CONTENTS ENVELOPE 2502

TENEMENT: EXPLORATION LICENCE 121

TENEMENT HOLDER: MINES ADMINISTRATION PTY. LTD

REPORT:

Plans:

003

REPORT ON RELINQUISHED PORTIONS OF E.L.121 (BEEFSTEAK DAM)

by

G.K. ELLIS & D.A. BRUNT

LEASE DETAILS

E.L.121 was granted to Mines Administration Pty. Ltd., Teton Exploration Drilling Co. Pty. Ltd. and Carpentaria Exploration Co. Pty. Ltd. on the 7th January 1974. It was held continuously by those companies until 6th January 1975 when the eastern and western portions of the area were relinquished. E.L.121 covered an area of 524 square kilometres in the area approximately 20 km north of Cockburn, South Australia. The location of the area and the two relinquished portions are shown on the attached portion of the Curnamona 1:250,000 Sheet (Fig.1).

The lease covered exploration for all minerals, however sedimentary uranium was the prime target. In this project Mines Administration Pty. Ltd., was acting for a Joint Venture with Teton Exploration Drilling Co. of Wyoming, U.S.A. (33.1/3%) and Carpentaria Exploration Co. Pty. Ltd. (33.1/3%).

GEOLOGY

E.L.121 is located in the south-eastern corner of the Mesozoic-Tertiary Frome Embayment, portion of the Great Artesian Basin.

Proterozoic

Proterozoic rocks do not outcrop on E.L.121; however outcrops of granite and folded metasediments of the Olary Ranges outcrop to the south and west. Weathered Proterozoic granites, schists and metasediments were encountered in drill holes unconformably underlying Tertiary strata.

Cretaceous

Although no Cretaceous strata were encountered in the areas, similar sediments on the adjoining Exploration Licences are considered to be

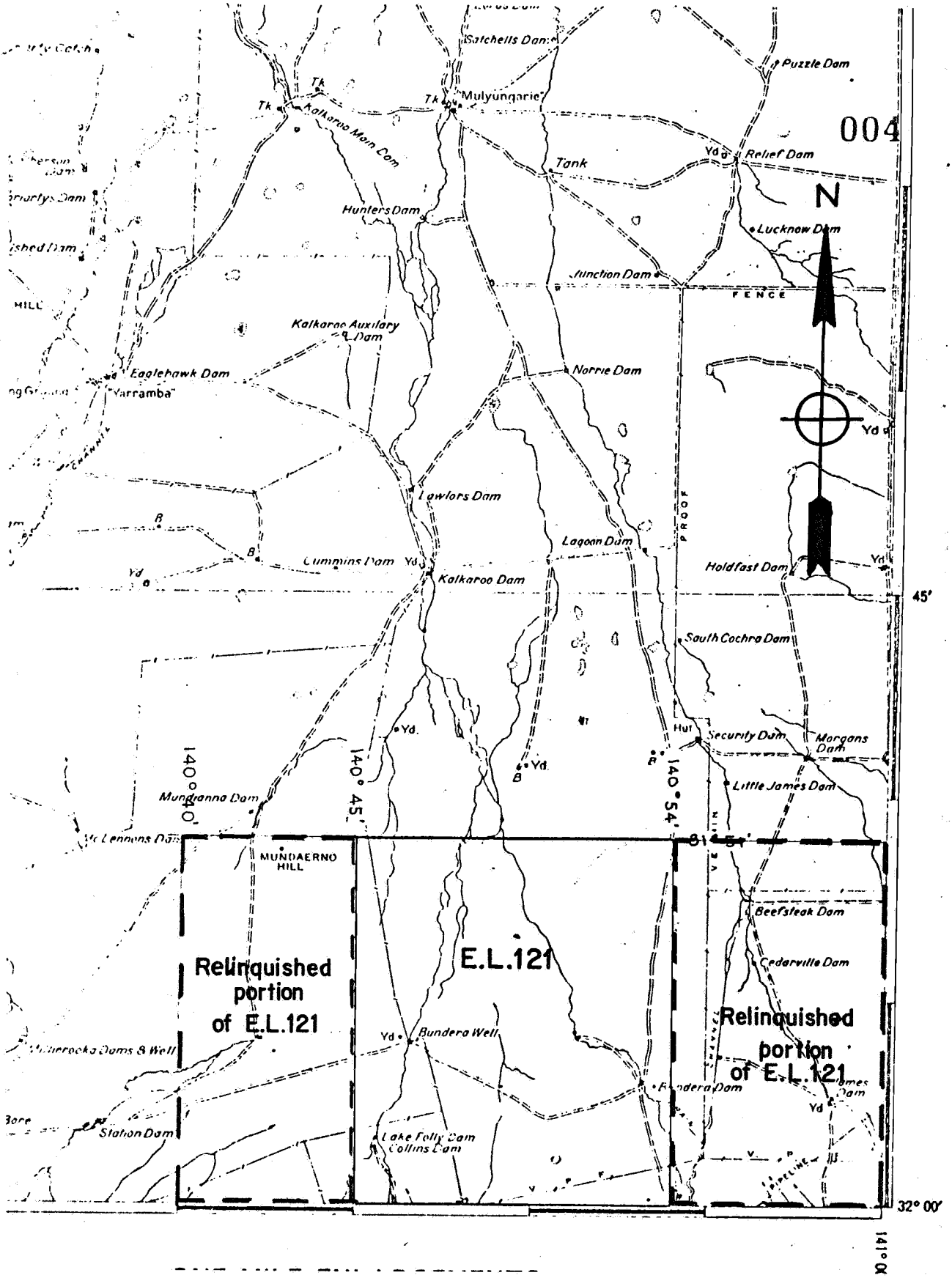


Fig.1 LOCATION MAP E.L. 121

Showing relinquished portions of the area

Scale 1:250,000

0 1 2 3 4 5

scale

of Cretaceous age and representative of the Maree Formation. Typically marine Cretaceous clays were deposited in "lows" upon the Proterozoic palaeosurface.

Cainozoic

A Lower Tertiary channel sequence similar to that of the palaeochannel developed on the adjoining Exploration Licences is present. In general an upper channel section from 70-95 metres consists of white, yellow and mottled sandy silts with interbedded kaolinitic clays. A lower channel section from 95-120 metres consists of pale yellow to orange, fair to well sorted, medium to coarse grained quartzose sands with increasing grain size towards the base. The sands are oxidized throughout with moderate to strong yellow limonite alteration in parts, and contain no pyrite.

The channel sequence is disconformably overlain by lacustrine clays and silts of the Miocene Etadunna Formation, which in turn is overlain by Quaternary sands, silts and clays.

EXPLORATION

Exploration over E.L.121 fell into two categories:-

: Resistivity survey.

: Rotary drilling programme.

Resistivity Survey

During February 1974 a surface resistivity survey was conducted over portions of E.L.121. The work was carried out by Murdoch Geology and Geophysics Pty. Ltd. of Glen Innes, New South Wales, and was aimed at locating extensions to Tertiary palaeochannels occurring on the adjoining Exploration Licences.

The survey comprised four predominantly east-west profiles, each consisting of detailed Schlumberger Array soundings at intervals of 2 km along each line, with rapid 2 point Schlumberger soundings at intervals of $\frac{1}{2}$ km. All sounding were expanded parallel to the traverse

line. For detailed soundings, 14 different electrode spacings were used ranging from 6.5 m to 320 m. Rapid sounding readings were taken at electrode spacings of 130 m and 320 m. The location of the various profiles (Lines 9, 10, 11 and 14) are marked on the attached map (Fig.2).

Interpretation of the results indicated the presence of two Tertiary palaeochannels (see map showing Interpreted Tertiary Palaeogeography - Fig. 2).

Drilling Programme

The areas of possible Tertiary palaeochannels delineated by resistivity survey were the targets of the drilling programme. A total of 13 holes were drilled for an aggregate depth of 1,142.2 metres.

The work was carried out by W.L. Sides and Son of Clayton, Victoria, using a Mayhew 1000 rotary drilling rig. Cuttings samples were collected and described at 1.5 m intervals from the surface to total depth. All holes were logged for gamma ray, resistivity and spontaneous potential by Geoscience Associates (Australia) Pty. Ltd. of Kilkenny, South Australia.

Drilling on Resistivity Lines 9, 11 and 14 confirmed the presence of a Tertiary palaeochannel at 22,500E, 6,000E and 4,000E respectively (see Fig.2). Drill holes BD-3 and BD-6 on Line 9 outlined a channel approximately 1.3 km wide and up to 50 metres thick, with the top of the channel occurring at 70 metres. No anomalous radioactivity is present.

A similar channel section occurs on Line 11, although the sand section is thicker and the channel is wider. The sand is oxidised throughout and no anomalous radioactivity was detected. Drill hole BD-14 to the north of Cedarville Dam penetrated a similar but thinner sand section and appears to be located towards the margin of the palaeochannel.

The section penetrated on Line 14 consists essentially of kaolinitic clays and silts similar to the upper channel section present to the north. Sand was penetrated only in BD-10 located in the middle of the

resistivity-defined channel. All holes are radiometrically barren.

Drill hole BD-16 and nearby MH-2 (drilled by Mines Administration Pty. Ltd. in 1971 on SML.612) near the eastern end of Line 9 penetrated a thick kaolinitic clay-silt section overlying weathered Proterozoic metasediments (BD-15A was abandoned at shallow depth due to lost circulation). It is apparent the channel system does not extend into this area.

Composite lithology-geophysical logs of the 13 drill holes accompany this report.

CONCLUSIONS

A palaeochannel system incised into Proterozoic metamorphic and igneous rocks exists in a north-south direction through the eastern portion of E.L.121. The stream gradient was apparently towards the north. All sands are oxidised throughout, and no anomalous radioactivity is present. No well defined palaeochannels are indicated in the western portion of the area.

G.K. ELLIS & D.A. BRUNT

Attachments: - Fig.1 - Location Map (1:250,000)
Fig.2 - Interpreted Tertiary Palaeogeography.
Composite logs of drill holes.

MINAD TETON — AUSTRALIA

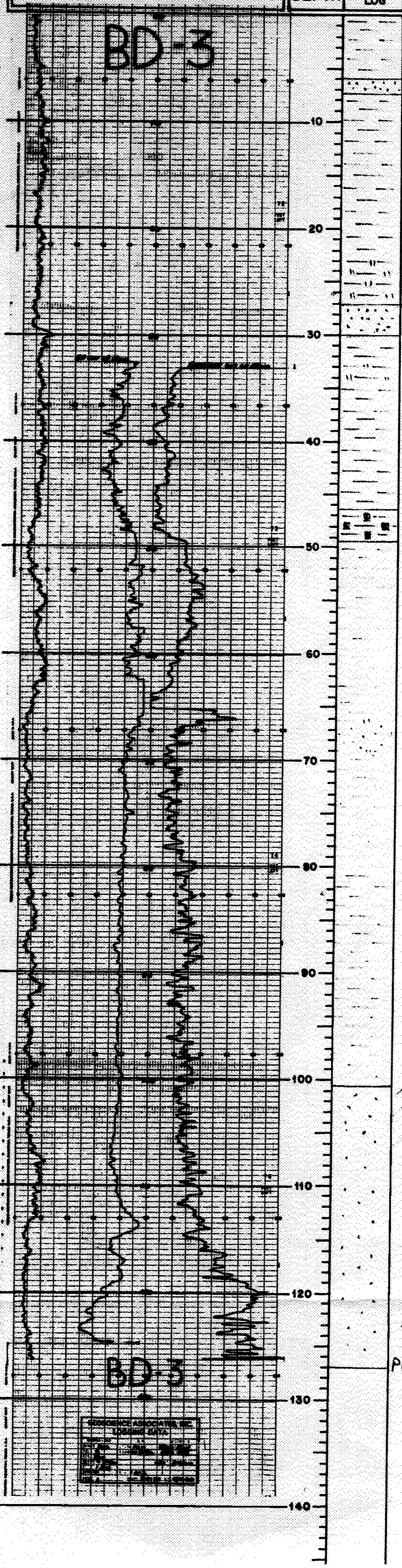
PROJECT BEEFSTEAK DAM **HOLE SIZE** 4 3/4" (12cm) ☑ AIR ☑ WATER **HOLE NO.** BD-3

ELEVATION ______ **LOCATION:** LINE 9 2250E **LOGGED BY** G. K. ELLIS **DATE** 10-7-74

MAP BEEFSTEAK DAM **SCALE** 1:50,000 **T.D.** 127.50m **P.D.** 127m

008

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG		LITHOLOGY LOG



LITHOLOGY LOG

SOIL, MOD BRN, SL CALC
BECOMING CLAYEY (GREYISH GRN - MOD BRN

LIGHT BRN - GREY CLAY, FIRM
SAND, GREY-RED BRN, MD-CRSE GR, SUBANG, PR SORT, QUARTZ
CLAYEY, CALCAREOUS
GREY BRN CLAY FIRM

RED BRN SOIL, CLAYEY

RED BRN - GREY-GRN CLAY, FIRM

RED BRN SANDY SOIL BECOMING CLAYEY

RED BRN - GREY GRN CLAY
BECOMING SILTY

27.0-30.0
LIGHT GREY BRN SAND, VFG - MGR, SUBANG - SUBRND
..., CLAYEY.

YELLOW-GREY CLAY — LIGHT GREY CLAY
BECOMING SILTY AND FIRM.

VARICOLOURED CLAY (GRY - YELLOW AND RED)
VRY FIRM SL FISSILE

LIGHT GREY CLAY WITH RED MOTTLING, VRY FIRM

45.5-49.5
GRY - BLACK CARB CLAY FIRM-SOFT

DK - LT GREY CLAY, POWDERY
BECOMING CALCAREOUS

LIGHT GY - PALE REDDISH CLAY.

LIGHT GY - PALE REDDISH CLAY

66.0m PALE YELLOW - WHITE SILTY, CALC CLAY, SOFT
V. SL SANDY

a/a

a/a

81.5 a/a SL OXIDISED → RED MOTTLING
-83.0

PALE YELLOW WHITE CLAY a/a

a/a

a/a

100.5 SAND FN - CRSE GR, RND - SUBRND, PR SORT
OXIDISED (LIMONITE STAINING) TR MUSCOVITE, TR HAEMATITE
... PINKISH GREY - 5YR 8/1 → 5Y 8/1)

103.5 SAND SUB ANGULAR AND LIGHT GREY (N8)
FAIR - GOOD SORTING FN - M GR TR OXIDISED
SL KAOLINITIC

a/a, SL MUSCOVITE

a/a

a/a but becoming coarser, kaolinitic (altered feldspar) (5YR 8/1)

124.5 SAND ... FAIR SORTING, GREY - MOD BRN

P.D. 127m PRECAMBRIAN BASEMENT ?
DRILLING DISCONTINUED DUE TO VERY HARD ROCK

[AIR DRILLING 0 — 100.5
WATER " 100.5 — T.D.]

MINAD TETON — AUSTRALIA

PROJECT. BEEFSTEAK DAM **HOLE SIZE** 12 cm? ☐ AIR ☑ WATER **HOLE NO.** BD-4

ELEVATION _____ **LOCATION:** Line 9 23000 E **LOGGED BY** D. BRUNT **DATE** 10-7-74

MAP B. DAM **SCALE** 1:50,000 **T.D.** 99.0 m. **P.D.** 98.6 m

air to 80m.

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG — 009
BD-4	10	Surface oxidation	0-30 clay & silt, md to dk red, reddish brown, mod. soft, silty, vr. fn. sand, strongly oxidized
	20		
	30		30-42 clay, mottled, variegated, lt. brown, md. red, lt. grey, mod. hd, brittle
	40		42-48 aa, more red, (maroon) & lt. grey.
	50		48-58.5 clay & silt, white, clean, slightly greasy & kale-like, kaolinitic?
	60		58.5-72 clay, silty, lt. red to md. yellowish brown, soft, slightly kaolinitic
	70		72-87.6 silty clay, pale to lt yellowish brown, soft, kaolinitic (weathered?) limonite alteration
	80		
	90	?T PE	87.6-99 ?weathered precambrian basement weathered granite, lt-dk orangy grey, md-cse sand, A-SUBR, strong limonite alteration of hematite alteration on 75% grains, & kaolinite of altered feldspar, mod hard, harder at depth, v. hard at 99m. drilling ceased.
BD-4	100	TD.	
	110		
	120		
	130		
	140		

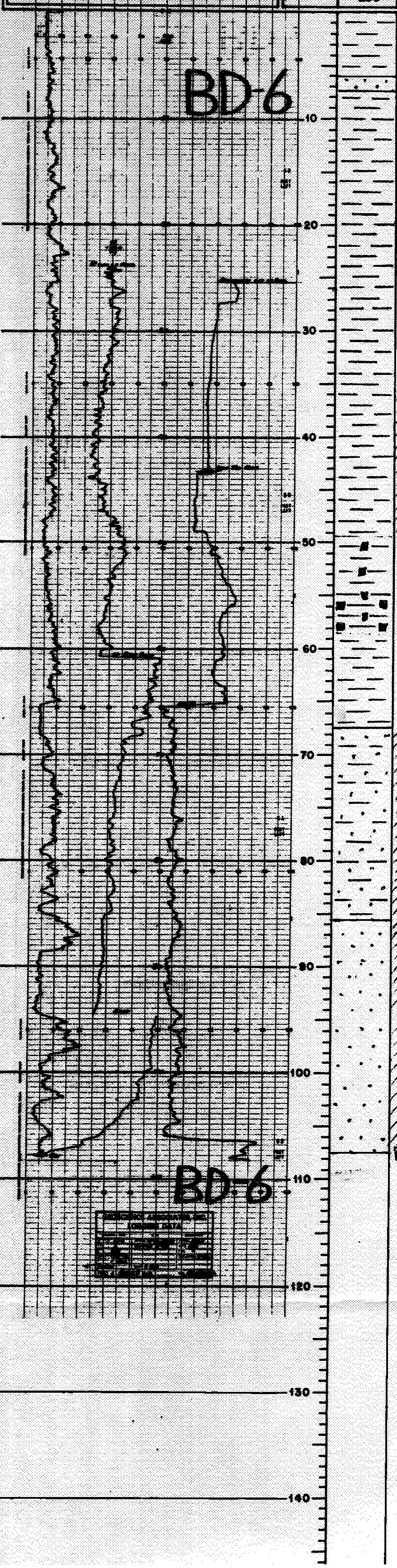
MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM **HOLE SIZE** 4 3/4" (12cm) ☑ AIR ☑ WATER 36m **HOLE NO.** BD-6

ELEVATION ____ **LOCATION:** Resistivity line 9 22750E **LOGGED BY** G.K. ELLIS **DATE** 11-7-74

MAP BEEFSTEAK DAM **SCALE** 1:50,000 **T.D.** 111m **P.D.** 108.0m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG		LITHOLOGY LOG 010



SURFACE OXIDATION

RED BRN CLAYEY SOIL
GRADING TO GREEN GREY → BRN CLAY

LIGHT REDDISH BRN QUARTZ SAND FG - VCGr, SUBRND-RND
POOR - FAIR SORTING, RED HAEMATITE STAINING.

GREEN GY — RED MOTTLED CLAYS
RED CLAYEY SOIL GRADING GRN-YELLOW CLAY

RED BRN CLAYEY SOIL

a/a
a/a [illegible] SANDY
RED BRN CLAYEY SOIL

a/a GRADING TO GRN-GREY CLAY, FIRM

a/a

a/a BUT MORE MOTTLED (GREEN GREY + RED BRN)
SOFT, SL. STICKY

a/a

a/a becoming v soft

49.5 DK GY-BRN - BLACK CARBONACEOUS CLAY
a/a

a/a with some fragments of coal (black and firm)

a/a becoming more clayey, grey brn - white

→ white - grn - ~~white~~ gy
67.5 v sandy CLAY → SAND fg-mg, sub ang, poor sorting
~~fine~~ haematite staining, tr haematite, kaolin, weathered felds

a/a
qtz grns becoming crse, kaolinitic

a/a (Limonite staining throughout)

a/a gradual decrease in clay content
85.5
SAND grey-white, mgr, sub ang - subrnd, fair-gd sorting
limonite staining, kaolin

a/a crse in part

a/a

a/a

a/a more clayey (haematite oxidation)

PE

107.5

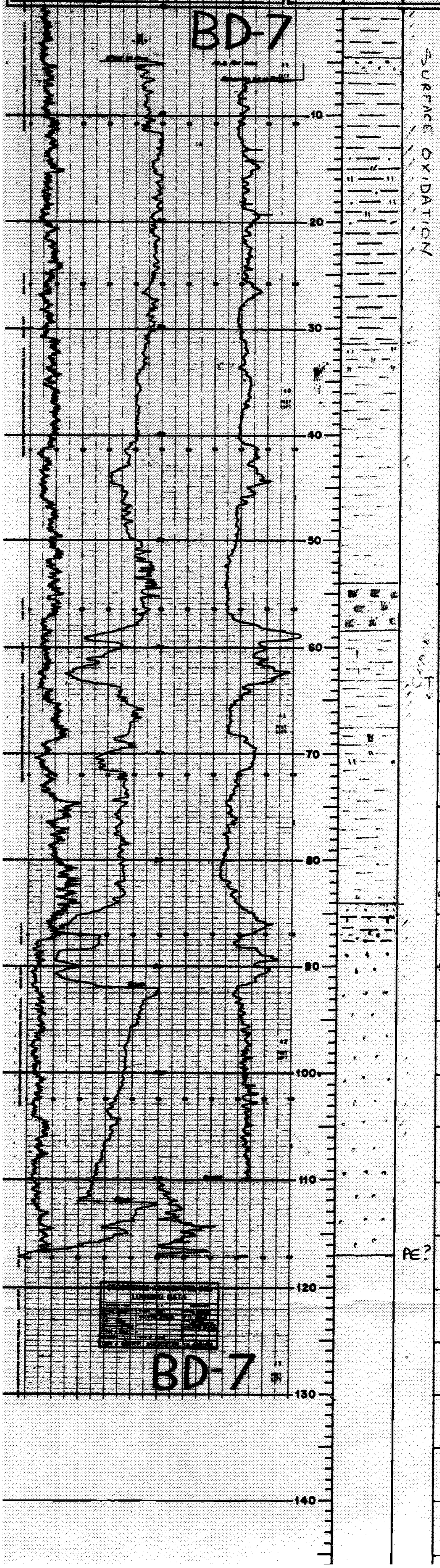
MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM **HOLE SIZE** 4¾ (12 cm) ☐ AIR ☑ WATER **HOLE NO.** BD-7

ELEVATION ______ **LOCATION:** Resistivity line 11 5500E **LOGGED BY** G.K. ELLIS **DATE** 11-7-74

MAP BEEFSTEAK DAM **SCALE** 1:50,000 **T.D.** 118.5m **P.D.** 118.0m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG		LITHOLOGY LOG 011



RED BRN CLAYEY SOIL, SANDY & SILTY IN PART.

RED-BRN-GRY MED-FINE G SAND, SUB ANG-SUB RND, POOR SORTING, QUARTZ GRAINS COATED WITH HAEMATITE

GREEN-GREY CLAY (MOTTLED), FIRM

RED-BRN CLAY (POWDERY)
GRADING TO GREY-GREEN ~~CLAY~~ AND BRN CLAY
SL. SILTY, TR SANDY

GRADING TO RED BRN SILTY → SANDY SOIL
WITH INTERBEDDED GREY-GREEN CLAY

a/a

RED BRN CLAY, FIRM, SL SILTY.

SILTY CLAY GREY-YELLOW (5Y7/4) FIRM
TR CARBONACEOUS MATTER
TR SANDY

a/a

MOTTLED GREY-WHITE → RED CLAY
LIMONITIC ALTERATION IN PART.

a/a

GRADING TO STICKY DK GREY—BLACK CARBONACEOUS SHALE

58.5 - 63.5 (LIMESTONE)
[illegible] WHITE CALCAREOUS CLAY → CALCRETE?

VERY [illegible] BRITTLE MOTTLED WITH YELLOW BRN [illegible] TRACE [illegible] SAND
GREY-WHITE, SOFT CLAY
WITH [illegible]

GRADING TO DK GREY CARBONACEOUS CLAY, SOFT

GREY WHITE CLAY SOFT, SL STICKY
SLIGHTLY SILTY

a/a

84.0 a/a
CALCAREOUS CLAY [illegible], WHITE GY, FIRM
SANDY IN PART
[illegible] SANDY, QUARTZ GNS, MED GR, SUB RND, LIMONITE STAINED

88.4
SAND, GREY-WHITE (N8) F-MG, SUBRND, FAIR-GD SORTING
[illegible], CEMENT, KAOLINITIC
[illegible] fine [illegible] well sorted

[illegible] very fine grained
[illegible] kaolinitic & limonitic staining

a/a [illegible] med-coarse, subrnd

a/a

[illegible] sorting, subang
[illegible]

[illegible] subrnd, fair-good sorting
[illegible]

PRECAMBRIAN very hard, samples increasingly clayey.

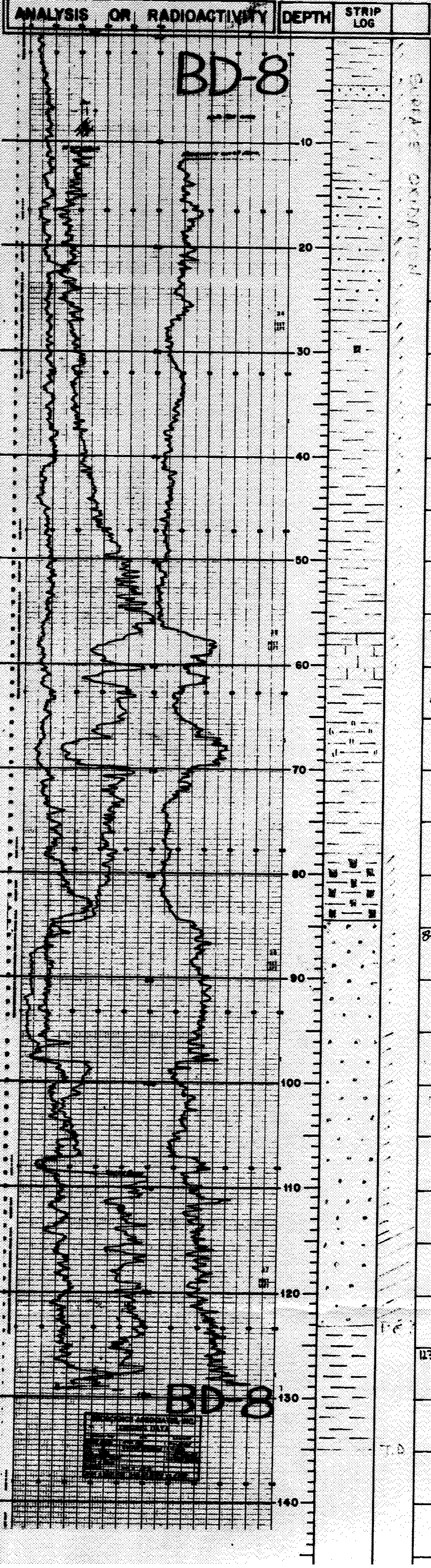
MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM **HOLE SIZE** 4¾ (12cm) ☑ AIR ☐ WATER **HOLE NO.** B.D-8

ELEVATION ____ **LOCATION:** Resistivity line 11 625 0E **LOGGED BY** G.K.ELLIS **DATE** 11-7-74

MAP BEEFSTEAK [illegible] **SCALE** 1:50,000 **T.D.** 135m **P.D.** 129.5m

ANALYSIS OR RADIOACTIVITY | DEPTH | STRIP LOG | LITHOLOGY LOG 012



RED BROWN SOIL SL. SANDY

RED BROWN SAND FG-CASC GR, SUBRND-RND POOR SORTING

RED BROWN CLAY FIRM
SL. MOTTLED WITH GREY GREEN CLAY

a/a MORE POWDERY

RED BRN - LT BRN SANDY SOIL QUTZ GRAINS
HAEMATITE COATING, VFG-FG, SUBRND-RND, GD SORTING
CLAYEY
BECOMING SILTY WITH DEPTH

a/a

a/a

CLAY RED BRN, SL CARBONACEOUS
GRADING TO MOTTLED RED BRN - GREEN GREY CLAY

GRADING TO GREEN-YELLOW-GREY WHITE CLAY

MOTTLED GREY GREEN - RED BRN CLAY FIRM

a/a

a/a

a/a

DK GREY OXIDISED CLAY, SOFT-STICKY

57.0 - 61.7
LIMESTONE GREY WHITE, FINE CRYSTALLINE, HARD BRITTLE
SL LIMONITE ALTERATION

PINK-GREY SOFT CLAY

GRADING TO WHITE-GREY STICKY SOFT CLAY
SILTY IN PART
a/a

a/a

a/a BUT INTERBEDDED CARBONACEOUS CLAY, DK GREY-BLK
SANDY IN PART, LIMONITE OXIDATION [illegible]
BECOMING INCREASINGLY SANDY

84.5 SAND FG-MG, GREY-WHITE, SUBRND, FAIR SORTING
TRACE LIMONITE, KAOLINITIC

SAND a/a
increasing [illegible] size - vmgr, fair good sorting
[illegible] staining, kaolinitic

a/a

fg-mg SAND GREY WHITE, subang, gd sorting
a/a

a/a, tr muscovite, increasing limonite staining

a/a

a/a but marked increase in limonite staining.
sample [illegible] yellow grey (5Y 7/2)
[illegible]

[illegible]

Samples increasing amt of clay - [illegible] gy

123.5 CLAY - med gy (5Y 6/1)
— weathered [illegible] ?

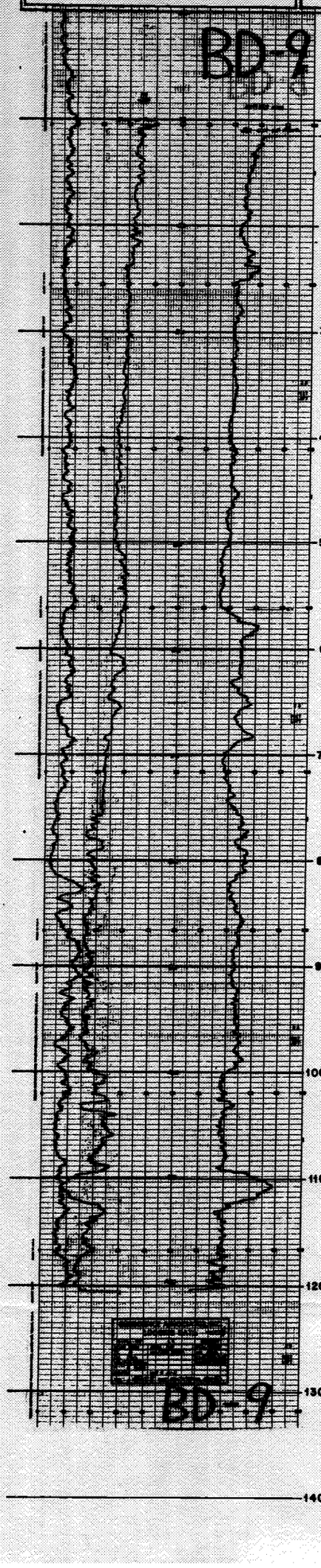
MINAD TETON — AUSTRALIA

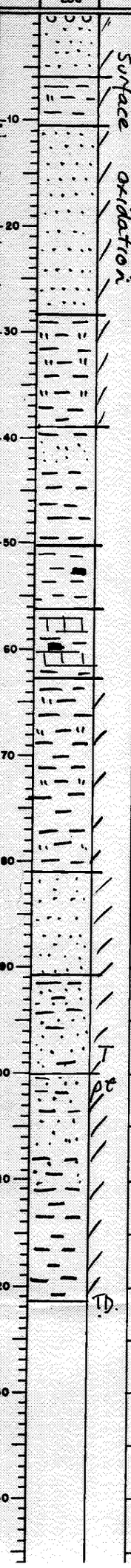
PROJECT BEEFSTEAK DAM HOLE SIZE 12cm ☑AIR ☑WATER HOLE NO. BD-9

ELEVATION _____ LOCATION: LINE 11 5100E LOGGED BY D. BRUNT DATE 13-7-74

MAP B. DAM SCALE 1:50,000 T.D. 121.5 m P.D. 120.5 m

ANALYSIS OR RADIOACTIVITY | DEPTH | STRIP LOG | LITHOLOGY LOG 013





0-6 sand, red-md red, soft clayey, silty & sandy + sand, md red, mod w sorted, quartzose, sub A, strong red surface oxidation

6-10.5 clay, md. red, soft to mod soft, flaky to compact, silky.

10.5-28.4 Sand, md red-reddish brown, soft, friable, fn-v.f.tn gnd in upper part, md-cse at base, sub Ang, qtzose, strong red surface oxidation.

28.4-39 clay, lt.-md. yellowish brown, mod. soft, brittle in parts, v. slightly silty.

39-50.2 clay, lt. grey, mod. soft, silty & sandy at 40.5-42.5m.

50.2-56.2 clay, dk-md. grey, mod soft, tr. carb. matter compact, dense

56.2-62.8 limestone, lt. greenish grey, mod, hard, brittle, conchoidal fracture, microcrystalline, (developed at top of channel section. (calcrete=lime formation) + clay, dk grey, carbonaceous.

62.8-81.0 clay, lt. grey to white & yellow, soft kaolinitic + silt, white to lt. yellow, sandy (qtzose), kaolinitic, strong-mod. yellow limonite staining throughout.

81-90.8 ss, lt. yellowish grey, cse, mod to p. sorted qtzose, sub A-sub R, pale yellow & creamy white alteration or ~25% grains, tr. orange limonite, no Pyrite or carb. matter, + interbd. clay, kaolinitic, white

90.8-100.1 clay, white, strongly kaolinitic, slight-mod yellow limonite alteration.
& ss, lt. yellowish grey, md-cse, mod w. sorted, qtzose, sub R, mod-sl y. limonite alteration, tr. orange limonite, no P or carb., v. clayey sand.

100.1-121.5 WEATHERED PC. BASEMENT - ?weathered schist. upper part sandy, lt-md. orange, brown, mottled, qtz, sub A - sub R, strongly oxidized (pc surface oxidation) tr. mica, igneous rock fragments, tr. green mineral lower part, clay, lt brown, v. soft, silky, yellow-orange oxidized strongly, slight to moderately hard in parts.

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM — HOLE SIZE 4¾" (12cm) ☑AIR ☑WATER — **HOLE NO.** BD-10

ELEVATION _____ LOCATION: Resistivity line 14 4500E — LOGGED BY G.K. ELLIS — DATE 13-7-74

MAP BEEFSTEAK DAM — SCALE 1:500 — T.D. 108.3 — R.D. 106.2

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG		LITHOLOGY LOG - 014
			SURFACE OXIDATION	RED BRN CLAYEY SOIL MUTTLED IN PART WITH GREY ~~GREEN~~ WHITE CLAY
	10			9.0-10.5 Soil contains crse sand fraction (milky-clear QUARTZ vcrse-crse grained, ang, ~~brown~~ haematite coating,
				10.5 Yellow-grey clay, firm
	20			grading to brn and red brn clayey soil becoming increasingly clayey with depth
				[at 15.0m-16.5m SAND lt brn-red, fg-vcg, subang-ang grains coated with haematite]
	30			30.0-39.0 CLAY—mottled red brn-green-grey clay firm
	40			39.0 light grey CLAY mottled in part (haematite staining) firm and brittle
				a/a
	50			a/a
	60			58.5 CLAY, white-pale gy, powdery (kaolinitic?) sl yellowish (5Y 9/1)
				a/a
	70			-74.0 71.5 SAND lt gy-white (sl reddish), quartz sl milky, subang-subrn, fg-mg fair sorting, sl kaolinitic, haematite coated grns becoming increasingly kaolinitic with depth
	80			74.0 KAOLINITIC CLAY, white-crm (10YR 8/2) sandy in part qtz grns fg, subrnd-rnd, sl milky, tr haematite staining
				Gradually becoming more sandy from 82.5 SAND f-mg, subang, haematite staining of clay & sand
	90			a/a increasing haematite staining with depth
				96.0 SAND, fg-mg, subang-ang, gd sorting, haematite staining, lt grey-yellow (5Y 8/1)
	100			a/a
			PE	106.5 PRECAMBRIAN dk green grey clay, soft.
BD-10	110		T.D.	
	120			
	130			
	140			

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM **HOLE SIZE** 12cm ☑ AIR ☐ WATER to T.D. **HOLE NO.** BD-11

ELEVATION — **LOCATION:** LINE 14 3500E **LOGGED BY** D.BRUNT **DATE** 14-7-74

MAP B. DAM **SCALE** 1:50,000 **T.D.** 95.0 m **P.D.** 93.1 m.

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
BD-11			015
	0		0-6 soil, md.red, soft, sandy.
			clay, md.red to lt. reddish grey, soft, silty and sandy
	10	Surface oxidation	6-27 sand, md red to lt. yellowish brown, soft, silty to v. silty, md-fngnd, mod. to well sorted, subR, gtzose, strong red haematitic surface oxidn
	20		
	30		27-34.6 clay, md. red, soft, silty in parts.
	40		34.6-47.8 clay, lt. yellow-yellowish brown, soft, friable silty. - grades to light maroon grey at base.
	50		47.8-59.1 clay, white, kaolinitic, silty, soft, fairly pure but contains some sand.
	60	T ?pt	59.1-90.5 clay & silt, lt red to lt. reddish brown, v. soft, kaolinitic, tr. sand, mica prob. pt. but resembles weathered Tertiary.
	70		
	80		
	90	TD.	90.5-95.0 Precambrian: granite wash, md red., cse. gnd, poorly sorted, tr. feldspar, (kaolinite), biotite, rock fragments, strong red haematitic oxidation on gtz. grains.
	100		
	110		
	120		
	130		
	140		

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM HOLE SIZE 12cm ☒AIR ☐WATER HOLE NO. BD-12

ELEVATION — LOCATION: LINE 14 5450 E LOGGED BY D. BRUNT DATE 14-7-74

MAP B.DAM SCALE 1:50,000 T.D. 97m R.D. 96.3m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG 016
BD-12	10	surface oxidation	0-9 soil, md red, soft, silty + clay, md red, silty, slightly sandy
			9-18.2 sand, md. red, md-fn, mod. w. sorted, grnose, subR-subA, strongly oxidized.
	20		18.2-37.8 silt, md. yellowish brown, soft, friable, clayey
	30		37.8-45.0 clay, md red to lt. grey, mod-soft, compacted.
	40		45-50.9 silt, lt-md. red & yellowish brown, mod soft, friable.
	50		50.9-57.7 silt, v. lt. grey to white, soft, powdery,
	60		57.7-68.9 clay, white strongly kaolinitic, powdery, talc-like v. slightly sandy
	70	T ?Pt	68.9-92.4 ? PRECAMBRIAN clay & silt, lt-md red & reddish brown, v. soft, friable, slightly kaolinitic, resembles fossil soil horizon.
	90		92.4-94.3 granite wash, md red-orange, cse. gnd, poorly sorted, Ang. grains, tr muscovite, biotite & metamorphic rock fragments, strong red haematite oxidation and limonite oxidation,
BD-12	100		94.3-97. weathered pt. metamorphics, lt-md brown, contains muscovite, metamo. rocks fragments, kaolinitic - harder at depth.
	110		
	120		
	130		
	140		

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM — HOLE SIZE 4¾ (12cm) ☑AIR ☑WATER — **HOLE NO.** BD-13

ELEVATION _____ — LOCATION: Resistivity line A 5000E — LOGGED BY G.K.ELLIS — DATE 14-7-74

MAP BEEFSTEAK DAM — SCALE 1:50,000 — T.D. 97m — P.D. 95.2m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG 017
	0		RED BRN SOIL GRADING TO RED BRN – GRN MOTTLED CLAY
			6.0–7.5 SAND red brn, f–vcg, subang–ang, fair sorting haematite coating on grains
	10		7.5–13.5 PALE YELLOW TO ORANGE powdery CLAY
			13.5–15.5 SILT AND SAND STN., lt brn, gradual increase in grain size from silt to vcg, subang, poor–fair sorting haematite coating on qtz
	20		15.5–39.0 CLAY yellow brn – red brn powdery–firm.
			a/a
	30		a/a
			a/a
	40		39.0–58.5 CLAY lt. grn gy – red brn mottled, firm sl. silty.
			a/a
	50		a/a
			– 60.5
	60		58.0 CALCAREOUS MUDSTONE, white – pale grey, very hard. yellow limonite staining, and red brn haematite staining mainly in top 1.5m
			60.5 – 73.5 white – crm KAOLINITIC CLAY, sl sandy qtz, f–mg subang trace limonite staining
	70		73.5 Green–yellow clay, sl sandy highly altered (limonite), muscovite present some haematite alteration (red brn) weathered granite (GRANITE??)
	80		
	90		
	100		
	110		
	120		
	130		
	140		

SURFACE ALTERATION

FE

BD-13

RESOURCES ASSOCIATES INC. LOGGING DATA

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM HOLE SIZE 12cm ☐AIR ☑WATER HOLE NO. BD-14

ELEVATION — LOCATION: 1.5km N of Cedarville Dam LOGGED BY D BRUNT DATE 15-7-74

MAP B.DAM. SCALE 1:50,000 T.D. 115.5m R.D. 114.4m.

AIR TO 52m.

018

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
BD-14	10	Surface Oxidation	0–7 soil, md red, soft, silty, clayey + sand, md. red, md–fn, mod, well sorted, qtzose, subA–subR, strong red haematite surface oxidation.
	20		7–26.2 clay, lt–md. red/ reddish brown, soft silty + ss. aa, cse/granid.
	30		26.2 – 39.6 clay, lt yellowish brown, soft, silty
	40		39.6 – 58.8 clay lt–md red (maroon) and lt–dk grey, darker grey at base, mod. soft, compact ?=slightly kaolinitic, ?tr. carbonaceous matter.
	50		
	60		58.8 – 65.1 clay, md–dk grey, compacted + ?limecemented clay (calcareous claystone), mod. hd., brittle, sharp, tr. conchoidal fracture.
	70		65.1 – 72.0 calcareous claystone & clay, aa.
	80		72.0 – 84.2 clay, lt–md. grey, white & yellow soft, slightly kaolinitic, silty.
	90		84.2 – 95.6 clay, lt grey to white, yellowish, moderately kaolinitic, silty, tr. limonite alteration.
	100		95.6 – 103.4 clay aa + tr. ss, lt grey, fn–md., mod w. sorted, qtzose., subA–A, tr. yellow limonite but mostly clean unaltered, v. clayey sand
	110	T pt TD.	103.4 – 107.4 clay, white, – lt. grey, soft, kaolinitic
BD-14	120		107.4 – 112.4 ss., lt yellowish grey, cse–vcse, mod w. sorted, qtzose, subA–A, tr. – mod. creamy yellow alteration on 20% qtz, no pyrite or carbon, tr. muscovite & ? metam. rock fragments.
	130		112.4 – 115.5 clay, wh. kaolinitic, streaks yellow & brown. tr. blk. ? biotite., hard drilling, harder at depth. — probably pC. ? weathered metam. basement.
	140		

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM HOLE SIZE 12cm. ☑AIR ☑WATER HOLE NO. BD-15A

ELEVATION — LOCATION: LINE 9 2650 E LOGGED BY D. BRUNT DATE 16-7-74

MAP B. DAM SCALE 1:50,000 T.D. 51m P.D. 50.4 m

AIR to 30cm

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG 019
BD-15A	10	surface oxidation	[HOLE BD-15 abandoned at 42 m. — lost circulation]
			0-1.5 soil, md. red, soft, silty, sandy, tr. gypsum
			1.5-21 clay, md. red, mod soft, tr. gypsum in upper part, silty, tr. fine sand, strongly oxidized
	20		21-24 sand, md/red, md gnd, mod well sorted to well sorted, qtzose, sub R-sub A, strong surface oxidation (red haematite)
			24-36 clay, md.-dk. red, mod soft, sticky
	30		36-43 clay, lt-md yellow / yellowish brown, soft, sticky, porous — probably fractured (balls up) ? lost circulation in this zone
	40		43-51 clay, lt-md. bluish grey, gray & lt. red, soft, slightly sticky (balls up)
BD-15A	50	TD.	HOLE ABANDONED AT 51m. BIT UNABLE TO PENETRATE FURTHER BIT BALLS UP WITH CLAY & LOST CIRCULATION.
	60		
	70		
	80		
	90		
	100		
	110		
	120		
	130		
	140		

MINAD TETON — AUSTRALIA

PROJECT BEEFSTEAK DAM. HOLE SIZE 4¾ (12cm) ☐ AIR ☑ WATER HOLE NO. BD-16

ELEVATION " LOCATION: Resistivity Line 9 27250E LOGGED BY G. K. ELLIS DATE 16-7-74

MAP BEEFSTEAK DAM SCALE 1:50,000 T.D. 108.50 P.D. 107.50

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
BD-16		SURFACE OXIDATION	020
			0-9 RED BRN CLAYEY SOIL GRADING TO GREY WHITE CLAY, V. HARD, SL SILTY
			9-12 MOTTLED RED BRN – GREY WHITE CLAY
			12.0 – 34.0 RED BRN → YELLOW BRN STICKY SOFT CLAY
			a/a
			24.0 CHOCOLATE BRN CLAY, FIRM, GREY-WHITE CLAY in part
			a/a
			GRADING TO LT GREY CLAY, V FIRM, LIMONITE STAINING IN PART
			a/a but cl. mottled with red brn clay.
			a/a
			48.0 GREY WHITE CLAY with limonite alteration.
			52.0 DK GREY CLAY, firm to hard. red haematite alteration.
			Grading to ~~grey~~ lt grey clay
			a/a
			65.0 White – grey white CLAY kaolinitic limonite alteration, soft, sticky
			66.0-67.5 lt grey brn hard CLAY (calcareous?) brittle. (Thin band)
			67.5 – 82.5 CLAY – white → grey kaolinitic, very soft red haematite alteration.
			82.5 a/a YELLOW – GREY CLAY, SOFT, SL silty strong limonite alteration
			a/a limonite becoming stronger with depth chloritic alteration, trace muscovite
		Pe	~~Quartz~~ tr trace, quartz, milky, angular, m-cg (Weathered Basement?)
			amount & quartz increasing with depth
		T.D.	
BD-16			

MINAD TETON — AUSTRALIA

PROJECT _____ HOLE SIZE _____ ☐ AIR ☑ WATER HOLE NO. BD-16

ELEVATION _____ LOCATION: Resistivity Line 9 27250E LOGGED BY C. K. [illegible] DATE 6-7-74

MAP _____ SCALE 1" = [illegible] T.D. 108.50 R.D. 57.50

ANALYSIS OF RADIOACTIVITY BD-16 | DEPTH | STRIP LOG | LITHOLOGY LOG 021

SURFACE CONTACT

10 20 30 40 50 60 70 80 90 100 110 120 130 140

PE

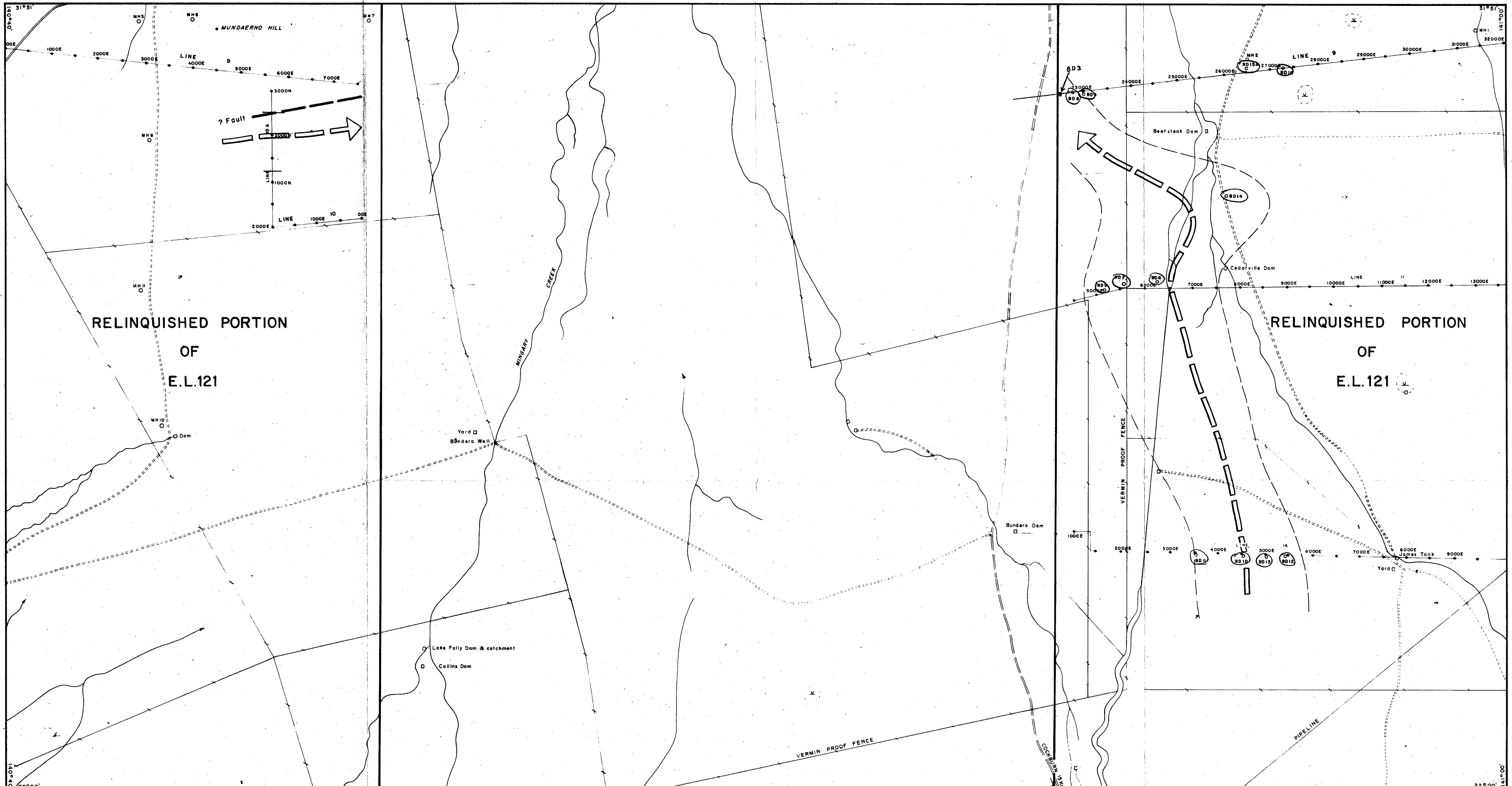
TD

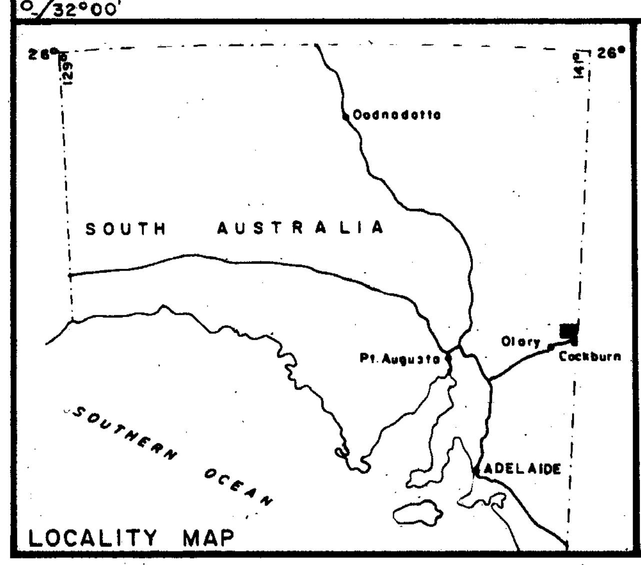
65.0

3

BD-16

GEOSCIENCE ASSOCIATES, INC.
LOGGING DATA





LEGEND

- Drainage system
- Major road - unsealed
- Minor road - unsealed
- BD 10 — Drill hole - location and no
- LINE 9 — Resistivity profile with location of soundings
- Tertiary channels interpreted from resistivity data

REVISIONS	
Date	By
16·10·74	D.A. Brunt

MINAD·TETON·AUSTRALIA

E.L.121 · BEEFSTEAK DAM PROJECT

INTERPRETED TERTIARY PALAEOGEOGRAPHY

(RELINQUISHED PORTIONS)

Author D. Brunt
Date 28 March, 1974
Scale 1:50,000 → 2cm reps 1km.
File No. T21
Map No. Fig. 2

ENV 2502 -1