably a clay zone with a slightly higher gypsum content than the surrounding beds. The peak at 31 meters on the neutron log coincides with a gypseous clay containing numerous shell fragments.

The main peak on both the neutron and resistivity logs occurs at 76 meters, and coincides with a slight fall in the gamma curve and a marked decrease in the S.P. curve, these changes in the radiometric and electric logs coincide with the occurrence of a hard sandstone band and generally from this depth down to 94 meters all the logs show fluctuations which coincide with hard siliceous bands and black clay zones containing shell fragments and dark-grey clay beds.

COMMENTS

Drilling in the Coward Springs area confirms the extension of a basement high across the Concession Area from E.L. 229.

The geophysical logs were useful in defining variations in the lithologies and accurately locating their positions and thicknesses in the hole.

No coal strata were intersected. The sediments penetrated are equated with the Bulldog Shale Formation of Cretaceous age.

COST ESTIMATES

Consultant Salaries and wages	$3,259.50
Staff salaries,overheads & wages	$ 225.00
Drilling costs	$3,478.82
Transportation	$ 706.01
Communications	$ 70.55
Accommodation and Meals	$ 285.25
Technical literature, Airphotos, xeroxing etc.	$ 53.39
Rental	$1,061.50
Application Fee	25.00
	$9,165.02

L.G. NIXON

L.G.E. NIXON and ASSOCIATES

28th April, 1976

ENDEAVOUR OIL COMPANY N.L.

LOG OF ROTARY DRILL HOLE No. 4

99-13m

PROJECT: Coal Drilling, E.L. No. 243, COWARD SPRINGS

DIRECTION: Vertical PLANNED DEPTH: 900ft. DRILLED DEPTH: 325ft.

DRILLING CONTRACTOR: Thompson's Drilling Co. DRILL: Mayhew 1000

DRILLER: C. Stratford ASSISTANTS: R. Brown, T. Auld

DATE HOLE COMMENCED: 23.3.76 COMPLETED: 24.3.76

HOLE LOGGED BY: H. Jablonski ON: 24.3.76

FIX: Speedo reading from Mound Spring on east-side of Margaret River Crossing.

OBJECT: To test for coal bearing strata.

RESULT: No coal bearing strata intersected.

LOG COMPRISES: GEOLOGICAL LOG GEOPHYSICAL LOG

DEPTH FROM	DEPTH TO	GEOLOGICAL LOG Drilling commenced 4.50 p.m.
0	5	Red clay, gypsum, sand, some grey clay.
5	10	Grey clay, gypsum, some red clay and sand.
10	15	Highly gypsiferous light grey clay to silt.
15	20	Highly gypsiferous light grey clay to silt.
20	25	Gypsiferous pale grey clay to mud.
25	30	Gypsiferous pale grey clay to mud, Fe oxidation.
30	35	Gypsiferous pale grey clay to mud, Fe oxidation.
35	40	Slightly gypsiferous pale grey clay to mud, Fe oxidation.
40	45	Dark grey clay.
45	50	Dark grey clay to mud.
50	55	Dark grey clay, some Fe oxidation on bedding.
55	60	Dark grey clay, some Fe oxidation on bedding.
60	65	Dark grey clay.
65	70	Gypsiferous dark grey clay.
70	75	Dark grey clay to mud.
75	80	Dark grey clay to mud.
80	85	Dark grey clay.
85	90	Dark grey clay.
90	95	Dark grey clay.
95	100	Dark grey clay, gypsum, shell fragments.

008

ROTARY DRILL HOLE No. 4 (CONTINUED)

DEPTH FROM	DEPTH TO	GEOLOGICAL LOG Drilling commenced 4.50 p.m.
100	105	Dark grey clay with some gypsum.
105	110	Dark grey clay, some gypsum and shell fragments.
110	115	Dark grey clay with shell fragments.
115	120	Dark grey clay with shell fragments.
120	125	Dark grey clay.
125	130	Dark grey clay, shelly fragments.
130	135	Dark grey clay, shelly fragments.
135	140	Dark grey clay.
140	145	Dark grey clay.
145	150	Dark grey clay.
150	155	Dark grey clay with minor gypsum.
155	160	Dark grey clay, shelly fragments.
160	165	Dark grey clay, shelly fragments.
165	170	Dark grey clay, shelly fragments.
170	175	Dark grey clay, shelly fragments.
175	180	Dark grey clay.
180	185	Dark grey clay.
185	190	Dark grey clay.
190	195	Dark grey clay.
195	200	Dark grey clay.
200	205	Dark grey clay.
205	210	Dark grey clay.
210	215	Dark grey clay.
215	220	Dark grey clay, minor gypsum.
220	225	Dark grey clay, minor gypsum.
225	230	Dark grey clay.
230	235	Dark grey clay.
235	240	Dark grey clay, minor gypsum.
240	245	Dark grey clay.
245	250	Dark grey clay, minor gypsum.
250	255	Dark grey clay, some fragments hard sandstone.
255	260	CHANGE BIT TO CHEVRON Dark grey clay, hard sandstone, gypsum.

(77-78)

009

ROTARY DRILL HOLE No. 4 (CONTINUED)

DEPTH FROM	DEPTH TO	GEOLOGICAL LOG Drilling commenced 4.50 p.m.
260	265	Dark grey clay, hard sandstone, gypsum. CHANGE BIT TO ROTARY
265 (80-83)	270 (82-35)	Dark grey clay, fragments from secondary silcrete horizon. CHANGE BIT TO TUNGSTEN
265	270	Dark grey clay, secondary silcrete.
270	275	Dark grey clay, minor silcrete.
275	280	Dark grey clay, minor silcrete.
280	285	Dark grey clay.
285	290	Dark grey clay.
290	295	Grey clay.
295	300	Grey clay.
300	305	Grey clay.
305	310	Grey clay, pyrite, some hard rock fragments.
310	315	Grey clay, some hard rock fragments.
315	320	Pale Grey clay.
320	325	Pale green and purple clays.

DRILLING COMPLETED AT 12.30 p.m.

GEOPHYSICAL LOGGING FROM 12.45 p.m. - 2 p.m.

ENDEAVOUR OIL COMPANY N.L.

LOG OF ROTARY DRILL HOLE No. 5

PROJECT: Drilling for coal, E.L. 234, COWARD SPRINGS

DIRECTION: Vertical PLANNED DEPTH: DRILLED DEPTH: 35ft.

DRILLING CONTRACTOR: Thompson's Drilling Co. DRILL: Mayhew 1000

DRILLER: G. Stratford ASSISTANTS: R. Brown, T. Auld

DATE HOLE COMMENCED: 24.3.76 COMPLETED: 24.3.76

HOLE LOGGED BY: H. Jablonski ON: 24.3.76

FIX: Surveying Sextant. Readings on New Tent Hill - New Twin Hill - Nobs Hill.

OBJECT: To test for coal bearing strata.

RESULT: No coal bearing strata intersected.

LOG COMPRISES: GEOLOGICAL LOG

DEPTH FROM	DEPTH TO	GEOLOGICAL LOG Drilling commenced at 4.30 p.m.
0	5	Highly gypsiferous mud, minor sand.
5	10	Highly gypsiferous mud, minor sand.
10	15	Gypsiferous pale green grey mud.
15	20	Pale green clay, some chocolate clays.
20	25	Pale green and chocolate clays.
25	30	Pale green and chocolate clays.
30	35	Pale green and chocolate clays with chips of unweathered basement.

DRILLING COMPLETED AT 4.45 p.m.

GEOPHYSICAL LOGGING NOT ATTEMPTED

SOUTH AUSTRALIAN DEPARTMENT OF MINES

GEOLOGICAL SURVEY

TYPE OF LOG (S): GAMMA · NEUTRON

DATE: 24 · 3 · 76 TIME: 1200 / /

AREA: COWARD SPRINGS LOCATION: Lat. Long.

WELL: STUARTS CREEK NO4

ELEVATION G.L.: Log from 0 metres above G.L. Depth Scale: 10m rep. 2 metres

RUN NUMBER: / / 2 / / /

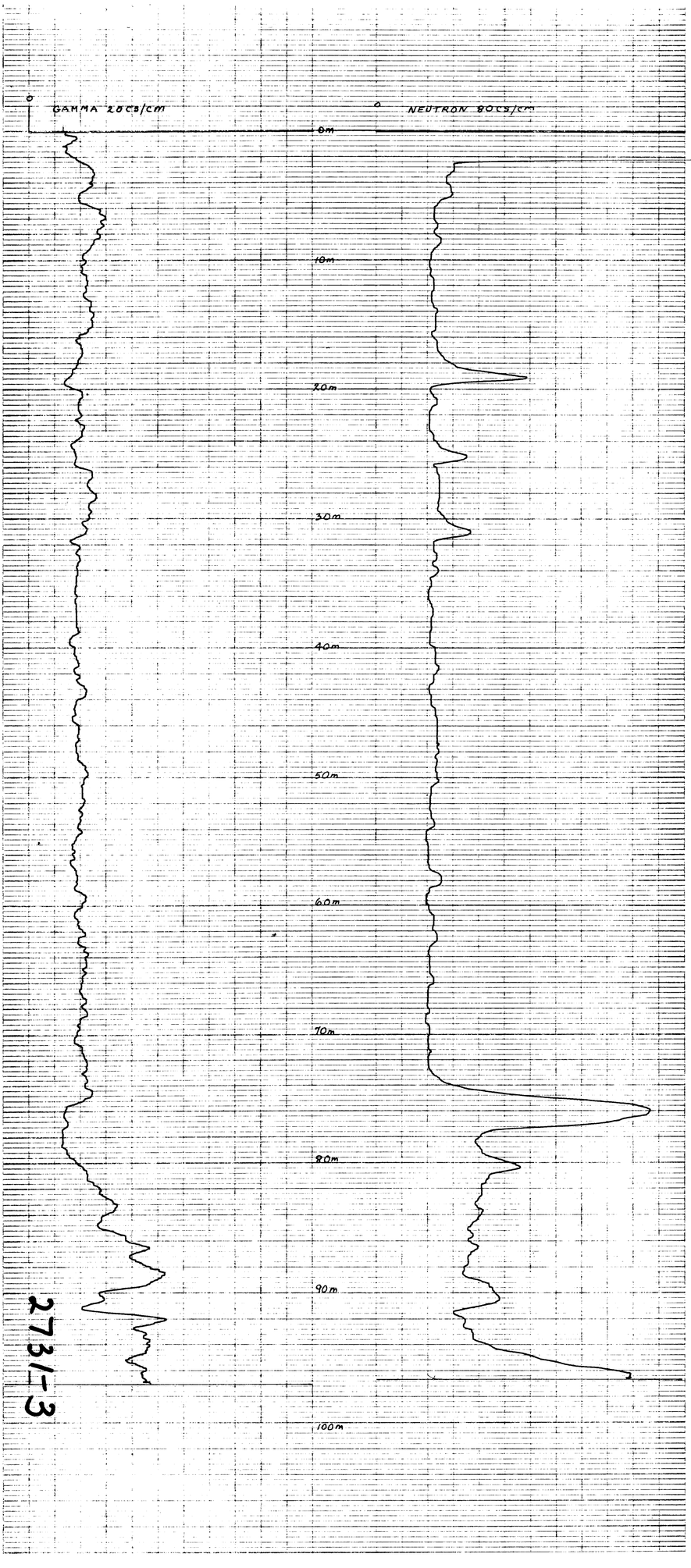
CASING SHOE DEPTH (cm): LOG metres DRILL metres TOTAL DEPTH: LOG 97 metres
DRILL metres

MUD: Type RESISTIVITY: Ohm metres @ °C

OPERATING TIME: 35m/35m/ / /

RECORDED BY:

REMARKS:



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SOUTH AUSTRALIAN DEPARTMENT OF MINES

GEOLOGICAL SURVEY

TYPE OF LOG (S): RESISTIVITY · SP

DATE: 24 · 3 · 76 TIME: 1130 / /

AREA: COWARD SPRINGS LOCATION: Lat. Long.

WELL: STUARTS CREEK NO4

ELEVATION G.L.: Log from 0 metres above G.L. Depth Scale: 1cm rep. 2 metres

RUN NUMBER: 1 / / / /

CASING SHOE DEPTH (cm): LOG metres DRILL metres TOTAL DEPTH: LOG 99·6 metres

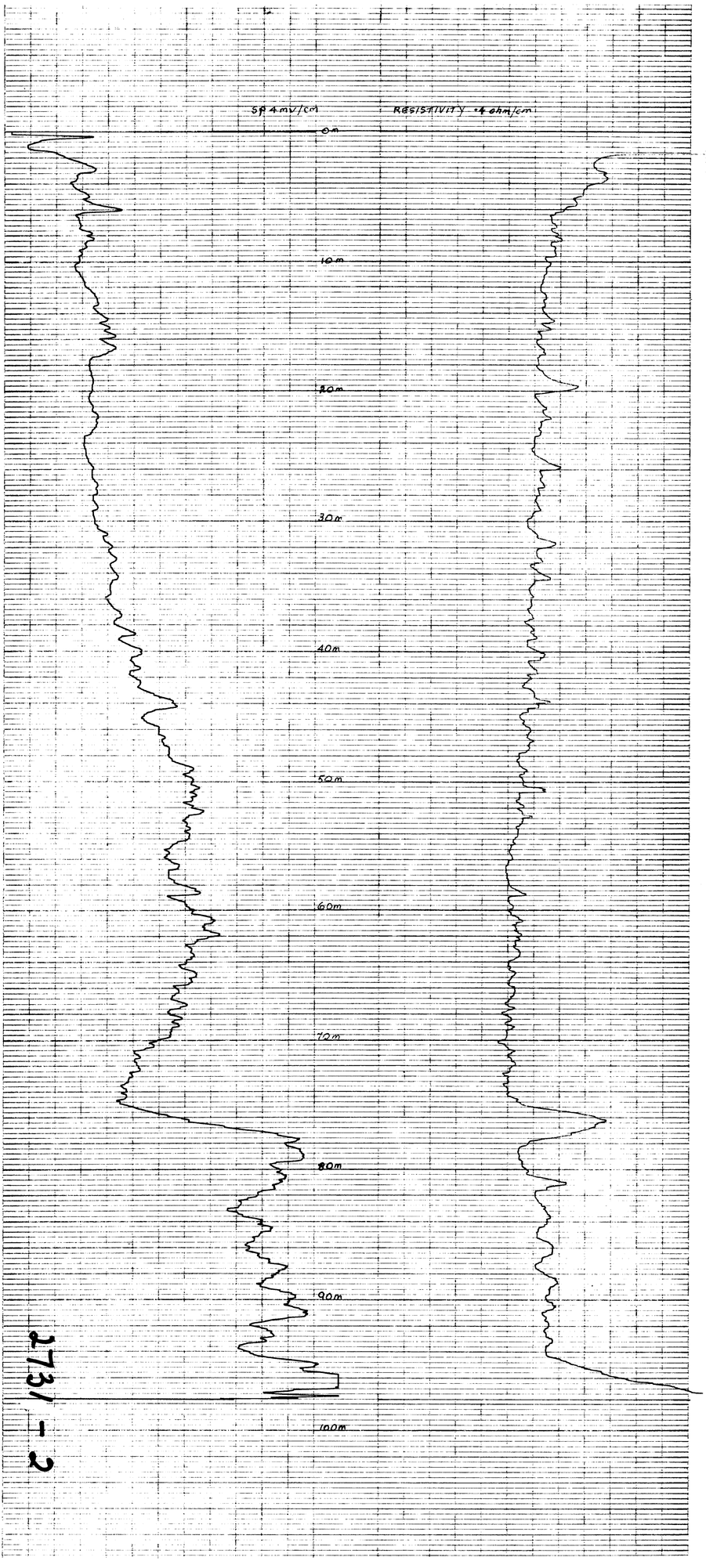
DRILL metres

MUD: Type RESISTIVITY: Ohm metres @ °C

OPERATING TIME: 25m / / / /

RECORDED BY: A.W. Young

REMARKS:



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2372-1

136°30'
29°15'

137°15'
29°15'

29°18'

29° 20'

29° 30'

29° 40'

29°45'

29°50'
136°30'

136° 40'

136° 50'

137°

137° 10'

137°07'

136°37'

Watriner Ck.

Coward Springs

ALICE SPRINGS – PORT AUGUSTA RAILWAY

Curdimurka

Horse Springs

6238/4

Pound Ck

Mulga Ck.

TRECOMPANA HILL

Lake Phibbs

Chamber Ck.

Stuart Creek

6238/5

5

TENT HILL

Chamber of Stuart Creek

	LAT	LONG
04	29 31 24	136° 55' 00"
05	29 44 36	136° 58' 45"

LEGEND

- Boundary of E. L.
- Railway
- Roads
- 4 Bore hole

ENDEAVOUR OIL COMPANY N.L.

SOUTH AUSTRALIA

E.L. 234 - COWARD SPRINGS AREA

BORE HOLE LOCATION MAP

SCALE 1:250,000

5 0 5 10 15 20 Km.

AUTHOR: L.G. Nixon

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REVISED: April, 1976

DRAWING NUMBER: A 0692

2731-1