









31 March 2021 ASX: GRR.

### **GRANGE RESOURCES LIMITED**

Australia's most experienced magnetite producer

Update to Savage River Mineral Resources and Ore Reserves

December 2020 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 2020.
- Mineral Resources have increased to 497.5MT@ 45.8%DTR.
- This increase of 7.6MT from the previous statement is driven by completion of phase three of the 2020 underground drill program.
- Ore Reserves at Savage River are 107.7MT @ 47.2%DTR, reflecting mine production during 2020 and are based on future open pit extraction.
- The 5.5MT decrease in Ore Reserve from the previous statement is attributed to mining depletion.
- This release encompasses the estimation updated with the third phase of the 2019/20 underground resource drilling program and includes mining depletion since the 2019 report.











The resource consists of 497.5 million tonnes at 45.8% DTR (above a cut-off of 15% DTR) as detailed in table 1 and the reserve consists of 107.7 million tonnes at 47.2% DTR (above a cut-off of 15% DTR) as detailed in table 2.

**Table 1 Savage River Mineral Resource Estimate** 

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	163.6	188.7	145.2	497.5
DTR (%)	54.3	43.0	39.5	45.8
Fe (%)	67.8	68.1	68.9	68.2
Ni (%)	0.04	0.05	0.04	0.04
TiO <sub>2</sub> (%)	0.82	0.69	0.62	0.71
MgO (%)	1.79	1.41	1.11	1.45
P (%)	0.010	0.009	0.008	0.009
V (%)	0.36	0.34	0.35	0.35
S (%)	0.08	0.11	0.09	0.09

- Elemental compositions were measured from Davis Tube Concentrate
- Above a cut-off grade of 15% DTR
- 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** 

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	61.6	46.1	107.7
DTR (%)	51.6	41.3	47.2
Fe (%)	68.0	67.9	67.9
Ni (%)	0.03	0.05	0.04
TiO <sub>2</sub> (%)	0.90	0.61	0.78
MgO (%)	1.73	1.55	1.65
P (%)	0.010	0.010	0.010
V (%)	0.36	0.37	0.37
S (%)	0.05	0.11	0.07

- Elemental compositions were measured from Davis Tube Concentrate
- Above a cut-off grade of 15% DTR
- 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).

Independent technical reviews were performed by AMC Consultants Pty Ltd (AMC) in 2019 & 2020 regarding the resource estimation process and the reserve estimation of Centre Pit. AMC considers, based on the available information, Mineral Resource estimates have been completed using accepted practice.











#### 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 2020 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.

#### 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 1 Savage River Project Location











#### **T**ENURE

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 was renewed 18 Dec 2017 and expires in 2031. 4M/2019 (235Ha) was granted 17 August 2020 and expires 7/10/2031.

Exploration licence EL30/2003 was granted in February 2010. The current 2 year tenure period expires on the 18 June 2021, is renewable via a



Figure 2: Tenements as at Dec 2020

successful extension of term application. Grange is currently on its sixth extension of term and an application for a further extension will be made prior to the renewal date. This license covers the 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 on its second extension of term which expires on 29 July 2021. An application for a further extension for EL30-2003 and EL8-2014 will be made 3 months prior to the renewal dates.

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











#### **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 cutback 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.











#### **G**EOLOGY

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).

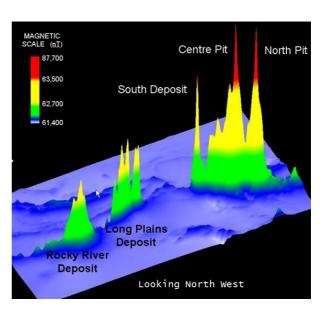


Figure 3: Savage River Regional Magnetics

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 subparallel 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, 2020 focussed on the mining lease areas around North Pit The objectives of the program were to confirm continuity of the magnetite mineralisation at depth below North Pit. This statement incorporates the results of 6 holes drilled from the underground decline in 2020 totalling 3,416 metres.

The third phase of underground drilling is complete for North Pit and the model was re-estimated in June 2020. Further resource drilling is not planned at present in North Pit and the requirement is reassessed on an annual basis.

In addition to resource drilling, a large campaign of geotechnical drilling was conducted within the West Wall of North Pit in 2020. Twenty geotechnical holes were drilled in 2020 totalling 7,091m to inform geotechnical characteristics of the west wall for Life of Mine Planning.

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 (Fe<sup>2+</sup>) via Satmagan and S, total Fe, TiO<sub>2</sub>, 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. The stage 3 drilling completed during 2020 beneath North Pit resulted in a modest 2% increase in volume from refinement of wireframes informed by the new underground drilling.

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

- North Pit: 5mE by 10mN by 5mRL parent block size with sub-celling to 2.5mE by 5mN by 2.5mRL for North Pit,
- Centre Pit 5mE by 15mN by 5mRL parent block size with sub-celling to 2.5mE by 3.75mN by 2.5mRL
- 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 Xstract Consultants. These parameters were used to assist in the classification of the resource. The Xstract estimate completed in 2020 and used for this report validated the Optiro estimate from 2019.

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 review of mineable shapes by open cut or underground methods and economic viability at historical market highs. Areas below a pit shell with unlikely prospectivity or for extraction from underground with a true width less than 20m were manually removed.

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).











There has been no material change to the Centre Pit Mineral Resource since the last statement.

There have been no changes over the last year to the Mineral Resources for the other deposits of Sprent, South Deposit and Long Plains.

Oxidised hematite mineralisation is not included in the any of the resource estimation.

Mineral Resources at the Savage River Mine including Long Plains are as at the end of December 2020. Mineral Resources are categorised in accordance with the guidelines established in the JORC Code (2012 Edition). Estimated Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the estimated Ore Reserves.

Some Mineral Resources such as, Sprent and Long Plains have not had the required level of studies completed to report any Ore Reserves associated with those deposits. They are considered to meet the Mineral Resource requirement of having reasonable prospects of future eventual economic extraction.











#### **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. A feasibility study on Centre Pit was completed in October of 2019.

Pit designs are based on optimised shells determined using Geovia 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 Ore Reserves at the Savage River Mine are as at the end of December 2020. 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. 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 Ore Reserves.

Between Dec 2019 and Dec 2020 Ore Reserves at North pit reduced by 5.4Mt to 76.0Mt, due to mining depletion. Proven Reserves reduced by 0.4Mt and Probable Reserves increased by 12.1Mt. This movement is owing to a decision to classify all ore reserves within the final west wall cut back of North Pit as meeting the lower confidence classification of a Probable Ore Reserve. This was taken due to lower geotechnical and economic confidence. This was based on recent geotechnical modelling work using new data and updates to economic evaluation including global assumptions which are conducted as part of Grange Resources' annual Life of Mine planning process. Total North Pit Ore Reserves less mining depletion remain in line with previous reports.

The Tasmanian EPA has issued interim approval for the pre-stripping the first stage of Centre Pit with full approval anticipated in Q2,2021. Grange believes there are reasonable prospects of obtaining full approval covering the stated reserves given that the proposal is the cut back of an existing open pit. Guidance has been provided by the EPA and an Environmental Impact Statement has been drafted to address the requirements. As full approval has not yet been obtained Measured and Indicated Resources within the second and third stage of Centre Pit have been designated as meeting the Probable Ore Reserve Category. Once final approvals are received an update to the Ore Reserve confidence is expected.











#### **MINERAL RESOURCE ESTIMATE BY DEPOSIT**

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.

**Table 3 North Pit Mineral Resources December 2020** 

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	117.9	87.8	39.3	245.0
DTR (%)	56.4	42.8	44.9	49.7
Fe (%)	67.7	67.8	68.3	67.8
Ni (%)	0.04	0.05	0.05	0.05
TiO <sub>2</sub> (%)	0.96	0.89	0.82	0.91
MgO (%)	1.99	1.69	1.42	1.79
P (%)	0.010	0.010	0.010	0.010
V (%)	0.35	0.33	0.34	0.34
S (%)	0.05	0.08	0.09	0.07

Changes in resource for 2020 include an increase in Measured and Indicated Resources of 11.4Mt and 6.1Mt respectively and a reduction of Inferred Resources by 9.1Mt due to increased confidence provided by the phase 3 underground drilling.

**Table 4 South Deposit Mineral Resources December 2020** 

	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
TiO <sub>2</sub> (%)	0.58	0.70	0.66	0.66
MgO (%)	1.99	1.79	1.74	1.79
P (%)	0.010	0.007	800.0	0.008
V (%)	0.26	0.26	0.26	0.26
S (%)	0.13	0.13	0.15	0.14











#### **Table 5 Centre Pit Mineral Resources December 2020**

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	41.3	66.8	14.4	122.5
DTR (%)	51.8	46.7	44.9	48.2
Fe (%)	68.3	68.3	68.3	68.3
Ni (%)	0.05	0.05	0.04	0.05
TiO <sub>2</sub> (%)	0.43	0.45	0.43	0.44
MgO (%)	1.21	1.21	1.03	1.19
P (%)	0.009	0.010	0.010	0.010
V (%)	0.40	0.37	0.33	0.37
S (%)	0.16	0.15	0.17	0.16

#### **Table 6 Sprent Mineral Resources December 2020**

	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
TiO <sub>2</sub> (%)	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











#### **Table 7 Long Plain Mineral Resources December 2020**

	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
TiO <sub>2</sub> (%)	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

#### **Table 8 Stockpile Mineral Resources December 2020**

Stockpiles-Measured	Tonnes (Mt)	Grade (%DTR)
Crushed Ore	0.06	44.5
In-pit Broken stocks	1.72	29.2
Total	1.78	29.7

#### Table 9 Total Mineral Resources Savage River December 2020

	Measured Resources	Indicated Resources	Inferred Resources	TOTAL Resources
Tonnes (Mt)	163.6	188.7	145.2	497.5
DTR (%)	54.3	43.0	39.5	45.8
Fe (%)	67.8	68.1	68.9	68.2
Ni (%)	0.04	0.05	0.04	0.04
TiO <sub>2</sub> (%)	0.82	0.69	0.62	0.71
MgO (%)	1.79	1.41	1.11	1.45
P (%)	0.010	0.009	0.008	0.009
V (%)	0.36	0.34	0.35	0.35
S (%)	0.08	0.11	0.09	0.09











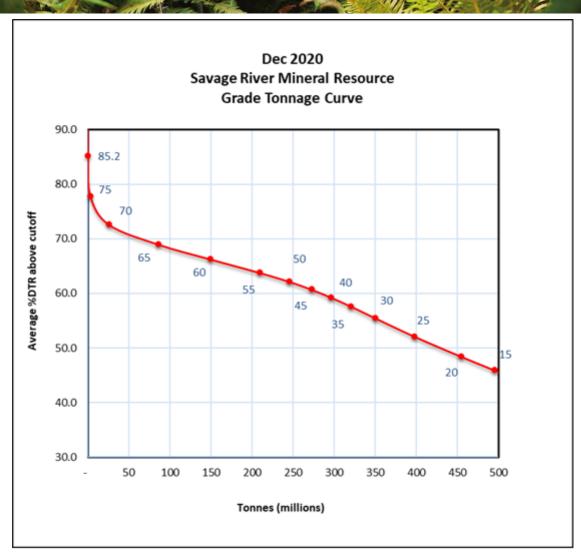


Figure 4 Total Resources Grade Tonnage Curve December 2020











#### **ORE RESERVE ESTIMATE BY DEPOSIT**

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.

**Table 10 North Pit Ore Reserve Estimate December 2020** 

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	53.6	22.4	76.0
DTR (%)	53.3	41.3	49.7
Fe (%)	67.8	67.2	67.7
Ni (%)	0.03	0.05	0.04
TiO <sub>2</sub> (%)	0.96	0.83	0.92
MgO (%)	1.82	1.97	1.86
P (%)	0.010	0.010	0.010
V (%)	0.36	0.33	0.36
S (%)	0.04	0.08	0.05

Between Dec 2019 and Dec 2020 Reserves at North pit reduced by 5.4Mt to 76Mt. Proven Reserves reduced by 0.9Mt and Probable Reserves decreased by 4.4Mt. The change was due to mining depletion.

Table 11 South Deposit Ore Reserve Estimate December 2020

	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
TiO <sub>2</sub> (%)	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











Table 12 Centre Pit Ore Reserves - December 2020

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	6.2	23.6	29.8
DTR (%)	44.1	41.3	41.9
Fe (%)	68.6	68.5	68.6
Ni (%)	0.04	0.05	0.05
TiO <sub>2</sub> (%)	0.49	0.41	0.43
MgO (%)	1.10	1.15	1.14
P (%)	0.006	0.010	0.009
V (%)	0.43	0.41	0.41
S (%)	0.13	0.14	0.14

Between Dec 2019 and Dec 2020 Ore Reserves at Centre Pit increased by 0.4Mt to 29.8 Mt due in updates to the pit design. The Ore Reserves for the second and third cut back of Centre Pit have been assessed as only meeting the Probable Reserves level due to government permitting and assessment processes that are in process. Full environmental approvals for Centre Pit are expected during 2021.

Table 13 Stockpiles Ore Reserves December 2020

Stockpiles-Measured	Tonnes (Mt)	Grade (%DTR)
Crushed Ore	0.06	44.5
In-pit Broken stocks	1.72	29.2
Total	1.78	29.7











**Table 14 Total Ore Reserves Savage River December 2020** 

	Proved Reserves	Probable Reserves	TOTAL Reserves
Tonnes (Mt)	61.6	46.1	107.7
DTR (%)	51.6	41.3	47.2
Fe (%)	68.0	67.9	67.9
Ni (%)	0.03	0.05	0.04
TiO <sub>2</sub> (%)	0.90	0.61	0.78
MgO (%)	1.73	1.55	1.65
P (%)	0.010	0.010	0.010
V (%)	0.36	0.37	0.37
S (%)	0.05	0.11	0.07











#### **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.

Granges senior staff designated with responsibility for internal review of the JORC Mineral Resources and Ore Reserves include:

- Roger Hill Senior Geology Manager
- Matthew Anderson Savage River Mine Manager
- Nicholas van der Hout Long term Planning Coordinator
- Ben Maynard General Manager Operations

These 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 over 50 years of mining and production from its Savage River mine and has a projected mine life beyond 2035. 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	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> <li>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°.</li> <li>All recent samples are assayed for DTR, Fe<sup>2+</sup>, Total Fe, Ni, TiO<sub>2</sub>, MgO, P, V, S, CaO, SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub>.</li> </ul>
	Include reference to measures taken to ensure sample	The drill hole locations are surveyed and down-hole surveys were completed.
	representivity and the appropriate calibration of any measurement tools or systems used.  • Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry	Diamond core was used to obtain the best possible sample quality for lithology, structural, grade and density information.
		Drilling of Diamond core was a combination of HQ and NQ sizes, some triple tube. All resource drilling has been drilled with triple tube equipment since 2005.
(e.		Samples were controlled based on geological contacts and generally no more than 2m in length. Sample selection was nominally >=0.75m and <=1.25m.
	charge for fire assay'). In other cases more explanation may be	All core samples were half cored. Core was split by diamond sawing.
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> <li>Samples were dried, crushed, split and pulverised to nominally 98% passing 75μm for Davis Tube Recovery (DTR) determination.</li> </ul>	
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core).	Samples used in the resource estimation were taken from diamond drill core of either HQ or NQ size or RC samples. (recent programs).
	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.).	80% of holes informing the resource were diamond holes and 13% were reverse circulation (RC) holes. 5% of the total were percussion holes (isolated to CP resource) and 2% other hole types.

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Criteri	a	Sampling Techniques and Data	Comments
			RC pre-collars were used in only 16% of the Long Plains campaign 2011-2013 to reduce drilling cost. RC was drilled to refusal and holes completed with diamond tails. (10 holes for 2,592m drilling in 2012-3)
			<ul> <li>Sonic pre-collars were used in the recent CP drilling campaign to penetrate waste dumps overlying the remaining ore in Centre Pit North. Sonic pre-collars were typically 50-80m in inclined HQ3 diamond holes. (9 holes for 1,862m drilled in 2018)</li> </ul>
			Where appropriate core was oriented using triple tube drilling techniques and employing Reflex orientation system on drill rigs.
Drill so	ample	Method of recording and assessing core and chip sample	Core recoveries were recorded in the geotechnical logs and in the sample records.
recove	ery	recoveries and results assessed.	<ul> <li>Core recoveries in the ore zones at Savage River are generally high (&gt;90%) and there are no significant core recovery issues. Drill core from the 2018-2020 drilling programs returned an average of 97% core recovery.</li> </ul>
			RC chip recoveries are also high. Recoveries below 80% have been recorded in the sample sheets. These poorer recoveries were typically in very wet holes. Most RC holes terminate when they encounter the water table and thereafter, diamond tails are utilised to finish the hole.
		<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	Drilling penetration rates were controlled in order to maximise recovery in ore zones.
		<ul> <li>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.</li> </ul>	No relationship between sample recovery and grade is known at Savage River.
Loggin	ng	Whether core and chip samples have been geologically and geo-technically logged to a level of detail to support	Core samples from all deposits have been logged for lithology, mineralogy, alteration and mineralisation.
		appropriate Mineral Resource estimation, mining studies and metallurgical studies.	<ul> <li>Geotechnical logging is undertaken routinely. detailed geotechnical logging is completed on oriented holes. Holes since 2018 are fully geotechnically oriented, logged including domain and structural defects. Logging is both qualitative and quantitative.</li> </ul>
			The level of detail is sufficient to support Mineral Resource estimation, mining studies and metallurgical studies.
		Whether logging is qualitative or quantitative in nature. Core	Logging is a combination of qualitative and quantitative.
		(or costean, channel, etc.) photography.	Core was photographed wet and dry. No photos were available for the oldest core.

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Criteria	Sampling Techniques and Data	Comments
	The total length and percentage of the relevant intersections logged.	All core and RC chips were fully logged.
Sub-sampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	• Core was half core sampled as standard practice and rarely full core sampled in the very few older holes.
sample		Core was cut using a diamond impregnated saw blade on site at the Savage River core farm.
preparation		<ul> <li>Core is cut on the centre axis and has no offset. The ore is relatively massive and the preferred orientation for core sawing is just left of the orientation line and along the centre line for non- oriented core.</li> </ul>
	• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	<ul> <li>RC samples passed through a cyclone with dust collector and were split at the drill rig using a three stage riffle splitter or a rig mounted con splitter.</li> </ul>
		• Sample interval was 1m in recent programs and 2m in programs prior to 2000.
		• For non-core, samples are dry riffled and sampled dry. When RC sample was damp, samples were speared uniformly.
	For all sample types, the nature, quality, and appropriateness of the sample preparation technique.	<ul> <li>Sample preparation techniques are industry standard for magnetite ores and use the sub- sampling protocol as recommended by the Savage river laboratory.</li> </ul>
		Sample prep on drill core drilled prior to 2011 was completed on site.
		Between 2011-2013 sample prep was completed at a commercial lab [NATA accredited].
		<ul> <li>In 2013 the Savage River lab upgraded the crushers and ovens and since then all core has been processed at the Savage River lab.</li> </ul>
	Quality control procedures adopted for all sub-sampling stages to maximise the representativeness of samples.	<ul> <li>As per standard operating procedure diamond core is dried and crushed according to Grange standard operating procedure, Diamond core was dried overnight in an oven at 1100C, crushed in a jaw crusher to 6mm, crushed in a Rolls crusher to 3mm.</li> </ul>
		<ul> <li>Since 2011 a Boyds crusher was installed in the lab enabling this comminution step to crush to 2mm. Following secondary crushing, the samples are riffle split to 2-3kg then a 150 gram sample is pulverised using a Rocklabs 3 ring grinder.</li> </ul>
		<ul> <li>RC chips were riffle split at the rig when dry and a 3kg sample was taken for each single metre drilled as described above. When RC sample was damp, samples were speared uniformly.</li> </ul>
	<ul> <li>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.</li> </ul>	• 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 the 2006 MLEP drilling campaign and by commercially prepared standards since then in North Pit Savage River.

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	Criteria	Sampling Techniques and Data	Comments
)			• No duplicates or blanks have been taken except 27 field duplicates taken in the 2006 MLEP program which equates to 0.15% of all samples have duplicates and 0.4% have blanks. Duplicate samples have not been taken as they are deemed of little importance in this deposit due to the continuous nature of the mineralisation, very low nugget and long variography ranges.
		Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>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).</li> </ul>
	Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	• The primary assay technique is Davis Tube Recovery (DTR) on a 10g sample, followed by Ferrous Iron (Fe <sup>2+</sup> ) via Satmagan and S, total Fe, TiO <sub>2</sub> , MgO, V, P, S and Ni via XRF on the Davis Tube Concentrate (DTC).
			<ul> <li>All techniques are considered total. DTR is the most appropriate assay technique for determination of magnetite recovery.</li> </ul>
			<ul> <li>All DTR samples completed on site using Savage River technique. This technique has been used for 50 years at Savage River and pit reconciliations are within accepted tolerance.</li> </ul>
		For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the	• Magnetic susceptibility instruments are used for initial geological logging to help the geologist classify the logged interval as ore grade or waste.
		analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	<ul> <li>Grange uses TerraPlus KT-10 MagSus meters to classify ore and provide an indicative grade estimate ahead of DTR analysis. Ore samples have sample prep, DTR and XRF determinations done and these inform the resource estimate.</li> </ul>
			No mag sus values are used in the resource estimate.
		Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether	• Standards- Field assay standards are inserted at a rate of 1 in 25 in drilled core and RC through ore zones.
		acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	<ul> <li>No field duplicates were analysed. Pulp duplicates have been collected for drillholes completed between 2019-2020. Blank material is inserted into the drillcore sample stream at a rate of 1:20 drill core samples. The blank material has been sourced from the Magnesite Fault which is known to have no magnetic minerals present.</li> </ul>
			• Data analysis of standards has been performed and the data demonstrates sufficient accuracy and precision for use in Mineral Resource estimation.
			<ul> <li>Three Standards were derived from 2006 MLEP drilling campaign and a commercial standard was purchased in 2019 for use in the 2019-2020 drill campaign in North Pit Savage River.</li> </ul>

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Criteria	Sampling Techniques and Data	Comments
		Standards for recent Centre Pit and North Pit drill campaigns (2013 onwards) were prepared on site by a staff geo-chemist and are sourced from core from Long Plains.
		Results to date show good agreement with expected value which implies that the lab is producing accurate and repeatable analyses
		Results from the 2006 Mine Lease Extension Project (MLEP) campaign showed a correlation coefficient of 1.00 for 27 pairs of data
Verification	,	Significant intersections MagSus readings) are verified by alternate company geologists present in the core shed as part of the process of developing the cut-sheet instruction.
assaying		The cut sheet defining sample lengths for cutting and sampling is selected based on the MagSus values
	The use of twinned holes.	<ul> <li>No twinned holes have been drilled. Twinned holes have not been drilled as they are deemed of little importance in this deposit due to the continuous nature of the mineralisation, very low nugget and long variography ranges.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>Prior to 2005 Primary data is captured in paper format and transferred manually to an Access database.</li> </ul>
		From 2005 Primary data was 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.
		From July 2019 logged data is captured directly in DataShed-LogChief software with validation controls.
	Discuss any adjustment to assay data.	<ul> <li>Adjustments are made to density measurements when measurements fall above 5 or below 2 g/cm³ respectively as these considered as sample errors and recent studies of these outliers confirmed that the measurements were un-reliable.</li> </ul>
		<ul> <li>In the drilling campaigns in 2019 a small proportion of the parent sample were excluded for destructive geotechnical testing prior to assay. These represent &lt;1% of all the composite assays and will have no material effect on the estimate.</li> </ul>
		Extensive use of re-submitted pulps has been used in the past for NP, especially in the 2006 drill campaign.
Location of	, , , , , , , , , , , , , , , , , , , ,	All significant surface features including drill collars were surveyed by Grange staff surveyors
points	and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	using a combination of conventional surveying (total station) and/or high resolution RTK GPS.
	iocations used in winicial resource estimation.	In each case, the collars were located to within 100mm in X, Y and Z.

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Criteria	Sampling Techniques and Data	Comments
		For downhole surveys, older drilling used single-shot Eastman dips at 50m spacing downhole (accurate to 0.5°).
		• Since 2013 North seeking gyro was used prior to the use of the DeviFlex downhole survey tool.
		• The stated accuracy for DeviFlex is +/- 0.01° per station in azimuth and +/- 0.1° in dip, with stations every 3m downhole.
	Specification of the grid system used.	The grid system used is the Savage River Mine Grid, where:
		o 10 <sup>0</sup> 18′ 23″ (N) SRG= 0 <sup>0</sup> (N) GDA94
	Quality and adequacy of topographic control.	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.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	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.
	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.	Data spacing and distribution were analysed using semi-variograms. The general quality of the experimental variograms was good. The ranges of the variograms were used to provide guidance for resource classification.
	Whether sample compositing has been applied.	Samples have been composited prior to geostatistical analysis and Mineral Resource estimation. At Savage River Mine, for the 2006 MLEP the composite length was 2m. At Long Plains, the composite length was 1m. The most common composite length was 1m and the second most common was 2m. For the resource estimates, the Surpac best-fit algorithm was used which resulted in composite lengths of 0.5 to 1.5m. This approach was adopted because a selection of a uniform composite length would have resulted in duplicated values in composites created from longer intervals, which may reduce the nugget values in variograms.
Orientation of data in relation to	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of drill holes are oriented to achieve intersection angles as close to perpendicular to the mineralization as is practicable.

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Criteria	Sampling Techniques and Data	Comments
geological structure	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.	No significant sampling bias occurs in the data due to the orientation of drilling with regards to mineralized structures/bodies.
Sample security	The measures taken to ensure sample security.	All samples are logged and bagged on site by Grange geological staff and chain of custody remains with Grange staff.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	During the Mine Life Extension Project in 2006 AMC peer reviewed the NP resource for the mine life extension project (MLEP).
		Following recent major drill campaigns, the resource was reviewed by AMC (March 2019, August 2019 and October 2020).
		A sample prep audit was conducted for the external provider. An internal review of the SR lab was completed in June 2019. That review was satisfied with procedures, calibration sand methods.
		In 2019, AMC peer reviewed the NP and CP Resources and CP Reserves. Their comments for EOY2018 noted QA/QC practices at Savage River were to an acceptable standard, with recommendations:
		<ul> <li>There is opportunity to improve QA/QC by including external umpire check assays as a means of further validation.</li> </ul>
		<ul> <li>It was recommended to continue submitting standards and add duplicate and blank samples at a rate of 5% particularly when drilling new areas.</li> </ul>
		During the 2019-20 drilling campaigns these recommendations were adopted including a migration of all exploration data to the DataShed database.

#### **SECTION 2: REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> </ul>	4 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).
	<ul> <li>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.</li> </ul>	<ul> <li>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.</li> </ul>
		Land tenure on ML 2M /2001 includes: State forest, Forest Reserve, Informal reserve, Crown Land, Private parcel, Conservation area, Regional Reserve and national Estate.
		<ul> <li>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</li> </ul>
		• 4M/2019 (235Ha) was granted 17 August 2020 and expires 7/10/2031. This portion was relinquished from EL8-2014. This expires 7/10/2031. A bond is held by the State of Tasmania.
		Mining lease 11M/2008 was renewed on 18 December 2017 and expires 7/10/2031 and comprises two lots totalling 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. A bond is held by the State of Tasmania.
		• The term for Exploration Licence EL8/2014 was extended in 2019 until 2021. A 235Ha area was relinquished in favour of 4M-2019.
		Exploration License EL30/2003 was granted in February 2010 and an extension of term has been granted on 5th July 2019 and expires on 18 June 2021. This lease covers the entire Long Plains deposit. The lease comprises 38 sq km and adjoins 2M/2001 to the north.

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Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	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	Deposit type, geological setting, and style of mineralization.	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 form 1994 Thornett report on structural and lithological mapping of North Pit and South Lens.
Drill hole Information	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:	The Savage River deposit has been mined for over 50 years and a comprehensive database of 1079 drill holes for over 160,564mof drilling has been accumulated which informs the resource models.
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	Drill hole information has been included in Appendix C
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	o dip and azimuth of the hole	
	o down hole length and interception depth	
	o hole length.	

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Criteria	JORC Code explanation	Commentary
	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.	
Data aggregation methods	<ul> <li>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.</li> <li>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 aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent</li> </ul>	<ul> <li>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.</li> <li>For RC samples, 2m or less composites were used at Savage River and 1m composites were used at Long Plains. In drill core, sample lengths were controlled based on observed geological contacts and generally no more than 2m in length. Sample selection was nominally &gt;=0.75m and &lt;=1.25m.</li> <li>Short intervals were sampled, where discrete lithologies were present. The compositing routine aggregates these to 1m composites.</li> </ul>
Relationship between mineralization widths and intercept lengths	<ul> <li>values should be clearly stated.</li> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported,</li> </ul>	<ul> <li>No Exploration Results are included in this report. The results pertain to the established Mineral Resource at Savage River and Long Plains.</li> <li>All intercepts are reported as down hole lengths and the down hole composites are used to inform the ordinary kriged resource estimate. Refer to intercept tables below.</li> </ul>
Diagrams	<ul> <li>there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> <li>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.</li> </ul>	A locality plan (figure 5) and typical cross sections (figure 6-10) for each deposit area are attached.
Balanced reporting	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.	All individual drilling results from diamond, RC (and limited percussion holes in CP resource) have been incorporated into the current resource estimations. In the current NP estimate, the percussion holes were removed. The percussion holes have poor sample quality owing to grouping and segregation errors that RC or drill core samples do not. The percussion holes represented a second population of lower quality data and were not required to complete the estimate.

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Criteria	JORC Code explanation	Commentary
		The most recent CP estimate includes 4% of data sourced from percussion holes.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; 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.	<ul> <li>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.</li> <li>Waste management plans are based upon acid base accounting analyses of selected representative data from each deposit at Savage River.</li> </ul>
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	<ul> <li>Current (2020) drilling campaigns have focused on:         <ul> <li>In-pit geotechnical drilling of western wall to firm up geotechnical domains for life of mine plans for the open cut method</li> <li>In-fill drilling from underground to upgrade resource categories and to improve the confidence in the model for long term planning for underground.</li> <li>NP-UG drilling from the exploration decline focussed on In-fill drilling for geotechnical and resource purposes.</li> </ul> </li> </ul>
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Current and planned drill programs (2020-21) are focussing on geotechnical drilling in the west wall of North pit and limited geotechnical drilling at Long Plains. Both campaigns aim to inform the pit slope parameters for Life of Mine Planning Models

#### **SECTION 3 ESTIMATION & REPORTING OF MINERAL RESOURCES**

Criteria	JORC Code explanation	Commentary								
Database integrity	<ul> <li>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.</li> </ul>	Transcription errors are limited by having assay data directly merged into the database with key fields on sample ID.								
	Data validation procedures used.	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 – Prior to 2019 data was 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.								
		<ul> <li>Before extracting composites – a set of queries are run, checking for data continuity, abnormal values and overlapping ranges.</li> </ul>								
		<ul> <li>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.</li> </ul>								
		Since 2019, the data validation process has significantly improved through the introduction of an additional layer of checking brought mainly by the inherent validation functionalities of the new database system as managed by the Geological Database Administrator. Some of the validation features of the new database system utilised in the past year include:								
		o a data management tool at the point of collection;								
		<ul> <li>a database structure (MaxGeo data schema, SQL MDS) that fulfils statutory compliant requirements and allows high levels of data transparency and validity;</li> </ul>								
		<ul> <li>a disciplined assay management workflow and swift monitoring of quality assurance and control of the assays resulting in better assay quality and integrity.</li> </ul>								
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Competent person is a Grange employee and has an intimate knowledge of the operation. The technical services team includes senior mining engineers, geologists and environmental scientists that provide specialist advice and analysis to the CP to inform the resource and reserve estimates.								

### ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2020











Criteria	JORC Code explanation	Commentary							
		<ul> <li>Competent person visits site frequently and has a very close and current understanding of the orebodies.</li> </ul>							
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Each section was interpreted for magnetite mineralization in a live-3D environment, i.e. the sections were not printed out for interpretation purposes. Grade control outlines and blasthole data as well as visual checks in the field were used to inform the ore/waste contacts and this supports the spatial interp using both grade control and wide spaced diamond drilling data. This has improved the confidence of the model especially close to current mining benches. Recent work was completed by Grange staff, assisted by Xstract in 2020. The geological interpretation was done in Surpac, then converted to Datamine files for processing by Xstract.							
		<ul> <li>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, &gt;35 DTR) and low grade (ZS 15-35 DTR) categories.</li> </ul>							
	Nature of the data used and of any assumptions made.	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 effect, if any, of alternative interpretations on Mineral Resource estimation.	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.							
		<ul> <li>The global resource reconciliation continues to have a very good match with concentrate produced. In 2020, there were some significant differences in the location of low-grade lenses and these are mostly confined to the lower confidence mineralisation in the Western Lens of North Pit. Western Lens mineralisation does not drive the pit optimisations and will be mined with Main Ore Zone.</li> </ul>							
	The use of geology in guiding and controlling Mineral Resource estimation.	<ul> <li>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.</li> </ul>							
	The factors affecting continuity both of grade and geology.	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. In extrapolated areas down dip, the interpretations of mineralised geometry have been conservative.							

#### **ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2020**













	Criteria	JORC Code explanation	Comment	ary			Depth Extent (m) 1089 5 583 152 396 300 sing recommendations and nowden Mining Industry lining an Xstract Mining consultants I low grade intersects as Pit resource from 2007 based on or deposits have progressively e. d considered to be an extension of ore supply. iithin the domain wireframes are database for each domain were the length using a best fit-					
)	Dimensions	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.	ranging	from 40-150m		usly over a strike lengtl	219 1089 255 583 49 152 72 396 75 300  staff using recommendations and by Snowden Mining Industry  ptiro Mining an Xstract Mining consultants and and low grade intersects as  a North Pit resource from 2007 based on 6. Other deposits have progressively ropriate.  The specific of the strength of the str					
		surface to the upper and lower limits of the Milleral Resource.		All lenses remain open at depth.								
			A summar	y of the defined								
			Deposi	t	Strike Extent (m)	Width Extent (m)	Depth Extent (m)					
			North I	Pit	1900	219	1089					
			Centre	Pit	2450	255	583					
			Sprent		244	49	152					
			South Deposit		554	72	396					
			Long P	ains	3200	75	300					
	Estimation and modelling techniques	applied and key assumptions, including treatment of extreme	<ul> <li>Estimations up to 2014 been undertaken by Grange staff using recommendations and parameters defined in variography studies completed by Snowden Mining Industry Consultants</li> <li>Since 2014, estimations have been undertaken by Optiro Mining an Xstract Mining consult in consultation with Grange staff.</li> <li>Mineralized domains were established from high grade and low grade intersects as interpreted in the geological model.</li> <li>Ordinary Kriging (OK) was employed to estimate the North Pit resource from 2007 based the recommendation of a report by Snowden in 2006. Other deposits have progressively moved from inverse distance methods to OK as appropriate.</li> <li>The Sprent deposit is comparatively small (&lt;3M tonnes) and considered to be an extension</li> </ul>									
				<ul> <li>Centre Pit South. It was developed in 2010 to supplement ore supply.</li> <li>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 wer therefore controlled by the geological interpretation.</li> <li>Sample data was generally composited to 1 metre down hole length using a best fit-compositing method.</li> <li>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.</li> </ul>								

Criteria	JORC Code explanation	Commentary													
		Optiro and Xstract have recommended top cuts as tabled below to reduce the impact of													
		S	ignificar	nt ou	ıtliers	and p	oositi	vely skewed	d popul	lations.					
			Top Cuts			·		,							
				N	lorth P	it (202	0)		Centre P	it (2019)		South	Deposit	Long	Plains
			Domain	MOZ	LG	Waste	WL	CPN_ZAZM	CPN ZS	CPS ZAZM	CPS ZS	East	West	North	South
		_	Density	-	-	-	-	-	-	-	-	-	-	-	-
		_	Al <sub>2</sub> O <sub>3</sub> %	1.00	2.00	-	1.60	-	-	-	-	1.00	2.00	-	-
		_		0.50	-	-	1.50	-	-	-	-	0.50	-	-	-
			DTR%	-	-	40	-	-	-	-	-	-	-	-	-
			D_X_DTR	-	-	150	-	-	-	-	-	-	-	-	-
		F	Fe2%	-	-	-	-	-	-	-	-	-	-	-	-
		_	ron%	-	-	-	-	-	-	-	-	-	-	-	-
			MgO%	-	-	-	-	7.00	8.00	4.50	10.00	-	-	-	-
		_		0.75	-	-	0.50	0.30	0.20	-	0.40	0.75	-	-	-
		_		0.09	-	-	-	0.1	0.06	0.05	0.1	0.09	-	0.05	_
		_		0.21	0.53	-	0.47	1	-	-	1.5	0.21	0.53	0.30	0.30
		_		7.00	-	-	-	-	-	-	-	7.00	-		-
		_		2.00	2.00	-	-	-	-	-	-	2.00	2.00	-	-
		_	V% Cu%	-	0.70	-	- 0.04	-	-	-	2	-	0.70	-	-
		I –	U% Mn%	-	-	-	0.04	-	-	-	-	-	-	-	-
		<ul> <li>DTR is directly estimated by ordinary kriging. This is an improvement from past practice supported by increased sample density.</li> <li>DTR, Density values and the calculated attribute Density (D) x DTR are all subjected to variography and estimation, with DTR(calc) back calculated from D x DTR in the model. DTR(calc) has been estimated as a comparison to DTR ( Kriged DTR).</li> <li>Specialist Resource Estimation consultants (Xstract and Optiro) have created the block mode from wireframes and data supplied by on-site geologists. These model estimations have beer un with Surpac software and Snowden Supervisor for variography studies. The most recent NP model (2020) was run in Datamine software and the model transformed into Surpac</li> </ul>								models e been ecent					
			nodel. Block mo	odels	were	e cons	struct	ed for							
		<ul> <li>North Pit (2020) using a 5mE by 10mN by 5mRL parent block size with sub-celling to 2.5mE by 2.5mN by 1.25mRL.</li> </ul>								g to					
		,						a 5mE by 1 5mRL.	.5mN b	y 5mRL p	arent b	lock size	with sul	o-cellin	g to











Criteria	JORC Code explanation	Con	nmentary	<b>y</b>										
			Va	riograp	ohy st	tudies fo	or each	deposit	have be	en comp	leted by	specialis	t resource	
			est	imatio	n cor	nsultants	s with r	ecomm	endatio	ns for est	imation	paramete	ers appropri	ate
			for	each o	depos	sit and t	he mod	delling t	echnique	e employ	ed as tal	bulated b	elow.	
		Estin	mation Para	meters	ı	Ellipsoid C	Orientatio	on	Anisotr	opy Ratios		Search Di	stance	
			Pit	Year	Major Ax	xis Semi-Ma	ajor Axis M	finor Axis	Major/Semi N	Major/M	inor Pass 1	Pass 2	Pass 3	
		N	lorth Pit	2020	0->0	-90	)->0	0->90	1	5	15	0 300	600	_
		Ce	entre Pit	2019	0->0	90	)->0	0->90	1	5	50			
			D (west)	2014	0->0			0->90	1.2	6	50			_
			D (east)	2014	0->0			0->90	1.2	6	10			_
		Lor	ng Plains	2014	-10->3	358 -76-	->45  -1	10->270	1	2	21	0 210	420	J
		• 1	No top cu	its hav	e bee	en applie	ed to th	e Spren	t model	S.				
		• [	DTR(Ok) i	s repo	rted a	and DTR	(calc) i	s retain	ed and u	used to va	lidate th	ne estima	te based on	past
		þ	practice.	DTR(ca	alc) is	back cal	lculated	d from I	O x DTR i	n the mo	del.			
		• E	Block mo	dels w	ere co	onstruct	ted for e	each de	posit as	given in t	he table	"Block N	lodel	
		F	Paramete	ers" tak	ole be	elow;								
		E	Block Mode	el Paran	neters	;	Pane	el Block			SubBloc	k	Consultant	t
			Pit	,	Year	Y		X	Z	Υ	Х	Z		
			North P	it :	2020	10		5	5	2.5	2.5	1.25	Xstract	
			Centre P	it :	2019	15		5	5	3.75	2.5	2.5	Optiro	
			SD (wes	t) 2	2014	10		10	5	5	5	2.5	Grange	
			SD (east	t) 2	2014	10		10	5	5	5	2.5	Grange	
			Long Plai	ns 2	2014	25		10	10	6.25	1.25	2.5	Optiro	
		• T	The minir	num a	nd ma	aximum	numbe	er of sar	nples we	ere tested	d for eac	h deposit	using the	
													er of Sample	es
		s	selected t	o info	rm th	ne three	estimat	tion pas	ses in ea	ach of the	block n	nodel esti	mates for th	ne
		V	various d	eposits	6.									
		1	Number of S	amples			Pass 1			Pass 2			Pass 3	
			Pit	Yea	-		aximum	Max samples perhole	Minimum	Maximum	Max samples perhole		aximum Max sam	ole
		-	North Pit	2020	-	16	32	4	8	32	4	2	32 999	
		-	Center Pit SD (west)	2019	_	16 2	32 32	8 5	2	32 32	4 10	2	32 999 32 999	
		-	SD (west)	2014	_	2	32	5	2	32	10	2	32 999	_
			Long Plains	_	-	40	60	5	20	60	10	2	60 999	











Criteria	JORC Code explanation	Commentary
		The estimation was validated by completing visual checks in section and plan and comparing statistics of input composite drillhole sample grades to estimated block grades on both a local and global basis. Local grade variability was also validated by comparing composite and block grades visually in cross section, long section and in plan view.
	<ul> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> </ul>	<ul> <li>New model estimates were compared against previous model estimates by flitch plots, visual inspection of the model around new drill hole data in section and have been reconciled with production data as part of the validation process.</li> </ul>
		DTR(Ok) is checked by DTR(calc) These correlate very closely with an overall difference of 1.7% at a 15% DTR cut-off grade. DTR(ok) is reported.
	The assumptions made regarding recovery of by-products.	No by-product recoveries have been considered. The magnetite recovery process targets the magnetic minerals , so no marketable by-products are recovered.
	<ul> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterization).</li> </ul>	Concentrate grades and deleterious elements (impurities) have all had variography completed where samples were available and were estimated by Ordinary Kriging with the resource run.
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	• 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). See tables above.
	Any assumptions behind modelling of selective mining units.	No assumptions were made behind modelling of selective mining units.
	Any assumptions about correlation between variables.	There is a correlation between DTR and density which is described below in the Bulk Density section. This is no longer relevant as DTR is directly estimated.
	<ul> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	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 (flitch) to enable robust shapes to be developed.
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	Top cuts in ore domains were used where outliers were identified by exploration data analysis. Outliers were identified for:
		o Ni, TiO₂ and P in North Pit
		o P in South Deposit
		<ul> <li>Ni, MgO, P, V and S in Centre Pit</li> </ul>
	<ul> <li>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</li> </ul>	Block estimates were cross-validated by comparison with printed block sections showing drilling, block values and constraining wireframes.











Criteria	JORC Code explanation	Commentary
	compared against old model estimates and reconciliations as part of validation.	Swath plots generated show the drill hole and modelled grades compared well across the deposits particularly where there were a large number of drillholes.
		<ul> <li>Grade Control outlines and blasthole data as well as visual checks in the field were used to inform the ore/waste contacts and this supports the spatial interp using both GC and wide spaced diamond drilling data. This has improved the confidence of the model especially close to current mining benches.</li> </ul>
		2019- Reserve (MOZ and WL) reported 12.5% less concentrate than total concentrate produced; where Total concentrate produced = Concentrate produced + changes to stockpiles.
		The Main Ore zone in NP is very predictable and drill spacing is appropriate for the resource estimate.
		The difference between the 2019 and 2020 resource model was minor (not material) even with over 10,000m of new drilling.
		The main improvement between 2019 and 2020 was the direct estimation of DTR which lowered the grade by 1.5% within the Main Ore Zone compared to the last model.
		The Western Lens is less predictable owing to the lensy and boundinaged ore geometry, however this is not material to the overall estimate as it accounts for 16% of remaining resource tonnage and only 9% of the metal of the entire resource.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages were estimated on a dry basis. All drill holes are dried at the laboratory prior to sample prep and analysis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	For the Open Cut, the cut-off grade of 15%DTR is based on a natural break in the Grade- Tonnage Curve and is supported by economic analysis for the open cut undertaken during 2010.
		The grade cut-off parameters were supplied by experienced mining engineers on an appraisal basis. These are the minimum widths and cut-off grades expected to be required to meet economic hurdles for these mining methods. These parameters are not yet based upon analysis as a feasibility level.
Mining factors or	Assumptions made regarding possible mining methods,	Above the ultimate pit shape, an optimised pit has been designed, based on an iron ore price,
assumptions	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	mining costs. Below the ultimate open cut profile, a combination of minimum mining width and cut-off grades for three mining methods; (Stoping, SLC and Block Caving) have been used as a preliminary guide to reasonable prospects of eventual economic extraction ahead of
	the assumptions made regarding mining methods and	











Criteria	JORC Code explanation	Commentary				
	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.	<ul> <li>further studies. No mining factors (i.e. dilution, ore loss, recoverable resources at mining block size) have been applied for an eventual underground operation.</li> <li>In 2020 for the consideration of Reasonable Prospects of Eventual Economic Extra (RPEEE), a 100m x 100m grid in long section was analysed to obtain the true width across this grid. If a cell in the grid passed the "Conditions to meet RPEEE" in the tathen the cell was included in reportable resources.</li> </ul>				
		Conditions to meet		meet RPEEE		
		Method	Min width	Cut-Off Grade		
		Stoping	10	50		
		SLC	20	35		
		BC	25	25		
Metallurgical factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>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 modelling the anticipated recoveries through the magnetic separation process for over 50 years.</li> <li>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.</li> </ul>				
Environmental factors or assumptions	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.	acid-base chen waste manage of as sediment	nistry. These units are dis ment plan as part of the $\epsilon$	posed of in encapsulated environmental permit co	aste types based on the rock's d dumps according to the inditions. Tailings are disposed management plan is part of	











Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>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, the nature, size and representativeness of the samples.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>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.</li> <li>The density of the ore for the RC samples and legacy diamond drilling samples was determined based on the first principles equation, where:  \[ SG = \left(\frac{\text{DTR}}{510} + \frac{100 - \text{DTR}}{281}\right)^{-1} \] </li> <li>36% of all bulk density values are measured, 56% are calculated and 7% have null values for density.</li> <li>The First Principles equation relates density to DTR and provides a reasonable fit to the measured data.</li> <li>2019 and later North Pit models removed percussion holes (nearly half of informing data of c. 2011 models - NP1103 model).</li> <li>Centre Pit retained the use of percussion holes in the resource estimate. As a consequence, there are now much greater proportion of densities having measured values and a smaller portion of density is calculated via regression methods where primary density measurements were absent.</li> <li>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.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>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).</li> <li>The estimation process and parameters are considered to still be 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.</li> <li>AMC conducted a new resource Audit in March 2019-with further review in August 2019 and October 2020. AMC considered that:         <ul> <li>the Mineral Resource for Centre and North Pit Deposits were appropriately classified as Measured, Indicated, and inferred resources in accordance with the JORC code.</li> <li>That the processes to generate the block model for the Resource Estimates have been completed using accepted practice with drill-hole data supported by quality control protocol, known mining history and reconciliation.</li> </ul> </li> <li>AMC cited the following area for improvement:</li> </ul>











ſ	Criteria	JORC Code explanation	Commentary
			<ul> <li>recommended that a maximum of three samples per drillhole is used in each search pass. Grange currently uses 4 in NP and 8 in CP with the method used has been supported by good reconciliation performance.</li> </ul>
			<ul> <li>Reconciliation suggests that the estimation is comparable with grade control data. Global reconciliation is performed on an annual basis and show good performance between actual produced concentrate and estimated contained concentrate in the resource model.</li> </ul>
			<ul> <li>For the recent resource update for NP by Xstract, a site visit was not completed due to COVID- 19 travel restrictions. While Xstract visited the site in 2019, a review of drilling, sampling and mapping procedures was not completed as their role was to refresh the estimate, not audit our processes.</li> </ul>
	Discussion of	Where appropriate a statement of the relative accuracy and	• Global reconciliations and bench reconciliations are used to feedback into the resource model.
	relative accuracy/ confidence	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.	Regular reconciliations show a good performance of model vs actual. Global reconciliation is performed on an annual basis and show good performance between actual produced concentrate and estimated contained concentrate in the resource model. The current resource model was found to be a better predictor of modelled concentrate due to changes in wireframes in current model.  Bench reconciliations show good agreement and nearly always a positive reconciliation between resource and produced concentrate.  Reconciliations are calculated from material survey movement against changes in stockpiles
	<ul> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, wh should be relevant to technical and economic evaluation.</li> <li>Documentation should include assumptions made and the procedures used.</li> </ul>	<ul> <li>and actual magnetite concentrate production. Global reconciliation of the current model shows an under-prediction of the actual concentrate production within a 5-10% tolerance.</li> <li>Grange believes that the accuracy and confidence in the Mineral Resources is appropriate and</li> </ul>	
		<ul> <li>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.</li> </ul>	within the accepted error ranges for the Mineral Resource confidence categories (Measured, Indicated and Inferred).
		<ul> <li>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.</li> </ul>	

#### **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	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	The Total 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 as at 31 Dec 2020 and as publicly reported on in this release.
Reserves	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The stated Mineral Resource is inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has more than 10 years of experience in an open pit Magnetite mine at senior operational management and technical level.
	If no site visits have been undertaken indicate why this is the case.	Competent person is an employee of the company.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	The Centre Pit Ore Reserve estimate is based on an updated Feasibility Study completed in October 2019. The Reserves for North Pit and South Deposit are based on feasibility studies completed in 2006 with updated economic considerations as reviewed through the annual budgeting process. The Stockpile reserves are based on detailed physical surveys and collected grade control assays.
	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	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.
	determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have	The information used for estimation and reporting of this Ore Reserve is based upon those Feasibility Studies and with current production reconciled modifying factors.
	been considered.	Feasibility assessments continue on an ongoing basis, for which applicable preliminary results support the reported reserves.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Cut-Off-Grade Analysis was undertaken as part of the Feasibility Study and is reviewed on an annual basis as part of Grange Resource's Life of Mine Budget process.
		The Cut-off grade is 15% DTR.
Mining factors or assumptions	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).	Whittle Optimisations 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 optimiser are based on a combination of historical











Criteria	JORC Code explanation	Commentary							
						etermined in Feasik ing and evaluation			
		<ul> <li>The Ore Reserve open pit optimiz</li> </ul>		ithin a detailed st	taged pit designs	which are based or	n Whittle		
	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.	<ul> <li>Mining is underful dump trucks and</li> </ul>	taken by convent d conventional dr	-			ovels,		
	<ul> <li>The assumptions made regarding geotechnical parameters (eg: pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> </ul>	undertaken in th	<ul> <li>The overall pit slopes used for the design and optimisation 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:</li> </ul>						
		Pit	_	_	Angle (degrees)				
			East	West	North	South			
		North Pit	48	27	32	25			
		Centre Pit	37	28	37	35			
		South Deposit	40	38	36	42			
	The major assumptions made and Mineral Resource model used for pit and stope optimization (if appropriate).		ning Unit (SMU) a the sub-cell resol		med is 5 m x 5 m x 2.5 m in the X, Y and Z direction $\alpha$ in the resource.				
	The mining dilution factors used.	_			e for likely mining dilution based on historical				
	The mining recovery factors used.					ge and reduced the ed the DTR by 15%	and reduced the DTR by the DTR by 15%.		
		<ul> <li>These factors reflect the expected ore dilution leading to a decrease in reco an increase in recovered ore volume and are based on historic reconciliation Reconciliations (global) are compiled annually and bench reconciliations are benches are completed (about 8 per year).</li> </ul>				nciliation performa	ance.		
		Temporal or per	riod reconciliation	s are run to chec	k the quality of t	ne 3 month plan cy	cle.		
	Any minimum mining widths used.		's minimum work ne minimum blocl	ing requirements	s. Ore and waste	urrent primary loac can be mined and nent specification a			













Criteria	JORC Code explanation	Commentary
	<ul> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> </ul>	The Whittle Optimization on which the mine design is based utilises 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 or included in cash flow assessments. Inferred resources are considered during optimizations to assess further reserve development priorities.
	<ul> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	The mine can conduct remote blast hole drilling and charging to support safe operation utilising the mining method.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralization.	<ul> <li>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 the 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.</li> </ul>
	<ul> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> </ul>	The Concentrator and Pellet Plant have been have operated continuously by Grange Resources since 2009 and before by Australian Bulk Minerals since 1997.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domains	There has been metallurgical test work undertaken as part of early feasibility studies and subsequent drilling programs.
	applied, and the corresponding metallurgical recovery factors applied.	A plant recovery factor of 95% is used to account for concentrator efficiency and is supported by historical performance.
	Any assumptions or allowances made for deleterious elements.	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 (also referred to as impurities), are identified in product specification and are estimated in the resource model.

# ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2020 ANNUAL RESOURCE & RESERVE STATEMENT DECEMBER 2020

Criteria	JORC Code explanation	Commentary
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered	The mineral resource model appropriately addresses the chemical criteria and the emergent physical properties to meet a high-quality iron ore product.
	representative of the ore-body as a whole.	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
	<ul> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	Magnetite concentrate and hematite pellets are sold on a market specification.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	<ul> <li>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.</li> <li>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</li> </ul>

Criteria	JORC Code explanation	Commentary
		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 operation 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.
		The main mining lease 2M/2001 on which both North Pit and Centre pit are allocated and is granted for a 30 year term due for renewal in 2031. Grange has current approvals to mine in place. The waste rock 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 complex or other dumps as approved by the Tasmania EPA and Mineral Resource Tasmania which have 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.
		<ul> <li>Process residue from the concentration of ore (tailings) is stored in the Main Creek Tailings         Dam and the South Deposit Tailings Storage Facility. There is sufficient capacity to store         tailings from North Pit, Centre Pit and South Deposit until 2040. Approval for the South         Deposit Tailing Storage Facility was granted by the Department of Environment and the         Waratah-Wynyard Council and was commissioned in November 2018</li> </ul>
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation	Current operation consists of North Pit and Centre Pit and one previously mined pit (South Deposit) which is not yet planned to be mined as part of the Life Of Mine Plan.
	the ease with which the infrastructure can be provided, or accessed.	There are two primary crushers and conveyors, concentrator, pipeline and pellet processing plant with process water sourced on-site and dedicated power transmission lines.
		Townsite hosts a workforce of 250 persons.











Criteria	JORC Code explanation	Commentary
		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) will be transitioned to the new South Deposit Tails Storage Facility during 2018. The new facility will have sufficient capacity to support the Life of Mine operation.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	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 methodology used to estimate operating costs.	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 made for the content of deleterious elements.	Allowances are made for the various deleterious elements and adjustments are made to the Iron Content.
	The source of exchange rates used in the study.	The exchange rate is sourced from National Australia Bank (Specialist Matter Experts), with periodic updates for forecast.
	Derivation of transportation charges	Reserve revenues are calculated based on Free On Board (FOB) from Port Latta. Individual shipments are sold on either an FOB basis from Port Latta or on a CFR basis.
	<ul> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> </ul>	<ul> <li>Forecasting of treatment and refining charges including penalties in concentrate are completed annually using the scheduled annual feed grade (including impurities). With forecast reports provided by subject matter experts</li> </ul>
	The allowances made for royalties payable, both Government and private.	Royalties are used in the Whittle Optimization using the Tasmanian State charges and government royalties are calculated based on the life of Mine Plan
Revenue factors	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.	The Whittle optimisation 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
	<ul> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	The commodity pricing is sourced from Specialist Matter Experts in the market analysis for mining and metals.
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> </ul>	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.
	supply and definition file factorer	Product is presently sold as Concentrate and Pellet into the Asian and Australian markets.











Criteria	JORC Code explanation	Commentary
	<ul> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <li>There are long term contracts in place and we also see a strong spot market.</li> <li>Prices are negotiated based on market indices.</li> </ul>
Economic	<ul> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>Financial modelling of the Savage River operation, shows support for strong NPV's.</li> <li>The NPV is most sensitive to product price and exchange rate</li> </ul>
Land Tenure	Land use	<ul> <li>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.</li> </ul>
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	• 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 northeast. The nearest major town by road is Burnie (population ~20,000), located on the northwest coast, about 100 km distant.
		<ul> <li>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.     </li> </ul>
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	Grange's project at Savage River is an active and ongoing operation.
	Any identified material naturally occurring risks.	<ul> <li>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.</li> </ul>













Cri	teria	JORC Code explanation	Commentary
		The status of material legal agreements and marketing arrangements.	A long term contract for supply of magnetite pellet to various customers exists.
		<ul> <li>The status of governmental agreements and 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.</li> </ul>	<ul> <li>The Goldamere Act provides Tasmanian legislation to support the Savage River Operation.</li> <li>Final approval for the SDTSF was received in 2014 and construction commenced in Q3 2014</li> <li>Interim approval from the Tasmania EPA for pre-stripping work at CP was received in September 2019. Documentation for final assessment and full approval is currently in progress and is expected in 2021. There is deemed to be reasonable prospects of the final approval being obtained without material impact on the quoted reserve.</li> </ul>
Cla	assification	The basis for the classification of the Ore Reserves into varying confidence categories.	Reserve classification is that portion of the mineral resource that resides within an economic pit design.
			<ul> <li>In general, Measured Resources have been converted to Proven Reserves and Indicated Resources have been converted to Probable Reserves. In cases where there is lower confidence in a major modifying factor Measured Resources are converted to only a Probable Reserve. Instances of this assessment are described below</li> </ul>
		<ul> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The result reflects the Competent persons view of the deposit.
		<ul> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	A total of 24.5Mt equal to 47% of the Total Reported Probable Reserves has been derived from Measured Resources.
			Measure Resources within the final West Wall cut back of North Pit has been assessed as Probable Reserves and due to lower geotechnical and economic confidence.
			Measured Resources with Stage 2 and Stage 3 of Centre Pit has been assessed as Probable Reserves pending the final environmental approval from the Tasmanian Government.
Au	dits or reviews	The results of any audits or reviews of Ore Reserve estimates.	<ul> <li>The Feasibility Study that was completed in September 2006 had been peer reviewed by Australian Mining Consultants (AMC) for the NP reserve for the mine life extension project (MLEP).</li> </ul>
			The CP feasibility was reviewed by AMC Consultants Pty Ltd (AMC) in September 2019. AMC concluded that the feasibility study supported the reported Ore Reserve and the requirements of the JORC Code.











Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/confidence	<ul> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Global reconciliations and bench reconciliations are used to feedback into the resource model. Regular reconciliations show a good performance of model vs actual. Global Reserve Reconciliation for 2020 demonstrates actual concentrate produced plus net change in stockpiles at end of the year was within 10% tolerance range of model prediction.</li> <li>Reconciliations are calculated from material survey movement against changes in stockpiles and actual magnetite concentrate production.</li> <li>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.</li> <li>Historically model predictions are normally within ±10% of actual production.</li> <li>Modifying factors apply globally, and metallurgical factors are reviewed annually.</li> <li>Some factors are applied locally, for example geotechnical parameters are applied locally.</li> <li>All modifying factors are reviewed annually.</li> <li>Modifying Factors are reviewed periodically with reconciliations to evaluate accuracy and confidence of the estimates.</li> <li>Relative accuracy of the mod factors compares well with production data which is compared on a monthly and annual basis.</li> </ul>











#### **APPENDIX B - PLANS & SECTIONS**

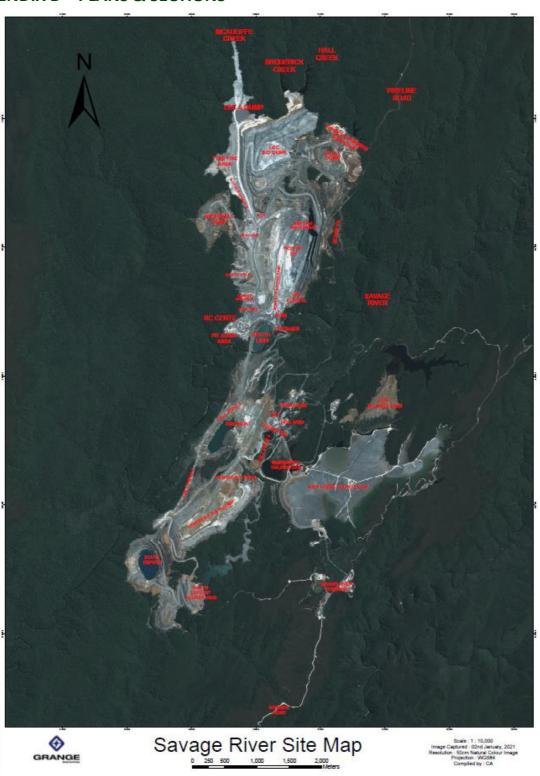


Figure 5: Image of Savage River Site Infrastructure, Jan 2021

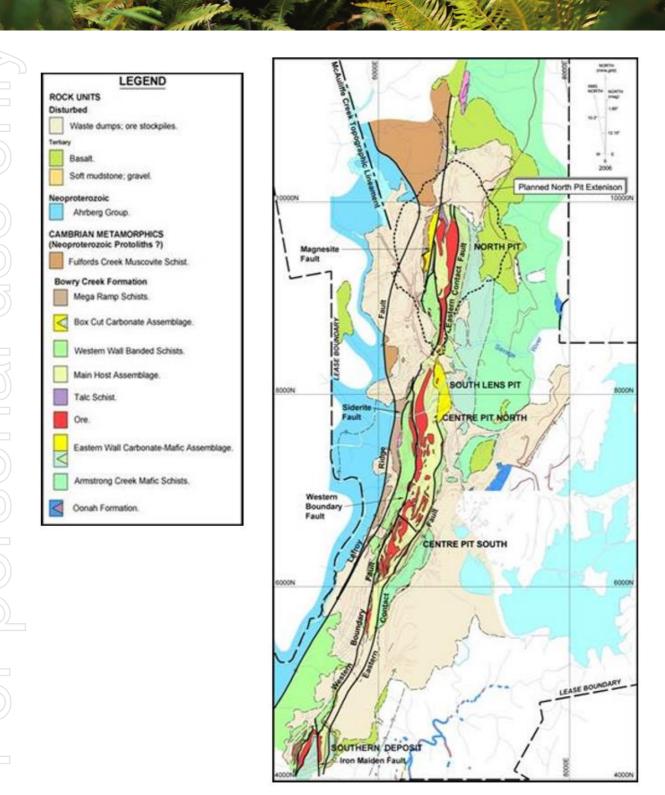


Figure 6 Regional Geology (2008)

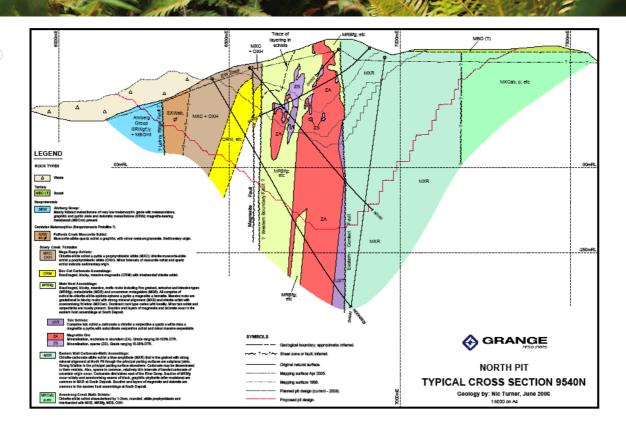




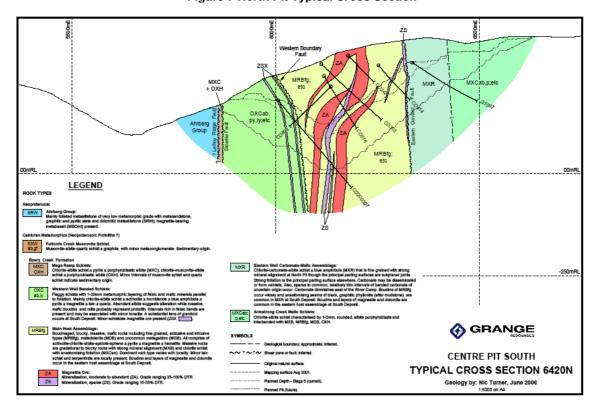




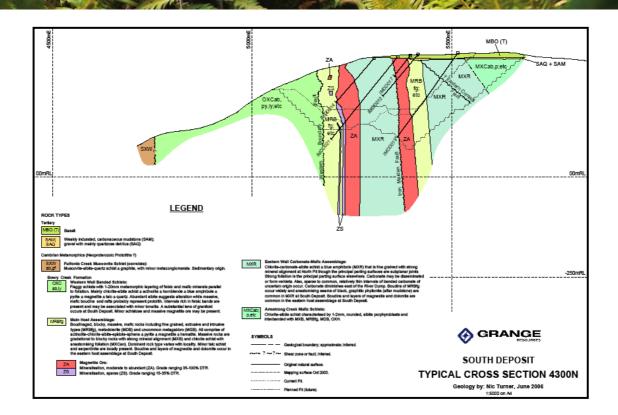




**Figure 7 North Pit Typical Cross Section** 



**Figure 8 Centre Pit Typical Cross Section** 



**Figure 9 South Deposit Typical Cross section** 

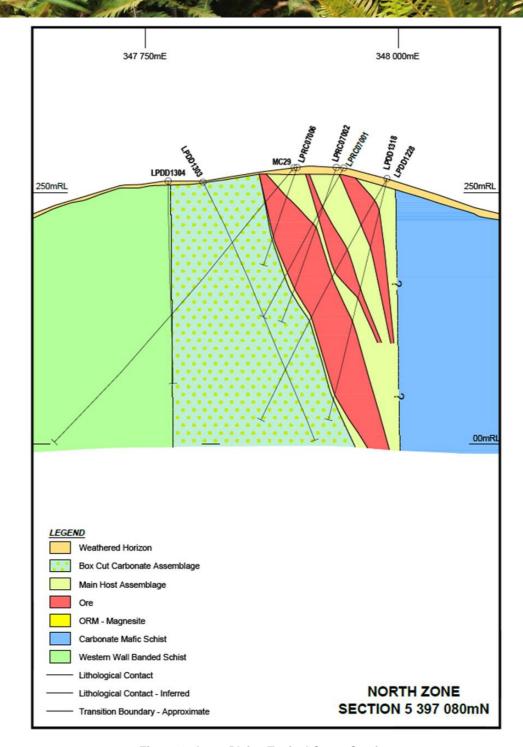


Figure 10 Long Plains Typical Cross Section











#### **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. Ten (10) new holes have been added for the calendar year 2020.

**Table 15 North Pit Drill Intercepts December 2020** 

Hole ID	у	х	Z	dip	azimuth	Depth from	depth_to	Max depth
DH001	9402	6680	328	-41	102	29.9	171	203.6
DH002	9550	6852	374	-45	295	94.5	219	263
DH017	8528	6644	196	-67	276	1.2	61.6	65.5
DH025	8878	6708	257.5	-65	270	1.52	102.4	228.3
DH026	9229	6777	358.1	-64	270	9.1	170.7	181.4
DH027	9780.5	6862	365.8	-51	270	134.88	174.04	291.1
DH043	9990	6888	354.5	-45	275	158.5	164	186.5
DH049	9020	6666.5	309	-50	274	41	75.8	88.4
DH050	8913.5	6602.5	296	-48	94	23.8	155.4	209.1
DH051	9242	6670	335.3	-55	94	3.7	198.1	234.7
DH052	9305	6825	344.5	-57	286	105.2	294.7	326.7
DH053	9653.5	6854	366	-67	286	118.6	323.7	323.7
NDDH0501	9189.93	6822.06	184.96	-69	268.83	102.9	322	483.9
NDDH0503	9540.12	6449.18	260.48	-59.25	90.91	475.1	699.55	783.1
NDDH0504	9388.61	6657.56	117.62	-57.05	89.13	0	315.1	333.95
NDDH0505	9485.02	6671.36	111.99	-53.06	91.43	56	259.75	314.8
NDDH0506	9292.96	6642.49	126.69	-59.45	92.84	64.5	349.4	351.35
NDDH0507	9734.73	6542.32	241.28	-54.84	94.71	302.45	507.3	560.5
NDDH0508	9644.22	6455.2	254.94	-55.45	89.55	282	477.4	477.4
NDDH0601	9867.3	6485.09	295.68	-48.2	74.57	289.95	534	603.4
NDDH0602	9954.83	7140.54	352.08	-45.37	267.48	473.85	697.5	750.1
NDDH0606	9054.26	6615.67	201.85	-54.06	89.134	47.6	275.5	285.5
NDDH0607	8991.057	6606.536	206.8	-56.25	88.54	29.9	317.5	317.5
NDDH0608	9641.15	6666.98	127.82	-55.11	270.91	0	105.8	107.3
NDDH0609	9591.288	6670.324	122.01	-55.19	273.94	15.7	148	201.5
NDDH0610	9586.944	6672.043	122.079	-54.81	230.42	3.2	88	130.5
NDDH0611	9464.161	6698.912	110.782	-55.81	296.06	71.5	124.1	181.5
NDDH0612	9461.92	6697.271	110.766	-55.51	260.62	61.9	127.65	146.6
NDDH0613	9648.64	6670.637	128.377	-53.09	92.11	2.7	294.3	315.5
NDDH0614	8995.886	6810.811	207.939	-52.63	250.37	127.1	275	276.3
NDDH0615	9083.07	6840.69	197.31	-63.54	313.2	147.3	260.75	263.6
NDDH0616	9081.66	6842.9	197.6	-61.71	272.79	137	244.4	287.7
NDDH07002	8690.88	6790.43	205.86	-56.18	269.99	141.2	200.8	225.4
NDDH07022	8840.53	6767.49	215.75	-60.26	264.85	112	158.1	243.2











Hole ID	у	х	Z	dip	azimuth	Depth from	depth_to	Max depth
NDDH07023	8990	6810	203	-53.23	273.46	120	178	204.2
NDDH08035	9533.603	6801.999	70.817	-90	0	0	25	25
NDDH08036	9328.3	6780.404	76.429	-60	346	0	47.2	47.2
NDDH08037	9466.526	6796.751	65.583	-60	350	0	10	10
NDDH08038	9466.526	6796.751	65.583	-60	13	0	41	41
NDDH09054	10143.68	6709	324.17	-49.275	95.2	64	134.3	163.7
NDDH09055	10186.25	6704.64	324.93	-49.225	87.58	91.5	126.6	149.6
NDDH09056	10041.17	6712.029	320.244	-59.3	97.34	49.8	110.6	118.4
NDDH09057	10398.41	6695.08	337.07	-50.12	93.54	78	96	177.6
NDDH09063	10275.96	6872.747	334.552	-49.1	285.19	189.7	195.5	259.5
NDDH09064	9990.097	6630.287	297.587	-50	92.24	40	233	349.3
NDDH09065	9939.886	6945.092	322.072	-50.67	270.57	257.25	298.5	329.2
NDDH10066	10040.79	6940.798	322.719	-52.7	264.3	225	300.5	368.5
NDDH10067	10139.98	6621.28	306.086	-47.59	95.3735	79	264.9	296.3
NDDH10068	10089.87	6686.573	290.077	-49.68	88.55	84.5	167.6	206.5
NDDH10069	9939.829	6707.544	275.308	-50.63	93.55	61.55	80.5	177.8
NDDH10070	10036.89	6894.271	306.162	-49.75	295.18	148.9	247.15	295.1
NDDH10071	10126.39	7014.83	335.62	-52.5	254.03	373.2	486.7	510
ND001	9740	6865.5	363.46	-45	270	116	317.6	326
ND002	9542.5	6910.5	350.87	-45	270	138.5	338.8	380
ND003	9134	6553.5	273	-45	90	198.8	285.5	309
ND004	9291	6817	345.05	-45	270	50.1	175.9	175.9
ND034	9490.5	6789.9	347.6	-45	270	0	51.8	85
ND035	9440	6758.4	347.5	-45	270	0	76.5	85
ND036	9440.8	6759.4	347.5	-45	90	0	65	71
ND037	9391.1	6770.9	347.3	-45	270	3.5	97.7	102.5
ND038	9312	6772.5	349.7	-45	270	4.4	94.8	127.5
ND039	9339.6	6723.2	347.7	-45	270	0	34.1	78.5
ND040	9640	6744	357.6	-45	90	27.7	81.5	86
ND041	9540	6820	347	-45	241	19.7	108.5	108.5
ND042	9538.5	6765.4	346.5	-45	90	0	64.7	75.5
ND043	9194.7	6772.4	336.3	-45	270	2.5	131.8	147
ND044	9250.3	6729.1	352.6	-50	270	14.5	72.9	112.7
ND045	9005.8	6658	308.6	-55	270	30	60.3	69.2
ND046	9141.3	6663.3	322.7	-55	270	1.5	56	56
ND047	9540.9	6765.4	348	-50	270	0	14.7	43
ND048	9489.9	6791.6	337.9	-45	90	0	30.2	59
ND050	9491.2	6834.4	336.6	-45	270	34.5	129.3	145.5
ND051	9389.7	6810.3	328.7	-45	270	65	137.1	159.5
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Hole ID	у	x	z	dip	azimuth	Depth from	depth_to	Max depth
ND052	9338.7	6759.9	321.5	-45	270	1.5	71.5	110
ND053	9129.9	6756.2	292.7	-45	270	33.3	72.7	72.7
ND055	9090.5	6608.6	300.7	-40	90	50	137	137
ND056	9189.4	6831.3	305.2	-45	270	104	165.7	210.5
ND057	9390.1	6875.3	327.8	-45	270	134.2	149	149
ND058	8741.6	6591.9	236.6	-45	90	70.2	144.2	153.5
ND059	9590.45	6704.5	341.54	-60	90	45.5	262.3	262.3
ND060	8949.8	6677.7	270.2	-65	270	12	110	110
ND061	8831.8	6713.8	258.2	-50	270	42.5	85.5	110
ND062	9041.5	6566.3	286.4	-40	90	81.6	165	165
ND063	9639.2	6690.3	344.3	-45	90	91.4	209.4	228.5
ND064	9439.9	6657.7	310.6	-45	90	85.1	217.2	240
ND065	8646	6619.3	230.7	-55	90	21.5	101	110
ND071	9091.14	6723.38	199.24	-48	267.53	0	24.3	103
ND072	9348.31	6724.22	215.62	-42	91.18	0	93.5	103
ND073	9482.47	6748.41	219.36	-45	82.56	4.1	111.2	130
ND076	8590.7	6527.6	178.4	-37	89.6	137.1	173.1	173.1
ND077	8504.1	6589	202.7	-45	90.7	29.2	39.2	74.2
ND080	9739.7	6590	316.9	-56.06	92.32	27.4	466.05	530
ND081	9655.5	6606.1	308.6	-54	89.1	115.3	412.7	516
ND082	9189.9	6886.5	287.3	-57	271.7	184.7	327.3	407.7
ND083	9352.3	6584.2	279.5	-60	92.1	294.6	472.4	525.7
ND085	9529.9	6559.2	292.8	-49	89.3	156.3	432.2	550
ND086	9794.8	6596.2	323.3	-55	77.65	67.8	377.3	433.1
ND089	8698.6	6612.1	230.5	-51	135.3	84.1	142.8	340.1
ND094	8944.6	6750.5	207.5	-40	270	65	150	210
ND096	9090.7	6781.4	193.5	-60	270	70.6	136	185.1
ND097	8889.9	6753.5	213.8	-65	270	92.9	213.3	257.5
ND099	8739.9	6714.2	225.5	-65	270	63.6	111.3	137
ND100	8639.6	6583.9	234	-65	90	175.8	214.7	214.7
ND101	8521.2	6543.3	198.1	-49	71	145	220.5	235
ND103	8590.2	6640.5	210.8	-50	90	0	38	100
ND104	8675.2	6644.89	212	-60	90	0	87	87
ND106	9798.09	6790.1	352.5	-60	270	74	78	100
ND108	9800.4	6645.5	330.29	-60	95	0	16	60
ND109	9799.9	6643.89	330.2	-60	178	0	78	78
ND110	9750.2	6652	330.6	-60	270	28	90	100
ND111	9749.79	6659.7	330.7	-60	5	36	100	100
ND200101	9789.62	6947.4	341.89	-51.29	267.44	214.4	300.1	370











Hole ID	у	х	Z	dip	azimuth	Depth from	depth_to	Max depth
ND200102	9390.033	6719.181	119.063	-59.042	269.122	0	87.9	162.4
ND200103	9390.135	6720.854	119.189	-54.912	86.295	0	172.4	185
ND200104	9836.85	6903.31	341.88	-55.23	270.04	198	287.7	296.2
ND200111	9739.838	6979.676	341.881	-47.21	271.33	213	352.3	380.1
NPRC07009	9105.78	6719.31	148.24	-57.876	337.2032	0	37	72
NPRC07010	9112.73	6716.86	147.41	-61.841	252.0958	0	42	71
NPRC07011	9081.36	6716.84	151.2	-64.572	296.1001	0	50	70
NPRC07012	9077.23	6718	151.6	-53.825	251.1153	0	49	80
NPRC07013	9027	6707	156	-55	253	5	20	88
NPRC07014	9029.5	6703.78	156.09	-64.757	296.175	0	26	88
NPRC07015	8977.21	6699.21	161.07	-54.1	287.0837	6	63	100
NPRC07016	8978.04	6701.35	160.96	-56.4111	256.423	7	94	120
NPRC07017	8839.52	6686.57	175.13	-56.739	270.4641	0	49	60
NPRC07018	8792.69	6678.09	179.77	-63.2	270.3655	0	40	41
NPRC07019	8889.9	6692.85	170.32	-66.2	271.2419	0	86	91
NPRC07020	8917.09	6781.54	216.36	-53.5	279.0318	115	152	154
NPRC07021	8889.58	6817.76	218.09	-59.748	266.5621	166	195	195
NPRC09039	9000.85	6713.8	140.1	-50.52	273.15	7	40	40
NPRC09040	8991.8	6709.82	139.72	-49.11	274.26	6	40	60
NPRC09041	8989.34	6727.07	139.96	-49.63	267.24	21	60	60
NPRC09042	9015	6725.14	139.81	-48.4	270	15	41	50
NPRC09043	9040	6748.44	139.64	-50.4	270	9	65	65
NPRC09044	9015	6746.74	139.08	-50.5	270	25	70	70
NPRC09045	9002.5	6731.34	139.85	-50.2	270	23	54	60
NPRC09046	10189.39	6754.17	335.31	-49.6	80.51	29	70	85
NPRC09047	10213.5	6743.89	334.9	-49.1	95.03	29	72	75
NPRC09048	10144.84	6738.615	322.991	-49.7	90.17	30	100	100
NPRC09051	10087.13	6735.13	321.92	-49.5	87.04	25	58	70
NPRC09052	10039.94	6760.43	321.623	-49.5	79.59	4	32	70
NPRC09053	9995.216	6757.992	321.293	-49.37	85.48	4	7	70
NPRC09058	10337.78	6740.552	323.678	-48.1	93.6	43	48	82
NPRC09059	10313.37	6757.432	322.806	-53.5	89.3	18	35	58
NPRC09060	10304.49	6743.544	322.724	-46.1	117.4	52	54	82
NPRC09061	10392.04	6742.29	336.48	-46.6	86	10	56	76
NPRC09062	10376.56	6731.72	336.36	-47.4	99.5	50	64	76
NPRC10072	9989.97	6711.54	275.82	-53.7	90.4	51	78	124
NPRC10073	9932.04	6741.96	275.9	-48.5	128.1	6	41	91
NPRC10076	8790.003	6670.836	100.615	-53.08	89.694	0	114	119
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Hole ID	у	х	Z	dip	azimuth	Depth from	depth_to	Max depth
NPRC10079	10339.88	6747.98	304.017	-48.9	272.1	62	84	100
NPRC10086	8589.535	6688.686	167.37	-60.4	273.39	37	94	105
NPRC10087	8600.912	6718.978	168.552	-59.37	258.57	94	114	114
NPRC10089	8764.998	6719.726	95.247	-60.79	227.054	18	57	108
NPRC10091	8690	6648.356	153.67	-55.8	94.233	1	84	84
NPRC10092	8550.535	6674.934	167.556	-59.7	257.742	21	66	66
NPUG2018_01	9087.21	7383.34	343.76	-57.9482	257.312	1029.65	1033.4	1121.9
NPUG2018_02	9942.885	7046.824	276.751	-68.8791	265.075	646	844.35	875
NPUG2018_03	9941.983	7044.24	276.336	-65.2942	264.373	570.6	697.6	758.9
NPUG2018_04	10084.89	7022.968	289.778	-64.745	276.9851	550.3	789	997
NPUG2018_05	9137.293	7334.168	343.606	-53.9299	273.088	774.1	1058.9	1088.1
NPUG2018_06	9138.796	7331.796	343.242	-49.58	269.778	716.1	850.5	887.5
NPUG2018_07	10085.07	7025.229	289.616	-72.25	268.151	755.8	883.2	939.3
NPUG2018_08	9293.556	7321.731	345.767	-51.5329	270.697	713.05	827.1	827.1
NPUG2018_09	9293.568	7320.973	345.31	-54.57	271.09	811	897.9	983.3
NPUG2018_10	9481.995	7324.031	351.197	-53.014	265.9	783.85	1055	1115
NPUG2018_11	10308	6590.512	276.735	-61.3885	136.31	241	565	638.6
NPUG2018_12	9482.057	7323	351.15	-50.2046	269.079	692.7	895.75	968.2
NPUG2018_13	10216.16	6971.421	294.859	-70.53	260.018	660.2	855.2	956.7
NPUG2018_14	9614.262	7290.303	350.437	-53.2836	269.466	669.8	945.8	1131
NPUG2018_15	9086.942	7381.824	343.83	-50.8	265.152	776.9	899.1	971.1
NPUG2018_16	9804.691	7199.384	342.744	-66.9201	258.79	866.65	1122.1	1148.6
NPUG2018_17	9804.419	7196.893	342.764	-57.405	263.101	642.3	934.5	1022.2
NPUG2018_18b	9803.277	7197.891	342.892	-64.0149	269.075	819.9	984.1	1028.5
NPUG2018_19	10217.08	6970.59	295.244	-46.4986	279.85	290.2	406.4	722.6
NP2018_05	9882.194	6779.406	32.673	-48.47	259.5	0	255.95	292.5
NP2018_06	9885.426	6783.677	32.803	-49.1418	48.3634	0	13	202
NP8845	9141	6622	281	-90	0	0	12	12
NP8865	9215	6740	255	-90	0	0	3	3
NRC200403	9820.73	6759.76	278.89	-54.7	89.34	0	4	65
NRC200405	9819.91	6736.76	281.49	-52.5	87.45	29	81	102
NRC200406	9843.09	6753.54	280.27	-54.7	92.24	2	29	102
NRC200408	9845.05	6725.09	283.13	-54.5	90.35	52	96	102
NRC200509	9756.8	6717.1	221.8	-55	140.4	62	152	152
NRC200510	9754.99	6764.5	220.2	-59.5	176.28	0	140	140
NRC200611	9031.819	6804.908	202.801	-58.96	267.68	98	172	202
NRC200612	9171.709	6777.39	149.833	-56.3409	245.467	28	168	180
NRC200613	9231.484	6793.534	150.227	-58.4	267.943	38	194	196
NRC200614	8991.752	6796.932	207.957	-59.13	268.78	104	156	196











Hole ID	у	х	Z	dip	azimuth	Depth from	depth_to	Max depth
NRC200615	8788.299	6746.407	211.485	-60.75	272.96	86	142	170
UDDH2019_02	8752.005	6961.089	109.8	-33	263	284.4	341	381.1
UDDH2019_03	8754.098	6961.883	109.657	-44	305	344.2	499	652.9
UDDH2019_04	8753.246	6961.587	109.496	-53.23	282.174	391.7	528.8	563.2
UDDH2019_05	8830.116	7057.952	89.566	-38.4858	302.2642	446.3	530.4	846.1
UDDH2019_06	8964.937	7118.509	67.57	-25.3	284.3	363.4	488.3	615.1
UDDH2019_07	9102.507	7159.779	47.102	-18.97	276.1	366.5	494.5	632.5
UDDH2019_08	9102.57	7159.98	46.62	-35.9	277.8	431.4	537.6	813.3
UDDH2020_10	9370.961	7159.165	3.646	-31.5	282	402.7	569.8	670
UDDH2020_12	9370.75	7158.016	3.171	-32.5	271	400	568.4	650.6
UDDH2020_13	9371.304	7158.462	3.844	-21.76	281.192	367.6	509	592.3
UDDH2020_14A	9502.08	7094.13	-17.39	-37	279	345.2	567.9	617.8
UDDH2020_15	9502.959	7095.005	-16.939	-38.4514	301.1161	400.7	642	735
UDDH2020_16	9502.833	7094.622	-16.985	-31.105	295.3375	343.6	384.4	384.4

#### **Table 16 Long Plains Drill Hole Intercepts**

Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
IMI28	348036.0	5396583.0	280.0	-47.0	259.0	24.4	83.3	166.7
IMI29	348011.0	5396883.0	263.0	-50.0	258.0	111.9	115.2	182.9
IMI29	348011.0	5396883.0	263.0	-50.0	258.0	141.6	151.2	182.9
IMI29	348011.0	5396883.0	263.0	-50.0	258.0	79.4	90.3	182.9
IMI29	348011.0	5396883.0	263.0	-50.0	258.0	16.5	36.3	182.9
IMI30	348311.0	5395383.0	230.0	-45.0	255.0	128.5	157.0	192.0
IMI30	348311.0	5395383.0	230.0	-45.0	255.0	98.4	110.8	192.0
IMI30	348311.0	5395383.0	230.0	-45.0	255.0	58.2	83.1	192.0
IMI35	347976.0	5397188.0	253.0	-85.0	257.0	65.2	79.8	137.8
IMI46	347976.0	5397188.0	253.0	-44.0	257.0	98.5	116.5	233.5
IMI46	347976.0	5397188.0	253.0	-44.0	257.0	30.9	46.4	233.5
LPC06001	347832.3	5396884.2	274.3	10.0	97.4	52.0	52.1	136.0
LPC06001	347832.3	5396884.2	274.3	10.0	97.4	85.7	97.3	136.0
LPC06001	347832.3	5396884.2	274.3	10.0	97.4	115.4	122.0	136.0
LPC06002	347824.7	5396929.2	275.5	7.6	73.1	72.0	72.1	182.5
LPC06002	347824.7	5396929.2	275.5	7.6	73.1	140.0	142.3	182.5
LPC06002	347824.7	5396929.2	275.5	7.6	73.1	151.0	156.0	182.5
LPC06003	347878.8	5396989.0	278.3	5.4	99.5	18.1	31.0	115.5
LPC06003	347878.8	5396989.0	278.3	5.4	99.5	86.0	90.0	115.5
LPC06004	347789.9	5396998.1	274.6	-22.7	74.1	184.0	185.4	222.0
LPC06005	347839.9	5397087.9	262.6	6.8	102.3	29.0	29.0	157.0
LPC06005	347839.9	5397087.9	262.6	6.8	102.3	70.5	71.2	157.0
LPC06006	347800.3	5397139.9	251.4	1.5	96.4	66.2	98.9	232.0











#### **Table 16 Long Plains Drill Hole Intercepts**

Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
LPC06006	347800.3	5397139.9	251.4	1.5	96.4	121.2	141.9	232.0
LPC06006	347800.3	5397139.9	251.4	1.5	96.4	166.9	169.2	232.0
LPC06007	347794.8	5397184.6	238.6	11.0	94.8	85.0	104.0	226.0
LPC06007	347794.8	5397184.6	238.6	11.0	94.8	117.8	125.3	226.0
LPC06007	347794.8	5397184.6	238.6	11.0	94.8	130.6	146.2	226.0
LPC06008	347937.0	5396682.3	282.4	2.3	90.2	4.1	28.0	56.5
LPC06008	347937.0	5396682.3	282.4	2.3	90.2	43.3	56.5	56.5
LPC06009	347994.8	5396703.8	287.8	-2.6	71.5	35.1	39.0	75.5
LPC06010	347968.4	5396582.5	277.1	6.8	86.4	8.0	48.9	111.0
LPC06010	347968.4	5396582.5	277.1	6.8	86.4	72.0	79.0	111.0
LPC06011	347955.3	5396486.3	269.4	7.2	93.1	12.0	22.4	90.5
LPC06011	347955.3	5396486.3	269.4	7.2	93.1	69.1	73.1	90.5
LPC06012	347996.7	5396384.1	264.2	11.9	91.2	32.0	33.0	35.0
LPC06012	347996.7	5396384.1	264.2	11.9	91.2	9.0	15.1	35.0
LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	71.0	76.0	293.2
LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	123.5	137.5	293.2
LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	184.3	186.0	293.2
LPDD1103	348437.0	5394660.0	259.3	-54.3	89.6	232.0	245.5	293.2
LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	97.2	143.6	488.3
LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	175.1	215.0	488.3
LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	220.2	297.3	488.3
LPDD1204	348295.4	5394950.2	259.4	-59.6	94.1	297.3	352.0	488.3
LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	24.0	31.2	278.5
LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	66.6	120.7	278.5
LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	120.7	145.0	278.5
LPDD1205	348194.8	5395260.0	240.7	-57.4	84.4	166.9	179.6	278.5
LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	219.9	235.2	301.3
LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	124.0	132.1	301.3
LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	145.4	159.1	301.3
LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	265.3	269.0	301.3
LPDD1212	348080.5	5396392.0	267.1	-59.8	268.0	55.1	61.3	301.3
LPDD1215	348123.4	5396480.0	271.8	-57.0	273.3	204.6	252.2	301.4
LPDD1215	348123.4	5396480.0	271.8	-57.0	273.3	178.1	189.9	301.4
LPDD1218	348088.8	5396580.1	282.3	-60.0	270.0	101.5	232.1	288.1
LPDD1218	348088.8	5396580.1	282.3	-60.0	270.0	74.0	81.2	288.1
LPDD1220	348083.7	5396676.4	275.6	-52.3	259.3	178.8	207.5	236.6
LPDD1220	348083.7	5396676.4	275.6	-52.3	259.3	61.0	165.9	236.6
LPDD1223	347995.5	5396772.0	290.5	-73.5	281.0	142.3	201.2	300.0
LPDD1223	347995.5	5396772.0	290.5	-73.5	281.0	33.1	103.3	300.0
LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	111.9	156.5	270.2
LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	79.7	107.0	270.2
LPDD1228	347988.9	5397078.4	263.7	-60.8	274.5	24.5	52.4	270.2
LPDD1229	348007.1	5397181.1	254.7	-60.0	270.0	175.1	183.8	261.8
LPDD1229	348007.1	5397181.1	254.7	-60.0	270.0	74.4	83.9	261.8
LPDD1301	347991.7	5397130.3	262.2	-61.0	270.0	131.0	167.0	201.8











#### **Table 16 Long Plains Drill Hole Intercepts**

Hole ID	x	у	Z	dip	azimuth	Depth from	Depth to	Max depth
LPDD1301	347991.7	5397130.3	262.2	-61.0	270.0	37.0	48.9	201.8
LPDD1302	347992.2	5397130.3	262.1	-71.0	270.0	192.5	203.7	228.7
LPDD1302	347992.2	5397130.3	262.1	-71.0	270.0	72.0	78.0	228.7
LPDD1306	347795.3	5396931.7	276.3	-47.0	88.6	173.5	243.0	488.2
LPDD1306	347795.3	5396931.7	276.3	-47.0	88.6	278.2	300.0	488.2
LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	93.0	145.0	260.5
LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	158.7	174.0	260.5
LPDD1307	347845.6	5396939.3	283.4	-49.5	94.3	203.9	209.3	260.5
LPDD1309	347948.2	5396780.6	290.5	-69.5	92.7	46.3	172.9	284.7
LPDD1309	347948.2	5396780.6	290.5	-69.5	92.7	242.9	257.1	284.7
LPDD1310	348081.8	5396676.7	270.0	-74.1	270.0	154.0	309.8	309.8
LPDD1311	348070.8	5396534.4	281.9	-70.9	261.2	162.6	241.0	271.6
LPDD1311	348070.8	5396534.4	281.9	-70.9	261.2	120.0	129.0	271.6
LPDD1312	348090.0	5396160.0	262.5	-65.0	270.0	101.0	153.6	222.2
LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	172.0	206.4	298.8
LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	170.2	172.0	298.8
LPDD1313	348133.6	5396058.8	258.6	-72.0	279.3	128.3	166.5	298.8
LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	190.0	228.4	283.8
LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	150.8	183.1	283.8
LPDD1314	348159.5	5395961.3	251.1	-69.9	259.0	78.0	119.1	283.8
LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	175.3	204.7	312.7
LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	83.0	137.2	312.7
LPDD1315	348156.0	5395864.4	246.3	-76.0	270.0	5.0	43.0	312.7
LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	197.6	216.6	303.6
LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	140.8	171.3	303.6
LPDD1316	348158.5	5395867.8	246.3	-50.0	209.0	8.4	39.1	303.6
LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	143.7	220.0	245.9
LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	112.6	121.0	245.9
LPDD1318	347988.9	5397078.4	263.7	-75.8	274.5	34.2	69.1	245.9
LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	52.3	89.6	156.2
LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	37.0	46.7	156.2
LPDDH0707	347942.1	5397183.3	262.0	-55.3	268.4	5.0	23.9	156.2
LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	111.0	154.2	181.0
LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	78.0	105.0	181.0
LPDDH100	347993.0	5397029.0	260.0	-50.0	255.0	32.8	46.7	181.0
LPDDH101	347945.5	5397030.4	274.9	-50.0	255.0	34.9	80.0	95.0
LPDDH101	347945.5	5397030.4	274.9	-50.0	255.0	26.1	28.0	95.0
LPDDH102	347896.2	5397018.7	275.8	-50.0	255.0	0.0	10.0	49.0
LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	180.6	199.0	199.0
LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	144.2	175.6	199.0
LPDDH103	348038.0	5397041.0	249.0	-50.0	255.0	81.7	96.5	199.0
LPRC07001	347942.2	5397124.9	267.4	-60.4	270.1	52.0	125.0	160.0
LPRC07001	347942.2	5397124.9	267.4	-60.4	270.1	7.0	36.0	160.0
LPRC07002	347936.1	5397080.0	266.9	-70.8	270.2	54.0	119.0	154.0
LPRC07002	347936.1	5397080.0	266.9	-70.8	270.2	34.0	45.6	154.0











#### **Table 16 Long Plains Drill Hole Intercepts**

Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	21.0	120.0	184.0
LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	123.0	163.0	184.0
LPRC07003	347891.0	5396985.0	280.0	-68.8	94.9	179.5	184.0	184.0
LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	2.1	41.0	160.0
LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	54.0	92.0	160.0
LPRC07004	347895.8	5396985.0	282.1	-56.0	92.3	102.0	121.0	160.0
LPRC07005	347908.0	5397133.7	263.9	-60.5	270.0	6.0	70.0	167.0
LPRC07006	347896.8	5397082.1	265.9	-70.4	270.4	23.0	66.0	93.0
LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	144.0	155.0	220.0
LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	29.3	33.3	220.0
LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	79.1	88.4	220.0
LPRC1113	348042.6	5396380.1	271.2	-60.1	269.2	200.0	203.0	220.0
LPRC1114	347973.9	5396383.2	266.9	-58.1	273.8	6.0	17.0	103.0
LPRC1114	347973.9	5396383.2	266.9	-58.1	273.8	45.0	58.0	103.0
LPRC1116	348044.8	5396479.9	281.3	-57.1	269.4	47.0	114.0	200.0
LPRC1116	348044.8	5396479.9	281.3	-57.1	269.4	29.0	42.0	200.0
LPRC1117	347972.8	5396480.0	274.6	-58.7	273.0	3.5	15.0	100.0
LPRC1121	348007.5	5396674.8	290.5	-55.7	266.8	74.0	111.0	196.0
LPRC1121	348007.5	5396674.8	290.5	-55.7	266.8	1.5	49.0	196.0
LPRC1122	347950.0	5396679.9	287.2	-60.3	269.5	0.0	16.0	106.0
LPRC1127	347929.0	5396879.6	292.6	-59.7	276.2	0.0	21.0	100.0
LPRC1127	347929.0	5396879.6	292.6	-59.7	276.2	65.0	73.0	100.0
LPRC1209	348156.7	5396270.1	258.9	-57.3	262.9	127.0	131.0	131.0
LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	135.0	170.0	200.0
LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	7.0	22.0	200.0
LPRC1210	348075.1	5396280.1	262.1	-59.3	271.3	42.3	57.5	200.0
LPRC1211	348013.9	5396278.7	258.8	-59.5	277.1	37.0	61.0	88.0
LPRC1224	347996.1	5396774.1	290.5	-58.2	272.1	95.6	141.0	200.0
LPRC1224	347996.1	5396774.1	290.5	-58.2	272.1	24.8	76.0	200.0
LPRC1225	347943.3	5396780.4	290.4	-61.3	276.2	25.4	66.0	100.0
LPRC1308	347949.1	5396780.6	290.6	-48.0	92.0	39.3	61.0	166.0
LPRC1308	347949.1	5396780.6	290.6	-48.0	92.0	127.0	136.0	166.0
LPRC1310	348085.2	5396674.6	275.7	-74.0	270.0	150.8	153.0	153.0
LPRC1317	348091.7	5396161.5	262.5	-65.0	90.0	17.0	28.0	149.0
LPRC1317	348091.7	5396161.5	262.5	-65.0	90.0	51.0	62.0	149.0
MC29	347888.1	5397120.9	263.8	-49.3	258.8	8.0	30.8	348.0
rtae1	347991.0	5397143.0	257.0	-45.0	255.0	90.0	145.0	195.0
rtae1	347991.0	5397143.0	257.0	-45.0	255.0	72.1	73.0	195.0
rtae1	347991.0	5397143.0	257.0	-45.0	255.0	26.0	35.0	195.0

#### Table 17 - South Deposit Drill Hole Intercepts 31 December 2012

Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
IMDD001	4422.5	5477.3	310.1	-50.0	278.9	106.3	176.3	206.3
IMDD002	4436.8	5362.1	290.7	-50.0	283.4	87.5	104.7	175.3











#### Table 17 - South Deposit Drill Hole Intercepts 31 December 2012

Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
IMDD002	4436.8	5362.1	290.7	-50.0	283.4	104.7	124.6	175.3
IMDD003	4348.1	5334.9	298.1	-50.0	271.6	98.2	142.1	167.2
IMDD004	4342.2	5410.9	307.2	-49.5	274.3	58.7	85.2	123.0
IMDD005	4337.7	5468.9	313.9	-50.0	273.7	130.5	134.5	134.5
IMDD006	4242.2	5387.3	307.9	-50.0	273.4	33.0	40.9	87.0
IMDD007	4504.0	5262.7	285.4	-50.0	94.3	74.2	85.7	151.5
IMDD007	4504.0	5262.7	285.4	-50.0	94.3	85.7	144.3	151.5
IMDD008	4237.0	5252.1	310.5	-50.0	299.9	56.6	95.5	95.5
IMDD009	4490.8	5427.0	307.2	-58.0	282.3	38.0	45.0	117.3
IMDD010	4399.7	5430.0	309.3	-50.0	273.7	38.6	116.9	124.5
IMDD011	4398.0	5321.4	295.6	-61.0	274.3	92.6	106.1	141.7
IMDD011	4398.0	5321.4	295.6	-61.0	274.3	122.0	127.7	141.7
IMDD012	4290.8	5414.7	307.4	-50.2	276.9	40.4	86.1	136.0
IMDD013	4553.8	5283.6	258.2	-49.0	93.4	81.8	82.3	136.0
IMDD014	4302.5	5305.0	298.4	-49.0	276.7	70.5	125.4	146.8
IMDD015	4364.3	5302.2	297.5	-56.1	96.3	93.0	158.0	188.1
IMDD016	4257.6	5281.3	304.4	-52.0	94.5	150.1	229.4	239.0
IMDD017	4290.9	5395.6	305.0	-51.5	273.4	13.0	59.5	65.5
IMDD019	4285.2	5514.7	311.2	-55.0	269.5	196.0	253.3	259.0
IMDD019	4285.2	5514.7	311.2	-55.0	269.5	253.3	259.0	259.0
IMDD020	4499.1	5306.9	271.5	-50.5	90.4	4.9	24.9	79.5
IMDD020	4499.1	5306.9	271.5	-50.5	90.4	24.9	61.8	79.5
IMDD021	4295.3	5363.9	301.3	-51.0	265.4	5.7	19.0	264.5
IMDD021	4295.3	5363.9	301.3	-51.0	265.4	154.2	209.7	264.5
IMDD021	4295.3	5363.9	301.3	-51.0	265.4	209.7	222.5	264.5
IMDD021	4295.3	5363.9	301.3	-51.0	265.4	234.0	240.5	264.5
IMDD022	4385.4	5505.7	311.4	-52.0	274.4	180.6	219.6	279.5
IMDD022	4385.4	5505.7	311.4	-52.0	274.4	219.6	223.3	279.5
IMDD023	4394.3	5372.9	303.6	-57.5	278.1	5.5	26.0	234.5
IMDD023	4394.3	5372.9	303.6	-57.5	278.1	154.2	179.2	234.5
IMDD023	4394.3	5372.9	303.6	-57.5	278.1	187.7	199.2	234.5
IMDD024	4203.1	5460.3	313.9	-49.0	274.3	106.1	139.8	149.3
IMDD025	4199.9	5240.6	283.5	-54.0	267.5	45.5	111.0	114.3
IMDD026	4201.5	5306.4	283.6	-48.0	270.6	124.0	147.1	237.1
IMDD026	4201.5	5306.4	283.6	-48.0	270.6	147.1	206.9	237.1
IMDD027	4201.3	5500.1	313.3	-56.7	270.2	143.6	200.8	218.7
IMDD027	4201.3	5500.1	313.3	-56.7	270.2	200.8	205.1	218.7
IMDD029	4131.0	5295.0	301.0	-51.1	268.4	155.2	308.8	345.5
IMDD030	4132.9	5249.6	294.9	-51.5	287.4	90.6	98.0	169.7
IMDD030	4132.9	5249.6	294.9	-51.5	287.4	121.9	129.0	169.7
IMDD030	4132.9	5249.6	294.9	-51.5	287.4	134.5	154.0	169.7
IMDD032	4097.3	5224.9	291.6	-46.0	268.5	84.1	90.2	155.5
IMDD032	4097.3	5224.9	291.6	-46.0	268.5	100.3	105.9	155.5











#### Table 17 - South Deposit Drill Hole Intercepts 31 December 2012

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

Hole ID	х	У	z	dip	azimuth	Depth from	Depth to	Max depth			
C88107	6423.00	7651.00	137.00	-90.00	0.00	9.00	18.00	18.00			
C88108	6421.00	7631.00	141.00	-90.00	0.00	9.66	18.00	18.00			
C88116	6395.00	7674.00	137.00	-90.00	0.00	0.00	18.80	21.00			
C88118	6379.00	7439.00	152.00	-90.00	0.00	0.00	2.67	30.00			
C88119	6380.00	7410.00	152.00	-90.00	0.00	0.00	6.00	30.00			
C88121	6398.00	7319.00	152.00	-90.00	0.00	2.89	3.00	3.00			
C88122	6406.00	7344.00	152.00	-90.00	0.00	0.00	30.00	30.00			
C88123	6410.00	7365.00	152.00	-90.00	0.00	6.00	30.00	30.00			
C88124	6408.00	7394.00	152.00	-90.00	0.00	0.00	12.00	30.00			
C88124	6408.00	7394.00	152.00	-90.00	0.00	18.00	30.00	30.00			
C88126	6425.00	7418.00	142.00	-90.00	0.00	0.00	8.28	12.00			
C88127	6422.00	7444.00	140.00	-90.00	0.00	0.00	18.00	18.00			
C88128	6420.00	7471.00	140.00	-90.00	0.00	0.00	9.00	18.00			
C88128	6420.00	7471.00	140.00	-90.00	0.00	9.00	18.00	18.00			
C88130	6452.00	7443.00	140.00	-90.00	0.00	0.00	3.00	3.00			
C88131	6448.00	7413.00	140.00	-90.00	0.00	0.00	18.00	18.00			
C88132	6452.00	7393.00	142.00	-90.00	0.00	0.00	18.00	18.00			
C88133	6361.00	7585.00	150.00	-90.00	0.00	24.00	30.00	30.00			
C88134	6362.00	7565.00	150.00	-90.00	0.00	0.00	30.00	30.00			
C88135	6369.00	7536.00	150.00	-90.00	0.00	12.00	21.00	30.00			











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Hole ID	X (270.00	у 7526.00	Z	dip	azimuth	Depth from	Depth to	Max depth
C88136	6378.00	7526.00	150.00	-90.00	0.00	0.00	30.00	30.00
C88137	6387.00	7519.00	150.00	-90.00	0.00	0.00	30.00	30.00
C88139	6391.00	7538.00	150.00	-90.00	0.00	0.00	33.00	33.00
C88140	6388.00	7563.00	150.00	-90.00	0.00	0.00	21.00	21.00
C88141	6380.00	7587.00	150.00	-90.00	0.00	1.93	33.00	33.00
C88142	6362.00	7605.00	150.00	-90.00	0.00	1.00	21.00	30.00
C88143	6380.00	7502.00	150.00	-90.00	0.00	21.00	39.00	39.00
C88145	6476.00	7639.00	127.00	-90.00	0.00	2.95	21.00	24.00
C88145	6476.00	7639.00	127.00	-10.00	90.00	21.00	24.00	24.00
C88146	6482.00	7529.00	130.00	-6.00	40.00	0.00	12.00	12.00
C88147	6444.00	7389.00	142.00	-90.00	0.00	0.00	6.08	15.00
C88148	6425.00	7391.00	141.00	-90.00	0.00	0.00	21.00	21.00
C88149	6440.00	7364.00	142.00	-90.00	0.00	0.00	17.37	24.00
C88150	6437.00	7342.00	143.00	-90.00	0.00	0.00	3.00	3.00
C88151	6435.00	7322.00	145.00	-90.00	0.00	0.00	24.00	24.00
C88152	6414.00	7328.00	144.00	-90.00	0.00	0.00	18.00	18.00
C88153	6418.00	7350.00	144.00	-90.00	0.00	0.00	21.00	21.00
C88154	6422.00	7370.00	144.00	-90.00	0.00	0.00	27.00	27.00
C88155	6432.00	7410.00	144.00	-90.00	0.00	0.00	18.00	18.00
C88156	6376.00	7366.00	155.00	-90.00	0.00	0.00	24.00	24.00
C88157	6375.00	7338.00	155.00	-90.00	0.00	0.00	27.00	27.00
C88158	6362.00	7643.00	153.00	-90.00	0.00	0.00	27.00	27.00
CD101	6524.20	7226.80	331.10	-45.00	267.80	0.00	30.80	182.90
CD101	6524.20	7226.80	331.10	-45.00	267.80	30.80	67.40	182.90
CD101	6524.20	7226.80	331.10	-45.00	267.80	67.40	117.30	182.90
CD101	6524.20	7226.80	331.10	-45.00	267.80	150.10	155.78	182.90
CD102	6514.20	7413.30	270.90	-45.00	268.50	3.70	15.20	167.60
CD102	6514.20	7413.30	270.90	-45.00	268.50	22.60	41.80	167.60
CD102	6514.20	7413.30	270.90	-45.00	268.50	41.80	48.50	167.60
CD102	6514.20	7413.30	270.90	-45.00	268.50	48.50	70.10	167.60
CD102	6514.20	7413.30	270.90	-45.00	268.50	75.30	97.80	167.60
CD102	6514.20	7413.30	270.90	-45.00	268.50	107.00	144.80	167.60
CD103	6488.90	7043.90	345.70	-45.00	269.00	24.70	45.40	174.70
CD103	6488.90	7043.90	345.70	-45.00	269.00	45.40	115.80	174.70
CD103	6488.90	7043.90	345.70	-45.00	269.00	132.60	166.10	174.70
CD104	6552.30	6956.80	342.50	-45.00	275.00	31.10	36.30	347.60
CD104	6552.30	6956.80	342.50	-45.00	275.00	80.80	88.10	347.60
CD104	6552.30	6956.80	342.50	-45.00	275.00	163.70	204.80	347.60
CD104	6552.30	6956.80	342.50	-45.00	275.00	231.00	272.50	347.60
CD104	6552.30	6956.80	342.50	-45.00	275.00	272.50	291.49	347.60
CD104	6552.30	6956.80	342.50	-45.00	275.00	316.10	325.50	347.60











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD105	6560.20	7672.70	212.80	-45.00	268.14	76.80	111.90	204.22
CD105	6560.20	7672.70	212.80	-45.00	268.14	116.40	139.90	204.22
CD105	6560.20	7672.70	212.80	-45.00	268.14	139.90	153.60	204.22
CD105	6560.20	7672.70	212.80	-45.00	268.14	158.80	174.00	204.22
CD105	6560.20	7672.70	212.80	-45.00	268.14	174.00	185.90	204.22
CD105	6560.20	7672.70	212.80	-45.00	268.14	192.00	204.22	204.22
CD106	6440.10	7583.70	217.40	-45.00	91.50	7.90	12.32	158.80
CD106	6440.10	7583.70	217.40	-45.00	91.50	34.10	39.80	158.80
CD106	6440.10	7583.70	217.40	-45.00	91.50	112.50	118.30	158.80
CD106	6440.10	7583.70	217.40	-45.00	91.50	135.00	155.40	158.80
CD108	6600.40	7413.30	266.90	-45.00	270.00	9.80	17.96	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	28.30	34.10	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	109.40	120.70	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	135.60	161.80	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	161.80	173.40	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	173.40	183.50	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	183.50	197.20	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	200.15	211.50	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	222.80	245.70	285.00
CD108	6600.40	7413.30	266.90	-45.00	270.00	245.70	270.10	285.00
CD109	6407.50	6876.30	323.00	-61.00	270.00	0.72	16.09	142.60
CD109	6407.50	6876.30	323.00	-61.00	270.00	46.30	62.20	142.60
CD109	6407.50	6876.30	323.00	-61.00	270.00	66.28	66.95	142.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	0.00	3.62	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	46.00	59.27	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	59.27	132.30	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	152.40	192.90	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	199.00	208.80	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	221.60	255.70	303.60
CD110	6406.29	6790.64	321.75	-55.00	270.00	271.30	298.70	303.60
CD111	6600.10	7587.10	226.00	-45.00	270.00	1.20	22.90	152.40
CD111	6600.10	7587.10	226.00	-45.00	270.00	103.60	107.90	152.40
CD112	6363.00	6690.40	306.70	-45.00	270.00	12.20	32.90	142.30
CD112	6363.00	6690.40	306.70	-45.00	270.00	52.10	142.30	142.30
CD113	6578.80	7043.90	332.20	-45.00	270.00	66.40	71.60	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	180.10	194.50	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	194.50	208.20	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	252.10	255.70	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	255.70	263.30	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	300.80	306.30	359.70
CD113	6578.80	7043.90	332.20	-45.00	270.00	309.40	323.40	359.70











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD113	6578.80	7043.90	332.20	-45.00	270.00	327.70	348.10	359.70
CD113	6286.50	6461.80	315.50	-45.00	270.00	47.90	72.41	227.40
CD114	6286.50	6461.80	315.50	-45.00	270.00	72.41	104.90	227.40
CD114	6286.50	6461.80	315.50	-45.00	270.00	139.00	187.37	227.40
CD114	6286.50	6461.80	315.50	-45.00	270.00	199.18	217.89	227.40
CD115	6298.10	6598.00	308.50	-55.00	270.00	48.50	128.60	128.60
CD116	6221.60	6371.20	304.90	-55.00	270.00	29.30	37.20	274.30
CD116	6221.60	6371.20	304.90	-55.00	270.00	37.20	88.10	274.30
CD116	6221.60	6371.20	304.90	-55.00	270.00	100.00	123.10	274.30
CD116	6221.60	6371.20	304.90	-55.00	270.00	196.60	228.90	274.30
CD117	6614.20	7142.70	308.60	-55.00	270.00	125.00	128.90	335.30
CD117	6614.20	7142.70	308.60	-55.00	270.00	152.70	167.90	335.30
CD117	6614.20	7142.70	308.60	-55.00	270.00	264.00	274.30	335.30
CD117	6614.20	7142.70	308.60	-55.00	270.00	308.50	317.30	335.30
CD117	6614.20	7142.70	308.60	-55.00	270.00	321.60	335.30	335.30
CD118	6607.10	7227.40	309.80	-45.00	270.00	115.80	151.80	243.80
CD118	6607.10	7227.40	309.80	-45.00	270.00	174.70	198.31	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	47.20	51.50	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	59.70	63.62	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	71.30	88.10	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	98.50	118.00	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	118.00	133.20	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	139.30	189.30	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	201.50	206.70	243.80
CD119	6141.40	6186.80	272.80	-55.00	270.00	210.29	238.70	243.80
CD120	6187.40	6746.40	269.00	-45.00	90.00	6.70	15.50	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	32.30	37.50	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	46.60	47.24	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	47.24	49.01	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	49.01	58.80	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	82.90	93.90	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	108.50	144.80	221.10
CD120	6187.40	6746.40	269.00	-45.00	90.00	192.90	212.80	221.10
CD121	6398.40	7326.00	314.00	-55.00	90.00	4.60	18.30	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	24.70	34.96	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	39.60	101.80	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	101.80	134.10	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	134.10	167.14	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	167.14	175.60	323.40
CD121	6398.40	7326.00	314.00	-55.00	90.00	249.90	269.67	323.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	0.00	10.30	314.40











Hole ID	Х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD200101	6355.72	7640.28	99.71	-54.30	88.32	10.30	25.60	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	85.10	93.60	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	105.20	128.91	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	128.91	147.00	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	147.00	155.30	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	155.30	167.70	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	174.73	199.60	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	207.00	237.70	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	278.70	281.10	314.40
CD200101	6355.72	7640.28	99.71	-54.30	88.32	289.90	299.50	314.40
CD200102	6346.03	7689.64	105.08	-49.30	89.96	0.00	16.20	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	64.79	102.50	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	102.50	127.42	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	127.42	146.80	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	150.30	167.70	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	167.70	171.40	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	191.50	205.52	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	205.52	226.01	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	231.00	258.00	304.50
CD200102	6346.03	7689.64	105.08	-49.30	89.96	263.20	274.00	304.50
CD200103	6335.99	7739.99	110.07	-50.00	93.22	2.60	19.63	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	70.30	92.60	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	92.60	114.40	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	120.60	139.70	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	146.00	158.50	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	181.00	215.50	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	216.86	217.06	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	223.70	246.40	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	250.40	262.20	326.80
CD200103	6335.99	7739.99	110.07	-50.00	93.22	270.80	317.40	326.80
CD200104	6353.07	7840.12	111.30	-48.73	88.01	47.43	54.60	281.40
CD200104	6353.07	7840.12	111.30	-48.73	88.01	54.60	72.70	281.40
CD200104	6353.07	7840.12	111.30	-48.73	88.01	80.60	110.80	281.40
CD200104	6353.07	7840.12	111.30	-48.73	88.01	132.30	139.08	281.40
CD200104	6353.07	7840.12	111.30	-48.73	88.01	139.08	150.60	281.40
CD200104	6353.07	7840.12	111.30	-48.73	88.01	252.20	255.10	281.40
CD200105	6346.25	7890.37	111.97	-48.34	88.59	0.00	12.40	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	59.30	76.40	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	80.50	82.50	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	87.59	101.60	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	113.20	157.00	292.70











Hole ID	Х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD200105	6346.25	7890.37	111.97	-48.34	88.59	157.00	166.42	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	166.42	176.00	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	193.63	225.20	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	225.20	240.20	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	242.50	254.10	292.70
CD200105	6346.25	7890.37	111.97	-48.34	88.59	267.90	271.90	292.70
CD200106	6353.97	7815.16	110.51	-48.15	96.00	51.31	52.40	270.10
CD200106	6353.97	7815.16	110.51	-48.15	96.00	53.70	85.18	270.10
CD200106	6353.97	7815.16	110.51	-48.15	96.00	93.40	99.40	270.10
CD200106	6353.97	7815.16	110.51	-48.15	96.00	134.12	136.65	270.10
CD200106	6353.97	7815.16	110.51	-48.15	96.00	187.60	212.30	270.10
CD200106	6353.97	7815.16	110.51	-48.15	96.00	234.10	255.00	270.10
CD200107	6355.62	7940.19	112.19	-47.84	89.15	0.00	3.87	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	58.90	61.60	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	116.80	124.90	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	130.20	147.00	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	156.60	179.90	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	179.90	208.60	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	232.69	233.59	275.70
CD200107	6355.62	7940.19	112.19	-47.84	89.15	235.60	245.00	275.70
CD200108	6361.00	7990.00	112.00	-50.00	90.00	0.00	11.96	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	63.27	84.27	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	113.04	123.47	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	147.57	166.51	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	166.51	175.14	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	197.91	198.40	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	198.40	199.14	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	199.96	230.66	250.00
CD200108	6361.00	7990.00	112.00	-50.00	90.00	241.35	244.77	250.00
CD200109	6353.65	7990.07	112.94	-48.15	89.40	2.43	2.45	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	13.00	19.75	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	72.30	93.70	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	120.80	130.30	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	153.50	171.81	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	171.82	179.90	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	202.40	232.60	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	243.30	246.20	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	263.20	290.20	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	305.70	321.10	363.20
CD200109	6353.65	7990.07	112.94	-48.15	89.40	321.10	345.80	363.20
CD200201	5921.36	6000.00	224.24	-45.07	92.44	39.30	50.40	280.20











Hole ID	Х	У	Z	dip	azimuth	Depth from	Depth to	Max depth
CD200301	6197.14	6140.11	249.27	-42.00	270.24	60.40	66.60	252.00
CD200301	6197.14	6140.11	249.27	-42.00	270.24	133.30	150.40	252.00
CD200301	6197.14	6140.11	249.27	-42.00	270.24	158.20	161.00	252.00
CD200301	6197.14	6140.11	249.27	-42.00	270.24	162.00	173.20	252.00
CD200301	6197.14	6140.11	249.27	-42.00	270.24	178.70	199.75	252.00
CD200301	6197.14	6140.11	249.27	-42.00	270.24	218.10	243.80	252.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	112.40	115.50	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	120.72	141.89	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	141.89	142.40	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	142.40	142.60	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	150.70	185.25	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	196.70	202.70	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	202.70	213.20	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	231.70	247.70	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	247.70	259.60	293.00
CD200302	5898.99	6189.62	206.47	-43.65	91.44	277.10	280.90	293.00
CD200303	5899.32	6235.08	201.27	-44.00	90.00	120.40	139.90	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	156.81	165.00	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	191.40	202.70	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	202.70	214.20	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	221.50	250.10	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	250.10	266.80	297.40
CD200303	5899.32	6235.08	201.27	-44.00	90.00	284.90	290.90	297.40
CD200304	6015.90	6274.01	158.08	-55.36	91.42	1.17	16.50	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	32.27	32.50	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	42.26	45.70	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	76.75	88.74	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	88.74	94.22	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	108.40	131.30	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	131.30	144.40	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	144.40	158.20	190.00
CD200304	6015.90	6274.01	158.08	-55.36	91.42	172.70	182.77	190.00
CD200305	6029.61	6322.97	156.73	-50.12	89.17	2.25	3.30	196.10
CD200305	6029.61	6322.97	156.73	-50.12	89.17	56.40	72.90	196.10
CD200305		6322.97	156.73	-50.12	89.17	80.80	102.80	196.10
-								196.10
CD200305	6029.61			-50.12	89.17	149.90	164.60	196.10
CD200305					89.17	172.00	177.50	196.10
								199.70
-								199.70
-								199.70
CD200302 CD200302 CD200303 CD200303 CD200303 CD200303 CD200303 CD200303 CD200304 CD200304 CD200304 CD200304 CD200304 CD200304 CD200304 CD200305 CD200305 CD200305 CD200305 CD200305	5898.99 5898.99 5898.99 5899.32 5899.32 5899.32 5899.32 5899.32 5899.32 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6015.90 6029.61 6029.61 6029.61	6189.62 6189.62 6189.62 6235.08 6235.08 6235.08 6235.08 6235.08 6235.08 6235.08 6274.01 6274.01 6274.01 6274.01 6274.01 6274.01 6274.01 6274.01	206.47 206.47 206.47 201.27 201.27 201.27 201.27 201.27 201.27 201.27 158.08 158.08 158.08 158.08 158.08 158.08 158.08	-43.65 -43.65 -43.65 -44.00 -44.00 -44.00 -44.00 -44.00 -44.00 -55.36	91.44 91.44 91.44 90.00 90.00 90.00 90.00 90.00 90.00 91.42 91.42 91.42 91.42 91.42 91.42 91.42 91.42 91.47 91.42	231.70 247.70 277.10 120.40 156.81 191.40 202.70 221.50 250.10 284.90 1.17 32.27 42.26 76.75 88.74 108.40 131.30 144.40 172.70 2.25 56.40 80.80 107.61 149.90	247.70 259.60 280.90 139.90 165.00 202.70 214.20 250.10 266.80 290.90 16.50 32.50 45.70 88.74 94.22 131.30 144.40 158.20 182.77 3.30 72.90 102.80 143.80 164.60	293 293 293 297 297 297 297 297 297 190 190 190 190 190 190 190 196 196 196 196 196 196 196 199 199











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD200306	6048.33	6371.62	156.72	-51.00	90.00	120.32	140.40	199.70
CD200306	6048.33	6371.62	156.72	-51.00	90.00	153.90	164.70	199.70
CD200306	6048.33	6371.62	156.72	-51.00	90.00	167.30	174.80	199.70
CD200306	6048.33	6371.62	156.72	-51.00	90.00	181.50	191.70	199.70
CD200307	6006.70	6419.85	180.62	-51.00	90.00	140.00	160.50	280.00
CD200307	6006.70	6419.85	180.62	-51.00	90.00	190.84	202.21	280.00
CD200307	6006.70	6419.85	180.62	-51.00	90.00	222.18	260.34	280.00
CD200308	6012.16	6461.93	177.28	-52.68	92.46	155.90	166.30	286.90
CD200308	6012.16	6461.93	177.28	-52.68	92.46	174.50	199.70	286.90
CD200308	6012.16	6461.93	177.28	-52.68	92.46	214.50	219.00	286.90
CD200308	6012.16	6461.93	177.28	-52.68	92.46	219.00	234.60	286.90
CD200308	6012.16	6461.93	177.28	-52.68	92.46	234.60	246.30	286.90
CD200308	6012.16	6461.93	177.28	-52.68	92.46	259.40	275.40	286.90
CD200309	6096.77	6090.80	237.71	-38.67	269.25	55.80	57.01	202.10
CD200309	6096.77	6090.80	237.71	-38.67	269.25	67.50	72.40	202.10
CD200309	6096.77	6090.80	237.71	-38.67	269.25	128.60	133.70	202.10
CD200309	6096.77	6090.80	237.71	-38.67	269.25	181.00	195.80	202.10
CD200310	6312.77	6321.35	265.01	-45.00	270.00	56.87	75.40	91.00
CD200310	6312.77	6321.35	265.01	-45.00	270.00	89.13	91.00	91.00
CD200401	6131.02	6641.27	155.52	-50.50	90.00	59.80	61.90	216.00
CD200401	6131.02	6641.27	155.52	-50.50	90.00	95.80	100.30	216.00
CD200401	6131.02	6641.27	155.52	-50.50	90.00	100.30	120.00	216.00
CD200401	6131.02	6641.27	155.52	-50.50	90.00	122.40	152.50	216.00
CD200401	6131.02	6641.27	155.52	-50.50	90.00	168.70	177.70	216.00
CD200402	6078.88	6553.31	165.83	-50.00	90.00	96.00	102.70	280.50
CD200402	6078.88	6553.31	165.83	-50.00	90.00	116.60	136.70	280.50
CD200402	6078.88	6553.31	165.83	-50.00	90.00	141.70	166.50	280.50
CD200402	6078.88	6553.31	165.83	-50.00	90.00	166.50	186.80	280.50
CD200402	6078.88	6553.31	165.83	-50.00	90.00	212.20	220.10	280.50
CD200403	6156.56	6705.33	149.06	-50.00	102.00	53.53	64.59	249.90
CD200403	6156.56	6705.33	149.06	-50.00	102.00	89.40	118.80	249.90
CD200403	6156.56	6705.33	149.06	-50.00	102.00	118.80	120.80	249.90
CD200403	6156.56	6705.33	149.06	-50.00	102.00	157.20	178.50	249.90
CD200403	6156.56	6705.33	149.06	-50.00	102.00	210.50	218.20	249.90
CD200403	6156.56	6705.33	149.06	-50.00	102.00	235.70	239.70	249.90
CD201	6407.20	6876.30	322.90	-55.00	270.00	0.44	13.13	46.90
CD201	6407.20	6876.30	322.90	-55.00	270.00	30.20	46.90	46.90
CD202	6319.40	6868.10	299.90	-55.00	270.00	0.00	20.86	47.20
CD202	6319.40	6868.10	299.90	-55.00	270.00	32.60	47.20	47.20
CD203	6255.70	6868.10	287.10	-55.00	90.00	1.38	39.19	61.00
CD203	6255.70	6868.10	287.10	-55.00	90.00	39.19	57.35	61.00











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD20303	6425.00	7674.00	137.00	-90.00	0.00	14.79	17.50	21.00
CD20303	6425.00	7674.00	137.00	-90.00	0.00	20.79	21.00	21.00
CD204	6255.10	6868.10	287.10	-55.00	270.00	13.40	63.40	63.40
CD205	6394.40	6952.50	321.70	-45.00	90.00	17.99	31.40	48.20
CD205	6394.40	6952.50	321.70	-45.00	90.00	31.40	42.10	48.20
CD206	6363.90	6952.50	309.60	-45.00	90.00	0.00	7.11	57.30
CD206	6363.90	6952.50	309.60	-45.00	90.00	19.25	37.80	57.30
CD206	6363.90	6952.50	309.60	-45.00	90.00	52.10	52.80	57.30
CD206	6363.90	6952.50	309.60	-45.00	90.00	52.80	53.57	57.30
CD206	6363.90	6952.50	309.60	-45.00	90.00	53.57	57.30	57.30
CD207	6340.00	6954.00	301.10	-45.00	90.00	0.00	15.82	59.40
CD207	6340.00	6954.00	301.10	-45.00	90.00	20.04	39.79	59.40
CD207	6340.00	6954.00	301.10	-45.00	90.00	44.10	56.15	59.40
CD208	6544.10	7043.90	343.30	-45.00	270.00	16.20	19.50	85.60
CD209	6438.90	7045.10	336.00	-45.00	270.00	0.00	39.60	45.70
CD209	6438.90	7045.10	336.00	-45.00	270.00	44.20	45.70	45.70
CD210	6400.50	7044.20	329.80	-45.00	270.00	0.00	11.90	47.50
CD210	6400.50	7044.20	329.80	-45.00	270.00	29.30	39.00	47.50
CD211	6496.20	7134.80	346.20	-45.00	270.00	0.61	11.60	57.90
CD211	6496.20	7134.80	346.20	-45.00	270.00	16.20	21.60	57.90
CD211	6496.20	7134.80	346.20	-45.00	270.00	34.40	48.50	57.90
CD212	6456.60	7135.40	336.20	-45.00	270.00	0.00	33.80	33.80
CD213	6434.90	7135.30	330.90	-45.00	270.00	0.00	20.22	46.90
CD213	6434.90	7135.30	330.90	-45.00	270.00	20.22	36.90	46.90
CD213	6434.90	7135.30	330.90	-45.00	270.00	36.90	46.90	46.90
CD215	6324.00	6788.00	301.30	-45.00	90.00	39.30	46.00	46.00
CD216	6489.50	7618.80	240.50	-60.00	270.00	12.80	25.00	76.20
CD216	6489.50	7618.80	240.50	-60.00	270.00	25.00	67.40	76.20
CD217	6294.70	6787.30	296.80	-45.00	90.00	39.30	51.50	52.10
CD218	6266.40	6787.90	288.80	-45.00	90.00	14.30	20.40	60.40
CD218	6266.40	6787.90	288.80	-45.00	90.00	32.60	60.40	60.40
CD219	6452.00	7323.00	323.60	-45.00	270.00	10.10	41.10	64.90
CD219	6452.00	7323.00	323.60	-45.00	270.00	49.40	57.00	64.90
CD219	6452.00	7323.00	323.60	-45.00	270.00	59.70	64.90	64.90
CD220	6232.60	6786.10	281.20	-45.00	90.00	31.70	39.90	51.80
CD220	6232.60	6786.10	281.20	-45.00	90.00	43.60	51.80	51.80
CD221	6496.00	7321.00	318.60	-45.00	270.00	19.20	50.90	62.50
CD221	6496.00	7321.00	318.60	-45.00	270.00	58.80	62.50	62.50
CD222	6181.00	6789.00	264.20	-45.00	90.00	17.10	28.00	54.90
CD222	6181.00	6789.00	264.20	-45.00	90.00	51.32	54.90	54.90
CD223	6552.00	7228.60	324.90	-45.00	270.00	1.80	42.70	42.70











Hole ID	х	v	Z	dip	azimuth	Depth from	Depth to	Max depth
CD224	6472.00	<b>y</b> 7227.00	336.40	-45.00	270.00	•	12.50	57.60
CD224 CD224	6472.00	7227.00	336.40	-45.00 -45.00	270.00	23.80	55.50	57.60
		7410.00	305.50				33.50	
CD226 CD226	6415.70 6415.70	7410.00	305.50	-55.00 -55.00	270.00 270.00	13.70 45.70	59.10	82.30
								82.30
CD227	6279.50	6690.00	287.50	-55.00	270.00	0.00	25.30	106.70
CD227	6279.50	6690.00	287.50	-55.00	270.00	25.30	49.92	106.70
CD227	6279.50	6690.00	287.50	-55.00	270.00	55.84	106.70	106.70
CD228	6448.30	7419.00	311.20	-55.00	270.00	0.00	10.10	70.10
CD228	6448.30	7419.00	311.20	-55.00	270.00	18.60	38.10	70.10
CD228	6448.30	7419.00	311.20	-55.00	270.00	43.30	62.80	70.10
CD229	6444.40	7272.50	329.80	-45.00	270.00	0.00	36.92	97.50
CD229	6444.40	7272.50	329.80	-45.00	270.00	37.40	42.37	97.50
CD229	6444.40	7272.50	329.80	-45.00	270.00	53.90	61.00	97.50
CD229	6444.40	7272.50	329.80	-45.00	270.00	79.50	91.38	97.50
CD229	6444.40	7272.50	329.80	-45.00	270.00	97.48	97.50	97.50
CD230	6435.20	7226.80	331.90	-45.00	270.00	49.70	54.60	82.90
CD231	6504.70	7273.10	324.90	-45.00	270.00	16.80	34.70	92.70
CD231	6504.70	7273.10	324.90	-45.00	270.00	34.70	72.46	92.70
CD231	6504.70	7273.10	324.90	-45.00	270.00	72.46	87.50	92.70
CD232	6241.40	6605.30	291.90	-55.00	270.00	0.00	6.43	70.40
CD233	6537.00	7272.80	316.90	-45.00	270.00	23.80	80.20	80.20
CD234	6432.50	7364.00	315.30	-45.00	270.00	4.00	29.30	61.90
CD234	6432.50	7364.00	315.30	-45.00	270.00	32.60	44.20	61.90
CD234	6432.50	7364.00	315.30	-45.00	270.00	59.40	61.90	61.90
CD235	6285.60	6915.60	287.00	-45.00	90.00	0.00	15.10	91.70
CD235	6285.60	6915.60	287.00	-45.00	90.00	17.31	33.70	91.70
CD235	6285.60	6915.60	287.00	-45.00	90.00	45.26	77.89	91.70
CD235	6285.60	6915.60	287.00	-45.00	90.00	77.89	78.00	91.70
CD235	6285.60	6915.60	287.00	-45.00	90.00	78.00	89.60	91.70
CD236	6358.10	6830.30	303.00	-45.00	90.00	0.00	13.40	91.60
CD236	6358.10	6830.30	303.00	-45.00	90.00	39.00	51.20	91.60
CD237	6479.70	7089.00	342.90	-45.00	90.00	10.10	26.20	91.40
CD237	6479.70	7089.00	342.90	-45.00	90.00	36.43	36.94	91.40
CD237	6479.70	7089.00	342.90	-45.00	90.00	57.60	71.30	91.40
CD238	6348.10	6915.60	309.80	-45.00	90.00	0.00	4.45	99.40
CD238	6348.10	6915.60	309.80	-45.00	90.00	7.18	51.24	99.40
CD238	6348.10	6915.60	309.80	-45.00	90.00	62.59	64.99	99.40
CD238	6348.10	6915.60	309.80	-45.00	90.00	74.71	86.40	99.40
CD239	6281.30	6553.50	310.19	-55.00	270.00	17.40	39.30	79.25
CD239	6281.30	6553.50	310.19	-55.00	270.00	65.83	79.25	79.25
CD240	6192.30	6544.97	277.03	-55.00	270.00	16.90	59.70	59.70











Hole ID			_	مائم	a=:th	Doubh from	Doubh to	May double
	C20C 00	y 	200.00	dip	azimuth	Depth from	Depth to	Max depth
CD241	6296.00	6640.00	296.80	-45.00	90.00	11.60	22.85	56.10
CD241	6296.00	6640.00	296.80	-45.00	90.00	39.60	44.87	56.10
CD242	6178.30	6420.60	290.60	-45.00	90.00	0.00	1.20	91.40
CD242	6178.30	6420.60	290.60	-45.00	90.00	29.60	40.77	91.40
CD242	6178.30	6420.60	290.60	-45.00	90.00	40.90	71.90	91.40
CD243	6242.30	6553.20	298.40	-55.00	270.00	0.00	15.20	103.60
CD243	6242.30	6553.20	298.40	-55.00	270.00	36.66	94.20	103.60
CD244	6203.00	6509.00	281.50	-45.00	90.00	0.00	4.09	82.60
CD244	6203.00	6509.00	281.50	-45.00	90.00	10.70	18.93	82.60
CD245	6419.70	7090.00	327.80	-45.00	90.00	3.05	14.90	91.70
CD245	6419.70	7090.00	327.80	-45.00	90.00	14.90	27.40	91.70
CD245	6419.70	7090.00	327.80	-45.00	90.00	42.70	70.70	91.70
CD246	6495.30	7354.50	301.40	-45.00	270.00	2.28	15.20	91.70
CD246	6495.30	7354.50	301.40	-45.00	270.00	15.20	49.40	91.70
CD246	6495.30	7354.50	301.40	-45.00	270.00	53.90	76.20	91.70
CD246	6495.30	7354.50	301.40	-45.00	270.00	76.20	91.70	91.70
CD247	6497.10	7357.00	301.20	-55.00	90.00	0.00	22.90	91.40
CD247	6497.10	7357.00	301.20	-55.00	90.00	37.80	50.90	91.40
CD247	6497.10	7357.00	301.20	-55.00	90.00	58.80	86.30	91.40
CD247	6497.10	7357.00	301.20	-55.00	90.00	86.52	86.70	91.40
CD248	6379.80	7001.00	320.30	-45.00	90.00	0.00	10.70	91.40
CD248	6379.80	7001.00	320.30	-45.00	90.00	21.30	34.40	91.40
CD248	6379.80	7001.00	320.30	-45.00	90.00	46.60	55.20	91.40
CD248	6379.80	7001.00	320.30	-45.00	90.00	55.20	91.40	91.40
CD249	6315.50	7002.00	290.30	-45.00	90.00	0.00	12.20	91.40
CD249	6315.50	7002.00	290.30	-45.00	90.00	12.20	24.40	91.40
CD249	6315.50	7002.00	290.30	-45.00	90.00	24.40	57.90	91.40
CD249	6315.50	7002.00	290.30	-45.00	90.00	63.40	71.60	91.40
CD249	6315.50	7002.00	290.30	-45.00	90.00	76.80	82.90	91.40
CD250	6354.80	7090.00	311.10	-45.00	90.00	23.32	60.00	80.50
CD250	6354.80	7090.00	311.10	-45.00	90.00	67.40	74.40	80.50
CD251	6299.00	7090.90	296.10	-45.00	90.00	7.30	54.30	91.40
CD252	6452.30	7184.10	336.60	-45.00	270.00	29.60	63.40	97.50
CD254	6552.00	7180.00	328.80	-43.00	270.00	6.40	46.60	79.20
CD254	6552.00	7180.00	328.80	-43.00	270.00	46.60	62.80	79.20
CD302	6006.10	6324.30	231.60	-45.00	90.00	9.80	22.10	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	35.10	44.20	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	49.20	54.90	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	62.30	81.70	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	104.50	112.90	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	124.80	136.60	243.80











11-1-15				JP.,.		Double form	Donalis do	B.O
Hole ID	X	У	Z	dip	azimuth	Depth from	Depth to	Max depth
CD302	6006.10	6324.30	231.60	-45.00	90.00	136.60	146.40	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	155.00	169.60	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	183.50	188.60	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	199.30	208.50	243.80
CD302	6006.10	6324.30	231.60	-45.00	90.00	222.50	226.90	243.80
CD303	6113.00	6416.00	269.60	-45.00	90.00	30.60	46.00	201.20
CD303	6113.00	6416.00	269.60	-45.00	90.00	92.00	99.50	201.20
CD303	6113.00	6416.00	269.60	-45.00	90.00	99.50	105.25	201.20
CD303	6113.00	6416.00	269.60	-45.00	90.00	105.25	130.90	201.20
CD303	6113.00	6416.00	269.60	-45.00	90.00	145.10	154.20	201.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	8.20	41.50	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	85.80	91.10	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	97.50	125.30	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	145.50	148.00	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	148.00	172.70	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	172.70	201.90	204.20
CD305	6128.00	6599.00	247.80	-47.00	90.00	234.24	238.29	204.20
CD307	6136.80	6681.80	238.10	-45.00	90.00	11.30	22.10	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	33.50	61.70	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	80.90	96.50	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	106.40	134.00	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	137.00	145.70	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	145.70	163.05	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	163.05	173.40	243.80
CD307	6136.80	6681.80	238.10	-45.00	90.00	214.60	234.20	243.80
CD308	6220.00	6830.00	274.70	-48.00	90.00	13.09	15.83	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	25.30	47.50	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	47.50	78.00	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	84.90	111.60	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	113.06	123.30	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	162.50	195.20	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	206.60	222.20	286.82
CD308	6220.00	6830.00	274.70	-48.00	90.00	250.10	254.70	286.82
CD309	6224.00	6900.00	273.30	-45.00	90.00	6.10	37.80	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	44.20	81.07	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	83.91	87.78	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	92.20	122.70	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	171.75	174.07	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	174.35	191.29	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	203.56	208.66	240.20
CD309	6224.00	6900.00	273.30	-45.00	90.00	212.90	240.20	240.20
CD303	0224.00	0900.00	2/3.30	-45.00	90.00	212.90	240.20	240.20











Hole ID	х	v	z	dip	azimuth	Depth from	Depth to	Max depth
CD401	6526.00	<b>y</b> 7002.00	301.30	-60.00	90.00	•	•	•
CD401	6526.00	7002.00	301.30	-60.00	90.00	6.82 106.20	7.33 119.35	119.35 119.35
CD401 CD403	6438.00	6990.00	265.00		90.00	0.00		171.67
CD403 CD403		6990.00	265.00	-45.00 -45.00	90.00	83.05	12.95 88.40	171.67
	6438.00							
CD403	6438.00	6990.00	265.00	-45.00	90.00	109.54	118.02	171.67
CD405	6302.00	7318.00	241.00	-55.00	90.00	110.80	125.50	179.95
CD405	6302.00	7318.00	241.00	-55.00	90.00	153.69	172.06	179.95
CD405	6302.00	7318.00	241.00	-55.00	90.00	172.23	179.95	179.95
CD406	6268.00	6811.00	228.60	-45.00	270.00	5.80	52.61	100.78
CD406	6268.00	6811.00	228.60	-45.00	270.00	54.62	77.00	100.78
CD407	6457.00	7182.00	221.00	-60.00	90.00	11.70	66.57	168.45
CD409	6482.00	7631.00	202.00	-50.00	270.00	0.00	5.45	152.91
CD409	6482.00	7631.00	202.00	-50.00	270.00	5.45	61.30	152.91
CD409	6482.00	7631.00	202.00	-50.00	270.00	92.93	98.22	152.91
CD410	6485.00	7440.00	206.00	-60.00	90.00	7.50	10.28	163.08
CD410	6485.00	7440.00	206.00	-60.00	90.00	10.28	22.00	163.08
CD410	6485.00	7440.00	206.00	-60.00	90.00	39.52	47.10	163.08
CD410	6485.00	7440.00	206.00	-60.00	90.00	66.80	78.40	163.08
CD411	6297.00	6690.00	231.00	-60.00	90.00	0.00	9.03	149.96
CD411	6297.00	6690.00	231.00	-60.00	90.00	9.68	25.50	149.96
CD411	6297.00	6690.00	231.00	-60.00	90.00	40.70	49.50	149.96
CD411	6297.00	6690.00	231.00	-60.00	90.00	123.50	135.40	149.96
CD412	6253.00	6416.00	267.00	-50.00	90.00	45.90	49.70	115.70
CD412	6253.00	6416.00	267.00	-50.00	90.00	94.80	100.18	115.70
CD413	6135.00	6788.00	233.00	-55.00	90.00	141.26	151.94	169.86
CD414	6539.00	7172.50	272.70	-60.00	90.00	10.75	20.20	128.03
CD414	6539.00	7172.50	272.70	-60.00	90.00	27.28	61.47	128.03
CD501	6134.50	6461.40	239.20	-50.00	270.00	0.00	34.80	115.50
CD502	6040.60	6186.90	238.60	-55.00	270.00	20.37	43.60	140.00
CD502	6040.60	6186.90	238.60	-55.00	270.00	43.71	52.10	140.00
CD502	6040.60	6186.90	238.60	-55.00	270.00	60.90	90.40	140.00
CD504	6487.00	7416.20	194.30	-45.00	270.00	0.00	4.00	134.00
CD504	6487.00	7416.20	194.30	-45.00	270.00	6.50	23.40	134.00
CD504	6487.00	7416.20	194.30	-45.00	270.00	23.40	57.01	134.00
CD504	6487.00	7416.20	194.30	-45.00	270.00	68.18	86.50	134.00
CD504	6487.00	7416.20	194.30	-45.00	270.00	103.30	107.00	134.00
CD506	6014.10	6186.80	238.10	-50.00	90.00	0.00	23.50	136.40
CD506	6014.10	6186.80	238.10	-50.00	90.00	27.60	33.45	136.40
CD506	6014.10	6186.80	238.10	-50.00	90.00	41.42	61.50	136.40
CD506	6014.10	6186.80	238.10	-50.00	90.00	68.00	87.90	136.40
CD506	6014.10	6186.80	238.10	-50.00	90.00	94.30	97.65	136.40











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Hole ID	X	У	Z	dip	azimuth	Depth from	Depth to	Max depth
CD506	6014.10	6186.80	238.10	-50.00	90.00	97.65	109.80	136.40
CD506	6014.10	6186.80	238.10	-50.00	90.00	114.15	125.30	136.40
CD507	6446.20	7675.10	178.80	-45.00	90.00	0.00	3.10	101.60
CD507	6446.20	7675.10	178.80	-45.00	90.00	3.10	16.80	101.60
CD507	6446.20	7675.10	178.80	-45.00	90.00	16.80	91.90	101.60
CD508	6453.30	7497.90	184.50	-50.00	90.00	16.90	52.00	116.10
CD508	6453.30	7497.90	184.50	-50.00	90.00	52.00	65.00	116.10
CD508	6453.30	7497.90	184.50	-50.00	90.00	65.00	65.21	116.10
CD508	6453.30	7497.90	184.50	-50.00	90.00	65.21	73.80	116.10
CD508	6453.30	7497.90	184.50	-50.00	90.00	74.24	81.20	116.10
CD508	6453.30	7497.90	184.50	-50.00	90.00	81.20	106.20	116.10
CD509	6200.00	6502.90	223.30	-55.00	90.00	0.00	12.28	29.00
CD509	6200.00	6502.90	223.30	-55.00	90.00	13.14	19.30	29.00
CD510	6435.70	7227.50	199.10	-50.00	270.00	0.00	16.30	81.90
CD510	6435.70	7227.50	199.10	-50.00	270.00	25.84	30.01	81.90
CD511	6321.70	6954.00	204.50	-60.00	270.00	3.00	24.90	66.70
CD512	6438.50	7225.50	198.30	-45.00	90.00	0.00	5.50	143.00
CD512	6438.50	7225.50	198.30	-45.00	90.00	5.50	13.80	143.00
CD512	6438.50	7225.50	198.30	-45.00	90.00	16.80	51.62	143.00
CD512	6438.50	7225.50	198.30	-45.00	90.00	82.80	92.80	143.00
CD513	6233.30	6690.50	209.70	-50.00	270.00	0.00	28.21	80.50
CD513	6233.30	6690.50	209.70	-50.00	270.00	39.45	53.50	80.50
CD514	6344.50	7000.00	203.70	-45.00	90.00	0.00	7.90	146.00
CD514	6344.50	7000.00	203.70	-45.00	90.00	15.00	41.00	146.00
CD514	6344.50	7000.00	203.70	-45.00	90.00	45.86	50.53	146.00
CD514	6344.50	7000.00	203.70	-45.00	90.00	54.10	82.00	146.00
CD514	6344.50	7000.00	203.70	-45.00	90.00	103.60	112.90	146.00
CD514	6344.50	7000.00	203.70	-45.00	90.00	122.30	135.66	146.00
CD515	6078.40	6277.70	238.90	-55.00	270.00	17.04	67.03	104.30
CD515	6078.40	6277.70	238.90	-55.00	270.00	88.10	96.41	104.30
CD516	6119.40	6415.40	240.40	-60.00	90.00	10.70	16.70	151.20
CD516	6119.40	6415.40	240.40	-60.00	90.00	56.50	75.20	151.20
CD516	6119.40	6415.40	240.40	-60.00	90.00	86.90	100.70	151.20
CD516	6119.40	6415.40	240.40	-60.00	90.00	116.60	140.60	151.20
CD517	5898.00	6000.00	222.50	-40.00	90.00	63.60	72.20	152.40
CD517	5898.00	6000.00	222.50	-40.00	90.00	81.76	85.40	152.40
CD520	5968.00	6096.20	213.23	-40.00	90.00	21.90	38.10	158.30
CD520	5968.00	6096.20	213.23	-40.00	90.00	48.80	54.94	158.30
CD520	5968.00	6096.20	213.23	-40.00	90.00	84.45	103.51	158.30
CD520	5968.00	6096.20	213.23	-40.00	90.00	116.20	134.30	158.30
CD601	6222.00	6645.00	209.00	-45.00	90.00	3.50	29.20	117.10











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD601	6222.00	6645.00	209.00	-45.00	90.00	49.80	83.31	117.10
CD601	6222.00	6645.00	209.00	-45.00	90.00	83.31	94.40	117.10
CD602	6173.00	6503.00	213.00	-45.00	270.00	0.00	19.30	146.60
CD602	6173.00	6503.00	213.00	-45.00	270.00	56.10	68.34	146.60
CD603	6135.80	6417.00	214.70	-45.00	270.00	78.00	81.50	140.00
CD604	6332.00	6689.40	243.20	-50.00	90.00	11.30	26.50	113.30
CD604	6332.00	6689.40	243.20	-50.00	90.00	99.60	100.70	113.30
CD605	6424.10	7586.00	170.80	-45.00	270.00	60.60	83.90	151.00
CD605	6424.10	7586.00	170.80	-45.00	270.00	92.00	106.30	151.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	9.00	15.60	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	31.10	50.00	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	50.00	59.70	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	127.50	141.20	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	150.50	155.10	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	155.10	162.30	184.00
CD606	6424.10	7586.00	170.80	-45.00	90.00	174.60	180.10	184.00
CD607	6398.30	7181.30	187.50	-45.00	270.00	49.62	61.48	149.50
CD608	6360.00	7090.20	190.90	-40.00	90.00	49.00	58.70	169.50
CD608	6360.00	7090.20	190.90	-40.00	90.00	75.90	83.80	169.50
CD608	6360.00	7090.20	190.90	-40.00	90.00	107.40	108.70	169.50
CD609	6360.00	7090.20	190.90	-45.00	270.00	0.20	13.00	91.80
CD611	6349.20	6832.00	229.50	-40.00	90.00	6.43	17.80	140.00
CD611	6349.20	6832.00	229.50	-40.00	90.00	77.60	84.80	140.00
CD611	6349.20	6832.00	229.50	-40.00	90.00	121.00	126.00	140.00
CD612	6410.00	7498.50	173.20	-40.00	270.00	65.50	70.50	97.40
CD613	6436.00	7090.00	222.50	-40.00	90.00	17.60	31.80	169.00
CD613	6436.00	7090.00	222.50	-40.00	90.00	75.40	84.40	169.00
CD613	6436.00	7090.00	222.50	-40.00	90.00	117.20	125.21	169.00
CD614	6149.00	6279.50	230.29	-40.00	90.00	0.50	23.63	118.00
CD614	6149.00	6279.50	230.29	-40.00	90.00	31.80	37.40	118.00
CD614	6149.00	6279.50	230.29	-40.00	90.00	94.55	96.28	118.00
CD701	6444.20	7539.50	172.30	-45.00	90.00	6.30	20.70	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	49.40	68.69	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	69.20	82.00	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	106.70	113.50	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	126.70	130.00	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	144.60	152.40	194.30
CD701	6444.20	7539.50	172.30	-45.00	90.00	167.20	172.15	194.30
CD702	6427.00	7440.00	174.30	-45.00	90.00	0.00	34.50	119.10
CD702	6427.00	7440.00	174.30	-45.00	90.00	34.50	55.60	119.10
CD702	6427.00	7440.00	174.30	-45.00	90.00	58.25	71.40	119.10











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD702	6427.00	7440.00	174.30	-45.00	90.00	84.10	90.30	119.10
CD702	6427.00	7440.00	174.30	-45.00	90.00	96.65	114.20	119.10
CD703	6420.00	7364.00	175.70	-43.00	90.00	0.00	11.55	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	11.55	22.30	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	25.30	69.00	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	75.60	82.50	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	82.50	90.00	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	90.00	98.10	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	98.10	104.90	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	113.50	130.10	155.60
CD703	6420.00	7364.00	175.70	-43.00	90.00	141.00	148.90	155.60
CD704	6411.70	7317.50	176.00	-40.00	90.00	0.00	11.80	98.50
CD704	6411.70	7317.50	176.00	-40.00	90.00	13.90	30.00	98.50
CD704	6411.70	7317.50	176.00	-40.00	90.00	31.20	50.30	98.50
CD704	6411.70	7317.50	176.00	-40.00	90.00	53.10	71.40	98.50
CD704	6411.70	7317.50	176.00	-40.00	90.00	77.39	90.90	98.50
CD705	6423.00	7273.00	176.20	-40.00	90.00	0.00	37.20	131.20
CD705	6423.00	7273.00	176.20	-40.00	90.00	37.20	52.60	131.20
CD705	6423.00	7273.00	176.20	-40.00	90.00	71.50	78.90	131.20
CD705	6423.00	7273.00	176.20	-40.00	90.00	78.90	90.50	131.20
CD706	6381.00	7136.00	190.50	-40.00	90.00	65.80	70.50	115.85
CD706	6381.00	7136.00	190.50	-40.00	90.00	70.50	75.85	115.85
CD707	6304.90	7001.00	193.50	-40.00	90.00	0.00	4.50	112.50
CD707	6304.90	7001.00	193.50	-40.00	90.00	52.30	98.00	112.50
CD708	6259.80	6873.50	196.20	-45.00	90.00	18.00	58.06	120.50
CD708	6259.80	6873.50	196.20	-45.00	90.00	59.17	88.10	120.50
CD708	6259.80	6873.50	196.20	-45.00	90.00	98.20	111.00	120.50
CD709	6166.20	6640.80	201.60	-45.00	90.00	0.00	3.75	100.50
CD709	6166.20	6640.80	201.60	-45.00	90.00	24.00	28.55	100.50
CD709	6166.20	6640.80	201.60	-45.00	90.00	53.10	76.50	100.50
CD709	6166.20	6640.80	201.60	-45.00	90.00	86.00	93.92	100.50
CD709	6166.20	6640.80	201.60	-45.00	90.00	100.39	100.50	100.50
CD711	6151.50	6369.50	205.20	-40.00	90.00	0.00	5.50	91.50
CD711	6151.50	6369.50	205.20	-40.00	90.00	9.00	52.50	91.50
CD712	6098.80	6234.50	208.30	-40.00	270.00	0.00	13.30	144.00
CD712	6098.80	6234.50	208.30	-40.00	270.00	28.80	44.00	144.00
CD712	6098.80	6234.50	208.30	-40.00	270.00	44.00	78.30	144.00
CD712	6098.80	6234.50	208.30	-40.00	270.00	78.30	113.40	144.00
CD712	6098.80	6234.50	208.30	-40.00	270.00	123.70	139.50	144.00
CD713	6359.00	7043.00	192.70	-40.00	90.00	0.00	0.65	112.00
CD713	6359.00	7043.00	192.70	-40.00	90.00	26.20	42.00	112.00











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD713	6359.00	7043.00	192.70	-40.00	90.00	46.20	56.00	112.00
CD713	6359.00	7043.00	192.70	-40.00	90.00	92.70	98.30	112.00
CD714	6149.50	6462.50	204.30	-45.00	90.00	5.80	21.40	131.60
CD714	6149.50	6462.50	204.30	-45.00	90.00	23.25	48.10	131.60
CD714	6149.50	6462.50	204.30	-45.00	90.00	52.39	52.49	131.60
CD714	6149.50	6462.50	204.30	-45.00	90.00	83.53	83.60	131.60
CD714	6149.50	6462.50	204.30	-45.00	90.00	83.60	99.70	131.60
CD715	6219.50	6500.00	202.80	-50.00	270.00	50.19	52.77	91.40
CD715	6219.50	6500.00	202.80	-50.00	270.00	76.50	76.79	91.40
CD716	6500.00	7719.70	158.00	-40.00	270.00	0.00	49.58	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	49.93	51.10	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	51.20	66.60	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	66.60	90.60	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	90.60	110.20	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	119.40	141.00	157.20
CD716	6500.00	7719.70	158.00	-40.00	270.00	141.00	148.90	157.20
CD717	6237.00	6830.00	197.20	-50.00	90.00	0.00	3.50	120.00
CD717	6237.00	6830.00	197.20	-50.00	90.00	24.30	33.60	120.00
CD717	6237.00	6830.00	197.20	-50.00	90.00	60.80	80.80	120.00
CD717	6237.00	6830.00	197.20	-50.00	90.00	89.10	94.30	120.00
CD717	6237.00	6830.00	197.20	-50.00	90.00	100.25	111.28	120.00
CD717	6237.00	6830.00	197.20	-50.00	90.00	111.28	120.00	120.00
CD718	6193.10	6736.50	199.50	-45.00	90.00	27.30	42.60	129.40
CD718	6193.10	6736.50	199.50	-45.00	90.00	54.52	55.03	129.40
CD718	6193.10	6736.50	199.50	-45.00	90.00	55.03	55.85	129.40
CD718	6193.10	6736.50	199.50	-45.00	90.00	55.85	65.26	129.40
CD718	6193.10	6736.50	199.50	-45.00	90.00	79.20	107.90	129.40
CD719	6233.90	6688.80	200.30	-40.00	90.00	0.00	4.50	120.00
CD719	6233.90	6688.80	200.30	-40.00	90.00	4.50	9.40	120.00
CD719	6233.90	6688.80	200.30	-40.00	90.00	9.40	18.70	120.00
CD719	6233.90	6688.80	200.30	-40.00	90.00	20.90	25.91	120.00
CD719	6233.90	6688.80	200.30	-40.00	90.00	35.75	76.60	120.00
CD719	6233.90	6688.80	200.30	-40.00	90.00	102.85	104.12	120.00
CD720	6244.50	6599.50	201.85	-45.00	90.00	7.00	12.72	104.70
CD720	6244.50	6599.50	201.85	-45.00	90.00	12.99	26.30	104.70
CD720	6244.50	6599.50	201.85	-45.00	90.00	26.30	48.70	104.70
CD720	6244.50	6599.50	201.85	-45.00	90.00	48.70	64.50	104.70
CD720	6244.50	6599.50	201.85	-45.00	90.00	94.15	95.20	104.70
CD721	6107.50	6325.00	207.25	-40.00	90.00	0.00	8.00	103.50
CD721	6107.50	6325.00	207.25	-40.00	90.00	32.90	45.70	103.50
CD721	6107.50	6325.00	207.25	-40.00	90.00	68.90	75.00	103.50











Hole ID			_	مائم	ما المدرون	Double from	Double to	May double
	X CO75 00	y 6335.00	200.20	dip	azimuth	Depth from	Depth to	Max depth
CD722	6075.00	6235.00	208.30	-45.00	90.00	0.00	12.50	90.00
CD722	6075.00	6235.00	208.30	-45.00	90.00	17.50	51.70	90.00
CD722	6075.00	6235.00	208.30	-45.00	90.00	51.70	58.30	90.00
CD723	6041.60	6140.00	233.30	-45.00	270.00	10.20	29.90	76.50
CD723	6041.60	6140.00	233.30	-45.00	270.00	35.00	44.70	76.50
CD724	6115.00	6139.70	240.90	-45.00	270.00	32.20	44.90	102.00
CD724	6115.00	6139.70	240.90	-45.00	270.00	53.11	64.35	102.00
CD724	6115.00	6139.70	240.90	-45.00	270.00	72.40	96.91	102.00
CD725	6400.00	7628.80	159.75	-40.00	90.00	44.04	80.00	204.00
CD725	6400.00	7628.80	159.75	-40.00	90.00	84.85	95.00	204.00
CD725	6400.00	7628.80	159.75	-40.00	90.00	95.00	123.00	204.00
CD725	6400.00	7628.80	159.75	-40.00	90.00	192.30	197.30	204.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	3.80	16.00	89.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	17.12	27.30	89.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	31.20	51.28	89.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	54.19	67.57	89.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	69.54	72.98	89.00
CD726	6360.50	6958.10	194.00	-40.00	90.00	74.15	74.20	89.00
CD727	6294.60	6787.60	198.30	-40.00	90.00	0.00	11.20	100.00
CD727	6294.60	6787.60	198.30	-40.00	90.00	15.20	33.00	100.00
CD727	6294.60	6787.60	198.30	-40.00	90.00	62.50	90.00	100.00
CD727	6294.60	6787.60	198.30	-40.00	90.00	91.80	97.40	100.00
CD728	6139.70	6498.80	204.80	-45.00	90.00	0.00	9.50	99.70
CD728	6139.70	6498.80	204.80	-45.00	90.00	24.80	52.00	99.70
CD728	6139.70	6498.80	204.80	-45.00	90.00	60.50	62.40	99.70
CD728	6139.70	6498.80	204.80	-45.00	90.00	62.40	73.00	99.70
CD729	6132.60	6553.00	203.00	-40.00	90.00	41.20	47.10	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	56.80	64.40	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	64.64	78.08	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	96.90	130.70	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	131.20	149.14	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	149.14	149.65	164.50
CD729	6132.60	6553.00	203.00	-40.00	90.00	149.65	149.95	164.50
CD730	6062.60	6279.00	208.10	-40.00	90.00	0.00	20.50	126.00
CD730	6062.60	6279.00	208.10	-40.00	90.00	33.90	53.20	126.00
CD730	6062.60	6279.00	208.10	-40.00	90.00	64.80	77.30	126.00
CD731	6386.00	7227.20	178.00	-40.00	90.00	35.70	52.50	110.00
CD732	6414.30	7182.00	179.10	-50.00	90.00	0.00	7.19	105.50
CD801	6450.50	7364.20	143.00	-45.00	270.00	0.00	8.80	98.50
CD801	6450.50	7364.20	143.00	-45.00	270.00	10.29	16.86	98.50
CD801	6450.50	7364.20	143.00	-45.00	270.00	34.00	58.30	98.50











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CD801	6450.50	7364.20	143.00	-45.00	270.00	65.50	81.81	98.50
CD802	6465.00	7410.90	143.15	-45.00	90.00	0.00	12.47	85.00
CD802	6465.00	7410.90	143.15	-45.00	90.00	13.12	17.00	85.00
CD802	6465.00	7410.90	143.15	-45.00	90.00	17.00	35.00	85.00
CD802	6465.00	7410.90	143.15	-45.00	90.00	35.00	75.40	85.00
CD802	6465.00	7410.90	143.15	-45.00	90.00	75.40	78.50	85.00
CD803	6470.30	7439.50	141.70	-45.00	270.00	0.00	1.54	91.20
CD803	6470.30	7439.50	141.70	-45.00	270.00	4.29	25.70	91.20
CD803	6470.30	7439.50	141.70	-45.00	270.00	28.80	54.44	91.20
CD803	6470.30	7439.50	141.70	-45.00	270.00	54.44	86.80	91.20
CD804	6449.80	7272.20	145.40	-40.00	270.00	44.90	66.50	80.80
CD804	6449.80	7272.20	145.40	-40.00	270.00	70.10	73.60	80.80
CD805	6458.60	7719.50	128.60	-45.00	90.00	0.00	0.73	57.00
CD805	6458.60	7719.50	128.60	-45.00	90.00	2.40	19.70	57.00
CD805	6458.60	7719.50	128.60	-45.00	90.00	42.30	49.40	57.00
CD806	6186.10	6462.60	154.80	-45.00	270.00	46.82	54.00	54.00
CD807	6015.00	6235.40	155.90	-50.00	90.00	0.40	28.90	80.30
CD807	6015.00	6235.40	155.90	-50.00	90.00	28.90	42.10	80.30
CD807	6015.00	6235.40	155.90	-50.00	90.00	67.90	75.60	80.30
CD807	6015.00	6235.40	155.90	-50.00	90.00	75.60	80.30	80.30
CD808	6042.80	6278.80	147.00	-45.00	90.00	0.00	16.30	80.30
CD808	6042.80	6278.80	147.00	-45.00	90.00	40.70	45.70	80.30
CD808	6042.80	6278.80	147.00	-45.00	90.00	45.70	52.70	80.30
CD808	6042.80	6278.80	147.00	-45.00	90.00	52.70	75.70	80.30
CD808	6042.80	6278.80	147.00	-45.00	90.00	75.70	80.30	80.30
CD810	6124.90	6502.10	155.10	-45.00	90.00	28.38	38.31	77.00
CD810	6124.90	6502.10	155.10	-45.00	90.00	52.84	70.50	77.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	0.00	0.83	100.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	10.72	17.20	100.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	17.20	27.60	100.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	27.60	51.86	100.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	53.49	58.80	100.00
CD811	6446.80	7540.90	130.70	-50.00	90.00	80.00	95.30	100.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	0.00	9.53	117.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	19.90	23.50	117.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	23.50	33.00	117.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	33.00	65.30	117.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	65.30	73.70	117.00
CD812	6445.90	7677.60	126.90	-45.00	90.00	85.90	111.90	117.00
CD813	6470.10	7625.50	128.30	-50.00	270.00	0.00	42.90	90.00
CD813	6470.10	7625.50	128.30	-50.00	270.00	54.90	85.50	90.00











Hele ID	· ·		_	مائم	a = i muuth	Double from	Doubh to	May double
Hole ID	X CF72.40	y 7745.00	Z	dip	azimuth	Depth from	Depth to	Max depth
CD901	6573.40	7745.00	145.00	-54.00	270.00	105.00	115.00	301.50
CD901	6573.40	7745.00	145.00	-54.00	270.00	124.40	162.10	301.50
CD901	6573.40	7745.00	145.00	-54.00	270.00	164.00	255.80	301.50
CD901	6573.40	7745.00	145.00	-54.00	270.00	264.20	292.50	301.50
CD901	6573.40	7745.00	145.00	-54.00	270.00	292.50	299.50	301.50
CD903	5926.00	6158.30	209.50	-50.00	90.00	107.30	113.40	241.30
CD903	5926.00	6158.30	209.50	-50.00	90.00	115.55	118.50	241.30
CD903	5926.00	6158.30	209.50	-50.00	90.00	127.60	171.00	241.30
CD903	5926.00	6158.30	209.50	-50.00	90.00	181.86	202.01	241.30
CD903	5926.00	6158.30	209.50	-50.00	90.00	210.34	211.51	241.30
CD903	5926.00	6158.30	209.50	-50.00	90.00	214.40	224.40	241.30
CD904	5942.20	6325.10	192.50	-50.00	90.00	178.80	187.30	272.00
CD904	5942.20	6325.10	192.50	-50.00	90.00	196.80	197.95	272.00
CD904	5942.20	6325.10	192.50	-50.00	90.00	197.95	198.12	272.00
CD904	5942.20	6325.10	192.50	-50.00	90.00	198.12	219.30	272.00
CD904	5942.20	6325.10	192.50	-50.00	90.00	227.60	264.60	272.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	95.29	109.05	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	123.30	126.50	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	138.30	142.30	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	152.10	178.40	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	196.80	212.03	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	212.03	212.04	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	212.05	230.70	247.00
CD905	6061.80	6499.90	173.00	-50.00	90.00	237.92	242.40	247.00
CD906	6163.00	6780.00	168.50	-50.00	83.00	96.80	107.70	236.70
CD906	6163.00	6780.00	168.50	-50.00	83.00	114.48	136.80	236.70
CD906	6163.00	6780.00	168.50	-50.00	83.00	143.00	161.20	236.70
CD908	6599.00	7540.00	183.00	-53.00	270.00	82.40	92.30	250.00
CD908	6599.00	7540.00	183.00	-53.00	270.00	93.70	97.10	250.00
CD908	6599.00	7540.00	183.00	-53.00	270.00	128.50	139.10	250.00
CD908	6599.00	7540.00	183.00	-53.00	270.00	153.18	169.67	250.00
CD908	6599.00	7540.00	183.00	-53.00	270.00	169.96	224.40	250.00
CD908	6599.00	7540.00	183.00	-53.00	270.00	238.20	250.00	250.00
CD910	6111.00	6599.00	160.00	-45.00	90.00	93.04	93.51	242.00
CD910	6111.00	6599.00	160.00	-45.00	90.00	116.20	134.10	242.00
CD910	6111.00	6599.00	160.00	-45.00	90.00	134.53	166.81	242.00
CD910	6111.00	6599.00	160.00	-45.00	90.00	201.17	201.27	242.00
CD911	6007.00	6095.00	222.00	-60.00	90.00	0.00	24.00	111.00
CD911	6007.00	6095.00	222.00	-60.00	90.00	58.00	84.00	111.00
CD911	6007.00	6095.00	222.00	-60.00	90.00	110.92	111.00	111.00
CD913	5948.00	6045.00	222.00	-60.00	90.00	28.00	42.00	96.00











Hole ID	х	у	z	dip	azimuth	Depth from	Depth to	Max depth
CD913	5948.00	6045.00	222.00	-60.00	90.00	70.18	80.08	96.00
CD913 CDDH07001	6421.05	7816.59	111.71	-53.56	72.63	4.76	13.36	20.00
CDDH07001	6421.05	7816.59	111.71	-53.56	72.63	13.36	20.00	20.00
CDDH07001	6419.03	7816.03	111.54	-86.27	244.45	5.60	20.00	20.00
CDDH13011	6017.12	6673.00	188.58	-50.62	91.34	280.75	287.80	410.00
CDDH13012	6056.43	6746.77	193.83	-59.73	91.48	279.30	300.50	400.00
CDDH13012	6056.43	6746.77	193.83	-59.73	91.48	305.60	311.20	400.00
CDDH13012	6056.43	6746.77	193.83	-59.73	91.48	328.20	360.93	400.00
CDDH13012	6056.43	6746.77	193.83	-59.73	91.48	360.93	364.37	400.00
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	99.00	111.00	262.10
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	121.53	138.25	262.10
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	145.40	167.90	262.10
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	174.10	184.90	262.10
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	186.90	212.90	262.10
CDDH13013	6174.86	6829.12	168.98	-53.71	126.79	222.30	233.60	262.10
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	82.72	92.30	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	112.30	120.90	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	199.90	218.00	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	243.50	255.50	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	271.10	281.62	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	281.62	281.63	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	281.63	292.40	315.20
CDDH13014	6175.23	6829.95	169.14	-52.04	81.07	296.10	308.98	315.20
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	89.37	90.89	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	116.29	117.98	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	133.60	140.60	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	148.60	171.10	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	171.10	174.80	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	182.30	184.00	229.80
CDDH13015	6263.19	6927.95	155.05	-57.38	112.68	190.57	208.70	229.80
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	102.57	113.78	230.10
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	121.90	128.43	230.10
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	145.82	161.05	230.10
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	177.33	187.12	230.10
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	187.12	191.50	230.10
CDDH13016	6264.22	6930.42	155.01	-50.97	77.19	191.50	212.97	230.10
CDDH13017	6176.23	6828.28	168.23	-51.97	98.46	76.33	86.67	278.30
CDDH13017	6176.23	6828.28	168.23	-51.97	98.46	112.30	122.40	278.30
CDDH13017	6176.23	6828.28	168.23	-51.97	98.46	124.30	159.15	278.30
CDDH13017	6176.23	6828.28	168.23	-51.97	98.46	164.10	177.00	278.30
CDDH13017	6176.23	6828.28	168.23	-51.97	98.46	238.00	243.30	278.30











Hole ID	Х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	45.30	54.17	163.70
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	60.55	82.24	163.70
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	82.24	82.82	163.70
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	82.82	102.70	163.70
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	109.15	138.80	163.70
CDDH13018	6338.83	7000.72	144.49	-63.85	90.02	138.80	148.00	163.70
CDDH13019	6323.90	7087.32	139.92	-56.50	116.73	28.50	52.62	195.20
CDDH13019	6323.90	7087.32	139.92	-56.50	116.73	72.70	106.80	195.20
CDDH13019	6323.90	7087.32	139.92	-56.50	116.73	110.50	127.00	195.20
CDDH13019	6323.90	7087.32	139.92	-56.50	116.73	130.80	163.80	195.20
CDDH13019	6323.90	7087.32	139.92	-56.50	116.73	170.00	186.55	195.20
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	38.20	49.60	219.60
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	59.35	81.00	219.60
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	93.45	124.30	219.60
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	130.00	139.80	219.60
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	150.11	174.35	219.60
CDDH13020	6323.92	7088.57	139.93	-54.70	81.62	174.35	195.40	219.60
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	52.80	56.70	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	65.23	68.05	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	69.10	98.30	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	122.20	148.40	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	151.90	179.90	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	181.60	185.10	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	189.60	202.40	246.50
CDDH13021	6323.51	7090.78	139.72	-48.83	54.88	210.40	228.10	246.50
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	0.00	9.60	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	16.98	19.37	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	19.53	37.79	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	44.80	54.00	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	98.42	109.25	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	110.34	118.60	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	189.40	197.90	314.20
CDDH14001	6294.11	6850.43	141.64	-59.16	89.75	258.15	262.00	314.20
CDDH14002	6314.81	6900.14	140.75	-60.15	90.51	18.00	23.30	150.70
CDDH14002	6314.81	6900.14	140.75	-60.15	90.51	90.42	91.52	150.70
CDDH14002	6314.81	6900.14	140.75	-60.15	90.51	91.52	93.70	150.70
CDDH14002	6314.81	6900.14	140.75	-60.15	90.51	95.90	98.90	150.70
CDDH14002	6314.81	6900.14	140.75	-60.15	90.51	99.14	106.38	150.70
CDDH14003	6342.98	6950.19	140.46	-59.38	89.98	0.00	0.35	135.10
CDDH14003	6342.98	6950.19	140.46	-59.38	89.98	99.02	99.26	135.10
CDDH14004	6392.66	7050.16	152.20	-60.06	89.94	32.50	44.92	115.80
CDDU14004	0392.00	/050.16	152.20	-60.06	89.94	32.50	44.92	115.80











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CDDH14004	6392.66	7050.16	152.20	-60.06	89.94	66.40	72.40	115.80
CDDH14004	6392.66	7050.16	152.20	-60.06	89.94	72.40	76.45	115.80
CDDH14005	6396.75	7100.15	153.15	-60.04	90.91	5.90	18.29	120.80
CDDH14005	6396.75	7100.15	153.15	-60.04	90.91	30.95	49.00	120.80
CDDH14005	6396.75	7100.15	153.15	-60.04	90.91	63.75	76.15	120.80
CDDH14005	6396.75	7100.15	153.15	-60.04	90.91	78.20	87.30	120.80
CDDH14005	6396.75	7100.15	153.15	-60.04	90.91	87.30	95.80	120.80
CDDH14006	6403.49	7150.27	153.73	-59.16	90.22	33.02	33.35	122.20
CDDH14006	6403.49	7150.27	153.73	-59.16	90.22	46.38	53.51	122.20
CDDH14006	6403.49	7150.27	153.73	-59.16	90.22	67.55	77.80	122.20
CDDH14006	6403.49	7150.27	153.73	-59.16	90.22	102.18	112.35	122.20
CP2018_01	6485.02	7204.29	166.17	-54.14	90.32	0.00	5.37	212.00
CP2018_01	6485.02	7204.29	166.17	-54.14	90.32	28.92	33.78	212.00
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	42.04	58.10	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	109.62	127.93	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	127.93	149.99	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	186.27	190.30	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	200.97	209.54	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	227.70	227.72	255.50
CP2018_02	6331.39	7398.26	132.22	-47.90	87.48	248.78	251.80	255.50
CP2018_03	6331.97	7242.69	136.59	-65.86	90.00	61.82	84.92	211.30
CP2018_03	6331.97	7242.69	136.59	-65.86	90.00	133.32	134.61	211.30
CP2018_03	6331.97	7242.69	136.59	-65.86	90.00	136.08	147.20	211.30
CP2018_03	6331.97	7242.69	136.59	-65.86	90.00	189.80	211.30	211.30
CP2018_04	6331.08	7243.70	136.53	-46.41	58.59	50.30	68.35	221.90
CP2018_04	6331.08	7243.70	136.53	-46.41	58.59	104.77	117.09	221.90
CP2018_04	6331.08	7243.70	136.53	-46.41	58.59	121.12	174.96	221.90
CP2018_04	6331.08	7243.70	136.53	-46.41	58.59	174.96	183.03	221.90
CP2018_05	6332.48	7401.90	132.07	-51.06	116.79	46.17	68.15	200.50
CP2018_05	6332.48	7401.90	132.07	-51.06	116.79	107.10	121.12	200.50
CP2018_05	6332.48	7401.90	132.07	-51.06	116.79	121.12	133.89	200.50
CP2018_05	6332.48	7401.90	132.07	-51.06	116.79	133.89	183.71	200.50
CP2018_06a	6327.72	7484.72	126.98	-63.13	67.57	47.66	50.09	150.30
CP2018_06a	6327.72	7484.72	126.98	-63.13	67.57	72.24	95.88	150.30
CP2018_06a	6327.72	7484.72	126.98	-63.13	67.57	117.29	122.95	150.30
CP2018_07	6329.62	7399.55	132.10	-68.10	90.23	67.69	110.80	132.50
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	1.14	30.59	222.50
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	88.51	96.42	222.50
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	98.26	111.16	222.50
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	121.97	130.92	222.50
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	133.38	159.91	222.50











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
CP2018_08a	6409.45	7359.83	152.61	-52.39	72.35	160.92	167.33	222.50
 CP2018_09a	6326.79	7486.01	126.93	-49.95	36.76	96.44	138.86	157.00
 CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	40.00	48.60	333.50
 CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	49.54	59.65	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	62.27	96.26	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	142.66	150.74	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	153.85	162.94	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	188.69	194.91	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	201.84	227.46	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	229.11	230.75	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	240.93	257.42	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	257.42	275.58	333.50
CP2018_12	6365.73	7856.44	110.32	-44.20	143.04	324.84	329.49	333.50
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	34.15	39.64	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	52.72	63.92	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	75.84	78.49	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	132.81	134.13	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	142.66	157.24	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	157.24	171.10	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	186.32	219.24	274.00
CP2018_13	6327.72	7484.72	126.98	-48.78	90.08	226.20	251.04	274.00
CP8877	6491.00	7699.00	129.00	-90.00	0.00	0.00	4.30	21.00
CP8877	6491.00	7699.00	129.00	-90.00	0.00	9.00	21.00	21.00
CP8879	6472.00	7696.00	127.00	-90.00	0.00	0.00	3.00	3.00
CP8880	6465.00	7677.00	127.00	-90.00	0.00	0.00	3.00	3.00
CP8881	6457.00	7653.00	127.00	-90.00	0.00	0.00	6.00	6.00
CP8883	6461.00	7627.00	127.00	-90.00	0.00	0.00	21.00	21.00
CP8884	6455.00	7628.00	127.00	-90.00	0.00	0.00	3.00	3.00
CP8885	6459.00	7612.00	127.00	-90.00	0.00	0.00	21.00	21.00
CP8886	6464.00	7657.00	128.00	-90.00	0.00	0.00	6.00	6.00
CP8887	6456.00	7591.00	127.00	-90.00	0.00	0.00	1.14	21.00
CP8887	6456.00	7591.00	127.00	-90.00	0.00	12.00	21.00	21.00
CP8888	6453.00	7572.00	127.00	-90.00	0.00	0.00	21.00	21.00
CP8889	6454.00	7541.00	129.00	-90.00	0.00	6.00	18.00	24.00
CP8890	6462.00	7512.00	129.00	-90.00	0.00	0.00	11.24	24.00
CP8890	6462.00	7512.00	129.00	-90.00	0.00	13.34	24.00	24.00
CP8891	6476.00	7518.00	128.00	-90.00	0.00	0.06	24.00	24.00
CP8892	6475.00	7541.00	129.00	-90.00	0.00	0.65	21.70	24.00
CP8892	6475.00	7541.00	129.00	-90.00	0.00	22.79	24.00	24.00
CP8893	6485.00	7460.00	128.00	-90.00	0.00	0.00	24.00	24.00
CP8894	6474.00	7481.00	129.00	-90.00	0.00	0.00	24.00	24.00











Hole ID	х	V	Z	dip	azimuth	Depth from	Depth to	Max depth
		<b>y</b>		•		•	-	•
CP8895	6485.00	7502.00	128.00	-90.00	0.00	0.00	24.00	24.00
CP8896	6469.00	7500.00	129.00	-90.00	0.00	0.00	24.00	24.00
CP8897	6473.00	7678.00	128.00	-90.00	0.00	0.00	6.00	6.00
CP8898	6481.00	7699.00	128.00	-90.00	0.00	0.00	0.92	3.00
CPSTH1	6406.65	6997.93	159.25	-54.68	110.30	0.00	12.00	29.50
CPSTH2	6404.77	7012.28	157.21	-53.29	111.16	0.00	29.50	29.50
DH014	6660.00	7870.00	140.00	-60.00	274.00	258.50	268.80	469.70
DH014	6660.00	7870.00	140.00	-60.00	274.00	272.20	291.10	469.70
DH014	6660.00	7870.00	140.00	-60.00	274.00	307.50	349.00	469.70
DH014	6660.00	7870.00	140.00	-60.00	274.00	355.10	356.30	469.70
DH014	6660.00	7870.00	140.00	-60.00	274.00	368.80	417.60	469.70
DH018	6558.00	8042.00	155.40	-55.00	270.00	111.66	145.40	193.20
DH018	6558.00	8042.00	155.40	-55.00	270.00	160.16	169.80	193.20
DH018	6558.00	8042.00	155.40	-55.00	270.00	169.80	172.80	193.20
DH019	6552.00	8195.00	161.50	-60.00	270.00	20.62	77.61	150.00
DH019	6552.00	8195.00	161.50	-60.00	270.00	77.62	81.78	150.00
DH019	6552.00	8195.00	161.50	-60.00	270.00	83.67	84.30	150.00
DH019	6552.00	8195.00	161.50	-60.00	270.00	85.78	87.50	150.00
DH023	6252.00	6736.00	284.00	-46.00	270.00	0.00	32.35	90.50
DH023	6252.00	6736.00	284.00	-46.00	270.00	32.59	84.94	90.50
DH023	6252.00	6736.00	284.00	-46.00	270.00	88.40	90.50	90.50
DH039	6642.50	8187.00	143.75	-80.00	274.00	144.20	146.46	167.00
DH039B	6642.50	8187.00	143.80	-80.00	274.00	150.63	153.89	320.30
DH039B	6642.50	8187.00	143.80	-80.00	274.00	212.50	312.93	320.30
DH042	6725.00	7860.00	145.00	-80.00	270.30	539.50	555.80	697.80
DH042	6725.00	7860.00	145.00	-80.00	270.30	570.10	695.60	697.80
DH048	6577.00	8341.50	195.10	-60.00	274.00	73.80	88.38	101.50
GT001	6355.28	7940.68	111.75	-43.50	270.00	0.00	14.69	161.34
ND049	6490.70	8019.90	179.00	-45.00	270.00	28.35	37.81	136.00
ND049	6490.70	8019.90	179.00	-45.00	270.00	44.16	59.69	136.00
ND049	6490.70	8019.90	179.00	-45.00	270.00	61.83	98.00	136.00
ND049	6490.70	8019.90	179.00	-45.00	270.00	102.90	119.65	136.00
ND066	6463.32	7928.74	154.71	-43.00	267.92	13.53	67.90	127.00
ND066	6463.32	7928.74	154.71	-43.00	267.92	67.90	90.48	127.00
ND067	6412.17	7990.06	154.96	-51.00	89.30	0.00	0.91	151.50
ND067	6412.17	7990.06	154.96	-51.00	89.30	22.60	48.19	151.50
ND067	6412.17	7990.06	154.96	-51.00	89.30	53.36	75.64	151.50
ND067	6412.17	7990.06	154.96	-51.00	89.30	75.64	77.70	151.50
ND067	6412.17	7990.06	154.96	-51.00	89.30	122.30	128.30	151.50
ND068	6530.80	8089.56	146.52	-45.00	269.10	58.81	61.80	197.00
ND068	6530.80	8089.56	146.52	-45.00	269.10	61.80	84.30	197.00











Hole ID	v		-	din	azimuth	Depth from	Donth to	May donth
	X CF20.00	y 2000 F.C	Z 446.53	dip	azimuth	•	Depth to	Max depth
ND068	6530.80	8089.56	146.52	-45.00	269.10	87.10	94.05	197.00
ND068	6530.80	8089.56	146.52	-45.00	269.10	94.05	98.09	197.00
ND068	6530.80	8089.56	146.52	-45.00	269.10	131.80	133.80	197.00
ND068	6530.80	8089.56	146.52	-45.00	269.10	145.80	148.60	197.00
ND069	6539.71	8141.51	146.47	-47.00	269.50	50.60	68.80	139.00
ND069	6539.71	8141.51	146.47	-47.00	269.50	77.57	78.03	139.00
ND069	6539.71	8141.51	146.47	-47.00	269.50	78.03	78.09	139.00
ND069	6539.71	8141.51	146.47	-47.00	269.50	78.09	93.80	139.00
ND070	6514.60	8239.37	153.19	-45.00	88.22	4.00	45.70	163.00
ND070	6514.60	8239.37	153.19	-45.00	88.22	46.34	52.31	163.00
ND070	6514.60	8239.37	153.19	-45.00	88.22	85.50	93.50	163.00
ND074	6510.74	8297.89	157.00	-45.00	87.91	0.00	13.80	148.50
ND074	6510.74	8297.89	157.00	-45.00	87.91	19.00	46.60	148.50
ND078	6440.30	8141.70	139.20	-45.00	91.98	29.29	61.51	151.00
ND078	6440.30	8141.70	139.20	-45.00	91.98	61.55	61.57	151.00
ND078	6440.30	8141.70	139.20	-45.00	91.98	69.40	108.83	151.00
ND078	6440.30	8141.70	139.20	-45.00	91.98	115.80	138.70	151.00
ND078	6440.30	8141.70	139.20	-45.00	91.98	140.28	142.40	151.00
ND079	6477.70	8087.70	125.80	-37.00	270.35	0.00	12.30	91.60
ND079	6477.70	8087.70	125.80	-37.00	270.35	21.60	29.37	91.60
ND079	6477.70	8087.70	125.80	-37.00	270.35	40.10	51.30	91.60
ND079	6477.70	8087.70	125.80	-37.00	270.35	58.60	71.30	91.60
ND093	6618.40	8348.80	163.90	-38.00	270.00	99.96	106.92	200.00
ND095	6519.90	8440.40	168.80	-40.00	90.00	79.27	85.90	177.50
NP026	6444.00	8040.00	203.10	-90.00	0.00	54.00	75.00	75.00
NP027	6425.00	7990.00	210.20	-90.00	0.00	9.00	32.92	90.00
NP027	6425.00	7990.00	210.20	-90.00	0.00	36.01	57.00	90.00
NP028	6463.00	7993.00	185.40	-90.00	0.00	0.00	12.00	81.00
NP028	6463.00	7993.00	185.40	-90.00	0.00	21.00	81.00	81.00
NP030	6520.00	8189.00	159.70	-90.00	0.00	0.00	39.00	39.00
NP031	6424.00	7894.00	167.80	-90.00	0.00	0.00	36.00	36.00
NP032	6487.00	7990.00	166.20	-60.00	270.00	0.00	12.00	60.00
NP032	6487.00	7990.00	166.20	-60.00	270.00	30.00	51.94	60.00
NP032	6487.00	7990.00	166.20	-60.00	270.00	51.94	60.00	60.00
NP033	6451.00	7891.00	150.80	-90.00	0.00	0.00	27.00	27.00
SL001	6404.00	7989.90	215.40	-60.00	270.00	0.00	24.00	24.00
SL002	6400.00	7940.00	199.00	-60.00	270.00	4.00	15.00	70.00
SL003	6381.70	8029.70	183.10	-60.00	90.00	22.23	39.09	70.00
SL004	6353.40	7893.70	174.50	-60.00	270.00	9.00	43.00	43.00
SL005	6378.50	7888.10	172.90	-60.00	90.00	16.00	65.00	65.00
SL006	6450.20	7891.30	151.60	-60.00	270.00	0.00	1.98	30.00











Hole ID	х	у	Z	dip	azimuth	Depth from	Depth to	Max depth
SL006	6450.20	7891.30	151.60	-60.00	270.00	23.00	30.00	30.00
SL007	6466.20	7947.50	166.00	-40.00	270.00	23.00	34.00	34.00
SL009	6549.70	7939.80	110.00	0.00	270.00	50.00	75.00	163.00
SL009	6549.70	7939.80	110.00	0.00	270.00	75.00	92.91	163.00
SL009	6549.70	7939.80	110.00	0.00	270.00	101.50	103.53	163.00
SL009	6549.70	7939.80	110.00	0.00	270.00	115.05	133.28	163.00
SL009	6549.70	7939.80	110.00	0.00	270.00	142.47	151.89	163.00
SL010	6523.10	7890.80	107.10	0.00	270.00	29.00	43.78	124.00
SL010	6523.10	7890.80	107.10	0.00	270.00	43.78	44.00	124.00
SL010	6523.10	7890.80	107.10	0.00	270.00	44.00	59.00	124.00
SL010	6523.10	7890.80	107.10	0.00	270.00	89.00	95.00	124.00
SL010	6523.10	7890.80	107.10	0.00	270.00	95.00	119.00	124.00
SL010	6523.10	7890.80	107.10	0.00	270.00	119.00	124.00	124.00
SL012	6508.90	8090.60	167.70	-20.00	270.00	18.00	39.00	71.00
SL012	6508.90	8090.60	167.70	-20.00	270.00	39.00	51.00	71.00
SL012	6508.90	8090.60	167.70	-20.00	270.00	51.58	51.68	71.00
SL012	6508.90	8090.60	167.70	-20.00	270.00	51.68	63.00	71.00
SL013	6505.80	7990.10	161.60	-60.00	270.00	0.00	5.00	78.00
SL013	6505.80	7990.10	161.60	-60.00	270.00	61.00	70.00	78.00
SLP07001	6438.15	7823.13	110.06	-72.00	73.00	0.00	1.27	18.00
SLP07002	6427.14	7816.89	111.25	-70.00	77.00	0.00	2.63	18.00
SLP07002	6427.14	7816.89	111.25	-70.00	77.00	2.63	3.59	18.00
SLP07002	6427.14	7816.89	111.25	-70.00	77.00	3.59	17.29	18.00
SLP07004	6402.69	7810.45	111.26	-73.00	94.00	0.00	18.00	18.00
SLP07005	6383.30	7807.47	111.84	-73.00	100.00	4.00	16.18	18.00