

Annual Report
for EL40/2008 East Lisle
for the Period 13 January 2011 to 12 January 2012

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ABSTRACT

EL40/2008 East Lisle is located 25km north-east of Launceston in north-east Tasmania and covers part of the historical Lisle Goldfield. Greatland Pty Ltd's main focus is exploration for gold.

Work completed during the period comprised drill testing of selected targets, biogeochemical sampling, geological mapping, review of results and preparing recommendations for future exploration.

All of the gold production from Lisle, about 8 tonnes, was from alluvial deposits and the bedrock source has never been found. Exploration in the past has been hampered by extensive talus cover.

In the 2011 Annual Report it was concluded that alluvial gold occurs in an Eocene paleochannel, the Donnelly Paleochannel, which was subsequently reworked near the current Lisle Creek, thereby concentrating the gold.

The appropriate district model for mineralisation in basement was assessed to be IRGS type (Intrusive Related Gold Systems), and specifically basement gold mineralisation was postulated to be disseminated in granodiorite or in sheeted veins.

Four selected targets were drilled in areas of gold geochemical anomalies, especially plant ash anomalies found by B Baker in a previous MRT survey, and areas of postulated alteration reflected in low magnetic tenor zones in the otherwise higher tenor phase of the granodiorite.

The open hole drilling proved to be unsatisfactory because a lack of depth penetration meant that basement was intercepted in only on target area. This completely weathered basement granitoid carried only around 4ppb gold. However paleochannel alluvium was intersected in all target areas. The tenor of gold in this alluvium was generally less than 10ppb, but locally up to 76ppb.

It was concluded that the paleochannel alluvium south of Red Face could be poorly mineralised, reflecting poor mineralising systems in the basement in the same area, and so future exploration for gold should focus north of Red Face.

A biogeochemical survey was conducted at one of the targets to determine if Baker's anomaly could be reproduced. No gold anomalies were generated, suggesting that Baker's results were faulty.

Biogeochemical sampling at Faulknors Creek, north of the main Lisle mineralised area, has defined a strong rare earth anomaly. This is currently being geologically mapped.

KEYWORDS

Lisle basin
Geology
Mineralisation
Alteration
Granitoid
Mathinna Group
Gold
Alluvial
Paleochannel
Drilling
Exploration Targets
Analyses
Biogeochemistry
Geological mapping
LiDAR

SUMMARY OF ACTIVITIES FOR EL40/2008 EAST LISLE FOR THE PERIOD 13 JANUARY 2011 TO 12 JANUARY 2012

- Drill testing of selected targets
- Biogeochemical sampling
- Geological mapping
- review of results
- recommendations for future exploration.

CO-ORDINATES

All lat/long co-ordinates in this report refer to the GDA94 Datum, unless stated otherwise

All AMG co-ordinates in this report refer to the GDA94 - Zone55, unless stated otherwise

FILE SUMMARY LIST

File name	Format	Contents
EL402008_201201_01_reportbody.pdf	pdf	Annual Report
EL402008_201201_02_figs1of2.pdf	pdf	Index map and Figures 1 to 6
EL402008_201201_03_figs2of2.pdf	pdf	Figures 7 to 14
EL402008_201201_04_index.pdf	pdf	Exploration Index map
EL402008_201201_05_drillcollars.txt	txt	Location of percussion drilling
EL402008_201201_06_drilllitho.txt	txt	Lithologs of drill cuttings
EL402008_201201_07_drillanalyses.txt	txt	Analyses of drill cuttings
EL402008_201201_08_surfgeochem.txt	txt	Location and analyses of vegetation and stream sediment Samples
EL402008_201201_09_FileListing.txt	txt	Digital file list

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FIGURES, (in two separate pdf files)

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1.0 INTRODUCTION

This report describes the exploration activities completed within EL40/2008 during the period 13 January 2011 to 12 January 2012.

The tenement is located 25km north-east of Launceston in north-east Tasmania, Fig.1.

EL40/2008 East Lisle was applied for by Greatland Pty Ltd during May 2008 and was granted during January 2009. A variation in licence area was approved in June 2009. The tenement now covers a reduced area of 72 square kilometres.

Table 1

Tenement	Holder	Date Applied	Date Granted	Size
EL40/2008 East Lisle	Greatland Pty Ltd 100%	20 May 2008	13 Jan 2009	72km ²

The bulk of land within the tenement is logged state forest and timber plantation, with minor areas covering private farming land.

The project lies within the Tasmania NE (SK55-21) 1:250,000 map sheet, and the 1:100,000 map sheet of St Patricks (8315).

From Launceston, access to the project area is by sealed road to Targa. Formed local roads and logging tracks provide good access within the project area.

The tenement covers part of the historical Lisle Goldfield. The Lisle goldfield has produced an estimated 250,000 ounces of gold, nearly all of it alluvial gold. A large amount of prospecting work was carried out by miners in the 1880s with the aim of finding the source of the gold at Lisle. With the exception of a few thin quartz veins, both within the granodiorite bedrock and the adjacent Mathinna Group beds, no source of the detrital gold was discovered. Comparatively little modern exploration to determine the source of gold has since been done.

The company's main focus is exploration for gold, especially in bedrock.

Work completed during the period comprised biogeochemical sampling, drill testing of selected targets, geological mapping, and an assessment of results with recommendations for future work.

2.0 GEOLOGICAL SETTING and MINERALISATION

A full review of the known geology and production history of the Lisle area was presented in the 2011 Annual Report, and is not repeated here.

In the previous annual report I argued that gold previously recovered was from a paleochannel east of the present Lisle Creek, the *Donnelly Paleochannel*, and that gold mineralisation in this paleochannel alluvium had been reworked and the tenor increased in the northern parts of the Lisle 'basin' around Donnelly's Terrace. The source of gold in the basement granodiorite or in the carapace consisting of Mathinna Group lithologies has never been found, probably because of cover by talus or alluvium. A likely model of basement mineralisation was assessed to be gold in quartz veinlets or disseminated in altered granodiorite in a similar style to that known at Timbarra in NSW.

3.0 REVIEW OF PREVIOUS WORK

All previous exploration was reviewed in the 2011 Annual Report, and is not repeated here. In the 2011 Annual Report mineralisation models were developed and exploration targets were formulated.

4.0 EXPLORATION COMPLETED DURING THE REPORT PERIOD

Work done by Greatland during the period consisted of drilling, biogeochemical sampling, acquisition of LiDAR data, geological mapping and data review.

DRILLING

A percussion drill program was carried out in May/June 2011 to test some of the targets generated and reported in the 2011 Annual Report. These were Target 1 North, Target 1 South, Target 2 and Target 3.

At the time of drilling there were no reverse circulation rigs available in Tasmania, so the rig used was a track mounted air blast open hole type, contracted from E Drill. It proved to be unsatisfactory, failing to reach target zones in most places. Holes varied from 12m to 36m deep, well short of desired depths exceeding 50m. Once water table was reached the rig was incapable of returning a representative sample for logging and analysis.

All holes were drilled along existing tracks.

Summary drill statistics are shown in Table 2. Fig 2 shows location of the holes.

Drill supervision and logging was undertaken by R Munro, contracted to Ron Gregory Prospecting.

Collar locations, drill orientations and geological logs are reproduced as digital files appended to this report:

EL402008_201201_05_drillcollars.txt

EL402008_201201_06_drilllitho.txt

Codes used for logging are presented in section 10.0 Appendix.

Samples were collected at one metre intervals and 4m composites then prepared for analysis for a suite of elements including gold. The 1m samples, in plastic bags, have been stored off site in Greatland's Deloraine shed.

Analyses were carried out by Genalysis laboratory, Perth. Elements analysed were:

Au Ag Al As Ba Bi Ca Cd Ce Co Cr Cu Fe K La Mg Mn Mo Na Ni P Pb Sb Sc Sr Te Ti Tl V W and Zn.

Samples were pulverised to passing 75microns , digesting a 10g charge with aqua regia, and followed by determination with optical emission spectroscopy for all elements except gold, which was determined with graphite furnace atomic absorption spectroscopy.

Details of analyses are in digital files appended to this report:

EL402008_201201_07_drillanalyses.txt

BIOGEOCHEMISTRY

In 1978 W Baker from MRT generated a very strong linear gold anomaly in the Target 1 area. The present biogeochemical survey was conducted at Target 1 North to determine if Baker's anomaly could be reproduced.

In April 2011 adjacent to a track samples LV1 to LV14 were taken by me at varied 10m to 50m intervals from radiata pine trees which are >10m tall, specifically the dry needles from body level, in enough quantity to fill a large manilla soil-type sample bag. The photo, Fig 3 shows the typical type of needles sampled.

One sample, LV15, was taken outside the known mineralised area, to the north of the Lisle 'basin', adjacent to the Lisle access road near Faulkner Creek; this was intended solely to be a sample whose analyses would be a measure of the background gold tenor, but analyses for rare earth elements were highly anomalous so some follow up samples were subsequently collected there.

In June 2011 these follow up pine needle samples were collected by R Munro. These were LV16 as a repeat of LV15, and samples LV17 to LV22 collected at 20m intervals on either side along NE and SW trends as illustrated on Fig 4.

On minus 80 mesh stream sediment sample was taken at Faulkner Creek above the road crossing. The creek was muddy with not much active alluvium at the sample site, so the sample is more akin to a colluvial soil.

The location of all samples is shown on Fig 5.

Samples were sent to Genalysis Laboratory Perth for specialised analyses. The pine needle samples were dried, milled, subjected to a modified aqua regia digest (BG) and the following

elements determined with inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS):

Au Ag Al As B Ba Be Bi Ca Cd Ce Co Cr Cs Cu Dy Er Eu Fe Ga Gd Hf Hg Ho In K La Li Lu Mg Mn
Mo Na Nb Nd Ni P Pb Pd Pr Pt Rb Re Sb Sc Se Si Sm Sn Sr Ta Tb Te Th Ti Tl Tm U V W Y Yb Zn
Zr

The stream sediment sample was dried and the same elements as above, except for Si, were determined with ICP-OES or ICP-MS.

A digital file of sample locations and analyses is appended:

EL402008_201201_08_surfgeochem.txt.

LiDAR SURVEY

LiDAR data covering the general Lisle area was made available by David Green of MRT. The location of the data is on Fig 6. The figure shows the extent of LiDAR previously processed and reported in the 2011 Annual Report. The extra data, being south of the main focus of exploration attention, has not yet been processed and imaged.

GEOLOGICAL MAPPING

Geological mapping of the area surrounding the rare earth anomaly was underway in December 2011, and will be reported upon in the next Annual Report.

TABLE 2

GREATLAND PTY LTD

EL 40/2008 Lisle, Tasmania

Summary of Drill Hole Attributes

Hole No.	GPS Reading Aus Geod '66 E	GPS Reading Aus Geod '66 N	GPS Elevation 25k map	Scaled Elevation 25k map	GPS Reading GDA94 E	GPS Reading GDA94 N	Target	Dip / Azimuth	Depth drilled	Depth sampled	Depth drilled	Depth penetrated
LER001	527242	5435822	275	265	527354	5436006	1 North	60 /North	30		36	
LER002	527243	5435796	279	266	527355	5435980	1 North	60 /North	20		21	
LER003	527231	5435779	280	264	527343	5435963	1 North	60 /North	16		16	
LER004	527233	5435751	270	261	527345	5435935	1 North	60 /North	34		34	
LER005	527237	5435724	266	258	527349	5435908	1 North	60 /North	25		25	
LER006	527232	5435699	261	255	527344	5435883	1 North	60 /North	23		23	
LER007	527232	5435668	254	251	527344	5435852	1 North	60 /North	22		22	
LER008	527365	5435281	254	250	527477	5435465	1 South	60 /North	25		25	
LER009	527355	5435251	247	248	527467	5435435	1 South	60 /North	28		28	
LER010	527349	5435242	248	245	527461	5435426	1 South	60 /North	27		27	
LER011	527325	5435233	244	243	527437	5435417	1 South	60 /North	25		25	
LER012	527366	5435308	259	252	527478	5435492	1 South	60 /North	21		22	
LER013	527359	5435330	264	255	527471	5435514	1 South	60 /North	36		36	
LER014	527812	5434317	304	284	527924	5434501	3	60 /North	15		15	
LER015	527812	5434270	309	285	527924	5434454	3	60 /North	12		12	
LER016	527815	5434220	319	288	527927	5434404	3	60 /North	15		15	
LER017	527934	5433574	331	326	528046	5433758	2	60 /East	15		15	
LER018	527953	5433569	337	329	528065	5433753	2	60 /East	12		12	
LER019	527980	5433561	340	333	528092	5433745	2	60 /East	15		18	
LER020	527999	5433555	344	336	528111	5433739	2	60 /East	12		13.5	
LER021	528024	5433546	352	340	528136	5433730	2	60 /East	15		15	
LER022	528044	5433538	349	343	528156	5433722	2	60 /East	23		23	
									466		478.5	

5.0 DISCUSSION OF RESULTS

DRILLING

The logs by the contractor needed to be interpreted by me so as to conform as best as possible to the known geology, and the plotted cross sections, Figs 11 to 14, were drawn up accordingly. The similarity in the clayey percussion cuttings between talus (derived from Mathinna Group metasediments upslope), paleochannel alluvium and completely weathered granitoid makes recognition difficult. In order to distinguish the correct and likely lithology I have used presence of rounded pebbles to be an indicator of alluvium; also Ti, Mn, K, Mg and Ba analyses can be used to readily distinguish alluvium, as shown on Table 3:

Table 3

ELEMENT, ppm, common range	Ti	Mn	K	Mg	Ba
Talus	200-600	100-600	3000-5000	1000-5000	50-150
Alluvium	1000-2000	700-1300	6000-12000	7000-12000	200-300
Granitoid	200-600	100-300	3000-5000	2000-3000	50-150

The high Ti in alluvium is consistent with included heavy minerals; Mn oxides are visible in much of the exposed alluvium in pits in the Synfield ground; and the high K and Mg can be explained by the high biotite content in the alluvium observed in pits in the Synfield ground.

Four target zones (generated and reported on in the previous Annual Report) were drilled in an attempt to test for gold mineralisation in the granitoid basement.

Targets 1 North and 1 South, near the worked parts of **Donnelly Terrace**, were drilled to test a strong linear biogeochemical gold anomaly generated by MRT's W Baker in 1978, Fig 9.

Target 1 North is also located along a contact zone between two different granitoids, one of high magnetic tenor and the other of low tenor, Fig 10; the contact zone could be a locus of mineralisation.

Basement was (interpreted to have been) not reached in the drilling, see section plot Fig 11. Talus, up to 24m thick, is overlain by alluvium to the maximum hole depths of 36m.

Gold values in the alluvium are very low, being less than 9ppb. Higher values up to 11ppb occur in the talus; this could mean gold transported downslope with mineralised Mathinna Group rocks, or mobilized gold derived from the basement below.

All other analysed elements, including Ag, As, Sb, Bi, Mo, Cu, are present at low abundances.

Target 1 South is located on the magnetics within the low tenor basement granitoid; the low tenor is thought to possibly represent magnetite-destructive alteration.

Basement was (interpreted to have been) not reached in the drilling, see section plot Fig 12. Talus occurs only in the top 4m, and is overlain by alluvium to the maximum hole depths of 36m.

Gold values in the alluvium are generally very low, being generally less than 10ppb, but there are two adjoining 4m intercepts in hole LER013 of 76 and 39ppb.

All other analysed elements, including Ag, As, Sb, Bi, Mo, Cu, are present at low abundances.

The tenor of gold values obtained at Targets 1N and 1S are low to very low and give no support to the biogeochemical anomaly generated here by Baker.

Target 2, near worked areas at **Sweeney Creek**, was drilled to test another biogeochemical anomaly generated by W Baker, Fig 9. The target is also located along an apparent contact zone between two different granitoids, one of high magnetic tenor and the other of low tenor, Fig 10; the contact zone could be a locus of mineralisation.

Alluvium (interpreted, as noted above) was intersected, Fig 13. This confirms my hypothesis that a paleochannel passes through this area, even though the area is far upslope from the present valley floor.

Maximum gold tenor is only 7ppb, again giving no support to the Baker anomaly. All other analysed elements, including Ag, As, Sb, Bi, Mo, Cu, are present at low abundances.

Target 3, just south of paleochannel alluvium areas worked in the past for gold at the **Red Face**, was drilled to test another contact zone between two different granitoids, one of high magnetic tenor and the other of low tenor, Fig 10.

In all holes the uppermost 4m intercepts are of alluvium, passing into completely weathered granitoid, consistent with pit exposures nearby in the Synfield tenement, Fig 14.

The maximum gold content was only 4ppb. All other analysed elements, including Ag, As, Sb, Bi, Mo, Cu, are present at low abundances.

The low gold abundance in the basal alluvium, if typical of this area, provides evidence that Red Face workings were never extended this far south because of poor grades.

It is notable that, at all targets in all lithologies, much vein quartz is logged, but there is no corresponding high gold content.

BIOGEOCHEMISTRY

The pine needle sampling returned no gold anomalies, all samples containing less than 0.5ppb, so it can be concluded that the Baker anomalies at Target 1 North were faulty; he reported gold values from 600 to 14300ppb at this locality; or that the pine trees collected by me were too small and had insufficiently deep roots to tap gold mineralisation in basement, or that the pine needles in my survey were not a good sample medium. The Baker samples were apparently not needles but were twigs, nevertheless his orientation results table shows that his collected needles were very anomalous, carrying around 220ppb gold.

All other elements in samples LV1 to LV14, from Target 1 North, have unremarkable tenors.

Sample LV15, as well as the check repeat sample LV16, near Faulkner Creek, returned a very anomalous suite of rare earth elements, e.g. 10135ppb Ce and 5055ppb La. The additional follow up samples, LV17 to LV22 are also anomalous but not to the degree of LV15 and LV16. Other elements such as Al Fe Nb Mo Ba Ti Sn are also elevated in these samples.

Table 4 presents all analyses and the anomalous suites are highlighted.

The cause of these anomalies is unknown. The rock types in this general area are Mathinna Group turbidites, which if unaltered would not be expected to carry rare earth mineralisation or significant concentrations of heavy minerals such as monazite.

Because the anomalism is unusual, some initial specialist opinion was sought from Colin E. Dunn, a highly experienced Canadian Consulting Geochemist. He has advised the following:-

“I’ve had a quick look over your data and can confirm that these values (LV15 and 16) are anomalously high. When comparing your data with pine needles from over known HREE in Canada I see that your HREE values are similar to the 95th percentile of a dataset of about 90 samples. The LREE are 5 times higher than the highest of the values from the same area. The only caveat that I have is that it would appear from your Zr values that you might have a bit of dust contamination (although only a small amount) – this would tend to give you some elevated REE values. As always in exploration, we move forward a step at a time, but let’s say that if it was my property I would be undertaking some further exploration.

By the way, I see that the analysis was done at GLS. When Helen Waldron was working there she would have made sure that the analytical data were correct – she has an usually good knowledge of REE and their analysis”.

GENERAL CONCLUSIONS

The drill program has tested only one basement target, south of Red Face, leaving many areas still untested for basement mineralisation.

Based on the current biogeochemical survey it seems possible that this method may be unsuccessful as a tool to locate buried gold mineralisation beneath the ubiquitous talus and alluvium. However the current survey was possibly in an unmineralised position so new surveys elsewhere may be more successful.

The drilling intercepted generally very low gold tenors in the paleochannel alluvium, the best result being 79ppb over 4m which is comparable to the 41ppb in a pit sample reported in the previous annual report. This low tenor could explain why gold mining by monitoring/slucing ceased at Lisle when the better grades of often reworked material closer to Donnelly Terrace were depleted.

If the results of low tenor for gold in paleochannel alluvium south of Red Face are typical, (though statistically the limited drilling done is not a good determinant), then tentative conclusions that can be reached are that south and upstream of Red Face the sources of gold in the basement are weak, and better basement targets will be north of Red Face.

The highly anomalous rare earth suite at Faulkner Creek requires further exploration.

6.0 RECOMMENDATIONS FOR FUTURE WORK

It is recommended the next phase of gold exploration in the Lisle basin concentrates in areas north of Red Face.

Further biogeochemical sampling, though its efficacy to locate buried gold mineralisation is in doubt, is cheap and easy and can theoretically detect basement mineralisation via tree roots, therefore more extensive sampling is recommended. An orientation survey is recommended to determine whether a better medium than pine needles, such as bark or twigs or pine cones, exists.

A new drill campaign could then follow using a better RC rig to ensure basement was penetrated.

A decision on the next phases of work at the Faulkner Creek REE anomaly must await completion of the geological mapping. The high order REE anomaly certainly justifies further investigation.

7.0 ENVIRONMENTAL

Samples from the drilling were removed from site, and because drilling was carried out along existing forestry tracks no rehabilitation of clearings is required. Other work was non ground disturbing, so there are no environmental matters requiring attention.

8.0 EXPENDITURE

Expenditures have been reported via MRT Quarterly Returns.

9.0 REFERENCES

ASKINS P. W., 2011. Annual Report for EL40/2008 East Lisle for the Period 13 January 2010 to 12 January 2011. Unpublished report submitted to MRT.

BAKER, W. E., 1978. The role of humic acid in the transport of gold. *Geochim. Cosmochim. Acta.* 42:645-649.

BAKER, W. E., 1983. Gold in vegetation as a prospecting method in Tasmania. Mineral Resources Tasmania Unpublished record UR1983_17.

10.0 APPENDIX

Logging Key

Bagged samples

NB: Brackets indicate minor to very minor occurrences

Chip descriptions

Colour

(dominant colour last)

Code	Description
og	Orange
gy	Grey
lt	Light
dk	Dark
br	Brown
rd	Red
wt	White
cm	Cream
Y	Yellow

Material

(listed decending abundance)

Code	Description
cy	Clay(ey)
st	Silt(y)
sd	Sand(y)
csd	Coarse Sand(y)
rk	Rock(y)
fg	Fragments

Quartz Characteristics

(listed decending abundance)

Code	Description
qtz	Quartz
mil	Milky
sh	Sharp
fer	Ferruginous Stained
eq	Equigrainular
c s	Coarse Sand
s	Sand
v qtz	Vein Quartz
cl	Clear Quartz
v	very
gn	granitic

Colour (Rock Cip)

(dominant colour last)

Code	Description
og	Orange
gy	Grey
lt	Light
dk	Dark
br	Brown
rd	Red
wt	White
cm	Cream
Y	Yellow

Oxidisation

Code	Description
lim	Limonite
hm	Haematite
fr	Fresh

Grain Size

Code	Description
VF	Very Fine Grained
F	Fine Grained
M	Medium Grained
C	Coarse Grained

Rock Type / Chip Material

(listed decending abundance)

Code	Description
reg	Regolith / contamination
ss	Sandstone
st	Siltstone
sh	Shale
mica	Muscovite(ic)
qtz	Quartz
cbn	Carbonaceous
fer	Ferruginous
ALL	Alluvium
GR	Granite
TL	Talus, Scree