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GEOPEKO

A DIVISION OF PEKO WALLSEND OPERATIONS LTD

EL 21/90 LUINA

**REPORT ON
EXPLORATION ACTIVITY
OCTOBER 1990 TO SEPTEMBER 1991**

91-3299.

91-3299 C/F

MINES	
File No.	E.L. 21/90
	-3 OCT 1991
D.P. No.	
Active Officer	Initials
REFER	TO
CORRES	1.10.91
Revised by	Date

MINERALS

Ian Mathison
September 1991

T259

Distribution: Geopeko, Parkes
Geopeko, Devonport
DMMR, Hobart

AMG REFERENCE POINTS ADDED

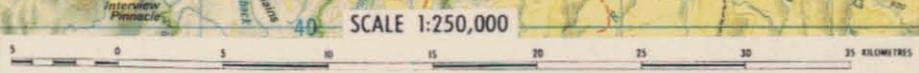
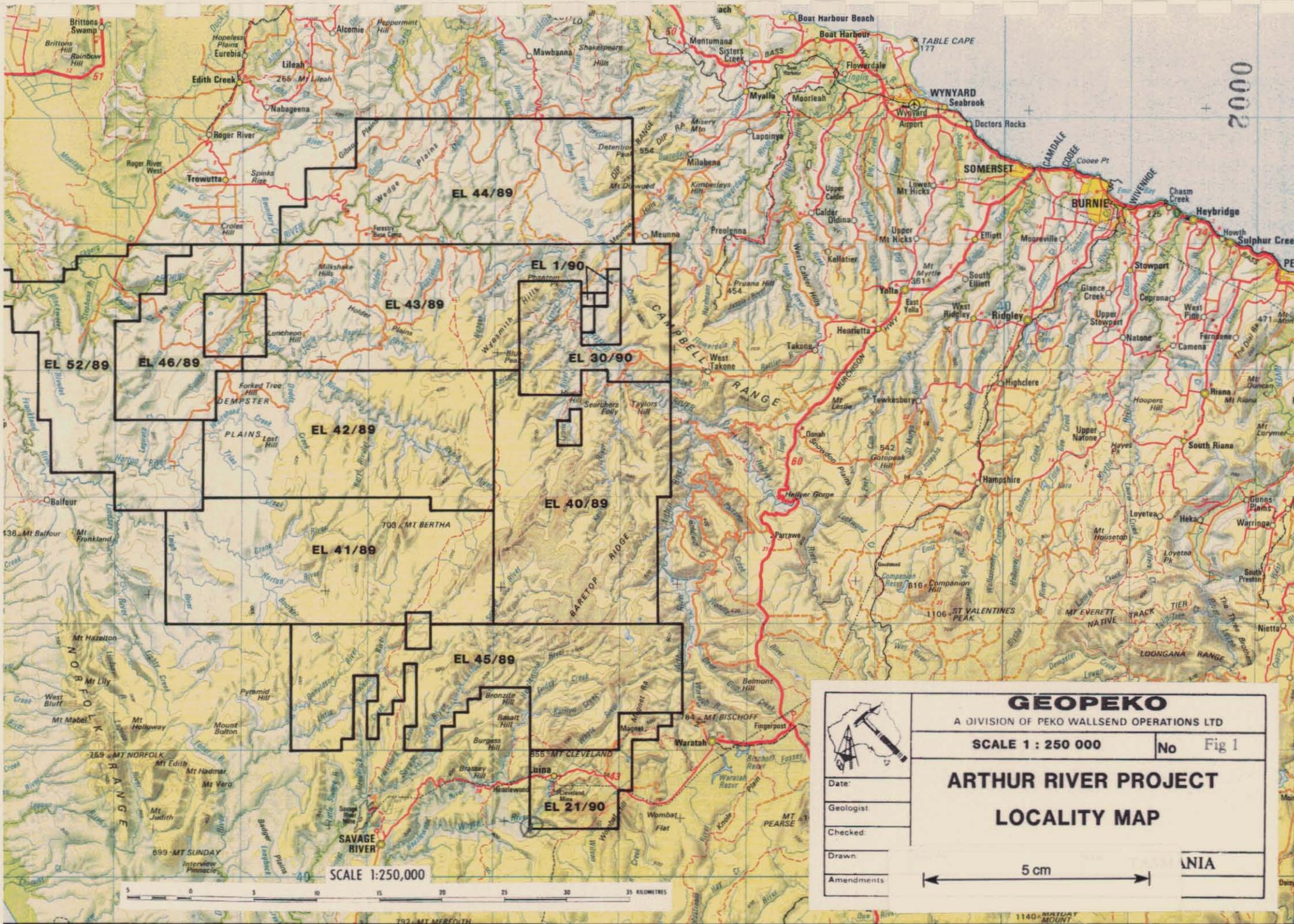
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SCALE 1 : 250 000

No Fig 1

**ARTHUR RIVER PROJECT
LOCALITY MAP**

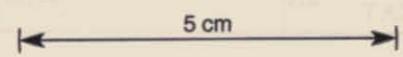
Date: _____

Geologist _____

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Drawn _____

Amendments _____



ANIA

1.0 INTRODUCTION

1.1 Location and Access (Fig. 1)

EL 21/90, Luina, is located in NW Tasmania. The township of Luina lies within the EL. Luina is approximately 80 km by road south-west of Burnie.

Access within the EL is good and is provided by the Waratah to Savage River Road, old exploration tracks, the Magnet Tramway, logging roads and HEC powerline tracks.

1.2 Tenure and Land Usage

EL 21/90 of 47 km² was granted to Peko Exploration Ltd in October 1990. The EL schedule is outlined in Appendix 1.

The EL consists of Crown Land and includes part of the "Savage River" Australian Heritage Registered Entry, part of the "Savage River" RAP and part of the "Ramsay" RAP. The Cleveland Mine Lease, other small leases and the Magnet Fossicking Area are excluded from the licence.

Vegetation within the area is predominantly wet eucalypt forest, much of which has been logged. Logged areas now support dense regrowth.

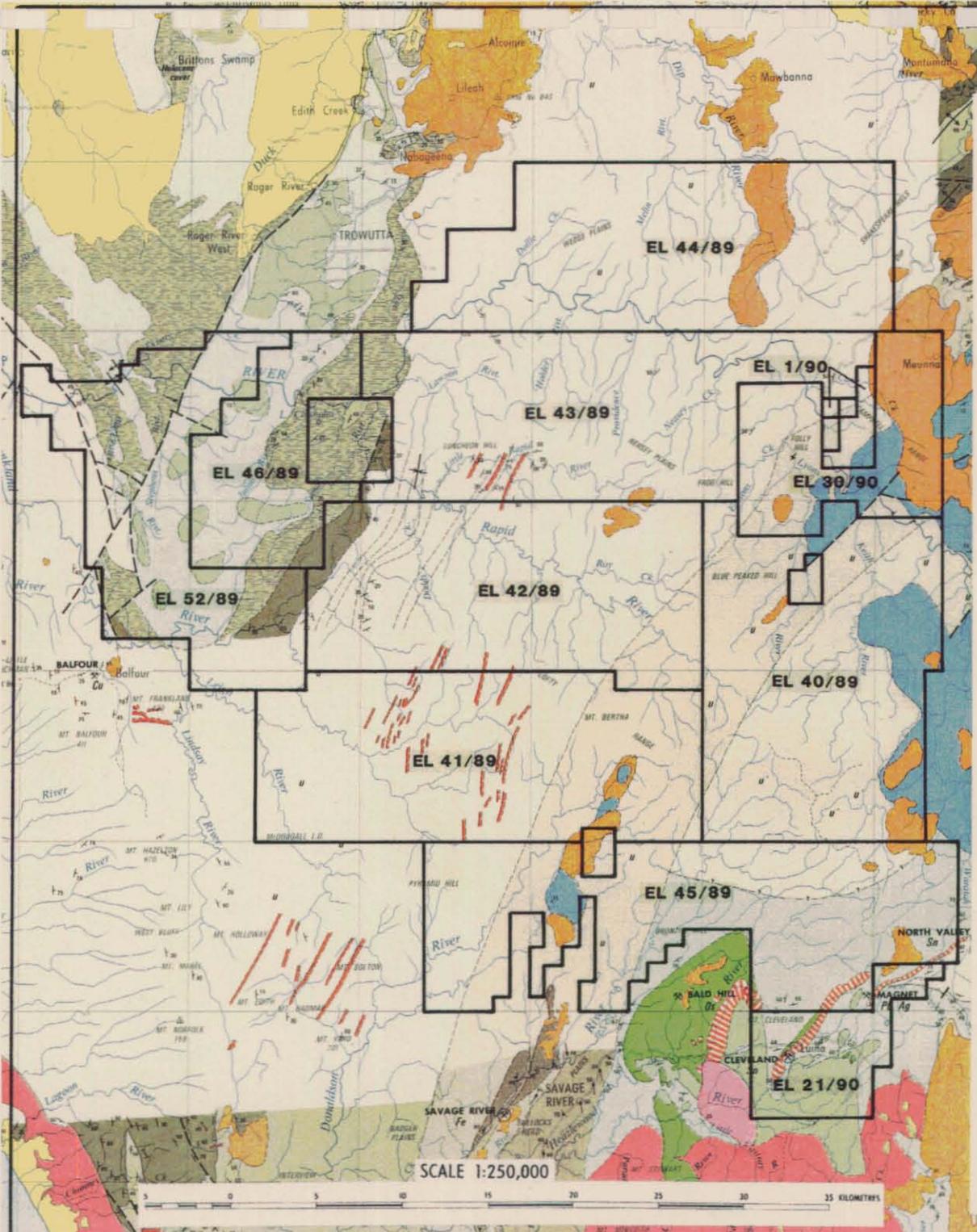
1.3 Regional Geology (Fig 2 and Table 1)

The oldest rocks in the area are correlated with the Precambrian Oonah Formation (= Burnie Formation). A thin bedded sequence of thin bedded mudstone, siltstone, shale, quartz sandstone and quartz wacke outcrops in the north-east portion of EL 21/90. Around Waratah this sequence, known locally as the Bischoff Series, includes calcareous units. Structurally, this unit shows evidence of several stages of deformation. Refolded isoclinal folds are characteristic.

South of EL 21/90, the Oonah Formation is unconformably overlain by the Eo-cambrian Success Creek Group. An infaulted block of quartzwacke and mudstone south-east of Whyte Hill is correlated with the Success Creek Group.

Most of the rocks within EL 21/90 belong to a Cambrian basaltic lava and volcanoclastic sequence with interbedded carbonates, cherts and carbonaceous shales. Brown (1989) discussed the correlation of this sequence with the Crimson Creek Formation. Although most workers consider the spilitic volcanics and volcanoclastics of the Cleveland-Waratah area to be equivalents of the Crimson Creek Formation, Brown, on geochemical grounds, considers this correlation doubtful. Around the Cleveland Mine, this sequence has been subdivided into, from oldest to youngest, the Deep Creek Volcanics, Halls Formation with the interbedded Henrys Basalt Member, and the Crescent Spur Sandstone.

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HOLOCENE		Alluvium, sand, gravel and talus.
PLEISTOCENE		Till, fluvio-glacial periglacial and associated deposits Erosional surface.
TERTIARY		Non-marine sequences (light); marine limestone (dark); basalt and related igneous rock types (orange).
TRIASSIC		Low angle unconformity. Fluvio-lacustrine sequences of sandstone, siltstone, mudstone (light) with carbonaceous sequences indicated (dark). Fresh water sequence with some coal measures.
PERMIAN		Upper glacio-marine sequence of pebbly mudstone, pebbly sandstone and limestone. Fresh water sequence with some coal measures.
UPPER CARBONIFEROUS		Lower glacio-marine sequence of pebbly mudstone, pebbly sandstone, minor limestone, Tasmanite oil shale and basal tillite.

CAMBRIAN		Middle-Upper Cambrian fossiliferous usually greywacke turbidite sequences (horizontally lined overprint); acid with intermediate volcanic and associated rocks dominant (dark); and horizon with fossiliferous Upper Cambrian shallow water deposits (vertically lined overprint); basic-intermediate volcanic and associated rocks dominant (diagonally lined overprint); probably Cambrian unfossiliferous usually greywacke turbidite sequences (light); probably Cambrian unfossiliferous orthoquartzite sequence (dotted).
		Usually unconformity attributed to Penguin Orogeny but apparent conformity at Smithton and Pieman River.

PRECAMBRIAN		Comparatively unmetamorphosed sequences. Mudstone-sandstone sequences (u') - dominantly mudstone (light), dominantly orthoquartzite (dark), quartzwacke turbidite successions (small dot over-print), conglomerate (large dot over-print); dolomite (horizontally lined over-print); basalt lava (vertically lined over-print).
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PRECAMBRIAN		Metamorphic rocks. Pelitic sequences (dark); metagranite sequences (light) with some platy quartzite units indicated (vertically lined over-print); amphibolite (diagonally lined over-print); Garnet bearing rocks are indicated (g).
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IGNEOUS ROCKS

CAMBRIAN		Dominantly adamellite-granite.
LOWER CARBONIFEROUS -UPPER DEVONIAN		Coarser grained basic rocks.
		Serpentine, peridotite and associated rocks.
PRECAMBRIAN		Dolerite.

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SCALE 1 : 250 000 No Fig 2

**ARTHUR RIVER PROJECT
REGIONAL GEOLOGY**

Date: _____
Geologist: _____
Checked: _____
Drawn: _____
Amendments: _____

5 cm TASMANIA

140005

STRATIGRAPHIC CORRELATION ADOPTED FOR THIS REPORT

	ROCKY CAPE BLOCK	LYONS RIVER (Arthur Lineament)	CLEVELAND - WARATAH	CORINNA	ZEELAND Odd - Dev seds omitted
TERTIARY	Tt - Tertiary Basalt Tc - Tertiary gravel	Tt - Tertiary Basalt Tc - Tertiary gravel	Tt - Tertiary Basalt Tc - Tertiary gravel	Tt - Tertiary Basalt Tc - Tertiary gravels	Tt - Tertiary Basalt Tc - Tertiary gravels
PERMO-CARB		P - Permian Supergroup Fluvatile sandstone, coal measures, glaciolite & glacial deposits			
DEVONIAN			Intrusion of Cleveland Granite	Intrusion of Baxxan Granite	Intrusion of Ashleyn Hill & Heekshirk Granite
CAMBRIAN	Cs - Unnamed Quartzwacke, siltstone, mudstone, conglomerate				Dundas Group Intrusion/emplacement of Ultramafic bodies
EO-CAMBRIAN	Ed - Skithton Dolomite Em - Skithton Basalt Mafic volcanoclastics and tholeiitic basalts Eb - Black River Dolomite Dolomite, silicified dolomite, chert Ec - Forest Conglomerate and Quartzite		Dw - Unnamed mafic volcs. volcanoclastics and turbidites with some carbonates	Ee - Corinna Dolomite Ebv - Barnafai Volcanics Eed - Savage Dolomite	Ed - Grimson Creek Formation Ed - Success Creek Group
PRE-CAMBRIAN			Eb - Burnie Formation Interbedded quartzose quartzwacke & siltstone with minor mafic volcs	Ef - Donaldson Formation Quartzose turbidites	Eg - Conah Formation Interbedded quartzwacke and siltstone with some carbonates & mafic volcs
	Eh - Jacobs Quartzite Quartzarenite Ei - Irbay Siltstone Black mudstone, minor siltstone, sandstone, & dolomite Ej - Detention Quartzite Quartzarenite & siltstone Ek - Courie Siltstone Laminated siltstone, pyritic mudstone	?? Ekm - Neary Formation Quartzite-siltstone, minor dolomite and basic volcs		Ei - Interview Slate and Quartzite	
		El - North Metamorphics Pelitic & quartzose schist - some calcic & mafic schist - magnetite & sphalerite		El - Interview Slate and Quartzite El - Interview Slate and Quartzite El - Interview Slate and Quartzite	

This predominantly basaltic or basalt derived sequence is intruded and overlain by two slightly younger Cambrian mafic sequences. Brown (1989) describes these as a High Magnesian Andesite and Low Titanium Tholeiite. Within EL 21/90 these, together with coarser grained mafic intrusives, outcrop as two north-east trending belts. The easternmost belt is commonly known as the Magnet Dyke.

In the Devonian, the Precambrian and Cambrian units were intruded by the Meridith Granite. This outcrops to the south of the EL and underlies the area at depth. All known hard rock mineralization in the area has been attributed to the intrusion of the Meridith Granite.

Small outliers of Tertiary Basalt and associated sub basaltic sediments cap some of the higher areas. These are remnants of an extensive sheet of Tertiary basalts which once covered much of north-west Tasmania.

1.4 Known Mineral Deposits/Occurrences

There are a number of metallic mineral occurrences adjacent to the western, eastern and southern EL boundaries of Geopeko's Arthur River Project. (Green et al 1988).

These are listed in Table (2) and Figure (3) shows their locations.

The deposits range from small, relatively insignificant workings, e.g. Victory Mine, Atlas Leases to large world class ore bodies e.g. Mt Bischoff, Savage River. In most cases, extensions of the prospective host formations can be continued into Geopeko's Arthur River EL's.

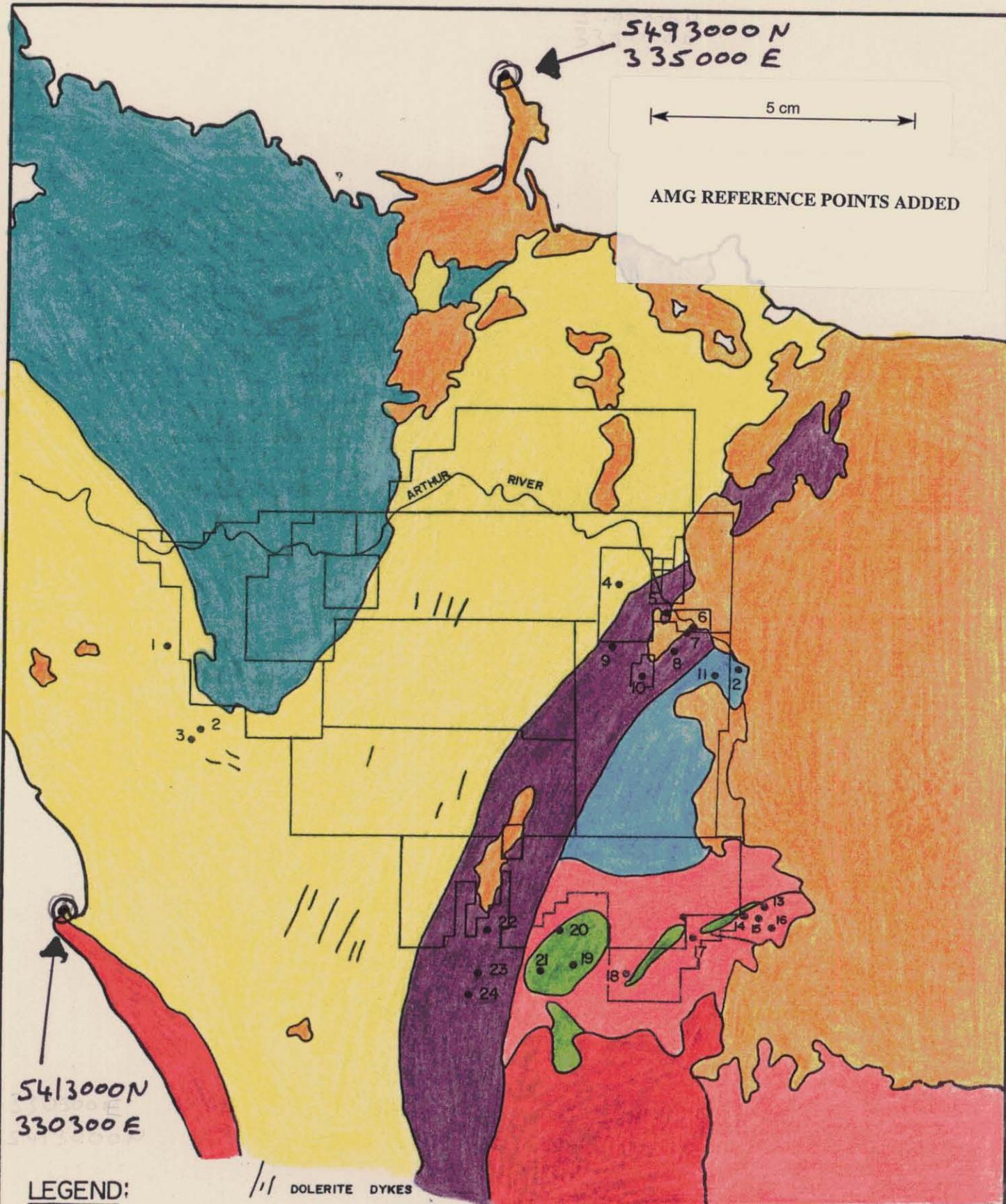
Mineralization within EL 21/90 is dominated by the large carbonate replacement tin-copper deposit at Cleveland Mine. This is hosted by carbonate units of Halls Formation and consists of cassiterite, chalcopyrite and stannite in pyrrhotite. (Collins 1989)

Another large carbonate replacement tin deposit has been mined at Mt Bischoff just north-east of the EL. Here cassiterite and pyrrhotite occur within carbonate rocks of the Bischoff Series and within intrusive quartz porphyries. (Collins 1989)

At the Magnet Mine, a fissure lode of argentiferous galena and sphalerite occurs within the Magnet Dyke. Pyrite and arsenopyrite are associated with the ore minerals which occur in a manganosiderite gangue. (Collins 1989)

Similar but smaller fissure lodes occur near the Cleveland Mine and elsewhere along the fringe of the Meridith Granite,.

Small quantities of alluvial gold have been reported from streams in the area.



5493000 N
335000 E

5 cm

AMG REFERENCE POINTS ADDED

5413000 N
330300 E

LEGEND:

- HOLOCENE - CARBONIFEROUS COVER
- DEVONIAN GRANITE
- SMITHTON BASIN
- DUNDAS TROUGH SEDIMENTS
- BASIC INTRUSIVES
- OONAH FORMATION
- ROCKY CAPE GROUP
- ARTHUR LINEAMENT

/// DOLERITE DYKES

	GEOPEKO	
	A DIVISION OF PEKO WALLSEND OPERATIONS LTD	
Date SEPT. 1990.	1:500,000	No Fig. 3
Geologist K.J.V.	MINERAL OCCURRENCES.	
Checked:	(See Table 2 also)	
Drawn:	Map Ref TAS. DEPT. MINES.	Base: PARKES NSW
Amendments:		

TABLE (2) METALLIC MINERAL OCCURRENCES/DEPOSITS

Map No.	Name	Commodity	Geology & Mineral Style	
1	The Clump	Cu	Rocky Cape Group	V
2	Murrays Reward	Cu	Rocky Cape Group	V
3	Specimen Hill	Sn Cu	Rocky Cape Group	V
4	Folly Hill	Au	Rocky Cape Group	A
5	Campbell Hydraulic	Au	Arthur Lineament	A
6	Victory	Cu	Arthur Lineament	V
7	Arthur River	Magnesite	Arthur Lineament	S
8	Keith River Gossan	Magnesite Py (Cu)	Arthur Lineament	MS
9	Pike's	Au	Arthur Lineament	A
10	Lyons River	Magnesite	Arthur Lineament	S
11	Atlas Leases	Ag Pb	Arthur Lineament	V?
12	Kay's	Au	Arthur Lineament	A
13	North Valley	Sn	Oonah Formation	A
14	Silver Cliffs	Pb Ag	Oonah Formation	V
15	Mt Bischoff	Sn	Oonah Formation	SCR
16	Fooks Load	Sn Pb Zn Ag Sb	Oonah Formation	V
17	Magnet	Pb Ag Zn	Crimson Ck Equiv.	V
18	Cleveland	Sn (Cu W Bi Mo)	Crimson Ck Equiv.	SCR
19	Lord Brassey	Ni	Cambrian Ultramafic	M
20	Bald Hill	Os Ir Au	Cambrian Ultramafic	A
21	Caudry's	Os Ir	Cambrian Ultramafic	?
22	Specimen Reef	Au	Arthur Lineament	V
23	Savage River Nth	Magnetite (Py)	Arthur Lineament	MS
24	Savage River Cent.	Magnetite (Py)	Arthur Lineament	MS

Mineralization Styles

A - Alluvial Deposit

V - Vein Deposit

M - Magmatic Deposit

S - Stratiform

MS - Massive Stratiform

SCR - Stratiform Carbonate Replacement

1.5 Previous Exploration

The area has been intensely explored. The discovery of the Mt Bischoff Mine was followed by intensive prospector activity. Modern exploration of the area has been underway since the 1960s. The Aberfoyle Group (Cleveland Tin, Cominco, and Aberfoyle Exploration) have systematically explored the area as ELs 1/63 and 34/78 ; Comstaff, EZ and Aberfoyle tested the Magnet Mine area; Comstaff explored part of the area within EL 5/63; and Placer explored the north-eastern portion as EL 47/88.

Ellis (1989), Randall (1987) and Rand (1989) summarize or give bibliographies for much of this early work.

Most of the early exploration was targeted on either replacement tin/tin-copper deposits or on base metal deposits of the Magnet type. Only Placer conducted any systematic gold exploration.

In 1989, Placer used BLEG and -80# stream sediment sampling, rock chip sampling, and geological mapping in a search for gold deposits hosted by the boninitic lavas of the Magnet Dyke. Their program was hampered by laboratory errors, contamination of sample sites by tailings, and by the erratic results common in BLEG surveys in Western Tasmania

1.6 Exploration Philosophy

Geopeko consider the Arthur River Project area to have been inadequately explored for base metals and gold mineralization. Within EL 21/90, previous exploration has concentrated on tin, copper and base metals. All significant anomalies have been followed up. There is very little chance of finding a near surface tin or base metal deposit within the area.

However, gold exploration has been neglected until Placer's program, even though small alluvial deposits have been known since the prospecting era. Placer's program indicated some anomalous gold geochemistry in the area without locating a source. The western half of the area remains untested for gold.

Geopeko consider that the geochemical prospecting method developed by Dr. Baker of the Tasmanian Mines Department whereby the humate content of stream water is analysed for its content of leached metals provides a rapid and inexpensive method of screening large areas of ground.

Selected areas with a combination of suitable geological environment and geochemical characteristics could subsequently be further explored using expensive and slow techniques such as detailed geological mapping, grid based geochemistry and modern geophysical techniques.

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As the proposed technique is both rapid and relatively cheap, it should be possible to define prospective areas at an early stage. Consequently Geopeko anticipate that it will be possible to relinquish a large proportion of the area following the first year of exploration.

1.7 Target Models

Several models for economic gold mineralization can be proposed for EL 21/90. Shear zone and vein deposits within basic volcanics and Carlin style deposits within carbonate/shale associations appear the most likely.

2.0 EXPLORATION ACTIVITY

2.1 Aims

Proposed exploration in EL 21/90 during 1990-91 was to have been aimed at delineating through stream water geochemistry prospective and geochemically anomalous areas within the EL. Areas worthy of further investigation would have been followed up with detailed exploration.

2.2 Work Completed

Little exploration was conducted in EL 21/90 during the 1990-91 field season. Exploration in other parts of the Arthur River Project area revealed significant problems with the Huminex analytical technique. Consequently, the planned 1990-91 Summer Field Program was terminated. To allow time for the DMMR to resolve these analytical problems, Geopeko applied for release from the 1991 expenditure commitments for this licence. This exemption was granted in April, 1991.

Work conducted included a brief review of previous exploration and a gravity survey. The gravity survey was conducted by RGC Exploration as part of their survey over their adjacent ELs 12/90 and 15/90.

2.3 1990-91 Field Season Preparation

During the 1990-91 field season Geopeko planned to stream sample EL 21/90 using the Huminex water technique at a density of 1 sample per 2-3 km². Sample sites were selected and access evaluated. Stores and equipment for this program were purchased. Following the postponement of this program, non perishable materials were stored. All food items were donated to the Salvation Army, Queenstown.

3.0 RESULTS RECEIVED

Results of Renison's gravity survey relevant to EL 21/90 were received in September. These have not yet been interpreted. All available results are appended as Appendix 2.

4.0 CONCLUSIONS

- * There is a low probability that a near surface base metal deposit of significant size will be discovered in EL 21/90. However, sampling of some areas will provide a useful test of the Huminex technique in this area.
- * Insufficient gold exploration has been conducted in this EL.
- * The combination of known mineralization, aeromagnetic and gravity features, and a wide range of geological environments indicate that this area is worthy of further exploration.

5.0 RECOMMENDATIONS

The exploration program in this area should be delayed until the DMMR's problems with the Huminex analytical technique have been resolved. No part of this EL should be relinquished until reconnaissance exploration has been completed.

REFERENCES

- BROWN, A.V., (1989) Chapter 3: "Eo-Cambrian-Cambrian" in Burrett and Martin (1989)
- BURRETT, C.F. AND MARTIN E.L. (1989) Editors "Geology & Mineral Resources of Tasmania" Geological Society of Australia Special Publication 15
- COLLINS, P.L.F. (1989) in Chapter 7: "Mid-Palaeozoic Deformation, Granitoids and Ore Deposits" in Burrett and Martin (1989)
- ELLIS, P.D. (1989) *Relinquishment Report Exploration Licence 47/88, Magnet, Tasmania*. Unpublished Placer report. Tas DMMR open file 90-3070.
- GREEN, G.R., BOTTRILL, R.S., BACON, C.A., TURNER, N.J. (1988) - *Mineral Deposits and Metallogenic Map of Tasmania 1:50 000, Tas. DMMR*.
- LEAMAN, D.E., (1990) - *Geophysical - Structural Review - Rocky Cape Block NW Tasmania*. Unpublished report for Geopeko.
- RAND, S.W., (1989) *Final Report Exploration Licence 34/82, Cleveland, Tasmania*. Unpublished Aberfoyle report Tas DMMR open file 89-3029.
- RANDALL, J.P., (1987) *Progress Report for the Period 1/11/86 to 31/10/87, Luina Joint Venture, EL 34/82*. Unpublished Shell Metals Report Tas DMMR open file 87-2717.

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APPENDIX 1
E.L. SCHEDULE

TASMANIA

No. EL 21/90

(Regulation 6A)

The Mining Act 1929**EXPLORATION LICENCE**

Issued to PEKO EXPLORATION LTD of 25 MERRIWA STREET, GORDON, NSW, 2072,
in respect of 47 square kilometres of land in the Land District
of RUSSELL vicinity of LUINA as described in the schedule
hereto.

This licence shall remain in force until the fifth day of October
1991.

This licence is subject to the following conditions:-

1. That the licensee shall immediately on the issue of this licence take steps to commence preliminary works necessary for the investigation of the area.
2. That the licensee shall carry out investigations as may be necessary to determine the mineral potential of the area, and in particular will fulfil the proposals set out in the exploration programme and approved by the Director of Mines.
3. That the licensee shall employ such technical and other staff and equipment as may be necessary effectively to carry out such investigations.
4. This licence shall apply to all minerals.
5. The licensee shall notify the owner and occupier of private land, in writing, at least three days before entering such land.
6. That the security (Private Land Deposit) provided by Section 15E (1) (a) & (b) of the Mining Act, 1929, (see below) shall be lodged with the Director of Mines before entering private land.
7. The licensee shall observe, perform and fulfil the conditions as set forth in Schedule 'A' (Revised) attached hereto.
8. The licensee shall be liable to pay the cost of any work carried out to remedy any damage arising from any breach of the conditions of this licence.

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9. The licensee shall deposit an amount of \$5,000 (Performance Deposit) as security that the conditions contained herein shall be observed. Upon expiry or sooner determination of the licence, if the licensee satisfies the Director of Mines that such conditions have been complied with, the Director of Mines shall refund such deposit or such portion thereof, as he may determine.
10. If it is found, that the operations hereby authorised, are causing any undue damage to, or erosion of, the subject land or other land in the vicinity thereof or are unnecessarily disturbing the environment, the Minister may cancel the licence without compensation to the licensee by giving seven days' notice in writing of his intention so to do.
11. The licensee shall obtain the written permission of the Director of Mines before carrying out any work in a Forest Reserve.
12. The licensee shall arrange and keep in good standing public liability insurance to the minimum of \$1,000,000. Evidence of currency shall be produced on demand.

SCHEDULE

Commencing at the north east corner at grid co-ordinates 374 000 metres E. 5 413 000 metres N. thence grid south to 5 412 000 metres N. grid west to 373 000 metres E. again grid south to 5 411 000 metres N. again grid west to 371 000 metres E. again grid south to 5 407 000 metres N. again grid west to 370 000 metres E. again grid south to 5 404 000 metres N. again grid west to 363 000 metres e. grid north to 5 410 000 metres N. grid east to 370 000 metres E. aforesaid again grid north to 5 413 000 metres N. aforesaid thence again grid east to the point of commencement.

The area excludes 5.6 skm Mining Leases; 1 skm Magnet Fossicking Area

Land Tenure:

The area comprises: Crown Land

The area includes: "Savage River" Australian Heritage Commission Act, Registered Entry, Part of "Savage River" and "Ramsay" RAPS.

Note: Land Tenure table is a guide only

EXCLUSIONS

The area embraced by this licence includes State Forests but does not include:

- (a) All other public reserves or municipal reserves or roadways.
- (b) All forms of mining tenements and water licences including leases, water licences, easement licences, special and exploration licences, prospectors licences, miners rights, permits to enter, owners consents and owners rights which were in lawful possession or marked out prior to the date of marking out of this licence.
- (c) Land exempt from the provisions of the Mining Act, 1929.
- (d) Land under the National Parks and Wildlife Act, 1970, not subject to the Mining Act, 1929.
- (e) All Crown reservations or other land set apart or dedicated for any public purposes.

MINISTER FOR RESOURCES AND ENERGY

Date

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APPENDIX 2
RESULTS OF GRAVITY SURVEY

BASE STATION

9049-9904 368900 407800 631 990.177862 990.311662 0.58 -9.08							
RGC Exploration - Waratah Area Gravity Data							
Station No.	East (m)	North (m)	Elev (m)	Gobs	Gtheo	Terr Corr	Page 3 B.A. mgal
9049.1037	374430.0	417450.0	400.00	980.226549	980.303962	1.61	2.88
9049.1038	373800.0	416530.0	415.00	980.223430	980.304695	1.69	2.06
9049.1039	374410.0	416610.0	381.00	980.229658	980.304639	1.57	1.54
9049.1040	374900.0	417070.0	322.00	980.242021	980.304275	1.42	2.51
9049.1107	369150.0	408950.0	624.00	980.180206	980.310738	0.62	-7.15
9049.1108	369560.0	409060.0	614.00	980.183029	980.310655	0.59	-6.25
9049.1109	370140.0	409080.0	616.00	980.183101	980.310648	0.52	-5.84
9049.1110	370600.0	409170.0	585.00	980.189807	980.310582	0.95	-4.74
9049.1111	370840.0	409000.0	589.00	980.189562	980.310722	1.10	-4.19
9049.1112	371000.0	409220.0	587.00	980.188421	980.310547	0.98	-5.67
9049.1214	373950.0	412130.0	377.00	980.226233	980.308243	2.02	-5.83
9049.1223	369000.0	408470.0	621.00	980.181643	980.311123	0.61	-6.70
9049.1224	369070.0	409530.0	649.00	980.175885	980.310269	0.73	-5.98
9049.1225	370000.0	410300.0	585.00	980.189552	980.309662	1.05	-3.98
9049.1226	370530.0	411050.0	432.00	980.217754	980.309065	2.37	-3.96
9049.1227	370820.0	411310.0	420.00	980.219578	980.308860	2.45	-4.21
9049.1228	371900.0	411410.0	388.00	980.223971	980.308795	1.75	-6.75
9049.1229	372620.0	411950.0	435.00	980.214095	980.308370	1.47	-7.23
9049.1230	372610.0	412420.0	540.00	980.192916	980.307991	1.42	-7.43
9049.1231	369480.0	407170.0	648.00	980.176690	980.312178	0.20	-7.81
9049.1232	368470.0	408040.0	601.00	980.183763	980.311462	0.77	-8.70
9049.1233	367860.0	408190.0	517.00	980.202353	980.311332	0.92	-6.35
9049.1234	366940.0	408390.0	425.00	980.222503	980.311157	1.12	-3.93
9049.1235	366170.0	408290.0	354.00	980.238229	980.311226	0.83	-2.53
9049.1236	365230.0	407980.0	315.00	980.248309	980.311462	0.88	-0.31
9049.1237	363150.0	407900.0	323.00	980.248228	980.311495	1.02	1.29
9049.1238	363000.0	407940.0	373.00	980.242490	980.311461	0.71	5.11
9049.1239	362540.0	407880.0	339.00	980.252896	980.311502	0.66	8.74
9049.1240	361390.0	407310.0	292.00	980.272658	980.311944	0.57	18.72
9049.1241	361740.0	408000.0	468.00	980.234540	980.311393	1.72	16.93
9049.1242	362210.0	408740.0	528.00	980.221779	980.310803	0.97	15.81
9049.1243	362000.0	409420.0	396.00	980.251530	980.310252	1.08	20.26
9049.1244	364810.0	407430.0	307.00	980.250918	980.311899	0.95	0.36
9049.1245	365280.0	406870.0	368.00	980.236517	980.312358	1.58	-1.87
9049.1246	364720.0	406790.0	343.00	980.243580	980.312414	1.18	-0.18
9049.1247	364290.0	406310.0	304.00	980.253161	980.312794	1.15	1.31
9049.1248	363870.0	406920.0	329.00	980.248982	980.312296	0.86	2.26
9049.1249	363810.0	406330.0	379.00	980.238209	980.312771	0.94	0.93
9049.1250	364770.0	406240.0	315.00	980.248411	980.312858	1.83	-0.65
9049.1251	364150.0	405350.0	320.00	980.248136	980.313566	1.12	-1.36
9049.1252	364100.0	404500.0	368.00	980.232134	980.314251	1.16	-8.57
9049.1253	364650.0	404810.0	435.00	980.221321	980.314009	1.42	-5.70
9049.1254	365490.0	406060.0	469.00	980.218915	980.313014	1.27	-0.57
9049.1255	365390.0	405630.0	485.00	980.214278	980.313359	1.39	-2.28
9049.1256	365300.0	405210.0	519.00	980.207531	980.313696	1.85	-2.22
9049.1257	364470.0	405650.0	291.00	980.251509	980.313329	2.02	-2.56
9049.1258	367540.0	407550.0	550.00	980.197696	980.311843	1.36	-4.59
9049.1259	366780.0	407740.0	521.00	980.202486	980.311679	1.67	-5.03
9049.1260	366210.0	407310.0	475.00	980.213718	980.312017	1.78	-3.08
9049.1282	369710.0	405940.0	684.00	980.167476	980.313173	0.26	-10.87
9049.1283	368650.0	405060.0	688.00	980.166416	980.313867	0.29	-11.81
9049.1284	368220.0	404620.0	699.00	980.163726	980.314216	0.39	-12.58
9049.1285	367770.0	404050.0	686.00	980.165815	980.314669	0.43	-13.47
9049.1289	367760.0	404360.0	754.00	980.152515	980.314419	1.30	-12.26
9049.1290	367780.0	404850.0	781.00	980.146838	980.314024	1.22	-12.31
9049.1291	367790.0	405320.0	758.00	980.152749	980.313645	0.91	-10.86
9049.1292	367550.0	405430.0	728.00	980.159873	980.313553	0.48	-9.98
9049.1293	369160.0	405540.0	684.00	980.168180	980.313488	0.31	-10.43