Bennelongia Environmental Consultants

Ministers North

Subterranean Fauna Survey

Prepared for:

BHP WAIO

June 2018

Final Report

Short-Range Endemics | Subterranean Fauna

Waterbirds | Wetlands

Ministers North Subterranean Fauna Survey

Bennelongia Pty Ltd
5 Bishop Street
Jolimont WA 6014

P: (08) 9285 8722
F: (08) 9285 8811
E: info@bennelongia.com.au

ABN: 55 124 110 167

Report Number: 326
BEC17-01-C01a

Report Version	Prepared by	Reviewed by	Submitted to Client	
			Method	Date
Draft	Michael Curran	Stuart Halse	email	29 November 2018
Review		Tanya Carroll	Email	4 April 2019
Final	Michael Curran	Stuart Halse	Email	30 April 2019
Review		Tanya Carroll	Email	1 May 2019
Final V2	Michael Curran	Stuart Halse	Email	7 June 2019

K:\Projects\B_BHPBIO_79 Min North\5_Report\Draft\Comments\Rev2\Comments\BEC Ministers North Subfauna Baseline Final 7vi19.docx

EXECUTIVE SUMMARY

BHP Western Australia Iron Ore (BHP WAIO) is investigating the potential development of the Ministers North tenement. Ministers North is located 90 km north-west of Newman in the Pilbara region of Western Australia and 11 km south of BHP WAIO's Yandi mine.

Baseline surveys were conducted at Ministers North in 2009 and 2010 by Subterranean Ecology and by Bennelongia in 2017 and 2018. Sample effort for these surveys totalled 56 samples for stygofauna (mostly collected by Subterranean Ecology) and 234 samples for troglofauna.

In total, 47 stygofaunal animals belonging to seven species and 386 troglofaunal animals belonging to 39 species were collected from Ministers North and its immediate surrounds. The stygofauna community consisted of a nematode, oligochaetes, a copepod and an amphipod. The troglofaunal community was diverse, with 13 higher level groups represented.

The geology of the Ministers North tenement is structurally simple and characterised by folds with no significant faults. The hinge of the Wirriba Anticline runs part way through the centre of the tenement in a northwest-southeast orientation. The watertable is deep, except in the southeast of the tenement, and the tenement mostly appears to be unprospective for stygofauna from a geological perspective. In agreement with this conclusion, sampling revealed a depauperate stygofauna community. The four oligochaete species collected are known only from Ministers North but the stygal status of the three enchytraeid worm species is open to doubt, as they were collected from holes that do not intersect the water table. We treat them as amphibious subterranean species. The aquifer along Yandicoogina Creek (southeast of the tenement), which was not sampled because no holes were available, may be more prospective for stygofauna than the parts of the tenement that were sampled.

The hardcap layer at Ministers North appears to provide the most widespread suitable habitat for troglofauna. The troglofauna community in the tenement and its immediate surrounds is relatively rich in relation to the size of the tenement. While the number of species collected was substantially fewer than at Mining Area C (to the south), substantially more species were recorded at Ministers North than at other deposits surveyed in this partn of the Hamersley Province (Jinidi, Phils Creek, Marillana, Koodaideri, Hope Downs). Most species of troglofauna at Ministers North (not including singletons) appear to occur throughout the tenement irrespective of the type of geology, folds or faults and the anticline. However, as is typical of troglofauna in the Pilbara, a considerable proportion of the species collected are currently only known from this tenement and its immediate vicinity. The potentially restricted species comprise:

Arachnids
- Spiders – 5 species;
- Opiliones – 1 species;
- Palpigrads – 2 species;
- Pseudoscorpions – 1 species;
- Schizomids – 4 species;

Crustaceans
- Isopods – 2 species;

Myriapods
- Centipedes – 2 species;
- Millipedes – 1 species;
- Pauropods – 2 species;

Insects
- Symphylans – 2 species;
- Cockroaches – 1 species;
- Beetles – 6 species;
- Bug – 1 species
- Silverfish – 1 species.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

BHP Western Australia Iron Ore (BHP WAIO) is investigating the potential development of the Ministers North tenement (Ministers North or the 'tenement'). Ministers North is located 90 km north-west of Newman in the Pilbara region of Western Australia and 11 km south of BHP WAIO's Yandi mine.

Troglofauna and stygofauna surveys were conducted at Ministers North in 2009 and 2010 by Subterranean Ecology (2010) as part of BHP's Regional Subterranean Fauna Sampling Program (RSFSP), which began in November 2007 (Figure 1 and Figure 2). In 2017 and 2018, BHP WAIO commissioned additional baseline studies to provide further information about the subterranean fauna of Ministers North and to meet current Environmental Protection Authority (EPA) guidelines. The following report provides the results of both the 2009-2010 and the 2016-2017 surveys to provide a comprehensive summary of the baseline information about the subterranean fauna at Ministers North.

2. GEOLOGY OF MINISTERS NORTH

The Ministers North tenement lies north of a small ridge in the Hamersley Range. The tenement is associated with the Wirriba Anticline, which is a convex, sub-surface geological fold. The oldest geology in the fold, which occurs at depth, is the Mt Sylvia Formation and the youngest is the Weeli Wolli Formation, which is exposed in the northern part of the tenement ((Thompson 2017)). Surface geology is mapped in Figure 3.

Most of the tenement is covered by a layer of hardcap that is about 20 m thick. There is detrital cover above the southern side of the anticline, this is more extensive in the large valley to the east of the anticline and tenement, where there is also a small amount of channel iron deposit material. Mineralised ore occurs on both the north and south sides of the anticline in Joffre and Dales Gorge Members of the Brockman Formation, above the Mt Sylvia and Mt McRae Shale Formations ((Thompson 2017)).

A small area of carbonate-rich turbidite occurs at the tenement and lies between two of the four Mt McRae Shale subunits, representing an area of ocean current when the Mt McRae Shale Formation was being laid down. There is a small 500 m dolerite dyke situated in the upper west area of the tenement and three larger dykes on the fringes of the southern and southwestern extents of the tenement. The tenement itself is a structurally simple and has no significant faults. The fault to the north east of the tenement (Figure 4) is seen at the surface and is likely to be a result of the rotation of the Wirriba fold hinge to a NW-SE orientation ((Thompson 2017)).

3. HYDROGEOLOGY OF MINISTERS NORTH

A conceptual hydrogeological model of Ministers North has been prepared by BHP. The dominant regional aquifer system beneath Ministers North lies within the bedrock Dales Gorge Formation ((Cywinksi-Jan and Sanders 2017)). Sections of the Whaleback Shale and Joffre Member yielded small amounts of water (likely from fractures in brittle zones). Survey of the deposit in 2017 recorded the water from 40 to 153 mbgl ((Cywinksi-Jan and Sanders 2017)). The water table across Ministers North is very flat despite topographic variability and there is some evidence that groundwater flow in the Dales Gorge and Joffre members is not sympathetic to surface topography because the Brockman Ridge, comprised of low permeability Mt McRae Shale, constrains groundwater flow ((Cywinksi-Jan and Sanders 2017)).

A

Port Hedland

Goldsworthy Mining Area

Shay Gap

Nimingarra

Sunrise Hill

Yarrie Ridge

Cundaline

Callawa

20°0'0"S

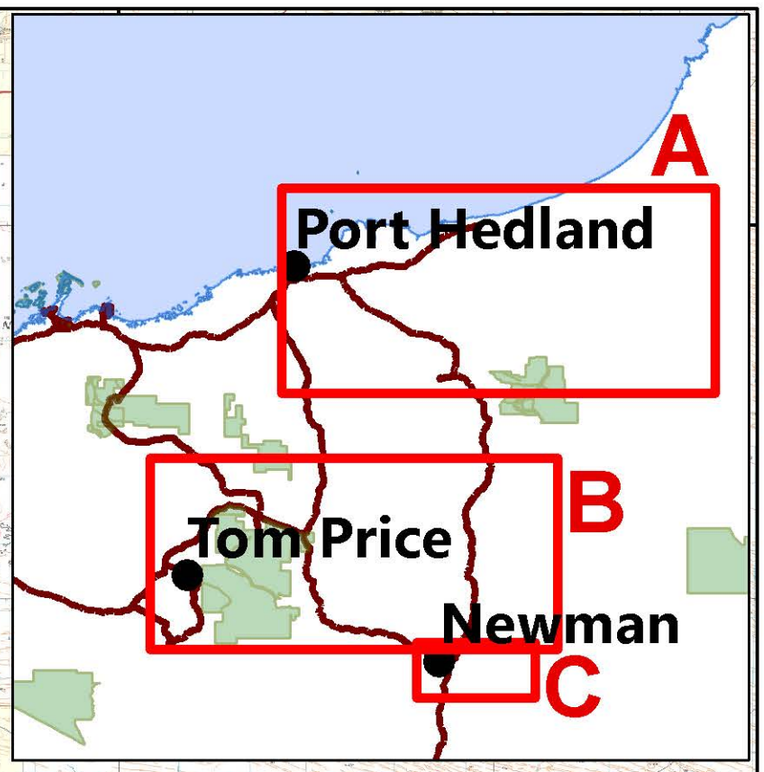
119°0'0"E

120°0'0"E

121°0'0"

0 12.5 25 50 75

Km



B

Hillside Station

North Shaw

Karijini National Park

Fortescue Marsh

Upper Marillana

Yandi

Mindy

Munjina

Mining Area C

Lower Weeli Wolli / Marillana

Ministers North

Wildflower Mountain

Camp Hill

Boundary Ridge

Alligator Jaws

South Flank

Jinidi

Rhodes Ridge

Tom Price

Legend

Sampling Area

River

Road

Ministers North tenement

BHPB Tenement

0 12.5 25 50 75

Km

C

Orebody 24

Homestead

Orebody 21/22

Orebody 31

Orebody 32 East

Orebody 23

Orebody 17

Orebody 19

Orebody 34

Jimblebar East

Orebody 30

Newman 25

Orebody 39

Orebody 18

Wheelarra Hill

Hashimoto

Orebody 29

Jimblebar

Caramulla

Western Ridge

Orebody 35

Jimblebar West

Jimblebar South

Sylvania Station

23°20'0"S

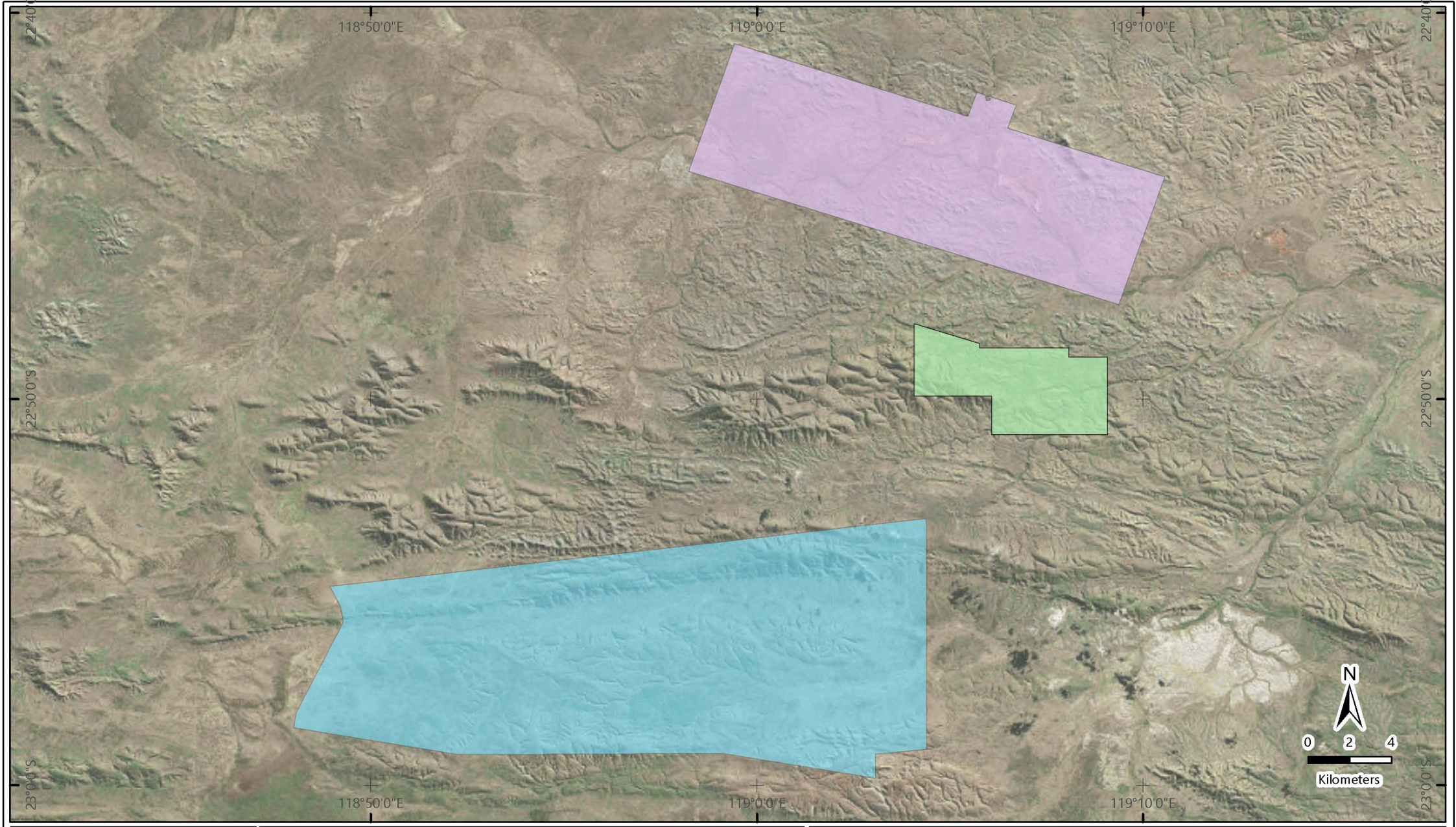
119°40'0"E

120°0'0"E

Bennelongia Environmental Consultants

0 3.75 7.5 15 22.5

Km



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 7/06/2019

Legend

- Ministers North tenement
- Yandi
- Mining Area C

Figure 2. The Ministers North tenement and nearby BHP development envelopes.

4. METHODS

The subterranean fauna surveys reported here were conducted according to the general principles laid out for subterranean fauna sampling by the EPA. Sampling in 2009-2010 by Subterranean Ecology (2010) followed Guidance Statements 54 and 54a ((EPA 2003, 2007)). Sampling by Bennelongia in 2017-2018 followed Technical Guidance – subterranean fauna survey ((EPA 2016c)), Technical Guidance – sampling methods for subterranean fauna ((EPA 2016b)), and the Environmental Factor Guideline – subterranean fauna ((EPA 2016a)).

4.1. Sampling Effort

Two rounds of sampling were undertaken in 2009-2010 by Subterranean Ecology (2010). In total, 127 scrape and 92 litter-trap samples were collected for troglofauna from 51 drill holes. This is equivalent to a sampling effort for troglofauna of 109.5 samples. Scraping and setting traps was undertaken between February 2009 and April 2010. In addition, 42 samples were collected for stygofauna from 16 drill holes during the same period (Table 1). A full list of holes sampled is provided in Appendix 8.2 and Appendix 8.3.

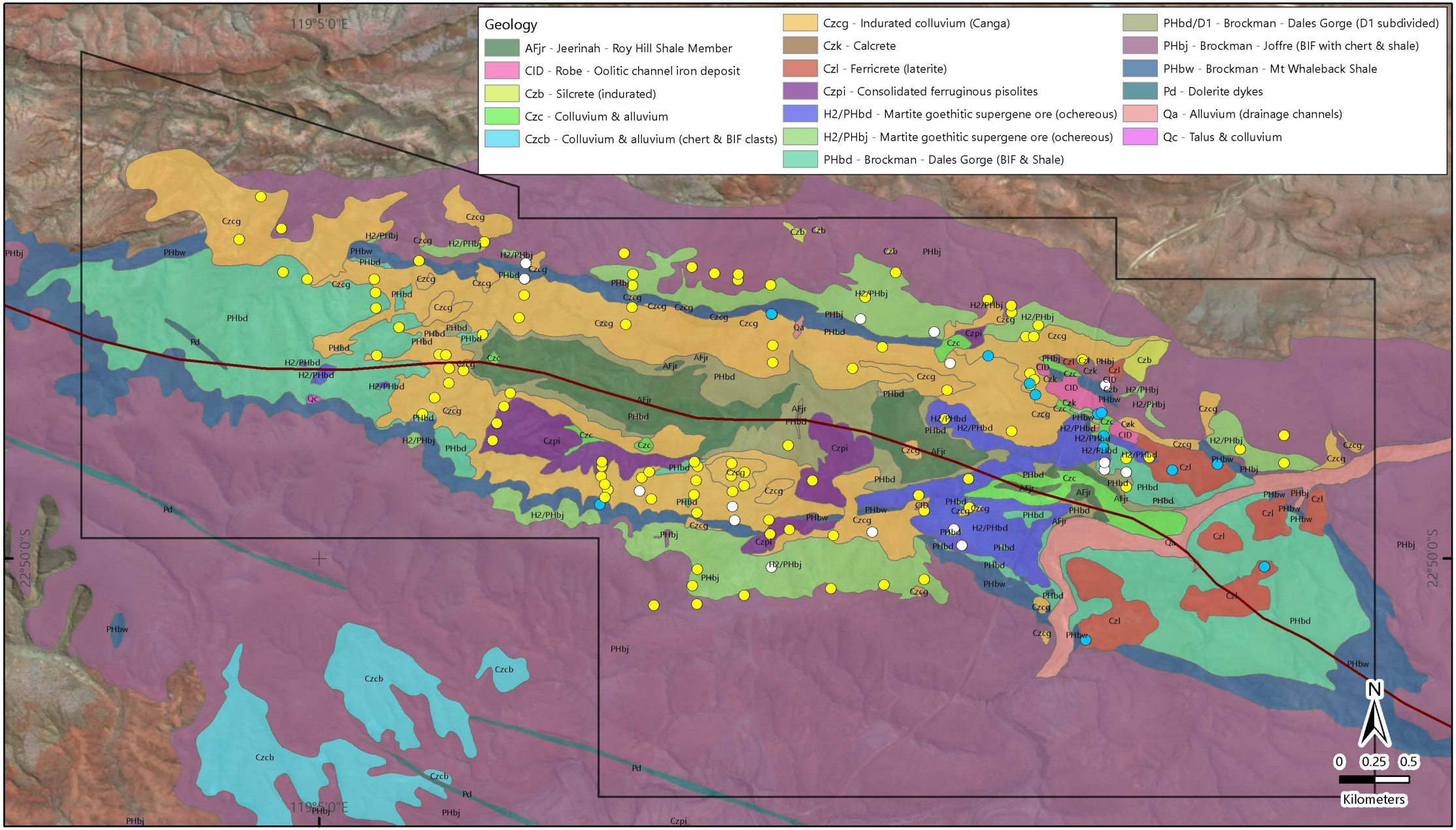
Samples collected by Bennelongia in 2017-2018 comprised 124.5 troglofauna samples from 66 drill holes and 14 stygofauna samples from 14 drill holes (Table 1, Figure 5). The 124.5 troglofauna samples comprised 123 scrape and 126 trap samples, with 24 of the trap samples being based on the collecting results from two traps. Sampling occurred between October 2017 and May 2018 (Table 1). A full list of holes sampled is provided in Appendix 8.2 and Appendix 8.3.

Table 1. Summary of subterranean fauna sampling at Ministers North by Subterranean Ecology (2010) and Bennelongia.
S trap = single trap, D trap = double trap. *Note that a scrape or trap alone is half or 0.5 of a sample and the number of troglofauna samples collected was calculated as samples = (no. of scrape + no. of S trap or no. of D trap) / 2.

	Stygofauna	Troglofauna			
Round	**net**	**Scrape**	**S Trap**	**D Trap**	**Samples***
1. 2009 (Feb - May)	26	52	46		**49**
2. 2010 (Feb to Apr)	16	75	46		**60.5**
3. 2017 (Oct to Dec)	14	58	45	15	**59**
4. 2018 (Mar to May)		65	57	9	**65.5**
Total	**56**	**250**	**194**	**24**	**234**

Across all the sampling between 2009 and 2018, the mapped surface geology in which most sampling occurred was canga, followed by martite goethite (Dales Gorge Member), various BIF-shale units and pisolite (Table 2). The selection of holes to be sampled was predominantly based on site availability, although there was also an attempt to spread sampling effort across the tenement, so that most geologies present at Ministers North ended up being sampled, except for the categories Czc (colluvium and alluvium) and AFjr (Jeerinah Roy Hill Shale) (see Figure 3).

Depth to water table was 15 - 140 m below ground level (mbgl), with an average depth of 61.5 ± 30.7 m. The water table was shallowest in the eastern part of the tenement, where elevation was reduced near the creek.



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 23/05/2019

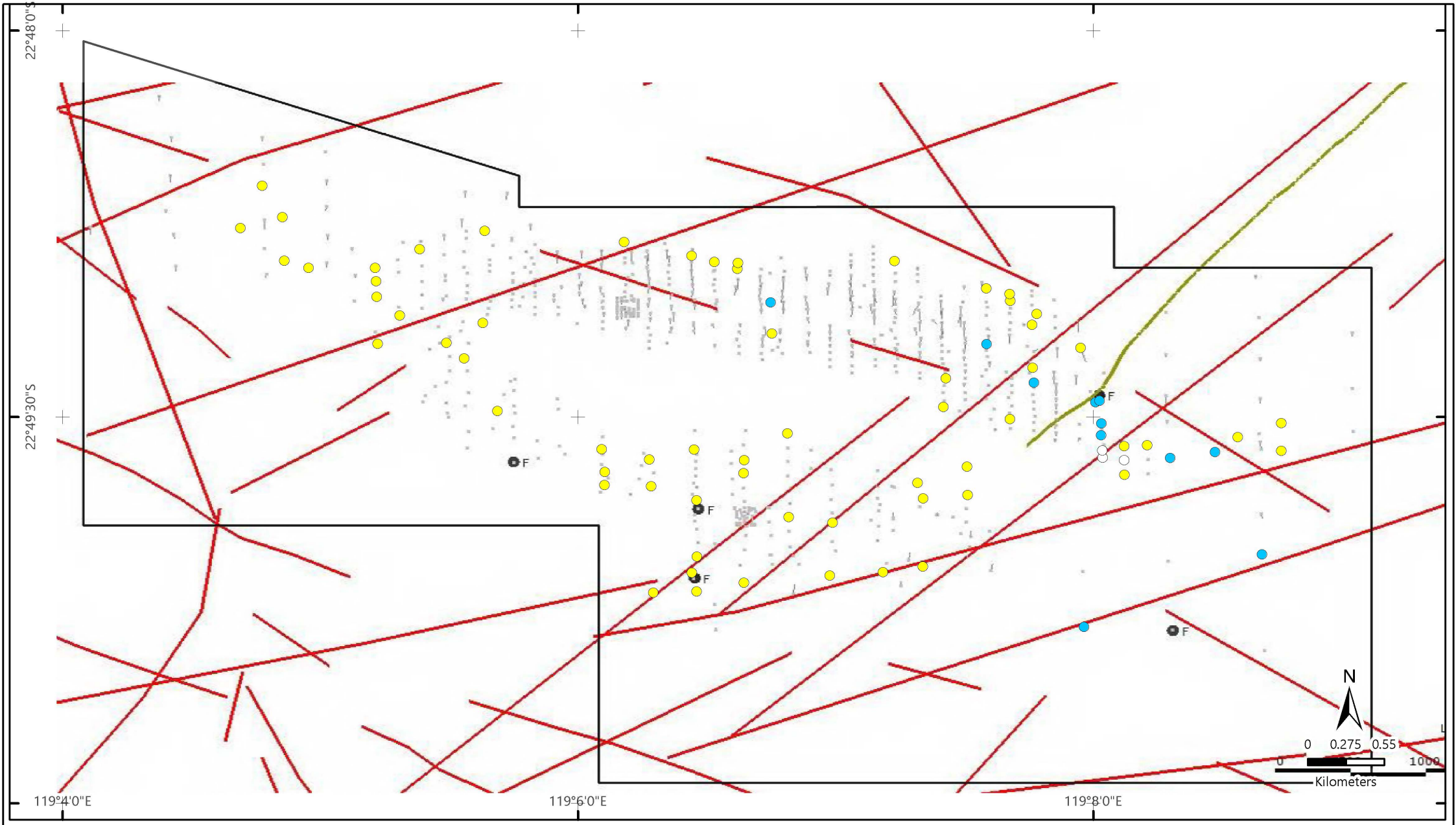
Legend

Sampled for:
- Stygofauna
- Troglofauna
- Both Groups

Wirriba Anticline

Ministers North tenement

Figure 3. Surface geology mapped at 1:10,000 scale and locations of subterranean fauna samples collected by Subterranean Ecology and Bennelongia.



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 30/04/2019

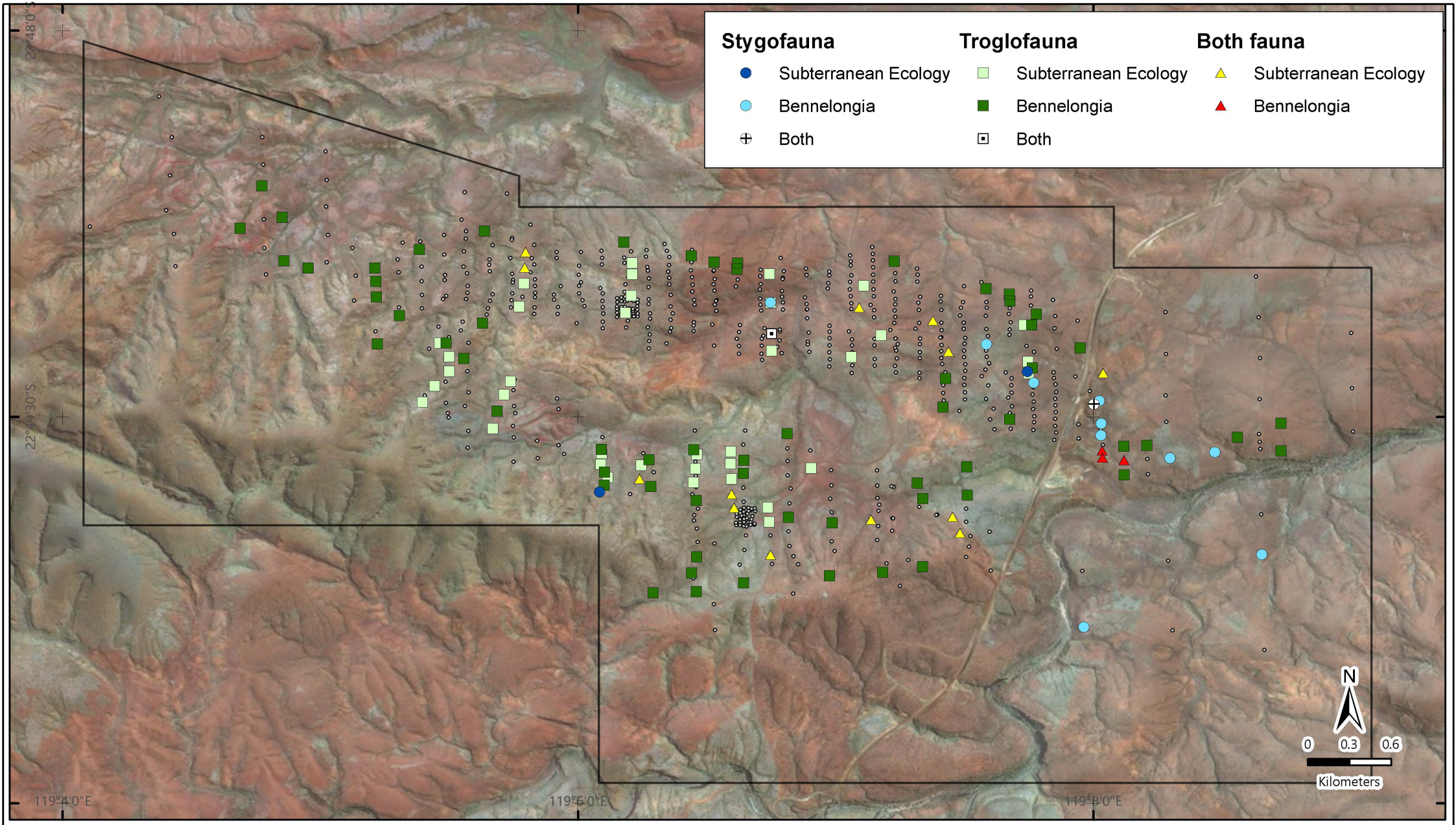
Legend

Sampled for:

- Stygofauna
- Troglofauna
- Both

Ministers North tenement

Figure 4. Locations of inferred and modelled faults (Thompson 2017) and subterranean fauna samples (collected by Subterranean Ecology and Bennelongia).



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 30/04/2019

Legend

- Ministers North tenement
- Holes not sampled

Figure 5. Subterranean fauna samples by targeted group and collector.

Table 2. The geologies sampled at Ministers North (1:10,000 mapping, supplied by BHP).

Geology	Prospective for subterranean fauna	No. of individual samples		
		Stygofauna	Troglofauna	Total
Canga (Indurated colluvium)	Yes	19	214	233
Martite goethite ore	Yes	9	81	90
BIF & Shale (Brockman-Dales Gorge)	Yes	7	58	65
BIF with chert & shale, mostly hardcapped (Brockman-Joffre)	Yes	4	57	61
Consolidated Ferruginous Pisolite	Yes		45	45
Young Mt Whaleback Shale	No	5	6	11
Silcrete (indurated)	No	1	5	6
Tertiary Detritals - CID	Yes	6		6
Tertiary Detritals - Ferricrete (laterite)	Yes	4	2	6
Tertiary Detritals - Colluvium & alluvium	Yes	1		1
	Total	**56**	**468**	**524**

4.2. Field Methods

Troglofauna samples were collected from vertical, uncased drill holes using two collecting techniques. Both methods were applied in each drill hole in 2017-2018 and at most drill holes in 2009-2010:

1. *Trapping*. Custom made cylindrical PVC traps (entrance holes side and top) were used for trapping. Traps were baited with moist leaf litter (sterilised by microwaving) and lowered on nylon cord to the depths at which they were set. In every fourth hole two traps were set (one 'shallow' and one 'deep'). Holes were sealed while traps were set to minimise the ingress of surface invertebrates. Traps were retrieved after eight weeks and their contents (bait and captured fauna) were emptied into a zip-lock bag and road-freighted to the laboratory in Perth.

   The average depth of troglofauna traps in 2017-2018, including when two traps were set in a hole, was 24.9 ± 13.8 mbgl (range of 5 to 80 mbgl). In general, single traps were set at about 30 mbgl.

2. *Scraping*. Scrapes were collected immediately prior to setting traps. A troglofauna net (weighted ring net, 150 micrometre (µm) screen, various apertures according to diameter of the hole) was lowered to the bottom of the hole, or to the watertable, and scraped back to the surface along the walls of the hole. Each scrape comprised four sequences of lowering and retrieving with the aim of scraping all troglofauna present on the walls of the hole into the net. After each scrape, the contents of the net were transferred to a 125 millilitres (ml) vial and preserved in 100% ethanol.

Stygofauna were sampled at each hole using weighted, plankton nets. Six hauls were taken: three using a 50 µm mesh net and three with a 150 µm mesh net. The net was lowered to the bottom of the hole and jerked up and down briefly to agitate benthic stygofauna into the water column and then slowly retrieved. Contents of the net were transferred to a 125 ml polycarbonate vial after each haul and preserved in 100% ethanol, with vials kept on ice (below 4°C). Nets were washed between holes to minimise site-to-site contamination.

4.3. Laboratory Methods

In the laboratory, scrape and net samples were elutriated to separate out heavy sediment particles and sieved into size fractions using 250, 90 and 53 µm screens. All samples were sorted under a dissecting microscope and specimens identified to species where possible using available keys and species descriptions. When necessary for identification, animals were dissected and examined under a

compound microscope. If subterranean fauna did not represent a described species, they were identified to species/morphospecies using characters from species keys.

After troglofauna trap samples were delivered to the laboratory, animals were extracted from traps by placing the leaf litter bait substrate in Tullgren® funnels under incandescent lamps. The light and heat drive the troglofauna and other invertebrates out of the litter into the base of the funnel, which contains 100% ethanol (preservative). After 72 hours the ethanol and its contents were removed and sorted under a dissecting microscope. Litter from each funnel was also examined under a microscope for any remaining live or dead animals.

All fauna picked from scrape, net or trap samples were examined for troglo- or stygomorphic characteristics (reduced eyes and pigmentation, well developed sensory organs, slender appendages, vermiform body shape). Surface and soil-dwelling animals were identified only to Order level. Subterranean fauna were, as far as possible, identified to species or morphospecies level, unless damaged, juvenile or the wrong sex for identification. Specimens were identified and dissected as necessary under dissecting and/or compound microscopes.

4.3.1. DNA sequencing

In 2009-2010, DNA sequencing was undertaken on 24 animals to provide identifications. The results and brief summaries of methods are provided in reports by Dr Terrie Finston as appendices in Subterranean Biology (2010).

In 2017-2018, DNA sequencing was undertaken on 40 animals to confirm morphological identifications (Appendix 8.1). Either legs or whole animals (depending on their size) were transferred directly into ATL buffer and proteinase K after confirming species identifications morphologically. DNA was extracted using a Qiagen DNeasy Blood & Tissue kit ((Qiagen 2006)). Elute volumes varied from 40 µL to 180 µL depending on age, condition and quantity of material. PCR amplifications of the MT-CO1 gene were attempted with three standard primers in the following configurations - LCO1490:HCO2198, C1-J-1718:HCO2198 and C1-J-1718:HCOoutout ((Folmer et al. 1994)), 12S gene - SR-J-14199:SR-N-14594 ((Kambhampati and Smith 1995)), and for only for the arachnids, ITS1-2 gene - 18S_9r_f:28S2 ((Rix et al. 2017)). Dual-direction, sanger sequencing was undertaken for all PCR product by the Australian Genome Research Facility (AGRF). Sequences were edited and aligned in Geneious ((Kearse et al. 2012)) using default parameters. To test that the amplified sequences were the target DNA, sequences were translated into proteins and checked for the presence of stop codons. Outputs from Geneious were transferred to MEGA-X where genetic distances and phylogenetic trees were calculated using the model to Tamura-Nei model and all other parameters on default ((Kumar et al. 2018)). For large datasets (schizomids), Bayesian analysis was used to construct the phylogenetic tree using MrBayes on default parameters ((Ronquist and Huelsenbeck 2003)). Genetic distances between unique genetic sequences (haplotypes) were measured using uncorrected p-distances (total percentage of nucleotide differences between sequences). To provide a framework for assessing intra- and interspecific variation, as well as to examine levels of differentiation among individuals within described species across their geographic ranges, available sequences on GenBank and in grey literature, were included in phylogenetic analysis.

4.3.2. Compiling species lists

In several cases, subterranean animals could not be identified to species level because they were damaged, juvenile or the wrong sex for species determination. These higher level (i.e. above species level) identifications were included in calculations of the number of species present only if the specimens could not belong to a species already recorded (e.g. *Nocticola* sp. was not included as an additional species because the genus *Nocticola* was already represented by *Nocticola* `BLA003`). The list of higher order specimens is presented in Appendix 8.4.

4.4. Personnel

The report by Subterranean Ecology covering the 2009 and 2010 fieldwork was written by Shae Callan, Guilia Perina and Natasha Coen and checked by Stefan Eberhard. Most of the identifications were made by Guilia Perina. The staff who did the fieldwork were not identified in the report.

Fieldwork in 2017 and 2018 was conducted by Michael Curran, Jim Cocking and Mike Scanlon. Sample sorting was done by Jane McRae, Jim Cocking and Mike Scanlon. Morphological identifications were made by Jane McRae, with assistance using molecular work and analyses by Michael Curran.

This report was written by Michael Curran and checked by Stuart Halse.

5. RESULTS

A list of all animals collected at Ministers North is provided in Appendix 8.6.

5.1. 2009-2010 Surveys

According to Subterranean Ecology (2010), no stygofauna were collected in 2009-2010. However, the associated records in BHP's database show that 210 oligochaetes and two nematodes were collected that could possibly be treated as stygofaunal, although they were collected in traps above the water table. One of the oligochaetes was provided by Subterranean Ecology to a genetic study of stygofaunal worms and sequenced as Enchytraeidae E6-09 (Brown et al. 2015).

For the purposes of baseline information, it is assumed here that two stygofaunal nematodes (which are not included in environmental impact assessments) and one stygofaunal worm of the species Enchytraeidae E6-09 were recorded in the 2009-2010 surveys (Table 3), with a further 209 worms that might be stygofaunal also collected (Appendix 8.4).

Troglofauna surveys collected 2,233 surface invertebrates and 92 troglofauna specimens. The troglofauna belonged to 24 species of four major subphyla (Table 4). Ninety-eight animals could not be identified to species level because they were damaged or juvenile (Appendix 8.4).

5.2. 2017-2018 Surveys

Stygofauna surveys in 2017-2018 collected 44 specimens belonging to five species (Table 3). Troglofauna surveys collected 22,270 surface invertebrates and 294 troglofauna specimens belonging to 27 species (Table 4).

5.3. Combined Results

The taxonomy of animals collected in 2009-2010 could not be fully resolved or aligned with the results from 2017-2018 (partly because animals could not be located). Consequently, there is some doubt about the exact numbers of species collected, especially for troglofauna. However, it appears likely that seven stygofauna and 39 troglofauna species have been collected from Ministers North.

Most species were collected in low abundance and a third of them were recorded as singletons. Three troglofauna species were collected in high abundance: Sciaridae sp. B01, *Nocticola* sp. B36 and *Lophoturus madecassus* (Table 4).

Troglofauna samples yielded an average of 0.49 species and 1.97 animals per sample. Stygofauna samples yielded only 0.07 species and 0.96 animals per sample.

5.3.1. Stygofauna

Very low diversity and relatively low abundance of stygofauna were recorded at Ministers North (seven species from 47 animals, Table 3 and Figure 6), with a further possible 209 stygofaunal worms identified only to higher level. These results suggest that generally the tenement is not prospective for stygofauna.

Ignoring nematodes (for which there is no taxonomic framework), all four worm species recorded at Ministers North are known only from this area.

Stygofaunal oligochaetes are common across the Pilbara and appear to be quite speciose. While some of these species may have short ranges, a more refined taxonomic framework than currently exists is required to determine species ranges with confidence. At present species' ranges appear to larger than the likely scale of mine impacts ((Brown et al. 2015)). A further complication is that, based on current information, it is difficult to determine whether enchytraeids are stygofauna, amphibious species occurring around the watertable, or troglofauna. In fact, there is also difficulty distinguishing surface species that have fallen into drill holes from subterranean species. The three enchytraeid species at Ministers North are tentatively classified as amphibious subterranean species based on their collection underground and the observation by Des Châtelliers et al. (2009) that enchtraeids commonly occur at the boundary between aquatic and terrestrial habitats.

An amphipod (Paramelitidae Genus 2 sp. B21 (=S06)) and a copepod (*Diacyclops humphreysi humphreysi)* were collected on the edge of Yandicoogina Creek. No samples could be collected from the creekline and associated palaeovalley because no holes were available to sample. Nevertheless, the collection of stygofauna close to the part of the tenement with a shallower watertable (which is therefore more likely to be prospective for stygofauna) suggests that a richer stygofauna community may possibly occur in the southeast of the tenement than would be inferred from the existing species list. However, the two species recorded near the creek have no conservation significance: the copepod is a widespread species and the amphipod is also known from Yandi.

Table 3. Stygofauna identified to species level at Ministers North in all surveys.

Higher taxonomy	Lowest Identification	Subt. Ecol.	Benn.	Holes	Linear range	Status#	Distribution
Nematoda	Nematoda spp.	2	7	4	n/a	unknown	n/a (higher order)
Oligochaeta							
Enchytraeidae	Enchytraeidae sp. E06-09*	1		1	Singleton	amphibious	New species
	Enchytraeidae sp. E06-B02		2	1	Singleton	amphibious	New species
	Enchytraeidae sp. E06-B03		5	1	Singleton	amphibious	New species
Tubificidae	Tubificidae sp. B09		2	1	Singleton	stygophile?	New species
Arthropoda							
Crustacea							
Amphipoda							
Paramelitidae	Paramelitidae Genus 2 sp. B21 (=S06)		15	1	24 km	stygobite	Ministers North and Yandi
Copepoda							
Cyclopidae	*Diacyclops humphreysi humphreysi*		13	1	1060 km	stygobite	Pilbara, few records in Goldfields and Gascoyne, probably a species complex

status as subterranean fauna; the amphibious species considered to be subterranean; * (Brown et al. 2015).

5.3.2. Troglofauna

Almost 26,000 invertebrates were collected during the troglofauna surveys, but only 1.8% of these were troglofaunal. In total, 461 animals and 39 species of troglofauna were recorded. Thirteen troglofaunal animals were collected as by-catch in stygofauna net samples.

Most species (31 of 39) are known to date only from Ministers North. Eight species appear to have been previously recorded from other parts of the Pilbara (or even more widely), although one of the species in this category –*Dodecastyla* sp. B02 (=*Atelurodes* sp. S02) – is probably a species complex, based on preliminary genetic work and the animals at Ministers North may actually belong a species known only from the survey area. Another species, Diplura sp., could not be identified beyond order and a range could not be assigned to it.

As already indicated, there is uncertainty regarding some species identifications. In particular, the two species of pauropods at Ministers North are possibly conspecific but Pauropoda sp. S04 could not be located by museum staff preventing morphological comparison. Further work is needed to determine whether *Draculoides* sp. B60 (SCH030 complex) is conspecific with another from Extensions (15 km north, 8.2% divergence in CO1).

Twenty-five of the 39 species at Ministers North appear to be troglobites, with nine species being difficult to assign to a subterranean-dependence category and five species being troglophiles.

In terms of abundance, insects comprised the bulk of the troglofauna collected (77%), followed by arachnids (13%) (Table 4). The two groups contained near equal numbers of species and together they represented almost three-quarters of the richness recorded at Ministers North. Beetles were the most diverse order with six species, followed by schizomids (5) and spiders (5).

The community of 39 troglofauna species at Ministers North is considered to be moderately rich for the Hamersley Province, with fewer species only than the very large Mining Area C (126 species, 12 schizomid species, (Bennelongia 2016b)). Ministers North had greater overall richness than other nearby deposits that have been surveyed:

- Jinidi (29 species, 1 schizomid species, (Bennelongia 2011));
- Iron Valley (16 species, 1 schizomid species, (Bennelongia 2016a));
- Marillana for BHP (15 species, 1 schizomid species, (Subterranean Ecology 2011));
- Hope Downs (9-11 species, 1 schizomid species, (Biota 2009));
- Marillana for Brockman Resources (7 species, 1 schizomid species, (ecologia 2010));
- Koodaideri (10 species, 5 schizomid species, (Biota 2013, 2012)); and
- Baby Hope Downs (9 species, 6 schizomid species, (Biota 2015)).

Schizomids are a prominent species in well-developed subterranean fauna communities and can also be used as a guide to the significance of an area for subterranean fauna. The diversity of schizomids was high at Ministers North relative to the size of the tenement, with five species being present. Two species (*Draculoides* sp. B52 and B67) were identified through genetics and were represented in samples only by juveniles or females (the genetic tree is presented in Appendix 8.7). *Draculoides* sp. B52 and B67 appear to be related to two other species collected at Lambs Creek (about 20 km west) and one species from the Packsaddle deposit at Mining Area C (about 20 km south-west). *Draculoides* sp. B61 is morphologically identical to *Draculoides* 'SCH030', which is a species that is known from Yandi and Koodaideri, and genetic work confirms they are related, although separate, species. Analysis of nuclear gene sequences (ITS) suggests that *Draculoides* sp. B52 and B67 are conspecific; however, this is difficult to reconcile with a fairly clear barcoding gap in the CO1 gene (inter-divergences of 12.9 – 23.9% compared to intra-divergences of less than 7.3%). There is a stronger likelihood that two other species of *Draculoides* (B62 and B65) are conspecific because, although there is a clearer barcoding gap for CO1 (intra 0.6 – 3.5% and inter 6.7-8.7%), the nuclear sequences are close to identical.

5.4. Higher Level Identification

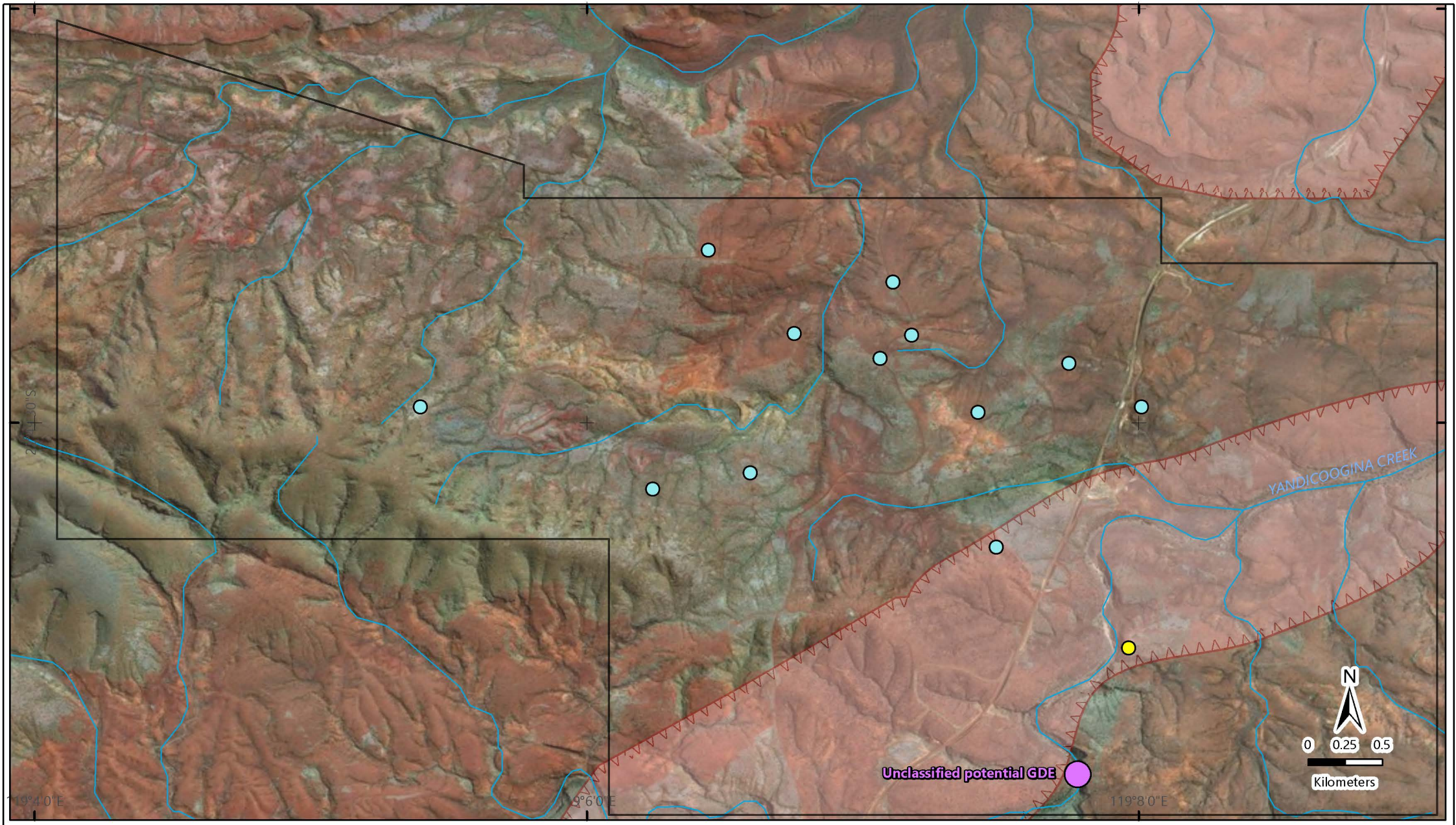
The taxonomic level of some of the troglofauna identifications from 2009-2010 have been changed in this report as a consequence of no related specimens being collected subsequently, or the specimens not being available for morphological work (not lodged or museum could not find), or because the specimens could not be sequenced (owing to age) (see Appendix 8.5). These taxa include:

- Diplura sp. - 4 animals – troglofauna, treated as a species because no other diplurans collected;
- Araneae and Araneomorphae sp. - 3 animals - higher order identifications;
- Enchytraeidae sp. E06 s.l. - 209 animals – possibly stygofauna, higher order identifications;
- Zuphiinae sp. S01 s.l. - 1 animal – troglofauna, higher order identification;
- Pselaphinae sp. S04 - 3 animals – troglofauna, treated as species identification; and
- Pauropoda sp. S04 - 2 animals – troglofauna, treated as species identification.

Table 4. Troglofauna species collected at Ministers North.

Higher Taxonomy	LowestID	Subt. Ecol.	Bennelongia	Holes	Linear Range	Life Status	Distribution and Notes
Chelicerata							
Arachnida							
Araneae							
Gnaphosidae	Gnaphosidae sp. S03	2		2	1 km	troglophile	New species, only known from Ministers North
Linyphiidae	Linyphiidae sp. S01	1		1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
Oonopidae	Oonopidae sp. B19-DNA		1	1	Singleton	troglobite	New species, only known from Ministers North
	Prethopalpus sp. B32	2		2	1.5 km	troglobite	New species, only known from Ministers North
Symphytognathidae	*Anapistula* sp. S01	2		1	Singleton	troglobite	New species, only known from Ministers North
Opiliones							
Assamiidae	*Dampetrus* sp. B05 (nr *isolatus*)		1	1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
Palpigradi	Palpigradi sp. B23		1	1	Singleton	troglobite	New species, only known from Ministers North
	Palpigradi sp. B24	1		1	Singleton	troglobite	New species, only known from Ministers North
Pseudoscorpiones							
Chthoniidae	*Lagynochthonius* sp. B20 (= sp. S04)	7	3	6	3.8 km	troglobite	New species, only known from Ministers North
Schizomida							
Hubbardiidae	*Draculoides* sp. B52		5	4	11 km	troglobite	Known from Ministers North and Wedge Deposit
	Draculoides sp. B61 (SCH030 complex)		2	2	3.3 km	troglobite	New species, only known from Ministers North. Further work may align this with an animal from Extensions (15 km north; 8.2% divergence in CO1)
	Draculoides sp. B62	4	15	11	5.4 km	troglobite	New species, only known from Ministers North, possibly conspecific with B65
	Draculoides sp. B65		4	2	0.33 km	troglobite	New species, only known from Ministers North, possibly conspecific with B62
	Draculoides sp. B67-DNA		4	4	1.3 km	troglobite	New species, only known from Ministers North
Crustacea							
Isopoda							
Armadillidae	*Troglarmadillo* sp. B64 (= sp. S14)	1	6	4	4.8 km	troglobite	New species, only known from Ministers North
	Troglarmadillo sp. B65		2	1	Singleton	troglobite	New species, only known from Ministers North
Myriapoda							
Chilopoda	Chilopoda sp. B01 (Scolopendridae/Cryptopidae)	1		1	Singleton	troglobite	New species, only known from Ministers North
Scolopendridae	Scolopendridae sp. S05	1		1	Singleton	troglobite	New species, only known from Ministers North
Diplopoda							
Polydesmida	Polydesmida sp. B11		1	1	21.5 km	troglobite	Mining Area C, although DNA on this animal failed
Polyxenida	*Lophoturus madecassus*	5	16	9	1100 km	troglophile	Cosmopolitan

Higher Taxonomy	LowestID	Subt. Ecol.	Bennelongia	Holes	Linear Range	Life Status	Distribution and Notes
Spirobolida	Trigoniulidae sp. B06		2	1	Singleton	troglobite	New species, only known from Ministers North
Pauropoda	Pauropodidae `BPU078`		1	1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
	Pauropoda sp. S04	2		2	3.5 km	troglo-phile or -bite	New species, only known from Ministers North. Museum staff could not locate, could be conspecific with Pauropodidae `BPU078`
Symphyla							
Scutigerellidae	*Hanseniella* sp. B42-DNA		1	1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
	Hanseniella sp. B43-DNA		1	1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
Hexapoda							
Diplura	Diplura sp.	4		1	Singleton	troglo-phile or -bite	Higher order identification, museum could not locate.
Blattodea							
Blattidae	Blattidae sp. B06 (= sp. S02)	11	1	7	46 km	troglophile	Central Hamersley (Mining Area C, Ministers North and Jinidi)
Nocticolidae	*Nocticola* sp. B36 (*cockingi* s.l.)	87	26	24	6.8 km	troglobite	New species, only known from Ministers North, 7 km linear range when including higher order animals
Coleoptera	Coleoptera sp. B09		1	1	Singleton	troglobite	New species, only known from Ministers North
Carabidae	Anillini sp. S06	1		1	Singleton	troglobite	New species, only known from Ministers North
	Typhlozuphium sp. B04		1	1	Singleton	troglobite	New species, only known from Ministers North
Curculionidae	Cryptorhynchinae sp. B10	1	2	3	4.0 km	troglobite	New species, only known from Ministers North
	Curculionidae Genus 1 sp. B15 (B02=S02 clade)	4	2	4	5.2 km	troglo-phile or -bite	New species, only known from Ministers North
Staphylinidae	Pselaphinae sp. S04	3		1	Singleton	troglo-phile or -bite	New species, only known from Ministers North
Diptera							
Sciaridae	Sciaridae sp. B01		90	13	490 km	troglophile	Gascoyne and Pilbara
Hemiptera	Hemiptera sp. B02 (=Fulgoridae S01=Cixidae S01)	3	4	5		troglophile	Pilbara
Meenoplidae	*Phaconeura* `BHE032`	7		3	2.2 km	troglobite	New species, only known from Ministers North
Zygentoma							
Nicoletiidae	*Dodecastyla* sp. B02 (=*Atelurodes* sp. S02)	11	2	4	505 km	troglobite	Pilbara, but very likely to comprise multiple species following genetic work
	Trinemura sp. B32		1	1	Singleton	troglobite	New species, only known from Ministers North



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 23/05/2019

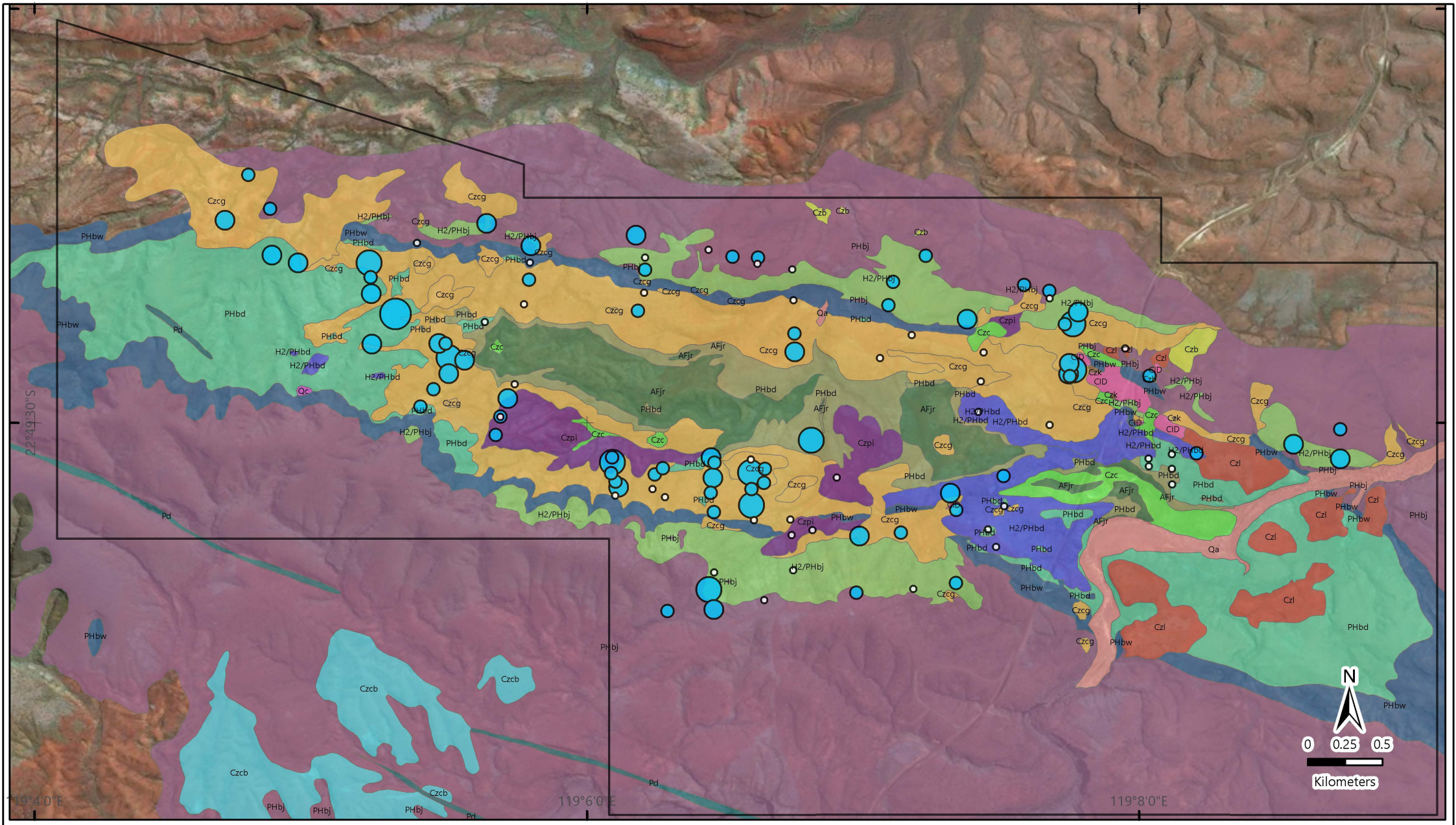
Legend

- Ministers North tenement
- Drainage Lines
- WASANT Palaeovalleys 2012

Stygofauna groups

- Worms
- Amphipod and copepod

Figure 6. Stygofauna recorded at Ministers North tenement.



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 30/04/2019

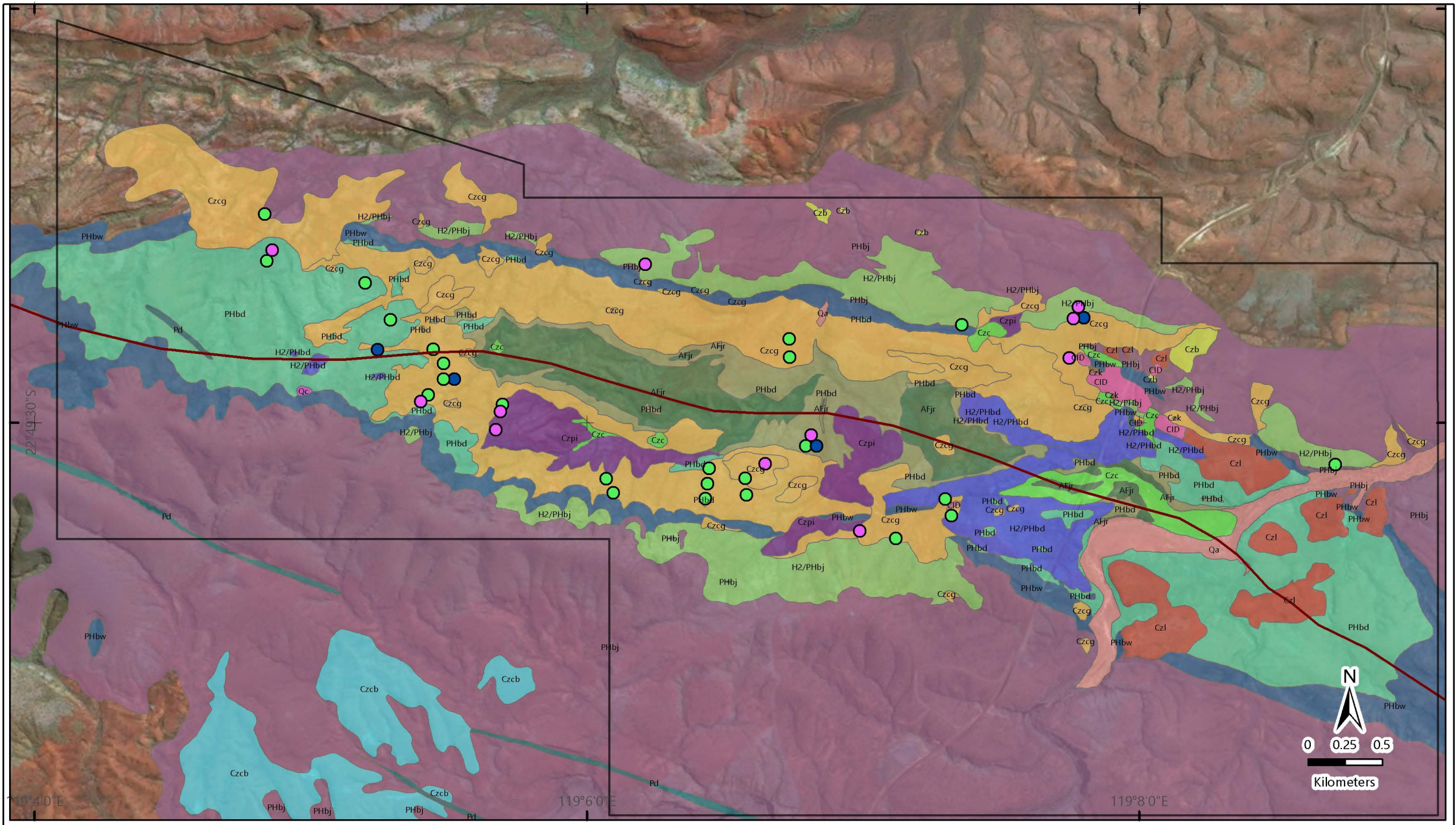
Legend

Ministers North tenement

Average troglofauna richness

- 0 species
- 0.11 - 0.5
- 0.6 - 1
- 1.16 - 1.8
- 2.75

Figure 7. Troglofauna richness at Ministers North tenement.



Bennelongia Environmental Consultants

GCS GDA 1994
Author: M. Curran
Date: 23/05/2019

Legend

- Ministers North tenement
- Wirriba Anticline
- *Draculoides* sp. B62
- *Nocticola* sp. B36 (cockingi s.l.)
- *Troglarmadillo* sp. B64 (= sp. S14)

Figure 8. Troglofauna records of three species only known from the Ministers North tenement but occurring across the Wirriba Anticline.

Points are offset by small amounts for display purposes

5.4.1. Patterns of Occurrence

Stygofauna

The stygofauna community was dominated by oligochaete worms (Figure 6). While the fact that all four worm species collected at Ministers North are known only from this area might be regarded as suggesting Ministers North has conservation significance for subterranean oligochaetes. As already mentioned above, whether all the worms at Ministers North are stygofauna is doubtful. Some of the animals were collected from holes without water present and there are no morphological features that can be used to distinguish stygal species from troglofaunal species or surface species.

The amphipod Paramelitidae Genus 2 sp. B21 (=S06) and copepod species *Diacyclops humphreysi humphreysi*, both of which are known from outside Ministers North, were recorded adjacent to Yandicoogina Creek (from hole MN0117R). This aquifer is interpreted to occur within the D4 subunit of the Dales Gorge member. One kilometre from MN0117R and in Yandicoogina Creek, there is a potential aquatic groundwater dependent ecosystem (GDE) (see (BOM 2012)). Thus, the creek line appears to have more potential to host for stygofauna than other parts of the tenement. The watertable at Ministers North is generally shallowest around Yandicoogina Creek, where elevations are the lowest, but it is still quite deep (c. 40 – 45 m).

The low capture rates of stygofauna in general are likely to be a reflection of unsuitable geologies, as well as the large depth to groundwater in most bores. Halse et al. (2014) showed capture rates are usually low and communities are depauperate when the watertable is deep (substantially more than 30 mbgl).

Troglofauna

The abundance and richness of troglofauna varied throughout Ministers North (Figure 7). Their collection seemed to be best related to the occurrence of the 20 m layer of weathered hardcap that is present across most of the tenement. No correlation was observed between the occurrence of troglofauna and geological mapped stratigraphy, bedrock mineralisation, tertiary detritals, iron grade, minor faults or the single major fault. The anticline does not appear to limit the dispersal of troglofauna, with 17 of the 21 species with multiple records found on both sides of the hinge (records of three species are mapped in Figure 8).

Bearing in mind previous comments about the lack of correlation between troglofaunal and geological information, there was nevertheless some evidence that BIF-shale units, Canga and pisolite were prospective for troglofauna. Little can be said about the other geologies because of the very low number of samples taken from them (silcrete, ferricrete and Mt Whaleback shale; Table 5).

Possible wider ranges beyond the tenement of troglofauna species known only from Ministers North are difficult to determine without sampling in adjacent areas and accompanying detailed comparisons of specimens collected inside and outside the tenement (i.e. off BHP tenement). The nearest available locations where troglofauna fauna sampling has occurred are Wedge Deposit (5 km west), Yandi (5 - 15 km north), Mining Area C (20 km south) and Lambs Creek (20 km west). Some of the species known only from Ministers North have morphological and genetic similarities with specimens from each of these four deposits. Although currently there is not enough evidence to conclusively demonstrate that the similarities mean the same species occur at Ministers North and another deposit, it is considered likely that additional sampling between Ministers North and the other deposits would provide such evidence (by showing steady genetic change with distance) for several species currently known only from Ministers North.

6. SUMMARY

Ministers North is a structurally simple tenement characterised by folds with no significant faults. The hinge of the Wirriba Anticline runs part way through the centre of the tenement in a northwest-southeast orientation. The water table is deep, except in the southeast of the tenement and the tenement mostly

appears to be unprospective for stygofauna from a geological perspective. In agreement with this conclusion, sampling revealed a depauperate community of stygofauna consisting of one amphipod, one copepod, four worm and a nematode species. The worm species appear to be known only from Ministers North, however, the status of the enchytraeid species as stygofauna (and possibly even subterranean species) is open to doubt, We tentatively treat them as amphibious subterranean species. The bedrock hosting the aquifer is likely to be shallowest along Yandicoogina Creek and this area may be more prospective for stygofauna. than current sampling indicates.

Table 5. Number of troglofauna samples collected from Ministers North geologies ((Thompson 2017)) and average troglofaunal species richness.
Geologies with few samples are shaded light grey.

Geology	No. of Samples	Average Richness
BIF & Shale (Brockman-Dales Gorge)	58	0.56
Indurated colluvium (Canga)	214	0.46
Martite goethite ore	81	0.37
BIF with chert & shale, most hardcapped (Brockman-Joffre)	57	0.34
Silcrete (indurated)	5	0.33
Consolidated Ferruginous Pisolite	45	0.32
Tertiary Detritals - Ferricrete (laterite)	2	0.00
Young Mt Whaleback Shale	6	0.00

The presence, in general, of a 20 m layer of hardcap across the tenement appears to offer suitable habitat for troglofauna. The troglofauna community is relatively rich in relation to the size of the tenement. The number of species collected was substantially fewer than at Mining Area C (to the south) but clearly more than at other deposits surveyed in this region of the Hamersley Province (Jinidi, Phils Creek, Marillana, Koodaideri, Hope Downs). Most species of troglofauna at Ministers North (not including singletons) appear to occur throughout the tenement irrespective of geology type, folds or faults and the anticline. However, as is typical of troglofauna in the Pilbara, more than three-quarters of the species collected are currently only known from this tenement and its immediate vicinity. The potentially restricted species comprise:

Arachnids
- Spiders – 5 species;
- Opiliones – 1 species;
- Palpigrads – 2 species;
- Pseudoscorpions – 1 species;
- Schizomids – 4 species;

Crustaceans
- Isopods – 2 species;

Myriapods
- Centipedes – 2 species;
- Millipedes – 1 species;
- Pauropods – 2 species;

Insects
- Symphylans – 2 species;
- Cockroaches – 1 species;
- Beetles – 6 species;
- Bug – 1 species
- Silverfish – 1 species.

7. REFERENENCES

Bennelongia (2011) Jinidi Iron Ore Project: troglofauna assessment. Bennelongia Pty Ltd, Jolimont, WA
Bennelongia (2016a) Iron Valley Project: Subterranean Fauna Assessment. Bennelongia Pty Ltd, Jolimont, WA
Bennelongia (2016b) Mining Area C – Southern Flank: Troglofauna Assessment. Bennelongia Pty Ltd, Jolimont, WA
Biota (2009) Hope Downs 4 troglofauna assessment. Biota Environmental Sciences, Leederville, WA
Biota (2012) Koodaideri troglobitic fauna assessment phases I - IV. Biota Environmental Sciences, Leederville, WA
Biota (2013) Koodaideri troglobitic fauna assessment: Phase V addendum summary update. Biota Environmental Sciences, Leederville, WA
Biota (2015) Baby Hope Downs Troglofauna Survey Phase 2 Prepared for Rio Tinto July 2015. Biota Environmental Sciences, Leederville, WA

BOM (2012) Groundwater Dependent Ecosystems Atlas. Bureau of Meteorology. http://www.bom.gov.au/water/groundwater/gde/.

Brown L, Finston T, Humphreys G, Eberhard S, Pinder A (2015) Groundwater oligochaetes show complex genetic patterns of distribution in the Pilbara region of Western Australia. Invertebrate Systematics 29 (5):405-420. doi:http://dx.doi.org/10.1071/IS14037

Cywinksi-Jan I, Sanders R (2017) Memorandum - Ministers North Conceptual Hydrogeological Model. BHP WAOI, Perth, WA

Des Châtelliers MC, Juget J, Lafont M, Martin P (2009) Subterranean aquatic Oligochaeta. Freshwater Biology 54 (4):678-690. doi:10.1111/j.1365-2427.2009.02173.x

ecologia (2010) Brockman Resources Ltd Marillana Iron Ore Project, Troglofauna Report. ecologia Environment, West Perth, WA

EPA (2003) Guidance for the Assessment of Environmental Factors: Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia. Guidance Statement 54. Environmental Protection Authority, Perth, WA

EPA (2007) Guidance for the Assessment of Environmental Factors: Sampling Methods and Survey Considerations for Subterranean Fauna in Western Australia. Environmental Protection Authority, Perth, WA

EPA (2016a) Environmental Factor Guideline - Subterranean Fauna. Environmental Protection Authority, Perth, WA

EPA (2016b) Technical Guidance - Sampling methods for subterranean fauna. Environmental Protection Authority, Perth, WA

EPA (2016c) Technical Guidance - Subterranean fauna survey. Environmental Protection Authority, Perth, WA

Folmer O, Black M, Hoeh W, Lutz R, Vrijenhoek R (1994) DNA primers for amplification of mitochondrial cytochrome c ocidase subunit I from diverse metazoan invertebrates. Molecular Marine Biology and Biotechnology 3:294-299

Halse SA, Scanlon MD, Cocking JS, Barron HJ, Richardson JB, Eberhard SM (2014) Pilbara stygofauna: deep groundwater of an arid landscape contains globally significant radiation of biodiversity. Records of the Western Australian Museum Supplement 78:443-483

Kambhampati S, Smith PT (1995) PCR primers for the amplification of four insect mitochondrial gene fragments. Insect Molecular Biology 4 (4):233-236. doi:10.1111/j.1365-2583.1995.tb00028.x

Kearse M, Moir R, Wilson A, Stones-Havas S, Cheung M, Sturrock S, Buxton S, Cooper A, Markowitz S, Duran C, Thierer T, Ashton B, Mentjies P, Drummond A (2012) Geneious Basic: an integrated and extendable desktop software platform for the organization and analysis of sequence data. Bioinformatics 28:1647-1649

Kumar S, Stecher G, Li M, Knyaz C, Tamura K (2018) MEGA X: Molecular Evolutionary Genetics Analysis acrossComputing Platforms. Society for Molecular Biology and Evolution 35 (6)

Qiagen (2006) DNeasy blood & tissue handbook

Rix MG, Cooper SJB, Meusemann K, Klopfstein S, Harrison SE, Harvey MS, Austin AD (2017) Post-Eocene climate change across continental Australia and the diversification of Australasian spiny trapdoor spiders (Idiopidae: Arbanitinae). Molecular Phylogenetics and Evolution 109:302-320. doi:https:\\doi.org\10.1016\j.ympev.2017.01.008

Ronquist F, Huelsenbeck JP (2003) MrBayes 3: Bayesian phylogenetic inference under mixed models. Bioinformatics 19:1572-1574

Subterranean Ecology (2010) Pilbara Regional Subterranean Fauna Survey Area C North Mining Area - Ministers North. Subterranean Ecology Pty Ltd, Stirling, WA

Subterranean Ecology (2011) Marillana Subterranean Fauna Baseline Survey. Subterranean Ecology Pty Ltd, Stirling, WA

Thompson H (2017) Ministers North Geological Modelling Report 2017. BHP Billiton,

8. APPENDICES

8.1. List of animals sequenced.

Job	Cap	Brief Location	Orebody	Hole ID	Collected	Lowest Identification	CO1	12S	ITS
28	1	Marillana	West Pit	MR3419R	8/06/2018	Cryptorhynchinae sp. B20	0	0	
28	2	Yandi	Ministers North	MN0290R	20/12/2018	Cryptorhynchinae sp. B10	-1	-1	
28	3	Yandi	Ministers North	MN0416R	3/05/2018	Cryptorhynchinae sp. B10	-1	-1	
28	4	Weeli Wolli	Upper Weeli Wolli	EEX0682	19/05/2015	Cryptorhynchinae sp. B19	0	0	
28	5	Mining Area C	Deposit C	GC0112R	14/01/2008	Dampetrus sp. B01 (nr isolatus)	-1	0	0
28	6	Yandi	Ministers North	MN0294R	3/05/2018	Dampetrus sp. B05 (nr isolatus)	-1	-1	0
28	7	Yandi	Ministers North	MN0295R	18/10/2017	Draculoides sp. B61 (SCH030 complex)	-1	-1	-1
28	8	Yandi	Ministers North	MN0287R	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	9	Yandi	Ministers North	MN0289R	20/12/2018	Draculoides sp. B52	-1	-1	-1
28	10	Yandi	Ministers North	MN0294R	3/05/2018	Draculoides sp. B52	-1	-1	-1
28	11	Yandi	Ministers North	MN0321R	3/05/2018	Draculoides sp. B52	-1	-1	-1
28	12	Yandi	Ministers North	MN0343R	3/05/2018	Draculoides sp. B52	-1	-1	-1
28	13	Yandi	Ministers North	MN0444R	3/05/2018	Draculoides sp. B67-DNA	-1	-1	-1
28	14	Yandi	Ministers North	MN0445RE	20/12/2018	Draculoides sp. B67-DNA	-1	-1	-1
28	15	Yandi	Ministers North	MN0514R	20/12/2018	Draculoides sp. B62	-1	-1	-1
28	16	Yandi	Ministers North	MN0602R	20/12/2018	Draculoides sp. B61 (SCH030 complex)	-1	-1	-1
28	17	Yandi	Ministers North	MN0603R	6/03/2018	Draculoides sp. B67-DNA	-1	-1	-1
28	18	Yandi	Ministers North	MN0609R	20/12/2018	Draculoides sp. B67-DNA	-1	-1	-1
28	19	Yandi	Ministers North	MN0711R	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	20	Yandi	Ministers North	MN0768R	20/12/2018	Draculoides sp. B65	-1	-1	-1
28	21	Yandi	Ministers North	MN0845DTM	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	22	Yandi	Ministers North	MN0479R	20/12/2018	Draculoides sp. B62	-1	-1	-1
28	23	Yandi	Ministers North	MN0514R	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	24	Yandi	Ministers North	MN0538R	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	25	Yandi	Ministers North	MN0712R	3/05/2018	Draculoides sp. B62	-1	-1	-1
28	26	Yandi	Ministers North	MN0760R	3/05/2018	Draculoides sp. B65	-1	-1	-1
28	27	Yandi	Ministers North	MN0708R	20/12/2018	Hanseniella sp. B43-DNA	-1	-1	
28	28	Yandi	Ministers North	MN0411R	20/12/2018	Hanseniella sp. B42-DNA	-1	-1	
28	29	Lambs Creek	Wedge Deposit	WG013	11/06/2013	Hanseniella sp. B21	-1	0	
28	30	Yandi	Ministers North	MN0411R	7/03/2018	Oonopidae sp. B19-DNA	-1	-1	0
28	31	Mudlark	Mount Robinson	EXR0715	23/02/2016	Palpigradi sp.	0	0	0
28	32	Mining Area C	South Flank	SF0157R	18/02/2016	Palpigradi sp.	0	0	0
28	33	Yandi	Ministers North	MN0411R	20/12/2018	Palpigradi sp. B23	-1	-1	0
28	34	Yandi	Ministers North	MN0767R	3/05/2018	Polydesmida sp. B11	-1	-1	
28	35	Mining Area C	South Flank	SF4004R	1/05/2016	Polydesmida sp. B11	0	0	
28	36	Mining Area C	South Flank	SF4057R	1/05/2016	Trinemura sp. B09	-1	-1	
28	37	Yandi	Ministers North	MN0295R	7/03/2018	Trinemura sp. B32	-1	-1	
28	38	Yandi	Ministers North	MN0696R	7/03/2018	Typhlozuphium sp. B04	-1	-1	
28	39	Yandi	Ministers North	MN0626R	3/05/2018	Enchytraeidae sp. E06-B03	-1	-1	
28	40	Yandi	Ministers North	EXR0965	3/05/2018	Enchytraeidae sp. E06-B02	-1	-1	

-1, success; 0 fail; blank, not attempted.

8.2. Sites sampled during current and historic surveys.

Hole ID	Latitude	Longitude	Surface Geology 10K
EXR0403	-22.83086059	119.1123053	Indurated colluvium (Canga)
EXR0404	-22.82831186	119.1151042	Consolidated Ferruginous Pisolite
EXR0405	-22.81970927	119.1196274	Indurated colluvium (Canga)
EXR0406	-22.81650181	119.1185089	Martite goethite ore
EXR0407	-22.8211066	119.1177103	Indurated colluvium (Canga)
EXR0506	-22.83251019	119.1247269	Martite goethite ore
EXR0507	-22.83145896	119.1242409	BIF & Shale (Brockman-Dales Gorge)
EXR0509	-22.83165043	119.1189773	Indurated colluvium (Canga)
EXR0511	-22.83178561	119.1123782	Consolidated Ferruginous Pisolite
EXR0512	-22.8221664	119.1339885	Silcrete (indurated)
EXR0513	-22.82218211	119.1291674	Indurated colluvium (Canga)
EXR0597	-22.8214157	119.1291294	Indurated colluvium (Canga)
EXR0599	-22.81905007	119.128867	Indurated colluvium (Canga)
EXR0600	-22.81715502	119.1034777	Indurated colluvium (Canga)
EXR0601	-22.8157579	119.1035223	Martite goethite ore
EXR0763	-22.82077192	119.1239769	Indurated colluvium (Canga)
EXR0765	-22.81876189	119.1229664	Martite goethite ore
EXR0767	-22.83391561	119.1124623	Martite goethite ore
EXR0768	-22.81791411	119.1182119	Martite goethite ore
EXR0769	-22.81574044	119.1124085	BIF with chert & shale, most hardcapped (Brockman-Joffre)
EXR0964	-22.81760544	119.1124862	Indurated colluvium (Canga)
EXR0965	-22.81960918	119.1125449	Indurated colluvium (Canga)
EXR0966	-22.82071908	119.1125579	Indurated colluvium (Canga)

Hole ID	Latitude	Longitude	Surface Geology 10K
EXR0967	-22.81503531	119.1035366	Martite goethite ore
EXR0968	-22.81825317	119.1030952	Indurated colluvium (Canga)
EXR0969	-22.81432343	119.0966336	BIF with chert & shale, most hardcapped (Brockman-Joffre)
EXR0970	-22.81532976	119.0965687	Young Mt Whaleback Shale
EXR0971	-22.81637498	119.0965236	Indurated colluvium (Canga)
EXR0973	-22.82574762	119.0945047	Consolidated Ferruginous Pisolite
EXR0974	-22.8246524	119.0947923	Consolidated Ferruginous Pisolite
EXR0975	-22.82355169	119.0952405	Consolidated Ferruginous Pisolite
EXR0976	-22.82268662	119.0956488	Indurated colluvium (Canga)
EXR0977	-22.8178455	119.0962135	Indurated colluvium (Canga)
EXR1142	-22.8292392	119.1074909	Indurated colluvium (Canga)
EXR1143	-22.82833543	119.1076158	Indurated colluvium (Canga)
EXR1144	-22.82741427	119.1077197	Indurated colluvium (Canga)
EXR1145	-22.82984734	119.1014214	Young Mt Whaleback Shale
EXR1146	-22.82804486	119.1014881	Consolidated Ferruginous Pisolite
EXR1147	-22.82890743	119.1019304	Indurated colluvium (Canga)
EXR1148	-22.82739482	119.1015618	Consolidated Ferruginous Pisolite
EXR1149	-22.82204543	119.091683	Indurated colluvium (Canga)
EXR1150	-22.82108725	119.0916939	Indurated colluvium (Canga)
EXR1151	-22.82022018	119.0910654	Indurated colluvium (Canga)
EXR1153	-22.82298231	119.0907526	Indurated colluvium (Canga)
EXR1154	-22.82403514	119.0899677	BIF & Shale (Brockman-Dales Gorge)
MCPBMN3P	-22.8240464	119.1334947	Tertiary Detritals - CID
MN0009R	-22.83088713	119.1101054	Indurated colluvium (Canga)
MN0010R	-22.82722879	119.1099197	Indurated colluvium (Canga)
MN0011R	-22.82801494	119.1098896	Indurated colluvium (Canga)
MN0012R	-22.82901662	119.109955	Indurated colluvium (Canga)
MN0013R	-22.82998454	119.1099551	Indurated colluvium (Canga)
MN0015R	-22.82813068	119.1041092	Indurated colluvium (Canga)
MN0016R	-22.82900379	119.1039884	Indurated colluvium (Canga)
MN0057R	-22.82764925	119.1383097	Tertiary Detritals - Ferricrete (laterite)
MN0117R	-22.83859422	119.1327323	Tertiary Detritals - Ferricrete (laterite)
MN0121R	-22.83389046	119.144249	Tertiary Detritals - Ferricrete (laterite)
MN0285R	-22.81278024	119.0781574	Indurated colluvium (Canga)
MN0286R	-22.81003521	119.0795693	Indurated colluvium (Canga)
MN0287R	-22.81489132	119.0810034	BIF & Shale (Brockman-Dales Gorge)
MN0288R	-22.8120788	119.0808832	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0289R	-22.81536092	119.082575	BIF & Shale (Brockman-Dales Gorge)
MN0290R	-22.8202632	119.0870407	BIF & Shale (Brockman-Dales Gorge)
MN0292R	-22.81722167	119.0869876	BIF & Shale (Brockman-Dales Gorge)
MN0293R	-22.81622068	119.0869508	BIF & Shale (Brockman-Dales Gorge)
MN0294R	-22.81535409	119.0868717	Indurated colluvium (Canga)
MN0295R	-22.81844298	119.0884684	BIF & Shale (Brockman-Dales Gorge)
MN0304R	-22.81415342	119.0897654	Young Mt Whaleback Shale
MN0311R	-22.82022066	119.0914932	Indurated colluvium (Canga)
MN0321R	-22.82122446	119.0926365	Indurated colluvium (Canga)
MN0334R	-22.81891657	119.0938537	BIF & Shale (Brockman-Dales Gorge)
MN0343R	-22.81296293	119.0939707	Indurated colluvium (Canga)
MN0391R	-22.82941146	119.1017251	Indurated colluvium (Canga)
MN0392R	-22.82856788	119.1017346	Indurated colluvium (Canga)
MN0393R	-22.82710412	119.1015419	Consolidated Ferruginous Pisolite
MN0411R	-22.81368257	119.1029873	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0413R	-22.83637014	119.1048808	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0414RE	-22.82950004	119.1047357	Indurated colluvium (Canga)
MN0416R	-22.82775139	119.1046074	Indurated colluvium (Canga)
MN0444R	-22.83628673	119.1076726	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0445RE	-22.83508022	119.1073708	Martite goethite ore
MN0446R	-22.8340452	119.1077036	Martite goethite ore
MN0450R	-22.83039623	119.1076776	Indurated colluvium (Canga)
MN0454R	-22.82710672	119.1075155	BIF & Shale (Brockman-Dales Gorge)
MN0466R	-22.81457175	119.1073598	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0471R	-22.81497433	119.108814	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0473R	-22.83572335	119.110728	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0478R	-22.82863748	119.1107145	Indurated colluvium (Canga)
MN0479R	-22.82779611	119.1107556	Indurated colluvium (Canga)
MN0489RE	-22.81541869	119.1103066	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0490R	-22.81503501	119.1103457	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0508R	-22.83148867	119.113631	Consolidated Ferruginous Pisolite
MN0514R	-22.82606091	119.113556	BIF & Shale (Brockman-Dales Gorge)
MN0535R	-22.83527305	119.1162875	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0538R	-22.83184728	119.1164661	Indurated colluvium (Canga)
MN0570R	-22.83503823	119.1197314	Martite goethite ore
MN0602R	-22.81491527	119.1204735	Martite goethite ore

Hole ID	Latitude	Longitude	Surface Geology 10K
MN0603R	-22.83468657	119.1223049	Martite goethite ore
MN0608R	-22.83027833	119.1223225	Indurated colluvium (Canga)
MN0609R	-22.82926272	119.1219596	Martite goethite ore
MN0626R	-22.82435263	119.1236403	Martite goethite ore
MN0630R	-22.82250463	119.1238044	Indurated colluvium (Canga)
MN0646R	-22.83004945	119.125216	Martite goethite ore
MN0647R	-22.82821439	119.1251671	Martite goethite ore
MN0671R	-22.82028313	119.1264438	Indurated colluvium (Canga)
MN0675R	-22.81667898	119.1264161	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0678R	-22.82513854	119.127953	Indurated colluvium (Canga)
MN0695R	-22.81749063	119.1279599	Martite goethite ore
MN0696R	-22.81705153	119.1279234	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0707R	-22.8227921	119.1294908	Indurated colluvium (Canga)
MN0708R	-22.82182216	119.1294162	Indurated colluvium (Canga)
MN0711R	-22.8190355	119.129369	Indurated colluvium (Canga)
MN0712R	-22.81832873	119.1296708	Martite goethite ore
MN0734R	-22.82052525	119.1325135	Tertiary Detritals - Ferricrete (laterite)
MN0735R	-22.8276328	119.1339474	BIF & Shale (Brockman-Dales Gorge)
MN0736R	-22.82717387	119.1339274	BIF & Shale (Brockman-Dales Gorge)
MN0738R	-22.82618007	119.1338466	Martite goethite ore
MN0740R	-22.8254275	119.1338714	Tertiary Detritals - Colluvium & alluvium
MN0742RE	-22.82396132	119.1337495	Tertiary Detritals - CID
MN0743R	-22.82873674	119.1353508	BIF & Shale (Brockman-Dales Gorge)
MN0744R	-22.82779191	119.13534	BIF & Shale (Brockman-Dales Gorge)
MN0745R	-22.82689902	119.1353395	BIF & Shale (Brockman-Dales Gorge)
MN0752R	-22.82684213	119.1368273	Martite goethite ore
MN0756R	-22.82727957	119.141222	Tertiary Detritals - Ferricrete (laterite)
MN0760R	-22.82631174	119.1426784	Martite goethite ore
MN0767R	-22.82719368	119.1454949	Martite goethite ore
MN0768R	-22.82540009	119.1454941	BIF with chert & shale, most hardcapped (Brockman-Joffre)
MN0845DTM	-22.82462814	119.0947915	Consolidated Ferruginous Pisolite
MN0848DTM	-22.81758558	119.1124604	Indurated colluvium (Canga)
MN2	-22.82206111	119.1291	Indurated colluvium (Canga)

8.3. Samples taken during current and historic surveys.

SWL, standing water level (mbgl). EOH, end of hole (mbgl). Trap Depth (mbgl).

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
EXR0403	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		103	
EXR0403	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		103	12
EXR0404	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		97	
EXR0404	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		97	20
EXR0404	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0404	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			77
EXR0405	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		91	
EXR0405	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		91	35
EXR0405	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0405	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			25
EXR0405	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0406	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		154	
EXR0406	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		154	35
EXR0406	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		154	
EXR0406	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0406	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			23
EXR0406	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0407	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		46	
EXR0407	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		46	35
EXR0407	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0407	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR0407	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0506	22/02/2009	22/02/2009	Net	Subt. Ecol.	94.72	102	
EXR0506	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	94.72	102	25
EXR0506	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			
EXR0506	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			55
EXR0506	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0507	22/02/2009	22/02/2009	Net	Subt. Ecol.	87	93	
EXR0507	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	87	93	35
EXR0507	24/05/2009	24/05/2009	Net	Subt. Ecol.	93	100	
EXR0507	19/02/2010	19/02/2010	Net	Subt. Ecol.			
EXR0507	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR0507	9/04/2010	9/04/2010	Net	Subt. Ecol.			
EXR0509	22/02/2009	22/02/2009	Net	Subt. Ecol.	74.24	117	
EXR0509	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	74.24	117	60
EXR0509	24/05/2009	24/05/2009	Net	Subt. Ecol.	85.12	117	
EXR0509	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
EXR0509	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			35
EXR0509	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0511	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		114	
EXR0511	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0511	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR0511	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
EXR0512	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		81	
EXR0512	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		81	26
EXR0512	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		81	
EXR0512	19/02/2010	19/02/2010	Net	Subt. Ecol.			
EXR0512	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR0512	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
EXR0513	23/02/2009	20/02/2009	Scrape	Subt. Ecol.		87	
EXR0513	23/02/2009	23/05/2009	Trap 1	Subt. Ecol.		87	45
EXR0513	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0513	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			25
EXR0513	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0597	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		147	
EXR0597	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		147	25
EXR0597	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0597	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
EXR0597	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0599	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		63	
EXR0599	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		63	35
EXR0599	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0599	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			29
EXR0599	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0600	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		93	
EXR0600	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	32
EXR0601	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		81	
EXR0601	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		81	25
EXR0601	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0601	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			58
EXR0601	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0763	23/02/2009	23/02/2009	Net	Subt. Ecol.		93	
EXR0763	23/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	28
EXR0763	19/02/2010	19/02/2010	Net	Subt. Ecol.			
EXR0763	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			40
EXR0763	9/04/2010	9/04/2010	Net	Subt. Ecol.			
EXR0765	23/02/2009	23/02/2009	Net	Subt. Ecol.	64	207	
EXR0765	23/02/2009	23/05/2009	Trap 1	Subt. Ecol.	64	207	11
EXR0765	25/05/2009	25/05/2009	Net	Subt. Ecol.	69.12	207	
EXR0765	19/02/2010	19/02/2010	Net	Subt. Ecol.			
EXR0765	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			60
EXR0765	9/04/2010	9/04/2010	Net	Subt. Ecol.			
EXR0767	22/02/2009	22/02/2009	Net	Subt. Ecol.	133.76	201	
EXR0767	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	133.76	201	35
EXR0767	24/05/2009	24/05/2009	Net	Subt. Ecol.	140.16	201	
EXR0767	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			
EXR0767	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
EXR0768	20/02/2009	20/02/2009	Net	Subt. Ecol.		123	
EXR0768	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		123	
EXR0768	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		123	35
EXR0768	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0768	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR0768	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0769	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		175.5	
EXR0769	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		175.5	25
EXR0769	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0769	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			17
EXR0769	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0964	20/02/2009	20/02/2009	Scrape	Subt. Ecol.			
EXR0964	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.			13
EXR0964	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0964	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			7
EXR0964	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0965	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		69	
EXR0965	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		69	10
EXR0965	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0965	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			6
EXR0965	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0965	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		69	
EXR0965	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		69	40
EXR0965	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		56	
EXR0965	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		56	30
EXR0966	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		33	
EXR0966	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		33	15
EXR0966	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
EXR0966	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			9
EXR0966	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0967	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		93	
EXR0967	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	25
EXR0967	23/05/2009	23/05/2009	Scrape	Subt. Ecol.			
EXR0967	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0967	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			43
EXR0968	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		63	
EXR0968	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		63	20
EXR0968	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0968	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			15
EXR0968	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0969	22/02/2009	22/02/2009	Net	Subt. Ecol.	80	213	
EXR0969	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	80	213	25
EXR0969	24/05/2009	24/05/2009	Net	Subt. Ecol.	81.92	213	
EXR0969	18/02/2010	18/02/2010	Net	Subt. Ecol.			
EXR0969	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			80
EXR0969	10/04/2010	10/04/2010	Net	Subt. Ecol.			
EXR0970	22/02/2009	22/02/2009	Net	Subt. Ecol.	67.2	135	
EXR0970	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	67.2	135	40
EXR0970	23/05/2009	23/05/2009	Net	Subt. Ecol.	87.68	135	
EXR0970	19/02/2010	19/02/2010	Net	Subt. Ecol.			
EXR0970	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			
EXR0970	10/04/2010	10/04/2010	Net	Subt. Ecol.			
EXR0971	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		87	
EXR0971	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		87	20
EXR0971	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		87	
EXR0971	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0971	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			35
EXR0971	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0973	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		111	
EXR0973	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		111	25
EXR0973	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0973	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			28
EXR0973	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0974	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		93	
EXR0974	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	21
EXR0974	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR0974	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
EXR0974	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0975	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		57	
EXR0975	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		57	24
EXR0975	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR0975	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			10
EXR0975	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR0976	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			
EXR0976	19/02/2010	9/04/2010	Trap 1	Subt. Ecol.			
EXR0976	9/04/2010	9/04/2010	Scrape	Subt. Ecol.			
EXR0977	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		33	
EXR1142	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		87	
EXR1142	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		87	28
EXR1142	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1142	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
EXR1142	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
EXR1143	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		57	
EXR1143	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		57	23
EXR1143	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		57	
EXR1143	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1143	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
EXR1143	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
EXR1144	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		42	
EXR1144	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		42	19
EXR1144	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		42	
EXR1144	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1144	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR1144	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
EXR1145	22/02/2009	22/02/2009	Net	Subt. Ecol.	131.2	153	
EXR1146	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		93	
EXR1146	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	5
EXR1146	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1146	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			5
EXR1146	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1147	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		39	
EXR1147	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		39	12
EXR1147	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1147	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
EXR1147	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1148	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		25	

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
EXR1148	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		25	10
EXR1148	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1148	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			15
EXR1148	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1149	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		63	
EXR1149	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		63	
EXR1149	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		63	
EXR1149	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1149	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			20
EXR1149	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1150	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		51	
EXR1150	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		51	27
EXR1150	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		51	
EXR1150	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1150	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			25
EXR1150	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1151	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		39	
EXR1151	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		39	20
EXR1151	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		39	
EXR1151	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1151	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			25
EXR1151	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1153	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		93	
EXR1153	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		93	32
EXR1153	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
EXR1153	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			60
EXR1153	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
EXR1154	20/02/2009	20/02/2009	Scrape	Subt. Ecol.		123	
EXR1154	20/02/2009	23/05/2009	Trap 1	Subt. Ecol.		123	25
EXR1154	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		123	
EXR1154	17/02/2010	17/02/2010	Scrape	Subt. Ecol.			
EXR1154	17/02/2010	8/04/2010	Trap 1	Subt. Ecol.			35
EXR1154	10/04/2010	10/04/2010	Scrape	Subt. Ecol.			
MCPBMN3P	21/02/2009	21/02/2009	Net	Subt. Ecol.	46.08	97.28	
MCPBMN3P	24/05/2009	24/05/2009	Net	Subt. Ecol.	51.2	97.28	
MCPBMN3P	19/02/2010	19/02/2010	Net	Subt. Ecol.			
MCPBMN3P	9/04/2010	9/04/2010	Net	Subt. Ecol.			
MCPBMN3P	15/10/2017	15/10/2017	Net	M.K. Curran, J.S. Cocking	45.87	98	
MN0009R	22/02/2009	22/02/2009	Net	Subt. Ecol.	98.6	129	
MN0009R	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	98.6	129	35
MN0009R	24/05/2009	24/05/2009	Net	Subt. Ecol.	81.92	129	
MN0009R	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			
MN0009R	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			40
MN0009R	10/04/2010	10/04/2010	Net	Subt. Ecol.			
MN0010R	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		81	
MN0010R	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		81	
MN0011R	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		51	
MN0011R	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		51	31
MN0011R	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		51	
MN0011R	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
MN0011R	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			20
MN0011R	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
MN0012R	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		81	
MN0012R	21/02/2009	23/05/2009	Trap 1	Subt. Ecol.		81	11
MN0012R	18/02/2010	18/02/2010	Scrape	Subt. Ecol.			
MN0012R	18/02/2010	8/04/2010	Trap 1	Subt. Ecol.			30
MN0012R	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
MN0013R	22/02/2009	22/02/2009	Net	Subt. Ecol.	97.92	111	
MN0013R	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	97.92	111	36
MN0013R	24/05/2009	24/05/2009	Net	Subt. Ecol.	80	111	
MN0013R	19/02/2010	19/02/2010	Net	Subt. Ecol.			
MN0013R	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			60
MN0015R	21/02/2009	21/02/2009	Scrape	Subt. Ecol.		81	
MN0015R	25/05/2009	25/05/2009	Scrape	Subt. Ecol.		81	
MN0016R	22/02/2009	22/02/2009	Net	Subt. Ecol.	108.16	117	
MN0016R	22/02/2009	23/05/2009	Trap 1	Subt. Ecol.	108.16	117	40
MN0016R	24/05/2009	24/05/2009	Net	Subt. Ecol.	112.64	117	
MN0016R	19/02/2010	19/02/2010	Scrape	Subt. Ecol.			
MN0016R	19/02/2010	8/04/2010	Trap 1	Subt. Ecol.			50
MN0016R	8/04/2010	8/04/2010	Scrape	Subt. Ecol.			
MN0057R	17/10/2017	17/10/2017	Net	M.K. Curran, J.S. Cocking	46.9	81	
MN0117R	14/10/2017	14/10/2017	Net	M.K. Curran, J.S. Cocking	47	100	
MN0121R	14/10/2017	14/10/2017	Net	M.K. Curran, J.S. Cocking	43.05	55	
MN0285R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0285R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	25
MN0285R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		22	
MN0285R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		22	20
MN0286R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		33	

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
MN0286R	16/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		33	30
MN0286R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		33	10
MN0286R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		29	
MN0286R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		29	15
MN0287R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		45	
MN0287R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		45	20
MN0287R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	39		
MN0287R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	39		25
MN0288R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		69	
MN0288R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		69	40
MN0288R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	43		
MN0288R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	43		35
MN0289R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		9	
MN0289R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		9	8
MN0289R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		7	
MN0289R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		7	7
MN0290R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		39	
MN0290R	18/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		39	30
MN0290R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		39	10
MN0290R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		19	
MN0290R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		19	10
MN0292R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		69	
MN0292R	16/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		69	40
MN0292R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		69	15
MN0292R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		60	
MN0292R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		60	30
MN0293R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	
MN0293R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	20
MN0293R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		45	
MN0293R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		45	40
MN0294R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0294R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	10
MN0294R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		19	
MN0294R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		19	10
MN0295R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		17	
MN0295R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		17	15
MN0295R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		17	
MN0295R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		17	15
MN0304R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		40	
MN0304R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		40	30
MN0304R	5/03/2018	5/03/2018	Scrape	M.K. Curran, J.S. Cocking	50		
MN0304R	5/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	50		30
MN0311R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		45	
MN0311R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		45	25
MN0311R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		39	
MN0311R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		39	10
MN0321R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		39	
MN0321R	17/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		39	30
MN0321R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		39	10
MN0321R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		35	
MN0321R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		35	15
MN0334R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		15	
MN0334R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		15	13
MN0334R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		14	
MN0334R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		14	12
MN0343R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking		9	
MN0343R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		9	8
MN0343R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		9	
MN0343R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		9	9
MN0391R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	
MN0391R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	15
MN0391R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		43	
MN0391R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		43	10
MN0392R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0392R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	25
MN0392R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		24	
MN0392R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		24	20
MN0393R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		39	
MN0393R	18/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		39	30
MN0393R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		39	10
MN0393R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		34	
MN0393R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		34	30
MN0411R	16/10/2017	16/10/2017	Scrape	M.K. Curran, J.S. Cocking	85		
MN0411R	16/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking	85		50
MN0411R	16/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	85		15
MN0411R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	74		
MN0411R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	74		15
MN0413R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
MN0413R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	25
MN0413R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		45	
MN0413R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		45	40
MN0414RE	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		43	
MN0414RE	15/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		43	40
MN0414RE	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		43	10
MN0414RE	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		57	
MN0414RE	8/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		57	40
MN0414RE	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		57	15
MN0416R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0416R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	15
MN0416R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		19	
MN0416R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		19	17
MN0444R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		57	
MN0444R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		57	10
MN0444R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		10	
MN0444R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		10	10
MN0445RE	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		105	
MN0445RE	15/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		105	40
MN0445RE	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		105	10
MN0445RE	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		93	
MN0445RE	8/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		93	50
MN0445RE	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		93	15
MN0446R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		115	
MN0446R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		115	40
MN0446R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		10	
MN0446R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		10	10
MN0450R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		6	
MN0450R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		6	5
MN0450R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		5	
MN0450R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		5	5
MN0454R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		13	
MN0454R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		13	10
MN0454R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		10	
MN0454R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		10	8
MN0466R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0466R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	20
MN0466R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		24	
MN0466R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		24	20
MN0471R	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking		39	
MN0471R	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		39	25
MN0471R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		32	
MN0471R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		32	30
MN0473R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		16	
MN0473R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		16	15
MN0473R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		15	
MN0473R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		15	15
MN0478R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0478R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	10
MN0478R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		19	
MN0478R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		19	15
MN0479R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0479R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	15
MN0479R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		19	
MN0479R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		19	10
MN0489RE	18/10/2017	18/10/2017	Scrape	M.K. Curran, J.S. Cocking	92		
MN0489RE	18/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking	92		60
MN0489RE	18/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	92		20
MN0489RE	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	80		
MN0489RE	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	80		40
MN0490R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0490R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	20
MN0490R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		17	
MN0490R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		17	15
MN0508R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking	82		
MN0508R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	82		15
MN0508R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking	73		
MN0508R	8/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking	73		30
MN0508R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	73		10
MN0514R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0514R	14/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		21	20
MN0514R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	10
MN0514R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		12	
MN0514R	8/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		12	12
MN0514R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		12	5
MN0535R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking	30		
MN0535R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	30		30
MN0535R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		74	

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
MN0535R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		74	30
MN0538R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking	100		
MN0538R	17/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking	100		50
MN0538R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	100		15
MN0538R	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking	75		
MN0538R	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	75		25
MN0570R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	
MN0570R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	40
MN0570R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		45	
MN0570R	6/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		45	40
MN0570R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		45	10
MN0602R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		21	
MN0602R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		21	15
MN0602R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	15		
MN0602R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	15		10
MN0603R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		45	
MN0603R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		45	40
MN0603R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		40	
MN0603R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		40	35
MN0608R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		14	
MN0608R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		14	12
MN0608R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		12	
MN0608R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		12	10
MN0609R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	
MN0609R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	49
MN0609R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		34	
MN0609R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		34	20
MN0626R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		33	
MN0626R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		33	30
MN0626R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		29	
MN0626R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		29	25
MN0630R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		45	
MN0630R	13/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		45	30
MN0630R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		45	15
MN0630R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	37		
MN0630R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	37		15
MN0646R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		39	
MN0646R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		39	25
MN0646R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		34	
MN0646R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		34	30
MN0647R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		33	
MN0647R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		33	30
MN0647R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		27	
MN0647R	6/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		27	25
MN0647R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		27	10
MN0671R	13/10/2017	13/10/2017	Net	M.K. Curran, J.S. Cocking	57	159	
MN0675R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		30	
MN0675R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		30	28
MN0675R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		26	
MN0675R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		26	25
MN0678R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0678R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	25
MN0678R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		24	
MN0678R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		24	20
MN0695R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		24	
MN0695R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		24	10
MN0696R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		33	
MN0696R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		33	30
MN0707R	13/10/2017	13/10/2017	Net	M.K. Curran, J.S. Cocking	51	67	
MN0708R	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking	48		
MN0708R	13/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking	48		40
MN0708R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	48		10
MN0708R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking	42		
MN0708R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	42		30
MN0711R	17/10/2017	17/10/2017	Scrape	M.K. Curran, J.S. Cocking		51	
MN0711R	17/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		51	40
MN0711R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		43	
MN0711R	6/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		43	40
MN0711R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		43	10
MN0712R	7/03/2018	7/03/2018	Scrape	M.K. Curran, J.S. Cocking		40	
MN0712R	7/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		40	25
MN0734R	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	52		40
MN0734R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking			20
MN0735R	15/10/2017	15/10/2017	Net	M.K. Curran, J.S. Cocking	28	29	
MN0735R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	24		
MN0735R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	24		20
MN0736R	15/10/2017	15/10/2017	Net	M.K. Curran, J.S. Cocking	24	36	
MN0736R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	20		

Hole ID	Visit/Set Date	Sample Collected	Sample Name	Collectors	SWL	EOH	Trap Depth
MN0736R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	20		15
MN0738R	16/10/2017	16/10/2017	Net	M.K. Curran, J.S. Cocking	24	69	
MN0740R	16/10/2017	16/10/2017	Net	M.K. Curran, J.S. Cocking	22.52	35	
MN0742RE	18/10/2017	18/10/2017	Net	M.K. Curran, J.S. Cocking	45.08	85	
MN0743R	15/10/2017	15/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0743R	15/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		27	25
MN0743R	15/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	10
MN0743R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	23		
MN0743R	6/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking	23		20
MN0743R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	23		10
MN0744R	14/10/2017	14/10/2017	Net	M.K. Curran, J.S. Cocking	21.64	33	
MN0744R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	19		
MN0744R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	19		15
MN0745R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking	29		
MN0745R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking	29		27
MN0745R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	25		
MN0745R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	25		15
MN0752R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking	37		
MN0752R	14/10/2017	18/12/2017	Trap 1	M.K. Curran, J.S. Cocking	37		35
MN0752R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking	32		
MN0752R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking	32		30
MN0756R	17/10/2017	17/10/2017	Net	M.K. Curran, J.S. Cocking	35.8	57	
MN0760R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		7	6
MN0760R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		5	
MN0760R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		5	5
MN0767R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0767R	14/10/2017	20/12/2017	Trap 2	M.K. Curran, J.S. Cocking		27	25
MN0767R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	10
MN0767R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		23	
MN0767R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		23	20
MN0768R	14/10/2017	14/10/2017	Scrape	M.K. Curran, J.S. Cocking		27	
MN0768R	14/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		27	25
MN0768R	6/03/2018	6/03/2018	Scrape	M.K. Curran, J.S. Cocking		24	
MN0768R	6/03/2018	3/05/2018	Trap 2	M.K. Curran, J.S. Cocking		24	20
MN0768R	6/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		24	10
MN0845DTM	13/10/2017	13/10/2017	Scrape	M.K. Curran, J.S. Cocking		30	
MN0845DTM	13/10/2017	20/12/2017	Trap 1	M.K. Curran, J.S. Cocking		30	28
MN0845DTM	8/03/2018	8/03/2018	Scrape	M.K. Curran, J.S. Cocking		40	
MN0845DTM	8/03/2018	3/05/2018	Trap 1	M.K. Curran, J.S. Cocking		40	20
MN0848DTM	18/10/2017	18/10/2017	Net	M.K. Curran, J.S. Cocking	39	90	
MN2	23/02/2009	23/02/2009	Net	Subt. Ecol.		110	
MN2	24/05/2009	24/05/2009	Net	Subt. Ecol.	54.4	110.16	
MN2	9/04/2010	9/04/2010	Net	Subt. Ecol.			

8.4. Higher order identifications from the current survey.

Subt. Ecol., Subterranean Ecology.

Higher Taxon	LowestID	Subt. Ecol.	Bennelongia	Holes	Life Status	Distribution
Annelida						
Oligochaeta						
Enchytraeidae	Enchytraeidae sp. E06 s.l.	209		6	unknown	Part of the E06 species complex (Brown *et al.* 2015). All collected from dry holes. They may be subterranean.
Chelicerata						
Arachnida						
Araneae	Araneae sp.	2		1	unknown	Indeterminate, not lodged at the museum or museum staff could not find
	Araneomorphae sp.	1		1	unknown	Indeterminate, not lodged at the museum or museum staff could not find
Pseudoscorpiones	*Lagynochthonius* sp.		2	2	troglobite	Immature or damaged, very likely to be *Lagynochthonius* sp. B20
Myriapoda						
Chilopoda	Chilopoda sp.	1		1	unknown	Indeterminate, not lodged at the museum or museum staff could not find
Hexapoda						
Blattodea						
Blattidae	Blattidae sp.		12	8	troglobite	Juveniles or damaged animals that are very likely to be Blattidae sp. B06 (= sp. S02)
Nocticolidae	*Nocticola* sp.		66	24	troglobite	Immature or damaged, very likely to be *Nocticola* sp. B36
Coleoptera	Coleoptera sp.		1	1	unknown	Immature or damaged
Carabidae	Zuphiinae sp. S01 s.l.	1		1	troglobite	Zuphiinae sp. B1=S1 was known from across Mining Area C but split-up following taxonomic revision. This specimen was not lodged at the museum or museum staff could not locate it. The animal is very likely to be *Typhlozuphium* sp. B04
Hemiptera						
Meenoplidae	*Phaconeura* sp.	1	16	4	troglo-phile or -bite	Immature or damaged, very likely to be *Phaconeura `BHE032`*
Zygentoma						
Nicoletiidae	*Dodecastyla* sp.		1	1		Immature or damaged

8.5. Taxonomic changes to animals collected from 2009 to 2010.

New species name	Previous species name	Hole ID	Sample	Date Collected
Anapistula sp. S01	?Symphytognathidae sp. S01	EXR0969	Trap 1	23/05/2009
Araneae sp.	Araneae sp. indet. MN	EXR0597	Scrape	9/04/2010
Araneae sp.	Araneae sp. indet. MN	EXR1148	Scrape	18/02/2010
Araneae sp.	Araneae sp. indet. MN	EXR1148	Trap 1	8/04/2010
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	EXR0975	Trap 1	23/05/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	EXR1147	Scrape	21/02/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	EXR1151	Scrape	25/05/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	MN0011R	Trap 1	23/05/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	MN0011R	Scrape	25/05/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	MN0013R	Net	24/05/2009
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	EXR0975	Trap 1	8/04/2010
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	EXR1150	Scrape	18/02/2010
Blattidae sp. B06 (= sp. S02)	Blattidae sp. S02	MN0011R	Trap 1	8/04/2010
Chilopoda sp.	Chilopoda sp. indet. MN	EXR0971	Scrape	25/05/2009
Chilopoda sp. B01 (Scolopendridae/Cryptopidae)	Chilopoda sp. indet. MN	EXR0512	Scrape	25/05/2009
Cryptorhynchinae sp. B10	Curculionidae sp. S08	EXR0765	Net	19/02/2010
Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Curculionidae sp. S02	EXR0765	Net	19/02/2010
Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Curculionidae sp. S02	EXR0969	Net	18/02/2010
Dodecastyla sp. B02 (=Atelurodes sp. S02)	Atelurodes sp. S02	EXR0966	Trap 1	23/05/2009
Dodecastyla sp. B02 (=Atelurodes sp. S02)	Atelurinae sp.	EXR1150	Scrape	25/05/2009
Dodecastyla sp. B02 (=Atelurodes sp. S02)	Atelurodes sp. S02	EXR1149	Scrape	10/04/2010
Dodecastyla sp. B02 (=Atelurodes sp. S02)	Atelurodes sp. S02	EXR1150	Scrape	10/04/2010
Draculoides sp. B62	nr Draculoides sp. S4	EXR0597	Trap 1	23/05/2009
Draculoides sp. B62	nr Draculoides sp. S4	EXR0973	Trap 1	23/05/2009
Draculoides sp. B62	nr Draculoides sp. S4	EXR0601	Scrape	10/04/2010
Draculoides sp. B62	nr Draculoides sp. S4	EXR1154	Trap 1	8/04/2010
Enchytraeidae sp. E06 s.l.	Nematoda sp.	EXR0597	Trap 1	23/05/2009
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	EXR0405	Scrape	17/02/2010
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	EXR0406	Scrape	17/02/2010
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	EXR0406	Scrape	9/04/2010
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	EXR0407	Scrape	18/02/2010
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	EXR0506	Scrape	19/02/2010
Enchytraeidae sp. E06 s.l.	Enchytraeus sp. S01	MN0016R	Scrape	19/02/2010
Enchytraeidae sp. E06-09	Enchytraeus sp. S04	MN0011R	Trap 1	23/05/2009
Hemiptera sp. B02 (=Fulgoridae S01=Cixidae S01)	Cixiidae sp. S01	EXR0597	Scrape	20/02/2009
Hemiptera sp. B02 (=Fulgoridae S01=Cixidae S01)	Fulgoroidea sp. cf. S01 s.l.	MN0013R	Net	24/05/2009
Lagynochthonius sp. B20 (= sp. S04)	Lagynochthonius sp. S04	EXR1144	Trap 1	23/05/2009
Lagynochthonius sp. B20 (= sp. S04)	Lagynochthonius sp. S04	EXR1148	Trap 1	23/05/2009
Lagynochthonius sp. B20 (= sp. S04)	Lagynochthonius sp. S04	EXR1143	Scrape	8/04/2010
Lagynochthonius sp. B20 (= sp. S04)	Lagynochthonius sp. S04	EXR1148	Scrape	10/04/2010
Lophoturus madecassus	Polyxenida sp. S1	EXR0597	Trap 1	23/05/2009
Lophoturus madecassus	Polyxenida sp. S1	EXR0599	Trap 1	23/05/2009
Lophoturus madecassus	Polyxenida sp. S1	EXR0601	Trap 1	23/05/2009
Lophoturus madecassus	Polyxenida sp. S1	EXR0513	Trap 1	8/04/2010
Lophoturus madecassus	Polyxenida sp. S1	EXR0513	Scrape	9/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0509	Net	22/02/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0765	Net	25/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0965	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0965	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0966	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0975	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0975	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1142	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1143	Scrape	21/02/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1143	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1144	Scrape	21/02/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1144	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1146	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1147	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1149	Scrape	25/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1150	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1151	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1153	Trap 1	23/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	MN0011R	Scrape	21/02/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	MN0011R	Scrape	25/05/2009
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0765	Net	19/02/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR0966	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1142	Scrape	18/02/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1143	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1149	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1149	Scrape	10/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1150	Scrape	18/02/2010

New species name	Previous species name	Hole ID	Sample	Date Collected
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1150	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1150	Scrape	10/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1151	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	EXR1151	Scrape	10/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	MN0011R	Scrape	18/02/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	MN0011R	Trap 1	8/04/2010
Nocticola sp. B36 (cockingi s.l.)	Nocticola sp. S2	MN0012R	Scrape	18/02/2010
Palpigradi sp. B24	Palpigradi sp.	EXR0406	Scrape	9/04/2010
Phaconeura sp.	Meenoplidae sp. S1	EXR0768	Net	20/02/2009
Phaconeura `BHE032`	Meenoplidae sp. S1	EXR1147	Trap 1	23/05/2009
Phaconeura `BHE032`	Meenoplidae sp. S1	MN0013R	Trap 1	23/05/2009
Phaconeura `BHE032`	Meenoplidae sp. S1	EXR1147	Scrape	18/02/2010
Phaconeura `BHE032`	Meenoplidae sp. S1	EXR1147	Scrape	10/04/2010
Phaconeura `BHE032`	Meenoplidae sp. S1	EXR1154	Scrape	17/02/2010
Prethopalpus sp. B32	Araneae sp. indet. MN	EXR0509	Scrape	9/04/2010
Scolopendridae sp. S05	Cryptopidae indet. MN	MN0013R	Trap 1	23/05/2009
Troglarmadillo sp. B64 (= sp. S14)	Troglarmadillo sp. S14	EXR1149	Trap 1	8/04/2010
Zuphiinae sp. S01 s.l.	Zuphiinae sp. S1	EXR1150	Scrape	10/04/2010

8.6. Subterranean fauna collected at Ministers North.

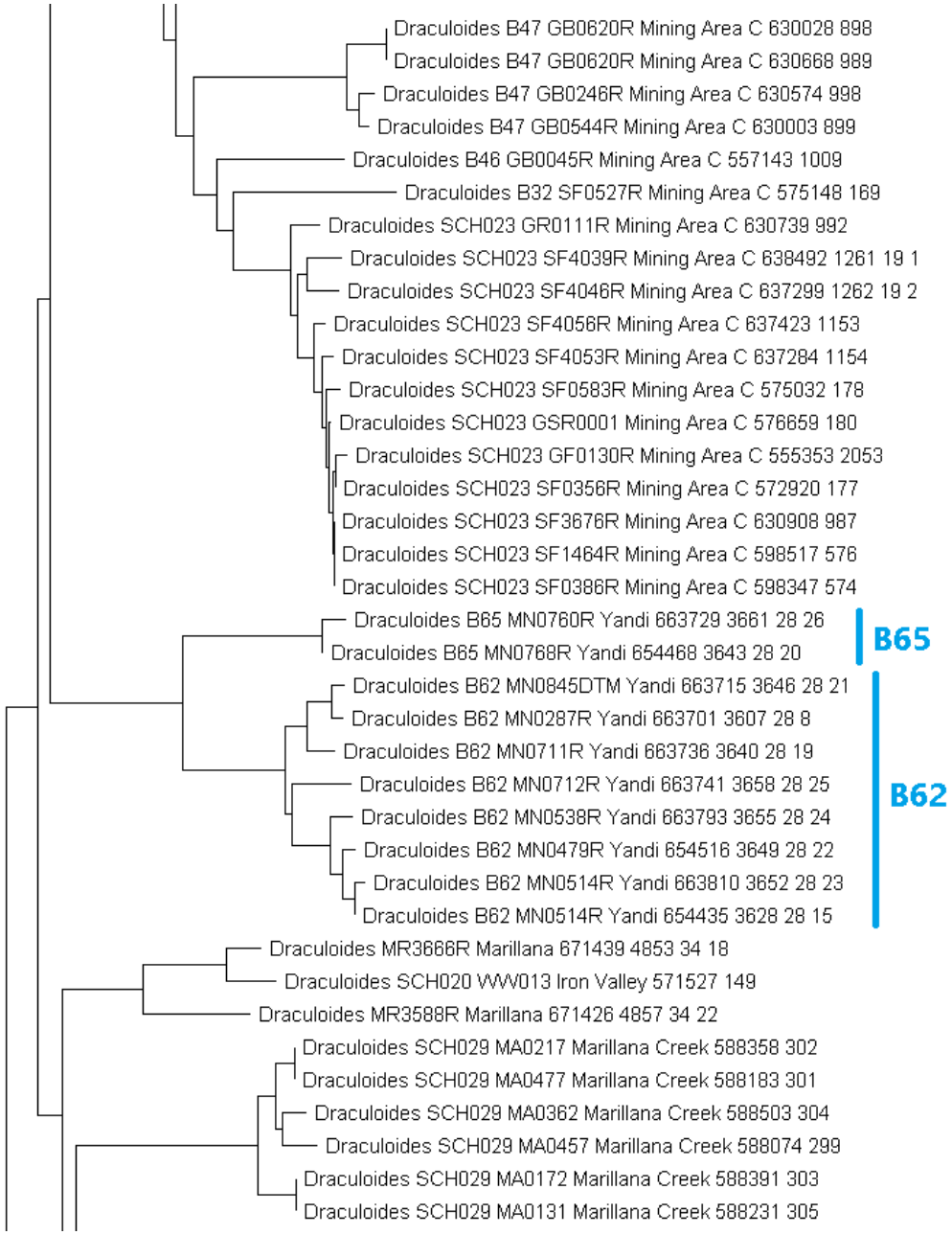
Hole Id	Collected	Sample	Lowest ID	Fauna	#
EXR0405	17/02/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	7
EXR0406	17/02/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	160
EXR0406	9/04/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	35
EXR0406	9/04/2010	Scrape	Palpigradi sp. B24	Trog	1
EXR0407	18/02/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	1
EXR0506	19/02/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	4
EXR0509	22/02/2009	Net	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR0509	9/04/2010	Scrape	Prethopalpus sp. B32	Trog	1
EXR0512	21/02/2009	Scrape	Diplura sp.	Trog	4
EXR0512	25/05/2009	Scrape	Chilopoda sp. B01 (Scolopendridae/Cryptopidae)	Trog	1
EXR0513	8/04/2010	Trap 1	Lophoturus madecassus	Trog	1
EXR0513	9/04/2010	Scrape	Lophoturus madecassus	Trog	1
EXR0597	20/02/2009	Scrape	Hemiptera sp. B02 (=Fulgoridae sp. S01=cixidae S01)	Trog	2
EXR0597	23/05/2009	Trap 1	Draculoides sp. B62	Trog	1
EXR0597	23/05/2009	Trap 1	Enchytraeidae sp. E06 s.l.	Stygo	1
EXR0597	23/05/2009	Trap 1	Lophoturus madecassus	Trog	1
EXR0597	9/04/2010	Scrape	Prethopalpus sp. B32	Trog	1
EXR0599	23/05/2009	Trap 1	Lophoturus madecassus	Trog	1
EXR0601	23/05/2009	Trap 1	Lophoturus madecassus	Trog	1
EXR0601	10/04/2010	Scrape	Draculoides sp. B62	Trog	1
EXR0765	25/05/2009	Net	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR0765	19/02/2010	Net	Cryptorhynchinae sp. B10	Trog	1
EXR0765	19/02/2010	Net	Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Trog	3
EXR0765	19/02/2010	Net	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR0768	20/02/2009	Net	Phaconeura sp.	Trog	1
EXR0965	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR0965	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	4
EXR0965	3/05/2018	Trap 1	Enchytraeidae sp. E06-B02	Stygo	2
EXR0966	23/05/2009	Trap 1	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	1
EXR0966	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR0966	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	7
EXR0968	23/05/2009	Trap 1	Gnaphosidae sp. S03	Trog	1
EXR0969	23/05/2009	Trap 1	Anapistula sp. S01	Trog	2
EXR0969	18/02/2010	Net	Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Trog	1
EXR0971	25/05/2009	Scrape	Chilopoda sp.	Trog	1
EXR0973	23/05/2009	Trap 1	Draculoides sp. B62	Trog	1
EXR0975	23/05/2009	Trap 1	Blattidae sp. B06 (= sp. S02)	Trog	1
EXR0975	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR0975	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	8
EXR0975	17/02/2010	Scrape	Pauropoda sp. S04	Trog	1
EXR0975	8/04/2010	Trap 1	Blattidae sp. B06 (= sp. S02)	Trog	3
EXR1142	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1142	18/02/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1143	21/02/2009	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1143	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1143	8/04/2010	Scrape	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
EXR1143	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1144	21/02/2009	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1144	23/05/2009	Trap 1	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
EXR1144	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR1146	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1147	21/02/2009	Scrape	Blattidae sp. B06 (= sp. S02)	Trog	1
EXR1147	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	3
EXR1147	23/05/2009	Trap 1	Phaconeura `BHE032`	Trog	2
EXR1147	18/02/2010	Scrape	Phaconeura `BHE032`	Trog	1
EXR1147	10/04/2010	Scrape	Phaconeura `BHE032`	Trog	2
EXR1148	23/05/2009	Trap 1	Gnaphosidae sp. S03	Trog	1
EXR1148	23/05/2009	Trap 1	Lagynochthonius sp. B20 (= sp. S04)	Trog	4
EXR1148	23/05/2009	Trap 1	Linyphiidae sp. S01	Trog	1
EXR1148	18/02/2010	Scrape	Araneae sp.	Trog	1
EXR1148	8/04/2010	Trap 1	Araneae sp.	Trog	1
EXR1148	10/04/2010	Scrape	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
EXR1149	25/05/2009	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1

Hole Id	Collected	Sample	Lowest ID	Fauna	#
EXR1149	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1149	8/04/2010	Trap 1	Troglarmadillo sp. B64 (= sp. S14)	Trog	1
EXR1149	10/04/2010	Scrape	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	4
EXR1149	10/04/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	20
EXR1150	21/02/2009	Scrape	Pselaphinae sp. S04	Trog	1
EXR1150	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	3
EXR1150	25/05/2009	Scrape	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	1
EXR1150	25/05/2009	Scrape	Pselaphinae sp. S04	Trog	2
EXR1150	18/02/2010	Scrape	Blattidae sp. B06 (= sp. S02)	Trog	1
EXR1150	18/02/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1150	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1150	10/04/2010	Scrape	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	5
EXR1150	10/04/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
EXR1150	10/04/2010	Scrape	Zuphiinae sp. S01 s.l.	Trog	1
EXR1151	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	4
EXR1151	25/05/2009	Scrape	Blattidae sp. B06 (= sp. S02)	Trog	1
EXR1151	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	5
EXR1151	10/04/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR1153	23/05/2009	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	2
EXR1154	23/05/2009	Trap 1	Anillini sp. S06	Trog	1
EXR1154	23/05/2009	Trap 1	Nematoda spp.	Stygo	1
EXR1154	17/02/2010	Scrape	Phaconeura `BHE032`	Trog	1
EXR1154	8/04/2010	Trap 1	Draculoides sp. B62	Trog	1
MCPBMN3P	19/02/2010	Net	Nematoda spp.	Stygo	1
MCPBMN3P	15/10/2017	Net	Tubificidae sp. B09	Stygo	2
MN0011R	21/02/2009	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	2
MN0011R	23/05/2009	Trap 1	Blattidae sp. B06 (= sp. S02)	Trog	1
MN0011R	23/05/2009	Trap 1	Enchytraeidae sp. E06-09	Stygo	1
MN0011R	25/05/2009	Scrape	Blattidae sp. B06 (= sp. S02)	Trog	1
MN0011R	25/05/2009	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0011R	18/02/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0011R	8/04/2010	Trap 1	Blattidae sp. B06 (= sp. S02)	Trog	1
MN0011R	8/04/2010	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0012R	18/02/2010	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0013R	23/05/2009	Trap 1	Phaconeura `BHE032`	Trog	1
MN0013R	23/05/2009	Trap 1	Scolopendridae sp. S05	Trog	1
MN0013R	24/05/2009	Net	Blattidae sp. B06 (= sp. S02)	Trog	1
MN0013R	24/05/2009	Net	Hemiptera sp. B02 (=Fulgoridae sp. S01=cixidae S01)	Trog	1
MN0015R	21/02/2009	Scrape	Araneomorphae sp.	Trog	1
MN0016R	19/02/2010	Scrape	Enchytraeidae sp. E06 s.l.	Stygo	1
MN0117R	14/10/2017	Net	Diacyclops humphreysi humphreysi	Stygo	13
MN0117R	14/10/2017	Net	Paramelitidae Genus 2 sp. B21 (=S06)	Stygo	15
MN0285R	3/05/2018	Trap 1	Dodecastyla sp.	Trog	1
MN0285R	20/12/2018	Trap 1	Coleoptera sp. B09	Trog	1
MN0285R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	20
MN0286R	7/03/2018	Scrape	Nocticola sp.	Trog	2
MN0286R	20/12/2018	Trap 2	Sciaridae sp. B01	Trog	10
MN0287R	16/10/2017	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0287R	3/05/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0287R	3/05/2018	Trap 1	Lophoturus madecassus	Trog	3
MN0287R	20/12/2018	Trap 1	Lophoturus madecassus	Trog	2
MN0288R	7/03/2018	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	2
MN0288R	3/05/2018	Trap 1	Sciaridae sp. B01	Trog	1
MN0289R	3/05/2018	Trap 1	Nocticola sp.	Trog	1
MN0289R	20/12/2018	Trap 1	Draculoides sp. B52	Trog	1
MN0289R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0290R	3/05/2018	Trap 1	Blattidae sp.	Trog	2
MN0290R	3/05/2018	Trap 1	Nocticola sp.	Trog	2
MN0290R	20/12/2018	Trap 2	Cryptorhynchinae sp. B10	Trog	1
MN0290R	20/12/2018	Trap 2	Troglarmadillo sp. B64 (= sp. S14)	Trog	1
MN0292R	7/03/2018	Scrape	Nocticola sp.	Trog	3
MN0292R	3/05/2018	Trap 1	Nocticola sp.	Trog	4
MN0292R	20/12/2018	Trap 1	Lophoturus madecassus	Trog	1

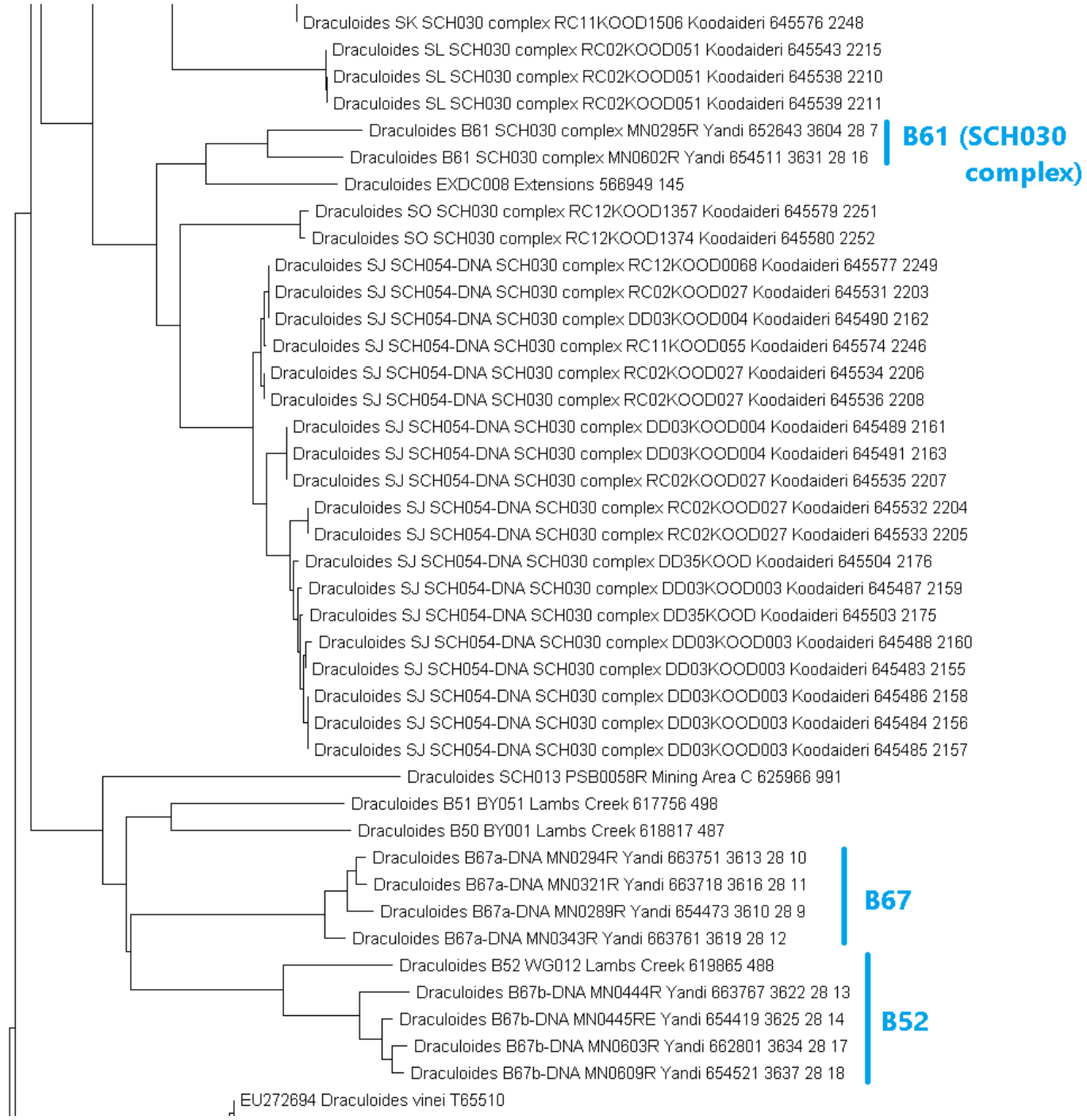
Hole Id	Collected	Sample	Lowest ID	Fauna	#
MN0293R	20/12/2018	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	2
MN0294R	3/05/2018	Trap 1	Dampetrus sp. B05 (nr isolatus)	Trog	1
MN0294R	3/05/2018	Trap 1	Draculoides sp. B52	Trog	1
MN0294R	3/05/2018	Trap 1	Nocticola sp.	Trog	2
MN0294R	20/12/2018	Trap 1	Coleoptera sp.	Trog	1
MN0294R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0295R	18/10/2017	Scrape	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	1
MN0295R	18/10/2017	Scrape	Draculoides sp. B61 (SCH030 complex)	Trog	1
MN0295R	18/10/2017	Scrape	Hemiptera sp. B02 (=Fulgoridae sp. S01=cixidae S01)	Trog	2
MN0295R	18/10/2017	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	12
MN0295R	18/10/2017	Scrape	Phaconeura sp.	Trog	7
MN0295R	7/03/2018	Scrape	Nocticola sp.	Trog	2
MN0295R	7/03/2018	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0295R	7/03/2018	Scrape	Phaconeura sp.	Trog	6
MN0295R	7/03/2018	Scrape	Trinemura sp. B32	Trog	1
MN0295R	20/12/2018	Trap 1	Dodecastyla sp. B02 (=Atelurodes sp. S02)	Trog	1
MN0295R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0311R	8/03/2018	Scrape	Nocticola sp.	Trog	3
MN0311R	3/05/2018	Trap 1	Nocticola sp.	Trog	3
MN0321R	17/10/2017	Scrape	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
MN0321R	17/10/2017	Scrape	Nocticola sp.	Trog	1
MN0321R	8/03/2018	Scrape	Phaconeura sp.	Trog	2
MN0321R	3/05/2018	Trap 1	Draculoides sp. B52	Trog	1
MN0343R	3/05/2018	Trap 1	Draculoides sp. B52	Trog	1
MN0343R	3/05/2018	Trap 1	Nocticola sp.	Trog	2
MN0343R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0343R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	16
MN0392R	7/03/2018	Scrape	Lagynochthonius sp.	Trog	1
MN0393R	18/10/2017	Scrape	Blattidae sp. B06 (= sp. S02)	Trog	1
MN0393R	18/10/2017	Scrape	Nocticola sp.	Trog	1
MN0411R	7/03/2018	Scrape	Nocticola sp.	Trog	1
MN0411R	7/03/2018	Scrape	Oonopidae sp. B19-DNA	Trog	1
MN0411R	3/05/2018	Trap 1	Nocticola sp.	Trog	1
MN0411R	20/12/2018	Trap 2	Hanseniella sp. B42-DNA	Trog	1
MN0411R	20/12/2018	Trap 2	Palpigradi sp. B23	Trog	1
MN0413R	15/10/2017	Scrape	Pauropoda sp. B01 (= sp. SOLOMON 1)	Trog	1
MN0413R	3/05/2018	Trap 1	Sciaridae sp. B01	Trog	6
MN0416R	3/05/2018	Trap 1	Cryptorhynchinae sp. B10	Trog	1
MN0416R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0444R	8/03/2018	Scrape	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
MN0444R	3/05/2018	Trap 1	Draculoides sp. B67-DNA	Trog	1
MN0444R	20/12/2018	Trap 1	Draculoides sp. B67-DNA	Trog	1
MN0444R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0445RE	15/10/2017	Scrape	Nocticola sp.	Trog	1
MN0445RE	8/03/2018	Scrape	Nocticola sp.	Trog	1
MN0445RE	3/05/2018	Trap 1	Sciaridae sp. B01	Trog	8
MN0445RE	3/05/2018	Trap 2	Blattidae sp.	Trog	1
MN0445RE	3/05/2018	Trap 2	Nocticola sp.	Trog	1
MN0445RE	3/05/2018	Trap 2	Sciaridae sp. B01	Trog	10
MN0445RE	20/12/2018	Trap 1	Draculoides sp. B67-DNA	Trog	1
MN0445RE	20/12/2018	Trap 2	Nocticola sp.	Trog	1
MN0450R	3/05/2018	Trap 1	Blattidae sp.	Trog	3
MN0450R	20/12/2018	Trap 1	Nocticola sp.	Trog	2
MN0454R	3/05/2018	Trap 1	Blattidae sp.	Trog	2
MN0454R	20/12/2018	Trap 1	Lophoturus madecassus	Trog	1
MN0454R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0454R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	1
MN0466R	7/03/2018	Scrape	Nematoda spp.	Stygo	6
MN0471R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0471R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	1

Hole Id	Collected	Sample	Lowest ID	Fauna	#
MN0478R	20/12/2018	Trap 1	Lophoturus madecassus	Trog	7
MN0479R	3/05/2018	Trap 1	Blattidae sp.	Trog	1
MN0479R	20/12/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0490R	20/12/2018	Trap 1	Nocticola sp.	Trog	3
MN0514R	8/03/2018	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	2
MN0514R	3/05/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0514R	3/05/2018	Trap 1	Nocticola sp.	Trog	4
MN0514R	3/05/2018	Trap 1	Troglarmadillo sp. B64 (= sp. S14)	Trog	1
MN0514R	3/05/2018	Trap 2	Troglarmadillo sp. B64 (= sp. S14)	Trog	1
MN0514R	20/12/2018	Trap 1	Draculoides sp. B62	Trog	4
MN0514R	20/12/2018	Trap 1	Troglarmadillo sp. B64 (= sp. S14)	Trog	2
MN0514R	20/12/2018	Trap 2	Draculoides sp. B62	Trog	1
MN0535R	20/12/2018	Trap 1	Lophoturus madecassus	Trog	2
MN0538R	8/03/2018	Scrape	Nocticola sp.	Trog	3
MN0538R	3/05/2018	Trap 1	Blattidae sp.	Trog	1
MN0538R	3/05/2018	Trap 1	Draculoides sp. B62	Trog	2
MN0602R	7/03/2018	Scrape	Hemiptera sp. B02 (=Fulgoridae sp. S01=cixidae S01)	Trog	1
MN0602R	20/12/2018	Trap 1	Draculoides sp. B61 (SCH030 complex)	Trog	1
MN0603R	6/03/2018	Scrape	Draculoides sp. B67-DNA	Trog	1
MN0608R	3/05/2018	Trap 1	Blattidae sp.	Trog	1
MN0608R	3/05/2018	Trap 1	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0609R	13/10/2017	Scrape	Lagynochthonius sp.	Trog	1
MN0609R	6/03/2018	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	1
MN0609R	20/12/2018	Trap 1	Draculoides sp. B67-DNA	Trog	1
MN0609R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	6
MN0626R	3/05/2018	Trap 1	Enchytraeidae sp. E06-B03	Stygo	5
MN0626R	3/05/2018	Trap 1	Nematoda spp.	Stygo	1
MN0647R	6/03/2018	Scrape	Hemiptera sp. B02 (=Fulgoridae sp. S01=cixidae S01)	Trog	1
MN0675R	20/12/2018	Trap 1	Trigoniulidae sp. B06	Trog	2
MN0696R	7/03/2018	Scrape	Typhlozuphium sp. B04	Trog	1
MN0708R	13/10/2017	Scrape	Nocticola sp.	Trog	1
MN0708R	7/03/2018	Scrape	Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Trog	1
MN0708R	7/03/2018	Scrape	Nocticola sp.	Trog	3
MN0708R	3/05/2018	Trap 1	Sciaridae sp. B01	Trog	2
MN0708R	20/12/2018	Trap 1	Hanseniella sp. B43-DNA	Trog	1
MN0708R	20/12/2018	Trap 1	Nocticola sp.	Trog	1
MN0711R	17/10/2017	Scrape	Lagynochthonius sp. B20 (= sp. S04)	Trog	1
MN0711R	17/10/2017	Scrape	Nocticola sp.	Trog	2
MN0711R	17/10/2017	Scrape	Phaconeura sp.	Trog	1
MN0711R	6/03/2018	Scrape	Blattidae sp.	Trog	1
MN0711R	3/05/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0711R	3/05/2018	Trap 1	Nocticola sp.	Trog	1
MN0711R	3/05/2018	Trap 1	Sciaridae sp. B01	Trog	1
MN0711R	3/05/2018	Trap 2	Draculoides sp. B62	Trog	1
MN0711R	20/12/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0712R	3/05/2018	Trap 1	Draculoides sp. B62	Trog	1
MN0712R	3/05/2018	Trap 1	Troglarmadillo sp. B64 (= sp. S14)	Trog	1
MN0752R	18/12/2017	Trap 1	Sciaridae sp. B01	Trog	4
MN0752R	18/12/2017	Trap 1	Troglarmadillo sp. B65	Trog	2
MN0760R	3/05/2018	Trap 1	Draculoides sp. B65	Trog	3
MN0760R	3/05/2018	Trap 1	Nocticola sp.	Trog	3
MN0767R	6/03/2018	Scrape	Nocticola sp. B36 (cockingi s.l.)	Trog	4
MN0767R	3/05/2018	Trap 1	Curculionidae Genus 1 sp. B15 (B02=S02 clade)	Trog	1
MN0767R	3/05/2018	Trap 1	Nocticola sp.	Trog	3
MN0767R	3/05/2018	Trap 1	Polydesmida sp. B11	Trog	1
MN0767R	20/12/2018	Trap 1	Sciaridae sp. B01	Trog	4
MN0768R	20/12/2018	Trap 1	Draculoides sp. B65	Trog	1
MN0845DTM	3/05/2018	Trap 1	Draculoides sp. B62	Trog	1
MN2	24/05/2009	Net	Pauropoda sp. S04	Trog	1

8.7. Molecular results for schizomids



(continued on next page)



Intra and inter divergences of schizomids at Ministers North.

	B61	B62	B65	B52	B67
B61 (SCH030 complex)	5.1%				
B62	16.8-18.9%	0.6 – 3.5%			
B65	16.9-17.6%	6.7-8.7%	0.6%		
B52	21.1-23.0%	18.4-20.6%	15.8-18.1%	0.8 – 7.3%	
B67	17.8-20.0%	14.9-16.8%	17.8-22.3%	12.9-23.9%	0.6 – 2.1%