SUMMARY REPORT ON THE 2006 AKIE DIAMOND DRILL PROJECT

OMINECA MINING DIVISION, BRITISH COLUMBIA

NTS MAPSHEET 94F/7

TRIM MAPSHEETS: 094F036, 094F037, 094F046

Latitude: 57° 22' 37.1" N,
Longitude: 124° 50' 33.8" W
389,200 m E, 6,360,850 m N
(UTM NAD 83, Zone 10)

prepared for

Mantle Resources Inc.
Cathedral Place
1304 925 W. Georgia St.
Vancouver, BC V6C 3L2

by

Nicholas L. Johnson B.ScH.
Paul Metcalfe, Ph.D. P.Geo.
Coast Mountain Geological Ltd.
P.O. Box 11604
620 - 650 West Georgia Street
Vancouver, B.C. V6B 4N9

14th March, 2007

SUMMARY

This Assessment Report describes work filed on several fractional claims within the Akie property and is a precursor to a more extensive Statement of Work to be filed later in 2007. The work described in this report comprises a single diamond drill hole, the first of eleven drill holes collared during the 2006 exploration program at Akie. Twelve possible target areas had been identified in the Cardiac Creek Zone surrounding three successful 2005 holes, each intercept spaced roughly 100m from the next. Hole A-06-34 was collared to intersect the Cardiac Creek Zone 75m down-dip of the intersection in Hole A-05-30, completed the previous year.

As drilling proceeded, survey tests showed that the hole was deviating significantly to the left (north). At a depth of 330.5m the decision was made to stop the hole due to extreme deviation in azimuth. Had the hole been continued, the intersection would have been several hundred metres north of that intended and at a lower elevation. As a consequence, Hole A-06-34 was not among the seven holes that intersected the Cardiac Creek Zone. Sampling was restricted to a single ten-metre section in the lower part of the hole. Analysis returned no grade encouragement.

The hole was collared in shale of the informally named Gunsteel formation, which persisted for the entirety of the drill hole. Bad ground was encountered from the collar until 150 m. This bad ground represents the damaged footwall of the thrust fault that is present in the majority of the holes drilled on the Akie property. Logging of the hole showed the presence of a large thrust fault near the collar. The thrust fault had produced a rotation of the cleavage in the rock to a subvertical orientation. With the hole at a subvertical dip, the drilling caused the hole to "follow" the cleavage of the thrust fault, producing a strong deviation to the left (north).

Hole A-06-34 was not successful inasmuch as it did not intersect its intended target. Nevertheless, the important lithological and structural information recovered contributed greatly to the overall success of the 2006 program.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

In the summer of 2005, Mantle Resources entered into an agreement with Ecstall Mining whereby Mantle could acquire a 65% interest in the Akie property by making cash payments of $450,000 and undertaking exploration expenditures of $4,000,000 on that property prior to August 31st 2008. In the fall of 2005, Mantle Resources contracted Coast Mountain Geological Ltd. to manage a short four-hole drill program on the property. Three of these holes successfully intersected the Cardiac Creek Zone and the underlying stratigraphy. The intersections returned economic zinc and lead values over widths significantly greater than those indicated by historical results. As a result, Mantle Resources directed Coast Mountain Geological Ltd. to initiate a larger drilling program on the property in the spring of 2006. The purpose of this program was to test the limits of the mineralized Cardiac Creek Zone and to gain a better understanding of its nature.

The purpose of the 2006 exploration program was to test the extents of the mineralized Cardiac Creek Zone, with a focus on the encouraging intersections obtained during the 2005 drilling program. A secondary objective of the program was to obtain a better understanding of the mineralogical zonation of the Cardiac Creek Zone and, if possible, to constrain the location(s) of the source vent(s) of the mineralizing fluids. The program was constrained to the use of the drill pads constructed in 2005. Eleven diamond drill holes were collared during 2006, seven of which intersected stratiform Zn-Pb-Ag mineralization in the Cardiac Creek Zone

After the conclusion of the 2005 drill program, several small electronic tenures were acquired by both companies within the 2 km area of interest specified in the option agreement. The tenures were therefore not included in the Statement of Work filed in Spring of 2006. As a consequence, the anniversary dates of these tenures required that expenses from a single 2006 diamond drill hole be filed to extend them. This report describes the findings from that particular diamond drill hole (A-06-34) and is a precursor to a more extensive Statement of Work and Assessment Report to be filed later in 2007.

Units of measure in this report are metric. Monetary amounts referred to herein are expressed in Canadian dollars unless otherwise stated. Maps of the property in this report are based upon a Universal Transverse Mercator (UTM) Zone 10 projection using the 1983 North American datum (NAD83).

LOCATION AND STATUS OF PROPERTY

Location of property

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 is centred on latitude 57° 22' 37.1" N, longitude 124° 50' 33.8" W (UTM NAD'83 co-ordinates 389,200 m E, 6,360,850 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. 094F 031) 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.

Property description and mineral tenure

The property tenure is described in Table 1. A topographic map of the entire property is shown in Figure 2. The property initially comprised 22 legacy four-post mineral tenures (Akie 1-19, 21-22 and 25), owned jointly by Inmet Mining Corp. (60%) and Ecstall Mining Corp. (40%). An independent option agreement in 2005 gave Ecstall the right to purchase Inmet's 60% ownership by making cash payments. A dependent agreement gave Mantle the option to earn 65% interest in the property by making cash payments and exploration expenditures as noted above. Mantle Resources subsequently elected to take over Ecstall Mining. This takeover is in the process of closure at the time of writing.

The legacy tenures were augmented by a number of electronic mineral tenures acquired by Ecstall and Mantle subsequent to the Agreement and prior to the takeover, within an area of interest extending 2 km from the outer bounds of the legacy tenures. This area of interest (AOI) is shown in Figure 2. A substantial number of claims outside the AOI, mainly acquired by Ecstall, should devolve to Mantle on completion of the takeover.

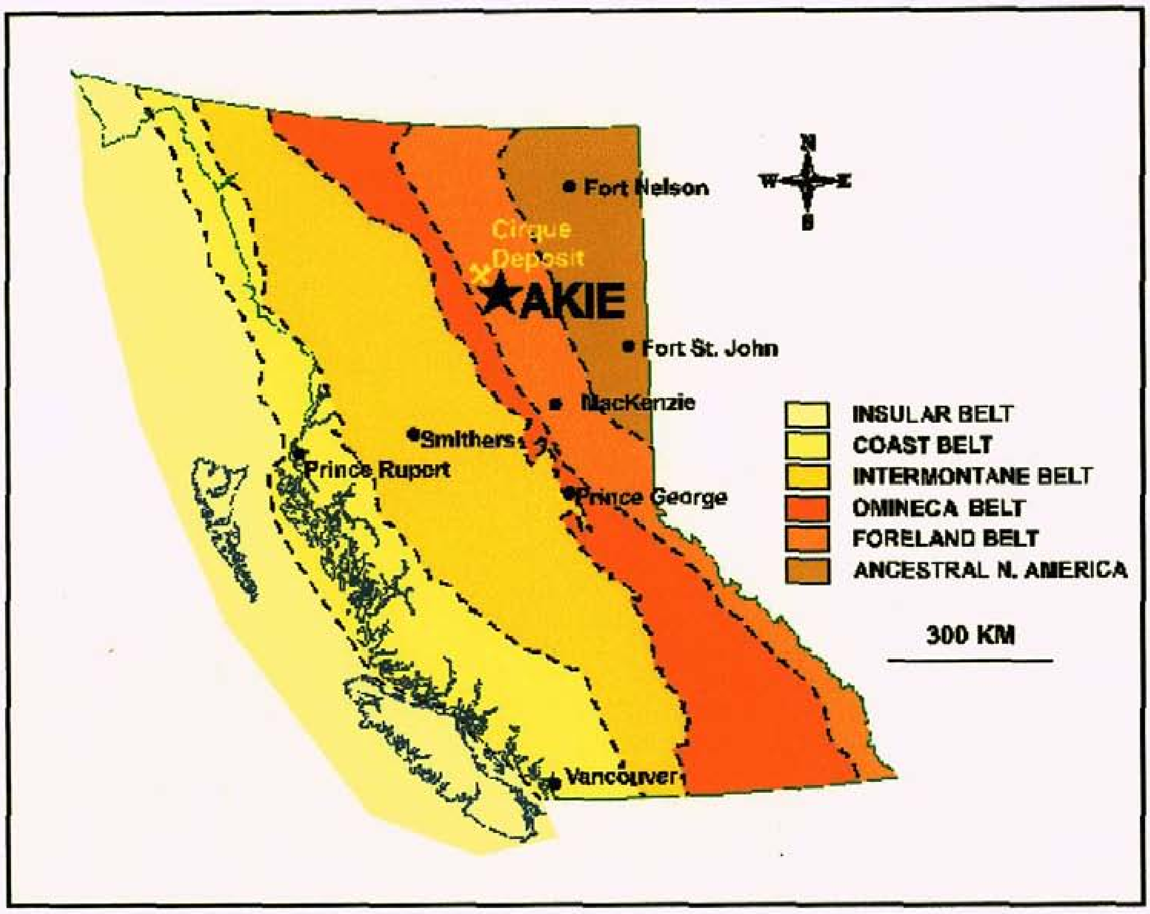

Figure 1. Property location map.

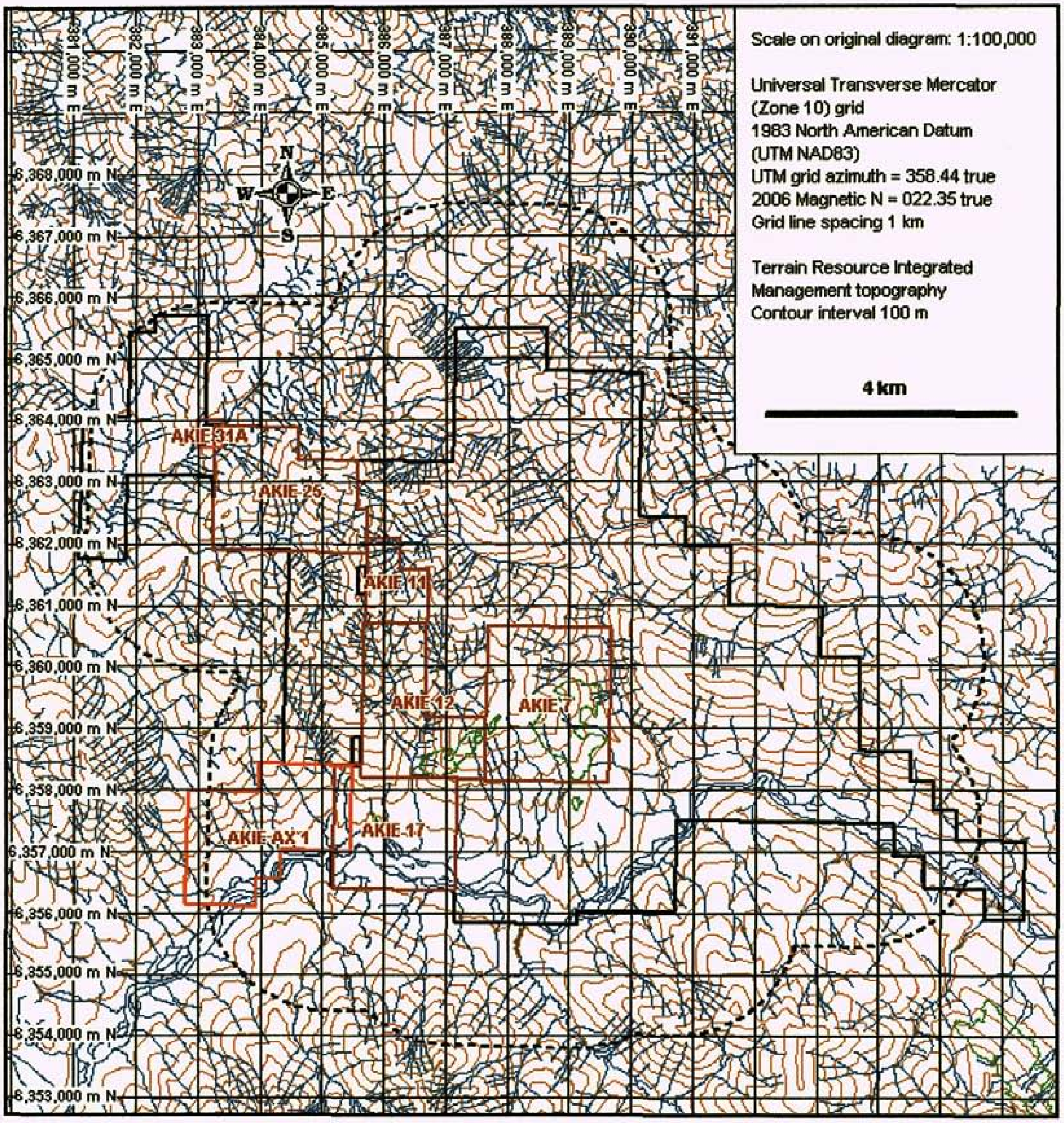

Figure 2. Topographic map of the immediate area of the claims.

Table 1. Mineral tenure of the property.

Tenure no.	Name	Type	Expiry date	Area (ha)
240791	AKIE 1	Legacy claim	17/06/2016	75
240792	AKIE 2	Legacy claim	17/06/2016	150
240793	AKIE 3	Legacy claim	17/06/2016	75
324822	AKIE 4	Legacy claim	17/06/2016	100
324823	AKIE 5	Legacy claim	17/06/2016	400
324824	AKIE 6	Legacy claim	17/06/2016	150
324825	AKIE 7	Legacy claim	17/06/2016	500
327931	AKIE 8	Legacy claim	17/06/2016	150
327932	AKIE 9	Legacy claim	17/06/2016	300
327933	AKIE 10	Legacy claim	17/06/2016	100
329534	AKIE 11	Legacy claim	17/06/2016	400
329535	AKIE 12	Legacy claim	17/06/2016	500
329536	AKIE 13	Legacy claim	17/06/2016	500
329537	AKIE 14	Legacy claim	17/06/2016	375
329538	AKIE 15	Legacy claim	17/06/2016	150
329539	AKIE 16	Legacy claim	17/06/2016	200
330626	AKIE 17	Legacy claim	17/06/2016	400
338283	AKIE 18	Legacy claim	17/06/2016	400
338284	AKIE 19	Legacy claim	17/06/2016	300
333352	AKIE 21	Legacy claim	17/06/2016	450
333353	AKIE 22	Legacy claim	17/06/2016	225
333356	AKIE 25	Legacy claim	17/06/2016	500
520476	AKIE 30	AOI claim	17/06/2016	436.14
529015	AKIE 31	AOI claim	27/02/2015	366.1
529025	AKIE 31A	AOI claim	06/12/2007	17.436
529026	AKIE 31B	AOI claim	27/02/2015	17.428
546693	AKIE 40	AOI claim	06/12/2007	346.94
546692	AKIE 41	AOI claim	06/12/2007	434.34
523916	AKIE FR.	AOI claim	15/12/2007	87.175
523920	AKIE FR 2	AOI claim	15/12/2007	17.441
526549	AKIE AX 1	AOI claim	06/12/2007	436.57
517839	CURE	AOI claim	17/06/2016	34.882
529018	PIE 35	AOI claim	27/02/2016	174.4

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

The Akie property is situated in the western ranges of the northern Rocky Mountains physiographic region of British Columbia. The pertinent details of the property are described in previous reports (McIntyre 2005, van Wermeskerken and Metcalfe 2006). The area of 2006 exploration lies below a tree line of predominantly spruce forest with some pine and balsam, on a moderate-to-steep NE-facing slope. Moderate snow accumulation and cold winter temperatures restrict the field season to the summer and early fall months (May to late September).

Access to the property is facilitated by the presence of an extensive network of maintained logging roads that permeate the Williston Lake Valley and extend back to Mackenzie. These logging roads come within 6 km of the property itself. This infrastructure is also supported by numerous gravel airstrips located at logging camps and small communities including Tsay Keh Dene and Fort Ware. This allows easy access and delivery of needed supplies.

HISTORY OF EXPLORATION

The history of exploration of the area and of the Akie is presented in detail by MacIntyre (2005). Rio Canex first acquired and explored the ground now covered by the Akie property in 1978. This exploration identified anomalous Pb, Zn, Ag and Ba in soil (Hodgson and Faulkner 1979). Ecstall subsequently acquired the ground in 1989 and in 1992 optioned it to Minnova Inc. (later Metall Mining Corp., now Inmet Mining Corporation) which assumed the role of operator. The Rio Canex geochemical anomalies were followed up by Metall. In July of 1994, prospecting along the trend of the soil anomalies led to the discovery of the Cardiac Creek showing (Baxter 1995; Baxter pers. comm. to P. Metcalfe, November 2006). Drilling carried out by Minnova from 1994 to 1996 identified the Cardiac Creek Zone of stratiform Zn-Pb-Ag mineralization near the base of the Gunsteel formation (Baxter 1995, 1996).

In 2005, Mantle Resources Inc. signed the option agreement described above, whereby the company could earn a 65% interest in the Akie property. As part of the exploration expenditures required by the agreement, Mantle directed Coast Mountain Geological to carry out a four-hole drill program in the central part of the Cardiac Creek Zone. Three holes successfully intersected the Cardiac Creek Zone, returning grades and thicknesses significantly greater than previously reported. (van Wermeskerken and Metcalfe 2006).

REGIONAL GEOLOGY

The reader is referred to MacIntyre (2005) for a detailed and comprehensive review of the regional and property geology. This report is confined to the central area of the Akie property, which is underlain by a sequence of Palaeozoic sedimentary rocks presented in a series of northeast vergent folds and thrust faults. One such thrust fault superposed Ordovician-Devonian clastic sedimentary rocks of the Road River Group northeastward over latest Devonian carbonaceous shales of the informally named Gunsteel formation, at the base of the Devono-Mississippian Earn Group. The stratiform mineralization discovered by Paul Baxter of Metall in July 1994 is the surface expression of the Cardiac Creek Unit (or Cardiac Creek Zone), which lies almost at the base of the Gunsteel formation and was the target for the 2005 - 2006 exploration drilling carried out by Mantle Resources. A geological map of this central area is shown in Figure 3.

2006 EXPLORATION PROGRAM

Logistics, personnel, duration and cost

Work completed on the Akie project during the 2006 exploration season consisted of reopening the exploration camp, construction of and repairs to drill pads, drilling, logging and sampling of ten diamond drill holes (including hole A-06-34), a differential GPS survey of existing drill hole collars, relogging of older holes and some limited prospecting. No geological mapping, soil surveys or geophysical surveys were carried out during the 2006 program.

The 2006 exploration program was again based out of the camp located at the 24.5 km mark on the Akie logging road. Reopening of the camp began in early May; drilling commenced shortly thereafter on the 16th of May and continued until the 26th of October, when frozen waterlines precluded continuation of the program. The drill crews were subsequently demobilized and the camp was closed down for the winter season. Camp shutdown was completed by the 9th of November. The diamond drill hole described in this report was completed between 19^{th} and 26^{th} May, 2006.

An expediter in Mackenzie provided logistical support for the camp, arranging the shipment of major supplies and groceries. Minor supplies could be obtained locally from the village of Tsay Keh Dene located on the northern tip of Williston Lake.

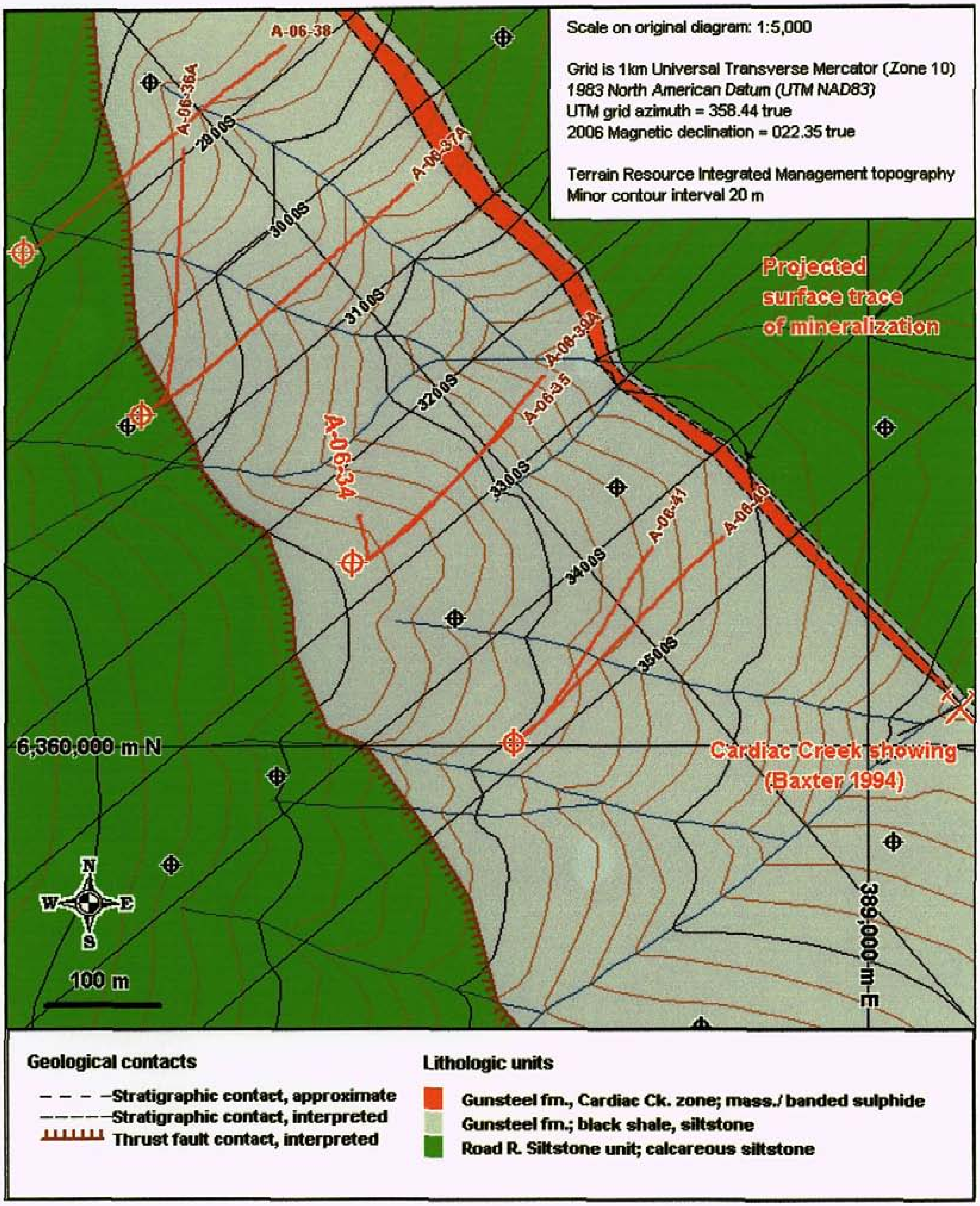

Figure 3. Geological map of the area explored in 2006, modified from Baxter (1995, 1996).

Diamond drill hole A-06-34 trace shown and labelled in red.

The exploration and support crew varied in number from three to twenty during the course of the program. At the height of activities the crew consisted of two geologists, a cook and bullcook, ten drillers, a camp manager, a helicopter pilot, two geotechnicians and two local labourers.

Exploration procedures

The objective of the 2006 exploration program was to drill as many as 12 diamond drill holes into the Cardiac Creek Zone. To accomplish this goal, both Hy-Tech Drilling Ltd. of Smithers, BC and Rodren Drilling Ltd. of Winnipeg, MB were contracted. The procedures and activities implemented during the course of the program are outlined below. Hole A-06-34 was collared by Hy-Tech.

Drill hole numbering and collar locations

All of the drill holes were numbered in accordance with the historical naming scheme with "A" (for the Akie property) dash "06" (the year) dash "34" (the next hole number in sequence). If a particular hole was abandoned and the next hole collared in an attempt to drill the same target, the hole number was suffixed with the letter "A" (*e.g.*: when A-06-37 was abandoned, the next hole drilling the same target became A-06-37A). The numbering of holes continued in sequence after those of the 2005 exploration program, beginning with A-06-34.

Upon completion of a drill hole, the casing was left in the ground to mark the collar location and a casing cap was screwed into place. Engraved on each cap are the pertinent hole number, azimuth, dip, depth of hole and (if abandoned) a marking to denote such. Casing caps were also placed onto the drill holes from the 2005 exploration program.

All North Consultants Limited was contracted to locate accurately the locations of existing drill hole collars using differential GPS. Prior to the arrival of the surveyor on site, a geologist and a geotechnician flagged all existing casings and identified them by their locations. A majority of the drill-hole casings, including that of hole A-06-34, were located. The surveyor would take GPS readings on the casing at top and at the point where it met the ground. From these two points a calculation of the azimuth and dip of the casing could be made.

Collar orientation & downhole surveys

The 2006 exploration utilised pre-existing drill pads constructed for the 2005 program. The planking on the drill pads was oriented at 050 or 055 degrees, to facilitate alignment of the drill rig on azimuth. Once the drill rig was established on the pad, the desired azimuth and dip of the hole could then be checked using either a Silva Ranger or Brunton compass by fore- or back-sighting on the mast of the drill. An additional method was to sight in the supports on one of the supporting skids (on which the drill rests); these are parallel to the orientation of the drill head. The desired dip was confirmed with the use of an inclinometer by placing it on the head of the drill.

Another factor influencing the orientation of the collar was drill-hole deviation. Using the historic data and the survey data from the 2005 exploration program, insight was gained as to how the drill-holes deviated. Each of the holes collared for the 2006 program anticipated the expected drill-hole deviation. A spreadsheet containing all the useful survey data was used to calculate average rates of change between survey points or over set distances, for both azimuth and dip. This data was helpful in trying to anticipate the expected drill-hole deviation in the 2006 drill holes and was augmented by the 2006 data as drilling progressed. However, it became apparent that factors such as local ground conditions or local cleavage orientations could influence a hole's deviation beyond that observed in historic survey data. This proved to be the case for Hole A-06-34.

Down-hole directional surveys were taken at an average of every 30 m (approximately 100 feet) using a Reflex single-shot down-hole survey tool. This survey tool provides point measurements of azimuth and dip of a hole with estimated precisions of $\pm$ 0.5° and $\pm$ 0.2°, respectively. Even allowing for a hypothetical depth to intersection of 550 m, the propagated horizontal and vertical uncertainties on a longitudinal projection or cross-section do not exceed 5m and 2m respectively, far less than the uncertainty provided by conventional GPS measurements of collar location.

Core Handling

The drill core was boxed at the drill site. After an appropriate number of boxes had accumulated, it was flown to camp for logging. Upon receipt, the geotechnician converted all footage blocks to metres using the conversion of 1m = 3.2808ft, measured the beginning and ending depth for each core box, marked these on the upper left and lower right of the core box respectively, labelled all core boxes with aluminium tags, made RQD measurements on the core and stapled the sample and aluminium tags associated with samples to the bottom of the box.

The geologist logged his or her observations into the logging template present on a computer laptop. Any samples taken in a given hole were marked out by the geologist using, with few exceptions, a maximum of 1.5 m sample length. The entire hole was then photographed by the geotechnician prior to sampling. Sampled sections were also photographed after being cut.

Sampled intervals were cut in half by the geotechnician using a diamond rock saw, such that half the core was left in the box as a record. The sampled split was placed in a polypropylene bag and the mouth of each bag was secured with a zap strap. The sampled split, where replication of a sample was required, was re-split into quarters. The median sample weight was roughly 2.5 kg. The samples were then placed in polypropylene woven rice sacks, ten to a sack, and kept in secure storage to await transportation to the analytical laboratory in Vancouver.

The majority of the core was stored on-site outside the core logging facility, cross-stacked and boarded up for the winter months. The sampled core was shipped down to a storage facility in Vancouver.

Sample security

All samples were stored in a locked storage shed on site in camp to await transportation. The samples were then shipped backhaul, via the shipping company responsible for delivering the camp's supplies, to the NT Air hanger in Mackenzie. The sample shipment, under the supervision of either Vicki Podgorenko or Erika Fitzpatrick of NT Air, was placed on a wooden pallet and left in the NT air hanger, to be picked up by a bonded transport company, in this case PG Lite or Van Kam Shipping, which delivered it to Acme Analytical Laboratories in Vancouver.

QA QC methodology

There was a strict QA QC policy in place for the 2006 exploration program. Pulverized blanks and four individual standards were obtained from WCM Minerals in Vancouver. Blanks, standards or duplicate samples were inserted in random sequence into the numbered sequence of sampled core at intervals of every 10 samples. In addition, the geologist had discretion to insert blanks in mineralized areas to detect any cross contamination during analysis. Acme Labs also applied their own QA QC methods by systematically inserting standards, blanks and replicates into sample batches.

The pulps from the assays were then sent to Global Discovery Laboratories in Vancouver for reanalysis, acting as a comprehensive check on Acme Lab's analysis.

Analytical procedures

All samples were analysed by Acme Analytical Laboratories in Vancouver. Samples were crushed in their entirety, using a crusher made of tool steel, to 70% passing a -10 mesh sieve. A 250 gm aliquot of this coarse material (roughly 10% of the total sample) was crushed to 95% passing a -150 mesh sieve.

A 1gm aliquot of the homogenized pulp was digested in hot *aqua regia* and analysed for a suite of 23 elements, including the target elements lead (Pb), zinc (Zn) and silver (Ag), using inductively coupled plasma emission spectrometry (ICP-ES). The detection limits for these elements using this method (Acme Group 7AR) are 0.01 weight percent (wt.%), 0.01 wt.% and 2 parts per million (ppm), respectively.

Barium (Ba), owing to its refractory nature, is only partially dissolved by *aqua regia* digestion. Analysis for Ba was by total fusion of a 0.2 gm split of the pulp using a lithium metaborate flux, followed by digestion in dilute nitric acid and inductively coupled plasma emission spectrometry (ICP-ES). The detection limit for Ba using this method (Acme Group 4A) is 5 ppm. Specific gravity (SG) measurements were also made on the samples.

Analytical cleanliness, precision and accuracy

Three characteristics of any analytical data set are of immediate interest as necessary precursors to interpretation of results. These are:

1. Analytical cleanliness. This is monitored both by the analytical laboratory's inclusion of blank samples in an analytical run and by the inclusion of unmarked blanks.
2. Analytical accuracy. This is the extent to which a particular analytical technique returns a value representative of the true concentration of a component in a given sample or sample set. This is addressed by the inclusion of unmarked samples which are aliquots of an

homogeneous standard as well as by the analytical laboratory's inclusion of its own in-run homogeneous standards. This provides a comparison between analytical runs where more than one analytical run has contributed to the data set.

3. Analytical precision. This is the confidence with which a particular analytical value can be used. This is addressed by the analytical laboratory's duplication of an analysis of a particular pulp chosen at random from those samples submitted by the client. The second source of information is the laboratory's replication of its own standard pulps and by the replication of the client's unmarked standard pulps within an analytical run.

Of every ten samples submitted to Acme analytical laboratories, one was an unmarked blank, replicate or analytical standard. The smaller size of later runs precluded replication of unmarked standards, but enough in-lab replication of pulp analysis was carried out to define the analytical precision satisfactorily.

Analytical cleanliness

Without exception, all unmarked analytical blanks submitted to the laboratory during the course of 2006 drilling returned values beneath detection limit in the target elements Pb, Zn and Ag. This is also true of all the "in-lab" analytical blanks save one in analytical run A607901, which returned a value of 0.04 weight percent Zn and 0.01 weight percent Pb. Given the high values returned from the Cardiac Creek Zone intersections, these blank values are not preclusive but are under investigation at the time of writing.

Analytical precision

Graphs of mean Pb, Zn and Ag concentrations in analytical replicates against their corresponding values of 2s (two standard deviations) show a linear covariance of concentration and standard deviation for "worst-case" variances in analytical replicates of core for the entire 2006 drilling. The analytical precision is therefore predictable and is ± 0.03 and ± 0.05 for Pb and Zn values of 1% (3% and 5% of total value). These quoted percentages decrease for higher concentrations. The poorest Ag values give a worst-case of ± 3 ppm (2s). This is a potential problem because of the low silver concentrations (15-20 ppm) but is a function of the detection limit of the analytical technique rather than of analytical or sampling procedure; the detection limit is 2 ppm. Given the low overall contribution of Ag to the net value of the mineralization at present, it is recommended that an alternative analytical technique be researched but not used unless Ag comes to be perceived as a more important constituent.

Analytical accuracy

All standards used in the project, whether in-lab or unmarked, were previously analysed by Acme Analytical Laboratories. Detailed information from the laboratory and the manufacturer of the standards indicates that the values obtained from samples of any standard fall within analytical uncertainty of the population mean for that standard.

RESULTS FROM HOLE A-06-34

For the 2006 exploration program a total of 4880.58m were completed in a total of eleven diamond drill holes. However, only seven of these holes were completed. The locations of the drill collars, including that of Hole A-06-34, are shown in Figure 3. Of the eleven holes drilled, seven successfully intersected the Cardiac Creek Zone. Four holes were stopped owing to extreme deviation, bad ground resulting in stuck drill rods, or jammed casing. One such hole was A-06-34. The analytical certificate for this diamond drill hole is presented in Appendix III; the drill log is presented in Appendix IV

Drilling conditions

The drilling conditions at the Akie property are less than ideal owing to two key factors:

1. The intensity of the cleavage in the rocks, and
2. Bad ground associated with the thrust fault separating the overlying panel of Road River rocks from that containing the target Gunsteel Formation.

The rate of drilling was slow, particularly when the hole trace intersected the thrust fault or ran subparallel to the cleavage. As a result, four drill holes, including A-06-34, had to be abandoned owing to jammed drill rods or drill casing and pervasive fault gouge, clay or mud. Attempts were made to alleviate the problems experienced by drilling to a depth of 400 m with HQ core then switching to NQ core, utilization of differently sized core barrels and drilling at different speeds. These variations were largely successful in mitigating problems.

Drill hole summary for A-06-34

Hole A-06-34, the first hole drilled by Hy-Tech Drilling in 2006, was drilled from the same location as Hole A-05-30. Its objective was to intersect the Cardiac Creek Zone 75m down-dip of the intersection in Hole A-05-30. A straight line from collar to target had an azimuth of 032 and a dip of -74°.

A review of the survey data from previous years' drilling with data obtained during the 2005 exploration program showed that previous holes had deviated significantly in both azimuth and dip. In anticipation of a deviation similar to those noted previously, Hole A-06-34 was collared at an azimuth of 050 and a dip of -86°. A plan view and a section of the drill hole are shown in Figures 3 and 4, respectively.

As drilling proceeded, the survey tests showed that the hole was deviating significantly to the left (north). Consultations were held with industry contacts as well as with the manufacturer of the REFLEX EZ-SHOT. These discussions indicated that the instrument had difficulties reading azimuths of holes with near vertical dips, but if the hole were to flatten to -82°, the azimuth readings should become stable. From these discussions a decision was made to do duplicate tests at a particular depth to determine whether the instrument was reading consistently. Although the results indicated consistency, a decision was made to borrow Rodren Drilling Ltd's REFLEX instrument and perform a number of tests during a bit change in order to test the instrument's accuracy further. The results from these tests were entirely consistent with those previous, indicating the Hy-Tech instrument was performing as expected and that the deviation to the north was real.

At a depth of 330.5m the decision was made to stop the hole due to extreme deviation in the azimuth. Had the hole been continued, the intersection would have been several hundred metres to the north of that planned and at a lower elevation.

The hole was collared in Gunsteel Shale, which persists for the majority of the drill hole. Bad ground was encountered from the collar until 150 m. This bad ground represents the damaged footwall of the thrust fault that is present in the majority of the holes drilled on the Akie property. Logging of the hole showed the presence of a large thrust fault near the collar. The thrust fault had produced a rotation of the cleavage in the rock to a subvertical orientation. With the hole at a subvertical dip, the drilling caused the hole to "follow" the cleavage of the thrust fault, producing a strong deviation to the left (north).

Analytical results for Hole A-06-34

Hole A-06-34 was not among the seven holes that intersected the Cardiac Creek Zone. As a consequence, sampling was restricted to a single ten-metre section in the lower part of the hole. Analysis returned no grade encouragement.

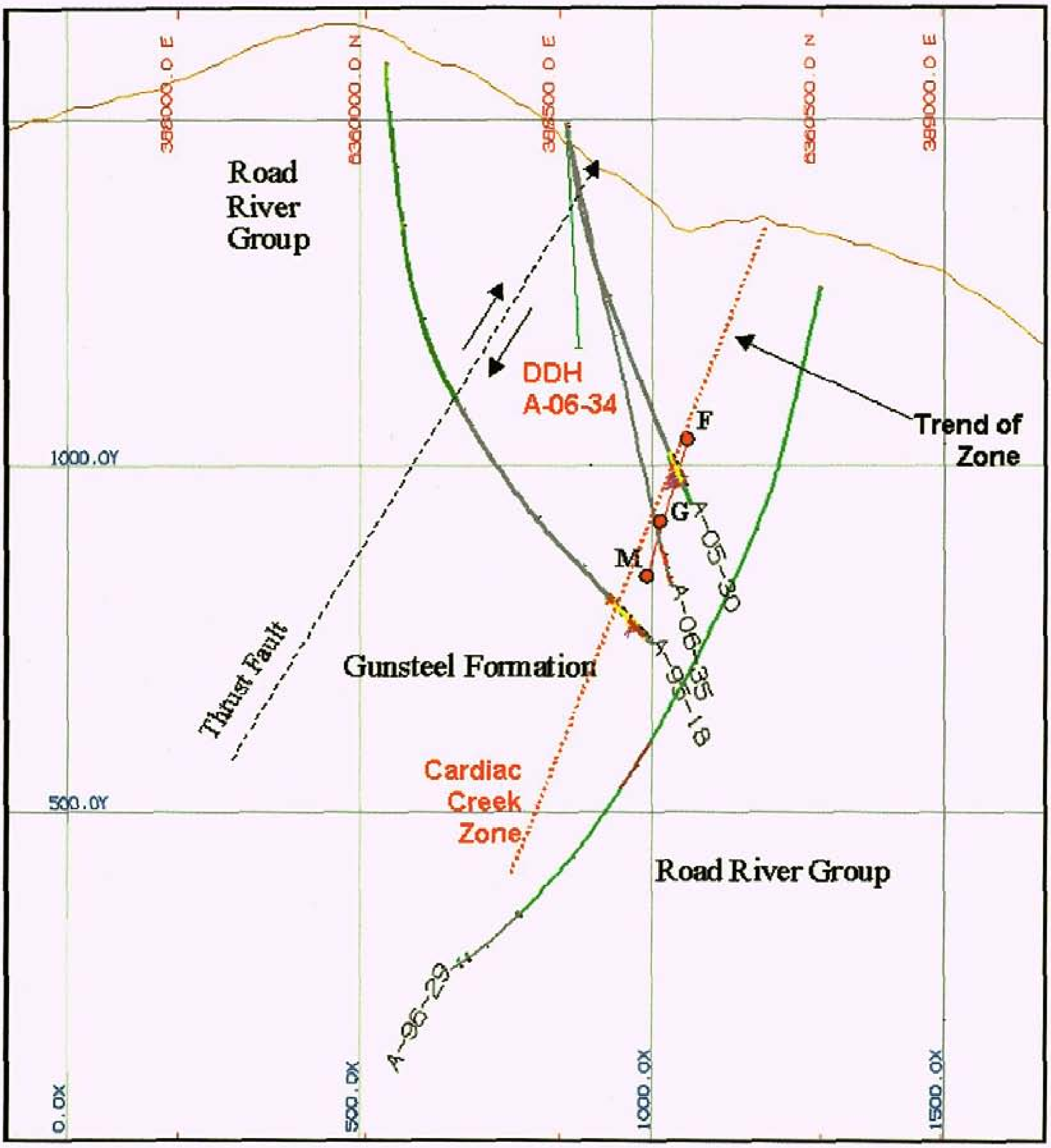

Figure 4. Vertical section of DDH A-06-34.

~1:10 000

INTERPRETATION

Structure

Measurements from the drill core have defined a number of different sets of cleavages. However, there is one that is pre-eminent, oriented parallel to subparallel to the bedding. Local outcrops and geological maps record cleavage measurements striking roughly 130 to 140 and dipping subvertically from -70° to -90°. Using the assumption that the measured cleavage is the same as local one, general orientations of the cleavage were made and bedding-to-cleavage relationships utilized.

In general, the cleavage-to-bedding relationship is in a parallel to subparallel orientation in the upper segments of a given hole. In the proximity of the Cardiac Creek Zone the cleavage is dipping more steeply than the bedding. The parallel nature of the cleavage with respect to the bedding in upper portions of the drill holes indicates that the Gunsteel Formation is located on the limb of a tight fold with a shift to the cleavage dipping more steeply than the bedding, as seen within the Cardiac Creek Zone, indicating that this is the limb of a syncline. The cleavage measurements were helpful in confirming the presence of the thrust fault, which separates the overlying Road River rocks from the shale of the Gunsteel formation.

Measurements plotted on the field cross sections clearly displayed refraction of the cleavage due to the motion associated with the thrust fault. This information also strongly suggests that the dip of the thrust fault is not as steep as previously thought, and is only moderately dipping on the order of 45° to 50°. Results from subsequent holes will provide further information.

Late brittle faults are recognizable by fault gouge, milled, blocky and disced core and generally bad ground. These faults can vary in size from a few centimetres to tens of metres. Correlating between these faults on individual cross sections was carried out using the Gemcom software package.

Earlier faulting, which may have been healed by quartz-calcite veining, silicified fault breccias or silicified gouge have also been difficult to correlate from one cross section to another.

Mineral facies and stratigraphy

The Cardiac Creek Zone displays a progression of distinct mineralogical facies. Sulphides in the form of beds containing fine millimetre- to centimetre-wide laminations of pyrite interbedded with fine shale beds, which also contain scattered beds or trains of nodular barite (typically replaced by carbonate and pyrite), are a distal facies to the zone. This develops into beds of massive pyrite (although internally laminated) with trace to minor amounts of steel-grey coloured sphalerite. The beginning of the Cardiac Creek Zone is marked by transition from massive predominantly pyrite beds to pyrite + sphalerite beds containing interstitial galena. Occasionally there are finely laminated barite beds on the hanging wall contact of individual sulphide beds within the zone. Below the Cardiac Creek Zone is, typically, a section of mixed laminated and/or massive barite beds, also containing variable degrees of bedded or laminated pyrite.

Calcareous concretions

The presence of calcareous, dark grey concretions has been noted in every drill hole. Observations with respect to these concretions have also noted an apparent relationship with respect to the sulphide mineralization. An attempt to quantify this potential relationship was made by counting the number of concretions between the distance marker blocks to see if they correlated with the presence of sulphide mineralization. Data on this subject is very limited at this time and no conclusions can be drawn.

Alteration

Alteration on the Akie property within the lithological units has been restricted to silicification halos present as light grey "crusts" surrounding vein or stringer sets or individual veins. Currently no property scale alteration facies have been observed on the property.

CONCLUSIONS

Hole A-06-34 did not reach its target. Notwithstanding that lack of success, detailed examination of core from the hole by Messrs. Parada and Johnson returned the important information that the sheared axial planar cleavage was a critical factor influencing the deviation of the hole. This information was used to reduce greatly the deviation of the subsequent holes, such that the 2006 exploration program was a success.

RECOMMENDATIONS

- The primary objective for future drilling programs will be to define clearly the extents of the economic mineralization. A secondary objective will be to continue to delineate sections of known higher-grade mineralization.
- Relogging of the older holes should be completed to pinpoint the hanging wall sulphide horizons, obtaining detailed cleavage bedding relationships and geotechnical information. This should include resampling of the sulphide horizons and any additional sampling needed within in and about the Cardiac Creek Zone, if the older core still exists.
- More detailed sampling is needed in and about the Cardiac Creek Zone as well as in all of the sulphide horizons found within the hanging wall to the Cardiac Creek Zone.
- For the purposes of identifying any possible alteration or elemental zonations, one complete intersection of Gunsteel formation should be sampled (by splitting) in its entirety.
- For the 2007 exploration program the use of a handheld MPP geophysical instrument on the older as well as the new holes is recommended.
- The use of the EZ-Mark oriented core system is recommended to obtain accurate downhole structural data.
- An attempt could be made to conduct downhole surveys of the pre-2005 drill holes via use of a tripod system.
- Future exploration potential on the property could include testing the geochemical anomalies located across Silver Creek, to the NE of current drilling operations.
- Drilling from the banks of Silver Creek for deeper down-dip exploration should be considered in order to limit drill-hole length and potential water problems.
- The Cardiac Creek showing should be accurately located and additional sampling taken. In addition, further prospecting and sampling should be conducted to locate additional outcroppings of the Cardiac Creek mineralized horizon and establish a surface trace of the mineralization to be tied into future modelling.

For 2007, an exploration program consisting of approximately 8000m in 15 diamond drill holes are feasible depending on the objectives and location of the drill hole collars. The program would be designed to achieve two primary objectives: the ongoing identification of the higher grade mineralization (which at this point is confined to the central portion of the deposit) and the definition of the boundaries of the deposit by drilling 100 metre stepouts from known mineralization.

This amount of drilling will require the building of a number of drill pads. With the procurement of two drilling rigs, we believe that such a program could be completed during the summer and fall exploration season even with the poor drilling conditions present at the Akie property.

ACKNOWLEDGEMENTS

This work could not have been completed without the diligent structural measurements made on the drill core by Mr. Simon Parada. This report benefited from reviews by Mr. R. Basil and Ms. A. Bryson.

REFERENCES

Baxter, P. 1995: Soil Geochemical, Geophysical and Diamond Drilling Assessment Report, AKIE claims; British Columbia Ministry of Energy Mines and Petroleum Resources Assessment Report 23870, 123p., 8 maps.

Baxter, P. 1996: Soil geochemical and diamond drilling assessment report, Akie claims; British Columbia Ministry of Energy Mines and Petroleum Resources Assessment Report 24439, 166p., 6 maps.

Hodgson, G.D. and Faulkner, R.L. 1979: DOG claims, Omineca M.D.: British Columbia Ministry of Energy Mines and Petroleum Resources Assessment Report 7967, 28p., 1 map.

MacIntyre, D.G. 2005: Geological report on the Akie property Omineca Mining Division northeast British Columbia; Mantle Resources Inc. qualifying report, 54p.

Van Wermeskerken, M and Metcalfe, P. 2006: Summary report on the 2005 Akie diamond drill project; British Columbia Ministry of Energy Mines and Petroleum Resources Assessment Report, in review.

APPENDIX I: STATEMENT OF COSTS FOR DDH A-06-34

Project Manager	8	man days	$600/day	$4,200.00
Sr. Project Geologist	8	man days	$700/day	5,600.00
Project Geologist	3	man days	$600/day	1,800.00
Geotechnician	8	man days	$350/day	2,800.00
Field Managers	16	man days	$450/day	5,200.00
Labourers	16	man days	$325/day	7,200.00
Cook	8	man days	$425/day	3,400.00
Bull Cook	3	man days	$370/day	1,110.00
Analyses				2,010.00
Mob/Demob				5,471.47
Drilling (HW and HQ)				52,358.12
Transportation				
Helicopter				11,005.95
4x4 Truck				1,280.00
Fuel				6,469.49
Field and Camp Supplies				12,619.45
Equipment Rentals				1,872.50
First Aid and Safety				1,200.00
Office Expenses				715.00
Freight and Courier				6,984.11
Sundry				640.00
Total				**$133,936.09**

APPENDIX II: STATEMENTS OF QUALIFICATIONS

I, Nicholas L. Johnson, do hereby state:

1. That I am a resident of Ontario, with an address of 579 Union St. W., Kingston, Ontario, K7M-2H5.
2. That I am a graduate of Queens University (B. Sc. Hons in Geology, 2001);
3. That I have been employed in geology since May 2002 since graduating from Queens;
4. That I am currently under the employ of Coast Mountain Geological Ltd, a British Columbia corporation with a business address of 620-650 West Georgia Street, Vancouver, B.C., V6B-4N9 and have been retained by the client, Mantle Resources Inc., to complete this report and make recommendations for future work on this property.
5. I hereby approve of this document to be used for any lawful purpose by the client.

Dated in Vancouver, B.C., on the 14th of March, 2007.

Nicholas L. Johnson, B.Sc. (Hon.)

I, Paul Metcalfe, do hereby state:

1. That I am a resident of British Columbia, with a business address of 204-130 East Queens Road, North Vancouver, British Columbia V7N 1G6.
2. That I am a member, in good standing, of the Association of Professional Engineers and Geoscientists of the Province of British Columbia;
3. That I am a graduate of the University of Durham (B.Sc. Hon. in Geology, 1977);
4. That I am a graduate of the University of Manitoba (M.Sc. in Geology, 1981);
5. That I am a graduate of the University of Alberta (Ph.D. in Geology, 1987);
6. 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;
7. That I have been employed in geology or geological research since graduation from Durham;
8. 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 property for the Client, Mantle Resources Inc.;
9. That I approve of this report being used for any lawful purpose as may be required by the Client.

DATED in Vancouver, B.C., this 14th of March, 2006.

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

APPENDIX III: ANALYTICAL CERTIFICATES FOR *DDH A-06-34*

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT

To Coast Mountain Geological

Acme file # A603851 Page 1 Received: JUL 18 2006 * 152 samples in this disk file.

Analysis: GROUP 7AR - 1.000 GM SAMPLE, AQUA - REGIA (HCL-HNO3-H2O) DIGESTION TO 100 ML, ANALYSED BY ICP-ES

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	Al	Na	K	W	Hg	Sample
SAMPLES	%	%	%	%	gm/mt	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	kg
377001	0.003	0.008	0.02	0.44	5	0.009	0.001	0.01	1.79	0.01	0.015	0.005	0.006	<.01	0.94	0.049	0.001	0.07	0.64	0.22	0.32	<.001	<.001	3.5
377002	0.002	0.005	0.03	0.21	6	0.01	0.001	0.01	1.63	0.01	0.012	0.002	0.006	<.01	0.62	0.048	0.001	0.05	0.62	0.11	0.25	<.001	<.001	4.5
377003	0.002	0.003	0.01	0.43	3	0.007	0.001	0.01	2.05	0.01	0.02	0.005	0.003	<.01	1.19	0.075	0.001	0.07	0.67	<.01	0.32	<.001	<.001	4
377004	0.002	0.005	0.03	0.44	8	0.01	0.001	<.01	1.72	0.01	0.003	0.005	0.006	<.01	0.2	0.03	0.001	0.03	0.64	<.01	0.33	<.001	<.001	3.7
377005	0.003	0.005	0.02	0.57	6	0.008	0.001	0.01	1.61	<.01	0.004	0.006	0.003	<.01	0.31	0.032	0.001	0.07	0.63	0.06	0.25	<.001	<.001	3.2
377006	0.002	0.006	0.03	0.26	4	0.009	<.001	0.01	1.98	0.01	0.007	0.003	0.004	<.01	1.3	0.02	0.001	0.1	0.54	0.03	0.26	<.001	<.001	4.5
377007	0.002	0.003	0.03	0.22	4	0.006	0.001	0.02	1.99	<.01	0.026	0.003	0.004	<.01	2.03	0.032	0.001	0.09	0.71	0.06	0.31	<.001	<.001	5.6
377008	0.002	0.004	0.02	0.15	5	0.01	0.001	0.01	2.03	0.01	0.019	0.002	0.005	<.01	1.4	0.069	<.001	0.08	0.65	0.03	0.2	<.001	<.001	3.5
377009	0.002	0.004	0.02	0.41	3	0.01	0.001	0.03	1.89	<.01	0.05	0.004	0.008	<.01	3.39	0.085	0.001	0.08	0.83	<.01	0.24	<.001	<.001	2.2
377010	0.002	0.004	0.02	0.26	4	0.008	0.001	0.03	1.75	0.01	0.048	0.003	0.008	<.01	3.3	0.087	0.001	0.06	0.69	0.03	0.29	<.001	0.001	2.3
377011	0.002	0.004	0.03	0.23	5	0.006	0.001	0.03	2.46	<.01	0.057	0.003	0.005	<.01	3.95	0.095	0.001	0.69	0.64	0.13	0.3	<.001	<.001	4.1
377123	0.004	0.003	<.01	<.01	<2	0.006	<.001	0.01	6.29	<.01	0.01	<.001	0.002	<.01	0.72	0.054	0.001	0.08	1.03	0.05	0.24	<.001	<.001	2.7
RE 377123	0.004	0.002	<.01	<.01	<2	0.005	0.001	0.01	6.35	<.01	0.01	<.001	<.001	<.01	0.73	0.052	0.001	0.06	1.07	<.01	0.28	<.001	<.001	-
RRE 377123	0.004	0.002	<.01	<.01	<2	0.006	0.001	0.01	6.08	<.01	0.009	<.001	0.002	<.01	0.59	0.05	0.001	0.06	0.96	0.05	0.28	<.001	<.001	-
377139	0.003	0.003	0.24	1.44	4	0.008	0.001	0.03	11.8	0.01	0.016	0.009	0.005	<.01	0.75	0.051	0.001	0.14	0.45	<.01	0.22	0.001	<.001	1.3
RE 377139	0.003	0.004	0.25	1.49	6	0.008	0.001	0.03	12.12	0.01	0.016	0.009	0.006	<.01	0.77	0.048	0.001	0.15	0.47	<.01	0.24	0.001	<.001	-
RRE 377139	0.003	0.003	0.26	1.66	3	0.008	0.001	0.03	13.31	0.01	0.017	0.011	0.003	<.01	0.8	0.045	0.001	0.12	0.47	<.01	0.1	0.001	<.001	-
377183	0.002	0.004	0.03	0.29	<2	0.008	0.001	0.02	1.77	<.01	0.036	0.002	0.001	<.01	1.81	0.09	0.001	0.43	0.56	0.02	0.31	0.001	<.001	3.1
RE 377183	0.001	0.003	0.04	0.28	<2	0.007	0.001	0.02	1.72	<.01	0.034	0.002	0.002	<.01	1.76	0.087	0.001	0.42	0.53	0.04	0.32	0.001	<.001	-
RRE 377183	0.002	0.004	0.04	0.29	<2	0.008	0.001	0.02	1.78	<.01	0.034	0.002	<.001	<.01	1.75	0.091	0.001	0.43	0.62	<.01	0.41	0.001	<.001	-
377207	0.001	0.004	1.43	7.04	11	0.007	<.001	0.08	7.65	<.01	0.078	0.039	0.001	<.01	1.8	0.056	<.001	0.33	0.81	0.19	0.07	0.005	<.001	2.3
RE 377207	0.001	0.004	1.44	7.12	11	0.006	<.001	0.07	7.71	<.01	0.078	0.039	0.003	<.01	1.82	0.06	0.001	0.33	0.82	0.11	0.07	0.006	<.001	-
RRE 377207	0.001	0.004	1.4	6.91	12	0.006	<.001	0.06	7.54	<.01	0.073	0.036	0.002	<.01	1.87	0.053	0.001	0.33	0.78	0.02	<.01	0.006	<.001	-
377247	0.003	0.004	<.01	<.01	<2	0.009	<.001	0.01	2.05	<.01	0.01	<.001	0.001	<.01	1.14	0.049	<.001	0.3	0.45	<.01	0.41	<.001	<.001	2.9
RE 377247	0.003	0.003	<.01	<.01	<2	0.009	0.001	0.01	2.05	<.01	0.01	<.001	0.002	<.01	1.14	0.048	<.001	0.3	0.43	0.05	0.34	<.001	<.001	-
RRE 377247	0.003	0.004	<.01	<.01	<2	0.01	0.001	0.01	1.98	<.01	0.01	<.001	0.003	<.01	1.09	0.047	<.001	0.29	0.39	0.08	0.29	<.001	<.001	-
377130 (pulp)	<.001	<.001	<.01	<.01	<2	0.001	<.001	0.04	1.51	<.01	0.001	<.001	0.002	<.01	0.2	0.026	0.005	0.27	0.64	0.04	0.55	<.001	<.001	-
377150 (pulp)	<.001	0.843	2.04	0.43	208	0.001	0.001	0.02	3.58	0.02	0.001	0.005	0.041	<.01	0.17	0.017	0.003	0.03	0.05	<.01	<.01	0.001	<.001	-
377160 (pulp)	<.001	<.001	<.01	<.01	<2	<.001	<.001	0.04	1.7	<.01	0.002	<.001	<.001	<.01	0.15	0.012	0.008	0.23	0.81	0.03	0.42	<.001	<.001	-
377180 (pulp)	0.002	0.648	0.98	1.24	243	0.002	0.002	0.25	2.63	0.02	0.006	0.009	0.046	<.01	1.75	0.004	0.003	0.09	0.14	0.1	0.16	<.001	0.001	-
377190 (pulp)	<.001	<.001	<.01	<.01	<2	<.001	<.001	0.04	1.43	<.01	0.001	<.001	<.001	<.01	0.21	0.026	0.005	0.26	0.63	<.01	0.43	<.001	0.001	-
377210 (pulp)	<.001	0.49	1.4	4.1	29	0.001	0.001	0.55	4.86	<.01	0.009	0.027	0.004	<.01	4.1	0.081	0.003	1.27	1.47	0.11	1.29	0.004	<.001	-
377220 (pulp)	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.04	1.87	<.01	0.001	<.001	<.001	<.01	0.12	0.022	0.008	0.22	0.56	0.18	0.3	<.001	<.001	-
377240 (pulp)	<.001	0.462	3.56	1	292	<.001	<.001	0.06	2.74	0.02	0.001	0.007	0.063	<.01	0.14	0.013	0.003	0.02	0.03	0.01	<.01	0.002	0.001	-
STANDARD R-2a	0.048	0.56	1.44	4.17	166	0.359	0.045	0.2	23	0.24	0.174	0.03	0.133	<.01	2.26	0.08	0.07	1.61	1.34	0.16	0.5	0.07	0.178	-
STANDARD R-2a	0.046	0.557	1.47	4.03	158	0.342	0.044	0.19	22.08	0.22	0.162	0.027	0.128	<.01	2.23	0.079	0.07	1.57	1.43	0.26	0.41	0.065	0.172	-
STANDARD R-2a	0.049	0.573	1.49	4.15	163	0.356	0.044	0.2	22.99	0.23	0.165	0.029	0.131	<.01	2.33	0.081	0.071	1.64	1.44	0.23	0.48	0.069	0.175	-
STANDARD R-2a	0.049	0.562	1.5	4.06	161	0.362	0.045	0.2	22.95	0.23	0.177	0.029	0.13	<.01	2.32	0.084	0.073	1.65	1.41	0.2	0.55	0.076	0.171	-
STANDARD R-2a	0.047	0.562	1.47	4.17	161	0.343	0.042	0.19	22.17	0.22	0.17	0.026	0.127	<.01	2.17	0.084	0.069	1.54	1.34	0.16	0.56	0.07	0.17	-

N.B.: ALL REPLICATE AND STANDARD DATA FOR THE RUN HAVE BEEN LEFT ON THIS CERTIFICATE

377130 (pulp)	BLANK
377150 (pulp)	WCM standard PB111
377160 (pulp)	BLANK
377180 (pulp)	WCM standard PB112
377190 (pulp)	BLANK
377210 (pulp)	WCM standard PB109
377220 (pulp)	BLANK
377240 (pulp)	WCM standard PB110

From ACME ANALYTICAL LABORATORIES LTD. 852 E HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT
To Coast Mountain Geological
Acme file # A603881 Page 1 Received: JUL 18 2006 * 156 samples in this disk file
Analysis: GROUP 4A - 0.100 GM SAMPLE BY LIBO2/LI2B4O7 FUSION, ANALYSIS BY ICP-ES (LIBO2/LI2B4O7 FUSION MAY NOT BE SUITABLE FOR MASSIVE SULFIDE OR HIGH

ELEMENT	Ba
SAMPLES	ppm
377001	15528
377002	19083
377003	12430
377004	15806
377005	15842
377006	22618
377007	27529
377008	19517
377009	16578
377010	15112
377011	17871
377123	21132
RE 377123	20921
RRE 377123	21934
377139	8551
RE 377139	8902
RRE 377139	7077
377183	9427
RE 377183	9065
RRE 377183	9008
377207	55403
RE 377207	53853
RRE 377207	53864
377247	10697
RE 377247	10307
RRE 377247	11575
377150 (pulp)	35
377160 (pulp)	1003
377130 (pulp)	994
377180 (pulp)	970
377190 (pulp)	957
377210 (pulp)	1000
377220 (pulp)	1019
377240 (pulp)	1114
STANDARD SO-18	560
STANDARD SO-18	576
STANDARD SO-18	564
STANDARD SO-18	558

N.B.: ALL REPLICATE AND STANDARD DATA FOR THE RUN HAVE BEEN LEFT ON THIS CERTIFICATE

377130 (pulp)	**BLANK**
377150 (pulp)	**WCM standard PB111**
377160 (pulp)	**BLANK**
377180 (pulp)	**WCM standard PB112**
377190 (pulp)	**BLANK**
377210 (pulp)	**WCM standard PB109**
377220 (pulp)	**BLANK**
377240 (pulp)	**WCM standard PB110**

APPENDIX IV: A06-34 DIAMOND DRILL LOG

PROPERTY: Akie	**DRILL HOLE #: A-06-34**	**LOGGED BY: Nick Johnson**	**COVER SHEET DATE:**

COLLAR LOCATION

PROPOSED		**DATUM:**	NAD 83 ZONE 10
LOCAL GRID		**UTM CO-ORDS**	
NORTH:		NORTHING:	5360185
EAST:		EASTING:	358550
ELEVATION:		ELEVATION:	1497
SURVEYED			
LOCAL GRID		**UTM CO-ORDS**	
NORTH:		NORTHING:	
EAST:		EASTING:	
ELEVATION:		ELEVATION:	

COLLAR ORIENTATION

PROPOSED	
AZIMUTH:	50
DIP:	-86
SURVEYED	
AZIMUTH:	
DIP:	

DDH LENGTH

PROPOSED	
LENGTH:	720
ACTUAL	
LENGTH:	330.5

DOWN HOLE SURVEY

SURVEY TYPE: Reflex EZ Shot

DISTANCE	AZIMUTH	DIP	Accepted?	COMMENTS
0	50	-86	YES	
20	48.25	-86.5	YES	
55	48.55	-84.8	YES	
65	359.25	-83.8	NO	Low magnetics
115	349.25	-81.7	YES	
119	347.85	-81.5	YES	Two tests taken @ 119m
119	347.55	-81.5	NO	Not used
155	347.35	-81.5	YES	
203	347.85	-81.3	YES	
				The following tests were taken during a bit change using the Rodren tool to confirm results obtained by the Hy-tech tool
39	19.35	-85	NO	
81	357.35	-83.8	NO	
128	349.35	-81.6	NO	
171	348.85	-81.4	NO	
216	347.15	-81.4	YES	
261	345.25	-81.4	YES	
302	344.45	-81	YES	
328	343.75	-80	YES	

DRILLING INFORMATION

CONTRACTOR:	HY-TECH
CORE DIAMETER:	HQ
DATE STARTED:	19 MAY 2006
DATE COMPLETED:	26 MAY 2006
CAPPED:	YES
CASING:	YES
UNITS:	METRIC: X IMPERIAL:

HOLE OBJECTIVE: THE HOLE WAS PLANNED TO INTERCEPT A TARGET 75M DOWN DIP FROM THE INTERCEPT IN A-05-30

HOLE SUMMARY: THE HOLE WAS STOPPED AT 330.5m DUE TO EXTREME DEVIATION IN THE AZIMTUH.

APPENDIX IV (cont.): LITHOLOGY

FROM	TO	LENGTH	LITHOLOGY	DESCRIPTION	PRIM LITHO CODE	SEC LITHO CODE	GRP/FORM
8.00	12.50	4.50	GUNSTEEL SHALE	Black, vfg, very fissile, graphitic shales. Cleavage planes have minor amounts of calcite +/- barite infill or they can have a graphitic sheen with slickensides. There are rare elongated subrounded clasts or fragments infilled with Py +/- barite and calcite. There is minor amounts of gouge present along the cleavage planes as well. The highly fissile, cleavednature of the core is indicative of the thrust fault between the RRG and the GSF. From 8-12.5m the core has red orange rust coloured stains on the cleavage planes. There are very rare mm's wide Py laminations, there is also vfg Py disseminated throughout the shale. There are scattered rare, lighter grey calcareous angular fragments typically with calcite, barite infilled fractures and rare vfg Py laminations	4SH		GSF
12.50	52.00	39.50	GUNSTEEL SHALE	Black, vfg, very fissile, graphitic shales with disseminated vfg Py. Highly cleaved nature of core indicates that hole is still within the thrust fault.	4SH		GSF
57.50	66.60	9.10	GUNSTEEL SHALE W/BARITE NODULES	Black, vfg, very fissile, graphitic shales with small mm wide calcite, barite and fg Py concretions/blebs or nodules. They are preferentially oriented along bedding planes and grouped together in bands of a few cm's wide.	4SH	4BSH	GSF
66.60	99.00	32.40	GUNSTEEL SHALE	Black , vfg, very fissile, graphitic shales	4SH		GSF
99.00	102.00	3.00	GUNSTEEL SHALE W/NUMEROUS FRAGMENTS	Black , vfg, very fissile, graphitic shales interbedded with small scale debris with mm's wide, angular, light grey, calcareous fragments loosely bedded. No indication of tops present. There are larger cm's wide fragments intermixed as well. There are numerous fragments which appear to have been replaced by vfg Py. These could be siltstone fragments or just reworked shale fragment or both or slumped material off of a vent mound.	4SH		GSF
102.00	106.70	4.70	GUNSTEEL SHALE	Fracture zone with numerous calcite, barite infilled fractures oriented predominantly parallel to cleavage and bedding planes.	4SH		GSF
106.70	120.00	13.30	GUNSTEEL SHALE	Black, vfg, very fissile, graphitic shales	4SH		GSF
120.00	123.00	3.00	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shale with numerous angular shale and or light grey calcareous fragments, also included a few cm's wide angular Pyritic clasts.	4SH		GSF
123.00	132.00	9.00	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shales	4SH		GSF
132.00	135.10	3.10	MISSING CORE	MISSING BX 36	911		
135.10	143.60	8.50	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shales.	4SH		GSF
143.60	146.80	3.20	GUNSTEEL SHALE W/BARITE NODULES	Black, vfg, fissile, graphitic shales with very fine mm wide Ba, Py +/- calcite nodules/blebs oriented along bedding planes. There are also scattered angular grey calcareous fragments present also containing fg Py. A few of which are laminated. There is also some fracturing with calcite, Ba infill.	4SH	4BSH	GSF
146.80	151.00	4.20	MISSING CORE	MISSING BX 40	911		
151.00	151.50	0.50	GUNSTEEL SHALE W/BARITE NODULES	Black, vfg, fissile, graphitic shales with very fine mm wide Ba, Py +/- calcite nodules/blebs oriented along bedding planes. There are also scattered angular grey calcareous fragments present also containing fg Py. A few of which are laminated. There is also some fracturing with calcite, Ba infill.	4SH	4BSH	GSF
151.50	161.50	10.00	GUNSTEEL SHALE W/SILTSTONE? LAMINATIONS	Black, vfg, fissile, graphitic shales with lighter grey laminations typically hosting fg anhedral to euhedral Py and are slightly calcareous.	4SH		GSF
161.50	166.30	4.80	MISSING CORE	MISSING BX 44	911		
166.30	188.80	22.50	GUNSTEEL SHALE	Black, vfg, fissil, graphitic shales with the occasional lighter grey siltstone?? Lamination	4SH		GSF
188.80	192.60	3.80	MISSING CORE	MISSING BX 51	911		
192.60	196.00	3.40	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shales with scattered mm wide elongated Ba, Ca, Py nodules.	4SH		GSF
196.00	207.10	11.10	MISSING CORE	MISSING BX'S 52, 54, 55	911		
207.10	250.50	43.40	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shales with scattered mm wide elongated Ba, Ca, Py nodules oriented along bedding planes.	4SH		GSF
250.50	260.20	9.70	GUNSTEEL SHALE W/SCATTERED CA, PY & SP?? LAMINATIONS	Black, vfg, fissile, graphitic shale with scattered mm wide laminations of Py, Ca Qtz, and possibly Sp? (steel grey bands, although they are weakly calcareous) This includes a bed of Ca, Py and Sp? Oriented parallel to the core axis at 256.5 which extends for 1m. There are also scattered Ba,Ca,Py elongated mm wide nodules oriented along the bedding planes. Also present are rare clustered spherical black nodules with outwardly radiating needle like bands that contain minor amounts of disseminated vfg Py and Ca. 97% shale 3% Sulphide laminations	4SH	4PYSH	GSF
260.20	330.50	70.30	GUNSTEEL SHALE	Black, vfg, fissile, graphitic shales, Scattered Ca, Py, Ba laminated nodules oriented along bedding planes.	4SH		GSF

APPENDIX IV (cont.): MINERALIZATION

FROM	TO	LENGTH	DESCRIPTION	Pyrite %	Sphalerite %	Galena %	Barite %
8.00	57.50	49.50	Vfg disseminated Py throughout occasionally concentrated and oriented along bedding planes	Tr			
57.50	66.60	9.10	fg anhedral Py within the mm wide calcite, barite concretions/nodules.	0.50			2.00
66.60	94.20	27.60	Vfg disseminated Py throughout occasionally concentrated and oriented along bedding planes	Tr			
94.20	143.60	49.40	Vfg disseminated Py throughout occasionally concentrated and oriented along bedding planes	Tr			
143.60	146.80	3.20	vfg anhedral Py present within mm wide Ba +/- calcite nodules/blebs	0.50			2.00
151.00	151.50	0.50	vfg anhedral Py present within mm wide Ba +/- calcite nodules/blebs	0.50			2.00
151.50	155.00	3.50	Vfg disseminated Py throughout occasionally concentrated and oriented along bedding planes	Tr			
155.00	168.50	13.50	Vfg disseminated Py throughout and locally concentrated within light grey laminations (possibly siltstone)	0.25			
168.50	188.80	20.30	Vfg disseminated Py throughout and locally concentrated within light grey laminations (possibly siltstone)	Tr			
250.50	260.20	9.70	Vfg Py, Ba and Sp earthy red Sp and possibly steel grey Sp bands scattered about interval.	1.00	0.50		3.00
307.40	310.30	2.90	Fine mm's wide laminations of vfg Py and possibly steel grey Sp.	1.00	0.25		2.00

APPENDIX IV (cont.): VEINING

FROM	TO	LENGTH	DESCRIPTION	% OF VEINING IN INTERVAL	CORE ANGLE
36.00	36.10	0.10	A 10cm wide fracture infill with Qtz, calcite and barite with no visible sulphides. There appears to be a slight crustiform texture.	60	13
52.00	78.00	26.00	A section with increased fracturing along cleavage planes and running parallel to the CA infilled typically with calcite, barite and minor Qtz. These fractures are typically a mm or two wide but up to several mm's wide.	3	
78.20	78.40	0.20	A 15cm wide Qtz, calcite, barite veinlet infilling a large fracture. There are small mm wide angular fragments of the wallrock contained within the veinlet, trace vfg Py present	65	60
80.00	80.09	0.09	A 10cm wide Qtz, calcite, barite veinlet infillined a fracture with no visible sulphides.	90	90
102.00	106.70	4.70	Fracture zone with numerous calcite, barite filled fractures oriented predominantly along the cleavage planes.	5	10
106.70	107.80	1.10	Fracture zone with numerous calcite, barite filled fractures oriented predominantly along the cleavage planes.	20	
126.80	128.00	1.20	Fracture zone with numerous calcite, barite filled fractures oriented predominantly along the cleavage planes.	20	
178.90	179.00	0.10	Small 10cm wide fracture zone with Qtz, Ba and minor calcite infill, there is also some minor graphite mineralisation as well.	50	
270.50	278.20	7.70	There are scattered up to 10cm wide Qtz, Calcite fracture fill veins, with minor fg Py. The veins are probably a part of the fault system with Qtz, Ca veins filling the opening fractures. The viens themselves also contain small scale breccia with anglar fragmentsof the host rock shales.	7	40

APPENDIX IV (cont.): STRUCTURE

FROM	TO	LENGTH	DESCRIPTION	STRUCTURE	CORE ANGLE
9.00	9.10	0.10	Highly fissile core, thrust fault present	CLV	40
10.00	10.10	0.10	Highly fissile core, thrust fault present	CLV	20
11.00	11.10	0.10	Highly fissile core, thrust fault present	CLV	20
12.50	12.60	0.10	Highly fissile core, thrust fault present	CLV	20
16.00	16.10	0.10	Highly fissile core, thrust fault present	CLV	25
19.00	19.20	0.20	Fault gouge and ground up core	FLT	
22.00	22.10	0.10	Highly fissile core, thrust fault present	CLV	13
22.30	22.60	0.30	Fault gouge and ground up core	FLT	
25.00	25.10	0.10	Highly fissile core, thrust fault present	CLV	16
28.00	28.10	0.10	Highly fissile core, thrust fault present	CLV	13
31.00	31.10	0.10	Highly fissile core, thrust fault present	CLV	5
34.00	34.10	0.10	Highly fissile core, thrust fault present	CLV	13
37.00	37.10	0.10	Highly fissile core, thrust fault present	CLV	23
40.00	40.10	0.10	Highly fissile core, thrust fault present	CLV	10
43.00	43.10	0.10	Highly fissile core, thrust fault present	CLV	14
47.00	47.10	0.10	Highly fissile core, thrust fault present	CLV	13
48.35	48.45	0.10	Highly fissile core, thrust fault present	CLV	5
49.50	49.60	0.10	Highly fissile core, thrust fault present	CLV	3
50.60	50.70	0.10	Highly fissile core, thrust fault present	CLV	2
53.50	53.60	0.10	Highly fissile core, thrust fault present	CLV	2
55.00	55.10	0.10	Highly fissile core, thrust fault present	CLV	2
56.50	56.60	0.10	Highly fissile core, thrust fault present	CLV	10
58.00	58.10	0.10	Highly fissile core, thrust fault present	CLV	2
61.00	61.10	0.10	Highly fissile core, thrust fault present	CLV	2
64.00	64.10	0.10	Highly fissile core, thrust fault present	CLV	25
67.00	67.10	0.10	Highly fissile core, thrust fault present	CLV	45
70.00	70.10	0.10	Highly fissile core, thrust fault present	CLV	10
73.00	73.10	0.10	Highly fissile core, thrust fault present	CLV	13
76.00	76.10	0.10	Highly fissile core, thrust fault present	CLV	10
79.00	79.10	0.10	Highly fissile core, thrust fault present	CLV	6
82.00	82.10	0.10	Highly fissile core, thrust fault present	CLV	7
85.00	85.10	0.10	Highly fissile core, thrust fault present	CLV	3
87.50	87.75	0.25	Some fault gouge with ground up core	FLT	
87.75	87.85	0.10	Highly fissile core, thrust fault present	CLV	4
89.00	89.10	0.10	Highly fissile core, thrust fault present	CLV	7
92.00	92.10	0.10	Highly fissile core, thrust fault present	CLV	2
94.70	94.80	0.10	Highly fissile core, running parallel to bedding, thrust fault present	CLV	8
98.00	98.10	0.10	Highly fissile core, running parallel to bedding, thrust fault present	CLV	20
101.00	101.10	0.10	Highly fissile core, running parallel to bedding, thrust fault present	CLV	14
104.00	104.10	0.10	Highly fissile core, running parallel to bedding, thrust fault present	CLV	21
107.00	107.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	16
110.00	110.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	4
112.60	112.70	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	5

APPENDIX IV (cont.): STRUCTURE

115.80	115.90	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	6
116.50	116.60	0.10	Fault gouge with ground up core along cleavage plane.	FLT	10
119.00	119.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	18
122.00	122.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	11
125.00	125.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	15
125.90	127.00	1.10	Fault gouge and healed fault gouge mixed with ground up core.	FLT	
128.00	128.10	0.10	Fissile core, running parallel to bedding, thrustfault present	CLV	30
128.30	129.40	1.10	Fault gouge with ground up core along cleavage plane.	FLT	
130.60	131.00	0.40	Healed fault gouge or proto fault gouge with some ground up core. This fault may represent the end of the thrust fault.	FLT	
137.40	137.80	0.40	Fault gouge with ground up core along cleavage plane.	FLT	
140.00	140.10	0.10	Fissile core, running parallel to bedding	CLV	35
143.00	143.10	0.10	Fissile core, running parallel to bedding	CLV	25
146.00	146.10	0.10	Fissile core, running parallel to bedding	CLV	30
152.00	152.10	0.10	Fissile core, running parallel to bedding	CLV	50
155.00	155.10	0.10	Fissile core, running parallel to bedding	CLV	42
156.00	156.10	0.10	Light grey laminations/bedding	BDG	40
158.00	158.10	0.10	Fissile core, running parallel to bedding	CLV	30
159.00	159.10	0.10	Light grey laminations/bedding	BDG	40
159.10	160.00	0.90	Fault gouge with ground up core as well as healed gouge breccia with calcite, Qtz, and minor barite	FLT	
161.00	161.10	0.10	Fissile core, running parallel to bedding	CLV	45
162.00	162.10	0.10	Light grey laminations/bedding	BDG	32
167.00	167.10	0.10	Fissile core running parallel to bedding	CLV	30
170.00	170.10	0.10	Fissile core running parallel to bedding	CLV	35
173.00	173.10	0.10	Fissile core running parallel to bedding	CLV	7
173.30	174.10	0.80	Minor fault gouge running along cleavage plane with some ground up core.	FLT	
175.40	175.50	0.10	Fissile core running parallel to bedding	CLV	30
177.30	177.37	0.07	Light grey lamination/bedding	BDG	25
178.70	178.80	0.10	Fissile core running parallel to bedding	CLV	40
181.20	181.40	0.20	Fault gouge with ground up core along cleavage plane.	FLT	
183.70	183.75	0.05	Fault gouge with ground up core along cleavage plane.	FLT	
185.00	185.10	0.10	Fissile core running parallel to bedding	CLV	40
187.50	187.80	0.30	Fault gogue with ground up core along cleavage planes as well as some healed fault gouge.	FLT	
194.00	194.10	0.10	Strong cleavage running parallel to bedding	CLV	15
201.10	201.20	0.10	Strong cleavage running parallel to bedding	CLV	15
208.80	208.90	0.10	Strong cleavage running parallel to bedding	CLV	10
209.00	209.10	0.10	Strong cleavage running parallel to bedding	CLV	13
212.00	212.10	0.10	Strong cleavage running parallel to bedding	CLV	30
215.00	215.10	0.10	Strong cleavage running parallel to bedding	CLV	65
217.60	218.40	0.80	Fault gouge with ground up core	FLT	20
221.00	221.10	0.10	Moderate cleavage running parallel to bedding	CLV	
224.00	224.10	0.10	Moderate cleavage running parallel to bedding	CLV	
227.00	227.10	0.10	Moderate cleavage running parallel to bedding	CLV	

APPENDIX IV (cont.): STRUCTURE

227.20	227.30	0.10	Displays a fold, folding the mm wide Ba, Ca, Py nodules which are oriented along the bedding planes. Assuming that the regional bedding orientation is approx. 160/70 and the cleavage is parallel to the bedding then orienting the cleavage to the regional bedding the fold would be an "S" fold there by indicating that the major fold would close up hole direction. The axial plane is at 25 deg to CA parallel to the cleavage.	FLD	25
230.00	230.10	0.10	Moderate cleavage running parallel to bedding	CLV	45
231.70	231.80	0.10	Fault gouge with groud up core	FLT	21
233.00	233.10	0.10	Moderate cleavage running parallel to bedding	CLV	20
236.00	236.10	0.10	Moderate cleavage running parallel to bedding	CLV	29
239.00	239.20	0.20	Fault gouge with some rubble	FLT	
242.00	242.10	0.10	Moderate cleavage running parallel to bedding	CLV	20
245.00	245.10	0.10	Moderate cleavage running parallel to bedding	CLV	23
245.00	247.40	2.40	Fault gouge with ground up core as well as section of core which appears to be a protofault	FLT	
248.00	248.10	0.10	Moderate cleavage running parallel to bedding	CLV	22
250.50	250.60	0.10	Bedding planes	BDG	50
253.70	253.80	0.10	Bedding planes	BDG	23
257.00	257.10	0.10	Moderate cleavage running parallel to bedding	CLV	10
260.00	260.10	0.10	Moderate cleavage running parallel to bedding	CLV	35
262.50	273.00	10.50	Large fault, with fault gouge, ground up core and some healed sections, small scale healed breccias, disc'd core (ie poker chips)	FLT	
275.00	275.10	0.10	Strong cleavage running parallel to bedding	CLV	6
277.00	278.00	1.00	Minor fault gouge with a few 10cm wide Qtz, Ca fracture fill veins and ground up core, and a bit of rubble.	FLT	
281.00	281.10	0.10	Strong cleavage running parallel to bedding	CLV	5
284.00	284.10	0.10	Strong cleavage running parallel to bedding	CLV	15
287.00	287.10	0.10	Strong cleavage running parallel to bedding	CLV	5
290.00	290.10	0.10	Strong cleavage running parallel to bedding	CLV	5
293.00	293.10	0.10	Strong cleavage running parallel to bedding	CLV	9
296.00	296.10	0.10	Strong cleavage running parallel to bedding	CLV	13
298.50	299.00	0.50	Fault gouge with ground up core.	FLT	
301.30	301.40	0.10	Strong cleavage running parallel to bedding	CLV	15
304.50	304.60	0.10	Moderate cleavage running parallel to bedding	CLV	25

APPENDIX IV (cont.) ANALYTICAL

Sample	From m	To m	Length m	% SULPHIDES	% SHALE	Replicates and standards	CERTIFICATE #	Mo %	Cu %	Pb %	Zn %	Ag g/t	Ba %	Ni %	Co %	Mn %	Fe %	As %	Sr %	Cd %	Sb %	Bi %	Ca %	P %	Cr %	Mg %	Al %	Na %	K %	W %	Hg %	Specific Gravity	Sample kg
377001	249.50	250.50	1.0	0.3	98		A803881 (G7AR & G4A) &	0.003	0.006	0.02	0.44	5	1.5528	0.009	0.001	0.01	1.79	0.01	0.015	0.005	0.005	<.01	0.94	0.048	0.001	0.07	0.64	0.22	0.32	<.001	<.001	2.86	3.5
377002	250.50	251.50	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.005	0.03	0.21	6	1.8063	0.01	0.001	0.01	1.63	0.01	0.012	0.002	0.005	<.01	0.62	0.048	0.001	0.06	0.82	0.11	0.25	<.001	<.001	2.71	4.5
377003	251.50	252.50	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.003	0.01	0.43	3	1.243	0.007	0.001	0.01	2.06	0.01	0.02	0.005	0.003	<.01	1.19	0.075	0.001	0.07	0.67	<.01	0.32	<.001	<.001	2.7	4
377004	252.50	253.50	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.006	0.03	0.44	6	1.5805	0.01	0.001	<.01	1.72	0.01	0.003	0.005	0.006	<.01	0.2	0.03	0.001	0.05	0.64	<.01	0.33	<.001	<.001	2.61	3.7
377005	253.50	254.50	1.0	0.3	98		A803881 (G7AR & G4A) &	0.003	0.006	0.02	0.57	6	1.5642	0.006	0.001	0.01	1.51	<.01	0.004	0.006	0.003	<.01	0.31	0.032	0.001	0.07	0.63	0.06	0.25	<.001	<.001	2.64	3.2
377006	254.50	256.00	1.5	0.3	98		A803881 (G7AR & G4A) &	0.002	0.006	0.03	0.28	4	2.2618	0.009	<.001	0.01	1.99	0.01	0.007	0.003	0.004	<.01	1.3	0.02	0.001	0.1	0.54	0.03	0.26	<.001	<.001	2.63	4.5
377007	256.00	257.00	1.0	1.0	98		A803881 (G7AR & G4A) &	0.002	0.003	0.03	0.22	4	2.7529	0.006	0.001	0.02	1.99	<.01	0.028	0.003	0.004	<.01	2.03	0.032	0.001	0.09	0.71	0.06	0.31	<.001	<.001	2.66	5.6
377008	257.00	258.00	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.004	0.02	0.15	5	1.9517	0.01	0.001	0.01	2.03	0.01	0.019	0.002	0.005	<.01	1.4	0.069	<.001	0.08	0.65	0.03	0.2	<.001	<.001	2.64	3.6
377009	258.00	259.00	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.004	0.02	0.41	3	1.8876	0.01	0.001	0.03	1.89	<.01	0.05	0.004	0.008	<.01	3.38	0.066	0.001	0.08	0.63	<.01	0.24	<.001	<.001	2.65	2.2
377010						Rep of prev	A803881 (G7AR & G4A) &	0.002	0.004	0.02	0.25	4	1.6112	0.006	0.001	0.03	1.75	0.01	0.048	0.003	0.006	<.01	3.3	0.067	0.001	0.06	0.68	0.03	0.29	<.001	0.001	2.64	2.3
377011	259.00	260.00	1.0	0.3	98		A803881 (G7AR & G4A) &	0.002	0.004	0.03	0.23	5	1.7871	0.005	0.001	0.03	2.46	<.01	0.057	0.003	0.005	<.01	3.96	0.035	0.001	0.89	0.64	0.13	0.3	<.001	<.001	2.67	4.1

APPENDIX IV (cont.): DOWNHOLE SURVEYS

DEPTH (m)	AZIMUTH (mag)	AZIMUTH (true)	DIP	MAGN	SURVEY TYPE	ACCEPTED Y/N	COMMENTS
0.00		50.00	-86.00			Y	
20.00	25.90	48.25	-86.50	5823	REFLEX EZ-SHOT	Y	
55.00	27.20	49.55	-84.80		REFLEX EZ-SHOT	Y	
85.00	336.90	359.25	-83.80	5168	REFLEX EZ-SHOT	N	Low mag
115.00	326.90	349.25	-81.70	5779	REFLEX EZ-SHOT	Y	
119.00	325.30	347.65	-81.50	5771	REFLEX EZ-SHOT	Y	
119.00	325.20	347.55	-81.50	5776	REFLEX EZ-SHOT	N	Duplicate tests @119m the second one will not be used
155.00	325.00	347.35	-81.50	5768	REFLEX EZ-SHOT	Y	
203.00	325.50	347.85	-81.30	5770	REFLEX EZ-SHOT	Y	
39.00	357.00	19.35	-85.00	5767	REFLEX EZ-SHOT	N	Additional tests taken during a bit change to confirm validity of previous tests
81.00	335.00	357.35	-83.90	5772	REFLEX EZ-SHOT	N	Additional tests taken during a bit change to confirm validity of previous tests
126.00	327.00	349.35	-81.60	5768	REFLEX EZ-SHOT	N	Additional tests taken during a bit change to confirm validity of previous tests
171.00	326.50	348.85	-81.40	5771	REFLEX EZ-SHOT	N	Additional tests taken during a bit change to confirm validity of previous tests
216.00	324.80	347.15	-81.40	5769	REFLEX EZ-SHOT	Y	Additional tests taken during a bit change to confirm validity of previous tests
261.00	322.90	345.25	-81.40	5769	REFLEX EZ-SHOT	Y	Additional tests taken during a bit change to confirm validity of previous tests
302.00	322.10	344.45	-81.00	5767	REFLEX EZ-SHOT	Y	Additional tests taken during a bit change to confirm validity of previous tests
326.00	321.40	343.75	-80.00	5769	REFLEX EZ-SHOT	Y	Test taken with the Rodren drilling survey tool to confirm whether Hy-techs tool was operating properly

APPENDIX IV (cont.): ROCK QUALITY DESIGNATION (RQD)

FROM	TO	LENGTH	RQD
8.00	9.00	1.00	0.00
9.00	10.00	1.00	0.00
10.00	11.00	1.00	0.00
11.00	12.50	1.50	0.00
12.50	16.00	3.50	0.00
16.00	19.00	3.00	0.00
19.00	22.00	3.00	0.00
22.00	25.00	3.00	0.00
25.00	28.00	3.00	0.00
28.00	31.00	3.00	0.00
31.00	34.00	3.00	0.00
34.00	37.00	3.00	0.00
37.00	40.00	3.00	0.00
40.00	43.00	3.00	0.00
43.00	47.00	4.00	7.50
47.00	48.35	1.35	0.00
48.35	49.50	1.15	23.50
49.50	50.60	1.10	32.70
50.60	53.50	2.90	19.00
53.50	55.00	1.50	25.30
55.00	56.50	1.50	32.00
56.50	58.00	1.50	36.70
58.00	61.00	3.00	0.00
61.00	64.00	3.00	26.70
64.00	67.00	3.00	75.00
67.00	70.00	3.00	35.00
70.00	73.00	3.00	30.00
73.00	76.00	3.00	27.70
76.00	79.00	3.00	30.00
79.00	82.00	3.00	11.00
82.00	85.00	3.00	7.60
85.00	87.75	2.75	0.00
87.75	89.00	1.25	0.00
89.00	92.00	3.00	0.00
92.00	94.70	2.70	22.20
94.70	98.00	3.30	18.20
98.00	101.00	3.00	33.00
101.00	104.00	3.00	30.00
104.00	107.00	3.00	73.30
107.00	110.00	3.00	28.30
110.00	112.60	2.60	30.00
112.60	115.80	3.20	11.90
115.80	119.00	3.20	20.60
119.00	122.00	3.00	30.00
122.00	125.00	3.00	10.00
125.00	128.00	3.00	20.00
128.00	130.20	2.20	11.80
136.50	140.00	3.50	32.60
140.00	143.00	3.00	66.30
143.00	146.00	3.00	48.00

APPENDIX IV (cont.): ROCK QUALITY DESIGNATION (RQD)

FROM	TO	LENGTH	RQD
152.00	155.00	3.00	29.70
155.00	158.00	3.00	33.00
158.00	161.00	3.00	53.30
161.00	164.00	3.00	
164.00	167.00	3.00	
167.00	170.00	3.00	24.30
170.00	173.00	3.00	22.30
173.00	175.40	2.40	18.30
175.40	178.70	3.30	12.70
178.70	181.40	2.70	14.10
181.40	183.90	2.50	8.80
183.90	185.00	1.10	0.00
185.00	187.80	2.80	15.40
207.10	208.40	1.30	17.70
208.40	209.00	0.60	61.70
209.00	212.00	3.00	15.30
212.00	215.00	3.00	31.70
215.00	218.00	3.00	21.00
218.00	221.00	3.00	38.70
221.00	224.00	3.00	26.70
224.00	227.00	3.00	33.30
227.00	230.00	3.00	15.70
230.00	233.00	3.00	19.00
233.00	236.00	3.00	10.30
236.00	239.00	3.00	29.30
239.00	242.00	3.00	24.70
242.00	245.00	3.00	37.70
245.00	248.00	3.00	3.30
248.00	250.50	2.50	52.00
250.50	253.70	3.20	36.30
253.70	257.00	3.30	34.80
257.00	260.00	3.00	60.00
260.00	262.50	2.50	23.20
262.50	266.00	3.50	0.00
266.00	268.50	2.50	0.00
268.50	272.00	3.50	0.00
272.00	274.20	2.20	5.90
274.20	275.00	0.80	0.00
275.00	278.00	3.00	19.00
278.00	281.00	3.00	8.30
281.00	284.00	3.00	15.30
284.00	287.00	3.00	6.30
287.00	290.00	3.00	36.70
290.00	293.00	3.00	0.00
293.00	296.00	3.00	33.30
296.00	299.00	3.00	6.30
299.00	301.30	2.30	0.00
301.30	304.50	3.20	32.80
304.50	307.50	3.00	59.30
307.50	310.50	3.00	57.30

APPENDIX IV (cont.): ROCK QUALITY DESIGNATION (RQD)

FROM	TO	LENGTH	RQD
310.50	313.60	3.10	65.60
316.30	319.40	3.10	67.70
319.40	321.90	2.50	88.00
321.90	325.00	3.10	67.70
325.00	326.00	1.00	40.00
326.00	329.00	3.00	33.30
329.00	330.50	1.50	36.00

APPENDIX IV (cont.): AKIE LITHOLOGY LEGEND

LITHO CODE	GROUP/FORMATION	DESCRIPTION
CS		CASING
911		Missing core
4SH	GUNSTEEL FORMATION	Black, graphitic shales with disseminated vfg pyrite
4SS	GUNSTEEL FORMATION	Dark grey to black fg siltstones
4PYSH	GUNSTEEL FORMATION	Laminated pyrite beds interbedded with black shales
4BSH	GUNSTEEL FORMATION	Laminated barite or nodular barite beds interbeddde with black shales
4CSH	GUNSTEEL FORMATION	Laminated chert beds interbedded with black shales
4CC	GUNSTEEL FORMATION	Laminated massive sulphides of steel grey to amber sphalerite, galena and pyrite interbedded with black shales
5LS	CARBONATE REEFS	Limestone
5BLS	CARBONATE REEFS	Fossiliferous, bioclastic limestone
5BXLS	CARBONATE REEFS	Brecciated limestone, or a breccia containing breccia fragments.
6SS	ROAD RIVER GROUP	Siltstone
6CSS	ROAD RIVER GROUP	Carbonaceous or calcareous siltstone
6SH	ROAD RIVER GROUP	Shale
6LS	ROAD RIVER GROUP	Limestone

STRUCTURES

FOL	Foliation plane
BDG	Bedding plane
FLT	Fault
BRX	Breccia
FLD	Fold

ALTERATION

SILC	Siliceous alteration
CARB	Carbonate alteration (present in the form of calcite or abundant carbonate veining (stringers and veinlets)

GROUP & FORMATION

GSF	GUNSTEEL FORMATION
CBR	CARBONATE REEFS
RRG	ROAD RIVER GROUP