FLINDERS MINES LIMITED

ABN 46 091 118 044

Quarterly Report

Period ending 30 June 2009

HIGHLIGHTS

IRON ORE

- *Drillling recommenced at the Pilbara Project with 174 holes completed for 6,978m since 23 May 2009.*
- *All assays received for Ajax with inferred resource pending.*
- *Significant CID/BID intersections outside of current resource, particularly within Eagle and Delta.*
- *Purchase of Canegrass iron ore project in the Mid West Iron Ore Province of Western Australia.*

Pilbara iron ore

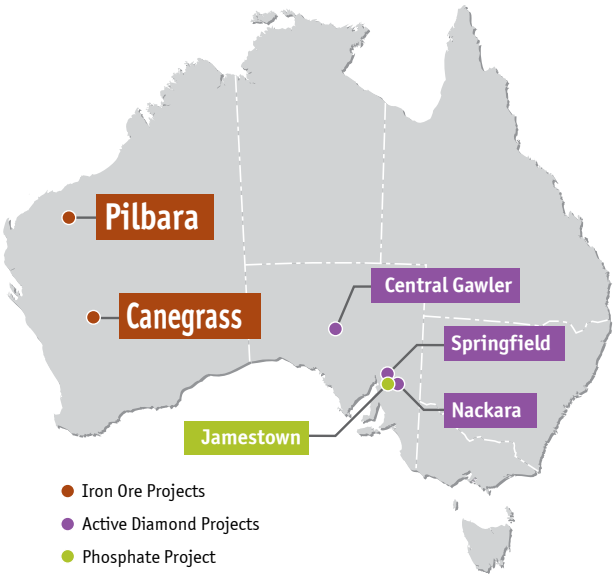

Figure 1 Location of Flinders Mines project areas.

DIAMONDS AND PHOSPHATE SUMMARY

DIAMONDS

- *Microdiamond analysis underway for new kimberlite discoveries from Eurelia.*
- *New ultra-detailed helimag survey at Eurelia has identified numerous new kimberlite targets.*

Eurelia diamond

PHOSPHATE

- *Regional soil sampling survey completed.*
- *Two 10km long soil phosphate anomalies located.*
- *Infill sampling underway.*

Tarcowie phosphate

** see note on page 10 for a clarification of Exploration Targets.*

PROJECT REVIEW

IRON ORE

WESTERN AUSTRALIA

PILBARA

E47/882 (Blacksmith) and E47/1560 (Anvil)

100% Flinders Mines

During the quarter, Flinders recommenced drilling on its 100% owned Pilbara (previously Hamersley) Project. Since drilling began on 23rd May 2009, 174 reverse circulation (RC) drill holes have been completed for 6,978m. The majority of these holes have been drilled at the Ajax prospect (Figure 2) targeting both CID and BID mineralisation with the aim of defining an inferred resource. The resource estimate will be in addition to the maiden inferred resource for the Pilbara Project announced in April 2009 of 476 Mt @ 55% Fe (at a 50% Fe cutoff).

Drilling has recently commenced on E47/1560 (Anvil Figure 2), which is approximately 5km to the south west of the recent activities. The aim of this drilling is to determine the nature and extent of any iron mineralisation present. The untested targets on Anvil together with Ajax have a combined exploration target* of 217 to 267 Mt at 50 to 65% iron (Table 1).

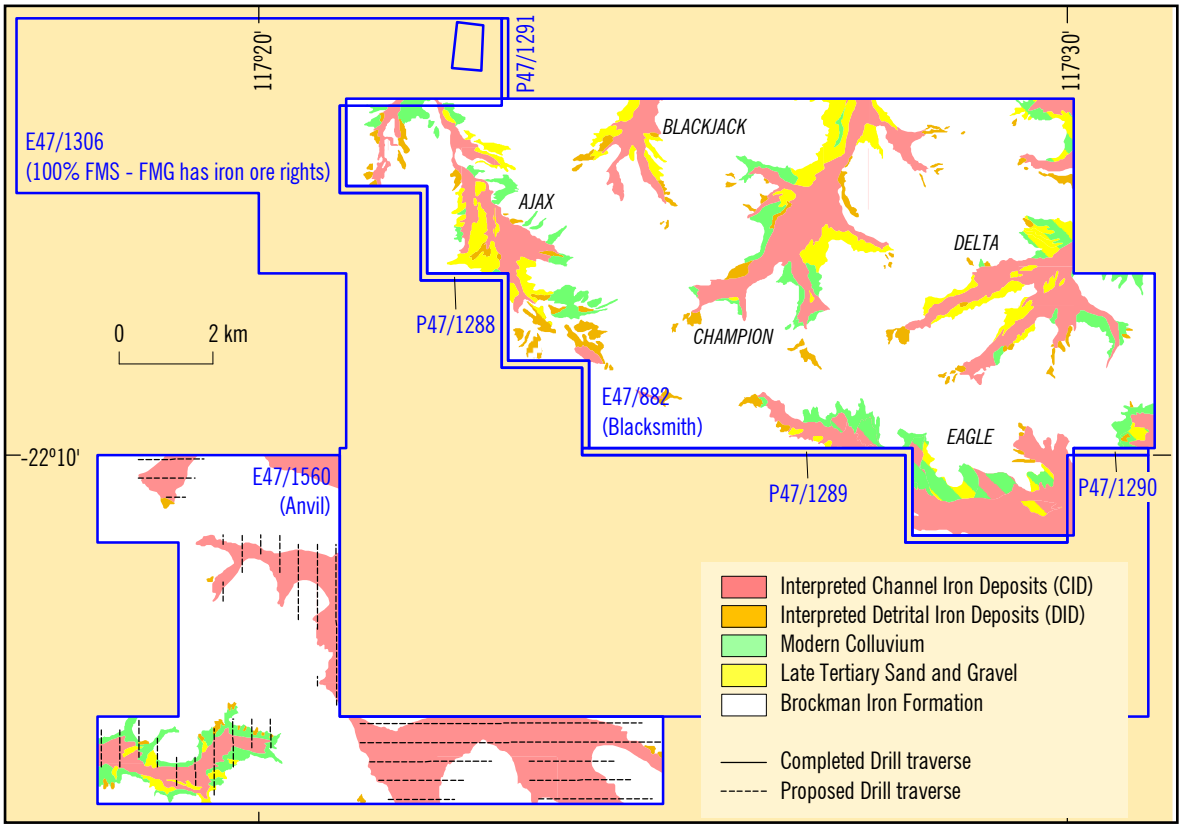

Figure 2 Location of Flinders Mines' Iron ore Project areas (E47/882 and 1560).

Table 1: Pilbara Project Exploration Target* table

AREA	Area (km^2)	Thickness Estimate (metres)	Volume (million m^3)	Upper Tonnage Estimate (Mt) SG 2.8	Lower Tonnage Estimate (Mt) SG 2.6
E47/882					
Ajax	2.45	15	36.75	103	96
E47/1560				164	121
		TOTAL CID/DID		267	217

Detailed geological mapping and further interpretation of the drilling data is continuing to reveal the controls on the location of the BID mineralisation. This will allow for systematic drill testing of extensions to existing BID mineralisation zones as well as new BID targets generated from the geological interpretation. It is anticipated that once drilling has been completed at Anvil, the rig will return to Blacksmith to test these targets. The Department of Mines and Petroleum has provided approval for this drilling program at Blacksmith. Full anthropological and archaeological clearances are planned to enable earthworks to commence in readiness for commencement of drilling.

AREA SUMMARIES

Ajax

A total of 93 holes for 3,180m have been drilled at the Ajax prospect. Assays have been received for all holes (Table 2) with good thickness of CID mineralisation intersected, particularly along lines 7 and 8 (Figure 3). The majority of the mineralisation at Ajax is shallow and often at surface. Significant CID results include HPRC827 with 24m @ 59% Fe, 2 m from the surface, HPRC848 with 18m @ 57.8% Fe including 8m @ 60.6% Fe and HPRC855 with 32m @ 61.1% Fe, 2m from the surface. Minor amounts of good quality BID were intersected with HPRC858 the highlight with 20m @ 57.2% Fe, 4.2% Al and 4.5% Si, 2m from the surface.

Blackjack

An additional 11 holes for 480m have been drilled in Blackjack (Figure 4). No assays have been returned. The majority of holes were designed to better define the current resource, however, significant results were obtained at the western end of line 3 where 2 holes intersected thicknesses of 12m and 16m respectively of BID mineralisation within 10m of the surface. This mineralisation is outside of the current resource and remains open to the west.

Champion

A total of 34 additional holes were drilled in Champion. No assays have been returned. The two mineralised zones of CID and BID were further delineated with infill holes and more confidence added to the geology. Of particular interest were holes HPRC513 and HPRC518 located at the western

** see note on page 10 for a clarification of Exploration Targets.*

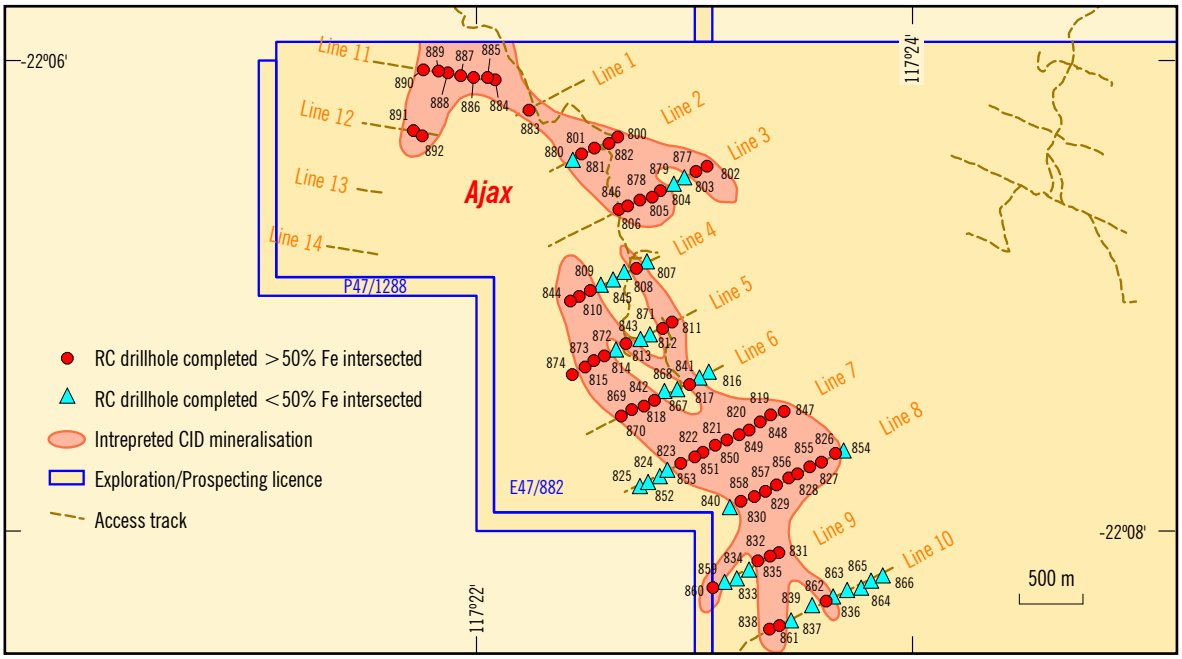

Figure 3 Ajax drilling plan.

end of lines 2 and 5 respectively (Figure 4). Both holes encountered BID mineralisation with an estimated 12m intersected in HPRC518. In addition to these examples there are many other open zones of BID in Champion which will be a focus of the drilling program once the inferred drilling at Anvil has been completed.

Delta

Additional drilling in Delta comprised 25 new RC holes for 1,338m. No assays have yet been returned. This includes all holes on Line 1 (Figure 5) which intersected good thicknesses of CID and clay rich Serenity-style mineralisation at depth. Hole HPRC268, at the southern end of the line, also intersected 18m of BID mineralisation beneath the CID. A number of holes were also drilled extending the northern end of line 2. Very good thicknesses of combined CID/BID of up to 58m were intersected in a number of these holes. Other lines were also extended with the aim of testing for further BID mineralisation with excellent results. Two holes at the southern end of line 3 and holes at the northern end of lines 7-south and 7-north all intersected significant BID mineralisation.

Eagle

The 2009 drilling in Eagle has comprised 11 holes for 618m. Significant intersections of both CID and BID mineralisation were drilled as part of northern extension to both lines 1 and 2 (Figure 6) in the immediate vicinity of the Blacksmith camp. These holes were drilled outside of the current resource boundaries. Assays for these holes are still

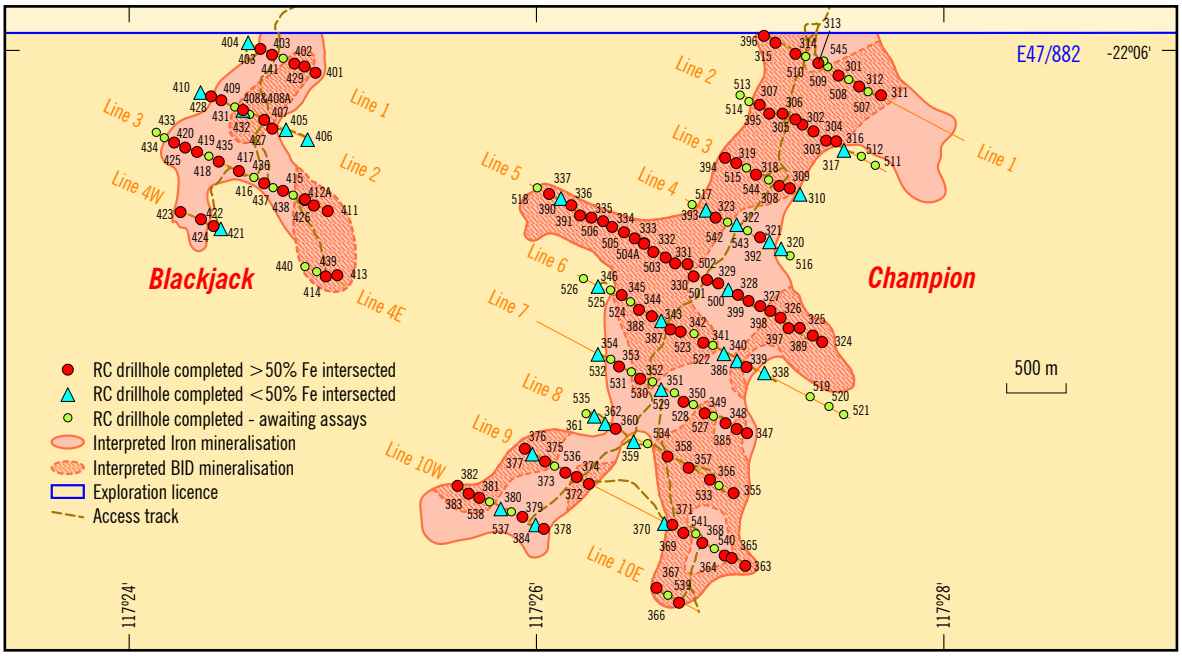

Figure 4 Blackjack and Champion drilling plan.

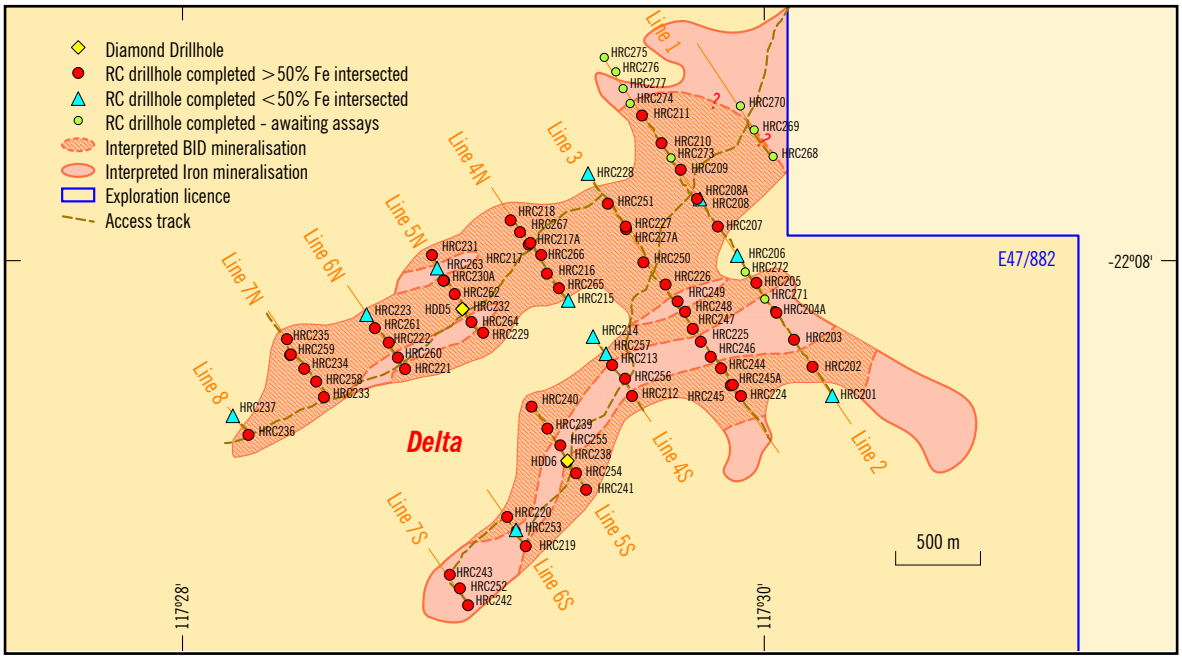

Figure 5 Delta drilling plan.

pending, however assays have been received for a number of other holes elsewhere within Eagle with results consistent with those for adjacent holes drilled during 2008.

Studies

AMC Consultants were commissioned to complete a Scoping study on the Pilbara Project during the quarter. This work is ongoing.

Laboratory scale testwork on a limited number of samples was completed to examine whether beneficiation would potentially remove elevated levels of contaminants – initial results suggest that a large proportion of the iron is present as iron oxides, and beneficiation could well result in an upgraded product. Further work is planned over the remainder of the year.

A Project Manager was recruited for the Project. He commenced in July.

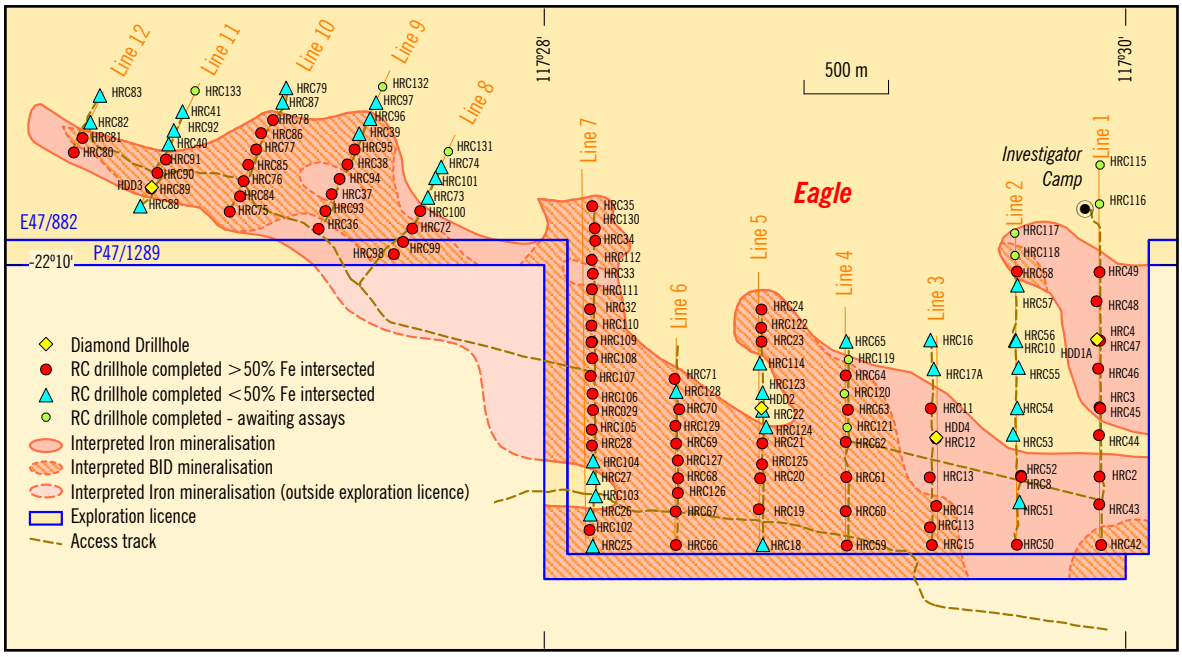

Figure 6 Eagle drilling plan.

Table 2: List of selected RC drillhole intersections

Hole	From	To	Interval	Fe (%)	Al_2O_3 (%)	SiO_2 (%)	P (%)	LOI (%)	Area
HPRC0800	2	8	6	53.97	0.043	11.16	6.60	4.00	Ajax
HPRC0801	0	6	6	54.51	0.038	10.89	3.50	6.89	Ajax
HPRC0802	0	16	16	57.91	0.071	9.48	3.55	2.93	Ajax
incl	8	14	6	61.34	0.080	6.36	2.22	2.38	Ajax
HPRC0804	2	8	6	55.10	0.045	13.50	4.50	2.05	Ajax
HPRC0805	0	16	16	55.77	0.051	11.77	4.79	2.75	Ajax
HPRC0806	0	2	2	51.26	0.059	21.32	2.85	1.77	Ajax
HPRC0810	0	14	14	54.45	0.050	12.00	4.75	4.35	Ajax
incl	8	14	6	56.49	0.058	7.58	4.53	6.37	Ajax
HPRC0811	0	2	2	56.25	0.065	12.33	3.49	2.37	Ajax
HPRC0813	0	2	2	51.25	0.045	20.66	3.60	1.80	Ajax
HPRC0814	24	26	2	51.34	0.027	12.92	2.44	10.70	Ajax
HPRC0815	8	22	14	55.86	0.041	10.47	5.95	2.72	Ajax
incl	14	20	6	58.08	0.041	7.70	5.97	2.33	Ajax
HPRC0817	14	16	2	53.41	0.039	10.75	6.53	5.22	Ajax
HPRC0818	12	14	2	50.94	0.036	15.34	7.48	2.97	Ajax
HPRC0819	8	22	14	57.50	0.045	11.88	3.32	1.76	Ajax
HPRC0820	12	24	12	55.85	0.047	10.63	5.41	3.05	Ajax
HPRC0821	10	24	14	53.02	0.070	8.90	6.67	7.31	Ajax
HPRC0822	14	18	4	53.36	0.054	10.07	5.61	6.90	Ajax
HPRC0823	10	16	6	50.79	0.090	13.01	4.03	9.79	Ajax
HPRC0826	0	22	22	57.32	0.054	12.63	2.47	1.96	Ajax
incl	12	20	8	62.28	0.065	7.06	1.42	1.28	Ajax
HPRC0827	2	26	24	58.99	0.048	7.49	4.85	2.46	Ajax
HPRC0828	2	6	4	52.48	0.089	12.93	3.14	8.32	Ajax
HPRC0829	0	14	14	53.15	0.065	11.67	4.25	7.14	Ajax
HPRC0830	0	16	16	54.71	0.084	9.17	4.26	7.49	Ajax
HPRC0831	0	10	10	51.84	0.067	15.82	3.82	5.20	Ajax
HPRC0832	4	14	10	54.55	0.105	8.44	4.48	8.03	Ajax
HPRC0835	0	8	8	55.30	0.104	6.29	4.98	8.40	Ajax
HPRC0838	8	10	2	51.62	0.064	14.80	3.28	7.52	Ajax
HPRC0844	2	20	18	55.31	0.048	11.82	4.00	3.98	Ajax
HPRC0845	6	14	8	54.52	0.054	9.42	4.38	7.31	Ajax
HPRC0845	24	26	2	54.07	0.147	11.63	2.89	7.29	Ajax
HPRC0846	0	8	8	51.83	0.056	17.67	4.09	3.21	Ajax
HPRC0847	4	10	6	54.53	0.059	13.84	3.03	4.23	Ajax
HPRC0848	8	26	18	57.79	0.046	10.30	4.26	1.88	Ajax
incl	16	24	8	60.64	0.045	6.41	4.23	1.73	Ajax
HPRC0849	10	22	12	53.75	0.052	9.93	6.14	5.95	Ajax
HPRC0850	6	14	8	52.81	0.066	11.10	6.04	6.39	Ajax
HPRC0851	4	16	12	56.09	0.103	7.08	3.48	8.35	Ajax
HPRC0842	10	12	2	52.26	0.037	14.54	7.08	2.50	Ajax
HPRC0842	16	22	6	53.10	0.076	9.56	5.79	7.53	Ajax
HPRC0855	2	34	32	61.07	0.051	7.07	3.08	1.72	Ajax
incl	14	34	20	62.57	0.055	5.26	2.69	1.76	Ajax
HPRC0856	2	12	10	54.11	0.075	7.21	5.67	8.79	Ajax
HPRC0857	0	14	14	54.90	0.051	11.15	4.59	4.96	Ajax
incl	6	14	8	57.96	0.058	4.96	4.53	6.81	Ajax
HPRC0858	2	22	20	57.24	0.121	4.52	4.23	8.21	Ajax
HPRC0860	0	4	4	55.87	0.056	7.88	6.28	4.17	Ajax

Hole	From	To	Interval	Fe (%)	Al_2O_3 (%)	SiO_2 (%)	P (%)	LOI (%)	Area
HPRC0861	0	4	4	51.98	0.089	14.90	2.06	7.96	Ajax
HPRC0861	10	12	2	51.71	0.082	10.07	3.48	11.70	Ajax
HPRC0862	0	10	10	55.25	0.092	6.03	4.97	8.86	Ajax
HPRC0882	2	6	4	54.67	0.042	8.53	5.80	6.57	Ajax
HPRC0883	0	14	14	57.82	0.043	7.45	4.66	4.36	Ajax
HPRC0884	2	4	2	53.44	0.056	7.65	8.45	5.93	Ajax
HPRC0885	0	12	12	55.32	0.046	7.71	6.60	5.45	Ajax
HPRC0886	0	8	8	53.65	0.042	11.76	6.10	4.42	Ajax
HPRC0887	0	8	8	51.82	0.037	13.84	6.61	4.41	Ajax
HPRC0888	2	4	2	50.86	0.035	13.78	8.13	3.96	Ajax
HPRC0889	0	4	4	52.56	0.040	14.55	6.41	2.89	Ajax
HPRC0890	0	8	8	54.86	0.038	9.69	7.42	3.12	Ajax
HPRC0891	0	6	6	54.44	0.082	6.78	3.32	10.59	Ajax
HPRC0892	0	10	10	57.50	0.071	6.30	3.32	6.96	Ajax
incl	0	6	6	61.13	0.073	2.90	3.53	4.80	Ajax
HPRC0869	12	22	10	51.99	0.045	15.28	6.08	3.56	Ajax
HPRC0870	12	30	18	54.97	0.044	10.66	5.87	3.96	Ajax
HPRC0871	4	10	6	56.07	0.052	10.08	5.46	3.12	Ajax
HPRC0873	12	24	12	52.63	0.038	12.61	5.76	5.72	Ajax
HPRC0874	8	28	20	59.19	0.045	6.89	5.33	2.38	Ajax
incl	12	28	16	60.16	0.047	5.82	5.14	2.30	Ajax
HPRC0875	4	6	2	51.93	0.031	13.41	7.60	3.77	Ajax
HPRC0877	0	16	16	54.30	0.051	11.43	5.25	4.61	Ajax
and	20	26	6	52.22	0.161	7.51	5.97	11.11	Ajax
HPRC0878	0	14	14	54.44	0.048	13.65	4.43	3.09	Ajax
HPRC0881	0	2	2	50.72	0.041	14.40	6.02	5.67	Ajax
HPRC0122	6	18	12	54.59	0.060	10.34	5.24	5.26	Eagle
incl	12	18	6	55.47	0.076	7.18	4.69	7.93	Eagle
HPRC0125	42	68	26	53.45	0.052	9.39	5.83	7.47	Eagle
	74	76	2	56.22	0.117	9.28	3.86	5.79	Eagle
	80	82	2	53.61	0.106	10.02	4.87	7.57	Eagle
	88	94	6	54.55	0.170	10.11	2.48	8.52	Eagle
HPRC0126	46	54	8	56.71	0.069	6.31	3.93	7.80	Eagle
	60	72	12	56.61	0.128	6.99	3.80	7.38	Eagle
HPRC0127	46	52	6	55.62	0.060	6.60	3.77	9.37	Eagle
	68	72	4	52.57	0.096	12.24	4.67	7.02	Eagle
	80	82	2	50.33	0.133	14.18	5.31	7.59	Eagle
HPRC0129	38	42	4	55.44	0.042	7.28	8.25	3.95	Eagle
HPRC0130	4	6	2	53.61	0.041	7.64	4.89	8.93	Eagle
	16	32	16	55.12	0.093	8.44	4.31	6.78	Eagle

YILGARN

Canegrass

100% Flinders Mines

On the 7th of May 2009, Flinders announced the purchase of the Canegrass magnetite iron ore project from Maximus Resources Limited (Maximus). The Canegrass project, located approximately 60km southeast of Mt Magnet (Figure 7), has an area of 685 sq km with large scale gabbro hosted magnetite concentrations over an area greater than 20km long and up to 3km wide. Previous work undertaken by Maximus identified an exploration target* of 1.7-3.0 billion tonnes of magnetite rich gabbro containing 20-35% magnetite. Flinders is currently in the process of reviewing all available data on the project with plans to undertake metallurgical test work and an RC drilling program with the aim of estimating an initial inferred resource.

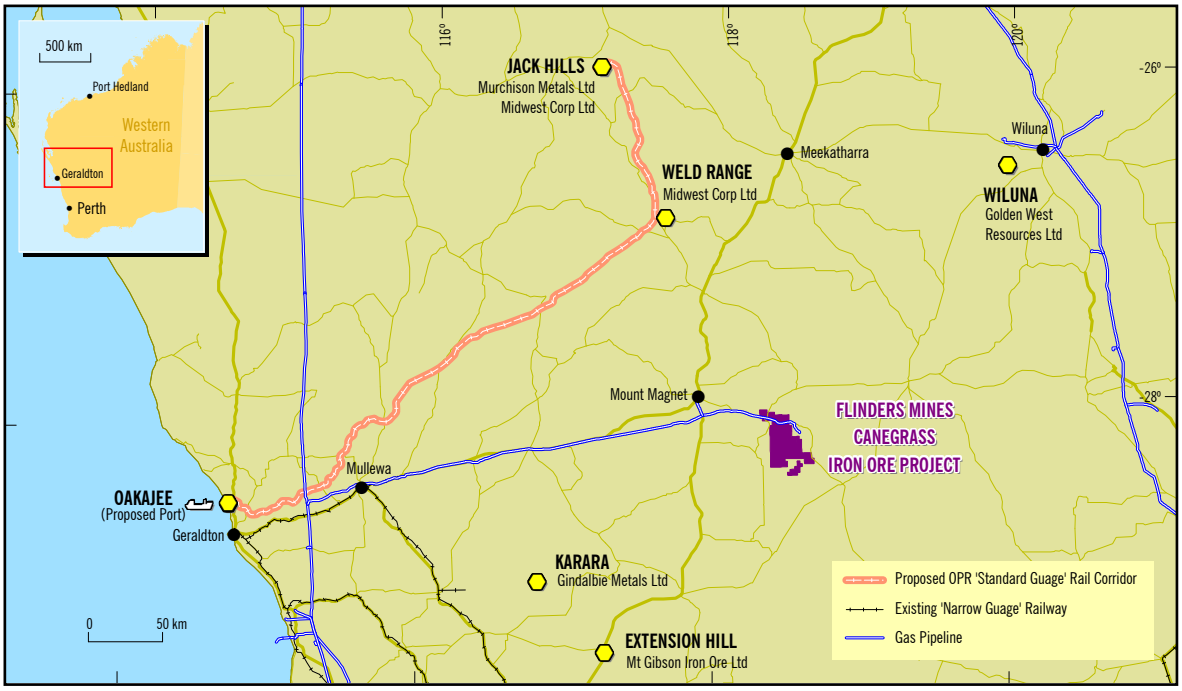

Figure 7 Location of Canegrass Project.

DIAMONDS

SOUTH AUSTRALIA

Flinders Ranges Project

Flinders 100% of diamond rights

Springfield Project

Following reinterpretation in the Eurelia area (Springfield Project), a program of ground magnetic surveys and trenching commenced during the quarter (Figure 8).

This has been successful in discovering new kimberlites and mapping extensions of previously identified bodies in the vicinity of K2 and K7 kimberlites. Of 20 kimberlite intersections six are classified as newly identified bodies and the others as extensions of known bodies. During the period 10 samples of approximately 20 kilograms were sent for microdiamond analysis. Work is underway to assess changes of diamond grade along strike.

In the Eurelia area, an ultra-detailed helimag survey, centred on the most diamondiferous kimberlites located to date (K2 and K7), was carried out in July. The survey covered the core of the Eurelia Kimblerlite field over an area of approximately nine kilometres by seven kilometres. This survey will significantly improve the geophysical detail over the 2003 historical data and provide a better framework for tracing known kimberlites and detecting others, previously not recognised.

In the Yanyarrie area (Springfield Project, Figure 8), trenching of one of the helimag anomaly-loam kimberlite indicator mineral (KIM) anomaly associations has sampled what is probably a kimberlite, and is designated BB60. This area is 20 km

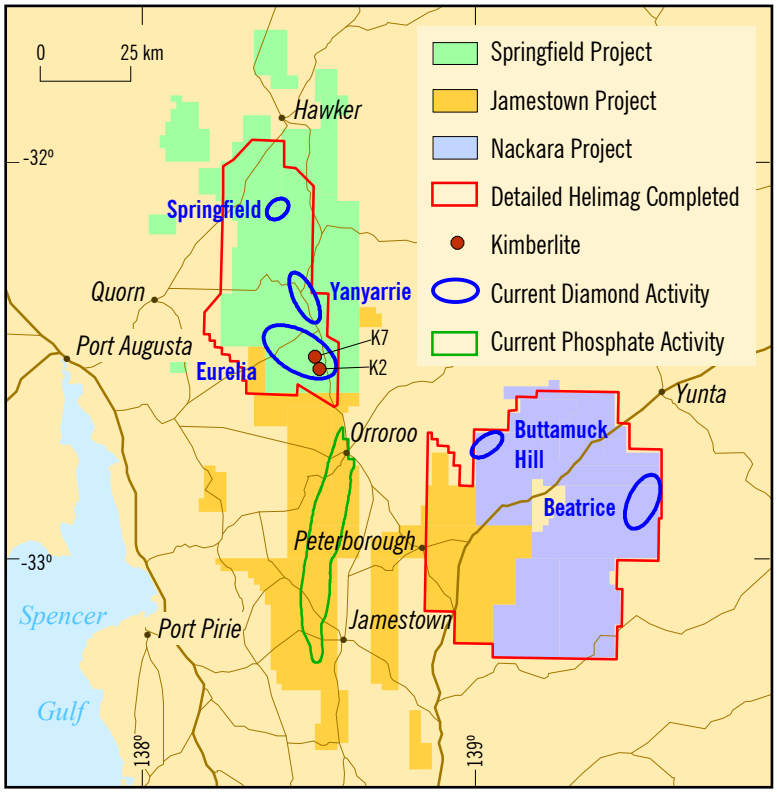

Figure 8 Location of Flinders Ranges Project Areas.

north of, and thus quite separate from, the diamondiferous kimberlites at Eurelia. There are at least six other magnetic targets within a radius of five kilometres. Mapping, more magnetic follow up and trenching is planned to test other new targets at this potential new field.

Nackara Project

In the Beatrice area (Nackara Project), work during the quarter comprised trenching activities, sample processing and data interpretation. Basal heavy mineral samples were collected from gravel horizons at or near the basement rock.

Twenty one of 35 samples returned a positive result for diamond indicator minerals (DIMs). Results are displayed in Figure 9. The positive results show a NE corridor of DIMs running through the Beatrice area, replicating the Nackara Diamond Trend. Some samples had high indicator counts and good size distribution indicating proximity to source. Future work will focus on those areas highlighted during the regolith mapping and trenching,and utilising existing detailed helimagnetic data.

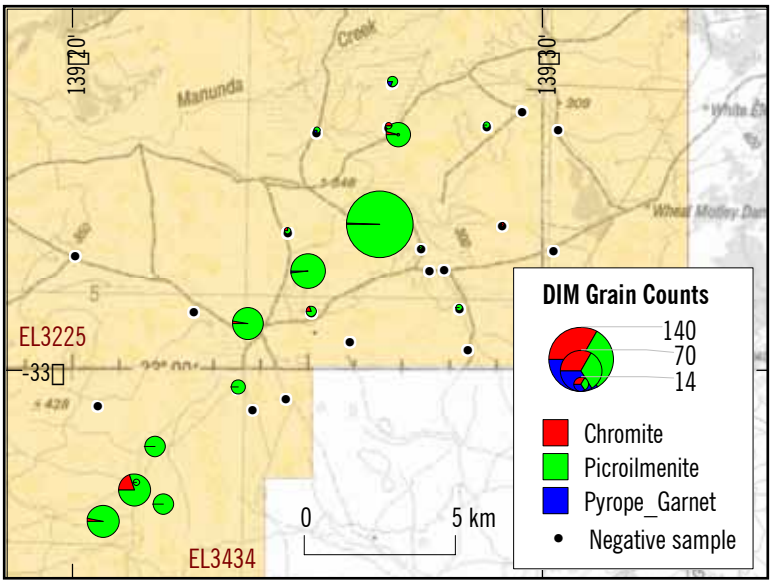

Figure 9 Beatrice (Nackara East) area diamond indicator mineral results.

This work has led to a significant increase in understanding of the Beatrice (Nackara East) area. The area is prospective for diamonds as numerous diamonds have been found on the surface, and no kimberlites yet found in the area. The biggest problem for diamond exploration in this area has been the complex regolith profile causing smearing of DIMs and also the presence of mafic rocks masking potential kimberlites in the magnetic data.

Adelaide Hills Project

Flinders 100% of diamond rights

No work undertaken.

Gawler Craton Projects

Tasman JV

Flinders earning 70%

As previously reported, 42 holes were drilled on the Central Gawler project in March 2009. No kimberlite was intersected during this campaign.

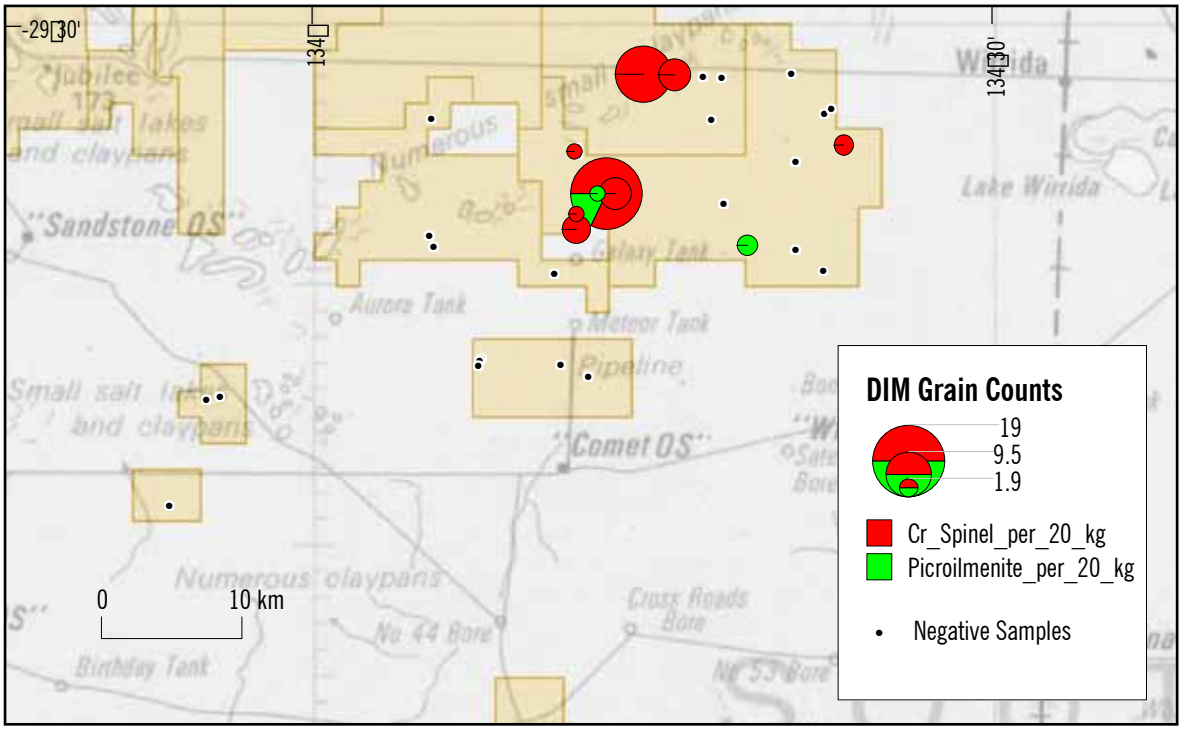

Figure 10 Tasman JV tenements showing diamond indicator mineral results.

Samples recovered from Flinders' and previously drilled JV partner holes have been analysed for diamond indicator minerals (DIM). A total of 50 samples were sent to the laboratory for heavy mineral processing and observation. Twelve samples returned positive results. Chrome spinel (chromite) and picroilmenite were recovered in varying quantities, with the highest count of 11 DIMs (9 chromite and 2 picroilmenite) from a 12 kg sample. Ten of the positive samples are located in the northern section of the JV ground (Figure 10).

Microprobing of indicator grains has given confidence of derivation from a kimberlite source. On the geologically complex Gawler Craton, crustal ilmenites and chromites are common. Chemistries have been plotted and indicate two separate populations, one crustal and one kimberlitic. Future work will focus on the search for these undiscovered kimberlites.

Tawana JV

Flinders earning 70%

No work undertaken. A ground magnetic survey is planned to refine drill targets in the north-western part of Flinders Island.

A review of the Venus Bay loam and drilling results is underway.

G2 Project

Flinders 100% of diamond rights

No work undertaken.

Table 3: Best soil assays to date

Sample No.	Location	P (ppm)
RSS/OR-760	Tarcowie	2400
RSS/OR-765	Tarcowie	2200
RSS/OR–452	Mavisgrove	2010
RSS/OR–424	Mavisgrove	1750
RSS/OR–152	Orroroo	1680
RSS/OR–310	Pekina	1640
RSS/OR-986	Tarcowie	1610
RSS/OR–243	Reevale	1530
RSS/OR–137	Orroroo	1500
First Quartile		260

WESTERN AUSTRALIA

Hamersley Project

Flinders 100% of diamond rights

No work undertaken.

NORTHERN TERRITORY

Strangways Project

Flinders 100% of diamond rights

No work undertaken.

PHOSPHATE

Flinders Ranges

Jamestown Project

The reconnaissance soil survey commenced last quarter was completed in May and all assays received in June. A total of 1415 soil samples were collected on an 800 m x 400m grid. Samples were assayed for 33 elements to assess any meaningful geochemical correlation between phosphorus (P) and other elements. Figure 11 shows the distribution of P over the whole project area.

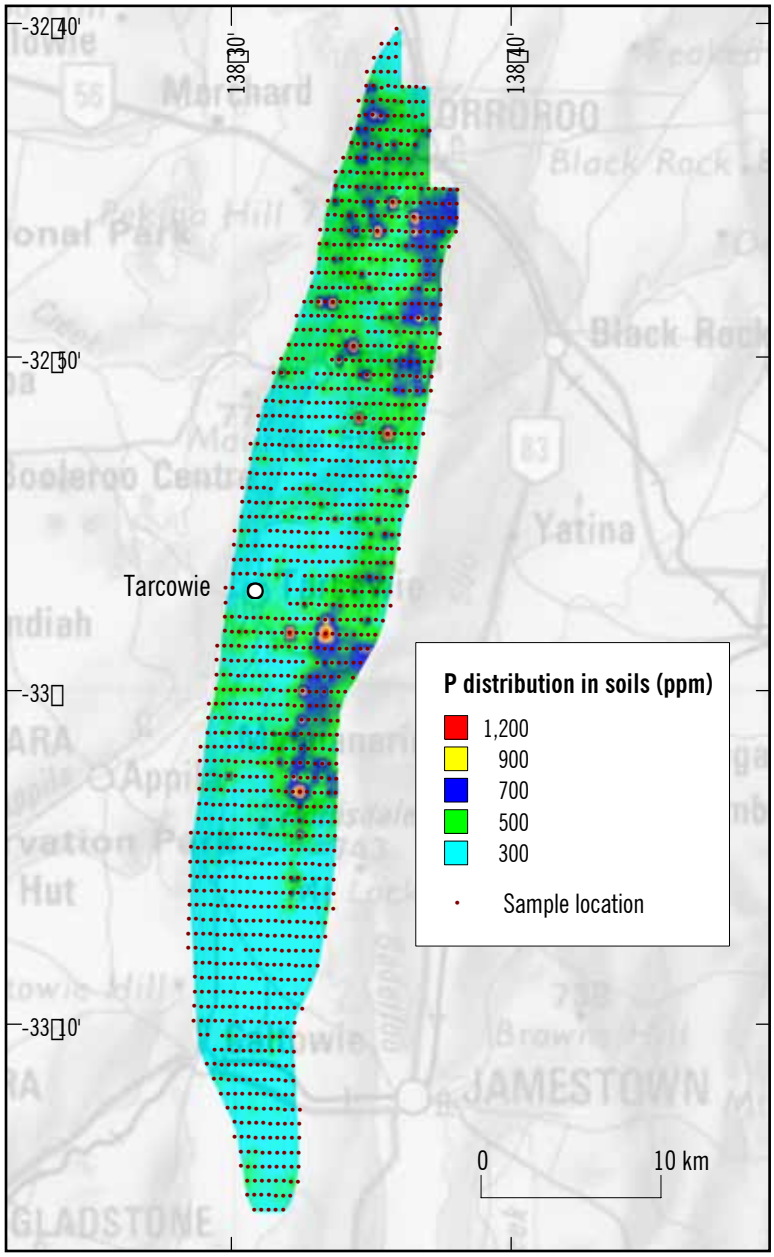

Figure 11 Jamestown reconnaissance soil sample phosphorus (P) results.

Most samples were collected from depths between 15 and 20 cm as the bedrock is fairly shallow and consists mainly of weathered shales, siltstones or sandstones. Assay results show a large variation in phosphorus content, with P values ranging between 130 ppm and 2400 ppm. The area of most interest at this stage appears to be near Tarcowie. A follow up infill sampling program is being implemented. Samples with the highest P content are shown in Table 3 (page 9).

Given the variety of phosphate minerals present, Flinders is undertaking preliminary metallurgical studies to provide information on methods of beneficiation. Three bulk samples (20-25 kg each) were collected for metallurgical studies and submitted to the Ian Wark Institute in Adelaide. Results will be available during the third quarter of 2009.

Figure 12 Phosphate associated with manganese oxides in the old Orroroo Phosphate Mine.

Figure 13 Phosphate associated with manganese oxides in the current Tarcowie Phosphate Pty Ltd operation near Tarcowie.

FUTURE PROGRAM

IRON

Drilling is due to continue on E47/1560 (Anvil) to develop an Inferred Resource. The drill rig will then move back to E47/882 (Blacksmith) to commence drilling of BID extensions and additional BID targets generated from the geological and drilling review. In September the existing reverse circulation drill rig will commence drilling out an Indicated Resource, with a second reverse circulation drill rig brought in to complete the work, enabling an Indicated Resource to be calculated in the fourth quarter of 2009. A diamond drill rig is expected to commence drilling metallurgical drill holes in early August.

The Inferred Resource for Ajax is due for completion in the third quarter 2009.

The Scoping Study is due for completion early in the third quarter 2009. Following the results of the Scoping Study the Prefeasibility will commence.

DIAMONDS

During the September quarter ongoing testing of kimberlite targets defined from the recent helimag survey will continue in the Eurelia area. Follow up will consist of ground magnetic surveys, trenching and possibly drilling. Any new kimberlites with encouraging microdiamond concentrations will be considered for bulk sampling for macrodiamonds later in the year.

PHOSPHATE

Infill soil sampling will continue into the September quarter with the interpretation of initial assay results and planning of follow up drilling to test the best anomalous zones identified.

FINANCE

On 30 June 2009 the Company had available funds of $20.5 million. Exploration expenditure in the June Quarter was $3.1 million compared to a budget of $3.3 million. Total exploration expenditure forecast for the September 2009 Quarter is $4.8 million. This consists of $4.3 million for iron ore, $312,000 for diamonds and $181,000 for phosphate.

Dr Kevin J A Wills
Managing Director

30 July 2009

The information in this report that relates to Exploration Results, Mineral Resources and Ore Reserves is based on information compiled by Dr K J A Wills (who is a Fellow of the Australasian Institute of Mining and Metallurgy) and Mr N Corlis (who is a member of the Australian Institute of Geoscientists). Dr Wills and Mr Corlis are employees of Flinders Mines Limited. Both have sufficient experience that is relevant to the style of mineralisation and types of deposit under consideration and consent to inclusion of the information in this report in the form and context in which it appears. Dr Wills and Mr Corlis qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves".

***Note**: *These Exploration Targets are reported according to Clause 18 of the JORC Code. This means that they are partly conceptual in nature and that considerable further exploration, particularly drilling, is necessary before any Identified Mineral Resource can be reported. It is uncertain if further exploration will lead to a larger, smaller or any mineral resource.*

Contact us

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