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THE SHELL COMPANY OF AUSTRALIA LIMITED

EXPLORATION LICENCE 18/77, AVOCA (NORTH OF 5350000 mN)

SIX MONTHLY PROGRESS REPORT FOR PERIOD ENDING 26TH JANUARY 1979

The Shell Company of Australia Limited
260 Macquarie Street,
HOBART. TAS.

January, 1979

CEPR 4/79

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SUMMARY

This report presents the results of exploration over a 12 month period ending 26-1-79, in E.L. 18/77, Avoca.

Field mapping and the drilling of 7 fully cored drillholes have delineated and tested several areas of Triassic Coal Measures. Coal seam development is poor, the best seams occurring in the Mt. Christie region.

A basement of intensely folded Mathinna Group sediments and Devonian granite are unconformably overlain by a dominantly marine Permian sequence followed by a fresh water Triassic sequence. During the Jurassic transgressive intrusion of dolerite sheets into the Permo-Triassic took place. Coal measures are confined to the Upper Triassic, the remnants of which are protected by the dolerite capping.

It is recommended that exploration be continued in the northern part especially in the neighbourhood of, and to the west of the old mines.

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INTRODUCTION

1.1 SCOPE

This report, based on a detailed report by J.K. Ivett, (1978), describes the results of exploration activities conducted in E.L. 18/77, Avoca during the 12 month period ended 26th January, 1979. Photogeological office studies, field mapping and diamond drilling have been completed, the bulk of field work being concentrated in the escarpment areas centered on the Fingal and St. Pauls Valleys in the north of the E.L. and in the area of the Swan River in the east of the E.L. For ease of presentation exploration results have been detailed for two areas, one lying north of AMG latitude 5350000 mN and the other lying to the south of this latitude. The southern area has been relinquished and results of exploration in this area have been detailed in Shell CEPR 2/79.

1.2 TENURE

Exploration Licence 18/77, Avoca has been held by The Shell Company of Australia Limited for two 6 month periods, the initial period being granted on 26th January 1978. A further 6 monthly renewal is pending.

1.3 LOCATION AND ACCESS

E.L. 18/77 is situated in the central-eastern portion of Tasmania and lies within the AMG coordinates 550000 mE-594000 mE and 5390000 mN-5340000 mN. The area is basically "L" shaped and before relinquishments covered an area of 1142 sq km, (Encl 1).

Avoca (population 207) is the only notable township lying within the E.L. while Campbell Town (936) is situated to the west of the area and Swansea (376) is situated on the coast to the south-east.

The major sealed roads through the E.L. are the Esk Highway following the Fingal (South Esk River) Valley in the north and the Tasman Highway which follows the east coast in the far eastern sections of the E.L. The unsealed Lake Leake Road traverses the E.L. from east to west and roughly parallels the southern boundary of the E.L. Other access in the E.L. comprises a network of unsealed 4 wheel-drive property and logging tracks (Encl. 1). It is possible to traverse the area, using these tracks, from Benham Homestead near Avoca to Wellwood on the Lake Leake Road.

A 1067mm (3 feet 6 inches) gauge railway administered by the Australian National Railways Commission since 1 July 1975, and now used only for freight, runs adjacent to the Esk Highway.

Benham Estates control most of the private land along and south of the Fingal Valley including the homesteads of Benham, Homebush, Windfalls, Stonehouse, Harrimount (unoccupied) and Springfield (unoccupied). North of the Fingal Valley private land is held by Bona Vista Estate and Bonneys Plains Estate. On the east coast the private land is controlled by several smaller property owners.

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1.4 TOPOGRAPHY AND CLIMATE

Most of the E.L. comprises plateau country which in general slopes to the south-east falling from the highest point of 800 m.ASL at the base of the Ben Lomond Plateau in the north to 600-650 m.ASL in the south of the E.L. while also falling to 100-150 m on the east coast. The dolerite plateau country has an average reduced level of 650m.ASL, and to the south of the Fingal Valley has developed as extensive, relatively flat lying areas. The lowest reduced levels, 100-200 m.ASL, are in the major river valleys, the main rivers being the South Esk and St. Pauls Rivers in the north, the Elizabeth River in the south-east and the Swan and Cygnet Rivers in the south-east. All these rivers, except the Elizabeth have eroded through the dolerite plateau exposing the softer, underlying Permo-Triassic sediments resulting in the development of steep scarps from the level of the valleys to the dolerite plateaux.

The drainage pattern is youthful, modified on the plateaux by local base level developments in the marshy areas. The scarps have deeply incised valleys commonly following lithological contacts and structural trends at lower levels. The major river valleys are wide but have relatively confined flood plains. The Fingal Valley in the area of Avoca is very broad and gently undulating due to the cover of Tertiary basalt.

Average rainfall in the greater part of the E.L. is much higher than indicated by the the following table.

AVERAGE RAINFALL/YEARRainfall District

Midlands	557 mm
East Coast	829 mm

Rainfall Stations

	<u>Average (mm)</u>	<u>Days Rain</u>
Avoca	562	109
Campbell Town	547	91
Oatlands	540	165
St. Marys	1038	100
Swansea	621	117

Approximately twice as many rainfall days are experienced on the plateaux, particularly to the south. The restricted valley areas, where the recording stations are located, have different climatic conditions to the higher plateau regions which act as centres for precipitation. Almost all rain falls during the months May to November, the highest rainfall being during July-August.

Winters are severe with average winter temperatures ranging from -5°C to 5°C . Snow-falls are common above 600m. from June to August and there is no frost free month. Summers are short, dry and have average maximum temperatures of approximately 20°C .

Mid-summer provides 15 hours daylight while this drops to approximately 9 hours during winter. In January daily sunshine averages approximate 9 hours/day while in winter averages approximate 3 hours/day.

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Winds are predominantly north-west to south-west with greatest strength and persistence in late winter. Relative humidity is generally low particularly when under the influence of dry westerly winds.

PREVIOUS EXPLORATION

2.1 AVOCA COALFIELD REPORT

This report by Hills in 1922 deals with the Mt. Christie Area, the Ben Lomond Area, the Merrywood Area and the Lewis Hill Area. Only the Mt. Christie Area falls close to or within E.L. 18/77. This report although out-dated has formed the basis for all subsequent exploration in the Avoca area.

Buena Vista Coal Mine (Early 1900's - 1920)

This was more of an exploration area rather than a mine in its true sense. Work was conducted over an area of approximately 40 sq km in the area of Mt. Christie (Encl. 1). Exploratory work was in the form of bores, shallow shafts and short dip adits scattered around Mt. Christie. (Locations 4-11, Encl. 1).

At location 4 (Encl.2) a prospecting shaft was driven on a seam thought to be the Beta Seam and at location 5 the same seam was intersected.

At location 9 (Encl.3) an adit was driven on the Delta Seam. It was in the area of locations 4,5,9 that the Stanhope Colliery later developed.

Other locations within the Buena Vista lease provided only poor outcrop exposures or intersections of inferior seams compared to those mentioned above. Several holes were drilled but only the following results are available:-

Bore A - 100 feet T.D. - no results

Bore B - 300 feet T.D. - passed through several coal seams.

Bore C - 500 feet T.D. - passed through a 4' (1.2m) thick seam.

The above drillholes are located on Enclosure 1 but the numbering of the holes is unknown.

Mt. Christie Mine (1922)

The mine is located on the southern fall of Greenstone Hill (Encl. 1) and workings consisted of 3 adits. Initial workings were near surface workings on a seam lying above the Beta Seam. Eighty metres to the south-west of these workings an adit was driven on the Beta seam which varied between 2.7 and 3.6m in thickness. Workings from this adit were interrupted by a fault, down thrown to the east by 18m. An inclined adit was then driven on the eastern side of the fault and eventually the Beta seam was worked out, the easterly progress being terminated against the Castle Carey Fault.

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STANHOPE COLLIERY (1931-1960)

Initial workings, known as the Stanhope Colliery are situated opposite the Mt. Christie Mine and adits were driven on the eastern fall of Mt. Christie. Initially an adit was driven on the Delta Seam but development was minor as faulting, trending in a similar direction to that at Mt. Christie Mine, caused the workings to be abandoned. Another adit at a higher level was driven on the Beta seam. These workings were limited in extent as a dolerite dyke or dolerite filled major fault displaced the seam, the displaced section never being traced. This fault parallels the Castle Carey fault and confined the workings to a narrow strip adjacent to the fault. As the seam thinned rapidly to the south the Stanhope workings were abandoned with the only further work at this site being open-cut extraction of the pillars from the old Delta seam workings. To the north of the Stanhope Mine the New Stanhope Colliery opened, the workings again being developed on the Beta Seam. At this locality (Encl. 1) the seam is at a lower level than at Stanhope and the workings extend to the east abutting the Castle Carey Fault. Abundant faulting hampered production and eventually helped in forcing the closure of the colliery.

The operating company had five exploratory holes drilled but all holes failed to intersect any significant coal seams and therefore did not aid in delineating the extent of workable coal in the area.

2.3 Bonneys Plains Mine

Three adits were driven on the Beta seam the initial adit being part of the original Mt. Christie exploration. The Stanhope Colliery drove the other adits but little production was achieved. The Beta seam at this locality is apparently not as well developed as at Stanhope and the dolerite is at a lower level being only one foot above the seam roof.

2.4 International Mining Corporation (1970)

This company carried out preliminary geological, geochemical and radiometric surveys and drilled eight 100mm diameter drillholes totalling 346m, in an area to the north-east of E.L. 18/77. These studies were confined to the upthrown side of the Castle Carey fault where no Triassic sediments are present and consequently no coal intersections were reported.

2.5 Western Mining Corporation (1976-1977)

The Western Mining Corporation (W.M.C.) were involved in exploration of the Fingal Valley for a 12 month period ending 2-8-77, the explored area covering the northern section of Shell's E.L. 18/77. Exploration involved field mapping and open hole drilling. Initial field mapping led to a drilling programme involving nine chip drill holes (Encl. 1). A total metreage of 587.3m was drilled with a maximum hole depth of 85m. Hole placement indicated an aim of delineating shallow open cut coal and consequently only two of the nine holes intersected any reasonable coal horizons (Encl.4). All holes were sited below or on known coal outcrops outlined in Hills 1922 report. All drillholes were logged using a portable geophysical logging unit producing gamma-ray, resistivity and S.P. logs. However, characteristic units or lithologies could not be delineated and correlation between holes was not possible.

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3. REGIONAL GEOLOGY

3.1 STRATIGRAPHY

E.L. 18/77 lies within the Permo-Triassic Tasmania Basin which extends over most of the eastern half of Tasmania. The northern section of the E.L. lies on the north-eastern flank of the basin while to the south and east the central regions of the basin are approached.

The rock types present within the area were formed during two distinct periods of sedimentation. These two periods of sedimentation were separated by a long period of geological time during which the older sediments were intruded by a granite batholith and peneplained before the sedimentation of the second cycle began. At the close of the second period of sedimentation the Jurassic saw the extensive intrusion of several sheets of dolerite and dolerite dykes, these intrusive phases being associated with faulting.

The first cycle of sedimentation is represented by the Mathinna Group sediments thought to range in age from Early Ordovician to Early Devonian. The thickness of the Mathinna is unknown but the component lithologies indicate a deltaic or estuarine environment of deposition. Sedimentation was closed by the Tabberabberan Orogeny during which the Mathinna was intensely folded along a north-westerly axis. The dominant lithologies recognised are quartzites, phyllites, siltstones and slates.

The Mathinna Group sediments were then intruded by the Devonian Ben Lomond Granite, with associated late stage hydrothermal fluids resulting in mineralization of certain areas.

A long period of erosion followed, probably extending from the Carboniferous to the early Permian, during which the Mathinna Group was peneplained in some areas exposing the underlying, intrusive granite leaving a roughly undulating topography upon which the Permian was deposited.

The lower Permian is represented by shallow fresh water deposits of conglomerates, grits and coarse sands which exhibit a general trend of upwards fining. A marine incursion followed with mudstones and siltstones being deposited, the mudstones being abundantly fossiliferous (marine) in the upper sections. Limestones were then deposited before conditions appeared to have changed to very shallow marine during which fine sandstones were deposited. The final stage of the Permian saw the deposition of mainly freshwater mudstones.

Conformably following the Permian are the freshwater sediments of the Triassic. The lower Triassic although not always represented consists of thick, homogeneous, quartzose sandstones which show an increasing lithic content towards the top, until in the Upper Triassic, the sandstones are lithic. In the Upper Triassic/Lower Jurassic, coal measure sediments and coal seams are developed.

The mid-Jurassic saw the intrusion of dolerite into the Permian and Triassic sediments. The dolerites form extensive sill structures these often being transgressive. The intrusion of the dolerites now appear to be far more complex than was formerly recognised.

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Intense block faulting occurred in the lower Tertiary along north-westerly and north-easterly trends. Tertiary sand and clay deposits are confined to Eocene structural and erosional depressions while tholeiitic and alkali basalts are present in many of the major river valleys.

Continuous erosion has followed the Tertiary often exposing the pre-Permian basement with Recent deposits being thin and confined to valley floors.

3.2 STRUCTURE

The Mathinna Group Sediments were intensely folded during the Tabberabberan Orogeny resulting in the development of a regional north-westerly axis for the folding. Bedding plane dips are extremely irregular, this in itself being characteristic of the Mathinna.

Permo-Triassic sediments in the region of E.L. 18/77 show a regional dip of less than 5 degrees in a south-westerly direction although faulting has caused deviations in both strike and dip, particularly when in the proximity of major faults. No folding has been observed in the Permo-Triassic.

Major faulting appears to post date the Permo-Triassic and is probably associated with the intrusion of the Jurassic dolerites. Repeated movements have probably occurred along major faults especially during the Tertiary when much minor block faulting also occurred. Major faults such as the Castle Carey Fault have throws in excess of 500m often bringing Permo-Triassic sediments into contact with basement. Major faulting trends in north-westerly and north-easterly directions.

EXPLORATION RESULTS (NORTH OF 5350000 mN)

4.1 PHOTOGEOLOGY

Consultant Geologists Layton and Associates performed an earth fracture analysis using stereographic techniques and Landsat Imagery. A base plan and photogeological overlay were prepared together with four fracture plans comprising:-

1. Total fracture trace plan.
2. Landsat imagery lineament plan.
3. A plan showing local variation of the fracture traces by means of rose diagrams.
4. A plan showing possible major anomalous lineaments.

The aim of the fracture analysis was to establish a detailed structural pattern for the E.L., highlighting individual domains within which minable panels were likely to be fault free, or at least, less faulted than other domains.

No field visits were made and the identification of the lithological groups mapped on the photogeological plan were based on the 1:250,000 Geological Survey of Tasmania sheets SK 55-4 and SK 55-6 and to a lesser extent on Hills, L., 1922, "The Coal Resources of Tasmania, Geological Survey of Tasmania, Mineral Resources No.7". For the geological plan the pattern of major lineaments was simplified with emphasis being placed on those thought to show evidence of actual displacement of geological boundaries.

The total fracture trace plot was prepared defining a fracture trace as a generally abundant, natural lineation.

The Landsat Imagery lineament plot was prepared from 1:100,000 computer enhanced colour and black and white Landsat Images, selecting lineaments greater than 2km in length. The scale was increased to the photoscale of 1:40,000.

Local variations in fracture traces are expressed by rose diagrams. Fracture traces were processed manually by defining areas bounded by major faults or geological contacts and being approximately 30 sq.km in area. A rose diagram using 3 fracture length categories was then prepared for each block.

Using a combination of the 3 previously mentioned plans a plot showing possible major anomalous lineaments was compiled. (Encl.5)

It has been found that field mapping results disagree with the photogeology and therefore little emphasis has been placed on the geology shown on the photo geological plans. Many of the lineaments shown appear to be unrelated to major geological field structures and are likely to represent only a weathering enhancement or some minor feature. As a general rule only a few of the major structural features seen in the field appear to have a corresponding lineation on the plans presented.

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The general north-westerly fracture trend compliments the trends of major faulting seen in the field and the general direction of the Mathinna fold axes.

4.2 MAPPING

Results are presented as Enclosures 6-7.

The Mathinna Group - Silurian

Mathinna sediments outcrop east of the Castle Carey Fault with the best exposures being around St. Pauls Dome and on the southern fall of the St. Pauls River Valley. Although obvious in the field, in situ outcrop is poor but large areas of scree can be recognised.

Lithologically the group comprises regionally metamorphosed sediments the common representatives being quartzites, phyllites and slates. In addition, sandstones and greywacke occur while small occurrences of schist have been noted. The quartzites are hard and massive, commonly occurring as large blocks within the scree. Abundant quartz veining is present where the Mathinna is close to the contact with the intrusive Ben Lomond Granite. Contact metamorphic effects have been observed adjacent to the Ben Lomond Granite. In many places the Mathinna acts as host for mineralization and although small these mineralized areas are numerous. To the west of Snow Creek, where only a thin veneer of Mathinna remains, more extensive mineralization has occurred.

Structures within the Mathinna rocks examined are rare and in most cases bedding cannot be traced. However outside the E.L. in the Rossarden area, Blisset, (1959) observed the characteristic north-west trend of the Mathinna fold axes.

Ben Lomond Granite - Devonian

The granite has intruded the Mathinna and in the area mapped is exposed only to the east of the Castle Carey Fault. The granite has formed very prominent outcrops north of the South Esk River and on the southern fall of the St. Pauls River Valley.

A number of different granite types have been observed the most abundant granite being a pink, coarse grained porphyry exhibiting large phenocrysts of Carlsbad twinned feldspar. Finer grained varieties of the granite were observed and aplite is present in what are assumed to be marginal areas of the granite batholith. Tin and tungsten mineralization in the Mt. Rex, Storeys Creek, Rossarden and Royal George areas occurs in association with this granite.

The granite outcrops as rounded domes, large tors and smooth hill slopes covered with coarse quartz gravel.

Permian Rocks (Lower Permian Super-Group)

Permian rocks rest with a marked unconformity on the Ben Lomond Granite and Mathinna sediments although in the area around St. Pauls Dome the Permian and Mathinna appear conformable indicating that in this area the Mathinna was well peneplained.

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The Permian has been mapped as undifferentiated, however in the field a number of different lithologies were noted and can be correlated with the subdivision outlined in Blissett, A.H., 1959, "The Geology of the Rossarden - Storeys Creek District".

Approximately 150m of Permian are present, however this figure may vary as a clearly defined section could not be located. Outcrop is usually scree covered making it difficult to place definite boundaries on lithological subdivisions.

Outcrop is mainly confined to the upthrown eastern side of the Castle Carey Fault; however, small fault bounded blocks of Permian do exist on the western side of the fault in the area north of Avoca.

Basal sections of the Permian are variable but commonly are present as conglomerates, coarse quartzose grits or coarse sandstones. The conglomerates are more common where the Permian overlies the Mathinna and the cobbles within the conglomerate are often blocks of Mathinna quartzite, quartz and slate. Where the Permian rests on the granite the basal member is more commonly a coarse quartz grit which when weathered forms a gravel which is indistinguishable from the weathering product of the granite itself. Above the conglomerates and grits poorly sorted sandstones occur and in general this basal section, thought to be the equivalent of the Aberfoyle Formation, shows a tendency to fine upwards into the mudstones above.

These mudstones probably correlate with Blissett's Castle Carey Mudstone. The mudstones are pale in colour, weathering to yellow. Bands of shale and siltstone are common and towards the top of this horizon sandstones can occur. The lower horizons of the mudstone are unfossiliferous but abundant fossils are found towards the top, being crowded with *Spirifer* and *Bryozoa*. The fossil bearing mudstones are often silicified and as a result form the best outcrop.

In a number of places a siltstone containing pebbles of Mathinna and fragments of mudstones is found overlying the fossiliferous mudstone. In many respects this bed resembles the basal Aberfoyle rocks and can be easily confused.

In the St. Pauls Dome region a thin, hard, grey limestone is present and probably correlates with the Burnt Gully limestone. No other outcrop was found in the area but a number of blocks were noticed on the scree slopes. Many of the mudstone beds located in the area were found to be calcareous. The limestone in this area is very thin and may be absent.

On the southern side of the St. Pauls River Valley the next stratigraphic horizon is a poorly fossiliferous sandstone which may be the correlative of Blissett's Mistletoe Sandstone. Fragments of sandstone are also found around St. Pauls Dome.

The upper most Permian horizon is a hard, silicified, pale yellow to white mudstone. This is the common Permian scree covering and is found as angular blocks showing a conchoidal fracture.

Triassic Rocks (Upper Parmeener Super-Group)

Triassic rocks conformably overlie the Permian and unlike the pre-Triassic rocks, are confined mainly to the west of the Castle Carey Fault. The thickness of the Triassic appears to vary markedly within the E.L. because of structural controls and no section was measured due to poor outcrop, faulting and the transgressive nature of dolerite intrusion.

Triassic sediments are not subdivided in recent nomenclature but are referred to as the Upper Parmeener Super-Group. Within E.L. 18/77 distinct upper and lower Triassic units can be delineated and for the purposes of this report will be discussed separately.

Triassic rocks have been preserved in the downthrown block to the west of the Castle Carey Fault while to the east the Triassic has been eroded with outcrops being found only on the southern fall of the St. Pauls River valley where the dolerite has acted as a protective capping. Most outcrop is obscured by dolerite talus, this being particularly so for the Upper Triassic which is commonly above 300m A.S.L. On some of the steeper slopes outcrops do occur where creeks have removed the dolerite talus. Below 300m outcrops of Lower Triassic are more common, but have often been obscured by Tertiary basalt flows following the major valleys.

The Lower Triassic is represented by a thick, quartzose sandstone which is the most commonly occurring outcrop. The sandstone is well sorted, medium grained and has a very low lithic content. The quartz grains are angular often showing crystal faces and the sandstone is characterized by its glistening appearance. Cross-bedding is common and cliff outcrops can be found such as at Rifle Point. The lithic content increases towards the top until in the Upper Triassic only lithic sandstones are found.

The base of the Upper Triassic is marked by a coarse quartzose grit in some areas and to the west and south of Avoca this grit outcrops along the base of the southern fall of the Fingal Valley. Outcrops of Upper Triassic are small and usually are confined to creeks high up on the dolerite talus slopes.

The Upper Triassic comprises interbedded lithic sandstones, siltstone, mudstone, carbonaceous shales and muds and coal seams. The lithic sandstone is pale gray (weathering to light brown), medium grained, massive, soft and forms the main Upper Triassic outcrop. Extremely homogeneous lithic sandstones occur above the developed coal and carbonaceous material although similar lithic sandstones also occur to a lesser extent below the coaly horizons.

Mudstone outcrops are rare as the grey-green mudstone breaks down readily on exposure to the atmosphere. The Triassic mudstones and shales are best exposed at the many old exploration and mine adits. Coal occurrences are known at Mt. Christie, Stanhope, Bonneys Plains and Bona Vista; however, at many of the other recorded exploration sites where Upper Triassic coal measures have supposedly been exposed no trace of the Triassic could be found. No naturally occurring coal outcrops could be found within the E.L.

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Several coal seams have been reported within the area and in the region of Mt. Christie the seams are best developed. The Beta seam exposed at the Stanhope mine is up to 4m thick but appears to thin rapidly to the south and west where the seams develop a banded appearance with increasing dirt content. Isolated boulder beds directly overlie the coal at Mt. Christie and Stanhope mines. It appears that the coal has developed as thick, clean seams in relatively isolated pockets located close to and roughly paralleling the Castle Carey Fault which may have had a marked influence on the paleotopography and hence coal seam development.

The fault is younger than the coal seams.
Jurassic Rocks

The Jurassic is represented by dolerite which forms a hard resistive capping protecting the underlying Permo-Triassic rocks from erosion. Dolerite covers extensive areas of the E.L. and forms broad plateau areas in the north-west and to the south of the South Esk River.

The dolerite is homogeneous, medium to fine grained and consists of plagioclase, pyroxenes and minor quartz, chlorite and iron oxides. Outcrop forms are variable being more rounded on the plateaus while on the scarp slopes outcrops are jagged and rough often occurring as large blocks and sheets. Jointing and fracturing are common but not consistent in extent. Vertical platy jointing is the best expressed pattern but this is probably due to being more susceptible to weathering than horizontal jointing. At Black Rock columnar jointing is developed.

The elevation of the base of the dolerite is variable, being at 200m ASL to the north-west of Avoca and up to 600m ASL on the eastern side of the Castle Carey Fault. The dolerite has not been preserved in the area east of the Castle Carey Fault to the north of St. Pauls Dome.

Detailed interpretation of the structure of the base of the dolerite is difficult because the contact between the dolerite and the Permo-Triassic sediments is normally obscured by dolerite talus. It is possible however, to draw some regional conclusions. The dolerite almost definitely does not occur as a single, flat sill but is probably composed of a number of sheets and dykes all of which show marked transgressions through the stratigraphic sequence. The dolerite appears to be intrusive as Triassic sediments have been found both above and below the dolerite (drillhole AV2). The form and mechanism of the intrusion are probably very similar to those outlined in Leaman, D.E., 1975, "Form, Mechanism and Control of Dolerite Intrusion near Hobart, Tasmania".

A major transgression appears to have occurred in the region of the Castle Carey Fault. On the eastern side of the fault the dolerite is in contact with the Lower Triassic quartzose sandstones in the Fog Hill area but appears to have transgressed the sequence in an easterly direction to be in contact with the Upper Triassic Coal Measures at Rifle Point just outside the E.L. boundary. Still to the east of the fault but to the north at St. Pauls Dome the dolerite has intruded the Permian in the upper mudstone horizon. In general the base of the dolerite to the east of the Castle Carey Fault is at approximately 600m ASL, while on the west the base elevation is at approximately 300-400m ASL.

On the southern side of the Fingal Valley to the west of the Castle Carey Fault the dolerite base is at an approximate level of 350m ASL while just on the northern side of the South Esk River the base level is 200m ASL. To the north of the River there is a general transgressive movement and in the far northern limits of the E.L. the dolerite base is at 650m ASL.

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It appears that the transgressive nature of the dolerite base is further complicated by faulting but it is not thought that the major apparent transgressions are due to faulting.

A dolerite dyke parallels the Castle Carey Fault in the Mt. Christie region and this dyke appears to be the western limit of the Stanhope Mine workings. In the area around Bonneys Plains the dolerite is known to be extremely close to the coal seams and in one locality the dolerite forms the seam roof. To the area north of Bonneys Plains a regional dip of approximately 5 degrees in a west-north-west direction is apparent in the dolerite.

The thickness of the dolerite varies widely and this is probably related to the form the intrusions take. The thickest dolerite encountered in outcrop was at Black Rock where the thickness is in excess of 250m.

Tertiary

Vesicular, olivine basalts cover large areas of Triassic sediments in the Fingal and St. Pauls River Valleys. There appear to be two flows the lower flow being vesicular while the upper is homogeneous and difficult to distinguish from fine grained dolerite. The basalt appears to be approximately 40m thick but this is variable according to position within the valleys.

Quaternary

Quaternary deposits are represented by alluvium and dolerite talus.

The dolerite talus forms on plateau and valley slopes and obscures the contact between the dolerite and the Permo-Triassic rocks. The talus can cover extensive areas often progressing down slope by means of landslip failures. The exact thickness of the talus is not known but it is variable and in some areas can be in excess of 20m thick. Talus can be extremely difficult to pick from outcrop as some large blocks of dolerite can be over 10m in diameter.

Alluvium is confined to creek and river valleys. The alluvium is up to 3m thick and consists of sands and gravels set in a mud matrix. Loams and soils are found on the flat, swampy plains.

Structure

The Silurian Mathinna Group is structurally complex being intensely folded along a north-west axis.

The Permo-Triassic sediments are flat lying and west of the Castle Carey Fault the regional dip is less than 5° to the south west.

The major structural control in the area is the north-north-west trending Castle Carey Fault. The fault is downthrown approximately 500m to the south-west; however, the throw appears to be decreasing to the south. Maximum movement is to the north of Mt. Christie where Mathinna and Triassic sediments have been brought into contact. Numerous en-echelon faults of smaller magnitude are found parallel to the Castle Carey Fault. Because the fault is downthrown to the west this has allowed the preservation of the Triassic Coal Measures which have been eroded on the east of the fault. Numerous movements have probably occurred along the fault but the major movement is probably Tertiary in age.

017

Major faulting appears to be related to the intrusion of the dolerite but secondary movements probably occurred during the Tertiary when block faulting resulted in haphazard tilting of the Permo-Triassic. Minor faulting is common in the Permo-Triassic sediments. Structure interpretation is illustrated by the cross-section on Enclosure 7.

4.3 DRILLING

Drilling was carried out between May and September, 1978 by Longyear (Australia) Pty. Ltd. The drilling programme commenced as a one rig operation, using a Longyear 38 diamond drilling rig. This became a two rig operation during July when a Longyear 44 rig was introduced.

Nine drillholes totalling 3294.40m were drilled within the whole E.L. with all holes being fully diamond cored. Drilling statistics are presented in Table 1. Drillholes AV1-AV7 were drilled north of AMG latitude 5,350,000 mN, and AV8-AV9 were drilled to the south of this latitude.

WRONG PLOT?

TABLE 1 - Drilling Statistics
EL 18/77

HOLE NO.	TOTAL DEPTH	METERAGE				THICKNESS (m)	
		TRICONE	HQ CORE	NQ CORE	CASING	DOLERITE	TRIASSIC
AV 1	458.00	25.50	185.50	247.00	211.00	211.24	246.76
AV 2	442.50	55.30	18.20	369.00	93.00	442.50	-
AV 3	538.70	10.00	275.00	253.70	269.00	269.57	269.13
AV 4	155.60	-	155.60	-	-	155.60	-
AV 5	350.00	14.00	336.00	-	-	350.00	-
AV 6	452.00	10.00	224.30	217.70	224.00	187.00	265.00
AV 7	299.00	-	299.00	-	-	299.00	-
AV 8	300.00	-	300.00	-	-	300.00	-
AV 9	298.60	-	298.60	-	-	298.60	-
TOTAL	3294.40	114.80	2092.20	1087.40	797.00	2418.90	878.50

018

Core taken in the Jurassic dolerite has been stored on galvanized iron sheets at the drill sites shown on Enclosure 1. All core in the Triassic coal measures has been stored in core racks located at 'Harrimount' homestead.

Most drillholes were drilled using water as the drilling lubricant; however, where caving and circulation problems were encountered a mud mixture of Quick-Trol and Quick-Jel was used. Where dolerite was being penetrated soluble cutting oil was added to the drilling fluid.

Weather conditions were severe with above average rainfall, snow and frost. This caused constant problems with access resulting in continual dozing of tracks. Drillhole AV4 had to be abandoned while still in dolerite due to the access track becoming impassable.

Drillholes AV1 to AV7 were sited north of AMG latitude 5450000 mN. The lithological drill logs are presented in Appendix 1 and the generalised graphic drillhole logs in Enclosure 8.

All holes were sited on dolerite outcrop except AV2 which penetrated Triassic Coal Measures from the surface to a depth of 97.70m where dolerite was then intersected. This was the only occurrence of coal measures overlying the intrusive dolerite. In holes AV1, 3 and 6 Triassic Coal measures were intersected after passing through the dolerite while drillholes AV4, 5 and 7 were terminated in the dolerite.

A maximum of 20.0m of dolerite scree was intersected in AV1 while in other holes the scree was much thinner or non-existent. The dolerite, where solid, is grey-green in colour, medium to fine grained and extremely hard. In AV3 and AV5 core sticks were recovered in 3m. lengths. Only very minor grainsize changes were noted in the dolerite and it would therefore appear to be extremely homogeneous within the area drilled. The dolerite in AV1 and 2 was badly fractured and broken often exhibiting slickensides on joints. Numerous brecciated zones have been recorded, these zones consisting of fragmented dolerite set in a matrix of calcite, talc, clay minerals and laumontite. Where fractured there is usually an infilling of calcite which in the more broken areas can have a 'dog tooth' form. Numerous strongly sheared zones are also present, these being characterized by the development of very closely spaced joints showing slickensiding and commonly associated with talc mineralization. Jointing is usually at an angle of 55°-60° but can vary from 30° to near vertical. It is usual to find orientated pyroxene crystals aligned parallel to the jointing angles above and below major sheared zones. Jointing is usually developed in two directions 90° apart. Oxidation of mafic minerals is common where jointing is intense and is usually noted by the presence of iron staining and colouration along joint planes.

After passing through very narrow, indurated, contact zones drillholes AV1 3 and 6 penetrated Triassic coal measures. The upper sections of the Triassic penetrated are composed of light grey, medium grained lithic sandstones with bands of grey siltstone. This dominantly lithic section appears to be up to 50m thick. Thin carbonaceous and coaly wisps and lenses can be present in the sandstone. Following this lithic interval the proportion of siltstones and mudstones increases although the lithic sandstones are still present.

019
Coal seams and carbonaceous shale and mudstone bands are associated with this interval which appears to be approximately 40m thick. Below this horizon the proportion of sandstone increases. The sandstone is lithic but has increasing quartz content with depth until the quartzose sandstones of the Lower Triassic are intersected. The quartz-lithic sandstones are bedded with siltstones, the transition from one to another being gradual. In general the sequence shows a cyclic repetition of upwards fining.

One drillhole, AV3, penetrated the quartzose sandstones of the Lower Triassic.

The coal intersected in both AV1 and AV3 occurs in 3 main seam horizons. The coal is hard and dull often falling in the heavy dull or inferior coal category. Bright coal bands are thin.

In drillhole AV1 only one seam was greater than 1m in thickness, this being from 250.09m to 251.55m. The roof comprises shale and mudstone and the floor is lithic sandstone.

In hole AV3 a 1.12m coal seam was intersected between 355.72m and 356.84m. In AV6 coal seam development is poor, and the coal that is present falls into the heavy dull category. Correlation between AV1 and AV3 has not been attempted as there appears to be a displacement between the two holes of at least 200m.

4.4 LABORATORY TESTING OF COAL SAMPLES

The laboratory testing of coal samples to determine chemical properties of the coal has been carried out at the Australian Coal Industry Research Laboratories Ltd's Bellambi and North Ryde laboratories.

All coal sections were logged in detail and graphic plots of each coal interval produced (Enclosure 9). Significant sections were split into subsections on the basis of coal lithotypes and sampled. The coal intervals intersected in bore hole AV1 were only considered worthy of analysis.

The analytical programme was designed to investigate the raw coal and washed coal properties of significant (less than 1.5m) and attractive (greater than 1.5m) seams. The programme basically involved preliminary float/sink testing of each subsection (excluding roof, floor or thick stone band intervals) at various relative densities. Yield (mass) and ash were determined for each relative density fraction (Table 2). Composite samples of possible mining sections were then selected and washed at an optimum relative density and analysed in detail (Table 3).

A 1.46m seam from AV1 (250.09-251.55m) contained reasonable quality coal with fairly high ash (23.0%), low sulphur and fairly high specific energy (25.11 MJ/kg, 10800 BTU/lb). On washing a 16.7% ash product was obtained for a 76% yield. The washed coal was low in sulphur (less than 0.5%), had a high specific energy (28.15 MJ/kg, 12100 BTU/lb) and is fairly hard (H.G.I. 57-59).

TABLE 2... EL 18 / 77 , AVOCA
 PRELIMINARY WASHABILITY RESULTS AV.1

020

Sample No	Thickness (m)	Relative Density	CUMULATIVE %								Raw Ash %	
			FLOATS 1.50		FLOATS 1.60		FLOATS 1.70		FLOATS 1.80			
			Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash		
AV1/1	0.08	2.06										67.9
AV1/2	0.53	1.54	49.4	18.5	65.4	20.8	75.9	22.9	81.5	24.3		30.8
AV1/3	0.93	1.43	73.0	13.9	82.5	15.5	89.9	17.3	94.3	18.6		20.7
AV1/4	0.09	1.73										53.2
AV1/5	0.96	1.75	15.0	17.6			35.9	27.8				51.6
AV1/6	0.54	1.35	94.6	9.8			93.1	10.4				11.6

186021

022

5. CONCLUSIONS AND RECOMMENDATIONS (N. of AMG 535000N)

The following factors should be considered when evaluating the potential of the area:-

1. Major Faulting
 2. Form and nature of the dolerite intrusion.
 3. Areal development of economic coal seams.
1. Major Faulting. The Castle Carey Fault is downthrown to the west and this has resulted in the preservation of the Triassic to the west of the fault. To the east of the fault erosion has removed the Triassic.
 2. Form and Nature of the dolerite intrusion. The dolerite is thought to be basically sill-like in form; however, intrusion has not occurred along a constant stratigraphic horizon within the Triassic. The transgressive nature of the dolerite means that the same stratigraphic levels within the Triassic section will not always be preserved beneath the dolerite.
 3. Areal development of economic coal seams. Where the Upper Triassic Coal Measures have been preserved as a result of factors 1 or 2, coal seams of regular quality and thickness have not been developed with thinning trends from north to south and east to west being apparent.

Areas of high and low economic potential can be delineated. Areas of low economic potential are:-

To the east of the Castle Carey Fault where the Triassic has been removed.

To the east of the Castle Carey Fault and south of the St. Paul's River where the dolerite is in contact with the unprospective quartzose Lower Triassic sediments. It does not transgress to above the Upper Triassic Coal Measures until just outside the E.L. boundary on the east.

In the area north of Buffalo Brook and west to Kingston Plains where the dolerite transgresses through the Lower Triassic quartzose sandstones.

South of the South Esk River and west of the Castle Carey Fault where drilling results indicate the presence of only thin coal seams which exhibit an apparent thinning to the west.

This leaves a centrally situated block, which extends from Mt. Christie to the South Esk River and across to the western E.L. boundary, where the economic potential is thought to be higher. Within this area Upper Triassic outcrops are more numerous and coal seams up to 4m thick do occur as at the Mt. Christie and Stanhope mines. However, the extent of these thick seams appears limited and their extension to the west needs to be tested by drilling to the south west of Stanhope and south of Bonneys Plains. The deepening of abandoned drillhole AV4 would conclusively test the thinning trends to the south of the area.

Upper Triassic outcrops in the region of the western E.L. boundary and results from Western Mining Corporation's drillhole TAR 2 indicate possible areas of interest further to the west.

6.023

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APPENDIX I

BOREHOLE LITHOLOGICAL LOGS AV1-7

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PAGE 1

BOREHOLE LITHOLOGICAL LOG

5925
 CASE : AVQCA
 BOREHOLE : AV 1

*** CORE DESCRIPTION ***

-	3.00	100% DOLERITE: SCREE, MODERATELY WEATHERED.
3.00 -	10.00	100% CLAY:, FIRM.
10.00 -	25.50	100% DOLERITE:, COMPLETELY WEATHERED, FIRM.
25.50 -	26.17	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
26.17 -	26.28	100% DOLERITE: BADLY BROKEN, GREY-GREEN, MODERATELY WEATHERED.
26.28 -	26.70	100% DOLERITE: BADLY BROKEN, GREY-GREEN.
26.70 -	27.35	CORE LOSS.
27.35 -	27.50	100% DOLERITE: BADLY BROKEN, GREY-GREEN.
27.50 -	29.50	100% DOLERITE: BADLY BROKEN, WITH CALCITE ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
29.50 -	29.80	100% SHEAR / FAULT ZONE: CALCITIC, ARGILLACEOUS.
29.80 -	30.50	100% DOLERITE: BADLY BROKEN, WITH CALCITE ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
30.50 -	33.50	100% DOLERITE: BADLY BROKEN,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
33.50 -	36.50	100% DOLERITE: BADLY BROKEN, WITH TALC ON JOINTS AND CHLORITE ON JOINTS.
36.50 -	39.50	100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
39.50 -	42.50	100% DOLERITE: BADLY BROKEN, FAULT GOUGE,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

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BOREHOLE LITHOLOGICAL LOG

186027

PAGE 2

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

42.50 - 44.00	100% DOLERITE: MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.
44.00 - 44.50	100% DOLERITE: MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
44.50 - 48.50	100% DOLERITE: CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
48.50 - 51.50	100% DOLERITE: WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS.
51.50 - 54.50	100% DOLERITE: GREY-GREEN.
54.50 - 54.65	100% DOLERITE: GREY-GREEN.
54.65 - 54.70	100% SHEAR / FAULT ZONE: VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
54.70 - 57.15	100% DOLERITE: GREY-GREEN.
57.15 - 57.35	100% SHEAR / FAULT ZONE: ARGILLACEOUS, WITH CLAY ON JOINTS, WITH SLICKENSIDES.
57.35 - 57.50	100% DOLERITE: GREY-GREEN.
57.50 - 57.80	100% DOLERITE: GREY-GREEN.
57.80 - 59.20	100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS,VERY CLOSE JOINT SPACING ,INFILLED WITH CLAY & TALC. JOINTS DIP 65 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
59.20 - 60.20	100% DOLERITE: BADLY BROKEN.
60.20 - 60.35	100% DOLomite: WHITE.
60.35 - 60.50	100% DOLERITE: BADLY BROKEN.
60.50 - 61.80	100% DOLERITE: MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

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PAGE 3

BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

61.80 - 61.85 100% DOLERITE: BADLY BROKEN, WITH CALCITE ON JOINTS,
.TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH
SLICKENSIDES.

61.85 - 63.00 100% DOLERITE:.

63.00 - 63.30 100% DOLERITE: BADLY BROKEN,VERY CLOSE JOINT SPACING
.INFILLED WITH CLAY & TALC. JOINTS DIP 65 DEG.
.TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH
SLICKENSIDES.

63.30 - 63.75 100% DOLERITE: .MODERATELY WIDE JOINT SPACING. JOINTS
DIP 65 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.

63.75 - 63.80 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND
TALC ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP
65 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH
SLICKENSIDES.

63.80 - 66.40 100% DOLERITE: BADLY BROKEN,MODERATELY WIDE JOINT
SPACING .INFILLED WITH CLAY & TALC. JOINTS DIP 65
DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES .INFILLED
WITH CALCITE.

66.40 - 66.95 100% DOLERITE: BADLY BROKEN.

66.95 - 67.50 100% SHEAR / FAULT ZONE: BADLY BROKEN, WITH CALCITE
ON JOINTS AND TALC ON JOINTS,VERY CLOSE JOINT
SPACING, JOINTS DIP 65 DEG. .TIGHT.PLANAR.SMOOTH
DISCONTINUITIES.

67.50 - 68.70 100% DOLERITE: GREY-GREEN.

68.70 - 68.80 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND
TALC ON JOINTS.

68.80 - 68.95 100% DOLERITE: BADLY BROKEN.

68.95 - 69.45 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND
TALC ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP
65 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES
.INFILLED WITH CLAY & TALC.

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PAGE 4

BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

69.45 - 72.50 100% SHEAR / FAULT ZONE: BRECCIATED, WITH CALCITE ON JOINTS AND TALC ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

72.50 - 72.80 100% SHEAR / FAULT ZONE:,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

72.80 - 73.65 100% DOLERITE: BADLY BROKEN.

73.65 - 74.50 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

74.50 - 75.50 100% DOLERITE: BADLY BROKEN.

75.50 - 78.50 100% DOLERITE: BADLY BROKEN, WITH CALCITE ON JOINTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

78.50 - 79.00 100% DOLERITE:.

79.00 - 80.50 100% SHEAR / FAULT ZONE: BADLY BROKEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

80.50 - 81.50 100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

81.50 - 84.00 100% DOLERITE: BADLY BROKEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

84.00 - 84.50 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CLAY ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

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PAGE 5

BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

84.50 - 85.20 100% DOLERITE: MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CALCITE.

85.20 - 87.40 100% SHEAR / FAULT ZONE: BADLY BROKEN, WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

87.40 - 88.67 100% DOLERITE: WIDE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

88.67 - 89.80 100% DOLERITE: WITH CALCITE ON JOINTS AND CLAY ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

89.80 - 90.10 100% SHEAR / FAULT ZONE:

90.10 - 91.55 100% DOLERITE: WIDE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

91.55 - 92.45 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

92.45 - 93.50 100% DOLERITE: EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

93.50 - 94.00 100% DOLERITE:

94.00 - 94.10 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CLAY ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

94.10 - 96.50 100% DOLERITE:

96.50 - 96.80 100% DOLERITE:

96.80 - 98.10 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

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PAGE 6

BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

98.10 - 99.50 100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG.
.TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CALCITE.

99.50 - 100.70 100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG.
.TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CALCITE.

100.70 - 102.50 100% DOLERITE:.

102.50 - 105.50 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED
WITH CALCITE.

105.50 - 107.30 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES .INFILLED
WITH CALCITE.

107.30 - 107.50 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS,VERY
CLOSE JOINT SPACING, JOINTS DIP 65 DEG.
.TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH
SLICKENSIDES.

107.50 - 108.50 100% DOLERITE:.

108.50 - 111.50 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED
WITH CALCITE.

111.50 - 112.54 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 70
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED
WITH CALCITE.

112.54 - 112.55 100% SHEAR / FAULT ZONE:,VERY CLOSE JOINT SPACING,
JOINTS DIP 65 DEG. .TIGHT,PLANAR,SMOOTH
DISCONTINUITIES ,INFILLED WITH CALCITE.

112.55 - 114.50 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED
WITH CALCITE.

114.50 - 116.94 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65
DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED
WITH CALCITE.

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*** CORE DESCRIPTION ***

116.94 - 117.34 100% SHEAR / FAULT ZONE: BRECCIATED, WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

117.34 - 117.50 100% DOLERITE:.

117.50 - 120.50 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

120.50 - 122.30 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

122.30 - 122.50 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CLAY ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

122.50 - 123.50 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

123.50 - 126.30 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

126.30 - 129.40 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.

129.40 - 130.00 100% SHEAR / FAULT ZONE: BRECCIATED, WITH VUGULAR CALCITE AND CLAY ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

130.00 - 132.50 100% DOLERITE:.,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

132.50 - 135.50 100% DOLERITE:,CLOSE JOINT SPACING. JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

135.50 - 138.50 100% DOLERITE: WITH CALCITE ON JOINTS AND TALC ON JOINTS,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

138.50 - 141.50 100% DOLERITE:, EXTREMELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

141.50 - 142.55 100% DOLERITE:.

142.55 - 142.70 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CLAY ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

142.70 - 143.00 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

143.00 - 143.10 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

143.10 - 144.50 100% DOLERITE: WITH CALCITE ON JOINTS AND TALC ON JOINTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

144.50 - 145.30 100% DOLERITE:,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

145.30 - 145.45 100% DOLERITE: BADLY BROKEN.

145.45 - 145.50 100% SHEAR / FAULT ZONE:,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

145.50 - 146.90 100% DOLERITE: WITH VUGULAR CALCITE, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

146.90 - 147.30 100% SHEAR / FAULT ZONE: BRECCIATED, WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

147.30 - 147.50 100% DOLERITE: BADLY BROKEN, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

147.50 - 149.50 100% DOLERITE:, VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

149.50 - 150.50 100% SHEAR / FAULT ZONE: BRECCIATED, WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

150.50 - 151.10 100% SHEAR / FAULT ZONE: BRECCIATED, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

151.10 - 152.00 100% DOLERITE:, WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

152.00 - 152.10 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

152.10 - 152.25 100% DOLERITE:.

152.25 - 152.45 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

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152.45 - 152.80 100% DOLERITE: MODERATELY WIDE JOINT SPACING, JOINTS
DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES
,INFILLED WITH CALCITE.

152.80 - 152.90 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS,VERY
CLOSE JOINT SPACING, JOINTS DIP 65 DEG.
,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CLAY & TALC.

152.90 - 153.10 100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG.
,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CALCITE.

153.10 - 153.50 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS,VERY
CLOSE JOINT SPACING, JOINTS DIP 65 DEG.
,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CLAY & TALC.

153.50 - 156.50 100% DOLERITE: BADLY BROKEN,MODERATELY WIDE JOINT
SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH
DISCONTINUITIES ,INFILLED WITH CALCITE.

156.50 - 157.20 100% DOLERITE:.

157.20 - 157.30 100% DOLERITE:,WIDE JOINT SPACING, JOINTS DIP 65 DEG.
,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CALCITE.

157.30 - 158.50 100% DOLERITE:,MODERATELY WIDE JOINT SPACING, JOINTS
DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES
,INFILLED WITH CALCITE.

158.50 - 158.65 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS,VERY
CLOSE JOINT SPACING, JOINTS DIP 65 DEG.
,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH
CLAY & TALC.

158.65 - 159.50 100% DOLERITE:,MODERATELY WIDE JOINT SPACING, JOINTS
DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES
,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

159.50 - 159.70 100% DOLERITE: MODERATELY CLOSE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES. INFILLED WITH CALCITE.

159.70 - 160.10 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS, VERY CLOSE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES. INFILLED WITH CLAY & TALC.

160.10 - 162.50 100% DOLERITE:.

162.50 - 165.50 100% DOLERITE:.

165.50 - 168.10 100% DOLERITE:.

168.10 - 168.15 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY CLOSE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

168.15 - 168.50 100% DOLERITE:.

168.50 - 171.30 100% DOLERITE: VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES. INFILLED WITH CALCITE.

171.30 - 171.50 100% DOLERITE: MODERATELY WIDE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

171.50 - 174.50 100% DOLERITE: MODERATELY WIDE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT NON-PLANAR DISCONTINUITIES. INFILLED WITH CALCITE.

174.50 - 175.12 100% DOLERITE:.

175.12 - 176.07 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS, VERY CLOSE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

176.07 - 176.82 100% SHEAR / FAULT ZONE: BRECCIATED, CALCITIC.

176.82 - 177.50 100% DOLERITE:.

177.50 - 179.25 100% DOLERITE:.

179.25 - 179.40 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY CLOSE JOINT SPACING. JOINTS DIP 65 DEG. TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

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*** CORE DESCRIPTION ***

179.40 - 180.50 100% DOLERITE: .VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT NON-PLANAR DISCONTINUITIES.

180.50 - 181.30 100% DOLERITE: .VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

181.30 - 181.57 100% SHEAR / FAULT ZONE: BRECCIATED. CALCITIC.

181.57 - 184.82 100% DOLERITE: .VERY CLOSE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.

184.82 - 185.20 100% DOLERITE: .MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.

185.20 - 186.42 100% DOLERITE: .VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES .INFILLED WITH CALCITE.

186.42 - 186.82 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS.

186.82 - 187.50 100% DOLERITE: .VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

187.50 - 187.60 100% SHEAR / FAULT ZONE: WITH CALCITE ON JOINTS AND TALC ON JOINTS, .VERY CLOSE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

187.60 - 189.40 100% DOLERITE: .VERY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES .INFILLED WITH CALCITE.

189.40 - 192.23 100% DOLERITE: . EXTREMELY STRONG ROCK, .VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT, PLANAR, SMOOTH DISCONTINUITIES .INFILLED WITH CALCITE.

192.23 - 195.33 100% DOLERITE: . EXTREMELY STRONG ROCK.

195.33 - 198.47 100% DOLERITE: .

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*** CORE DESCRIPTION ***

198.47 - 199.30 100% SHEAR / FAULT ZONE: BRECCIATED, WITH TALC ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

199.30 - 199.50 100% DOLERITE: BADLY BROKEN.

199.50 - 199.70 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

199.70 - 200.10 100% DOLERITE:.

200.10 - 201.00 100% SHEAR / FAULT ZONE: BRECCIATED, WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

201.00 - 201.50 100% DOLERITE:.

201.50 - 201.90 100% SHEAR / FAULT ZONE: BRECCIATED, WITH TALC AND CALCITE, VERY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

201.90 - 202.35 100% DOLERITE:, MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES , INFILLED WITH CALCITE.

202.35 - 202.37 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS, VERY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

202.37 - 204.50 100% DOLERITE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

204.50 - 205.65 100% DOLERITE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

205.65 - 206.15 100% DOLERITE:, VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

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*** CORE DESCRIPTION ***

206.15 - 206.30 100% SHEAR / FAULT ZONE: WITH TALC ON JOINTS, VERY WIDE JOINT SPACING, JOINTS DIP 6 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

206.30 - 207.00 100% DOLERITE:,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

207.00 - 207.50 100% DOLERITE: WITH TALC ON JOINTS,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

207.50 - 211.00 100% DOLERITE: WITH TALC ON JOINTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

211.00 - 211.15 100% DOLERITE: GREY-GREEN, WEAK ROCK,VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

211.15 - 213.30 100% DOLERITE: GREY-GREEN, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

213.30 - 216.30 100% DOLERITE: GREY-GREEN, VERY STRONG ROCK,CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

216.30 - 219.30 100% DOLERITE: GREY-GREEN, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

219.30 - 221.24 100% DOLERITE: GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

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221.24 - 221.80 100% METAMORPHIC ROCK: GREY, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CALCITE.

221.80 - 221.95 SEDIMENTARY ROCK: GREY-GREEN, CALCITE: WHITE, TALC: WAXY, DARK GREEN.

221.95 - 222.30 100% SILTSTONE: VERY FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CALCITE.

222.30 - 225.30 100% SILTSTONE: LIGHT GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CALCITE.

225.30 - 225.53 100% SILTSTONE: LIGHT GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT, PLANAR, SMOOTH DISCONTINUITIES, INFILLED WITH CALCITE.

225.53 - 225.63 50% SILTSTONE: FRIABLE, VARIAGATED COLOUR, 50% MUDSTONE: FRIABLE, VARIAGATED COLOUR, WITH TALC, WEAK ROCK, VERY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

225.63 - 226.53 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

226.53 - 226.58 100% CARBONACEOUS SHALE: FISSILE, BLACK, MODERATELY STRONG ROCK.

226.58 - 226.80 100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

226.80 - 228.00 100% SANDSTONE: VERY FINE GRAINED, LITHIC, GREY, STRONG ROCK.

228.00 - 228.30 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

228.30 - 229.11 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVUCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

229.11 - 229.20 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING.

229.20 - 229.72 100% SILTSTONE: LITHIC, MED. TO FINE GRAINED, GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING.

229.72 - 231.30 100% MUDSTONE: GREY, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 20 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

231.30 - 232.26 100% MUDSTONE: GREY, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING , TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

232.26 - 232.90 50% MUDSTONE: GREY, 50% SILTSTONE: GREY, MODERATELY STRONG ROCK, EXTREMELY THICK BEDDING , SOME SEPARATION ALONG BEDDING SURFACES.

232.90 - 233.35 100% SANDSTONE: VERY FINE GRAINED, LITHIC, GREY, STRONG ROCK.

233.35 - 233.90 100% MUDSTONE: SILTSTONE BANDS, GREY, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

233.90 - 234.30 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

234.30 - 234.32 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

234.32 - 234.38 100% MUDSTONE: CARBONACEOUS, FISSILE, BLACK, MODERATELY WEAK ROCK.

234.38 - 234.48 100% COAL, CANNEL: COAL, BRIGHT BANDS.

234.48 - 234.50 100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.

234.50 - 234.80 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

234.80 - 234.94 100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY STRONG ROCK.

234.94 - 235.05 100% SANDSTONE: LITHIC, LIGHT GREY, STRONG ROCK.

235.05 - 235.45 MUDSTONE: LAMINAE, GREY, SILTSTONE: LAMINAE, GREY, SANDSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK, EXTREMELY THICK BEDDING , SOME SEPARATION ALONG BEDDING SURFACES.

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*** CORE DESCRIPTION ***

235.45 - 235.50 MUDSTONE: LAMINAE, GREY, SILTSTONE: LAMINAE, GREY, SANDSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

235.50 - 236.35 50% MUDSTONE: LAMINAE, GREY, 50% SILTSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, DISCONTINUITIES INFILLED WITH SOIL (>10MM) WITH SLICKENSIDES.

236.35 - 236.45 100% SANDSTONE: VERY FINE GRAINED, LITHIC, GREY, MODERATELY STRONG ROCK.

236.45 - 236.60 50% MUDSTONE: LAMINAE, GREY, 50% SILTSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK.

236.60 - 236.93 50% SILTSTONE: 50% SANDSTONE:.

236.93 - 237.10 50% MUDSTONE: LAMINAE, 50% SILTSTONE: LAMINAE.

237.10 - 237.30 100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, MODERATELY STRONG ROCK.

237.30 - 238.00 100% SANDSTONE: LITHIC, MEDIUM GRAINED, GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.

238.00 - 238.06 100% SILTSTONE: GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

238.06 - 239.40 100% SANDSTONE: MEDIUM GRAINED, GREY, MODERATELY STRONG ROCK.

239.40 - 240.23 100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.

240.23 - 240.33 100% SANDSTONE: SILTSTONE LAMINAE, GREY.

240.33 - 240.60 50% SILTSTONE: LAMINAE, GREY, 50% MUDSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK.

240.60 - 240.66 50% SILTSTONE: LAMINAE, 50% MUDSTONE: LAMINAE.

240.66 - 240.72 100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, MODERATELY STRONG ROCK.

240.72 - 240.73 100% CARBONACEOUS SHALE: BLACK.

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*** CORE DESCRIPTION ***

240.73 - 241.22	100% MUDSTONE: FISSILE, GREY, MODERATELY STRONG ROCK.
241.22 - 241.50	100% SANDSTONE: CARBONACEOUS SHALE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.
241.50 - 241.95	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
241.95 - 242.15	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
242.15 - 242.92	100% SILTSTONE: SAND BANDS, GREY, MODERATELY STRONG ROCK.
242.92 - 242.97	100% SANDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
242.97 - 243.30	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
243.30 - 243.75	100% MUDSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK.
243.75 - 243.95	100% MUDSTONE: CARBONACEOUS SHALE BANDS, MODERATELY STRONG ROCK.
243.95 - 244.35	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
244.35 - 245.30	100% MUDSTONE: CARBONACEOUS SHALE LAMINAE, GREY, MODERATELY STRONG ROCK.
245.30 - 245.50	100% MUDSTONE: GREY, MODERATELY STRONG ROCK, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
245.50 - 245.70	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
245.70 - 246.30	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
246.30 - 247.52	100% MUDSTONE: GREY, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
247.52 - 247.96	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
247.96 - 249.25	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
249.25 - 249.98	50% MUDSTONE: LAMINAE, GREY, 50% SILTSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK, VERY THICK BEDDING.
249.98 - 250.01	100% MUDSTONE: CARBONACEOUS, DARK GREY.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1SAMPLE:AV101

*** CORE DESCRIPTION ***

250.01

0.03 100% MUDSTONE: CARBONACEOUS SHALE BANDS, GREY.

0.05 100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY
STRONG ROCK.

250.09

0.08 TOTAL

SAMPLE:AV102

*** CORE DESCRIPTION ***

250.09

0.31 100% COAL, CANNEL:.

0.14 100% COAL, HEAVY DULL:.

0.08 100% COAL, CANNEL:.

250.62

0.53 TOTAL

SAMPLE:AV103

*** CORE DESCRIPTION ***

250.62

0.01 100% COAL, BRIGHT: WITH CALCITE ON CLEAT.

0.26 100% COAL, HEAVY DULL:.

0.01 100% COAL, BRIGHT: WITH CALCITE ON CLEAT.

0.01 100% COAL, CANNEL:.

0.04 100% COAL, DULL:.

0.36 100% COAL, HEAVY DULL:.

0.09 100% COAL, DULL:.

0.15 100% COAL, HEAVY DULL:; WIDE JOINT SPACING, TIGHT
PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

251.55

0.93 TOTAL

SAMPLE:AV104

*** CORE DESCRIPTION ***

251.55

0.06 100% MUDSTONE: CARBONACEOUS, BLACK.

0.03 100% COAL, HEAVY DULL:.

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BOREHOLE LITHOLOGICAL LOG

045

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

254.98 - 255.30	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
255.30 - 255.86	100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.
255.86 - 256.15	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
256.15 - 256.25	100% MUDSTONE: FISSILE, GREY.
256.25 - 256.68	100% MUDSTONE: DARK GREY.
256.68 - 257.00	100% COAL, CANNEL:.
257.00 - 257.20	100% SANDSTONE: LITHIC, SILTY, LIGHT GREY, MODERATELY STRONG ROCK, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
257.20 - 257.82	100% SANDSTONE: LITHIC, SILTY, LIGHT GREY, MODERATELY STRONG ROCK, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
257.82 - 258.24	100% SILTSTONE: GREY.
258.24 - 258.30	100% SANDSTONE: LIGHT GREY.
258.30 - 261.10	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, VERY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.
261.10 - 264.05	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, VERY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.
264.05 - 264.10	100% SANDSTONE: CARBONACEOUS SHALE BANDS, LIGHT GREY.
264.10 - 264.30	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.
264.30 - 266.10	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.
266.10 - 266.30	100% COAL, HEAVY DULL:.
266.30 - 266.58	100% MUDSTONE: GREY, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
266.58 - 266.90	100% MUDSTONE: GREY.
266.90 - 266.96	100% MUDSTONE: FISSILE, CARBONACEOUS, DARK GREY.
266.96 - 267.05	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
267.05 - 267.15	CORE LOSS.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

267.15 - 267.63 100% SANDSTONE: VERY FINE GRAINED, LITHIC, GREY, STRONG ROCK.

267.63 - 267.75 100% SILTSTONE: GREY, STRONG ROCK.

267.75 - 268.14 100% MUDSTONE: GREY, STRONG ROCK.

268.14 - 268.65 100% SANDSTONE: LITHIC, LIGHT GREY, STRONG ROCK.

268.65 - 269.15 100% MUDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.

269.15 - 269.45 100% SILTSTONE: GREY, STRONG ROCK.

269.45 - 269.83 100% SANDSTONE: SILTY, LITHIC, LIGHT GREY, STRONG ROCK.

269.83 - 269.84 100% MUDSTONE: CARBONACEOUS SHALE BANDS, GREY.

269.84 - 270.10 100% SANDSTONE: SILTY, LITHIC, LIGHT GREY, STRONG ROCK.

270.10 - 270.57 50% SANDSTONE: FINE GRAINED, GREY, 50% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

270.57 - 270.63 100% SANDSTONE: LIMESTONE BANDS, LIGHT GREY.

270.63 - 270.95 60% SILTSTONE: GREY, 40% SANDSTONE:.

270.95 - 272.05 50% SANDSTONE: SILTY, 50% MUDSTONE: SILTY.

272.05 - 272.45 50% SANDSTONE: SILTY, 50% MUDSTONE: SILTY, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

272.45 - 272.75 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

272.75 - 273.05 100% MUDSTONE: CARBONACEOUS SHALE LAMINAE, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

273.05 - 273.27 60% COAL, CANNEL: 40% MUDSTONE: BANDS.

273.27 - 273.40 100% SANDSTONE: CALCITE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.

273.40 - 273.49 100% COAL, INTERBANDED DULL AND BRIGHT:.

273.49 - 273.60 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

273.60 - 273.61 100% COAL, HEAVY DULL:.

273.61 - 273.63 100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.

273.63 - 273.66 100% COAL, HEAVY DULL:.

273.66 - 274.16 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

274.16 - 275.10 50% SANDSTONE: GREY, 50% SILTSTONE:, MODERATELY STRONG ROCK.

275.10 - 275.45 80% SILTSTONE: GREY, 20% SANDSTONE: GREY, MODERATELY STRONG ROCK.

275.45 - 275.56 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

275.56 - 275.61 100% MUDSTONE: CARBONACEOUS, FISSILE, DARK GREY.

275.61 - 275.65 100% CARBONACEOUS SHALE: BLACK.

SAMPLE:AV105

*** CORE DESCRIPTION ***

275.65

0.14 100% COAL, CANNEL:.

0.03 100% MUDSTONE: CARBONACEOUS, COALY,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.

0.08 100% COAL, CANNEL:,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.

0.03 100% MUDSTONE: CARBONACEOUS,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.

0.26 100% COAL, CANNEL:.

0.02 100% MUDSTONE: CARBONACEOUS.

0.03 100% COAL, HEAVY DULL:.

0.06 100% COAL, INTERBANDED DULL AND BRIGHT:.

0.01 100% MUDSTONE: CARBONACEOUS.

0.06 100% CLAY: LIGHT BROWN.

0.08 100% COAL, HEAVY DULL:.

0.02 100% MUDSTONE: CARBONACEOUS.

0.14 100% COAL, CANNEL:.

276.61 0.96 TOTAL

*** CORE DESCRIPTION ***

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BOREHOLE LITHOLOGICAL LOG

048

LEASE : AVQCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

276.61 - 276.97 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

276.97 - 277.15 100% MUDSTONE: CARBONACEOUS SHALE BANDS, GREY, MODERATELY STRONG ROCK.

277.15 - 277.30 100% MUDSTONE: FISSILE.

277.30 - 277.68 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

277.68 - 277.98 100% SANDSTONE: SILTY, CARBONACEOUS, LIGHT GREY, MODERATELY STRONG ROCK.

277.98 - 278.01 100% SANDSTONE: CARBONACEOUS SHALE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.

278.01 - 278.43 100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

278.43 - 279.90 100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY.

279.90 - 279.93 100% COAL, HEAVY DULL:.

279.93 - 280.03 100% COAL, DULL:.

280.03 - 280.20 100% MUDSTONE: CARBONACEOUS.

280.20 - 280.65 100% MUDSTONE: CARBONACEOUS SHALE BANDS, GREY, MODERATELY STRONG ROCK.

280.65 - 280.72 100% MUDSTONE: CARBONACEOUS.

280.72 - 280.90 100% COAL, CANNEL:.

280.90 - 281.12 100% MUDSTONE: CARBONACEOUS.

281.12 - 281.62 100% COAL, HEAVY DULL: MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

281.62 - 281.66 100% COAL, DULL WITH FEW BRIGHT BANDS:.

281.66 - 281.74 100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.

281.74 - 283.04 100% SILTSTONE: GREY-BROWN, MODERATELY STRONG ROCK.

283.04 - 283.10 100% SILTSTONE: GREY-BROWN, MODERATELY STRONG ROCK.

283.10 - 283.26 100% SILTSTONE: GREY,CLOSE JOINT SPACING ,OPEN, NON-PLANAR DISCONTINUITIES.

283.26 - 283.70 100% SILTSTONE: GREY-BROWN, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

049

LEASE : AVUCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

283.70 - 286.10 100% SANDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

286.10 - 286.23 100% SANDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY STRONG ROCK.

286.23 - 289.20 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

289.20 - 289.51 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

289.51 - 289.93 100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.

289.93 - 290.19 100% SANDSTONE: FINE GRAINED, GREY, MODERATELY STRONG ROCK,VERY THICK BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES.

290.19 - 290.76 100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

290.76 - 290.86 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

290.86 - 290.88 100% COAL, BRIGHT:.

290.88 - 290.90 100% COAL, HEAVY DULL:.

290.90 - 290.93 100% CLAY: TONSTEIN, BROWN.

290.93 - 290.94 100% COAL, CANNEL:.

290.94 - 290.96 100% MUDSTONE: GREY.

290.96 - 291.02 100% MUDSTONE: CARBONACEOUS, FISSILE, DARK BROWN, WEAK ROCK.

291.02 - 291.17 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

291.17 - 291.20 100% SANDSTONE: FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

291.20 - 291.36 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES.

291.36 - 291.56 CORE LOSS.

291.56 - 291.60 100% CARBONACEOUS SHALE: FISSILE, BLACK.

291.60 - 291.62 100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.

291.62 - 291.68 100% MUDSTONE: COAL BANDS, GREY, MODERATELY STRONG ROCK.

291.68 - 292.10 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

292.10 - 292.14 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

292.14 - 292.34 50% SILTSTONE: LAMINAE, GREY, 50% SANDSTONE: LAMINAE, GREY.

292.34 - 292.41 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

292.41 - 292.50 100% SANDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

292.50 - 292.73 100% SANDSTONE: COARSE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

292.73 - 292.88 100% SANDSTONE: FINE GRAINED, SILTY, LIGHT GREY, MODERATELY STRONG ROCK.

292.88 - 295.10 100% SANDSTONE: LITHIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

295.10 - 297.05 100% SANDSTONE: LITHIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

297.05 - 297.19 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

297.19 - 297.25 100% COAL, HEAVY DULL:.

297.25 - 297.40 100% SANDSTONE: FINE GRAINED, LIGHT GREY, STRONG ROCK, AND TRACE FOSSILS.

297.40 - 297.45 100% MUDSTONE: CARBONACEOUS, FISSILE, DARK GREY, WEAK ROCK.

297.45 - 297.48 CORE LOSS.

297.48 - 297.72 100% SANDSTONE: LITHIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

297.72 - 298.23 100% SILTSTONE: SAND BANDS, GREY, STRONG ROCK.

298.23 - 298.49 100% SILTSTONE: GREY, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

051

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

298.49 - 298.50	100% MUDSTONE: GREY-BROWN, MODERATELY STRONG ROCK, AND CARBONACEOUS WHISPS.
298.50 - 298.74	100% MUDSTONE: SILTY, MODERATELY STRONG ROCK, AND CARBONACEOUS WHISPS, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
298.74 - 298.79	100% SHALE: GREY, MODERATELY WEAK ROCK, AND TRACE FOSSILS.
298.79 - 298.84	100% MUDSTONE: GREY,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
298.84 - 298.90	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK, AND CARBONACEOUS WHISPS.
298.90 - 299.03	100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
299.03 - 299.52	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,VERY THICK BEDDING ,SHEARING AT BEDDING SEPARATION SURFACE AND CARBONACEOUS WHISPS.
299.52 - 299.55	100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
299.55 - 299.58	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK, AND CARBONACEOUS WHISPS.
299.58 - 299.63	100% MUDSTONE: SHALY, GREY-BROWN, WEAK ROCK.
299.63 - 299.64	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK, AND CARBONACEOUS WHISPS.
299.64 - 299.95	100% MUDSTONE: SHALY, GREY-BROWN, WEAK ROCK.
299.95 - 299.99	100% MUDSTONE: GREY.
299.99 - 300.16	100% MUDSTONE: CARBONACEOUS, DARK GREY, WITH VIVIANITE ON JOINTS.
300.16 - 300.17	100% MUDSTONE: CARBONACEOUS, DARK GREY.
300.17 - 300.23	100% COAL, CANNEL:.
300.23 - 300.56	100% COAL, HEAVY DULL:,VERY CLOSE JOINT SPACING.
300.56 - 300.60	100% SILTSTONE: CARBONACEOUS, COALY, DARK BROWN.
300.60 - 300.64	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

2
 15 LEASE : AVOCA
 0 BOREHOLE : AV 1

*** CORE DESCRIPTION ***

300.64 - 301.08 100% MUDSTONE: SILTY, FISSILE, VARIAGATED COLOUR, WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

301.08 - 301.12 100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.

301.12 - 301.23 100% MUDSTONE: FISSILE, DARK GREY, WEAK ROCK.

301.23 - 301.43 100% SILTSTONE: GREY, MODERATELY WEAK ROCK.

301.43 - 301.67 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY WEAK ROCK.

301.67 - 301.73 100% SILTSTONE: FISSILE, GREY, WEAK ROCK.

301.73 - 301.86 100% SAND: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

301.86 - 302.06 100% SILTSTONE: FISSILE.

302.06 - 302.12 100% SANDSTONE: FINE GRAINED, GREY, MODERATELY STRONG ROCK.

302.12 - 302.59 80% SANDSTONE: GREY, 20% SILTSTONE: BANDS. GREY,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

302.59 - 303.48 100% SANDSTONE: MED.TO FINE GRAINED, SILTY, GREY, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

303.48 - 304.29 100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

304.29 - 304.43 100% SILTSTONE: GREY,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

304.43 - 304.60 100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, STRONG ROCK.

304.60 - 305.08 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK,THICK BEDDING. ,SOME SEPARATION ALONG BEDDING SURFACES.

305.08 - 305.12 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

053

305.12 - 306.66	100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.
306.66 - 306.67	100% MUDSTONE: CARBONACEOUS, COALY, VERY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.
306.67 - 306.77	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
306.77 - 307.02	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
307.02 - 307.07	CORE LOSS.
307.07 - 307.19	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
307.19 - 307.23	100% CARBONACEOUS SHALE: BLACK.
307.23 - 307.26	100% MUDSTONE: CARBONACEOUS, BLACK.
307.26 - 307.27	100% COAL, HEAVY DULL:.
307.27 - 307.30	100% MUDSTONE: CARBONACEOUS, BLACK.
307.30 - 307.34	100% SANDSTONE: CARBONACEOUS SHALE STREAKS, GREY.
307.34 - 307.40	100% CARBONACEOUS SHALE:.
307.40 - 307.82	100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.
307.82 - 307.89	100% SANDSTONE: FINE GRAINED, LITHIC, GREY, MODERATELY STRONG ROCK.
307.89 - 308.18	100% SANDSTONE: FINE GRAINED, SILTY, GREY, MODERATELY STRONG ROCK.
308.18 - 308.43	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
308.43 - 308.54	100% SHALE: GREY, WEAK ROCK, AND TRACE FOSSILS.
308.54 - 308.86	100% COAL, HEAVY DULL: WITH VIVIANITE ON JOINTS, .TIGHT PLANAR, ROUGH DISCONTINUITIES.
308.86 - 308.87	100% MUDSTONE: CARBONACEOUS.
308.87 - 308.89	100% COAL, HEAVY DULL:.
308.89 - 309.22	100% SILTSTONE: FISSILE, GREY, MODERATELY WEAK ROCK.
309.22 - 309.25	100% SHALE: GREY, AND TRACE FOSSILS.
309.25 - 309.70	80% SANDSTONE: CARBONACEOUS SHALE STREAKS, GREY, 20% SILTSTONE: . MODERATELY STRONG ROCK.
309.70 - 309.90	100% SILTSTONE: CARBONACEOUS SHALE STREAKS, GREY, AND TRACE FOSSILS.
309.90 - 309.95	100% SANDSTONE: GREY, MODERATELY STRONG ROCK.
309.95 - 310.45	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

310.45 - 310.54 100% SHALE:, AND TRACE FOSSILS.

310.54 - 311.00 100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

311.00 - 311.38 100% MUDSTONE: CARBONACEOUS, SILTY, DARK GREY, STRONG ROCK.

311.38 - 311.66 100% SILTSTONE: FISSILE, DARK BROWN, AND TRACE FOSSILS.

311.66 - 311.89 100% SILTSTONE: ARENACEOUS, DARK BROWN, MODERATELY STRONG ROCK, AND CARBONACEOUS WHISPS.

311.89 - 311.94 100% COAL, CANNEL: COAL, BRIGHT BANDS.

311.94 - 311.95 100% MUDSTONE: COAL BANDS, BROWN, MODERATELY WEAK ROCK.

311.95 - 312.00 100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

312.00 - 313.01 100% SANDSTONE: LITHIC, FINE GRAINED, LIGHT GREY, STRONG ROCK, AND CARBONACEOUS WHISPS.

313.01 - 313.13 50% SANDSTONE: LITHIC, FINE GRAINED, LIGHT GREY, 50% SANDSTONE: CARBONACEOUS, DARK BROWN.

313.13 - 313.41 100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.

313.41 - 313.54 100% SANDSTONE: CARBONACEOUS SHALE BANDS, DARK BROWN, STRONG ROCK.

313.54 - 314.00 100% SANDSTONE: LITHIC, LIGHT GREY, STRONG ROCK.

314.00 - 314.14 100% SANDSTONE: LITHIC, LIGHT GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

314.14 - 314.17 100% SILTSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.

314.17 - 315.04 100% SANDSTONE: FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK, AND CARBONACEOUS WHISPS.

315.04 - 315.37 100% SANDSTONE: SILTY, MED. TO FINE GRAINED, GREY-GREEN.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

315.37 - 316.47 100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

316.47 - 316.74 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

316.74 - 317.00 100% SHALE: FISSILE, GREY, MODERATELY STRONG ROCK.

317.00 - 317.35 100% MUDSTONE: FISSILE, GREY, MODERATELY WEAK ROCK.

317.35 - 317.43 CORE LOSS.

317.43 - 317.45 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

317.45 - 318.28 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, LIGHT GREY, STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

318.28 - 318.41 100% MUDSTONE: SILTY, GREY, MODERATELY WEAK ROCK.

318.41 - 318.74 100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

318.74 - 318.81 100% SANDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

318.81 - 318.87 100% SANDSTONE: CARBONACEOUS SHALE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.

318.87 - 318.90 100% SILTSTONE: CARBONACEOUS, DARK BROWN.

318.90 - 318.91 100% SANDSTONE: LITHIC, LIGHT GREY.

318.91 - 318.98 100% SILTSTONE: DARK GREY, MODERATELY STRONG ROCK.

318.98 - 319.83 100% SANDSTONE: CARBONACEOUS SHALE BANDS, LIGHT GREY.

319.83 - 319.86 100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN.

319.86 - 319.92 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

319.92 - 320.02 100% CARBONACEOUS SHALE: COAL LENSES.

320.02 - 320.27 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

320.27 - 320.74 100% SANDSTONE: SILTY, GREY, MODERATELY STRONG ROCK, ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

320.74 - 320.80	100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.
320.80 - 321.14	100% SANDSTONE: GREY, MODERATELY STRONG ROCK.
321.14 - 321.21	100% MUDSTONE: FISSILE, GREY.
321.21 - 321.28	100% MUDSTONE: COAL, BRIGHT BANDS, GREY, MODERATELY STRONG ROCK.
321.28 - 321.38	100% SILTSTONE: ARENACEOUS, DARK GREY, MODERATELY STRONG ROCK.
321.38 - 321.55	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
321.55 - 321.62	100% COAL, CANNEL.
321.62 - 323.00	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, AND CARBONACEOUS WHISPS.
323.00 - 326.00	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
326.00 - 328.17	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
328.17 - 328.57	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
328.57 - 329.05	100% SANDSTONE: LITHIC, LIGHT GREY, STRONG ROCK.
329.05 - 329.20	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
329.20 - 329.78	100% SANDSTONE: SILTSTONE BANDS, GREY, MODERATELY STRONG ROCK.
329.78 - 329.83	100% FISSILE, TONSTEIN, BROWN, MODERATELY WEAK ROCK.
329.83 - 329.84	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
329.84 - 329.86	100% TONSTEIN, BROWN.
329.86 - 329.90	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
329.90 - 329.99	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
329.99 - 330.23	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
330.23 - 330.50	100% SANDSTONE: SILTY, VERY FINE GRAINED, GREY, MODERATELY STRONG ROCK.
330.50 - 330.58	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG250
050LEASE : AVDCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

330.58 - 331.07	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
331.07 - 331.21	100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN.
331.21 - 331.24	100% COAL, HEAVY DULL:.
331.24 - 331.56	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
331.56 - 331.98	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
331.98 - 332.00	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
332.00 - 332.37	100% SANDSTONE: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
332.37 - 332.45	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
332.45 - 332.50	CORE LOSS.
332.50 - 332.75	100% MUDSTONE: SHALY, GREY, MODERATELY WEAK ROCK.
332.75 - 332.84	100% SILTSTONE: ARENACEOUS, GREY.
332.84 - 332.90	100% SHALE: GREY, WEAK ROCK.
332.90 - 333.06	100% SILTSTONE: ARENACEOUS, GREY.
333.06 - 333.18	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
333.18 - 333.29	100% FISSILE, LIGHT BROWN, MODERATELY WEAK ROCK.
333.29 - 333.44	100% SANDSTONE: SILTY, LIGHT GREY, MODERATELY STRONG ROCK.
333.44 - 333.74	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
333.74 - 333.82	100% SHALE: GREY, MODERATELY WEAK ROCK.
333.82 - 333.94	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
333.94 - 334.10	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
334.10 - 335.00	100% SANDSTONE: LITHIC, SILTY, LIGHT GREY.
335.00 - 335.10	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
335.10 - 335.30	100% MUDSTONE: SHALY, FISSILE, GREY, WEAK ROCK.
335.30 - 335.38	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
335.38 - 335.49	100% SANDSTONE: SILTY, VERY FINE GRAINED, GREY.
335.49 - 336.46	100% SANDSTONE: SILTSTONE BANDS, VARIAGATED COLOUR, STRONG ROCK.
336.46 - 336.47	100% SILTSTONE: SHALY.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

336.47 - 336.48 100% SILTSTONE:.

336.48 - 336.54 100% SILTSTONE: SHALY.

336.54 - 336.75 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

336.75 - 337.08 100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

337.08 - 337.21 100% MUDSTONE: GREY, AND TRACE FOSSILS.

337.21 - 338.00 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, AND CARBONACEOUS WHISPS.

338.00 - 339.18 100% SANDSTONE: QUARTZITE BANDS, LIGHT GREY,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

339.18 - 339.25 100% SANDSTONE: FINE GRAINED, GREY, MODERATELY STRONG ROCK.

339.25 - 339.46 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

339.46 - 339.62 100% MUDSTONE: SHALY, GREY, MODERATELY WEAK ROCK.

339.62 - 339.73 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

339.73 - 339.80 100% MUDSTONE: FISSILE, GREY, MODERATELY WEAK ROCK.

339.80 - 340.56 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

340.56 - 340.66 100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

340.66 - 340.71 100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

340.71 - 344.00 100% SANDSTONE: QUARTZITIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

344.00 - 347.00 100% SANDSTONE: QUARTZITIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES.

347.00 - 350.00 100% SANDSTONE: SILTY, QUARTZITIC, LIGHT GREY, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

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0 LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

350.00 - 352.59	100% SANDSTONE: SILTY, QUARTZITIC, LIGHT GREY, STRONG ROCK.
352.59 - 352.60	100% MUDSTONE: CARBONACEOUS, BLACK.
352.60 - 353.00	100% SANDSTONE: SILTY, QUARTZITIC, LIGHT GREY, STRONG ROCK.
353.00 - 353.13	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
353.13 - 353.27	100% SILTSTONE: SHALY, FISSILE, GREY, MODERATELY WEAK ROCK.
353.27 - 353.43	100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
353.43 - 353.67	100% SHALE: FISSILE, GREY, WEAK ROCK.
353.67 - 353.90	100% SILTSTONE: GREY, MODERATELY STRONG ROCK, THIN BEDDING, BEDS DIP 15 DEG..
353.90 - 353.95	100% SANDSTONE: GREY, MODERATELY STRONG ROCK.
353.95 - 354.19	100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
354.19 - 354.29	100% SILTSTONE: GREY, MODERATELY WEAK ROCK, THIN BEDDING, SOME SEPARATION ALONG BEDDING SURFACES, BEDS DIP 15 DEG..
354.29 - 354.45	100% SHALE: GREY, WEAK ROCK.
354.45 - 354.55	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
354.55 - 355.39	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
355.39 - 355.87	100% SILTSTONE: SHALY, FISSILE, GREY, MODERATELY WEAK ROCK.
355.87 - 355.92	100% SANDSTONE: FINE GRAINED, GREY, MODERATELY STRONG ROCK.
355.92 - 356.04	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK, AND MUD CASTS/CRACKS.
356.04 - 356.44	100% SANDSTONE: SILTY, MEDIUM GRAINED, GREY-GREEN, STRONG ROCK.
356.44 - 358.00	100% SANDSTONE: QUARTZITIC, MED.-COARSE GRAINED, BLUE - GREY, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

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LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

358.00 - 358.31	100% SANDSTONE: QUARTZITIC, CALCITIC, BLUE - GREY, STRONG ROCK.
358.31 - 359.03	100% SANDSTONE: QUARTZITIC, COARSE GRAINED, BLUE - GREY, STRONG ROCK.
359.03 - 359.43	100% SILTSTONE: GREY-GREEN, STRONG ROCK, AND BURROWING.
359.43 - 359.77	100% SANDSTONE: QUARTZITIC, MEDIUM GRAINED, GREY-GREEN, STRONG ROCK.
359.77 - 360.48	100% SILTSTONE: ARENACEOUS, GREY-GREEN, STRONG ROCK.
360.48 - 360.75	100% SANDSTONE: SILTY, GREY-GREEN, STRONG ROCK.
360.75 - 361.44	100% SILTSTONE: ARENACEOUS, GREY-GREEN, STRONG ROCK.
361.44 - 361.65	100% SILTSTONE: GREY, STRONG ROCK.
361.65 - 361.79	100% SANDSTONE: SILTY, GREY, STRONG ROCK, AND MUD CASTS/CRACKS.
361.79 - 362.15	100% SANDSTONE: QUARTZITIC, COARSE GRAINED, BLUE - GREY, STRONG ROCK.
362.15 - 362.44	100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, WITH CALCITE, STRONG ROCK.
362.44 - 362.56	100% SILTSTONE: ARENACEOUS, GREY, STRONG ROCK.
362.56 - 362.64	100% SANDSTONE: QUARTZITIC, COARSE GRAINED, WITH CALCITE, STRONG ROCK, AND MUD CASTS/CRACKS.
362.64 - 363.03	100% SANDSTONE: COARSE GRAINED, QUARTZITIC, BLUE - GREY, WITH CALCITE, STRONG ROCK.
363.03 - 363.66	100% SILTSTONE: SAND BANDS, GREY, STRONG ROCK.
363.66 - 365.23	100% SANDSTONE: COARSE GRAINED, QUARTZITIC, BLUE - GREY, STRONG ROCK, AND MUD CASTS/CRACKS.
365.23 - 366.66	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
366.66 - 367.18	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK, AND MUD CASTS/CRACKS, CLOSE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.
367.18 - 367.26	100% SANDSTONE: GREY-GREEN, AND MUD CASTS/CRACKS.
367.26 - 367.42	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

061

LEASE : AVUCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

367.42 - 367.62 100% SANDSTONE: FINE GRAINED, QUARTZITIC, BLUE - GREY, MODERATELY STRONG ROCK.

367.62 - 368.00 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

368.00 - 368.19 100% MUDSTONE: FISSILE, GREY, MODERATELY STRONG ROCK.

368.19 - 368.57 100% SILTSTONE: GREY, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

368.57 - 368.83 100% SANDSTONE: VERY FINE GRAINED, QUARTZITIC, GREY-GREEN, MODERATELY STRONG ROCK.

368.83 - 369.02 100% MUDSTONE: GREY-GREEN, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

369.02 - 370.00 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

370.00 - 370.30 100% SANDSTONE: VERY FINE GRAINED, QUARTZITIC, GREY, STRONG ROCK.

370.30 - 371.00 100% SANDSTONE: MED.-COARSE GRAINED, QUARTZITIC, WITH CALCITE, STRONG ROCK.

371.00 - 371.78 100% SANDSTONE: MED.-COARSE GRAINED, QUARTZITIC, WITH CALCITE, STRONG ROCK, AND CARBONACEOUS WHISPS.

371.78 - 372.04 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, BLUE - GREY, STRONG ROCK.

372.04 - 376.05 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY.

376.05 - 376.12 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

376.12 - 377.00 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK.

377.00 - 377.34 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG292
062LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

377.34 - 377.54 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK.

377.54 - 377.84 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

377.84 - 380.00 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

380.00 - 383.00 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

383.00 - 388.30 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

388.30 - 388.40 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK.

388.40 - 390.30 100% SANDSTONE: MED.TO FINE GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

390.30 - 390.76 100% SANDSTONE: BANDS, GREY-GREEN, STRONG ROCK.

390.76 - 390.95 100% SILTSTONE: ARENACEOUS, GREY-GREEN, STRONG ROCK.

390.95 - 391.40 100% SANDSTONE: MED.TO FINE GRAINED, GREY-GREEN, STRONG ROCK.

391.40 - 392.70 100% SANDSTONE: QUARTZITIC, MED.-COARSE GRAINED, GREY-GREEN, STRONG ROCK,THIN BEDDING, BEDS DIP 15 DEG. AND TROUGH CROSS BEDDING.

392.70 - 392.97 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK.

392.97 - 398.80 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, LIGHT GREY, STRONG ROCK.

398.80 - 398.99 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY, STRONG ROCK.

398.99 - 399.67 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, LIGHT GREY, STRONG ROCK.

399.67 - 399.81 100% SANDSTONE: MED.TO FINE GRAINED, QUARTZITIC, GREY, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

063

LEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

399.81 - 400.95 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, LIGHT GREY, STRONG ROCK.

400.95 - 401.04 100% SANDSTONE: QUARTZITIC, MEDIUM GRAINED, GREY, STRONG ROCK.

401.04 - 401.97 100% SANDSTONE: MED.-COARSE GRAINED, QUARTZITIC, LIGHT GREY, STRONG ROCK.

401.97 - 402.10 100% SANDSTONE: QUARTZITIC, GREY, STRONG ROCK.

402.10 - 423.63 100% SANDSTONE: QUARTZITIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

423.63 - 424.20 100% SANDSTONE: QUARTZITIC, MEDIUM GRAINED, BLUE - GREY, STRONG ROCK.

424.20 - 424.27 100% SANDSTONE: QUARTZITIC, FINE GRAINED, GREY, STRONG ROCK.

424.27 - 424.40 100% SILTSTONE: GREY, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 25 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES.

424.40 - 430.28 100% SANDSTONE: QUARTZITIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

430.28 - 431.14 100% SANDSTONE: QUARTZITIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK, THIN BEDDING, BEDS DIP 0 DEG..

431.14 - 431.58 100% SILTSTONE: ARENACEOUS, GREY-GREEN, MODERATELY STRONG ROCK, THIN BEDDING, SOME SEPARATION ALONG BEDDING SURFACES.

431.58 - 432.33 100% SANDSTONE: QUARTZITIC, FINE GRAINED, GREY-GREEN, STRONG ROCK.

432.33 - 432.43 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

432.43 - 432.97 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, LIGHT GREEN, STRONG ROCK.

432.97 - 433.54 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREEN, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 1

*** CORE DESCRIPTION ***

433.54 - 433.81 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

433.81 - 434.46 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREEN, STRONG ROCK.

434.46 - 435.70 50% SANDSTONE: GREY-GREEN, 50% SANDSTONE:, MODERATELY STRONG ROCK, THIN BEDDING .SOME SEPARATION ALONG BEDDING SURFACES.

435.70 - 442.70 100% SANDSTONE: MEDIUM GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK.

442.70 - 443.55 100% SANDSTONE: FINE GRAINED, SILTY, GREY, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

443.55 - 445.30 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, GREEN, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

445.30 - 446.00 100% SANDSTONE: QUARTZITIC, COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, ,OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

446.00 - 449.00 100% SANDSTONE: MED. TO FINE GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK,CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

449.00 - 454.50 100% SANDSTONE: MED.-COARSE GRAINED, QUARTZITIC, GREY-GREEN, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

454.50 - 454.90 100% SANDSTONE: COARSE GRAINED, MICACEOUS, VARIAGATED COLOUR.

454.90 - 455.28 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, GREEN, STRONG ROCK.

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*** CORE DESCRIPTION ***

455.28 - 456.03 100% SANDSTONE: COARSE GRAINED, QUARTZITIC, LIGHT GREY, STRONG ROCK.

456.03 - 457.14 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK, MODERATELY THICK BEDDING, SOME SEPARATION ALONG BEDDING SURFACES, MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG., TIGHT NON-PLANAR DISCONTINUITIES.

457.14 - 458.00 100% SANDSTONE: QUARTZITIC, FINE GRAINED, GREY-GREEN, STRONG ROCK, CLOSE JOINT SPACING, JOINTS DIP 40 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

- 55.30 100% GRAVEL: ARGILLACEOUS. BADLY BROKEN. VARIAGATED COLOUR.
- 55.30 - 57.30 100% SANDSTONE: MED. TO FINE GRAINED. GREY. MODERATELY WEATHERED. WEAK ROCK. MODERATELY CLOSE JOINT SPACING.
- 57.30 - 59.70 100% SANDSTONE: MED. TO FINE GRAINED. BADLY BROKEN. GREY. MODERATELY WEATHERED. VERY WEAK ROCK. CLOSE JOINT SPACING.
- 59.70 - 61.00 100% SANDSTONE: MED. TO FINE GRAINED. GREY. MODERATELY WEATHERED. WEAK ROCK. MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR. ROUGH DISCONTINUITIES.
- 61.00 - 64.20 100% SANDSTONE: MED. TO FINE GRAINED. BADLY BROKEN. GREY. MODERATELY WEATHERED. VERY WEAK ROCK.
- 64.20 - 66.30 100% SANDSTONE. FINE GRAINED: BADLY BROKEN. GREY-GREEN. SLIGHTLY WEATHERED. VERY WEAK ROCK.
- 66.30 - 66.80 100% MUDSTONE: BADLY BROKEN. METAMORPHOSED. DARK GREY. MODERATELY WEATHERED. WEAK ROCK. CLOSE JOINT SPACING .OPEN. NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
- 66.80 - 67.55 100% SANDSTONE. FINE GRAINED: BADLY BROKEN. GREY-GREEN. MODERATELY WEATHERED. VERY WEAK ROCK.
- 67.55 - 68.15 100% MUDSTONE: METAMORPHOSED. DARK GREY. SLIGHTLY WEATHERED. WEAK ROCK. CLOSE JOINT SPACING .OPEN. NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
- 68.15 - 68.40 100% SANDSTONE. FINE GRAINED: BADLY BROKEN. GREY-GREEN. MODERATELY WEATHERED. VERY WEAK ROCK.
- 68.40 - 68.60 100% MUDSTONE: BADLY BROKEN. METAMORPHOSED. DARK GREY. MODERATELY WEATHERED. VERY WEAK ROCK.
- 68.60 - 69.47 100% SANDSTONE. FINE GRAINED: BADLY BROKEN. ARGILLACEOUS. GREY-GREEN. MODERATELY WEATHERED. VERY WEAK ROCK.

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69.47 - 70.40 100% MUDSTONE: SILTY, BADLY BROKEN, DARK GREY, MODERATELY WEATHERED, VERY WEAK ROCK.

70.40 - 70.50 100% CLAY: CARBONACEOUS, BLACK, SOFT.

70.50 - 71.10 100% MUDSTONE: ARENACEOUS, METAMORPHOSED, DARK GREY, SLIGHTLY WEATHERED, WEAK ROCK, CLOSE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CLAY & TALC.

71.10 - 71.65 100% SILTSTONE: GREY, SLIGHTLY WEATHERED, WEAK ROCK, MODERATELY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CALCITE.

71.65 - 71.85 100% SILTSTONE: BADLY BROKEN, GREY-GREEN, SLIGHTLY WEATHERED, VERY WEAK ROCK.

71.85 - 72.00 100% MUDSTONE: BADLY BROKEN, DARK GREY, MODERATELY WEATHERED, VERY WEAK ROCK.

72.00 - 72.40 100% QUARTZITE: VARIAGATED COLOUR, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

72.40 - 72.72 100% SILTSTONE: BADLY BROKEN, GREY-GREEN, WITH CHLORITE ON JOINTS, MODERATELY WEATHERED, VERY WEAK ROCK.

72.72 - 83.65 100% MUDSTONE: METAMORPHOSED, BADLY BROKEN, DARK GREY, WITH CALCITE ON JOINTS, MODERATELY WEATHERED, VERY WEAK ROCK.

83.65 - 84.60 100% SANDSTONE, FINE GRAINED: QUARTZITIC, CHLORITIC, VARIAGATED COLOUR, SLIGHTLY WEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING , TIGHT NON-PLANAR DISCONTINUITIES.

84.60 - 85.10 100% MUDSTONE: SILTY, CARBONACEOUS, DARK GREY, SLIGHTLY WEATHERED, MODERATELY WEAK ROCK, MODERATELY WIDE JOINT SPACING , TIGHT NON-PLANAR DISCONTINUITIES.

85.10 - 86.00 100% CLAY: CARBONACEOUS, FRIABLE, GREY, MODERATELY WEATHERED, VERY WEAK ROCK.

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86.00 - 88.00 100% MUDSTONE: FRIABLE, ARGILLACEOUS, DARK GREY, MODERATELY WEATHERED, WEAK ROCK.

88.00 - 88.37 100% SANDSTONE, FINE GRAINED: QUARTZITIC, CHLORITIC, VARIAGATED COLOUR, SLIGHTLY WEATHERED, MODERATELY WEAK ROCK, CLOSE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.

88.37 - 89.55 100% MUDSTONE: BADLY BROKEN, ARGILLACEOUS, DARK GREY, MODERATELY WEATHERED, VERY WEAK ROCK.

89.55 - 90.00 100% CLAYSTONE: BADLY BROKEN, LIGHT GREEN, MODERATELY WEATHERED, VERY WEAK ROCK.

90.00 - 93.40 100% MUDSTONE: BADLY BROKEN, ARGILLACEOUS, DARK GREY, MODERATELY WEATHERED, VERY WEAK ROCK.

93.40 - 94.00 100% SILTSTONE: ARGILLACEOUS, GREY, WITH CHLORITE ON JOINTS, MODERATELY WEATHERED, WEAK ROCK, CLOSE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.

94.00 - 95.20 100% MUDSTONE: BADLY BROKEN, CARBONACEOUS, DARK GREY, SLIGHTLY WEATHERED, WEAK ROCK, CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

95.20 - 95.70 100% SANDSTONE, FINE GRAINED: SILTY, DARK GREY, SLIGHTLY WEATHERED, WEAK ROCK, CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

95.70 - 96.54 100% SANDSTONE, FINE GRAINED: QUARTZITIC, VARIAGATED COLOUR, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

96.54 - 96.74 100% IRONSTONE: METAMORPHOSED, VARIAGATED COLOUR, MODERATELY WEATHERED, WEAK ROCK.

96.74 - 97.10 100% CLAYSTONE: CHLORITIC, BADLY BROKEN, LIGHT GREEN, MODERATELY WEATHERED.

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97.10 - 97.37 100% BRECCIA: ARENACEOUS, CARBONACEOUS, VARIAGATED COLOUR, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

97.37 - 97.70 100% MUDSTONE: METAMORPHOSED, GREY, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

97.70 - 98.25 100% DOLERITE: GREY, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

98.25 - 103.95 100% DOLERITE: FINE GRAINED, BLACK, WITH TALC ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

103.95 - 115.80 100% DOLERITE: FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

115.80 - 123.40 100% DOLERITE: FINE GRAINED, VUGULAR, BLACK, WITH CALCITE ON JOINTS AND TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES.

123.40 - 123.45 100% SHEAR / FAULT ZONE: GREEN, WITH CALCITE AND TALC, MODERATELY WEATHERED, WEAK ROCK, VERY CLOSE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.

123.45 - 127.07 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS AND CRYSTALLINE CALCITE, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

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127.07 - 127.60 100% DOLERITE: BADLY BROKEN, GREEN, WITH CALCITE ON JOINTS, HIGHLY WEATHERED, SOFT, VERY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

127.60 - 133.24 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS AND TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES.

133.24 - 133.32 100% SHEAR / FAULT ZONE: LIGHT GREEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS, MODERATELY WEATHERED, SOFT, CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES.

133.32 - 134.05 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES.

134.05 - 139.25 100% DOLERITE: MED. TO FINE GRAINED, VUGULAR, BLACK, WITH CALCITE ON JOINTS AND VUGULAR CALCITE, UNWEATHERED, VERY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

139.25 - 144.20 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS AND VUGULAR CALCITE, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

144.20 - 145.40 100% DOLERITE: MED. TO FINE GRAINED, BADLY BROKEN, BLACK, WITH CALCITE ON JOINTS AND VUGULAR CALCITE, MODERATELY WEATHERED, WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

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145.40 - 146.25 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS AND TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES.

146.25 - 146.70 100% DOLERITE: MED. TO FINE GRAINED, BADLY BROKEN, GREY-GREEN, WITH TALC ON JOINTS, MODERATELY WEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

146.70 - 151.10 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS AND CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

151.10 - 160.48 100% DOLERITE: BADLY BROKEN, FAULT GOUGE, GREY-GREEN, WITH TALC ON JOINTS AND CALCITE ON JOINTS, MODERATELY WEATHERED, WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

160.48 - 160.98 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES.

160.98 - 163.10 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS AND CALCITE ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES.

163.10 - 163.73 100% DOLERITE: BADLY BROKEN, BLACK, WITH TALC ON JOINTS, SLIGHTLY WEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

163.73 - 166.34 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS AND CALCITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

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166.34 - 172.80 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

172.80 - 174.40 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

174.40 - 181.45 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

181.45 - 182.40 100% DOLERITE: BADLY BROKEN, MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

182.40 - 203.30 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 60 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

203.30 - 204.63 70% DOLERITE: MED. TO FINE GRAINED, BLACK, 30% TALC: DARK GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

204.63 - 207.50 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

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207.50 - 208.40 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

208.40 - 209.60 90% DOLERITE: MED. TO FINE GRAINED, BLACK. 10% TALC: DARK GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

209.60 - 210.15 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

210.15 - 211.05 100% DOLERITE: MED. TO FINE GRAINED, BADLY BROKEN, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

211.05 - 212.05 100% SHEAR / FAULT ZONE: BADLY BROKEN, FRIABLE, DARK GREEN, WITH AND CALCITE ON JOINTS, MODERATELY WEATHERED, VERY WEAK ROCK, VERY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

212.05 - 212.47 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

212.47 - 213.00 100% SHEAR / FAULT ZONE: BRECCIATED, FRIABLE, DARK GREEN, WITH AND CALCITE, SLIGHTLY WEATHERED, WEAK ROCK, VERY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

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213.00 - 213.40 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

213.40 - 213.90 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CALCITE.

213.90 - 214.72 100% SHEAR / FAULT ZONE: BRECCIATED, GREEN, WITH AND CALCITE. SLIGHTLY WEATHERED, VERY WEAK ROCK, VERY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CLAY & TALC.

214.72 - 215.32 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CLAY & TALC.

215.32 - 217.10 100% SHEAR / FAULT ZONE: BRECCIATED, GREEN, WITH AND CALCITE ON JOINTS, SLIGHTLY WEATHERED, WEAK ROCK, VERY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CLAY & TALC.

217.10 - 217.50 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CALCITE.

217.50 - 217.65 100% DOLERITE: FRIABLE, MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS AND TALC ON JOINTS, UNWEATHERED, MODERATELY WEAK ROCK, CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES.

217.65 - 217.82 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CLAY & TALC.

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217.82 - 219.02 100% SHEAR / FAULT ZONE: BRECCIATED, LIGHT GREEN, WITH CALCITE, SLIGHTLY WEATHERED, WEAK ROCK, VERY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

219.02 - 219.50 100% DOLERITE: BADLY BROKEN, BLACK, WITH CALCITE ON JOINTS, UNWEATHERED, MODERATELY WEAK ROCK, CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CLAY & TALC.

219.50 - 221.16 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

221.16 - 222.79 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

222.79 - 223.20 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 75 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

223.20 - 229.10 100% DOLERITE: MED. TO FINE GRAINED, BLACK, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

229.10 - 229.55 100% DOLERITE: MED. TO FINE GRAINED, BLACK, WITH TALC ON JOINTS, UNWEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES.

229.55 - 230.25 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK, WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

230.25 - 230.65 100% DOLERITE: GREY-GREEN, WITH TALC ON JOINTS, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

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230.65 - 231.15 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

231.15 - 231.55 100% DOLERITE: GREY-GREEN, UNWEATHERED, MODERATELY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

231.55 - 232.80 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, DARK GREEN, WITH CALCITE ON JOINTS, CLOSE JOINT SPACING, JOINTS DIP 60 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

232.80 - 234.05 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WITH TALC ON JOINTS AND CALCITE ON JOINTS, UNWEATHERED, STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES.

234.05 - 238.14 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE AND TALC, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

238.14 - 242.61 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

242.61 - 244.08 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES.

244.08 - 249.14 100% DOLERITE: FINE GRAINED, GREY, UNWEATHERED, STRONG ROCK, CLOSE JOINT SPACING, JOINTS DIP 60 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

249.14 - 250.49 100% SHEAR / FAULT ZONE: BRECCIATED, VARIAGATED COLOUR, WITH CALCITE AND TALC, VERY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

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*** CORE DESCRIPTION ***

- 250.49 - 255.80 100% DOLERITE: FINE GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS, UNWEATHERED, STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT, PLANAR, SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
- 255.80 - 256.10 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS, MODERATELY CLOSE JOINT SPACING , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 256.10 - 256.70 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 256.70 - 257.25 100% DOLERITE: BADLY BROKEN, CALCITIC, VARIAGATED COLOUR, WITH CALCITE AND TALC, MODERATELY WIDE JOINT SPACING, JOINTS DIP 55 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CLAY & TALC.
- 257.25 - 258.40 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK, CLOSE JOINT SPACING, JOINTS DIP 65 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 258.40 - 259.00 100% DOLERITE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE AND TALC, CLOSE JOINT SPACING , TIGHT PLANAR, ROUGH DISCONTINUITIES.
- 259.00 - 259.60 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 259.60 - 261.70 100% DOLERITE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE ON JOINTS, CLOSE JOINT SPACING , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CLAY & TALC.

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*** CORE DESCRIPTION ***

261.70 - 262.23 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, STRONG ROCK.

262.23 - 263.20 50% DOLERITE: BADLY BROKEN, GREY-GREEN, 50% CLAY: GREEN, WITH CALCITE ON JOINTS AND TALC, WIDE JOINT SPACING, JOINTS DIP 65 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CLAY & TALC.

263.20 - 267.90 100% DOLERITE: MED. TO FINE GRAINED, PYRITIC, GREY-GREEN, WITH CALCITE ON JOINTS AND TALC, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CALCITE.

267.90 - 268.88 100% DOLERITE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH TALC AND CLAY, MODERATELY CLOSE JOINT SPACING , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

268.88 - 274.82 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WITH PYRITE, MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

274.82 - 276.80 50% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, 50% TALC: ARGILLACEOUS, GREEN, WITH TALC ON JOINTS AND CALCITE ON JOINTS, MODERATELY CLOSE JOINT SPACING , TIGHT PLANAR, ROUGH DISCONTINUITIES.

276.80 - 281.46 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WITH ABUNDANT PYRITE, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

281.46 - 281.70 60% DOLERITE: BADLY BROKEN, PYRITIC, GREY-GREEN, 40% CLAY: VARIAGATED COLOUR, WITH CALCITE AND TALC, MODERATELY CLOSE JOINT SPACING , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

281.70 - 285.50 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.

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*** CORE DESCRIPTION ***

285.50 - 286.45 100% SHEAR / FAULT ZONE: VARIAGATED COLOUR, WITH CALCITE AND TALC, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

286.45 - 287.46 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WITH PYRITE, VERY STRONG ROCK, WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

287.46 - 290.60 100% SHEAR / FAULT ZONE: VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CLAY & TALC.

290.60 - 292.20 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WITH PYRITE, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

292.20 - 294.50 100% DOLERITE: BADLY BROKEN, GREY-GREEN, WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

294.50 - 301.90 100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

301.90 - 302.17 100% DOLERITE: BRECCIATED, ARGILLACEOUS, VARIAGATED COLOUR, WITH TALC AND CHLORITE, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

302.17 - 304.46 100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

304.46 - 304.56 100% DOLERITE: BADLY BROKEN, GREY-GREEN, WITH TALC ON JOINTS, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES.

304.56 - 305.00 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.

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*** CORE DESCRIPTION ***

305.00 - 307.40 100% DOLERITE: BADLY BROKEN, CALCITIC, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS, MODERATELY CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

307.40 - 314.55 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

314.55 - 315.55 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

315.55 - 315.85 100% SHEAR / FAULT ZONE: BRECCIATED, CALCITIC, VARIAGATED COLOUR, CLOSE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

315.85 - 317.50 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, WIDE JOINT SPACING, JOINTS DIP 90 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

317.50 - 318.10 100% DOLERITE: MED. TO FINE GRAINED, GREY-GREEN, VERY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

318.10 - 322.50 100% SHEAR / FAULT ZONE: BRECCIATED, VARIAGATED COLOUR, WITH TALC ON JOINTS AND CLAY ON JOINTS, MODERATELY WIDE JOINT SPACING, OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

322.50 - 343.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

343.50 - 350.70 100% SHEAR / FAULT ZONE: BRECCIATED, BADLY BROKEN, GREEN, WITH TALC AND CLAY, MODERATELY CLOSE JOINT SPACING, OPEN, NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

350.70 - 353.72 100% DOLERITE: MEDIUM GRAINED, GREY, STRONG
 ROCK, MODERATELY WIDE JOINT SPACING, TIGHT
 PLANAR, ROUGH DISCONTINUITIES.

353.72 - 354.07 100% BOULDER CONGLOMERATE: VARIAGATED COLOUR.

354.07 - 354.73 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, STRONG
 ROCK.

354.73 - 357.00 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED,
 VARIAGATED COLOUR, WITH TALC ON JOINTS AND
 CHLORITE, MODERATELY CLOSE JOINT SPACING, OPEN
 PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

357.00 - 372.55 100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG
 ROCK, WIDE JOINT SPACING, JOINTS DIP 50 DEG., TIGHT
 PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

372.55 - 392.50 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED,
 VARIAGATED COLOUR, WITH TALC ON JOINTS AND VUGULAR
 CALCITE, MODERATELY WIDE JOINT SPACING, OPEN
 PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

392.50 - 393.55 100% DOLERITE: MEDIUM GRAINED, GREY, STRONG ROCK, WIDE
 JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH
 DISCONTINUITIES, INFILLED WITH CALCITE.

393.55 - 410.80 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED,
 VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON
 JOINTS, MODERATELY CLOSE JOINT SPACING, OPEN
 PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

410.80 - 415.20 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CALCITE ON
 JOINTS AND TALC ON JOINTS, VERY STRONG ROCK, VERY WIDE
 JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH
 DISCONTINUITIES.

415.20 - 416.20 100% DOLERITE: MEDIUM GRAINED, GREY, WITH VUGULAR
 CALCITE, TIGHT NON-PLANAR DISCONTINUITIES, INFILLED
 WITH CALCITE.

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*** CORE DESCRIPTION ***

- 416.20 - 430.25 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CALCITE ON JOINTS. VERY STRONG ROCK, VERY WIDE JOINT SPACING. JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
- 430.25 - 437.70 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
- 437.70 - 442.50 100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH CALCITE ON JOINTS AND TALC ON JOINTS. VERY STRONG ROCK,VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

- 10.80 100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED.

10.80 - 21.30 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CLAY ON JOINTS, MODERATELY WEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

21.30 - 25.00 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CLAY ON JOINTS, UNWEATHERED, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

25.00 - 55.00 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CALCITE ON JOINTS AND CLAY ON JOINTS, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

55.00 - 57.50 100% DOLERITE: BADLY BROKEN, FAULT GOUGE, VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS, SLIGHTLY WEATHERED, WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

57.50 - 69.20 100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

69.20 - 72.70 50% DOLERITE: GREY, 50% CALCITE: WHITE, WITH CALCITE ON JOINTS AND TALC ON JOINTS, ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

72.70 - 115.30 100% DOLERITE: MEDIUM GRAINED, GREY, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

115.30 - 116.70 100% DOLERITE: VARIAGATED COLOUR, WITH CALCITE ON JOINTS AND TALC ON JOINTS,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

116.70 - 269.10 100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

269.10 - 269.57 100% DOLERITE: FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.

269.57 - 270.39 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 55 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES.

270.39 - 270.94 50% MUDSTONE: SILTY, GREY, 50% SANDSTONE: LITHIC, LIGHT GREY.

270.94 - 280.97 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES.

280.97 - 282.00 100% MUDSTONE: GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

282.00 - 282.90 100% SANDSTONE: PELLETAL, VARIAGATED COLOUR, STRONG ROCK.

282.90 - 283.20 100% MUDSTONE: CARBONACEOUS, DARK GREY.

283.20 - 283.33 100% COAL, HEAVY DULL:.

283.33 - 283.37 100% COAL, CANNEL:.

283.37 - 283.42 100% MUDSTONE: CARBONACEOUS, BLACK.

283.42 - 283.66 100% SHALE: CARBONACEOUS, FISSILE, DARK GREY, MODERATELY WEAK ROCK.

283.66 - 283.91 100% SANDSTONE: CALCAREOUS, FINE GRAINED, DARK GREY, STRONG ROCK.

283.91 - 284.31 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

284.31 - 285.47 100% MUDSTONE: SILTY, GREY, MODERATELY WEAK ROCK.

285.47 - 285.68 100% SILTSTONE: ARENACEOUS, FISSILE, GREY, MODERATELY STRONG ROCK.

285.68 - 285.82 100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.

285.82 - 286.27 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

286.27 - 286.34 100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.

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*** CORE DESCRIPTION ***

286.34 - 286.70 100% SILTSTONE: SAND BANDS, GREY, MODERATELY STRONG ROCK.

286.70 - 286.80 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

286.80 - 287.38 100% SANDSTONE: SILTY, VERY FINE GRAINED, GREY, MODERATELY STRONG ROCK.

287.38 - 287.50 100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.

287.50 - 288.03 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

288.03 - 288.18 100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.

288.18 - 297.61 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

297.61 - 297.91 100% SANDSTONE: LITHIC, FINE GRAINED, GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.

297.91 - 306.04 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

306.04 - 307.34 100% MUDSTONE: GREY, MODERATELY WEAK ROCK.

307.34 - 311.52 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 80 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

311.52 - 311.85 100% SANDSTONE: LITHIC, FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.

311.85 - 311.99 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

311.99 - 312.36 100% SANDSTONE: LITHIC, FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

312.36 - 313.68 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

313.68 - 313.70 100% COAL, HEAVY DULL.

313.70 - 313.95 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.

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*** CORE DESCRIPTION ***

313.95 - 318.90	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
318.90 - 318.97	100% SANDSTONE: LIGHT GREY, WITH CARBONACEOUS WHISPS.
318.97 - 323.86	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY.
323.86 - 326.71	CORE LOSS.
326.71 - 327.41	100% MUDSTONE: CARBONACEOUS, BLACK.
327.41 - 332.15	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
332.15 - 332.23	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.
332.23 - 332.25	100% COAL, HEAVY DULL:.
332.25 - 332.36	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
332.36 - 332.56	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, WITH CARBONACEOUS WHISPS.
332.56 - 334.53	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
334.53 - 334.70	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
334.70 - 335.17	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, WITH CARBONACEOUS WHISPS.
335.17 - 335.20	100% COAL:.
335.20 - 335.50	CORE LOSS.
335.50 - 335.65	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, WITH CARBONACEOUS WHISPS.
335.65 - 337.20	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.
337.20 - 337.25	100% COAL, CANNEL:.
337.25 - 337.41	100% MUDSTONE: SILTY, GREY.
347.41 - 337.85	100% SILTSTONE: SHALY, FISSILE, GREY, MODERATELY WEAK ROCK.
337.85 - 337.92	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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*** CORE DESCRIPTION ***

337.92 - 339.05 100% SANDSTONE: LITHIC, VERY FINE GRAINED, VARIAGATED COLOUR, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS, WIDE JOINT SPACING, JOINTS DIP 65 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES.

339.05 - 339.06 100% COAL, HEAVY DULL:.

339.06 - 339.07 100% TONSTEIN: ARGILLACEOUS, LIGHT BROWN.

339.07 - 339.17 100% COAL, HEAVY DULL:.

339.17 - 339.21 100% SHALE: ARGILLACEOUS, BROWN.

339.21 - 339.26 100% COAL, DULL:.

339.26 - 339.52 100% MUDSTONE: FISSILE, GREY, MODERATELY WEAK ROCK.

339.52 - 339.55 100% CLAY: GREY.

339.55 - 339.56 100% COAL, HEAVY DULL:.

339.56 - 339.58 100% TONSTEIN: ARGILLACEOUS, LIGHT BROWN.

339.58 - 340.06 100% COAL, HEAVY DULL: CALCITE ON CLEAT.

340.06 - 340.10 100% MUDSTONE: GREY.

340.10 - 340.17 100% SHALE: FISSILE, GREY.

340.17 - 340.25 100% MUDSTONE: GREY.

340.25 - 340.37 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

340.37 - 340.84 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

340.84 - 340.85 100% SHALE: FISSILE.

340.85 - 341.09 100% SILTSTONE: SHALE BANDS, GREY.

341.09 - 342.16 100% SILTSTONE: ARENACEOUS, GREY, WIDE JOINT SPACING, JOINTS DIP 90 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

342.16 - 342.31 100% SHALE: FISSILE, GREY.

342.31 - 342.75 100% SANDSTONE: FINE GRAINED, LIMONITIC, LIGHT GREY, STRONG ROCK.

342.75 - 342.97 100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.

342.97 - 343.25 100% MUDSTONE: GREY, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES.

343.25 - 344.40 100% SHALE: FISSILE, GREY.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVQCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

344.40 - 345.86 100% MUDSTONE: SILTY, GREY.

345.86 - 345.95 100% SILTSTONE: GREY, WITH CARBONACEOUS WHISPS.

345.95 - 346.06 100% MUDSTONE: SILTY, GREY, TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

346.06 - 346.12 100% COAL, HEAVY DULL:.

346.12 - 346.13 100% TONSTEIN: ARGILLACEOUS, LIGHT BROWN.

346.13 - 346.23 100% COAL, HEAVY DULL:.

346.23 - 346.24 100% TONSTEIN: ARGILLACEOUS.

346.24 - 346.29 100% COAL, HEAVY DULL:.

346.29 - 346.73 100% SILTSTONE: ARENACEOUS, FISSILE, GREY.

346.73 - 347.00 100% SANDSTONE: VERY FINE GRAINED, SILTY, LIGHT GREY, MODERATELY STRONG ROCK.

347.00 - 347.37 100% MUDSTONE: GREY, TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

347.37 - 347.40 100% MUDSTONE: CARBONACEOUS, BLACK.

347.40 - 348.00 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

348.00 - 348.03 100% COAL, HEAVY DULL:.

348.03 - 348.63 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.

348.63 - 350.82 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

350.82 - 351.37 100% MUDSTONE: GREY-GREEN, MODERATELY STRONG ROCK.

351.37 - 351.39 100% COAL, HEAVY DULL:.

351.39 - 352.18 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK, TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

352.18 - 354.14 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

354.14 - 354.44 100% COAL, HEAVY DULL:.

354.44 - 354.45 100% MUDSTONE: BROWN.

354.45 - 354.50 100% MUDSTONE: CARBONACEOUS, DARK GREY.

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BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

354.50 - 354.77 100% MUDSTONE: FISSILE, ARGILLACEOUS, GREY-BROWN,
WEAK ROCK.
354.77 - 355.29 100% SHALE: FISSILE, GREY.
355.29 - 355.57 100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
355.57 - 355.64 100% SHALE: FISSILE, GREY, WEAK ROCK.
355.64 - 355.70 100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.

SAMPLE:AV201

*** CORE DESCRIPTION ***

355.70
0.65 100% COAL, HEAVY DULL:.
0.01 100% COAL, BRIGHT:.
0.01 100% COAL, HEAVY DULL:.
0.01 100% MUDSTONE: CARBONACEOUS, ARGILLACEOUS, DARK
BROWN.
0.22 100% COAL, HEAVY DULL:.
0.02 100% MUDSTONE: CARBONACEOUS, DARK BROWN.
0.20 100% COAL, DULL:.
0.02 100% COAL, CANNEL:.
356.84 1.14 TOTAL

*** CORE DESCRIPTION ***

356.84 - 356.89 100% SHALE: FISSILE, LIGHT BROWN.
356.89 - 357.35 100% SILTSTONE: GREY.
357.35 - 362.80 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT
GREY, STRONG ROCK.
362.80 - 363.04 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT
GREY, STRONG ROCK, WITH CARBONACEOUS WHISPS.
363.04 - 369.87 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT
GREY, STRONG ROCK.
369.87 - 370.12 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT
GREY, WITH CARBONACEOUS WHISPS.
370.12 - 370.13 100% COAL:.

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BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

370.13 - 370.18 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, WITH CARBONACEOUS WHISPS.

370.18 - 370.20 100% CARBONACEOUS SHALE: BLACK.

370.20 - 370.50 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, WITH CARBONACEOUS WHISPS.

370.50 - 378.30 100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.

378.30 - 378.53 100% COAL, DULL:.

378.53 - 378.88 100% SILTSTONE: ARENACEOUS, LIGHT GREY, STRONG ROCK.

378.88 - 379.38 100% SANDSTONE: LITHIC, FINE GRAINED, LIGHT GREY.

379.38 - 380.25 100% MUDSTONE: SILTY, GREY, MODERATELY STRONG ROCK.

380.25 - 380.97 100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

380.97 - 382.06 100% SANDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY STRONG ROCK.

382.06 - 383.43 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

383.43 - 383.81 100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.

383.81 - 384.26 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

384.26 - 385.08 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

385.08 - 385.15 100% SHALE: FISSILE, GREY, WEAK ROCK.

385.15 - 385.29 100% MUDSTONE: CARBONACEOUS, DARK GREY.

385.29 - 385.70 100% SHALE: FISSILE, GREY, WEAK ROCK.

385.70 - 386.25 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

386.25 - 387.51 100% SANDSTONE: MED. TO FINE GRAINED, LIMONITIC, LIGHT GREY, STRONG ROCK.

387.51 - 387.68 100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

387.68 - 388.70 100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.

388.70 - 389.00 100% MUDSTONE: SILTY, LIGHT GREY, MODERATELY STRONG ROCK, TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

389.00 - 389.37 100% SILTSTONE: GREY, MODERATELY STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOG

091

LEASE : AVBCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

389.37 - 389.69	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
389.69 - 389.79	100% SHALE: FISSILE, GREY, WEAK ROCK.
389.79 - 390.25	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
390.25 - 390.26	100% COAL:.
390.26 - 391.06	100% SILTSTONE: GREY.
391.06 - 391.53	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
391.53 - 392.03	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
392.03 - 392.40	100% SANDSTONE: FINE GRAINED, LITHIC, GREY, STRONG ROCK.
392.40 - 392.69	100% SILTSTONE: LAMINAE, GREY, MODERATELY STRONG ROCK.
392.69 - 393.53	50% SILTSTONE: GREY, 50% MUDSTONE: LIGHT GREY.
393.53 - 393.65	100% SHALE: FISSILE, GREY, MODERATELY STRONG ROCK.
393.65 - 393.75	100% CARBONACEOUS SHALE: BLACK.
393.75 - 394.27	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK, WITH CARBONACEOUS WHISPS.
394.27 - 395.58	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
395.58 - 395.66	100% COAL, DULL:.
395.66 - 397.58	100% SANDSTONE: FINE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.
397.58 - 397.69	100% SHALE: FISSILE, GREY.
397.69 - 397.70	100% COAL:.
397.70 - 397.74	100% MUDSTONE: CARBONACEOUS, BLACK.
397.74 - 397.76	100% LIGHT BROWN.
397.76 - 397.86	100% SHALE: FISSILE, DARK GREY.
397.86 - 398.56	100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.
398.56 - 399.60	100% SHALE: SILTY, FISSILE, LIGHT GREY, WEAK ROCK.
399.60 - 401.00	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
401.00 - 402.30	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK.
402.30 - 403.00	CORE LOSS.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVQCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

403.00 - 413.92	100% SANDSTONE: LITHIC, MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK, WITH CARBONACEOUS WHISPS.
413.92 - 415.50	100% SILTSTONE: BRECCIATED, GREY, MODERATELY WEAK ROCK.
415.50 - 417.30	100% SILTSTONE: SAND BANDS, GREY, MODERATELY STRONG ROCK.
417.30 - 418.50	100% SANDSTONE: SILTSTONE BANDS, GREY, MODERATELY STRONG ROCK.
418.50 - 419.80	100% SANDSTONE: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.
419.80 - 421.20	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
421.20 - 422.65	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.
422.65 - 423.25	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
423.25 - 423.85	100% SHALE: FISSILE, GREY, WEAK ROCK.
423.85 - 426.04	100% SANDSTONE: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK.
426.04 - 426.40	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
426.40 - 426.63	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
426.63 - 427.10	100% SANDSTONE: SILTY, VERY FINE GRAINED, GREY, MODERATELY STRONG ROCK.
427.10 - 433.00	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK, VERY CLOSE JOINT SPACING, JOINTS DIP 65 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.
433.00 - 434.08	100% SHALE: CARBONACEOUS SHALE LAMINAE, GREY, WEAK ROCK.
434.08 - 434.16	100% COAL, HEAVY DULL:.

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BOREHOLE LITHOLOGICAL LOG
 CGP
 LEASE : AVOCA
 BOREHOLE : AV 3

*** CORE DESCRIPTION ***

434.16 - 434.25 100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

434.25 - 434.78 100% SANDSTONE: MEDIUM GRAINED, LIMONITIC, GREY, STRONG ROCK, WITH CARBONACEOUS WHISPS.

434.78 - 434.80 100% SHALE: FISSILE, GREY, WEAK ROCK.

434.80 - 435.01 100% SANDSTONE: LIMONITIC, GREY, WITH CARBONACEOUS WHISPS.

435.01 - 435.13 100% SHALE: CARBONACEOUS SHALE BANDS, GREY, WEAK ROCK.

435.13 - 437.10 100% SANDSTONE: MEDIUM GRAINED, LIMONITIC, GREY, STRONG ROCK.

437.10 - 437.95 100% SANDSTONE: SILTY, VERY FINE GRAINED, GREY, MODERATELY STRONG ROCK.

437.95 - 440.75 100% SANDSTONE: LIMONITIC, LIGHT GREY, STRONG ROCK.

440.75 - 441.45 100% SANDSTONE: SILTY, VERY FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.

441.45 - 448.30 100% SANDSTONE: MEDIUM GRAINED, LIMONITIC, LIGHT GREY, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

448.30 - 449.26 100% SHALE: FISSILE, GREY, WEAK ROCK.

449.26 - 449.87 100% SILTSTONE: ARENACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.

449.87 - 450.07 100% SANDSTONE: MEDIUM GRAINED, LIMONITIC, LIGHT GREY, STRONG ROCK.

450.07 - 450.62 100% SILTSTONE: SANDSTONE LENSES, GREY, STRONG ROCK.

450.62 - 450.94 100% MUDSTONE: CARBONACEOUS, DARK GREY.

450.94 - 451.56 CORE LOSS.

451.56 - 451.80 100% SANDSTONE: CARBONACEOUS, DARK GREY.

451.80 - 451.90 100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY.

451.90 - 451.93 100% CLAY: GREY, VERY WEAK ROCK.

451.93 - 453.39 100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.

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BOREHOLE LITHOLOGICAL LOGLEASE : AVOCA
BOREHOLE : AV 3

094

*** CORE DESCRIPTION ***

453.39 - 453.54	100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.
453.54 - 453.79	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
453.79 - 455.50	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
455.50 - 455.95	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.
455.95 - 456.58	100% SANDSTONE: FISSILE, MICACEOUS, GREY.
456.58 - 457.65	100% SANDSTONE: SILTY, LIGHT GREY, STRONG ROCK, WITH CONVOLUTED BEDDING.
457.65 - 458.00	100% SANDSTONE: FISSILE, SILTY, GREY.
458.00 - 459.15	100% SANDSTONE: SILTY, LIGHT GREY, STRONG ROCK, WITH CONVOLUTED BEDDING AND CARBONACEOUS WHISPS.
459.15 - 459.38	100% SILTSTONE: FISSILE, GREY, MODERATELY STRONG ROCK.
459.38 - 460.30	100% SANDSTONE: SILTY, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
460.30 - 463.07	100% SANDSTONE: FINE GRAINED, LITHIC, LIGHT GREY, STRONG ROCK.
463.07 - 463.09	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
463.09 - 463.33	100% SANDSTONE: LITHIC, MEDIUM GRAINED, GREY, STRONG ROCK.
463.33 - 463.50	100% SHALE: SILTY, FISSILE, GREY, MODERATELY WEAK ROCK.
463.50 - 463.57	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
463.57 - 463.59	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
463.59 - 463.61	100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.
463.61 - 463.66	100% MUDSTONE: GREY.
463.66 - 464.08	100% SILTSTONE: SHALE BANDS, GREY.
464.08 - 464.48	100% SANDSTONE: MEDIUM GRAINED, SHALY, LIGHT GREY, MODERATELY STRONG ROCK, WITH CARBONACEOUS WHISPS.
464.48 - 464.61	100% MUDSTONE: CARBONACEOUS, DARK BROWN.

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BOREHOLE LITHOLOGICAL LOG

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0
LEASE : AVOCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

464.61 - 465.20	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
465.20 - 465.38	100% SILTSTONE: GREY-GREEN, MODERATELY STRONG ROCK.
465.38 - 465.78	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
465.78 - 466.00	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
466.00 - 466.45	100% SANDSTONE: SHALE BANDS, GREY, MODERATELY STRONG ROCK.
466.45 - 473.20	100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
473.20 - 475.49	100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, STRONG ROCK.
475.49 - 476.80	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
476.80 - 476.91	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK, WITH MUD PELLETS.
476.91 - 477.81	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
477.81 - 478.08	100% SANDSTONE: LITHIC, MEDIUM GRAINED, LIGHT GREY, STRONG ROCK, WITH MUD PELLETS.
478.08 - 478.63	100% SANDSTONE: CARBONACEOUS SHALE BANDS, GREY, STRONG ROCK.
478.63 - 479.16	100% SILTSTONE: CARBONACEOUS SHALE BANDS, GREY, MODERATELY STRONG ROCK, VERY THIN BEDDING.
479.16 - 479.90	100% SANDSTONE: BANDS, CARBONACEOUS, GREY-GREEN, STRONG ROCK, WITH MUD PELLETS.
479.90 - 480.22	100% SANDSTONE: GREY-GREEN, MODERATELY STRONG ROCK, WITH MUD PELLETS.
480.22 - 481.85	100% SANDSTONE: MUDSTONE BANDS, GREY-GREEN, MODERATELY STRONG ROCK, MODERATELY THIN BEDDING, WITH MUD PELLETS.
481.85 - 482.36	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
482.36 - 482.94	100% SHALE: FISSILE, GREY, WEAK ROCK.
482.94 - 483.20	100% SILTSTONE: FISSILE, GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG
 096
 LEASE : AVOCA
 BOREHOLE : AV 3

*** CORE DESCRIPTION ***

483.20 - 483.87 100% MUDSTONE: DARK GREEN, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

483.87 - 484.42 100% SILTSTONE: FISSILE, GREY, WEAK ROCK.

484.42 - 485.14 100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY STRONG ROCK.

485.14 - 485.39 100% SILTSTONE: SAND LENSES, GREY, MODERATELY STRONG ROCK, AND SLUMP STRUCTURES.

485.39 - 485.56 100% SILTSTONE: GREY, MODERATELY WEAK ROCK.

485.56 - 485.84 100% MUDSTONE: FRAGMENTED, GREY, VERY WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

485.84 - 486.11 100% SILTSTONE: GREEN, MODERATELY WEAK ROCK.

486.11 - 486.54 100% MUDSTONE: CLAY BANDS, DARK GREEN, WEAK ROCK.

486.54 - 488.13 100% SILTSTONE: GREEN, MODERATELY WEAK ROCK.

488.13 - 488.30 100% CLAY: FRAGMENTED, LIGHT GREEN, FIRM.

488.30 - 488.95 100% SILTSTONE: BANDS, GREY, MODERATELY WEAK ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

488.95 - 489.29 100% MUDSTONE: BANDS, DARK GREEN, MODERATELY WEAK ROCK.

489.29 - 489.70 100% SILTSTONE: FISSILE, BRECCIATED, GREY, MODERATELY WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

489.70 - 489.80 100% CLAY: SILTY, FRAGMENTED, GREY, VERY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

489.80 - 490.52 100% SILTSTONE: BANDS, GREEN, MODERATELY WEAK ROCK.

490.52 - 492.80 100% SILTSTONE: CHLORITIC, FRIABLE, DARK GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 3

*** CORE DESCRIPTION ***

- 492.80 - 494.10 100% SILTSTONE: CARBONACEOUS SHALE BANDS, GREY-GREEN, MODERATELY WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
- 494.10 - 494.31 100% SILTSTONE: ARENACEOUS, ARGILLACEOUS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
- 494.31 - 497.52 100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, WITH LAMINAE OF MICA, MODERATELY STRONG ROCK,THIN BEDDING,WITH MUD PELLETS.
- 497.52 - 498.75 100% SILTSTONE: LIGHT GREEN, MODERATELY WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
- 498.75 - 499.00 100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
- 499.00 - 499.90 100% MUDSTONE: CARBONACEOUS SHALE STREAKS, DARK GREY, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 499.90 - 500.94 100% SANDSTONE: MUDSTONE BANDS, GREY, STRONG ROCK,MODERATELY THICK BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES.
- 500.94 - 502.00 100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH QUARTZ.
- 502.00 - 502.10 100% SILTSTONE: GREY-GREEN, STRONG ROCK.
- 502.00 - 502.62 100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH QUARTZ.
- 502.62 - 503.08 100% SANDSTONE: SILTSTONE BANDS, GREY, WITH LAMINAE OF MICA, MODERATELY STRONG ROCK,THIN BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES.

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BOREHOLE LITHOLOGICAL LOG

LEASE : AVOCA
BOREHOLE : AV 3

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*** CORE DESCRIPTION ***

503.08 - 503.65 100% SILTSTONE: BANDS, DARK GREY, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 90 DEG. TIGHT PLANAR, ROUGH DISCONTINUITIES.

503.65 - 503.80 100% SANDSTONE: CALCITIC, COARSE GRAINED, LIGHT GREY, STRONG ROCK.

503.80 - 504.05 100% SANDSTONE: CARBONACEOUS SHALE BANDS, DARK GREY, MODERATELY STRONG ROCK.

504.05 - 504.17 100% SAND: VERY COARSE GRAINED, QUARTZITIC, GREY, STRONG ROCK.

504.17 - 504.96 100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, STRONG ROCK.

504.96 - 506.07 100% SANDSTONE, COARSE GRAINED: MUDSTONE STREAKS, LIGHT GREY, STRONG ROCK, WITH MUD PELLETS.

506.07 - 506.65 100% SANDSTONE, MEDIUM GRAINED: QUARTZITIC, LIGHT GREY, STRONG ROCK.

506.65 - 507.14 100% SANDSTONE, COARSE GRAINED: MUDSTONE STREAKS, LIGHT GREY, STRONG ROCK, WITH MUD PELLETS.

507.14 - 507.93 100% SANDSTONE, MEDIUM GRAINED: QUARTZITIC, LIGHT GREY, STRONG ROCK.

507.93 - 508.09 100% SANDSTONE, COARSE GRAINED: QUARTZITIC, LIGHT GREY, STRONG ROCK.

508.09 - 508.43 100% SANDSTONE, MEDIUM GRAINED: QUARTZITIC, LIGHT GREY, STRONG ROCK.

508.43 - 508.64 100% SANDSTONE, COARSE GRAINED: QUARTZITIC, LIGHT GREY, STRONG ROCK.

508.64 - 511.94 100% SANDSTONE, MEDIUM GRAINED: QUARTZITIC, LIGHT GREY, WITH CLAY ON JOINTS, STRONG ROCK, VERY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. TIGHT PLANAR, ROUGH DISCONTINUITIES.

511.94 - 512.17 100% MUDSTONE: BRECCIATED, ARGILLACEOUS, DARK GREY, VERY WEAK ROCK.

512.17 - 512.24 100% MUDSTONE: FERRUGINOUS STAINING, BROWN, MODERATELY WEAK ROCK.

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*** CORE DESCRIPTION ***

512.24 - 512.29 100% MUDSTONE: BRECCIATED, ARGILLACEOUS, DARK GREY,
VERY WEAK ROCK.

512.29 - 512.34 100% MUDSTONE: FERRUGINOUS STAINING, BROWN,
MODERATELY WEAK ROCK.

512.34 - 512.56 100% MUDSTONE: BRECCIATED, ARGILLACEOUS, DARK GREY,
VERY WEAK ROCK.

512.56 - 512.70 100% MUDSTONE: FERRUGINOUS STAINING, BROWN,
MODERATELY WEAK ROCK.

512.70 - 512.80 100% MUDSTONE: BRECCIATED, ARGILLACEOUS, DARK GREY,
VERY WEAK ROCK.

512.80 - 512.88 100% MUDSTONE: FERRUGINOUS STAINING, BROWN,
MODERATELY WEAK ROCK.

512.88 - 512.98 100% MUDSTONE: BRECCIATED, ARGILLACEOUS, DARK GREY,
VERY WEAK ROCK.

512.98 - 538.70 100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LAMINAE,
GREEN, WITH LAMINAE OF MICA, STRONG ROCK.

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*** CORE DESCRIPTION ***

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-	3.40	100% DOLERITE: SCREE.
3.40 -	6.00	100% DOLERITE: FRIABLE, HIGHLY WEATHERED.
6.00 -	12.40	100% DOLERITE: BRECCIATED, MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
12.40 -	14.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
14.00 -	22.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK.
22.00 -	24.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
24.00 -	26.00	100% DOLERITE: BRECCIATED, GREY-GREEN, WITH TALC ON JOINTS, MODERATELY WEATHERED,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
26.00 -	35.00	100% DOLERITE: GREY-GREEN, MODERATELY WEATHERED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
35.00 -	43.00	100% DOLERITE: GREY-GREEN,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
43.00 -	47.00	100% DOLERITE: GREY-GREEN,WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

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47.00 - 54.50 100% DOLERITE: BRECCIATED, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY WEATHERED, CLOSE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

54.50 - 60.00 100% DOLERITE: GREY-GREEN,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

60.00 - 67.00 100% DOLERITE: BRECCIATED, GREY-GREEN, MODERATELY WEATHERED,CLOSE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

67.00 - 69.50 100% DOLERITE: WITH TALC ON JOINTS AND CALCITE ON JOINTS, MODERATELY WEATHERED,VERY CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

69.50 - 77.00 100% DOLERITE: GREY-GREEN, WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

77.00 - 77.50 100% SHEAR / FAULT ZONE: VARIAGATED COLOUR, WITH TALC AND CALCITE,VERY CLOSE JOINT SPACING.

77.50 - 81.00 100% DOLERITE: GREY-GREEN,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

81.00 - 83.50 100% DOLERITE: GREY-GREEN.

83.50 - 85.00 100% SHEAR / FAULT ZONE: VARIAGATED COLOUR,VERY CLOSE JOINT SPACING.

85.00 - 199.60 100% DOLERITE: GREY-GREEN,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

99.60 - 103.40 100% SHEAR / FAULT ZONE: VARIAGATED COLOUR, WITH TALC AND CALCITE,VERY CLOSE JOINT SPACING.

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*** CORE DESCRIPTION ***

- 103.40 - 104.50 100% DOLERITE: VARIAGATED COLOUR, MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
- 104.50 - 105.50 100% SHEAR / FAULT ZONE: BRECCIATED, BADLY BROKEN, VARIAGATED COLOUR, WITH TALC AND CALCITE,VERY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 105.50 - 108.00 100% DOLERITE: BRECCIATED, VARIAGATED COLOUR, WITH TALC ON JOINTS AND CALCITE ON JOINTS. MODERATELY WEATHERED,CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
- 108.00 - 124.00 100% DOLERITE: GREY, WITH CALCITE ON JOINTS. MODERATELY WEATHERED,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
- 124.00 - 135.00 100% SHEAR / FAULT ZONE: BADLY BROKEN, BRECCIATED, VARIAGATED COLOUR, WITH CALCITE, MODERATELY WEATHERED,VERY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
- 135.00 - 155.00 100% DOLERITE: GREY-GREEN, WITH CALCITE ON JOINTS. UNWEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

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*** CORE DESCRIPTION ***

-	2.40	100% DOLERITE: SCREE, SLIGHTLY WEATHERED.
2.40 -	2.70	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
2.70 -	3.20	100% DOLERITE: MEDIUM GRAINED, BROWN, HIGHLY WEATHERED, VERY STRONG ROCK.
3.20 -	3.50	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
3.50 -	7.00	100% DOLERITE: BROWN, HIGHLY WEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.
7.00 -	10.00	100% DOLERITE: GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
10.00 -	17.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES.
17.00 -	21.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
21.00 -	27.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
27.00 -	27.50	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

27.50 - 28.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

28.00 - 34.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

34.00 - 35.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

35.30 - 39.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

39.00 - 40.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

40.00 - 45.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

45.00 - 46.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

46.00 - 47.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

47.50 - 48.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

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*** CORE DESCRIPTION ***

48.30 - 49.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

49.00 - 55.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK.

55.00 - 60.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

60.00 - 69.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

69.50 - 70.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH
VUGULAR CALCITE, MODERATELY WEATHERED, VERY STRONG
ROCK, WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN
PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

70.30 - 71.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

71.50 - 76.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 20 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

76.50 - 77.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

77.00 - 78.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 20 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.

78.20 - 86.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

86.00 - 89.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. .OPEN PLANAR,ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

89.00 - 95.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

95.00 - 113.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. .OPEN PLANAR,ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

113.00 - 116.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. .OPEN PLANAR,ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

116.00 - 120.60 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. .OPEN,PLANAR,SMOOTH DISCONTINUITIES.

120.60 - 129.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

129.40 - 132.10 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 90 DEG. .OPEN PLANAR,ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

132.10 - 137.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

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137.50 - 143.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

143.50 - 155.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

155.00 - 170.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES.

170.00 - 174.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

174.00 - 179.10 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

179.10 - 185.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

185.50 - 191.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

191.50 - 193.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

193.50 - 206.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

206.00 - 207.00 100% DOLERITE: MEDIUM GRAINED, ARGILLACEOUS, GREY-GREEN, WITH CHLORITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

207.00 - 212.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 40 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

212.50 - 213.00 100% DOLERITE: GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

213.00 - 216.10 100% DOLERITE: BADLY BROKEN, FAULT GOUGE, RED-BROWN, MODERATELY WEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

216.10 - 216.95 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

216.95 - 217.30 100% DOLERITE: BADLY BROKEN, FERRUGINOUS, RED-BROWN, SLIGHTLY WEATHERED, STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

217.30 - 218.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

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BOREHOLE : AV 5

*** CORE DESCRIPTION ***

- 218.20 - 219.60 100% DOLERITE: IRONSTONE ON JOINTS, GREY-GREEN, SLIGHTLY WEATHERED, STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 219.60 - 221.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 10 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 221.00 - 222.60 100% DOLERITE: IRONSTONE ON JOINTS, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 222.60 - 229.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 229.20 - 232.30 100% DOLERITE: GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 232.30 - 235.75 80% DOLERITE: IRONSTONE ON JOINTS, GREY-GREEN, 20% CALCITE: ON JOINTS, WHITE, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
- 235.75 - 237.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 35 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

237.30 - 239.20 60% DOLERITE: IRONSTONE ON JOINTS, GREY-GREEN, 40%
CALCITE: ON JOINTS, WHITE, UNWEATHERED, MODERATELY
STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 85 DEG.
.OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH
CALCITE.

239.20 - 241.10 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. .OPEN PLANAR, ROUGH
DISCONTINUITIES, INFILLED WITH CALCITE.

241.10 - 244.60 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 5 DEG. .TIGHT PLANAR, ROUGH
DISCONTINUITIES.

244.60 - 245.65 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 85 DEG. .OPEN PLANAR, ROUGH
DISCONTINUITIES, INFILLED WITH CALCITE.

245.65 - 246.80 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 30 DEG. .TIGHT PLANAR, ROUGH
DISCONTINUITIES.

246.80 - 249.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 5 DEG. .TIGHT PLANAR, ROUGH
DISCONTINUITIES.

249.20 - 251.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK.

251.40 - 258.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. .OPEN PLANAR, ROUGH
DISCONTINUITIES, INFILLED WITH CALCITE.

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258.30 - 260.70 80% DOLERITE: FERRUGINOUS STAINING, RED-BROWN. 20%
CALCITE: FERRUGINOUS STAINING, MODERATELY WEATHERED,
MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP
85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED
WITH CALCITE.

260.70 - 262.00 100% DOLERITE: GREY-GREEN, UNWEATHERED, VERY STRONG
ROCK.

262.00 - 263.20 90% DOLERITE: FERRUGINOUS STAINING, GREY-GREEN,
10% CALCITE: FERRUGINOUS STAINING, MODERATELY
WEATHERED, MODERATELY STRONG ROCK, WIDE JOINT SPACING,
JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES
, INFILLED WITH CALCITE.

263.20 - 267.80 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 65 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

267.80 - 270.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

270.00 - 281.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK.

281.00 - 287.60 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , TIGHT PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

287.60 - 292.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK.

292.40 - 293.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT
SPACING, JOINTS DIP 80 DEG. , TIGHT PLANAR, ROUGH
DISCONTINUITIES , INFILLED WITH CALCITE.

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293.20 - 294.30	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
294.30 - 294.60	100% DOLERITE: FERRUGINOUS STAINING, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.
294.60 - 297.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
297.00 - 299.70	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
299.70 - 311.00	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK.
311.00 - 318.00	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
318.00 - 340.40	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
340.40 - 345.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
345.00 - 350.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

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- 5.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
 UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 70
 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

5.50 - 9.50 100% DOLERITE: ARGILLACEOUS, YELLOW-BROWN, HIGHLY
 WEATHERED.

9.50 - 14.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
 UNWEATHERED.

14.20 - 14.60 100% DOLERITE: ARGILLACEOUS, YELLOW-BROWN, HIGHLY
 WEATHERED.

14.60 - 18.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
 UNWEATHERED.

18.20 - 27.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY
 WEATHERED,WIDE JOINT SPACING, JOINTS DIP 30 DEG.
 ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

27.30 - 27.50 100% DOLERITE: ARGILLACEOUS, BADLY BROKEN,
 YELLOW-BROWN, HIGHLY WEATHERED.

27.50 - 29.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY
 WEATHERED,WIDE JOINT SPACING, JOINTS DIP 80 DEG.
 ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH
 CALCITE.

29.40 - 33.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY
 WEATHERED,MODERATELY WIDE JOINT SPACING, JOINTS DIP
 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

33.40 - 36.90 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
 UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 45 DEG.
 ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

36.90 - 40.60 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY
 WEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 40 DEG.
 ,OPEN PLANAR,ROUGH DISCONTINUITIES.

40.60 - 45.70 100% DOLERITE: GREY-GREEN, SLIGHTLY WEATHERED,VERY
 WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN
 PLANAR,ROUGH DISCONTINUITIES.

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45.70 - 50.90 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

50.90 - 54.60 100% DOLERITE: GREY-GREEN, SLIGHTLY WEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.

54.60 - 58.70 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

58.70 - 65.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

65.00 - 70.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

70.20 - 74.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

74.00 - 76.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

76.30 - 78.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

78.50 - 90.90 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

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90.90 - 92.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 60 DEG.
. OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH
CALCITE.

92.00 - 94.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
30 DEG. . TIGHT PLANAR, ROUGH DISCONTINUITIES.

94.50 - 95.20 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 85
DEG. . TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED
WITH CALCITE.

95.20 - 103.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
20 DEG. . TIGHT PLANAR, ROUGH DISCONTINUITIES.

103.00 - 103.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
45 DEG. . OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED
WITH CALCITE.

103.50 - 114.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
30 DEG. . TIGHT PLANAR, ROUGH DISCONTINUITIES.

114.00 - 119.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 60
DEG. . OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED
WITH CALCITE.

119.00 - 124.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 45
DEG. . OPEN PLANAR, ROUGH DISCONTINUITIES, INFILLED
WITH CALCITE.

124.00 - 128.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED.

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128.00 - 130.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 60 DEG.
.OPEN PLANAR, ROUGH DISCONTINUITIES.

130.00 - 132.40 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 85 DEG.
.OPEN PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH
CALCITE.

132.40 - 134.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 30
DEG. .OPEN PLANAR, ROUGH DISCONTINUITIES.

134.00 - 135.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 85 DEG.
.OPEN PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH
CALCITE.

135.00 - 140.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
30 DEG. .OPEN PLANAR, ROUGH DISCONTINUITIES .INFILLED
WITH CALCITE.

140.00 - 144.30 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
80 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED
WITH CALCITE.

144.30 - 145.60 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 40 DEG.
.OPEN PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH
CALCITE.

145.60 - 148.40 100% DOLERITE: FERRUGINOUS STAINING, GREY-GREEN,
SLIGHTLY WEATHERED, MODERATELY WIDE JOINT SPACING,
JOINTS DIP 70 DEG. .OPEN PLANAR, ROUGH DISCONTINUITIES
.INFILLED WITH CALCITE.

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148.40 - 151.80 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 75
DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED
WITH CALCITE.

151.80 - 160.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY
WEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 25 DEG.
. OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH
CALCITE.

160.50 - 168.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
20 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES.

168.00 - 169.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 45 DEG.
. TIGHT PLANAR, ROUGH DISCONTINUITIES.

169.50 - 173.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP
60 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED
WITH CALCITE.

173.00 - 174.80 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY
WEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP
80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED
WITH CALCITE.

174.80 - 176.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP
85 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES.

176.00 - 180.00 100% DOLERITE: GREY-GREEN, UNWEATHERED.

180.00 - 181.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN,
UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 80 DEG.
. TIGHT PLANAR, ROUGH DISCONTINUITIES.

181.50 - 183.50 100% DOLERITE: BADLY BROKEN, GREY-GREEN, WITH
CHLORITE ON JOINTS, SLIGHTLY WEATHERED, MODERATELY
WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN
PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

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183.50 - 183.65	100% CALCITE: WHITE.
183.65 - 187.30	100% DOLERITE: CHLORITIC, BADLY BROKEN, GREEN, MODERATELY WEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.
187.30 - 189.00	100% DOLERITE: CHLORITIC, GREEN, SLIGHTLY WEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
189.00 - 192.30	100% DOLERITE: FINE GRAINED, DARK GREY, SLIGHTLY WEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
192.30 - 194.00	100% DOLERITE: FERRUGINOUS STAINING, DARK GREY, MODERATELY WEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
194.00 - 201.00	100% DOLERITE: FINE GRAINED, DARK GREY, UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 75 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
201.00 - 202.25	100% METAMORPHIC ROCK: DARK GREY, UNWEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.
202.25 - 202.36	100% METAMORPHIC ROCK: ARENACEOUS, CHLORITIC, GREEN, SLIGHTLY WEATHERED.
202.36 - 202.45	100% MUDSTONE: METAMORPHOSED, DARK GREY, UNWEATHERED, MODERATELY CLOSE JOINT SPACING , OPEN, NON-PLANAR DISCONTINUITIES , INFILLED WITH CALCITE.
202.45 - 202.51	100% METAMORPHIC ROCK: ARENACEOUS, CHLORITIC, GREEN, SLIGHTLY WEATHERED.

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202.51 - 204.38 100% METAMORPHIC ROCK: FINE GRAINED, DARK GREY, UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

204.38 - 207.05 100% METAMORPHIC ROCK: BADLY BROKEN, FINE GRAINED, DARK GREY, UNWEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN, PLANAR, SMOOTH DISCONTINUITIES , INFILLED WITH CALCITE.

207.05 - 207.65 100% QUARTZITE: GREEN, UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN, PLANAR, SMOOTH DISCONTINUITIES , INFILLED WITH CALCITE.

207.65 - 208.80 100% SANDSTONE, MEDIUM GRAINED: METAMORPHOSED, GLAUCONITIC, GREEN, UNWEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

208.80 - 209.22 100% SILTSTONE: METAMORPHOSED, GREEN, UNWEATHERED.

209.22 - 210.14 100% SILTSTONE: METAMORPHOSED, GREY, UNWEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

210.14 - 210.50 100% SILTSTONE: METAMORPHOSED, BADLY BROKEN, GREEN, WITH TALC, UNWEATHERED, MODERATELY THIN BEDDING.

210.50 - 210.87 100% SILTSTONE: FRAGMENTED, GREY, UNWEATHERED, WIDE JOINT SPACING, JOINTS DIP 20 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

210.87 - 212.65 100% SANDSTONE, FINE GRAINED: GLAUCONITIC, GREY-GREEN, SLIGHTLY WEATHERED, WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

212.65 - 212.74 100% SILTSTONE: GREY, UNWEATHERED.

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212.74 - 214.31 100% SANDSTONE, FINE GRAINED: GLAUCONITIC, LIGHT GREEN, SLIGHTLY WEATHERED, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

214.31 - 215.36 100% SANDSTONE: MED. TO FINE GRAINED, CHLORITIC, GREEN, UNWEATHERED, WITH MUD PELLETS.

215.36 - 216.12 100% SANDSTONE: LITHIC, BADLY BROKEN, GREEN, SLIGHTLY WEATHERED.

216.12 - 216.24 100% SILTSTONE: GREEN, UNWEATHERED.

216.24 - 219.00 100% SANDSTONE: LITHIC, GLAUCONITIC, GREEN, SLIGHTLY WEATHERED, WIDE JOINT SPACING, JOINTS DIP 85 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

219.00 - 219.88 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY-GREEN, SLIGHTLY WEATHERED.

219.88 - 220.14 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, GREY-GREEN, UNWEATHERED, THIN BEDDING , SOME SEPARATION ALONG BEDDING SURFACES.

220.14 - 221.20 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, GREY, UNWEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

221.20 - 222.90 100% SANDSTONE: CHLORITIC, LITHIC, GREEN, SLIGHTLY WEATHERED, WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

222.90 - 224.00 100% SANDSTONE: BADLY BROKEN, GREEN, SLIGHTLY WEATHERED.

224.00 - 224.58 100% SANDSTONE: CHLORITIC, GREEN, SLIGHTLY WEATHERED, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

224.58 - 226.71 100% SANDSTONE: FERRUGINOUS, CHLORITIC, VARIAGATED COLOUR, SLIGHTLY WEATHERED.

226.71 - 226.80 100% SANDSTONE, MEDIUM GRAINED: PEBBLY, RED-BROWN, SLIGHTLY WEATHERED, WITH MUD PELLETS.

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226.80 - 228.17 100% SANDSTONE: FERRUGINOUS, CHLORITIC, VARIAGATED COLOUR, SLIGHTLY WEATHERED, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

228.17 - 229.60 100% SANDSTONE: LITHIC, GREY, SLIGHTLY WEATHERED.

229.60 - 229.74 100% SANDSTONE: CHLORITIC, LITHIC, GREEN, SLIGHTLY WEATHERED.

229.74 - 229.91 100% SANDSTONE: CARBONACEOUS SHALE STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

229.91 - 232.44 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

232.44 - 232.68 100% SANDSTONE: LITHIC, GLAUCONITIC, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

232.68 - 234.29 100% SANDSTONE: LITHIC, GREY, UNWEATHERED, STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

234.29 - 235.66 100% SANDSTONE: LITHIC, GLAUCONITIC, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

235.66 - 235.82 100% SANDSTONE: CARBONACEOUS, VERY COARSE GRAINED, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

235.82 - 235.96 100% SANDSTONE: COALY, BURNT, GREY, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

235.96 - 236.00 100% COAL: BURNT, ARENACEOUS, BLACK, SLIGHTLY WEATHERED, WEAK ROCK.

236.00 - 236.21 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

236.21 - 237.13 100% SANDSTONE: LITHIC, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

237.13 - 238.05 100% SANDSTONE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY THIN BEDDING, WITH MUD PELLETS.

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238.05 - 245.00 100% SANDSTONE: LITHIC, GREY-GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

245.00 - 246.75 100% SANDSTONE: LITHIC, GREY, UNWEATHERED, STRONG ROCK.

246.75 - 247.67 100% SANDSTONE: CARBONACEOUS SHALE STREAKS, GREY, UNWEATHERED, STRONG ROCK.

247.67 - 248.21 100% SANDSTONE: LITHIC, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

248.21 - 259.12 100% SANDSTONE: LITHIC, GREY, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK.

259.12 - 259.60 100% SANDSTONE: LITHIC, GREEN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

259.60 - 259.65 100% SANDSTONE: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

259.65 - 260.57 100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

260.57 - 260.62 100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS SHALE STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

260.62 - 263.00 100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

263.00 - 263.09 100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS SHALE STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

263.09 - 263.31 100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

263.31 - 263.68 100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

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263.68 - 264.48 100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

264.48 - 264.80 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

264.80 - 266.15 100% SANDSTONE: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.

266.15 - 266.22 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

266.22 - 266.62 100% SANDSTONE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK, WITH MUD PELLETS.

266.62 - 266.65 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

266.65 - 266.73 100% SANDSTONE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

266.73 - 266.78 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

266.78 - 266.91 100% SANDSTONE: CARBONACEOUS SHALE STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

266.91 - 266.97 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

266.97 - 267.12 100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

267.12 - 267.19 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

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- 267.19 - 267.32 100% SANDSTONE: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.
- 267.32 - 269.96 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
- 269.96 - 270.05 100% SANDSTONE: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.
- 270.05 - 272.15 100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.
- 272.15 - 276.54 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY THICK BEDDING.
- 276.54 - 276.63 100% MUDSTONE: BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
- 276.63 - 276.81 100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
- 276.81 - 279.03 100% SANDSTONE: LITHIC, MED. TO FINE GRAINED, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY THICK BEDDING, WIDE JOINT SPACING, JOINTS DIP 50 DEG. OPEN PLANAR, ROUGH DISCONTINUITIES.
- 279.03 - 279.06 100% COAL: ARENACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
- 279.06 - 279.82 100% SANDSTONE: COAL STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
- 279.82 - 279.88 100% SANDSTONE: PEBBLY, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.
- 279.88 - 280.21 100% SANDSTONE: COAL LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.
- 280.21 - 281.40 100% SANDSTONE, FINE GRAINED: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

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281.40 - 282.16 100% SANDSTONE, MEDIUM GRAINED: COAL STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

282.16 - 282.79 100% SANDSTONE, MEDIUM GRAINED: PEBBLY, COALY, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

282.79 - 287.85 100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, WEAK ROCK.

282.85 - 282.92 100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN, UNWEATHERED, WEAK ROCK.

282.92 - 283.07 100% MUDSTONE: DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

283.07 - 283.09 100% CLAY: BUFF, UNWEATHERED, FIRM.

283.09 - 283.23 100% MUDSTONE: DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

283.23 - 283.82 100% SANDSTONE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

283.82 - 283.97 100% MUDSTONE: ARENACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.

283.97 - 284.58 100% CLAYSTONE: GREY-GREEN, UNWEATHERED, WEAK ROCK.

284.58 - 284.62 100% CARBONACEOUS SHALE: COALY, BLACK, UNWEATHERED, WEAK ROCK.

284.62 - 286.93 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY THIN BEDDING, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

286.93 - 287.76 100% SILTSTONE: BANDS, GREY, UNWEATHERED, WEAK ROCK, VERY THIN BEDDING.

287.76 - 287.86 100% MUDSTONE: COAL STREAKS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

287.86 - 287.89 100% CLAY: BUFF, SLIGHTLY WEATHERED, FIRM.

287.89 - 287.94 100% MUDSTONE: COAL LENSES, UNWEATHERED, MODERATELY WEAK ROCK.

287.94 - 288.13 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

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288.13 - 288.24 100% SILTSTONE: FISSILE, GREY, UNWEATHERED, VERY WEAK ROCK.

288.24 - 288.65 100% MUDSTONE: DARK GREY, UNWEATHERED, WEAK ROCK.

288.65 - 288.92 100% SILTSTONE: GREY, UNWEATHERED, WEAK ROCK.

288.92 - 289.21 100% SILTSTONE: BADLY BROKEN, GREY, UNWEATHERED, VERY WEAK ROCK.

289.21 - 289.44 100% SILTSTONE: GREY, UNWEATHERED, WEAK ROCK.

289.44 - 289.60 100% MUDSTONE: CARBONACEOUS, COALY, DARK GREY, UNWEATHERED, WEAK ROCK.

289.60 - 289.71 100% CLAY: BROWN, SLIGHTLY WEATHERED, FIRM.

289.71 - 289.82 100% SHALE: COALY, UPPER CONTACT, GREY, UNWEATHERED, WEAK ROCK.

289.82 - 290.19 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY THIN BEDDING.

290.19 - 290.52 100% SILTSTONE: ARGILLACEOUS, GREY, UNWEATHERED, VERY WEAK ROCK.

290.52 - 290.78 100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, WEAK ROCK.

290.78 - 294.28 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY THIN BEDDING, VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

294.28 - 294.45 100% MUDSTONE: CARBONACEOUS, COALY, BLACK, UNWEATHERED, WEAK ROCK.

294.45 - 295.15 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY THIN BEDDING.

295.15 - 300.45 100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

300.45 - 301.44 100% SANDSTONE: MED. TO FINE GRAINED, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

301.44 - 302.00 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. , TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

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302.00 - 302.22 100% MUDSTONE: COAL STREAKS, DARK GREY, UNWEATHERED, WEAK ROCK.

302.22 - 302.57 100% SILTSTONE: GREY-BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

302.57 - 305.58 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH TROUGH CROSS BEDDING.

305.58 - 305.65 100% SANDSTONE: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

305.65 - 306.33 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH TROUGH CROSS BEDDING.

306.33 - 306.47 100% SANDSTONE: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING.

306.47 - 308.64 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, STRONG ROCK, WITH TROUGH CROSS BEDDING.

308.64 - 308.80 100% SANDSTONE: COAL STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

308.80 - 309.94 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, STRONG ROCK, WITH TROUGH CROSS BEDDING.

309.94 - 310.68 100% SANDSTONE: COAL STREAKS, GREY, UNWEATHERED, STRONG ROCK, WITH TROUGH CROSS BEDDING.

310.68 - 312.42 100% SANDSTONE: MED. TO FINE GRAINED, LITHIC, GREY, UNWEATHERED, STRONG ROCK.

312.42 - 314.24 100% SANDSTONE, FINE GRAINED: COAL STREAKS, GREY, UNWEATHERED, STRONG ROCK, WITH MUD PELLETS.

314.24 - 316.61 100% SANDSTONE, FINE GRAINED: LITHIC, GREY, UNWEATHERED, STRONG ROCK.

316.61 - 317.20 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

317.20 - 317.45 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, STRONG ROCK.

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317.45 - 320.19	100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.
320.19 - 320.45	100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, STRONG ROCK, WITH TROUGH CROSS BEDDING.
320.45 - 321.32	100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, STRONG ROCK.
321.32 - 321.33	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
321.33 - 321.72	100% COAL, HEAVY DULL: COAL, BRIGHT BANDS.
321.72 - 321.76	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
321.76 - 325.16	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 45 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
325.16 - 325.29	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, VERY WEAK ROCK.
325.29 - 325.49	60% SILTSTONE: GREY, 40% SHALE: DARK GREY, UNWEATHERED, WEAK ROCK.
325.49 - 325.76	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, VERY WEAK ROCK.
325.76 - 325.81	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, WEAK ROCK.
325.81 - 325.88	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, VERY WEAK ROCK.
325.88 - 325.97	100% MUDSTONE: DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
325.97 - 326.02	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, VERY WEAK ROCK.
326.02 - 326.80	100% SILTSTONE: ARENACEOUS, COALY, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
326.80 - 326.85	100% MUDSTONE: DARK BROWN, UNWEATHERED, WEAK ROCK.

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326.85 - 327.07 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

327.07 - 327.14 100% SHALE: DARK GREY, VERY WEAK ROCK.

327.14 - 327.47 100% SILTSTONE: COAL LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

327.47 - 330.62 100% SILTSTONE: ARENACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, THIN BEDDING.

330.62 - 331.73 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

331.73 - 331.91 100% SILTSTONE: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

331.91 - 332.08 100% MUDSTONE: CARBONACEOUS, SILTY, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.

332.08 - 332.16 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

332.16 - 332.18 100% COAL: BLACK.

332.18 - 332.23 100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN, UNWEATHERED, WEAK ROCK.

332.23 - 332.87 100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

332.87 - 334.00 100% SILTSTONE: GREY-BROWN, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

334.00 - 334.52 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

334.52 - 334.78 100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

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- 334.78 - 335.57 100% SILTSTONE: COAL LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 335.57 - 337.03 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
- 337.03 - 337.34 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 337.34 - 337.50 100% MUDSTONE: COALY, CARBONACEOUS, DARK BROWN, UNWEATHERED.
- 337.50 - 337.56 100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
- 337.56 - 338.41 100% SILTSTONE: CARBONACEOUS, BROWN, UNWEATHERED, WEAK ROCK.
- 338.41 - 338.95 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 338.95 - 339.04 100% SILTSTONE: COAL LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
- 339.04 - 340.03 100% SILTSTONE: SAND LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK, THIN BEDDING, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 340.03 - 340.10 100% SILTSTONE: CARBONACEOUS, COALY, BROWN, UNWEATHERED, WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.
- 340.10 - 340.38 100% SILTSTONE: GREY, UNWEATHERED, WEAK ROCK.

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340.38 - 340.58 100% SHALE: GREY, UNWEATHERED, WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

340.58 - 341.30 100% SILTSTONE: CARBONACEOUS SHALE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

341.30 - 341.68 100% SILTSTONE: BROWN, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 60 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

341.68 - 341.74 100% CARBONACEOUS SHALE: BLACK.

341.74 - 341.77 100% COAL, CANNEL:.

341.77 - 341.82 100% CARBONACEOUS SHALE: BLACK.

341.77 - 342.27 100% COAL, CANNEL:.

342.27 - 343.41 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

343.41 - 345.35 100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

345.35 - 347.04 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING.

347.04 - 347.30 100% MUDSTONE: COAL STREAKS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

347.30 - 349.60 100% SILTSTONE: BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

349.60 - 349.63 100% COAL:.

349.63 - 350.32 100% SANDSTONE, FINE GRAINED: CARBONACEOUS, SILTY, GREY, UNWEATHERED, MODERATELY STRONG ROCK, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. , TIGHT PLANAR, ROUGH DISCONTINUITIES , INFILLED WITH CALCITE.

350.32 - 350.63 100% SHALE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

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350.63 - 350.80 100% SHALE: ARGILLACEOUS, BADLY BROKEN, GREY, UNWEATHERED, VERY WEAK ROCK.

350.80 - 350.96 100% SHALE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

350.96 - 351.97 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

351.97 - 352.00 100% CARBONACEOUS SHALE: DARK GREY.

352.00 - 352.15 100% COAL, CANNEL:.

352.15 - 352.23 100% COAL, HEAVY DULL:.

352.23 - 352.28 100% CARBONACEOUS SHALE: BLACK.

352.28 - 352.72 100% MUDSTONE: GREY.

352.72 - 353.16 100% COAL, CANNEL:.

353.16 - 353.22 100% CARBONACEOUS SHALE: COAL LENSES, BLACK.

353.22 - 353.53 100% COAL, CANNEL:.

353.53 - 353.55 100%.

353.55 - 354.71 100% MUDSTONE: COAL STREAKS, BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

354.71 - 355.49 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 55 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

355.49 - 355.65 100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

355.65 - 355.76 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING.

355.76 - 365.36 100% SANDSTONE, FINE GRAINED: COAL STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

365.36 - 365.46 100% MUDSTONE: COAL STREAKS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

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365.46 - 366.52 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

366.52 - 367.53 100% SILTSTONE: ARENACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, THIN BEDDING, WITH TROUGH CROSS BEDDING.

367.53 - 367.95 100% SANDSTONE, FINE GRAINED: MICACEOUS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

367.95 - 368.43 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

368.43 - 369.04 100% SILTSTONE: ARENACEOUS, MICACEOUS, BROWN, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

369.04 - 370.90 100% SILTSTONE: COAL STREAKS, GREY-BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

370.90 - 370.95 100% MUDSTONE: DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

370.95 - 371.34 100% MUDSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

371.34 - 371.45 100% MUDSTONE: CARBONACEOUS, COALY, BLACK, UNWEATHERED, WEAK ROCK.

371.45 - 371.50 100% CLAYSTONE: LIGHT BROWN, UNWEATHERED, WEAK ROCK.

371.50 - 372.43 100% SANDSTONE, FINE GRAINED: SILTY, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH TROUGH CROSS BEDDING.

372.43 - 373.60 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

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373.60 - 374.34 100% SILTSTONE: ARENACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

374.34 - 375.39 100% SILTSTONE: CARBONACEOUS SHALE LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

375.39 - 376.07 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

376.07 - 376.93 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

376.93 - 377.00 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

377.00 - 377.60 100% MUDSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY THIN BEDDING.

377.60 - 377.70 100% COAL, HEAVY DULL: COAL, BRIGHT BANDS.

377.70 - 377.76 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

377.76 - 378.00 100% SANDSTONE, FINE GRAINED: SILTY, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.

378.00 - 378.28 100% SILTSTONE:, UNWEATHERED, MODERATELY WEAK ROCK.

378.28 - 382.44 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

382.44 - 382.88 100% MUDSTONE: SILTSTONE BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

382.88 - 385.12 100% SILTSTONE: SAND BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

385.12 - 385.30 100% SHALE: GREY, UNWEATHERED, WEAK ROCK.

385.30 - 385.60 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

385.60 - 385.87 100% MUDSTONE: BANDS, GREY, UNWEATHERED, WEAK ROCK.

385.87 - 386.12 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

386.12 - 387.09 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, WITH MICA, UNWEATHERED, MODERATELY STRONG ROCK, THIN BEDDING.

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387.09 - 388.69 100% SILTSTONE: MICACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING.

388.69 - 389.07 100% SILTSTONE: SAND BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

389.07 - 389.21 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

389.21 - 389.28 100% MUDSTONE: ARENACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK, WITH SAND LINEATION.

389.28 - 389.97 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

389.97 - 390.26 100% SILTSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK, AND SAND LINEATION.

390.26 - 391.50 100% SILTSTONE: SAND BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY THIN BEDDING, WIDE JOINT SPACING, JOINTS DIP 35 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

391.50 - 391.57 100% COAL, DULL: COAL, BRIGHT BANDS.

391.57 - 391.68 100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

391.68 - 392.35 100% SILTSTONE: SAND BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, THIN BEDDING.

392.35 - 393.28 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY THIN BEDDING.

393.28 - 393.46 100% SANDSTONE, FINE GRAINED: CALCAREOUS, LIGHT GREY, UNWEATHERED, STRONG ROCK.

393.46 - 393.99 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

393.99 - 394.42 100% MUDSTONE: SILTY, CARBONACEOUS, BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

394.42 - 394.66 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

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*** CORE DESCRIPTION ***

394.66 - 395.13 100% SANDSTONE, FINE GRAINED: MICACEOUS, LIGHT GREY, UNWEATHERED, STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

395.13 - 395.70 100% MUDSTONE: SILTSTONE BANDS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK, AND SAND LINEATION.

395.70 - 395.72 100% SANDSTONE: COAL BANDS, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.

395.72 - 395.74 100% COAL, HEAVY DULL: COAL, BRIGHT BANDS.

395.74 - 395.83 100% MUDSTONE: COAL LENSES, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

395.83 - 395.97 100% SILTSTONE: GREY-BROWN, UNWEATHERED, MODERATELY STRONG ROCK.

395.97 - 400.21 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

400.21 - 401.48 100% SANDSTONE, FINE GRAINED: CARBONACEOUS SHALE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

401.48 - 402.06 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

402.06 - 404.46 100% SILTSTONE: SAND BANDS, GREY, WITH MICA, UNWEATHERED, MODERATELY STRONG ROCK, THIN BEDDING, EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.

404.46 - 407.09 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY-GREEN, WITH MICA, UNWEATHERED, MODERATELY STRONG ROCK, MODERATELY THIN BEDDING, WITH MUD PELLETS.

407.09 - 407.60 100% SILTSTONE: MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

407.60 - 408.03 100% SANDSTONE, FINE GRAINED: LITHIC, MICACEOUS, GREY-GREEN, UNWEATHERED, MODERATELY STRONG ROCK.

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*** CORE DESCRIPTION ***

408.03 - 410.26 100% SILTSTONE: CLAY BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

410.26 - 410.46 100% MUDSTONE: BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

410.46 - 412.82 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

412.82 - 413.14 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, WITH MICA, UNWEATHERED, MODERATELY STRONG ROCK.

413.14 - 414.20 100% SILTSTONE: CLAY LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

414.20 - 414.61 100% SILTSTONE: MICACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

414.61 - 415.23 100% SILTSTONE: SANDSTONE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

415.23 - 417.71 100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

417.71 - 419.80 100% SILTSTONE: SANDSTONE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

419.80 - 420.21 100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, STRONG ROCK.

420.21 - 421.44 100% SILTSTONE: CLAY BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

421.44 - 421.47 100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, WEAK ROCK.

421.47 - 421.91 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

421.91 - 422.41 100% SILTSTONE: SANDSTONE BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

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*** CORE DESCRIPTION ***

422.41 - 425.48 100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. UNWEATHERED, MODERATELY STRONG ROCK.

425.48 - 425.65 100% SANDSTONE. FINE GRAINED: PEBBLY, LIGHT GREY. UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS.

425.65 - 426.28 100% SILTSTONE: CLAY LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

426.28 - 426.36 100% MUDSTONE: DARK GREY, UNWEATHERED, WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

426.36 - 426.96 100% SILTSTONE: MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.

426.96 - 427.14 100% SILTSTONE: GREEN, UNWEATHERED, MODERATELY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

427.14 - 427.27 100% SHALE: ARGILLACEOUS, FRIABLE, DARK GREY, UNWEATHERED, WEAK ROCK.

427.27 - 427.60 100% SILTSTONE: GREEN, UNWEATHERED, MODERATELY STRONG ROCK.

427.60 - 428.50 100% MUDSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.

428.50 - 430.45 100% SILTSTONE: CLAY BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

430.45 - 430.57 100% SILTSTONE: PEBBLY, GREY, UNWEATHERED, MODERATELY WEAK ROCK, WITH MUD PELLETS.

430.57 - 432.90 100% SILTSTONE: MICACEOUS, ARGILLACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

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*** CORE DESCRIPTION ***

432.90 - 437.40 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK, WITH LAMINATED BEDDING, WIDE JOINT SPACING, JOINTS DIP 75 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

437.40 - 437.65 100% SILTSTONE: FRIABLE, GREEN, UNWEATHERED, MODERATELY WEAK ROCK.

437.65 - 439.80 100% SILTSTONE: CLAY BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

439.80 - 441.07 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK, WIDE JOINT SPACING, JOINTS DIP 30 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES WITH SLICKENSIDES.

441.07 - 442.45 100% SILTSTONE: SAND BANDS, GREY, WITH MICA, UNWEATHERED, MODERATELY STRONG ROCK, WITH TROUGH CROSS BEDDING AND FLAME/PULL-OVER STRUCTS.

442.45 - 443.00 100% MUDSTONE: GREY, UNWEATHERED, WEAK ROCK.

443.00 - 443.75 100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

443.75 - 449.13 100% SANDSTONE, FINE GRAINED: MICACEOUS, GREY-GREEN, UNWEATHERED, STRONG ROCK.

449.13 - 450.18 100% SILTSTONE: MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

450.18 - 450.51 100% SANDSTONE, FINE GRAINED: MICACEOUS, GREEN, UNWEATHERED, MODERATELY STRONG ROCK, WITH MUD PELLETS, MODERATELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. , OPEN PLANAR, ROUGH DISCONTINUITIES.

450.51 - 451.62 100% SANDSTONE, FINE GRAINED: MICACEOUS, GREEN, UNWEATHERED, STRONG ROCK.

451.62 - 452.00 100% SANDSTONE, FINE GRAINED: MICACEOUS, SILTY, GREEN, UNWEATHERED, MODERATELY STRONG ROCK.

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-	6.00	100%.
6.00 -	28.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
28.00 -	28.50	100% DOLERITE: BADLY BROKEN, CALCITIC, GREY-GREEN,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
28.50 -	30.50	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
30.50 -	46.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
46.00 -	46.20	100% DOLERITE: GREY-GREEN, WITH TALC ON JOINTS, VERY STRONG ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
46.20 -	53.50	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
53.50 -	54.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, ,TIGHT NON-PLANAR DISCONTINUITIES.
54.00 -	83.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
83.00 -	83.30	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
83.30 -	87.00	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

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*** CORE DESCRIPTION ***

87.00 - 88.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS, VERY STRONG ROCK, .TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

88.00 - 92.70 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, VERY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES.

92.70 - 93.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE AND TALC, VERY STRONG ROCK, .TIGHT, PLANAR, SMOOTH DISCONTINUITIES.

93.50 - 97.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

97.00 - 113.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, VERY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES.

113.00 - 114.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

114.50 - 119.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

119.50 - 125.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, WIDE JOINT SPACING, JOINTS DIP 80 DEG. .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.

125.50 - 129.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. .TIGHT PLANAR, ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

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*** CORE DESCRIPTION ***

129.50 - 134.50 100% DOLERITE: BRECCIATED, BADLY BROKEN, WITH CALCITE AND TALC, STRONG ROCK, WIDE JOINT SPACING, TIGHT NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

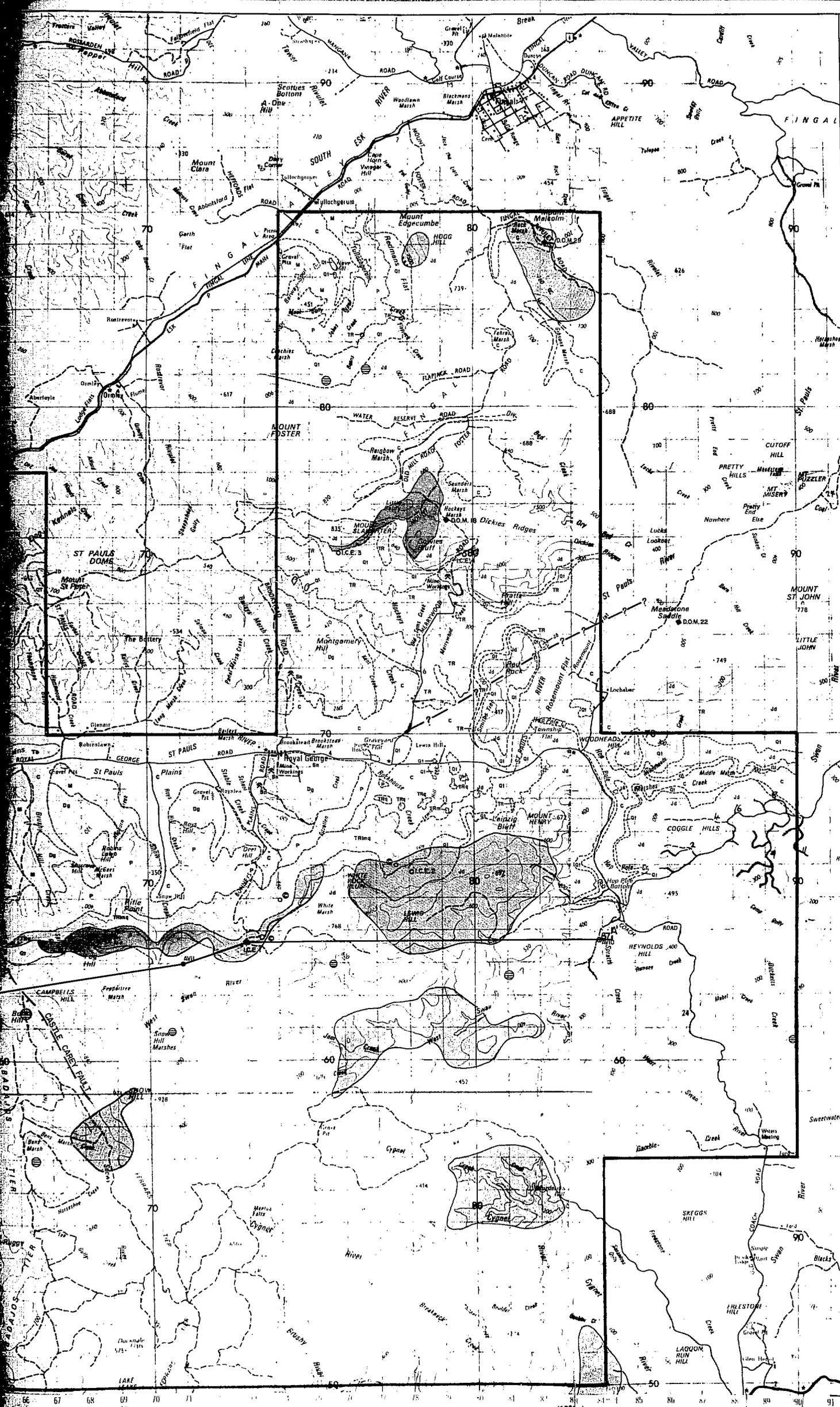
134.50 - 137.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES.

137.00 - 143.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG., TIGHT PLANAR, ROUGH DISCONTINUITIES, INFILLED WITH CALCITE.

143.00 - 276.50 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, JOINTS DIP 80 DEG., TIGHT NON-PLANAR DISCONTINUITIES, INFILLED WITH CALCITE.

276.50 - 282.30 100% DOLERITE: FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.

282.30 - 299.00 100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK, VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG., OPEN PLANAR, ROUGH DISCONTINUITIES.



Areas with Residual Bouguer anomalies less than -10m/s^2 on dolerite
(Leaman and Richardson 1980)

Dolerite Feeder locations
(Leaman and Richardson 1980)

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SOUTH ESK 8314	ST PAULS 8414	BREAK TODAY 8514
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LEGEND

<p>C</p> <p>Q</p> <p>T</p> <p>J</p> <p>TR</p> <p>TRc</p> <p>TRm</p> <p>TRI</p> <p>TRq</p> <p>TRc</p> <p>P</p> <p>D</p> <p>M</p> <p>Geological boundary</p> <p>Fault, showing direction of downthrow</p> <p>Coal Outcrop</p> <p>Mine Adit, Shaft</p> <p>Aerial Photo Lineation</p> <p>AV13 Drillhole Shell Company</p> <p>T.A.R.Y Western Mining Corp.</p> <p>I.C.E.2 Investigator Coal</p> <p>D.O.M.22 Department of Mines</p> <p>Lease Boundary</p> <p>ESK Main Road</p>	<p>QUATERNARY</p> <p>ALLUVIUM</p> <p>Dolerite talus</p> <p>TERTIARY</p> <p>BASALT</p> <p>JURASSIC</p> <p>DOLERITE</p> <p>UNDIFFERENTIATED</p> <p>Coal & carbonaceous shale facies</p> <p>Mudstone facies</p> <p>TRIASSIC</p> <p>Lithic sandstone & siltstone facies</p> <p>Quartzose sandstone facies</p> <p>Quartzose sandstone facies (very coarse grain)</p> <p>PERMIAN</p> <p>Undifferentiated sandstone, grits, conglomerate, mudstone, siltstone</p> <p>DEVONIAN</p> <p>Ben Lamond Granite</p> <p>EARLY OROVICIAN / EARLY DEVONIAN</p> <p>Mathinna Group quartzite, slate, siltstone, schist</p>	<p>Scale: 1:50000</p> <p>0 1 2 3 4 5 Kilometres</p>
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Topography, infrastructure from Lands Department 1:100000 sheets.
Geology based on Western Mining Corporation (1977) with amendments,
and Investigator Coal Exploration Pty. Ltd. (1978)

THE SHELL COMPANY OF AUSTRALIA LTD.
E.L. 18/77 AVOCA
GENERALIZED GEOLOGY,
BOREHOLE LOCATIONS, TOPOGRAPHY &
THE CURRENT EXPLORATION LICENCE
BOUNDARIES
Scale 1:50000
Author: Coal Division Date: January 1981
Revised: Max. P.E.P. 3/78 Drawn: New. P.H. Enc.

BONNEY'S PLAIN

LOCALITY 6

STANHOPE

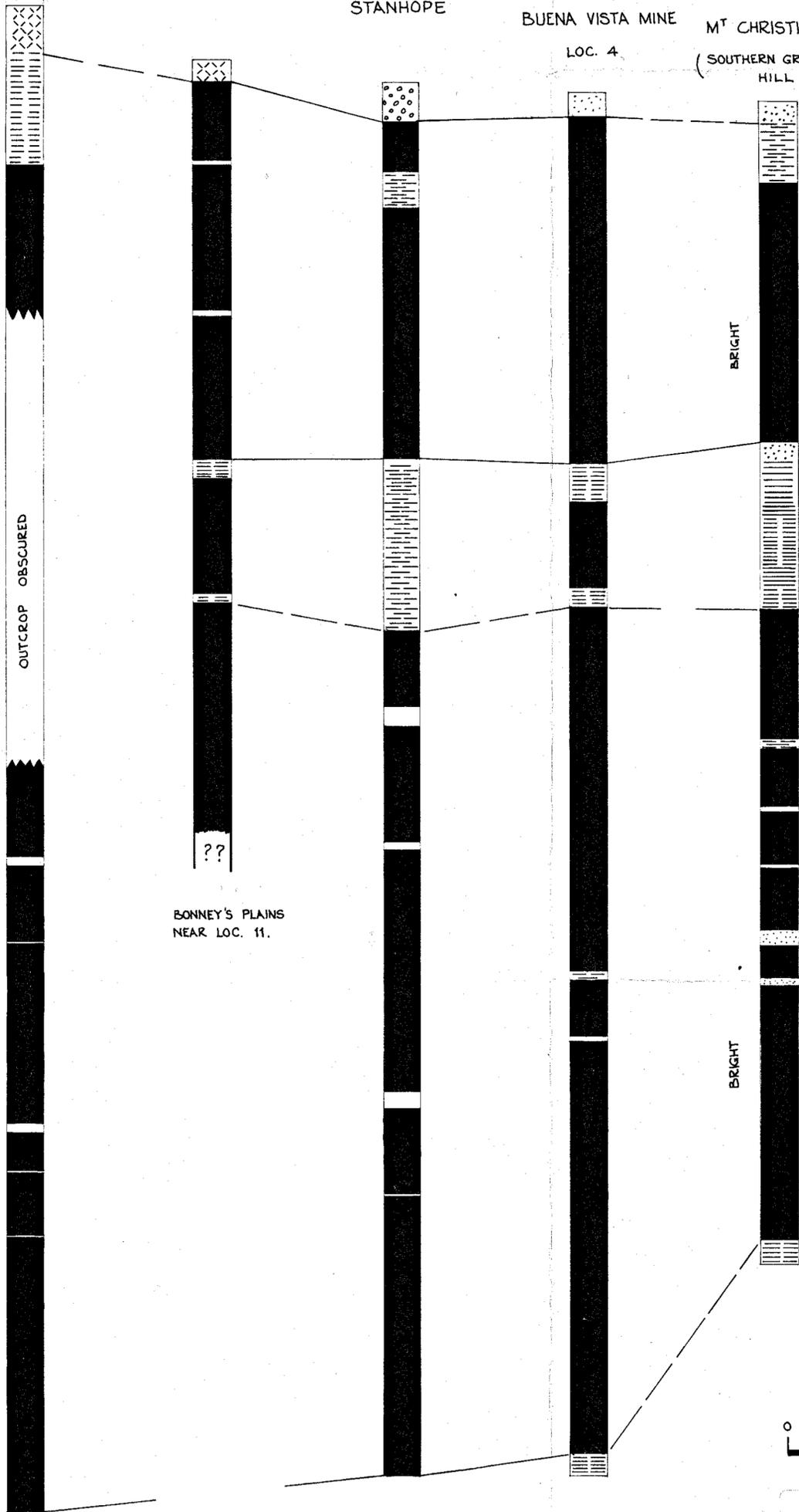
BUENA VISTA MINE

MT CHRISTIE MINE

LOC. 4

(SOUTHERN GREENSTONE HILL)

0
1m
1.5m
2.0m
2.5m
3.0m
3.5m



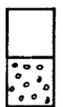
LEGEND



DOLERITE
MUDSTONE



SANDSTONE
COAL



PARTING (UNDIFFERENTIATED)
GRAVEL, DETRITUS, RUBBLE, SHINGLE, CONGLOMERATE



SHALE

186145

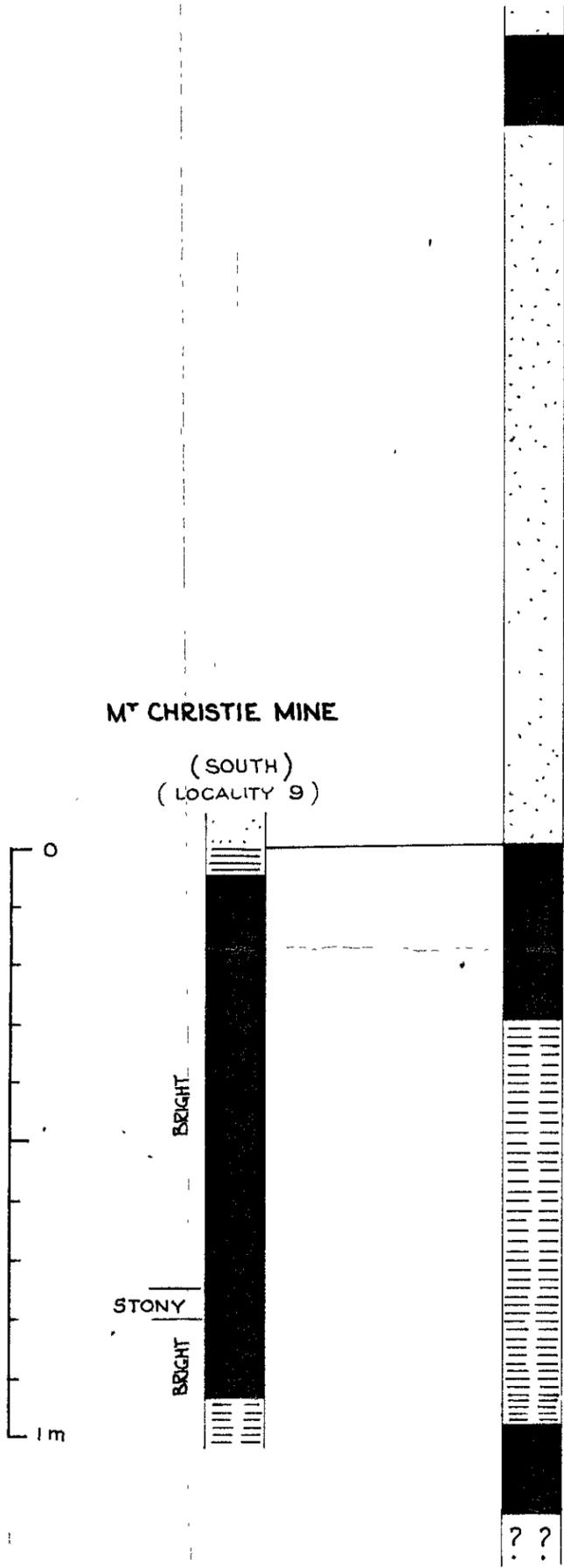
THE SHELL COMPANY OF AUSTRALIA LTD.
 AVOCA AREA, TASMANIA
 SHELL EL 18/77
POSSIBLE CORRELATION BETA (B) SEAM
 Scale 1:10
 Author: P. Senini Date: APRIL '78
 Report No: CEPR 16/78 Drawing No: C-1174 Encl 2

BONNY'S PLAINS

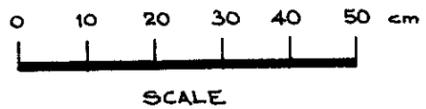
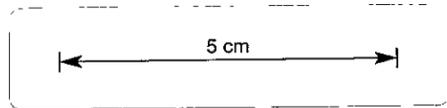
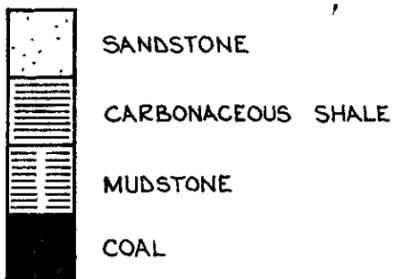
(WEST SIDE
LOCALITY 11.)

M^T CHRISTIE MINE

(SOUTH)
(LOCALITY 9)



LEGEND



186146

 THE SHELL COMPANY OF AUSTRALIA LTD.

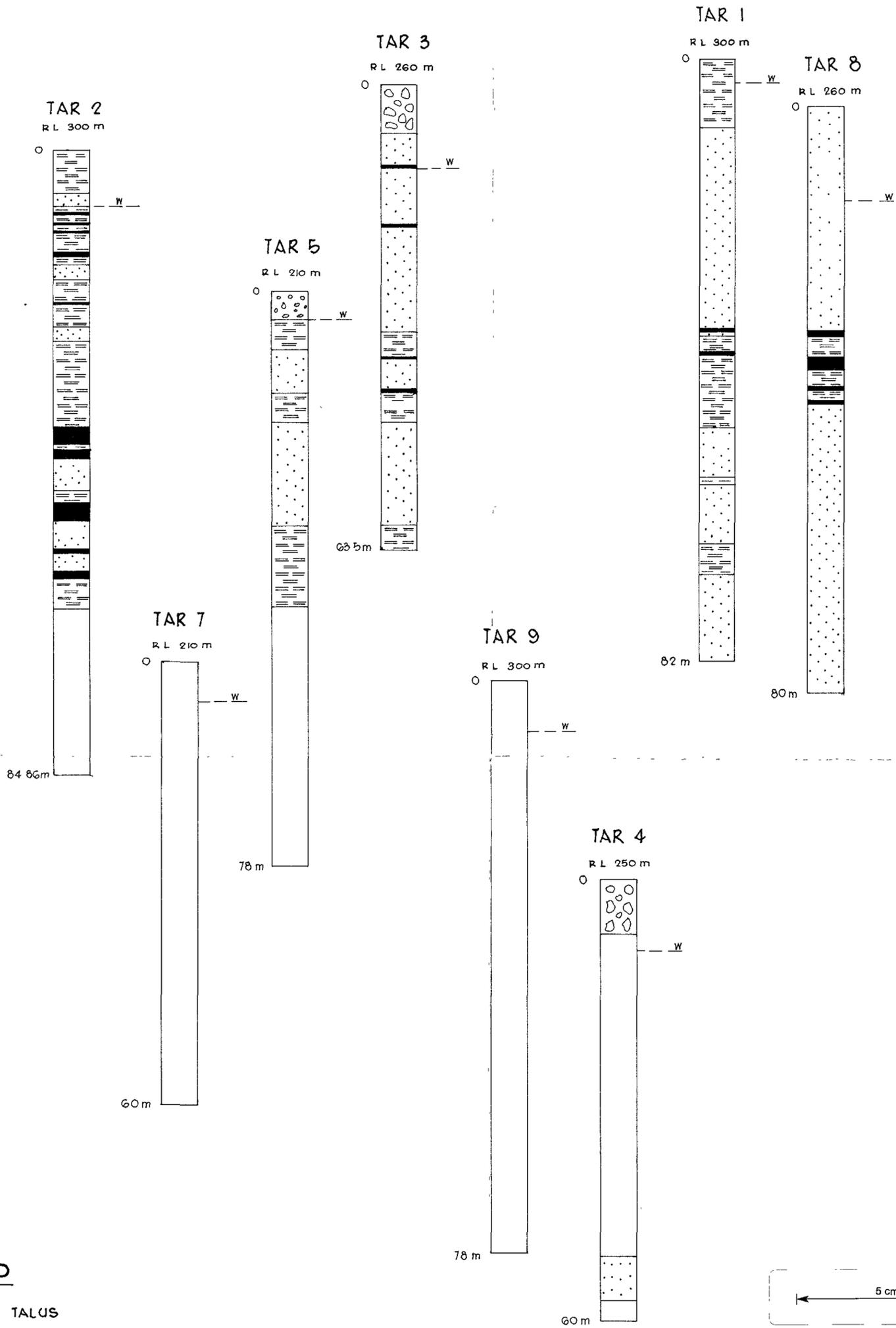
AVOCA AREA, TASMANIA

SHELL EL 18/77

POSSIBLE CORRECTION DELTA SEAM

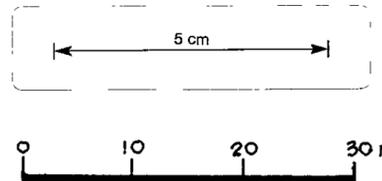
Scale 1:10

Author . P Senini	Date . APRIL '78	Encl. 3
Report No CEPR 16/78	Drawing No C-1175	



LEGEND

-  DOLERITE TALUS
-  COAL AND CARBONACEOUS SHALE FACIES
-  MUDSTONE FACIES
-  LITHIC SANDSTONE AND SILTSTONE FACIES
-  QUARTZOSE SANDSTONE FACIES
-  WEATHERING



SCALE
186147

 THE SHELL COMPANY OF AUSTRALIA LTD.		
WESTERN MINING CORPORATION		
DRILLHOLE PLOTS - POSSIBLE CORRELATION		
Scale 1 500		
Author: P. Senini	Date: APRIL '78	Encl. 4
Report No. CEPR 16/78	Drawing No. C-1173	

FRACTURE BLOCK ROSE DIAGRAMS AND SUGGESTED OUTLINE OF MAJOR DISLOCATIONS POTENTIALLY DISRUPTIVE TO COAL MINING OPERATIONS

SCALE APPROX 1:40000
PRODUCED BY: LAYTON & ASSOCIATES PTY LTD BRISBANE
CEPR 4/79 DRG N° C-1359 ENCL. 5

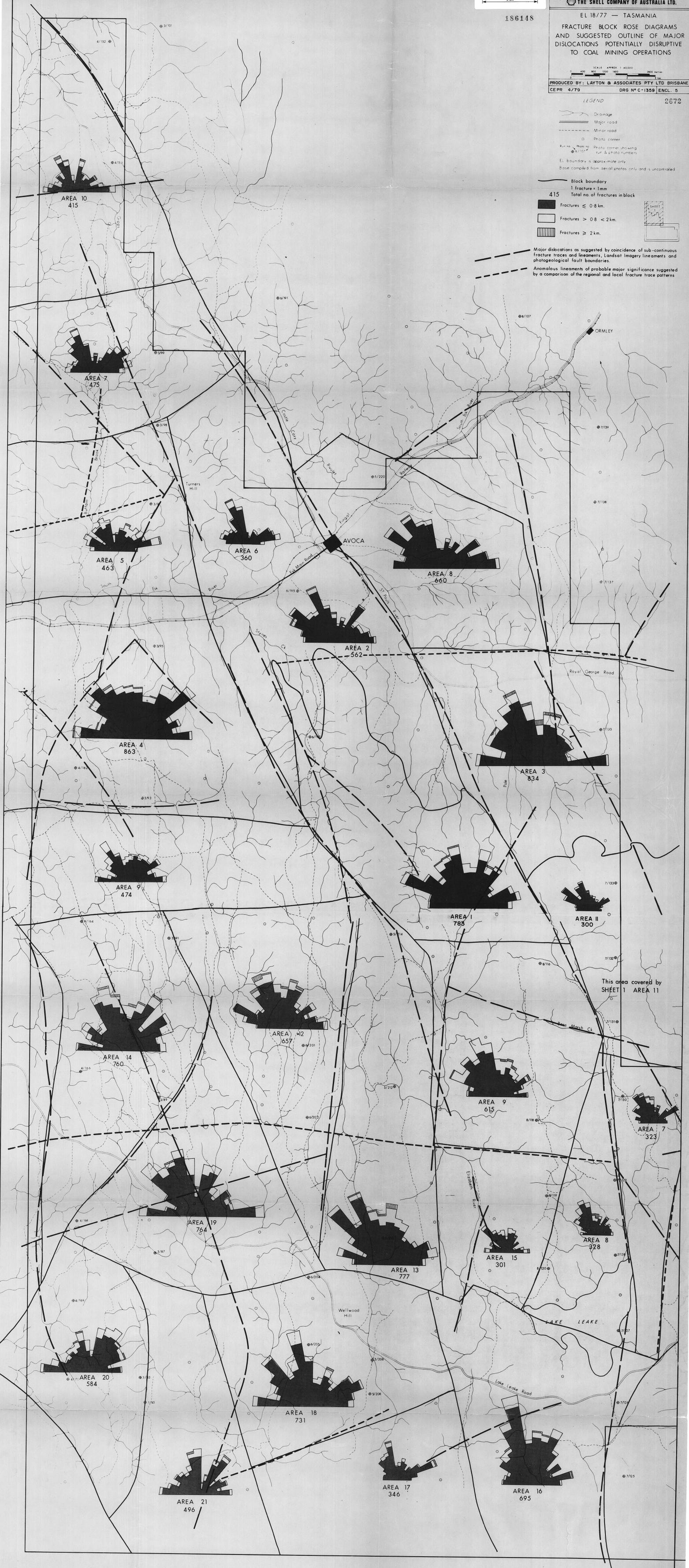
LEGEND

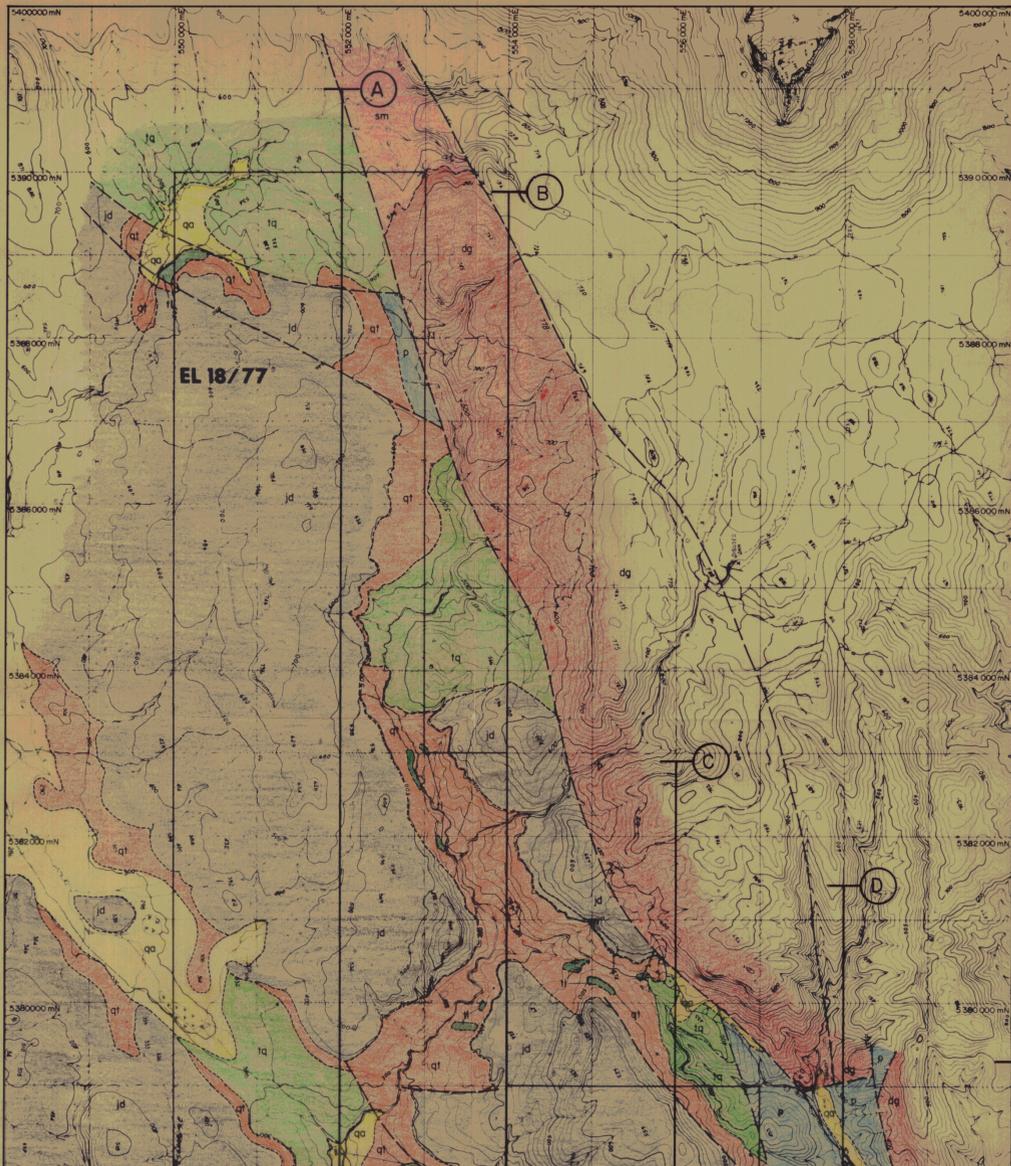
- Drainage
- Major road
- Minor road
- Photo corner
- Photo corner showing full & photo numbers
- EL boundary is approximate only
- Base compiled from aerial photos only and is uncorrected

- Block boundary
- 1 fracture = 1mm
- Total no. of fractures in block
- Fractures ≤ 0.8 km.
- Fractures > 0.8 < 2 km.
- Fractures ≥ 2 km.

Major dislocations as suggested by coincidence of sub-continuous fracture traces and lineaments, Landsat imagery lineaments and photogeological fault boundaries.

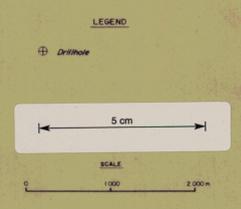
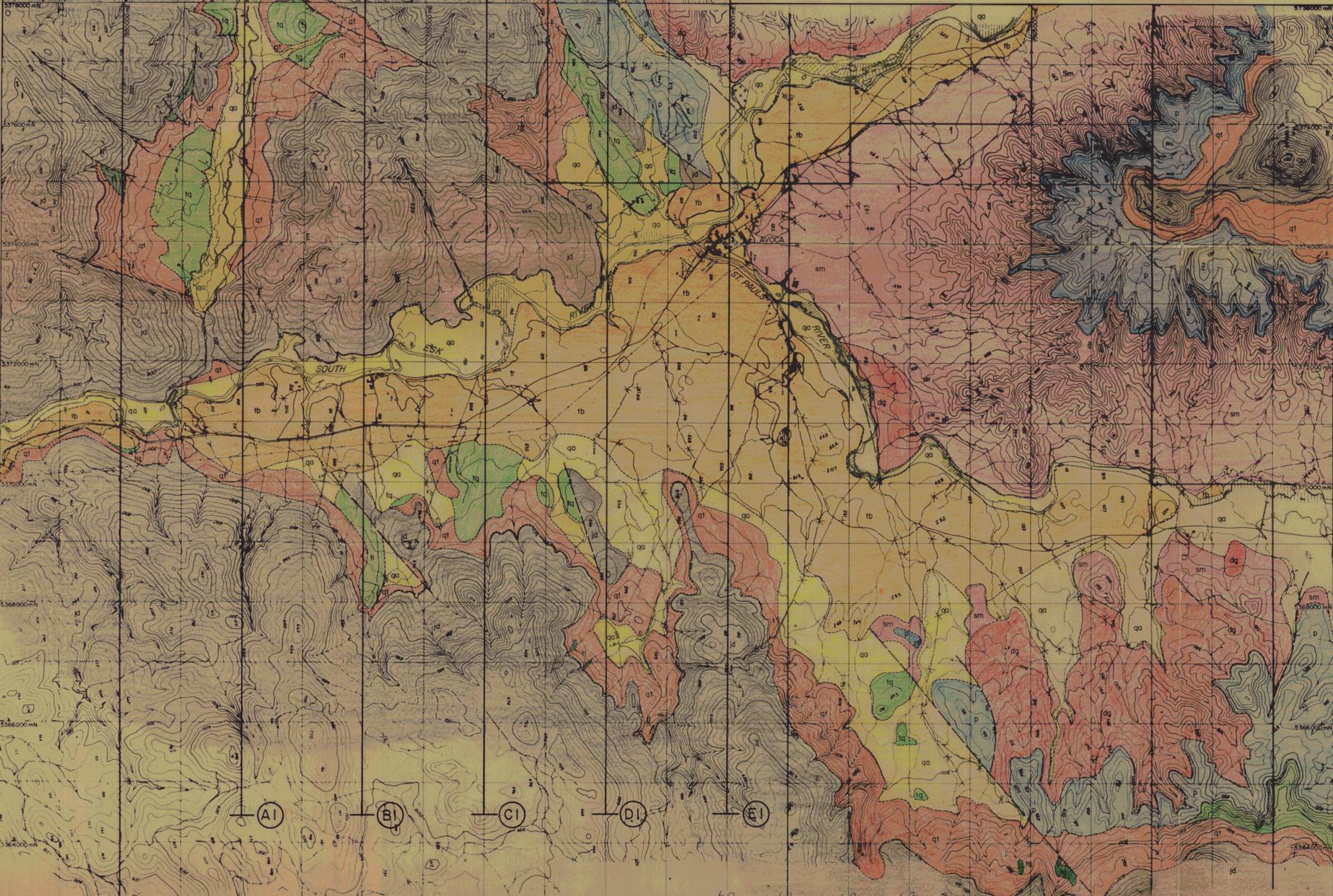
Anomalous lineaments of probable major significance suggested by a comparison of the regional and local fracture trace patterns





LEGEND

qa	QUATERNARY	Quaternary alluvium
qt	QUATERNARY	Quaternary dolerite talus
tb	TERTIARY	Tertiary basalt
jd	JURASSIC	Jurassic dolerite
lq	TRIASSIC	Undifferentiated lithic sandstone, mudstone, carbonaceous shale, quartzose sandstone
pl	TRIASSIC	Undifferentiated sandstone, grits, conglomerate, mudstone, fossiliferous mudstone, siltstone
dg	DEVONIAN	Devonian granite
sm	SILURIAN	Undifferentiated Mathinna Group quartzite, slate, schist, siltstone



186149

ORIGINALS PRODUCED by the Survey Branch, Lands Department, Hobart, under the direction of the Minister for Minerals and Energy.

THE SHELL COMPANY OF AUSTRALIA LTD.

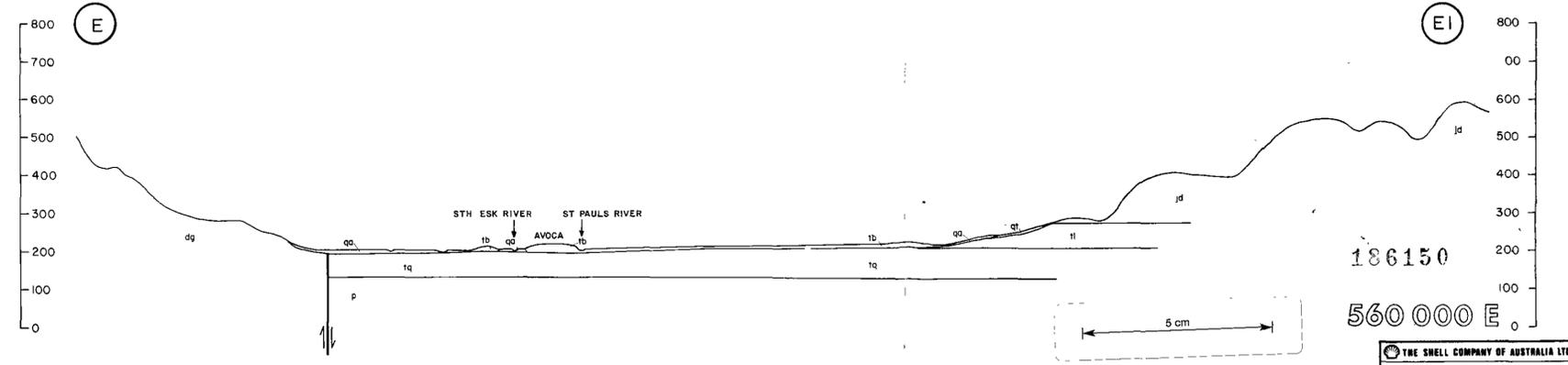
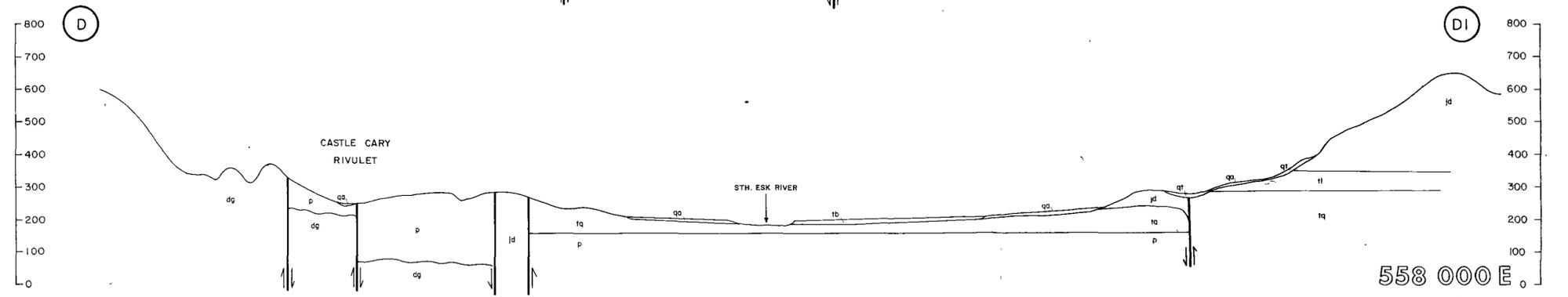
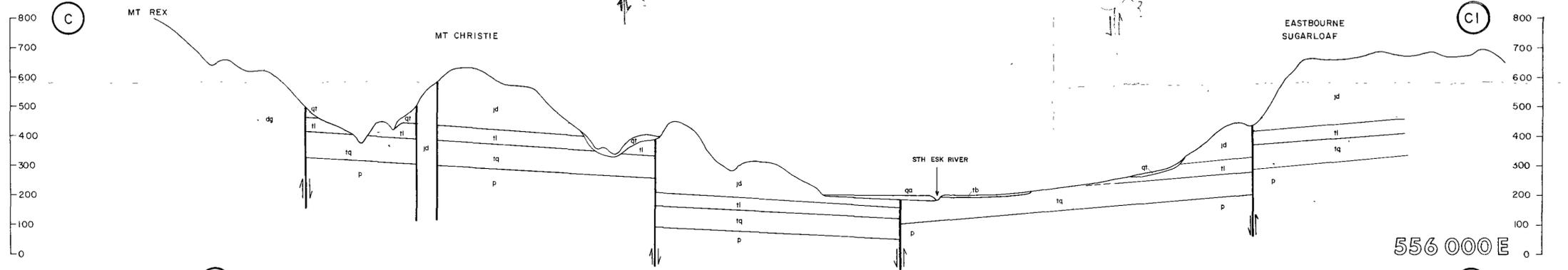
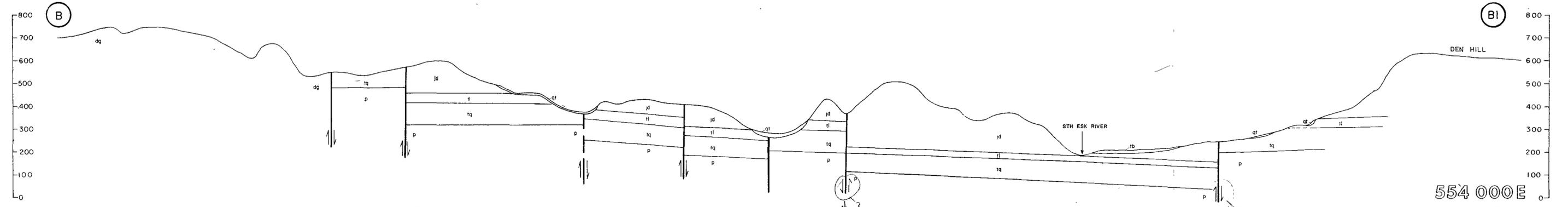
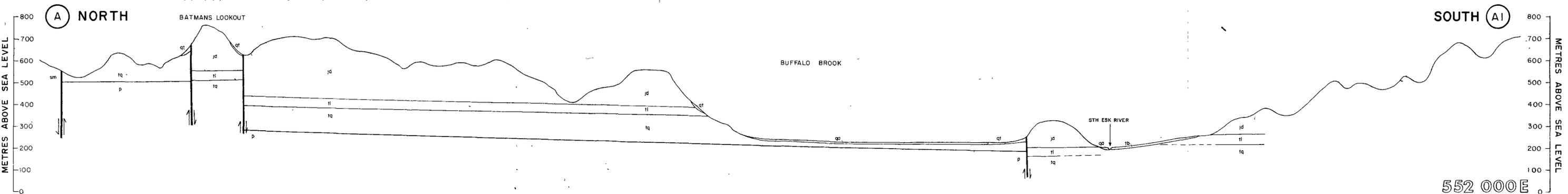
N.E. TASMANIA SHELL, EL 18/77 - AVOCA

DETAILED GEOLOGICAL MAP
AREA 1

Scale 1:40000

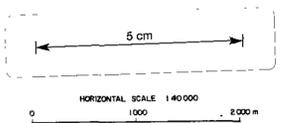
Author: D. Taylor Date: Jan., 1979
Report No: CEPR 4/79 Drawing No: C.1358 Encl. 6

79-1334 2673

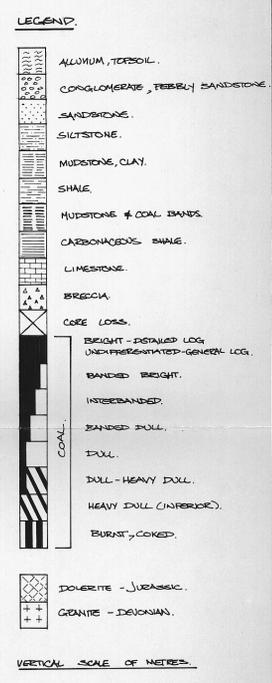
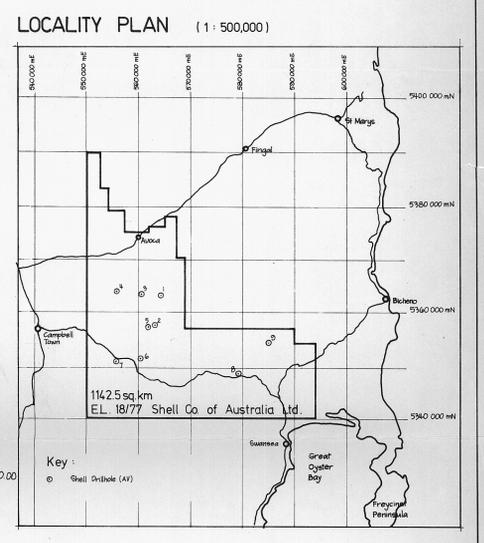


LEGEND

qq	Quaternary alluvium
qt	Quaternary dune sands
tb	Tertiary basalt
jd	Jurassic dolerite
tl	Triassic Lithic sandstone, mudstone, carb shale, coal
ti	Triassic Quartzose sandstone
p	Permian Undifferentiated sandstone, gneiss, conglomerate, mudstone, fossiliferous mudstone, siltstone
gs	Devonian granite
sm	Silurian Undifferentiated Mathinna Group quartzite, slate, schist, siltstone



AV 1 RL 640m AV 2 RL 560m AV 3 RL 510m AV 4 RL 580m AV 5 RL 575m AV 6 RL 600m AV 7 RL 540m AV 8 RL 300m AV 9 RL 120m



186151

THE SHELL COMPANY OF AUSTRALIA LTD.
 TASMANIA BASIN, TASMANIA.
 SHELL, EL 18/77, ANCOCHA.
 GENERALIZED BOREHOLE LOGS.

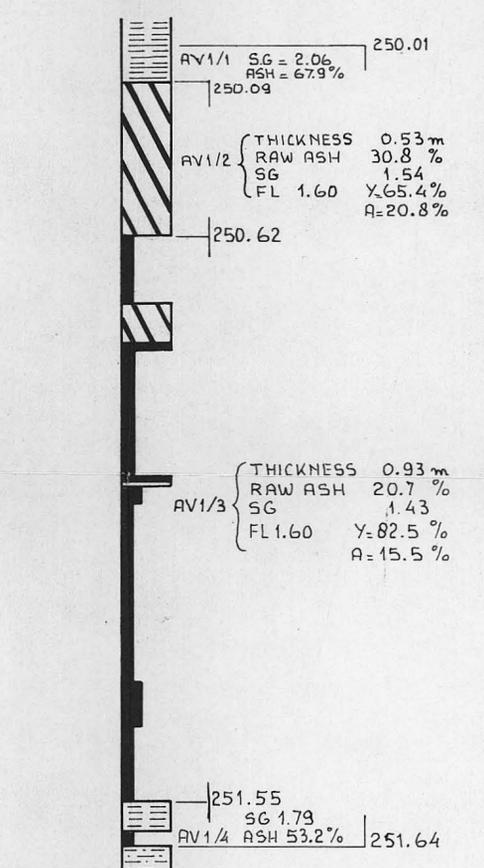
Scale 1:500
 Author: D.A. Taylor Date: Jan. 1979
 Report No. CEPR 4/78 Drawing No. 1317 Encl. 8

79-1334 2075

AV 1

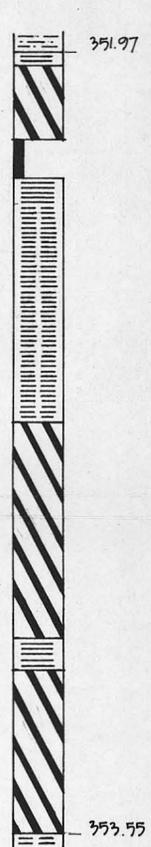
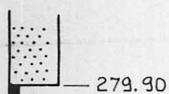
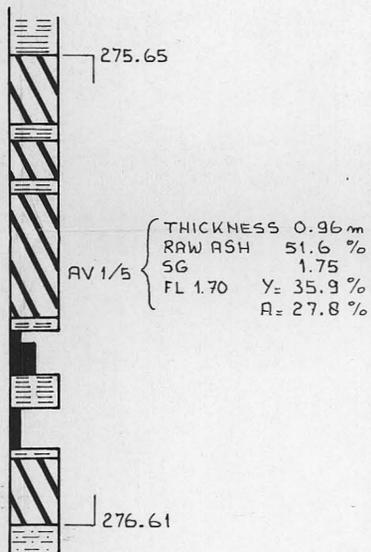
AV 3

AV 6



COMPOSITE AV 1/2 + AV 1/3

FL 1.60 T = 1.46 m FL 1.70 T = 1.46 m
Y = 76.0% Y = 84.6 %
A = 17.2% A = 19.2 %
(16.7% determined)



LEGEND

- ALLUVIUM, TOPSOIL
- CONGLOMERATE, PEBBLY SANDSTONE
- SANDSTONE
- SILTSTONE
- MUDSTONE, CLAY
- SHALE
- MUDSTONE & COAL BANDS
- CARBONACEOUS SHALE
- LIMESTONE
- BRECCIA
- CORE LOSS
- BRIGHT - DETAILED LOG
- UNDIFFERENTIATED - GENERAL LOG
- BANDED BRIGHT
- INTERBANDED
- BANDED DULL
- DULL
- DULL - HEAVY DULL
- HEAVY DULL (INFERIOR)
- BURNT, COKED
- DOLERITE - JURASSIC
- GRANITE - DEVONIAN

VERTICAL SCALE 1:10
20 10 0 10 20 30 40 50 cm

5 cm

186152

2076

79-1334

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL EL 18/77, AVOCA

DETAILED SEAM SECTIONS

Scale 1:10

Author: D.A. Taylor	Date: Jan. 1979	Encl. 9
Report No: CEPR 4/79	Drawing No: 1316	