CR 73/182

ANNUAL REPORT ON NAMOONA
A.P. NO. 2113 - E.L. 525
BY: LE NICKEL (AUST) EXPLORATION PTY LTD

ANNUAL
~~FINAL~~ REPORT ON NAMOONA A to P N° 2113*
or EL 525

NORTHERN TERRITORY ✓

D. Normand

JUNE 1973

*Throughout this report the A.P. number inadvertently appears as 213. Would you please note that this should now be referred to as E.L.525.

I N D E X

SUMMARY

Work on the prospect during 1972 consisted of a follow-up to general mapping and stream sediment sampling initiated during 1971. A field check of the previously detected stream sediment anomalies was made, but all could be related to known uneconomic mineralization.

Some further mapping and field geochemistry was carried out on the surface outcrops within the A to P, but no encouraging results were revealed. Therefore, as no further work can be justified, it is recommended that the Company relinquish its interest in the A to P.

1.00 Introduction

The Namoona prospect is covered by the A to P No 213 (EL 525) of 16 square miles which was granted to Western Nuclear in 1968. The prospect encompasees, but does not include a block of mineral leases owned by Mr. H. Brennan of Darwin (Fig 7.1).

The prospect is located 100 miles southeast of Darwin and 60 miles north-northeast of Pine Creek. Access is via four wheel drive tracks either from Mt. Harris (North of the Mt. Wells Government Battery) or from the Goodparal Homestead (North of Moline). A general locality is shown in Fig 7.1.

Previous exploration on this prospect has been covered in an earlier company report [1] and will not be reiterated here, except to state that the main economic interest is silver-lead-zinc mineralization.

The present report covers a follow-up survey of mapping and field geochemical testing (using acidic Potassium Iodide to indicate lead) based on the companies previous stream sediment survey carried out during 1971..

2.00 General Geology (Fig 7.2)

The regional geological setting of the prospect has been previously described (see footnote reference 1) but further work has shown that the area is not simply folded and little field evidence is available to verify the photogeology proposed in this earlier report.

Geology in and adjacent to the prospect has been divided into four units based on the type and abundance of lithologies. Lack of outcrop does not allow a complete understanding of stratigraphy or structure, but an interpretation has been placed on the evidence available.

1. P. Berger & D. Normand (1972) Progress Report on Namoona A to P No. 213, Northern Territory, Le Nickel (Aust) Exploration Pty.Ltd. Report (Nimex - 718/72 - H)

The mineralized zone has been well exposed by costeaning and a narrow anticlinal structure is present. Some contortion of bedding and cleavage suggests that sediments are at the apex of a major fold and, on this ev idence, it would appear that the mineralization is localised in this apex. Thus, stratigraphically the mineralized unit is taken as the oldest unit. Lithologies are predominantly yellowish and purple grey silstones and shales (seen only in costeans), with few felspathic quartz sandstone lenses and rare beds of silicified silstone which may be silicified carbonate sediment. In general, outcrop over this unit is almost zero except for the sandstones and a few narrow gossans related to the mineralization.

The second unit is defined as red silstones and shales with rare lenses of felspathic quartz sandstone, silicified silstone (after carbonate?) and silicified greywacke. Again outcrop is poor and, in most cases, the unit is implied from low rubble ridges and billocks of silstone float. Along a possible shear zone, however, the red silstones crop out as a ridge of massive fissured and indented rock.

A third unit crops out as a NW-SE trending series of ridges paralleling the Southwest border of the prospect. It is made up of interbedded felspathic quartz sandstones and grits, and red silstones and shales. No pebble conglomerates have been observed and it is thought that this unit is only a lens within the second unit (i.e., the predominantly red silstone/shale unit). There is no factual evidence to relate it with the oldest unit although the structural cross-section suggests such a conclusion.

The youngest unit of interest to this study is well outside and to the Northeast of the prospect. A long, narrow ridge of felspathic quartz sandstone, grit and quartz pebble conglomerates, passing through a NW plunging synclinal structure on its South eastern end, make up this unit.

In general, bedding attitudes are very steeply or vertically dipping while the few cleavages observed are vertical. Graded bedding is common in the sandstones and grits of the third unit, while graded bedding and scour and fill structures are found in conglomerates of the fourth unit. Overturned beds could only be shown in one case (fourth unit)

and even then, dips are much too steep to allow any significance to be placed on the observation.

As shown in the diagrammatic cross-section a simple fold structure is unlikely. B.M.R. mapping has shown anticlinorial folding to the Northwest and it is believed that this is the more likely structure within the prospect. The near-conformable nature of many of the narrow gossanous veins within the costeaned areas suggest that they were emplaced during the folding, but this does not necessarily imply an epigenetic source for the areas mineralization. On the contrary, it suggests that folding caused a partial remobilisation of a pre-existing syngenetic mineralization.

3.00 Stream Sediment Anomalies

All previously determined stream anomalies were inspected in the field, but, in each case, the watershed of the anomalous creek intersected or contained previously examined mineralization. Thus the survey was success only in re-locating known mineralization.

4.00 Rock Geochemistry (see Appendix)

During the field work an acidic solution of Potassium Iodide was used as an on-the-spot check for lead. The test appears to be sensitive to 3000-4000 ppm Pb in the rock, so it was useful in checking ferruginous sediments and gossans.

As lower concentrations of lead can be anticipated in an environment suspected of hosting syngenetic mineralization a number of samples both from the costeans and from outcrop were submitted for analysis.

The results show significant lead (and in a few cases, Zinc) within the silstones of the costeans. A comparative enrichment of both Pb and Zn is noted in the actual gossan samples, which are believed to represent a slight remobilisation during folding of the lead and zinc already held within the sediments.

When metal values for samples outside the costeaned areas are perused, it is quite evident that the costean silts and shales are anomalous in lead and zinc. Once again, the survey has only defined areas of

known mineralization without enlargement.

5.00 Recommendations

No extensions or new zones of mineralization have been located in field surveys during 1971 and 1972. Nor does the present geological knowledge of the prospect indicate the possibility of economic discoveries.

The known mineralization has been drilled several times by two earlier explorers (C.R.AE. and United Uranium N.L.) and no economic ore zones were defined.

Although it is agreed that the Namoona mineralization has aspects indicating a syngenetic origin, the prospect itself does not have sufficient economic potential to warrant further work. For this reason it is recommended that Le Nickel Exploration should relinquish their interest in the prospect.

6.00 APPENDIX

Copper, Lead and Zinc Results for Outcrop and Costean Samples, Namoona A to P N° 213. (Locality Positions as shown on Fig. 7,20 - Values in PPM/%)

Loc. N°	Field No	Cu	Pb	Zn	Brief Sample Description
1	277	34	38	94	Red siltstone float adjacent to and intersected with quartz sandstone
2	278	78	24	130	Massivie reddish siltstone (partially silicified)
	279	20	18	70	Mottled red siltstone showing vertical fissuring (probably due to shear)
3	251	3400	8.4%	1300	Narrow gossan exposed in small costean and conformable to host siltstones
	252	120	6300	1400	Weathered yellowish siltstone 5 metres from gossan in 3
4	253	920	2.1%	5800	Gossaneous quartz vein as suboutcrop in alluvium (adjacent to small costean)
5	281	24	30	180	Yellowish laminated siltstone from exposure in creek ba
6	296	4	54	36	Massive yellowish siltstone outcrop in fragmental float of red siltstones
7	294	30	120	150	Red ironstained shale showing probable shear cleavage
8	292	330	2.3%	3500	Narrow gossaneous zone conformable to host siltstone (costean exposure)
	293	38	2800	160	Yellowish and greyish siltstones from costean exposure to southeast of 292
9	235	38	1.25%	1300	Gossaneous zone (~ 2 metres wide) of quartz and sediment (costean exposure)
	237	62	390	250	Purplish laminated siltstone from costean exposure of westerly dipping sequence
	241	98	4900	330	Purplish laminated siltstone from costean exposure of a sequence with irregular bedding attitudes
	248	200	2.7%	2300	Purplish laminated siltstone from costean exposure of a small anticlinal fold
10	204	64	179	880	Reddish siltstone sampled over 5 metres in costean exposure
	206	520	1.9%	1100	Narrow gossaneous quartz vein as outcrop to SE of 204
	211	120	6700	620	Purplish and yellowish siltstones showing fine ferruginous laminae (from costean exposure to SE of 206
	215	16	1040	62	Purplish laminated siltstones from vertical dipping costean exposure
	229	50	160	160	Weathered reddish siltstone from costean exposure to W o 215

6.00 APPENDIX (contd)

Loc N°	Field N°	Cu	Pb	Zn	Brief Sample Description
	232	80	2.1%	1.2%	Gossaneous quartz vein from outcrop adjacent to quartz sandstone (west of 229)
11	309	40	74	120	Yellow sandy siltstone as suboutcrop
	310	24	2100	5400	Narrow brecciated zone of quartz and siltstone adjacent to 309 (earthy hematite cement in breccia)

7.00 ILLUSTRATIONS

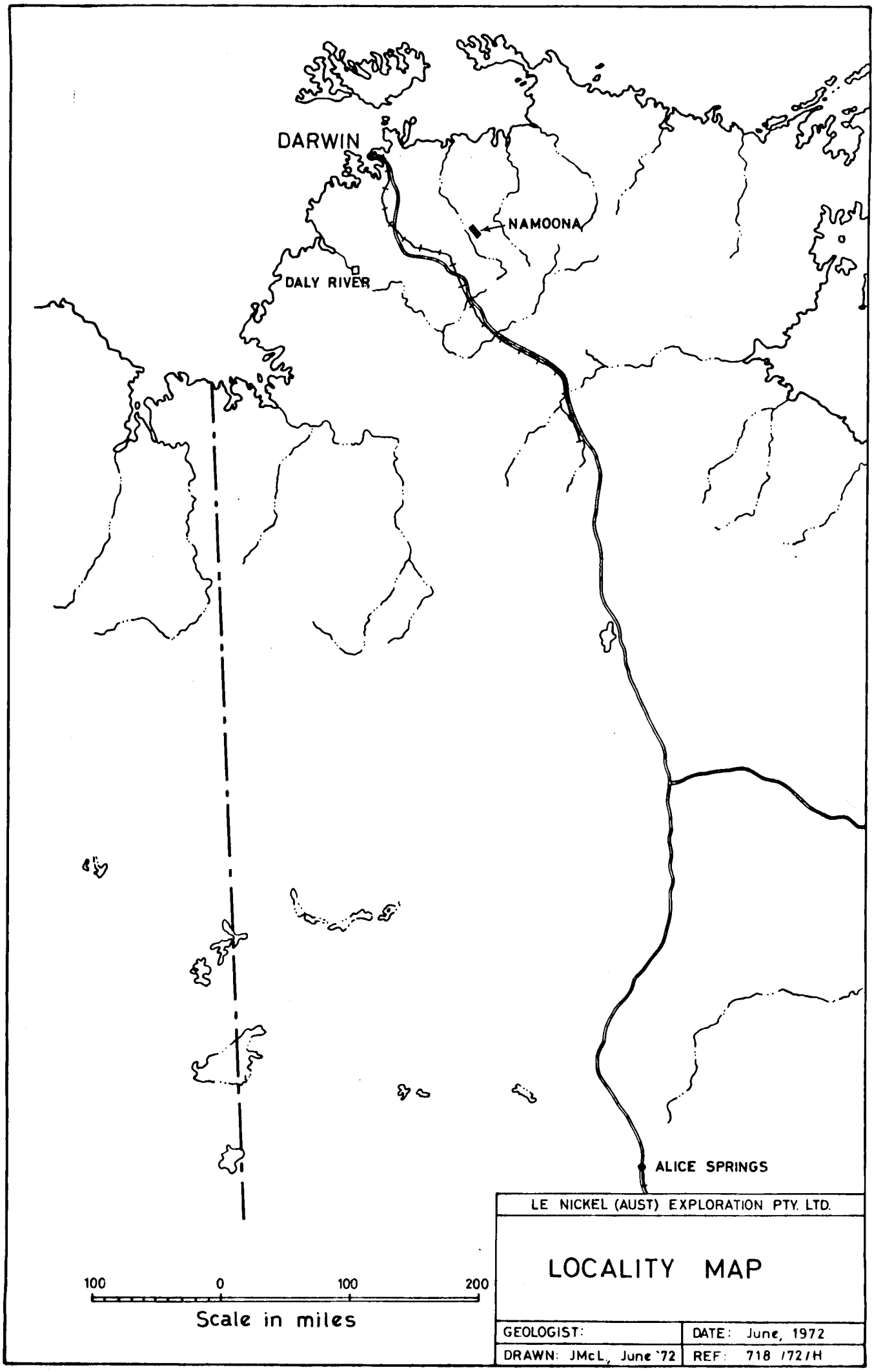
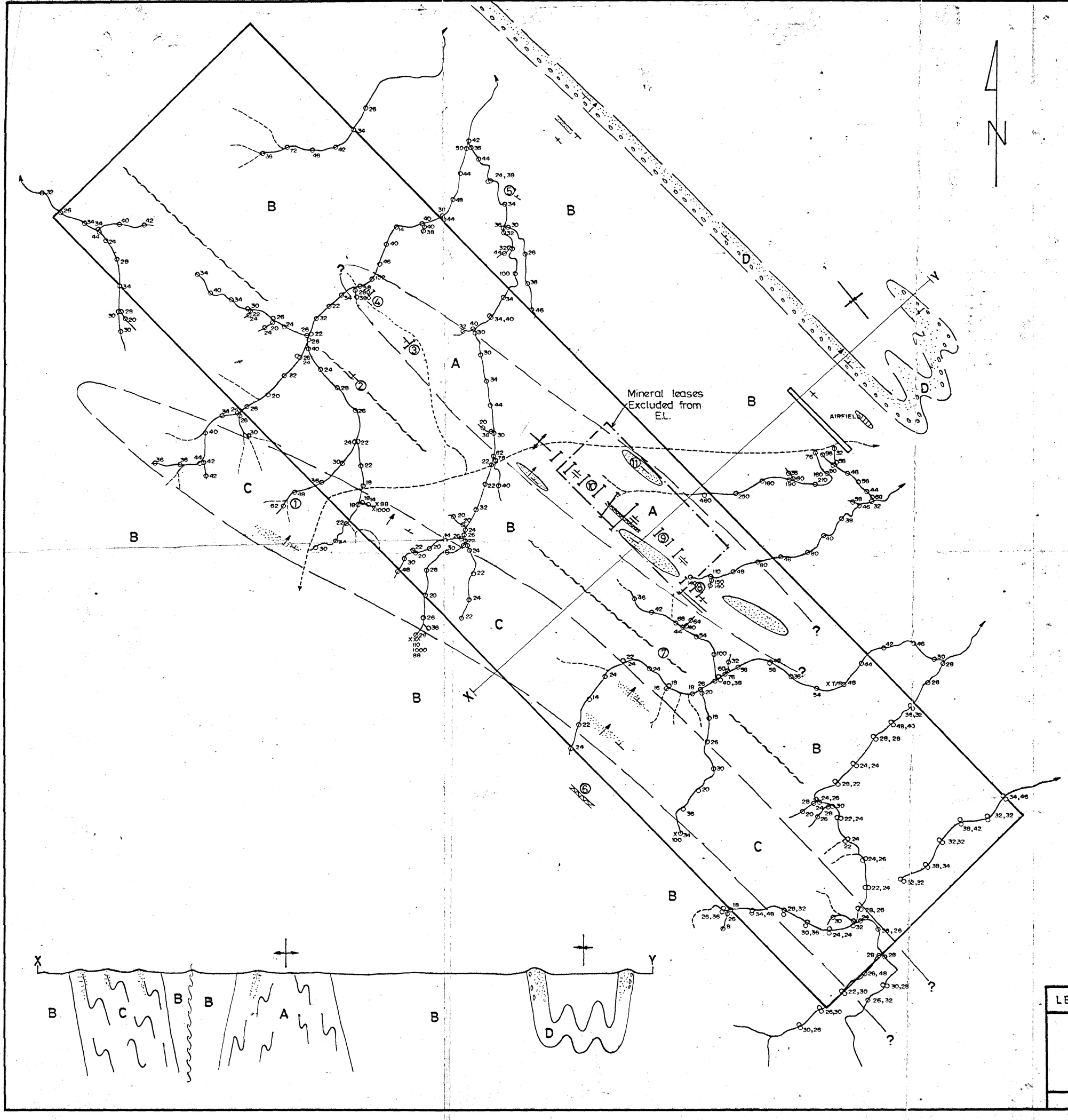

DARWIN
NAMOONA
DALY RIVER
ALICE SPRINGS
100
0
100
200
Scale in miles
LE NICKEL (AUST) EXPLORATION PTY. LTD.
LOCALITY MAP
GEOLOGIST:
DATE: June, 1972
DRAWN: JMcL, June '72
REF: 718 /72/H

Fig. 7.1



LEGEND

- Access Tracks.
- ④ Sampled localities. (analyses in appendix 1)
- o102 Stream sediment lead values.
- Costeaned areas.
- Possible shear zone (ridges of red siltstones + shales).
- Approximate intraformational unit boundaries.
- ++ Steep or vertical bedding/ cleavage.
- Graded bedding observation.
- Approximate position of axial planes or folds.
- D Felspathic quartz sandstones and grits interbedded with quartz pebble conglomerates and red siltstones.
- C Red siltstones and shales interbedded with numerous felspathic quartz sandstones and grits. (variant of B).
- B Red siltstones and shale with rare felspathic quartz sandstones, silicified siltstone (carbonate?) and silicified greywacke.
- A Yellow + purple grey siltstones and shales of the costeans. Includes lenses of felspathic quartz sandstones and rare silicified siltstone (carbonate?)

Suggested stratigraphic relationship.

Youngest D
B,C
Oldest A

Scale :

0 MILES 1

0 1000 METRES 2000

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NAMOONA PROSPECT

GEOLOGICAL MAP

REF. NO. 718 172/H | GEOLOGIST P.B.

Fig. 7.2