

**EL11/2019**  
**Denison River**  
**Diamond Drill Report**  
**DRG003DDH2020**

For:

Edrill Australia Pty. Ltd.

May, 2021

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## Summary

Drill hole DRG003DDH2020 is located on Edrill Australia's Denison River Exploration Licence 11/2019, located in North-Eastern Tasmania. The hole was part of a successful application to Round 4 of Mineral Resources Tasmania's Exploration Drilling Grant Initiative by Edrill Australia. It was collared on January 20, 2021 and completed on March 19 at a final depth of 626.2m. The drillhole is located on Crown Land, and is shown below in Figure 1, with collar details provided in Table 1.

The aim of the drill hole was to target a potential Fosterville-like target within the Silurian Mathinna sediments, testing whether deep-seated ore bearing structures similar to those found at Fosterville exist, and attempting to test the contact zone between the hornfelsed Mathinna sediments and the Lisle Granodiorite by drilling a vertical hole to a depth of up to 750m.

The hole was terminated at a depth of 626.2m, and failed to intersect economic mineralisation despite intersecting numerous vein, breccia and alteration zones. Sediments were generally moderately to strongly hornfelsed, with this increasing with depth. No granite body was reached prior to the end of hole; however the intensity of hornfelsing in the final 200m of core strongly suggests a proximal intrusive body.

Assay results were generally disappointing, with a maximum value of 0.2ppm Au obtained from a strongly silicified breccia zone at 164m depth. However, results for Au over this zone average out to 0.11ppm Au over 9m, and represent a target worthy of follow-up.

Frequent zones of calcareous sandstone throughout the hole showed signs of weak skarn alteration and higher sulfide content but at this point appear to be of less interest than the breccia zone, with only sporadic weakly elevated results for Au.

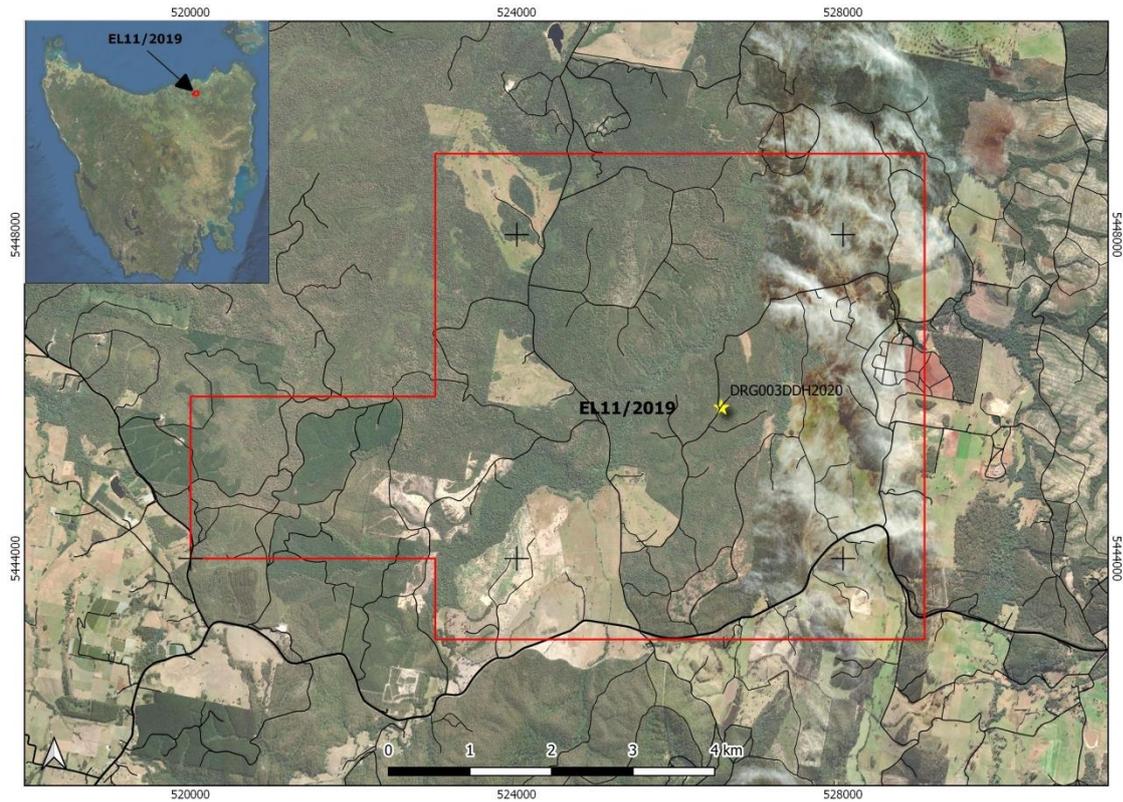


Figure 1: Location of EL11/2019 Denison River and DRG003DDH2020.

Table 1: Drillhole collar information. Coordinates provided in GDA94 MGA Z55.

Hole_ID	Easting	Northing	RL	EOH	Dip	Azimuth	Date Commenced	Date Completed
DRG003DDH2020	526508	5445863	107	626.5	-88.4	342	20/01/2021	19/03/2021

## Introduction

Drill hole DRG003DDH2020 is located within Edrill Australia’s EL11/2019 in NE Tasmania, located approximately 17km to the west of Scottsdale, and 15km NE of Lilydale.

It was drilled to a total depth of 626.2m between January 20<sup>th</sup> and March 19<sup>th</sup>, 2021 using an Atlas Copco CS1000 diamond drill rig. The hole was surveyed using an Axis Gyro core orientation tool at 100m intervals, and upon completion, the drill hole was capped, and the site rehabilitated as detailed below in Site Rehabilitation.

All coordinates listed in this report were collected using a Garmin handheld GPS, and are in GDA94 MGA Zone 55.

## Geology

The geology of the area is dominated by Silurian Panama Group rocks of the Mathinna Supergroup. The majority of the property is mapped as underlain by the Lone Star Siltstone, a predominantly thin-bedded siltstone with interbedded fine-grained quartz-rich sandstone increasing towards the top (REFERENCE). These silts overlie the interbedded turbidites of the Retreat Formation, which is dominated by medium to fine-grained quartz-rich sandstone with subordinate siltstone-mudstone. These sediments have been shortened in an ENE-WSW direction, resulting in a regional trend of NNW-trending fold axes, with available mapping data suggesting Mathinna sediments dip gently to the east, with folds plunging gently to the south within EL11/2019.

Structural mapping in the region shows the majority of faults are oriented NNW-SSE, with a large thrust fault paralleling fold axes approximately 1.5km to the east of the drill hole, with the older Retreat Formation rocks thrust over Lone Star Formation rocks. Regional geophysical data shows this as the western margin of a major structural zone, which also appears to mark the boundary between the poorly exposed Lisle Granite from the Diddleum Granite. Although it is not formally grouped with the Scottsdale Batholith, the Lisle Granite is presumed here to be part of it. Both are described as medium- to coarse-grained equigranular biotite-hornblende granites, and ages of 395.3-391.3Ma and 392.6-388.8Ma have been obtained for the Lisle Granodiorite and the Diddleum plutons respectively. Granite isobaths suggest the granite body may be in excess of 1km below surface in the vicinity of the drill hole, but historic workings such as the Sir William Denison report intersecting granite near surface, and highly altered granitic dyke materials have been noted in the vicinity of other historic workings in the area, including the Wiangatta, located approximately 350m to the SE of DRG003.

The East Denison area is extensively veined, with sandstone units often featuring stockwork veining and variable silicification. Veins are reported to be oriented predominantly parallel to the NNW and ENE structures noted above. No outcrop is known in the immediate vicinity of DRG003, and it was assumed that this unit continued under cover and beneath Lone Star Siltstone rocks to the south.

## Historical Mining and Exploration

There are a total of 16 former workings located within 1km of DRG003. These workings operated from about 1870 until the early 1900's, and mostly consist of small pits and trenches targeting quartz veins, with few seeing any extraction. The nearby Wiangatta mine is reported to have worked a narrow vein to a depth of about 80m and averaged 68.4g/t Au, the gold being nearly pure (Komyshan, 2004). All historical workings are located proximal to the contact between the Retreat Formation and the Lone Star Formation.

Since mining ceased in the area there has been very little systematic work completed in the area.

The ground has been held by numerous companies, including EZ (EL2/1967, EL12/1967), Comalco (EL25/1976), Argyle Minerals NL (EL32/1985), Shell (EL6/1990), Anglo Australian (EL38/1994), Lefroy Resources/Beaconsfield Gold NL/Tamar Gold (EL13/2006), and Tracker Geoservices (EL7/2014). Few of these companies appear to have completed work in the area, and no diamond drilling is known.

Anglo Australian completed an extensive soil sampling program over the East Denison area, followed by trenching which included 11m @ 2.69g/t Au. This was followed by 46 RC drill holes (total 3058m)

in multiple drill programs over the prospect area, which identified a low grade near surface zone of anomalism corresponding to the NE trending deformation zone and a higher grade shallow south plunging shoot of gold mineralisation (Holden, 2012).

Lefroy Resources excavated 7 trenches for a total of 788m, with assay results including 42m @ 2.1g/t Au and 46m @ 1.36g/t Au, and formed a JV with Beaconsfield Gold NL to drill 6 RC holes in 2008 (626m total) at the East Denison prospect (Pemberton, 2013). Results from this program showed best results were most consistent along a strike of approximately 350° rather than the NE-trending zone interpreted by Anglo, and led to an interpretation of mineralisation being concentrated in en echelon features parallel to the regional structural trend.

## **DRG003DDH2020 Summary**

The programs mentioned above provide information on the potential of the area, but as there are no diamond drillholes, structures below the depth of trenching work are unknown, and previous drilling has also only tested to an average depth of 65m, and a maximum depth of 140m.

To test whether deep seated ore bearing structures similar to those found at Fosterville lie below the East Denison prospect, deeper drilling was required, preferably diamond rather than RC. The projected depth of the underlying granite was unknown, with depth of up to 1.5km estimated, but granite is known to outcrop on the southern margin of EL11/2019, less than 3km to the south, and it was likely the granite had partially intruded along strata, with this supported by reports of granite intersected in workings such as the Sir William Denison.

The hole was steepened slightly from originally planned to assist with reaching the presumed position of the granitic intrusive, and oriented at an azimuth of 342° and dip of -88°. The top of the hole was collared with PQ diameter, while the remainder of the core was HQ.

The hole was collared into weathered and oxidised siltstones with minor very fine sandstone with bedding cutting the core axis at approximately 70°, and a cleavage developed at about 15° to the core axis. The siltstone-dominated unit continued past the weathering front at 14.5m, with pervasive weak chlorite alteration of silts, and rare thin very fine sandstone interbeds and weakly slickened minor reverse faults and cleavage varying from about 5-20° to the core axis.

Minor disseminated pyrite occurs below 55m, typically concentrated within fine sandstone interbeds, with coarser cubic pyrite on some fracture planes, and trace to weak sericite alteration. The colour of siltstone generally changes from green to dark grey/black between 75 and 95m, with this interpreted to be due to metamorphism rather than a change in composition.

Silts dominate the package to a depth of 134.8m, where a brief interval of fine-grained calcareous sandstone with possible weak calc-silicate skarn alteration is intersected. The remainder of the hole is dominated by sandstone with interbeds of siltstone (mostly black, with rare grey and green interbeds), and variable intervals of weakly calcareous sandstone with weak skarn alteration. The siltstone unit immediately above this sandstone is markedly more baked and hosts quartz veining, illite and pyrite within fractures. This is interpreted as the upper part of the transition between the Lone Star siltstone and the underlying Retreat Formation sandstone.

From 134.8 to 160m is dominated by hornfelsed sandstone with generally weak chlorite and silica alteration. Cleavage within the sandstone is not readily visible, but quartz veining appears to be preferentially oriented towards the direction of cleavage. Bedding appears mostly consistent with

the overlying siltstone, but siltstone rip-up clasts within the upper part of a sandstone unit at 140m suggests this unit may have been overturned, with rip-up clasts at the base of a very similar sandstone with the same thickness from 151-157m possibly representing the lower limb of a tight fold in this transitional zone.

A strongly silicified breccia zone with a quartz and quartz-chlorite matrix from 162.9-170.4m hosts up to 5% pyrite replacement of breccia fragments and minor arsenopyrite, in addition to minor pyrite bleb and disseminations. Several shear planes in this zone have smeared pyrite, indicating post-mineralisation movement. This breccia zone is cut by later white quartz veins which are absent of sulfides. The breccia zone may represent another tight fold, but of more brittle rock, with subsequent movement along this area of weakness. A third possible tight to isoclinal fold is inferred at approximately 175m, with siltstone rip-ups in sandstone inferring overturned bedding, and strong deformation of silts below this.

The angle of bedding to the core axis stays remarkably consistent through this zone, with planar veins also remaining consistently aligned towards the direction of cleavage. While siltstone (shale) continues to be interbedded with the sandstones below this, the base of this strongly deformed zone is considered here to be the base of the transitional zone between the Retreat and Lone Star Formations.

The sandstone-dominated sequence continues with slight variations to the bottom of hole at 626.2m, with metasomatism effects generally increasing with depth. Common variations to the package include frequency of siltstone/shale interbeds, and zones of slightly calcareous sediments. Many zones with calc-silicate alteration also exhibit 'feathering' of extremely fine grey sulfides(?) emanating from hairline fractures.

A minor zone of very strong sericite alteration of mica occurs parallel to bedding at 223m. Although the original rock completely altered, this is interpreted as a very minor granitic dyke. The dyke itself is poorly mineralised, but host sandstones contain up to 2.5% blebby pyrite. The base of the dyke is oriented at  $085^{\circ}$  to the core axis (parallel with bedding) and is underlain by a second zone of weak breccia. Like the breccia zone at 160m, this zone contains relatively high sulfide content, and the matrix was dominated by quartz-chlorite.

With the exception of the sericite altered zone and localised strong silicification, alteration throughout the hole is generally trace to weak chlorite, with calcareous sandstones also undergoing weak calc-silicate alteration/metasomatism.

Metasomatism steadily increases downhole from 230m, grading into biotite hornfels from about 500m. Bedding remains relatively consistent (between  $55^{\circ}$  and  $85^{\circ}$  to core axis) throughout the remainder of the hole, with the exception of several zones within silts at 435m, 470m, and 519m. While the zones at 435m and 470m (see Figure 2) appear more likely to be a product of slumping/soft sediment deformation, deformation at 519m clearly shows two folds (see Figure 3).

Sulfides are found throughout the hole from 55m, most frequently as very minor finely disseminated pyrite, with concentrations generally found in calc-silicate altered zones, while quartz sandstone beds commonly host cubic pyrite up to 3mm in size. In zones of strong silicification and brecciation, pyrite has been noted occasionally replacing clasts, while quartz-chlorite veins rarely contain pyrite

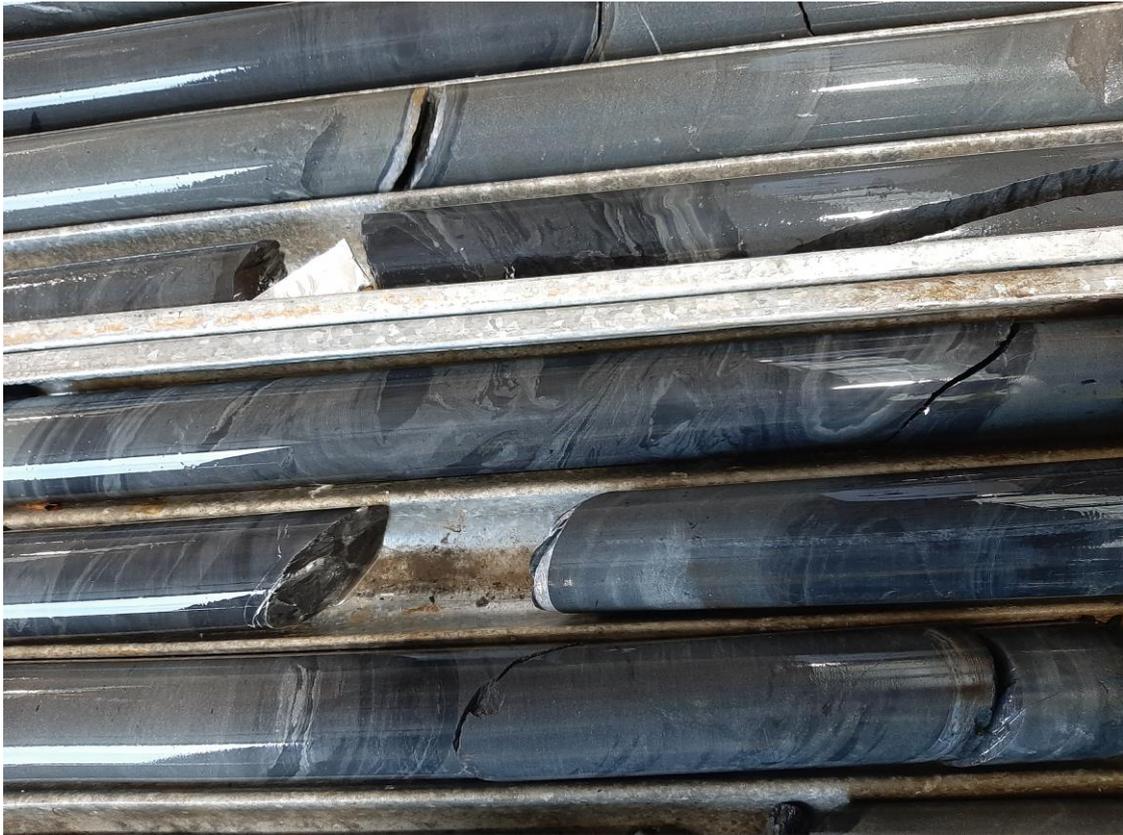


Figure 2: Chaotic bedding in silts and fine sandstone at 470m in DRG003DDH2020 showing possible soft sediment deformation.



Figure 3: Deformation of siltstone at 519m in DRG003 showing two fold axes.

clots. Rare pyritic infill of fine tension gashes within black silts was also noted. Other sulfides noted during logging are arsenopyrite and chalcopyrite, which were noted only in highly veined/silicified zones such as the breccia zone at 160m.

Veining within Retreat Formation rocks is dominated by quartz-chlorite, accompanied by quartz-carbonate veining. As shown in Figure 4, there are at least two generations of quartz-chlorite veining, with mineralisation appearing to be concentrated in the second, more chloritic generation.

Quartz and quartz-carbonate veining appear to be of the same generation, and typically cut quartz-chlorite veins, while quartz-illite and illite veining is less frequent, but appear to be post mineralisation features.

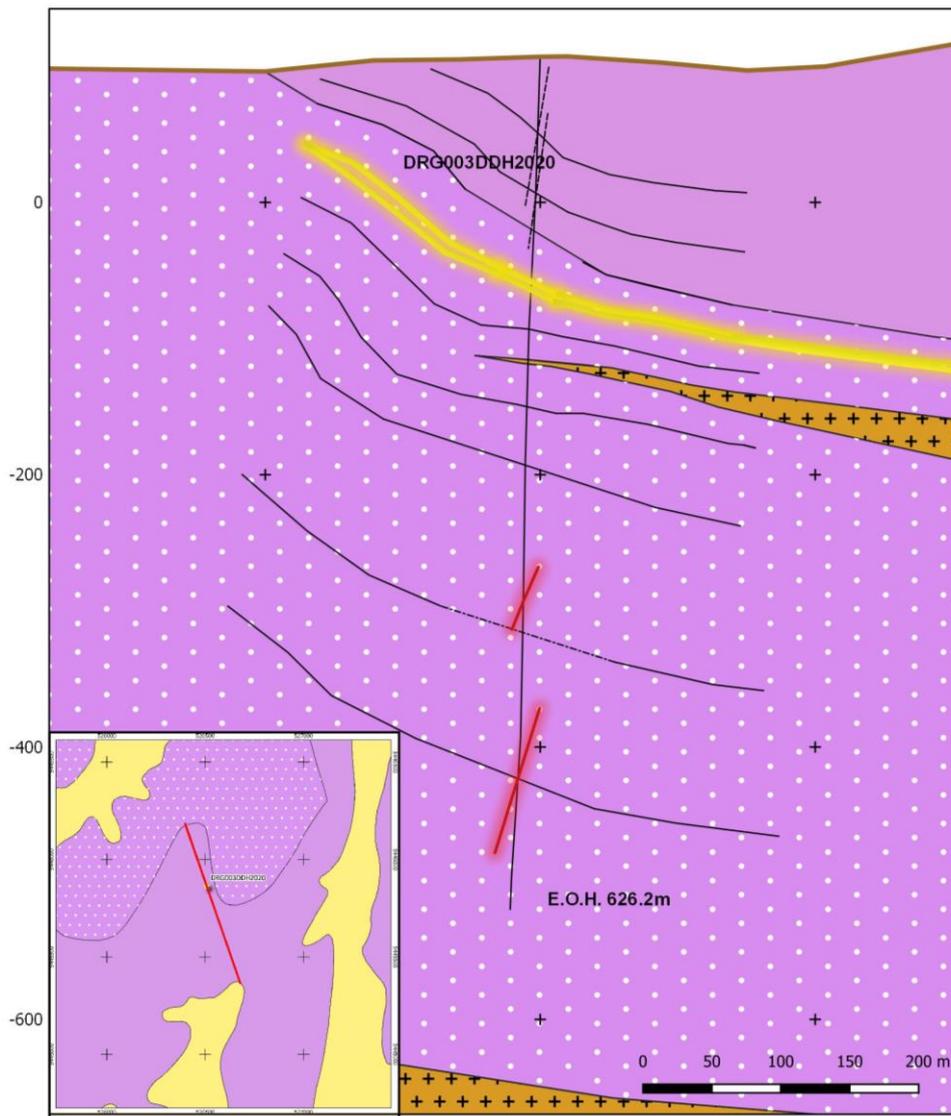
The most common structural features noted are poorly to moderately developed graphitic shear along bedding planes within siltstone units in the Retreat Formation. Generally, there does not appear to have been significant movement along these features, although occasionally these planes have been filled with veins that contain small angular fragments of wallrock. Aside from the breccia zones, crenulations and jointing mentioned above, other fractures do not appear to be systematic, and are commonly coated with illite±quartz. These are thought to be late structures which post-date mineralisation.

Figure 5 shows a section of the hole, including features such as contact zones, bedding, cleavage and vein trends, and intrusive bodies, with an inferred depth of approximately -600m to the main granite. The section only attempts to show overall trends, and does not detail local features such as small tight to isoclinal folding.



Figure 4: Multiple generations of quartz-chlorite veining within Retreat Formation sandstones in DRG003 at 417.5m. White quartz-chlorite veins appear to have been cut by finer veins with increased chlorite content and sulfide.

### Interpretive Drillhole Section - DRG003DDH2020



- | East_Denison_DRG003_lines |          | East_Denison_DRG003 Geology |                     |
|---------------------------|----------|-----------------------------|---------------------|
| —                         | Bedding  | ■                           | Lone Star Siltstone |
| ■                         | Breccia  | ■                           | Retreat Formation   |
| - - -                     | Cleavage | ■                           | Granite             |
| - · - · -                 | Fault    |                             |                     |
| —                         | Surface  |                             |                     |
| ■                         | Vein     |                             |                     |

Figure 5: Interpretive section for DRG003, showing selected features including bedding trends, major breccia zone, intrusives and veining and cleavage trends.

## Results

A total of 123 half-core samples were selectively taken and submitted to ALS Geochemistry for analysis using Au-AA25 (ore grade Au 30g FA with AA finish). A maximum value of 0.2ppm Au was obtained for 163-164m, located near the top of a strongly silicified breccia zone with partial sulfide replacement of clasts. Four other samples from this zone represent the only samples assaying at over 0.1ppm Au, with results for this zone averaging 0.11ppm Au over 9m.

No other samples returned assays considered anomalous.

Elevated results are summarised below in Table 2, with complete assay results provided in Appendix 4.

Table 2: Selected assay results from DRG003.

Hole	Sample	From	To	Au_ppm
DRG-003	DRG1016	163	164	0.2
DRG-003	DRG1015	162	163	0.16
DRG-003	DRG1012	158	159	0.14
DRG-003	DRG1017	164	165	0.13
DRG-003	DRG1011	157	158	0.11
DRG-003	DRG1066	202	203	0.09
DRG-003	DRG1007	150	152	0.08
DRG-003	DRG1013	159	160	0.07

## Drill Core Storage

Drill core was stacked on pallets and delivered to the MRT Mornington Core Library for permanent storage on May 21, 2021.

## Site Rehabilitation

Upon drillhole completion and removal of the drill from site, the drill sump was filled in and the drill pad rehabilitated. Due to the relatively flat nature of the area, minimal contouring was required, with available coarse woody debris laid over the site to protect against erosion. Prior to drill pad preparation, soil development in the area was very poor, in part due to disturbance by historic logging activity. Figures 6 & 7 below show the site shortly after rehabilitation works. The site will be monitored for revegetation progress for the duration of the licence period.



Figure 6: Reclaimed drill pad for DRG003DDH2020 showing capped drill collar in foreground and location of filled sump in front of log. Undisturbed ground around base of trees on right demonstrates poor soil development.



Figure 7: Reclaimed drill pad for DRG003DDH2020 showing location of reclaimed drill sump.

## Conclusions and Recommendations

DRG003 was drilled to test the potential for economic gold at depth within the turbidites of the Mathinna Supergroup, which are analogous to sediments in the eastern part of the Victorian goldfields. Although there are numerous RC holes, no previous diamond drillholes are known in the area, and no drilling has attempted to test for mineralisation at depths greater than 140m.

A strongly silicified breccia zone with sulfide replacement of clasts at 160m depth assayed at up to 0.2ppm Au, with an average grade of 0.11ppm Au from 157 to 166m, representing a zone of high interest considered worth further testing with oriented core. Other zones with elevated gold also coincide with increased silicification, with sulfide content throughout the hole showing a strong association with quartz-chlorite veining.

While interpretation is difficult given the lack of orientation data, additional drilling is recommended to the north, with an angled hole testing the breccia zone for elevated Au, and continuing a depth to further test for the presence of a granitic intrusive. Oriented core will allow for interpretation of structural trends vital to understanding the history of deformation and assist with targeting specific structures for exploration.

## References

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