JORC Code, 2012 Edition – Table 1, Haile Gold Mine Project, September 2019

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<u>Diamond Drilling</u> • Diamond core drilling has been the sole drilling method for gold assays at Haile since 2012. Diamond drilling utilises wireline methods with 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 holes. 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 core shed for logging and cutting 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 geotech-hnical 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 by truck 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 g 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 g of pulp sample is sent for fire assay 10) Coarse rejects and reserve pulps are returned to Haile for storage.
Drilling techniques	• Drilling at the Haile property commenced in 1975 and continued intermittently until 1994 by Cyprus, Piedmont, AMAX and Nicor using core and reverse circulation (RC) methods. Drilling by Romarco from 2008 to 2015 was by RC and core methods. All resource drilling since 2012 has been with core.
Drill sample recovery	• 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. 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.

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Density	• Density measurements for drill core are recorded every 10 to 20 m down hole using the water immersion method by geotechnicians in the OGC core shed. Whole core samples 10 to 20 cm in length are selected from each hole. Samples are weighed in air and then weighed in water when fully immersed. The scales are calibrated each time samples from a new hole are measured. Geotech and density data are entered into an Excel spreadsheet. Data are uploaded to the acQuire database by a geologist and are reviewed based on depth, grade, rock type, oxidation state, sulfide abundance and alteration. Density recommendations vary by 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 in the OGC core shed. • Geologic logging includes rock type, structure, alteration, mineralogy, comments and assay sample intervals. Logs are hand-plotted on 60m spaced paper cross sections to assess spatial context and relationship to adjacent holes. Logging is reviewed on a weekly basis by the senior geologist and/or exploration director for completeness, consistency and accuracy. • All logging is recorded by geologists with tablets in standardised Excel files with a separate file for each drill hole. The data are stored on site and backed up daily. Excel files with geology logs 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 is photographed by box (approx. 3m each) using a mounted 18megapixel Canon camera, labelled by hole ID and depth, and stored on the Haile network. Core photos are routinely reviewed by geologists when assays are received or when select core photo relogging programs are conducted.
Sub-sampling techniques and sample preparation	• Haile has good visual indicators of mineralisation observed in drill core based on intensity of silicification, pyrite and deformation. Assay intervals for sampling are recorded in the Excel geology log after the hole has been logged. Interval lengths range from 1-3 m. Interval breaks are indicated by green, pre-numbered cards placed in the core boxes. 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 lengths 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 bulk mineralisation that will be mined.
Quality of assay data & laboratory tests	• 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 an off-site OceanaGold database manager. After crushing and pulverizing at the prep lab in Tucson, AZ, pulps are trucked to the ALS Reno, Nevada laboratory for gold analysis. Some holes are composited and analysed for carbon, sulfur and multi-elements using Leco and ICP methods respectively. ALS labs used for Haile OGC samples are ISO 17025 certified. • Assays are based on a 30 g fire assay 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. All Exploration samples are assayed at ALS. Check assays are submitted to the SGS lab in Kershaw, SC, for 5% of the intervals each quarter. Assays are duplicated for >95% of the samples within 5% of their original assay.
Verification of sampling and assaying	• 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

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	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 historical and early Romarco holes were surveyed by a South Carolina licensed surveyor using conventional ground survey methods. Check surveys have been completed during the project. The drill hole locations and the project coordinate system utilized the South Carolina State Plan grid until November 2016. Coordinates were transformed to UTM in December 2016, verified by a certified consultant, and are now surveyed and stored in UTM NAD83 zone 17N. • All holes drilled since 2008 are surveyed for deviation using OGC-owned tools manufactured by Reflex. Downhole survey tools are calibrated at the Reflex factory in Tucson, AZ annually. 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 with 1.5m contour intervals in areas mined prior to 2015. Maps are digitised 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 37m is targeted for M&I resource classification. Drill hole spacing of 40m to 60m is achieved for inferred resource reporting.
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 stereonets for oriented core data and from pit mapping. The metasediments and mineralised zones typically strike east-northeast and dip 30 to 60^0 northwest. Drill holes are mostly angled at -40^0 to -70^0 southeast to intercept rocks roughly perpendicular to mineralised trends. Core intersection angles with foliation are mostly $50\text{-}80^0$. • Drill holes deviate clockwise perpendicular to the northwest-dipping foliation at a rate of $1\text{-}3^o$ per 30m drilled. Drilling improvements in 2018 using new diamond bits have reduced hole deviation to $<1^o$ of azimuth and dip per 100m 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 monitored by OGC security. The main gate requires an electronic employee badge to enter. 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	• Data, QAQC and methodology audits were performed by certified IMC consultants in 2011 and 2015. OGC internal data and model audits have been conducted by the OGC Chief Geologist and in November 2018 by an OGC and SRK audit committee. Collar coordinates, downhole surveys and assay certificates have been confirmed for drill hole data reported herein.

Section 2 Reporting of Exploration Results

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 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 legal 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 in the southeast USA are located along a northeast trend that extends from eastern Georgia through the Carolinas to Virginia, locally known as the Carolina Slate Belt. Most gold 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 southeast USA are located in South Carolina. Haile and Ridgeway are the two largest gold deposits in the region. The Haile and Ridgeway gold deposits are similar in that the mineralisation is hosted in silicified and strongly foliated siltstones and greywackes of the Upper Persimmon Fork Formation. Gold mineralisation is finely disseminated, stratiform and lenticular in shape, and is often locked in fine-grained pyrite and silica. Both deposits contain micron-sized (5-20 microns) 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 is challenged by poor exposures, numerous property owners, 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. • 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

Criteria	Commentary
	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. • Stratigraphic and structural reinterpretation by OceanaGold geologists in 2017 and 2018 reassigned the metasedimentary package at Haile from the Richtex Formation to the upper 1 km 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 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. • Haile structural controls of gold mineralisation were not recognised as important until 2017 based on pit mapping and core logging. ENE-striking, NW-dipping gold zones coincide with sheared rocks cut by faults, hydrothermal breccias, silicified zones and quartz-pyrite veins. Intersected WNW faults and shear zones locally elevate grades > 3 g/t Au. • Haile is classified by OceanaGold geologists as a disseminated and structurally controlled, 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	• Drill hole data are stored in the acQuire database with hole ID, easting, northing, collar RL, azimuth, dip, intersect depth and downhole length. Paper drill hole data are stored by hole ID in folders and file cabinets in the OGC Exploration office at Haile. Drill hole and core are boxed and stored on the OGC mine site.
Data aggregation methods	• Exploration results are reported by hole based on defined thresholds in periodic press releases; results with hole coordinates are loaded to the OGC website. Gold 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 were not drilled perpendicular to ore zones. True widths are 60-80% of the reported drill widths and vary according to drill hole intersection angles with foliation and bedding.

Diagrams

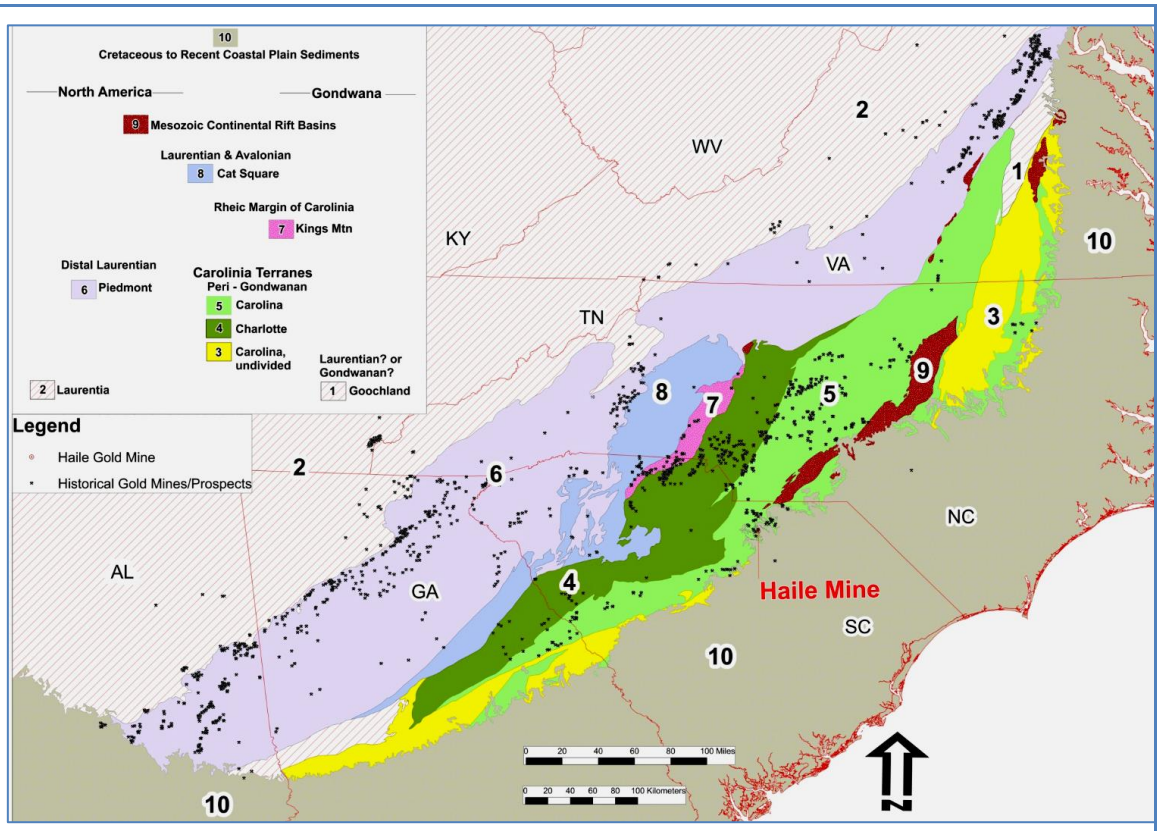

Figure 1: Location Map of the Haile Gold Mine

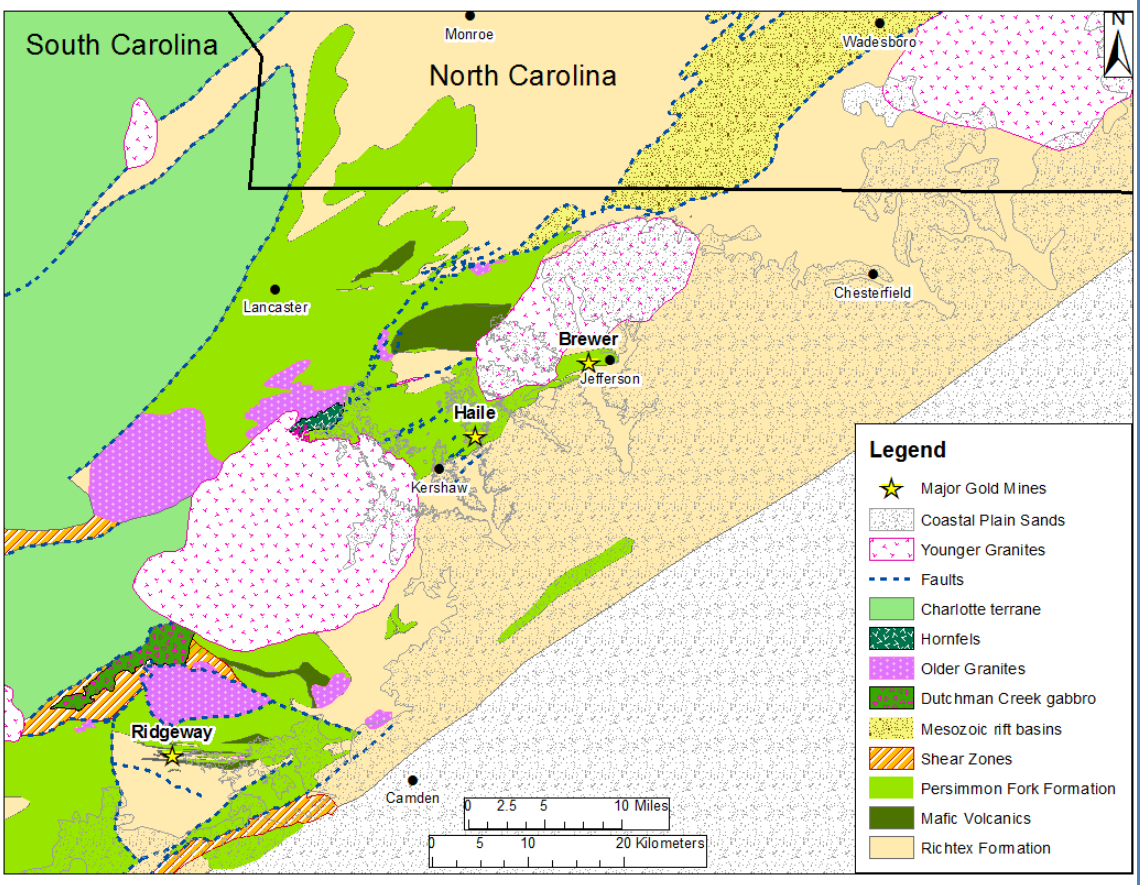

Figure 2: Simplified geology of north-central South Carolina

Criteria	Commentary

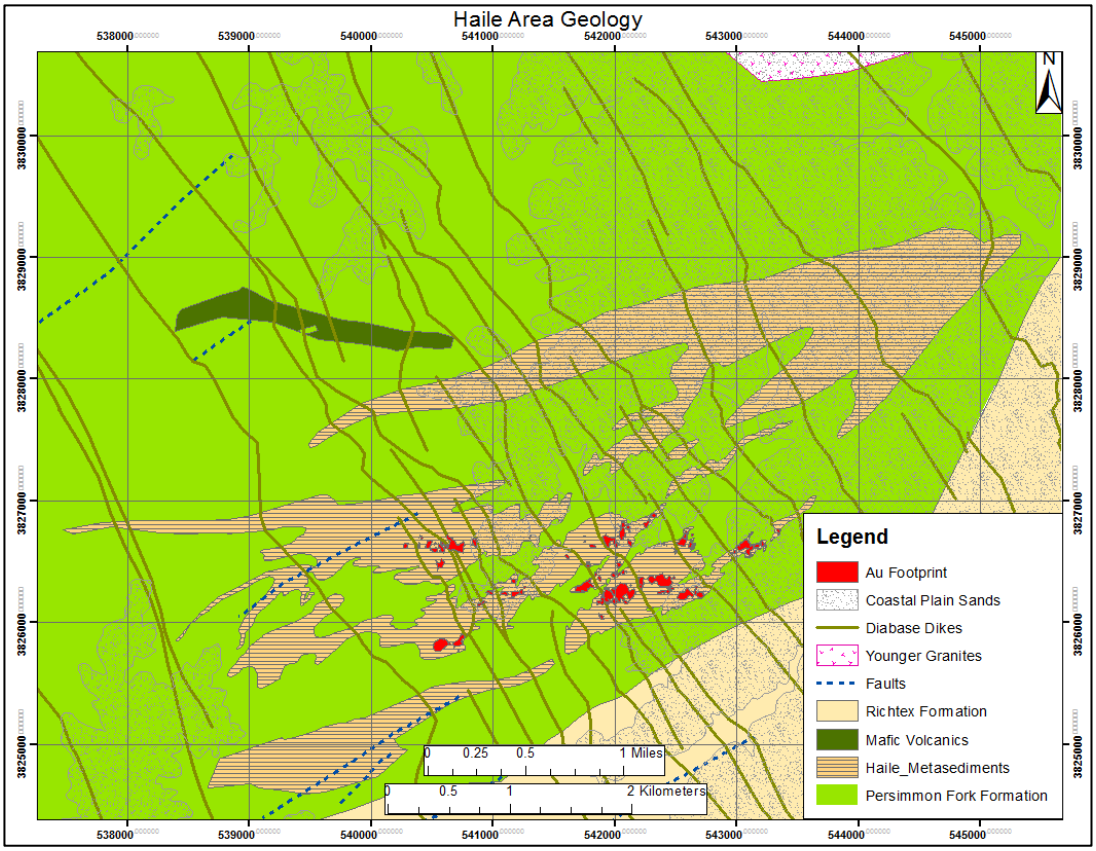

Figure 3: Schematic Geologic Map of Haile Mine area

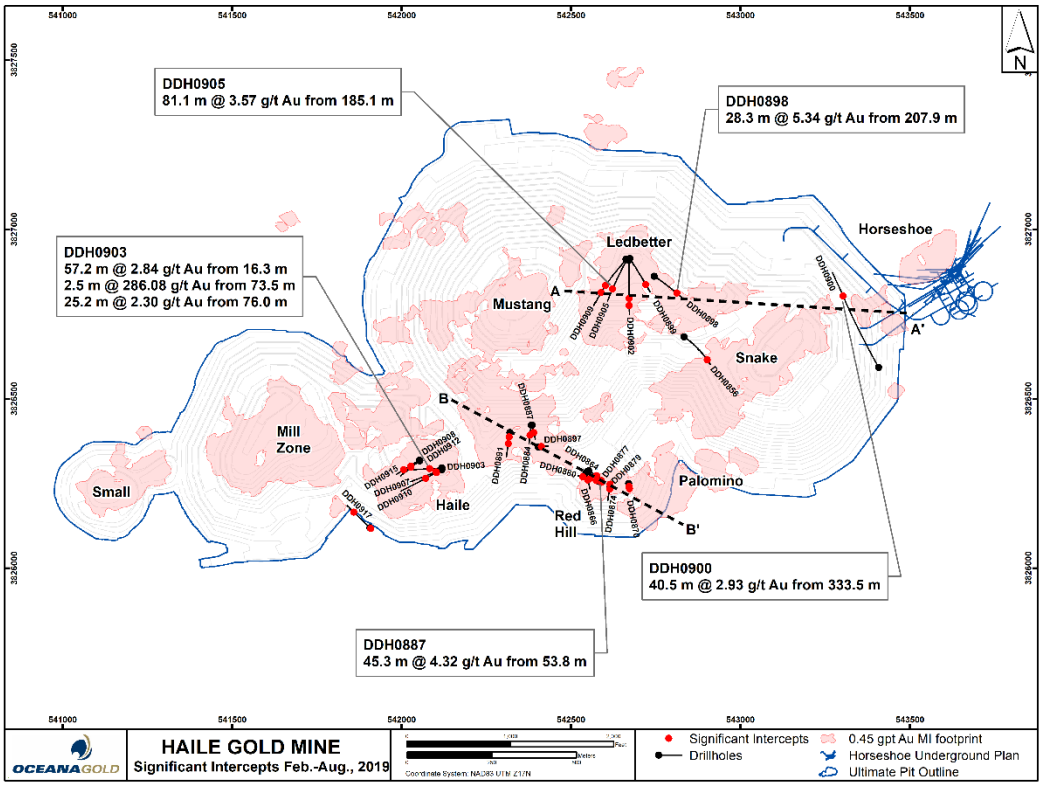

Figure 4: Plan map of Haile gold mineralisation Feb-Aug 2019 drilling

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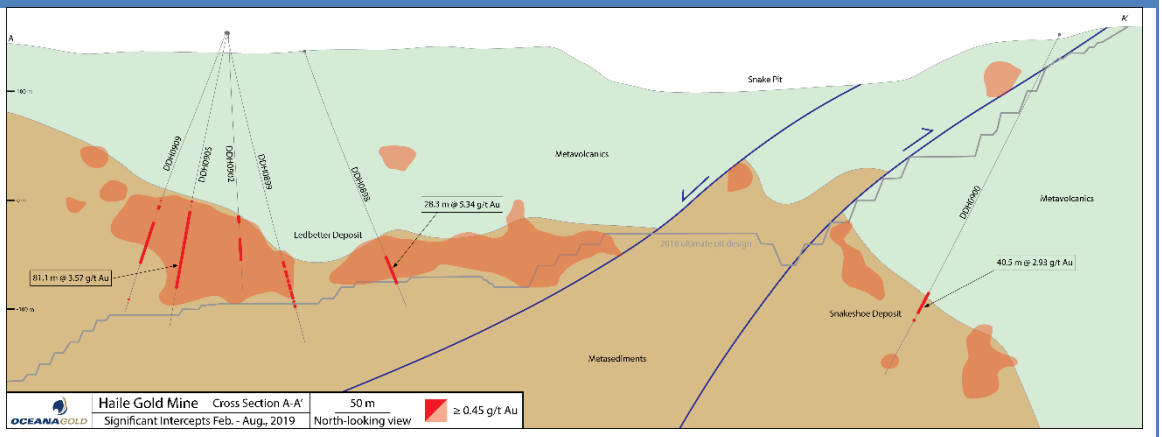
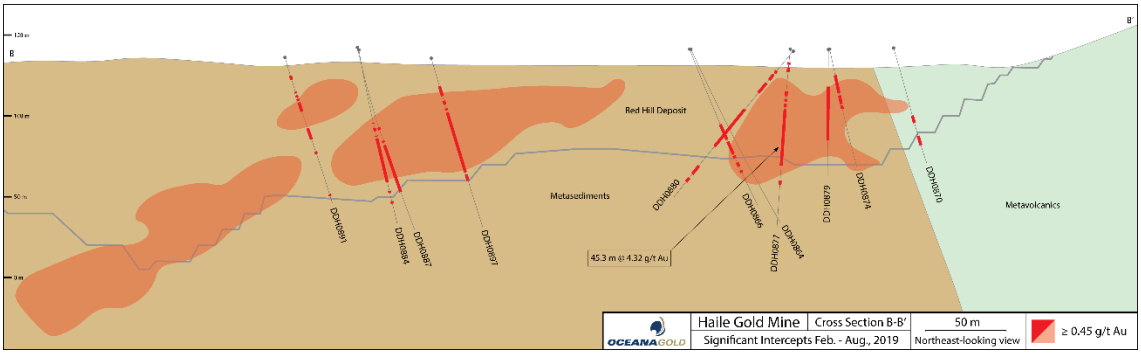
	 **Figure 5: Cross section A-A' through Ledbetter and Snake deposits, looking northeast**  **Figure 6: Long section B-B' through Red Hill deposit, looking northwest**
Balanced reporting	• Drilling at Haile in 2019 is displayed in maps and sections in figures 4, 5 & 6. Comprehensive drill data including 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. Ore hardness characterisation for milling has been conducted on some core holes reported herein. The areas and style of mineralisation drilled are considered representative of what is being mined and processed at Haile. Mill recoveries >80% are achieved with these ore types.
Further work	• OGC continues to drill at the Haile Gold Mine for pit optimisation, reserve growth and at nearby regional targets. Drill results based on a validated May 10, data extraction and the updated geological model were incorporated into the June 2019 block model for updated pit designs and mine planning. Modelling and planning utilise Maptek's Vulcan software.