

21 January 2019

Lab Assays Upgrade Grants Basin Iron Ore

HIGHLIGHTS

- **18% average increase in grade confirmed by laboratory assays of percussion drilling samples vs. earlier reported field Niton XRF iron analyses.**
- **Upgraded intersections include 296m @ 24.37% Fe, 272m @ 25.48% Fe and 254m @ 26.21% Fe.**
- **Diamond drilling underway to provide samples for preliminary metallurgical testwork.**

Havilah Resources Limited (Havilah) is pleased to report that final laboratory assays have now been received for reverse circulation (RC) drill samples from the recent Grants Iron Ore Basin drilling ([refer ASX announcement 4 December 2018](#)). There is an improvement in the laboratory iron assays compared to the preliminary handheld Niton XRF iron analyses as reported in the above ASX release by an average of approximately 18%.

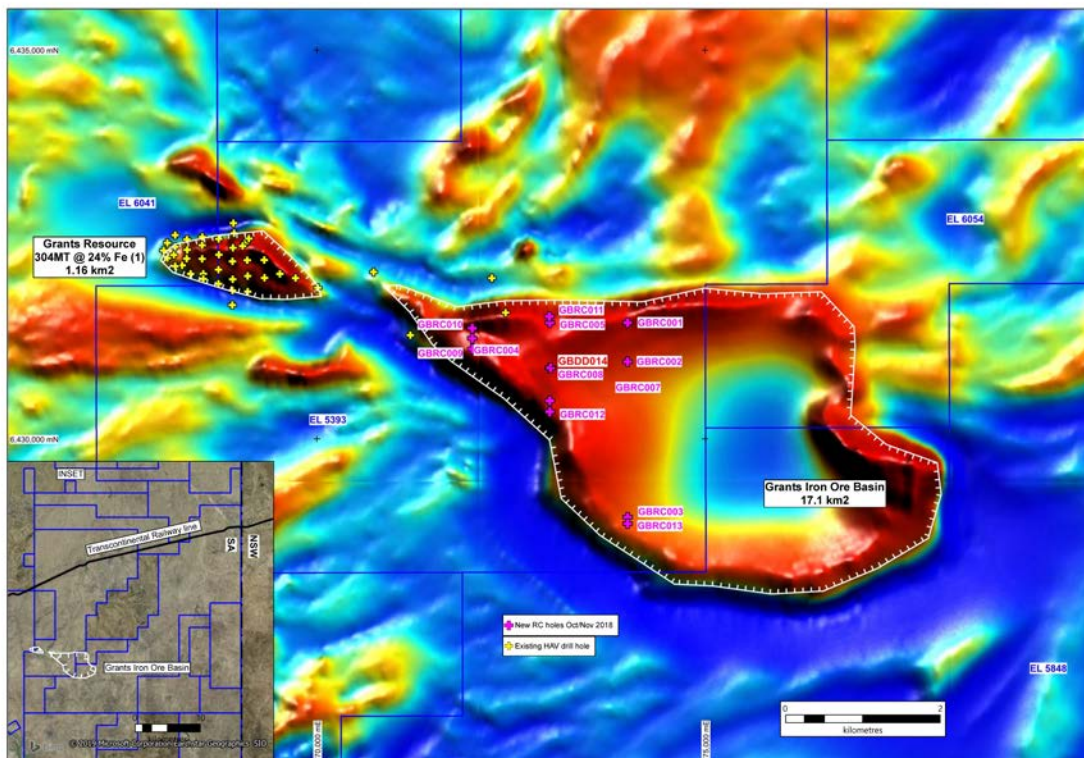


Figure 1: Overview map showing the recently completed RC drill holes and the currently underway diamond hole GBDD014 in the Grants Iron Ore Basin on magnetic image showing the interpreted surface expression of the basin and the existing Grants Resource outline and drill holes.

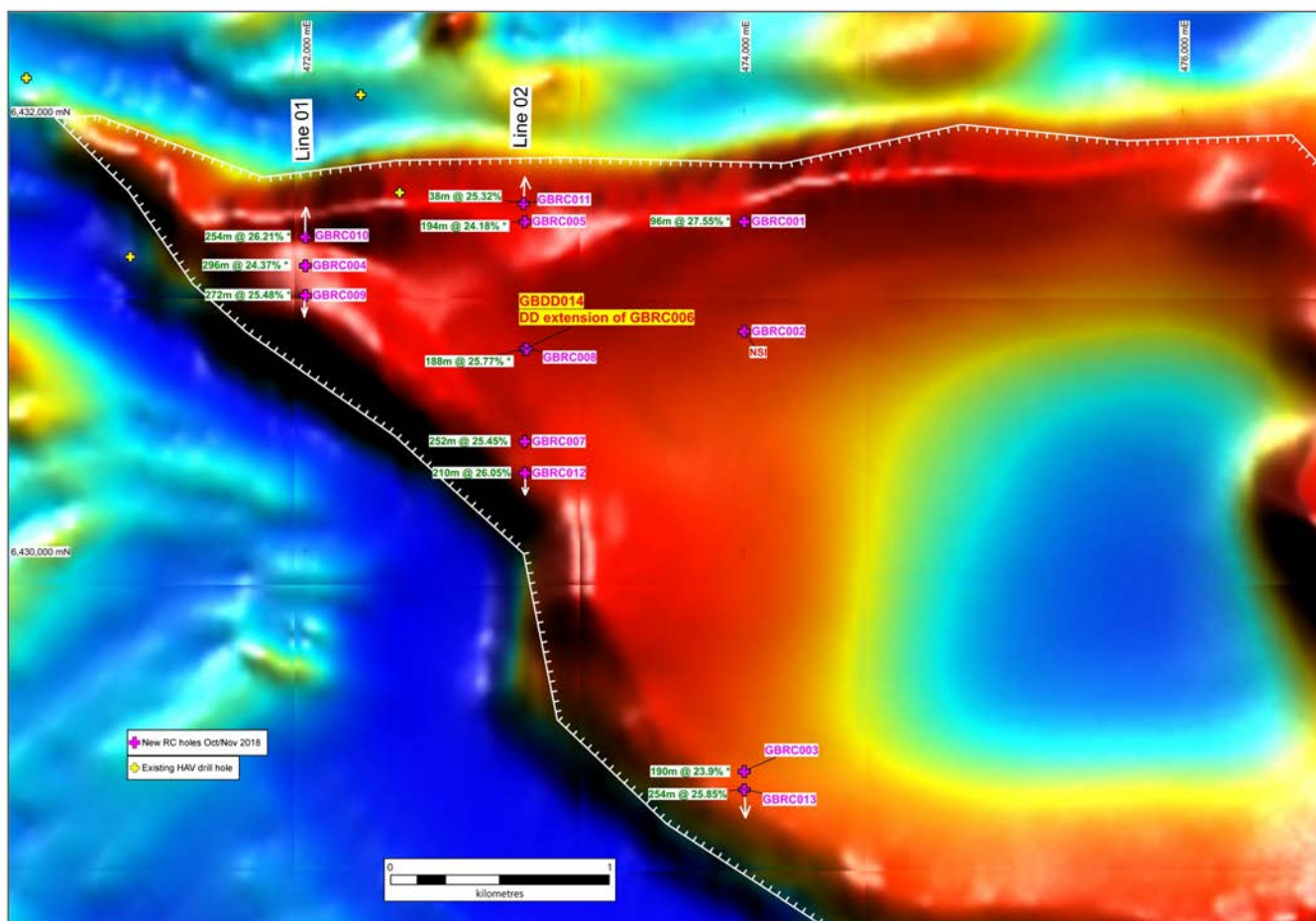


Figure 2: Zoomed in view of recently completed RC drill holes and the currently underway diamond hole GBDD014 (extension of GBRC006) and drill intersections calculated using the final laboratory assay results. Note “NSI” = no significant intersection.

This drilling is part of a comprehensive program of work currently being performed and funded by SIMEC Mining (an affiliate of the GFG Alliance) as part of their due diligence investigation of the commercialisation potential of Havilah’s Maldorky and Grants iron ore projects. The drilling program was implemented and supervised by Havilah personnel.

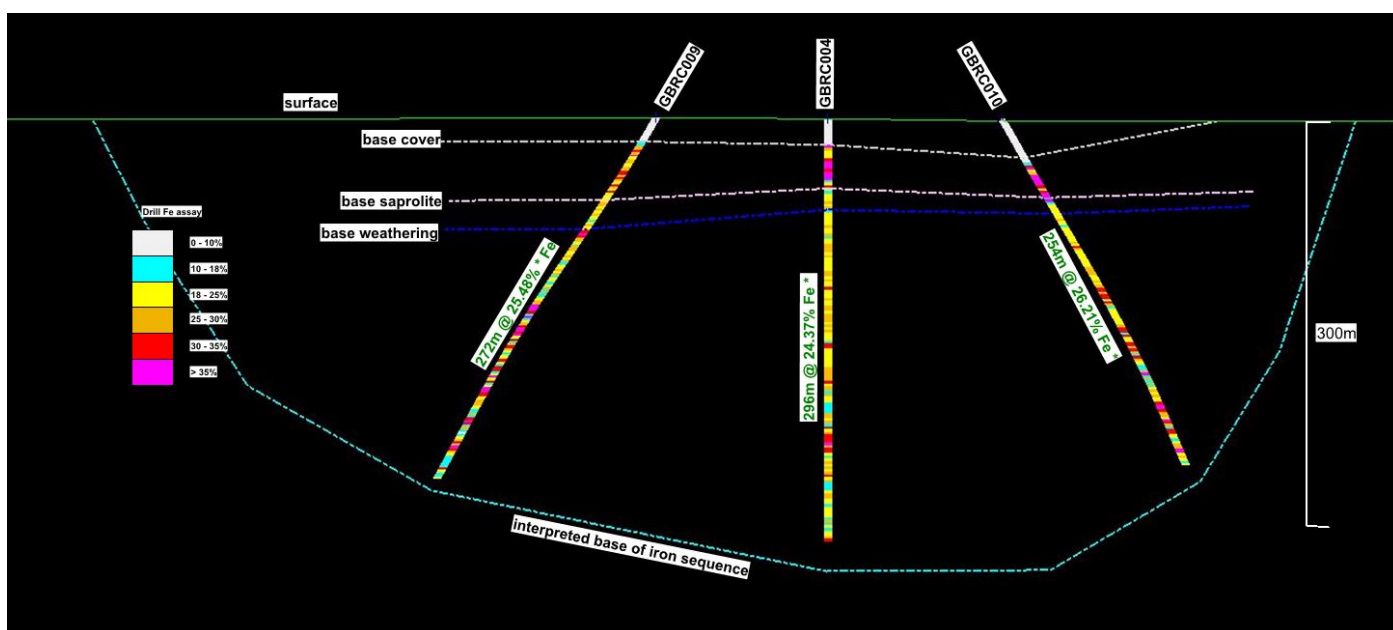


Figure 3: Updated drill cross section of Line 01 looking west showing the three RC holes ending in iron formation and iron intersections calculated using final laboratory results. Full width of iron ore basin at surface is interpreted to be ~900m.

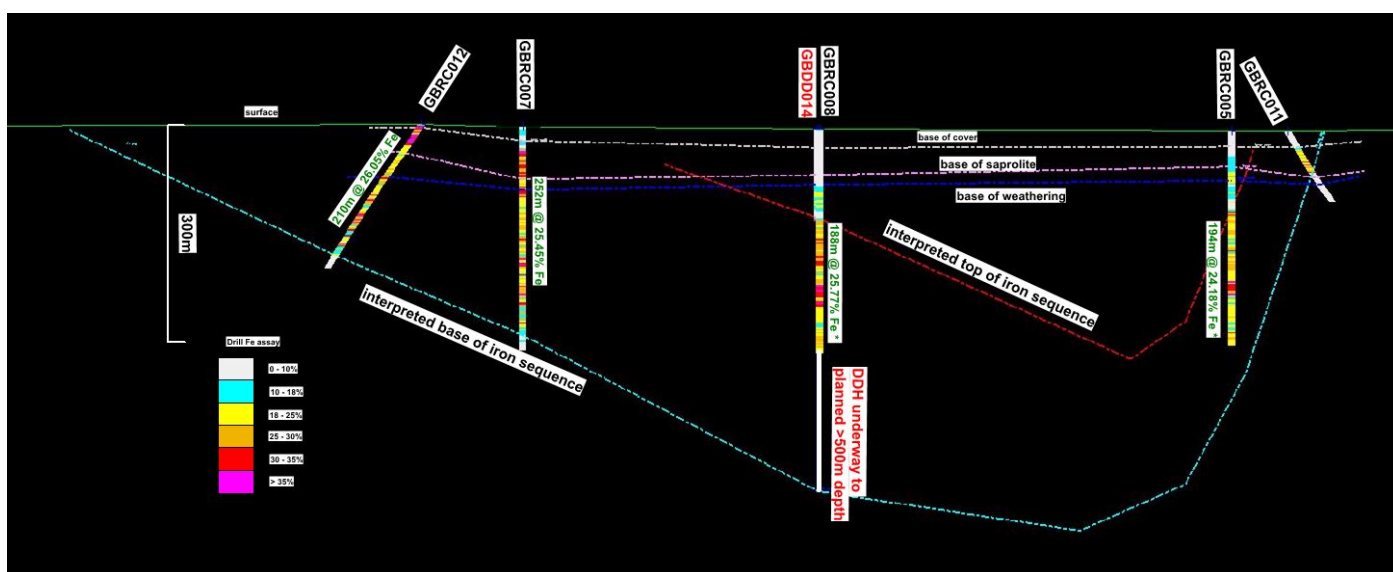


Figure 4: Drill cross section of Line 02 looking west showing iron intersections calculated using final laboratory results and interpreted shallower dip of iron sequence on southern side of basin. Also shown is the currently underway diamond cored hole GBDD014 which is an extension of RC hole GBR006 (abandoned due to air drilling issues at 130m). Note change in scale compared to section Line 01. Full width of iron ore basin at surface is interpreted to be ~1,700m.

Table 1: Drilling results of significance

Hole_ID	Section	From (m)	To (m)	Interval m @ % Fe Assay	Comments
GBRC001	Line 03	220	316	96m @ 27.55% *	Ended in Fe sequence
GBRC004	Line 01	20	316	296m @ 24.37% *	Ended in Fe sequence
GBRC005	Line 02	110	304	194m @ 24.18% *	Ended in Fe sequence
GBRC007	Line 02	32	284	252m @ 25.45%	
GBRC008	Line 02	128	316	188m @ 25.77% *	Centre of basin, ended in Fe sequence
GBRC009	Line 01	24	296	272m @ 25.48% *	Ended in Fe sequence
GBRC010	Line 01	38	292	254m @ 26.21% *	Ended in Fe sequence
GBRC012	Line 02	2	212	210m @ 26.05%	
GBRC013	Line 03	12	266	254m @ 25.85%	

Notes: * = ended in the iron bearing sequence.

The reported laboratory assay intervals above indicate average grades in the order of 24-27% Fe. Laboratory assay results are on average 18% higher than the previously reported handheld Niton XRF analyses, which is at the upper end of the expected increase of 10-20% (refer to guidance provided in [ASX announcement 4 December 2018](#)).

Diamond drilling is also currently underway to provide early sample material for preliminary metallurgical testwork. The diamond drilling is being carried out by MJ Drilling using a multipurpose UDR650 drilling rig. The HQ3 sized diamond core hole is using the existing RC hole GBRC006 (that was halted early at 130 metres depth due to air circulation issues) as a precollar to extend beyond the base of the iron bearing sequence (estimated to be >500 metres depth). This hole is intended to provide the first complete intersection of the Grants Basin iron bearing sequence and will also provide partial twinned hole drill data for the adjacent GBRC008 (316 metres total depth).

Commenting on the drilling results, Havilah’s Technical Director, Dr Chris Giles said:

“The recently received laboratory assays, as expected, are higher than the Niton hand-held XRF analyses that were previously reported.

“This, combined with the exceptionally thick iron ore intersections, confirms a major iron ore discovery in the Grants Basin.

“One thing we do not yet know is the thickness of the iron formation in the central part of the Grants Basin, which the present diamond drillhole should tell us.

“The drillcore samples will be used by SIMEC Mining to carry out initial metallurgical work and to compare this iron ore with that from the JORC status Maldorky and Grants iron ore deposits.

“This was a well planned and well executed drilling program that has achieved great success, and I thank all concerned including SIMEC Mining for their funding support”, he said.



Figure 5: Aerial view of drill site GBRC005, recently completed within the Grants Iron Ore Basin.

About SIMEC Mining (SIMEC: Shipping, Infrastructure, Mining, Energy, Commodities) and the GFG Alliance

SIMEC Mining is a division of the SIMEC Group which is an international energy, infrastructure and natural resources business founded 50 years ago, which in 2016 had an annual turnover of almost US\$2.5 billion and net assets valued at US\$350 million. It is part of the Gupta Family Group (GFG Alliance), which has combined turnover of ~US\$15.0 billion and combined net assets of ~US\$3.0 billion. Its activities span renewable energy generation, mining, shipping and commodities trading through its key hubs in Europe, the Middle East, Asia and Australia.

SIMEC Mining owns and operates iron ore mines in the Middleback Ranges in South Australia, approximately 60 kilometres from the town of Whyalla. These operations incorporate the Iron Baron, Iron Knob and South Middleback Ranges mine sites. SIMEC Mining mines both hematite and magnetite iron ore which is respectively railed and piped to Whyalla. The majority of the magnetite is pelletised and is used within Liberty OneSteel's Whyalla Steelworks (an associated Company). The hematite and magnetite ore is loaded onto ships for transport to a primarily Asian customer base. Total reserves and resources are just under 0.5 billion tonnes.

Cautionary Statement

This announcement contains certain statements which may constitute “forward-looking statements”. Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

Competent Persons Statement

The information in this announcement that relates to Exploration Results and Mineral Resources is based on data and information compiled by geologist, Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr. Giles is Technical Director of the Company and is employed by the Company on a consulting contract. Dr. Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Dr. Giles consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

Drilling Data

Hole_ID	GDA_E	GDA_N	RL	Azimuth	Dip	EOH_depth	Iron (Fe) intersections (based on assay data)
GBRC001	474000.60	6431500.00	221.99	360	-90	316	96m @ 27.55% * from 220m
GBRC002	474004.84	6431001.05	220.75	360	-90	280	NSI, did not reach iron formation
GBRC003	474007.61	6429001.20	226.68	360	-90	246.2	190m @ 23.9% * from 56m
GBRC004	471995.18	6431297.57	221.09	360	-90	316	296m @ 24.37% * from 20m
GBRC005	473005.06	6431504.51	212.83	360	-90	304	194m @ 24.18% * from 110m
GBRC006	473002.99	6430918.40	215.36	360	-90	130	NSI - hole abandoned at 130m, hole currently being extended as diamond cored hole GBDD014 (see below)
GBRC007	473001.17	6430501.57	218.61	360	-90	316	252m @ 25.45% from 32m
GBRC008	473005.58	6430921.85	215.12	360	-90	316	188m @ 25.77% * from 128m
GBRC009	471997.05	6431169.10	221.59	180	-60	316	272m @ 25.48% * from 24m
GBRC010	472002.34	6431428.87	219.31	360	-60	292	254m @ 26.21% * from 38m
GBRC011	472993.54	6431584.11	212.51	352	-60	118	38m @ 25.32% from 30m, north edge of basin
GBRC012	473003.55	6430357.76	222.79	180	-60	244	210m @ 26.05% from 2m
GBRC013	474003.98	6428917.66	227.32	180	-60	316	254m @ 25.85% Fe from 12m
GBDD014	473002.99	6430918.40	215.36	360	-90	underway	Cored extension of GBRC006.

Notes: NSI = no significant intersection, * = ended in the iron bearing sequence. Updated coordinates and RLs from more accurate DGPS pickups. Details provided here for GBRC013 that was not included in the Drilling Data table on page 6 of the [ASX announcement of 4 December 2018](#).

For further information visit www.havilah-resources.com.au

Contact: Dr Chris Giles, Technical Director, on (08) 8155-4500 or email: info@havilah-resources.com.au

APPENDIX 1: TABLE 1 OF THE 2012 EDITION OF THE JORC CODE

The table below is a description of the assessment and reporting criteria for the Grants Iron Ore Basin drilling program results, in accordance with Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> RC drill chips and powder were collected directly via a cyclone and cone splitter to obtain a 3-4 kg, two metre composite sample for drill assay and a 15-30 kg bulk sample (1 metre interval). Handheld XRF readings were collected from most bulk samples and are used to provide indicative iron results.
Drilling techniques	<ul style="list-style-type: none"> Ausdrill (ANW) were contracted to drill the holes and supplied a large capacity RC rig (model DRA-RC600 with 316m of 4.5" drill rods). RC drilling was completed using a 5" hammer. On board air pack plus auxiliary compressor and booster were used as required.
Drill sample recovery	<ul style="list-style-type: none"> Sample recoveries and dampness were recorded for all intervals. Sample recoveries were in general, excellent, with only a few small samples recorded near surface and only few wet samples were recorded.
Logging	<ul style="list-style-type: none"> The drill samples were logged in detail by an experienced geologist directly into a tablet with logging software. Data was then uploaded into an Excel spreadsheet database. Logging is semi-quantitative and 100% of reported intersections have been logged. Logging is of a sufficiently high standard to support any subsequent interpretations, resource estimations and mining and metallurgical studies.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> As detailed above, a 3-4 kg, two metre composite drill assay sample was collected via the cyclone and cone splitter. Industry standard sample preparation was conducted by the Bureau Veritas (BV) laboratory in Whyalla, SA. This consisted of jaw crushing then pulverising to 80% passing 75 µm.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> All samples are prepared and analysed at the Bureau Veritas (BV) laboratory in Whyalla. Samples were analysed using BV method XRF4_WH01, an extended Iron Ore suite using XRF fusion (fused with 12:22 lithium borate flux). Elements/compounds analysed include the following (detection limits in brackets): <ul style="list-style-type: none"> Fe (0.01%), SiO₂ (0.01%), Al₂O₃ (0.01%), CaO (0.01%), S (0.002%), P (0.002%), TiO₂ (0.005%), Na₂O (0.02%), K₂O (0.002%), MgO (0.01%), Mn (0.01%), Ba (0.002%), Zn (0.002%), Pb (0.002%), Cu (0.001%), V (0.002%), As (0.001%), Co (0.001%), Cr (0.001%), Ni (0.001%) & LOI (loss on ignition) (0.01%). This XRF method used is industry standard and is considered appropriate at the exploration reporting stage. Quality control procedures include the insertion of standards, blanks and duplicates into the regular sample number sequence (1 in 25 samples). If any blank, standard or duplicate is out of spec, re-assay of retained samples is requested of the laboratory as a first step. BV also insert their own QC/QA samples into the sample sequence.
Verification of drilling sampling and assaying	<ul style="list-style-type: none"> Rigorous internal QC procedures are followed to check all assay results against expected QC/QA samples. Assay results are also checked against logged lithology to identify potential inconsistencies. All data entry is under control of an experienced geologist, who is responsible for data management, storage and security.
Location of drillholes	<ul style="list-style-type: none"> Down hole surveys were conducted routinely every 30m, using a Reflex electronic survey camera. Due to the magnetic nature of the iron bearing sequence, only the dip was useable. Drillhole collars were located using a DGPS (Omnistar HP signal with ±0.1m accuracy x:y:z) and are quoted in GDA94 datum coordinates.
Data spacing and distribution	<ul style="list-style-type: none"> The objective of this RC drill program was to test the Grants Iron Ore Basin concept. Holes are widely spaced, ranging up to 1km x 0.5km.

Criteria	Commentary
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> The drillhole azimuth and dip was chosen to intersect the interpreted shallow dipping iron formation as close as possible to right angles to maximize the value of the drilling data. Holes were drilled vertically and at -60 degrees to the north and south depending on their location, as shown on the attached plan and listed in the attached table of drill hole data. At this stage, no material sampling bias is known to have been introduced by the drilling direction.
Sample security	<ul style="list-style-type: none"> The two metre drill assay samples in calico bags were placed into polyweave bags which were then sealed with cable ties. The samples were transported to the BV assay lab in Whyalla by SIMEC personnel. There is minimal opportunity for systematic tampering with the samples as they were not out of the control of Havilah/SIMEC until they are delivered to the assay lab. This is considered to be a secure and reasonable procedure and no known instances of tampering with samples have occurred since drilling commenced.
Audits, reviews	<ul style="list-style-type: none"> Ongoing internal auditing of sampling techniques and assay data has not revealed any material issues.

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	<ul style="list-style-type: none"> All drilling was undertaken on Havilah Resources 100% owned Exploration Licence EL 5393, "Mingary".
Exploration done by other parties	<ul style="list-style-type: none"> There has been limited previous shallow, AC, RC and open hole percussion drilling carried out on the prospect by BHP, MIM and Havilah.
Geology	<ul style="list-style-type: none"> Stratiform iron formation belonging to the Braemar Iron Formation of Adelaidean age. The sequence has been folded into a basin shape during deformation. The Adelaidean sequence is overlain by a cover sequence of 2 to 36m of Tertiary/Quaternary clays, grits and sand. The iron sequence is completely weathered to ~50-70m with the base of weathering at ~70-90m. The iron bearing sequence includes magnetite-hematite siltstones and magnetite-hematite ironstones. The iron bearing sequence is overlain by a quartz-biotite siltstone and underlain by tillites and quartzite. There is locally developed surficial lateritic iron enrichment where the iron sequence outcrops, which was the focus of mining in the late 1800s and early 1900s.
Drill hole Information	<ul style="list-style-type: none"> See separate table in this report.
Data aggregation methods	<ul style="list-style-type: none"> Drill intersections are calculated using the length-weighted averages of individual samples. Minimum grade truncations are applied (18% Fe cut off with intervals of up to 8 continuous metres (4 samples) of internal dilution).
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> Down-hole lengths are reported. Drillholes are generally oriented with the objective of intersecting mineralisation as close as possible to right angles, and therefore most down-hole intersections are in general, close to true width.
Diagrams	<ul style="list-style-type: none"> Included figures show the location of the drillholes and a table of drillhole data is attached.
Balanced reporting	<ul style="list-style-type: none"> All results are reported.

Criteria	Commentary
Other substantive exploration data	<ul style="list-style-type: none"> Minimal substantive exploration data exists for this prospect.
Further work	<ul style="list-style-type: none"> These holes were drilled to provide preliminary geological and assay data on the Grants Iron Ore Basin. Further drilling is planned, pending the analysis of this drill program.