



8 April 2019

ASX: GRR

GRANGE RESOURCES LIMITED

Australia's most experienced magnetite producer

Significant increase in Savage River Mineral Resources

December 2018 Resource - Reserve Statement

Savage River Operations, Tasmania

HIGHLIGHTS

- Mineral Resources & Ore Reserves have been estimated for Grange's Savage River magnetite deposits in Tasmania, as at 31 December 2018.
- This release encompasses the estimation updated with the first phase of the 2018 resource drilling program and includes mining depletion since the 2017 report.
- Mineral Resources have increased to 545.2MT @ 46.7%DTR
- This significant increase of over 170MT from the previous statement is driven by the deep holes drilled as part of the underground pre-feasibility study.
- Ore Reserves at Savage River are 94.0MT @ 49.8%DTR, reflecting mine production during 2018 and are based on future open pit extraction.
- The 10.6MT increase in Ore Reserve from the previous statement is attributed to increased confidence of material within the ultimate North Pit design.
- The attached updated Savage River Mineral Resource & Ore Reserve statement has been compiled in accordance with JORC 2012.

Commenting on the announcement, Grange Resources CEO Mr Honglin Zhao said:

"This increase in resource is a result of the first part of our study to investigate the depth and continuity of the magnetite deposit at Savage River."

"These results provide Grange with the confidence to continue our pre-feasibility studies to determine if there is an opportunity to access the ore body at depth utilising underground methods."



Grange Resources Pty Ltd (ASX: GRR) (“Grange” or the “Company”) advises that the Mineral Resource for the Savage River Ore Deposits has increased since the previous Mineral Resource estimate dated December 2017. This is as a result of the first phase of resource drilling for the underground pre-feasibility study. Ore Reserves have increased with improved confidence in ore defined within the ultimate North Pit design. The increase also accounts for ore mined during 2018.

The resource consists of 545.2 million tonnes at 46.7% DTR (above a cut-off of 15% DTR) as detailed in table 1 and the reserve consists of 94.0 million tonnes at 49.8% DTR (above a cut-off of 15% DTR) as detailed in table 2.

Table 1 – Savage River Mineral Resource Estimate
(Above a cut-off grade of 15% DTR)

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	155.0	231.7	158.5	545.2
DTR (%)	55.6	45.9	39.2	46.7
Fe (%)	68.0	68.2	68.8	68.3
Ni (%)	0.04	0.04	0.04	0.04
TiO₂ (%)	0.82	0.73	0.69	0.74
MgO (%)	1.65	1.39	1.14	1.39
P (%)	0.008	0.008	0.007	0.007
V (%)	0.38	0.36	0.35	0.36
S (%)	0.07	0.09	0.08	0.08

- NB
- Elemental compositions were measured from Davis Tube Concentrate
 - Stockpiles were included in this summary table and are itemised separately in tables of individual mining pits and aggregated stockpiles

**Table 2 – Savage River Ore Reserve Estimate**

(Above a cut-off grade of 15%DTR)

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	75.9	18.1	94.0
DTR (%)	54.0	32.3	49.8
Fe (%)	68.0	67.4	67.9
Ni (%)	0.03	0.07	0.04
TiO₂ (%)	0.95	0.60	0.88
MgO (%)	1.64	1.41	1.59
P (%)	0.007	0.012	0.007
V (%)	0.38	0.32	0.37
S (%)	0.04	0.14	0.06

- NB
- Elemental compositions were measured from Davis Tube Concentrate
 - Stockpiles were included in this summary table and are itemised separately in tables of individual mining pits and aggregated stockpiles

The Mineral Resource and Ore Reserve have been estimated by the company's technical staff assisted by external consultants and are reported in accordance with the guidelines of the JORC Code (2012 edition).

An independent technical review was performed by AMC Consultants Pty Ltd (AMC) with regard to the resource estimation process. AMC visited the site on 13 and 14 March 2019 to review the activities associated with generating the Mineral Resource estimates. A report was provided outlining observations with recommended process improvements. Following the site visit review, the resource was re-estimated with minor amendments to the database.

AMC considers, based on the available information, that processes to generate the block models for the Mineral Resource estimates have been completed using accepted practice with drillhole data supported by a quality control protocol, known mining history and reconciliation.



INTRODUCTION

This document has been prepared to summarise the Mineral Resource and Ore Reserve of Grange Resources' magnetite deposits, located at Savage River and Long Plains in Tasmania.

This statement covers the material remaining at the end of December 2018 and contains summary details on the history of Savage River, the geology of the deposit and information involved in producing Mineral Resource and Ore Reserve estimates.

TENURE

Grange Resources operates under the conditions of Mining Lease 2M/2001 which consolidates and expands the previous lease 11M/97. This lease stands for 30 years from 2001, encompassing a total of 4,975 hectares.

The mining lease encompasses the Savage River Mine and concentrator, and the pelletising plant, wharf and shipping facilities located on the north west coast at Port Latta. The operation and facilities were previously held under Mining Lease 44M/66 when Pickands Mather & Co International (PMI) were the managers of the project until 1997.

Mining lease 14M/2007 was granted in May 2008 to extend the coverage of 2M/2001 for a total of 91 hectares. Another lease, 11M/2008 was granted in August 2009 to extend coverage by a further 108 hectares. This lease renewal is pending at time of writing and remains in good standing. Figure 1 shows the location of each lease.

Exploration licence EL30/2003 was granted in February 2010. The current 2yr tenure period expires on the 18 June 2019, is renewable via a successful extension of term application. Grange is currently on its fifth extension of term and an application for a further extension will be made prior to the renewal date. This license covers the

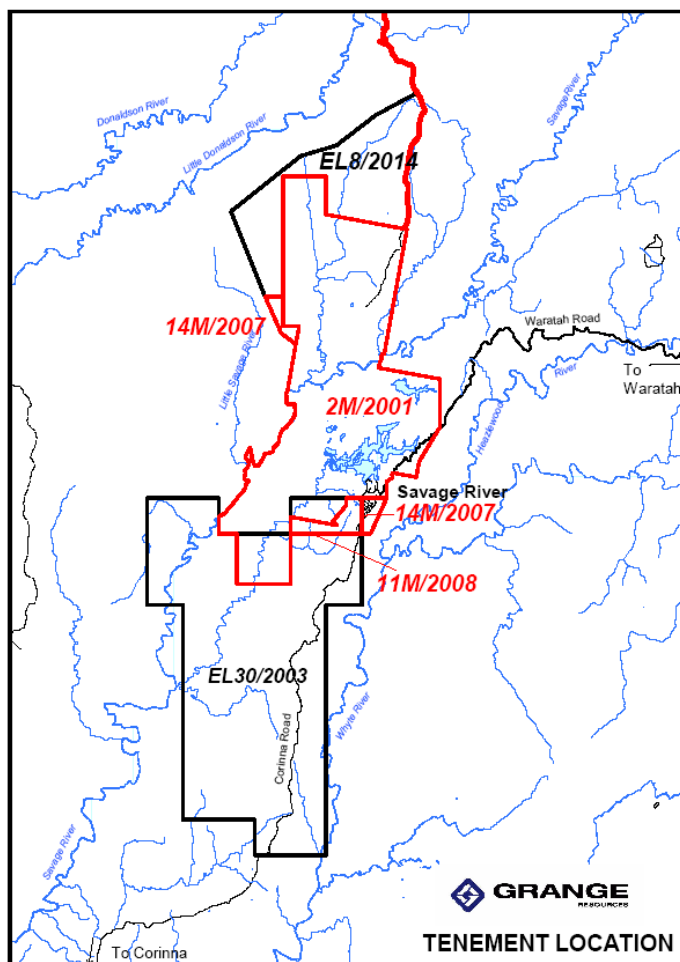


Figure 1: Tenements as at Dec 31, 2018



entire Long Plains deposit. The lease comprises 38 sq km and adjoins 2M/2001 to the north. EL30/2003 covers all potential mining infrastructure sites and haulage routes envisaged should the Long Plains magnetite deposits prove up to be economical and progress to mining.

Grange was granted an exploration licence application “Pipeline Road” shown as EL8/2014 for an 11sq km lease north of 2M-2001 in 2014 and this licence is currently in year three of a five year term which expires on 29 July 2019.

All leases and licences previously held by Australian Bulk Minerals (ABM) were transferred to Grange Resources Tasmania following the merger in January, 2009.

LOCATION

The Savage River Mine and concentrator plant are located approximately 100km south west by sealed road from Burnie. The pelletising plant and dedicated port facilities at Port Latta are located 70 kilometres northwest by sealed road from Burnie (Figure 2).

Local topography surrounding the mine is rugged, with incised valleys and steep hills. The west flowing Savage River dissects the deposit. Regional vegetation includes undisturbed rain forest with the mine area comprising wet eucalypt, acacia and open heath land. Climate is wet temperate with an average annual rainfall of 1,950mm and mean monthly temperatures ranging from 3-19°C.



Figure 2: Savage River Project Location



PROJECT HISTORY

Ironstone outcrops around the Savage River were first discovered by State Government surveyor C.P. Sprent in early 1887 during one of his exploration journeys through western Tasmania. The deposits were first reported as a possible source of iron ore in 1919.

Systematic exploration techniques were employed by the Australian Bureau of Mineral Resources during 1956 that included ground and airborne magnetic surveys. The largest magnetic anomaly was detected at Savage River with two smaller anomalies being detected at Long Plains and Rocky River further to the south (Figure 3).

Diamond drilling commenced during the late 1950's and into the 1960's largely by Industrial and Mining Investigations Pty Ltd (IMI).

In 1965, Savage River Mines Ltd, a joint venture of Australian, Japanese and American interests was formed to develop the project. PMI (Pickands Mather International) developed an open cut mine, concentrator plant and township at Savage River to access the magnetite reserve. A pipeline from the concentrator plant to the pelletising plant and dedicated port facilities at Port Latta located on the northwest coast were also constructed.

Mining commenced in 1967 to supply a consortium of Japanese steel mills with 45 million tonnes of pelletised iron ore over a twenty-year period. Annual pellet production reached a maximum of 2.4 million tonnes per annum during the period.

The Savage River Project was operated for the full term of a thirty-year lease by PMI. In early 1997, PMI ceased mining activities at Savage River, transferring ownership of the Savage River Project to the Tasmanian Government on March 26, 1997.

At the end of March 1997, ABM purchased the assets of the Savage River Project from the Tasmanian Government. Following this purchase, ABM continued mining the existing pits through a series of cut-back operations, mined the previously undeveloped South Deposit, and began exploration around the Long Plains area.

In January 2009 Grange Resources merged with ABM and has continued to operate the open pit operation and further develop the mineral assets.



GEOLOGY

The Savage River magnetite deposit lies within and near the eastern margin of the Proterozoic Arthur Metamorphic Complex in north western Tasmania. This complex is exposed along a northeast-southwest trending structural corridor, the Arthur Lineament, which separates Proterozoic sedimentary rocks to the northwest from a variety of Palaeozoic rocks to the southeast.

The magnetite deposits at Savage River represent the largest of a series of discontinuous lenses that extend in a narrow belt for some 25 kilometres south of the Savage River Township. The deposit is subdivided into sections on the basis of areas that have been mined. The areas are referred to as North Pit, South Lens, Centre Pit, and South Deposit (Figure 3).

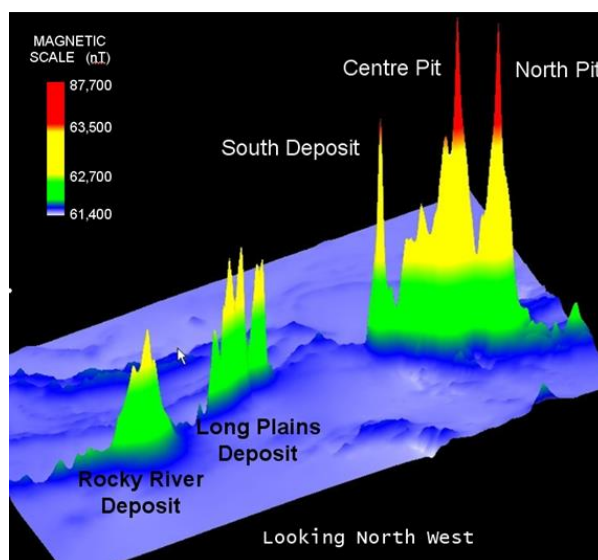


Figure 3: Savage River Regional Magnetics

Magnetite ore is almost entirely enclosed within a highly sheared and strike-faulted belt of mafic and ultramafic rocks specifically serpentinite and talc-carbonate schist. The magnetite ranges in thickness from 40 to 150 metres in width and is termed the Main Ore Zone (MOZ).

Narrow (<20metre) lenses and layers also occur in the mafic sequence to the west. The mafic sequence comprises chlorite-calcite-albite schist and layered green amphibole-chlorite-albite schist.

A suite of late, strongly deformed metabasalt and metadolerite intrusive dykes occur either sub-parallel to or cut obliquely across the MOZ. Vein magnesite occurs adjacent to the MOZ with significant bodies developed in the east at South Lens and at the west in North Pit.

The magnetite ores comprise three volumetrically important groups: pyritic ores, ores associated with serpentine and talc-carbonate ores. The ore may be massive, layered, or disseminated and range from being fine-grained to coarsely crystalline. Accessory mineral phases may include talc, tremolite, actinolite, chlorite, epidote, apatite and carbonate in varying amounts. The mineral assemblages preserved at Savage River imply middle to upper green-schist facies metamorphic conditions.



EXPLORATION, DRILLING, SAMPLING AND ANALYSIS

Exploration and resource definition over recent years at Savage River has involved dominantly reverse circulation (RC) and diamond drilling.

The resource definition during the last year ending December 31, 2018 focussed on the mining lease areas around North Pit and Centre Pit. The objectives of the program were to confirm continuity of the magnetite mineralisation at depth below North Pit and to improve confidence in the resource model for Centre Pit. This has included RC and diamond holes drilled both into the mineralisation and out into the surrounding host rocks. This statement incorporates the results of 11 holes drilled near Centre Pit for a total advance of 2,371 metres and 9 holes around North Pit for a total advance of 7,950 metres.

The second phase of surface drilling is nearing completion for North Pit and pending results will be processed and compiled for a future update in 2019. In addition to that a further 19 holes are planned for 8,800 metres of drilling to be undertaken from the Exploration Decline which commenced in March 2019.

Regarding the drilling program, core recoveries are generally high in the ore zones at Savage River (>90%) and there are no significant core recovery issues. Drill collars are surveyed using a combination of conventional surveying (total station) and/or high resolution RTK GPS.

All samples used in resource estimation are taken from diamond drill core of either HQ or NQ size or from reverse circulation drill holes employing a 140mm face sampling hammer. RC drilling has been used in recent years at Savage River to undertake infill drilling to improve confidence of domain boundaries and grade estimates.

Core was half core sampled as standard practice and rarely full core sampled to confirm historic drill intercepts or for metallurgical testing. Sampled length is generally between 0.75m to 2m within lithological units to preserve volume variance and to provide sample weights of 3kg. Reverse circulation drilling was used to give uniform 1m samples by cone or riffle splitter resulting in a 3kg sample. Field quality control procedures included insertion of prepared sample standards at a rate of 1:25 and limited field duplicate samples on the RC suite of samples.

Sample preparation techniques were industry standard for magnetite ores and used the sub-sampling protocol as recommended by the Savage River Laboratory. Sample preparation was conducted at an external NATA-accredited laboratory for both core and RC chips. The subsampling process for RC was identical to that of the core except for the coarse crush stage. For drill core, the core was first analysed for bulk density by immersion in water. All mineralised core samples have had a density determination completed. The half core samples were oven dried at 110 degrees for 12 hours, then coarse crushed



to minus 2mm in a Boyd crusher then split to ~3kg, crushed again to 90% passing 1.7mm and split again with a 150g sub-sample taken for pulverising to 98% passing 75 microns.

A pulp sub-sample was collected analysed at Savage River's mine lab by Davis Tube Recovery.

The primary assay technique is Davis Tube Recovery (DTR) on a 10g sample, followed by Ferrous Iron (Fe²⁺) via Satmagan and S, total Fe, TiO₂, MgO, V, P, S and Ni via XRF on the Davis Tube Concentrate (DTC) via XRF. All techniques are considered total. DTR is the most appropriate assay technique for determination of magnetite recovery. All DTR samples were completed on the mine site using the Savage River DTR technique. This technique has been used for 50 years and is supported by pit reconciliations.

All logging and assay data is stored in a database which was validated against original log sheets. The database includes holes drilled by Savage River Mines Limited, ABM and more recent holes drilled by Grange Resources.

GEOLOGICAL INTERPRETATION AND RESOURCE ESTIMATION

Geological controls and relationships were used to define estimation domains with mostly hard boundaries, based on sharp mineralisation contacts and grade boundaries. A nominal grade cut-off of 15%DTR is a natural grade boundary between magnetite lenses and disseminated wall-rocks. This cut-off was used to help define the mineralised envelope within which the higher grade sub domains were interpreted. 3D wireframes were used to code the drilling intersects and select samples within each domain.

Oxidised material was not included in the resource estimation.

Sample data at Savage River were generally composited to 1 metre down hole length using a best fit-compositing method. Residual samples (those composite intervals for which there was less than 75% of the composite length) were considered biased and hence were not included in the estimate.

Block models were prepared for each part of the deposit using Surpac Software. Block sizes at Savage River are generally 5mE by 10mN by 5mRL parent block size with sub-celling to 2.5mE by 5mN by 2.5mRL for North Pit, 5mE by 15mN by 5mRL parent block size with sub-celling to 2.5mE by 3.75mN by 2.5mRL for Centre Pit. Block sizes at Long Plains were assigned a 10mE by 25mN by 10mRL parent block size with sub-celling to 1.25mE by 6.25mN by 2.5mRL owing to the thinner mineralised magnetite lenses at Long Plains.

Models were estimated using Ordinary Kriging for the main deposits with Inverse Distance Cubed weighting estimation techniques employed for the Sprent pit resource. Geostatistical analysis,



including variography studies to develop spatial estimation parameters were prepared for each of the major areas of mineralisation by Optiro. These parameters were used to assist in the classification of the resource.

Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency where available). Assessment for Reasonable Prospects of Eventual Economic Extraction (RPEEE) was undertaken and based on a detailed review of true width and grade. Areas with unlikely prospectivity were manually removed from the estimation, based on a true width greater than 20m with a cutoff grade of 15% DTR.

Block model validation results show good correlation between the input data to the estimated grades. The mineralised domains have demonstrated sufficient geological and grade continuity to support the definition of a Mineral Resource, and classifications were applied under the guidelines of the JORC Code (2012 Edition).

ORE RESERVES

Measured and Indicated Mineral Resources are considered for conversion to Ore Reserves, based on assessment against an optimised pit design and with respect to the modifying factors. The Mineral Resource is inclusive of the Ore Reserve.

The Ore Reserve estimation model for Savage River includes Mineral Resources from North Pit, Centre Pit and South Deposit, and was developed as part of a Feasibility Study that was completed in September 2006.

Pit designs are based on optimised shells determined using Whittle software. The cut-off grade of 15%DTR was determined as part of feasibility studies and is reviewed periodically. Current mining and recovery factors are applied to account for mining practices of conventional bulk mining methods utilizing hydraulic face shovels, excavators, dump trucks and conventional drill and blast processes. These are based on reconciliations calculated periodically for the different areas of the deposit. Metallurgical factors are applied to account for mill performance. The overall pit slope criteria used for the design and optimization are based on ongoing geotechnical studies which are reviewed and updated on an annual basis as part of Grange Resource's Life Of Mine Planning process.

Estimates of Mineral Resources and Ore Reserves at the Savage River Mine including Long Plains are as at the end of December 2018. Mineral Resources and Ore Reserves are categorised in accordance with the guidelines established in the JORC Code (2012 Edition). Estimated Measured and Indicated Mineral Resources include those Mineral Resources modified to produce the estimated Ore Reserves. Some Mineral Resources such as, Sprent pit and Long Plains are not classified as Ore Reserves, due to the fact that they did not demonstrate economic viability at the time of this report, and remain as



Mineral Resources. The following tables represent the Mineral Resource for each part of the deposit. In each case, elemental compositions were measured from Davis Tube Concentrate. A cut-off of 15%DTR was used in the calculation of Mineral Resources.

Mineral Resource Estimate - North Pit - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	110.8	130.6	52.5	293.9
DTR (%)	57.5	48.0	42.9	50.7
Fe (%)	67.9	68.2	68.5	68.2
Ni (%)	0.03	0.04	0.04	0.03
TiO₂ (%)	0.97	0.90	0.99	0.94
MgO (%)	1.76	1.44	1.26	1.53
P (%)	0.006	0.006	0.005	0.005
V (%)	0.37	0.36	0.36	0.36
S (%)	0.04	0.05	0.06	0.05

Mineral Resource Estimate – South Deposit - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	2.6	6.6	9.0	18.2
DTR (%)	38.3	42.3	41.7	41.4
Fe (%)	67.1	67.6	67.5	67.5
Ni (%)	0.07	0.06	0.06	0.06
TiO₂ (%)	0.58	0.70	0.66	0.66
MgO (%)	1.99	1.79	1.74	1.79
P (%)	0.010	0.007	0.008	0.008
V (%)	0.26	0.26	0.26	0.26
S (%)	0.13	0.13	0.15	0.14



Mineral Resource Estimate – Centre Pit - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	41.3	67.0	14.5	122.8
DTR (%)	51.8	46.7	44.9	48.2
Fe (%)	68.3	68.0	67.8	68.1
Ni (%)	0.05	0.05	0.06	0.05
TiO₂ (%)	0.43	0.44	0.41	0.43
MgO (%)	1.34	1.45	1.61	1.43
P (%)	0.011	0.013	0.015	0.013
V (%)	0.41	0.38	0.34	0.38
S (%)	0.15	0.17	0.18	0.16

Mineral Resource Estimate – Sprent - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	0.0	2.1	0.3	2.4
DTR (%)	0.0	51.1	49.8	51.0
Fe (%)	0.0	69.6	70.8	69.8
Ni (%)	0.00	0.06	0.02	0.06
TiO₂ (%)	0.00	0.50	0.18	0.46
MgO (%)	0.00	0.75	0.47	0.72
P (%)	0.000	0.008	0.010	0.008
V (%)	0.00	0.43	0.46	0.44
S (%)	0.00	0.27	0.06	0.24



Mineral Resource Estimate – Long Plains - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	0.0	25.4	82.2	107.6
DTR (%)	0.0	33.9	35.6	35.2
Fe (%)	0.0	68.9	69.4	69.3
Ni (%)	0.00	0.05	0.03	0.03
TiO₂ (%)	0.00	0.63	0.56	0.57
MgO (%)	0.00	0.91	0.92	0.91
P (%)	0.000	0.004	0.007	0.007
V (%)	0.00	0.33	0.36	0.35
S (%)	0.00	0.05	0.07	0.07

Mineral Resource Estimate – Stockpiles - December 2018

Stockpiles-Measured	Tonnes (Mt)	Grade (%DTR)
Crushed Ore	0.02	31.7
In-pit Broken stocks	0.31	25.4
Total	0.33	25.7



The total Mineral Resource for Savage River as at the end of December 2018 is as follows:

Mineral Resource Estimate – Savage River - December 2018

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	155.0	231.7	158.5	545.2
DTR (%)	55.6	45.9	39.2	46.7
Fe (%)	68.0	68.2	68.8	68.3
Ni (%)	0.04	0.04	0.04	0.04
TiO₂ (%)	0.82	0.73	0.69	0.74
MgO (%)	1.65	1.39	1.14	1.39
P (%)	0.008	0.008	0.007	0.007
V (%)	0.38	0.36	0.35	0.36
S (%)	0.07	0.09	0.08	0.08



The following tables represent the Ore Reserve for each part of the deposit. In each case, elemental compositions were measured from Davis Tube Concentrate. A cut-off of 15%DTR was used in the calculation of Ore Reserves.

Reserve Estimate - North Pit - December 2018

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	71.0	14.7	85.7
DTR (%)	54.7	31.8	50.8
Fe (%)	68.0	67.8	67.9
Ni (%)	0.03	0.07	0.04
TiO₂ (%)	0.98	0.64	0.92
MgO (%)	1.67	1.27	1.60
P (%)	0.007	0.012	0.007
V (%)	0.38	0.32	0.37
S (%)	0.04	0.11	0.05

Reserve Estimate – South Deposit - December 2018

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	0.03	0.13	0.16
DTR (%)	37.7	39.7	39.4
Fe (%)	66.7	65.4	65.6
Ni (%)	0.05	0.06	0.06
TiO₂ (%)	0.61	0.82	0.79
MgO (%)	1.46	1.37	1.39
P (%)	0.005	0.006	0.006
V (%)	0.31	0.33	0.32
S (%)	0.12	0.18	0.17



Reserve Estimate – Centre Pit - December 2018

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	4.6	3.2	7.8
DTR (%)	45.0	34.0	40.5
Fe (%)	68.3	65.7	67.2
Ni (%)	0.05	0.05	0.05
TiO₂ (%)	0.46	0.38	0.43
MgO (%)	1.13	2.03	1.50
P (%)	0.009	0.015	0.011
V (%)	0.43	0.33	0.39
S (%)	0.14	0.26	0.19

Ore Reserve Estimate – Stockpiles - December 2018

Stockpiles-Measured	Tonnes (Mt)	Grade (%DTR)
Crushed Ore	0.02	31.7
In-pit Broken stocks	0.31	25.4
Total	0.33	25.7



The total Ore Reserve for Savage River as at the end of December 2018 is as follows:

Ore Reserve Estimate – Savage River- December 2018

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	75.9	18.1	94.0
DTR (%)	54.0	32.3	49.8
Fe (%)	68.0	67.4	67.9
Ni (%)	0.03	0.07	0.04
TiO₂ (%)	0.95	0.60	0.88
MgO (%)	1.64	1.41	1.59
P (%)	0.007	0.012	0.007
V (%)	0.38	0.32	0.37
S (%)	0.04	0.14	0.06

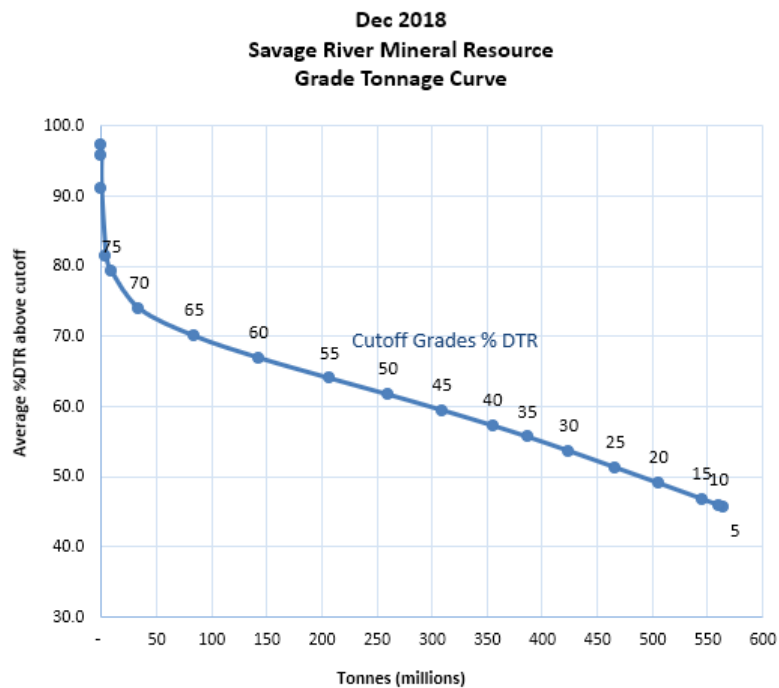


Figure 4 Grade Tonnage Curve, Savage River



MINERAL RESOURCE & ORE RESERVE GOVERNANCE

In accordance with ASX Listing Rule 5.21.5, governance of the development and management of Grange's Mineral Resource and Ore Reserve is a key responsibility of Senior Management.

Senior geological and mining engineering staff oversee the planning and implementation of exploration and resource evaluation programs. The evaluation process incorporates internal skills and knowledge in operation and project management, downstream processing and commercial/financial areas of the business.

The General Manager Operations, in consultation with senior staff, facilitates the planning, monitoring, and the estimation and reporting of resources and reserves. The process is reviewed by an internal peer review team. External consultants are also utilised to supplement internal resources in the estimation process, with independent technical review undertaken as required.

Mineral Resource and Ore Reserve reporting is based on substantiated geological and mining assumptions and prepared in accordance with the Australasian Joint Ore Reserves Committee (JORC) Code 2012.

Grange reports Mineral Resources and Ore Reserves on an annual basis. Competent Persons named are members of the Australasian Institute of Mining and Metallurgy (AusIMM) and qualify as Competent Persons as defined in the JORC Code 2012.

Competent Person Statement

The information in this report that relates to Mineral Resources and Ore Reserves is based on information compiled by Mr Ben Maynard, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Maynard is a full-time employee, holds shares in Grange Resources, and is eligible to participate in short and long term incentive schemes.

Mr Maynard has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'.

Mr Maynard consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



About Grange Resources

Grange Resources Limited (Grange or the Company), ASX Code: GRR, is Australia's most experienced magnetite producer with 50 years of mining and production from its Savage River mine and has a projected mine life beyond 2030. Grange produces a high-quality iron ore pellet with low levels of impurities that support reduced environmental impacts for end users.

Grange's operations consist principally of owning and operating the Savage River integrated iron ore mining and pellet production business located in the north-west region of Tasmania. The Savage River magnetite iron ore mine is a long-life mining asset. At Port Latta, on the north-west coast of Tasmania, Grange owns a downstream pellet plant and port facility producing more than two million tonnes of premium quality iron ore pellets annually.

Grange has a combination of spot and contracted sales arrangements in place to deliver its pellets to customers throughout the Asia Pacific region. In addition, Grange is a majority joint venture partner in a major magnetite development project at Southdown, near Albany in Western Australia.

Contacts

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-ENDS-



APPENDIX A - JORC TABLE 1

SAVAGE RIVER

Note: All comments refer to all deposits on the Savage River Mining Lease; comprising North Pit, Centre Pit North, Centre Pit South, Sprent and South Deposit (and to Long Plains on an adjacent exploration lease) unless individually identified as being related to a particular prospect.

SECTION 1: SAMPLING TECHNIQUES AND DATA

Criteria	Sampling Techniques and Data	Comments
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. 	<ul style="list-style-type: none"> The deposits were sampled using diamond drilling (DD) with limited Reverse Circulation (RC) pre-collaring. Drilling was conducted on approximately 50–100m spaced sections orientated perpendicular to the overall orebody strike. On section spacing (down-dip) varies but is commonly 50-70m. The mineralisation is sub-vertical and the holes are typically inclined at -60°. All samples are assayed for DTR, Fe2+, Total Fe, Ni, TiO2, MgO, P, V, S, CaO, SiO2 and Al2O3. CaO, SiO2 and Al2O3 are not presently estimated as part of the model.
	<ul style="list-style-type: none"> Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 	<ul style="list-style-type: none"> The drill hole locations were picked up and down-hole surveys completed. Diamond core was used where appropriate to obtain the best possible sample quality for lithology, structure, geotechnical, grade and density information.



Criteria	Sampling Techniques and Data	Comments
	<ul style="list-style-type: none"> Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> Drilling of Diamond core was a combination of HQ and NQ sizes, some triple tube. Samples were controlled based on geological contacts and generally no more than 2m in length. Sample selection was nominally $\geq 0.75\text{m}$ and $\leq 1.25\text{m}$. Most core samples were half cored, minor amounts have been whole core sampled. Core was split by diamond sawing. Samples were dried, crushed, split and pulverised to nominally 98% passing $75\mu\text{m}$ for Davis Tube Recovery (DTR) determination. Sample intervals are taken 3 metres below and above a mineralised zone. Mineralisation is determined by magnetic susceptibility readings undertaken during the logging process.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.). 	<ul style="list-style-type: none"> Samples used in the resource estimation were taken from diamond drill core of either HQ or NQ size or RC samples in more recent programs. RC drill holes employed a 140mm face sampling hammer. Diamond drilling was designed to intersect the orebody perpendicular to strike. Where appropriate core was oriented using triple tube drilling techniques and employing a reflex orientation system on drill rigs.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. 	<ul style="list-style-type: none"> Core recoveries were recorded in the geotechnical logs and in the sample records. Core recoveries are generally high in the ore zones at Savage River ($>90\%$) and there are no significant core recovery issues. Reverse circulation chip recovery was also high and recoveries below 80% have been recorded in the sample sheets. Recoveries typically are very poor in wet ground. Most RC holes terminate when they encounter the water table and diamond tails are used to deepen the hole if required.



Criteria	Sampling Techniques and Data	Comments
	<ul style="list-style-type: none"> • Measures taken to maximise sample recovery and ensure representative nature of the samples. 	<ul style="list-style-type: none"> • Drilling penetration rates were controlled in order to maximise recovery in ore zones.
	<ul style="list-style-type: none"> • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> • No relationship between sample recovery and grade is known at Savage River.
Logging	<ul style="list-style-type: none"> • Whether core and chip samples have been geologically and geo-technically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. 	<ul style="list-style-type: none"> • Core samples from all deposits have been logged for lithology, mineralogy, alteration and mineralisation. • Basic geotechnical logging was undertaken routinely with detailed geotechnical logging on a selected series of oriented holes. Recent holes are fully geotechnically oriented, logged including domain and structural defects. • The level of detail is sufficient to support Mineral Resource estimation, mining studies and metallurgical studies.
	<ul style="list-style-type: none"> • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. 	<ul style="list-style-type: none"> • Logging is a combination of qualitative and quantitative. • Core was photographed wet and dry. No photos available for the oldest core.
	<ul style="list-style-type: none"> • The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> • All core and RC chips were fully logged.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • If core, whether cut or sawn and whether quarter, half or all core taken. 	<ul style="list-style-type: none"> • Core was half core sampled as standard practice and rarely full core sampled in the very few older holes. • Core was cut using a diamond impregnated saw blade on site at the Savage River core farm. • The ore is relatively massive there is no preferred orientation for core sawing, generally sawing is undertaken just left of the orientation line.



Criteria	Sampling Techniques and Data	Comments
	<ul style="list-style-type: none"> • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. 	<ul style="list-style-type: none"> • For non-core, samples are dry riffled and sampled dry.
	<ul style="list-style-type: none"> • For all sample types, the nature, quality and appropriateness of the sample preparation technique. 	<ul style="list-style-type: none"> • Sample preparation techniques were industry standard for magnetite ores and use the sub-sampling protocol as recommended by the Savage river laboratory. • Sample prep on recent drill core was completed at a commercial lab [NATA accredited]. • The half core samples were oven dried at 110 degrees for 12 hours, then coarse crushed to minus 2mm on a Boyds crusher then split to ~3kg, crushed again to 90% passing 1.7mm and split again with a 150g sub-sample taken for pulverising to 98% passing 75 microns. • Recent core has had bulk density determinations done on site. Method used is ASTM density method (water displacement).
	<ul style="list-style-type: none"> • Quality control procedures adopted for all sub-sampling stages to maximise the representativeness of samples. 	<ul style="list-style-type: none"> • RC chips were riffle split when dry and a 3kg sample was taken for each single metre drilled. • When RC sample was damp, samples were speared uniformly. • In more recent holes, when RC sample was in ore RC was stopped and hole completed later with diamond tail. • No field duplicates or second-half sampling has been undertaken on sampled core.
	<ul style="list-style-type: none"> • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. 	<ul style="list-style-type: none"> • Limited numbers of duplicate samples were taken for intervals of HG, MG and LG within the RC drilling suite. • Field QC procedures for RC and diamond samples involve the insertion of assay standards at a rate of 1 in 25. • Standards were derived from 2006 MLEP drilling campaign in North Pit Savage River.
	<ul style="list-style-type: none"> • Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> • The sample sizes are considered to be appropriate based on the style of mineralisation, the thickness and consistency of the intersections and assay range for the primary analysis (% recoverable magnetite concentrate).



Criteria	Sampling Techniques and Data	Comments
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> •The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 	<ul style="list-style-type: none"> • The primary assay technique is Davis Tube Recovery (DTR) on a 10g sample, followed by Ferrous Iron (Fe^{2+}) via Satmagan and S, total Fe, Ni, TiO_2, MgO, P, V, and S via XRF on the Davis Tube Concentrate (DTC). • All techniques are considered total. • DTR is the most appropriate assay technique for determination of magnetite recovery. • All DTR samples completed on site using Savage River technique. • This technique has been used for 50 years at Savage River and pit reconciliations within acceptable tolerances.
	<ul style="list-style-type: none"> •For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. 	<ul style="list-style-type: none"> • Magnetic susceptibility instruments are used for initial geological logging to help the geologist classify the logged interval as ore grade or waste and used for grade control to determine ore boundaries and grades in the field. • Calibrations of the instrumental readings to DTR are based on hundreds of readings compared to laboratory assays and the calibration curves derived in this way are robust. • Ore samples have sample prep, DTR and XRF determinations done and these inform the resource estimate. • Magnetic susceptibility values are not used in the resource estimate.
	<ul style="list-style-type: none"> •Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> • Field assay standards are inserted at a rate of 1 in 25 in drilled core and RC through ore zones. DTR determinations are performed in duplicate. • Limited field duplicates were analysed. No external laboratory checks have been performed and no check assaying has been undertaken. Data analysis has been performed and the data demonstrates sufficient accuracy and precision for use in Mineral Resource estimation.
Verification of sampling and assaying	<ul style="list-style-type: none"> •The verification of significant intersections by either independent or alternative company personnel. 	<ul style="list-style-type: none"> • Significant intersections are verified by alternate company personnel.
	<ul style="list-style-type: none"> •The use of twinned holes. 	<ul style="list-style-type: none"> • No twinned holes have been drilled.



Criteria	Sampling Techniques and Data	Comments
	<ul style="list-style-type: none"> Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. 	<ul style="list-style-type: none"> Primary data is captured directly to standard template Microsoft Excel log sheets using tough book laptops with standard logging codes and data entry control. The data is verified by the geologist and then loaded into the central (project-wide) database.
	<ul style="list-style-type: none"> Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> No adjustments are made to assay data. Extensive use of the resubmitted pulps has been used in the past for North Pit (NP), especially 2005-06 for the feasibility study.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. 	<ul style="list-style-type: none"> All significant surface features were surveyed by Grange staff surveyors using a combination of conventional surveying (total station) and/or high resolution RTK GPS. In each case, the features were located to within 100mm in X, Y and Z. For downhole surveys, older drilling used single-shot Eastman dips at 50m spacing downhole (accurate to 0.5°). Hole azimuths were assumed to be straight (compass data is not useable due to the magnetic nature of the mineralization). Since 2013, North seeking gyro was used prior to the use of the DeviFlex downhole survey tool. This has a stated accuracy of +/- 0.01° per station in azimuth and +/- 0.1° in dip, with stations every 3m downhole.
	<ul style="list-style-type: none"> Specification of the grid system used. 	<ul style="list-style-type: none"> The grid system used is the Savage River Mine Grid, where; 10° 18' 23" (N) SRG= 0° (N) GDA94
	<ul style="list-style-type: none"> Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> The topographic surface in the vicinity of the deposit was surveyed by Grange staff surveyors using a combination of conventional surveying (total station) and/or high resolution RTK GPS. In each case, the data points are located to within 100mm in X, Y and Z and the point spacing is approximately 5m in X and Y. For areas further away from the deposit, LIDAR data is used.



Criteria	Sampling Techniques and Data	Comments
Data spacing & distribution	• <i>Data spacing for reporting of Exploration Results.</i>	<ul style="list-style-type: none"> For Deposits on the Savage River Mine lease the nominal drill hole spacing is 50m (between sections) and by 50-70m (on section). Drill spacing at Long Plains is wider given that the parts of the resource are at an early stage of delineation. Indicated Mineral Resources at Long Plains have been defined generally in areas of 50 by 50 m drill spacing. Inferred Mineral Resources at Long Plains have been defined in areas of 100x100 metre up to 600x100 metre drill spacing.
	• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	<ul style="list-style-type: none"> Data spacing and distribution were analysed in semi-variograms and provide geo-statistical ranges for use in resource categorization. The sample spacing is appropriate to provide a defensible resource classification in accordance with the JORC 2012 standard. Mine reconciliations provide validation for resource classification methods.
	• <i>Whether sample compositing has been applied.</i>	<ul style="list-style-type: none"> Samples have been composited prior to geostatistical analysis and Mineral Resource estimation. At Savage River Mine, the composite length was 2m with more recent programs to 1m. At Long Plains, the composite length was 1m.
Orientation of data in relation to geological structure	• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<ul style="list-style-type: none"> The majority of drill holes are oriented to achieve intersection angles as close to perpendicular to the mineralization as is practicable.
	• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	<ul style="list-style-type: none"> No significant sampling bias occurs in the data due to the orientation of drilling with regards to mineralized structures/bodies.



Criteria	Sampling Techniques and Data	Comments
Sample security	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • All samples are logged and bagged on site by Grange geological staff and assay determinations are performed by Grange staff.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • During the Mine Life Extension Project in 2006, AMC peer reviewed the NP resource for the mine life extension project (MLEP). • A sample prep audit was conducted for the external provider. • No audits or reviews have been undertaken on SR lab recently apart from regular production sampling and calibrations. • In 2019, AMC peer reviewed the NP and CP resources for the EOY2018 release and noted: QA/QC practices at Savage River were to an acceptable standard, with recommendations: <ul style="list-style-type: none"> ○ There is opportunity to improve QA/QC by including external umpire check assays as a means of further validation. ○ It was recommended to continue submitting standards and add duplicate and blank samples at a rate of 5% particularly when drilling new areas. ○ A review of options to reduce manual data recording and data entry is also recommended. • These recommendations are being addressed with a procedural update and an upgrade to the geological database



SECTION 2: REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> 3 Mining and 2 exploration leases are held in Tasmania and are 100% owned by Grange Resources Tasmania Ltd. (formerly Goldamere Proprietary Ltd operating as Australian Bulk Minerals). Mining lease 2M/2001 was granted 11/12/2001 comprising 4,987 hectares which includes the main orebodies North Pit (NP), South Lens (SL), Centre Pit (CP), Sprent (SP) and South Deposit (SD) and the pipeline corridor from site to the Port Latta pellet plant. Locality is listed as Savage River-Port Latta. This lease expires 7 Nov 2031 and currently has a security bond held by the State of Tasmania. Land tenure on ML 2M 2001 includes; State forest, Forest Reserve, Informal reserve, Crown Land, Private parcel, Conservation area, Regional Reserve and national Estate. Mining lease 14M/2007 was granted 14/5/2008 comprising 91 hectares as an easement (including a sewerage easement) on the Savage River townsite. This lease expires 7 Nov 2031 and no bond is held by the State of Tasmania. Land tenure on ML 14M/2007 includes: Forest Reserve, Regional Reserve, Private land, Proposed public reserve-CLAC, Crown land Authority Land and Crown Land Mining lease 11M/2008 was granted 3/3/2009 comprising two lots totaling 108 hectares with the north west area required for the South Deposit Tailings Storage facility on Main Creek and the eastern lot required to cover the remaining part of the Savage river town ship not previously covered by a mining lease. This lease renewal is pending at time of writing, remains in good standing and a bond is held by the State of Tasmania. Exploration Licence EL8/2014 was granted for an 11sq km lease north of 2M-2001 during 2017.Year 4 of a 5 year term. Exploration Licence EL30/2003 was granted in February 2010 and current renewable tenure expires 18 June 2019. An application to extend the licence will be lodged prior to the expiry date. This lease covers the entire Long Plains deposit. The lease comprises 38 sq



Criteria	JORC Code explanation	Commentary
		km and adjoins 2M/2001 to the north.
Exploration done by other parties	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> Systematic exploration commenced during the late 1950's with the Bureau of Mineral Resources conducting airborne & ground magnetic surveys to delineate Savage River & two smaller anomalies south at Long Plains & Rocky River. Diamond drilling commenced in the late 1950's-early 1960's by Industrial & Mining Investigations Pty Ltd (8 holes). Savage River Mines Ltd formed in 1965 as a JV to develop the project and mined Savage River for the next 30 years before Australian Bulk Minerals (ABM – now Grange) took over the mine lease in 1997.
Geology	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralization.</i> 	<ul style="list-style-type: none"> The Savage River Magnetite deposit lies within and near the eastern margin of the Proterozoic Arthur Metamorphic Complex in northwestern Tasmania. This complex is exposed along a northeast–southwest trending structural corridor, The Arthur Lineament, which separates Proterozoic sedimentary rocks to the northwest from a variety of Paleozoic rocks to the southeast (Turner 1990). These Paleozoic rocks include some major mafic and ultramafic intrusive complexes which lie just to the east of Savage River. The magnetite orebodies are enclosed within a highly sheared and strike faulted belt of mafic and ultramafic schists and mylonite. This belt is 0.5km wide, strikes North-north-east to south-south-west, and is enclosed in a thick sequence of quartz-white mica schist (Whyte schist). Magnetite ore is almost entirely confined within ultramafic rocks, specifically serpentinite and talc-carbonate schist. These ore-bearing ultramafic rocks are exposed in an axial zone above the belt, ranging from about 40 to 100m wide and termed the Main Ore Zone. They also form rare, much narrower (mostly <20m wide) lenses and layers in the mafic sequence to the west. Magnetite ore ranges from disseminated to massive, with much of the main Ore Zone comprising massive to semi-massive magnetite.¹



Criteria	JORC Code explanation	Commentary
		¹ 1994 Thornett report on structural and lithological mapping of North Pit and South Lens.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> The Savage River deposit has been mined for over 50 years and a comprehensive database of 988 drill holes for nearly 140,000 metres of drilling and costeaning. Of this, 803 holes totaling 112,058 m are used to inform resource models . The remainder are for exploration, probe holes (grade control), geotechnical and water monitoring purposes. Drill hole information has been included in Appendix C.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such 	<ul style="list-style-type: none"> Davis Tube Recovery (“DTR”) analyses were conducted on core and RC chips that had first had an estimated grade determined by magnetic susceptibility (mag-sus). If the mag-sus indicated an estimated grade greater than 15% DTR, the analytical DTR technique was used for assay. 2m or less composites were use at Savage River and 1m composites were used at Long Plains. Both intercept methods allowed selection of 75% of sample. There was no cutting of high grades based on statistical analysis.



Criteria	JORC Code explanation	Commentary
	<p><i>aggregations should be shown in detail.</i></p> <ul style="list-style-type: none"> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> Sampling protocol insists on samples between 0.75 and 1.25m in length within unique lithologies. Short intervals were sampled, where discrete lithologies were present. The compositing routine aggregates these to 1m composites.
Relationship between mineralization widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> Plans and sections included in Appendix B
Diagrams	<ul style="list-style-type: none"> <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> See Appendix B - A locality plan (figure 5) and typical cross sections (figure 6-10) for each deposit area are included
Balanced reporting	<ul style="list-style-type: none"> <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> All individual drilling results have been incorporated into the resource estimations. See Appendix B.
Other substantive	<ul style="list-style-type: none"> <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results;</i> 	<ul style="list-style-type: none"> The Savage River Mine has been in operation for over 50 years with substantial data collected including geophysical surveys, geological mapping of exposures and metallurgical test work.



Criteria	JORC Code explanation	Commentary
exploration data	<i>geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	<ul style="list-style-type: none"> Waste management plans are based upon acid base accounting analyses of selected representative data from each deposit at Savage River.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> No further potential for lateral extensions to the Savage River ore-bodies have been identified. Current (2018-19) drilling campaigns have focused on; <ul style="list-style-type: none"> a) In-pit resource and geotechnical drilling to firm up life of mine plans for the open cut method and, b) Drilling depth extensions beneath the planned open cut pit to provide a resource estimate upon which to base a pre-feasibility study for underground mining. This drilling is focused on an exploration target beneath the active North Pit to determine viability of underground mining methods. Underground methods being contemplated include block caving an upper and a lower panel and a provision for a limited sub-level cave. An exploration decline was commenced in March 2019 to provide improved drill access to the orebody at depth. Further results from the continued drilling program are expected in 2019.



SECTION 3 ESTIMATION & REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> Transcription errors are limited by having assay data directly merged into the database with key fields on sample ID. Visual validation in 3D is utilized having sections plotted with block grades, the drill-hole assays and geology intervals displayed. Validation of the database occurs at distinct stages. Data entry – data is mostly entered into Excel spreadsheets, controlled by lookup lists and ranges of acceptable values. Before upload to the database – data is cross-checked in Excel. Before extracting composites – a set of queries are run, checking for data continuity, abnormal values and overlapping ranges. At all stages spot checks are made on specific areas against raw data or core where available, to check for accuracy and/or correlation. Where applicable, data is plotted out on section or graphically for visual checking.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> Competent person frequently visits site and has an intimate knowledge of the operation. All pits have mining history, with North Pit and South Deposit being mined currently.
Geological interpretation	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. 	<ul style="list-style-type: none"> Each section was interpreted for magnetite mineralization in a 3D environment, i.e. the sections were not printed out for interpretation purposes. The work was undertaken in Geovia Surpac. Historically, there were three types of mineralization defined (termed sparse, moderate and abundant and given the codes ZS, ZM and ZA respectively). Recent practice has been to amalgamate the ZM and ZA. The mineralized zones were therefore subdivided into moderate and high grade (ZAZM, >35%DTR) and low grade (ZS 15-35%DTR) categories.



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>The use of geology in guiding and controlling Mineral Resource estimation.</i> <i>The factors affecting continuity both of grade and geology.</i> 	<ul style="list-style-type: none"> Due to complexity of some of the domain shapes and the limitations of time and triangulation methods, there are areas where some minor overlap of wireframes was unavoidable. As such, the filling process order was as follows: ZAZM -> then ZS -> then internal waste units. This means ZS has overprinted ZAZM where the wireframes overlapped. This approach was adopted to ensure a conservative approach to grade estimation in areas where grade boundaries occur. The geological interpretation has high confidence on a deposit scale, informed by regularly spaced drilling, in-pit mapping, grade control drilling and monthly reconciliations. The boudinaged nature of the high-grade lenses does sometimes result in some areas having to be adjusted by on ground mapping and grade control, during mining. Geology, lithology and structure are used to guide and control the interpretation and wireframing of ore lenses in preparation for resource estimation. Wireframes are validated in section, then in plan (flitch) to enable robust shapes to be developed. Continuity is greatest down dip owing to the strike-slip deformation at Savage River. Continuity along strike is characterized by discontinuous swarms of boudinaged high grade magnetite lenses surrounded by lower grade magnetite ore hosted in serpentinite gangue.
Dimensions	<ul style="list-style-type: none"> <i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i> 	<ul style="list-style-type: none"> The Savage River ore-bodies occur discontinuously over a strike length of 6km with thickness ranges averaging 40-150m. All lenses remain open at depth.
Estimation and modeling techniques	<i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining,</i>	<ul style="list-style-type: none"> Estimations up to 2014 have generally been undertaken by Grange staff using recommendations and parameters defined in variographic studies completed by Snowden Mining Industry Consultants.



Criteria	JORC Code explanation	Commentary																		
	<i>interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i>	<ul style="list-style-type: none"> Mineralized domains were established from high grade and low grade intersects as interpreted in the geological model. Ordinary Kriging (OK) was employed to estimate the North Pit resource from 2007 based on the recommendation of a report by Snowden in 2006. Other deposits have progressively moved from inverse distance methods to OK as appropriate. The Sprent deposit is comparatively small (<3M tonnes) and considered to be an extension of Centre Pit South. It was developed in 2010 to supplement ore supply. <table border="1"> <thead> <tr> <th>Deposit</th><th>Modelling Technique</th><th>Current Model Date</th></tr> </thead> <tbody> <tr> <td>North Pit</td><td>Ordinary Kriging</td><td>Mar-19</td></tr> <tr> <td>Centre Pit</td><td>Ordinary Kriging</td><td>Feb 19</td></tr> <tr> <td>Sprent</td><td>Inverse Distance Squared</td><td>Feb-11</td></tr> <tr> <td>South Deposit</td><td>Ordinary Kriging</td><td>Feb-15</td></tr> <tr> <td>Long Plains</td><td>Ordinary Kriging</td><td>Dec-13</td></tr> </tbody> </table> <ul style="list-style-type: none"> Drill hole sample data was flagged as ore in the database within the domain wireframes interpreted for each deposit. Composites extracted from the database for each domain were therefore controlled by the geological interpretation. Sample data was generally composited to 1 metre down hole length using a best fit-compositing method. Residual samples (those composite intervals for which there was less than 75% of the composite length) were considered biased and hence were not included in the estimate. Optiro and Xstract resource Consultants have recommended topcuts as tabled below to reduce the impact of significant outliers and positively skewed populations. Xstract and Grange staff reviewed the topcuts for deleterious elements and determined that despite the Coefficient of Variation being low, the outliers would have an impact on 	Deposit	Modelling Technique	Current Model Date	North Pit	Ordinary Kriging	Mar-19	Centre Pit	Ordinary Kriging	Feb 19	Sprent	Inverse Distance Squared	Feb-11	South Deposit	Ordinary Kriging	Feb-15	Long Plains	Ordinary Kriging	Dec-13
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	<i>interpolation parameters and maximum distance of extrapolation from data points</i>	<p>surrounding block estimates.</p> <ul style="list-style-type: none">Topcuts for all elements including deleterious elements are tabled below. <table><tr><th colspan="12">Top Cuts - North Pit</th></tr><tr><th>Domain</th><th>DTR</th><th>DxDTR</th><th>Density</th><th>Fe2+</th><th>Fe</th><th>Ni</th><th>TiO2</th><th>MgO</th><th>P</th><th>V</th><th>S</th></tr><tr><td>MOZ</td><td></td><td></td><td></td><td></td><td></td><td>0.2</td><td></td><td>10</td><td>0.019</td><td></td><td>0.17</td></tr><tr><td>LG</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.465</td></tr><tr><td>WL</td><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td><td></td><td>0.44</td></tr><tr><td>ZS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td><td></td><td></td><td>0.41</td></tr></table> <table><tr><th colspan="12">Top Cuts - Center Pit Combined</th></tr><tr><th>Domain</th><th>DTR</th><th>DxDTR</th><th>Density</th><th>Fe2+</th><th>Fe</th><th>Ni</th><th>TiO2</th><th>MgO</th><th>P</th><th>V</th><th>S</th></tr><tr><td>CPN_ZAZM</td><td></td><td></td><td></td><td></td><td></td><td>0.3</td><td></td><td>7</td><td>0.1</td><td></td><td>1</td></tr><tr><td>CPN_ZS</td><td></td><td></td><td></td><td></td><td></td><td>0.2</td><td></td><td>8</td><td>0.06</td><td></td><td></td></tr><tr><td>CPS_ZAZM</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.5</td><td>0.05</td><td></td><td></td></tr><tr><td>CPS_ZS</td><td></td><td></td><td></td><td></td><td></td><td>0.4</td><td></td><td>10</td><td>0.1</td><td>2</td><td>1.5</td></tr></table> <ul style="list-style-type: none">No top cuts have been applied to the South Deposit or Sprent modelsDTR is not directly estimated but instead weighted by density with which it has a very strong correlation. Density values and the calculated attribute Density x DTR are both subjected to variography and estimation, with DTR back calculated in the model.Up until 2015, Grange personnel have generally created the block models and run the estimations with Gemcom Surpac software using in-house estimation macros to ensure consistency of methodology. For recent mineral resource estimations of NP and CP, variography and exploration data analysis has been contracted to specialists from Optiro and Xstract as overseen by Grange staff.2019 North Pit Block model is constructed using a 5mE by 10mN by 5mRL parent block size with sub-celling to 2.5mE by 5mN by 2.5mRL.2019 Centre Pit Block model is constructed using a 5mE by 15mN by 5mRL parent block size with sub-celling to 2.5mE by 3.75mN by 2.5mRL.2015 South Deposit Block model is constructed using a 10mE by 10mN by 5mRL parent block size with sub-celling to 5mE by 5mN by 2.5mRL.	Top Cuts - North Pit												Domain	DTR	DxDTR	Density	Fe2+	Fe	Ni	TiO2	MgO	P	V	S	MOZ						0.2		10	0.019		0.17	LG											0.465	WL							2				0.44	ZS								10			0.41	Top Cuts - Center Pit Combined												Domain	DTR	DxDTR	Density	Fe2+	Fe	Ni	TiO2	MgO	P	V	S	CPN_ZAZM						0.3		7	0.1		1	CPN_ZS						0.2		8	0.06			CPS_ZAZM								4.5	0.05			CPS_ZS						0.4		10	0.1	2	1.5
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		<ul style="list-style-type: none">Some sections of the Centre Pit model have had average values assigned for deleterious elements where the estimate is defined by historical drilling that lacked assay data.Average values have been assigned to uninformed blocks within the ore domains for Centre Pit as follows:<table><tr><th>Impurity</th><th colspan="4">Centre Pit Domain</th></tr><tr><th></th><th>CPS_ZAZM</th><th>CPS_ZS</th><th>CPN_ZAZM</th><th>CPN_ZS</th></tr><tr><td>Fe2+</td><td>22.29</td><td>21.46</td><td>21.84</td><td>21.74</td></tr><tr><td>Total Iron</td><td>68.75</td><td>65.79</td><td>68.56</td><td>67.39</td></tr><tr><td>Ni</td><td>0.05</td><td>0.06</td><td>0.05</td><td>0.07</td></tr><tr><td>TiO2</td><td>0.42</td><td>0.33</td><td>0.46</td><td>0.53</td></tr><tr><td>MgO</td><td>0.99</td><td>3.18</td><td>1.3</td><td>2.05</td></tr><tr><td>P</td><td>0.015</td><td>0.021</td><td>0.018</td><td>0.016</td></tr><tr><td>V</td><td>0.46</td><td>0.3</td><td>0.42</td><td>0.29</td></tr><tr><td>S</td><td>0.1</td><td>0.38</td><td>0.13</td><td>0.25</td></tr></table>	Impurity	Centre Pit Domain					CPS_ZAZM	CPS_ZS	CPN_ZAZM	CPN_ZS	Fe2+	22.29	21.46	21.84	21.74	Total Iron	68.75	65.79	68.56	67.39	Ni	0.05	0.06	0.05	0.07	TiO2	0.42	0.33	0.46	0.53	MgO	0.99	3.18	1.3	2.05	P	0.015	0.021	0.018	0.016	V	0.46	0.3	0.42	0.29	S	0.1	0.38	0.13	0.25
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	<ul style="list-style-type: none"><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i>	<ul style="list-style-type: none">Sample spacing on a 50 x 70m grid is 5-7 times the block size. This sample spacing is supported by the very strong geological continuity (low sample variance).																																																		
	<ul style="list-style-type: none"><i>Any assumptions behind modelling of selective mining units.</i>	<ul style="list-style-type: none">No assumptions were made behind modeling of selective mining units.																																																		
	<ul style="list-style-type: none"><i>Any assumptions about correlation between variables.</i>	<ul style="list-style-type: none">There is a strong correlation between DTR and density which is described below in the Bulk Density section.																																																		
	<ul style="list-style-type: none"><i>Description of how the geological interpretation was used to control the resource estimates.</i>	<ul style="list-style-type: none">Geology, lithology and structure are used to guide and control the interpretation and wire-framing of ore lenses in preparation for resource estimation. Wireframes are validated in section, then in plan (flicht) to enable robust shapes to be developed.																																																		



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	<ul style="list-style-type: none"> <i>Discussion of basis for using or not using grade cutting or capping.</i> 	<ul style="list-style-type: none"> Top cuts were used where recommended by geo-statistical data analysis.
	<ul style="list-style-type: none"> <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. New model estimates are compared against old model estimates and reconciliations as part of validation.</i> 	<ul style="list-style-type: none"> Block estimates were cross-validated by comparison with printed block sections showing drilling, block values and constraining wireframes.
Moisture	<ul style="list-style-type: none"> <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> Tonnages were estimated on a dry basis
Cut-off parameters	<ul style="list-style-type: none"> <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> The cut-off grade of 15%DTR is based on histogram distribution DTR and is supported by economic analysis.
Mining factors or assumptions	<ul style="list-style-type: none"> <i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i> 	<ul style="list-style-type: none"> No mining factors (i.e. dilution, ore loss, recoverable resources at selective mining block size) have been applied. Selective mining unit is block model parent size for each model, and the equipment selection allows for finer discretization. Assessment for Reasonable Prospects of Eventual Economic Extraction (RPEEE) was undertaken and based on a detailed review of true width and grade. Consideration was given to width, grade and proximity to potential infrastructure in order to undertake a determination of reasonable prospects of eventual economic extraction. Both open pit mining and consideration of underground techniques were considered at depth. Areas with unlikely prospectivity were manually removed from the estimation, based on a true width greater than 20m with a cutoff grade of 15% DTR.



Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i> 	<ul style="list-style-type: none"> DTR has been incorporated into the model as a measure of magnetite recovery in the magnetic separation process. This is based on the performance of DTR at the Savage River mine, where it has been employed as a good measure of delineating ore and waste and in modeling the anticipated recoveries through the magnetic separation process for over 50 years. Historical records indicate the Metallurgical recovery of magnetite from the magnetic separators has been demonstrated to be 95% of the DTR derived from laboratory DTR process. This factor is not applied to the resource model.
Environmental factors or assumptions	<ul style="list-style-type: none"> <i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i> 	<ul style="list-style-type: none"> Waste rock: waste is segregated while mined into one of four waste types based on the rocks acid-base chemistry. These units are disposed of in encapsulated dumps according to the waste management plan as part of the environmental permit conditions. Tailings are disposed of as sediment beaches in engineered tailing ponds. The tailings management plan is part of the environmental permit conditions.
Bulk density	<ul style="list-style-type: none"> <i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements,</i> 	<ul style="list-style-type: none"> All 'modern' (post-2005) diamond drilling samples have measured density values. However, some historic drilling samples do not have density data and it is not possible to measure density for RC samples. The density of the ore for the RC samples and legacy



Criteria	JORC Code explanation	Commentary
	<p><i>the nature, size and representativeness of the samples.</i></p> <ul style="list-style-type: none"> <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i> <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i> 	<p>diamond drilling samples was determined based on the first principles equation, where:</p> $SG = \left(\frac{DTR}{510} + \frac{100 - DTR}{281} \right)^{-1}$ <ul style="list-style-type: none"> The First Principles equation relates density to DTR and provides a reasonable fit to the measured data. Density is related to DTR because the gangue mineralogy generally has a lower specific gravity than that of magnetite. The ore zones at Savage River are very competent and void space is not considered significant to make allowance for in the density determination method.
Classification	<ul style="list-style-type: none"> <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> <i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i> <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<ul style="list-style-type: none"> Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency where available). Resource category was initially assigned via the multi-pass estimation based on the estimation parameters. The resulting classification is then reviewed by geological staff. Classification surfaces are manually developed to adjust the estimated classification based on drill spacing, continuity of mineralization, data quality and local experience. These surfaces are used to refine and assign the appropriate resource category. The competent person has reviewed the appropriateness of the classification assigned to each deposit.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> During the Mine Life Extension Project in 2006, AMC peer reviewed the NP resource estimation process and parameters for the mine life extension project (MLEP). The estimation process and parameters are considered to be still valid for this deposit as additional drilling has been infill in nature. Several due diligence studies have reviewed the estimation methodologies as recommended by Snowden and found them to be valid. During 2019 AMC peer reviewed the NP and CP resource estimation process. <ul style="list-style-type: none"> AMC considers, based on the available information, that processes to generate the block models for the Mineral Resource estimates have been completed using accepted industry practice. The drillhole data is supported by a series of data



Criteria	JORC Code explanation	Commentary
		validations and laboratory checks and known mining history, and reconciliation.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognized that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> Global reconciliations and bench reconciliations are used to feedback into the resource model. Regular reconciliations show good performance of model vs actual volume reports. Reconciliations are calculated from material survey movement against changes in stockpiles and actual magnetite concentrate production. Grange believes that the relative accuracy and confidence in the Mineral Resources is appropriate for the generally- accepted error ranges understood by the resource confidence categories which have been allocated Historically, model predictions have been well within 10% of actual production.



SECTION 4: ESTIMATION & REPORTING OF ORE RESERVES

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i> <i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i> 	<ul style="list-style-type: none"> The Ore Reserve estimate for Savage River includes Mineral Resources from North Pit, Centre Pit and South Deposit. The Mineral Resources used are from updated Mineral Resource models for each deposit as at 31 Dec 2018. The stated Mineral Resource is inclusive of the Ore Reserve
Site visits	<ul style="list-style-type: none"> <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i> <i>If no site visits have been undertaken indicate why this is the case.</i> 	<ul style="list-style-type: none"> The Competent Person has more than 10 years of experience in an open pit Magnetite mine at senior operational management and technical level. Competent person is an employee of the company and frequently visits site.
Study status	<ul style="list-style-type: none"> <i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i> <i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i> 	<ul style="list-style-type: none"> The Ore Reserve estimate is based on a Feasibility Study that was completed, in September 2006 and updated economic considerations as reviewed through the annual budgeting process. The information used for estimation and reporting of this Ore Reserve is based upon that Feasibility Study with current production reconciled modifying factors. The Life Of Mine Plan process is undertaken annually which encompasses reviews of conversion of mineral resource to ore reserve and assessment of current economic and other reconciled modifying factors. Feasibility studies are currently in progress to update the reserve in North Pit and Centre Pit, pending the study outcomes.
Cut-off parameters	<ul style="list-style-type: none"> <i>The basis of the cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> Cut-Off-Grade Analysis was undertaken as part of the Feasibility Study and is updated on an annual basis as part of Grange Resource's Life Of Mine Budget process. The Cut-off grade is 15% DTR.



Criteria	JORC Code explanation	Commentary																								
Mining factors or assumptions	<ul style="list-style-type: none"><i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimization or by preliminary or detailed design).</i><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i><i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i><i>The major assumptions made and Mineral Resource model used for pit and stope optimization (if appropriate)</i><i>The mining dilution factors used.</i>	<ul style="list-style-type: none">Whittle Optimizations are used to derive an economic pit outline which is then used as the basis for mine design. The software uses profit maximization algorithms to generate pit shells. The cost inputs used in the Whittle optimizer were based initially upon the parameters determined in the Feasibility Study and are reviewed as part of the ongoing Life Of Mine Planning and evaluation process.The Ore Reserves are reported within a detailed staged pit designs which are based on Whittle open pit optimization.Mining is undertaken by conventional bulk mining methods utilizing hydraulic face shovels, excavators, dump trucks and conventional drill and blast, which is suited to the local terrain.The overall pit slopes used for the design and optimization are based on geotechnical studies undertaken in the Feasibility Study and are reviewed and updated on an annual basis as part of Grange Resource’s Life Of Mine Planning process. The current overall slope parameters are as follows:<table><tr><th rowspan="2">Pit</th><th colspan="4">Overall Slope Angle (degrees)</th></tr><tr><th>East</th><th>West</th><th>North</th><th>South</th></tr><tr><td>North Pit</td><td>48</td><td>33</td><td>32</td><td>25</td></tr><tr><td>Centre Pit</td><td>44</td><td>32</td><td>35</td><td>36</td></tr><tr><td>South Deposit</td><td>40</td><td>38</td><td>36</td><td>42</td></tr></table>The Smallest Mining Unit (SMU) assumed is 5 m x 5 m x 2.5 m in the X, Y and Z direction consistent with the sub-cell resolution in the resource.The mining block model includes an allowance for likely mining dilution based on a regularization of the geological model. The regularization has added approximately 2%	Pit	Overall Slope Angle (degrees)				East	West	North	South	North Pit	48	33	32	25	Centre Pit	44	32	35	36	South Deposit	40	38	36	42
Pit	Overall Slope Angle (degrees)																									
	East	West	North	South																						
North Pit	48	33	32	25																						
Centre Pit	44	32	35	36																						
South Deposit	40	38	36	42																						



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>The mining recovery factors used.</i> <i>Any minimum mining widths used.</i> <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i> <i>The infrastructure requirements of the selected mining methods.</i> 	<p>tonnage and reduced the DTR by 8%.</p> <ul style="list-style-type: none"> These factors reflect the expected ore dilution leading to a decrease in recovered grade and an increase in recovered ore volume, and are based on historic reconciliation performance. Reconciliations (global) are compiled annually and bench reconciliations are compiled as benches are completed (about 8 per year). Temporal or period reconciliations are run to check the quality of the 3-month plan cycle No minimum mining widths have been applied The Whittle Optimization on which the mine design is based utilizes only Measured and Indicated Material. Ore Reserve classification is that portion of the mineral resource that resides within an economic pit design. Only Measured and Indicated resources are considered. Inferred resources are not scheduled but are considered during optimizations. The current North pit design only a minor amount of inferred resource that falls within the pit. The mine has introduced remote blast hole drilling within the last 10 years and has introduced remote blast hole charging.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralization.</i> <i>Whether the metallurgical process is well-tested technology or novel in nature.</i> <i>The nature, amount and representativeness of</i> 	<ul style="list-style-type: none"> The Concentrator comprises primary crushing, primary and secondary grinding and magnetic separation. Concentrate is pumped by a slurry pipeline for drying, pelletizing and ship loading at Port Latta. This process is well proven at Savage River over the last 50 years and is used extensively for magnetite deposits throughout the world. The Concentrator and Pellet Plant have been operated continuously by Grange Resources since 2009 and before by Australian Bulk Minerals since 1997. There has been metallurgical test work undertaken as part of the Feasibility Study and subsequent drilling programs. The Concentrate plant recovery factor is a function of the mined grade DTR% as feed to the concentrator. This ranges from 96% to 91% depending on grade and is generally 95%. These factors are updated on an annual basis as part of Grange Resource's Life Of Mine Budget process.



Criteria	JORC Code explanation	Commentary
	<p><i>metallurgical test work undertaken, the nature of the metallurgical domains applied and the corresponding metallurgical recovery factors applied.</i></p> <ul style="list-style-type: none"> <i>Any assumptions or allowances made for deleterious elements.</i> <i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore-body as a whole.</i> <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i> 	<ul style="list-style-type: none"> The Ore Reserve and the associated mine schedule produce an output on which the sale of pellet is based and includes any deleterious elements. Deleterious elements (impurities), are identified in product specification and are estimated in the resource model. The mineral resource model appropriately addresses the chemical criteria and the emergent physical properties to meet a high quality iron ore product. Magnetite concentrate and hematite pellets are sold on a market specification. The Davis Tube Recovery (DTR) technique is the fundamental unit of measurement of grade of ore at a magnetite mine. DTR is a measure of the “recoverable” magnetite as determined by equipment which seeks to mimic the process occurring in the concentrator. DTR can be used to predict the concentrate contained within the ore, which is far more relevant than an analysis for total iron in the ore. The DTR is a physical test, dependent on the actual liberation of the magnetite from its gangue elements. The liberation at the laboratory scale needs to mimic the liberation at a plant scale. This liberation is directly related to the grind distribution the method has been designed as appropriate for the Savage River deposit. The recoverable magnetite from the Davis Tube is called Davis Tube Concentrate (DTC) and is weighed to determine what proportion of the original sample was recovered. The concentrate recovered from the DTC is analysed by X-ray fluorescence (XRF) methods to assess the quality of the DTC, ie the grade of iron, silica, sulphur etc in the concentrate. X-ray fluorescence utilizes a spectrometer, an x-ray instrument used for non-destructive chemical analyses of rocks, minerals, sediments and fluids
Environmental	<i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential</i>	<ul style="list-style-type: none"> The mining and exploration tenements held by the Company contain environmental requirements and conditions that the entities must comply with in the course of normal operations.



Criteria	JORC Code explanation	Commentary
	<i>sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i>	<ul style="list-style-type: none"> • These conditions and regulations cover the management of the storage of hazardous materials and rehabilitation of mine sites. The Company obtained approvals to operate in 1996 and 1997 under Tasmania's Land Use Planning and Approvals Act (LUPA) and the Environmental Management and Pollution Control Act (EMPCA) as well as the Goldamere Act and Mineral Resources Development Act. The land use permit conditions for Savage River and Port Latta are contained in Environmental Protection Notices 248/2 and 302/2 respectively. • The currently approved Environmental Management Plans were submitted for Savage River and Port Latta on 21 December 2010. The extension of the project's life was approved by the Department of Tourism, Arts and the Environment on 12 March 2007 and together with the Goldamere Act and the Environmental Protection Notices, is the basis for the management of all environmental aspects of the mining leases. • The Goldamere Act limits the Company's liability under Tasmanian law for remediation of contamination to that caused by the Company's operations and indemnifies the Company for certain environmental liabilities arising from past operations. Where pollution is caused or might be caused by previous operations and this may be impacting on Grange's operations or discharges. Grange is indemnified against any associated emissions. Grange is required to operate to Best Practice Environmental Management (BPEM). • The Goldamere Act provides overriding legislation against all other Tasmanian legislation. • Grange has current approvals to mine North Pit until 2031. The waste rock from North Pit is to be segregated into potential acid forming and non-acid forming waste in the pit and then disposed of in the Broderick Creek waste rock dump which has sufficient capacity for the current life of the mine. The potentially acid forming waste is encapsulated with layers of clay and alkaline rocks to prevent the formation of acid rock drainage. • Process residue from the concentration of ore (tailings) is stored in the Main Creek Tailings Dam which has sufficient capacity until 2018. Grange has received approval from the Tasmanian Environmental Protection Authority to construct and operate a new tailings



Criteria	JORC Code explanation	Commentary
		<p>storage facility called South Deposit Tailings Storage Facility. This has sufficient capacity to store tailings from North Pit, Centre Pit and South Deposit until at least 2031. Approval for this facility was granted by the Department of Environment and the Waratah-Wynyard Council and was commissioned in November 2018.</p>
Infrastructure	<ul style="list-style-type: none"> <i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i> 	<ul style="list-style-type: none"> Current operation consists of North Pit, Centre Pit and South Deposit which are planned to be mined as part of the Life Of Mine Plan. There are two primary crushers with conveyors, concentrator, pipeline and pellet processing plant with process water sourced on-site and dedicated power transmission lines. Townsite hosts a workforce of over 250 persons. Concentrate is transported by slurry pipeline to the Grange-owned Port Latta pellet plant and dedicated ship loading facility for export. Storage of tails in the Main Creek Tails Storage Dam (facility) is being transitioned to the new South Deposit Tails Storage Facility. The new facility has sufficient capacity to support the Life of Mine operation.
Costs	<ul style="list-style-type: none"> <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i> <i>The methodology used to estimate operating costs.</i> <i>Allowances made for the content of deleterious elements.</i> <i>The source of exchange rates used in the study.</i> <i>Derivation of transportation charges</i> <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i> <i>The allowances made for royalties payable, both</i> 	<ul style="list-style-type: none"> The Life Of Mine Plan is updated annually. All assumptions regarding capital costs are reviewed monthly and as part of the annual budgeting process. Capital costs are well documented, managed and understood for the operation. The Concentrator and Pellet Plant have operated continuously by Grange Resources since 2009 and before by Australian Bulk Minerals since 1997. The operating and capital costs are based upon actual operating historical data. Allowances are made for the various deleterious elements and adjustments are made to the Iron Content. The exchange rate is sourced from Specialist Matter Experts in the market, that provide analysis for mining and metals, with periodic updates for forecast. Product is mainly sold Free on Board (FOB) or Cost and freight (CFR) from Port Latta



Criteria	JORC Code explanation	Commentary
	<i>Government and private.</i>	<ul style="list-style-type: none"> Forecasting of treatment and refining charges including penalties in concentrate are completed annually using the scheduled annual feed grade (including impurities). No royalty or other government charges are used in the Whittle Optimization, however all operating and capital costs including royalties and other government charges are included in the Life Of Mine Plan and cashflow model
Revenue factors	<ul style="list-style-type: none"> <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i> <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i> 	<ul style="list-style-type: none"> The Whittle optimization was carried out including Measured and Indicated Mineral Resource categories and using a gross FOB price at Port Latta expressed as US\$/dmt pellet and a nominated AUD = USD exchange rate The commodity pricing is sourced from Specialist Matter Experts in the market analysis for mining and metals.
Market assessment	<ul style="list-style-type: none"> <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i> <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i> <i>Price and volume forecasts and the basis for these forecasts.</i> <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i> 	<ul style="list-style-type: none"> The mine and concentrator have operated continuously by Grange Resources since 2009 and before by Australian Bulk Minerals since 1997, and various parties since 1967. Product is presently sold as Concentrate and Pellet into the Asian and Australian markets. There are long term contracts in place and we also see a strong spot market. Prices are negotiated based on market indices.



Criteria	JORC Code explanation	Commentary
Economic	<ul style="list-style-type: none"> <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i> <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i> 	<ul style="list-style-type: none"> Financial modeling of the Savage River operation shows support for strong NPV's. The NPV is most sensitive to product price and exchange rate
Land Tenure	<ul style="list-style-type: none"> <i>Land use</i> 	<ul style="list-style-type: none"> North Pit, Centre Pit, South Deposit and the associated waste dumps, tails storage facility, concentrator, accommodation and pellet plant all lie wholly within ML 2M/2001 and ML 11M/2008. There are no restrictions placed on the operation by these leases which materially restrict its operation.
Social	<ul style="list-style-type: none"> <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i> 	<ul style="list-style-type: none"> The Mine is relatively isolated, being situated 45 km off the Murchison Highway, which links the north-west and western coasts of Tasmania (Figure 12). The nearest localities are Corinna (population 6), 24 km to the south-west and Waratah (population 380), 38 km to the north-east. The nearest major town by road is Burnie (population ~20,000), located on the north-west coast, about 100 km distant. Grange also works with the Tasmanian Government in the Savage River Rehabilitation Project. This work has seen water quality in the Savage River improve from where it was significantly degraded by acid rock drainage in 1997 to where modified ecosystem targets are being met and pelagic aquatic species are re-populating the middle reaches of the river. On the back of this work, Grange has community support for the ongoing operation of the mine.
Other	<ul style="list-style-type: none"> <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i> <i>Any identified material naturally occurring risks.</i> <i>The status of material legal agreements and marketing arrangements.</i> <i>The status of governmental agreements and</i> 	<ul style="list-style-type: none"> Grange's project at Savage River is an active and ongoing operation. Asbestos group of minerals have been identified at Savage River. The asbesti-form materials are handled according to the fibrous materials policy at Grange, whereby risks from inspirable particles are monitored and controlled. A long-term contract for supply of magnetite pellet to various customers exists.



Criteria	JORC Code explanation	Commentary
	<i>approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i>	<ul style="list-style-type: none"> The Goldamere Act provides Tasmanian legislation to support the Savage River Operation Final approval for the SDTSF was received in 2014 and construction commenced in Q3 2014.
Classification	<ul style="list-style-type: none"> The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any). 	<ul style="list-style-type: none"> Reserve classification is that portion of the mineral resource that resides within an economic pit design. Only Measured and Indicated resources are considered and have been converted to proven and probable reserves (respectively). The result reflects the Competent persons view of the deposit. No probable Ore Reserves have been derived from measured mineral resources.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Ore Reserve estimates. 	<ul style="list-style-type: none"> The Feasibility Study that was completed in September 2006 had been peer reviewed by AMC Consultants Pty Ltd (AMC) for the NP reserve for the mine life extension project (MLEP).
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the 	<ul style="list-style-type: none"> Global reconciliations and bench reconciliations are used to feedback into the resource model. Regular reconciliations show a good performance of model vs actual. Reconciliations are calculated from material survey movement against changes in stockpiles and actual magnetite concentrate production. Grange believes that the relative accuracy and confidence in the Mineral Resources is appropriate for the generally- accepted error ranges understood by the resource confidence categories which have been allocated Historically model predictions are well within 10% of actual production Mod factors apply globally and metallurgical factors are reviewed annually.



Criteria	JORC Code explanation	Commentary
	<p><i>relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i> <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> Some factors are applied locally, for example geotechnical parameters are applied locally. All modifying factors are reviewed annually. Modifying Factors are reviewed periodically with reconciliations to evaluate accuracy and confidence of the estimates. Relative accuracy of the mod factors compares well with production data which is compared on a monthly and annual basis.



APPENDIX B – PLANS & SECTIONS



Figure 5: Image of Savage River Site Infrastructure, Aug 2017

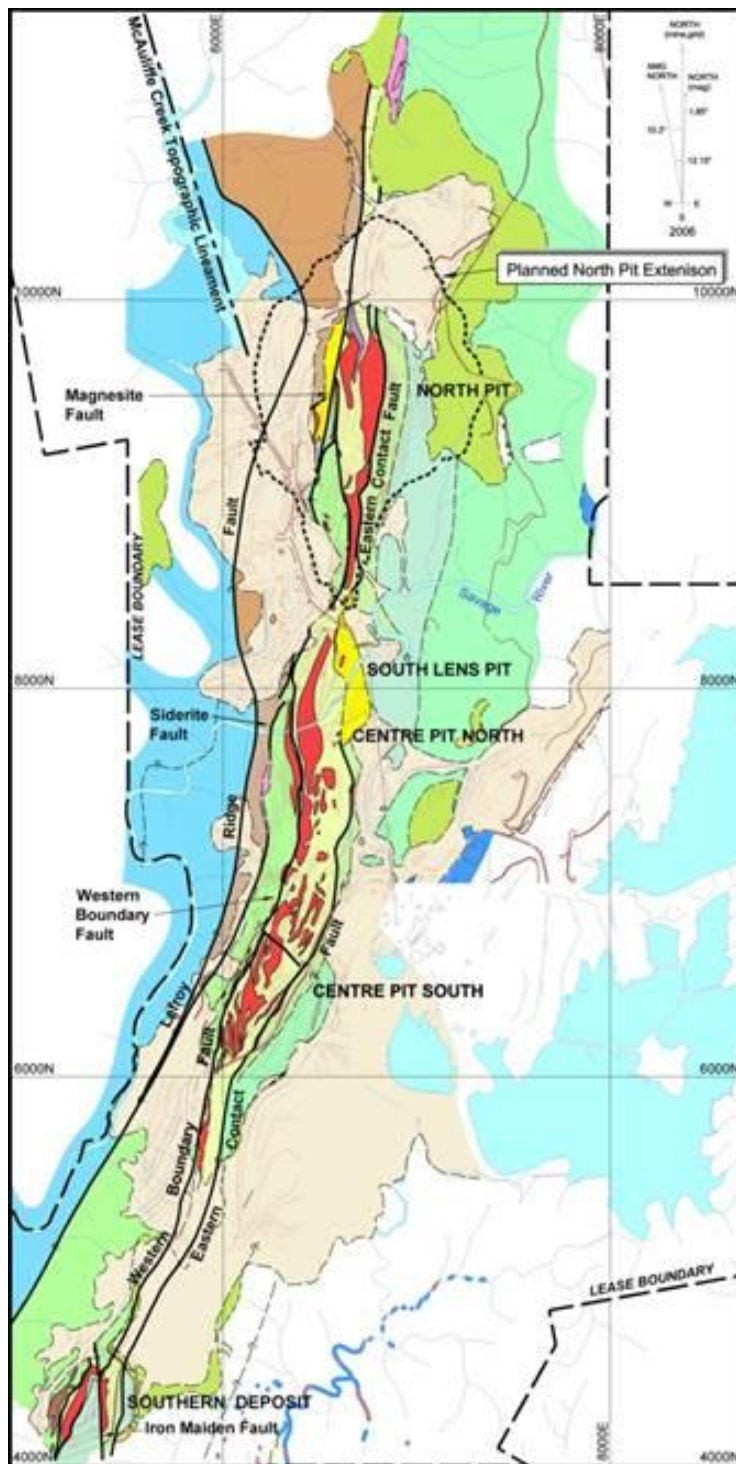


Figure 6 Regional Geology (2008)

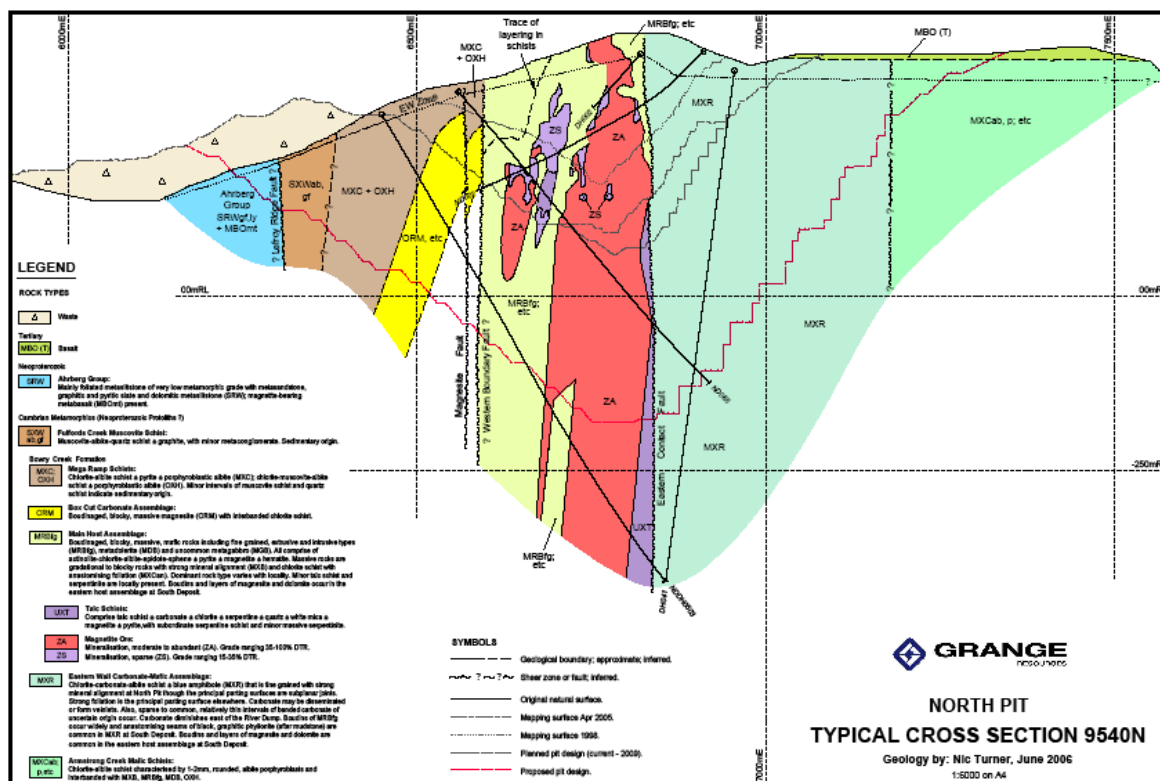


Figure 7 Typical Cross Section for NP

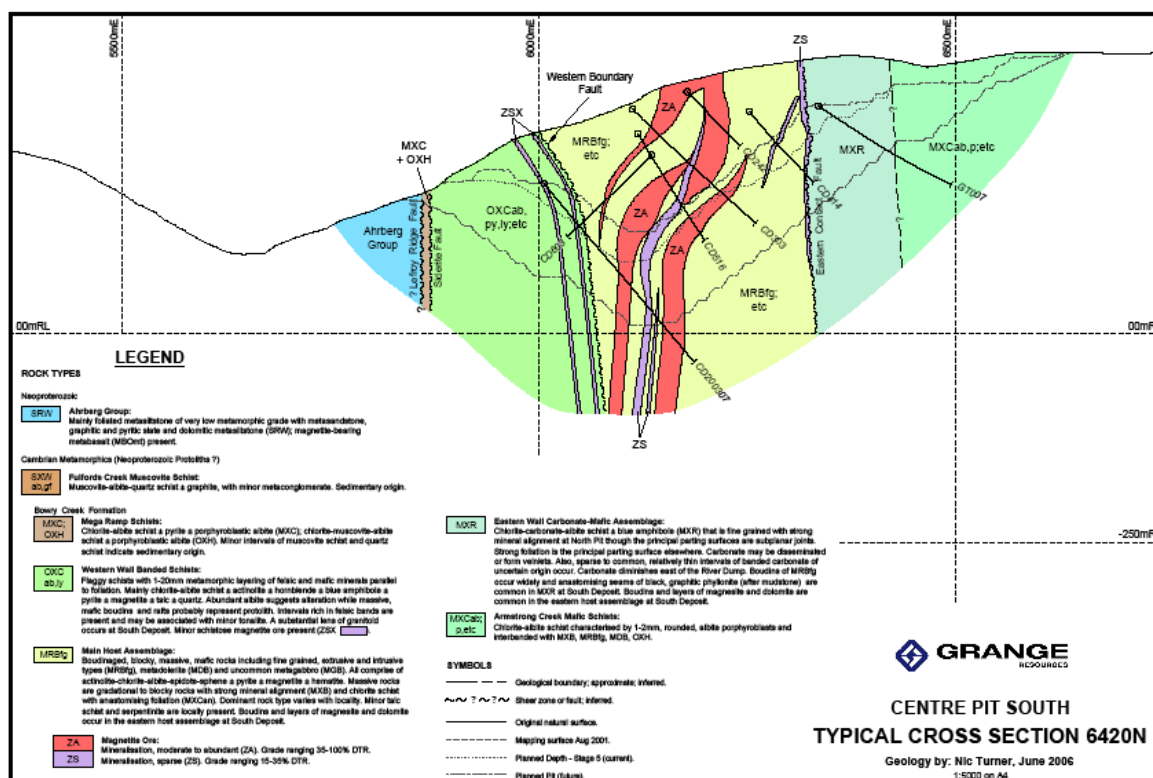




Figure 8 Typical Cross Section of CPS

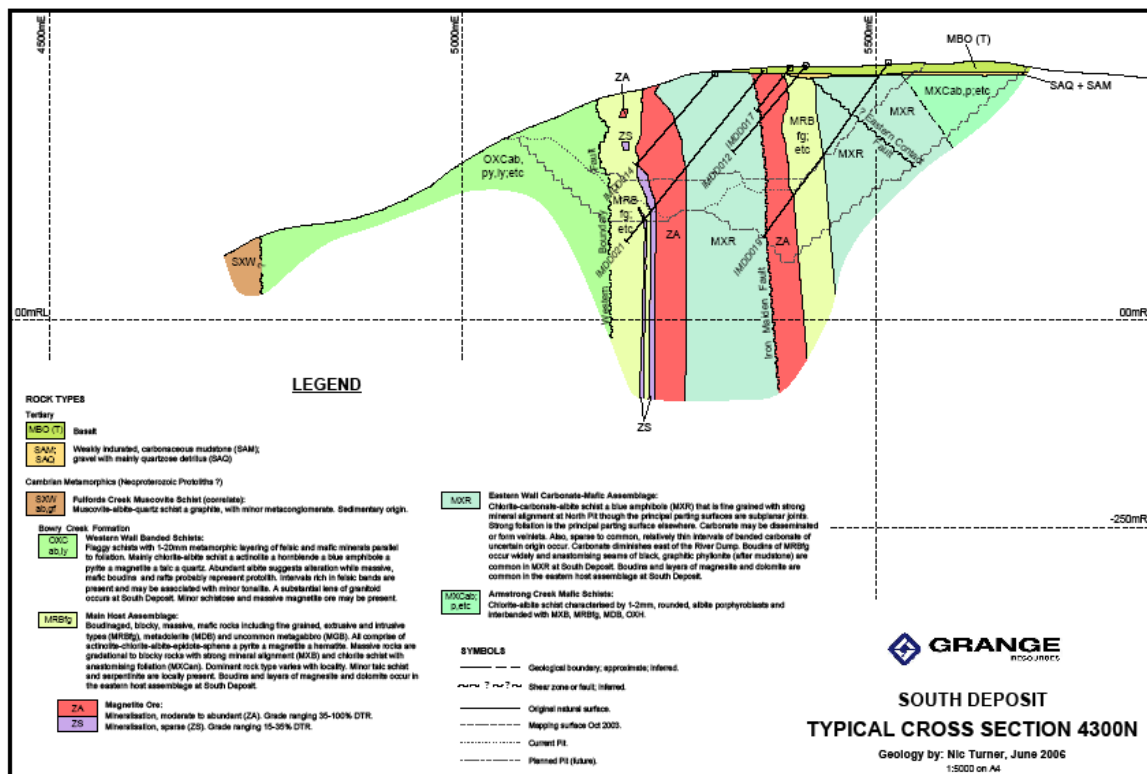


Figure 9 Typical Cross Section for SD

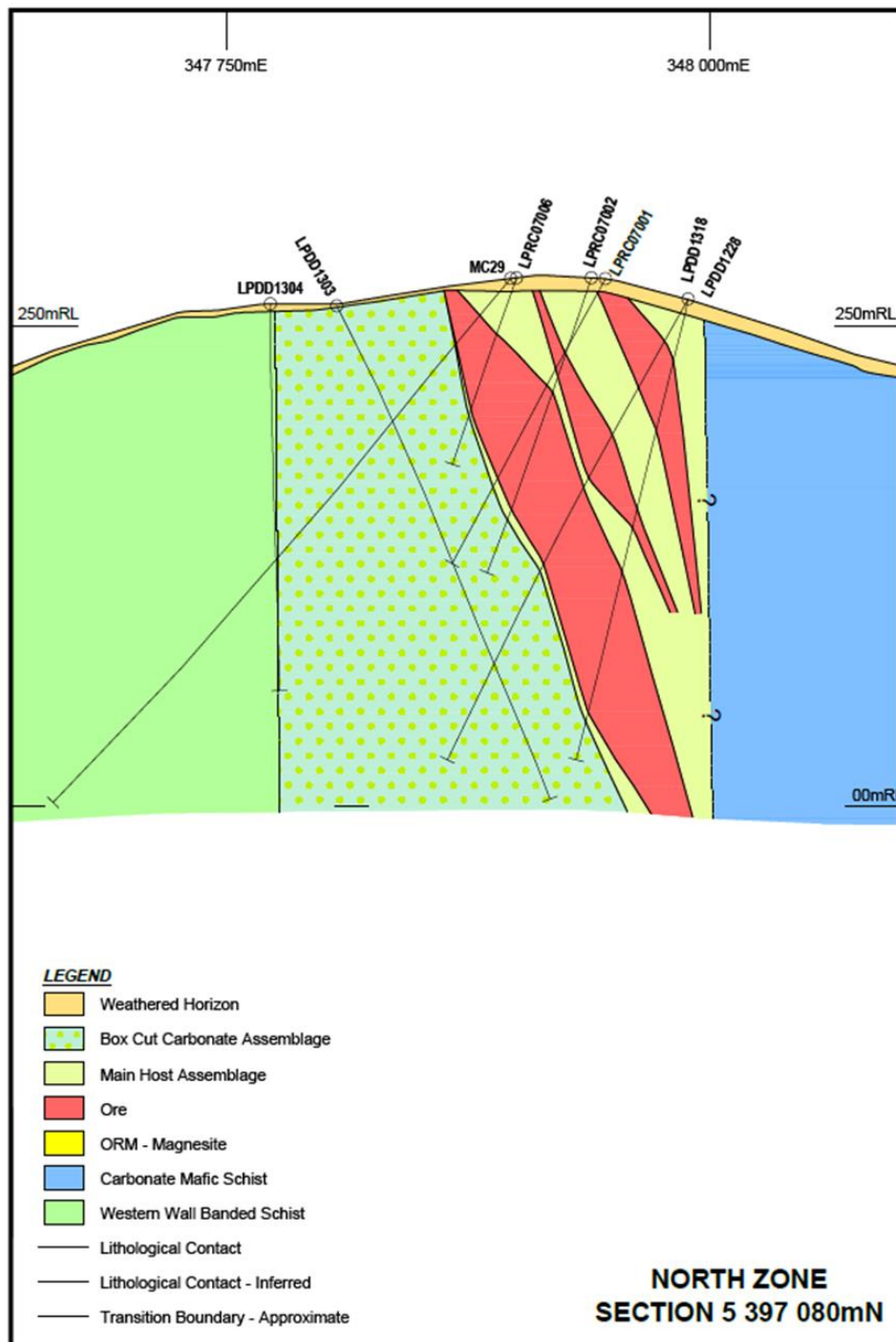


Figure 10 Typical Cross Section for Long Plains



APPENDIX C - DRILL HOLE DATA

Pursuant to the guidelines established in the JORC Code (2012 Edition), the following tables represents the drill hole intercepts which support the Mineral Resource and Ore Reserve estimates for Savage River. Twenty (20) new holes have been added for the calendar year 2018.



Table 1. Long Plains Drill-hole Intersects as at 31 Dec 2013

LP-2013	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
2	IMI28	348036.0	5396583.0	280.0	-47.0	259.0	24.4	83.3	166.7
1	IMI29	348011.0	5396883.0	263.0	-50.0	258.0	111.9	115.2	182.9
1	IMI29	348011.0	5396883.0	263.0	-50.0	258.0	141.6	151.2	182.9
1	IMI29	348011.0	5396883.0	263.0	-50.0	258.0	79.4	90.3	182.9
1	IMI29	348011.0	5396883.0	263.0	-50.0	258.0	16.5	36.3	182.9
2	IMI30	348311.0	5395383.0	230.0	-45.0	255.0	128.5	157.0	192.0
2	IMI30	348311.0	5395383.0	230.0	-45.0	255.0	98.4	110.8	192.0
2	IMI30	348311.0	5395383.0	230.0	-45.0	255.0	58.2	83.1	192.0
2	IMI35	347976.0	5397188.0	253.0	-85.0	257.0	65.2	79.8	137.8
2	IMI46	347976.0	5397188.0	253.0	-44.0	257.0	98.5	116.5	233.5
2	IMI46	347976.0	5397188.0	253.0	-44.0	257.0	30.9	46.4	233.5
1	LPC06001	347832.3	5396884.2	274.3	10.0	97.4	52.0	52.1	136.0
1	LPC06001	347832.3	5396884.2	274.3	10.0	97.4	85.7	97.3	136.0
1	LPC06001	347832.3	5396884.2	274.3	10.0	97.4	115.4	122.0	136.0
1	LPC06002	347824.7	5396929.2	275.5	7.6	73.1	72.0	72.1	182.5
1	LPC06002	347824.7	5396929.2	275.5	7.6	73.1	140.0	142.3	182.5
1	LPC06002	347824.7	5396929.2	275.5	7.6	73.1	151.0	156.0	182.5
1	LPC06003	347878.8	5396989.0	278.3	5.4	99.5	18.1	31.0	115.5
1	LPC06003	347878.8	5396989.0	278.3	5.4	99.5	86.0	90.0	115.5
1	LPC06004	347789.9	5396998.1	274.6	-22.7	74.1	184.0	185.4	222.0
1	LPC06005	347839.9	5397087.9	262.6	6.8	102.3	29.0	29.0	157.0
1	LPC06005	347839.9	5397087.9	262.6	6.8	102.3	70.5	71.2	157.0
1	LPC06006	347800.3	5397139.9	251.4	1.5	96.4	66.2	98.9	232.0
1	LPC06006	347800.3	5397139.9	251.4	1.5	96.4	121.2	141.9	232.0
1	LPC06006	347800.3	5397139.9	251.4	1.5	96.4	166.9	169.2	232.0
1	LPC06007	347794.8	5397184.6	238.6	11.0	94.8	85.0	104.0	226.0
1	LPC06007	347794.8	5397184.6	238.6	11.0	94.8	117.8	125.3	226.0
1	LPC06007	347794.8	5397184.6	238.6	11.0	94.8	130.6	146.2	226.0
1	LPC06008	347937.0	5396682.3	282.4	2.3	90.2	4.1	28.0	56.5
1	LPC06008	347937.0	5396682.3	282.4	2.3	90.2	43.3	56.5	56.5
1	LPC06009	347994.8	5396703.8	287.8	-2.6	71.5	35.1	39.0	75.5
1	LPC06010	347968.4	5396582.5	277.1	6.8	86.4	8.0	48.9	111.0
1	LPC06010	347968.4	5396582.5	277.1	6.8	86.4	72.0	79.0	111.0
1	LPC06011	347955.3	5396486.3	269.4	7.2	93.1	12.0	22.4	90.5
1	LPC06011	347955.3	5396486.3	269.4	7.2	93.1	69.1	73.1	90.5
1	LPC06012	347996.7	5396384.1	264.2	11.9	91.2	32.0	33.0	35.0
1	LPC06012	347996.7	5396384.1	264.2	11.9	91.2	9.0	15.1	35.0
1	LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	71.0	76.0	293.2
1	LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	123.5	137.5	293.2
1	LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	184.3	186.0	293.2
1	LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	232.0	245.5	293.2
1	LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	97.2	143.6	488.3
1	LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	175.1	215.0	488.3
1	LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	220.2	297.3	488.3
1	LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	297.3	352.0	488.3
1	LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	24.0	31.2	278.5

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	66.6	120.7	278.5
1	LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	120.7	145.0	278.5
LP-2013	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	166.9	179.6	278.5
1	LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	219.9	235.2	301.3
1	LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	124.0	132.1	301.3
1	LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	145.4	159.1	301.3
1	LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	265.3	269.0	301.3
1	LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	55.1	61.3	301.3
1	LPDD1215	348123.4	5396480.0	271.8	-57.0	273.3	204.6	252.2	301.4
1	LPDD1215	348123.4	5396480.0	271.8	-57.0	273.3	178.1	189.9	301.4
1	LPDD1218	348088.8	5396580.1	282.3	-60.0	270.0	101.5	232.1	288.1
1	LPDD1218	348088.8	5396580.1	282.3	-60.0	270.0	74.0	81.2	288.1
1	LPDD1220	348083.7	5396676.4	275.6	-52.3	259.3	178.8	207.5	236.6
1	LPDD1220	348083.7	5396676.4	275.6	-52.3	259.3	61.0	165.9	236.6
1	LPDD1223	347995.5	5396772.0	290.5	-73.5	281.0	142.3	201.2	300.0
1	LPDD1223	347995.5	5396772.0	290.5	-73.5	281.0	33.1	103.3	300.0
1	LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	111.9	156.5	270.2
1	LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	79.7	107.0	270.2
1	LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	24.5	52.4	270.2
1	LPDD1229	348007.1	5397181.1	254.7	-60.0	270.0	175.1	183.8	261.8
1	LPDD1229	348007.1	5397181.1	254.7	-60.0	270.0	74.4	83.9	261.8
1	LPDD1301	347991.7	5397130.3	262.2	-61.0	270.0	131.0	167.0	201.8
1	LPDD1301	347991.7	5397130.3	262.2	-61.0	270.0	37.0	48.9	201.8
1	LPDD1302	347992.2	5397130.3	262.1	-71.0	270.0	192.5	203.7	228.7
1	LPDD1302	347992.2	5397130.3	262.1	-71.0	270.0	72.0	78.0	228.7
1	LPDD1306	347795.3	5396931.7	276.3	-47.0	88.6	173.5	243.0	488.2
1	LPDD1306	347795.3	5396931.7	276.3	-47.0	88.6	278.2	300.0	488.2
1	LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	93.0	145.0	260.5
1	LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	158.7	174.0	260.5
1	LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	203.9	209.3	260.5
1	LPDD1309	347948.2	5396780.6	290.5	-69.5	92.7	46.3	172.9	284.7
1	LPDD1309	347948.2	5396780.6	290.5	-69.5	92.7	242.9	257.1	284.7
1	LPDD1310	348081.8	5396676.7	270.0	-74.1	270.0	154.0	309.8	309.8
1	LPDD1311	348070.8	5396534.4	281.9	-70.9	261.2	162.6	241.0	271.6
1	LPDD1311	348070.8	5396534.4	281.9	-70.9	261.2	120.0	129.0	271.6
1	LPDD1312	348090.0	5396160.0	262.5	-65.0	270.0	101.0	153.6	222.2
1	LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	172.0	206.4	298.8
1	LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	170.2	172.0	298.8
1	LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	128.3	166.5	298.8
1	LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	190.0	228.4	283.8
1	LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	150.8	183.1	283.8
1	LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	78.0	119.1	283.8
1	LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	175.3	204.7	312.7
1	LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	83.0	137.2	312.7
1	LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	5.0	43.0	312.7
1	LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	197.6	216.6	303.6
1	LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	140.8	171.3	303.6



LP-2013	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	8.4	39.1	303.6
1	LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	143.7	220.0	245.9
1	LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	112.6	121.0	245.9
1	LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	34.2	69.1	245.9
1	LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	52.3	89.6	156.2
1	LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	37.0	46.7	156.2
1	LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	5.0	23.9	156.2
1	LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	111.0	154.2	181.0
1	LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	78.0	105.0	181.0
1	LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	32.8	46.7	181.0
1	LPDDH101	347945.5	5397030.4	274.9	-50.0	255.0	34.9	80.0	95.0
1	LPDDH101	347945.5	5397030.4	274.9	-50.0	255.0	26.1	28.0	95.0
1	LPDDH102	347896.2	5397018.7	275.8	-50.0	255.0	0.0	10.0	49.0
1	LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	180.6	199.0	199.0
1	LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	144.2	175.6	199.0
1	LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	81.7	96.5	199.0
1	LPRC07001	347942.2	5397124.9	267.4	-60.4	270.1	52.0	125.0	160.0
1	LPRC07001	347942.2	5397124.9	267.4	-60.4	270.1	7.0	36.0	160.0
1	LPRC07002	347936.1	5397080.0	266.9	-70.8	270.2	54.0	119.0	154.0
1	LPRC07002	347936.1	5397080.0	266.9	-70.8	270.2	34.0	45.6	154.0
1	LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	21.0	120.0	184.0
1	LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	123.0	163.0	184.0
1	LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	179.5	184.0	184.0
1	LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	2.1	41.0	160.0
1	LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	54.0	92.0	160.0
1	LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	102.0	121.0	160.0
1	LPRC07005	347908.0	5397133.7	263.9	-60.5	270.0	6.0	70.0	167.0
1	LPRC07006	347896.8	5397082.1	265.9	-70.4	270.4	23.0	66.0	93.0
1	LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	144.0	155.0	220.0
1	LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	29.3	33.3	220.0
1	LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	79.1	88.4	220.0
1	LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	200.0	203.0	220.0
1	LPRC1114	347973.9	5396383.2	266.9	-58.1	273.8	6.0	17.0	103.0
1	LPRC1114	347973.9	5396383.2	266.9	-58.1	273.8	45.0	58.0	103.0
1	LPRC1116	348044.8	5396479.9	281.3	-57.1	269.4	47.0	114.0	200.0
1	LPRC1116	348044.8	5396479.9	281.3	-57.1	269.4	29.0	42.0	200.0
1	LPRC1117	347972.8	5396480.0	274.6	-58.7	273.0	3.5	15.0	100.0
1	LPRC1121	348007.5	5396674.8	290.5	-55.7	266.8	74.0	111.0	196.0
1	LPRC1121	348007.5	5396674.8	290.5	-55.7	266.8	1.5	49.0	196.0
1	LPRC1122	347950.0	5396679.9	287.2	-60.3	269.5	0.0	16.0	106.0
1	LPRC1127	347929.0	5396879.6	292.6	-59.7	276.2	0.0	21.0	100.0
1	LPRC1127	347929.0	5396879.6	292.6	-59.7	276.2	65.0	73.0	100.0
1	LPRC1209	348156.7	5396270.1	258.9	-57.3	262.9	127.0	131.0	131.0
1	LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	135.0	170.0	200.0
1	LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	7.0	22.0	200.0
1	LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	42.3	57.5	200.0
1	LPRC1211	348013.9	5396278.7	258.8	-59.5	277.1	37.0	61.0	88.0



LP-2013	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	LPRC1224	347996.1	5396774.1	290.5	-58.2	272.1	95.6	141.0	200.0
1	LPRC1224	347996.1	5396774.1	290.5	-58.2	272.1	24.8	76.0	200.0
1	LPRC1225	347943.3	5396780.4	290.4	-61.3	276.2	25.4	66.0	100.0
1	LPRC1308	347949.1	5396780.6	290.6	-48.0	92.0	39.3	61.0	166.0
1	LPRC1308	347949.1	5396780.6	290.6	-48.0	92.0	127.0	136.0	166.0
1	LPRC1310	348085.2	5396674.6	275.7	-74.0	270.0	150.8	153.0	153.0
1	LPRC1317	348091.7	5396161.5	262.5	-65.0	90.0	17.0	28.0	149.0
1	LPRC1317	348091.7	5396161.5	262.5	-65.0	90.0	51.0	62.0	149.0
1	MC29	347888.1	5397120.9	263.8	-49.3	258.8	8.0	30.8	348.0
2	rtae1	347991.0	5397143.0	257.0	-45.0	255.0	90.0	145.0	195.0
2	rtae1	347991.0	5397143.0	257.0	-45.0	255.0	72.1	73.0	195.0
2	rtae1	347991.0	5397143.0	257.0	-45.0	255.0	26.0	35.0	195.0



Table 2. South Deposit Drill-hole Intersects as at 31 Dec 2012

SD-2012	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	IMDD001	4422.5	5477.3	310.1	-50.0	278.9	106.3	176.3	206.3
1	IMDD002	4436.8	5362.1	290.7	-50.0	283.4	87.5	104.7	175.3
1	IMDD002	4436.8	5362.1	290.7	-50.0	283.4	104.7	124.6	175.3
1	IMDD003	4348.1	5334.9	298.1	-50.0	271.6	98.2	142.1	167.2
1	IMDD004	4342.2	5410.9	307.2	-49.5	274.3	58.7	85.2	123.0
1	IMDD005	4337.7	5468.9	313.9	-50.0	273.7	130.5	134.5	134.5
1	IMDD006	4242.2	5387.3	307.9	-50.0	273.4	33.0	40.9	87.0
1	IMDD007	4504.0	5262.7	285.4	-50.0	94.3	74.2	85.7	151.5
1	IMDD007	4504.0	5262.7	285.4	-50.0	94.3	85.7	144.3	151.5
1	IMDD008	4237.0	5252.1	310.5	-50.0	299.9	56.6	95.5	95.5
1	IMDD009	4490.8	5427.0	307.2	-58.0	282.3	38.0	45.0	117.3
1	IMDD010	4399.7	5430.0	309.3	-50.0	273.7	38.6	116.9	124.5
1	IMDD011	4398.0	5321.4	295.6	-61.0	274.3	92.6	106.1	141.7
1	IMDD011	4398.0	5321.4	295.6	-61.0	274.3	122.0	127.7	141.7
1	IMDD012	4290.8	5414.7	307.4	-50.2	276.9	40.4	86.1	136.0
1	IMDD013	4553.8	5283.6	258.2	-49.0	93.4	81.8	82.3	136.0
1	IMDD014	4302.5	5305.0	298.4	-49.0	276.7	70.5	125.4	146.8
1	IMDD015	4364.3	5302.2	297.5	-56.1	96.3	93.0	158.0	188.1
1	IMDD016	4257.6	5281.3	304.4	-52.0	94.5	150.1	229.4	239.0
1	IMDD017	4290.9	5395.6	305.0	-51.5	273.4	13.0	59.5	65.5
1	IMDD019	4285.2	5514.7	311.2	-55.0	269.5	196.0	253.3	259.0
1	IMDD019	4285.2	5514.7	311.2	-55.0	269.5	253.3	259.0	259.0
1	IMDD020	4499.1	5306.9	271.5	-50.5	90.4	4.9	24.9	79.5
1	IMDD020	4499.1	5306.9	271.5	-50.5	90.4	24.9	61.8	79.5
1	IMDD021	4295.3	5363.9	301.3	-51.0	265.4	5.7	19.0	264.5
1	IMDD021	4295.3	5363.9	301.3	-51.0	265.4	154.2	209.7	264.5
1	IMDD021	4295.3	5363.9	301.3	-51.0	265.4	209.7	222.5	264.5
1	IMDD021	4295.3	5363.9	301.3	-51.0	265.4	234.0	240.5	264.5
1	IMDD022	4385.4	5505.7	311.4	-52.0	274.4	180.6	219.6	279.5
1	IMDD022	4385.4	5505.7	311.4	-52.0	274.4	219.6	223.3	279.5
1	IMDD023	4394.3	5372.9	303.6	-57.5	278.1	5.5	26.0	234.5
1	IMDD023	4394.3	5372.9	303.6	-57.5	278.1	154.2	179.2	234.5
1	IMDD023	4394.3	5372.9	303.6	-57.5	278.1	187.7	199.2	234.5
1	IMDD024	4203.1	5460.3	313.9	-49.0	274.3	106.1	139.8	149.3
1	IMDD025	4199.9	5240.6	283.5	-54.0	267.5	45.5	111.0	114.3
1	IMDD026	4201.5	5306.4	283.6	-48.0	270.6	124.0	147.1	237.1
1	IMDD026	4201.5	5306.4	283.6	-48.0	270.6	147.1	206.9	237.1
1	IMDD027	4201.3	5500.1	313.3	-56.7	270.2	143.6	200.8	218.7
1	IMDD027	4201.3	5500.1	313.3	-56.7	270.2	200.8	205.1	218.7
1	IMDD029	4131.0	5295.0	301.0	-51.1	268.4	155.2	308.8	345.5
1	IMDD030	4132.9	5249.6	294.9	-51.5	287.4	90.6	98.0	169.7
1	IMDD030	4132.9	5249.6	294.9	-51.5	287.4	121.9	129.0	169.7
1	IMDD030	4132.9	5249.6	294.9	-51.5	287.4	134.5	154.0	169.7
1	IMDD032	4097.3	5224.9	291.6	-46.0	268.5	84.1	90.2	155.5



SD-2012	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	IMDD032	4097.3	5224.9	291.6	-46.0	268.5	100.3	105.9	155.5
1	IMDD033	4095.1	5272.3	294.8	-59.5	89.2	213.9	354.0	390.4
1	IMDD034	4052.8	5250.5	295.6	-54.7	90.4	245.9	313.1	403.9
1	IMDD035	4094.1	5266.1	294.6	-51.0	270.0	133.6	151.2	223.2
1	IMDD035	4094.1	5266.1	294.6	-51.0	270.0	151.2	171.3	223.2
1	IMDD035	4094.1	5266.1	294.6	-51.0	270.0	188.0	196.0	223.2
1	IMDD036	4102.7	5325.8	293.6	-60.0	88.1	105.7	267.0	287.0
1	IMDD038	4055.6	5267.2	295.1	-52.0	270.4	158.5	182.3	244.0
1	IMDD038	4055.6	5267.2	295.1	-52.0	270.4	182.3	193.0	244.0
1	IMDD039	4052.6	5220.6	295.7	-51.0	268.4	98.5	104.5	148.8
1	IMDD039	4052.6	5220.6	295.7	-51.0	268.4	104.5	119.8	148.8
1	SDDD1201	4181.1	5547.6	291.2	-52.3	279.6	190.2	269.5	312.7
1	SDDD1202	4054.7	5301.0	287.9	-57.5	83.4	156.7	236.7	267.7
1	SDDD1203	4129.3	5486.1	292.3	-54.7	277.0	127.0	136.0	136.0
1	SDDD1204	4141.3	5513.1	291.6	-56.2	87.7	168.0	219.2	249.4
1	SDDD1205	4300.0	5096.9	219.7	-46.2	87.4	209.2	229.9	281.6
1	SDDD1205	4300.0	5096.9	219.7	-46.2	87.4	229.9	232.4	281.6
1	SDDD1206	4250.0	5102.0	213.4	-49.4	92.2	159.0	173.8	218.9
1	SDDD1206	4250.0	5102.0	213.4	-49.4	92.2	173.8	177.4	218.9



Table 3. Centre Pit Combined Drill-hole Intersects as at 31 Dec 2018

CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	C88107	6423.0	7651.0	137.0	-90.0	0.0	9.0	18.0	18.0
1	C88108	6421.0	7631.0	141.0	-90.0	0.0	9.7	18.0	18.0
1	C88116	6395.0	7674.0	137.0	-90.0	0.0	0.0	18.8	21.0
1	C88118	6379.0	7439.0	152.0	-90.0	0.0	0.0	2.7	30.0
1	C88119	6380.0	7410.0	152.0	-90.0	0.0	0.0	6.0	30.0
1	C88121	6398.0	7319.0	152.0	-90.0	0.0	2.9	3.0	3.0
1	C88122	6406.0	7344.0	152.0	-90.0	0.0	0.0	30.0	30.0
1	C88123	6410.0	7365.0	152.0	-90.0	0.0	6.0	30.0	30.0
1	C88124	6408.0	7394.0	152.0	-90.0	0.0	0.0	12.0	30.0
1	C88124	6408.0	7394.0	152.0	-90.0	0.0	18.0	30.0	30.0
1	C88126	6425.0	7418.0	142.0	-90.0	0.0	0.0	8.3	12.0
1	C88127	6422.0	7444.0	140.0	-90.0	0.0	0.0	18.0	18.0
1	C88128	6420.0	7471.0	140.0	-90.0	0.0	0.0	9.0	18.0
1	C88128	6420.0	7471.0	140.0	-90.0	0.0	9.0	18.0	18.0
1	C88130	6452.0	7443.0	140.0	-90.0	0.0	0.0	3.0	3.0
1	C88131	6448.0	7413.0	140.0	-90.0	0.0	0.0	18.0	18.0
1	C88132	6452.0	7393.0	142.0	-90.0	0.0	0.0	18.0	18.0
1	C88133	6361.0	7585.0	150.0	-90.0	0.0	24.0	30.0	30.0
1	C88134	6362.0	7565.0	150.0	-90.0	0.0	0.0	30.0	30.0
1	C88135	6369.0	7536.0	150.0	-90.0	0.0	12.0	21.0	30.0
1	C88136	6378.0	7526.0	150.0	-90.0	0.0	0.0	30.0	30.0
1	C88137	6387.0	7519.0	150.0	-90.0	0.0	0.0	30.0	30.0
1	C88139	6391.0	7538.0	150.0	-90.0	0.0	0.0	33.0	33.0
1	C88140	6388.0	7563.0	150.0	-90.0	0.0	0.0	21.0	21.0
1	C88141	6380.0	7587.0	150.0	-90.0	0.0	1.9	33.0	33.0
1	C88142	6362.0	7605.0	150.0	-90.0	0.0	1.0	21.0	30.0
1	C88143	6380.0	7502.0	150.0	-90.0	0.0	21.0	39.0	39.0
1	C88145	6476.0	7639.0	127.0	-90.0	0.0	3.0	21.0	24.0
1	C88145	6476.0	7639.0	127.0	-10.0	90.0	21.0	24.0	24.0
1	C88146	6482.0	7529.0	130.0	-6.0	40.0	0.0	12.0	12.0
1	C88147	6444.0	7389.0	142.0	-90.0	0.0	0.0	6.1	15.0
1	C88148	6425.0	7391.0	141.0	-90.0	0.0	0.0	21.0	21.0
1	C88149	6440.0	7364.0	142.0	-90.0	0.0	0.0	17.4	24.0
1	C88150	6437.0	7342.0	143.0	-90.0	0.0	0.0	3.0	3.0
1	C88151	6435.0	7322.0	145.0	-90.0	0.0	0.0	24.0	24.0
1	C88152	6414.0	7328.0	144.0	-90.0	0.0	0.0	18.0	18.0
1	C88153	6418.0	7350.0	144.0	-90.0	0.0	0.0	21.0	21.0
1	C88154	6422.0	7370.0	144.0	-90.0	0.0	0.0	27.0	27.0
1	C88155	6432.0	7410.0	144.0	-90.0	0.0	0.0	18.0	18.0
1	C88156	6376.0	7366.0	155.0	-90.0	0.0	0.0	24.0	24.0
1	C88157	6375.0	7338.0	155.0	-90.0	0.0	0.0	27.0	27.0
1	C88158	6362.0	7643.0	153.0	-90.0	0.0	0.0	27.0	27.0
1	CD101	6524.2	7226.8	331.1	-45.0	267.8	0.0	30.8	182.9
1	CD101	6524.2	7226.8	331.1	-45.0	267.8	30.8	67.4	182.9
1	CD101	6524.2	7226.8	331.1	-45.0	267.8	67.4	117.3	182.9
1	CD101	6524.2	7226.8	331.1	-45.0	267.8	150.1	155.8	182.9
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	3.7	15.2	167.6
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	22.6	41.8	167.6
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	41.8	48.5	167.6



CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	48.5	70.1	167.6
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	75.3	97.8	167.6
1	CD102	6514.2	7413.3	270.9	-45.0	268.5	107.0	144.8	167.6
1	CD103	6488.9	7043.9	345.7	-45.0	269.0	24.7	45.4	174.7
1	CD103	6488.9	7043.9	345.7	-45.0	269.0	45.4	115.8	174.7
1	CD103	6488.9	7043.9	345.7	-45.0	269.0	132.6	166.1	174.7
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	31.1	36.3	347.6
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	80.8	88.1	347.6
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	163.7	204.8	347.6
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	231.0	272.5	347.6
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	272.5	291.5	347.6
1	CD104	6552.3	6956.8	342.5	-45.0	275.0	316.1	325.5	347.6
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	76.8	111.9	204.2
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	116.4	139.9	204.2
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	139.9	153.6	204.2
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	158.8	174.0	204.2
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	174.0	185.9	204.2
1	CD105	6560.2	7672.7	212.8	-45.0	268.1	192.0	204.2	204.2
1	CD106	6440.1	7583.7	217.4	-45.0	91.5	7.9	12.3	158.8
1	CD106	6440.1	7583.7	217.4	-45.0	91.5	34.1	39.8	158.8
1	CD106	6440.1	7583.7	217.4	-45.0	91.5	112.5	118.3	158.8
1	CD106	6440.1	7583.7	217.4	-45.0	91.5	135.0	155.4	158.8
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	9.8	18.0	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	28.3	34.1	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	109.4	120.7	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	135.6	161.8	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	161.8	173.4	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	173.4	183.5	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	183.5	197.2	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	200.2	211.5	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	222.8	245.7	285.0
1	CD108	6600.4	7413.3	266.9	-45.0	270.0	245.7	270.1	285.0
1	CD109	6407.5	6876.3	323.0	-61.0	270.0	0.7	16.1	142.6
1	CD109	6407.5	6876.3	323.0	-61.0	270.0	46.3	62.2	142.6
1	CD109	6407.5	6876.3	323.0	-61.0	270.0	66.3	67.0	142.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	0.0	3.6	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	46.0	59.3	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	59.3	132.3	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	152.4	192.9	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	199.0	208.8	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	221.6	255.7	303.6
1	CD110	6406.3	6790.6	321.8	-55.0	270.0	271.3	298.7	303.6
1	CD111	6600.1	7587.1	226.0	-45.0	270.0	1.2	22.9	152.4
1	CD111	6600.1	7587.1	226.0	-45.0	270.0	103.6	107.9	152.4
1	CD112	6363.0	6690.4	306.7	-45.0	270.0	12.2	32.9	142.3
1	CD112	6363.0	6690.4	306.7	-45.0	270.0	52.1	142.3	142.3
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	66.4	71.6	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	180.1	194.5	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	194.5	208.2	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	252.1	255.7	359.7



CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	255.7	263.3	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	300.8	306.3	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	309.4	323.4	359.7
1	CD113	6578.8	7043.9	332.2	-45.0	270.0	327.7	348.1	359.7
1	CD114	6286.5	6461.8	315.5	-45.0	270.0	47.9	72.4	227.4
1	CD114	6286.5	6461.8	315.5	-45.0	270.0	72.4	104.9	227.4
1	CD114	6286.5	6461.8	315.5	-45.0	270.0	139.0	187.4	227.4
1	CD114	6286.5	6461.8	315.5	-45.0	270.0	199.2	217.9	227.4
1	CD115	6298.1	6598.0	308.5	-55.0	270.0	48.5	128.6	128.6
1	CD116	6221.6	6371.2	304.9	-55.0	270.0	29.3	37.2	274.3
1	CD116	6221.6	6371.2	304.9	-55.0	270.0	37.2	88.1	274.3
1	CD116	6221.6	6371.2	304.9	-55.0	270.0	100.0	123.1	274.3
1	CD116	6221.6	6371.2	304.9	-55.0	270.0	196.6	228.9	274.3
1	CD117	6614.2	7142.7	308.6	-55.0	270.0	125.0	128.9	335.3
1	CD117	6614.2	7142.7	308.6	-55.0	270.0	152.7	167.9	335.3
1	CD117	6614.2	7142.7	308.6	-55.0	270.0	264.0	274.3	335.3
1	CD117	6614.2	7142.7	308.6	-55.0	270.0	308.5	317.3	335.3
1	CD117	6614.2	7142.7	308.6	-55.0	270.0	321.6	335.3	335.3
1	CD118	6607.1	7227.4	309.8	-45.0	270.0	115.8	151.8	243.8
1	CD118	6607.1	7227.4	309.8	-45.0	270.0	174.7	198.3	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	47.2	51.5	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	59.7	63.6	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	71.3	88.1	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	98.5	118.0	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	118.0	133.2	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	139.3	189.3	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	201.5	206.7	243.8
1	CD119	6141.4	6186.8	272.8	-55.0	270.0	210.3	238.7	243.8
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	6.7	15.5	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	32.3	37.5	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	46.6	47.2	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	47.2	49.0	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	49.0	58.8	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	82.9	93.9	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	108.5	144.8	221.1
1	CD120	6187.4	6746.4	269.0	-45.0	90.0	192.9	212.8	221.1
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	4.6	18.3	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	24.7	35.0	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	39.6	101.8	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	101.8	134.1	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	134.1	167.1	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	167.1	175.6	323.4
1	CD121	6398.4	7326.0	314.0	-55.0	90.0	249.9	269.7	323.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	0.0	10.3	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	10.3	25.6	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	85.1	93.6	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	105.2	128.9	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	128.9	147.0	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	147.0	155.3	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	155.3	167.7	314.4

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	174.7	199.6	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	207.0	237.7	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	278.7	281.1	314.4
1	CD200101	6355.7	7640.3	99.7	-54.3	88.3	289.9	299.5	314.4
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	0.0	16.2	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	64.8	102.5	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	102.5	127.4	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	127.4	146.8	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	150.3	167.7	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	167.7	171.4	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	191.5	205.5	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	205.5	226.0	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	231.0	258.0	304.5
1	CD200102	6346.0	7689.6	105.1	-49.3	90.0	263.2	274.0	304.5
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	2.6	19.6	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	70.3	92.6	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	92.6	114.4	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	120.6	139.7	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	146.0	158.5	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	181.0	215.5	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	216.9	217.1	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	223.7	246.4	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	250.4	262.2	326.8
1	CD200103	6336.0	7740.0	110.1	-50.0	93.2	270.8	317.4	326.8
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	47.4	54.6	281.4
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	54.6	72.7	281.4
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	80.6	110.8	281.4
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	132.3	139.1	281.4
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	139.1	150.6	281.4
1	CD200104	6353.1	7840.1	111.3	-48.7	88.0	252.2	255.1	281.4
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	0.0	12.4	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	59.3	76.4	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	80.5	82.5	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	87.6	101.6	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	113.2	157.0	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	157.0	166.4	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	166.4	176.0	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	193.6	225.2	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	225.2	240.2	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	242.5	254.1	292.7
1	CD200105	6346.3	7890.4	112.0	-48.3	88.6	267.9	271.9	292.7
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	51.3	52.4	270.1
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	53.7	85.2	270.1
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	93.4	99.4	270.1
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	134.1	136.7	270.1
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	187.6	212.3	270.1
1	CD200106	6354.0	7815.2	110.5	-48.2	96.0	234.1	255.0	270.1
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	0.0	3.9	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	58.9	61.6	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	116.8	124.9	275.7



CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	130.2	147.0	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	156.6	179.9	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	179.9	208.6	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	232.7	233.6	275.7
1	CD200107	6355.6	7940.2	112.2	-47.8	89.2	235.6	245.0	275.7
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	0.0	12.0	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	63.3	84.3	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	113.0	123.5	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	147.6	166.5	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	166.5	175.1	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	197.9	198.4	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	198.4	199.1	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	200.0	230.7	250.0
1	CD200108	6361.0	7990.0	112.0	-50.0	90.0	241.4	244.8	250.0
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	2.4	2.5	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	13.0	19.8	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	72.3	93.7	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	120.8	130.3	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	153.5	171.8	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	171.8	179.9	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	202.4	232.6	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	243.3	246.2	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	263.2	290.2	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	305.7	321.1	363.2
1	CD200109	6353.7	7990.1	112.9	-48.1	89.4	321.1	345.8	363.2
1	CD200201	5921.4	6000.0	224.2	-45.1	92.4	39.3	50.4	280.2
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	60.4	66.6	252.0
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	133.3	150.4	252.0
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	158.2	161.0	252.0
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	162.0	173.2	252.0
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	178.7	199.8	252.0
1	CD200301	6197.1	6140.1	249.3	-42.0	270.2	218.1	243.8	252.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	112.4	115.5	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	120.7	141.9	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	141.9	142.4	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	142.4	142.6	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	150.7	185.3	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	196.7	202.7	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	202.7	213.2	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	231.7	247.7	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	247.7	259.6	293.0
1	CD200302	5899.0	6189.6	206.5	-43.6	91.4	277.1	280.9	293.0
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	120.4	139.9	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	156.8	165.0	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	191.4	202.7	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	202.7	214.2	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	221.5	250.1	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	250.1	266.8	297.4
1	CD200303	5899.3	6235.1	201.3	-44.0	90.0	284.9	290.9	297.4
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	1.2	16.5	190.0

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	32.3	32.5	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	42.3	45.7	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	76.8	88.7	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	88.7	94.2	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	108.4	131.3	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	131.3	144.4	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	144.4	158.2	190.0
1	CD200304	6015.9	6274.0	158.1	-55.4	91.4	172.7	182.8	190.0
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	2.3	3.3	196.1
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	56.4	72.9	196.1
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	80.8	102.8	196.1
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	107.6	143.8	196.1
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	149.9	164.6	196.1
1	CD200305	6029.6	6323.0	156.7	-50.1	89.2	172.0	177.5	196.1
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	15.4	23.3	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	51.0	74.2	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	104.0	112.5	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	120.3	140.4	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	153.9	164.7	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	167.3	174.8	199.7
1	CD200306	6048.3	6371.6	156.7	-51.0	90.0	181.5	191.7	199.7
1	CD200307	6006.7	6419.9	180.6	-51.0	90.0	140.0	160.5	280.0
1	CD200307	6006.7	6419.9	180.6	-51.0	90.0	190.8	202.2	280.0
1	CD200307	6006.7	6419.9	180.6	-51.0	90.0	222.2	260.3	280.0
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	155.9	166.3	286.9
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	174.5	199.7	286.9
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	214.5	219.0	286.9
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	219.0	234.6	286.9
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	234.6	246.3	286.9
1	CD200308	6012.2	6461.9	177.3	-52.7	92.5	259.4	275.4	286.9
1	CD200309	6096.8	6090.8	237.7	-38.7	269.3	55.8	57.0	202.1
1	CD200309	6096.8	6090.8	237.7	-38.7	269.3	67.5	72.4	202.1
1	CD200309	6096.8	6090.8	237.7	-38.7	269.3	128.6	133.7	202.1
1	CD200309	6096.8	6090.8	237.7	-38.7	269.3	181.0	195.8	202.1
1	CD200310	6312.8	6321.3	265.0	-45.0	270.0	56.9	75.4	91.0
1	CD200310	6312.8	6321.3	265.0	-45.0	270.0	89.1	91.0	91.0
1	CD200401	6131.0	6641.3	155.5	-50.5	90.0	59.8	61.9	216.0
1	CD200401	6131.0	6641.3	155.5	-50.5	90.0	95.8	100.3	216.0
1	CD200401	6131.0	6641.3	155.5	-50.5	90.0	100.3	120.0	216.0
1	CD200401	6131.0	6641.3	155.5	-50.5	90.0	122.4	152.5	216.0
1	CD200401	6131.0	6641.3	155.5	-50.5	90.0	168.7	177.7	216.0
1	CD200402	6078.9	6553.3	165.8	-50.0	90.0	96.0	102.7	280.5
1	CD200402	6078.9	6553.3	165.8	-50.0	90.0	116.6	136.7	280.5
1	CD200402	6078.9	6553.3	165.8	-50.0	90.0	141.7	166.5	280.5
1	CD200402	6078.9	6553.3	165.8	-50.0	90.0	166.5	186.8	280.5
1	CD200402	6078.9	6553.3	165.8	-50.0	90.0	212.2	220.1	280.5
1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	53.5	64.6	249.9
1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	89.4	118.8	249.9
1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	118.8	120.8	249.9
1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	157.2	178.5	249.9



1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	210.5	218.2	249.9
1	CD200403	6156.6	6705.3	149.1	-50.0	102.0	235.7	239.7	249.9
1	CD201	6407.2	6876.3	322.9	-55.0	270.0	0.4	13.1	46.9
1	CD201	6407.2	6876.3	322.9	-55.0	270.0	30.2	46.9	46.9
1	CD202	6319.4	6868.1	299.9	-55.0	270.0	0.0	20.9	47.2
1	CD202	6319.4	6868.1	299.9	-55.0	270.0	32.6	47.2	47.2
1	CD203	6255.7	6868.1	287.1	-55.0	90.0	1.4	39.2	61.0
1	CD203	6255.7	6868.1	287.1	-55.0	90.0	39.2	57.4	61.0
1	CD20303	6425.0	7674.0	137.0	-90.0	0.0	14.8	17.5	21.0
1	CD20303	6425.0	7674.0	137.0	-90.0	0.0	20.8	21.0	21.0
1	CD204	6255.1	6868.1	287.1	-55.0	270.0	13.4	63.4	63.4
1	CD205	6394.4	6952.5	321.7	-45.0	90.0	18.0	31.4	48.2
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD205	6394.4	6952.5	321.7	-45.0	90.0	31.4	42.1	48.2
1	CD206	6363.9	6952.5	309.6	-45.0	90.0	0.0	7.1	57.3
1	CD206	6363.9	6952.5	309.6	-45.0	90.0	19.3	37.8	57.3
1	CD206	6363.9	6952.5	309.6	-45.0	90.0	52.1	52.8	57.3
1	CD206	6363.9	6952.5	309.6	-45.0	90.0	52.8	53.6	57.3
1	CD206	6363.9	6952.5	309.6	-45.0	90.0	53.6	57.3	57.3
1	CD207	6340.0	6954.0	301.1	-45.0	90.0	0.0	15.8	59.4
1	CD207	6340.0	6954.0	301.1	-45.0	90.0	20.0	39.8	59.4
1	CD207	6340.0	6954.0	301.1	-45.0	90.0	44.1	56.2	59.4
1	CD208	6544.1	7043.9	343.3	-45.0	270.0	16.2	19.5	85.6
1	CD209	6438.9	7045.1	336.0	-45.0	270.0	0.0	39.6	45.7
1	CD209	6438.9	7045.1	336.0	-45.0	270.0	44.2	45.7	45.7
1	CD210	6400.5	7044.2	329.8	-45.0	270.0	0.0	11.9	47.5
1	CD210	6400.5	7044.2	329.8	-45.0	270.0	29.3	39.0	47.5
1	CD211	6496.2	7134.8	346.2	-45.0	270.0	0.6	11.6	57.9
1	CD211	6496.2	7134.8	346.2	-45.0	270.0	16.2	21.6	57.9
1	CD211	6496.2	7134.8	346.2	-45.0	270.0	34.4	48.5	57.9
1	CD212	6456.6	7135.4	336.2	-45.0	270.0	0.0	33.8	33.8
1	CD213	6434.9	7135.3	330.9	-45.0	270.0	0.0	20.2	46.9
1	CD213	6434.9	7135.3	330.9	-45.0	270.0	20.2	36.9	46.9
1	CD213	6434.9	7135.3	330.9	-45.0	270.0	36.9	46.9	46.9
1	CD215	6324.0	6788.0	301.3	-45.0	90.0	39.3	46.0	46.0
1	CD216	6489.5	7618.8	240.5	-60.0	270.0	12.8	25.0	76.2
1	CD216	6489.5	7618.8	240.5	-60.0	270.0	25.0	67.4	76.2
1	CD217	6294.7	6787.3	296.8	-45.0	90.0	39.3	51.5	52.1
1	CD218	6266.4	6787.9	288.8	-45.0	90.0	14.3	20.4	60.4
1	CD218	6266.4	6787.9	288.8	-45.0	90.0	32.6	60.4	60.4
1	CD219	6452.0	7323.0	323.6	-45.0	270.0	10.1	41.1	64.9
1	CD219	6452.0	7323.0	323.6	-45.0	270.0	49.4	57.0	64.9
1	CD219	6452.0	7323.0	323.6	-45.0	270.0	59.7	64.9	64.9
1	CD220	6232.6	6786.1	281.2	-45.0	90.0	31.7	39.9	51.8
1	CD220	6232.6	6786.1	281.2	-45.0	90.0	43.6	51.8	51.8
1	CD221	6496.0	7321.0	318.6	-45.0	270.0	19.2	50.9	62.5
1	CD221	6496.0	7321.0	318.6	-45.0	270.0	58.8	62.5	62.5
1	CD222	6181.0	6789.0	264.2	-45.0	90.0	17.1	28.0	54.9
1	CD222	6181.0	6789.0	264.2	-45.0	90.0	51.3	54.9	54.9
1	CD223	6552.0	7228.6	324.9	-45.0	270.0	1.8	42.7	42.7
1	CD224	6472.0	7227.0	336.4	-45.0	270.0	1.2	12.5	57.6



1	CD224	6472.0	7227.0	336.4	-45.0	270.0	23.8	55.5	57.6
1	CD226	6415.7	7410.0	305.5	-55.0	270.0	13.7	33.5	82.3
1	CD226	6415.7	7410.0	305.5	-55.0	270.0	45.7	59.1	82.3
1	CD227	6279.5	6690.0	287.5	-55.0	270.0	0.0	25.3	106.7
1	CD227	6279.5	6690.0	287.5	-55.0	270.0	25.3	49.9	106.7
1	CD227	6279.5	6690.0	287.5	-55.0	270.0	55.8	106.7	106.7
1	CD228	6448.3	7419.0	311.2	-55.0	270.0	0.0	10.1	70.1
1	CD228	6448.3	7419.0	311.2	-55.0	270.0	18.6	38.1	70.1
1	CD228	6448.3	7419.0	311.2	-55.0	270.0	43.3	62.8	70.1
1	CD229	6444.4	7272.5	329.8	-45.0	270.0	0.0	36.9	97.5
1	CD229	6444.4	7272.5	329.8	-45.0	270.0	37.4	42.4	97.5
1	CD229	6444.4	7272.5	329.8	-45.0	270.0	53.9	61.0	97.5
1	CD229	6444.4	7272.5	329.8	-45.0	270.0	79.5	91.4	97.5
1	CD229	6444.4	7272.5	329.8	-45.0	270.0	97.5	97.5	97.5
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD230	6435.2	7226.8	331.9	-45.0	270.0	49.7	54.6	82.9
1	CD231	6504.7	7273.1	324.9	-45.0	270.0	16.8	34.7	92.7
1	CD231	6504.7	7273.1	324.9	-45.0	270.0	34.7	72.5	92.7
1	CD231	6504.7	7273.1	324.9	-45.0	270.0	72.5	87.5	92.7
1	CD232	6241.4	6605.3	291.9	-55.0	270.0	0.0	6.4	70.4
1	CD233	6537.0	7272.8	316.9	-45.0	270.0	23.8	80.2	80.2
1	CD234	6432.5	7364.0	315.3	-45.0	270.0	4.0	29.3	61.9
1	CD234	6432.5	7364.0	315.3	-45.0	270.0	32.6	44.2	61.9
1	CD234	6432.5	7364.0	315.3	-45.0	270.0	59.4	61.9	61.9
1	CD235	6285.6	6915.6	287.0	-45.0	90.0	0.0	15.1	91.7
1	CD235	6285.6	6915.6	287.0	-45.0	90.0	17.3	33.7	91.7
1	CD235	6285.6	6915.6	287.0	-45.0	90.0	45.3	77.9	91.7
1	CD235	6285.6	6915.6	287.0	-45.0	90.0	77.9	78.0	91.7
1	CD235	6285.6	6915.6	287.0	-45.0	90.0	78.0	89.6	91.7
1	CD236	6358.1	6830.3	303.0	-45.0	90.0	0.0	13.4	91.6
1	CD236	6358.1	6830.3	303.0	-45.0	90.0	39.0	51.2	91.6
1	CD237	6479.7	7089.0	342.9	-45.0	90.0	10.1	26.2	91.4
1	CD237	6479.7	7089.0	342.9	-45.0	90.0	36.4	36.9	91.4
1	CD237	6479.7	7089.0	342.9	-45.0	90.0	57.6	71.3	91.4
1	CD238	6348.1	6915.6	309.8	-45.0	90.0	0.0	4.5	99.4
1	CD238	6348.1	6915.6	309.8	-45.0	90.0	7.2	51.2	99.4
1	CD238	6348.1	6915.6	309.8	-45.0	90.0	62.6	65.0	99.4
1	CD238	6348.1	6915.6	309.8	-45.0	90.0	74.7	86.4	99.4
1	CD239	6281.3	6553.5	310.2	-55.0	270.0	17.4	39.3	79.3
1	CD239	6281.3	6553.5	310.2	-55.0	270.0	65.8	79.3	79.3
1	CD240	6192.3	6545.0	277.0	-55.0	270.0	16.9	59.7	59.7
1	CD241	6296.0	6640.0	296.8	-45.0	90.0	11.6	22.9	56.1
1	CD241	6296.0	6640.0	296.8	-45.0	90.0	39.6	44.9	56.1
1	CD242	6178.3	6420.6	290.6	-45.0	90.0	0.0	1.2	91.4
1	CD242	6178.3	6420.6	290.6	-45.0	90.0	29.6	40.8	91.4
1	CD242	6178.3	6420.6	290.6	-45.0	90.0	40.9	71.9	91.4
1	CD243	6242.3	6553.2	298.4	-55.0	270.0	0.0	15.2	103.6
1	CD243	6242.3	6553.2	298.4	-55.0	270.0	36.7	94.2	103.6
1	CD244	6203.0	6509.0	281.5	-45.0	90.0	0.0	4.1	82.6
1	CD244	6203.0	6509.0	281.5	-45.0	90.0	10.7	18.9	82.6
1	CD245	6419.7	7090.0	327.8	-45.0	90.0	3.1	14.9	91.7



1	CD245	6419.7	7090.0	327.8	-45.0	90.0	14.9	27.4	91.7
1	CD245	6419.7	7090.0	327.8	-45.0	90.0	42.7	70.7	91.7
1	CD246	6495.3	7354.5	301.4	-45.0	270.0	2.3	15.2	91.7
1	CD246	6495.3	7354.5	301.4	-45.0	270.0	15.2	49.4	91.7
1	CD246	6495.3	7354.5	301.4	-45.0	270.0	53.9	76.2	91.7
1	CD246	6495.3	7354.5	301.4	-45.0	270.0	76.2	91.7	91.7
1	CD247	6497.1	7357.0	301.2	-55.0	90.0	0.0	22.9	91.4
1	CD247	6497.1	7357.0	301.2	-55.0	90.0	37.8	50.9	91.4
1	CD247	6497.1	7357.0	301.2	-55.0	90.0	58.8	86.3	91.4
1	CD247	6497.1	7357.0	301.2	-55.0	90.0	86.5	86.7	91.4
1	CD248	6379.8	7001.0	320.3	-45.0	90.0	0.0	10.7	91.4
1	CD248	6379.8	7001.0	320.3	-45.0	90.0	21.3	34.4	91.4
1	CD248	6379.8	7001.0	320.3	-45.0	90.0	46.6	55.2	91.4
1	CD248	6379.8	7001.0	320.3	-45.0	90.0	55.2	91.4	91.4
1	CD249	6315.5	7002.0	290.3	-45.0	90.0	0.0	12.2	91.4
1	CD249	6315.5	7002.0	290.3	-45.0	90.0	12.2	24.4	91.4
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD249	6315.5	7002.0	290.3	-45.0	90.0	24.4	57.9	91.4
1	CD249	6315.5	7002.0	290.3	-45.0	90.0	63.4	71.6	91.4
1	CD249	6315.5	7002.0	290.3	-45.0	90.0	76.8	82.9	91.4
1	CD250	6354.8	7090.0	311.1	-45.0	90.0	23.3	60.0	80.5
1	CD250	6354.8	7090.0	311.1	-45.0	90.0	67.4	74.4	80.5
1	CD251	6299.0	7090.9	296.1	-45.0	90.0	7.3	54.3	91.4
1	CD252	6452.3	7184.1	336.6	-45.0	270.0	29.6	63.4	97.5
1	CD254	6552.0	7180.0	328.8	-43.0	270.0	6.4	46.6	79.2
1	CD254	6552.0	7180.0	328.8	-43.0	270.0	46.6	62.8	79.2
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	9.8	22.1	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	35.1	44.2	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	49.2	54.9	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	62.3	81.7	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	104.5	112.9	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	124.8	136.6	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	136.6	146.4	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	155.0	169.6	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	183.5	188.6	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	199.3	208.5	243.8
1	CD302	6006.1	6324.3	231.6	-45.0	90.0	222.5	226.9	243.8
1	CD303	6113.0	6416.0	269.6	-45.0	90.0	30.6	46.0	201.2
1	CD303	6113.0	6416.0	269.6	-45.0	90.0	92.0	99.5	201.2
1	CD303	6113.0	6416.0	269.6	-45.0	90.0	99.5	105.3	201.2
1	CD303	6113.0	6416.0	269.6	-45.0	90.0	105.3	130.9	201.2
1	CD303	6113.0	6416.0	269.6	-45.0	90.0	145.1	154.2	201.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	8.2	41.5	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	85.8	91.1	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	97.5	125.3	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	145.5	148.0	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	148.0	172.7	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	172.7	201.9	204.2
1	CD305	6128.0	6599.0	247.8	-47.0	90.0	234.2	238.3	204.2
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	11.3	22.1	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	33.5	61.7	243.8



1	CD307	6136.8	6681.8	238.1	-45.0	90.0	80.9	96.5	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	106.4	134.0	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	137.0	145.7	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	145.7	163.1	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	163.1	173.4	243.8
1	CD307	6136.8	6681.8	238.1	-45.0	90.0	214.6	234.2	243.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	13.1	15.8	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	25.3	47.5	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	47.5	78.0	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	84.9	111.6	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	113.1	123.3	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	162.5	195.2	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	206.6	222.2	286.8
1	CD308	6220.0	6830.0	274.7	-48.0	90.0	250.1	254.7	286.8
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	6.1	37.8	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	44.2	81.1	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	83.9	87.8	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	92.2	122.7	240.2
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	171.8	174.1	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	174.4	191.3	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	203.6	208.7	240.2
1	CD309	6224.0	6900.0	273.3	-45.0	90.0	212.9	240.2	240.2
1	CD401	6526.0	7002.0	301.3	-60.0	90.0	6.8	7.3	119.4
1	CD401	6526.0	7002.0	301.3	-60.0	90.0	106.2	119.4	119.4
1	CD403	6438.0	6990.0	265.0	-45.0	90.0	0.0	13.0	171.7
1	CD403	6438.0	6990.0	265.0	-45.0	90.0	83.1	88.4	171.7
1	CD403	6438.0	6990.0	265.0	-45.0	90.0	109.5	118.0	171.7
1	CD405	6302.0	7318.0	241.0	-55.0	90.0	110.8	125.5	180.0
1	CD405	6302.0	7318.0	241.0	-55.0	90.0	153.7	172.1	180.0
1	CD405	6302.0	7318.0	241.0	-55.0	90.0	172.2	180.0	180.0
1	CD406	6268.0	6811.0	228.6	-45.0	270.0	5.8	52.6	100.8
1	CD406	6268.0	6811.0	228.6	-45.0	270.0	54.6	77.0	100.8
1	CD407	6457.0	7182.0	221.0	-60.0	90.0	11.7	66.6	168.5
1	CD409	6482.0	7631.0	202.0	-50.0	270.0	0.0	5.5	152.9
1	CD409	6482.0	7631.0	202.0	-50.0	270.0	5.5	61.3	152.9
1	CD409	6482.0	7631.0	202.0	-50.0	270.0	92.9	98.2	152.9
1	CD410	6485.0	7440.0	206.0	-60.0	90.0	7.5	10.3	163.1
1	CD410	6485.0	7440.0	206.0	-60.0	90.0	10.3	22.0	163.1
1	CD410	6485.0	7440.0	206.0	-60.0	90.0	39.5	47.1	163.1
1	CD410	6485.0	7440.0	206.0	-60.0	90.0	66.8	78.4	163.1
1	CD411	6297.0	6690.0	231.0	-60.0	90.0	0.0	9.0	150.0
1	CD411	6297.0	6690.0	231.0	-60.0	90.0	9.7	25.5	150.0
1	CD411	6297.0	6690.0	231.0	-60.0	90.0	40.7	49.5	150.0
1	CD411	6297.0	6690.0	231.0	-60.0	90.0	123.5	135.4	150.0
1	CD412	6253.0	6416.0	267.0	-50.0	90.0	45.9	49.7	115.7
1	CD412	6253.0	6416.0	267.0	-50.0	90.0	94.8	100.2	115.7
1	CD413	6135.0	6788.0	233.0	-55.0	90.0	141.3	151.9	169.9
1	CD414	6539.0	7172.5	272.7	-60.0	90.0	10.8	20.2	128.0
1	CD414	6539.0	7172.5	272.7	-60.0	90.0	27.3	61.5	128.0
1	CD501	6134.5	6461.4	239.2	-50.0	270.0	0.0	34.8	115.5



1	CD502	6040.6	6186.9	238.6	-55.0	270.0	20.4	43.6	140.0
1	CD502	6040.6	6186.9	238.6	-55.0	270.0	43.7	52.1	140.0
1	CD502	6040.6	6186.9	238.6	-55.0	270.0	60.9	90.4	140.0
1	CD504	6487.0	7416.2	194.3	-45.0	270.0	0.0	4.0	134.0
1	CD504	6487.0	7416.2	194.3	-45.0	270.0	6.5	23.4	134.0
1	CD504	6487.0	7416.2	194.3	-45.0	270.0	23.4	57.0	134.0
1	CD504	6487.0	7416.2	194.3	-45.0	270.0	68.2	86.5	134.0
1	CD504	6487.0	7416.2	194.3	-45.0	270.0	103.3	107.0	134.0
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	0.0	23.5	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	27.6	33.5	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	41.4	61.5	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	68.0	87.9	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	94.3	97.7	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	97.7	109.8	136.4
1	CD506	6014.1	6186.8	238.1	-50.0	90.0	114.2	125.3	136.4
1	CD507	6446.2	7675.1	178.8	-45.0	90.0	0.0	3.1	101.6
1	CD507	6446.2	7675.1	178.8	-45.0	90.0	3.1	16.8	101.6
1	CD507	6446.2	7675.1	178.8	-45.0	90.0	16.8	91.9	101.6
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	16.9	52.0	116.1
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	52.0	65.0	116.1
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	65.0	65.2	116.1
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	65.2	73.8	116.1
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	74.2	81.2	116.1
1	CD508	6453.3	7497.9	184.5	-50.0	90.0	81.2	106.2	116.1
1	CD509	6200.0	6502.9	223.3	-55.0	90.0	0.0	12.3	29.0
1	CD509	6200.0	6502.9	223.3	-55.0	90.0	13.1	19.3	29.0
1	CD510	6435.7	7227.5	199.1	-50.0	270.0	0.0	16.3	81.9
1	CD510	6435.7	7227.5	199.1	-50.0	270.0	25.8	30.0	81.9
1	CD511	6321.7	6954.0	204.5	-60.0	270.0	3.0	24.9	66.7
1	CD512	6438.5	7225.5	198.3	-45.0	90.0	0.0	5.5	143.0
1	CD512	6438.5	7225.5	198.3	-45.0	90.0	5.5	13.8	143.0
1	CD512	6438.5	7225.5	198.3	-45.0	90.0	16.8	51.6	143.0
1	CD512	6438.5	7225.5	198.3	-45.0	90.0	82.8	92.8	143.0
1	CD513	6233.3	6690.5	209.7	-50.0	270.0	0.0	28.2	80.5
1	CD513	6233.3	6690.5	209.7	-50.0	270.0	39.5	53.5	80.5
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	0.0	7.9	146.0
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	15.0	41.0	146.0
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	45.9	50.5	146.0
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	54.1	82.0	146.0
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	103.6	112.9	146.0
1	CD514	6344.5	7000.0	203.7	-45.0	90.0	122.3	135.7	146.0
1	CD515	6078.4	6277.7	238.9	-55.0	270.0	17.0	67.0	104.3
1	CD515	6078.4	6277.7	238.9	-55.0	270.0	88.1	96.4	104.3
1	CD516	6119.4	6415.4	240.4	-60.0	90.0	10.7	16.7	151.2
1	CD516	6119.4	6415.4	240.4	-60.0	90.0	56.5	75.2	151.2
1	CD516	6119.4	6415.4	240.4	-60.0	90.0	86.9	100.7	151.2
1	CD516	6119.4	6415.4	240.4	-60.0	90.0	116.6	140.6	151.2
1	CD517	5898.0	6000.0	222.5	-40.0	90.0	63.6	72.2	152.4
1	CD517	5898.0	6000.0	222.5	-40.0	90.0	81.8	85.4	152.4
1	CD520	5968.0	6096.2	213.2	-40.0	90.0	21.9	38.1	158.3

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	CD520	5968.0	6096.2	213.2	-40.0	90.0	48.8	54.9	158.3
1	CD520	5968.0	6096.2	213.2	-40.0	90.0	84.5	103.5	158.3
1	CD520	5968.0	6096.2	213.2	-40.0	90.0	116.2	134.3	158.3
1	CD601	6222.0	6645.0	209.0	-45.0	90.0	3.5	29.2	117.1
1	CD601	6222.0	6645.0	209.0	-45.0	90.0	49.8	83.3	117.1
1	CD601	6222.0	6645.0	209.0	-45.0	90.0	83.3	94.4	117.1
1	CD602	6173.0	6503.0	213.0	-45.0	270.0	0.0	19.3	146.6
1	CD602	6173.0	6503.0	213.0	-45.0	270.0	56.1	68.3	146.6
1	CD603	6135.8	6417.0	214.7	-45.0	270.0	78.0	81.5	140.0
1	CD604	6332.0	6689.4	243.2	-50.0	90.0	11.3	26.5	113.3
1	CD604	6332.0	6689.4	243.2	-50.0	90.0	99.6	100.7	113.3
1	CD605	6424.1	7586.0	170.8	-45.0	270.0	60.6	83.9	151.0
1	CD605	6424.1	7586.0	170.8	-45.0	270.0	92.0	106.3	151.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	9.0	15.6	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	31.1	50.0	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	50.0	59.7	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	127.5	141.2	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	150.5	155.1	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	155.1	162.3	184.0
1	CD606	6424.1	7586.0	170.8	-45.0	90.0	174.6	180.1	184.0
1	CD607	6398.3	7181.3	187.5	-45.0	270.0	49.6	61.5	149.5
1	CD608	6360.0	7090.2	190.9	-40.0	90.0	49.0	58.7	169.5
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD608	6360.0	7090.2	190.9	-40.0	90.0	75.9	83.8	169.5
1	CD608	6360.0	7090.2	190.9	-40.0	90.0	107.4	108.7	169.5
1	CD609	6360.0	7090.2	190.9	-45.0	270.0	0.2	13.0	91.8
1	CD611	6349.2	6832.0	229.5	-40.0	90.0	6.4	17.8	140.0
1	CD611	6349.2	6832.0	229.5	-40.0	90.0	77.6	84.8	140.0
1	CD611	6349.2	6832.0	229.5	-40.0	90.0	121.0	126.0	140.0
1	CD612	6410.0	7498.5	173.2	-40.0	270.0	65.5	70.5	97.4
1	CD613	6436.0	7090.0	222.5	-40.0	90.0	17.6	31.8	169.0
1	CD613	6436.0	7090.0	222.5	-40.0	90.0	75.4	84.4	169.0
1	CD613	6436.0	7090.0	222.5	-40.0	90.0	117.2	125.2	169.0
1	CD614	6149.0	6279.5	230.3	-40.0	90.0	0.5	23.6	118.0
1	CD614	6149.0	6279.5	230.3	-40.0	90.0	31.8	37.4	118.0
1	CD614	6149.0	6279.5	230.3	-40.0	90.0	94.6	96.3	118.0
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	6.3	20.7	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	49.4	68.7	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	69.2	82.0	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	106.7	113.5	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	126.7	130.0	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	144.6	152.4	194.3
1	CD701	6444.2	7539.5	172.3	-45.0	90.0	167.2	172.2	194.3
1	CD702	6427.0	7440.0	174.3	-45.0	90.0	0.0	34.5	119.1
1	CD702	6427.0	7440.0	174.3	-45.0	90.0	34.5	55.6	119.1
1	CD702	6427.0	7440.0	174.3	-45.0	90.0	58.3	71.4	119.1
1	CD702	6427.0	7440.0	174.3	-45.0	90.0	84.1	90.3	119.1
1	CD702	6427.0	7440.0	174.3	-45.0	90.0	96.7	114.2	119.1
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	0.0	11.6	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	11.6	22.3	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	25.3	69.0	155.6



1	CD703	6420.0	7364.0	175.7	-43.0	90.0	75.6	82.5	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	82.5	90.0	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	90.0	98.1	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	98.1	104.9	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	113.5	130.1	155.6
1	CD703	6420.0	7364.0	175.7	-43.0	90.0	141.0	148.9	155.6
1	CD704	6411.7	7317.5	176.0	-40.0	90.0	0.0	11.8	98.5
1	CD704	6411.7	7317.5	176.0	-40.0	90.0	13.9	30.0	98.5
1	CD704	6411.7	7317.5	176.0	-40.0	90.0	31.2	50.3	98.5
1	CD704	6411.7	7317.5	176.0	-40.0	90.0	53.1	71.4	98.5
1	CD704	6411.7	7317.5	176.0	-40.0	90.0	77.4	90.9	98.5
1	CD705	6423.0	7273.0	176.2	-40.0	90.0	0.0	37.2	131.2
1	CD705	6423.0	7273.0	176.2	-40.0	90.0	37.2	52.6	131.2
1	CD705	6423.0	7273.0	176.2	-40.0	90.0	71.5	78.9	131.2
1	CD705	6423.0	7273.0	176.2	-40.0	90.0	78.9	90.5	131.2
1	CD706	6381.0	7136.0	190.5	-40.0	90.0	65.8	70.5	115.9
1	CD706	6381.0	7136.0	190.5	-40.0	90.0	70.5	75.9	115.9
1	CD707	6304.9	7001.0	193.5	-40.0	90.0	0.0	4.5	112.5
1	CD707	6304.9	7001.0	193.5	-40.0	90.0	52.3	98.0	112.5
1	CD708	6259.8	6873.5	196.2	-45.0	90.0	18.0	58.1	120.5
1	CD708	6259.8	6873.5	196.2	-45.0	90.0	59.2	88.1	120.5
1	CD708	6259.8	6873.5	196.2	-45.0	90.0	98.2	111.0	120.5
1	CD709	6166.2	6640.8	201.6	-45.0	90.0	0.0	3.8	100.5
1	CD709	6166.2	6640.8	201.6	-45.0	90.0	24.0	28.6	100.5
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD709	6166.2	6640.8	201.6	-45.0	90.0	53.1	76.5	100.5
1	CD709	6166.2	6640.8	201.6	-45.0	90.0	86.0	93.9	100.5
1	CD709	6166.2	6640.8	201.6	-45.0	90.0	100.4	100.5	100.5
1	CD711	6151.5	6369.5	205.2	-40.0	90.0	0.0	5.5	91.5
1	CD711	6151.5	6369.5	205.2	-40.0	90.0	9.0	52.5	91.5
1	CD712	6098.8	6234.5	208.3	-40.0	270.0	0.0	13.3	144.0
1	CD712	6098.8	6234.5	208.3	-40.0	270.0	28.8	44.0	144.0
1	CD712	6098.8	6234.5	208.3	-40.0	270.0	44.0	78.3	144.0
1	CD712	6098.8	6234.5	208.3	-40.0	270.0	78.3	113.4	144.0
1	CD712	6098.8	6234.5	208.3	-40.0	270.0	123.7	139.5	144.0
1	CD713	6359.0	7043.0	192.7	-40.0	90.0	0.0	0.7	112.0
1	CD713	6359.0	7043.0	192.7	-40.0	90.0	26.2	42.0	112.0
1	CD713	6359.0	7043.0	192.7	-40.0	90.0	46.2	56.0	112.0
1	CD713	6359.0	7043.0	192.7	-40.0	90.0	92.7	98.3	112.0
1	CD714	6149.5	6462.5	204.3	-45.0	90.0	5.8	21.4	131.6
1	CD714	6149.5	6462.5	204.3	-45.0	90.0	23.3	48.1	131.6
1	CD714	6149.5	6462.5	204.3	-45.0	90.0	52.4	52.5	131.6
1	CD714	6149.5	6462.5	204.3	-45.0	90.0	83.5	83.6	131.6
1	CD714	6149.5	6462.5	204.3	-45.0	90.0	83.6	99.7	131.6
1	CD715	6219.5	6500.0	202.8	-50.0	270.0	50.2	52.8	91.4
1	CD715	6219.5	6500.0	202.8	-50.0	270.0	76.5	76.8	91.4
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	0.0	49.6	157.2
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	49.9	51.1	157.2
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	51.2	66.6	157.2
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	66.6	90.6	157.2
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	90.6	110.2	157.2



1	CD716	6500.0	7719.7	158.0	-40.0	270.0	119.4	141.0	157.2
1	CD716	6500.0	7719.7	158.0	-40.0	270.0	141.0	148.9	157.2
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	0.0	3.5	120.0
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	24.3	33.6	120.0
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	60.8	80.8	120.0
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	89.1	94.3	120.0
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	100.3	111.3	120.0
1	CD717	6237.0	6830.0	197.2	-50.0	90.0	111.3	120.0	120.0
1	CD718	6193.1	6736.5	199.5	-45.0	90.0	27.3	42.6	129.4
1	CD718	6193.1	6736.5	199.5	-45.0	90.0	54.5	55.0	129.4
1	CD718	6193.1	6736.5	199.5	-45.0	90.0	55.0	55.9	129.4
1	CD718	6193.1	6736.5	199.5	-45.0	90.0	55.9	65.3	129.4
1	CD718	6193.1	6736.5	199.5	-45.0	90.0	79.2	107.9	129.4
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	0.0	4.5	120.0
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	4.5	9.4	120.0
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	9.4	18.7	120.0
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	20.9	25.9	120.0
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	35.8	76.6	120.0
1	CD719	6233.9	6688.8	200.3	-40.0	90.0	102.9	104.1	120.0
1	CD720	6244.5	6599.5	201.9	-45.0	90.0	7.0	12.7	104.7
1	CD720	6244.5	6599.5	201.9	-45.0	90.0	13.0	26.3	104.7
1	CD720	6244.5	6599.5	201.9	-45.0	90.0	26.3	48.7	104.7
1	CD720	6244.5	6599.5	201.9	-45.0	90.0	48.7	64.5	104.7
1	CD720	6244.5	6599.5	201.9	-45.0	90.0	94.2	95.2	104.7
1	CD721	6107.5	6325.0	207.3	-40.0	90.0	0.0	8.0	103.5
1	CD721	6107.5	6325.0	207.3	-40.0	90.0	32.9	45.7	103.5
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD721	6107.5	6325.0	207.3	-40.0	90.0	68.9	75.0	103.5
1	CD722	6075.0	6235.0	208.3	-45.0	90.0	0.0	12.5	90.0
1	CD722	6075.0	6235.0	208.3	-45.0	90.0	17.5	51.7	90.0
1	CD722	6075.0	6235.0	208.3	-45.0	90.0	51.7	58.3	90.0
1	CD723	6041.6	6140.0	233.3	-45.0	270.0	10.2	29.9	76.5
1	CD723	6041.6	6140.0	233.3	-45.0	270.0	35.0	44.7	76.5
1	CD724	6115.0	6139.7	240.9	-45.0	270.0	32.2	44.9	102.0
1	CD724	6115.0	6139.7	240.9	-45.0	270.0	53.1	64.4	102.0
1	CD724	6115.0	6139.7	240.9	-45.0	270.0	72.4	96.9	102.0
1	CD725	6400.0	7628.8	159.8	-40.0	90.0	44.0	80.0	204.0
1	CD725	6400.0	7628.8	159.8	-40.0	90.0	84.9	95.0	204.0
1	CD725	6400.0	7628.8	159.8	-40.0	90.0	95.0	123.0	204.0
1	CD725	6400.0	7628.8	159.8	-40.0	90.0	192.3	197.3	204.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	3.8	16.0	89.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	17.1	27.3	89.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	31.2	51.3	89.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	54.2	67.6	89.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	69.5	73.0	89.0
1	CD726	6360.5	6958.1	194.0	-40.0	90.0	74.2	74.2	89.0
1	CD727	6294.6	6787.6	198.3	-40.0	90.0	0.0	11.2	100.0
1	CD727	6294.6	6787.6	198.3	-40.0	90.0	15.2	33.0	100.0
1	CD727	6294.6	6787.6	198.3	-40.0	90.0	62.5	90.0	100.0
1	CD727	6294.6	6787.6	198.3	-40.0	90.0	91.8	97.4	100.0
1	CD728	6139.7	6498.8	204.8	-45.0	90.0	0.0	9.5	99.7



1	CD728	6139.7	6498.8	204.8	-45.0	90.0	24.8	52.0	99.7
1	CD728	6139.7	6498.8	204.8	-45.0	90.0	60.5	62.4	99.7
1	CD728	6139.7	6498.8	204.8	-45.0	90.0	62.4	73.0	99.7
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	41.2	47.1	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	56.8	64.4	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	64.6	78.1	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	96.9	130.7	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	131.2	149.1	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	149.1	149.7	164.5
1	CD729	6132.6	6553.0	203.0	-40.0	90.0	149.7	150.0	164.5
1	CD730	6062.6	6279.0	208.1	-40.0	90.0	0.0	20.5	126.0
1	CD730	6062.6	6279.0	208.1	-40.0	90.0	33.9	53.2	126.0
1	CD730	6062.6	6279.0	208.1	-40.0	90.0	64.8	77.3	126.0
1	CD731	6386.0	7227.2	178.0	-40.0	90.0	35.7	52.5	110.0
1	CD732	6414.3	7182.0	179.1	-50.0	90.0	0.0	7.2	105.5
1	CD801	6450.5	7364.2	143.0	-45.0	270.0	0.0	8.8	98.5
1	CD801	6450.5	7364.2	143.0	-45.0	270.0	10.3	16.9	98.5
1	CD801	6450.5	7364.2	143.0	-45.0	270.0	34.0	58.3	98.5
1	CD801	6450.5	7364.2	143.0	-45.0	270.0	65.5	81.8	98.5
1	CD802	6465.0	7410.9	143.2	-45.0	90.0	0.0	12.5	85.0
1	CD802	6465.0	7410.9	143.2	-45.0	90.0	13.1	17.0	85.0
1	CD802	6465.0	7410.9	143.2	-45.0	90.0	17.0	35.0	85.0
1	CD802	6465.0	7410.9	143.2	-45.0	90.0	35.0	75.4	85.0
1	CD802	6465.0	7410.9	143.2	-45.0	90.0	75.4	78.5	85.0
1	CD803	6470.3	7439.5	141.7	-45.0	270.0	0.0	1.5	91.2
1	CD803	6470.3	7439.5	141.7	-45.0	270.0	4.3	25.7	91.2
1	CD803	6470.3	7439.5	141.7	-45.0	270.0	28.8	54.4	91.2
1	CD803	6470.3	7439.5	141.7	-45.0	270.0	54.4	86.8	91.2
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD804	6449.8	7272.2	145.4	-40.0	270.0	44.9	66.5	80.8
1	CD804	6449.8	7272.2	145.4	-40.0	270.0	70.1	73.6	80.8
1	CD805	6458.6	7719.5	128.6	-45.0	90.0	0.0	0.7	57.0
1	CD805	6458.6	7719.5	128.6	-45.0	90.0	2.4	19.7	57.0
1	CD805	6458.6	7719.5	128.6	-45.0	90.0	42.3	49.4	57.0
1	CD806	6186.1	6462.6	154.8	-45.0	270.0	46.8	54.0	54.0
1	CD807	6015.0	6235.4	155.9	-50.0	90.0	0.4	28.9	80.3
1	CD807	6015.0	6235.4	155.9	-50.0	90.0	28.9	42.1	80.3
1	CD807	6015.0	6235.4	155.9	-50.0	90.0	67.9	75.6	80.3
1	CD807	6015.0	6235.4	155.9	-50.0	90.0	75.6	80.3	80.3
1	CD808	6042.8	6278.8	147.0	-45.0	90.0	0.0	16.3	80.3
1	CD808	6042.8	6278.8	147.0	-45.0	90.0	40.7	45.7	80.3
1	CD808	6042.8	6278.8	147.0	-45.0	90.0	45.7	52.7	80.3
1	CD808	6042.8	6278.8	147.0	-45.0	90.0	52.7	75.7	80.3
1	CD808	6042.8	6278.8	147.0	-45.0	90.0	75.7	80.3	80.3
1	CD810	6124.9	6502.1	155.1	-45.0	90.0	28.4	38.3	77.0
1	CD810	6124.9	6502.1	155.1	-45.0	90.0	52.8	70.5	77.0
1	CD811	6446.8	7540.9	130.7	-50.0	90.0	0.0	0.8	100.0
1	CD811	6446.8	7540.9	130.7	-50.0	90.0	10.7	17.2	100.0
1	CD811	6446.8	7540.9	130.7	-50.0	90.0	17.2	27.6	100.0
1	CD811	6446.8	7540.9	130.7	-50.0	90.0	27.6	51.9	100.0
1	CD811	6446.8	7540.9	130.7	-50.0	90.0	53.5	58.8	100.0



1	CD811	6446.8	7540.9	130.7	-50.0	90.0	80.0	95.3	100.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	0.0	9.5	117.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	19.9	23.5	117.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	23.5	33.0	117.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	33.0	65.3	117.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	65.3	73.7	117.0
1	CD812	6445.9	7677.6	126.9	-45.0	90.0	85.9	111.9	117.0
1	CD813	6470.1	7625.5	128.3	-50.0	270.0	0.0	42.9	90.0
1	CD813	6470.1	7625.5	128.3	-50.0	270.0	54.9	85.5	90.0
1	CD901	6573.4	7745.0	145.0	-54.0	270.0	105.0	115.0	301.5
1	CD901	6573.4	7745.0	145.0	-54.0	270.0	124.4	162.1	301.5
1	CD901	6573.4	7745.0	145.0	-54.0	270.0	164.0	255.8	301.5
1	CD901	6573.4	7745.0	145.0	-54.0	270.0	264.2	292.5	301.5
1	CD901	6573.4	7745.0	145.0	-54.0	270.0	292.5	299.5	301.5
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	107.3	113.4	241.3
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	115.6	118.5	241.3
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	127.6	171.0	241.3
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	181.9	202.0	241.3
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	210.3	211.5	241.3
1	CD903	5926.0	6158.3	209.5	-50.0	90.0	214.4	224.4	241.3
1	CD904	5942.2	6325.1	192.5	-50.0	90.0	178.8	187.3	272.0
1	CD904	5942.2	6325.1	192.5	-50.0	90.0	196.8	198.0	272.0
1	CD904	5942.2	6325.1	192.5	-50.0	90.0	198.0	198.1	272.0
1	CD904	5942.2	6325.1	192.5	-50.0	90.0	198.1	219.3	272.0
1	CD904	5942.2	6325.1	192.5	-50.0	90.0	227.6	264.6	272.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	95.3	109.1	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	123.3	126.5	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	138.3	142.3	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	152.1	178.4	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	196.8	212.0	247.0
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	212.0	212.0	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	212.1	230.7	247.0
1	CD905	6061.8	6499.9	173.0	-50.0	90.0	237.9	242.4	247.0
1	CD906	6163.0	6780.0	168.5	-50.0	83.0	96.8	107.7	236.7
1	CD906	6163.0	6780.0	168.5	-50.0	83.0	114.5	136.8	236.7
1	CD906	6163.0	6780.0	168.5	-50.0	83.0	143.0	161.2	236.7
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	82.4	92.3	250.0
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	93.7	97.1	250.0
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	128.5	139.1	250.0
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	153.2	169.7	250.0
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	170.0	224.4	250.0
1	CD908	6599.0	7540.0	183.0	-53.0	270.0	238.2	250.0	250.0
1	CD910	6111.0	6599.0	160.0	-45.0	90.0	93.0	93.5	242.0
1	CD910	6111.0	6599.0	160.0	-45.0	90.0	116.2	134.1	242.0
1	CD910	6111.0	6599.0	160.0	-45.0	90.0	134.5	166.8	242.0
1	CD910	6111.0	6599.0	160.0	-45.0	90.0	201.2	201.3	242.0
1	CD911	6007.0	6095.0	222.0	-60.0	90.0	0.0	24.0	111.0
1	CD911	6007.0	6095.0	222.0	-60.0	90.0	58.0	84.0	111.0
1	CD911	6007.0	6095.0	222.0	-60.0	90.0	110.9	111.0	111.0
1	CD913	5948.0	6045.0	222.0	-60.0	90.0	28.0	42.0	96.0



1	CD913	5948.0	6045.0	222.0	-60.0	90.0	70.2	80.1	96.0
1	CDDH07001	6421.1	7816.6	111.7	-53.6	72.6	4.8	13.4	20.0
1	CDDH07001	6421.1	7816.6	111.7	-53.6	72.6	13.4	20.0	20.0
1	CDDH07002	6419.0	7816.0	111.5	-86.3	244.4	5.6	20.0	20.0
1	CDDH13011	6017.1	6673.0	188.6	-50.6	91.3	280.8	287.8	410.0
1	CDDH13012	6056.4	6746.8	193.8	-59.7	91.5	279.3	300.5	400.0
1	CDDH13012	6056.4	6746.8	193.8	-59.7	91.5	305.6	311.2	400.0
1	CDDH13012	6056.4	6746.8	193.8	-59.7	91.5	328.2	360.9	400.0
1	CDDH13012	6056.4	6746.8	193.8	-59.7	91.5	360.9	364.4	400.0
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	99.0	111.0	262.1
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	121.5	138.3	262.1
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	145.4	167.9	262.1
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	174.1	184.9	262.1
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	186.9	212.9	262.1
1	CDDH13013	6174.9	6829.1	169.0	-53.7	126.8	222.3	233.6	262.1
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	82.7	92.3	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	112.3	120.9	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	199.9	218.0	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	243.5	255.5	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	271.1	281.6	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	281.6	281.6	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	281.6	292.4	315.2
1	CDDH13014	6175.2	6829.9	169.1	-52.0	81.1	296.1	309.0	315.2
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	89.4	90.9	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	116.3	118.0	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	133.6	140.6	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	148.6	171.1	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	171.1	174.8	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	182.3	184.0	229.8
1	CDDH13015	6263.2	6928.0	155.1	-57.4	112.7	190.6	208.7	229.8
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	102.6	113.8	230.1
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	121.9	128.4	230.1
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	145.8	161.1	230.1
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	177.3	187.1	230.1
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	187.1	191.5	230.1
1	CDDH13016	6264.2	6930.4	155.0	-51.0	77.2	191.5	213.0	230.1
1	CDDH13017	6176.2	6828.3	168.2	-52.0	98.5	76.3	86.7	278.3
1	CDDH13017	6176.2	6828.3	168.2	-52.0	98.5	112.3	122.4	278.3
1	CDDH13017	6176.2	6828.3	168.2	-52.0	98.5	124.3	159.2	278.3
1	CDDH13017	6176.2	6828.3	168.2	-52.0	98.5	164.1	177.0	278.3
1	CDDH13017	6176.2	6828.3	168.2	-52.0	98.5	238.0	243.3	278.3
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	45.3	54.2	163.7
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	60.6	82.2	163.7
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	82.2	82.8	163.7
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	82.8	102.7	163.7
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	109.2	138.8	163.7
1	CDDH13018	6338.8	7000.7	144.5	-63.9	90.0	138.8	148.0	163.7
1	CDDH13019	6323.9	7087.3	139.9	-56.5	116.7	28.5	52.6	195.2
1	CDDH13019	6323.9	7087.3	139.9	-56.5	116.7	72.7	106.8	195.2
1	CDDH13019	6323.9	7087.3	139.9	-56.5	116.7	110.5	127.0	195.2



1	CDDH13019	6323.9	7087.3	139.9	-56.5	116.7	130.8	163.8	195.2
1	CDDH13019	6323.9	7087.3	139.9	-56.5	116.7	170.0	186.6	195.2
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	38.2	49.6	219.6
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	59.4	81.0	219.6
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	93.5	124.3	219.6
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	130.0	139.8	219.6
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	150.1	174.4	219.6
1	CDDH13020	6323.9	7088.6	139.9	-54.7	81.6	174.4	195.4	219.6
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	52.8	56.7	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	65.2	68.1	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	69.1	98.3	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	122.2	148.4	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	151.9	179.9	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	181.6	185.1	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	189.6	202.4	246.5
1	CDDH13021	6323.5	7090.8	139.7	-48.8	54.9	210.4	228.1	246.5
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	0.0	9.6	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	17.0	19.4	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	19.5	37.8	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	44.8	54.0	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	98.4	109.3	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	110.3	118.6	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	189.4	197.9	314.2
1	CDDH14001	6294.1	6850.4	141.6	-59.2	89.7	258.2	262.0	314.2
1	CDDH14002	6314.8	6900.1	140.8	-60.2	90.5	18.0	23.3	150.7
1	CDDH14002	6314.8	6900.1	140.8	-60.2	90.5	90.4	91.5	150.7
1	CDDH14002	6314.8	6900.1	140.8	-60.2	90.5	91.5	93.7	150.7
1	CDDH14002	6314.8	6900.1	140.8	-60.2	90.5	95.9	98.9	150.7
1	CDDH14002	6314.8	6900.1	140.8	-60.2	90.5	99.1	106.4	150.7
1	CDDH14003	6343.0	6950.2	140.5	-59.4	90.0	0.0	0.4	135.1
1	CDDH14003	6343.0	6950.2	140.5	-59.4	90.0	99.0	99.3	135.1
1	CDDH14004	6392.7	7050.2	152.2	-60.1	89.9	32.5	44.9	115.8
1	CDDH14004	6392.7	7050.2	152.2	-60.1	89.9	66.4	72.4	115.8
1	CDDH14004	6392.7	7050.2	152.2	-60.1	89.9	72.4	76.5	115.8
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CDDH14005	6396.7	7100.2	153.2	-60.0	90.9	5.9	18.3	120.8
1	CDDH14005	6396.7	7100.2	153.2	-60.0	90.9	31.0	49.0	120.8
1	CDDH14005	6396.7	7100.2	153.2	-60.0	90.9	63.8	76.2	120.8
1	CDDH14005	6396.7	7100.2	153.2	-60.0	90.9	78.2	87.3	120.8
1	CDDH14005	6396.7	7100.2	153.2	-60.0	90.9	87.3	95.8	120.8
1	CDDH14006	6403.5	7150.3	153.7	-59.2	90.2	33.0	33.4	122.2
1	CDDH14006	6403.5	7150.3	153.7	-59.2	90.2	46.4	53.5	122.2
1	CDDH14006	6403.5	7150.3	153.7	-59.2	90.2	67.6	77.8	122.2
1	CDDH14006	6403.5	7150.3	153.7	-59.2	90.2	102.2	112.4	122.2
1	CP2018_01	6485.0	7204.3	166.2	-54.1	90.3	0.0	5.4	212.0
1	CP2018_01	6485.0	7204.3	166.2	-54.1	90.3	28.9	33.8	212.0
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	42.0	58.1	255.5
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	109.6	127.9	255.5
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	127.9	150.0	255.5
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	186.3	190.3	255.5
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	201.0	209.5	255.5

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	227.7	227.7	255.5
1	CP2018_02	6331.4	7398.3	132.2	-47.9	87.5	248.8	251.8	255.5
1	CP2018_03	6332.0	7242.7	136.6	-65.9	90.0	61.8	84.9	211.3
1	CP2018_03	6332.0	7242.7	136.6	-65.9	90.0	133.3	134.6	211.3
1	CP2018_03	6332.0	7242.7	136.6	-65.9	90.0	136.1	147.2	211.3
1	CP2018_03	6332.0	7242.7	136.6	-65.9	90.0	189.8	211.3	211.3
1	CP2018_04	6331.1	7243.7	136.5	-46.4	58.6	50.3	68.4	221.9
1	CP2018_04	6331.1	7243.7	136.5	-46.4	58.6	104.8	117.1	221.9
1	CP2018_04	6331.1	7243.7	136.5	-46.4	58.6	121.1	175.0	221.9
1	CP2018_04	6331.1	7243.7	136.5	-46.4	58.6	175.0	183.0	221.9
1	CP2018_05	6332.5	7401.9	132.1	-51.1	116.8	46.2	68.2	200.5
1	CP2018_05	6332.5	7401.9	132.1	-51.1	116.8	107.1	121.1	200.5
1	CP2018_05	6332.5	7401.9	132.1	-51.1	116.8	121.1	133.9	200.5
1	CP2018_05	6332.5	7401.9	132.1	-51.1	116.8	133.9	183.7	200.5
1	CP2018_06a	6327.7	7484.7	127.0	-63.1	67.6	47.7	50.1	150.3
1	CP2018_06a	6327.7	7484.7	127.0	-63.1	67.6	72.2	95.9	150.3
1	CP2018_06a	6327.7	7484.7	127.0	-63.1	67.6	117.3	123.0	150.3
1	CP2018_07	6329.6	7399.6	132.1	-68.1	90.2	67.7	110.8	132.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	1.1	30.6	222.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	88.5	96.4	222.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	98.3	111.2	222.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	122.0	130.9	222.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	133.4	159.9	222.5
1	CP2018_08a	6409.5	7359.8	152.6	-52.4	72.4	160.9	167.3	222.5
1	CP2018_09a	6326.8	7486.0	126.9	-50.0	36.8	96.4	138.9	157.0
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	40.0	48.6	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	49.5	59.7	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	62.3	96.3	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	142.7	150.7	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	153.9	162.9	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	188.7	194.9	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	201.8	227.5	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	229.1	230.8	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	240.9	257.4	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	257.4	275.6	333.5
1	CP2018_12	6365.7	7856.4	110.3	-44.2	143.0	324.8	329.5	333.5
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	34.2	39.6	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	52.7	63.9	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	75.8	78.5	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	132.8	134.1	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	142.7	157.2	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	157.2	171.1	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	186.3	219.2	274.0
1	CP2018_13	6327.7	7484.7	127.0	-48.8	90.1	226.2	251.0	274.0
1	CP8877	6491.0	7699.0	129.0	-90.0	0.0	0.0	4.3	21.0
1	CP8877	6491.0	7699.0	129.0	-90.0	0.0	9.0	21.0	21.0
1	CP8879	6472.0	7696.0	127.0	-90.0	0.0	0.0	3.0	3.0
1	CP8880	6465.0	7677.0	127.0	-90.0	0.0	0.0	3.0	3.0
1	CP8881	6457.0	7653.0	127.0	-90.0	0.0	0.0	6.0	6.0
1	CP8883	6461.0	7627.0	127.0	-90.0	0.0	0.0	21.0	21.0

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	CP8884	6455.0	7628.0	127.0	-90.0	0.0	0.0	3.0	3.0
1	CP8885	6459.0	7612.0	127.0	-90.0	0.0	0.0	21.0	21.0
1	CP8886	6464.0	7657.0	128.0	-90.0	0.0	0.0	6.0	6.0
1	CP8887	6456.0	7591.0	127.0	-90.0	0.0	0.0	1.1	21.0
1	CP8887	6456.0	7591.0	127.0	-90.0	0.0	12.0	21.0	21.0
1	CP8888	6453.0	7572.0	127.0	-90.0	0.0	0.0	21.0	21.0
1	CP8889	6454.0	7541.0	129.0	-90.0	0.0	6.0	18.0	24.0
1	CP8890	6462.0	7512.0	129.0	-90.0	0.0	0.0	11.2	24.0
1	CP8890	6462.0	7512.0	129.0	-90.0	0.0	13.3	24.0	24.0
1	CP8891	6476.0	7518.0	128.0	-90.0	0.0	0.1	24.0	24.0
1	CP8892	6475.0	7541.0	129.0	-90.0	0.0	0.7	21.7	24.0
1	CP8892	6475.0	7541.0	129.0	-90.0	0.0	22.8	24.0	24.0
1	CP8893	6485.0	7460.0	128.0	-90.0	0.0	0.0	24.0	24.0
1	CP8894	6474.0	7481.0	129.0	-90.0	0.0	0.0	24.0	24.0
1	CP8895	6485.0	7502.0	128.0	-90.0	0.0	0.0	24.0	24.0
1	CP8896	6469.0	7500.0	129.0	-90.0	0.0	0.0	24.0	24.0
1	CP8897	6473.0	7678.0	128.0	-90.0	0.0	0.0	6.0	6.0
1	CP8898	6481.0	7699.0	128.0	-90.0	0.0	0.0	0.9	3.0
1	CPSTH1	6406.6	6997.9	159.2	-54.7	110.3	0.0	12.0	29.5
1	CPSTH2	6404.8	7012.3	157.2	-53.3	111.2	0.0	29.5	29.5
1	DH014	6660.0	7870.0	140.0	-60.0	274.0	258.5	268.8	469.7
1	DH014	6660.0	7870.0	140.0	-60.0	274.0	272.2	291.1	469.7
1	DH014	6660.0	7870.0	140.0	-60.0	274.0	307.5	349.0	469.7
1	DH014	6660.0	7870.0	140.0	-60.0	274.0	355.1	356.3	469.7
1	DH014	6660.0	7870.0	140.0	-60.0	274.0	368.8	417.6	469.7
1	DH018	6558.0	8042.0	155.4	-55.0	270.0	111.7	145.4	193.2
1	DH018	6558.0	8042.0	155.4	-55.0	270.0	160.2	169.8	193.2
1	DH018	6558.0	8042.0	155.4	-55.0	270.0	169.8	172.8	193.2
1	DH019	6552.0	8195.0	161.5	-60.0	270.0	20.6	77.6	150.0
1	DH019	6552.0	8195.0	161.5	-60.0	270.0	77.6	81.8	150.0
1	DH019	6552.0	8195.0	161.5	-60.0	270.0	83.7	84.3	150.0
1	DH019	6552.0	8195.0	161.5	-60.0	270.0	85.8	87.5	150.0
1	DH023	6252.0	6736.0	284.0	-46.0	270.0	0.0	32.4	90.5
1	DH023	6252.0	6736.0	284.0	-46.0	270.0	32.6	84.9	90.5
1	DH023	6252.0	6736.0	284.0	-46.0	270.0	88.4	90.5	90.5
1	DH039	6642.5	8187.0	143.8	-80.0	274.0	144.2	146.5	167.0
1	DH039B	6642.5	8187.0	143.8	-80.0	274.0	150.6	153.9	320.3
1	DH039B	6642.5	8187.0	143.8	-80.0	274.0	212.5	312.9	320.3
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	DH042	6725.0	7860.0	145.0	-80.0	270.3	539.5	555.8	697.8
1	DH042	6725.0	7860.0	145.0	-80.0	270.3	570.1	695.6	697.8
1	DH048	6577.0	8341.5	195.1	-60.0	274.0	73.8	88.4	101.5
1	GT001	6355.3	7940.7	111.7	-43.5	270.0	0.0	14.7	161.3
1	ND049	6490.7	8019.9	179.0	-45.0	270.0	28.4	37.8	136.0
1	ND049	6490.7	8019.9	179.0	-45.0	270.0	44.2	59.7	136.0
1	ND049	6490.7	8019.9	179.0	-45.0	270.0	61.8	98.0	136.0
1	ND049	6490.7	8019.9	179.0	-45.0	270.0	102.9	119.7	136.0
1	ND066	6463.3	7928.7	154.7	-43.0	267.9	13.5	67.9	127.0
1	ND066	6463.3	7928.7	154.7	-43.0	267.9	67.9	90.5	127.0
1	ND067	6412.2	7990.1	155.0	-51.0	89.3	0.0	0.9	151.5
1	ND067	6412.2	7990.1	155.0	-51.0	89.3	22.6	48.2	151.5



1	ND067	6412.2	7990.1	155.0	-51.0	89.3	53.4	75.6	151.5
1	ND067	6412.2	7990.1	155.0	-51.0	89.3	75.6	77.7	151.5
1	ND067	6412.2	7990.1	155.0	-51.0	89.3	122.3	128.3	151.5
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	58.8	61.8	197.0
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	61.8	84.3	197.0
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	87.1	94.1	197.0
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	94.1	98.1	197.0
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	131.8	133.8	197.0
1	ND068	6530.8	8089.6	146.5	-45.0	269.1	145.8	148.6	197.0
1	ND069	6539.7	8141.5	146.5	-47.0	269.5	50.6	68.8	139.0
1	ND069	6539.7	8141.5	146.5	-47.0	269.5	77.6	78.0	139.0
1	ND069	6539.7	8141.5	146.5	-47.0	269.5	78.0	78.1	139.0
1	ND069	6539.7	8141.5	146.5	-47.0	269.5	78.1	93.8	139.0
1	ND070	6514.6	8239.4	153.2	-45.0	88.2	4.0	45.7	163.0
1	ND070	6514.6	8239.4	153.2	-45.0	88.2	46.3	52.3	163.0
1	ND070	6514.6	8239.4	153.2	-45.0	88.2	85.5	93.5	163.0
1	ND074	6510.7	8297.9	157.0	-45.0	87.9	0.0	13.8	148.5
1	ND074	6510.7	8297.9	157.0	-45.0	87.9	19.0	46.6	148.5
1	ND078	6440.3	8141.7	139.2	-45.0	92.0	29.3	61.5	151.0
1	ND078	6440.3	8141.7	139.2	-45.0	92.0	61.6	61.6	151.0
1	ND078	6440.3	8141.7	139.2	-45.0	92.0	69.4	108.8	151.0
1	ND078	6440.3	8141.7	139.2	-45.0	92.0	115.8	138.7	151.0
1	ND078	6440.3	8141.7	139.2	-45.0	92.0	140.3	142.4	151.0
1	ND079	6477.7	8087.7	125.8	-37.0	270.4	0.0	12.3	91.6
1	ND079	6477.7	8087.7	125.8	-37.0	270.4	21.6	29.4	91.6
1	ND079	6477.7	8087.7	125.8	-37.0	270.4	40.1	51.3	91.6
1	ND079	6477.7	8087.7	125.8	-37.0	270.4	58.6	71.3	91.6
1	ND093	6618.4	8348.8	163.9	-38.0	270.0	100.0	106.9	200.0
1	ND095	6519.9	8440.4	168.8	-40.0	90.0	79.3	85.9	177.5
1	NP026	6444.0	8040.0	203.1	-90.0	0.0	54.0	75.0	75.0
1	NP027	6425.0	7990.0	210.2	-90.0	0.0	9.0	32.9	90.0
1	NP027	6425.0	7990.0	210.2	-90.0	0.0	36.0	57.0	90.0
1	NP028	6463.0	7993.0	185.4	-90.0	0.0	0.0	12.0	81.0
1	NP028	6463.0	7993.0	185.4	-90.0	0.0	21.0	81.0	81.0
1	NP030	6520.0	8189.0	159.7	-90.0	0.0	0.0	39.0	39.0
1	NP031	6424.0	7894.0	167.8	-90.0	0.0	0.0	36.0	36.0
1	NP032	6487.0	7990.0	166.2	-60.0	270.0	0.0	12.0	60.0
1	NP032	6487.0	7990.0	166.2	-60.0	270.0	30.0	51.9	60.0
1	NP032	6487.0	7990.0	166.2	-60.0	270.0	51.9	60.0	60.0
1	NP033	6451.0	7891.0	150.8	-90.0	0.0	0.0	27.0	27.0
CP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	SL001	6404.0	7989.9	215.4	-60.0	270.0	0.0	24.0	24.0
1	SL002	6400.0	7940.0	199.0	-60.0	270.0	4.0	15.0	70.0
1	SL003	6381.7	8029.7	183.1	-60.0	90.0	22.2	39.1	70.0
1	SL004	6353.4	7893.7	174.5	-60.0	270.0	9.0	43.0	43.0
1	SL005	6378.5	7888.1	172.9	-60.0	90.0	16.0	65.0	65.0
1	SL006	6450.2	7891.3	151.6	-60.0	270.0	0.0	2.0	30.0
1	SL006	6450.2	7891.3	151.6	-60.0	270.0	23.0	30.0	30.0
1	SL007	6466.2	7947.5	166.0	-40.0	270.0	23.0	34.0	34.0
1	SL009	6549.7	7939.8	110.0	0.0	270.0	50.0	75.0	163.0
1	SL009	6549.7	7939.8	110.0	0.0	270.0	75.0	92.9	163.0



1	SL009	6549.7	7939.8	110.0	0.0	270.0	101.5	103.5	163.0
1	SL009	6549.7	7939.8	110.0	0.0	270.0	115.1	133.3	163.0
1	SL009	6549.7	7939.8	110.0	0.0	270.0	142.5	151.9	163.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	29.0	43.8	124.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	43.8	44.0	124.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	44.0	59.0	124.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	89.0	95.0	124.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	95.0	119.0	124.0
1	SL010	6523.1	7890.8	107.1	0.0	270.0	119.0	124.0	124.0
1	SL012	6508.9	8090.6	167.7	-20.0	270.0	18.0	39.0	71.0
1	SL012	6508.9	8090.6	167.7	-20.0	270.0	39.0	51.0	71.0
1	SL012	6508.9	8090.6	167.7	-20.0	270.0	51.6	51.7	71.0
1	SL012	6508.9	8090.6	167.7	-20.0	270.0	51.7	63.0	71.0
1	SL013	6505.8	7990.1	161.6	-60.0	270.0	0.0	5.0	78.0
1	SL013	6505.8	7990.1	161.6	-60.0	270.0	61.0	70.0	78.0
1	SLP07001	6438.2	7823.1	110.1	-72.0	73.0	0.0	1.3	18.0
1	SLP07002	6427.1	7816.9	111.2	-70.0	77.0	0.0	2.6	18.0
1	SLP07002	6427.1	7816.9	111.2	-70.0	77.0	2.6	3.6	18.0
1	SLP07002	6427.1	7816.9	111.2	-70.0	77.0	3.6	17.3	18.0
1	SLP07004	6402.7	7810.4	111.3	-73.0	94.0	0.0	18.0	18.0
1	SLP07005	6383.3	7807.5	111.8	-73.0	100.0	4.0	16.2	18.0

Table 4. North Pit Drill-hole Intersects as at 31 Dec 2018

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	DH001	6680.0	9402.0	328.0	-41.0	102.0	42.2	43.0	203.6
1	DH001	6680.0	9402.0	328.0	-41.0	102.0	43.0	159.6	203.6
1	DH002	6852.0	9550.0	374.0	-45.0	295.0	94.5	219.0	263.0
1	DH002	6852.0	9550.0	374	-45.0	295	218.99	219	263
1	DH017	6644.0	8528.0	196.0	-67.0	276.0	0.0	61.6	65.5
1	DH025	6708.0	8878.0	257.5	-65.0	270.0	21.3	80.2	228.3
1	DH025	6708.0	8878.0	257.5	-65.0	270.0	94.5	102.4	228.3
1	DH026	6777.0	9229.0	358.1	-64.0	270.0	21.3	170.7	181.4
1	DH027	6862.0	9780.5	365.8	-51.0	270.0	134.9	175.9	291.1
1	DH027	6862.0	9780.5	365.8	-51.0	270.0	261.1	291.1	291.1
1	DH036	6868.5	9353.0	348.4	-79.0	300.0	258.5	410.3	439.2
1	DH036	6868.5	9353.0	348.4	-79.0	300.0	410.3	439.2	439.2
1	DH037	6892.5	9460.0	336.0	-78.0	294.0	287.1	530.0	546.8
1	DH037	6892.5	9460.0	336.0	-78.0	294.0	530.7	545.3	546.8
1	DH043	6888.0	9990.0	354.5	-45.0	275.0	116.2	121.8	186.5
1	DH043	6888.0	9990.0	354.5	-45.0	275.0	158.5	164.0	186.5
1	DH047	6654.0	8433.0	189.0	-60.0	264.0	52.1	77.1	189.0
1	DH049	6666.5	9020.0	309.0	-50.0	274.0	63.3	75.8	88.4
1	DH050	6602.5	8913.5	296.0	-48.0	94.0	23.8	97.8	209.1
1	DH050	6602.5	8913.5	296.0	-48.0	94.0	106.7	155.4	209.1
1	DH051	6670.0	9242.0	335.3	-55.0	94.0	0.0	192.0	234.7
1	DH051	6670.0	9242.0	335.3	-55.0	94.0	192.0	198.1	234.7
1	DH052	6825.0	9305.0	344.5	-57.0	286.0	105.2	216.4	326.7
1	DH052	6825.0	9305.0	344.5	-57.0	286.0	216.4	242.9	326.7
1	DH052	6825.0	9305.0	344.5	-57.0	286.0	271.3	285.6	326.7
1	DH052	6825.0	9305.0	344.5	-57.0	286.0	285.6	294.7	326.7
1	DH053	6854.0	9653.5	366.0	-67.0	286.0	118.6	146.3	323.7
1	DH053	6854.0	9653.5	366.0	-67.0	286.0	146.3	301.8	323.7
1	DH053	6854.0	9653.5	366.0	-67.0	286.0	301.8	323.7	323.7
1	ND001	6865.5	9740.0	363.5	-45.0	270.0	116.0	127.1	326.0
1	ND001	6865.5	9740.0	363.5	-45.0	270.0	269.4	326.0	326.0
1	ND002	6910.5	9542.5	350.9	-45.0	270.0	125.7	208.5	380.0
1	ND002	6910.5	9542.5	350.9	-45.0	270.0	250.7	338.8	380.0
1	ND003	6553.5	9134.0	273.0	-45.0	90.0	118.7	132.8	309.0
1	ND003	6553.5	9134.0	273.0	-45.0	90.0	183.0	198.8	309.0
1	ND003	6553.5	9134.0	273.0	-45.0	90.0	198.8	245.6	309.0
1	ND003	6553.5	9134.0	273.0	-45.0	90.0	245.6	285.5	309.0
1	ND004	6817.0	9291.0	345.1	-45.0	270.0	50.1	175.9	175.9
1	ND034	6789.9	9490.5	347.6	-45.0	270.0	0.0	45.8	85.0
1	ND035	6758.4	9440.0	347.5	-45.0	270.0	0.0	43.5	85.0
1	ND035	6758.4	9440.0	347.5	-45.0	270.0	43.5	71.5	85.0
1	ND036	6759.4	9440.8	347.5	-45.0	90.0	0.0	27.1	71.0
1	ND036	6759.4	9440.8	347.5	-45.0	90.0	57.2	65.0	71.0
1	ND037	6770.9	9391.1	347.3	-45.0	270.0	8.4	85.4	102.5
1	ND038	6772.5	9312.0	349.7	-45.0	270.0	4.4	23.0	127.5
1	ND038	6772.5	9312.0	349.7	-45.0	270.0	23.0	53.6	127.5
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	ND038	6772.5	9312.0	349.7	-45.0	270.0	53.6	94.8	127.5
1	ND039	6723.2	9339.6	347.7	-45.0	270.0	0.0	72.5	78.5
1	ND040	6744.0	9640.0	357.6	-45.0	90.0	46.2	81.5	86.0
1	ND041	6820.0	9540.0	347.0	-45.0	241.0	19.7	72.4	108.5
1	ND042	6765.4	9538.5	346.5	-45.0	90.0	0.0	64.7	75.5
1	ND043	6772.4	9194.7	336.3	-45.0	270.0	2.5	131.8	147.0
1	ND043	6772.4	9194.7	336.3	-45.0	270.0	131.8	143.0	147.0
1	ND044	6729.1	9250.3	352.6	-50.0	270.0	0.0	111.6	112.7
1	ND045	6658.0	9005.8	308.6	-55.0	270.0	35.8	54.6	69.2
1	ND045	6658.0	9005.8	308.6	-55.0	270.0	54.6	69.2	69.2
1	ND046	6663.3	9141.3	322.7	-55.0	270.0	1.5	43.3	56.0
1	ND046	6663.3	9141.3	322.7	-55.0	270.0	48.3	56.0	56.0
1	ND047	6765.4	9540.9	348.0	-50.0	270.0	0.0	14.7	43.0
1	ND048	6791.6	9489.9	337.9	-45.0	90.0	0.0	30.2	59.0

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	ND050	6834.4	9491.2	336.6	-45.0	270.0	34.5	129.3	145.5
1	ND051	6810.3	9389.7	328.7	-45.0	270.0	65.0	125.0	159.5
1	ND052	6759.9	9338.7	321.5	-45.0	270.0	1.5	71.5	110.0
1	ND053	6756.2	9129.9	292.7	-45.0	270.0	33.3	72.7	72.7
1	ND055	6608.6	9090.5	300.7	-40.0	90.0	50.0	137.0	137.0
1	ND056	6831.3	9189.4	305.2	-45.0	270.0	104.0	167.6	210.5
1	ND056	6831.3	9189.4	305.2	-45.0	270.0	167.6	170.0	210.5
1	ND056	6831.3	9189.4	305.2	-45.0	270.0	176.7	198.6	210.5
1	ND057	6875.3	9390.1	327.8	-45.0	270.0	116.9	149.0	149.0
1	ND058	6591.9	8741.6	236.6	-45.0	90.0	70.2	79.0	153.5
1	ND058	6591.9	8741.6	236.6	-45.0	90.0	90.6	144.2	153.5
1	ND059	6704.5	9590.5	341.5	-60.0	90.0	94.1	262.3	262.3
1	ND060	6677.7	8949.8	270.2	-65.0	270.0	12.0	43.9	110.0
1	ND060	6677.7	8949.8	270.2	-65.0	270.0	62.7	110.0	110.0
1	ND061	6713.8	8831.8	258.2	-50.0	270.0	42.5	85.5	110.0
1	ND061	6713.8	8831.8	258.2	-50.0	270.0	99.0	103.3	110.0
1	ND062	6566.3	9041.5	286.4	-40.0	90.0	81.6	83.6	165.0
1	ND063	6690.3	9639.2	344.3	-45.0	90.0	91.4	213.8	228.5
1	ND064	6657.7	9439.9	310.6	-45.0	90.0	105.9	110.3	240.0
1	ND064	6657.7	9439.9	310.6	-45.0	90.0	110.3	217.2	240.0
1	ND065	6619.3	8646.0	230.7	-55.0	90.0	21.5	110.0	110.0
1	ND071	6723.4	9091.1	199.2	-48.0	267.5	0.0	24.3	103.0
1	ND071	6723.4	9091.1	199.2	-48.0	267.5	73.0	76.0	103.0
1	ND072	6724.2	9348.3	215.6	-42.0	91.2	0.0	93.5	103.0
1	ND073	6748.4	9482.5	219.4	-45.0	82.6	4.1	111.2	130.0
1	ND075	6549.0	8393.3	164.6	-45.0	89.6	88.0	108.5	124.0
1	ND076	6527.6	8590.7	178.4	-37.0	89.6	137.1	173.1	173.1
1	ND077	6589.0	8504.1	202.7	-45.0	90.7	65.4	74.2	74.2
1	ND080	6590.0	9739.7	316.9	-56.1	92.3	27.4	143.6	530.0
1	ND080	6590.0	9739.7	316.9	-56.1	92.3	250.5	264.8	530.0
1	ND080	6590.0	9739.7	316.9	-56.1	92.3	264.8	422.0	530.0
1	ND080	6590.0	9739.7	316.9	-56.1	92.3	422.0	466.1	530.0
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	ND081	6606.1	9655.5	308.6	-54.0	89.1	115.3	138.5	516.0
1	ND081	6606.1	9655.5	308.6	-54.0	89.1	192.2	283.6	516.0
1	ND081	6606.1	9655.5	308.6	-54.0	89.1	283.6	327.7	516.0
1	ND081	6606.1	9655.5	308.6	-54.0	89.1	327.7	412.7	516.0
1	ND082	6886.5	9189.9	287.3	-57.0	271.7	184.7	247.8	407.7
1	ND082	6886.5	9189.9	287.3	-57.0	271.7	247.8	254.8	407.7
1	ND082	6886.5	9189.9	287.3	-57.0	271.7	269.1	298.6	407.7
1	ND082	6886.5	9189.9	287.3	-57.0	271.7	298.6	327.3	407.7
1	ND083	6584.2	9352.3	279.5	-60.0	92.1	151.4	194.4	525.7
1	ND083	6584.2	9352.3	279.5	-60.0	92.1	294.6	316.9	525.7
1	ND083	6584.2	9352.3	279.5	-60.0	92.1	316.9	472.4	525.7
1	ND085	6559.2	9529.9	292.8	-49.0	89.3	100.1	194.8	550.0
1	ND085	6559.2	9529.9	292.8	-49.0	89.3	232.1	432.2	550.0
1	ND086	6596.2	9794.8	323.3	-55.0	77.7	91.8	156.8	433.1
1	ND086	6596.2	9794.8	323.3	-55.0	77.7	249.1	316.5	433.1
1	ND086	6596.2	9794.8	323.3	-55.0	77.7	316.5	377.3	433.1
1	ND087	6702.5	8992.2	198.2	-65.0	89.8	0.0	10.5	350.0
1	ND089	6612.1	8698.6	230.5	-51.0	135.3	114.3	170.6	340.1
1	ND091	6588.3	8390.9	165.6	-30.0	60.3	34.3	45.9	204.0
1	ND094	6750.5	8944.6	207.5	-40.0	270.0	65.0	94.0	210.0
1	ND094	6750.5	8944.6	207.5	-40.0	270.0	115.8	150.0	210.0
1	ND095	6519.9	8440.4	168.8	-40.0	90.0	124.8	149.8	177.5
1	ND096	6781.4	9090.7	193.5	-60.0	270.0	70.6	132.0	185.1
1	ND096	6781.4	9090.7	193.5	-60.0	270.0	132.0	136.0	185.1
1	ND097	6753.5	8889.9	213.8	-65.0	270.0	92.9	149.9	257.5
1	ND097	6753.5	8889.9	213.8	-65.0	270.0	149.9	213.3	257.5
1	ND098	6743.3	8839.8	216.8	-58.0	270.0	80.0	120.5	205.7
1	ND098	6743.3	8839.8	216.8	-58.0	270.0	120.5	132.9	205.7
1	ND099	6714.2	8739.9	225.5	-65.0	270.0	63.6	102.5	137.0

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	ND099	6714.2	8739.9	225.5	-65.0	270.0	105.1	111.3	137.0
1	ND100	6583.9	8639.6	234.0	-65.0	90.0	197.8	214.7	214.7
1	ND101	6543.3	8521.2	198.1	-49.0	71.0	145.0	220.5	235.0
1	ND103	6640.5	8590.2	210.8	-50.0	90.0	0.0	4.0	100.0
1	ND103	6640.5	8590.2	210.8	-50.0	90.0	4.0	38.0	100.0
1	ND104	6644.9	8675.2	212.0	-60.0	90.0	0.0	16.1	87.0
1	ND104	6644.9	8675.2	212.0	-60.0	90.0	16.1	68.0	87.0
1	ND104	6644.9	8675.2	212.0	-60.0	90.0	68.0	75.8	87.0
1	ND108	6645.5	9800.4	330.3	-60.0	95.0	0.0	60.0	60.0
1	ND109	6643.9	9799.9	330.2	-60.0	178.0	0.0	78.0	78.0
1	ND110	6652.0	9750.2	330.6	-60.0	270.0	0.0	88.0	100.0
1	ND111	6659.7	9749.8	330.7	-60.0	5.0	0.0	100.0	100.0
1	ND200101	6947.4	9789.6	341.9	-51.3	267.4	214.4	250.8	370.0
1	ND200101	6947.4	9789.6	341.9	-51.3	267.4	250.8	264.9	370.0
1	ND200101	6947.4	9789.6	341.9	-51.3	267.4	264.9	300.1	370.0
1	ND200102	6719.2	9390.0	119.1	-59.0	269.1	0.0	2.0	162.4
1	ND200102	6719.2	9390.0	119.1	-59.0	269.1	2.0	9.6	162.4
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	ND200102	6719.2	9390.0	119.1	-59.0	269.1	52.0	78.4	162.4
1	ND200102	6719.2	9390.0	119.1	-59.0	269.1	78.4	87.9	162.4
1	ND200102	6719.2	9390.0	119.1	-59.0	269.1	87.9	99.5	162.4
1	ND200103	6720.9	9390.1	119.2	-54.9	86.3	0.0	10.3	185.0
1	ND200103	6720.9	9390.1	119.2	-54.9	86.3	10.3	53.8	185.0
1	ND200103	6720.9	9390.1	119.2	-54.9	86.3	53.8	172.4	185.0
1	ND200104	6903.3	9836.9	341.9	-55.2	270.0	178.5	202.5	296.2
1	ND200104	6903.3	9836.9	341.9	-55.2	270.0	202.5	243.2	296.2
1	ND200104	6903.3	9836.9	341.9	-55.2	270.0	243.2	287.7	296.2
1	ND200111	6979.7	9739.8	341.9	-47.2	271.3	213.0	304.4	380.1
1	ND200111	6979.7	9739.8	341.9	-47.2	271.3	304.4	342.0	380.1
1	ND200111	6979.7	9739.8	341.9	-47.2	271.3	342.0	352.3	380.1
1	NDDH0501	6822.1	9189.9	185.0	-69.0	268.8	102.9	115.8	483.9
1	NDDH0501	6822.1	9189.9	185.0	-69.0	268.8	115.8	206.4	483.9
1	NDDH0501	6822.1	9189.9	185.0	-69.0	268.8	276.8	322.0	483.9
1	NDDH0503	6449.2	9540.1	260.5	-59.3	90.9	475.1	490.0	783.1
1	NDDH0503	6449.2	9540.1	260.5	-59.3	90.9	541.3	699.6	783.1
1	NDDH0504	6657.6	9388.6	117.6	-57.1	89.1	0.0	6.7	334.0
1	NDDH0504	6657.6	9388.6	117.6	-57.1	89.1	6.7	69.0	334.0
1	NDDH0504	6657.6	9388.6	117.6	-57.1	89.1	129.5	315.1	334.0
1	NDDH0505	6671.4	9485.0	112.0	-53.1	91.4	0.0	46.3	314.8
1	NDDH0505	6671.4	9485.0	112.0	-53.1	91.4	56.0	60.0	314.8
1	NDDH0505	6671.4	9485.0	112.0	-53.1	91.4	60.0	64.7	314.8
1	NDDH0505	6671.4	9485.0	112.0	-53.1	91.4	64.7	259.8	314.8
1	NDDH0506	6642.5	9293.0	126.7	-59.5	92.8	64.5	100.1	351.4
1	NDDH0506	6642.5	9293.0	126.7	-59.5	92.8	146.4	170.0	351.4
1	NDDH0506	6642.5	9293.0	126.7	-59.5	92.8	170.0	210.0	351.4
1	NDDH0506	6642.5	9293.0	126.7	-59.5	92.8	210.0	337.1	351.4
1	NDDH0506	6642.5	9293.0	126.7	-59.5	92.8	337.1	349.4	351.4
1	NDDH0507	6542.3	9734.7	241.3	-54.8	94.7	120.0	234.5	560.5
1	NDDH0507	6542.3	9734.7	241.3	-54.8	94.7	302.5	499.7	560.5
1	NDDH0507	6542.3	9734.7	241.3	-54.8	94.7	499.7	507.3	560.5
1	NDDH0508	6455.2	9644.2	254.9	-55.5	89.6	316.0	358.0	477.4
1	NDDH0508	6455.2	9644.2	254.9	-55.5	89.6	358.0	370.0	477.4
1	NDDH0508	6455.2	9644.2	254.9	-55.5	89.6	370.0	450.0	477.4
1	NDDH0508	6455.2	9644.2	254.9	-55.5	89.6	455.8	477.4	477.4
1	NDDH0601	6485.1	9867.3	295.7	-48.2	74.6	285.9	304.2	603.4
1	NDDH0601	6485.1	9867.3	295.7	-48.2	74.6	432.0	526.0	603.4
1	NDDH0601	6485.1	9867.3	295.7	-48.2	74.6	526.0	534.0	603.4
1	NDDH0602	7140.5	9954.8	352.1	-45.4	267.5	473.9	478.0	750.1
1	NDDH0602	7140.5	9954.8	352.1	-45.4	267.5	478.0	553.2	750.1
1	NDDH0602	7140.5	9954.8	352.1	-45.4	267.5	675.8	697.5	750.1
1	NDDH0606	6615.7	9054.3	201.9	-54.1	89.1	47.6	138.5	285.5
1	NDDH0606	6615.7	9054.3	201.9	-54.1	89.1	158.0	164.7	285.5

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	NDDH0606	6615.7	9054.3	201.9	-54.1	89.1	164.7	275.5	285.5
1	NDDH0607	6606.5	8991.1	206.8	-56.3	88.5	29.9	116.3	317.5
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	NDDH0607	6606.5	8991.1	206.8	-56.3	88.5	247.9	262.0	317.5
1	NDDH0607	6606.5	8991.1	206.8	-56.3	88.5	262.0	317.5	317.5
1	NDDH0608	6667.0	9641.2	127.8	-55.1	270.9	0.0	3.0	107.3
1	NDDH0608	6667.0	9641.2	127.8	-55.1	270.9	3.0	20.0	107.3
1	NDDH0608	6667.0	9641.2	127.8	-55.1	270.9	20.0	58.0	107.3
1	NDDH0609	6670.3	9591.3	122.0	-55.2	273.9	0.0	11.4	201.5
1	NDDH0609	6670.3	9591.3	122.0	-55.2	273.9	11.4	30.3	201.5
1	NDDH0609	6670.3	9591.3	122.0	-55.2	273.9	30.3	63.0	201.5
1	NDDH0610	6672.0	9586.9	122.1	-54.8	230.4	0.0	17.3	130.5
1	NDDH0610	6672.0	9586.9	122.1	-54.8	230.4	17.3	56.0	130.5
1	NDDH0611	6698.9	9464.2	110.8	-55.8	296.1	15.5	72.5	181.5
1	NDDH0611	6698.9	9464.2	110.8	-55.8	296.1	72.5	85.0	181.5
1	NDDH0611	6698.9	9464.2	110.8	-55.8	296.1	85.0	124.1	181.5
1	NDDH0612	6697.3	9461.9	110.8	-55.5	260.6	14.0	61.9	146.6
1	NDDH0612	6697.3	9461.9	110.8	-55.5	260.6	61.9	71.0	146.6
1	NDDH0612	6697.3	9461.9	110.8	-55.5	260.6	71.0	127.7	146.6
1	NDDH0613	6670.6	9648.6	128.4	-53.1	92.1	0.0	19.0	315.5
1	NDDH0613	6670.6	9648.6	128.4	-53.1	92.1	59.9	134.1	315.5
1	NDDH0613	6670.6	9648.6	128.4	-53.1	92.1	134.1	159.0	315.5
1	NDDH0613	6670.6	9648.6	128.4	-53.1	92.1	159.0	280.7	315.5
1	NDDH0613	6670.6	9648.6	128.4	-53.1	92.1	280.7	294.3	315.5
1	NDDH0614	6810.8	8995.9	207.9	-52.6	250.4	127.1	191.6	276.3
1	NDDH0614	6810.8	8995.9	207.9	-52.6	250.4	191.6	193.0	276.3
1	NDDH0614	6810.8	8995.9	207.9	-52.6	250.4	222.0	275.0	276.3
1	NDDH0615	6840.7	9083.1	197.3	-63.5	313.2	147.3	165.0	263.6
1	NDDH0615	6840.7	9083.1	197.3	-63.5	313.2	165.0	255.3	263.6
1	NDDH0615	6840.7	9083.1	197.3	-63.5	313.2	255.3	260.8	263.6
1	NDDH0616	6842.9	9081.7	197.6	-61.7	272.8	137.0	150.8	287.7
1	NDDH0616	6842.9	9081.7	197.6	-61.7	272.8	150.8	244.4	287.7
1	NDDH07001	6656.4	8638.9	191.3	-54.5	87.8	0.0	30.5	120.0
1	NDDH07002	6790.4	8690.9	205.9	-56.2	270.0	141.2	145.9	225.4
1	NDDH07002	6790.4	8690.9	205.9	-56.2	270.0	193.0	200.8	225.4
1	NDDH07022	6767.5	8840.5	215.8	-60.3	264.9	111.4	158.1	243.2
1	NDDH07022	6767.5	8840.5	215.8	-60.3	264.9	158.1	173.7	243.2
1	NDDH07023	6810.0	8990.0	203.0	-53.2	273.5	120.0	178.0	204.2
1	NDDH07023	6810.0	8990.0	203.0	-53.2	273.5	178.0	180.9	204.2
1	NDDH07023	6810.0	8990.0	203.0	-53.2	273.5	196.6	204.2	204.2
1	NDDH08035	6802.0	9533.6	70.8	-90.0	0.0	0.0	25.0	25.0
1	NDDH09054	6709.0	10143.7	324.2	-49.3	95.2	64.0	134.3	163.7
1	NDDH09055	6704.6	10186.3	324.9	-49.2	87.6	91.5	126.6	149.6
1	NDDH09056	6712.0	10041.2	320.2	-59.3	97.3	89.8	110.6	118.4
1	NDDH09063	6872.7	10276.0	334.6	-49.1	285.2	189.7	195.5	259.5
1	NDDH09064	6630.3	9990.1	297.6	-50.0	92.2	40.0	62.2	349.3
1	NDDH09064	6630.3	9990.1	297.6	-50.0	92.2	219.0	231.0	349.3
1	NDDH09064	6630.3	9990.1	297.6	-50.0	92.2	231.0	233.0	349.3
1	NDDH09064	6630.3	9990.1	297.6	-50.0	92.2	275.0	295.0	349.3
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	NDDH09065	6945.1	9939.9	322.1	-50.7	270.6	225.0	228.0	329.2
1	NDDH09065	6945.1	9939.9	322.1	-50.7	270.6	257.3	298.5	329.2
1	NDDH10066	6940.8	10040.8	322.7	-52.7	264.3	225.0	253.1	368.5
1	NDDH10067	6621.3	10140.0	306.1	-47.6	95.4	226.0	264.9	296.3
1	NDDH10068	6686.6	10089.9	290.1	-49.7	88.6	84.5	126.0	206.5
1	NDDH10068	6686.6	10089.9	290.1	-49.7	88.6	126.0	129.0	206.5
1	NDDH10068	6686.6	10089.9	290.1	-49.7	88.6	148.7	167.6	206.5
1	NDDH10069	6707.5	9939.8	275.3	-50.6	93.6	61.6	80.5	177.8
1	NDDH10069	6707.5	9939.8	275.3	-50.6	93.6	130.5	142.0	177.8
1	NDDH10070	6894.3	10036.9	306.2	-49.8	295.2	148.9	180.7	295.1
1	NDDH10070	6894.3	10036.9	306.2	-49.8	295.2	210.3	234.6	295.1
1	NDDH10070	6894.3	10036.9	306.2	-49.8	295.2	234.6	244.0	295.1

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	NDDH10071	7014.8	10126.4	335.6	-52.5	254.0	373.2	385.2	510.0
1	NDDH10071	7014.8	10126.4	335.6	-52.5	254.0	385.2	408.3	510.0
1	NP2018_05	6779.4	9882.2	32.7	-48.5	259.5	0.0	3.5	294.5
1	NP2018_05	6779.4	9882.2	32.7	-48.5	259.5	3.5	70.0	294.5
1	NP2018_05	6779.4	9882.2	32.7	-48.5	259.5	213.0	245.0	294.5
1	NP2018_06	6783.7	9885.4	32.8	-49.1	48.4	0.0	13.0	202.0
1	NP2018_06	6783.7	9885.4	32.8	-49.1	48.4	13.0	31.7	202.0
1	NP8845	6622.0	9141.0	281.0	-90.0	0.0	0.0	12.0	12.0
1	NP8865	6740.0	9215.0	255.0	-90.0	0.0	0.0	3.0	3.0
1	NPRC07009	6719.3	9105.8	148.2	-57.9	337.2	0.0	47.2	72.0
1	NPRC07010	6716.9	9112.7	147.4	-61.8	252.1	0.0	42.0	71.0
1	NPRC07010	6716.9	9112.7	147.4	-61.8	252.1	53.8	71.0	71.0
1	NPRC07011	6716.8	9081.4	151.2	-64.6	296.1	0.0	50.0	70.0
1	NPRC07011	6716.8	9081.4	151.2	-64.6	296.1	61.3	70.0	70.0
1	NPRC07012	6718.0	9077.2	151.6	-53.8	251.1	0.0	0.6	80.0
1	NPRC07012	6718.0	9077.2	151.6	-53.8	251.1	0.6	19.0	80.0
1	NPRC07012	6718.0	9077.2	151.6	-53.8	251.1	19.0	34.0	80.0
1	NPRC07012	6718.0	9077.2	151.6	-53.8	251.1	45.0	70.0	80.0
1	NPRC07013	6707.0	9027.0	156.0	-55.0	253.0	0.0	22.8	88.0
1	NPRC07013	6707.0	9027.0	156.0	-55.0	253.0	27.9	28.8	88.0
1	NPRC07013	6707.0	9027.0	156.0	-55.0	253.0	54.0	71.0	88.0
1	NPRC07014	6703.8	9029.5	156.1	-64.8	296.2	0.0	26.0	88.0
1	NPRC07014	6703.8	9029.5	156.1	-64.8	296.2	49.6	76.0	88.0
1	NPRC07015	6699.2	8977.2	161.1	-54.1	287.1	6.0	47.0	100.0
1	NPRC07015	6699.2	8977.2	161.1	-54.1	287.1	53.5	62.5	100.0
1	NPRC07016	6701.4	8978.0	161.0	-56.4	256.4	7.0	57.0	120.0
1	NPRC07016	6701.4	8978.0	161.0	-56.4	256.4	87.0	94.0	120.0
1	NPRC07017	6686.6	8839.5	175.1	-56.7	270.5	16.0	26.0	60.0
1	NPRC07017	6686.6	8839.5	175.1	-56.7	270.5	37.0	49.0	60.0
1	NPRC07018	6678.1	8792.7	179.8	-63.2	270.4	32.0	41.0	41.0
1	NPRC07019	6692.9	8889.9	170.3	-66.2	271.2	0.0	48.0	91.0
1	NPRC07019	6692.9	8889.9	170.3	-66.2	271.2	48.0	71.0	91.0
1	NPRC07020	6781.5	8917.1	216.4	-53.5	279.0	115.0	119.0	154.0
1	NPRC07020	6781.5	8917.1	216.4	-53.5	279.0	119.0	143.0	154.0
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	NPRC07020	6781.5	8917.1	216.4	-53.5	279.0	143.0	152.0	154.0
1	NPRC07020	6781.5	8917.1	216.4	-53.5	279.0	152.0	154.0	154.0
1	NPRC07021	6817.8	8889.6	218.1	-59.7	266.6	170.0	176.0	195.0
1	NPRC07021	6817.8	8889.6	218.1	-59.7	266.6	176.0	195.0	195.0
1	NPRC09039	6713.8	9000.9	140.1	-50.5	273.2	9.0	39.7	40.0
1	NPRC09040	6709.8	8991.8	139.7	-49.1	274.3	6.0	40.0	60.0
1	NPRC09040	6709.8	8991.8	139.7	-49.1	274.3	58.6	60.0	60.0
1	NPRC09041	6727.1	8989.3	140.0	-49.6	267.2	16.6	60.0	60.0
1	NPRC09042	6725.1	9015.0	139.8	-48.4	270.0	0.0	4.0	50.0
1	NPRC09042	6725.1	9015.0	139.8	-48.4	270.0	9.8	46.1	50.0
1	NPRC09043	6748.4	9040.0	139.6	-50.4	270.0	9.0	12.0	65.0
1	NPRC09043	6748.4	9040.0	139.6	-50.4	270.0	12.0	16.0	65.0
1	NPRC09043	6748.4	9040.0	139.6	-50.4	270.0	16.0	52.0	65.0
1	NPRC09043	6748.4	9040.0	139.6	-50.4	270.0	52.0	53.0	65.0
1	NPRC09043	6748.4	9040.0	139.6	-50.4	270.0	61.3	65.0	65.0
1	NPRC09044	6746.7	9015.0	139.1	-50.5	270.0	22.6	70.0	70.0
1	NPRC09045	6731.3	9002.5	139.9	-50.2	270.0	18.8	18.8	60.0
1	NPRC09045	6731.3	9002.5	139.9	-50.2	270.0	23.0	60.0	60.0
1	NPRC09046	6754.2	10189.4	335.3	-49.6	80.5	29.0	70.0	85.0
1	NPRC09047	6743.9	10213.5	334.9	-49.1	95.0	44.3	75.0	75.0
1	NPRC09048	6738.6	10144.8	323.0	-49.7	90.2	30.0	100.0	100.0
1	NPRC09051	6735.1	10087.1	321.9	-49.5	87.0	25.0	58.0	70.0
1	NPRC09052	6760.4	10039.9	321.6	-49.5	79.6	4.0	32.0	70.0
1	NPRC09052	6760.4	10039.9	321.6	-49.5	79.6	51.0	56.0	70.0
1	NPRC09053	6758.0	9995.2	321.3	-49.4	85.5	4.0	7.0	70.0
1	NPRC09053	6758.0	9995.2	321.3	-49.4	85.5	53.0	60.0	70.0
1	NPRC09058	6740.6	10337.8	323.7	-48.1	93.6	43.0	48.0	82.0

ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2018



GRANGE
RESOURCES

1	NPRC09059	6757.4	10313.4	322.8	-53.5	89.3	18.0	31.0	58.0
1	NPRC09059	6757.4	10313.4	322.8	-53.5	89.3	31.0	35.0	58.0
1	NPRC09060	6743.5	10304.5	322.7	-46.1	117.4	52.0	58.0	82.0
1	NPRC09060	6743.5	10304.5	322.7	-46.1	117.4	58.0	65.0	82.0
1	NPRC09060	6743.5	10304.5	322.7	-46.1	117.4	65.0	71.0	82.0
1	NPRC10072	6711.5	9990.0	275.8	-53.7	90.4	51.0	78.0	124.0
1	NPRC10072	6711.5	9990.0	275.8	-53.7	90.4	101.0	111.0	124.0
1	NPRC10076	6670.8	8790.0	100.6	-53.1	89.7	0.0	19.0	119.0
1	NPRC10076	6670.8	8790.0	100.6	-53.1	89.7	19.0	114.0	119.0
1	NPRC10086	6688.7	8589.5	167.4	-60.4	273.4	37.0	72.0	105.0
1	NPRC10086	6688.7	8589.5	167.4	-60.4	273.4	72.0	94.0	105.0
1	NPRC10087	6719.0	8600.9	168.6	-59.4	258.6	92.0	106.0	114.0
1	NPRC10087	6719.0	8600.9	168.6	-59.4	258.6	106.0	114.0	114.0
1	NPRC10088	6659.2	8490.1	168.8	-72.0	269.2	1.0	76.2	96.0
1	NPRC10089	6719.7	8765.0	95.2	-60.8	227.1	18.0	57.0	108.0
1	NPRC10089	6719.7	8765.0	95.2	-60.8	227.1	68.0	73.0	108.0
1	NPRC10091	6648.4	8690.0	153.7	-55.8	94.2	1.0	58.0	84.0
1	NPRC10092	6674.9	8550.5	167.6	-59.7	257.7	21.0	66.0	66.0
1	NPRC10093	6615.8	8471.9	168.4	-59.5	91.8	19.0	34.0	60.0
NP-2018	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	max_depth
1	NPUG2018_01	6603.9	8464.3	168.5	-57.5	52.9	60.0	100.0	100.0
1	NPUG2018_05	7383.3	9087.2	343.8	-57.9	257.3	1029.7	1037.6	1121.9
1	NPUG2018_05	7334.2	9137.3	343.6	-53.9	273.1	774.1	803.0	1088.1
1	NPUG2018_05	7334.2	9137.3	343.6	-53.9	273.1	803.0	918.3	1088.1
1	NPUG2018_08	7321.7	9293.6	345.8	-51.5	270.7	713.1	732.4	827.1
1	NPUG2018_08	7321.7	9293.6	345.8	-51.5	270.7	732.4	827.1	827.1
1	NPUG2018_10	7324.0	9482.0	351.2	-53.0	265.9	783.9	893.0	1115.0
1	NPUG2018_14	7290.3	9614.3	350.4	-53.3	269.5	669.8	809.4	1131.0
1	NPUG2018_14	7290.3	9614.3	350.4	-53.3	269.5	882.6	899.5	1131.0
1	NPUG2018_16	7199.4	9804.7	342.7	-66.9	258.8	866.7	882.8	1148.6
1	NPUG2018_16	7199.4	9804.7	342.7	-66.9	258.8	882.8	892.5	1148.6
1	NPUG2018_16	7199.4	9804.7	342.7	-66.9	258.8	892.5	977.3	1148.6
1	NPUG2018_16	7199.4	9804.7	342.7	-66.9	258.8	1087.9	1122.1	1148.6
1	NPUG2018_17	7196.9	9804.4	342.8	-57.4	263.1	671.0	675.4	1022.2
1	NPUG2018_17	7196.9	9804.4	342.8	-57.4	263.1	675.4	794.2	1022.2
1	NPUG2018_17	7196.9	9804.4	342.8	-57.4	263.1	840.1	924.0	1022.2
1	NRC200405	6736.8	9819.9	281.5	-52.5	87.5	29.0	64.0	102.0
1	NRC200405	6736.8	9819.9	281.5	-52.5	87.5	64.0	68.0	102.0
1	NRC200405	6736.8	9819.9	281.5	-52.5	87.5	68.0	81.0	102.0
1	NRC200406	6753.5	9843.1	280.3	-54.7	92.2	2.0	29.0	102.0
1	NRC200408	6725.1	9845.1	283.1	-54.5	90.4	52.0	90.0	102.0
1	NRC200408	6725.1	9845.1	283.1	-54.5	90.4	90.0	102.0	102.0
1	NRC200509	6717.1	9756.8	221.8	-55.0	140.4	62.0	152.0	152.0
1	NRC200510	6764.5	9755.0	220.2	-59.5	176.3	0.0	60.5	140.0
1	NRC200510	6764.5	9755.0	220.2	-59.5	176.3	60.5	140.0	140.0
1	NRC200611	6804.9	9031.8	202.8	-59.0	267.7	98.0	106.0	202.0
1	NRC200611	6804.9	9031.8	202.8	-59.0	267.7	106.0	172.0	202.0
1	NRC200612	6777.4	9171.7	149.8	-56.3	245.5	28.0	87.9	180.0
1	NRC200612	6777.4	9171.7	149.8	-56.3	245.5	87.9	106.0	180.0
1	NRC200612	6777.4	9171.7	149.8	-56.3	245.5	106.0	118.0	180.0
1	NRC200612	6777.4	9171.7	149.8	-56.3	245.5	158.0	168.0	180.0
1	NRC200613	6793.5	9231.5	150.2	-58.4	267.9	38.0	52.0	196.0
1	NRC200613	6793.5	9231.5	150.2	-58.4	267.9	52.0	76.0	196.0
1	NRC200613	6793.5	9231.5	150.2	-58.4	267.9	76.0	104.0	196.0
1	NRC200613	6793.5	9231.5	150.2	-58.4	267.9	172.0	194.0	196.0
1	NRC200614	6796.9	8991.8	208.0	-59.1	268.8	104.0	160.0	196.0
1	NRC200614	6796.9	8991.8	208.0	-59.1	268.8	174.0	178.0	196.0
1	NRC200615	6746.4	8788.3	211.5	-60.8	273.0	86.0	124.0	170.0
1	NRC200615	6746.4	8788.3	211.5	-60.8	273.0	128.0	142.0	170.0