SUMMARY REPORT ON THE 2005 AKIE DIAMOND DRILL PROJECT

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OMINECA MINING DIVISION, NORTHEAST BRITISH COLUMBIA

NTS map sheet 94F/7

TRIM map sheets: 094F036, 094F037, 094F046 Latitude 57°22'30.5" N, Longitude 124°51'12.3" W

Prepared for:

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June 8th , 2006

SUMMARY

In July of 2005, Mantle Resources Inc. optioned the Akie property from Ecstall Mining Corporation and contracted Coast Mountain Geological Ltd. to manage a short, four-hole drill program on the property during the late fall of 2005, for as long as weather would permit. The program redefined the Cardiac Creek unit, a shale unit within the Upper Devonian Gunsteel formation which hosts a sedimentary exhalative (SEDEX) style zone of massive zinc-lead-silver (Zn-Pb-Ag) mineralization.

The Akie property is situated in the Kechika Trough, which is the southern extension of the Selwyn Basin. The Kechika-Selwyn trend hosts a number of Mississippi Valley and SEDEX type mineral deposits. The Kechika Trough is bounded to the west and east by carbonates and shallow water clastic rocks of the Cassiar and MacDonald platforms, respectively. Rocks of the MacDonald Platform are host to Mississippi Valley type Pb-Zn deposits.

The sequence formed within the Kechika Trough includes Devonian-Mississippian basinal facies clastic sedimentary rocks and is a regional target for SEDEX type zinc lead silver deposits, such as the nearby Cirque deposit to the northwest which contains 32.2 million tonnes (Mt) grading 7.9% Zn, 2.1% Pb and 48 gm/t Ag. The most favourable horizon at Akie is a stratiform barite-sulphide layer, hosted within Upper Devonian shales of the Gunsteel formation. Previous mapping on the Akie property has identified four northwest-trending panels of Gunsteel formation shales. These shale beds have been the target of exploration for SEDEX type ore deposits since 1978. In 1994 the Cardiac Creek showing (MINFILE no. 094F031) was discovered through prospecting. The zone associated with this showing was explored by drilling 29 holes during 1994, 1995 and 1996 and returned an historical, geological resource estimate of 12 Mt grading 8.6% Zn, 1.5 % Pb and 17.1 gm/t Ag.

Mantle Resources tested the mineralized part of the Cardiac Creek unit with three more holes in 2005 (a fourth was lost in bad ground). Each hole completed intersected massive sphalerite-pyrite-galena. Assays returned for drillhole A-05-30 averaged 11.87% Zn, 2.83% Pb and 23 gm/t Ag over 34.05 m, including 17.93 m of 17.22% Zn, 4.20% Pb and 30 gm/t Ag. Drill hole A-05-32 returned values of 10.28% Zn, 2.16% Pb and 21 gm/t Ag over 36.40 m, including 8.20 m of 18.50% Zn, 3.97% Pb and 30 gm/t Ag.

Drill hole A-05-33 returned values averaging 7.85% Zn, 1.61% Pb and 14 gm/t Ag over 22.60 m, including 9.81% Zn, 2.20% Pb and 19 gm/t Ag over 11.50 m. The drill hole had already pierced the projected mineralized zone, but was still in pyrite-rich breccia when frozen waterlines precluded continuation of drilling. The nearby hole A-95-18 intersected two 'stacked' mineralized zones, separated by a fault; a similar fault repetition may exist beyond the end of Hole A-05-33. It is proposed that the hole be continued in 2006.

The mineralized zone hosted by the Cardiac Creek unit is a southeast-striking, tabular, stratiform massive sulphide, extending over a 1.5 km strike length and dipping approximately 70° southwest, to a depth of as much as 700 m below surface with widths as great as 37 m. The zone is exposed on the western limb of a southeast-plunging anticline. High-grade mineralization is hosted in a banded barite-sulphide bed, with laminar sulphide bands (comprising pyrite and as much as 50% sphalerite and 7% galena). Economic grade mineralization extends upwards across the upper barite contact into the overlying siliceous silty shales, occurring as massive pyrite-sphalerite interbeds. Subangular fragments of carbonate and sphalerite occur throughout the lower, mineralized strata of this unit. Barite nodules with a maximum size of 2 cm are also present.

Multi-element soil anomalies continue along the trend of the Cardiac Creek unit in both directions, over a strike length of 7.8 km, significantly extending the potential strike length of the mineralized zone. Only a few holes have been drilled into this soil trend to date, leaving a considerable strike length for further investigation. Numerous Zn, Pb, Ag and Ba soil anomalies elsewhere on the Akie property include a 1400 m by 700 m Zn-Pb anomaly east of the Cardiac Creek unit. Gunsteel formation shales underlie the majority of the soil anomalies and are promising exploration targets for future drilling,.

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INTRODUCTION AND TERMS OF REFERENCE

This technical report was prepared at the request of Mr. John Fraser P. Geo. (B.C.), a director of Mantle Resources Inc., a publicly traded company listed on the TSX Venture Exchange. The report is based on a previous Technical Report prepared by Don MacIntyre for Mantle Resources Inc. (MacIntyre, 2005) and a summary and compilation report prepared by Paul Baxter for Inmet Mining Corporation (Baxter 1996). It includes the results of the 2005 exploration program and has been prepared both for assessment purposes and as an internal report for Mantle Resources Inc. and its directors. One or both of these authors was on the property during the entire 2005 exploration program.

Units of measure in this report are metric. Maps and other location data are presented in Universal Transverse Mercator (UTM) projection, using the 1983 North American Datum (NAD'83). The reader is referred to Appendix I for a review of co-ordinate systems. Monetary amounts are expressed in Canadian dollars.

LOCATION AND STATUS OF PROPERTY

Location

The Akie property is situated in the western ranges of the northern Rocky Mountains physiographic region of British Columbia, approximately 250 km northwest of MacKenzie, BC and 45 km north of the head of Williston Lake (Figure 1). The property itself (Baxter 1996) is centred on latitude 57°22'30.5"N, longitude 124°51'12.3"W (UTM NAD'83 co-ordinates 388,550 m E, 6,360,660 m N; Zone 10). The property lies within National Topographic System map sheet 94F/7 and across Terrain Resource Integrated Management (TRIM) map sheets 094F036, 094F037 and 094F046

The mineralized zone is located 25 km southeast of the Cirque Deposit; the discovery outcrop in Cardiac Creek (MINFILE no. 094F031) is located at UTM co-ordinates 389074E/ 6360045N (NAD 83 datum, Zone 10), or latitude 57° 22'11" N, longitude 124° 50'33.7" W. The reader should note that the co-ordinates specified by MINFILE are not accurate.

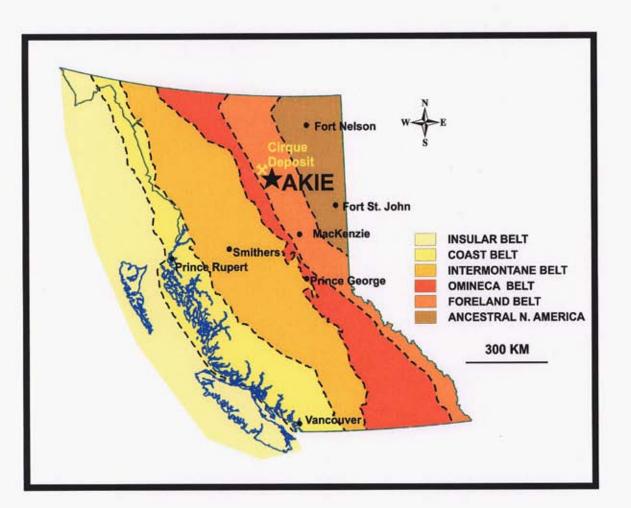


Figure 1. Location of property.

Property status

The core Akie property comprises 22 contiguous legacy claims (AKIE 1-19, 21, 22 and 25), a total of 256 25-hectare units covering an area of 5016 hectares. A map of the property is shown in Figure 2. Details of the individual tenures, which include subsequent acquisitions by Mantle and Ecstall, are summarised in Table 1.

The mineral tenures are owned by Inmet (60%) and Ecstall Mining Corporation (40%), except as noted in Table 1. Mantle Resources Inc. has signed an option agreement with Ecstall, whereby Mantle can earn a 65% ownership of the claims (60% from Inmet and 5% from Ecstall) by spending \$4,000,000 on exploration work on the Akie property by August 31, 2008. Cash payments to Ecstall Mining Corporation totalling \$450,000 need to be paid by June 21, 2008 (refer to Appendix II for details of the option agreement).

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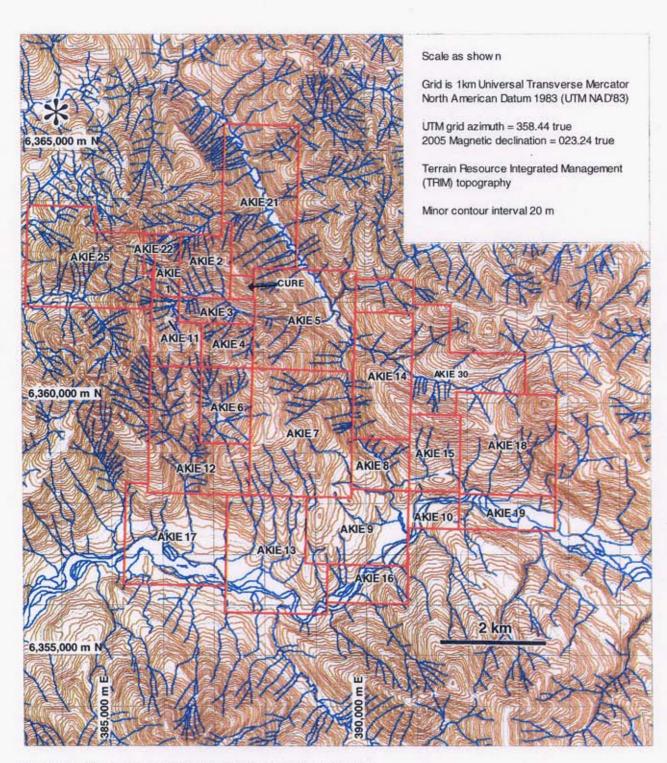


Figure 2. Mineral tenure map. Scale roughly 1:75,000

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PHYSIOGRAPHY, CLIMATE, VEGETATION, ACCESS, LOCAL RESOURCES, AND INFRASTRUCTURE

Topography on the Akie claims is moderate to steep, with elevations ranging from 850 m above sea level in the Akie River Valley to 2200 m on mountain tops. Topographical features can be summarised as a series of NW-SE trending ridges transected by broad northeast-trending drainage corridors.

The climate is highly variable (5-30°C), with moderate rainfall or snow, during the summer months. During the winter months, temperatures as low as -40°C accompany moderate accumulation of snow. The window of opportunity for field work is best between May, when the valleys become snow-free, and late September, when snow starts accumulating again.

Tree line occurs at approximately 1700 m asl, below which the slopes are covered with forests of mostly spruce, with some pine and balsam. Above tree line vegetation is scarce; alpine grasses, mosses, alpine flowers and lichen occur on otherwise barren slopes of felsenmere and talus. Animal species include abundant grizzly bear, caribou, mountain goat, porcupine, wolf and marmot.

The 2005 exploration project was based out of the field camp located in the Akie River Valley. This camp can be accessed by driving north from the town of Tsay Keh, along the main logging road to the Del Creek main. This road leads to the Akie River logging road. The camp is located at Kilometre 24.5 on this road. The area of exploration, including the Cardiac Creek Unit, is located approximately 15 km northeast of the exploration camp and can be accessed by helicopter only.

PROPERTY HISTORY

Rio Canex originally staked the area of the Akie claims in 1978, on the basis of lead anomalies noted in regional stream sediment samples. Rio Canex defined various Pb, Zn, Ag and Ba anomalies as a result of an extensive program of soil geochemical sampling over the period from 1979 to 1981, augmented by VLF surveys. These anomalies were not evaluated, and the claims were allowed to lapse in 1985.

Ecstall Mining Corporation staked the Akie 1, 2 and 3 claims and in 1992 optioned the claims to Inmet Mining Corporation. During 1992 and 1993, Inmet carried out a soil-sampling program and identified an 800 m long Pb-Ag soil anomaly on Fluke Ridge.

In April 1994, the Akie 4-7 claims were staked to cover a soil anomaly with soil values as high as 4100 ppm Pb, 9500 ppm Zn, 11,000 ppm Ba and 25 ppm Ag, extending for over five km of strike length within the projected outcrop area of the Gunsteel shales (Baxter 1996). In July of the same year the Cardiac Creek showing was discovered (16.0% Zn, 2.8% Pb and 25.6 gm/t Ag over 40 cm), resulting in the staking of the Akie 8-17 claims. These claims were then investigated by means of magnetometer and VLF resistivity surveys.

The panel hosting the Cardiac Creek showing was drill tested during the 1994 to 1996 exploration programs. By the end of 1996, Inmet had completed 29 drill holes, totalling 13,685 m of drilling, 47.33 km of geophysical surveys and 3251 soil samples, over 95.85 km of grid line. In addition to the extensive geological mapping and prospecting, 284 whole rock lithogeochemical samples were analysed to identify areas of element enrichment or depletion.

Of the 29 drill holes, 22 holes totalling 11,277.8 m targeted the Cardiac Creek block. The Cardiac Creek mineralized unit was at the time defined as a 1500 m long stratiform deposit, varying from 5 to 30 m in thickness and was tested to a depth of 700 m below surface. Inmet estimated a geological resource of 12 million tonnes grading 8.6% Zn, 1.5 % Pb and 17.1 gm/t Ag from this drill program. This is an historical resource and was not calculated using the presently established guidelines for technical reports (National Instrument 43-101).

No further work was carried out on the claims until Mantle Resources Inc. signed the aforementioned option agreement in 2005. Upon acquiring the option for acquisition, Mantle Resources commissioned D.G. MacIntyre, P.Eng. to write a technical report (MacIntyre, 2005), to meet the standards of National Instrument 43-101. MacIntyre's report has been extensively used for background information in preparation of this report.

GEOLOGICAL SETTING

Regional geology

The Akie property is located within the Rocky Mountain fold and thrust belt of northeastern British Columbia (Figure 3). The area lies at the margin of ancestral North America and was a depositional environment for clastic and carbonate sedimentary rocks of Late Cambrian to Late Triassic age (MacIntyre 2005).

The property itself is situated within the Kechika Trough, a southeastern extension of the Selwyn Basin, bounded to the west and east by carbonates and shallow water clastic rocks of the Cassiar and MacDonald Platforms, respectively (Taylor and MacKenzie 1970). Rocks of the MacDonald Platform are host to Mississippi Valley type Pb-Zn deposits (MacQueen and Thompson 1978).

The Kechika Trough itself was an area of deposition for a thick succession of basinal facies clastic and subordinate carbonate rocks during the Palaeozoic and Early Mesozoic. A generalised stratigraphic column for the Kechika Trough is presented in Figure 4. As noted on this figure, at least three stratigraphic levels within the basinal succession are prospective for sedimentary exhalative (SEDEX) type Zn-Pb-Ag mineralization.

The basinal facies rocks occur in a number of southwest-dipping, northeasterly-vergent thrust fault panels which repeat the stratigraphy. The following is a summary of the stratigraphic units present in the general area of the Akie property. These descriptions are abstracted from previous works, chiefly MacIntyre (2005), with only minor modifications by these authors.

Stratigraphic units

Kechika Group

The oldest rocks exposed in the area of the Akie property are assigned to the Kechika Group. Ferri *et al.* (1999) noted that this stratigraphic unit comprises mainly calcareous argillites and argillites of Late Cambrian to Early Ordovician age. The Kechika Group also includes limestone and rare tuffaceous strata. In the Akie River area this assemblage is present on the southwestern edge of the property and forms a base for the stratigraphic section.

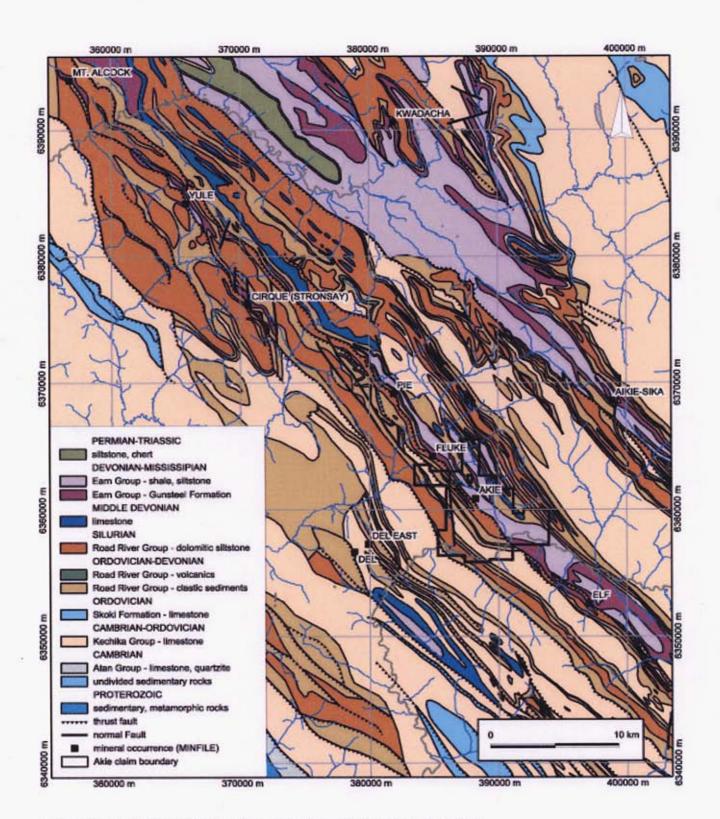
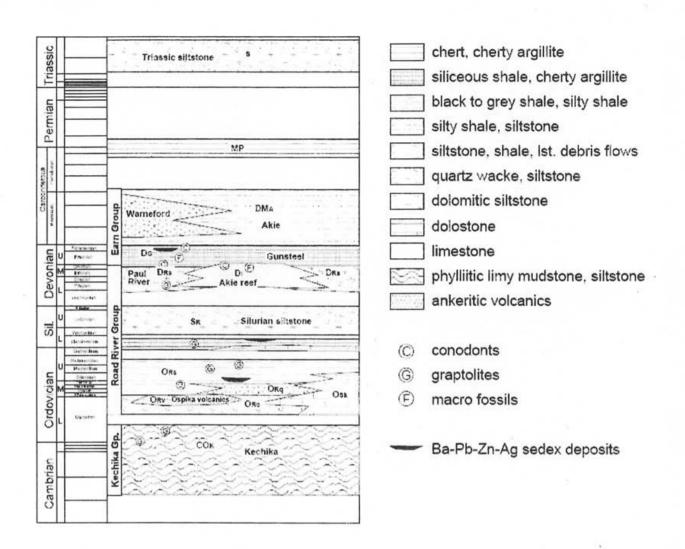
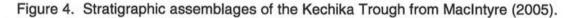


Figure 3. Regional geology of the Akie area, after MacIntyre (2005). Geological polygons from Massey *et al.* (2005); Mineral deposit locations from MINFILE

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Road River Group (Ordovician to latest Middle Devonian)

The Kechika Group is overlain unconformably by the Road River Group. In the general area of the Akie property this stratigraphic unit comprises a succession of calcareous siltstones, shales, limestones and minor volcanic rocks. The unit was previously defined as a Formation of the same name (Taylor *et al.* 1979; Cecile and Norford 1979). This report uses the revised description of Road River Group recommended by MacIntyre (1998, 2005), after Gordey et al (1981).

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Lower Road River Group

In the Akie River area, the lower (Ordovician) part of the Road River Group includes a lower unit of thinly bedded cream, beige and reddish brown-weathering, laminated calcareous siltstone and shale with intercalated limestone turbidites and debris flows (Cecile and Norford 1979). The calcareous siltstones grade up section into a distinctive black shale unit with abundant Middle to Late Ordovician graptolites.

Ospika Volcanics (Late Ordovician)

Late Ordovician volcanic rocks occur as discontinuous lenses and beds of green mafic flows or microdioritic sills and orange-weathering ankeritic crystal and lapilli tuffs (MacIntyre 2005). These rocks depart from the stratigraphic relationship indicated in Figure 4; they are listed in the BC government database (Massey *et al.* 2005) with an age range from Middle Ordovician to Middle Devonian in age. However, MacIntyre (2005) notes that (in the Akie River area) the volcanic rocks are interbedded only with the late Early to early Middle Ordovician black shale facies and time-equivalent platformal rocks, within an areal extent parallel to the central axis of the Kechika Trough. Their composition and linear distribution suggest they were erupted along trough-bounding rifts.

Silurian Siltstone Unit

The Ordovician graptolitic black shales of the Road River rocks are overlain unconformably by basal Silurian thin-bedded to cross-laminated limestone and dolostone beds. A second unconformity (Cecile and Norford 1979) separates the basal Silurian calcareous beds from the overlying tan to orange-brown weathering dolomitic siltstone interbedded with varying proportions of orange-weathering limestone and dolostone.

Upper Road River Group

The upper part of the Road River Group is Lower to Middle Devonian in age and disconformably overlies the Silurian siltstone (MacIntyre 1998). This upper part to the group exhibits considerable lateral variation in facies. It includes the carbonate rocks of the Akie reef and, in the area of the property, Lower Devonian marine turbidites comprising interbedded black shale and limestone debris flows with rusty dark grey siltstone to silty shale (*ibid*.).

In the Akie River area (*i.e.*: close to the property), a dark grey to brown weathering, recessive silty shale and siltstone unit overlies the limestone turbidites and shales. This unit is relatively thin or absent in the thrust panel containing the Cirque deposit. MacIntyre (1998) assigned these rocks to the Paul River formation of the Road River Group.

The Akie property lies to the southwest of the Akie Reef, one of three reefs which persisted from the late Lower to late Middle Devonian. The Akie Reef is as thick as 200 m at its western margin. Reef facies comprise medium to thickly bedded micritic or bioclastic limestone with occasional thinly bedded shale and argillite. Representative fossils from the reef complex, also encountered in contemporaneous debris in the Kechika Trough, are corals, stromatoporoids and crinoid ossicles with twin axial canals, indicating a probable latest Lower to early Middle Devonian age (MacIntyre 1998, 2005).

Earn Group (Late Devonian to Mississippian)

The contact between the top of the Road River Group and base of the conformably or paraconformably overlying Earn Group is probably diachronous. It is convenient, for the present, to infer that the contact lies at the transition from Givetian to Frasnian.

MacIntyre (1998) and Pigage (1986) divided the Earn Group informally into three formations. From oldest to youngest, these are the Gunsteel, Akie, and Warneford formations. Rocks of the Gunsteel and the Akie formations occur on the Akie property (the latter should not be confused with the Akie Reef which is a facies of the Road River Group). Neither the Warneford formation nor rocks younger than Warneford have been identified in the general area of the property and are not described herein.

Gunsteel formation

The Gunsteel formation is a thick, fairly homogeneous sequence of black, graphitic, generally massive, featureless shale, with a distinctive gunsteel blue weathering. These shales are locally weakly siliceous, with cherty, carbonaceous and silty beds. Angular to subrounded, somewhat flattened and often weakly calcareous clasts occur throughout the unit but appear to increase downsection. MacIntyre (1998) suggests these clasts are derived from the crinoidal interbasinal reefs. Small, millimetric barite and calcite nodules often define bedding in otherwise featureless shale.

At or near the base of the Gunsteel formation, the shales are richer in silt, more siliceous and, as noted above, contain greater amounts of reef-derived clasts and barite nodules, which decrease upsection. The silty shales are thickly to thinly laminated. Pyritic banding with zinc-lead-silver mineralization decreases upsection from the base of the formation. MacIntyre (2005) suggested that the pyritic bands are situated closer to the top of the Gunsteel formation. Information acquired during the 2005 drill program indicates that sulphide bands also occur near the base of the formation.

Barite beds with sulphide mineralization (pyrite, sphalerite and galena) are situated at the base of the Gunsteel formation. These beds are locally deformed and vary from massive to laminar. The barite beds are interbedded with black shale layers up to 5 m thick.

Akie formation

The authors have not observed any rocks of the Akie formation in the field. The following description of the Akie formation rocks is from MacIntyre (2005):

Gunsteel rocks are conformably overlain by recessive, thick bedded, non-siliceous, rusty brown to tan weathering, medium grey aluminous shales of probable Late Devonian to Mississippian age. These rocks comprise the informal Akie formation as first defined by Jefferson *et al.*, (1983). The Akie formation correlates, in part, with the Besa River formation (Pelzer 1966) of the MacDonald Platform. These formations were deposited during a major, eastward advancing, marine transgression that occurred in Late Devonian to Mississippian time.

The Akie formation shales are difficult to distinguish from older shale members in the district. However, in general they have a phyllitic sheen on cleavage surfaces and show faint colour banding, which is less common in other shale members. Orange weathering calcarenite beds, although rare, are also locally present. The basal part of the Akie formation typically weathers to a rusty brown and in places contains pyrite laminae and barite nodules.

Regional structure

The geology of the Akie River area is typical of the thin-skinned tectonic style of the Rocky Mountain Fold and Thrust Belt (MacIntyre 1998, 2005). Northeast-vergent compression caused detachment of Palaeozoic strata from the rigid crystalline basement, partially stacking and also

folding the relatively incompetent plates (composed of basinal facies rocks) along a series of imbricate thrust faults.

MacIntyre (*ibid.*) notes that the structural style changes across the map area from west to east. In the west, imbricate, southwest dipping reverse faults bound asymmetric northeast-vergent overturned folds; in the east, outwardly dipping reverse faults bound major synclinoria and truncate folds within overriding anticlinoria. These eastern synclinoria are characterised by large-scale upright folds and preserve the Devonian strata.

MacIntyre also infers that that high-angle growth faults bounding the Devonian-Mississippian depositional troughs were reactivated to form major thrust faults during Tertiary compression. He cites the proximity of Palaeozoic rift-style volcanism, fracture-channelled mineralising fluids, clastic fans and reef margins to the present thrust faults as evidence that these faults were active in Palaeozoic time, albeit with different dynamics.

Pigage (1986) recognised two coaxial phases of deformation at the Cirque deposit. The earlier ubiquitous (D1) phase includes northeast-vergent tight asymmetric folds with gently dipping southwest limbs and steep to overturned northeast limbs; the latter are often offset by high angle reverse faults, juxtaposing Ordovician and Silurian strata against Devonian Gunsteel shales. The shales typically have a penetrative slaty cleavage that is axial planar to the S1 folds. At the Cirque deposit, a second (D2) phase of deformation folded the early slaty cleavage and developed a penetrative crenulation cleavage, axial planar to these late, open to upright, northeast-vergent folds (Pigage 1986).

North to northeast trending high angle faults, some with a strike-slip component, are interpreted as synthetic shears related to an oblique compressional stress regime of inferred Tertiary age (MacIntyre 2005).

The reader is reminded here that the foregoing description of regional stratigraphy and structure is merely a synthesis of far more extensive research in the Kechika Trough, most notably by MacIntyre (1998) and by Ferri <u>et al</u>. (1999). The reader is referred to these and other works cited therein for a far more detailed review of the geological history.

Property geology

Stratigraphic units

Past geological mapping of the property has benn carried out only on the area underlying the drill collars and immediately to the northeast. The oldest rocks exposed in this area are assigned to the Ordovician lower Road River Group, although the Geological Survey Branch compilation of the area (Massey *et al.* 2005) indicates that Kechika Group limestones may underlie parts of the property southwest of the area of principal interest. Similarly, the top of the section exposed on the property is reportedly Akie formation of the Earn Group, described in the previous section. 2005 exploration on the Akie property was exclusively in an area underlain by Road River Group and the Gunsteel formation.

Lower Road River shales and calcareous siltstones underlie the principal ridge on the property, exposed at the core of a northeast-vergent overturned anticline that was thrust over Earn Group rocks (MacIntyre 2005). The southwest and northeast flanks of this anticline expose a thick homogeneous sequence of Silurian dolomitic siltstone assigned as middle Road River Group (*ibid.*). Overlying these siltstones is an early Middle to Upper Devonian aged bioclastic limestone of the Upper Road River Group (MacIntyre 1998). The limestone comprises coral, crinoid, brachiopod and other fossil debris in a medium grey limestone matrix.

The Road River Group is overlain by a thick sequence of black siliceous shales, cherty argillites and cherts of the informally named Upper Devonian Gunsteel formation (Earn Group). Cherty argillite and chert are commonly graphitic with bedding marked by local zones of nodular barite and faint, very fine-grained laminae of pyrite or rare laminae of siltstone. This 400-600 m wide, southwest dipping band of black, recessively weathering shale has a characteristic bluish grey "gunsteel" colour and, in the footwall of the aforementioned thrust fault, overlies another panel of Silurian age Road River strata comprising calcareous siltstones, reef limestones and limestone debris flows.

MacIntyre (2005) noted the discovery of a goniatite of lower to middle Famennian (Late Devonian) age in a previous diamond drill hole (95-16 at 613.5 m). At that location, roughly 40 m true thickness of the Gunsteel formation section lies above its contact with the underlying facies of the Road River Group; the contact (at least in places) may be paraconformable in this

area. Even allowing for low sedimentation rates, it seems likely that the contact between Gunsteel and Road River in this area lies at or near the Givetian-Frasnian (Middle to Upper Devonian) boundary in this part of the basin. It is probable that the lithostratigraphic boundary is diachronous on a regional scale.

Structure

The Akie property is underlain by a sequence of thrust sheets involving Ordovician to Mississippian clastic sedimentary strata, presented as several west-southwesterly-dipping panels. These rocks have been folded during thrusting, as indicated from regional scale mapping (MacIntyre 2005). The folding is recorded in changes in core to bedding angles in drill core and in one anticline observed from the air at the northern edge of the property. The rocks are generally highly fractured or foliated.

The Gunsteel formation in the central area strikes southeast (azimuth 145) dipping moderately to steeply ($65^{\circ} - 75^{\circ}$) to the southwest. It is exposed on the western limb of a southeast plunging, northeast-vergent anticline. Parasitic folds in shales of the lower Gunsteel formation, noted in drill core, indicate that these rocks and the Cardiac Creek mineralized unit which they host have undergone minor deformation, mainly as a result of recrystallization and mobilization of the relatively incompetent sulphide beds. The axial planes of these folds are subparallel to the thrust fault at the top of the Gunsteel panel

The reader should refer to Baxter (1996) for a geological map of the central area of the property and to Baxter (1996) and MacIntyre (2005) for comprehensive geological overviews.

REGIONAL METALLOGENY AND DEPOSIT TYPE

MacQueen and Thompson, (1978) and subsequent authors noted that carbonates and shallow water clastic rocks of the MacDonald Platform, bounding the Kechika trough well to the east of the Akie property, are host to Mississippi Valley and Irish type Pb-Zn deposits, such as the Prairie Creek Mine (11.8 Mt grading 12.5% Zn, 10.1% Pb, 161 gm/t Ag and 0.4% Cu). However, with the exception of several minor, unclassified showings, all recorded occurrences within the Kechika trough are of the sedimentary exhalative (SEDEX) Zn-Pb-Ag type (BC Geological Survey Branch Deposit Profile E14; MacIntyre 1995).

All 21 MINFILE mineral occurrences which lie within the 094 NTS map sheet and which are identified as SEDEX Zn-Pb-Ag lie on a NW-SE trend, part of which is shown on Figure 3. These mineral occurrences are hosted exclusively by the basinal facies of the Kechika Trough.

Three generalised stratigraphic levels within the Trough are presently identified as prospective for this deposit type (MacIntyre 2005) and are shown in Figure 4. These are:

- 1. The shales at or near the Llandeilian Caradocian (Middle-Upper Ordovician) boundary in the lower part of the Road River Group;
- 2. The Llandoverian (Lower Silurian) siliceous shale base of the middle Road River Group's Silurian Siltstone unit and:
- 3. The latest Middle to Upper Devonian Gunsteel formation.

Of the 21 MINFILE mineral occurrences in the 094 NTS map sheet, 14 (including all those more advanced than "showing") are explicitly hosted within the Gunsteel formation. These include all occurrences close to Cardiac Creek: Cirque (094F 008; 32.2 Mt grading 7.9% Zn, 2.1% Pb and 48 gm/t Ag), Fluke (094F 009), Elf (094F 011), Mount Alcock (094F 015), Pie (094F 023), Bear (094F 024) and Aki (094F 027). The Gunsteel occurrences lie on a sharply defined NW-SE trend, parallel with the inferred margins of the Kechika Trough.

MacIntyre (2005) notes that conodont biostratigraphic data collected at the Cirque deposit (Paradis *et al.* 1998) indicate that the deposit is Upper Famennian. The goniatite retrieved from the Cardiac Creek unit lies precisely at the top of the zinc-rich section of the mineralized panel and therefore could be interpreted as the youngest mineralized horizon at Cardiac Creek.

MacIntyre notes that the occurrence of the goniatite constrains this top horizon to a lower to middle Famennian age, slightly older than that of the Cirque deposit. Based on the Devonian time scale of Kaufmann (in press), this is a time interval of as much as 3.6 Ma.

PROPERTY MINERALIZATION

In 1994, massive sulphide mineralization was discovered by Paul Baxter of Inmet, in gossanous outcrops in Cardiac Creek. This is the most significant mineralization discovered at surface on the Akie property. It is the surface expression of a stratiform, tabular, massive sulphide (pyrite-sphalerite-galena) body of the SEDEX type described by MacIntyre (1995), which lies near the base of the Gunsteel formation. Mineralization occurs as thin to thick (centimetre scale) laminae of pyrite (as much as 60%), very fine, grey sphalerite (as much as 50%) and lesser galena (as much as 5%), interbedded with barren black shales and cherty argillites, or with the massive to banded grey barite which generally underlies the interbedded shale/sulphide strata. These host rocks belong to the lower Gunsteel formation. The highest concentration of economic sulphides and highest Zn grades occur within the massive to banded barite. The unit hosting the mineralization has been called variously the Cardiac Creek Horizon, Showing or Unit. The use of "horizon" will be discontinued herein; the Cardiac Creek unit has a demonstrable thickness (as much as 27 m), has been defined by drilling over a strike length of 1500m and extends to depths of 700-800m below surface. The showing, noted above, is on the surface trace. Cardiac Creek unit will be used herein.

Elsewhere on the Akie property, very fine disseminated pyrite (5-10%), interbedded with 0.5 to 1.2 m thick beds of nodular barite containing pyrite laminae (10-15%), occurs in an 8.5 m thick sequence of massive, siliceous black shale called the Waterfall showing. This showing is located at the south side of the Akie River within the westernmost panel of Gunsteel rocks on grid line 7600S at 175E (Baxter 1996), but was not visited during the 2005 program.

2005 EXPLORATION

Purpose

The purpose of the 2005 exploration program was to test a part of the mineralized Cardiac Creek unit previously identified as an historical, subeconomic resource (Baxter 1996, MacIntyre 2005). A secondary objective of the drilling was to provide a better understanding of the mineralogical zonation of the mineralized unit and to constrain the location(s) of the source vent(s) for the mineralising fluids. To this end, four diamond drill holes were planned by Mr. B. Dewonck and Mr. M. Vanwermeskerken, based upon the existing longitudinal projection (Baxter 1996) and upon information provided by Mr. C. Graf of Ecstall Mining. As many as five holes were contemplated as the program developed.

Logistics, personnel, duration and overall cost

Work completed on the Akie project in 2005 included camp construction, construction of drill pads and the drilling, partial (mineralized interval) logging and sampling of four diamond drill holes (A-05-30 to A-05-33). No geological mapping, prospecting, soil surveys or geophysical surveys were carried out during the 2005 program.

The 2005 project was based at an exploration camp located at Kilometre 24.5 on the Akie logging road. Much of the camp materials were obtained from nearby abandoned logging and exploration camps. Camp construction began on September 22nd. Drilling commenced on October 16th and continued until December 2nd, when the waterlines to the camp and to the drill froze. The crew was subsequently demobilised and the camp closed down pending resumption of activities in the spring of 2006. Demobilisation was completed by December 15th.

Logistical support in the case of minor supplies came from the nearby town of Tsay Keh, at the north end of Williston Lake. Major supplies and groceries were delivered from MacKenzie and Prince George.

The exploration and support crew varied in number from three to fourteen at various stages of the project. At the height of activities, the crew consisted of a geologist, a cook, three field technologists, five drillers, two pad builders, a helicopter pilot and an engineer.

The 2005 exploration cost for the project was \$927,090.25.

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Plate 1. Exploration base camp at Akie.

Exploration procedures

The objective of the 2005 exploration program was to drill as many as four exploration holes into the Cardiac Zn-Pb-Ag mineralized unit. The drilling was contracted to Hy-Tech Drilling Ltd., of Smithers, BC.

Collar locations and drill hole numbering

The 2005 drill holes were drilled to intersect the mineralized Cardiac Creek unit at points on the top of the unit spaced roughly 200 m apart (between 3000 S and 3600 S on the old Inmet exploration grid) and at elevations between 860 m and 1000 m.

The previously established (1994) grid on the Akie property can no longer be located. Furthermore, it was noted that the co-ordinate reference grid, drafted on the maps in the 1996 Inmet summary report (Baxter 1996), does not correspond with any conventional datum (NAD

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27, NAD 83 or WGS 84). 2005 drill collar sites were therefore located using compass and tight chain (slope compensated) from the nearest 1994 and 1995 drill collars. Once the 2005 collar sites had been located, they were marked with a Garmin 12 XL global positioning system (GPS) unit. A more detailed survey using advanced equipment was rendered useless when the data contained in the unit was erroneously lost, by a subcontractor, during download.

Drillhole labels consist of the Akie initial, a two-digit year allocation and a two-digit number, continuous with the last hole drilled (A-96-29) on the Akie property in 1996.

Collar and downhole surveys

The collar azimuth and dip of diamond drill holes were spotted using both a Silva Ranger compass and a Brunton compass, using a magnetic declination of 023. Both azimuth and dip were checked after collaring, the former using a plumb-bob aligned on the inclined mast to establish a foresight location 50 m from the rig, the latter using an inclinometer on the collar rod with the drill string extended to the end of hole at the time of measurement.

Downhole directional surveys were taken at an average of every 30 m, using a Reflex single-shot downhole survey tool. This survey tool provides point measurements of azimuth and dip of a hole with estimated precisions of $\pm 0.5^{\circ}$ and $\pm 0.2^{\circ}$, respectively. Even allowing for an hypothetical depth to intersection of 550 m, the propagated horizontal and vertical uncertainties on a longitudinal projection or cross-section do not exceed 5 m and 2 m respectively, far less than the present uncertainty in collar location.

Core handling

Drill core was flown to a nearby shelter on the main ridge, two km northwest of the area of drilling (see Fig. 5). The mineralized zones intersected and the footwall to end of hole were all logged during the course of the drill program. The hanging wall, including the Road River strata thrust over the Gunsteel formation, received only cursory logging and was then stacked in the core storage location, to await logging in the spring. The mineralized sections were flown to camp, together with interval in each footwall to the end of hole.

Sample intervals, marked by the geologist logging each section, were determined on the basis of mineralogical zonation and stratigraphy, with a maximum of 1.5 m sample length (a few

exceptions were made in the cases of sections 1.6 to 1.9 m long with coherent lithology). The core from the entire hole was then photographed. Sample intervals were split by rock saw; 194 samples in total were cut from 254.2 m of core. The samples were bagged and shipped to Acme Analytical Laboratories in Vancouver by truck and Greyhound bus. The half of the split core not sent for analysis was then photographed again and examined for microscopic textures, then transported by road to a storage facility in Vancouver.

Sample security

All samples were shipped by commercial carriers in rice bags sealed with plastic security straps, and submitted to accredited analytical laboratories where industry standard sample preparation and analytical methods were employed.

Analytical procedures, replicates and blanks

The samples were analysed for Zn, Pb Ag, Mo, Cu, Ni, Co, Mn, Fe, As, Sr, Cd, Sb, Bi, Ca, P, Cr, Mg, Al, Na, K, W and Hg (group 7AR, *i.e. aqua regia* partial digestion, of a 1 gm aliquot, followed by analysis using inductively coupled plasma emission spectroscopy (ICP-ES). Published lower detection limits for Zn, Pb and Ag using this analytical technique are 0.01%, 0.01% and 2 gm/t, respectively.

Unmarked blanks were included with the samples submitted, roughly once in every 20 samples. The blanks were collected from a road cut in the vicinity of the exploration camp. No replicate samples were taken. Acme laboratories re-assayed one in every 20 to 30 samples a second and a third time.

Results of 2005 exploration

A total of 1999.1 m of diamond drilling were completed during the program. Table 2 summarises the four holes drilled. The area of drilling is shown in Figure 5 and a map of the drill collars is presented in Figure 5a.

Three holes successfully intersected mineralization, and one hole (A-05-31) was abandoned when the drill stem was pinched by a fault. The last hole (A-05-33) was abandoned when extreme cold froze the waterlines at both the drill and in camp. Although the drill had already

intersected and passed through the target mineralized horizon, it was still returning brecciated and mineralized sections with as much as 60% pyrite.

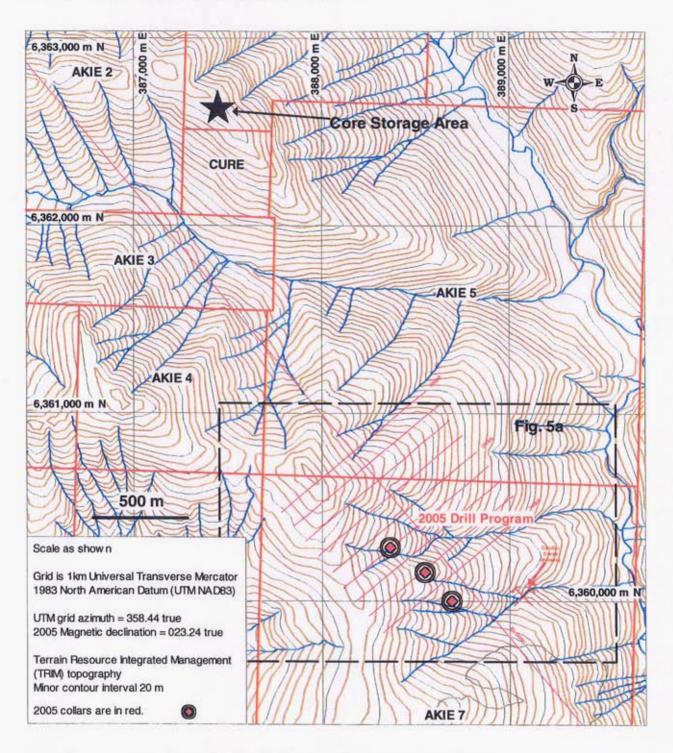


Figure 5. Akie Index Map, including 2005 holes. Scale roughly 1:20,000

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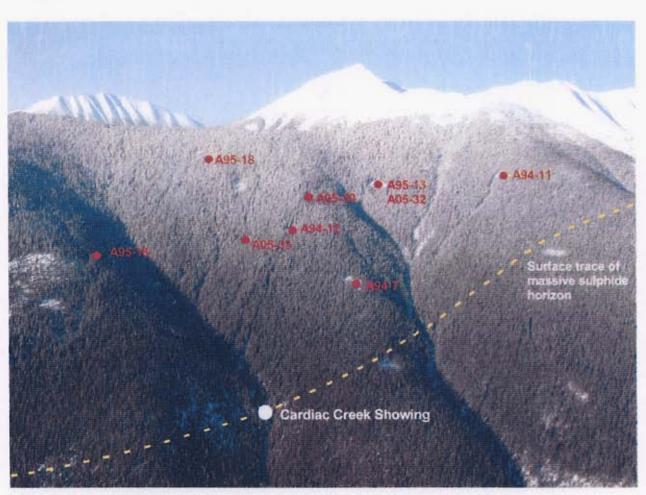


Plate 2. Drill pad locations at the Cardiac Creek zone, cleared from forest.

DDH	Collar grid co-ordinates and elevations			Collar	azimuth, depth	dip and	Hangingwall intercept		Long section pierce point	
	Grid South	Grid West	Collar elevation	Az.	Dip	Depth reached	Depth (m)	Angle of intercept	(Grid) South	Elev. (m)
A-05-30	3305	120	1497 m	050	-78.0	598.7 m	543.5	39.5	3245 S	1005
A-05-31	3090	175	1539 m	060	-70.0	133.0 m	NA	NA	NA	NA
A-05-32	3090	175	1539 m	055	-68.0	638.4 m	548	50	3050 S	1030
A-05-33	3520	115	1404 m	060	-77.5	629.0 m	558.5	42.5	3485 S	880

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^{*} Drill hole co-ordinates are based on the old, idealised Inmet grid, pending verification by survey in next phase of exploration.

Uncertainty in collar location, ground conditions and deviations in drill string

The failure of the precision GPS survey constrains the absolute X-Y precision of the collar location data to roughly ± 10 m, although the relative positions of the diamond drill collars are more accurately known. This uncertainty in collar distance from the surface expression of the Cardiac Creek unit is not a problem at present, given the wide separation between intersections; however, the drill collars must be located accurately at the earliest possible opportunity.

Drill production and directional control were also problematic. The hanging wall Gunsteel shales are highly fractured and shattered, making drill progress very difficult. The first three holes were drilled NQ size, but drilling was very slow, with the shattered core consistently blocking the bit and core tube. After losing 126 m of drill stem in the Hole A-05-31, HQ rods were used as casing down to the same fault that jammed the A-05-31 drill stem, and was then continued in NQ size. The last hole (A-05-33) was drilled in HQ size, which significantly sped up the drill progress, until the drillers ran out of HQ rods (142 m). Drilling HQ-sized core at least as far as the banded pyritic zone is highly recommended for future holes.

Drillhole deviation was very strong, with as much as a 13° azimuth deviation over 60 m and a 5° dip deviation over 24 m in A-05-30. In general, the deviation was a refraction of the drill hole into the bedding-parallel cleavage of the black shales. However, a less predictable variation was possible when a hole intersected a major fault.

Actual pierce points in the original two holes were as much as 115 m from the intended pierce points as a result. However, pierce points did not get within 130 m of previous drillhole intercepts, so there was no issue with the holes deviating as they did. Furthermore, at the time of commencement of the fourth hole, it was noted that the deviation within the area of the program was fairly consistent, and these deviations could be used in calculating compensation for these directional deviations. The average directional deviation for the four holes drilled in 2005 was a 1.8° dip decrease (shallowing out) per 100 m, and a 3.0° change in azimuth, to the north, per 100 m.

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Plate 3. Shattered Gunsteel shale.

Summary of lithostratigraphic and mineralized units intersected

The general stratigraphy for the three holes is very consistent downhole to the footwall of the mineralized zone; however, the footwall rocks varied significantly between the holes. Downhole stratigraphy is as follows, going downsection:

Upper Gunsteel shale

The upper half of the hangingwall stratigraphy consists of black, graphitic, massive, featureless shales of the Upper Devonian Gunsteel formation. These rocks host various major faults and are highly fractured and shattered. Many smaller faults and fracture planes with signs of movement, are typically filled, or coated with graphite, and with graphite slickensides, often highly polished.

Lower Gunsteel shale

A major fault separates the upper Gunsteel shale from a more competent, but equally homogeneous, black, graphitic shale below, also of the Gunsteel formation. This lower shale unit includes some weak siliceous zones but is generally featureless downhole to the strata near the downhole contact. Calcite \pm pyrite \pm barite nodules, as large as 2 mm, define bedding where laminae are not visible. These nodules are commonly somewhat flattened parallel to bedding. The core typically parts along a well developed bedding-parallel cleavage, resulting in 'pokerchip' breakage in drill core. Within a few tens of metres from the footwall of this graphitic unit, well-rounded, well-defined concretions as large as 5 cm are visible, scattered throughout the shale.

Cardiac Creek unit

The Gunsteel shales grade downwards into a sequence of interbedded dark grey, massive, weakly siliceous shale and well bedded to laminated, grey-green, siliceous, highly pyritic siltstone that appears to contain significant amounts of barite. The contact itself is not well defined, because the pyritic strata first appear as discrete beds, as much as 5 cm thick, gradually increasing in abundance and thickness downsection to an overall abundance of as much as 80% over intersections as long as a metre, with sulphide beds as thick as 50 cm. These beds appear laminated grey-green when examining the drill core, with numerous laminae containing coarser disseminated pyrite grains, and a whitish grey coloration where sphalerite (+galena) mineralization occurs. On sawn surfaces the bands appear as shiny, massive, laminar pyrite. In the lower parts of this unit, visible sphalerite and galena increase to as much as 25% and 3% respectively although analyses returned indicate a much higher base metal sulphide content. The sphalerite at Akie is difficult to discern, as it occurs as an inconspicuous, pale grey to very pale bronze, very fine-grained aggregate, very similar in appearance to the shale and barite gangue in all but the semi-metallic lustre of the sulphide. As much as 5% coarser grained black sphalerite and galena were noted in drillholes A-05-32 and A-05-33.

Subrounded to subangular equant clasts as large as 8 cm, composed of coarse to banded dark grey calcite, increase in abundance downsection. Deformation of the laminated pyritic unit also increases downhole, as a result of the steadily increasing proportion of (structurally) incompetent sulphide in the rock. The evidence of deformation is a penetrative cleavage, at low angles to the

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core axis in sulphide beds only and detached "micronappe" folding of high sulphide sections, including the thin shale interlaminae in such sections.

A thin (25 cm), very siliceous quartz-pyrite breccia was noted in two of the drillholes (A-05-30 and A-05-32). The breccia consists of fragmented silty shale in a matrix of quartz with as much as 15% pyrite. The breccia zone, approximately 25 cm wide, grades from crackled margins to matrix-supported centres with rotated fragments. The pyrite occurs mostly as rims as wide 3 mm on the margins of breccia clasts and as minor disseminations in both the clasts and the matrix.

These breccia zone intersections are very consistent in texture and length of intersection and it is possible that the same structure is intersected by both holes. The breccia occurs in the banded unit in each of the holes, but at different levels with respect to the top of the zinc-rich stratiform mineralization. It is therefore not directly related to the syngenetic mineralization and is interpreted, for the present, as a cross-cutting structure.

A sharp footwall contact separates the banded sulphide/shale subunit from the underlying layered barite-sulphide subunit. The latter is a variably laminated to massive, grey barite with sulphide content as high as 50% grey sphalerite, 40-60% pyrite and 7% galena. It is commonly diluted with minor, thin beds of black shale.



Plate 4. Interbedded black shale and laminated siliceous siltstone- pyrite ± sphalerite.



Plate 5. Laminated siltstone-pyrite unit, high in sphalerite. The pale grey bands contain high amounts, up to 40% very fine sphalerite.



Plate 6. Banded barite-sulphides, mostly pyrite and sphalerite, with minor galena.

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Plate 7. Typical deformation in sulphide beds.

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Plate 8. Pyritic breccia unit (above) with sphalerite rich, laminated siltstone-pyrite.

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Footwall assemblage

The footwall rocks to the mineralized barite bed vary considerably and cannot be generalised. These rocks seem to be a complex intercalated sequence of Road River sedimentary rocks and minor Gunsteel shales, ranging from calcareous shale, to medium grey siltstone with pale grey calcareous sedimentary breccia fragments, to dark grey, often-graphitic shale, believed to be of the Gunsteel formation. This may represent a transitional facies from Road River to Gunsteel deposition.

Brecciated zones within the footwall rocks (calcite-quartz-pyrite breccia) with sections hosting massive pyrite are thought to be associated with the growth fault system feeding the mineralized horizon.

Precision and accuracy in analytical results

Analytical reproducibility was very good, with less than one percent variation in the three assay runs. Most metallic assays returned from these blanks returned near or below detection limits of each of the elements. The two exceptions returned values of 0.15% Zn and 0.03% Pb (Ag was beneath detection limit in all blanks). Given the base metal values encountered in drill core, the blank values for Pb and Zn are acceptable.

Analytical results

All three holes which intersected the Cardiac Creek unit returned high values of Zn, Pb and Ag, with combined Zn-Pb values as high as 43.61 % (sample 296088 in A-05-32) and Ag values as high as 66 gm/t (sample 296022 in A-05-30). The results for the intersections in each of the 2005 holes are summarised in Table 3. Analytical results for the first two holes are particularly encouraging.

A-05-30

Drillhole A-05-30 intersected Zn-Pb-Ag bearing mineralization between depths of 534.75 m and 568.88 m. Samples from this interval returned a weighted average of 11.87% zinc, 2.83% lead and 23 gm/t Ag over 34.05 m, including a 17.93 m high-grade zone of 17.22% Zn and 4.20% Pb and 30 gm/t Ag. The mineralized zone was intersected at a 43.5° angle, so with conversion, the mineralized zone has a true width of 23.4 m, with a higher-grade zone of 12.3 m true width.

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Drill hole	Mineralized interval	From (m)	To (m)	Width (m)	Zn (%)	Pb (%)	Ag (g/t)
A-05-30	Main zone	534.75	568.80	34.05	11.87	2.83	23
	Including	543.47	561.40	17.93	17.22	4.20	30
A-05-32	Main zone I	555.20	581.90	26.70	11.96	2.73	22
	Including	571.96	580.05	11.00	16.16	3.95	29
	Lower zone I	584.8	591.60	6.8	7.91	0.79	23
	Zone I complete	555.2	591.60	36.4	10.28	2.16	21
	Zone II	600.6	605.10	4.5	6.53	1.13	19
A-05-33	Main zone	565.50	577.00	11.50	9.81	2.20	19
	Including	555.15	577.75	22.60	7.85	1.61	14

Table 3. Summary of assay results for drill holes A-05-30, A-05-32 and A-05-33.

The top of the Zn-Pb-Ag-rich zone lies within the interbedded siliceous silty shale and massive pyrite \pm sphalerite \pm galena; its base comprises a massive sulphide bed within a dark grey, massive shale bed presumed to be part of the Gunsteel formation, albeit at its base. The high-grade section corresponds to the sulphide-rich (pyrite-sphalerite-galena) barite bed, with only the last sample from the base of this barite unit returning slightly lower but still highly anomalous values.

A-05-32

Drillhole A-05-32 returned remarkably similar values to those in hole A-05-30, although the high-grade zone is somewhat narrower and the mineralized zone is generally more diluted by

thicker and more abundant barren shale beds. The main mineralized zone is essentially split in two, with a 2.9 m bed of Gunsteel shale separating them. The upper part returned values of 11.96% Zn, 2.73% Pb and 22 gm/t Ag over 26.70 m (555.20 - 581.90 m), including 11.50 m of 16.16% Zn, 3.95% Pb and 29 gm/t Ag over 11.50 m (570.40 to 581.90 m). Narrowing the definition of the high-grade zone somewhat returns 18.50% Zn, 3.97% Pb and 30 gm/t Ag over 8.15 m, (571.90 - 580.05 m). The lower part returned 7.91% Zn, 0.79 % Pb and 23 gm/t Ag over 6.80 m (584.80 - 591.60 m). This mineralized zone is situated in the lower of the two barite-sulphide beds, including the base of the black shale.

Combining the two segments of the mineralized zone (from 555.20 to 591.60 m, including the intervening 2.9 m of barren shale), average values are 10.28% Zn, 2.16% Pb and 21 gm/t Ag over 36.40 m. The core to bedding angle in this hole averaged 50°, so the true widths for these intervals are 27.9 m for the combined interval and 6.2 m for the higher grade mineralization.

Further downhole, a third, highly anomalous zone averages 6.53% Zn, 1.13% Pb and 19 gm/t Ag over 4.5 m (600.6 - 605.1 m). Using the 45° bedding to core angle, this zone has a true width of 3.2 m. It is hosted within black shales interlaminated with massive pyrite-sphalerite and is presumed to be of the Gunsteel formation.

A massive pyrite section from 610.5 m to 612.3 m (an interpreted palaeofault) returned slightly anomalous copper, but did not return significant zinc, lead or silver.

A-05-33

Drill hole A-05-33 did not intersect the thick, highly mineralized barite-sulphide beds and few barite or barite rich siltstone beds; nevertheless, samples from this hole returned high values. Most of the mineralized interval consists of interbedded siltstone and massive pyrite with visible grey sphalerite. The main mineralized section of the hole, from 555.15 to 577.75 m, averages 7.85% Zn, 1.61% Pb and 14gm/t Ag over 22.60 m. The hole intersected the mineralized zone at approximately 46°, giving a true width of 16.3 m, with values as high as 15.07% Zn, 6.02% Pb and 25 gm/t Ag.. A higher grade zone within this intersection, from 565.5 to 577.0 m, returned values averaging 9.81% Zn, 2.20% Pb and 19gm/t Ag over 11.50 m (8.27 m true width).

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INTERPRETATIONS AND CONCLUSIONS

The 2005 drill program has redefined the previously indicated Cardiac Creek SEDEX type massive sulphide unit and outlined a high grade zone of Zn-Pb-Ag mineralization within this mineralized unit. The Cardiac Creek unit and its high-grade zone lie entirely within the Gunsteel shale unit. The high-grade zone contains economic grades which should be tested further, with both definition and step-out drilling.

Assay results for the two high-grade intercepts are very similar in grade, width and character. Both these intercepts included highly faulted and brecciated sections, in both the mineralized zone and the footwall rocks. Owing to this strong similarity, there is a high probability that the richly mineralized zone is continuous between drill holes A-05-30 and A-05-32. It is inferred that this part of the Cardiac Creek unit comprises a 250 to 300 m long high grade area, with a thickness of 34 m or more, and with an estimated grade of 11.35% Zn, 2.49% Pb and 21.9 gm/t Ag.

The three 2005 intercepts all pierced the Cardiac Creek unit at approximately the same elevation, between 900 and 1025 m. It is possible that the high-grade mineralization occurs as a horizontal to slightly southeast plunging ore shoot within the Cardiac block.

Zones of massive medium-grained pyrite, uncharacteristically lacking any form of banding or laminations, are associated with the breccia zones within the footwall rocks. The pyrite in these tectonic breccia zones is interpreted as being remobilized through a fault, possibly related to a reactivated growth fault. All three intercepts of the 2005 program intersected this fracture-filling pyrite in the footwall of the Cardiac Creek Unit. If the pyrite occurs in a single fault zone, the three holes crudely define the rake of such a structure across bedding.

Gunsteel shales underlie several Zn-Pb-Ag-Ba soil anomalies surrounding this mineralized zone as well. These anomalies should be trenched and drilled during the following drill phase.

RECOMMENDATIONS

A \$ 4,000,000 follow-up program is recommended, including the following work:

- 1. <u>Surveying of all drill collars.</u> This can be done either with a real-time GPS survey or by using conventional surveying and must be carried out before further drilling is initiated. The survey equipment should remain on site and be used to locate new drill collars as they are completed.
- 2. <u>Compilation and reinterpretation of all previous drillhole information</u>. This should include all previous drill logs, combined with geophysical survey interpretations, geology, geochemistry, aerial photography and the results of the drill collar survey.
- 3. <u>Mechanical trenching</u>. A Kubota or similar excavator will have to be brought in and located using a large helicopter (204 or 205). However, if a road is to be built into the mineralized area, a larger machine can be used without costly moves. Topography permitting, trenches should be excavated in some of the main soil anomalies to gain a better understanding of their source and of structural extent before commencement of drilling these anomalies.
- 4. <u>8,500 m of diamond drilling</u>. Drilling should be focused on the high-grade zone of the Cardiac Creek unit, but reconnaissance holes should be drilled in soil anomalies and in mineralized structures delineated by trenching. Drillhole A-05-33 should be re-entered and continued past the mineralized, brecciated zone at the bottom of the hole.
- 5. <u>Winterisation and expansion of the exploration camp.</u> Drilling could be continued into the winter months once the camp has been properly winterised. Expansion should be considered to accommodate the larger crew, more so if two drills are to be used for the project.
- 6. <u>Road construction to the Cardiac Creek unit.</u> Road construction will be an expensive undertaking, as the slopes between the end of the existing road and the Cardiac Creek unit are very unstable. If no access can be gained higher up on the ridge above these slopes, the construction of two bridges may be required, in order to cross the Akie River and back. However, much of the expenses will be recuperated by the use of significantly fewer helicopter hours, both for crew changes and drill moves. Furthermore, the camp can be relocated closer to the project area, and a reverse circulation drill can be brought in to drill

the 500 m or more of Gunsteel shales overlying the mineralized zone, making the drilling much faster and cheaper.

A budget for the above is presented in Table 4.

Table 4. Proposed budget for the 2006 Akie program.

Drilling; 8,500 m @ \$200.00 per metre	\$	1,700,000.00
Pad building; 25 days at \$1500 per day	\$	37,500.00
Surveying	\$	15,000.00
Project geologist 85 days @ \$650 per day	\$	55,250.00
2 Junior geologist 85 days @ \$600 per day	\$	102,000.00
Project co-ordinator; 30 days @ \$600 per day	\$	18,000.00
Senior field technologist 85 days @ \$450 per day	\$	38,250.00
3 junior field technologists 85 days @ \$400 per day each	\$	102,000.00
Sample shipment and assay; 800 samples @ \$45.00 per sample	\$	36,000.00
Communication	\$	13,000.00
Camp construction/ improvement	\$	40,000.00
Helicopter 550 hours at \$900 per hour	\$	495,000.00
Camp, room and board; 2,135 man-days @ \$75.00 per day	\$	160,125.00
Report writing and data processing	\$	40,000.00
Truck and equipment rental	\$	30,000.00
Mobilisation and demobilisation	\$	75,000.00
Permitting	\$	2,500.00
Freight	\$	20,000.00
Sub total	\$	2,979,625.00
Contingency 10%	\$	297,962.50
Total	\$	3,277,587.50
*Road construction to commence upon completion, 15 km at \$30,000/k	m \$	750,000.00

Total costs at completion of road

\$4,027,587.50

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APPENDIX I: A REVIEW OF CO-ORDINATE SYSTEMS

Grids are the co-ordinate systems used to identify field locations uniquely in notes and on maps. These are systems of easting and northing values or co-ordinates, which are displacements of distance or angle measured from defined zero-lines or origins. The geographic co-ordinate system is the best-known of these systems, where meridians (north-south lines of longitude) and parallels (east-west lines of latitude) are measured in degrees, from the Greenwich zero meridian and from the equator, respectively. For a unique combination of values (e.g. 49°N, 123°W, there is a corresponding, unique location on the Earth's surface.

As noted above, the geographic system uses angles to measure location and is therefore not based upon a rectangular grid. Moreover, this system is a direct representation of the Earth's curved surface and translates poorly onto a flat sheet of paper, making it difficult to use in many applications unless a projection is carried out.

A projection is a mathematical method for converting the curved surface of the earth to a flat surface, tangential to the earth's surface at a particular point. An ellipsoid is a model for the shape of the earth's globe used in the projection calculation. A datum identifies the location(s) where the ellipsoid is fixed to specific geographic locations and from which the resulting grid is measured or surveyed. This grid is therefore rectangular or Cartesian and can be represented by a distance X (easting) and a distance Y (northing) from an origin point; elevations are measured as distance above (or below) the geoid's surface.

National and regional grid systems and their associated maps that are based on the earth's shape require all three components in their definition: a projection, an ellipsoid and a datum. All three should be specified; otherwise co-ordinates given in a report or map will be ambiguous. Frequently a particular datum implies the use of a specific ellipsoid, which is therefore not necessarily mentioned.

Maps of small areas that do not need to account for the curvature of the earth or irregularities in its shape are based on simple, non-earth co-ordinate systems. These are usually called local grids and are commonly used for geological data collection. A local grid may be oriented arbitrarily and the conversion from local grid co-ordinates to a national or regional grid is simply treated as a shift and rotate operation.

APPENDIX II: SUMMARY OF OPTION AGREEMENT

Mantle Resources Inc. Incorporated can earn a 65% interest in Ecstall's Akie property, on the following terms:

- 1. Mantle to make the following cash payments to Ecstall:
 - immediately, \$100,000 (paid)
 - on June 21, 2006, \$100,000
 - on June 21, 2007, \$125,000
 - on June 21, 2008, \$125,000
- 2. Mantle to spend the following amounts on exploration work on the Akie property:
 - on or before August 31, 2006, \$1,000,000
 - on or before August 31, 2007, cumulative \$2,500,000
 - on or before August 31, 2008, cumulative \$4,000,000
- 3. Upon fulfilment of all of its obligations in paragraphs 1 and 2, Mantle shall have earned a 65% interest in the Akie property.

APPENDIX III: DIAMOND DRILL SUMMARY

Hole A-05-30

Diamond drill summary

This first hole (A-05-30) was collared with an azimuth of 050, and a dip of -78° . The projected depth of the mineralized horizon was 613 m. However, owing to very fractured, blocky rock encountered in the Gunsteel shales, the drill deviated significantly towards the north, and also shallowed out significantly. By the time a depth of 240 m was reached, the drill had already deviated 19° in azimuth, and 13° in dip. The fractured nature of the rocks precluded wedging the drill back to its original direction. However, the untested window in the mineralized horizon was wide enough to permit continuation of the hole. Over the entire length of the hole, the average deviation was 2.7° decrease in dip (shallowing out) per 100 m, and the average deviation in azimuth was 2.3° decrease (deviation northwards) per 100 m.

Lithological summary

This drillhole intersected the banded pyritic siliceous siltstone at 517.50 m, with a core to bedding angle of 49°. The section containing significant visible sphalerite (> 3%) began at 534.8 m depth, becoming more abundant (as much as 15%) downhole. Angular, dark brown to greybrown carbonate fragments, as large as 1 cm, occur at approximately the same depth as the occurrence of higher sphalerite content and also persist downhole. The sphalerite is pale to medium grey or very pale bronze, very fine grained to banded and, apart from its semi-metallic lustre, very much resembles the fine grained barite present in the core.

The drill intersected the hanging wall of the barite-sulphide part of the Cardiac Creek unit at 543.5 m, at an angle of 42°. Well-developed barite beds contain massive sulphide bands, with as much as 80% fine banded pyrite, 25% visible grey sphalerite and 1% galena. This mineralized zone is highly deformed; part of the deformation may be soft sediment deformation (primary texture). Two black (Gunsteel) shale beds, approximately 1 m thick each, occur in this section.

Three significant fault (crush and gouge) zones dissect the mineralized zone in A-05-30. These faults were encountered from 554.1 to 557.5 m, 570.40 to 576.15 m, and from 579.70 to 580.60 m. Interpretations by Inmet from previous drilling assume a significant fault in the footwall

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rocks, subparallel to the mineralized zone, approximately 40 to 50 m downsection. It is believed that, in the area of the A-05-30 pierce point, splays from this fault or parallel structures have disrupted the structure of the mineralized zone without actually crosscutting or offsetting it.

The top of the calcareous Road River Group footwall was intersected at a depth of 576.2 m. The hole was shut down at a depth of 598.7 m. The quartz-pyrite breccia was encountered at a depth of 534.1 m (to 534.4 m).

Hole A-05-31

Diamond drill summary

Drill hole A-05-31, collared at an azimuth of 060 with a dip of -70° , was abandoned at a depth of 133 m, after the drill stem was pinched by a fault and could not be retrieved. Only the upper part of the Gunsteel shales was intersected by this hole. Three large faults were also intersected; the hole was abandoned in the third of these. This hole originally steepened significantly, but then shallowed out, as did all previous holes. The average deviation for the hole was 1.0° dip change (shallowing) per 100 m and 3.2° azimuth decrease (rotating northward) per 100 m. This hole was not considered in averaging the drillhole deviations, because it was abandoned.

Hole A-05-32

Diamond drill summary

Drill hole A-05-32 was a second attempt to intersect the Cardiac Creek unit on Line 3000S and was collared from the same pad as the aborted drill hole A-05-31. This second hole was collared at an azimuth of 055 and a dip of -68°. The hole initially steepened to -70.1° at a depth of 210m but then shallowed out to 57.2° at the end of the hole (638.4 m). The average deviation for the hole was 1.7° dip decrease (shallowing) per 100 m, and 3.2° decrease in azimuth (rotating northward) per 100 m. The hole successfully intersected the mineralized zone.

Lithological summary

The hanging wall mineralization, in the form of banded pyrite beds, was encountered at 516.90 m, at a core angle of 30° . However, the core angle of the bedding varied widely, from 20 to 51° over the mineralized interval. This is presumed to be owing to broad, open folds in the mineralized horizon.

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This interval includes numerous beds (as thick as 2.1 m) of black, variably siliceous black shale. As in hole A-05-30, the abundance of massive sulphides in the form of pyrite ± barite-rich bands increased downhole, with the amount of pale grey sphalerite also increasing downhole. Significant, pale grey sphalerite (± galena) first appear at 547.8 m depth, giving the rock a distinct, pale grey coloration. Numerous sphalerite rich beds appear to grade from sphalerite rich bottoms to more pyrite rich tops. Sphalerite also occurs as centimetric, subrounded clasts. Soft sediment deformation also becomes more prominent downhole.

The (sharp, well defined) contact with the barite sulphide zone was reached at 577.6 m depth, at an angle of 50° to the core axis. The zone comprises well bedded barite containing massive sulphide (laminated pyrite-sphalerite \pm galena) beds. Bedding core angle varies widely, from 30° to 60° to core axis, but the mean angle is approximately 50°.

From 581.9 to 586.0 m depth, black, siliceous shale was encountered, with micritic limestone fragments increasing downhole. Laminated sulphides, with as much as 60% sphalerite, also increased towards the base of this shale bed.

Downhole and stratigraphically beneath the black shale, semi-massive to bedded barite contains shale beds in the order of tens of centimetres, as well as laminated sulphide beds with as much as 5% sphalerite and 10% pyrite, including a 50 cm massive sphalerite-pyrite bed at 590.1 m.

Downhole from the barite, at a depth of 592.1 m, another siliceous black (Gunsteel?) shale bed was encountered, including a 1 m bed of laminated pyrite-sphalerite.

At the base of the black shale, from 610.5 m to 612.3 m, a massive pyrite section separates the mineralized rocks from the Road River rocks below. This pyrite is distinctly massive and granular, with a grain size of 1-2 mm, as opposed to the laminar, extremely fine-grained nature of the stratiform sulphides elsewhere in the mineralized zone. Pyrite composes approximately 80% of the whole rock. The uphole contact is sub-parallel to the core axis, with various amounts of clay gouge. This is believed to be part of a palaeo-fault system. The irregular footwall contact of this massive pyrite is approximately 45° to the core angle.

The Road River calcareous footwall rocks (siltstone) were encountered at a depth of 612.3 m. These rocks are typical of the Road River formation as encountered in previous drillholes and include angular to subrounded, often flattened calcareous fragments as large as 10 cm, with sharp to diffuse margins. This siltstone unit also includes very well defined, millimetric, euhedral laths of reactive white crystals believed to be barite but mixed with calcite.

Hole A-05-33

Diamond drill summary

Drill hole A-05-33, drilled HQ to a depth of 142 m and then finished NQ, reached a total depth of 629 m. Due to extreme cold, the waterline supplying the drill froze and the drill had to be shut down before the drill completed intersection of the mineralized zone. There may be a fault repetition of the main target zone, or a second, parallel mineralized zone, as encountered in the nearby holes A-95-18 and A-95-19. The HQ casing has been left in place to facilitate re-entry upon recommencement of drilling in 2006.

The average deviation for the hole was 1.8° dip decrease (shallowing out) per 100 m and 3.3° change in azimuth, towards the north, per 100 m.

Lithological summary

The laminated pyrite zone of the Cardiac Creek unit was intersected at a depth of 526.8 m. The higher-grade mineralized zone contains sections of visible sphalerite and galena, but is generally chaotic, with abundant shearing and brecciation, poorly developed mineralogical zonation, and significant disruption of the primary stratigraphy.

The laminated pyrite-barite unit, hosted by siliceous silty shale, grades downhole into a sphalerite-rich zone which extends to a downhole depth of 613.5 m. From 599.0 to 604.7 m the black, massive, weak siliceous shale is undeformed and very competent, with virtually no fracturing, shearing or mineralization. Downhole from this interval, the drill intersected a complex mélange of sheared and brecciated shale, barite-sulphide mineralization, black weakly siliceous shale and a few mineralized siliceous zones.

The footwall Road River calcareous rocks were intersected at a depth of 613.5 m. These footwall rocks are highly brecciated, with a matrix of quartz and very coarse calcite and pyrite. A distinct banding or weak foliation is oriented roughly perpendicular to the core axis. Pyrite is abundant, with massive sections (<90%) over intervals as long as 30 cm. This pyrite varies in texture from weakly banded to brecciated (calcite matrix) to aggregates, and

Is coarser grained in nature (1-2 mm), in contrast to the extremely fine grain size of the stratiform mineralization intersected uphole. It is possibly fault-filling mineralization similar to that encountered downhole from the main, stratiform mineralized intersection in hole A-05-32.

APPENDIX IV: DIAMOND DRILL LOGS

AKIE PROJECT: DRILL HOLE A-05-30 COVER SHEET

	DDH COLLAR LC	CATION		DDH COLLAR ORI	ENTATION	DDH LEI	NGTH	DO	WN HOLE SURVE	Y	
								SURVEY TYPE:			
PROPOSED		DATUM: NAD 83	ZN 10	PROPOS	ED	PROPOS	SED .	DISTANCE (m)	AZIMUTH DIP	ACPTED	COMMENTS
CAL GRID		UTM CO-ORDS						0.00	50.0	-78	
)rth:	-3280	NORTHING:		AZIMUTH		LENGTH	630.00	60.66	23.8	-78.8 Y	Mag Az
ST:	-100	EASTING:		DIP:	-78			121.62	10.7	-76.3 Y	Mag Az
EVATION:	1500	ELEVATION:						161.24	11.2	-74.2 Y	Mag Az
								185.63	7.6	-69.2 Y	Mag Az
SURVEYED				SURVEY	ED	ACTUAL		213.06	8.2	-65.2 Y	Mag Az
CAL GRID		UTM CO-ORDS						243.54	8.6	-65.3 Y	Mag Az
)rth:	-3305	NORTHING:	6360165	AZIMUTH		LENGTH	598.70	274.02	9.5	-64.5 Y	Mag Az
ST:	-120	EASTING:	388549.7	DIP:	-78			304.80	9.6	-64.8 Y	Mag Az
EVATION:	1497	ELEVATION:	1497					334.98	10.6	-64.7 Y	Mag Az
								365.46	11.0	-64.4 Y	Mag Az
								395.94	10.3	-64.6 Y	Mag Az
DRILLING	INFORMATION							426.73	10.6	-63.3 Y	Mag Az
							_	457.21	9.8	-63.5 Y	Mag Az
NTRACTOR: Hy	(-Tech Drilling Ltd.	_	(CORE DIAMETER:	SIZE	FROM TO		480.00	9.9	-63.5 Y	Mag Az
		_			NW	0.00 15.0	0	510.00	10.9	-62.9 Y	Mag Az
	zt. 16, 2005				NQ2	15.00 598.7	D	540.00	11.9	-62.7 Y	Mag Az
TE COMPLETED: OC	rt. 26, 2005	_					7	570.00	12.5	-62.2 Y	Mag Az
PPED:		_					_	598.00	13.4		Mag Az
ITS: M	ETRIC: Y	IMPERIAL:									

		INTE	RVAL				i								Ī	
M	ain		sted	Lo	cal		•			1				A	SSAYS	3
From		From		From		ł		Description		Sample	From	To (m)	(m)	Zn %	Pb %	Aq
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology		Mineralization	#	(m)	, ,				(g/t)
				•								[
0.00	15.00						CAS	Casing, no recovery								
							ı	·					•		i	
15.00	517.50	15.00	124.01				Gun shale									
					-			Gunsteel shale. Black, graphitic, foliated shale.		i		Í	İ			
	1					İ		Bedding masked by foliation. Small calcite +/-		i			ļ	1		
						1		pyrite +/- barite nodules and stringers up to 5		:		ĺ		İ		
	1					ĺ		mm. Local zones of calcite +/- barite veins and/		÷		1			1	
								or micro breccia zones, parallel to foliation.		+	- <u> </u>					
						Ļ		21.5 m: Foliation 28 to CA								
	<u> </u>							31.5 m: Foliation 25 to CA 32 m: 20 cm crackle zone, with soft, pale grey							-	
								to white calcite rich matrix								
	<u> </u>					<u> </u>	<u> </u>	42.5 m; Foliation 15 to CA	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		·				
	ļ	· - ·		42.13	44.88	<u> </u>	ł	Carbonate-barite(?) +/- pyrite stringers and		· · · ·			ļ			
		i		42.13	44.00			laminae < 3 mm along foliation, including a 3				ļ	i			
						:		cm quartz vein.				1				
	i +			44.88	45.77	<u>;</u>		Movement along fractures, 15 to CA. Shiny,								
		:	ĺ		-0.71	1		polished, graphite slicks, with 80-90 degree		1						
			İ					rake from CA. This faulting decreases downhole		1						
			ŀ	1			1	from 46.5 m.		ł		• •				
	;				·		-	50 m: Foliation 5 to CA								
								52.5 m: Foliation 10 to CA								
	1		-			i		57.5 m: 5 cm breccia zone at 10 to CA, quartz-								
	1	i				i		calcite matrix, minor pyrite and barite (?) parallel							:	
	i i					L		to foliation.	·			ļ				
							ļ	64 m: Foliation at 10 to CA							i	
	· · · · · · · · · · · · · · · · · · ·		i	70.87	76.28			Highly fissile (shattered) core, 10 to 15 to CA.								
			į			!		72 m: Weak pyritic laminations (bedding?) 67 to								
							÷	CA Tabular calcite +/- pyrite nodules and lenses < 2 M								
		:		77.75	79.23				nd clots.					İ	i i	
	i .	i				i		Local whisps of disseminated pyrite	na ciois.							
	⊦ ∔							89.5 m: Foliation 15 to CA								
	——			90 57	113.88			Highly fissile core, 10-20 to CA.				-		-		
				09.57	113.00			101.79 – 101.82 m: siliceous (quartz) breccia							i	· ·
		:	1		!	1		zone (quartz matrix), including 20 cm highly		-				:	:	
				: 		.	 	graphitic fault (?)	· · · · · ·	·						
				•				107.73 m: 10 cm quartz breccia zone as above.								
								111.71 m: Foliation 14 to CA		1			Í			
		+ 		113.88	114.47	F]	Crushed graphitic core. Change in foliation		11				,		
		:			1			orientation across this fault.							1	

		INTE	VAL			-									1
M	ain	Nes	ted	Lo	cal	↓ · —		<u> </u> 			1	1		ASSA	YS
From		From		From		t		Description	1	Sample	From	To (m)	(m)	Zn % Pb 9	% Aq
	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology	Description	Mineralization	#	(m)	10 (11)	(11)		(g/t)
								115.16 m: Foliation 51 to CA. Generally more competent core, and paler (grey) in colour. Locally 1% fine disseminated pyrite.	1% disseminated pyrite						
				121.36	122.05			Pyritic laminae (disseminations) at 41 to CA (bedding?). Cleavage along bedding, with graphitic slicks, rake 45 to CA. Subangular, elongate calcite-pyrite fragments < 1 cm. Includes 20 cm crackle zone, with dense calcite stringers (< 1 mm) infill.	Pyritic laminae, as disseminations						
								124.11 m: 10 cm laminar barite-calcite band, 43 ito CA	· · ·		1 – · ·			Ì	
		124.01	128.94					Well developed bedding, with several laminated	< 5% disseminated py in bands						
		 		i				127.56 m: Bedding 60 to CA. Parting along bedding.							
	1							129 m: Bedding 45 to CA. Parting along bedding.					i		
				128.94	137.79			Graphiticd shale, with polished (slicks) surfaces (slicks 40-50 degree rake to CA, on fractures 30- 40 to CA). Numerous crush zones throughout.							
		 		137.79	141.24			Relatively competent core, with parting along bedding (46 to CA ar 140.35 m). Calcite crackle zones and tension gashes (perpendicular to bedding) throughout.							-+
				143.50	144.09	F		Crushed core							
		144.09	150.10					Grey shale, with locally well developed bedding, parted along bedding, and parallel pyritic zones (41 to CA at 148 m). Few centimetric beds with barite nodules and calcite crackle zones.	Minor banded pyrite						
			·····	151.52	152.21			Quartz-calcite crackle zone.						. ,	1
	r		:		158.70	F		Fault. Hangingwall 15 to CA. Crushed core and graphitic gouge from 152.70 to 155.70. Foliation towards footwall:40-50 to CA.							
		158.70	168.50						Minor pyrite in calcite nodules						
	<u> </u>	169 50	196.65					Massive black shale. Competent core.			ł				

		INTE	RVAL			1								ı İ		<u> </u>
М	ain	Nes	sted	Lo	cal							i			SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (a/t)
(,				<u> </u>	́			172.0 m: slicks with 60 to CA rake on fractures	· · · · · · · · · · · · · · · · · · ·	<u> </u>	<u> </u>	;		· · · · · · · · · · · · · · · · · · ·	_	1.37.1
	1					1		at 23 to CA.					Ì			
	+			176.18	179.13	<u>.</u>		Cleavage with few // calcite +/- pyrite veins < 5	Minor pyrite in calcite	+						
					.,	1	ĺ	mm (0-5%). Veins 40-55 to CA, sub parallel to	veins			1	1	ÍÍ		
								cleavage (47 to CA).								
	•••••			188.97	196.16							1		•		
					:		l	Quartz-calcite veins (0-5%), 40 to 55 degrees to			-	•		i		Í
						i -		CA, subparallel to cleavage (47 to CA)		1						
		196.65	238.86					Interbedded, massive shale and laminated					;			i I
								shale +/- silltstone (pale grey calcite-pyrite-				ļ	İ	1		
	1					i 		barite(?) laminae, presumed to be bedding.		Ļ						
	1					1		198 m: bedding at 44 to CA, with parting along	:				ļ			i
	1.		-			L		beds		<u> </u>		i	: 	i		<u> </u>
				198.47	198.82	÷										;
	:							Calcite breccia. Matrix supported, angular							-	
	ļ							fragments < 5 cm in 55 to 60% calcite matrix.	·			ļ				
		ļ						206 m: Bedding 44 to CA. Cleavage 37 to CA,				•		i		1
	!							obligue to bedding, with slicks: rake 53 to CA				:				í
	ļ			210.73	010.01			Quartz-calcite crackle zone, including 20 cm of	20% purite band 4 cm	·		<u> </u>				
				210.73	212.01			> 50% guartz-calcite. 4 cm band of 30% pyrite	30 % pynie band, 4 cm							
	1							at footwall, 41 to CA.	:							:
		·		213 15	214.69			Minor fault (fractured core, with few slicks and	<u> </u>							
				2.0.10	21 1100			polished fracture surfaces) and quartz calcite						Í	I	
	İ		i					crackle zone.								
	·			219.93	221.22			Pyritic (dissem. 3-7%) beds, 43 to CA.	3-7% pyritic bands	·	_	,		:	·	
					224.70			Quartz-calcite breccia (60% matrix) subparallel	3% pyite as vein/matrix							·
			i	1				to cleavage (35 to CA). 3% pyrite, as vein	selvage			1		ļ		1
	1			1				selvage.								
				224.70	225.29	:									i	
	1			 				Fault. Broken core with graphitic slickensides at								1
								various angles. Faulting subparallel to bedding.	·	l						
			[225.29	229.18				I.	•				i		:
		İ	ĺ		I	'		Very well developed, laminar bedding, 41 to CA,		1						
					· · ·		<u>-</u>	with strong, pokerchip parting along bedding.		l						
	. ; :	:		233.01	234.01				<10% disseminated	: 		ĺ				
			İ				1	Quartz-calcite crackle zone, including 10 cm	pyrite							
	<u> </u>							graphite fault and < 10% disseminated pyrite.		!						
			i	234.01	238.86	:		Laminated beds become less frequent						1		
	:		i	l I		:		downhole, with last one (20 cm, pyritic,	ļ	i l						
)	ا						crossbedded, 60 to CA, at 238.86 m.	·		····					

		INTÉR					Ĺ			· 		Ļ				
	ain	Nes	ted	Lo	cal			l		· · · · · · · · · · · · · · · · · · ·					SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (q/t
		238.86	291.34	-]									· .	
								Massive, homogeneous, dark grey to black,		Ì		ĺ				
	:							highly graphitic shale. Few quartz-calcite-pyrite				j.			İ	I
	1		1					stringers < 3 mm, 53 to CA. Increasing amounts	5			-			Í	
								of very diffuse, very fine pyritic and pale grey,								
	÷		<u>-</u> +					undulating beds downhole.								
	+ - ·i				239.81			Fracture zone, broken core.				· · · ·				
	1	i		245.22	247.32	F			1	į į	ĺ	.				
						İ		Graphite. Fault 57 to CA. Sections of broken		1					1	
								core, with various crush and gouge zones and				j l			1	
	L							banded quartz-calcite at footwall (58 to CA)	<u></u>			L				
			(i I		250 m: cleavage 30 to CA, oblique to bedding	1							
	┿			055 00	055 75			(8 to CA) Fracture zone (fault), graphitic.	<u> </u>	 	<u></u>	!				
				255.26	255.75 256.42			Quartz shear, 72 degrees to CA.								
				256.28	256.42			261 m: Bedding, 45 to CA	<u> </u>							
	• • • •			271.12	271 44			Quartz-calcite shear. Hangingwall folded.	+	<u>├</u> !						
	,			2/1.32	2/1.74			Footwall planar, 67 to CA						í	ĺ	
		- - -						274.5 m: bedding 40 to CA								
				277.50	290.00			Slaty cleavage parallel to CA	·	+						
	<u>+</u> !						·	280.7 m: 5 cm very round pyritic concretion,	Minor pyrite in	<u>†</u>		<u> </u>				
					:	1		with very sharp outline (10% py)	concretion					i i		
	·	i.	·+					285.5 m: Bedding 35 to CA			·		!	L		
	:			295.30	296.00			Quartz flooded shear, with some small scale		· · · · · · · · · · · · · · · · · · ·						
			1					folding and brecciation, approximately 40 to CA						(
		296.00	319.20					Well developed bedding, with parting along	Centimetric beds with <	•••••••						
				:				bedding. Variable amounts < 7% pyrite,	7% pyrite	i			[[
								stratiform (centimetric beds) .			ļ		ļ			
			:					297 m: slicks on 35 to CA (bedding), with rake	+ · ····	· · · · · · · · · · · · · · · · · · ·						
				:				20 to CA.					· · · · ·			
				301.04	301.43	-		Quartz flooded shear, parallel to bedding (39 to								
		İ	1			1		CA).								
				304.50	313.70	- <u> </u>		Pokerchip cleavage (parting) along bedding,					1		1	
								with few parallel quartz-carbonate stringers.	· · · · · · · · · · · · · · · · · · ·							
				305.70	308.00			Pyrite-carbonate-barium (?)nodules < 1 cm,								
								flattened along bedding plane.								
								306 m: Bedding 43 to CA	ļ							
,								314 m: Bedding 43 to CA	 			÷				
		319.20	326.30	1		1		Black, massive shale, with scattered calcite +/-	•		:	i	ł	1		
		1				ļ		quartz stringers < 2 mm, mostly parallel to			1		ł	i.	ĺ	
	·		i_			·		cleavage, but also oblique.	, I = =	····						
				324.00	324.65			Quartz-calcite-pyrite veins, tightly folded.	i							

		INTER	TVAL			i	<u> </u>		<u> </u>	- I		í			
Ma	ain	Nes	ted	Lo	cal							[ASSA	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn % Pb %	% Ag (a/1
<u> </u>			332.10					Mixed massive dark grey and banded shale,	<u> </u>			1			
i								with pyritic beds, with isolated calcareous							1
			ĺ			1		concretions (<3 cm)							i
	· · · · · · · · · · · ·							328.5 m: Quartz-pyrite-graphite shear, 35 to							1
								CA, parallel to bedding.	i 			!			
		332.10	340.00					Pinstripe shale. Parting along bedding. Fine	Pyritic laminae.						
						1		quartz-calcite stringers and pyritic							
								laminae,parallel to bedding.	L			· · · -			
						[]		332 m: bedding 38 to CA	· · · · · · · · · · · · · · · · · · ·						
								340 m: bedding 38 to CA	; jr						<u> </u>
		340.00	369.50			!		Mixed massive dark grey and banded shale,				,		1	
		;	i	0.40.00	044 70	i	· · · · · · · · · · · · · · · · · · ·	with pyritic beds. Elongate, pyritic concretions < 5 cm, parallel to	i Minor pusito in						
1		1		342.90	344.70				concretions	1		. ,	ĺ		
				252.95	358.50			Various amounts of tension gashes, mostly	concretions						
ļ		:	i	332.05	300.00			perpendicular to bedding, but also a few parallel				!	:	ļ	
	i							quartz lenses, < 6 cm wide.						ļ	
				355.25	356.10			Broken core with graphitic slicks, 28 to CA, 5	· · · · · · · · · · · · · · · · · · ·						
				000.LU				degree rake.							1
		-	<u>i</u>					356.5 m: bedding 34 to CA						•	1
_				369.50	375.40	F		Fault zone. Broken to shattered core, with							
	:							fractures generally at 20 to 35 to CA, but also							
								other directions. Graphitic slicks, with various		ļ					
								rakes. Minor calcite on fracture surfaces.	1				ļ		ĺ
[1	í	1			Shatter-gouge zones from 370.5 to 371 m, and	1	i			:		1
								from 371.8 – 375.4 m.	Durite la sussit						+
ĺ		375.40	448.74					Black, massive, featureless, variably graphitic shale. Few guartz-carbonate+/- pyrite veins < 5						ļ	
					i			mm, various angles up to 395 m.	carbonate venis						
				!				min, valious angles up to 565 m.	1			:	í	í	
			+		i			379 m: weak bedding, 36 to CA.	↓ I	1					-
-			•	379.95	380.40			Fracture zone; broken core.					i		-•
				380.40		•		2 cleavage sets, one at 35-40 to CA (parallel to		· · · · · · · · · · · · · · · · · · ·			<u> </u>		
			1					bedding?) and second at 70 to 75 to CA.				1			i i
	÷							398.5 m: slickensides on 26 to CA, with 35					i		
								degree rake.							
								418.5 m: Cleavage, 30 to CA	· · · · · · · · · · · · · · · · · · ·						
			T					429 m: Fractures (cleavage) at 27 and at 62 to					ļ	1	
Ì								CA							
1				429.92				Small 15 cm graphite gouge zone (fault)							
	ļ			442.94	444.15	ľ		Stringers, many folded and crackle zones, with				i	İ	I I	•
1	Ì	1		Ì	ļ			calcite-pyrite, subparallel to cleavage, 42 to CA.	•	1		ĺ		-	

		INTE				ļ				ļ	ļ	÷	•	└── └─		
M	ain		ted		cal		· · · · · · · · · · · · · · · · · · ·	······································				÷			SAYS	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn % P	b %	Ag (g/t)
				445.00	447.30			Fracture zone; blocky core, with main cleavage 19 to 30 to CA.	!			,		,		
l	<u>↓</u>			448 64	448.74			Mottled, calcareous (+ Ba?) bed, 85 to CA.					·			··
	+	448.74	475.80	+-0.0+	440.74	<u>├</u>		Increasing amounts of very fine calcite+/- barite	Minor pyrite in calcite +/-		t· ··			·		
		440.74	475.00			 		+/- pyrite nodular beds, some folded (soft sediment).	barite nodules		 		 			
				451.00	459.60	<u> </u>		Fracture zone. Blocky core.		<u> </u>		i			$ \rightarrow $	
_	,							451.5 m: Bedding, 36 to CA.		L		; 		i		
_	i I							453.3 m: 15 cm calcareous breccia.	<u> </u>		 		 	i –		
				457.71	457.94			Calcareous crackle zone.				ļ	! !		į.	
								463 m: Nodular barite beds, 39 to CA, very planar, but abruptly changing to a soft sediment slump at 463.1 m.		 ; ;						
				466.00	466.60			Small fault/ fracture zone; broken core.							1	
	7							469 m: Bedding 35 to cA.				Ţ		1	j	
			-	470.40	472.60			Fracture zone; broken core, with fractures predominantly 16 to CA. Includes 20 cm calcite crackle zone, 31 to CA, but different plane as cleavage.								
		·		475.20	475.80		<u> </u>	Soft sediment deformed beds, with axial plane roughly parallel to cleavage, 26 to CA.				+		i . 		
	i	475.80	498.20						Minor pyrite in sheeted	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		†	··			
	:	475.00	400.20	i				wide spaced (< 5/m true) calcite-pyrite stringers < 2 mm.								
	i							477 m: cleavage 17 to CA				1				
	I							483 m: Calcite-pyrite veins, 20 to CA	Minor pyrite in calcite veins			1		· · - +-		
				489.80	491.00			Fracture zone, blocky core.							Ţ	
			······					494 m: Soft sediment deformation in only								
								recognizeable bed in this interval.								
	ļ. <u> </u>	498.20	502.80					Quartz breccia. Angular, crackled shale				I				
				i i	1	ļ		fragments < 7 cm, matrix supported in a 70-	•					1	1	
	I					;		90% quartz matrix. Hangingwall 72 to CA.				i			i	
	:							Footwall 41 to CA.	<u>i</u>					:		
-		502.80	517.50					Black shale, with bedding defined by layers of				1				
								millimetric calcite-pyrite 'blebs', somewhat						ı		
						:		flattened along bedding, in otherwise graphitic				1			i i	
			1				1	shale. Sheeted quartz stringers < 2 mm 23 to			1			!	•	
								CA, oblique to bedding, decreasing downhole from quartz breccia zone.								
		· ·	·	505.60	509.80	i		Fracture zone; blocky core. Local crackle zones	· · · · · · · · · · · · · · · · · · ·			-				
)	:	i	1				(quartz-calcite), predominantly parallel to			1					
	;	i				İ		bedding (32 to CA) and oblique, 30 to CA				<u> </u>		1		

		INTE	RVAL									L	i			
	ain		sted		cal								-		ASSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample	From (m)	To (m)	(m)	Zn %	Pb %	Ag (a/t)
,					514.60			Quartz rich shear, 47 to CA.		, ,	<u>, , , , , , , , , , , , , , , , , , , </u>					194
617 60	543.47			313.20	514.00		LAM SH	Banded, well laminated, variably siliceous silty	Beds, up to 20 cm, of	296031	516 75	518.25	1 50	0.27	0.02	<2
517.50	. 545.47		: ; 1 1					Ishale. Interbedded massive dark grey and	massive pyrite +/- trace							3
								laminated olive green-grey, with calcareous	lof sphalerite.		1	521.25	:		1	
								'blebs' < 1 mm along bedding planes. Beds, up	or opridiente.	296034		522.75				4
								to 20 cm, of massive pyrite +/- trace of		296035		524.25				2
	i 1				;		÷	sphalerite.		296036						<2
			.			ļ		spharonto.		296037					0.14	3
	ļ					1	I.			296038		528.75			0.16	4
	!		· · ·			ĺ	(296039					0.1	<2
	; I					I	1		ļ	296040						<2
	├ ────────────────────────────────────					·		519 m: Bedding 49 to CA.	· · · · · · · · · · · · · · · · · · ·	200040	000.20	001.10	1.30	0.70	0.04	<u> </u>
	·			629.00	540.70			Increasing frequency of carbonate (-barite)	·	296001	531 75	533.25	1.50	1.51	0.16	4
				520.00	340.70			nodules < 1 cm downhole, with soft sediment	J	296002		534.75				<2
	,		i i	i			,	deformed around them (primary texture). Also,		230002	000.20	1004.10	1.50	0.20	. 0.00	_ <u>~</u> ∠
				ļ				soft sediment deformation throughout,				1			1	I
	∲ <i></i>			500.00	500.05			Crackle zone, with calcite stringers < 2 mm,	· · · · · · · · · · · · · · · · · · ·							
				529.90	530.35			subparallel to bedding, but also oblique, at more			1					ł
				•												
	i			E24 10	534.35			acute angles. Quartz breccia zone, crackle at margins, matrix	Minor purite on the			· · · · · · · · · · · · · · · · · · ·				
	ı İ			534.10	034.30				ledges of breccia		1				'	
								fragments, within quartz matrix.	fragments.		l		'			
	k		↓	624 76	543.47				Up to 80% pyrite, in	296003	534 75	536 25	1 50	5.06	0.73	11
	1		i	534.75	545.47			within the pale green laminated beds (up to	beds up to 10 cm thick.	296003					0.58	8
				l	1			80% pvrite in beds < 10 cm thick). Sphalerite	Up to 15% sphalerite.	296004					0.89	12
			l ,					(grey) becomes more prominent in the sulphide	op to 15 % sphalente.	296005						12
								bands, up to 15% in abundance.		296008						<2
	i	i			i			Darius, up to 15 % in abundance.		296008					0.61	11
			L	E 40 70	541 10			Calaita avaalda zana	• • •	290000	342.23	545.47	1.22	3.71	0.01	
F 40 47	563.55		;	540.70	541.10			Calcite crackle zone. Banded barite-pyrite; generally massive barite,	Up to 50% pyrite in						- i	
543.47	563.55	:														
								with bedding expressed as pyrite laminae, up to					į			
								2 cm, but beds <30 cm of > 50% pyrite, with	Trace of galena.							
:			5	543.47	543.87	i		Massive pyrite (+barite). Sharp upper contact at	Massive pyrite in barite.			545.00				20
	ĺ	Í	:	1	i			43 to CA. Soft sediment deformation features.	Up to 20% sphalerite as							15
								Up to 20% visible sphalerite and < 1% galena.	very fine dark grey	296011						16
		i		ļ					laminae, and less than	296012						24
				ļ					1% galena as small	296013						25
			i	i					blebs < 0.5 mm	296014						29
ہ ا ا										296015	552.50	554.10	1.60	14.88	3.90	23
				545.30	545.68			Quartz-calcite shear (breccia), 45 to CA.								
		ĺ	i					549 m: Bedding 42 to CA							. 1	

		INTE	TVAL	·								1	ļ		i	
M	ain	Nes		Lo	cal					- ·	1		;	1	SSAY	s
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (q/t)
								551.2 m: 10 cm graphitic gouge (fault). From this point to 554.1 m; increasing fracturing (blockyness of core)				:		1		
		554.10	557.50			F	+	Fault zone. Broken core (barite-pyrite), with crush and gouge zones from 554.6-555 m and from 557.2-557.5 m. Very fine grained, grey	Very fine grained, grey sulphides.	296017	555.60	555.60 557.10 558.65	1.50	13.26	5.40	37 35 35
	L∤ } I	558.65	559.55			↓ <u> </u>		Laminated siltstone/shale, with quartz stringers along bedding planes.	1 <u>-</u> 1	296019	1	559.55				29
			•	559.55	561.40			Up to 40% pyrite bands. 40 to 50% visible grey sphalerite, as a grey, very fine grained mass.	Up to 40% pyrite bands. 40-50% sphalerite.	296021 296022		560.55 561.40				65 66
				561.40	563.55	 		Mostly barite, with pyrite rich laminae < 15%. Core generally broken parallel to bedding, and shattered. Minor sphalerite.	Minor sphalerite			562.40 563.55				25 23
			+					562 m: bedding 38 to CA.Most of barren barite beds broken and shattered, sub parallel to bedding.	· · · · · · · · · · · · · · · · · · ·	296025	563.55	564.05	0.50	3.20	0.85	15.00
563.55	576.15				i	i —	Gun shale	Medium to dark grey, variably graphitic shale.		i ————					ĺ	
				563.55	564.05		+	Black, massive shale, with various amounts of barite. Crackled, parallel to bedding, with calcite- barite +/- quartz infill.			: : 	1 1	 :		, <u> </u>	
		564.05	567.30					Massive, banded pyrite +/- barite. Highly deformed (soft sediment deformation). Hangingwall 34 to CA. Footwall 47 to CA. 70- 80% very fine banded massive pyrite, with 3% coarse disseminated pyrite. Calcite (open space filling), mixed with barite matrix. Approximately 10% sphalerite- 1% galena.	70-80% banded pyrite, with 10% visible dark grey sphalerite and < 1% galena.	296026 296027 296028	565.34	565.34 566.30 567.30	0.96	2.66	0.55	39 8 23
				565.34	566.30			Shale with strong cleavage, 29 to core axis. Mostly shattered (pencil shale). Few quartz stringers. Moderately siliceous.		296029 296030		568.80 570.40			1.26 0.16	15 7
	+		- ·	·				567.3 m: Bedding (contact) 37 to CA	••••••••••••••••••••••••••••••••••••••		1	!				
				567.30	570.40			Dark grey, weakly bedded (46 to CA) shale. Calcite stringers 26 to CA								
			ļ	570.40	576.15	F		Black, graphitic gouge and crushed core (shale)								
576.15	598.70			576.15	579.70			Calcareous, pale grey siltstone and shale. Calcareous shale/siltstone, broken and shattered, largest piece, 15 cm. Bedding 41 to CA. Abundant calcareous pockets and lenses < 1 mm, flattened along bedding.			t 1					
ہ ا				579.70	580.60	F		Rotated, graphitic shale fragments < 2 cm, in a graphitic gouge.								

		INTE	RVAL	-								· ·	 		SSAY	e -
M	ain	Nes	sted	Lo	cal	· • ·		· · · · · · · · · · · · · · · · · · ·		-	-	T = ()	()			
From		From	I I	From	r			Description		Sample		To (m)	(111)	Zn %	PD %	
(m)	To (m)	(m)	To (m)	(m)	То (т)	Fault	Lithology		Mineralization	#	(m)	1		i i	_	_(g/t)
				580.60	599.00	1		Well bedded, medium grey, calcareous		-				1 .		I
	į į			i				siltstone.					-			
	· · · ·			580.60	586.40			Broken and shattered, with higher graphite								1
			1		1		:	content, in more intensely fractured zones.		· · · · · · · · · · · · · · · · · · ·						I
	1							590.5 m: Very well developed bedding		Ì	1	1		· ·		1
	1		i	I		:		(siltstone), with some soft sediment				:				1
	:		1			-		deformation, 55 to CA. Few pyrite clots and				1		İ.,		ł
	1		i .					blebs < 2 mm				: +				,
				590.00	592.00			Calcite stringers (appear as tension gashes) < 2.					:		ĺ	i
			!	1	į		ļ	mm, 26 to CA					<u>i </u>			ł
·····				592.80	596.00	·		Broken and shattered.		i		+		i i		÷
	i		1	596.00	598.70			Fault. Crushed core, with few competent pieces				I			1	ł
					i İ		-	< 20 cm. Fabric of fault appears 45- 60 to CA.								1
	!						ł	2% disseminated pyrite at 594 m.				<u>↓ . –</u>	İ.]	<u> </u>
598.70			•			1		EOH (End of Hole)						<u> i</u>		<u></u>

AKIE PROJECT: DRILL HOLE A-05-31 COVER SHEET

	DDH COLLAR LO	CATION	DDH	COLLAR ORIEN	ITATION	DDH LENG	тн	DO SURVEY TYPE:	WN HOLE SURVE	Y	
PROPOSED		DATUM: NAD 83 ZM UTM CO-ORDS	¥ 10	PROPOSED)	PROPOSEL)	DISTANCE (m) 0.00	AZIMUTH DIP 60.0	ACPTED	COMMENTS
IORTH:	-3083	NORTHING:		AZIMUTH:	060	LENGTH:	650.00	30.00	37.4	-71.3 Y	Mag Az
AST:	·190	EASTING:		DIP:	-68			60.00	237.0	-71.3 N	Large swing in Az
LEVATION:	1540	ELEVATION:		-		-		90.00	34.5	-72.2 Y	Mag Az
								120.00	34.8	-72.9 Y	Mag Az
SURVEYED				SURVEYED)	ACTUAL		133.00	21.0	-70.8 Y	Mag Az
OCAL GRID		UTM CO-ORDS									
NORTH:	-3090	NORTHING:	6360296	AZIMUTH:	060	_LENGTH: _	133.00				
EAST:	<u>-175</u> 1539	EASTING:	388365.7 1539	DIP:	-70	_					
	1303		1000								
DRILLING	INFORMATION										
CONTRACTOR: <u>H</u>	y-Tech Drilling Ltd.	-	CORE		SIZE FROM	то					
					W 0.0						
	ct. 27, 2005	-		<u>r</u>	VQ2 5.1	133.00					
DATE COMPLETED: 0 CAPPED:	ct. 29, 2005	-		L	!	I					
	ETRIC: Y	IMPERIAL:									
Antica, N											

		INTE	RVAL			i						-				
M	ain	Nes	sted	Lo	cal		1					[A	SSAYS	5
From		From		From	1	t	· ·	Description		Sample	From	To (m)	(m)	Zn %	Рb %	Ag
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology	·	Mineralization	#	_ (m)					(g/t
					•••	· ·	Our drawdaa							_		
0.00	5.10		i				Overburger	Casing; no recovery.		1			<u> </u>	· — •		
5.10	133.00						GUN SH	Medium to dark grey, massive, graphitic shale				ļ			-	
	:	5.10	35.60	• ··	•		·····	Grey, weakly bedded, but generally massive,	· ·····							
	1							silty shale. Locally pyritic (fine disseminations)								
	1 :							laminae, parallel to bedding. FeOx on fracture						i	ļ	
	1		i		1			surfaces.								
	<u>┼</u> ──┤		· · · · · · · · · · · · · · · · · · ·	5.80	7.30		·	Broken and shattered core (shale), with minor								
	;			••••			I	gouge (fault), ~40-45 to CA. Also from11.5-11.7		1				I	i	
								m.				Í .			[
				·				17.5 m; Bedding at 36 to CA. 1-2%	· · · · · · · · · · · · · · · · ·			•				
								disseminated pyrite in laminations.								
				24.00	26.60	F		Shattered core (fault). HW (23.8 - 24.00 m) with								
			Ì	21.00	_0.00			massive pyrite nodules < 1 cm, subhedral to					1	i		
	!				I			rounded, increasing to 80% at fault. Shearing at						1	1	
			1					~55 to CA. Footwall (26.6-27.0 m); same		1			i	1		
	i		1					nodules, but less abundant, and with vuggy		i				i		
								quartz halos.								
	+			29.50	31.00			Broken and crushed core, with HW cleavage				i				
	1			20.00	01.00			(fault direction?) at 45 to CA.		j I					1	
				31.00	35.60			Sheared shale, at various angles, with up to			_					
			i	01.00	00.00			30% quartz vein. Quartz breccia (15 cm) at 32.2						1		
	1							m. Weak bedding (78 to CA) at 31.5 m. Local				İ.				
	i i							crackle zones.								
		35.60	36.55		j	SZ		Siliceous(quartz-graphite breccia) shear zone,		· _ { · i			• • •			
	!	55.00	00.00			02		fabric 30 to CA. 85% quartz, 15% graphite.								
	;							Footwall, 63 to CA.					1		1	
		36.55	128.40		· ··			Dark grey to black, graphitic shale, with		-+						
	i	50.55	120.40					scattered grey, angular, often flattened		1				i	-	
	:							fragments up to 3 cm. Patchy zones of up to 2%							ł	
								disseminated pyrite, either along bedding or		1						
	i !		÷					cleavage, or within concretions and fragment								
								margins.						:		
	<u> </u>				· •			37.5 m; Weak cleavage, 34 to CA		-+			+			
	↓ ↓	;		39.20	55.50	!		Broken and shattered core. Cleavage, 15 to CA		11		·				
	1		i	03.20	55.55 (i		at 52.5 m.		· ·			;			
	:			55.50	57.00	F		Crush zone (fault).						+		
	<u>∔</u> 		+	00.00	01.00			61.5 m; cleavage (foliation) 13 to CA, with 1%		-+i				i		
			1					63 m; Foliation 15 to CA								
	·		+	61.50	63.00					-+	··		+			
			1	01.00	00.00		ĺ	Calcitic (< 1 mm) and pyrite (< 1 cm) nodules.			1				i	
	i i		·;	64.50	66.50			Shattered core.								
		<u> </u>	· i	04.00	00.00				<u></u>			i				

		INTE												Δ	SSAYS	S
Mi	ain		sted		cal						-	T	· ()			
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	2 n %	PD %	Ag (g/t)
				69.00	72.00					1		ĺ	ſ			
								Flattened, grey, subangular fragments < 3 cm.				L	• ~·	1		
		. – –			Ĩ	:		72 m; Cleavage, 17 to CA		_ _			L		Ì	L
					 			82 m; cleavage 3 to CA								<u>.</u>
						:		99m; cleavage 30 to CA					_			•
			·	99.80	120.00	F		Crushed and shattered core (fault)								ļ
					133.00		•	Very strong cleavage (poker chips), 22 to CA at								I.
								123 m, 29 to CA at 129 m).		1			 	l		<u> </u>
		128.40	133.00					128.4 m; change from black graphitic shale to		1						1
	1				i	Ì	1	grey shale.							i	i
_	<u> </u>			132.30	132.50		·	Quartz zone (quartz breccia) parallel to		1			1			1
	; ;					: I		cleavage, 25 to CA				L			L	
133.00			↓			i	+ ···	Hole abandoned due to stuck rods.		Í						:

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AKIE PROJECT: DRILL HOLE A-05-32 COVER SHEET

	PROPER	TY:	AKIE		DRILL HOLE	#: /	4-05-32	LOGGED BY:	MARCUS V. PAUL M. & SHERY	LB.		
	DDH COLLAR LO	CATION		DDH C	OLLAR ORIENT	ATION	DDH LEN	GTH	DO	WN HOLE SURVE	Y	
									SURVEY TYPE:		ACOTED	COMMENTS
PROPOSED			NAD 83 ZN 10		PROPOSED		PROPOSE	ED	DISTANCE (m)	AZIMUTH DIP	-68	COMMENTS
CAL GRID		UTM CO-			-			050 AD	0	55	-69 N	Unreadable Az
RTH:	-3083	NORTHIN			AZIMUTH:		055 LENGTH:	650.00		28.1	-69.9 Y	Mag Az
sT:	-190	EASTING			DIP:		-68			26.9	-69.9 Y	Mag Az
VATION:	1540	ELEVATK	D <u>N:</u>						<u> </u>	26.1	-70.5 Y	Mag Az
							ACTUAL		120	23.1	-70.1 Y	Mag Az
SURVEYED					SURVEYED		ACTUAL		120	23.1	-70.8 Y	Mag Az
AL GRID		UTM CO-						699 40	180	20.2	-70.5 Y	Mag Az
атн:	-3090	NORTHIN			AZIMUTH:		055_LENGTH: -68	638.40	210	19.5	-70.1 Y	Mag Az
Т:	-175	EASTING			DIP:		-68		240	19.5	-69.5 Y	Mag Az
VATIO <u>N:</u>	1539	ELEVATK	JN: 1	539					270	18.7	-68.3 Y	Mag Az
									300	17,2	-66.3 Y	Mag Az
									330	18.7	-65 Y	Mag Az
DRILLING	INFORMATION							•	360	18.5	-65.3 Y	Mag Az
						SIZE	FROM TO	ר	390	17.1	-64.9 Y	Mag Az
NTRACTOR: <u>H</u>	y-Tech Drilling Ltd.			COREL	NAMELER:		0.00 9.00	1	420	15.1	-63.7 Y	Mag Az
					INC		9.00 638.40		450	16.8	-62.6 Y	Mag Az
	ct. 30, 2005	-			1100	42	9.00 030.40	<i>'</i>	480	15.1	-62 Y	Mag Az
E COMPLETED: No	ov. 15, 2005	_			ا ا			J	510	13.3	-59.6 Y	Mag Az
PED:		-							540	11.7	-59.5 Y	Mag Az
rs: M	etric: <u>y</u>								570	10.8	-58.6 Y	Mag Az
									600	11.2	-57.7 Y	Mag Az
									630	11.6	-57.2 Y	Mag Az

		INTER	RVAL								İ	+	i	Ļ		<u> </u>
Ma	in	Nes		Lo	cal						1	L	İ		SSAY	
From		From		From	T = ()	E-ula	. istaalaan	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t)
(m)	To (m)	(m)	To (m)	(m)	10 (m)	Fault	Lithology		Innitiation	#	(11)					(91
					-		CAS	Casing, no recovery	·	- !	L	<u> </u>	+			<u>├</u> ──
0.00	9.00						LAS	Casing, no recovery	· · · · · · · · · · · · · · · · · · ·		l I					!
9.00	516.90	9.00	28.50				Gun shale	Med-dk grey, broken core. Qtz/py irregular nodules, not graphitic above 15m, increasingly graphitic below 18m	Py nodules <1cm			: :				
				9.00	17.00		1	Feox on fracture surfaces			; !	<u>.</u>		Ļ	 	Ĺ.
				18.00	28.50			Py nodules w/ qtz up to 2cm	Py nodules <2cm	_ [L		Ĺ		:
	i			18.00		• • • • •	1	Several frac w/ rotted white x-talline mineral,	1		1		, I			İ
							1	stained/coated w/ yellow/orange chalky min.	i		L	<u> </u>	L	1		
				19.50	20.00		•	Fault gouge w/ broken/shattered core		_	 	:	İ			L
							1	18.5 m; Cleavage 17 to CA						ļ •	İ	
			· :	24.50	28.50			Irregular white veinlets/veins, no fizz, 1mm-1cm wide	<u> </u>			į	 	l		
				28.50	32.00	•		Shattered core near Fe stained qtz vein: <4cm wide, irregular, some vfg py along folded vein)			!	 :	i		
						•	-!	Qtz veins present up to 2cm wide, w/ vugs								<u> </u>
!		32.00	42.00					Black, graphitic shale, with stringers of qtz, and py nodules	Py nodules				 		I	
				32.00			ļ	irreg qtz veins around 6cm zone of finely banded shale and white/buff material (soft, barite??). SHR 60 to CA								
				·				32-34 m; 39 cleavage to CA	· · · · · · · · · · · · · · · · · · ·				í	 		
<u> </u>							· · · · · · · · · · · · · · · · · · ·	At 33m on frac surf: minor amts of soft greenish beige ppt								
							· · ·	34 m; Foliation parallel pyritic laminae and stringers, 27 to CA. Also clots < 1 cm of pyrite +/- quartz. Few hairline stringers < 0.5 mm of calcite/pyrite, highly irregular.				<u> </u>		} ; ; ;		
		42.00	52.50			FŻ		Shattered and crushed core (black shale). Highly graphitic. Three meters of hangingwall lost (0% recovery). Cleavage (at 46.3 m) 34 to CA.					ļ	 		
	·			45.30	45,90	i	+	Crushed zone. All fragments < 3 mm	<u></u> . <u></u>				ļ		i	-
				46.30				Very broken shale pieces < 7 cm, but average 1 2 cm. Dominant fracture direction 30 to CA. Minor pyrite on fracture surfaces.								
	i			51.50	52.50		+	Fault (crushed shale and gouge) Footwall cleavage 20 to CA			!		1		ļ	
		52.50	129.00			!	·····	Foliated black shale, all broken and blocky.	† • • • • • • • • • • • • • • • • • • •			1		•	1	\square
		52.50	123.00	53.50	57.00			Calcite-pyrite clots, subangular, < 1 cm. Less than 1% pyrite.					!		:	

		INTE	RVAL				i —								
M	ain	Nes	sted	Lo	cal	† -				1					AYS
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn % Pt)% Ag (g/t)
						<u> </u>	<u> </u>	56.5 m; foliation 27 to CA							
	·					!		60 m; minor disseminated pyrite (margins of	•		†··		,		
[1	l	irregular fragments)							
				60.00	66.50			Shattered core.				Ĺ			
								74.5 m; Strong foliation and flattening of					1	· [
ļ			;			ĺ		fragments at 30 to CA (bedding?)			i		L		
				77.00	81.00			Highly fragmental (grey, angular, flattened parallel to foliation) 15 to CA		l.					
	·			87.50	90.00			Irregular, but generally rounded pyrite clots < 2			:				
	1			1		i		cm, not flattened, but small, subangular grey						[
	i		í ļ	!				fragments < 3 mm flattened along foliation (23		ļ	ĺ	:			
	1 :		 			ļ	1	to CA)				İ			1
						!		92.7 m; Hangingwall of fault (3 cm quartz shear 17 to CA)							
				92.70	110.00	F		Shattered and crushed core, with some gouge				· · ·			
				•=•		1		zones. Very poor recovery		i	i				i.
·				110.00	124.00			Black, graphitic, very broken and shattered			:				
	:							shale. Few polished graphite fracture surfaces,							ļ
í I								but very rare slicks.							
				111.00	115.00			Pyritic laminae < 2 mm (bedding?)			-				
	·			·····				114 m;Bedding (?) 33 to CA			· · · · ·				
	1 .			122.50	124.00			Polished graphite if fractures, with rare slicks at							
	1							90 degree rake							
	+ 							124 m; foliation 29 to CA							
	<u> </u>		1	124.00	126.50			Quartz veins and lenses < 5 mm wide, parallel							
			l	1				to foliation. Increasing amounts of calcite in							
								veins towards 126.5 m							
		129.00	142.30		-			Well laminated, silty shale, with various		1.					
			ĺ					amounts of barite in laminations, very fine (<0.2					:		
								mm)	<u> </u>	:					
			··					132 m; parting along laminae (bedding?) 42 to		;					
								CA							
				137.30	137.50			Quartz vein, 86 to CA with stylolitic graphite		-					
	1		-												:
	ļ		·					141 m; Cleavage parallel to laminae, 43 to CA	····						
		142.30	224.90	[Black, graphitic shale. Some beds with up to 5%			I				
								fine disseminated pyrite and various amounts of							
		!						pyrite +/- calcite blebs < 1 mm. Polished							
							47-	graphitic cleavage.							
	ļ ļ				445.05			142.5 m; cleavage 45 to CA				·			
· · · ·	¦				145.05			Quartz vein 85 to CA.						— ····	
				145.05	148.00			Quartz veins and crackle zone (shear)		- <u> </u>					<u> </u>
		i						145.05-145.5, fault. Crushed core, with quartz				.		ļ	
								shear 81 to CA at footwall						1	

Coast Mountain Geological Ltd.

		INTE	RVAL								<u> </u>		<u> </u>		1	<u>. </u>
	ain	Ne	sted	Lo	cal						<u> </u>				ASSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t)
			<u> </u>					151.5 m; Cleavage 40 to CA		1						!
			÷	152.70	153.30		L	Minor guartz veining					ĺ	•		
	+		· · · · · · · · · · · · · · · · · · ·	102.10	100.00	L	··· -	153.3 m;Cleavage 043 to CA, with slicks:50			1	:		T	:	1
							1	degree rake		:	Ĺ.		!			
	+		:	153.30	170.00	F	·	Shattered core with various crush and gouge		-		!				ł
							ł	zones.						<u> </u>		L
							 	156.4 m; Angular carbonate (limestone?)		Ì			I	i		:
	•				l	:		fragment, 4 cm		4	<u>.</u>		Ļ	ļ	 	ļ
	·							158.8 m; Slicks on 30 to CA, 65 degree rake			·	! +			-	
	+							170 m; Cleavage, 21 to CA			l	1)
			+	168.75	169.00			Quartz and calcite veins/ crackle zone. Veins								
			1			-		irregular, undulating, 1 mm to 2 cm wide. Band		ļ	1					i
			i.				:	of pyrite (blebs up to 5 mm) parallel to		:						
				ĺ				cleavage.		j –		<u> </u>	, 	Ļ		į
-		<u> </u>		172.75	175.00			Fault zone. Crushed and shattered core.		ļ		ļ)
			1				l	Irregular quartz and calcite microveins.			i	ļ				L
·	+ -		1	175.00	184.50	1		Fracture zone; blocky core					<u> </u>	L		-
						· ·		177.15; Pyritic band (1-2 cm, very fine grained				!				
						1		and blebs, parallel to cleavage). Few s-veins,		ļ		-		1		ļ
			i	r İ				0.5 to 2 mm wide.				<u>.</u>	: ↓			1
	- 		1					177.50; cleavage (bedding?) 47 to CA.			-	ļ	•••••	 	<u> </u>	Ļ
				178.00	179.50	t		Quartz stockwork, and crackle.		1	į		i	I	· 	Ĺ
	++							181.5; Bedding, with parallel cleavage, 58 to			-			į.		İ
			i			į	İ	CA. Very fine grained pyrite whisps along			1		ļ	1	1	
				i				bedding	<u> </u>				i			
	1			184.50	185.50			Quartz +/- calcite stockwork (veins 0.5 mm to				ł			í	1
	:						:	10 cm, sub planar, multidirectional.				.i	Í			
La.v			• • • •				1	187.75 m; Calcite stringers 31 to CA. Blocky				1	1		1	
			;			:		core. Cleavage 35 to CA, with slickensides; 85			1	1		:	1	1
	i		İ			L	i I	degree rake.	_		ļ				·	
		-					ĺ	188.75; Cleavage at 49 to CA, with quartz-			•		!		:	1
						J	i 	calcite veinlets parallel to cleavage.					· 	<u> </u>		
			<u> </u>	189.00	210.00		i	Shattered core, minor disseminated pyrite along		I		1	i	:		
			!		 			bedding.			!	<u> </u>			-+	
	1		,	189.50	190.50			<u>.</u>		1	i		Ì	1	I	:
	i İ			1	I	!		Crushed core, gouge in upper part, then quartz-			}			1		-
			i 		L		ļ <u></u>	calcite stringers 1 mm to 8 cm wide, downhole.			·	·	ł	-		+
	,			i –		1		193.5 m; Bedding and parallel cleavage, 33 to			1	i.		i	1	i
	1		i		1		:	CA. Minor pale grey nodules < 2 mm,		1					1	
							: •	associated with pyrite blebs.	··				<u> </u>		1	ļ —
				202.75	203.00	F		Gouge			1		Í –	;		<u> </u>
	1			1		L		203.9 m; Cleavage 40 to CA.	···	·· -+	↓	1	<u> </u>	;		!
			1				i	204 m; Bedding 36 to CA.			<u>. </u>		<u> </u>		1	!

		INVE	RVAL					· ·							<u></u>
Ma	nin	Nes	sted	Lo	cal						!	Ì		ASSA	
From (m)	To (m)	From (m)	То (тт)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn % Pb %	% Ag
	<u> </u>	<u> </u>		208.50	209.50			Crackle zone; quartz and minor calcite, 0.5 mm)			
								to 5 cm.		:	i				
			·		-			210.75 m; Cleavage parallel to bedding, 32 to			:				!
								CA.						l	
				212.50	213.00			Folded quartz veins. Cleavage parallel to							
								laminae, 30 to CA				•		i	
	I		, · ·	219.00	225.00		1	Quartz veining, varied intensity. Sheeted		i					:
	1						1	stringers with pyrite, perpendicular to bedding.							
	i							Veins up to 6 cm of calcite, with quartz cores.						1	1
i								Graphite in irregular fractures.		 				1	_i
								224.5 m; Cleavage 40 to CA.						· · · - ,	_
		224.90	288.40					Grey shale and sitty shale, with locally well				' 			
ļ	1							developed bedding. Poker chip cleavage along			l	1			:
۱ ــــــــــــــــــــــــــــــــــــ				· ·				bedding.							-
;				1				226 m; bedding/ cleavage, 48 to CA		_1					
	Ì			242.00	242.80			Weak shearing, with quartz flooding and		i	1		l		Ì
			I					crackle, approximately 40 to CA							
i			1	242.80	250.00			Cleavage, with polished graphite, 45 to 55 to		!		·	İ	ļ	1
					1	:		CA. Slicks with 85 degree rake. Minor						i	1
ا احد							<u> </u>	carbonate veining.							_
				·				255 m; cleavage 43 to CA							
								259.5 m; Bedding 43 to CA			·				
	ł		' l	260.00	288.40			Increasing amounts of pale grey, calcareous		4					
	1							(calcite +/- pyrite) angular fragments up to 1 cm,				1			i
			-	i				mostly flattened along cleavage (bedding?)					ļ	:	i i
!								267 m; upright cross bedding, with parallel							
1			:			i		cleavage, 34-46 to CA, with 5% medium						1	
						1		grained disseminated pyrite.				ļ			
••								272 m; foliation parallel to bedding, 50 to CA.]
						i		From this point, clacareous fragments decrease						i I]
ĺ					i			downhole.					:		
	1		1			1		282 m; bedding, with parallel cleavage 42 to CA				. r	[1
	·							288 m; bedding and cleavage 41 to CA							
		288.40	304.20	1	r			Medium to dark grey, variably graphitic,		1					
					 	i		massive shale.				i			
1					1			292.5m; cleavage 43 to CA							
	+			1				298.5 m; cleavage 56 to CA				 +			
		304.20	305.30					Quartz shear. Quartz breccia zones up to 15		1			Ī		-
								cm, with up to 80% quartz. Main shear 52-55 to							i
i	1	j					i	CA, with graphitic slickensides, 15 degree rake.							1

		INTER	IVAL				·						Ļ		⊥
Ma	ារភ	Nes	ted	Lo	cal									ASSAY	
From		From		From			r	Description		Sample	From	To (m)	(m)	Zn % Pb %	A
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology		Mineralization	#	<u>(m)</u>		:		(g/
		305.30	311.00			1		Grey, silty shale, with strong, pokerchip							i
	i						1	cleavage and polished graphite fracture coating							i.
			-					(some slicks with various rakes). Zones of					Í	•	ĺ
								iquartz +/- pyrite veins, mostly parallel to		i			ļ		
		1	i					cleavage, but also cross cutting.					1		
		311.00	314.10		<u> </u>	<u> </u>		Grey, laminated (well bedded) silty shale, with					i		+
		011.00	074.10					few parallel quartz veins up to 2 mm. Some						:	
		ĺ					1	slicks in cleavage (parallel to bedding also)		ļ				:	
			ļ		1			i i i i i i i i i i i i i i i i i i i					i	1	1
		ł					•	313.5; bedding/cleavage, 56 to CA, with slicks	· ·····						:
								65 degree rake.					i		
		314.10	360.90	··		L		Black, masive shale. Local zones of minor					l		+
		314.10	300.90		•	! -		quartz veining (up to 2 cm, parallel to cleavage)							
	ļ							dualiz verifing (up to z cint, paraller to oleavage)		;				İ	:
							·	323.2 m; Quartz veining and weak cleavage, 42							·
	1	ĺ						to CA						i	
	+	ł	——— <u> </u>			l		327 m; Cleavage at 33 to CA, with graphite							-
								slicks, 62 degree rake		:			ļ		i.
				222.10	333.00			Shatter zone, small fault.				—-			-
		· +		332.10	337.60	⊢		Quartz flooding, with veins up to 30 cm, 12 to	· ··						÷
	1	!	,	333.70	337.00			35 to CA.		· · · · ·	į		•	1	i
·			···				_	337-337.5: very siliceous shear. 20 to CA, with	··· ····	+			· ··		
								75-80% quartz.							
							· ·	343.5 m; Cleavage 51 to CA							1
				240.00	347.80		h	Sheeted calcite veins 16 to CA							
1	·					·		Quartz veins up to 5 cm				· · ·			-
		i		348.70	350.20				<u>-</u>						·
	i	<u>+</u>		055.00	057 50			351 m; cleavage 27 to CA						!	
1		i		355.80	357.50			Folded carbonate veins, up to 5 mm at various						I	1
1								angles, but generally approximately 20 to CA.					ĺ	1	
	;							356.8 m; weak bedding 63 to CA					·		<u> </u>
				050 00	360.90		··	Fractured, blocky core, with 70% quartz from	· ·						
1		1		358.00	300.90						1				!
								360.25 to 360.5 m.		I					
		360.90	363.50	1		F	Fault	Fault zone. Shattered and crushed core, highly		· · ·					1
1								graphitic, abundant gouge and minor quartz.			:			ļ	i
	+ ·	- <u> </u>				L		Hangingwall cleavage 45 to CA			·			į	
		363.50	376.50					Dark grey, finely bedded (laminated) shale, with			•			I.	
	1	i					shale	flattened quartz-carbonate-pyrite nodules up to						i	
								1 mm							į
	Ţ	T		363.50	372.00			Shattered core, mixed with sections of strong						ļ	ì
1			-	į				pokrchip cleavage, subparallel to bedding. Few			l			Ì	
i	!	1						beds with up to 5% disseminated pyrite.			i	-			

		INTE	RVAL			1				<u> </u>		L			i	
Ma	ain	Nes	sted	Lo	cal	1				1					SAYS	
From		From		From	· _	;	· · · ·	Description		Sample	From	To (m)	(m)	Zn % F	ъ %	Ag
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology		Mineralization	#	(m)					(g/t)
<u></u>	,	,						370 m; Cleavage 42 to CA with slicks 80 degree	· · · · · · · · · · · · · · · · · · ·			i				
					•			rake.								
	; .					I		(dKC.						1		
	· i				Ì	1		1								
					í	-	1			ŗ						
	:					}	1			i.		ĺ			1	
	·		1			:	1						1		1	
	:				1	1						İ	!		1	
			i		!		İ						!			
					I			1		1	ĺ		:			
	:							:				 	ļ			
		_		371.50	375.00	1	1	Highly irregular quartz veins up to 3 cm (up to				İ			!	
	1						Ì	30% by volume). Broken, blocky core up to 374							1	
	:				;		{	m								
				374.00	376.50			Poker chip cleavage, 42 to CA, with glossy		1		ĺ	i			
	:				ł	í.		graphite slicks in various directions. Few pyritic		i			i		j	
			1					beds. Flattened quartz-carbonate-pyrite nodules		:				.		
					l			up to 1 mm, and stringers and lenses up to 2				İ				
	t ··· — · ·	276 50	405.90			.		Pale to medium grey, bedded shale. Beds with				·			i	
		370.50	403.90				shale.	quartz-pyrite nodules up to 3 mm.					i			
	i!	,	·····	270 00	379.30		SHOLE.	Fracture zone, with broken core and minor							A-	
			į	3/0.00	379.30	i		quartz vein								
	<u> </u>			·	·	ŧ		379.3 m; Cleavage parallel to bedding: 49 to CA								
		İ				!	ļ	575.5 m, Cleavage parallel to booding. 45 to ort		- j				l.	1	
										1						
	i i		1										i			
			1		l I					÷						
			i							i					i	
	· · · · · · · · · · · · · · · · · · ·		·	· · · · · · · · · · · · · · · · · · ·						-			ŀ			
				380.70	383.70		1	Quartz vein stockwork, and bands of quartz-				:	.		ļ	
	:	i	1					pyrite nodules parallel to bedding (30 to CA).								
					, .			Cleavage 28 to CA.		-i	· · · · ·		ļ			
		1		384.80	394.20		Fault	Shattered core. Hangingwall cleavage42 to CA.		Ì						
							1	Footwall foliation 28 to CA. Minor calcite veining			İ					
								in fault.								
	+			394.20	405.90	!	· · · · · · · · · · · · · · · · · · ·	Foliated grey shale, with quartz-calcite +/- pyrite				ĺ				
								stringers (1-3%) parallel to foliation. Graphite,								
	i			1				often polished on foliation surfaces.								
		1	1			:	i			ļ						
				1						Ì				ĺ	:	
			:									1			1	
			-			İ				1					÷	
<u> </u>			i				•	396 m; foliation 28 to CA		· · ·		<u> </u>	L. <u> </u>	• • • • • •		
~			į			ļ ·	· · ·						i	+-		-
	1					!		403 m; foliation 27 to CA.				<u> </u>				

		INTE	RVAL										; •			<u> </u>
M	ain	Nes		Lo	cal	;							L		SSAY	
From (m)	To (m)	From	To (m)	From (m)		Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	ⁱ (m)	Zn %	Pb %	Ag (g/t
(0)	10 (11)		516.90		,			Massive black, featureless shale, weakly				*				
	- 4	403.50	310.50			i		siliceous. Competent core. Weak cleavage								
	,							(approx. 28 to CA) throughout.				ĺ	1			
	÷			445 20	452.00			Fracture zone. Broken and shattered core					i			1
	İ			440.20	402.00	ĺ									1	;
				445.00	471.00		·	Calcite stringers < 2 mm, oblique to cleavage.	· · · · · · · · · · · · · · · · · ·	-						ĺ
	i i			∣ ↓							<u> </u>	i		i j		
	1					! 		451.2 m; Slickensides on 25 to CA, with 79 degree rake.		:		i İ	ĺ	i		İ
					L			453 m; cleavage 32 to CA, calcite veins 17 to			·	}		1		
				: , 			 	CA					ļ	.		
						i I		459 m; cleavage 26 to CA. Calcite veins 15 to			 	<u> </u>	;	·		
	1					L		CA				۰۰۰۰۰ - · · · · · · · · · · · · · · · ·	<u> </u>	!		
				467.00	469.20			Very well rounded concretions up to 5 cm, with		i			: 	.		!
				469.20	471.00		Fault	Shattered core towards middle of fault, but abundant calcite healing towards margins,			(6		:		
	1				 	1		resulting in calcite beccia zones. 40% carbonate at hangingwall, 34 to CA					i			ļ
	<u>!</u>			471.00	516.70			Increasing number of beds with calcareous			1		1			
				471.00	510.70			nodules (< 3 mm) and pyritic laminae		1		ļ		i i		
		• •						481 m; bedding 47 to CA		1						1
	· ·			482.35	482.50		¦ ↓ · · ·	Small calcitic shear, parallel to bedding (47 to								
								(CA)				1	<u> </u>			
								484 m; bedding 40 to CA, with cleavage parallel to bedding			 	L F	! •			
				486.60	487.20	1	 	Dense quartz vein stockwork (up to 5 mm) in various directions (15%. Crackle zone.			i	 	:			
				· · · · ·		+ ·		495 m; bedding 40 to CA				!	i			
	+			i			·	500 m; bedding 32 to CA					!	1		
				504 20	504.40		+	Quartz crackle zone, irregular. 10% quartz.			!					
	<u> </u>			007.20		+	+	505.5m; bedding 31 to CA. High pyrite content			-	[1			
	1			ł		ļ	1	in few laminae. Moderately siliceous.			L	I 1	1			
						1		516 m; cleavage parallel to bedding, 33 to CA				1				
	<u>+</u>			514.50	524.50	,		Quartz veins and crackle zones parallel to			i					
	:			ŧ			•	cleavage (bedding?), 37 to CA, with various				• !	I.			
	1							amounts of pyrite. Also very irregular, s-folded					1			1
				İ				quartz veins.		ļ						!

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		INTE	RVAL			1			<u> </u>				L			
Ма	in	Nes	sted	Lo	cal	1					L	' ∳			SSAY	
From	Γ	From		From		1		Description		Sample	From	To (m)	(m)	Zn %	Pb %	Ag
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault	Lithology		Mineralization	#	(m)					(g/i
516.90	577.58				<u> </u>		LAM SH				1					[
• • • • • •						l							1			ľ
								Laminated, silty shale, with massive pyrite	1	I			•			
					ļ		1	bands up to 30 cm. Moderately siliceous. Often			Ì		į			:
1							1	a thin lamina or 'parting' of shale at the top of a			1					
						ļ	i	sulphide bed. Sulphide beds commonly show a	1	l		Ì	I			•
	: 1							colour variation, from a pale (?) sphaleritic			Ì					
1		1				:		base to a bronze pyritic top. No apparent				1	:			
	; I							mechanical gradation. Sulphide beds and								
		I			1			laminae commonly contain subangular to		1	•		ļ			
	. '	i	i		i			angular clasts of relatively coarse (1mm) pyrite	 ,	Í			1	!	i	i
Ì					:	l r		in a leucocratic matrix with weak HCL	ļ	ļ	į	I	l			
;			I		ł			effervescence: either calcite or (possibly)	1					i	2	
ĺ			,					witherite; low reaction either due to acid freezing	i I		ĺ	:		j		
İ	i i				İ	i		or presence of barite. In minor sections as				i ,		,		
			:		1		,	abundant as 20% whole rock : absent in shales.	•		i	:			i	1
ļ							L	So 45 degrees WCA at first appearance of					İ			
					!	l		pyrite downhole; lower in unit 45-60 degrees								
	:							WCA with median sharply between 50-55				İ		-		
								degrees WCA. Sphalerite 2-5% whole rock in	1	ļ			l			
			ļ		i			these sections as noted above.			Ì		İ			
	—	516.90	519.70		!	· · · · · ·		Highly laminated, pinstripe shale. Bedding at 30	Semi-massive pyrite	296042	516.90	518.40	1.50	0.08	0.02	3
	į	•			!			to CA. Moderately siliceous with high pyrite	bands	296043	518.40	519.90	1.50	0.18	0.01	<2
ł			1					content in laminae with parallel guartz veins up			!		 ;			
	į	•	1					to 3 mm.					; 		;	
ł				· ·				519.7; increasing abundance and width of	Semi-massive pyrite	296044	519.90	521.40	1.50	0.14	0.01	3
	į		1						bands	296045	521.40	522.90	1.50	0.25	0.01	3
	1		i					10 cm, and dark grey rounded carbonate		296046	522.90	524.40	1.50	0.03	<.01	<2
		:						nodules up to 2 cm.		296047	524.40	525.90	1.50	0.08	<.01	<2
						· ·		526.5 m; 6 cm concretion	· · · · · · · · · · · · · · · · · · ·		1			—— i		
					نــــــــــــــــــــــــــــــــــــ			523.5 m; bedding 20 to CA with few parallel	Semi-massive pyrite		<u>.</u> I		i –	—		
		'	1		: 1			quartz veins. Massive pyrite bands, very fine	bands					ĺ		
:	!		:		ĺ			grained, with milimetric guartz-pyrite nodules.								
			Í							İ					ļ	
				<u> </u>			- 	At 526.8-527.4 m. Laminated pyrite and a single	Semi-massive pyrite	296048	525.90	527.40	1.50	0.11	0.01	<2
	1				;				bands			1	İ.	1	1	
i		1	•		;			guartz + carbonate, 50% of section.	1	1				1		
ļ	·		·÷		⊢ †			At 527.4-529.9 m. Black shale with 5 cm pyrite	· · · · · · · · · · · · · · · · · · ·	296049	527.40	528.90	1.50	0.20	0.01	3
i			!		1			beds at 528.5 m and 529.7 m	ĺ			l		i		
<u> </u>	+	- - - - - -		r ·	ii	·		Pyrite beds 529.9-530.0 m , 530.3-530.5 m ,	F	296050	528.90	530.40	1.50	0.14	0.01	<2
:								530.8-531.0 m.		ļ [.]		-				. –
	{		i					529 m; bedding 50 to CA								
			i		532.00			Fracture zone. Blocky core	·	296051	500 40	531.90	4 50	0.00	0.03	3

		INTE	RVAL				1	<u> </u>	<u></u>		·	L	ļ	, <u>.</u> .		
M	ain		sted		cal						;		<u> </u>		SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From	To (m)	_ (m)	Zn %	Pb %	Ag (g/t
								534 m; bedding 50 to CA. At 534.0 m-542.4 m.	:	296052	531.90	533.40	1.50	0.43	0.02	2
			I		-	1		Pyrite bands @ 534.0-534.2 m (31 cm shale		296053	533.40	1534.90	1.50	0.14	0.03	3
							1	(bands); 536.0-536.3 m; 536.9-537.3 m incl. 1/2,		296054	534.90	536.40	1.50	0.25	0.03	<2
					;		:	1+2 cm shale at base; (536.3- incl. 1/2 c,, 1/2		296055	536.40	537.90	1.50	0.40	0.04	<2
	;				1	1		cm 3 + 1 cm shales); 537.5-537.8 m (with 2 cm	l l	296056	537.90	539.40	1.50	0.55	0.04	3
						Ì		deranged calcareus laminae 1-2 mm, vergence		:	i	1				-
					1			up min. core angle 50 percent WCA;		:	i	i	1			
			:		i	•		displacement structures same core asimuth, 20			1	: I			i	j –
	!				ļ.		I.	percent WCA); 539.2-539.4 m with 10 cm shale	, 	1	i		1		i	i
	:		ļ		į		i	539.6-539.7 m with clear transport up min. CA		1				1		l
		••••				<u>+</u>		At 539.7-540.2 m. Missing (shattered) core.	·	296057	539.40	540.90	• •	<u>├</u> 		
					•	:		540.5-541.5 m, 542.2-542.4 m.								i
				•	i			540.2 m; soft sediment deformation of pyrite	Semi-massive pyrite		1		T		, i	i
						1		laminae. Crackle zone with quartz vein infill.	bands						!	ł
					1			20% quartz (veins up to 1 cm), various				!	1		1	i
	1					İ		directions.	l				l			i.
								At 542.4-542.8 m.Crackle breciation and		296058		542.40			0.07	
								carbonate +/- quartz veining; veins mainly @ 25		296059		543.90			0.02	
	ļļ		ĺ					degrees WCA. 543.0-543.9 m. Blocky and	l i	296060	543.90	545.40	1.50	0.89	0.12	5
	i i				ĺ	,		broken with one 10 cm pyrite band; else black	1	i		l			Í	
		İ					i	shale to 544.3, pyrite to 544.6, shale to 545.1;	1	1	ļ	1	I	İ		
								pyrite to 544.6, shale to 545.1; pyrite to 545.4.	,	•	i I	1	I		:	
	: •					·		544.5 m; bedding 51 to CA	· · · · · · · · · · · · · · · · · · ·	+	<u> </u>	·		·		
	ļ							At 547.2 m. Pyrite band with load cast low CA; shale to 547.5 m.		1				:		
		545 40	547.50			•		Black shale with fissile parting @ 20-30 degrees	<u> </u>	296061	545 40	546.90	1 50	0.17	0.01	<2
		0-0.40	047.00					WCA; blocky and broken esp. 546-546.4; app.		200001	0.10.10	1010.00	1.00	0.17	0.01	~
	1							0.5-0.6 m extra core here - may redress			1	1	İ		1	
	, i							balance from loss uphole.]		i i			i	-	
				546.50	546.90			Broken, blocky core.	· · · · · · · · · · · · · · · · · · ·	296062	546.90	547.75	0.85	0.72	0.04	<2
	!	547.75	577.58			L		Laminated, grey and grey-green, barite rich	10% fine, disseminated	296064	547.75	549.55	1.80	4.63	0.41	9
	1							shale, with approximately 10% fine	pyrite	[i i	i	
	I		į				ŕ	disseminated pyrite. Bedding 56 to CA. Quartz			i	!			ĺ	
i								stringers < 3 mm along laminae at 549.3 m.		!			1			
		547.50	549.90					Banded pyrite with subrounded clasts including	·	· · · · ·	 			 '		
1			1					sphalerite laminae; core angles 50 degrees		i I						
		i	1		i	:		WCA.]	;	!				

	Main	INTE	RVAL									·	!	- T		
M	ain	Nes	sted	Lo	cal						1	1	i – –	A	SSAY	S
From		From		From				Description		Sample		To (m)	(m)	Zn %	РЬ %	Ag
(m)	To (m)	· · ·	To (m)	(m)	To (m)	Fault	Lithology		Mineralization	#	(m)	<u>.</u>				(g/t
		549.55	554.85			!	BEDDED	Sulphide beds in dark grey, massive, siliceous	40% very fine pyrite	296065		550.70			0.24	
					• •		PY -SP	shale. Few pyritic barite beds (very fine	and 15 to 20% grey	296066		552.20		7.20		
		İ				į	WITH	disseminated pyrite). Sub- to well rounded dark	sphalerite	296067	552.20	553.70	1.50	3.16;	0.47	8
	1	:				:	SHALE	grey calcite nodules up to 5 cm, in a barite-								
								pyrite bands, with barite-pyrite deformed around					:	i		
	i l					1		nodules. Up to 40% very fine pyrite in barite		1		1	İ			
		i						beds. Few quartz stringers up to 1 mm, parallel			1			·	1	I
	1				1		•	to bedding (50 to CA). Bedded pyrite and			;		1	.		
					i		;	sphalerite (15 to 20%) within. Sulphide bands	1	[e	ĺ	:			1
	1 .				•	ļ	1	grade from sphalerite rich base to pyrite rich		!	1			1		
					1			tops. Sulphide beds roughly 56 to 70% of				1	Í	1		
					:			interval. Bedding 50 to CA. Disturbance of		1						
		1			:			regular laminae by load casts, subrounded		ļ	1			ļ	!	
			i					clasts, often banded sulphide (sphalerite) and		: 	1	, ,		ļ	Ì	
		i						barite sediment transport direction invariably up								
								minimum core angle, i.e: 50 to 55 to CA, tops			İ	:		1		
							i I .	towards collar.						-		
									·			j				
	!	i		554.60	554.85			Breccia zone in shale, with quartz-pyrite and	Pyrite margins on	296068	553.70	555.20	1.50	0.51	0.11	3
			1	:				minor calcite infill (matrix). Little rotation of	breccia fragments							
								fragments. Massive pyrite margins (< 3 mm) on			1			ĺ	1	
								all fragments.								
		554.85	555.50					Black shale , bedding 48 to CA	·····	····			·····			
	:	i	Í	555.50	564.60			Pyrite + sphalerite, thinly laminated to thinly	!			556.70			1.29	
	. 1					i	í l	bedded containing subrounded clasts		296070				8.69	1.41	
		:	Í	i	:			(infrequent) of dark grey micritic carbonate also				559.45		10.33	1.90	
	.	,		:				banded, with sphalerite. Roughly 10% of the		296072		560.45		9.05	2.23	
				:				interval contains snad to gravel sized carbonate	1	296073		561.45		7.92	1.86	17
					:			detritus roughly 15% whole rock in these	1	296074					3.41	26
	└── ┼		·+		<u>i</u>			sections		296075	562.95	564.40	1.45	7.30	1.69	14
	:	i						Black shale, variably calcareous. At 555.9-					i	i		
		i						556.0 m; calcareous laminae. At 556.5-556.7 m;		1	ļ	1				
		Ì						557.0-557.2 m; 557.8-558.3 m (weakly							İ	
								calcareous) in sulphide band uphole; 558.7-		ļ				i	ļ	
					:			558.9 m; 559.4-559.6 m (50 degrees WCA);		i	1	,	i	ļ	1	
		1				ł	i i	559.75-559.85; 559.95-560.05m; 560.6-560.7	2 4		Ì				i	
					,			m; 561.2-561.3 m; (sulphide layers include								
			[4	÷	i		locally as much as 25% calcareous clasts as			ļ	,		ļ	;	
								coarse as 4mm. 560.9-561.2 m) shale @ 561.8-				:	1	1		
			• ·•					561.9 m; 562.2-562.3 m;		<u> </u>			·	į		
	└── ┼	ł	ļ		500.00	!		561 m; bedding 59 to CA								
				562.50	562.60	;		Rigid body deformation of competant 10cm				:	ļ	1		
					i	-		layer. Possible boudin, rotated and cracked;								
	L			i				cracks filled with (?) carbonate.			i					

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	From	RVAĽ –			í		· · · · · · · · · · · · · · · · · · ·	I		<u> </u>	<u> </u>	L				
M	ain	Nes	sted	Lo	cal		· · · · · · · · · · · · · · · · · · ·								SSAY	
From (m)	To (m)		To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t)
				,				569 m; bedding 51 to CA. From here down, 1- 2% visible sphalerite appears in barite-pyrite bands. Pyrite appears to be more 'mottled' at	40-60% pyrite, banded	296077 296078	564.40 565.90 567.40	565.90 567.40 568.90	1.50 1.50	3.12 6.97	2.39 0.57 1.52	19 10 21
						- - -		this point (40-60%). Also a 10 cm fault with very abundant graphite and polished graphite slickensides (3 degree rake) on the main cleavage (parallel to bedding); 36 to CA. Milimetric calcite-pyrite nodules in shale beds.		296079 296080		570.40 571.90		7.40 9.99	1.83 2.12	
					·	•~~~ •		Shale interbeds @ 563.15-563.2 m; 563.5- 564.4 m; 5cm @ 564.5 m.	;		1	<u> </u>	⊦ 	†		
				564.60	565.80			Sulphide beds much more calcaneous, incorporating as much as 35% sand to gravel sized angular clasts of pale grey micrite. So 50 degrees WCA. Total shale totals 20cm in this interval.	:	296076	564.40 	565.90	1.50	12.75	2.39	19
								At 565.2 m. Microscopic faulting 25 degrees WCA	i I	1		! :				: i
				565.80	566.70			Fault roughly 30 degrees WCA 50 cm lost: tiny folds in HW at L.	· · · · · · · · · · · · · · · · · · ·	296077	565.90	567.40	1.50	3.12	0.57	10
	1			566.70	567.30			Banded sulphide (no calcite)		i 						
				567.30	567.40			Black shale		 		<u> </u>				i
	·	567.40	577.60					Thickly to thinly laminated sulphide, dominantly pyrite, very fine grained with locally as much as								
				1				30% fine grained sphalerite distinguished by silvery semimetallic to metallic lustre. Infrequent clasts of sparry limestone partially replaced with								
		1						galena. Discrete interbeds and interlaminae of black siliceous shale, roughly 1/4 -1/3 total						1		
	1		i					intersection. Rare subrounded rip-ups of laminated sulphide, dominantly massive					.			
	I	!						sphalerite with perturbed laminae suggesting sediment transport 'uphole' ie- along the							1	
		ļ	ļ					minimum angle WCA. Core angles are remarkably consistent 50-55 degrees WCA for							l	
			ļ		!	,		laminae except where perturbed soft sediment deformation and slump structures common; fold			•	ļ			, i	i
					1			axis almost invariably perpendicular to core axis, with vergence uphole.								ļ
			i .	·				Possible cross-beds @ 30 degrees WCA (cont). Laminae @ 55 degrees WCA		· · · ·	 	, 				
		ł						At 567.75 m. 10cm shale bed		296078	567.40	568.90	1.50	6.97	1.52	21

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		INTE	RVAL		_											L
	lain		sted	1	cal					1	1	I			SSAY	
From		From	T	From		ł		Description		Sample	From	To (m)	(m)	Zn %	Pb %	Ag
(m)	To (m)	(m)	To (m)		To (m)	Fault	Lithology		Mineralization	#	(m)					(g/t
(11)	10 (11)	<u></u>	+					At 568.1 m. 10 cm shale bed			1					
		·	+			-	 -	At 568.3 m. 5 cm shale bed	·				-			
	+		ł ——	568.70	568.90		<u> </u>	Banded (?) barite + sphalerite clast in sulphide			1					
				506.70	566.90			bed base @ 568.6 m then black siliceous shale		i İ						•
								20cm.	1			1			i	İ
-	<u>+</u> !			500.00	569.40	+		Sphalerite plated on pyrite aggregates		296079	568.90	570.40	1.50	7.40	1.83	20
	- ├ -			000.90	009.40				Sphalerite clast		1	1	•			
	· •							massive sphalerite, 1.5 cm sphalerite in	oprisionie enset	Í		1		1	:	
	: .			()				banding 15-20% (?) very fine grained coating on		l		!		1	1	ļ
	į				•		1	pyrite.		i	1	1			1	
		_			───-	-		At 569.2 m. Rotated subrounded clast of semi-	Sphalerite clast	1		1				
	1							massive sphalerite, 1.5 cm sphalerite in	ophalonic olabi	ļ		!		.	I	!
					1		1	banding 15-20% (?) very fine grained coating on				1		i l	1	1
	1		1	Ì	i				1							
			ļ		├			pyrite. At 569.5 m. 15 cm shale interbed with perturbed	i		· ·	••••••				
	ļ		-	1			1	bedding; 5 cm rounded cobble with minor barite	1							i
	•			l	ļ			pedding, 5 cm rounded cobble with millor bane			i.	1	1	!.		ļ
								1mm anhedra, probably pyrite, possibly trace	Pyrite-sphalerite		÷	<u> </u>	i			
	!			569.70	569.80		!	chalcopyrite entrained in laminated sulphide	laminae		,				1	
	1		1	I		1		sphalerite- rich lamina 0.5 cm, near base of	itaminido		:	1	i		1	
	-				1	I.	1	interval	i		1				1	
	<u> </u>		<u> </u>	500.00	570.00	1		Black shale	• • • • • • • • • • • • • • • • • • • •				i			[
	<u> </u>				570.00		+	Thinly laminated sulphide laminae 55 degrees	Laminated sulphide	296080	570 40	571.90	1.50	9.99	2.12	22
	:		1	570.00	571.50	•		WCA, except as noted; shale 3 cm @ 570.2,	laminae	1	i		1.000			1
	1							1cm @ 570.5, 2cm @ 570.8, 4cm @ 571.1, 3		1	1					
								cm @ 570.5, 2011 @ 570.5, 4011 @ 571.1, 5		i			•			1
			÷		ł	+		At 570.2 m. Calcite + (?) barite lamina minor			1	i		:		
	1		1	ļ		ļ .	:	break in sedimentation				ļ 1				!
			·	570.00	570.00			Banded sphalerite rip-up clasts; sediment	Sphalerite clasts	-				A		i
				570.60	570.80			Itransport structures still uphole along core	ophalente clasts		1			;	,	
	:			1	1		1	angle. Barite vein		i			ļ		i	ł
			<u> </u>	574.50	571 70	.		Black shale				1			i —	<u> </u>
	+		<u> </u>		571.70		 	Banded sulphide-barite thickly to thinly	Banded pyrite-	296082	571.90	573 40	1.50	15 58	3.1	27
	1			5/1./0	572.60	i	Ì	laminated ; very few shale laminae generally	sphalerite	200002	011.00	0.0		10.00	0	
	i i		1	I	1			<pre>anniated , very lew shale familiae generally <1cm. So at 45 degrees WCA in this interval.</pre>	- opriorente						i	
	i i						,	with numerous casts and soft sediment	t	i.	:	1	I		(i –
	-					İ	•	deformation, verging uphole.		l		1	÷	1	i i	
			·	·		!	÷	At 572.1 m. Forecet laminae @ 80 degrees	<u>.</u>		÷	<u> </u>	+	-		4
			ì			1		WCA showing sediment transport 'uphole'				1	i.	i I	1	
					F70.00		<u>+</u>	Black graphitic shale, very crumbly.			•	•	i	<u> </u>		•
		_	<u>;</u>		572.80		·	Thinly laminated barite + sulphide; 10-15% very	Pyrite hands with 10-		· · · · · · · · · · · · · · · · · · ·	1				·
	1		:	572.60	573.50	1	i	fine grained sphalerite, associated with barite,	15% grey sphalerite		ł				i	i
	1		1	•	-	1			10 /0 grey opricionite		1	ļ			1	
					1			minor carbonate (calcite) 12 cm total shale in							•	
	1				i	•	<u>، </u>	this section.			.i	<u> </u>	I	i		<u>i </u>

		INTE	RVAL				· · · · · · · · · · · · · · · · · · ·	<u> </u>				-	- · ·	·		
Ma		Lo	cal								<u>.</u>	· · · · · · · · · · · · · · · · · · ·	ASSAY			
From (m)	. To (m)		To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t
<u></u>				573.50	574.90			Increase in barite content as much as 40% whole rock in some sections: 20% over interval. More load casts, mainly black shale soft sediment deformation and imbracate structures resp. @ 574 m vergence uphole s before. Total shale about 45 cm		296083	573.40	574.90	1.50	[14.04	2.71	26
			-					At 573.6 m. Fracturing in competent folded shale: introduction of fine grained galena into fracture subparallel WCA.						 		
				574.90	576.40			Finely laminated sulphide, mainly pyrite with very minor barite (So 60 degrees WCA), interbedded with a total of 80 cm shale including 1 40cm bed. Minor load casts rounded grey micritic limestone with minor sulphide. Section contains entrained subrounded granules of barite with a soft yellow sulphide that must be chalcopyrite, esp @ 575.8 m. Granules 1-3 mm.	Laminated pyrite	296084	574.90	576.40	1.50	2.16	0.73	15
				576.40	577.60			Barite + sphalerite-rich section: sphalerite as thin plating on barite and pyrite aggregates, roughly 20% whole rock very fine grained shale total 13cm of interbed in this section.	Sphalerite plating on pyrite aggregates	296085	576.40	577.58	1.18	23.18	5.75	36
								Downhole contact conformable @ 50 degrees WCA.		;		: 				, ;
577.58	581.90					E	BA-SX	Bedded sulphide-barite.	Thinly laminated pyrite and sphalerite	296086	577.58	578.58	1.00	25.2	6.17	35
								Banded medium grey-bronze-black				 	l	l		
								Banding between 45 + 55 degrees WCA	i			579.25				44
				1				Thinly laminated pyrite + sphalerite very fine grained intervals roughly 20% of unite. Sphalerite roughly 5% whole rock in these intervals.	20% pyrite-sphalerite bands	296088	579.25	580.05	0.80	36.73	6.88	46
								Black shale with 2-5% pyrite. 7cm @ 578.3 m, 580.2-580.5 m, 580.65-580.7 m, and 581.6 m.	2-5% pyrite		 			-		
								The remainder of the unit is a bedded barite- sulphide unit, in places a sedimentary granule breccia heated with barite 5-20% sphalerite and trace 5% galena. Clasts include grey micritic limestone, sparry limestone replaced by barite and 578.9-579 m by laminated pyrite clasts.	5-20% sphalerite, trace of galena	296089	580.05	580.70	0.65	4.66	3.45	17

		INTE	RVAL				<u> </u>		<u> </u>					į	!	<u>i </u>
Ma	ain	Nested From (m) To (m)	Lo	cai							ļ			SSAY		
From				From		_		Description	·	Sample	1	To (m)	(m)	Zn %	Pb %	
(m)	To (m)	(m)	To (m)	. ,			Lithology		Mineralization	#	(m)	ļ		<u>!</u>	Ļ	(g/
			1	577.60	580.50			Sphalerite 10-15% whole rock, exceptionally 20- 25% in thin intervals 578.6-579.2 m. Barite as	- 10-15% sphalerite, 5% galena		:					
								replacement of laminated sparry (?) limestone clasts and in matrix is about 25% whole rock. 'Galena about 5%, 578.6579.2 m.				i : :			-	
			• • • • •	590 45	581.90		··	Barite increases to roughly 60% whole rock,	5-10% sphalerite	296091	580.70	581.90	1 20	14 19	6.4	40
		:		560.45	561,90			mainly at the expense of sphalerite and galena. Banding less regular: 30-60 degrees WCA,	S-TO /S Sprialente	230031	:	001.00	1.20		0.4	;
		I	1					generally 45 degrees. Sphalerite 5% rarely as			l			•	i	1
	i			-			I	high as 10% whole rock, finely disseminated		- F		1	!	1	!	
								and as thin aggregates parallel to banding. Roughly 40% WR 10% sphalerite.			i			ļ	:	
				581.00	581.20			Banded semi-massive pyrite	Banded semi-massive			<u>:</u>	i			
		+	+ 	581.65	581.90			Banded semi-massive pyrite	Banded semi-massive pyrite					<u> </u>		
								Downhole contact shattered banding 45 degrees WCA				: 	Ĺ.			
581.90	586.00				+		GUN SH	Black, siliceous shale.			ļ		Ĺ		· 	<u>↓</u>
								Massive , similar texture to shale uphole			↓					
								Rare calcareous bands (ie 582.2) @ 50 degrees	• 	 	· 		 	 		
			İ					Rare nodules of dark grey micritic limestone	<i>_</i>		· +	L	: f ·		l •	
			ĺ					Ladder veins, same 'hole azimuth' as rare So	1	296092	581.90	583.40	1.50	0.63	. 0,13	2
	i	· · -						but at 20-30 degrees WCA.		-+			<u> </u>			
				582.80	582.90			Minor core breakage Downhole contact broken, banded calcaneous		2906093	500.40	504.00	1.40	0.04	0.04	<2
								© 55 degrees WCA, conformable.		2906093	563.40	564.60	1.40	0.04	0.04	< <u>-</u>
		584.80	586.00				/	Laminated sulphides with minor shale.	Laminated sulphides		 	· · · · · · · · · · · · · · · · · · ·				<u> </u>
									Interbedded py-sp	1						[
								and black siliceous shale	+	·	İ		. <u> </u>			
		[Bed thickness 0.5-3 cm		<u> </u>		·				
				1				Minor rounded clasts of dark grey micritic		1						
	1	i		:		l		limestone. Load casts showing sediment								
	1		:		•			transport in arc 'uphole' direction as noted above.								
		+						Sphalerite composes 60-80 % of the sphalerite beds or laminae	sphalerite beds			 				
		f	+	584.80	585.20			Blocky and broken		296094	584.80	586.00	1.20	11.99	1.41	36
					i				5% py, 5% sp							

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		INTERVAL Nested Local From From (m) To (m) (m) To					ļ		· 		• • •		004	<u> </u>		
Ma	ain	Nes	ted	Lo	cal		l		·	<u> </u>					SSAY	
From (m)	To (m)		To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t)
()							<u>}</u>	Minor sphalerite only in pyrite-rich laminae; some compositional gradation	minor sp							-
	<u>†</u>	· · ·			i	· · · ·	; i	roughly 5/8 of the intersection is banded	60% banded or	+		+				
					İ			sphalerite or sphalerite > 10% Galena not observed.	granular sphalerite							
			-		• : :	÷	·	Downhole contact irregular, roughly parallel to laminae.		=		<u> </u>				
586.00	592.10				!		BA-SX	Semi-massive to bedded barite with sulphide and shale beds.	Sulphide beds		!	1 1				
						· · · · ·	i	Planar beds with interlaminae of black shale	1			İ				
					!	i		and sulphide 0.5-1cm thick except as noted.		ļ	ļ	I				
	· · · ·		1				I	Bedding core angles less consistent and bed			1			,		
			1	_			l	surfaces generally more irregular	· · · · · · · · · · · · · · · · · · ·		• ··					
							 	Slumps, dunes and load casts still indicate sediment transport 'up' the minimum core angle.				6				
		Ì				<u>↓</u>	Ì	Minor rounded clasts 0.5-1 cm of dark grey micritic limestone.								
	·····				<u></u> +	+		Laminae generally 40-55 degrees WCA.			i i	 				
					+ ·			Sphalerite generally 2-5% whole rock in barite- rich sections.	2-5% sphalerite		: 	 £				
				586.00	587.50			Deranged bedding-slump structure in barite. Pyrite 10% whole rock; sphalerite < 5% whole rock.	10% pyrite, <5% sphalerite			587.50		 	0.3	8
			i		• • • •			At 587.5 m. Shale bed for 8 cm downhole then 12 cm pyrite with 20% sphalerite and 5% galena, to 587.7 m.		296096	587.50	589.00	1.50	4.1	0.94	19
			4	587.70	590.10			Sphalerite 5-10% whole rock as discrete 0.5-1 cm interbeds and accessory in pyrite-rich laminae. Roughly 30 cm aggregated shale in this interval; roughly 20% of interval is sulphide bands, 45 degrees WCA.	5-10% sphalerite	296097		590.10		2	0.12	13
	⊧ 	590.10	591.60		<u> </u> -	<u>+</u>	 !	Massive sphalerite with barite and shale interbeds	Massive sphalerite	296098	590.10	591.60	1.50	16.33	1.14	40
	· · · · · · · · · · · · · · · · · · ·	···		590.10	590.20		i i	Deranged black shale with slumped massive sphalerite, semi-massive sphalerite and barite and thinly laminated pyrite/shale, all with transport vergence 'up'. Ve core angle.	Massive to semi- massive sphalerite		 	1				
	<u>+</u>			590.20	590.28	1	·	Black shale		ļ	i		ļ	۱ ۱	• · · · · · · ·	
				590.28	590.53	 	i i	Massive sphalerite with as much as 20% pyrite and 20% barite . Deranged 0.5 cm laminae with a single 0.5 cm shale bed @ 580.42		4			 :		. ; ;	

		INTER	RVAL				· · · · · · · · · · · · · · · · · · ·			•					SSAY	e
Ma	in)	Nes	ted	Lo	cal					Sample	Erom		(m)			
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	sample #	(m)	10 (64)	(04)	211 /0	FU /6	(g/t)
<u> </u>	<u>`</u>			590.53	590.60			Interlaminated sphalerite and pyrite 50 degrees	Laminated pyrite-	i					_ l	
ļ	:	1						WCA.	isphalerite			ֈ				
				590.60	590.80			Black shale.		· • · · · · · · · · · · · · · · · · · ·				L		
				590.80	591.00		ļ	Interbedded sphalerite pyrite barite and black shale: sphalerite roughly 15% whole rock.	15% sphalerite		 		! 			
				591.00	591.60			Massive sphalerite with 15-20% pyrite, a single 1 cm bed of shale and soft sediment slumps of barite, lather 10% of interval. Lower contact 55 degrees WCA.	Massive sphalerite with 15-20% pyrite			 				
	· · · ·			591.60	592.10	•		10 cm black shale, 1 cm band of sphalerite, 6 cm laminated pyrite and 8 cm black shale all 45 degrees WCA; remainder of interval is laminated barite with deranged laminae; downhole contact 45 degrees WCA.	-			592.10				4
F00 10	612.30						GUN SH	Black, siliceous shale	· · · · · · · · · · · · · · · · · · ·	296100	592.10	593.10	1.00	0.06	0.02	<2
592.10	012.00	·-		_				Massive, lithology same as units uphole.	·	1			[]	i		
						-	L	Roughly 5% disseminated pyrite		296101	593.10	594.60	1.50	0.01	0.01	<2
						• • • •	· · · · - ·	Calcite veins with ladder structure about 25 degrees WCA	· · · · · · · · · · · · · · · · · · ·	296102	594.60	596.10	1.50 	<0.01	0.01	<2
				592 40	592.70			Shattered core	<u> </u>							
					593.70			Shattered core		296103	596.10	597.60	1.50	0.02	0.02	<2
				000.20		l		At 596.1 m. Calcite veining	_							
			=	597.00	599.10	L 1 1		Calcite veining		296104	:	599.10				<2
				601 60	602.10	ł		Shattered core at downhole contact.		296105	599.10	600.60	1.50	<0.01	0.01	<2
				001.00	002.10					296106	i600.60	602.10	1.50	6.44	1.03	20
		602 10	605.10				· · · -	Black shale with banded sulphide and barite.			1		i		i	
		002.10	000.10	602.10	603.10			Thinly laminated pyrite with as much as 15% sphalerite; 30% of the interval is barite, banded and 15% is black shale. Core angles uphole are 25 degrees WCA, 45 degrees WCA downhole. May be fault-bounded block	Laminated pyrite with <15% sphalerite	296108	602.10	603.10	1.00	13.28	3.14	28
				602.30	602.50	• 	_ ·	Shattered core	İ			ļ	ļ	ļ	 ····	ì
							1	At 603 m. Shattered core	l	ļ	í	-				,
				603.10	604.10			little sphalerite.	10% laminated pyrite	296109	i603.10	604.10	1.00	3.25	0.28	15
				603.50	604.00		<u> </u>	Shattered core quite graphitic; probably a small fault (Banding roughly 45 degrees WCA).						 		

		INTER	IVAL.								i		1			T
M	ain	Nes	ted	Lo	cal						1	1			ASSAY	/S
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t)
				604.10	604.50			Deranged laminae: interlaminated pyrite and black shale. Pyrite contains discrete laminae rich in sphalerite latter about 5-10% of interval. Core angle downhole 40 degrees WCA.	5-10% sphalerite	296110	604.10	605.10	1.00	3.18	0.14	12
		604.50	604.90		·			Black shale	•							
				604.90	605.10			Banded sulphide with 5-7% sphalerite as dicrete laminae. Downhole contact 45 degrees WCA.	5-7% sphalerite	- <u> </u>		•	i	1		
	<u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>	605 10	610.50					Black siliceous shale.	+		1	+		<u> </u>	·	+
				!				Massive with trace pyrite. Rare bands of barite 30-45 degrees WCA.		296111	605.10	606.00	0.90	<0.01	0.02	<2
		;		607.80	608.70			Intense quartz + sulphate (gypsum or barite)	· · · · · · · · · · · · · · · · · · ·	296112	606.00	606.90	0.90	<0.01	<0.01	<2
		 						veining at 20-30 degrees WCA and about 60 degrees WCA, conjugate (?)		296113 296114						
		F		: 				At 609.5-610.5 m. Broken and shattered core to downhole contact. The contact itself is roughly parallel to the core axis.		296115	608.70	610.50	1.80	<0.01	<0.01	<2
		610.50	612.30					Massive pyrite.	Massive (80%) pyrite, trace of chalcopyrite		+ 		,		1	∔
	╄╼╾╶╼╾╄ ┆				i			Uphole contact subparallel WCA; clay gouge probably filling paleofault			∔ - ⊶-		i Ì	÷		<u></u> ↓
								Sulphide 80% whole rock except in gouge sections. Balance is calcite and (possibly)								
	i l							traces of chalcopyrite						· · · · · · · · · · · · · · · · · · ·		i
								Fine grain size; carbonate may include some barite.								
				610.50	611.00		_	Fracturing parallel to core axis; gouge	i	296116 296117					0.2	18 14
		i		612.00	612.30	!		Banding is sulphide carbonate +/- barite 45 degrees WCA.]				
			†	!				Downhole contact 45 degrees WCA	+······	_	<u>†</u>	 I		+ -		·

		INTE	RVAL							1	1	1			!	í I
Ma	ain	Ne	sted	Lo	cal						; ;		ĺ	-	SSAY	-
From	-	From		From	T = ()	F 16	l l ibbolomi	Description	Minoralization	Sample	-	To (m)	(m)	Zn %		-
(m) To	To (m) 638.40	<u>(m)</u>	<u>To (m)</u>	<u>(m)</u>	To (m)	Fault	RR SHALE	Pale to medium grey, weakly bedded, locally weak calcareous siltstone with subangular to subrounded, somewhat flattened, pale grey, moderately calcareous fragments, flattened sub parallel to bedding. Fragments up to 10 cm. Moderately sharp to diffuse margins. Bands and clusters of very well developed euhedral calcite (barite?) laths, up to 2 mm long. Reactive with HCl; either calcite or calcite with barite.	Mineralization	, #	(m)					<u>(g/t)</u>
						· ·		Dark grey with bluish cast, different from colour uphole from fault								
			, , , , , , , , , , , , , , , , , , ,				! !	Contains 10-15% pyrite, discrete 0.5 mm grains, also as aggregates subparallel to So laminae.								
						· · · · · · · · · · · · · · · · · · ·	<u>↓</u>	Thinly laminated at 60 degrees WCA Contains tubular carbonate clasts 3-8 mm long; possibly bioclastic but non recrystallized, sparry.								
				612.30	613.80		 	Fracture coated with graphitic gouge and lined with calcite and (?) barite at very low angle WCA, same "core azimiuth" as laminations. Subordinate structure to suphide filled fault.		296118 296119	612.30 613.80				<0.01 0.06	<2 <2
638.40			· · · · · · · · · · · · · · · · · · ·				Siltstone	Unit continues downhole.			<u> </u>					

AKIE PROJECT: DRILL HOLE A-05-33 COVER SHEET

					H COLLAR O			DDH LENG	TU	DO	WN HOLE SURVI	٠Y	
	DDH COLLAR LO	CATION		00	H CULLAH U	RENTATIO	in .	DDH CENG	111	SURVEY TYPE:			
PROPOSED		DATURA	NAD 83 ZN 10		PROPO	SED		PROPOSED		DISTANCE (m)	AZIMUTH DIP	ACPTED	COMMENTS
OCAL GRID		UTM CO-			11101 0					0	60	-77.5	_
ORTH:	-3500	NORTHIN			AZIMU	тн: О	50	LENGTH:	540.00	12	35.7	-77.4 Y	Mag Az
AST:	-100	EASTING			DIP:		72			33.22	38.1	-77.5 Y	Mag Az
LEVATION:	1410	ELEVATI						-		60.66	30	-77 Y	Mag Az
	14,0		<u> </u>							124.66	20.4	-74.4 Y	Mag Az
SURVEYED					SURVE	YED		ACTUAL		155.15	17.6	-73.8 Y	Mag Az
CAL GRID		UTM CO-	-ORDS							185.63	15.8	-72,8 Y	Mag Az
ORTH:	-3520	NORTHIN		60007	AZIMU	тн: 0	60	LENGTH:	629.00	216.06	15	-72.3 Y	Mag Az
AST:	-115	EASTING		3691.7	DIP:	-7	7.5			249.63	?	71.8 N	No Az listed
EVATION:	1404	ELEVATI		1404				-		277.07	14.3	-71.5 Y	Mag Az
										307.55	16.1	-71.1 Y	_Mag Az
										338.03	15.5	-70.3 Y	_Mag Az
DRILL INC	SINFORMATION									372	15	-69.5 Y	_Mag Az
Distant										402	15.1	-68.5 Y	_Mag Az
ONTRACTOR: H	iy-Tech Drilling Ltd.			COF	RE DIAMETER	SIZE	FROM	TO		432	16.1	-67.8 Y	Mag Az
	i i i i i i i i i i i i i i i i i i i	-				HW	0.0	0 9.00		492	17.7	-66.8 Y	Mag Az
ATE STARTED: N	lov. 17, 2005					NQ2	9.0	0 18.00		522	19.7	-66.1 Y	Mag Az
ATE COMPLETED: D		-				HQ	18.0	0 344.00		582	19	-63.5 Y	_Mag Az
APPED:	20. 2, 2000	-				NQ2	344.0	0 629.00		612	20.5	-63.1 Y	Mag Az
	TETRIC: Y		1.					·					

		INTE	NYAL			<u>.</u>		I					L		l	<u> </u>
Ma	in	Ne	sted		cal						l	[SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t
							040					1	-			<u> </u>
0.00	<u>?</u>						CAS	Casing, no recovery	· · · · · · · · · · · · · · · · · · ·		ļ					;- ·
+)	526.75						Gun shale	Black to dark grey, variably siliceous gunsteelshale. Not yet logged.	· · · · · · · · · · · · · · · · · · ·							-
526.75	558.55				· ·		ру	Interbedded dark grey, massive shale and laminated pale green silty shale,w ith massive pyrite, in the form of very fine laminations, including milimetric white calcareous, flattened microfragments. Calcite stringers < 3 mm at various angles to CA. Contains dark grey, well rounded calcareous nodules up to 1 cm.	Beds up to 15 cm of massive, taminated pyrite.	296152	528.25 529.75 530.85 531.85	528.25 529.75 530.85 531.85 533.00 534.00	1.50 1.10 1.00 1.15	0.16 0.19 0.18 0.61	0.03 0.01 0.04 0.02 0.06 0.06	4 2 3 <2 4 4
				-				527 m; bedding at 47 to CA. Parting, often graphitic, along bedding.								
								528.6 m; 10 cm calcite (-Barite?) shear, parallel to bedding		<u> </u>	 					
								533 m; bedding at 54 to CA								
			1	534.90	535.15			Brecciated shale (shrinkage?), with calcite matrix. Disseminated pyrite (3%) in both fragments and matrix.	3% disseminated pyrite	296158 296159 296160	535.50 537.00 538.10	535.50 537.00 538.10 539.10	1.50 1.10 1.00	0.32 0.35 0.44	0.01 0.04 0.03 0.02	<2 3 2 <2
							·			296161 296162 296163	539.95	539.95 541.60 542.70	1.65	0.34	0.16 0.03 0.02	6 2 <2
								539 m; bedding 50 to CA								[
								542.8 m; 5 cm calcite (+barite?) shear, subparallel to bedding		296164	542.70	543.90	1.20	0.9	0.1	5
				543.30	543.70			Fracture zone at 45 to CA		296165	543.90	545.30	1.40	0.17	0.01	<2
				·				547.4 m; fault plane with calcite stringers at 15	·	296166		546.40			0.01	<2
İ	i			1	i.			degree to core axis, with 75 degree rake in	(296167		547.40			0.24	8
l l				;				calcite slicks.		296168	547.40	548.55	1.15	1.93	0.26	7
			ì								548.55	550.00	1.45	1.24		3
								550.5 m; increasing amounts of pale grey sphalerite bands.	Up to 2% pale grey sphalerite (bands)	296170	550.00	551.50	1.50	1.86	0.2	4
			— · —	 				551 m; Bedding at 53 degree to CA	,,,,,,	296172	551.50	552.40	0.90	0.01	0.17	4
		552.40	555.15					Black, massive shale, with shiny, metallic lustre.		296173 296174		553.80 555.15			0.04	<2 3
<u></u>			ļ	555.05	555.15			Shear, 50 degrees to CA, healed with	···							
		555.15	558.55					Interbedded grey shale and massive banded pyrite, with increasing amounts (up to 3%) pale	Up to 3% pale grey sphalerite bands	296175 296176	556.20	556.20 557.10 558.55	0.90	3.32	0.53	11 8
558.55	568.15						Mineralized zone	grey sphalerite.		296177	557,10	558.55	1.45	0.91	0.23	<2

	·	INTE	RVAL				-									i
М	ain	Nes	ted	Lo	cal					,					SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	То (т)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	То (т)	(m)	Zn %	Pb %	Ag (g/t)
		558.55	559.25					High grade zone of banded, laminated shale- sulphide (pyrite-sphalerite-barite (?)), with soft sediment deformation features throughout. Sphalerite is pale grey in colour, increasing downwards. Calcareous detritus and dark grey, banded, subrounded carbonate fragment, 5 cm. Sphalerite approximately 15%.	Approximately 15% pale grey sphalerite bands, and bands of massive pyrite	296178	558.55	559.25	0.70	9.82	1.35	15
		559.25	559.50					Sheared (sub parallel to bedding) shale bed, healed with 25 to 30% quartz.	 	296179	559.25	560.45	1.20	4.49	0.91	7
		559.50	561.60					Interbedded, dark grey, massive shale and laminated pyrite-barite, with calcite veins < 5 mm sub parallel to bedding. Dark grey, rounded carbonate fragments up to 5 cm in the sulphide beds. Local soft sediment deformation features. Minor (1-2%) grey sphalerite.	Massive pyrite bands up to 15 cm. 1-2% grey sphalerite	296180	560.45	561.60	1.15	8.97	1.62	10
	∔∔ !							561 m; bedding 39 degrees to CA, with parallel calcite stringers.								
		561.60	567.70					Interbedded shale and pyrite beds as above, but no visible sphalerite.	Massive pyrite beds up to 20 cm	296181 296182 296183 296184 296185	563.00 564.00 565.50	563.00 564.00 565.50 566.90 567.90	1.00 1.50 1.40	8.33 5.7 14.22	1.4 1.24 2.54	12 20 9 20 10
				563.00	589.00			Sheeted calcite veins, up to 5 mm, oblique to bedding (28 to CA)		200.00	000.00	001.00	1.00		0.00	
		567.70	567.90					Pale grey, crackled shale, with calcite-pyrite vein matrix.								· =
		567.90	568.15	ľ				sphalerite and galena, and 25% pyrite in laminar barite matrix.	25% pyrite, coarse grained	296186	567.90	568.15	0.25	14.31	6.02	11
568.15	577.75			i				Interbedded grey shale and massive, laminated pyrite.	Massive pyrite bands up to 15 cm							
		568.15	568.30	، ۱ ا			<u> </u>	Grey shale, with dark grey carbonate nodules up to 1 cm, approximately 30% by volume.		296187	568.15	569.50	1.35	2.82	0.52	10

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		INTE	RVAL			<u> </u>			۱ ۲	1	i		· · • ·	•	:	L
Ma	ain	Nes	ted	Lo	cal										SSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (g/t
		568.30	577.75		ļ			Interbedded grey, massive shale and massive	Massive pyrite bands,	296188	; 569.50	571.00	1.50	6.24	1.34	18
								laminated pyrite, with up to 2% grey sphalerite	with up to 2% grey	296189		572.50				23
								and galena. Minor soft sediment deformation.	sphalerite	296191	572.50	574.00	1.50	12.23	2.77	25
	, i				•	1		Sheeted calcite veins < 3 mm, 27 to CA. Dark		296192	574.00	575.50	1.50	10.48	2.43	20
			.		1			grey carbonate fragments < 3 cm. Various		296193		577.00				20
1							1 : : [amounts of secondary calcite, as small laminae, and interstitial. Some beds with milimetric barite		296194						18
					L			nodules.			i			L		
]		L			571 m; bedding 45 to CA			<u> </u>	<u> </u>				
					i 			576 m; bedding 60 to CA	 	į.	: 					
577.75	589.45					1	Shale		Minor, coarse	296195	1	579.10			0.4	5
	i !							rounded carbonate nodules up to 1 cm.	disseminated pyrite	296196		580.00			0.19	2
			ļ					Sheeted calcite stringers < 3 mm. Minor		296197		581.50			0.07	<2
I			,			i !		graphite. Crackled and sheared with calcite infill		296198		583.00			0.05	<2
	<u> </u>					1		from 579.1 to 580.0 m (quartz-carbonate healed		296199		584.50			0.09	<2
	l i	1	:		i	1		shear from 579.1 to 579.2 M). Numerous small		296200		586.00			0.04	<2
					!			offsets along carbonate stringers. Few small				587.50			0.04	<2
İ								laminae, with coarse disseminated pyrite, with		296202	587.50	589.45	1.95	0.47	0.03	<
		:	i					calcite margins. Abundant barite from 589.25 - 589.45 m.			i L					
589.45	613.50						Shale- barite	Sequence of intercalated shale, barite, baritic siltstone-shale, with highly pyritic zones.							ĺ	
		589.45	592.20					Barite rich shale; well developed bedding, with	< 60% pyrite	296203	589.45	591.00	0.55	3.24	0.51	4
1 								strong soft sediment deformation. Bedding approximately 70 to CA. Abundant (<60%) very fine pyrite below 589.7 m. Various zones up to 5 cm of dense calcite-barite(?) vein swarms (shears?).		296204	591.00	592.20	1.20	3.18	1.05	5
	i					ļ	····	591 m; bedding 57 to CA.		-					— · }	
	┝╍╍╴╶┤	592.20	599.00					Laminated shale and barite, with up to 25%	25% pyrite bands	296205	592 20	593.00	0.80	0.45	0.16	2
	· /	JJ2.20	553.00	-	:			pyrite in bands up to 10 cm wide. Local zones of	• •			594.50				2
		ļ		1				soft sediment deformation and minor primary				596.00			0.05	3
	1	;	1					breccia. Black shale content decreases		296208		597.50				2
	1	:				ļ		downsection. Blocky fracturing and graphitic slickensides.			000.00		1.00	0.01	0.04	-
			+					597.0 - 597.4 m; Laminated pale grey barite and	······································	296209	597.50	599.00	1.50	0.01	0.02	<2
					1			dark grey shale, with very fine pyrite, with tight microfolds, locally isoclinal.								
			+		i			597 m; bedding 32 to CA		1						
;		599.00	604.70					Black, graphitic, massive shale.		296210	599.00	600.50	1.50	0.28	0.01	<2
· · ·	· · · · ·			599.60	602.25			Highly fractured and shattered, mostly along	·····			602.00		0.3	0.01	<2
1	!	4						strong cleavage (20 to 30 to CA).				603.50			0.02	<2

		INTER	RVAL			<u>. </u>						L	L			
Ma	ain i	Nes	ted	Lo	cal	1					ļ			· ·	ASSAY	
From (m)	To (m)	From (m)	To (m)	From (m)	To (m)	Fault	Lithology	Description	Mineralization	Sample #	From (m)	To (m)	(m)	Zn %	Pb %	Ag (a/t)
(111)		(11)		603.70			· · · · · · · · · · · · · · · · · · ·	Increasing amounts of crackle, with calcite- barite(?) veinlets, as well as pyritic banding (laminations). Layers of barite nodules < 1 mm in bottom 30 cm (75 to CA, minor soft sediment (deformation), crackled with calcite.	pyritic laminae	# 296213		604.70	1.20	0.13	0.05	4
		604.70	613.50			· · · · · · · · · · · · · · · · · · ·		Interbedded baritic shale and laminated barite- calcite-siltstone, with minor soft sediment deformation.		296214 296215 296216 296217 296218	605.75 606.75 608.00	605.75 606.75 608.00 609.00 610.50	1.00 1.25 1.00	<0.01 0.01 0.01	0.02 0.01 0.01	2222
			·	606.15	606.75		a	Very fine grained (~25%) pyrite.	25% very fine pyrite			¥	: 		•	
					613.10			Mostly barite rich, calcareous siltstone, with minor quartz veining. 608 m; bedding 63 to CA 613 m; bedding 36 to CA, with weak foliation.	· · · · · · · · · · · · · · · · · · ·	296219	610.50	612.00	1.50	0.02	0.02	3
				613.10	613.50			Black, pyritic shale, with soft sediment deformation.	······	296220	612.00	613.50	1.50	<0.01	0.02	4
613.50	629.00						siltstone	Highly brecciated and sheared, weak to moderate calcareous shale and siltstone, with various amounts up to 40% pyrite as aggregates and clots.	< 40% pyrite; aggregates and clots	296221	613.50	614.73	1.23	0.02	0.01	3
- ~+		,		614.73	615.08			Semi massive pyrite (40-50%) in calcite matrix	40-50% py in cct mx	296222	614.73	615.08	0.35	0.28	0.08	2
				616.70	618.40		i 1	Breccia with 60-70% mottled white and pale green, very coarse crystalline calcite and quartz matrix. Weak foliation in wallrocks, 90 to CA, with 5 to 15% pyrite.	I5-15% pyrite	296225 296226	616.70 618.40 619.70 621.20	616.70 618.40 619.70 621.20 622.70 624.20	1.70 1.30 1.50 1.50	0.05 0.04 0.01 0.02	0.01 0.01	<2 <2 2 2 2 2 2
				!	···			624 m; bedding 32 to CA.	· · · · · · · · · · · · · · · · · · ·							
	;			624.28	624.49			Massive pyrite, 90%. Clots and banded (69 to CA), in a pale grey calcite (+barite?) matrix.	90% banded pyrite	296229	624.20	625.60	1.40	0.23	0.02	3
+ 				624.59	624.79		Ì	Quartz breccia. 70% quartz, with a few pyrite clots (angular up to 1 cm).	·····							
		624.79	629.00					Highly sheared and brecciated siltstone, healed with quartz-carbonate. Bands and aggregates of up to 60% pyrite.	of 60% pyrite							
	!			625.60	626.25			Massive (70%) pyrite.	Massive (70%) pyrite			626.25				2
					==			625 m; banding (shearing?) 90 to CA 629 m; banding (shearing?) 87 to CA				627.35 629.00				<2 <2

Coast Mountain Geological Ltd.

								<u> </u>			-			
		INTER	RVAL				,,,,	·						
Ma	in	Nes	ted	Lo	cal									SAYS
From		From		From			Description		Sample	From	To (m)	(m)	Zn % Pb	
(m)	To (m)	(m)	To (m)	(m)	To (m)	Fault Lithology		Mineralization	#	(m)			<u> </u>	(g/t
629.00							Hole stopped due to frozen waterlines.						i	

APPENDIX V: CERTIFICATES OF ANALYSIS

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ACME A

YTICAL LABORATORIES LTD. 852 B. HASTINGS ST. (ISv 9001 Accredited Co.)

ASSAY CERTIFICATE

COUVER BC V6A 1R6

PHONE(604)253-3158 FAX(60*

3-1716

Coast Mountain Geological File # A507198 P.O. Box 11604 620 - 650, Vancouver BC V68 4N9 Submitted by: Marcus Vanwermeskerken SAMPLE# Sr Cd Sb Bi Ca Mg κ Mo Cu PЬ Zn Ag Ni Со Mn Fe As P Cr AL Na ¥ Hg Sample * % X * 7 X X Χ. X % X X % X X Χ. X gm/mt X Χ. Χ. * X kg .03 8.65 .01 .071 .007 .002 <.01 .065 .001 .29 .53 <.01 296001 001 .005 .16 1.51 4 .007 .001 1.37 .24 .001 <.001 3.32 29600Z <2 .006 .001 .03 2.67 <.01 .230 .002<.001 <.01 2.77 .080 .001 .53 <.01 .001 .001 .06 .26 .45 .26 <.001 <.001 4.74 296003 .002 .002 .73 5.06 11 .008<.001 .04 15.06 .01 .137 .026 .001 <.01 .98 .040 .001 . 18 .52 <.01 .12 .005 <.001 5.10 296004 .002 .001 .58 5.23 8 .008 .001 .04 10.52 <.01 .139 .026<.001 <.01 1.17 .046 .001 .27 .34 <.01 .15 .005 <.001 2.94 .002 .001 .89 5.51 12 .007 .001 .04 12.19 .01 .101 .030 .001 <.01 .039 .001 296005 .86 . 24 .54 <.01 .14 .005 <.001 4.74 296006 .002 .003 1.08 6.65 12 .008 .001 .04 10.94 <.01 .078 .036 .001 <.01 .93 .035 .001 .30 .01 .17 .006 < .001 .16 4.03 <2 .006 .001 .06 1.58 <.01 .200 .002<.001 <.01</pre> .22 296007 .001 .001 .07 .23 3.27 .070 <.001 .49 .03 .28 <.001 <.001 3.90 296008 .001 .003 .61 3.71 11 .006 .001 .04 8.80 <.01 .114 .019 .001 <.01 2.54 .047 .001 .28 .32 <.01 .18 .005 <.001 2,36 20 .006 .001 .04 11.89 <.01 .080 .090 .002 <.01 .028 .001 .17 <.01 .07 .005 <.001 296009 .001 .002 2.61 14.50 1.45 .19 4.65 15 .005 .001 .03 7.99 <.01 .081 .087 .001 <.01 296010 .001 .001 2.55 13.50 1.13 .037 .001 .13 .21 <.01 .13 .006 <.001 4.33 296011 .001 .001 2.26 11.53 16 .006<.001 .04 7.42 <.01 .082 .073 .001 <.01 1.29 .037 <.001 .09 .32 .06 .18 .006 <.001 4.61 24 .005 .001 .05 9.36 <.01 .078 .097 .003 <.01 .025 <.001 .19 <.01 .09 .003 <.001 296012 .001 .003 3.15 16.16 1.38 .10 4.52 296013 .001 .003 4.22 16.97 25 .006 .001 .04 10.15 <.01 .019 .112 .003 <.01 .70 .010 <.001 .04 .23 .01 .06 .002 <.001 4.63 29 .002<.001 .05 11.67 <.01 .005 .138 .002 <.01 .80 .015 <.001 .03 .13 <.01 .05 <.001 .001 296014 .001 .001 3.54 22.11 4.60 RE 296014 .001 .001 3.53 21.98 29 .003<.001 .05 11.65 <.01 .004 .138 .002 <.01 .79 .009 <.001 .03 .11 <.01 .06 <.001 <.001 .72 .008 <.001 .001 .001 3.47 22.20 28 .003<.001 .05 11.67 <.01 .004 .137 .001 <.01 .03 .12 <.01 .07 <.001 <.001 RRE 296014 23 .005<.001 .03 7.91 <.01 .006 .110 .002 <.01 .42 .019 <.001 .29 .01 .001 .001 3.90 14.88 .04 .17 .004 .001 4.07 296015 296016 .001 .002 5.03 21.10 37 .004<.001 .04 10.57 <.01 .009 .155 .002 <.01 .18 .009 <.001 .02 .15 <.01 .06 <.001 .001 4.75 35 .003<.001 .03 6.23 <.01 .021 .118 .001 <.01 296017 .001 .003 5.40 13.26 .61 .008 <.001 .02 .11 <.01 .07 .006 <.001 3.72 35 .002<.001 .04 9.44 <.01 .012 .152 .002 <.01 .009 <.001 .10 <.01 296018 .001 .002 4.97 19.57 .54 .02 .06 <.001 .001 5.22 296019 .001 .002 5.38 10.59 29 .004<.001 .03 6.37 <.01 .014 .092 .001 <.01 1.23 .007 <.001 .05 .25 <.01 .14 .006 <.001 3.37 <2<.001<.001 .05 1.13 <.01 .041<.001<.001 <.01 22.18 .083 .001 .80 .01 .14 <.001 <.001 296020 (rock) .001<.001 .01 <.01 .87 2.88 .08 .03 65 .003<.001 .04 11.38 <.01 .002 .235 .001 <.01 .22 .006 <.001 .02 <.001 .001 296021 .001 .009 5.58 29.32 .01 3,10 .08 <.01 <.01 <.001 296022 .001 .006 9.13 25.46 66 .003<.001 .05 10.17 <.01 .006 .188<.001 <.01 .86 .006 <.001 .01 .001 2.58 296023 .001 .001 3.24 8.44 25 .002<.001 .01 4.13 <.01 .036 .082 .002 <.01 .16 .005 <.001 .01 .08 <.01 .03 .005 .001 3.79 23 .002<.001 .02 6.13 <.01 .027 .052 .001 <.01 296024 .001 .003 3.87 5.18 .37 .006 <.001 .03 .11 <.01 .02 .005 <.001 3.02 296025 .001 .002 .85 3.20 15 .005 .001 .02 8.21 <.01 .027 .022 .001 <.01 .65 .021 .001 .04 .26 .01 .13 .003 <.001 1.08 296026 .002 .004 2.56 14.28 39 .007<.001 .06 17.08 .01 .012 .113 .001 <.01 1.43 .007 .001 .02 .15 .03 .07 .003 <.001 3.39 .37 <.01 8 .004 .001 .01 4.49 <.01 .017 .021 .001 <.01 .47 .015 <.001 .03 .22 296027 .001 .001 .55 2.66 .002 <.001 1.98 .002 .002 1.26 12.03 23 .006<.001 .05 11.78 <.01 .019 .107 .002 <.01 .91 .007 <.001 .03 .18 <.01 .06 .005 .001 296028 3.10 15 .007 .001 .04 7.70 <.01 .012 .039 .002 <.01 1.72 .025 <.001 .15 .34 <.01 .21 .004 <.001 296029 .001 .003 1.26 5.22 3.40 156 .367 .045 .20 22.46 .22 .176 .029 .129 <.01 STANDARD R-2a .047 .558 1.42 4.15 2.25 .084 .069 1.55 1.32 .16 .49 .065 .174 GROUP 7AR - 1.000 GM SAMPLE, AQUA - REGIA (HCL-HNO3-H2O) DIGESTION TO 100 ML, ANALYSED BY ICP-ES. - SAMPLE TYPE: DRILL CORE R150 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns. DATE RECEIVED: NOV 4 2005 DATE REPORT MAILED: NOV-15/2005 Data FA cký Wano

SAMPLE#	Mo	Cu	Pb	Zn		Nī	Co	Mn	Fe	As	Sr C	Sb B	Ca	P	Cr	Mg	AL	Na	ĸ	ų.	Kg	Sample	
······································	×	X	*	*	gm/mt	*	*	*	*	*	X			X	X	Mg X	X	*	X	*	×	kg	
6-1		.001				.001<						<.001 <.0		.083		.67		.10		<.001		-	
296030 296031		.002		.66		.008<						002 <.0 002 <.0		.022 .065		.24 .16	.28 .47	.06 .05		<.001 <.001		4.92 2.60	
296032	1			.42								.002 <.0				.14	.63				<.001	4.18	
RE 296032	. 002	.004	.06	.42	2	-009<	.001	.02 '	9.43	-01 .	.098 .003	.002 <.0	1.08	.055		. 15	.65	.10		<.001		-	
RRE 296032		.004				.008<						.002 <.0		.058		.14				<.001		-	
296033		.001				-007<						.001 <.0				.16				<.001		3.36	
296034 296035		.001				.009<.						.001 <.0° <.001 <.0		-061 -087	.001	. 15 .21		<.01		.001 		3.96	
296036		.001										.001 <.0		.067	.001	.39	.76			<.001		4.38 3.82	
296037	.001<	.001	. 14	1.42	3	.008<.	.001 .	.03 10	0.76	.01 .	.068 .005	.001 <.01	.97	.053	.001	.22	1.01	.04	. 11	.001	<.001	4,45	
296038		.001				.008<.						.001 <.0		.060	.001	.15	.71			.001		3.74	
296039 2960 40		.001				.006<.						.001 <.01		.056	.001	. 16				<.001		3.61	
296040		.001				.011 .		.07	1.52 <	.01 .	.036<.001	<.001 <.01 <.001 <.01		.128 .074	.001 .001	.11 1.33	.40 1.02				<.001 <.001	3.79 2 <i>.</i> 79	
STANDARD R-2m	.047	564	1 47	4 21	15R	355	044	20 23	2.62	23	178 030	.131 <.01	7 28	087	070	1 50	1 36	22	53	071	181	-	
		PLE T	YPE:	DRILL	CORE	R150	Sa	mples	begin	ning	'RE' are	STION TO 1 <u>Reruns ar</u>	d 'RRE'	are Re	lect R		ß	NELA	10	Tò/	EER	•	
ata FA		PLE T	YPE:	DRILL		R150		mples	begin	ning		Reruns ar		are Re	lect R		EL CON	Mala (
ata FA		PLE T	YPE:	DRILL	CORE	R150	Sa	mples	begin	ning	'RE' are	Reruns ar	d 'RRE'	are Re	lect R		ALL CON	AND CO					
ata PA		PLE T	YPE:	DRILL	CORE	R150	Sa	mples	begin	ning	'RE' are	Reruns ar	d 'RRE'	are Re	lect R		ALL OF	C	laren				
ata FA		PLE T	YPE:	DRILL	CORE	R150	Sa	mples	begin	ning	'RE' are	Reruns ar	d 'RRE'	are Re	lect R		THE CON	C C					

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SAMPLE#	Mo %	-	Pb %	Zn %	Ag gm/mt	Ni X	Co X	Mn %	Fe X			Cd X	Sb X	8i %	Ca %	P %	Cr %	Mg %	Al %		к Х	W 2	Hg %	Sample kg
296042	.002	.007	.02	.08	3	.005	.001	.02	4.66	<.01	.029	.001	.001	<.01	1.31	.051	<.001	.27	.95	.01	. 14	<.001	<.001	2.86
296043		.006	.01	. 18		.008			4.79						.97	.073	.001	.11	.55	<.01	.17	<.001	<.001	3.24
296044	1		.01	- 14	3	.009<	.001	.01	5.80	.01	.026	.001	.001	<.01	.89	.067	.001	.09	.39	.01	.20	<.001	<.001	2.98
296045		.005	.01	.25	3	.009	.001	.04	5.70	.01	.056	.093	.001	<.01	3.54	.076	.001	. 18	.41	.01	.21	<.001	<.001	3.08
296046	.001	.002	<.01	.03	<2	.005	.001	.01	2.49	<.01	.033	<.001	<.001	<.01	1.26	.066	<.001	.25	.45	.01	.24	<.001	<.001	2.98
296047		.003		.08		.004			1.46						1.88	.071	.001	.31	.48				<.001	3.02
296048	1	.004	_01	.11		-007<			4.75						1.28	.062	-001	. 19	.38				<.001	4.10
RE 296048	1.002	.004	.01	. 11	<2	-007	.001		4.74						1.37		<.001	. 19	.40				<.001	-
RRE 296048		.004		.11		.008			4.65						1.21	.065	.001	. 18	.41				<.001	-
296049	.003	.005	.01	.20	3	.809<	.001	.01	5.47	<.01	.032	.002	.001	<.01	.91	.065	.001	. 18	.49	.01	.23	<.001	<.001	3.66
296050	.002	.003	.01	. 14	<2	.006	.001	.01	4.35	<.01	.031	.001<	.001	<.01	1.37	.069	.001	. 16	.61	.01	.21	<.001	<.001	4.44
296051	.004	.004	.03	.29	3	.009	.001	-02	7.89	.01	.019	.002	.001	<.01	.73	.068	.001	.11	.62	<.01	. 19	.001	<.001	4.08
296052	.004	.003	.02	.43	2	.009<	.001	.02	7.30	<.01	.026	.003<	.001	<.01	.85	. 104	-001	. 16	.54	<.01	. 18	<.001	<.001	4.48
296053	1.002	.004	.03	. 14	3	.007<	.001	.02	8.20	.01	.049	.001<	.001	<.01	1.04	.059	.001	.Z1	.44	.01	. 19	<.001	<.001	4.34
296054	.002	.003	.03	.25	<2	-006<	.001	.09	5.70	<.01	.088	.002	.001	<.01	4.47	.076	.001	.45	.47	.01	.20	<.001	<.001	3.78
296055	.003	.002		.40		.007<			8.28						.54	.062	.001	.12					<.001	2.90
296056		.003	.04	.55		.008<			8.89						1.07	-063	.001	.19		<.01			<.001	3.04
296057		.004	.04	.64		-008<			9.11						.99	.057	.001	-20					<.001	3.16
296058		.003	.07	-55		-008<			10.36						1.31		.001	. 18					<.001	4.02
296059	1.002	.003	.02	.64	~2	.007<	1001	.02	3.01	<.01	.241	.003<	.001	<.01	1.33	.083	.001	. 16	. 29	<.01	. 14	<.001	<.001	3.66
296060	.003	.006	.12	.89	5	.009<	.001	.02	8.57	<.01	.063	.004	.001	<.01	1.14	.067	.001	.24	.39	.01	. 19	<.001	<.001	4.52
296061	.001	.001	.01	.17	<2	.006	.001	.01	1.80	<.01	.052	.001<	.001	<.01	1.05	.084	-001	.25	.45	<.01	.23	<.001	<.001	3.32
296062		.003		.72		800.			3.26						1.04	-087	.001	.21		.01			<.001	2.66
296063(rock)		<.001		<.01	-	.001<			1.46						21.47		.001	1.44		<.01			<.001	2.52
296064	.004	.004	-41	4.63	9	-008<	.001	.05	16.26	.01	.111	.021<	:.001	<.01	1.49	.037	-001	.23	.65	.01	.06	<.001	<.001	5.14
296065		.003				.009<			8.05		.086				.93	.063	.001	. 19					<.001	3.14
296066		.004				-008<			12.64		.141				1.12		.001	. 19	.57				<.001	4.54
296067		.005				.008<			10.37						1.15	.044	.001	.18	.37				<.001	3.64
296068		.001		.51		.005			2.96						6.23 1.63	.067	<.001	.74 .22	.41			<.001	<.001	2.60 4.38
296069	.005	.005	1.29	1.10	12	.007	.001	. 04	y.00	-01	. 180	.041<		<.01	1.0.3	.043	.001	.22	!	-01	. 14	~.001	.001	4.30
296070		.005				.007<			8.64						.98	.039	.001	.23	.43	.01	. 14	.001	.001	3.80
296071		.006				.007<			10.67						1.06	.035	.001	.18	.26			.004	.001	3.80
296072		.005				.007<			8.58						-88	.039	.001	.18	.33		- 14	.010		4.20
296073		.005				.006			8.38							.040	-001	.17	.28		. 14	.012		2.92
STANDARD R-2a	.040	.557	1.49	4.13	159	.359	.044	.20	22.18	.22	. 104	.029	. 125	<.01	2.22	.080	.068	1.05	1.50	. 19	.50	.072	.174	-
	GRAN	740	- 1 0	100 GM	SAMDI F	ACH	6 - Di	FGIA	riict -i	HN03-1	H201 F	GEST	י ומזי	n 100	ML, AN	AL YSED	BY IC	P-FS.			all	50	To/	CEDE
				DRILL			Sai	moles	begi	ning	'RE'	are R	eruns	and	'RRE' a	re Rei	ect Re	runs.			(HP)			- XA
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WLYTICAL				Co	ast	Μου	inta	ain	Geo	0100	gica	1	FI	LE	# A5	50755	59					Page	2		ACHE AI
SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	s Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	AL	Na	ĸ		Hg	Sample	
	*	%	X	X	gm/mt	*	*	%	X	X	<u>x</u>	X	%	X	%	X	%	ž	X	*	%	%	×	kg	
296074	.002	.005	3.41	15.88	26	.004<	.001	.07	11.96	<.01	.084	.095	.003	<.01	1.65	.032	.001	.12	. 12	.01	.05	<.001	.001	5.02	
296075	.002	.004	1.69	7.30	14	.007	.001	.04	7.47	<.01	.075	.044	.001	<.01	1.61	.054	.001	.14	. 29	.01	.14	<.001	<.001	4.06	
296076	.00Z	.005	2.39	12.75	19	,006<	.001	.06	9.88	<_01	.064	.074	.003	<.01	1.42	.040	.001	.14	.25	.01	.12	<.001	.001	4.00	
296077	.002	.005	.57	3.12	10	.009	.001	.03	7.40	.01	.043	.018	<.001	<.01	.74	. 103	.002	.10	.35	.01	. 16	<.001	.001	3.02	
STANDARD R-2a	.045	.564	1.54	4.25	156	.363	.043	.20	23.16	.23	.169	.028	.132	<.01	2.36	.080	.069	1.69	1.41	.20	.50	.059	179	-	

Sample type: DRILL CORE R150.

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

T.				C	oast	Mot	inte	in	Geo	100	fica	1	FI	LE	# A5	075	59			_		Pag	e 2		ACHE AI
SAMPLE#	Mo X		РЬ %	Z	n Ag % gm/mt	Ni X	Co %	Mn X						Bi X	Ca %	P %	Cr X	Mg %	Al %	Na X	K %	W X	Hg 7	Sample K kg	
296074 296075 296076 296077 STANDARD R-28	.002 .002 .002	.005 .004 .005 .005 .564	1.69 2.39 .57	7.3 12.7 3.1	0 14 5 19 2 10	.004< .007 .006< .009 .363	.001 .001 .001	.04 .06 .03	7.47 9.88 7.40	<.01 <.01 .01	.075 .064 .043	.044 .074 .018	.001 .003 .001	<.01 <.01 <.01	1.65 1.61 1.42 .74 2.36	.054 .040 .103	.001 .001 .001 .002 .069	.12 .14 .14 .10 1.69	.12 .29 .25 .35 1.41	.01 .01	.14 .12 .16	<.001 <.001 <.001	.001 <.001 .001 .001 .179	4.06 4.00 3.02	
		<u>s</u>	ample	e typ	e: DRILI	CORE	R150	<u>.</u>	-								•		-						

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

Data FA

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ASSAY CERTIFICATE

Coast Mountain Geological PROJECT AKIE File # A507672 Page 1 P.O. Box 11604 620 - 650, Vancouver BC V6B 4N9 Submitted by: Paul Metcalfe

SAMPLE#	Мо %	Cu %	Pb %	Zn %	Ag gm/mt	N°î %	Co %	Mn %	F	e As % %		Cd %	Sb %		Ca %	P %	Cr %	Mg %	Al %	Na %	К %	¥	Hg %	Sample kg
G-1	<.001<	.001	<.01	<.01	<2	.001<	.001	.06	1.9	7 <.01	.007	<.001	.001	<.01	.61	.090	.006	.54	1.02	.07	.52	<.001	<.001	-
296078	. 002	.001	1.52	6.97	21	.008<	.001	.05	14.8	8 <.01	.046	.044	.002	<.01	1.06	.039	.001	. 14	.22	<.01	. 14	.007	<.001	4.10
296079	.002<	.001	1.83	7.40	20	.008<	.001	.07	13.2	8 <.01	.063	.046	.001	<.01	1.51	.060	.001	.17	.30	.03	.21	.007	<.001	4.84
296080	1.002<	.001	2.12	9.99	22	.006<	.001	.07	15.2	0.01	.091	.058	.001	<.01	.91	.035	.001	.17	. 19	<.01	. 12	.008	<.001	4.60
296081(rock)	4.001														19.45	.079	.001	1.38	1.16			<.001		1.90
296082	001-	001	3 10	15.58	27	0074	001	00	15 1	2 <.01	074	080	001	< 01	1.08	.031	.001	.15	16	<.01	11	.009	001	4.74
296083				14.04	_	-				B <.01					1.46	.040	.001	.18		<.01		.008		5,10
															1.05	.040	.001	.16		.01	.24			3.74
296084				2.16						6 <.01														
296085				23.18						3 <.01						.032		-17		<.01		.005		4.60
296086	1.001	.001	6.17	25.20	55	-0034	.001	.07	11.5	1 <.01	- 115	. 1521	.001	<.01	1.17	.022	<.001	.10	.07	.01	.00	.004	.001	3.68
296087	<.001<									2 <.01					.70	.025		.04	.07			<.001	.001	2.64
296088				36.73						2 <.01					1.00	.019		.03	.04	.01		.005		3.04
296089				4.66						7 <.01						.038		.08		.01		.005		2.22
296090(rock)	<.001<									0 <.01					19.32				1.69			<.001		1.68
296091	<.001<	.001	6.40	14.19	40	.002<	.001	.03	6.0	3 <.01	. 159	. 105	.001	<.01	-84	.010	<.001	.04	.06	<.01	.05	.009	<.001	4.06
296092	.002	.001	.13	.63	2	.008	.001	.03	1.8	9 <.01	.083	.004	.001	<.01	2.22	.071	<.001	.31	.38	.02	.26	.001	<.001	3.02
296093	.002	.001	.04	. 04	<2	.008	.001	.03	1.8	0 <.01	.032	<.001	¢.001	<.01	1.69	.078	.001	.38	.51	<.01	. 29	<.001	<.001	3.42
296094	.001	.003	1.41	11.99	36	.006<	.001	. 05	10.8	9 <.01	.087	.078	.003	<.01	1.60	.029	<.001	. 10	. 17	.02	.11	.004	<.001	3.30
296095	<.001	.003	.30	2.95	8	.001<	.001	<.01	1.3	8 <.01	. 528	.044	001	<.01	.12	.002	<.001	.01	. 02	.03	<.01	.002	.001	5.30
296096	<.001	.004	.94	4.10	19	.004	.001	.01	3.5	0 <.01	.397	.054	.001	<.01	.25	.013	<.001	.09	.11	<.01	.06	.003	.001	5.66
296097	<.001	.004	. 12	3.94	13	.003	.001	<.01	3.2	0 <.01	.367	.053	.001	<.01	.17	.015	<.001	.07	. 10	<.01	.07	.003	<.001	4.22
296098	.001	.002	1.14	16.33	40	.005<	.001	. 02	8.4	7 <.01	.093	. 105	.002	<.01	.97	.028	<.001	. 13	.13	.03	.10	.004	.001	5.00
296099	<.001									4 <.01					1.35	.012		.24	.10			<.001		1.38
296100		.001								8 <.01					2.31			.40	.37			<.001		2.10
296101										3 <.01					1.71		.001	.38	.49			<.001		2.72
296102	002	.002	01	<.01	<2	.010	001	50	1.9	1 <.01	.042	<.081	0.001	<.01	2.18	.081	<.001	.37	.42	.04	.25	<.001	<.001	2.40
RE 296102		.002		<.01		.010				4 <.01					2.20		.001	.38	.42	.03		<.001		
RRE 296102		.002		<.01	-	.009				4 \.01 6 <.01					2.22	.084		.30	.46			<.001		-
296103		.002				.009				1 <.01					2.34	.080	.001	.41	.40			<.001		4.68
				<.02		.009				0 <.01							.001	.37	.40	.02		<.001		2.98
296104	.002	-002	.02	\. 01	~2	.009	.001	. 02	1.0	0 1.01	.030		.001	\. 01	1.72	.070	.001		.40	.05	.22	1.001	1001	2.90
296105	.002	.002	.01	<.01	<2	.009	.001	.02	1.8	1 <.01	.015	<.001	.002	<.01	1.01	.070	.001	.29	.44	.03	.28	<.001	<.001	3.94
296106				6.44		.008				5 <.01					1.27			.20		.02		.002		3.48
296107(rock)				< 01		.002				7 <.01					20.22			1.32				<.001		1.24
296108				13.28						4 <.01						.007		.13		.03		.001		3 42
296109				3.25		.009				5 <.01					1.51		<.001	.15	.30			.002		2.18
STANDARD R-2a	.047	.553	1.47	4.11	157	.360	.043	.20	22.2	6.22	. 184	.028	. 129	<.01	2.24	.081	.068	1.52	1.31	. 19	.55	.068	. 170	-
	<u> </u>					• •	. –				-								-			-		
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DATE RECEIVED: NOV 25 2005 DATE REPORT MAILED: Dec 19/05

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ALY' IEAL	_	Со	ast	MOI	inta	in	Geo	2010	jica.	L P	ROJ.	ECT	AK	TE	FIL	.E #	A50	7672	2			Page	e 2		ACHE ANA
SAMPLE#	Mo %	Cu %	РЬ %	Zn % g	Ag jm/mt	Nj %	Co %	Mn %	Fe %	As %		Cd %	Sb %	Bi %	Ca %	P %	Cr %	Mg %	Al %	Na %	K %	W %	Hg %	Sample kg	
G-1	+.001<	.001	<.01	.01	<2	.001<	.001	.06	2.03	<.01	-008<	.001	.001	<.01	.66	.081	.007	.53	1.09	.09	.52	<.001	<.001	•	
296110	.002	.005	. 14	3.18	12	.007<	.001	.02	5.98	<.01	.027	.017	.002	<.01	1.34	.021	.001	. 13	.37	.06	.20	.002	<.001	2.66	
296111	1.002	.002	.02	<.01	<2	.009	.001	.01	1.68	<.01	.012<	.001<	.001	<.01	.81	.072	.001	.25	.51	.04	.30	<.001	<.001	2.42	
296112	1.002	,002	<.01	<.01	<2	.009	.001	.02	1.79	<.01	.020<	.001<	.001	<.01	1.28	.043	.001	.30	.49	<.01	.28	<.001	<.001	2.60	
296113	.002	.002	<.01	<.01	<2	.009	.001	.02	1.99	<.01	.017<	.001	.001	<_01	1.55	.042	.001	.38	.43	.04	.27	<.001	<.001	2.98	
296114	.002	.002	<.01	<.01	<2	.008	.001	.03	1.92	<.01	.020<	.001	.801	<.01	2.72	.019	.001	.38	.39	.04	.22	<.001	<.001	2.20	
296115	.002	.002	<.01	<.01	<2	.008	.001	.02	1.68	<.01	.011<	.001	.001	<.01	1.64	.014	<.001	.31	.38	.03	.24	<.001	<.001	3.32	
296116	1.001	.018	.20	.27	18	.015	.001	.08	24.36	<.01	.042	.001	.001	<.01	5.42	.009	<.001	.61	. 13	.03	.09	<.001	<.001	2.80	
296117	<.001	.013	. 18	.20	14	.010<	.001	.08	29.59	<.01	.069	.001<	.001	<.01	7.45	.010	<.001	.12	.07	.01	.03	<.001	<.001	3.10	
296118	4.001 <	.001	<.01	. 10	<z< td=""><td>.001<</td><td>.001</td><td>.07</td><td>3.84</td><td><.01</td><td>.039</td><td>.001<</td><td>.001</td><td><.01</td><td>5.98</td><td>.027</td><td><.001</td><td>1.68</td><td>.36</td><td>.04</td><td>.22</td><td><.001</td><td><.001</td><td>3.44</td><td></td></z<>	.001<	.001	.07	3.84	<.01	.039	.001<	.001	<.01	5.98	.027	<.001	1.68	.36	.04	.22	<.001	<.001	3.44	

Sample type: DRILL CORE R150.

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Data KFA

ACMF AN 'TICAL LABORATORIES LTD. (IS /001 Accredited Co.)

852 E. HASTINGS ST. V YCOUVER BC V6A 1R6

PHONE (604) 253-3158 FAX (604' '53-1716

XCOXV CRUPTETCATE

SAMPLE#	Mo X	Cu %	Рb %	Zn X	Ag gm/mt	NÍ X	Co %	Mn %	Fe X					8i %	Ca %	P %	Cr %	M9 %	Al %		K %	W 2		Sample kg
	- - · · · · -																							
G-1 296151	,	.001	<.01 .03	-01 -01		•001< •010.			2.05						.71 .89	.075	.001 .001	. 15	.71		-		<.001 <.001	2.79
296152			.01			.006									1.87	.067	.001	.27					<.001	4.92
296153			.04			.008<			7.88						.90	.060	.001	.09					<.001	3.22
296154	.002	.002	.02	. 18	<2	-006	.001	.02	4.37	' <.01	.045	.001	.001	<.01	1.19	.068	.001	.13	.91	<.01	.22	<.001	<.001	2.31
296155	.003	.003	.06	.61	4	.009	.001	.03	8.95	<.01	.062	.004	.001	<.01	1.35	.094	.801	. 14	.63	.01	. 19	<.001	<.001	3.06
296156	1 1	.006	.06			.009			10.33						.91	.057	.001	.10	.60				<.801	2.31
296157			.01			.005					-				2.26	.067	.001	.39		.01			<.001	3.36
296158 296159		.004	.04 .03	.32 .35		.008<			8.21						-63 -59	.060 .059	.001 .001	.11 .13	.61 1.09				<.001 <.001	4.25 3.41
	1																							
296160	002		.02			.007			4.34						.83	.082 .040	.001 .001	.18	1.33				<.001 <.001	2.96 2.85
296161 296162	.004	.004	.16			.009<			3.63						1.16		.001	.22	.68				<.001	3.87
296163	.003		.02			.010			3.11							.120	.001	.07		.01			< 001	3.08
RE 296163		.004	.02			.010			3,12							.121	.001	.07	.54			<.001	<.001	-
RRE 296163	.003	.004	.02	.66	<2	.010	.001	.01	3.12	<.01	.023	.003	.001	<.01	.57	. 120	.001	.06	.52	.01	.23	<.001	<.001	-
296164		.007	.10	.90	5	.008<	.001		8,99						1.02	.058	.001	.26	.42	.01	.17	<.001	<.001	3.32
296165		.001	-01			.007			1.85						.82	.082	.001	.22					<.001	3,59
296166 296167		.002	.01 .24			.006 .008<			1.71							.086 .041	.001	.21					<.001 <.001	2.82 2.39
															_									
296168		.004	.26			.008<			14.06						.90 .93	.046 .069	.001 .001	. 16 . 21	-60 50				<.001 <.001	3.31 3.97
296169 296170		.003	.20			.007<									1.99	.046	.001	18					<.001	4.28
296171(rock)	4.001														1.35	.057	.002	_	2.28				<.001	1.20
296172	.002	.005	.17	1.95	4	.008	.001	.03	7.41	<.01	.397	.010	.003	<.01	1.49	.052	.001	.17	.37	.01	.17	<.001	<.001	2.39
296173	.001	.002	.04	.31	<2	.007	.001								1.41	.065	.001	. 29	.47				<.001	3.42
296174		.004	.26			.008									1.05	.055	.001	.27	.40				<.001	3.39
296175			.51			- 007<			14.04						1.38 .48	.036 .046	.001 .001	-20 -16					<.001 <.001	2.72 2.29
296176 296177			.53 .23			.009			2.56							.059	.001	. 19					<.001	4.65
	007	000	1.35	0 97	16	.007<	001	20	15 00	2	002	050	005	e 01	1.52	.030	.001	.22	10	.01	ń¢.	< 001	.001	2.82
296178 296179	1		.91			.007									2.29	.057	.001	.24					<.001	3.73
296180	1.002					.006<			9.40						.95	.040	.001	.22		.01			<.001	3.85
296181			1.11			-006<			-						1.02		.001	.22	- 41				<.001	4.27
296182	.003	.005	1.40	8.33	20	.007<	. 0 01	.06	14.68	.01	.109	.050	-004	<.01	.57	.036	.002	.20	.37	.01	.05	<.001	<_001	3.80
STANDARD R-2a	.046	.557	1.49	4.11	156	.363	.043	.20	22.85	.23	. 175	.029	.133	<.01	2.28	.082	.068	1.68	1.42	.20	.50	.068	.177	<u> </u>
	GROUP	7AR -	1.00	0 GM		. AOL	IA - R	EGIA	(HCL-	HNO3-	H2O) (DIGEST		ro 100) ML. A	NALYSE	DBYI	CP-ES.				ala	না	ICA
	- SAMP														RRE							A.		

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Coast Mountain Geological PROJECT AKIE FILE # A508153

Page 2

ACHE ANALYTICAL

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E ANALYTICAL																									ACHE ANALYTICAL	_
SAMPLE#	Mo %	Cu %	Pb %	Zח ג	Ag gm/mt	Ni X	Co X	Mn %	Fe %	As X	Sr %	Cd X	Sb X	Bi %	Ca %	Р %	Cr %	Mg %	Al X	Na %	K %	ч %	Kg X	Sample kg		
									• • •																	
G-1	₹.001				_	- 001<	-		1.80	-						.076	.001	.62	.91		-44 <					
296183				5.70	-	-007		-04	7.05						1.13	.052	.001	.24	.35	.01		<.001		5.21		
296184	1.002	.006	2.54	14.22		.006<			10.61						1.43	.038	.001	. 16	.23	.01		<.001		3.45		
296185	1.002	.004	.86	4.31	10	.007<	.001								1.87	.077	.001	. 15	.31	.01		<.001		3.23		
296186	∤ .001	.001	6.02	14.31	11	.801<	.001	.05	5.24	<.01	. 116	.082	.001	<.01	1.15	-020	.001	.09	.08	<.01	.04 •	<.001	<.001	.80		
296187	.002	.004	.53	2.86	10	-008<	.001	.05	9.09	<_01	.070	.016<	.001	<.01	1.44	.086	.001	.12	.33	.01	.15	<.001	<.001	4.89		
RE 296187	1.002	.004	.52	2.82	10	.008<	.001	.05	8.98	.01	.065	.016	.001	<.01	1.44	.088	.001	. 12	.32	.01	.15 •	<.001	<.001	-		
RRE 296187	.002	.004	.51	2.79	10	.008<	.001	.05	8.73	<.01	.068	.016	.001	<.01	1.43	.090	.002	. 12	.36	.01	.16 •	<.001	<.001	-		
296188	.003	.004	1.34	6.24	18	.007<	.001	.05	13.04	.01	.043	.038	.601	<.01	.85	.043	.001	. 15	.25	.01	.12 •	<.001	.001	5.61		
296189	-003	.006	3.57	15.07	23	.006<	.001	.09	13.47	<.01	.04 0	.096	.001	<.01	1.39	.055	.001	. 19	.18	.01	.09 <	<.001	-001	5.29		ļ
296190(rock)	1 nn1	.002	. 01	.04	<24	.001	.001	.04	2.56	<.01	.009<	.001<	.001	<.01	1.41	.046	.002	.69	2.50	.22	.25	.001	<.001	1.10		
296191				12.23	-	.006<			15.01	-					.69	.035	.001	.11	.25	.01	.10	.006	.001	5.86		
296192				10.48		.006<			12.55						.91	.048	.001	. 19	.25	.01		<.001	.001	5.75		
296193				10.11		.006<	-		12.89						1.10	.041	.001	. 19	.26	.01	.12 -		.001	5.15		1
296194				6.93		.008<			14.18							.038	.001	.20	.22	.01	.12 <		.001	2.83		
230134	1.005			0.75					14.10															2.00		1
296195	200	.005	.40	1.52	5	.008	.001	.03	5.44	<.01	.016	.009	.001	<.01	.71	.067	.001	. 18	.42	.01	.21 <	<.001	<.001	4.15		
296196		.007				.008	-	.04	5.27						2.47	.054	.001	.29	.37	.01	.20 <	4.001	<.001	3.35		
296197	1.5	.002		.48		.008		.02							1.30	.071	.001	.31	.48	.01		.001	.001	4.56		
296198	1	.002		.42	_	008		.02		-	_				1.11	.078	.001	.37	.51	.01		<.001		4.52		
296199		.003	.09	.39	-	.008	-		1.90							.077	.001	.39	.49	.01		4.001		4.28		
270177			,		~														•••					4160		
296200	002	.003	.04	. 39	<2	.008	.001	. 02	1.90	<.01	.017	.001<	.001	<.01	1.07	.076	.001	.36	.50	.01	.28 <	<-001	<.001	4.65		
STANDARD R-2a	.045	.551	1.49	4.14	154	.361	.043	. 19	22.77	. 23	.171	.029	.133	<_01	2.26	.082	.068	1.69	1.39	.20	.50	.065	.177	-		

Sample type: DRILL CORE R150. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

APPENDIX VI: STATEMENT OF COSTS FOR 2005 EXPLORATION

Drilling*	\$ 362,625.74
Helicopter*	\$ 157,430.34
43-101 report and Ecstall consulting*	\$ 14,938.89
Pad building	\$ 34,271.46
Personnel	\$ 169,225.00
Mobilisation/demobilisation	\$ 22,052.09
Assays	\$ 4,374.32
Camp support and operation	\$ 72,172.82
Fuel	\$ 32,321.87
Transportation	\$ 8,499.20
Miscellaneous expenses	\$ 31,208.02
CMG management fees	<u>\$ 17,970.50+</u>
Total 2005 expenditures	\$ 927,090.25

* No CMG management fees added

APPENDIX VII: STATEMENTS OF QUALIFICATIONS

I, Marcus Vanwermeskerken, of Saltspring Island, British Columbia hereby certify that:

I am a geologist residing at and with office at 274 Langs Road, Saltspring Island and under contract with Coast Mountain Geological Ltd. of 620-650 West Georgia Street, Vancouver, British Columbia, V6B 4N9.

I am a graduate of University of British Columbia, with a Bachelor degree in Geology (1987) and I have practised my profession for 17 years since in Canada, Mexico and South America.

I am a member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I am a co-author of this summary report to Mantle Resources Inc.

This report is based on work carried out under my supervision on the Akie Project during the period of September 2005 to November 2005 as well as a study of various published reports.

I have no direct or indirect interest in the claims or securities of Mantle Resources Inc. or its affiliates

I approve of this report being used for filing of assessment work and for any other lawful purpose as may be required by Mantle Resources Inc. and its affiliates.

Marcus Vanwermeskerken, P. Geo. Coast Mountain Geological Ltd. Ltd.

June 8th , 2006

I, Paul Metcalfe, do hereby state:

That I am a resident of British Columbia, with a business address of 204-130 East Queens Road, North Vancouver, British Columbia V7N 1G6.

That I am a graduate of the University of Durham (B.Sc. Hon., 1977);

That I am a graduate of the University of Manitoba (M.Sc. 1981);

That I am a graduate of the University of Alberta (Ph.D. 1987);

That I was employed as a postdoctoral research fellow by the Mineral Deposits Research Unit at the University of British Columbia and at the Geological Survey of Canada;

That I have been employed in geology or geological research since graduation from Durham.

That I have been retained by Coast Mountain Geological Ltd, a British Columbia corporation with a business address of 620-650 West Georgia Street, Vancouver, B.C., V6B 4N9, to complete this report and make recommendations for future work on the Akie property for Mantle Resources Inc.

That I am a member, in good standing, of the Association of Professional Engineers and Geoscientists of the Province of British Columbia;

I am a co-author of this summary report to Mantle Resources Inc. and:

That I approve of this report being used for filing of assessment work and for any other lawful purpose as may be required by Mantle Resources Inc. and its affiliates.

DATED in Vancouver, B.C., this 8th day of June, 2006.



Paul Metcalfe, B.Sc. (Hon. Dunelm.) M.Sc. PhD. P.Geo.

Palatine Geological

