

JORC Code, 2012 Edition – Table 1, Haile Gold Mine Project

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	Commentary
Sampling techniques	<u>Diamond Drilling</u> - Diamond core drilling is by wireline methods and utilizes HQ and NQ size core 63.5 mm and 48 mm core. Core is transferred from the core barrels to plastic core boxes at the drill rig by the driller. Core orientation is utilized for selected holes in about 50% of the programs. Core is broken as required to completely fill the boxes which each contain about 3m of core. Drill intervals are marked on the core boxes and interval marker blocks are labelled and placed in the core box. Whole core is transported to the sample logging area by OceanaGold Corporation (OGC) personnel. Sample Preparation & Analysis <u>Core Samples</u> - The core is cleaned, measured, logged, photographed and cut at the on-site OGC core shed in Kershaw, South Carolina. All samples are handled and managed by OGC employees. Geotechnical and geologic logging are completed on the whole core. Rock Quality Data (RQD), hardness, joint condition and core recovery are recorded as part of the geotechnical suite of data. - Geologists log the core for structure, rock type, mineralogy and alteration using tablets with drop down menus in Excel. The logging geologist assigns the sample intervals and sample numbers based on geology. The geologist inserts standards and blanks every 20th sample for QAQC. Core is sawed on-site with a rotary diamond saw. The saw is cleaned between each sample. The cooling water for the saw is not recycled. - Half core is delivered to the sample preparation facilities at ALS in Tucson, Arizona. - Sample preparation step include: 1) Inventory and log samples into the laboratory LIMS tracking system 2) Print worksheets and envelope labels 3) Dry samples at 93 degrees C 4) Jaw crush samples to 70% passing 10 mesh (2 mm) 5) Clean the crusher between samples with barren rock and compressed air 6) Split sample with a riffle splitter to prepare the sample for pulverizing 7) Pulverize a 450 gm sample (+/- 50 gm) to 85% passing 140 mesh (0.106 mm) 8) Clean the pulveriser between samples with sand and compressed air 9) Approximately 225 gm of pulp sample is sent for fire assay 10) Coarse rejects and reserve pulps are returned to Haile for storage. - After crushing and pulverizing, the pulps are sent to the ALS Reno laboratory for gold analysis.
Drilling techniques	Drilling at the Haile property commenced in the 1970s and has continued intermittently to the present by several different companies. Most drilling since 2008 has been by reverse circulation and diamond core methods. All resource drilling since 2015 has been with core. Diamond core drilling is by wireline methods and utilizes HQ and NQ size core 63.5 mm and 48 mm core. All drilling is conducted by OGC drillers using OGC-owned equipment.
Drill sample recovery	Core recoveries are measured at the core shed by the geotechnicians. Core recoveries typically range from 97 to 100%. There is no observed relationship between core recovery and grade. Core recoveries are typically less than 50% in the uppermost 5-15 m of each hole due to soft, crumbly saprolite in the surficial weathering zone.
Density	Density measurements for drill core are recorded every 10m feet using the water immersion method by geotechnicians in the OGC core shed. The scales are calibrated each time samples from a new hole are measured. Geotech and density data are directly entered into an Excel spreadsheet. Results are uploaded to the database and are reviewed based on depth, grade, rock type, oxidation state, sulfide abundance and alteration. Density recommendations vary by

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	rock type and have been coded into the block model.
Logging	- All drilled intervals are logged on site by staff geologists at Haile Gold Mine. Geotechnical and geologic logging are completed on washed whole core. - Geologic logging includes rock type, structure, alteration and mineralogy, with comments. Logging is reviewed on a weekly basis by the senior geologist and/or exploration director for completeness, consistency and accuracy. All logging is recorded via MS tablets in Excel files with a separate file for each drill hole. The data are stored on site and backed up daily. Excel files are uploaded to the acQuire database. - Rock Quality Data (RQD), hardness, fracture frequency and joint condition rating and core recovery are recorded as part of the geotechnical suite of data. - All core intervals are photographed, labelled by hole ID and depth, and are stored on the Haile network.
Sub-sampling techniques and sample preparation	- Refer to sampling techniques section and the Quality of Assay data section for more detail. - Half core samples are cut by rotary diamond saw or, if too soft, are cut by knife. Half core is placed in a bar-coded, labelled sample bag and the other half is returned to the core box. - Sample preparation for both the diamond core and RC samples is considered appropriate. - Sample sizes of 1 to 3 metre lengths produce bagged sample weights of 2-5 kg. These are considered adequate for the Haile deposits, which are primarily of the finely disseminated sediment-hosted style. Although coarse gold has been observed in drill core, it is rare and is not representative of the mineralisation that will be mined.
Quality of assay data & laboratory tests	The Mineral Resources and Ore Reserves at Haile are based on fire assay of a 30 gm aliquot for gold with Atomic Absorption finish <3 g/t Au and gravity finish >3 g/t Au. Blanks and standards, are inserted every 20th sample. Check assays are submitted to the KML lab in Kershaw, SC, for 5% of the intervals on a quarterly basis.
Verification of sampling and assaying	- There are strong visual indicators of mineralisation observed in drill core based on intensity of silicification, pyrite abundance and intensity of deformation. - All assay data are stored in a secure acQuire database. Data are stored as received with no adjustment made to the returned data. Geologists do not have the ability to adjust gold assays, which are managed by the off-site OGC database manager. - Quarterly analysis and reporting of QAQC drill hole data by OGC geologists has confirmed excellent precision and accuracy of results with no evidence of sample contamination. Graphs showing expected values and two standards of deviation have been produced and evaluated. Barren marble and sand are inserted as blanks every 20th sample. Certified reference materials from RockLabs are inserted every 20th sample. All blanks and CRMs are handled by the Geotech Supervisor and are stored in the locked OGC office.
Location of data points	- Drill hole collars are surveyed by OGC geologists with a differential GPS unit with sub-centimeter accuracy. The historic Amax and early Romarco holes were surveyed by a South Carolina licensed surveyor using conventional ground methods. Check surveys have been completed during the project. The drill hole locations and the project coordinate system are stored in UTM NAD83 zone 17N. - All holes drilled since 2008 are surveyed for deviation using OGC-owned tools manufactured by Reflex. Holes are surveyed by drill supervisors and geotechnicians using a Reflex multi-shot camera every 5 m. Down hole survey data are reviewed and verified by an OGC geologist for deviation and magnetic intensity. All holes have been accepted for deviation and uploaded to the acQuire database. - Topographic control has been established to a high level of precision. OGC mine surveyors provide monthly topographic updates in active mine areas supported by weekly drone flights with mm accuracy. Resource estimation and mine planning have partly relied on historic contour maps

Criteria	Commentary
	with 1.5m contour intervals in areas mined prior to 2015. Maps are supported and confirmed by air photos where available.
Data spacing and distribution	Drill hole spacing is determined by program goals, geology and drill site access. Numerous holes are often drilled from a single drill site due to access and infrastructure constraints. Drill hole spacing is sufficient to enable grade distribution and geological controls to be established with a high degree of confidence for the Haile disseminated style of mineralisation. Nominal drill hole spacing of 40m is pursued for M&I resource classification. Drill hole spacing of 60 to 80m is achieved for inferred resource purposes.
Orientation of data in relation to geological structure	- The orientation of gold mineralisation generally parallels the foliation of the host metasediments. Structural analyses of foliation, faults, veins and bedding have been conducted using stereonet for oriented core data and from pit mapping. The metasediments and mineralised zones typically strike east-northeast and dip 30 to 60° northwest. Drill holes are mostly angled at -40° to -70° southeast to intercept rocks roughly perpendicular to mineralised trends. - Drill holes deviate clockwise perpendicular to the northwest-dipping foliation at a rate of 1-3° per 30m drilled. Drilling improvements in 2018 using new diamond bits have reduced hole deviation to <1° of azimuth and dip per 30m drilled. There is no evidence of orientation-related sample bias.
Sample security	All drill hole samples are handled and transported from the drill rigs to the fenced Haile Exploration warehouse by OGC personnel. Access to the property is controlled by locked doors and cameras. Samples are packaged at the Haile Exploration warehouse by the Geotech Supervisor and geotechnicians. Samples are trucked in sealed plastic barrels by certified couriers with submittal forms that are verified during sample pick-up and delivery to ALS. No sample shipments have been recorded as missing or tampered with.
Audits or reviews	Audits and reviews have been performed by independent consultants prior to previous resource estimations in 2011 and 2015. OGC internal data and model audits have been conducted by the OGC Chief Geologist. Collar coordinates, downhole surveys and assay certificates have been confirmed for drill hole data reported herein.

Section 2 Reporting of Exploration Results

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

Criteria	Commentary
Mineral tenement and land tenure status	Property Location - The Haile mine site is located 5 km northeast of Kershaw in Lancaster County, South Carolina, USA. The approximate geographic centre of the property is at 34° 34' 46" N latitude and 80° 32' 37" W longitude. The mineralised zones at Haile lie within a 4 km x 3 km area extending from 540000 E to 544000 E, and from 3825000 N to 3828000N (UTM NAD83 zone 17N). - Haile Gold Mine Inc. (HGM) is a wholly owned subsidiary of OceanaGold Corporation (OGC) from the Plan of Arrangement completed on October 1st, 2015 between Romarco Minerals Inc and OceanaGold Corporation, References in this document to OceanaGold refer to the parent company together with its subsidiaries, including Haile Gold Mine (HGM) and Romarco Minerals. - HGM provided an inventory of the property that is owned both within the permitted mine boundary and as buffer land outside the project boundary. HGM owns 9,707 acres of land in and adjacent to the Haile mine project and leases 4,967 acres at various locations in South Carolina. No royalties or partnerships are associated with these lands.
Exploration by other parties	Historic exploration was completed prior to acquisition of the Haile Gold Mine by Romarco, Cyprus Minerals, Amax, Piedmont, Westmont and others. Historical maps and data have been reviewed, confirmed and superseded by the drilling and geological interpretations completed at Haile by OceanaGold since 2015.
Geology	- Numerous gold deposits are located along a northeast trend that extends from eastern Georgia through the Carolinas to Virginia. Many of these deposits are located within the Carolina terrane at or near the contact between Neoproterozoic volcanic and sedimentary rocks that are intruded by younger granitic rocks. Age of gold mineralisation is estimated at 550 Ma. The four largest gold deposits in the eastern USA are located in South Carolina, spanning a distance of almost 200 km. - The Haile and Ridgeway gold deposits are similar in that the mineralisation is hosted within silicified and strongly foliated siltstones and greywackes of the Upper Persimmon Fork Formation. The gold mineralisation is finely disseminated, stratiform and lenticular in shape. Gold is often locked in pyrite and/or fine-grained quartz. Both deposits contain micron-sized, disseminated gold mineralisation that correlates with anomalous silver, arsenic, antimony, molybdenum and tellurium. - The Brewer deposit has many features of a high sulphidation system with the presence of abundant pyrite, aluminosilicates, topaz and enargite and is hosted in altered tuffs. The Barite Hill gold deposit contains pyrite-chalcopyrite-galena-sphalerite within a submarine, high-sulphidation volcanogenic massive sulphide deposit. - The genesis of Haile and Ridgeway is controversial and has been exacerbated by poor exposures, overprinting deformation, metamorphism, and intense weathering. Submarine hot springs have been suggested for the gold mineralisation by several geologists (Worthington and Kiff, 1970; Spence et al., 1980; and Kiff and Spence, 1987). Foley et al. (2001) and Ayuso et al. (2005) have presented additional evidence in support of this model which include geochemistry of sulphide phases and geochronology. The exhalative model stipulates that gold deposition occurred when "black smokers" on the sea floor fumed out silica, gold, and sulphide bearing fluids and the minerals precipitated in a wide area over a uniform seafloor. Tomkinson (1990) proposed that shearing controlled the emplacement of gold mineralisation at Haile. Hayward (1992) proposed that folding of the host rocks controlled the gold mineralisation within dilational bends of fold hinges during deformation. Gillon et al. (1995) proposed a model which invoked both early mineralisation and remobilisation during deformation. O'Brien et al. (1998) proposed that the deposits were generated by the arc-related volcanic activity in a hydrothermal system. - Pressure shadows around pyrite grains within the mineralised zones, folded mineralised zones, and flattened hydrothermal breccias indicate that the mineralisation is pre-tectonic and rules out that the mineralisation is related to deformation as proposed by Tomkinson and Hayward.

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	Hydrothermal breccias containing well bedded clasts, silicification fronts cross-cutting bedding, and multiple phases of silicification indicate that the mineralisation is post depositional and invalidate the submarine hot springs or exhalative model. - Recent stratigraphic reinterpretation by OceanaGold geologists has reassigned the metasedimentary package at Haile from the Richtex Formation to the uppermost section of the Persimmon Fork Formation (Maddry and Kilbey, 1995). This is supported by fining upward sedimentary cycles, gradational contacts, rapid facies change, tuffaceous interbeds and the occurrence of 1-3% plagioclase crystals in volcaniclastic units. The conformable ENE-trending contact between the Persimmon Fork and the overlying Richtex Formation is located about 0.5 km south of Haile (figure 3). Reinterpretation of stratigraphy at Haile considerably simplifies the previous structural model with a folded volcanic-sedimentary package that is not complicated by overturned bedding or regional thrusting. - Similar timing for gold mineralisation and peak magmatism in the Haile and Ridgeway areas indicates that the hydrothermal systems that produced these deposits were driven by magmatism and therefore were not the product of collision, orogeny, and/or a related metamorphic event. Gold mineralisation at Haile (~549 Ma, Mobley et al., 2014) slightly postdates volcanism, which precludes syngenetic and volcanogenic models. Gold mineralisation may be coeval with or slightly predate deformation. Gold mineralisation coincides with a major tectonostratigraphic change from intermediate volcanism and tuffaceous sedimentation to basinal turbiditic sedimentation. Haile is classified by OceanaGold geologists as a disseminated, sediment-hosted, intrusion-related gold deposit with proximal quartz-sericite-pyrite-pyrrhotite (QSP) alteration and distal sericite-chlorite alteration. Haile is hosted by reduced pyritic siliciclastic rocks with permeable volcanic caprocks. Haile is extensively folded and faulted with prominent ENE fabrics. The district is cut by younger granites and diabase dikes, and is overprinted by regional greenschist facies metamorphism
Drill hole Information	See Table 1 in the announcement, which lists for each hole with a significant intercept, the hole ID, easting, northing, collar RL, azimuth, dip, intersect depth and downhole length.
Data aggregation methods	Exploration results are reported within distinct geological boundaries. The grades are compiled as received using length x grade weighting with no top cutting or grade adjustments.
Relationship between mineralisation widths and intercept lengths	Drill intercepts are reported in down hole length from the drill collar. Most are 1.5m (5 ft) long assay intervals. The intercept lengths may not correspond to true widths due to some holes that do not cut perpendicular to the mineralisation. True widths are typically 60-80% of the reported drill widths, and vary according to drill hole intersection angles with foliation and bedding.

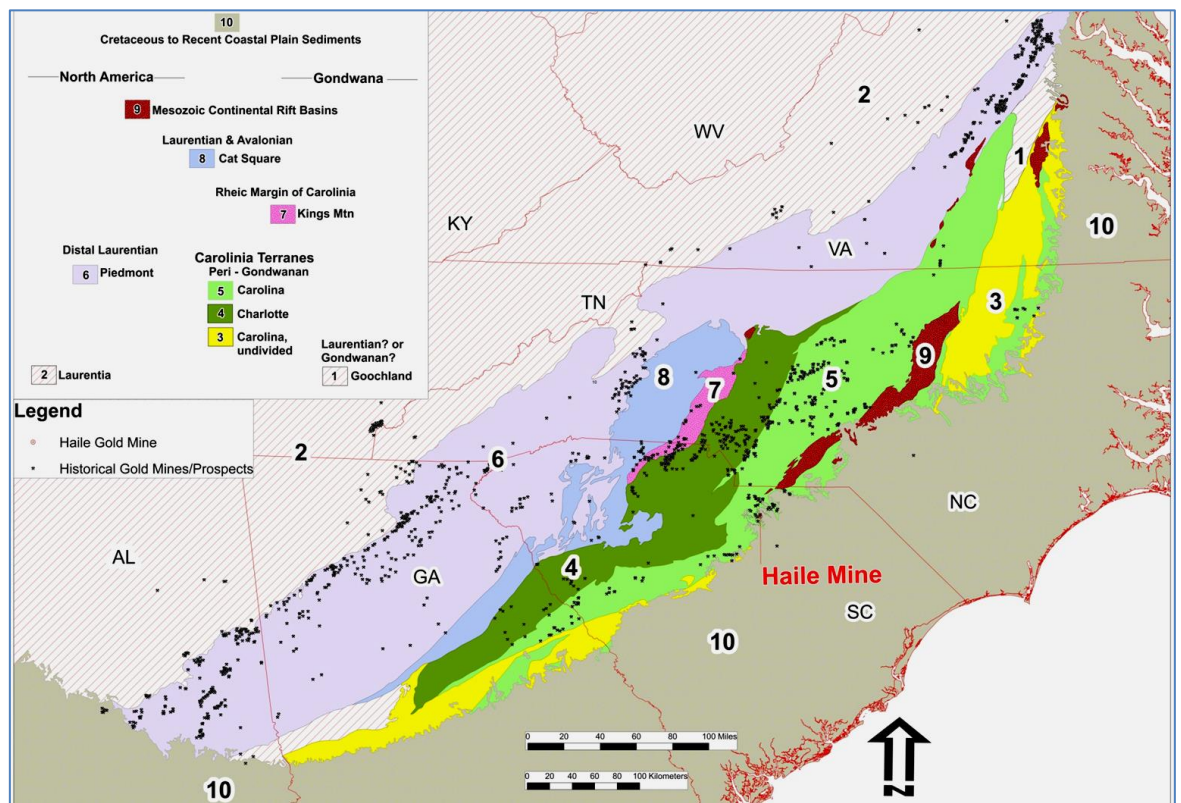


Figure 1: Location Map of the Haile Gold Mine

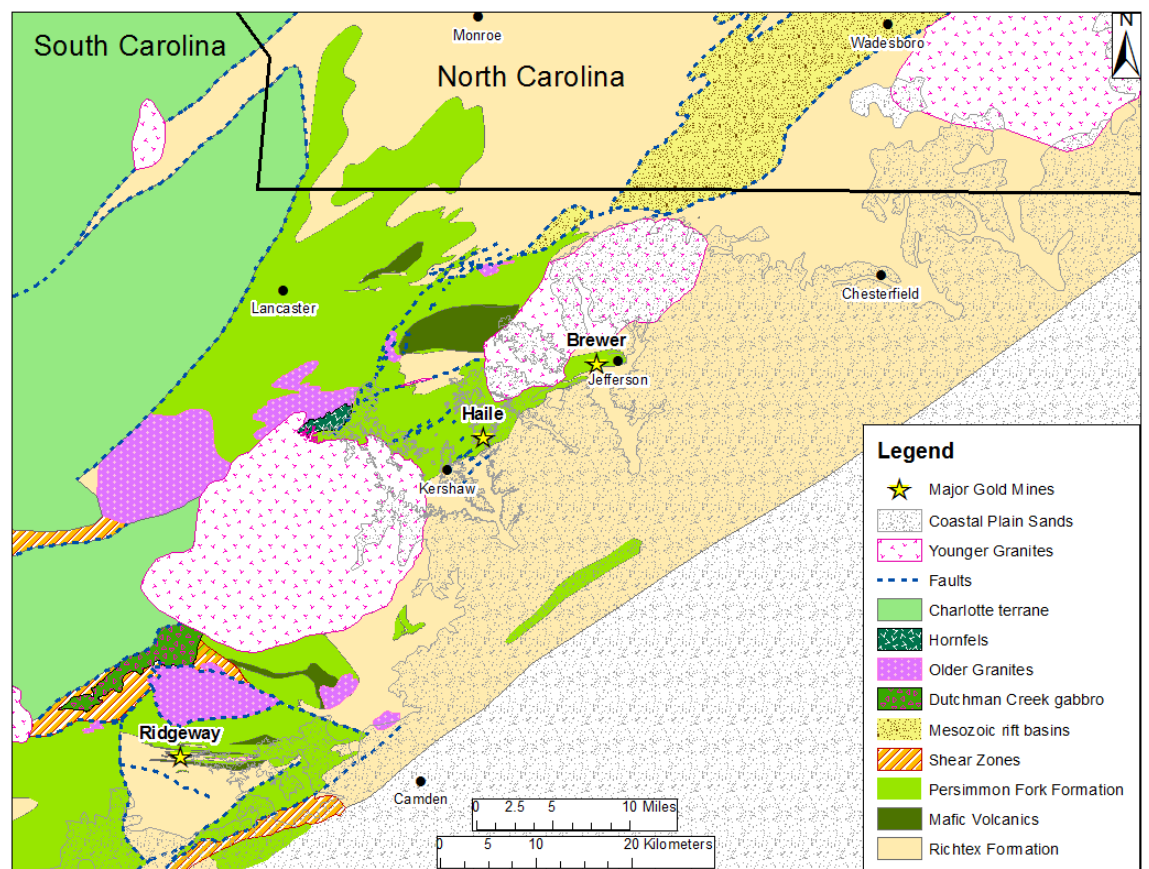


Figure 2: Simplified geology of north-central South Carolina

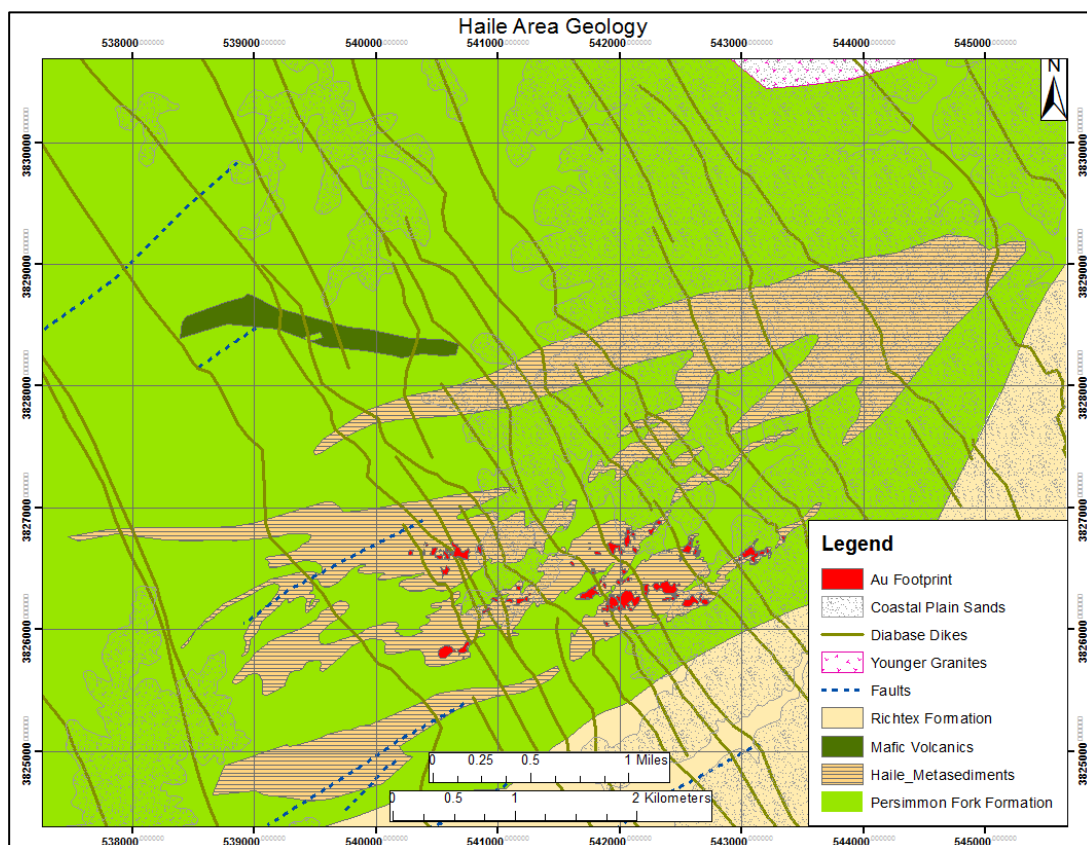


Figure 3: Schematic Geologic Map of Haile Mine area

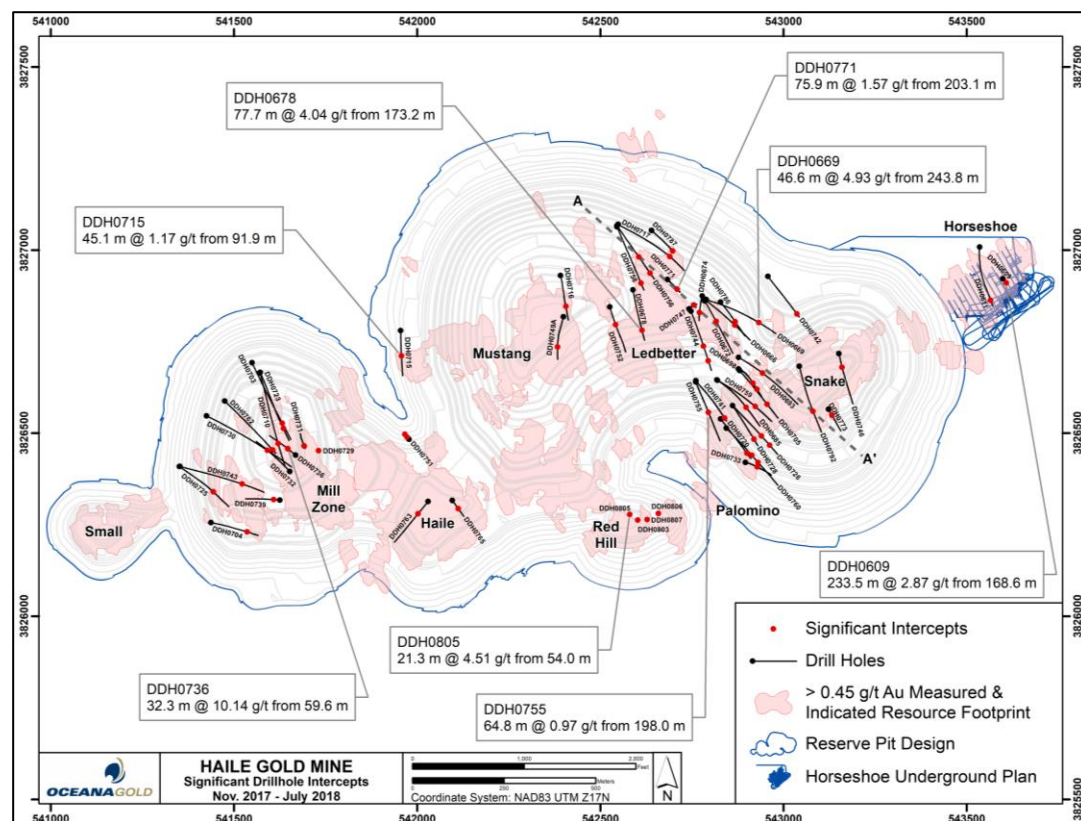
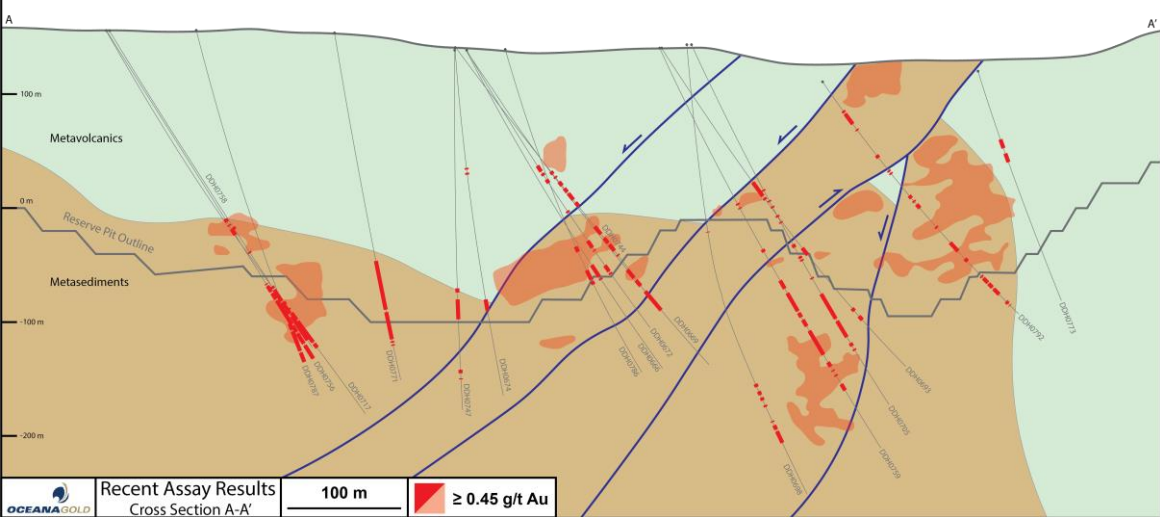


Figure 4: Plan map of Haile gold mineralisation 2018 drilling

Criteria	Commentary
	 Figure 5: Cross section A-A' through Ledbetter and Snake deposits, looking northeast
Balanced reporting	Drilling at Haile in 2017 and 2018 is displayed in maps and sections in figures 4 & 5. Comprehensive drill data including hole locations, surveys and assays can be found at http://www.oceanagold.com/investor-centre/filings/
Other substantive exploration data	The mineralisation style and key controls are described in the Geology section. No geochemical or metallurgical test work has been conducted on these exploration results. The areas and style of mineralisation drilled are considered representative of what is being mined and processed at Haile. Mill recoveries >80% have been achieved with the ore types described.
Further work	OGC continues to drill at the Haile Gold Mine for pit optimisation, reserve growth, and at nearby regional targets. Drill results have been incorporated into the June 2018 Haile block model and geological models for updated pit designs and mine planning.