Flinders MINES | ASX ANNOUNCEMENT

23 September 2014

PIOP Drilling Update

highlights

- *Significant High Grade Fe, low contaminant drill intersections from Paragon*
- *Further high grade results at Blackjack*
- *BID targeted drilling to commence in October*

Pilbara Iron Ore Project (PIOP)

Tenement M47/1451 (Blacksmith)

Flinders Mines Limited (FMS) 100%

Flinders Mines Limited (ASX: FMS) is pleased to announce that further assays have now been received for drilling undertaken at the Company's wholly-owned Pilbara Iron Ore Project (PIOP) in the Pilbara region of Western Australia.

Blackjack Deposit

The final assays for infill drilling at the Blackjack deposit (*Figure 1*) reinforce previous recent announcements that high grade, low contaminant iron mineralisation exists outside of the current Inferred Resource boundary and outside existing pit designs as defined during the Pre-Feasibility Study (*Figure 2*). New significant intersections are shown in Table 1 with a complete list of intersections for recent assays received in Table 2.

Paragon Deposit

Infill drilling has now been completed at the Paragon deposit (*Figure 1*) and all assays have been received for the northern section (*Figure 3*). High grade DID and BID mineralisation with significantly low levels of silica and alumina has been intersected. In some intersections, combined silica and alumina levels are below 4%. As a consequence of the infill nature of this drilling, these results are consistent with the current geological model for Paragon. A list of the more significant intersections is shown in Table 1 with a complete list of intersections for recent assays received in Table 2.

Future Program

The infill drilling program is due to be completed by the end of this week. The current drill rig will then be swapped over with a specialised track mounted RC drill rig that will undertake drilling in the hills over the next two months to test for further high grade mineralisation adjoining the Blackjack Resource and other targets within the PIOP. Significant results from drilling targeting new mineralisation will be reported as they are received.

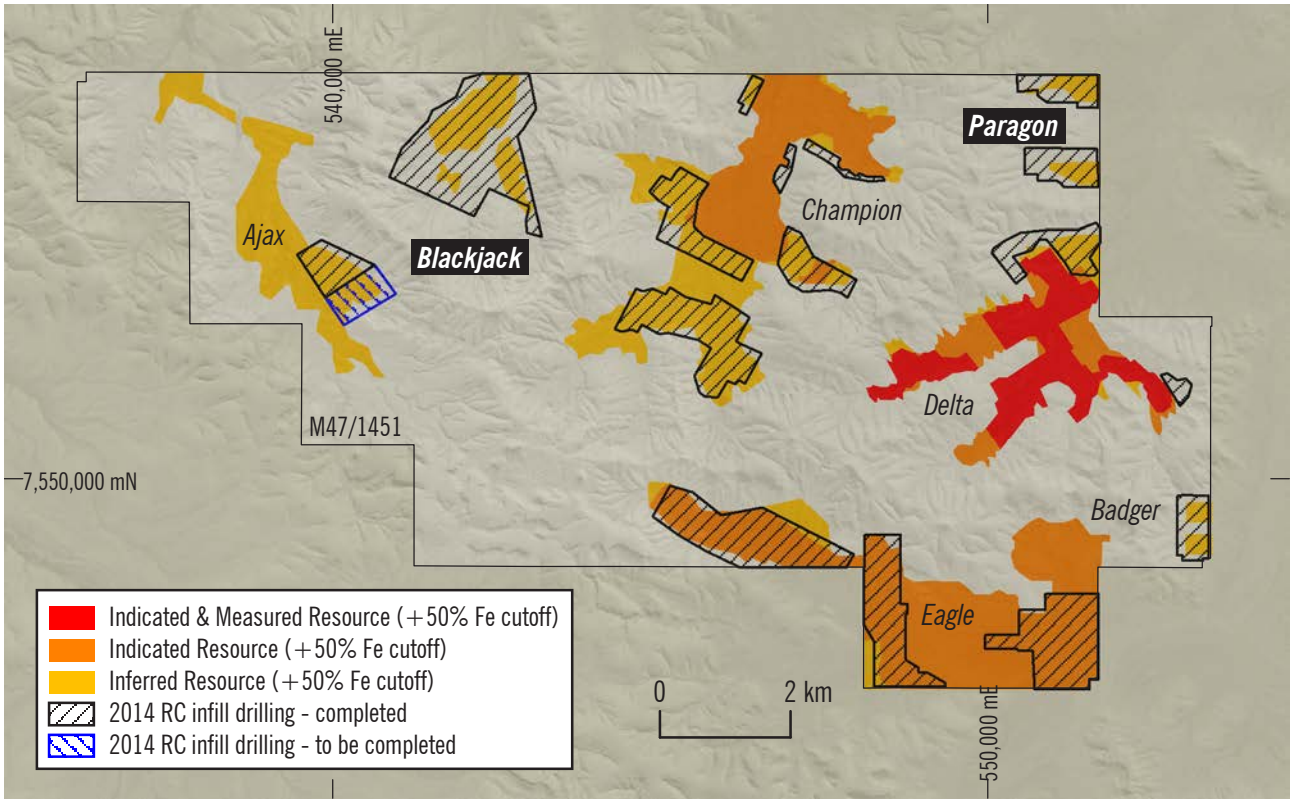
Flinders Mines Limited
ABN 46 091 118 044
www.flindersmines.com

Level 1, 135 Fullarton Road,
Rose Park
South Australia 5067

PO Box 4031
Norwood South
South Australia 5067

telephone 61 8 8132 7950
facsimile 61 8 8132 7999
email info@flindersmines.com

Figure 1 *Location of the Blackjack and Paragon deposits within the broader Pilbara Iron Ore Project (PIOP).*



A new mineral resource for the Champion deposit is expected to be released this week. Geological modelling of the Blackjack deposit has been completed and an update to the Mineral Resource is expected in coming weeks. Modelling of other deposits is ongoing as assays are received and will be reported when completed.

IAN GORDON
MANAGING DIRECTOR

23 September 2014

Table 1 : *Significant recent intersections from the Blackjack and Paragon deposits.*

Deposit	Hole	From (m)	To (m)	Interval (m)	Fe%	SiO_2%	Al_2O_3%	P%	LOI%
Blackjack	HPRC1611	34	64	30	58.2	4.6	4.4	0.14	6.6
Blackjack	HPRC1616	12	50	38	59.4	2.8	2.1	0.11	9.5
	incl	30	50	20	61.9	1.6	1.4	0.11	8.1
Blackjack	HPRC1628	4	14	10	57.9	3.9	2.2	0.12	10.2
Paragon	HPRC3536	20	48	28	61.1	3.2	2.2	0.10	6.3
	incl	34	42	8	62.8	1.8	1.3	0.11	6.0
Paragon	HPRC3542	38	70	32	58.2	4.6	4.4	0.10	6.7
	incl	52	64	12	61.4	2.0	1.8	0.14	7.6
Paragon	HPRC3546	44	70	26	60.6	3.2	3.0	0.11	6.4
	incl	52	68	16	60.8	1.8	2.1	0.14	8.5
Paragon	HPRC3556	40	58	18	59.7	3.5	3.0	0.10	7.5
	incl	46	54	8	61.6	2.4	2.3	0.12	6.7
Paragon	HPRC3560	6	30	24	59.9	3.3	2.5	0.09	7.5
	incl	6	14	8	63.5	2.9	2.5	0.08	2.4

Figure 2 *Blackjack deposit drill hole plan showing exploration targets and current RC drilling status.*

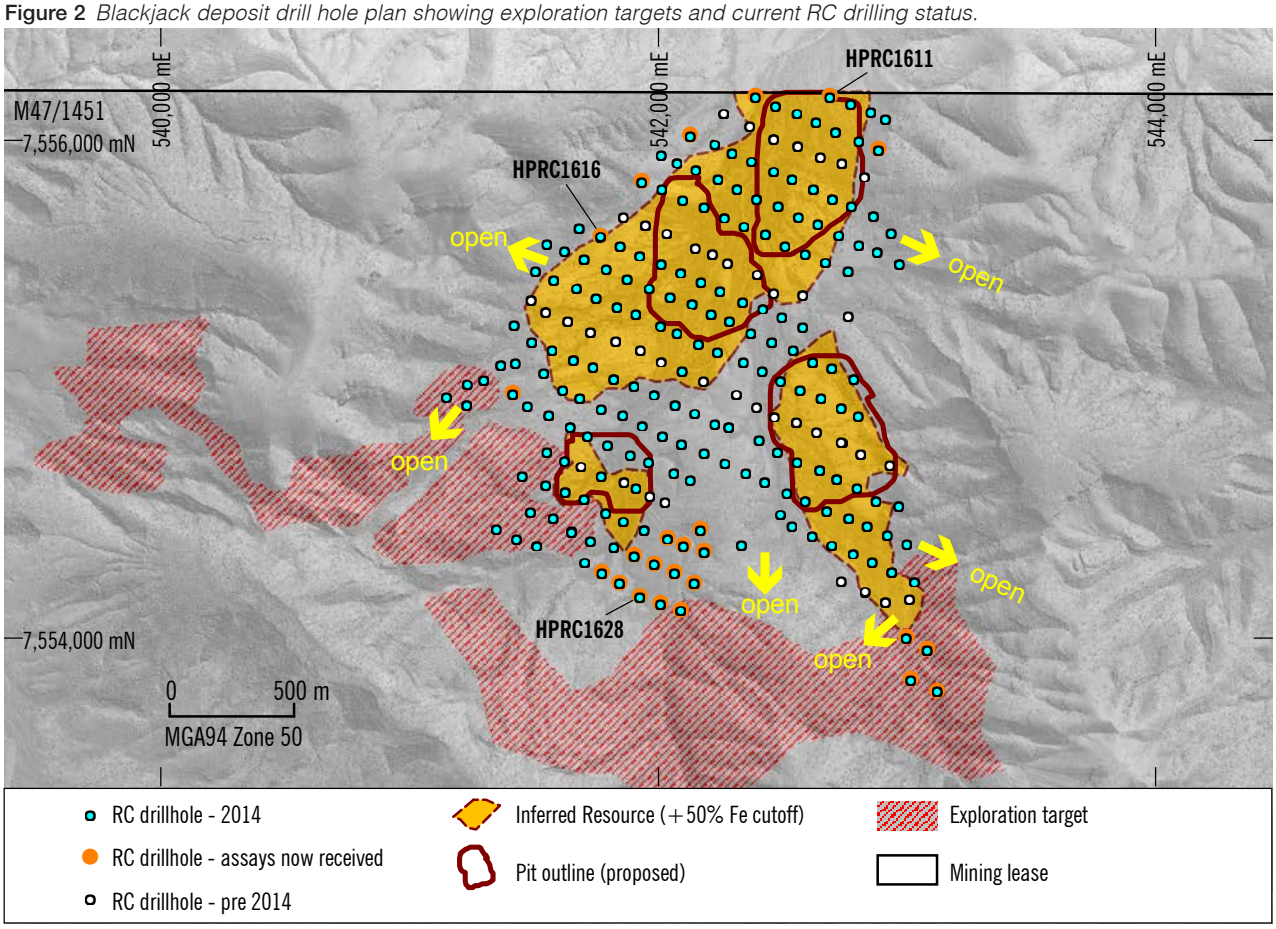


Figure 3 *Paragon deposit drill hole plan showing exploration targets and current RC drilling status.*

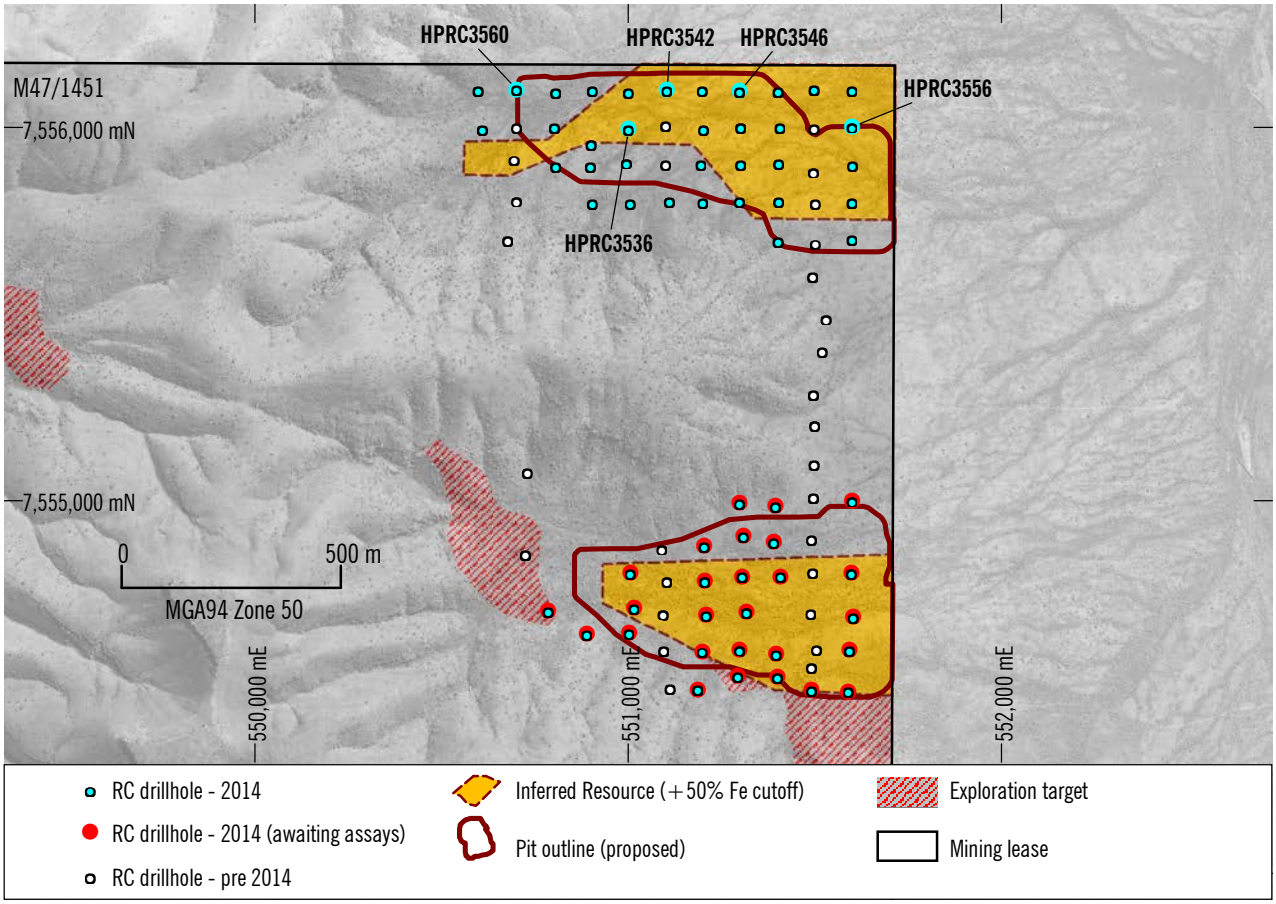


Table 2 : *Intersections summary for new Blackjack and Paragon RC drillholes.* *NSI - No significant intersection*

Deposit	Hole	MGA N	MGA E	RL	From (m)	To (m)	Interval (m)	Fe%	SiO_2%	Al_2O_3%	P%	LOI%
Blackjack	HPRC1611	7556177	542691	558	34	64	30	58.2	4.6	4.4	0.14	6.6
Blackjack	HPRC1612	7555964	542888	572	*NSI*							
Blackjack	HPRC1613	7556178	542392	561	*NSI*							
Blackjack	HPRC1614	7556020	542131	569	24	34	10	58.5	5.1	1.4	0.09	9.2
Blackjack	HPRC1615	7555835	541935	582	*NSI*							
Blackjack	HPRC1616	7555617	541770	585	12	50	38	59.4	2.8	2.1	0.11	9.5
Blackjack	HPRC1617	7554985	541416	605	*NSI*							
Blackjack	HPRC1618	7554437	542172	603	*NSI*							
Blackjack	HPRC1619	7554350	542185	601	2	10	8	59.9	2.6	2.1	0.10	9.2
Blackjack	HPRC1620	7554371	542103	593	*NSI*							
Blackjack	HPRC1621	7554403	542040	590	*NSI*							
Blackjack	HPRC1622	7554331	541903	590	*NSI*							
Blackjack	HPRC1623	7554223	542145	599	*NSI*							
Blackjack	HPRC1624	7554262	542067	594	*NSI*							
Blackjack	HPRC1625	7554299	541986	592	14	24	10	59.7	8.1	3.4	0.06	2.1
Blackjack	HPRC1626	7554263	541776	597	*NSI*							
Blackjack	HPRC1627	7554223	541846	596	4	12	8	60.3	6.5	4.0	0.05	2.4
Blackjack	HPRC1628	7554167	541928	595	4	14	10	57.9	3.9	2.2	0.12	10.2
Blackjack	HPRC1629	7554138	542012	597	2	10	8	56.6	8.5	3.4	0.09	5.7
Blackjack	HPRC1630	7554113	542091	599	*NSI*							
Blackjack	HPRC1631	7553835	543016	609	*NSI*							
Blackjack	HPRC1632	7553789	543123	612	*NSI*							
Blackjack	HPRC1633	7553954	543082	609	*NSI*							
Blackjack	HPRC1634	7554004	542999	619	2	6	4	54.1	7.6	3.0	0.09	10.6
Paragon	HPRC3529	7556094	550807	543	18	44	26	57.7	5.0	3.4	0.09	7.9
Paragon	HPRC3530	7555896	550807	550	*NSI*							
Paragon	HPRC3531	7556000	550804	545	10	14	4	55.7	9.0	3.4	0.07	7.2
Paragon	HPRC3532	7555896	550900	545	2	8	6	58.1	5.2	4.0	0.07	6.0
Paragon	HPRC3533	7555955	550901	543	16	22	6	56.2	8.1	6.2	0.05	3.8
Paragon	HPRC3534	7556099	550905	541	24	56	32	56.1	5.6	3.9	0.11	9.5
Paragon	HPRC3535	7556095	551002	539	32	54	22	59.0	5.8	2.6	0.11	6.5
	and				58	64	6	54.1	7.2	3.1	0.11	11.0
Paragon	HPRC3536	7555994	551001	540	20	48	28	61.1	3.2	2.2	0.10	6.3
Paragon	HPRC3537	7555905	550997	542	10	18	8	59.9	4.8	1.3	0.09	7.0
	and				20	30	10	55.1	5.7	2.7	0.09	12.1
Paragon	HPRC3538	7555796	551006	546	*NSI*							
Paragon	HPRC3539	7555797	550905	549	*NSI*							
Paragon	HPRC3540	7555802	551112	548	*NSI*							
Paragon	HPRC3541	7556099	551199	535	42	74	32	56.2	6.2	5.9	0.09	6.3
Paragon	HPRC3542	7556099	551105	544	38	70	32	58.2	4.6	4.4	0.10	6.7
Paragon	HPRC3543	7555995	551202	537	22	44	22	59.0	5.9	3.8	0.06	5.3
Paragon	HPRC3544	7555901	551196	539	12	16	4	54.6	7.4	5.2	0.05	8.6
Paragon	HPRC3545	7555800	551201	544	*NSI*							
Paragon	HPRC3546	7556097	551299	534	44	70	26	60.6	3.2	3.0	0.11	6.4
Paragon	HPRC3547	7556001	551303	544	26	48	22	58.4	5.0	3.6	0.09	7.3
Paragon	HPRC3548	7555902	551303	546	*NSI*							
Paragon	HPRC3549	7555802	551300	550	*NSI*							
Paragon	HPRC3550	7556097	551403	538	40	66	24	57.7	5.6	5.6	0.08	5.5
Paragon	HPRC3551	7555999	551407	547	26	36	10	56.7	6.8	4.6	0.08	6.8

Table 2 : *Intersections summary for new Blackjack and Paragon RC drillholes (cont).* *NSI - No significant intersection*

Deposit	Hole	MGA N	MGA E	RL	From (m)	To (m)	Interval (m)	Fe%	SiO_2%	Al_2O_3%	P%	LOI%
Paragon	HPRC3552	7555903	551404	542	12	30	18	56.0	5.6	3.8	0.16	9.8
Paragon	HPRC3553	7555801	551405	544	*NSI*							
Paragon	HPRC3554	7556102	551499	537	44	62	18	58.3	5.2	4.6	0.08	6.4
Paragon	HPRC3555	7556100	551601	538	52	72	20	58.9	4.0	3.7	0.11	7.6
Paragon	HPRC3556	7556001	551600	536	40	58	18	59.7	3.5	3.0	0.12	7.5
Paragon	HPRC3557	7555899	551603	538	28	40	12	57.7	6.0	3.4	0.10	7.5
Paragon	HPRC3558	7555799	551601	532	*NSI*							
Paragon	HPRC3559	7555700	551601	536	18	30	12	55.6	6.7	3.4	0.11	9.7
Paragon	HPRC3560	7556101	550702	556	6	30	24	59.9	3.3	2.5	0.09	7.5
Paragon	HPRC3561	7555995	550610	560	*NSI*							
Paragon	HPRC3562	7556099	550599	553	*NSI*							

QUALIFYING STATEMENTS

Forward-looking statements

This release may include forward-looking statements. These forward-looking statements are based on management's expectations and beliefs concerning future events as of the time of the release of this document. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, some of which are outside the control of Flinders Mines Limited, that could cause actual results to differ materially from such statements. Flinders Mines Limited makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect events or circumstances after the date of this release.

Exploration Targets

Exploration Targets are reported according to Clause 17 of the 2012 JORC Code. This means that the potential quantity and grade is 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.

Competent Persons

The information in this report that relates to Exploration Targets, Exploration Results, or Mineral Resources is based on information compiled by Dr Graeme McDonald who is a member of the Australian Institute of Mining and Metallurgy and a full-time employee of Flinders Mines Limited. Dr McDonald has sufficient experience that is relevant to the styles of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr McDonald consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information please contact:

Ian Gordon
Managing Director
Ph: (08) 8132 7950
Email: info@flindersmines.com

Investor Relations

Duncan Gordon
Executive Director - Adelaide Equity Partners
Ph: (08) 8232 8800 or 0404 006 444
Email: dgordon@adelaideequity.com.au

Head Office

Level 1, 135 Fullarton Road
Rose Park
South Australia 5067

PO Box 4031
Norwood South
South Australia 5067

Ph: (08) 8132 7950
Fax: (08) 8132 7999
Email: info@flindersmines.com

www.flindersmines.com

JORC 2012 - Table 1

Pilbara Iron Ore Project, September 2014

Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Sampling techniques	• Exploration results are based on 2m composite samples from Reverse Circulation (RC) drilling. • An average sample size of 4-5 kg was collected and sent for major and trace element analysis via XRF fusion techniques. All samples were submitted for analysis. • Field standards (Certified Reference Materials – CRM's) and duplicates were used to ensure sample representivity and quality of results. • All Diamond drill holes were triple tubed with half core used for QAQC purposes and whole core used for metallurgical test work.
Drilling techniques	• The majority of drilling was Reverse Circulation (RC) drill holes of approximately 140mm diameter utilising a face sampling hammer button bit. • PQ sized Diamond (DD) holes were drilled for metallurgical work and HQ sized holes for geotechnical and QAQC purposes. All geotechnical holes were angled and the core was oriented.
Drill sample recovery	• Sample quality and recovery of both RC and Diamond drilling was continuously monitored during drilling to ensure that samples were representative and recoveries maximized. • RC sample recovery was recorded as good (G) or poor (P). A vast majority of all samples were logged as good. • Diamond core recoveries are routinely logged and recorded in the database as a measure of length of core recovered versus the depth drilled. • Results of previous RC-Diamond twin holes indicate that there is no significant bias in the RC assays related to the presence of water, the sample particle size or the material types comprising the sample.
Logging	• Detailed geological logging of all RC and DD holes captured various qualitative and quantitative parameters such as mineralogy, colour, texture and sample quality. • RC holes were logged at 2m intervals. • The logging data is relevant for both mineral resource estimation and future mining and processing studies. • All Diamond core has been photographed. • Logging data is collected via ruggedised laptops using Ocris logging software which applies inbuilt validation checks as data is entered. The data is subsequently downloaded into a dedicated Geobank database for storage.
Sub-sampling techniques and sample preparation	• RC drilling samples are collected in pre-labelled bags via a cone splitter mounted directly below the cyclone. • Wet and dry sample are collected via the same technique. • Samples were stored on site prior to being transported to the laboratory. Wet samples were allowed to dry before being processed. • At the laboratory the samples are sorted, dried and weighed. They are crushed and split via a riffle splitter to obtain a sub-fraction. This fraction is pulverized and used for analysis.

Criteria	Commentary
Quality of assay data and laboratory tests	• All RC samples were submitted to Ultra Trace laboratory in Perth, an accredited laboratory with the National Association of Testing Authorities (NATA). • All samples were analysed via X-Ray Fluorescence (XRF) fused disc for a standard suite of elements including : Fe, SiO_2, Al_2O_3, TiO_2, MnO, CaO, P, S, MgO, K_2O, Zn, Pb, Cu, BaO, V_2O_5, Cr, Ni, Co, Na_2O. • Multi-point Loss On Ignition (LOI) was determined at 425, 650 and 1000 degrees celcius via thermo gravimetric analysis. • Field duplicates were taken at a rate of 4 per 100 samples as an original split at the time of primary sample collection. • Field standards (CRM's) were inserted at a rate of 5 per 100 samples. • No significant issues or concerns were apparent with the analysis of the field duplicates or standards. • Laboratory duplicates and standards were also used as quality control measures at different sub-sampling stages. No significant issues have been identified. • No formal analysis of sample size versus grain size has been undertaken, however, the sampling techniques employed are industry best practice. • Approximately 5% of all samples have been sent to an umpire laboratory as an independent check. No significant issues were identified with an excellent correlation between laboratories.
Verification of sampling and assaying	• Significant intersections have been independently verified by company geologists. • A twin hole (RC v DD) analysis demonstrated a high degree of compatibility between the two sample types with no evidence of any significant grade bias due to drilling method. • Twin RC v RC holes have shown good correlation between the original and twin hole. • Logging data is collected directly via Ocris logging software with inbuilt validations check and loaded into a Geobank database. Assay data is loaded directly into the database. This database is currently managed by Flinders staff. A physical check of assays within the database versus hard copies is done at a rate of 5%. No errors have been identified. • Several unannounced audits of laboratories were conducted while Flinders samples were being processed. No issues or concerns were apparent.
Location of data points	• Drill hole collar locations have been surveyed using a hand held GPS. • Collar surveys are validated against planned coordinates and the topographic surface. • Downhole surveys have not been carried out. • The primary grid used is Map Grid Australia 94, Zone 50 (GDA94). Vertical datum is the Australian Height Datum (AHD). • Topographic surface uses 2009 Lidar 50cm contours.
Data spacing and distribution	• The drill grid spacing varies between deposits. • For the majority of deposits a nominal spacing of approximately 100m x 125m is achieved. The Delta deposit is drilled at a spacing of approximately 50m x 50m over much of its area while Ajax is approximately 100m x 500m. • This level of drill spacing is sufficient for this style of mineralisation to establish the degree of geological and grade continuity required for Inferred through to Measured Mineral Resources.
Orientation of data in relation to geological structure	• The majority of drill holes are vertical and less than 120m deep. • Given the drill hole spacing and the predominantly flat lying ore body, any deviation of these vertical holes would have minimal to no impact on the geological interpretation. • No apparent material relationship is present between sampling bias and geological orientation.

Criteria	Commentary
Sample security	• Sample chain of custody is managed by Flinders. • Samples in calico bags are packed into polyweave bags and then placed into heavy duty bulk bags for transport to Tom Price. They are then transported via commercial freight directly to the laboratory. • Consignment notes for each submission are tracked and monitored.
Audits or reviews	• No formal audits or reviews have been undertaken. Optiro has reviewed QAQC and twin hole analysis reports prepared by Flinders and undertaken independent validation of the database. No significant issues were identified.

Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• The Pilbara Iron Ore Project (PIOP) comprises two 100% FMS owned tenements, M47/1451 and E47/1560, located approximately 70km NW of Tom Price. • The tenements lie within the Eastern Guruma Native Title Determination. Flinders has a current Native Title Agreement in place.
Exploration done by other parties	• Very little previous exploration has been undertaken by other parties. Robe River Mining undertook regional scale Fe exploration while a number of other parties have undertaken diamond exploration.
Geology	• Local bedrock geology is dominated by the Dales Gorge, Whaleback Shale and Joffre Members of the Brockman Iron Formation. Incised into this bedrock are channel systems which contain buried Channel Iron Deposits (CID) and Detrital Iron Deposits (DID). Some areas of the bedrock are also mineralised forming Bedded Iron Deposits (BID).
Drill hole Information	• A summary of drill hole information material to the understanding of the exploration results of the Blackjack and Paragon deposits is included in the accompanying release (*Table 2*). • Diagrams showing the location of drill hole collars are included in the accompanying release (*Figures 2 and 3*).
Data aggregation methods	• All intersections are determined using a minimum 50% Fe cut, maximum 10% SiO_2 and a maximum of 2m internal dilution. • As all samples are the same length, assays are averaged over the total intersection.
Relationship between mineralisation widths and intercept lengths	• The majority of drill holes are vertical and the ore body is predominantly horizontal thus any intersection quoted represents an approximation of the true width of the mineralisation.
Diagrams	• Appropriate diagrams are included as part of the accompanying release. Including a plan of drill hole collar locations and defined resource areas.
Balanced reporting	• Intercepts from previously unreported drill holes from the 2014 Blackjack and Paragon deposit drilling are shown in Table 2 of the release. Assays are pending for some holes from the Paragon deposit.
Other substantive exploration data	• Nothing to report.
Further work	• Infill drilling across the deposits is ongoing as previously reported as is metallurgical testwork. Mineralisation remains open in a number of places and there are no plans to attempt to close this off at this stage. Targets adjacent to the Blackjack resource will be drilled in the next month.