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SML 514

LAKE YANTAWENA (WEST) AREA

PROGRESS AND FINAL REPORTS FOR THE PERIOD 26/11/70 TO 25/11/72

Submitted by
Sedimentary Uranium NL
1973

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SEDIMENTARY URANIUM NO LIABILITY

2nd March, 1971

FIRST QUARTERLY REPORT

Special Mining Lease (S.M.L.) No. 514

EXPLORATION ACTIVITIES

During the report period no additional field activities were conducted in this S.M.L. beyond the sixteen (16) holes (total footage 3,242 feet) which were drilled during the previous period. The logs and various geological information resulting from this work were studied carefully during the first quarter (this reporting period) while the Sedimentary Uranium N.L. contract drills were working in the lease (S.M.L. 580) to the southeast of S.M.L. 514.

HALL, RELPH & ASSOCIATES PTY. LTD.
GEOLOGICAL & EXPLORATION CONSULTANTS

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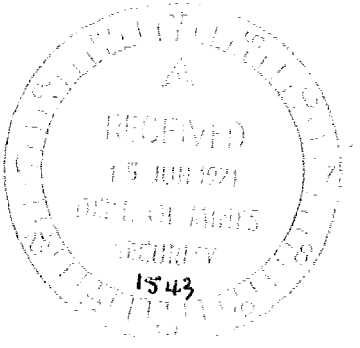
June 8, 1971



SEDIMENTARY URANIUM N.L.

Second Quarterly Report
Special Mining Lease No. 514

GENERAL

S.M.L. 514, embracing 787 square miles, lies in the eastern part of the Lake Frome Embayment, immediately southeast of Lake Frome.

Sedimentary Uranium N.L. has been actively exploring for uranium deposits within non-marine Tertiary rocks in adjoining lease blocks to the south.

Initial work in S.M.L. 514 involved an airborne radiometric survey which had to be reflown because of spurious results.

An interpretation of the second survey has recently been completed and a copy of the report submitted by the interpreting geophysicist, B.T. Johnson, is enclosed.

An exploratory drilling programme is now being formulated to investigate the nature of the sedimentary section and the significance of the trends delineated by the radiometric interpretation.

This programme, depending on weather conditions, will be implemented during the next quarterly period.

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EVALUATION AND INTERPRETATION

OF

AIRBORNE SCINTILLATION SPECTROMETER SURVEY

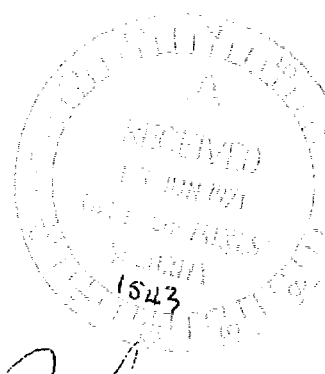
S.M.L. 514

YANTAWENA, SOUTH AUSTRALIA

SUBMISSION TO

SEDIMENTARY URANIUM N.L.

21st May, 1971



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B.C.

EVALUATION AND INTERPRETATION

OF

AIRBORNE SCINTILLATION SPECTROMETER SURVEY

S.M.L. 514

YANTAWENA, SOUTH AUSTRALIA

By

B.T. Johnson

INTRODUCTION

The following report is an evaluation and interpretation of an airborne scintillation spectrometer survey carried out over S.M.L. 514, Yantawena, South Australia, held by Sedimentary Uranium N.L. The interpretation was carried out for that Company. The survey was flown by Air Research Pty. Ltd., Mona Vale, N.S.W., during November and December, 1970 and February, 1971.

OBJECT OF SURVEY

The radiation traversing was carried out as a study of trace occurrences of surface Uranium, to determine whether changes in chemical or physical conditions could be inferred, which might suggest a favourable depositional environment for Uranium at depth.

LOCATION OF SURVEY

The Yantawena Lease, S.M.L. 514, lies approximately forty miles west of Broken Hill, N.S.W. Global coordinates of the lease boundaries are

Lat 31°00'S,	Long 140°05'E
Lat 31°00'S,	Long 141°00'E
Lat 31°24'S,	Long 141°00'E
Lat 31°24'S,	Long 140°00'E
Lat 31°06'S,	Long 140°00'E
Lat 31°06'S,	Long 140°05'E

GEOLOGICAL BACKGROUND

About five hundred feet of poorly consolidated sediments are thought to overlie the Precambrian basement in the area. In S.M.L. 415, immediately south of the eastern portion of the lease presently under investigation, a Uranium-bearing buried sand channel has been identified, trending northwest and lying between the "Woolshed Dam" and the "Mt. John Dam", a few miles north of Yarramba Station homestead. The trend of this sand transgresses the creek direction in S.M.L. 415, and lies near the northern extremities of strings of total-count highs associated with two of these creeks. The inference is that Uranium was deposited in the sand from solutions travelling down the creeks. The purpose of the present investigation is to determine whether the surface radiation pattern, apparently interrupted by the presence of this buried sand, can be used to infer the continuation and trend of the sand channel, and to determine whether other sand channels can be discovered using this type of inference. Secondarily, the investigation is directed toward determining whether possible Uranium occurrences might be inferred using other hypotheses.

EVALUATION OF SURVEY

The airborne survey was carried out using a single-engine Cessna aircraft and McPhar AV-4 airborne integral spectrometer. Aircraft speed was nominally 110 knots. Altitude was nominally 300 feet above terrain.

The spectrometer used a single 6" diameter by 4" deep Thallium-activated Sodium Iodide scintillation crystal.

Recorder chart speed was 60 millimeters per minute. Table I gives particulars of the pen configuration on the charts as follows:

TABLE I - RECORDER CHART LAYOUT

Spectrometer Channel Type	Energy Range (Mev)	Response Time Constant	Scale Constant (per inch)	Zero Level	Pen Displacement (From Navigator) (Fix Pen)	Ink Colour
"Total Count"	0. 2 - 2.8	0.5 sec.	167 counts/sec	0	0.05" Lead	Black
"Th + U + K"	1. 3 - 2.8	2.0 sec.	16.7 counts/sec	0	0.15" Lag	Purple
"Th + U"	1.65 - 2.8	3.0 sec.	5 counts/sec	0	0.05" Lag	Brown
"Th"	2. 5 - 2.8	4.0 sec.	1.67 counts/sec	0	0.20" Lag	Green
"Radio Altimeter"	-	-	100 feet	5"	0.10" Lead	Red
"Navigator Fixes"	-	-	-	-	0	Blue
"Fiducials"	-	-	-	-	0.15" Lead	Red

- The Channel Type is self-explanatory, except that the three channels with low-energy cutoffs are described according to the predominant energy peaks occurring within each energy range. In fact, these are only nominal labels, as the interaction between channels is great. The abbreviations refer to Thorium and Uranium daughter product gamma radiation, and Potassium 40 gamma radiation, respectively.

- The energy range indicates the energies of gamma rays that will be admitted and counted in each channel, in millions of electron volts.

- The response time constant indicates the time each channel integrator would take to drop to 37 (%) percent of its initial value, if no further counts are recorded.

- The scale constant and zero level (<u>across</u> the chart) are self-explanatory.

- The pen displacement indicates the amount (<u>along</u> the chart) each pen lags or leads the reference channel, i.e. the channel used to record navigator fixes.

Ground control was solely by navigational fixing. It is therefore impossible to estimate ground control error quantitatively. However, radiation responses appear to correlate reasonably well with surface features such as salt pans and creeks.

Radioactivity decontamination was apparently not carried out on the aircraft. For this and other reasons, the background level radiation varied from day to day.

For reasons that are unclear, but that might be associated with temperature stability effects, the traversing of the northwest portion of the survey contains what appears to be considerable noise. This noise is confined to traversing of the area covered by the "Eurinilla" photomosaic sheet.

INTERPRETATION OF SURVEY

As requested by the supervising geologist, interpretation was carried out without the aid of a radiation contour map. In its place, interpretational overlays were prepared using the ground control photomosaics as base maps. These are sheets YA-1 and YA-2 accompanying this report. Portions of radiation

profile considered to be "marginally above background" are indicated with a dashed line. Portions of profile considered to be "distinctly above background" are indicated with a thin solid line, and those portions considered to be "strongly anomalous" are indicated with a thick solid line.

A portion of profile was considered to be marginally above background if the total count level for that portion was greater than 50 counts per second above the background level selected for the line. The selected background levels of total count for each traverse line are given in Table II.

The data considered "noisy" were handled in a different fashion than was the bulk of the data. As stated previously, "noisy" data were confined to the traverses covered by the Eurinilla photomosaic. These data were first recorded on the overlay work sheet in the normal fashion. Later, the data profiles were interpretively re-examined and those responses thought to represent noise were circled on the overlay work sheet and deleted. It must be emphasised that this is an intuitive, interpretational step and that the interpretational overlay of the Eurinilla photomosaic must be regarded as containing information of lower quality than that of the other interpreted areas.

The work sheets were photographically reduced to the approximate scale of the base maps supplied for the area, a scale of one inch to 1.58 miles. The base maps were enlarged from transverse mercator maps. Since the work sheets are based on uncontrolled photomosaics, it is impossible to match the scale of the interpretational overlays precisely to that of the base maps. An approximate scale was achieved by matching creeks and other map features as nearly as possible. Accuracy should be sufficient for present interpretational purposes.

Watercourses are sparse in S.M.L. 514. Drainage is poor. Salt pans are common. Sand dunes indicate that aeolian transportation of surface material is common. The direction of water flow is generally northward, and in some circumstances, westward.

Possible source rocks for Uranium in solutions are the Radium Hill area to the south, and the Thackaringa Hills area to the east.

TABLE II

RADIATION BACKGROUND LEVELS

AIRBORNE RADIATION SURVEY

S.M.L. 514, S.A.

From Line	To Line	Assumed Background Level (Counts per sec.)
1	13	250
14	21	200
22	35	250
35	48	217
49		233
50	51	250
52	56	267
57		250
1A	4A	158
5A	8A	150
9A		158
10A		142
11A	13A	183
14A	19A	200
20A		192
21A	22A	200
23A		192
24A	25A	183
26A	27A	192
28A	31A	183
32A		175
33A		183
34A		175
35A		192
36A	42A	192
43A	45A	200
46A	52A	233
53A		225
54A	57A	217

Radiation relief in the prospect area appears to be mostly due to Uranium and Thorium components. Subject to statistical fluctuation, all four traces of the spectrometer profiles show similar characteristics. Further, there are few if any known potassium-rich igneous structures nearby, to serve as sources for grit containing Potassium-40. Therefore, in this area, it is probably valid to consider the total count profile as representative of the occurrence of trace amounts of surficial Uranium in the prospect area.

Areas of most current interest are the upstream margins of areas in which the trace Uranium in the drainage patterns has been depleted.

At this point, an analysis of the drainage situation in S.M.L. 514 is in order. The area is one in which the rainfall is sporadic and torrential. During rainy periods, which probably occur infrequently, widespread flooding would be expected. A considerable amount of water would drain to the north and west in the form of a sheet over the surface of the ground. As the water subsides, considerable amounts would be isolated in the many salt pans seen on the photomosaics. As the runoff sheet moves northward, it would be expected to carry Uranium ions in solution to some extent. Some of these ions would be deposited in salt pans as local water evaporates. Thus, greater trace concentrations of Uranium might be expected in salt pans. It follows that the occurrence of radiation responses should correlate with salt pans, and that greater radiation relief might be expected in areas where salt pans are abundant.

Another factor controlling the amount of radiation relief would be the distance from the source of the Uranium.

A third factor that may alter the pattern of radiation relief is the possible local alteration of chemical environment that could cause the precipitation of the Uranium. Should this occur, the flowing water downstream from such an area would be depleted in Uranium ions, and would tend to take up any trace quantities, forming a zone of low radiation relief downstream from the area of Uranium precipitation. The precipitated Uranium could occur at depth in commercial quantities.

In S.M.L. 514, a number of areas of low radioactivity background have been outlined. As these may be due to any of the above causes, an analysis of these areas is given below.

Several possible lineations associated with upstream edges of areas of low radiation relief have been indicated on the overlays. The lineation of most interest is that trending to the northwest from the vicinity of Benagerie homestead. This could be a continuation of the Yarramba-Mount John sand channel mentioned in the Geological Background section of this report. An offset appears to occur in this trend about twenty miles northwest of Benagerie homestead. Beyond this, the trend appears to continue, becoming less pronounced until it is lost north of Wild Horse Lagoon.

Two lineations are suggested, parallel to that described above, to the north. A very long, but ill-defined lineation may be inferred, having one termination near the extreme northwest corner of S.M.L. 514, and possibly extending as far east-southeast as Charlies Aunt Dam, in the Eastern half of the S.M.L. The eastern two-thirds of this trend is very ill-defined, due to extraneous phenomena affecting the radiation pattern: The inferred trend transgresses the drainage direction only obliquely, and depletion of radioactive materials has presumably occurred from other causes as well. A third parallel lineation, of much shorter length, is inferred in the western half of the S.M.L., about three miles north of the second trend mentioned above.

A north-south lineation might be inferred, lying just to the east of the Longitude 140°30' S line. This inference is questionable, since it lies nearly parallel to the creek lineation in this area. However, it could be an extension of the line of termination of a series of east-west trending radiation highs shown on the contour maps to the south.

Two east-west lineations are indicated near the southeast corner of the S.M.L. The significance of these is unknown, and could be instrumental in origin; however, they also could suggest that the east-west trending radiation relief shown on contour maps to the south of the present S.M.L. may also occur in this area.

Three relatively short, indistinct northeasterly trends may also be inferred in the northeast quadrant of the S.M.L. as indicated on the interpretational overlay.

Other trends are associated with creeks apparently containing solutions depleted of radioactive ions. Trends are in some cases broken by occurrences of large evaporation basins containing high concentrations of salts, with associated high radiation levels. Aeolian transportation of evaporite dust is probably common, possibly rendering some distribution patterns indistinct. However, this latter effect may be an advantage, causing generally great dissemination of radioactive trace elements, rendering the areas of Uranium ion precipitation paradoxically more distinct.

CONCLUSIONS

There is some evidence that the trend of low surface radioactivity associated with the Yarramba-Mount John sand may continue some tens of miles to the northwest. Some changes in trend direction and at least one offsetting of the trend occur.

Two trends parallel to the above trend, to the northeast of it, have been inferred.

Other inferences are a north-south trend in approximately the middle of the S.M.L., some shorter east-west trends in the southeastern quadrant of the map, and some short northeasterly trends in the eastern part of the northeastern quadrant of the map. These latter trends are quite indistinct.

Surface radioactivity patterns are controlled by many factors. The possibility of local deposition of radioactive minerals at depth is only one of them. Therefore, the above interpretation should be considered as only a first reconnaissance in the exploration of the S.M.L.

RECOMMENDATIONS

It is recommended that the most distinct trend, that which may be an extension of the trend established by the Yarramba-Mount John sand, be drilled at several locations to the northwest of the known sand, to determine the extent of the sand channel. It would be most suitable for specific drilling sites

to be chosen after discussions with the project geologist.

It could require a great many drill holes to locate possible sand channels directly from the reconnaissance information presented here. It may be possible to develop more economical and dependable geophysical means to assist in locating such channels. Some possible methods are resistivity, seismicity, and possibly magnetics and gravity. The Author has discussed such possibilities with the project geologist, and will be pleased to undertake some field tests to determine whether these methods may be effective.

The Author understands that an aeromagnetic map of the prospect areas has been located. This should be inspected and interpretations drawn from it should be incorporated into the exploration effort as soon as possible.

APPENDIX

RELATIONSHIPS BETWEEN AIRBORNE RADIATION SURVEY DATA, S.M.L. 415 (FLOWN BY CANADIAN AERO), AND DATA, S.M.L. 514 (FLOWN BY AIR RESEARCH)

The two adjoining leases, S.M.L.'s 415 and 514, were flown by different contractors, using different equipment and techniques. It is pertinent to understand how the measurements taken by each contractor relate to those taken by the other, to be able to compare geological trends and other interpretations in the two areas.

The particulars of the Air Research method and equipment have been given in the body of this report. The Canadian Aero equipment is considerably different in several respects. It was not possible to confirm channel energy levels and other information, but the likely configuration used is shown in Table III accompanying.

The major difference between the two spectrometers is that the Canadian Aero instrument was a differential type, separating effects due to Potassium, Uranium and Thorium responses to a much better approximation than did the integral spectrometer of Air Research. Therefore, it is impossible to quantitatively relate the higher energy channels between the two instruments; in any event, the spectral channel information of the Canadian Aero project was not available to the Author.

The following relationships can be established between the total count channels of the two instruments. The scintillation crystals used were of the same type and size, Canadian Aero using two crystals and Air Research using one. Therefore, to a first approximation, the Canadian Aero equipment should have captured twice as many counts as would the Air Research equipment, for a given radiation level. However, the Air Research equipment used a low-energy cutoff level 0.2 Mev lower than did Canadian Aero; thus, the Air Research equipment count could be slightly higher under some circumstances. Other factors which could affect the count rate is the amount and type of shielding of the two instruments; the mounting configuration of the photomultiplier tubes; and other physical differences.

TABLE III

THE CANADIAN AERO AIRBORNE RADIATION SURVEY SYSTEM

AIRCRAFT : BEAVER

SPECTROMETER : HAMNER-HARSHAW

CRYSTALS : 2 off 6" diam. x 4" NaI (Tl)

Spectrometer Channel Type	Energy Range (Mev) (Probable)
"Total Count"	0. 4 - 2.8
" K "	1.36 - 1.56
" U "	1.66 - 1.86
" Th "	2. 3 - 2.8

NOMINAL FLIGHT ALTITUDE : 300 Feet Above Terrain (Probable)

A major factor contributing to the differences in count rate between the two systems is the fact that Air Research did not decontaminate their aircraft. Therefore, a variable background radiation level added to the responses obtained from the Earth's surface. This background radiation varied from a negligible level to about 85 counts per second, into the single Air Research crystal, taking the Canadian Aero data as a standard. This made it necessary to interpret the background level on each individual line, before selecting anomalous responses for plotting.

An important point is that the increased background is strictly additive to the useful information. Thus, it is still approximately correct to say that a radiation response of fifty counts per second above background in the Air Research system is equivalent to a response of one hundred counts per second above background in the Canadian Aero system.

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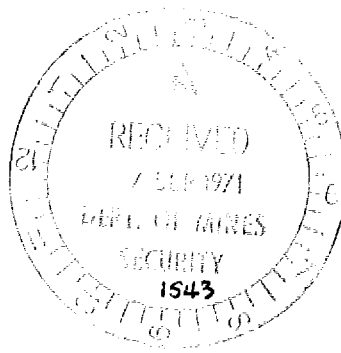
3rd September, 1971.



SEDIMENTARY URANIUM N.L.

THIRD QUARTERLY REPORT
SPECIAL MINING LEASE (S.M.L.) NO. 514

EXPLORATION ACTIVITIES

Ground reconnaissance, preparatory to drilling, occurred during the last quarter. Access to much of the area is quite reasonable although the presence of drifting sand dunes in the northern part of the lease presents some difficulties.

Scintillometer traverses across several of the airborne radiometric trends interpreted by B.T. Johnson (report enclosed with 2nd quarterly report) failed to substantiate the trends on the ground. The validity of these trends appears to be very questionable at this stage.

A 30 hole drilling programme has been formulated for S.M.L. 514 and drilling is scheduled to commence in about two weeks. The drilling will be carried out by Afrac Pty. Ltd., a Brisbane based drilling company.

Tentative locations of the drill holes are shown on Figure I, accompanying this report.

Results of the drilling operation will be summarised in the next quarterly report.

AJW/lc

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Recd - 25-1-72.

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SEDIMENTARY URANIUM NO LIABILITY

021

11 January, 1972

SEDIMENTARY URANIUM N.L.

FOURTH QUARTERLY REPORT

SPECIAL MINING LEASE (S.M.L.) NO. 514

EXPLORATION ACTIVITIES

During the last quarterly period, sixteen (16) holes were drilled in the above lease area for a total non-core footage of 3,242 feet. The drill cuttings from all of these holes were studied and lithologic logs prepared. Gamma and electric logs were run on most of the holes.

Hole Nos. 514/2 and 514/12 were abandoned at shallow depths because of drilling difficulties. Shallow basement, at depths ranging from 65 - 90 feet, was encountered in Hole Nos. 514/1, 514/3, 514/4 and 514/5. This basement "high" is located in the eastern part of the S.M.L. and probably trends slightly east of north.

The remainder of the holes were drilled in the south-western part of the S.M.L. and nothing of interest was noted in either the samples or on the logs. In general the Tertiary sand development was very poor and no really anomalous radioactivity was noted.

Copies of the various logs are attached and are listed herein:

Lithologic Logs -	514/1 - 514/11, 514/13 - 514/15, 514/17
Gamma Logs -	514/3, 514/6 - 514/11, 514/13 - 514/15, 514/17
Electric Logs -	514/6 - 514/11, 514/13 - 514/15, 514/17

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SEDIMENTARY URANIUM N.L.

FOURTH QUARTERLY REPORT

SPECIAL MINING LEASE (S.M.L.) NO. 514 Continued

A map showing the location of the drill sites is being prepared and will be forwarded at a later date. However, the map coordinates are noted on each log.

It is our intention to return to the S.M.L. during February, 1972, in order to do additional drilling.

HALL, RELPH & ASSOCIATES PTY. LTD.
GEOLOGICAL & EXPLORATION CONSULTANTS

L. R. HALL. M.Sc., M.A.A.P.G., M.Aus.I.M.M.
R. E. RELPH. B.Sc., M.Aus.I.M.M.

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2nd March, 1971.

SEDIMENTARY URANIUM N.L.

FIRST QUARTERLY REPORT.
SPECIAL MINING LEASE NO. 514

GENERAL

S.M.L. 514 was granted to Sedimentary Uranium N.L. on 27th November, 1970 and embraces 787 square miles of the eastern part of the Lake Frome Embayment. High encouragement for the presence of sedimentary uranium has been obtained in S.M.L. 415 to the south-east.

Since the approval of the licence area, an airborne radiometric survey has been carried out. The survey, conducted by Air Research Pty. Ltd. in December 1970, was initially unsatisfactory. Spurious results were obtained, apparently because of extremely high temperatures affecting the detector crystal of their instrument.

The survey was reflown in mid-February with satisfactory results being obtained. Negotiations are currently underway for interpretation of these results.

A drilling programme will be formulated on the basis of this interpretation and implemented at the earliest possible time.

Expenses Transferred to DM 1232/70

022

SEDIMENTARY URANIUM NO LIABILITY

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21 August, 1972

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23 AUG 1972
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SYDNEY
1543

SEDIMENTARY URANIUM N.L.

QUARTERLY REPORT

SPECIAL MINING LEASE (S.M.L.) No. 514

EXPLORATION ACTIVITIES

Actual drilling in S.M.L. 514 during the second quarterly period amounted to two exploratory drill holes. These holes were drilled during a drilling programme on the western portion of the southern S.M.L. No. 697 (formerly S.M.L. 414).

Drilling was programmed to intersect possible buried Tertiary stream channels, however all holes, including the two holes in S.M.L. 514, intersected shallow basement.

The holes 514/18 and 514/19 reached 379 feet and 376 feet respectively. Basement, possibly of Cambrian age, was intersected at 275 feet and 274 feet respectively. No sands were developed in either hole and no anomalous radioactivity was present.

Further work in S.M.L. 514 has been deferred until a complete revaluation of S.M.L.'s 514, 697 and 696, which essentially constitute the south-eastern portion of the Frome Embayment, has been made. At this stage however, it appears that the western S.M.L.'s, Nos. 514 and 697 were structurally high during deposition of Tertiary non-marine strata. The existence of a major drainage channel through the area included by the western S.M.L.'s does not appear likely and accordingly, potential for sedimentary type uranium deposits must be low.

EXPENDITURE

Expenditure for the period amounted to $3,206.00.

A.J. Wright
Consulting Geologist

Encls. Gamma Ray, Electric ~~and Lithological Logs~~ -
Holes Nos. 514/18 and 514/19

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27 September, 1972

THIRD QUARTERLY REPORT

Special Mining Lease (S.M.L.) No. 514

EXPLORATION ACTIVITIES

No further field work was done in this S.M.L. during the quarter. The only activity consisted of further geological evaluation of the sedimentary uranium potential of the land involved. The fact that much of the area included in this S.M.L. was structurally and topographically high during the deposition of the lower Tertiary fluviatile sediments, as pointed out by Mr. A.J. Wright in the previous quarterly report, does not improve the uranium potential of this lease.

1232/70

SEDIMENTARY URANIUM NO LIABILITY

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624

24 January, 1972

The Director of Mines
Department of Mines
Box 38 Rundle Street P.O.
ADELAIDE. S.A. 5000.

Dear Sir,

S.M.L. 514 - Quarterly Report

In reply to your letter dated 19 January, 1973 we wish to advise that we did not carry out any work on this Lease during the Fourth Quarter. It was felt by the company that our adjoining areas held greater potential and it has been decided to concentrate on these areas and relinquish the abovementioned Lease.

Yours faithfully,

R.C. Irish
Managing Director

1543

SEDIMENTARY URANIUM NO LIABILITY

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~~TELEPHONE: 27 0087.~~

14th Floor, Royal Exchange Building
56 Pitt Street, Sydney, N.S.W., 2000.

Your Ref: DM.1232/70
RKJ:PAL

9 February, 1973

The Director of Mines
Department of Mines
Box 38 Rundle Street P.O.
ADELAIDE. S.A. 5000.

Dear Sir,

Special Mining Lease No. 514

In reply to your letter dated 2 February, 1973 with reference to two drill hole locations on S.M.L. 514 previously held by Sedimentary Uranium N.L., you will note that from the information supplied that hole no. 514/12 was abandoned and no logs taken and hole no. 514/16 was proposed but never drilled. For this reason you will note that the two holes do not appear on the Drill Hole Location Map.

Yours faithfully,

R.C. Irish
Managing Director

1543

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 337I32 Hole No. 5I4/I Logged by A.J.WRIGHT

Commenced 2I/II/7I Depth Drilled I40 feet Ground Elevation Hole Size 4"

Completed 2I/II/7I Contractor Exp. and Ind. Drillers Nature of Rig MAYHEW I000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	5	SAND, light brown, fine grained, high clay content.	
5	I5	SAND, light greenish-grey, fine grained, carboraceous, firmly consolidated.	
I5	30	SAND, white, fine-medium grained, well sorted, loosely consolidated, trace iron stained quartz.	
30	35	CLAY, light grey and light grey-white, firm.	
35	40	CLAY, light grey, brownish in part and iron stained. Minor fine grained sand bands.	
40	60	SAND, light grey, fine grained, consisting of grey and rose coloured quartz, loosely consolidated. Thin light grey bands throughout.	
60	65	SAND, light grey, felspathic, firmly consolidated. Salty water at about 200gallons /hour in this formation. Formation becoming harder.	

1543

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Company SEDIMENTARY [illegible]

Drill Hole No. 5I4/I

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
65 -	95	SILTSTONE, light grey, well consolidated, interbedded with ARKOSE, light red-brown, very fine grained, very well consolidated.	No gamma or electric logs taken
95 -	I40	ARKOSE, red-brown, fine grained, well consolidated- possibly Cambrian age.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 3381 37 Hole No. 514/2 Logged by A.J.WRIGHT

Commenced 21/II/71 Depth Drilled 40 feet Ground Elevation Hole Size 4½

Completed 22/II/71 Contractor Exp. and Ind. Drillers Nature of Rig MAYHEW 1000 ROTARY

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
0	5	SURFACE SAND, red-brown, medium grained.	Two attempts were made to drill this hole, but clay very difficult to drill and because rig required to move to extricate bogged water truck, it was decided not to persevere with the hole
5	20	SAND, white, fine grained, clear and light grey angular quartz loosely consolidated.	
20	40	CLAY, green-grey, soft, sticky.	
		HOLE ABANDONED	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 3401/38 Hole No. 5I4/3 Logged by A.J.WRIGHT

Commenced 22/II/7I Depth Drilled 80 feet Ground Elevation Hole Size 4¾

Completed 22/II/7I Contractor Exp. and Ind. Drillers Nature of Rig MAYHEW 1000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	5	SAND, light brown, fine grained, heavily iron stained, finely micaceous.	Gamma probe run in hole but showed no response.
5	40	SAND, light grey, coarse grained, consisting of quartz and chert fragments loosely consolidated. Trace iron staining.	
40	60	SILT, light grey, soft, high clay content.	
60	80	SILT, light grey white, interbedded with light grey clay.	
80		SANDSTONE, yellowish brown, medium grained, very well consolidated, silicified. Basement rock, probably of Cambrian age.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 5431&5 Hole No. 5I4/4 Logged by A.J.WRIGHT

Commenced 22/II/7I Depth Drilled I23 feet Ground Elevation Hole Size $4\frac{3}{4}$

Completed 22/II/7I Contractor Exp.and Ind. Drillers Nature of Rig MAYHEW IOOO ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	5	SOIL, red-brown, fine grained, iron stained sand.	
5	IO	SAND, light brown, fine grained, iron stained quartz.	
IO	20	SAND, light brown, fime grained, interbedded with silt, light grey.	
20	45	SAND, light grey, coarse grained, consisting of red and grey quartz with minor chert and dark rock fragments.	
45	75	SAND, light grey, medium to coarse grained, interbedded with clay, light blue-grey, sticky.	
75	85	SILT, light yellowish-white, iron stained and appears very weathered.	
85	90	CLAY, deep yellow, heavy iron stain, silty .	
90	I23	SHALE, red-brown, yellow in part, very weathered appearance. Becoming hard at I23 feet. END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 336I29 Hole No. 5I4/5 Logged by A.J.WRIGHT

Commenced 22/II/7I Depth Drilled I20 feet Ground Elevation ..... Hole Size 4¾

Completed 22/II/7I Contractor Exp.and Ind. Drillers Nature of Rig MAYHEW IOOO ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	IO	SURFACE SAND AND CLAY, gypsiferous.	
IO	40	CLAY, mid-grey, interbedded with light yellowish grey clay. Mottled red and yellow due to iron staining.	
40	45	CLAY, yellow-grey, soft, carbonaceous.	
45	55	CLAY, blue-grey and yellow interbedded.	
55	80	CLAY, red-brown, consolidated in part and appears to be a highly weathered shale.	
80	I20	SHALE, dark reddish grey, iron stained and appears highly weathered.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CUPRAMONA SHEET 304I26 Hole No. 5I4/6 Logged by

Commenced 23/II/7I Depth Drilled 245 feet Ground Elevation Hole Size

Completed 24/II/7I Contractor Exr. and Ind. Drillers Nature of Rig

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
0	5	SURFACE SAND AND CLAY,	
5	20	CLAY, red-brown, light yellowish grey in part.	
20	35	CLAY, light grey, yellow iron staining throughout.	
35	40	CLAY, light grey white, soft, sticky.	
40	45	LIMESTONE, light brownish-white, very finely crystalline, well consolidated carbonaceous streaks throughout.	
45	I90	CLAY, light greenish grey, mottled yellow-brown in part due to iron stain, very soft and sticky.	
I90	240	CLAY, lightbrownish grey, very sticky.	
240	245	GNEISS, light brownish grey, strongly micaceous, very weathered.	
		END OF HOLE	

Location
Commenced
Completed
SECTIO
From Ft.
6-5
5-2(
20-3(
30-4(
40-5(
50-8(
80-I(
I00-2
2I5-2

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 3I7I24 Hole No. 5I4/7 Logged by A.J.WRIGHT

Commenced 23/II/7I Depth Drilled 222 feet Ground Elevation Hole Size $4\frac{3}{4}$

Completed 24/II/7I Contractor Exp. and Ind. Drillers Nature of Rig MAYHEW IOOO ROTARY

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
0	5	SURFACE SAND, light brown, very coarse, heavy iron stain.	
5	20	CLAY, light grey, mottled red-brown in part due to iron staining.	
20	30	CLAY, red-brown and grey mottled, silty.	
30	40	LIMESTONE, light brownish grey, very finely crystalline, carbonaceous in part.	
40	50	LIME MUD, white, soft, possibly foraminiferal.	
50	80	CLAY, light grey, mottled yellow due to iron staining.	
80	I00	CLAY, mid grey, soft, trace iron staining, carbonaceous.	
I00	2I5	CLAY, light greenish-grey, soft, lightgrey in part, very sticky.	
2I5	222	SANDSTONE, light brown, very fine grained, micaceous. Possibly [illegible] gneiss. Drilling very hard at 222'.	

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DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 309I23 Hole No. 5I4/8 Logged by A.J.WRIGHT

Commenced 26/II/7I Depth Drilled 280 feet Ground Elevation ..... Hole Size 4½

Completed 26/II/7I Contractor Exp.and Ind. Drillers Nature of Rig MAYHEW I000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	5	CLAY, red-brown, sandy.	
5	20	CLAY, light-grey and red brown mottled, slightly silty.	
20	40	CLAY, light grey, yellowish brown, iron stained.	
40	50	LIMESTONE, very light grey white, very finely crystalline, hard, carbonaceous.	
50	55	MARL, light yellowish-grey, soft.	
55	70	SILT, light grey, very finely sandy in part, unconsolidated.	
70	I05	CLAY, light grey, trace micaceous, trace iron staining.	
I05	I30	CLAY, very light greenish grey, patchy iron staining, silty in part.	
I30	I35	CLAY, mid-grey, carbonaceous.	
I35	200	CLAY, light grey, patchy yellow-brown iron stain throughout.	
200	210	SILT, light grey, very clayey, t in clay bands interbedded.	

Company SEDIMENTARY URANIUM

Drill Hole No. 514/8

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
210	230	SAND, light grey-white, fine-medium grained, angular quartz grains, loosely consolidated.	
230	255	SAND, light grey-white, very coarse grained, trace conglomeratic with sub-rounded quartz pebbles up to ½". Thin pyritic shale intercalations.	
255	278	SHALE, light bluish grey, moderately well consolidated. Probably Cretaceous.	
278	280	SILTSTONE, grey, hard very well consolidated.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURRAMONA SHEET 3I2I23 Hole No. 514/9 Logged by A.J.WRIGHT

Commenced 26/II/7I Depth Drilled 275 feet. Ground Elevation Hole Size 4¾

Completed 26/II/7I Contractor Exp.and Ind.Drillers Nature of Rig MAYHEW 1000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0 -	20	SURFACE SAND& CLAY, deep red-brown,heavily iron stained.	
20 -	35	CLAY, red-brown and light greenish grey,iron stained throughout.	
35 -	45	LIMESTONE, light yellowish white,very finely crystalline,well consolidated,iron stained in part.	
45 -	100	CLAY, light yellowish grey,slighly silty,sporadic iron staining throughout.	
100 -	205	CLAY, light grey,greenish grey in part,soft,sticky.	
205 -	225	SAND, light grey,medium grained,angular quartz grains loosely consolidated. Trace micaceous.	
225 -	240	SAND, light grey,coarse grained,conglomeratic in part, trace micaceous.No evidence of pyrite or carbonaceous matter.	

Company SEDIMENTARY URANIUM

Drill Hole No. 5I4/9

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
240	245	CLAY, yellow, green, soft, very weathered. Probably top of Cretaceous.	
245	255	SHALE, mid grey, soft.	
255	260	SHALE, red-brown, micaceous, moderately well consolidated.	
260	275	SHALE, light grey, greenish-grey, well consolidated in part.	
		END OF HOLE	

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DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURRANDA SHEET 303/08 Hole No. 514/10 Logged by A.J.WRIGHT

Commenced 27/II/71 Depth Drilled 290 feet Ground Elevation Hole Size 4½

Completed 28/II/71 Contractor Exp. Ind. Drillers Nature of Rig [illegible] ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0 -	10	SURFACE SANDS & CLAYS, light yellow brown, iron stained	
10 -	20	CLAY, yellow-brown, silty, ferruginized.	
20 -	25	SAND, light brown, coarse grained, quartz grains heavily iron stained.	
25 -	35	CLAY, red-brown, silty, with trace of coarse, red-brown sand.	
35 -	50	LIMESTONE, white, dense, well consolidated.	
50 -	55	MARL, light yellowish white, soft, trace light grey clay.	
55 -	125	CLAY, light grey, patchy mid-grey, patchy yellow-brown iron stain throughout. Silty in part.	
125-	130	CLAY, light grey, silty, trace yellow iron stain.	
130-	135	CLAY, dark grey, trace carbonaceous.	
135-	225	CLAY, light grey, soft, patchy yellow-brown iron stain throughout.	

Company [illegible]

Drill Hole No. 5141

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
235	255	CLAY, greenish grey, soft, with minor sand grains. Coarse grained, angular quartz.	Very poor samples.
255	290	SHALE, red-brown, moderately well consolidated, iron stained in part, effective basement.	
		END OF HOLE	

330

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 5001:29 Hole No. 514/II Logged by A.J.WRIGHT

Commenced 27/II/71 Depth Drilled 340 feet Ground Elevation ..... Hole Size 4"

Completed 28/II/71 Contractor Exp.&Ind. Drillers Nature of Rig MAYHEW 1000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	15	SURFACE CLAY& SAND, red-brown, heavily iron stained.	
15	40	CLAY, light grey, mottled yellow and red-brown due to iron staining, silty.	
40	60	LIMESTONE, white, dense, hard, becomes soft and marl-like near base	
60	65	MARL, light grey-white, soft, and clay, light grey.	
65	255	CLAY, light grey, trace carbonaceous, patchy yellow-brown iron staining.	
255	265	CLAY, light greenish grey, soft, sticky.	
265	300	CLAY, light grey, slightly silty, patchy carbonaceous matter. Samples contaminated with caving limestone.	
300	320	CLAY, light bluish and light greenish grey, soft, weathered appearance.	

Company SEDIMENTARY URANIUM

Drill Hole No. 514/II

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
320 - 340		SHALE, dark red-brown, firmly consolidated in part, yellow oxidation in patches.	
		END OF HOLE	

DRILL HOLE RECORD

Company [illegible]

Location CURRAGHON/ SHEET 307I29 Hole No. BI4/I3 Logged by A.J.W[illegible]T

Commenced 28/II/7I Depth Drilled 295 feet Ground Elevation [illegible] Hole Size 4"

Completed 29/II/7I Contractor Exp. & Ind. Drillers Nature of Rig RAYHEAD IO30 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0-	I[illegible]	SURFACE SANDS & CLAYS, red-brown, unconsolidated.	
IO-	I[illegible]	CLAY, red-brown, light grey, silty in part.	
I5-	2[illegible]	LIMESTONE, white, dense, well consolidated.	
25-	3[illegible]	CLAY, light grey, patchy yellow-brown iron staining throughout.	
35-	5[illegible]	CLAY, light yellowish grey, carbonaceous in part.	
50-	9[illegible]	CLAY, light grey, iron stained, interbedded with thin silt bands.	
90-	I[illegible]	CLAY, light greenish grey, soft, streaks of black carbonaceous matter.	
I20-	I[illegible]	CLAY, light grey, dark grey in patches, iron stained throughout.	
I80-	20[illegible]	CLAY, light grey, greenish grey in part, soft.	
200-	2I[illegible]	SHALE, light bluish grey, moderately well consolidated.	
2I5-	2[illegible]	SAND, light grey, very coarse grained, sub-rounded quartz grains, trace red and black chert and muscovite mica.	

Company SEDIMENTARY URANIUM

Drill Hole No. 5I4/J3

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
225	250	CONGLOMERATE, light grey, sub-rounded, loosely consolidated quartz grains, averaging ¼" in size.	
250	260	SAND, light grey, medium to coarse grained, no evidence of pyrite and carbonaceous matter.	
260	280	CLAY, light blue-grey, soft; top of Cretaceous.	
280	295	SHALE, light bluish grey, trace micaceous, well consolidated.	
		END OF HOLE	

DRILL HOLE RECORD

Company [illegible]

Location [illegible] Hole No. 5I4/I4 Logged by A.J.WRIGHT

Commenced 29/II/71 Depth Drilled 470 feet Ground Elevation [illegible] Hole Size [illegible]

Completed 29/II/71 Contractor Exp. & Ind. Drillers Nature of Rig [illegible]

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0 - 10		SURFACE CLAYS & SAND, gypsiferous in part.	
10 - 20		CLAY, blue-grey, firmly consolidated.	
20 - 30		LIMESTONE, white, dense, hard.	
30 - 70		SILT, light grey, iron stained in part, high clay content, interbedded with clay, light-mid-grey, soft.	
70 - 90		CLAY, light grey, mid grey in part, trace carbonaceous.	
90 - 205		CLAY, light grey, yellowish in part, silty. Thin red bands dispersed throughout.	
205 - 215		CLAY, greenish grey, heavy yellow-brown iron stain. Top of Cretaceous.	
215 - 230		SHALE, light brown-grey, firmly consolidated, fissile.	
230 - 270		CLAY, very light blue-grey, soft, interbeds of light-grey-brown Shale throughout.	

Company [illegible] URANIUM

Drill Hole No. 514/14

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
	270	SHALE, grey, yellowish in part, well consolidated.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 3I2I29 Hole No. 514/I5 Logged by A.J.WRIGHT

Commenced 29/II/7I Depth Drilled 250 feet Ground Elevation Hole Size 4"

Completed 30/II/7I Contractor Exp. & Ind. Drillers Nature of Rig MAYHEW 1000 ROTARY

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	10	SURFACE CLAY, deep red-brown, sandy.	
10	20	LIMESTONE, yellowish-white, densely crystalline, hard. Very large quartz pebbles occur with limestone.	
20	25	CLAY, light grey-white, limey.	
25	65	SILT, light grey, tinged yellow-brown throughout due to iron stain, slightly sandy.	
65	75	CLAY, light grey, trace silty.	
75	110	CLAY, light-mid grey, soft, trace carbonaceous.	
110	120	CLAY, mid-grey, dark greenish grey, carbonaceous in part.	
120	200	CLAY, light grey, soft, iron stained in part, thin bands of light greenish-grey clay.	
200	208	CLAY, yellow-brown, soft, very weathered appearance - top of Cretaceous ?.	

Company SRELI..TARY URANIUM

Drill Hole No. 514/15

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
205 - 235		CLAY; light blue-grey, soft, light yellowish colour in part due to iron stain.	
235 - 250		CLAY, mid-grey, brown, appears to represent weathered shale.	
		END OF HOLE	

DRILL HOLE RECORD

Company [illegible]

Location [illegible] Hole No. 5I4/17 Logged by A.J. WRIGHT

Commenced 29/II/71 Depth Drilled 272 feet Ground Elevation [illegible] Hole Size 4½

Completed 10/II/71 Contractor Exp. & Ind. Drillers Nature of Rig [illegible]

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0 -	5	SURFACE CLAY, red-brown, sandy.	
5 -	20	SAND, red-brown, very coarse grained, conglomeratic, iron stained, sub-rounded quartz with trace black chert.	
20 -	25	LIMESTONE, very light grey white, densely crystalline, dendritic hard.	
25 -	75	SILT, light yellowish grey, limey.	
75 -	55	CLAY, light grey, trace silty.	
55 -	80	CLAY, light grey, greenish grey in patches, soft, sticky.	
80 -	90	CLAY, yellowish grey, mid-grey, carbonaceous in part, soft.	
90 -	150	CLAY, light grey, firm, trace yellow iron stain.	
150 -	210	CLAY, light grey, patchy black carbonaceous streaks and yellow-brown iron stain. Very sticky.	
210 -	215	CLAY, light grey and light blue-grey, firm.	

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Company SEDIMENTARY URANIUM

Drill Hole No. 5I4/I2

SECTION From Ft.	SECTION To Ft.	DESCRIPTION	REMARKS
2I5 - 225		CLAY, light blue-grey, trace micaceous, soft.	
225 - 270		CLAY, mid-grey, shaley in part. firm, and Clay, light blue-grey, soft.	
270 - 272		SHALE, light grey, pyritic in part, well consolidated.	
		END OF HOLE	

DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CURNAMONA SHEET 298116 Hole No. 514-18 Logged by A.J. WRIGHT

Commenced 25/3/72 Depth Drilled 379 feet Ground Elevation Hole Size 4½

Completed 25/3/72 Contractor Afrac Pty. Ltd. Nature of Rig

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	15	SURFACE SOIL, red-brown, high clay content, gypsiferous.	
15	30	CLAY, red-brown, yellow-brown, heavily iron stained.	
30	50	SAND, red-brown coarse grained, heavily iron stained quartz. Minor clay partings.	
50	55	CLAY, red-brown, silty.	
55	75	SAND, red-brown, medium to coarse grained, poorly sorted containing about 5% dark rock fragments. Iron stained quartz throughout.	
75	90	CLAY, yellow-brown, grey-white in part, firmly compacted.	
90	115	LIMESTONE, white, soft, chalky.	
115	170	CLAY, light greenish grey, slightly silty throughout, iron stained in patches.	
170	190	SAND, light grey-white, fine grained, well sorted, trace iron stained quartz, trace dark rock fragments.	
190	315	CLAY, light greenish grey, mottled red-brown in part, slightly silty throughout.	
315	379	SHALE, deep red-brown, soft, weathered appearance. Minor interbeds of greenish grey shale. Effective Basement.	
		END OF HOLE	

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DRILL HOLE RECORD

Company SEDIMENTARY URANIUM

Location CARNAMONA SHEET 298120 Hole No. 514-19 Logged by A.J.WRIGHT

Commenced 26/3/72 Depth Drilled 376 feet Ground Elevation Hole Size 4¾

Completed 26/3/72 Contractor Afrac Pty.Ltd. Nature of Rig

SECTION From Ft.	To Ft.	DESCRIPTION	REMARKS
0	20	SURFACE SOIL, red-brown, heavily ferruginized, minor clay bands.	
20	65	CLAY, yellow-grey, red-brown in part, iron stained throughout.	
65	85	LIMESTONE, white, hard, dense.	
85	115	SAND, light greenish grey, fine to very fine grained, firmly consolidated. High clay content.	
115	150	CLAY, light greenish grey, yellow-brown mottled in part, soft, poorly consolidated.	
150	155	CLAY, greenish grey, soft, and sand, light grey-white, very fine grained.	
155	240	CLAY, greenish grey, yellow-brown in part very soft, loosely consolidated. Minor sand content throughout, probably present as cavings.	
240	290	CLAY, mid grey, greenish grey, yellow-brown in part, very soft.	
290	295	CLAY, deep red-brown, greenish grey, soft.	
295	330	CLAY, light greenish grey, yellow-brown in part, very soft throughout.	
330	376	SHALE, deep red-brown, trace micaceous, firmly consolidated; becomes increasingly firmer with depth.	
		END OF HOLE	

0550

FINISH

5'

20'

40'

60'

80'

100'

START

120'

0 10 20 30 40 50 60 70 80 90 100

CHART No. SE-133

PRINTED IN AUSTRALIA

SEDIMENTARY URANIUM N.L.

Hole No. 514/7

Location CURNAMONA

Map Ref 307134

Type of Log RESISTIVITY & S.P.

Start Depth 120'

Stop Depth 5'

Run No. 1

SCALE

Potential 10 mv/in.

Resistivity 5 ohms/in.

Gamma

Sensitivity mv/in.

Time Constant secs.

Logging Speed 30' ft/min.

Operator F. D'ARCY

Date 24-11-71

Remarks HOLE FOAMING IN P.VC
RUN DRILL DEPTH 220'

ENVIS 243-1a

CHART No. SIE-135 PRINTED IN AUSTRALIA 10/70

0 10 20 30 40 50 60 70 80 90 100

5'' finish

20

40'

60'

80'

100'

120'

140'

160'

180'

200'

220'

240'

260'

280'

300'

320'

335 Start —

SEDIMENTARY URANIUM N.L.	
Hole No.	SIE 135
Location	CURRAMANA.
Map Ref.	5201 29
Type of Log	RESISTIVITY + S.P.
Start Depth	335'
Stop Depth	5'
Run No.	1
SCALE	
Potential	20 mv/in.
Resistivity	5 ohms/in.
Gamma	
Sensitivity	mv/in.
Time Constant	secs.
Logging Speed	40 ft/min.
Operator	F. DYANCH
Date	26-11-71
Remarks	10 x Gentio.

ENV 1543 - 16

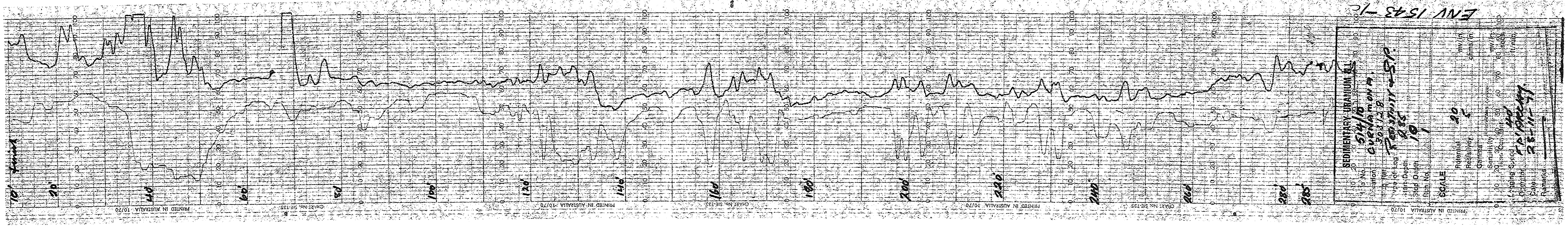

ENV 1543-7
SEDIMENTARY URANIUM
Location
Well Depth
Run No.
SCALE
Potential
Resistivity
Gamma
Sonic
Caliper
Logging Speed
Operator
Remarks
PRINTED IN AUSTRALIA 10/70
CHART No. SE-135

CHART No. SE-T35 PRINTED IN AUSTRALIA 10/70

25'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
260'
280'

SEDIMENTARY URANIUM NIL

Hole No. SH 1/8
Station QUEENSMOND
Log Ref. 809123
Type of Log RESISTIVITY V.S.P.
Start Depth 280'
Stop Depth 25'
Run No. 1

SCALE

Potential 10 mv/in
Resistivity 5 ohms/in
Gamma
Susceptivity mv/in
Time Constant secs
Logging Speed 40' ft/min

Operator F. D'ARCY
Date 26-11-71
Remarks 6.5/8" Bit

FNV 1543 J

FINISH

0' 20' 40' 60' 80' 100' 120' 140' 160' 180' 200' 220' 240'

0 10 20 30 40 50 60 70 80 90 100

PRINTED IN AUSTRALIA 10/70

CHART No. SIE-T35

SEDIMENTARY URANIUM N.L.

Hole No.	S14/6
Location	CURNAMONA.
Map Ref.	5044/26
Type of Log	RESISTIVITY + S.P.
Start Depth	240'
Stop Depth	SURF
Run No.	1
Potential	20
Resistivity	S
Gamma	
Conductivity	ENV
Time Constant	3
Logging Speed	30'
Operator	F. D'ARCHY.
Date	24-11-71
Remarks	2x BENTONITE 5 5/8 BIT.

ENV 1543 - 1

0' Surface.

20'

40'

60'

80'

100'

120'

140'

160'

180'

200'

210'

230'

250'

270' START

SEDIMENTARY URANIUM LTD.

Hole No. 514/9

Location GURNAMONA

Map Ref. 5123

Type of Log RESISTIVITY & S.P.

Start Depth 270'

Stop Depth 0'

Run No. 1.

SCALE

Potential 20 m

Resistivity 5 ohm

Gamma

Sensitivity

Time Constant

Logging Speed 40' fm/min

Operator F. P. DEACH

Date 26.11.71

Remarks MUD CORRECTION IN HOLE.

ENV 1543-1/L

PRINTED IN AUSTRALIA 10/70

CHART No. SIE 135

0 10 20 30 40 50 60 70 80 90 100

20 FINISH.

40

60

80

100

120

140

160

180

200

220

240

260

280

300

320

340'

360'

370' START.

PRINTED IN AUSTRALIA 11/71

CHART No. T66-E-KP

SECRETARY URANIUM N.L.

	SM/18
	CURNAMONA SHEET
	298 116
Type of Log	RESISTIVITY & S.P.
Start Depth	370'
Stop Depth	
Run No.	1.
SCALE	
Potential	10 mv/in.
Resistivity	5 ohms/in.
Gamma	
Sensitivity	mv/in.
Time Constant	secs.
Logging Speed	60 ft/min.
Operator	G. K. KIGHTLEY.
Date	25.3.72
Remarks	NIL.

ENV 1543 - 2

25' SFC FINISH

40'

60'

80'

100'

120'

140'

160'

180'

200'

220'

240'

260'

280'

300'

320'

340'

360'

370'

0 10 20 30 40 50 60 70 80 90 100

PRINTED IN AUSTRALIA 11/71

CHART No. T66-E-KP

SEDIMENTARY URANIUM N.L.

Hole No. 514/119.

Location CURNAMONA SHEET

Map Ref 298120

Type of Log RESISTIVITY & SP

Start Depth 370'

Stop Depth 20'

Run No 1.

SCALE

Potential 20 mv/in

Res 5 ohms/in.

Cond mv/in.

Sc mv/in.

Time Constant secs.

Logging Speed 60 ft/min.

Operator S. K. KRUNTLEY

Date 29.3.72

Remarks NIL.

ENV 1543-2b

20' Finish

40'

60'

80'

100'

120'

140'

160'

180'

200'

220'

240'

260'

270' Start

CHART No. SIE-T35 PRINTED IN AUSTRALIA 10/70

SEDIMENTARY URANIUM N.L.

Hole No. 514/17

Location CURNAMONA

Map Ref 312/133

Type of Log

Start Depth 270'

Stop Depth 20'

Run No. 1

SCALE:

Potential 20 mv/in

Resistivity 5 ohms/in

Gamma

Sensitivity mv/in

Time Constant secs

Logging Speed 60' ft/min

Operator T. O'BRIEN V.

Date 30-11-71

Remarks Many Logs

EM 153-2

CHART No. SE 135

10' Finish

20'

40'

60'

80'

100'

120'

140'

160'

180'

200'

220'

240'

245' 8 Finish

PRINTED IN AUSTRALIA 10/70

Hole No. 514/13

Location CURNAMONA.

Map Ref. 312129

Type of Log Resistivity + S.P.

Start Depth 245'0

Stop Depth 1

Run No.

SCALE

Potential	20	mv/in
Resistivity	5	ohms/in
Gamma		%
Sensitivity		mv/in
Time Constant		secs.
Logging Speed	60'	ft/min.

Operator F. D'ARCY

Date 30-11-71

Remarks

ENV 1543-2

FINSH

10' 0 10 20 30 40 50 60 70 80 90 100

20' 0 10 20 30 40 50 60 70 80 90 100

40' 0 10 20 30 40 50 60 70 80 90 100

60' 0 10 20 30 40 50 60 70 80 90 100

80' 0 10 20 30 40 50 60 70 80 90 100

100' 0 10 20 30 40 50 60 70 80 90 100

120' 0 10 20 30 40 50 60 70 80 90 100

140' 0 10 20 30 40 50 60 70 80 90 100

160' 0 10 20 30 40 50 60 70 80 90 100

180' 0 10 20 30 40 50 60 70 80 90 100

200' 0 10 20 30 40 50 60 70 80 90 100

220' 0 10 20 30 40 50 60 70 80 90 100

240' 0 10 20 30 40 50 60 70 80 90 100

260' 0 10 20 30 40 50 60 70 80 90 100

265' 0 10 20 30 40 50 60 70 80 90 100

PRINTED IN AUSTRALIA 10/70

CHART No. SIE-T35

SEDIMENTARY URANIUM N.L.

Hole No.	614/14
Location	CURRAMONA
Map Ref.	309132
Type of Log	RESISTIVITY & S.P.
Start Depth	265'
Stop Depth	10'
Run No.	1

SCALE 0 10 20 30 40 50 60 70 80 90 100

Potential	20	mv/in
Resistivity	5	ohms/in
Gamma		
Sensitivity		mv/in
Time Constant		secs
Logging Speed	60'	ft/min
Operator	F. D'ARCHY	
Date	29-11-71	
Remarks	1 x Bentonite	

EAV 1543-2E

20' Finish

40'

60'

80'

100'

120'

140'

160'

180'

200'

220'

240'

260'

280'

CHART No. SIE-135 PRINTED IN AUSTRALIA 10/70

CHART No. SIE-135 PRINTED IN AUSTRALIA 10/70

CHART No. SIE-135 PRINTED IN AUSTRALIA 10/70

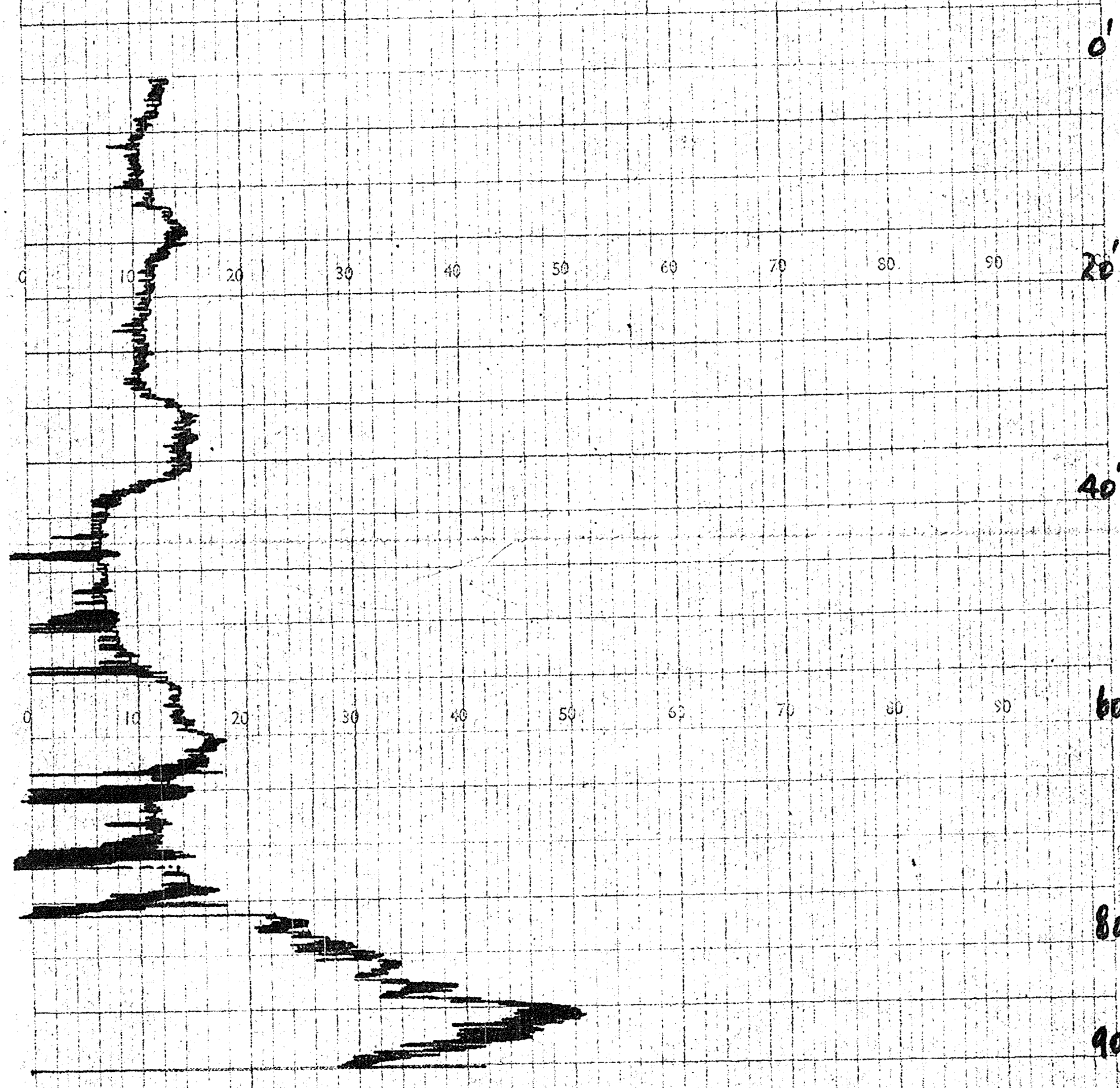
SEDIMENTARY URANIUM N.L.

Hole No.	514/13
Location	OURNIMONA.
Map Ref.	397129
Type of Log	RESISTIVITY + S.P.
Start Depth	280'
Stop Depth	20'
Run No.	1

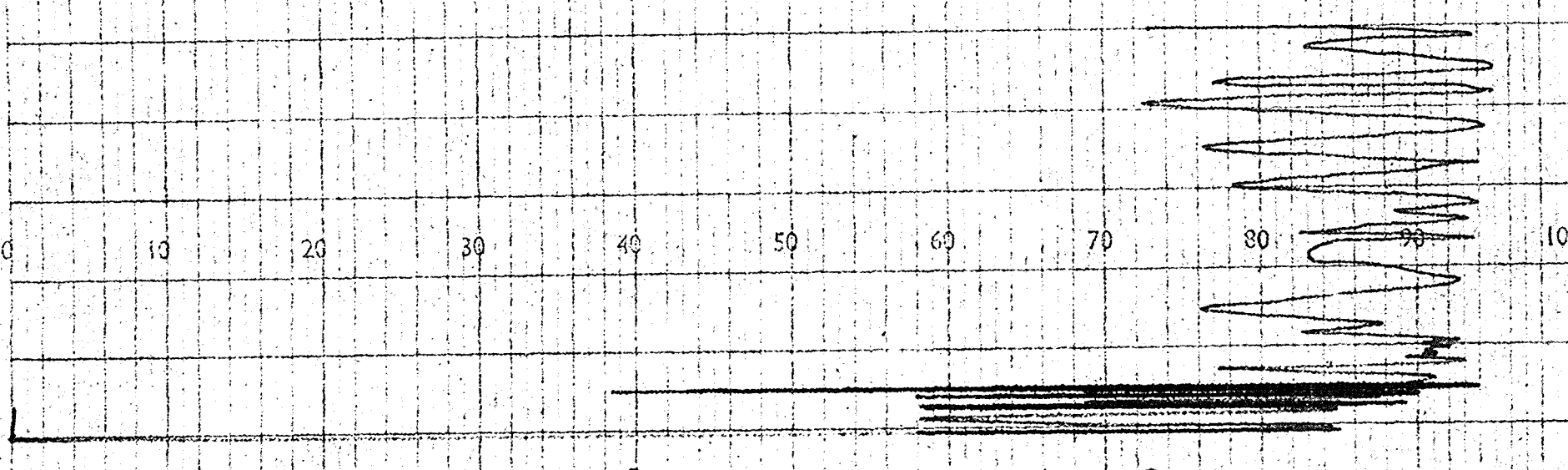
SCALE

Potential	20	mv/in.
Resistivity	ST	ohms/in.
Gamma		
Sensitivity		mv/in.
Time Constant		secs.
Logging Speed	240'	ft/min.
Operator	F. D'ARCY.	
Date	09-11-71	
Remarks		

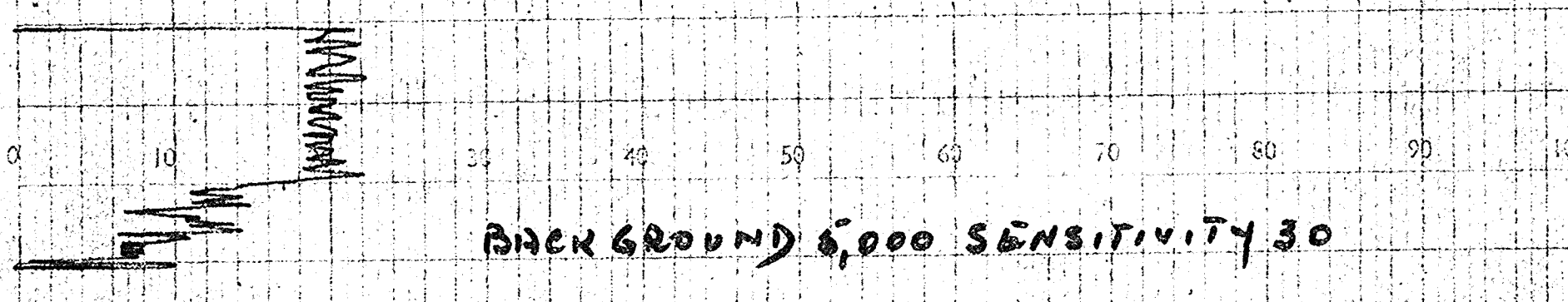
ENV 1542



10,000 SLOW SENSITIVITY 30



TEST 5,000 SLOW SENSITIVITY 30



BACKGROUND 5,000 SENSITIVITY 30

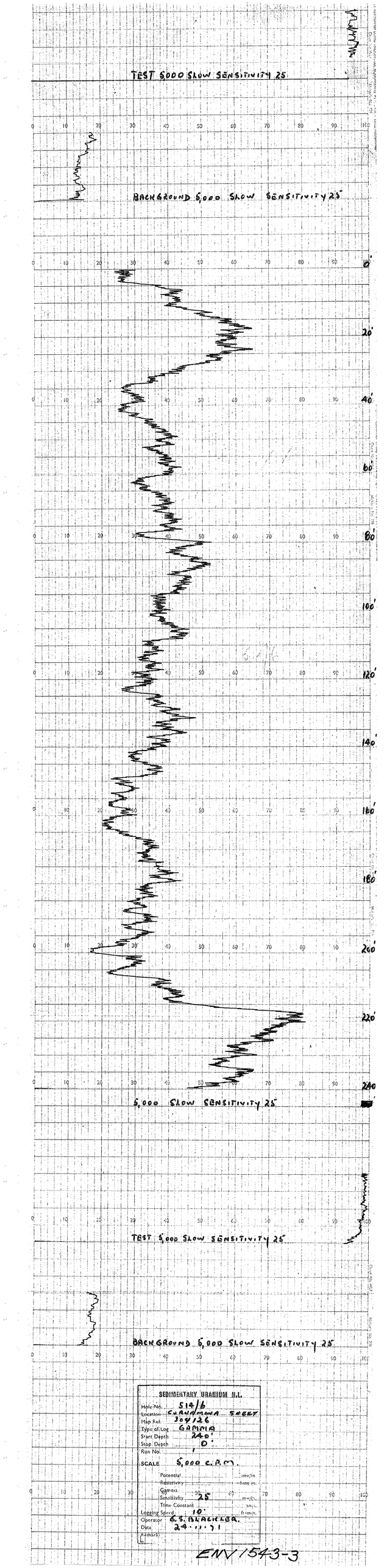
SEDIMENTARY URANIUM (N.)

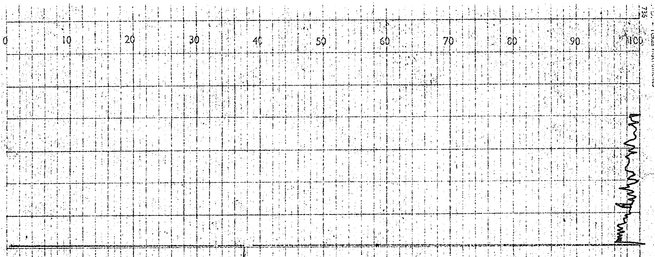
Hole No. 514/3
Location CURNAMONA SHEET
Map Ref. 340138
Type of Log GAMMA
Start Depth 90'
Stop Depth 0'
Run No. 1

SCALE 10,000 C.P.M

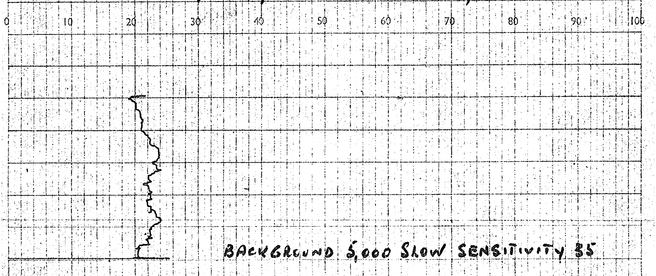
Potential	mv/in
Resistivity	ohms/in
Gamma	
Sensitivity	30 mv/in
Time Constant	secs
Logging Speed	10 ft/min
Operator	G.S. BLACKBURN
Date	21.10.71

ENV 1543-3

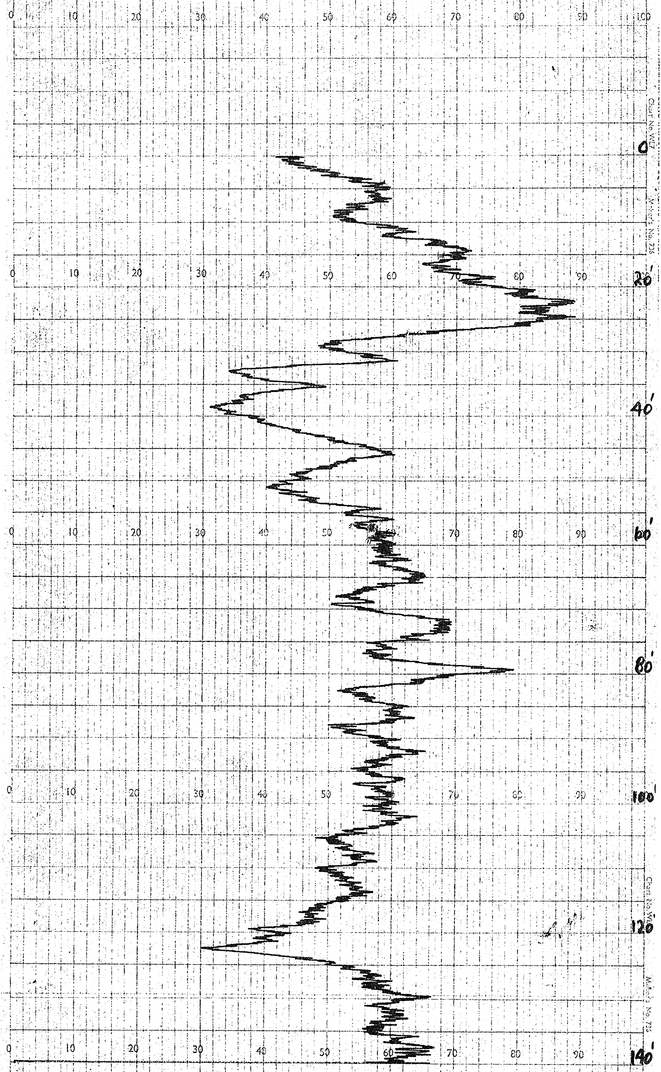

TEST 5000 SLOW SENSITIVITY 25
BACKGROUND 5,000 SLOW SENSITIVITY 25
5,000 SLOW SENSITIVITY 25
TEST 5,000 SLOW SENSITIVITY 25
BACKGROUND 5,000 SLOW SENSITIVITY 25
SEDIMENTARY URANIUM N.L.
Hole No. 514/6
Location CURNAMONA SHEET
Map Ref. 309/126
Type of Log GAMMA
Start Depth 240'
Stop Depth 0'
Run No. 1
SCALE 5,000 C.P.M.
Potential mv/in
Resistivity ohms in
Gamma
Sensitivity 25 mv/in
Time Constant secs
Logging Speed 10' f/min
Operator C.S. BLACKLER
Date 24.11.71
Remarks
ENV1543-3



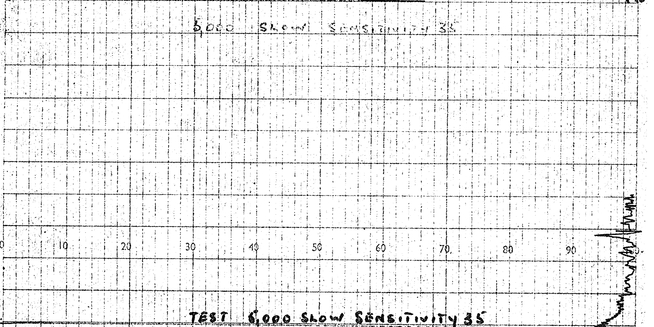
TEST 5,000 SLOW SENSITIVITY 35



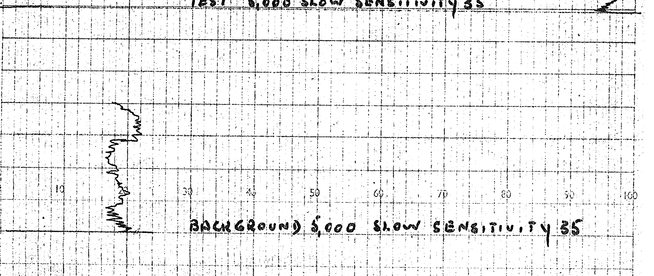
BACKGROUND 5,000 SLOW SENSITIVITY 35



5,000 SLOW SENSITIVITY 35



TEST 5,000 SLOW SENSITIVITY 35

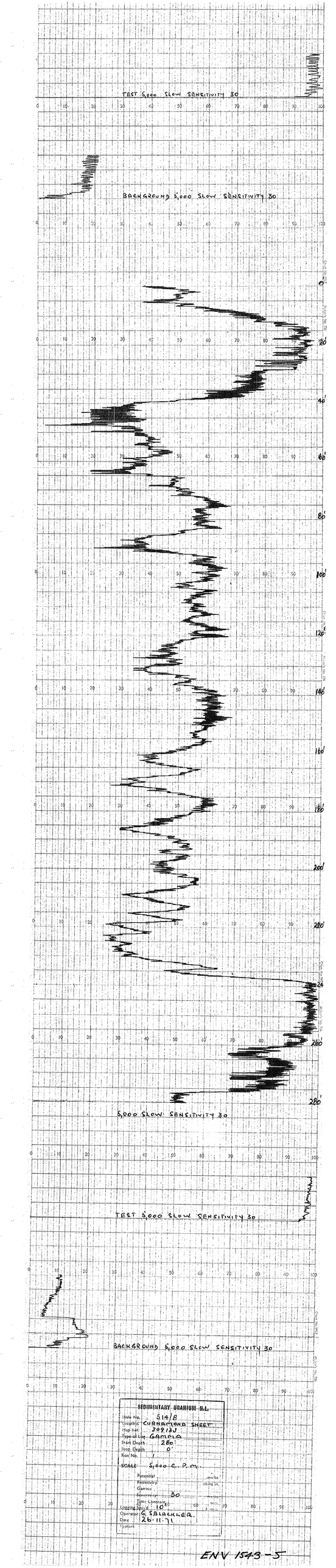


BACKGROUND 5,000 SLOW SENSITIVITY 35

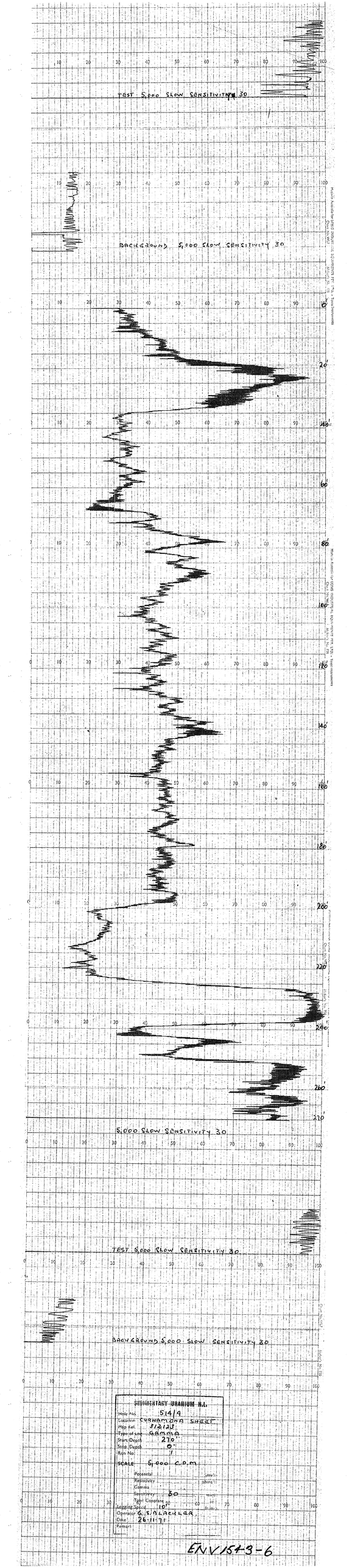
SEDIMENTARY URANIUM R.I.

Hole No.	514/7
Location	CURNAMONA SHEET
Map Ref.	207124
Type of Log	GAMMA
Start Depth	140'
Stop Depth	0
Run No.	1
SCALE	5,000 c.p.m
Potential	
Resistivity	ohms/in ohms/c.
Gamma	
Sensitivity	35
Time Constant	
Logging Speed	10'
Operator	G.S. BLACKLER.
Date	24.11.71
Remarks	LOGGED IN HEAVY RAIN

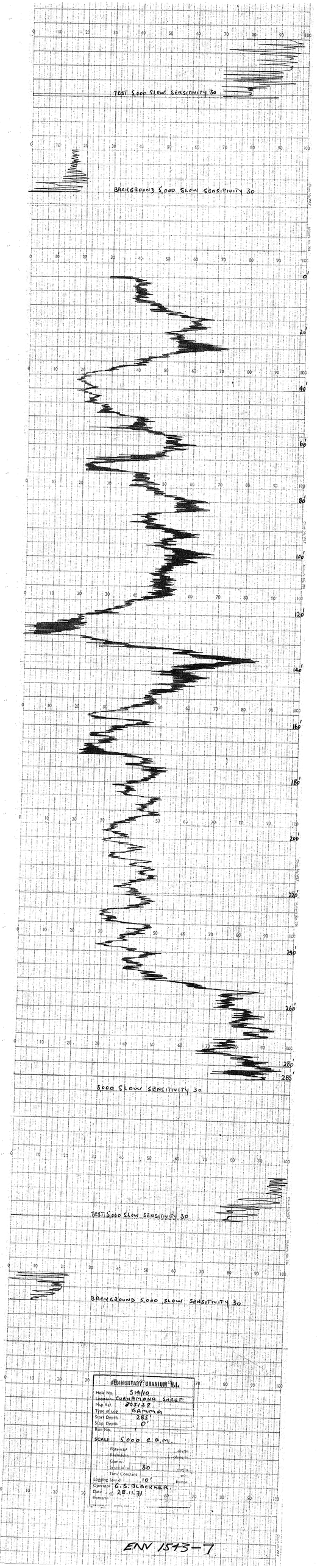
EN4-1543-4


TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
0
20'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
260'
280'
5,000 SLOW SENSITIVITY 30
TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM - N.L.
Hole No. 514/8
Location CURNAMONA SHEET
Map Ref. 7091N
Type of Log GAMMA
Start Depth 280'
Stop Depth 0'
Run No.
SCALE 5,000 C.P.M.
Potential mv/in
Resistivity ohms in.
Gamma
Sensitivity 30
Time Constant secs.
Logging Speed 10" mins.
Operator A. SLATTERY.
Date 26.11.71
Remark

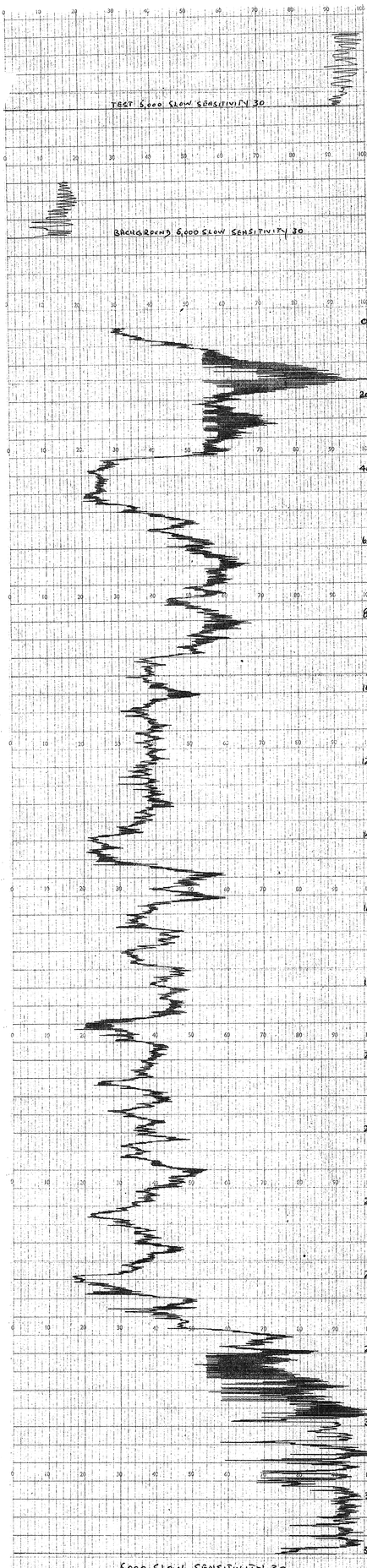
ENV 1543-5


TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
5,000 SLOW SENSITIVITY 30
TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM N.L.
Hole No. 514/9
Location CURNAMONA SHEET
Map Ref. 31/123
Type of Log GAMMA
Start Depth 210'
Stop Depth 0'
Run No. 1
SCALE 5,000 C.P.M.
Potential
Resistivity
Gamma
Sensitivity 30
Time Constant
Logging Speed 10"
Operator G.S. MACKELLAR
Date 26.11.71
Remark

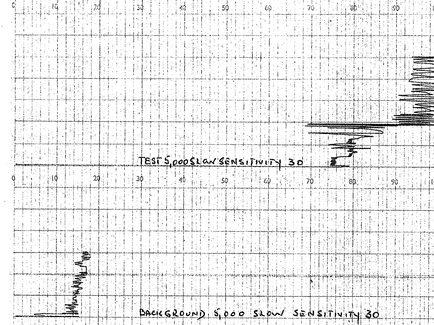
ENV 1543-6


TEST 5000 SLOW SENSITIVITY 30
BACKGROUND 5000 SLOW SENSITIVITY 30
0'
20'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
260'
280'
285'
5000 SLOW SENSITIVITY 30
TEST 5000 SLOW SENSITIVITY 30
BACKGROUND 5000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM N.L.
Hole No. 514/10
Location CURRAMBENA SHEET
Map Ref. 262/28
Type of Log GAMMA
Start Depth 285'
Stop Depth 0'
Run No.
SCALE 5,000 C.P.M.
Potential mv/in
Resistivity ohms/in
Comm.
Sensitivity 30 mv/in
Time Constant sec
Logging Speed 10' P.M.
Operator G.S. BLACKNELL
Date 28.11.71
Remarks

ENV 1543-7



5,000 SLOW SENSITIVITY 30



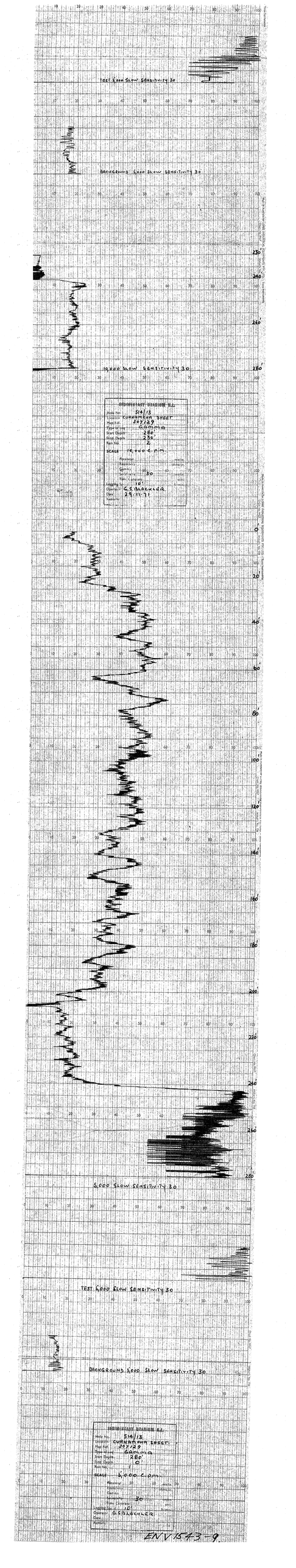
SEDIMENTARY URANIUM N.L.

Hole No.	514/11
Location	CUNNAMIONA SHEET
Map Ref.	300/29
Type of Log	GAMMA
Start Depth	335'
Stop Depth	0'
Rig No.	

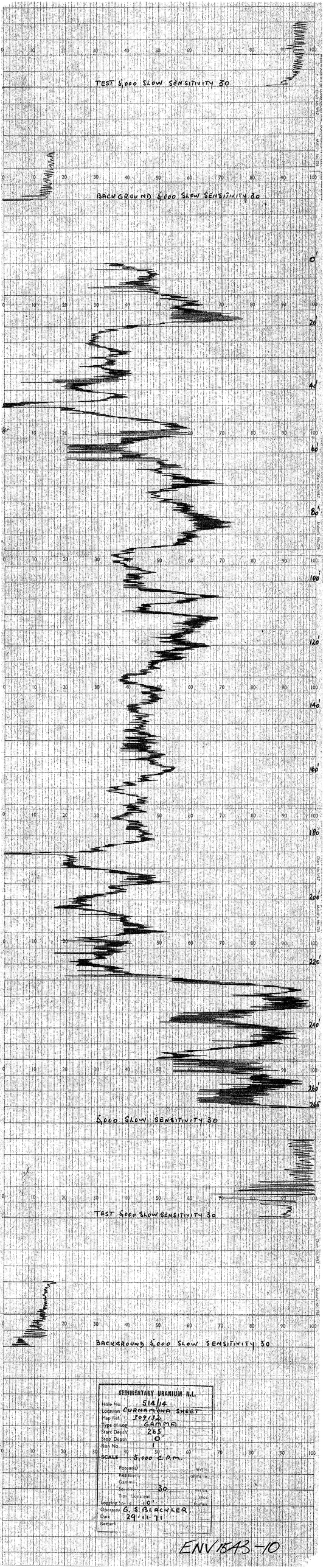
SCALE 5,000 C.P.M.

Potential	...mv/in.
Resistivity	...ohm/in.
Gamma	
Sensitivity	30 mv/in.
Time Constant	Sec.
Logging Speed	10' f/min.
Operator	G.S. BLACKNELL
Date	28-11-71

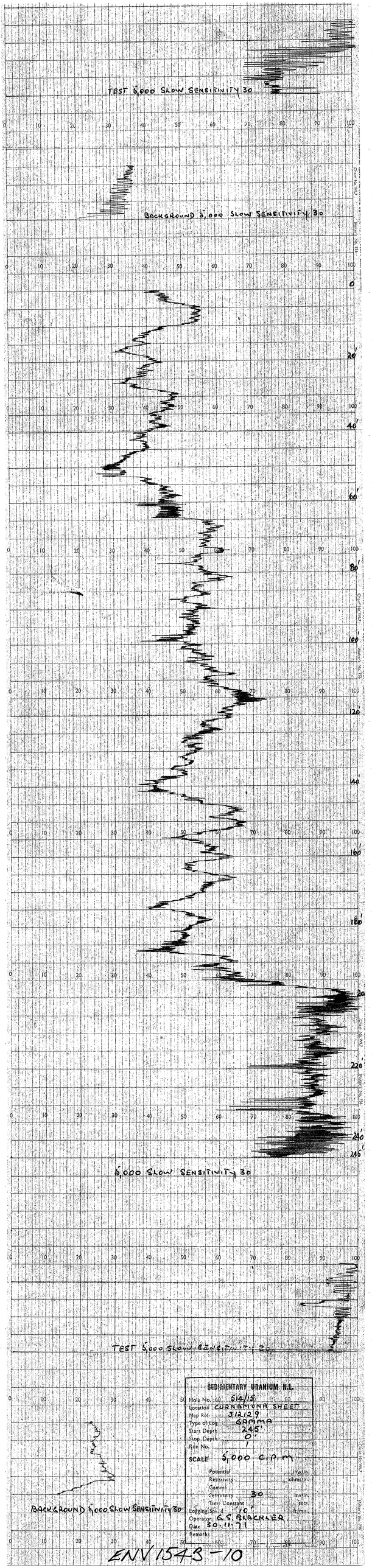
ENV 1543 B-8


TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
10,000 SLOW SENSITIVITY 30
SEDIMENTARY BOREHOLE LOG
514/13
CUNNAMONA SHEET
257/29
GAMMA
280'
230'
2
SCALE 10,000 C.P.M.
Gamma
30
10'
G.S.LOCKLER
29.11.71
5,000 SLOW SENSITIVITY 30
TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
SEDIMENTARY BOREHOLE LOG
514/13
CUNNAMONA SHEET
257/29
GAMMA
280'
20'
1
SCALE 5,000 C.P.M.
Gamma
30
10'
G.S.LOCKLER

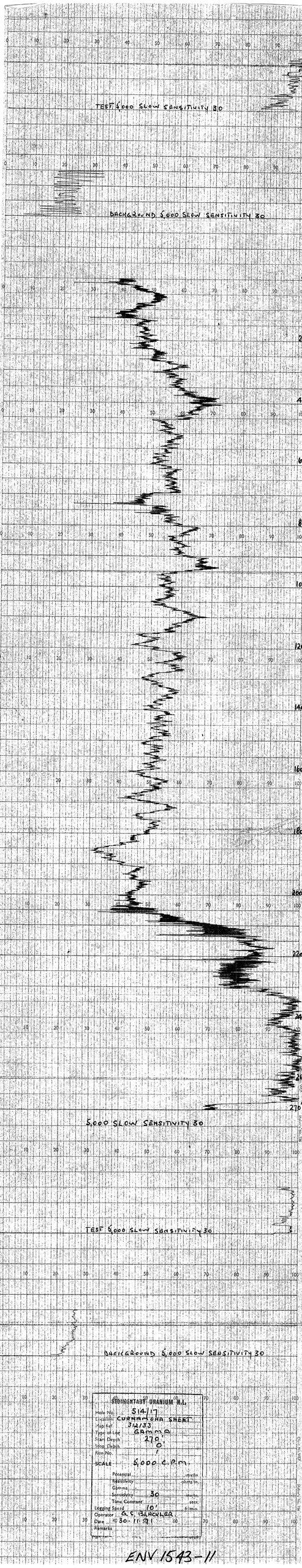
ENV1543-9


TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
0'
20'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
260'
265'
5,000 SLOW SENSITIVITY 30
TEST 5000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM N.L.
Hole No. 514/14
Location CURNAMONA SHEET
Map Ref 309/32
Type of log GAMMA
Start Depth 265'
Stop Depth 0
Run No. 1
SCALE 5,000 C.P.M.
Potential mV/in
Resistivity ohms/in
Gamma
Sensitivity 30
Time Constant secs
Logging Speed 10' /min
Operator G. S. BLACKLER
Date 29-11-71
Remark

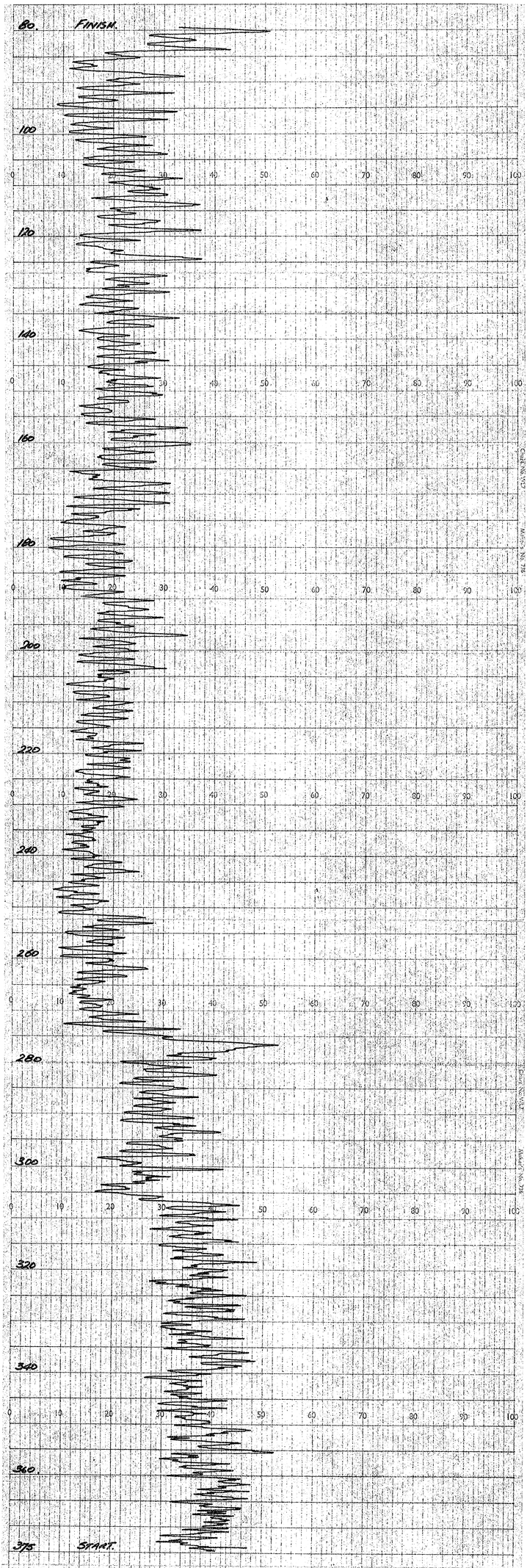
ENV1543-10


TEST 5,000 SLOW SENSITIVITY 30
BACKGROUND 5,000 SLOW SENSITIVITY 30
0
20'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
245'
5,000 SLOW SENSITIVITY 30
TEST 5,000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM N.L.
Hole No. S14/15
Location CURNAMONA SHEET
Map Ref. 3/1209
Type of log GAMMA
Start Depth 245'
Stop Depth 0'
Run No. 1
SCALE 5,000 C.P.M.
Potential mv/in
Resistivity ohms/in
Gamma
Sensitivity 30 in/in
Time Constant secs
Logging Speed 10 ft/min
Operator G.S. BLACKLER
Date 30.11.71
Remarks
BACKGROUND 5,000 SLOW SENSITIVITY 30

ENV 1543-10


TEST 5000 SLOW SENSITIVITY 30
BACKGROUND 5000 SLOW SENSITIVITY 30
0'
20'
40'
60'
80'
100'
120'
140'
160'
180'
200'
220'
240'
260'
270'
5000 SLOW SENSITIVITY 30
TEST 5000 SLOW SENSITIVITY 30
BACKGROUND 5000 SLOW SENSITIVITY 30
SEDIMENTARY URANIUM N.L.
Hole No. 514/17
Location CURRAMULKA SHEET
Job Ref. 5/12/33
Type of Log GAMMA
Start Depth 270'0"
Stop Depth
Run No. 1
SCALE 5000 c.p.m.
Potential mv/in
Resistivity ohms/in
Gamma
Sensitivity 30 mv/in
Time Constant sec.
Logging Speed 10' f/min
Operator G.S. BANCHLEA
Date 30-11-71
Remarks

ENV 1543-11



+ TEST PIECE.

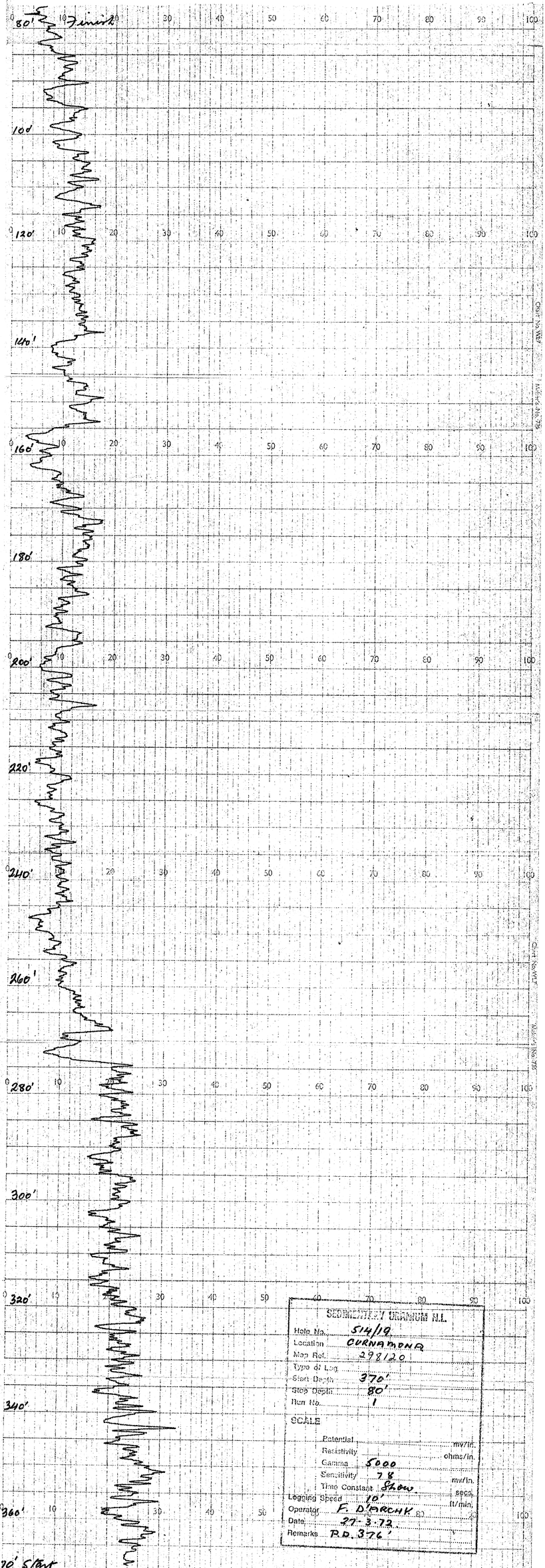
BACKGROUND.

CAL.

Hole No.	516 118.
Location	CURNAMONA.
Map Ref.	298116
Type of Log	GAMMA.
Start Depth	375'
Stop Depth	80'
Run No.	1.
Gamma	5000.
Sensitivity	78.
Time Constant	30M.
Logging Speed	10
Operator	E. DIARCY
Date	25-3-72.
Remarks	NIL. P.D. 379

ENV 1543—11

~~ENV 1548—11~~


80' Finish
100'
120'
140'
160'
180'
200'
220'
240'
260'
280'
300'
320'
340'
360'
370' START
SEDIMENTARY URANIUM N.L.
Hole No. 514/19
Location CURNAMONA
Map Ref. 298120
Type of Log
Start Depth 370'
Stop Depth 80'
Run No. 1
SCALE
Potential mv/in.
Resistivity ohms/in.
Gamma 5000
Sensitivity 7.8 mv/in.
Time Constant Slow secs.
Logging Speed 10' ft/min.
Operator F. D'ARCHY
Date 27-3-72
Remarks R.D. 376'
+ Test Piece
Scal.
BACKGROUND

ENV 1543-12

RECEIVED
28 AUG 1972
DEPT. OF MINES
SECURITY
1543

S.M.L. 514 YANTAWENA WEST

Scale: 1"=1·58 miles.

140°05' 31°00' 140°30' 31°00' 140°00' 31°06' 31°24'

16 15 14 13 12 30 31 32 33 34 35

Billeroo Eurinilla Long Swamp Creek

(Salt) (P.O.) Johnsons New Dam (P.D.)

Wild Horse Lagoon Horse Shoe Lagoon Coolibah Dam

514/1 514/2 514/3 514/4 514/5 514/6 514/7 514/8 514/9 514/10 514/11 514/12 514/13 514/14 514/15 514/17 514/18 514/19

Lake Yantawena Billeroo Waterhole Lake Tinko

182 241 212 24 12

Freckleton's Dam Napiers Catch Pioneer Dam Emu Dam Leslies Dam

Lake Benagerie Sullivans Dam 241 "Benagerie"

ENV 1543-13

140° 05'

140° 30'

31° 00'

31° 06'

140° 00'

31° 24'

140° 00'

140° 30'

31° 24'

Reference

- Interpreted trends (see text)
- Radiation level marginally above background. ≥ 50 cps
- Radiation level distinctly above background. ≥ 100 cps
- Strongly anomalous. > 150 cps
- Interpreted boundaries of uranium depleted areas.

GEOPHYSICAL DATA REDUCED FROM ONE MILE UNCONTROLLED PHOTO MOSAICS.

Drawn by Jemcee Pty Ltd

SEDIMENTARY URANIUM N.L.

SML 514
YANTAWENA WEST, SOUTH AUSTRALIA
RADIATION INTERPRETATION OVERLAY

To accompany report by B.T. JOHNSON

Scale : 1" = 1·58 miles (approx.) Date: 21.5.71. Plan No: YA - 1

RECEIVED
15 JUN 1971
DEPT. OF MINES
SECURITY

ENV 1543-15

1543

140° 30'

141° 00'

31° 00'

31° 24'

Reference

- *Interpreted trends (see text)*
- *Radiation level marginally above background.*
- *Radiation level distinctly above background.*
- *Strongly anomalous.*
- *Interpreted boundaries of uranium depleted areas.*

GEOPHYSICAL DATA REDUCED FROM ONE MILE UNCONTROLLED PHOTO MOSAICS

Drawn by Jemcee Pty Ltd

SEDIMENTARY URANIUM N.L.

SML 513
YANTAWENA EAST, SOUTH AUSTRALIA
RADIATION INTERPRETATION OVERLAY

To accompany report by B.T. JOHNSON

Scale: 1" = 1·58 miles (approx.) Date: 21.5.71. Plan No: YA - 2

RECEIVED
15 JUN 1971
DEPT. OF MINES
SECURITY
1543

ENV1543-16

S.M.L. 514 YANTAWENA WEST

Scale: 1"=1·58 miles.

RECEIVED
1 FEB 1972
DEPT. OF MINES
SECURITY
1543

140°05' 31°00' 140°30' 31°00' 140°00' 31°06' 31°24'

16 15 14 13 12 30 31 32 33 34 35

Billeroo
Eurinilla
Long Swamp
Creek
(Salt)(P.D.)
Johnsons New Dam
(P.D.)
Wild Horse Lagoon
Horse Shoe Lagoon
Coolibah Dam
514/4
514/3
514/2
514/1
514/17
514/14
514/12
514/11
514/13
514/15
514/10
514/5
Lake Yantawena
Billeroo Waterhole
Lake Tinko
182
514/6
514/7
514/8
514/9
Freckleton's Dam
241
212
24
12
Napiers Catch
Pioneer Dam
Lake Benagerie
241
"Benagerie"
Sullivans Dam
Emu Dam
Leslies Dam

ENV1543-17