

825873 ✓

DRILL HOLE RECORD

TULSEQUAH, B.C.

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| | | | | | |
|--------------------|----------------------|---------------------|---------------|------------------------------------|----------------|
| <u>Property:</u> | Tulsequah Chief | <u>Coordinates:</u> | A280N/A230E | <u>HOLE:</u> | TCU - 88 - 1 |
| <u>Claim:</u> | | <u>Length:</u> | 1162 | <u>Logged by:</u> | M.J. Casselman |
| <u>Dates:</u> | July 28 - Aug 7 | <u>Azimuth/Dip:</u> | 82°30' / -50° | <u>Date:</u> | 29 July 1988 |
| <u>Contractor:</u> | Coates Drilling Ltd. | <u>Core Size:</u> | BQ | Sperry Sun Tests at bottom of log. | |
| | | <u>Elevation:</u> | 5400 | | |

Objective:Summary:

| From | To (ft) | Description |
|------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0 | 1.8 | Casing |
| 0 | 6 | |
| 1.8 | 12.8 | Dacite plug |
| 6 | 42 | |
| | | Pyritized, sericitized, leached. |
| | | Dacite is generally black-green to most commonly grey - fine to medium grained and variably altered (weak to strong). Texture is equigranular - 2 - 4 mm. |
| | | Alteration - sericite - pervasive and veined; veins 2 - 4 mm. |
| | | - pyrite 3 - 10% in veinlets, disseminations and clots: grains commonly 1 - 2 mm. |
| | | - chlorite (some sericite) veinlets (1 - 4 mm thick) common. |
| | | - mafic minerals, where present are chloritized/sericitized - locally resemble hornblende. |
| | | - minor epidote in veinlets. |
| | 8.2 - 8.8 | Fine grained black diorite dyke - weakly amygdaloidal (quartz filled; 3 - 5 mm). |
| | 27 - 29 | |
| | | Mixed zone |
| | | Fragments and dykelets of dacite plug intermixed with hybridized andesitic volcanic rock - pseudo to good breccia texture common. |
| | | Dacite and andesite fragments sericitized, chloritized and pyritized. Pyrite 3 - 10% as clots, disseminations and veinlets. |

12.8 15.9
42 - 52

15.9 21.0
52 - 69

Similar to 42 - 52 but proportion of volcanics to dacite greater.

21.0 24.7
69 - 81

Xenoliths of andesite in dacite veinlet swarms. Pyrite 5 - 15 %.

Diorite Dyke.

Very fine grained, black.

Parts are amygdaloidal - mixture of chlorite, pyrite and quartz.

Contacts definite and frozen (cooled); somewhat irregular. Upper contact at 70°, lower contact at 45° to the core axis.

24.7 35.4
81 - 116

Andesite Lapilli tuff - strongly altered.

Fragments 0.5 - 3.5 cm. Rock is sericitized, pyritized and bleached to greenish-grey. Fragments 0.5 - 3.5 cm - fine grained siliceous to chert like with quartz amygdules. Minor biotite (reddish-brown).

Pyrite - 3 - 10%, as clots veinlets and disseminations.

Amygdaloidal fragments are locally abundant - 95% of amygdules are quartz filled, 1 - 10 mm.

24.7 29.7
81 - 97.5

good fragmental texture mostly grey colour but patches of dark green with andesite textures - no amygdules. In part looks like andesite flow. In places fragments aligned 70° (89 - 90), 50° (85), 70° (81 - 84) to the core axis.

29.7 31.3
97.5 - 102.5

Black fine grained diorite dyke; upper contact quartz vein, lower contact at 75° to the core axis.

33.5 35.4
110 - 116

Strongly sericitized, bleached, grey andesite lapilli tuff - amygdules common, banding where present at 70° to the core axis; pyrite 3 - 10% as clots and disseminations (1 - 5 mm grains).

35.4 69.2
116 - 227

Andesite Lapilli tuff

Fragments 0.3 - 5 cm and variably altered. Core is generally green to green-black to green-grey; matrix commonly fine grained black.

Alteration throughout weak to moderate; locally strong patches.

Pyrite - 3 - 10% as clots, disseminations and veinlets. Pyrite is often coarse grained (1 - 3 mm) - commonly cubic; in fragments and matrix.

Quartz rich amygdules (3 - 10 mm) common throughout the section; some pyrite filled. 5% white strongly amygdaloidal fragments might be scoraceous pumice.

Quartz streaks 1 - 5 cm common, possibly amygdules; commonly contorted.

56.4 59.5
185 - 195

White vein silica common in the matrix. Minor biotite developed locally throughout. Some sericitization developed locally throughout.

69.2 81.7
227 - 268

Feldspar porphyry Andesite flows - weakly altered.

Unusual unit - could be either diorite feldspar porphyry or andesite flow.

Colour - Black to dark green with grey felsic clots (feldspar) common (1 - 4 mm; crystalline to sub-round). Could be feldspar crystals or siliceous lithic fragments (10 - 20%). Matrix dark green-black and consistent composition. Weakly bleached in places. Pyrite 5 - 10% - disseminated (coarse grained), veined, clots or amygdule fillings.

Sections 227 - 227.5, 232 - 233, 235 - 235.5, 238 - 240, 241 - 242 and 259 are fine grained to aphanitic - look like cooled margin on dyke - nil to trace pyrite. If unit is diorite dyke, these represent cooled margins. If unit is andesite flow these units either are fine grained dykes or fine grained cooled margins of flows.

Amygdules of quartz, chlorite, pyrite common in coarse grained phase of unit (1 - 10 mm).

Pyrite 3 - 10% as disseminations, clots, veinlets in coarser grained part of unit. Weakly bleached in places.

69.2 81.7
227 - 268 (cont'd)

75.3 79.3
247 - 260

Unit slightly finer grained with no siliceous clots - looks like cooled margin on intrusive.

69.8 70.7
229 - 232

Xenolith of amygdaloidal andesite lapilli tuff - weakly, moderately altered; similar to 116 - 227.

75.9 76.2
249 - 250

Could be minor intrusive breccia.

Lower contact - fine grained - 80° to core axis.

Note Fine grained parts of unit could be separate andesite dykes cutting coarser feldspar porphyry unit but appear to grade into them rather than to cut it.

81.7 101.2
268 - 332

Locally fragments of amygdaloidal andesite noted in unit.

Andesite lapilli tuff - strongly altered.

Fragments 1 mm to 5 cm. Fragments originally amygdaloidal feldspar porphyry rock totally bleached of original colour - now pale greenish-grey, to light tan to honey colours. Only indication of original composition is quartz and/or pyrite - rich amygdules common throughout section.

Rock has been pervasively sericitized so original fragmental texture is difficult to see.

Alteration - Sericitization - matrix and fragments are totally replaced by sericite. 1 - 5 mm sericite rich clots, rectangular to ovoid in shape common throughout section (10 - 20%) - honey coloured.

- Pyrite - 5 - 10% as disseminations, clots and veinlets. Evenly distributed throughout section. Common in amygdules.

Fault 270 - 272 gouge and shearing.

Alignment of sericite-rich clots and fragments $70 - 80^{\circ}$ to core axis. At 294' - 45° to core axis.

Quartz veinlets locally abundant between 311 - 314.

81.7 101.2
268 - 332 (cont'd)

Amygdules 2 - 7 mm - irregularly distributed patches throughout section. Usually replaced by quartz and/or pyrite.

Core blocky (<1 fracture/ft.).

Minor chalcopyrite, clots, veinlets.

101.2 115.9
332 - 380

Andesite lapilli tuff - moderately altered.

Same as 268 - 332 but slightly less altered. Fragments slightly more easily identifiable. Amygdaloidal feldspar porphyry. Rock colour generally bluish-black.

Alteration - Sericitization - pervasively replacing fragments and matrix. Sericite-rich clots common throughout section - probably replacement of feldspar.

- Pyrite - 5 - 10% as disseminations, clots and veinlets usually composed of crystalline pyrite.

Amygdules common throughout section; composed of quartz and/or pyrite.

Aligned fragments and sericite-rich clots - 70 - 80° to core axis.

Fractures (<1 per/ft.).

104.3 105.8
342 - 347 5' of core was ground.

Minor chalcopyrite clots and veinlets.

115.9 122.9
380 - 403

Same as 332 - 380 but slightly less sericitized. Still moderately altered.

Feldspar phenocrysts can be identified although still slightly sericitized.

Minor chalcopyrite clots and veinlets.

122.9 130.8
403 - 429

Sloko rhyodacite dyke.

Grey-white. Banding 60° to core axis. Large grey ovoids
1 mm - 2 cm. 427 - 425 (spherulites).

124.7 126.7

409 - 415.5 Section of strongly altered andesite
lapilli tuffs - some quartz and/or pyrite
amygdules between 409 - 411.

124.7 125.3

Alteration 409 - 411 - biotization - very fine
grained reddy brown biotite
throughout section.

- pyrite 5 - 10% as
disseminations, clots and
veinlets.

- Trace chalcopyrite.

125.3 126.7

411 - 415.5

Difficult to tell original rock type -
brecciated felsic or silicic clasts with
thin (1 - 2 mm) biotite veinlets
surrounding clasts - no amygdules.

Possibly dacite pyroclastic. Strongly
leached. Pyrite 5 - 8% as veinlets. Rock
looks like crackle breccia. Core very
blocky.

4400 fault

130.8 136.3
429 - 447

Mixed dacite lapilli tuff and Andesite pyroclastics -
strongly altered.

130.8 133.2

429 - 437

Dacite lapilli tuff-grey, bleached
sericitized. Pyrite 5%, fragments 1 - 25
mm, grey, siliceous.

133.2 136.3

437 - 447

Strongly altered andesite lapilli tuff;
minor biotite; patches of quartz and/or
pyrite amygdules.

Pyrite 3 - 10% as veinlets, disseminations, clots and
amygdules.

Faults at 436 - 8, good gauge from 445 - 47.

136.3 167.1
447 - 548

Dacite pyroclastics - strongly altered.

Sections of lapilli tuff (fragments 2 -3 cm) intercalated with tuffs and cherty tuffs. Rocks are pale grey to pale grey-green, fine grained ≤ 1 mm, massive. Fragments angular to sub-rounded.

Alteration - Sericitization - pervasive

- Pyrite - 2 - 5% as disseminations veinlets and clots.

Scattered pyrite bands at 60 - 90° in tuff layers.

Core blocky - 1 to 2 fractures/foot - 447 - 520, 537 - 548.

- Core broken up 520 - 537; 6 - 12 fractures/foot
- Shear zones 529 - 529.5, 532 - 533, 537 - 537.5.

143.6 144.1

471 - 472.5

Dacite dyke - chloritized mafics (5%); 1% disseminated pyrite.

160.4 161.3

526 - 529

Dacite dyke as above.

Note Lapilli tuff sections not defined as recognition subjective - difficult to tell if crackle brecciated cherty tuffs or pyroclastics.

162.5 163.4

533 - 536

Dacite dyke - possibly brecciated - broken up.

164.9 165.5

541 - 543

Three, 2 - 3" pyrite veinlets with minor chalcopyrite.

167.1 180.0
548 - 590.5

Mixed Andesite Lapilli Tuffs with dacite lapilli tuffs, tuffs and cherty tuffs - strongly altered.

Dacite pyroclastics intercalated from 552 - 554, 557 - 563.5, 568 - 590.

Locally, dacitic fragments are intermixed with andesitic fragments and vice-versa.

167.1 180.0
548 - 590.5 (cont'd)

Andesitic pyroclastics are grey to pale green-grey with 1 - 4 mm sericite clots (green). Interpreted to be sericitized (chloritized) feldspar phenocrystals, amygdules and fiamme. Locally quartz and/or pyrite amygdules (3 - 10 mm) scattered throughout. Fragments (>4 mm) common but often ghosted by alteration.

Dacite lapilli tuffs, tuffs and cherty tuffs are grey, and usually without greenish sericite clots (1 - 4 mm). Cherts and cherty tuffs are fine grained often banded (bedded). Locally fragments >4 mm to 2.5 mm and siliceous, grey. Some dacite fragments, 2 - 3 cm mixed with andesitic pyroclastics.

- Alteration - Bleaching, dacite and andesite lithologies bleached of original colours
- Sericitization - pervasive and 1 - 4 mm clots, interpreted to be total replacements of feldspar phenocrystals in andesite pyroclastic rocks.
 - Pyrite 5 - 10% as disseminations, clots and veinlets.

Core 1 fracture/foot.

170.3 171.2
558.5 - 561.5 Core broken up.
173.2 173.5
568 - 569 Heavy pyrite, 60%.

Minor chalcopyrite scattered throughout section.

175 180.0
574 - 590.5 Primarily dacite dykes - 578 - 578.5, 580.5 - 582, 584.5 - 590.5 cutting andesite pyroclastic rocks. Dacite dykes - medium grained, grey to white-grey, euhedral grains and 1 - 4% pyrite.

The rest of the section consists of hybridized andesite and brecciated fine grained sections of dykes.

178.2 180.0
584.5 - 590.5 Dacite dyke brecciated on margins.

180.0 190.5
590.5 - 625

Mineral Horizon - Pyritic mud and pumaceous andesite lapilli tuffs - strongly altered.

Pyritic muds are a very fine grained mixture of pyrite, quartz and sericite. Pyrite 20 - 35% as disseminations and bands, very fine grained to locally up to 1 mm. Sericite pervasive and as 2 - 5 mm lenticular, aligned clots - possibly altered fiamme.

Pumaceous (scoraceous) andesite lapilli tuff - strongly altered - bleached, sericitized and pyritized. They are white to grey-white, fine grained, weakly to moderately amygdaloidal (quartz and/or pyrite) with 10 - 20% lenticular sericite clots (1 - 5 mm) usually aligned. Fragments ghosted by alteration.

Alteration - Pyrite - 10 - 15% - disseminated and veined.
- Sericite - pervasive and as 1 - 5 mm lenticular sericite-rich clots interpreted to be squashed amygdules or fiamme.

Amygdules filled with quartz and/or pyrite are 3 - 10 mm while sericite filled ones are 1 - 5 mm and aligned.

Bedding 70 - 90° to the core axis.

Sericitic clots aligned parallel to bedding. Pumice-rich layers are composed of lapilli tuff-sized fragments, but margins ghosted by alteration.

Pyrite-rich mud layers - 604 - 608, 609.5, 610 - 611.

186.9 190.5
613 - 625 Consists of rapidly changing pyritic mud pumaceous layers in equal proportions.

190.5 197.7
625 - 648.5

Core broken up 5 fractures/ft.

Mineral Horizon - Pyritic mud with minor pumaceous andesitic pyroclastic layers (lapilli tuff) - strongly altered.

192.1 195.1
630 - 640 Chert layers common.

Altered muds - sericite pervasive and as 1 - 5 mm lenticular clots (aligned). Pyrite very fine grained, disseminated, banded 25 - 40%.

Sericitized fiamme common and aligned.

190.5 197.7
625 - 648.5 (cont'd)

Pumaceous lapilli tuffs occurs as isolated fragments and thin bands in pyritic mud. Pumice-grey to white, amygdaloidal with quartz, pyrite and sericite fillings. Some amygdules may be quartz clots, not amygdules. Fragments ghosted by alteration.

192.1 192.8
630 - 632.5 Pumaceous material >> pyritic mud.

Minor chalcopyrite specks and bands.

Bands and layers at 70 - 90° to the core axis. Soft sediment folding very common.

In pyrite - some framboidal development and framboidal - rich layers.

197.7 198.0
648.5 - 649.5

Felsic Dyke

Probably Sloko rhyodacite. Reddish purple clots and bands. Clots round to ovoid to linear and 3 - 15 mm and make up 50% of dyke - possibly devitrified spherulites.

Contacts 80° to core axis.

198.0 204.9
649.5 - 672

Mineral Horizon - Andesite lapilli tuffs with minor pyritic mud layers - strongly altered.

Pumaceous Andesite lapilli tuffs - greenish brown to grey-green.

Alteration - Sericite - pervasive and as lenticular 1 to 5 mm clots (aligned) interpreted to be amygdules. Sericite filled amygdules vary in abundance throughout but average 10 to 20%.

- Pyrite - 10 -15% as veinlets, clots, disseminations and amygdule fillings.

Pyritic muds - grey to white-grey, strongly sericitized and contain 5 to 20% sericitized (1 - 5 mm) lenticular clots interpreted to be fiamme. Pyrite 20 - 40%. Most layers 0.5 - 6 inches thick with the thickest at 660.5 - 662 feet.

Amygdules common throughout with quartz, sericite and/or pyrite fillings. Large round or oval quartz and/or pyrite amygdules 93 - 8 mm occur in patches throughout section.

198.0 204.9
649.5 - 672 (cont'd)

207.7 204.6
665 - 671

More homogeneous with sericite clots evenly distributed and rectangular or square - possibly replacing feldspar crystals.

Note Pyroclastic texture throughout but ghosted by alteration.

Minor to trace chalcopyrite noted as veinlets or clots.

204.9 209.1
672 - 686

Mineral Horizon - Pyritic muds with minor andesite lapilli tuffs (most abundant near end of section 672 - 682) - strongly altered.

Alteration - Pyrite - 20 - 35% with 672 - 682 (40 - 60%), 682 - 686 (20 - 30%).

204.9 207.9
672 - 682 both coarse and fine grained pyrite.

- Sericite - pervasive and as 1 - 5 mm lenticular clots possibly replacing fiamme.

Minor thin chert beds common.

204.9 207.9
672 - 682

Pyrite and chert layers strongly contorted. Alignment of sericite clots 60 - 70° to the core axis. Difficult to determine bedding from pyrite or chert layers due to contortions (soft sediment deformation?). Framboidal pyrite common.

207.9 209.1
682 - 686

Pumaceous andesite layers and fragments (3 mm - 3 cm) make up 50% of section. Pyrite bands 70 - 90° to the core axis.

Fragments ghosted.

206.7 207.6
678 - 681

Sericite-rich clots aligned 70° to the core axis with fine pyrite bands cutting these at 45° to the core axis and 90° to the sericite clots. This is axial plane cleavage 40° to the core axis. Fiamme aligned at 90° to the core axis.

Core blocky 1 - 2 fractures/ft.

209.1 211.0
686 - 692

Mineral Horizon - Pumaceous andesite lapilli tuff with minor pyritic mud layers - strongly altered.

Similar to 672 - 692.

Alteration - Pyrite - 5 - 15% disseminated, veined and clots.

- Sericite - pervasive and as 1 - 5 mm lenticular clots.

209.8 210.1
688 - 689

strongly contorted chert layer.

Pyrite/chert layers throughout - all strongly contorted but generally 70 - 90° to the core axis.

211.0 213.7
692 - 701

Mineral Horizon - Intercalated dacite tuffs, cherty tuffs and cherts - strongly altered.

Rocks are grey-white and fine grained. Chert and cherty tuff layers are strongly contorted and boudinaged.

Alteration - Pyrite 10 - 20% as disseminations and bands - very fine grained. Individual bands 1 - 2 inches thick and 40 - 70% pyrite.

- Sericite - pervasive.

211.6 211.9
694 - 695

Pyrite coarse grained and 60%.

Mineral Horizon - Pumaceous andesitic tuffs in pyritic muddy matrix intercalated with minor pyritic mud layers - all strongly altered.

Alteration - Pyrite - 15 - 30% as disseminations, veinlets, clots and amygdules.

- Sericite - pervasive and as 1 - 5 mm lenticular clots (amygdules and fiamme).

Fragments 1 mm - 3 cm. Ghosted by alteration.

Minor chalcopyrite clots and veinlets throughout.

Pyrite and quartz amygdules 1 - 10 mm throughout.

Foliation 70 - 90° to the core axis.

216.8 232.9
711 - 764

Mineral horizon - Intermixed pyritic mud and pyritic mud fragments in varying proportions. Pyritic mud rock - strongly altered.

Fragments vary from 1 mm - 3 cm and are angular to sub-round.

Pyrite - 20 - 40% in fragments and 30 - 40% in matrix.

Sericite clots (1 - 4 mm; fiamme) and lithic fragments where aligned are 70 - 90° to the core axis. A few pyrite/quartz amygdules.

Minor pyrite fragments and chalcopyrite throughout. Core blocky 1 fracture/ft.

232.9 256.1
764 - 840

Sloko rhyodacite dyke and intervals of pyritic mud (mineral horizon) often cut by dykelets of Sloko.

Pyritic muds similar to 711 - 764.

772 - 781.5, 792.5 - 795, 816 - 829 - Sloko dyke - fine to medium grained, white to pale green-white. Cut by pyrite-quartz veins; 1 - 2% pyrite; 5 - 10% chloritized fragments.

764 - 767 Sloko veins cutting pyritic mud. Pyrite 5 - 15%.

767 - 772, 781.5 - 792.5, 829 - 840 - Intermixed hybridized Sloko dyke and hybridized pyritic mud. Pyrite 5 - 15%.

795 - 816 Mixed Sloko dyke and massive sericite rock (811.5 - 816) with 10 - 20% pyrite (original rock-type not known).

783 - 784, 787.5 - 788, 815 - 816 - shear zones.

256.1 256.9
840 - 842.5

Diorite dyke

Dark green and fine grained, cooled margins and 1 - 2 mm round clots - possibly spherulites.

Lower and upper contacts 75° to the core axis.

256.9 258.2
842.5 - 847

Diorite dyke and massive sericitized and pyritized (5 - 15% rock (similar to 795 - 816).

Quartz and chlorite veinlets common in dyke.

258.2 - 268.8
847 - 881.5

Mineral Horizon - Intercalated dacite tuffs, cherty tuffs, cherts and fine dacite lapilli tuffs - strongly altered. Rocks are grey and fine grained.

258.2 265.9
847 - 872

Minor round silica clots which might be amygdules. Rocks generally tuffs and cherty tuffs. Chert bands contorted and boudinaged.

265.9 268.8
872 - 881.5

Similar to 847 - 872 but silica clots more common (2 - 20 mm) and aligned - could be amygdules or silica rich fragments.

Alteration - Pyrite 5 - 15% as disseminations, clots and veinlets.

- Sericite - pervasive.

267.5 - 270.1
861 - 886

20% pyrite and minor chalcopyrite.

267.8 263.4
862 - 864

Round silica clots common - possibly amygdules.

Pyrite and chert bands strongly contorted - possibly soft sediment deformation.

Aligned silica clots 60 - 70° to the core axis.

Dacite lapilli tuffs could be boudinaged chert bands and not fragmentals; fragments commonly 1 - 10 mm, siliceous.

268.8 272.0
881.5 - 892

Andesite lapilli tuff - strongly altered.

Rock composition determined by presence of amygdules and biotite. Rock is dark grey to reddish brown. Fine grained reddish brown biotite occurs throughout (2 - 10%) as wisps and clots.

Fragments 1 - 30 mm with many siliceous amygdules. Amygdules 1 - 10 mm, generally 1 - 2 mm and filled with pyrite, but locally 3 - 10 mm with quartz and/or pyrite fillings. Relict feldspar phenos noted.

Alteration - Pyrite 10 - 20% as veinlets, clots and disseminations.

- Sericite - pervasive.

- Biotite - 2 - 10% as wisps, clots and veins.

Core blocky - 1 fracture/ft.

272.0 276.1
892 - 905.5

Andesite lapilli tuff - strongly altered.

Rock is grey to dark grey. Fragments 1 - 30 mm and generally strongly amygdaloidal, grey to white, less pyrite (1 - 3%) than matrix and round to sub-round and unoriented.

Alteration - Pyrite - 10 - 20% as disseminations, veinlets, clots and amygdule fillings.
- Sericite - pervasive.

Amygdules commonly 1 - 3 mm and filled with quartz and/or pyrite. Only a few large (3 - 10 mm) quartz filled amygdules.

896 - 898 and 899 - 899.5 - primarily sericite.

895.5 - 896 Section 80% pyrite.

Core blocky - 1 fracture/ft.

Andesite lapilli tuff - strongly altered grading down to weakly altered.

276.1 287.3
905.5 - 942.5

276.1 285.1
905.5 - 935

Unit is reddy-brown with 1 - 5 mm amygdules common. Some fragments grey to blackish-grey. Fragments 1 - 30 mm and strongly amygdaloidal (1 - 3 mm) with quartz fillings. Unit is high in biotite which is primarily in the matrix. Locally feldspar phenocrysts.

Alteration - Pyrite - 10 - 20% as veins, clots and disseminations.
- Sericite - pervasive.
- Biotite - 5 - 20% as veinlets, wisps and clots.

285.1 285.5
935 - 936.5

Weakly to moderately altered - mid to dark green with strongly amygdaloidal fragments.

276.1 287.3
905.5 - 942.5 (cont'd)

925 - 927.5, 934.5 - 935, 936.5 - 938 - Diorite dyke -
very fine grained and dark green to black.

938 - 942.5 Similar to 905.5 - 935 but less altered -
locally can see original andesite
pyroclastic texture.

Core blocky - 1 fracture/ft.

287.3 293.1
942.5 - 961.5

Diorite dyke

Fine to medium grained, black to green-black with 1 - 3 mm
round blebs which might be vesicles or spherulites -
appear to be filled with chlorite or quartz.

Fine grained glassy margin to dyke - upper and lower
contacts 10 - 39⁰ to the core axis.

293.1 310.1
961.5 - 1017

Andesite lapilli tuff - strongly altered.

Similar to 905.5 - 935.

Reddish brown to mid-green colour - 5 - 30% reddy brown
biotite.

Matrix and fragments sericitized. Feldspar phenos locally
abundant also sericitized.

Fragments 1 - 30 mm with 1 - 15 mm most common; some grey,
siliceous.

Amygdules common (1 - 8 mm) with quartz and/or pyrite
fillings. Large (3 - 10 mm) quartz filled amygdules occur
locally or in clots.

Fragments often aligned 90⁰ to the core axis.

973 - 977 Andesite tuff; uniform texture; strongly
sericitized; pyrite 10 - 20%; dark green.

Trace chalcopyrite throughout.

310.1 314.8
1017 - 1032.5

Andesite lapilli tuff - strongly altered.

Texture similar to last section but less biotite scattered throughout (0 - 10%).

Fragments 1 - 30 mm with 5 - 20 mm common; some strongly amygdaloidal with quartz and/or pyrite fillings.

Trace chalcopyrite throughout.

1025.5 - 1027.5 quartz/pyrite veinlets with clots of sphalerite.

Large fragments tend to be aligned 90° to the core axis.

Core is blocky - 1 fracture/ft.

314.8 327.7
1032.5 - 1075

Andesite lapilli tuff - strongly altered.

Similar to 961.5 - 1017.

Fine grained reddy brown biotite abundant in both matrix and fragments (5 - 20%).

Amygdaloidal fragments common with 1 - 2 mm amygdules (quartz fillings). Some massive grey fragments occasionally with chloritized mafics. Large 3 - 10 mm spots common in matrix - often vague or ghosted - interpreted to be amygdules.

Pyrite - 5 - 15% as veins, clots, disseminations.

Core blocky - 1 fracture/ft. except 1052 - 1058 with 5 fractures/ft. (core ground).

327.7 334.8
1075 - 1098

Diorite dyke.

Fine grained, dark green to black and euhedral to weakly porphyritic.

Quartz-epidote-chlorite veinlets throughout.

Upper contact 45° to the core axis; lower contact irregular but generally 45° to the core axis.

334.8 343.6
1098 - 1127

Andesite lapilli tuff - strongly altered.

Very similar to 961.5 - 1017. Minor relict patches of pale to mid-green andesite; only weakly altered. Rare unaltered to weakly altered feldspar crystals. Pyrite 5 - 15% disseminations, veins and clots.

Biotite pervasive throughout matrix and fragments (10 - 30%).

Unit is strongly amygdaloidal - 1 - 3 mm common but locally large 3 - 10 mm filled with quartz and/or pyrite.

1122 - 1127 Contact subjective-biotite replaced by higher chlorite content.

343.6 354.3
1127 - 1162

Andesite lapilli tuff - strongly altered.

Similar to 1098 - 1127 but less biotite (0 - 15%).

Chlorite becomes greater than biotite as alteration decreases. Andesite is grey to pale-dark green. Feldspar crystals more abundant than last section.

| Depth | Dip | Azimuth |
|-------------|-----------------|-----------------|
| 500' 152.4 | 48 ⁰ | 89 ⁰ |
| 743' 226.5 | 42 ⁰ | 89 ⁰ |
| 940' 286.6 | 39 ⁰ | 90 ⁰ |
| 1142' 348.2 | 36 ⁰ | 90 ⁰ |