DIAMOND DRILLING REPORT

ON THE

RED STAR PROJECT

BELL, BELL 1, RED STAR

AND ANACONDA CLAIMS

Located in the Princeton Area Similkameen Mining Division, British Columbia NTS 92H/O17 46 9' North Latitude, 120 36' West Longitude

> -Prepared BYOLOGICAL SURVEY BRANCH Greg. R. Thomson, P.Geo for Teck Exploration Etd. SESSMENT REPORT



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1.0 INTRODUCTION

The Red Star prospect is located 34 kilometres south of Princeton, British Columbia (Figure 1). It is a copper-zinc rich massive sulphide occurrence hosted in the western most facies of the Triassic Nicola Group. Exploration for volcanogenic massive sulphide deposits within the Nicola Group has, historically been limited. This has been in part due to the difficulty in determining the more favourable submarine as opposed to subarial volcanic stratigraphy. Recent regional geological breakthroughs, combined with terrane modelling now indicate that the extreme southwestern flanks of the Nicola Group represent a rift type environment within a Triassic back are basin. As such, the Red Star area is considered an ideal environment for Kuroko-style volcanogenic massive sulphide deposits.

In the area of the Red Star Property and northward along the eastern border of the Eagle diorite complex, bimodal volcanic flows, tuffs, pyroclastics and their metamorphosed equivalents of chlorite-sericite and quartz-sericite schists, host??? are intimately associated with the Homestake, Rea Gold, Buttle Lake, Lara, Brittania, Ecstall River and Kutcho Creek massive sulphide deposits in British Columbia. Commonly, these schistose units contain 1 to 20% pyrite as disseminations or stringers with quartz, as do the schists encountered at Red Star. This is interpreted to be analogous to a footwall stringer sulphide zone of a VMS deposit.

Along with the surface exploration, there has been substantial underground development on the Red Star claim group, which has focused on two individual massive chalcopyritesphalerite-quartz occurrences, the Red Star and the Knob Hill showings. These are hosted within chlorite-sericite-pyrite schists. There were approximately 610 meters of underground workings put in from 1900 to 1966 on these and the Roche and the Pasayten crown grant claims. These workings include: 565 meters of adits up to 332 meters in length with internal raises and shafts, concentrated in the immediate Red Star area and two adits totalling 45 meters in length concentrated in the Knob Hill area. There are also adits reported on the Roche and Pasayten crown grant claims but the meterage is unknown. In the 1938 Minister of Mines Bulletin, a 3 meter chip sample from the underground workings on the Red Star showing assayed 1.0% Cu and 1.0 oz/ton Ag and three grab samples from the dumps reportedly assayed:

> 0.06 oz/ton Au, 7.3 oz/ton Ag, 17.0% Cu, 4.0% Zn 0.14 oz/ton Au, 5.7 oz/ton Ag, 19.0% Cu, 2.5% Zn 0.04 oz/ton Au, 1.0 oz/ton Ag, 0.8% Cu, 18.0% Zn

Underground development culminated in 1965 with the extraction of 40 tons of copperzinc ore grading 6.5% copper, 8.1% zinc and 2.1 oz/ton silver, from the main Red Star showing.

Subsequent exploration work has delineated VMS target horizons in chlorite-sericite +/pyrite schists at both the Red Star and the Knob Hill showing areas through surface and drill hole geochemistry. Drill targets have been delineated for both of these showings. There are two other showings on the property: The Paw and the Pasayton, which consist of mineralized quartz veins crosscutting stratigraphy and schistosity, the extent of which is open.

This report describes results of the 1997 diamond drill program carried out on the Red Star mineral zone by Teck Explorations Ltd. Please note that most of the background



information for the current diamond drilling report was obtained from a previous report by C.L. Swanson (1996) "Data Compilation and Summary on the Red Star Project"

2.0 LIST OF CLAIMS

The Red Star property consists of eleven 2-post claims and nine 4-post mineral claims, totalling 120 contiguous units in the Similkameen Mining Division of British Columbia (Figure 2). They are summarized in the table below (Table 1). Some of the claims overlap and because of this, the property actually covers approximately 105 units (2,625 hectares). Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources show the claims are owned by Steve Todoruk (ST), Doug Fulcher (DF), and Michael Stammers (MS).

TABLE 1

CLAIM NAME	TENURE NUMBER	No. OF UNITS	OWNER	RECORD DATE	EXPIRY YEAR
Bell	249803	15	ST	April 11, 1990	2005
Bell 1	249839	15	ST	July 1, 1990	2005
Bell 2	250041	12	ST	April 16, 1991	2005
Bell 3	250042	1	ST	April 14, 1991	2005
Bell 4	250043	1	ST	April 14, 1991	2005
Star	300055	1	DF	June 3, 1991	2005
Star #1	300057	1	DF	June 3, 1991	2005
Bell 5	302971	3	ST	August 9, 1991	2005
Bell 6	302972	15	ST	August 9, 1991	2005
Roche	308587	8	ST	April 5, 1992	2005
Pasayten	308588	8	ST	Apřil 10, 1992	2005
Tell	310135	• • • 1	ST	June 15, 1992	2005
Au	310136	1	ST	June 15, 1992	2005
Bell 7	310491	1	DF	June 15, 1992	2005
Bell 8	310492	1	DF	June 15, 1992	2005
Bell 9	310493	1	MS	June 15, 1992	2005
Bell 10	310494	1	MS	June 15, 1992	2005
Tell #1	310667	1	ST	June 28, 1992	2005
Bell 11	311154	18	DF	June 27, 1992	2005
Bell 12	311155	15	DF	June 27, 1992	2005
		120			

CLAIMS DATA

The locations of legal corner posts have not been verified by the author in the field.



3.0 LOCATION AND ACCESS

The Red Star property is located on the eastern side of the Cascade Mountains, straddling the Similkameen River, approximately 35 kilometres south of Princeton, B. C. (Figure 1). The claims lie within the Similkameen Mining Division, centred at 49 09' North latitude and 120 36' West longitude in the NTS 92H/2 map sheet.

Highway #3, a.k.a. the Hope-Princeton Highway, passes through the property, following the northwest bank of the Similkameen River. A good logging road extends up the Pasayten River through the southeastern part of the property and a network of secondary roads covers the Red Star and Knob Hill mineral occurrences. The Red Star property covers both Crown and privately owned land, including the Eastgate gas station, a small sawmill and several private cabins along the Similkameen River and on the southeastern slopes of Knob Hill. The claims are surrounded on their north, south and west sides by Manning Provincial Park.

The Red Star claims cover the junction of the Similkameen and Pasayten Rivers and extend several kilometres upstream along both. The Red Star and Knob Hill showings lie on the slopes northwest of the Similkameen River, separated by the southeasterly-flowing Bell Creek. Topography is moderate, marking the transition between the Cascade Mountains to the west and the Thompson Plateau to the east. Elevations range from 1,000 meters ASL below the junction of the Similkameen and Pasayten Rivers to almost 1,600 meters ASL along the northern claim boundary. Thick glacial overburden covers the outcrop in most areas, especially in the higher areas of the claim and thick alluvial deposits fill the river valleys. As a result, outcrop is seen predominantly in road cuts and trenches.

The property is mainly covered by second growth Lodgepole pine and Douglas fir forest. It is affected by a continental climate regime, typical of the south-central interior of British Columbia and has a dry climate, with warm summers and cold winters.

4.0 <u>HISTORY</u>

Earliest records of the property area are from Hugh Hunter, Mining Recorder in the 1897 Report of the Minister of Mines, in which he reported that free gold had been discovered on Pasayton River.

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In June, 1900, Charles Bonnevier and Gus Pouwels both of Princeton B.C., located the Red Star mineral claim on the north side of the Similkameen River, above the Pasayton forks. Development that year consisted of a 25-foot open cut and a 15-foot tunnel, in a silicified fissure in the country rock schists, mineralized along the hangingwall with "bunches of yellow copper ... and iron pyrites along its bands". Bonnevier also began work on the Anaconda mineral claim located 200-300 feet to the south of the showing on the Red Star mineral claim. A 10 foot tunnel was developed in a silicified fissure hosted in similar Red Star showing schists. Pyrite was the main form of mineralization with much lesser chalcopyrite. Work was also being done on several other claims in the immediate area.

In 1908, the district geologist reported that Bonnevier and Pouwels had "opened by a drift tunnel, an excellent showing of copper-gold ore".

By 1916 it was reported that a cross-cut tunnel had been driven in 300 feet at the foot of the hill with a shaft driven to a depth of 60 feet within the tunnel. The shaft was abandoned due to noxious gases. Mineralization occurs in lenses and blebs of white feldspar and quartz along a fault plane in a 400 foot wide belt of soft talc and chloritic schists, striking 125 degrees and dipping vertically, sandwiched between mica-schists. The mineralization was copper carbonates, melaconite, cuprite, bornite, chalcopyrite, pyrite, arsenopyrite, siderite and some zinc blende?? hosted in the quartz veins and talc schists. Some native copper occurs as sheets in little slip planes in the schist.

In 1920 the report for the Ministry of Mines reported that work on the Knobhill claims had exposed an entirely new ore body about 10 feet wide and well mineralized in an adit driven to expose a mineralized outcrop. The mineralization encountered was chalcopyrite and chalcocite in a gangue of calcite and quartz. It occurs as a lens in the schist and is lying parallel to the outcrops of what appears to be another lens. Meanwhile development work on the lower crosscut on the Red Star group of claims continued with an ore intersection expected within the next 20 feet.

In 1921 the ministry of mines reported that the lower crosscut tunnel on the Red Star claims was abandoned at 500 feet due to bad air. The targeted vein had not yet been intersected. Instead, a program of surface trenching was undertaken to try and better follow the structure on surface so as to better project it in underground workings. As well, three tunnels, 250, 450 and 65 feet respectively were driven and were referred to as the upper workings. These tunnels attempted to follow lenses of chalcopyrite carrying gold and silver varying in thickness from a few inches to 4 feet, in a gangue of quartz. Copper carbonates were seen in the fractures of the schist over an area about 500 feet in length and 200 feet wide.

Work on the Knob Hill claims by owner John Bowman of Princeton continued with a crosscut tunnel driven at an elevation 50 feet below the open-cut and shaft, which proved a shear zone containing 4 feet of ore carrying chalcopyrite and chalcocite, as well as copper carbonates. About 60 feet from the mouth of the crosscut tunnel a parallel vein was cut, containing values up to 3% copper and trace of gold and silver. The vein strikes N50W (mag.) and dips 50 SW. The surrounding formation is a sericite schist.

In 1924 the Minister of Mines reports that Bonnevier continued work once again on the initial lower crosscut. At a location 600 feet from the portal, a vein 16 feet wide mineralized with chalcopyrite and pyrite was intersected. It was suggested that this was probably a lower expression of a vein developed some 150 feet up hill. No samples were reportedly taken across the 16 foot vein.

On the Knob Hill group, John Bowman, was reported to have driven a crosscut tunnel 157 feet in the schists, developing two separate veins, 4 and 6 feet wide, at 40 feet and 97 feet respectively. Mineralization in both zones is reported to be chalcopyrite, bornite, and pyrite in a quartz gangue. The shear zones follow the trend of the schists at N33W to N40W strikes and 33 to 53 degrees SE dips.

As reported by the Minister of Mines in 1927, most of the old underground workings on the Red Star claims were caved and as a result could not be accessed. Previous visits to the property indicated that mineralized quartz veins occurred as veins, lenses and stringers conforming to the strike of the schist trending 165 and dipping 51 to 61 degrees SW. It is also indicated that at least two mineralized veins occur parallel to each other. The 16 foot wide vein is probably the same one as is developed in a short 60 foot tunnel to the north while a second vein was developed in one of the short western adits. A sample of the mineralized vein in this adit assayed 0.04 oz/ton gold, 1.0 oz/ton silver, 0.8% copper, and 18.0% zinc. Heavy pyritechalcopyrite ore assayed 0.04 oz/ton gold, 2.0 oz/ton silver, and 5.5% copper. The resident geologist figured the downward extension of this westernmost vein would lie beyond the face of the lowermost adit yet to be developed.

Meanwhile, the report noted that a picked sample of ore from the Knob Hill claims assayed: gold, trace; silver, 0.60 oz/ton; copper, 9.8%, and that no more work was done underground on the strike of these shear zones.

In his 1938 report the resident geologist again indicated the presence of caving in most adits. He reported that in the westernmost and uppermost adit (No. 1 Adit), a vein 8 to 16 inches wide consisted of pyrite-chalcopyrite-sphalerite. As well, he reported that a raise was driven from the No. 2 Adit up to the No. 1 Adit, 100 feet higher up in elevation. A sample of heavy sulphide mineralization found at the higher dumps assayed 0.06 oz/ton gold, 7.3 oz/ton silver, 17.0% copper, and 4.0% zinc. A grab sample of heavy sulphide from the next lower dump assayed 0.14 oz/ton gold, 5.7 oz/ton silver, 19.0% copper and 2.5% zinc. Bonnevier also continued driving the lowermost tunnel to a distance of 1,090 feet from the portal. Work apparently ceased because of poor ventilation.

A compass survey indicated that the line of projection of the vein in the uppermost, western adits had been crossed with the face of the lowermost adit 330 feet beyond this point. The resident geologist figured that if the mineralization encountered in the upper adit (No. 1) occurs strictly parallel to the strike and dip of the schists then rough calculations indicate the vein to be approximately 140 feet beyond the face of the lowermost 1,090 foot adit.

No more work has been reported on the Knob hill claim group.

Rice, 1947, noted that the rocks on the property consisted of sheared Nicola rocks along the east border of the Eagle Granodiorite. They consisted of chlorite schist and quartz-sericite schist that have probably been derived from green andesite lava and impure tuff. Locally these rocks are all reduced to highly fissile schist with a persistent strike and dip. There has also been noted four types of "ore" occurring on the property (Rice, 1947); (1) general pyritization of the silicified and crushed schists, resulting in much rusty stain but not in itself of any probable value; (2) further silicification of the fracture zones, resulting in the production of white, sugary quartz carrying pyrite, sphalerite, chalcopyrite, and galena; these deposits are more than 3 feet wide in places, and are the only ones of possible commercial value; (3) small but persistent and distinct veins of white quartz, nowhere more than 12 inches wide, fairly well mineralized with pyrite, chalcopyrite, sphalerite, and galena; and (4) small, highly irregular pods or lenses, seldom more than a few feet long and 18 inches wide, of glassy, high temperature quartz; these pods carry occasional patches or blobs of pyrite and chalcopyrite, but not enough to constitute ore. It seems as if the glassy quartz lenses were the first formed, for they have been more shattered by movements along the fissures than either of the other types of deposit, although these, too, have suffered some fracturing. The mineralogy is comparatively simple, nor did spectrographic analysis reveal the presence of any unusual elements. There was a trace of cadmium in all samples and of molybdenum in one, but neither element is present in important amounts.

Rice also noted that two sheared zones: 10 and 6 feet wide were encountered in a 157 foot adit. He noted the zones as having been silicified with sugary quartz and abundant pyrite with some chalcopyrite, all in distinct grains or crystals. The larger of the two zones crosses the adit not far from the portal, and is also exposed in an open cut above. A peculiar feature of this zone is a centrally located, bluish layer 6 inches or so wide. This layer is not itself particularly well mineralized, but most massive sulphides in the zone occur immediately below it. The blue colour is apparently imparted by a thin coating of chalcocite on the other sulphides. Assays from the massive pyrite zone below the blue layer are reported to have returned 4 per cent copper. An assay made by the Department of Mines, Ottawa, of a specimen from the blue band itself showed no gold, 4.20 per cent copper, and 23.57 percent iron. (Rice, H.M., 1947).

No further work on the property is reported until 1954 when William Fraser leased the claims and cleaned out and rehabilitated the uppermost two adits (No. 1 and No. 2).

In 1955, Woodburry Mines Limited optioned the property and using a D-7 bulldozer undertook a program of trenching in the area of the upper adit (No. 1 adit).

In 1956, Woodburry Mines Limited again utilized a D-7 bulldozer to open trenches in the immediate vicinity of the portals for No. 1, 2 and 3 adits. A new tunnel was also started, about 700 to 800 feet south of the caved No. 3 adit. It was driven 470 feet in an attempt to intersect the downward extension of the eastern vein (seen to be 16 feet wide in 1,090-foot adit in lowest adit). No mention was made of whether or not the vein was intersected.

From 1964 through 1965, the property was leased by A. W. Hendrickson and H. Hopkins of Brackendale, B.C. (from Curtis, 1990). A road was built to the property from the highway as well as considerable trenching and a new adit started. Mining was attempted using a trackless method. The mineralized vein was intersected and 40 tons of hand-cobbed, copper-silver-gold ore was shipped, which yielded 1 oz gold, 84 oz silver, 5,171 lbs. copper and 6,465 lbs. zinc. The average grade of this material was 2,1-oz/ton silver, 6.5% copper and 8.1% zinc.

In 1966, an exploration program carried out by Spenho Mines Ltd. entailed establishing a grid, geological mapping, soil sampling, a magnetometer geophysical survey and the drilling of two diamond drill holes totalling 1,200 feet of core. From the mapping, Spenho noted that "examination of outcrops yielded the presence of only two sulphide minerals. Pyrite is found generally as a fracture filling material in the more siliceous rocks.... Sphalerite is the other sulphide. It occurs as distinct euhedral crystals disseminated through a number of the outcrops. Although the zinc is not commercial...it does have widespread occurrence and is not confined to one particular rock type". The soils from the geochemical exploration were only analysed for copper using the Rubeanic Acid Test, and outlined only four small anomalies where the soil

tested high in copper. The magnetometer survey completed delineated the contact between the intrusive and the surrounding country rock. Of the drilling, which may be located on the Knob Hill area rather than the Red Star area, drill hole #1 penetrated two talc-sericite zones, but no significant copper assays were recorded from the core. There were several intersections of fair to good sulphides noted but these were not apparently sampled. In drill hole #2, only one intersection of "fair sulphide" was noted in a siliceous schist. At the conclusion of this program a recommendation was made that the soils should also be analysed for zinc to pinpoint potential zones where mineralization "may improve elsewhere or at depth.".

A program by Spenho, from April through May 1970 entailed more detailed soil geochemistry and an HLEM survey over anomalous areas determined in the 1966 program. The soil geochemistry work concluded that the soil and silt responses for zinc and to a lesser extent copper, indicate mineralization associated with mapped sericitic schist belts. The geophysics showed that the electro-magnetic response did not indicate near surface massive sulphide associated with these zones and it is concluded that the mineralization is either sporadic or consists of low-grade disseminations within the schist belts. Spenho recommended follow-up IP surveying over the anomalous areas to determine the extent and intensity of disseminated sulphide mineralization and/or the presence of deeper seated massive sulphide bodies. This was not followed up on.

The next era of work on the property is not reported until 1980 when Cominco Ltd. optioned the claims from Carl Wabnegger of Keremeos, B.C. A program of mapping, soil geochemistry and geophysics was carried out that year by Cominco in which they investigated the property for Kuroko-type massive sulphide deposits. The main zone mineralization historically worked on the Red Star and Anaconda reverted crown grants, was interpreted by Cominco, to be hosted in a strongly sheared, intercalated felsic to intermediate volcanic package suitable for hosting such deposits. Soil samples taken, were analyzed for copper, lead and zinc and geophysics, consisting of IP, VLF-EM and magnetometer surveys were completed. A broad copper and zinc soil anomaly was defined which coincided with a prominent IP and VLF-EM anomaly. The geophysical conductor extended for 900 meters along strike with the underlying lithology consisting of pyritiferous quartz-sericite schist, chlorite-sericite schist and/or graphitic argillite. Mapping indicated that highly folded and boudinaged quartz veins with trace to local pods of chalcopyrite and sphalerite were hosted within the schists. These veins were postulated to have developed pre- or early metamorphism and were interpreted to represent silica remobilized during metamorphism. The sulphide mineralization and alteration observed were interpreted to have developed in conjunction with submarine hotspring-fumarolic activity associated with the waning stages of the dacite-rhyolite volcanic activity and are genetically related to that activity.

Cominco's conclusions and recommendations for the project were that the property has potential for hosting a volcanogenic massive sulphide deposit and that areas underlain by the favourable geology in conjunction with coincident copper and/or zinc soil anomalies, or any significant IP anomalies are recommended for drilling.

During 1986 and 1987, Bukara Resources Inc. carried out a program of geological, geochemical and geophysical work followed by trenching and IP/resistivity surveying. This

program was directed at evaluating the pyritiferous quartz-sericite schist as a gold-bearing shear zone. Trenching totalled 1,100 meters of excavation with 550 rock chip samples were collected over the sheared zone. Bukara encountered the Red Star massive sphalerite + pyrite lens during their endeavours in which the highest gold value during the program was obtained of 0.012 oz/ton gold in a sulphide-rich grab sample. Bukara was discouraged and dropped the property: "...no further exploration is recommended on the Red Star claims."

The current claim group was staked in 1990-92 by Pamicon Developments Ltd. They did a program of resampling and remapping of many of the old showings getting a 1.1 meter chip sample of 40% zinc, 3.72% copper, 950 ppb gold, 1.12 oz/ton silver and 1.56% barium over the main Red Star massive sulphide lens.

Pamicon optioned the claims to Westmin Resources Ltd. in 1992. Westmin carried out a program of reconnaissance scale geological mapping, lithogeochemical and stream sediment sampling in two phases that year (Jones and Wright, 1992; Jones, 1993). The conclusions were that the Red Star massive sulphide lens was hosted in intermediate to felsic volcanic rocks, and that the geology and geochemistry of the Red Star property suggest an evolved igneous setting which is characteristic of Kuroko-style ore bodies. Westmin reported that the property has all the characteristics for hosting a VMS deposit of this type. Another conclusion was that the most prospective area on the Bell Creek property is still the Red Star showing and its enclosing schistose, felsic volcanic package. More detailed work was recommended by Westmin for the next phase of exploration.

In 1993, Westmin laid out a 43.1 line-kilometre grid over the Red Star/Knob Hill area, with east-west lines spaced 100 meters apart. Geological mapping at scales of 1:1,250 and 1:2,500 and a magnetometer/VLF-EM survey were carried out over the whole grid. During mapping, 41 whole rock samples 12 rock geochemical samples and 2 silt samples were taken. Three thin sections were examined. Fifteen line-kilometres of Horizontal Loop EM (HLEM) were surveyed over the Red Star showing, revealing two strong conductors paralleling stratigraphy (Hendrickson, 1993). A total of 302 soil samples were taken with a plugger or from 50-100 centimetre pits, at 25 meter intervals along lines in the vicinity of the Red Star and Knob Hill showings (Jones, 1994). The conclusions from the soil sampling were that the Red Star and the Knob Hill showings had the most potential for hosting a VMS deposit and should be followed up on.

In 1994, Westmin extended the grid and magnetometer/VLF-EM survey to the east and took an additional 649 soil samples. Five diamond drill holes, totalling 1,406.3 meters, were drilled across three sections of the Red Star stratigraphy north of the showing. These confirmed geological interpretations but returned only geochemically anomalous copper, zinc, gold and barium values (Pawliuk and Jones, 1995). Westmin geologists recommended further work, but the option was allowed to lapse in 1995.

5.0 GEOLOGY AND MINERALIZATION

5.1 **REGIONAL GEOLOGY**

The Red Star project is situated near the western margin of the Quesnellia Terrane, which is characterized by a west-facing, late Triassic-early Jurassic arc (Nicola Group) built upon older deformed, Palaeozoic to early Triassic oceanic and arc rocks (Figure 3). Pervasive greenschist facies metamorphism of the Nicola Group, absent of penetrative fabric is likely associated with shallow burial during this period. Development of the Eagle Shear Zone (ESZ), possibly due to failed rifting, likely occurred during the middle Jurassic. The ESZ constitutes a belt of pervasively deformed rocks of greater than 100 kilometres in length and marks the western margin of Quesnellia and the Nicola Group.

During the middle to late Jurassic, the Nicola Group was intruded by the elongate Eagle Complex along the southwest dipping ESZ (Greig, 1989). A slight increase in metamorphic grade, to upper greenschist-lower amphibolite facies, is evident along the margin of the ESZ and is likely due to contact metamorphic effects of the intruding Eagle complex.

During the mid-Cretaceous, uplift and erosion of the Nicola Group and the Eagle Complex was accommodated by oblique-slip (east side up) movement on the Pasayton fault (Greig, 1989).

Crustal extension during the Tertiary was chiefly confined to pre-existing Mesozoic structures (Greig, 1989). Subsequent deposition of Eocene volcanics and sediments of the Princeton Basin unconformably overly the Nicola Group and are extensive in the area of the property.

Rocks of the Nicola Group continue northward beneath an extensive cover of Tertiary strata into the central part of the Quesnel Belt and extend along the full length of the Intermontane Belt into northern B.C. and Yukon where they are known as the Takla and Stuhini volcanic assemblages. Monger (1985) divided the Nicola Group (unit TN) into four facies: three volcanic and one sedimentary. Westernmost is a belt of Carnian and lower Norian acidic to intermediate volacaniclastics and carbonates (unit TNw). These rocks host the volcanogenic massive sulphide targets on the Red Star property. Above and further east is a central facies (unit TNc) of feldspar porphyry and feldspar augite porphyry volcaniclastics, volcanic conglomerate and sandstone of mainly early Norian age. They are locally overlain by aphanitic pillow basalt and the eastern facies (unit TNe) of augite porphyry volcaniclastics and alkaline flows of late Triassic and early Jurassic (?) age. The eastern facies grades eastward into middle and upper Triassic black argillites and siltstones, which are locally tuffaceous (unit tNs). Subvolcanic diorite (unit sTd) hosts the Similco Mines alkalic copper-gold porphyry deposits, twenty kilometres north of the Red Star property.

The Princeton Group (unit EPv), which caps the stratigraphy hosting the Red Star occurrences, comprises mainly hornblende-phyric intermediate flows with lesser mafic and felsic flows and volcaniclastics. The Allenby Formation (unit EA) consists of sandstone, shale, conglomerate and coal.

5.2 **PROPERTY GEOLOGY**

Over the years various groups have mapped the Red Star property with various different rock descriptions, each company lending to their own strived-for individuality, but with one common thread: they all agree that the host rocks for the property are the western facies of the Triassic Nicola Group.

The western facies of the Nicola Group is a northwesterly trending package of felsic volcanics, subvolcanic felsic intrusions, mafic volcanics and fine clastic sediments. These are bounded to the west by the Eagle Plutonic Complex, to the east by the Nicola Group central facies and are unconformably overlain by undeformed Princeton Group volcanics. The amphibolites (Unit 19) along the western claim boundary have been assigned to the Eagle Plutonic Complex, although they are presumably derived from mafic volcanics of the Nicola Group western facies. Figures 4 and 5, are based upon detailed geological mapping by Westmin over their Red Star and Knob Hill grids. (Jones, 1994; Pawliuk and Jones, 1995). The Nicola Group western facies has been divided into 16 units and is described as follows (from Awmack, 1995):

<u>Unit 1:</u> Chlorite schist, quartz-sericite schist and hornfelsed felsic volcanics. The felsics are grey to cream-colored with an aphanitic, feldspathic groundmass, containing up to 15% biotite +/- feldspar +/- quartz phenocrysts. The Knob Hill mineralization is hosted by Unit 1b, a quartz-sericite (-chlorite) schist.

<u>Unit 2:</u> Chlorite-biotite hornfels, locally with hornblende porphyroblasts, presumably derived from mafic volcanics. This unit is poorly exposed and bounded to the east by Bell Creek, possibly representing a faulted contact with Unit 3.

<u>Unit 3:</u> Chlorite-homblende schist and red to green, banded or laminated, sericite and chlorite schists derived from intermediate to felsic volcanics and sediments. The sediments appear cherty in places.

<u>Unit 4:</u> Quartz-feldspar (-biotite) porphyry rhyolite. It covers a wedge-shaped area, suggesting that it represents a dome or subvolcanic intrusive.

<u>Unit 5:</u> Mafic volcanic rocks, with minor sediments. The mafics, represented by chlorite schists with epidote, are massive to pillowed and strongly magnetic. The sediments tend to be cherty, hematitic and are commonly laminated.

<u>Unit 6:</u> Chlorite schist interbedded with dacitic lapilli tuff bands up to 15 meters wide. The lapilli tuff commonly contains 3% blue-grey quartz eyes and 10% flattened felsic lapilli. Magnetite porphyroblasts are present in both lapilli tuff and chlorite schist. Unit 6 widens from 40 meters in the south part of the Red Star grid to 170 meters in the north.



Lunce TIVEN ED.4. Set 2

Unit 7: Argillite and siltstone, finely foliated, commonly with 2% pyrite and 0.5% pyrrhotite in wisps parallel to foliation. Graphite coats fracture surfaces in narrow shears. Contacts are faulted.

<u>Unit 8:</u> Sericite-quartz (-pyrite-chlorite) schist with papery cleavage. Pawliuk and Jones (1994) identified local quartz eyes, suggesting a felsic precursor. Unit 8, which is about 40 meters wide in drill holes, hosts the Red Star mineralization.

<u>Unit 9:</u> Medium grained chlorite (-sericite) schist, apparently derived from mafic to intermediate volcanics. Feldspar phenocrysts were noted. In drilling, Unit 9 is about 40 meters wide.

<u>Unit 10:</u> Strongly foliated quartz-sericite-pyrite schist, sericite schist and felsic lapilli tuff. Unit 10 is variable in appearance and composition, containing thin argillaceous beds and an aphanitic dyke (?) -derived chlorite-sericite schist. The quartz-sericite and sericite schists commonly contain 5% quartz eyes and locally have up to 0.25% disseminated chalcopyrite and sphalerite. Unit 10 ranges from 30 to 120 meters wide and is fault-bounded in places.

<u>Unit 11:</u> Red and green banded sericite-chlorite schists, probably tuffaceous. The color banding is due to variable biotite content and hematite staining. Up to 1% quartz eyes are present.

<u>Unit 12:</u> Chlorite-biotite schist, locally sericitic. Unit 12 was derived principally from mafic volcanics, interbedded with laminated argillites and lapilli tuff.

<u>Unit 13:</u> Locally graphitic argillite and siltstone. The sediments are finely laminated in places, and cherty layers were noted. Unit 13 is well foliated and locally deformed.

<u>Unit 14:</u> Chlorite schist, represented by just two outcrops.

<u>Unit 15:</u> Massive quartz-feldspar porphyry, presumably flows and /or subvolcanic intrusions. Unit 15 contains up to 20% quartz and feldspar phenocrysts in a recrystallized biotite-sericite-feldspar matrix.

<u>Unit 16:</u> Chlorite schist, quartz eye lapilli tuff and interbedded intermediate tuffs and argillaceous sediments. Unit 16 lies east of the area covered by Westmin's detailed grid mapping and includes a variety of rock types which have not been fully subdivided.

As can be seen from the above descriptions, the rocks are dominantly described as schists. The foliation, which imparts the schistose fabric, parallels stratigraphy, striking north-northeasterly and generally dipping moderately to the west. Isoclinal folds are noted at outcrop scale and in argillites in drill core, and microscopic folding with muscovite development along axial planes is noted in thin section work as well as overturned graded bedding noted in Unit 5 (Pawliuk and Jones, 1995). This indicates that

folding could be more important on a property scale than is currently implied by the sheared monoclinal, felsic to mafic volcano-sedimentary sequence used now as a geological model. There is however, not enough detailed geological work on the property to disprove this simple, effective interpretation.

5.3 <u>MINERALIZATION</u>

The Red Star property hosts four sulphide showings: Red Star, Knob Hill, Pasayton and Paw (Figure 4). They are described as follows:

THE RED STAR ZONE

Work on the Red Star massive sulphide showing started in the early 1900's. There are 565 meters of adits up to 332 meters in length with internal raises and shafts, concentrated in the immediate Red Star area. Underground development culminated in 1965 with the extraction of 40 tons of hand-cobbed copper-zinc-silver ore from the Red Star massive sulphide lens. The average grade of the ore shipped was 6.5% copper, 8.1% zinc, and 2.1 oz/ton silver.

The Red Star massive sulphide showing is a lens shaped body that has been traced over a strike length of 16 meters and widths of 0.1 to 1.2 meters. A 1.1 meter chip sample taken across the massive sulphide occurrence in 1990 by Pamicon Developments Ltd., yielded 3.72% copper, 40.0% zinc, 1.12 oz/ton silver, 950 ppb gold and 1.56% barium. The zone closely parallels foliation and occurs within highly pyritized sericite-chlorite schists. There is local boudinaging of sulphides and barite associated with small scale folding found stratigraphically hangingwall to the sulphide lens. Coarse grained sulphides dominated by sphalerite, pyrite and chalcopyrite display weak banding. Lesser sulphide phases include bornite, galena, molybdenite and pyrrhotite. Gangue minerals include quartz, barite, kaolinite and sericite.

THE KNOB HILL ZONE

The Knob Hill showings are located approximately 1.2 kilometres west of the Red Star showings. Workings in the immediate area consist of two inaccessible adits totalling 45 meters in length and completed in 1938, drill pads dating to the 1960's and various trenched areas. The showing is hosted in pyritic sericite-chlorite schists similar to that of the Red Star showing. It consists of two parallel zones 10 and 6 feet wide, that were encountered at 40 and 90 feet respectively in the longer of the two tunnels. The zones were noted as having been silicified parallel to foliation with sugary quartz and abundant pyrite, minor chalcopyrite and chalcocite. A peculiar feature of this zone noted by Rice (1947), is a bluish clay layer 6 inches or so wide that when assayed by the Department of Mines, Ottawa, yielded 4.20% copper and 23.57% iron. Recent sampling of the pyrite-sericite material in the dumps yielded 7.43% copper, 2.34 oz/ton silver and 0.030 oz/ton gold.



Metres 100 0

100 200 300 400 Metres

- Drill holes (horizontal projection, oreientation unknown)
- Adite
- Geological contact (inferred)
- Foliation
- V Fai

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- I
- Fault

Legend

EOCENE

Princeton Group

- 21 Volcanic flows, breccias, tuffs, conglomerate and argillite
- 20 Granodiorite, granite, gneiss and
- aplite dykes
- 19 Amphibolite

UPPER TRIASSIC

Nicola Group (Western Facies)

15 Quartz - feldspar porphyry intrusive(?) Chlorite schist 14 13 Argillaceous sediments Chlorite - biotite schist 12 11 Red - green banded schist 10 Quartz - sericite and sericite schist Mafic to intermediate volcanic rocks 9 "Red Star" Horizon : sericite - quartz -8 pyrite schist 7 Argillite and siltstone 6 Mixed intermediate / felsic tuff / flow 6d Gabbro, basalt(?) 5 Mafic volcanic rocks and cherty tuff / sediment Quartz - feldspar porphyritic rhyoliite 4 3 Chlorite schist and felsic schist Mafic volcanic rocks 2 1 Intermediate to felsic volcanic / sedimentary rocks 1a Amphanitic felsic hornfels 1b Quartz - sericite - (chlorite) schist 1c Chlorite schist 1d Felsic hornfels Geology after Pawliuk and Jones (1995). (CHPANY) TECK EXPLORATION LTD. ORGANIAS SIGN **RED STAR PROJECT GEOLOGY MAP**







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ASSAVING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. +2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700 Fax (604) 573-4557

Analytical Method Assessment for

GOLD ASSAY

Samples are sorted and dried (if necessary). The samples are crushed through a jaw crusher and cone of rol's crusher to -10 mesh. The sample is split through a Jones riffle until a ~ 250 gram subsample is achieved. The subsample is pulverized in a ring & puck pulverizer to 95% -140 mesh. The sample is rolled and homogenized.

A 1/2 or 1.0 A.T. sample size is fused along with proper fluxes. The resultant bead is digested with acid and analyzed on a Perkin Elmer AA instrument.

Appropriate standards and repeat samples (Quality Control components) accompany the samples on the data sheet.



ASSAYING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. 12, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700 Fax (604) 573-4557

Analytical Procedure Assessment Report

GEOCHEMICAL GOLD ANALYSIS

Samples are catalogued and dried. Soils are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Rock samples are 2 stage crushed to minus 10 mesh and a 250 grain subsample is pulverized on a ring mill pulverizer to -140 mesh. The subsample is rolled, homogenized and bagged in a prenumbered bag.

The sample is weighed to 10 grams and fused along with proper fluxing materials. The bead is digested in aqua regia and analyzed on an atomic absorption instrument. Over-range values for rocks are re-analyzed using gold assay methods.

Appropriate reference materials accompany the samples through the process allowing for quality control assessment. Results are entered and printed along with quality control data (repeats and standar is). The data is faxed and/or mailed to the client.

THE PASAYTON SHOWINGS

The Pasayton showings are located approximately 1.5 kilometres east of the Red Star showing. Previous work in the area consisted of trenching and limited underground development early in the 1900's. The showings consist of numerous, narrow bull quartz veins hosted in foliated mafic volcanics. Tetrahedrite, chalcopyrite, bornite and malachite appear as disseminations throughout these veins. Strong carbonate alteration is also noted.

THE PAW SHOWINGS

The Paw Showings consist of a series of mineralized quartz veins hosted in foliated mafic volcanics. Bull quartz veins up to 0.5 meters thick carry tetrahedrite, malachite, bornite and chalcopyrite in selvages. Mineralization is extensive but to date significant widths have not been recognized. Grab samples of mineralization yielded up to 9.23% copper, 0.57 oz/ton silver and 0.056 oz/ton gold.

6.0 GEOCHEMISTRY AND GEOPHYSICS

The author took the geochemistry and the geophysics part of the report from Awmack, 1995.

6.1 SOIL GEOCHEMISTRY

Several programs of soil geochemical sampling have been carried out over the Red Star property (Allen, 1966; Simpson, 1970; Casselman, 1980; Jones, 1994; Pawliuk and Jones, 1995). Unfortunately, these soil surveys form a patchwork of coverage, with varying sampling and analytical techniques. The Red Star and Knob Hill mineral occurrences are indicated by values up to 725 ppm copper and 1642 ppm zinc, and 414 ppm copper and 1170 ppm zinc, respectively. However, the area around the Red Star showing has been extensively disturbed by stripping and trenching, limiting the usefulness of soil geochemistry in this area. Elsewhere, overburden is quite deep in places and poor soil development inhibits geochemical response.

6.2 MAGNETIC SURVEYS

Allen (1966), Scott (1980) and Hendrickson (1993) performed magnetic surveys over the Red Star and Knob Hill areas, helping locate some geological contacts. Units 1, 2, 3, 4, 7, 8, 9, 10, 11 and 13 are non-magnetic; areas underlain by them having a flat magnetic pattern. These units host the Red Star and Knob Hill occurrences, which have no magnetic signature. Unit 5 is strongly magnetic, with a relief of more than 1600 nT, due to magnetite in the chlorite schist. Unit 6 is quite variable, with a few isolated magnetic highs due to magnetite porphyroblasts in felsic lapilli tuff. Unit 15 is uniformly magnetic, with a relief of 800 nT caused by porphyroblastic magnetite. Unit 12, a mafic-derived chlorite schist to the east of Unit 15, is also moderately magnetic.



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6.3 ELECTROMAGNETIC SURVEYS

Westmin carried out VLF-EM and horizontal loop EM (HLEM) surveys over the Red Star showing (Figure 6). Two strong conductors were defined by each of the surveys over more than 1,000 meters, both following stratigraphy. The western conductor passes immediately west of the Red Star showing, with the strongest portions overlying argillite and siltstone of Unit 7. Graphitic shears within Unit 7 are the likely source of this anomaly.

The eastern conductor parallels the contact between units 12 (chlorite-biotite schist) and 13 (argillaceous sediments), lying immediately east of the contact in the sedimentary rocks. Outcrop is sparse in this area, but Pawliuk and Jones (1995) describe graphitic sediments in this area, which could have caused this anomaly.

Prior to the 1997 Teck drill program, geophysical consultant Mr. Alan Wynne (Maple Services), presented a short summary and recommendations for future drilling at the Red Star property. His findings are shown in Appendix B at the back of this report.

6.4 INDUCED POLARIZATION SURVEYS

Scott (1980) and Di Spirito et al (1987) have reported induced polarization surveys on the Red Star property. As would be expected, the surveys showed strong chargeability responses over the sericite-quartz-pyrite schists of units 8 and 10.

7.0 <u>DRILLING</u>

Prior to the 1997 Teck drill program, there have been seven drill holes drilled to date: five by Westmin Resources Ltd. in 1994 and two by Spenho Mining Ltd. in 1966. There is some confusion as to the actual amount drilled by Spenho, because up to five drill holes have been reported but no records can be found of more than two of these five holes. The hole locations are plotted on Westmin's 1994 Knob Hill Geology map (Figure 5): DDH-1, L750N, 050W, 070 azimuth and -60 degree dip, DDH-2, 635N, 180W, 090 azimuth and -55 degree dip. In 1980, Cominco Ltd. reported "249 feet and 149 feet of 1.15% Zn and 0.65% Zn respectively" from two holes drilled by Spenho in the '60's, but there is no detail as to where this data came from in each of the holes. I have speculated that Cominco may have resample the holes drilled by Spenho, doing whole core assaying, and the results are in one of their in-house reports that we were not able to find. There is also the possibility that the results could be interpreted as <u>at</u> 249 feet and <u>at</u> 149 feet there was 1.15% Zn and 0.65% Zn respectively, thereby implying that samples taken at these locations ran those values.

Of the five diamond drill holes that were drilled by Westmin Resources Ltd., in 1994 (see Westmin, 1995: Figures 12, 13 and 14): two of these holes were drilled on line 1600N, one hole was drilled on line 1400N, and two holes were drilled on line 1250N. They were drilled to test a sodium depletion anomaly that extended to the north of the original Red Star showing by 900m. The holes encountered anomalous zinc-copper values along strike in Units 8 and 10 and VMS

indicator geochemistry, in the form of anomalous alteration index numbers, but did not intersect VMS mineralization.

7.1 1997 TECK DIAMOND DRILLING PROGRAM

During the period November 6 to November 23, 1997, a diamond drill program was carried out by Teck Exploration Ltd. on the Red Star mineral property. The purpose of the drill program was to test for volcanogenic massive sulphide (copper-zinc) targets hosted by Triassic age Nicola Group rocks. Five holes totaling 1515.6 metres were drilled beneath and along strike to the south of the Red Star massive sulphide showing.

Beaupre Diamond Drilling of Princeton, B.C, ably carried out the drill program. A Longyear 38 diamond drill was used to obtain NQ size core. Core is presently stored at the Eastgate Lodge, on Highway 3, near the eastern boundary of Manning Park. Water required for the drilling program was trucked from the Similkameen River by Gallant Water Hauling, Kamloops, B.C. Seventy four core samples were sampled and analyzed for gold and ICP by Eco-Tech Laboratories Ltd. of Kamloops, B.C.

Assay results are shown in Appendix D and drill hole logs are included as Appendix F. Locations of 1997 drill holes are shown on Figure 5.

Hole No.	Location	Dip	Azimuth	Length	Elevation
TR-97-01	10+50 N, 0+75 E	-45°	090°	308.76 m	1295 m
TR-97-02	10+32 N, B.L.	-60°	44	309.7 m	1310 m
TR-97-03	11+10 N, 0+65 E	-45°	¢¢	207.87	1310 m
TR-97-04	8+25 N, 0+15 W	-45°	4.6	419.1	1260 m
TR-97-05	7+00 N, 1+32 E	-45°	"	270.1	1135 m

Drill hole data is summarized as follows:

Occurrences of massive base metal (Cu, Zn) mineralization were encountered in drill holes TR-97-01 and TR-97-03. These sulphide zones are of relatively narrow widths, but are correlatable between the two drill holes, which are located 60 metres apart.

There were a number of encouraging features exhibited by the drill program, that suggest a massive sulphide body of economic proportions is still attainable on the Redstar property. All five drill holes contained extensive zones of felsic (quartz-sericite +/- chlorite) alteration, often exhibiting fine grain quartz eyes. Pyritic bands are locally abundant within chlorite schists with negligible base metal values. Pyritic bands are also contained within strong quartz-sericite alteration in the lower portions of drill holes TR-97-01, 04 and 05. There appears to be a southward increase of pyrite content as well as increased anomalous copper and zinc associated with the main zone of quartz sericite alteration in these three drill holes.

More specific details of the individual drill holes is given as follows:

TR-97-01

This hole intersected the "Red Star" sulphide zone from 128.75 to 129.5 (0.75m) m. Mineralization consisted of two 20 cm bands of massive pyrite, sphalerite, chalcopyrite with an intervening 35 cm band of sericitic schist. The interval 128.74-128.94 (0.2m) assayed 1.4 g/t gold, 76.4 g/t silver, 5.1% copper, 14.1 % zinc and 0.74% cadmium, while the second sulphide band (129.3-129.5 m) assayed 535 ppb gold, 33.5 g/t silver, 2.4 % copper and 1.73 % zinc. From 129.5 -202.0 m, the hole was dominated by chlorite schist containing sporadic pyrite bands down to 185.1 m, locally semi-massive across narrow intervals (5-20 cm). No anomalous values were obtained from these pyritic intervals. From 202.0 m to 254 5 m, the alteration becomes increasingly quartz-sericitic with strong alteration from 240.0 m to 254.5 m. Pyritic concentrations (5-10%) occur over the interval 250.8-254.0 m., however no anomalous values were obtained from this interval.

TR-97-02

This hole was drilled to test the down-dip extent of the copper zinc mineral zone encountered in drill hole 97-01. The hole did not intersect the Red Star copper-zinc zone, but did intersect similar pyritic bands as seen in hole 97-01, (non anomalous) within chlorite schist from 255.4-290.3 m.

TR-97-03

This hole was also drilled to test for Red Star horizon base metal occurrences. Anomalous to sub-ore grade copper-zinc mineralization was encountered from 120.7 to 123.7 m. Mineralization occurs within strongly altered quartz-sericite-chlorite schist. A 5 cm band of massive sphalerite with lesser chalcopyrite was encountered at 122.2 m within a discrete chlorite schist (122.1-123.7 m). The 5 cm band assayed 375 ppb gold, 2.8 g/t silver, 2.22 % copper, 32.0% zinc and 0.117% cadmium.

Traces of cpy, sphal. were present to 122.9 m. Sporadic pyrite bands occur within chlorite schist from 142.6 to 176.9 m., but contained no anomalous values.

TR-97-04

The Red Star horizon unit is much narrower in this hole than seen in drill holes TR-97-01 to 03. The Red Star felsic zone has likely been disrupted through faulting in proximity to the diorite? sill occurring at 177.9 to 251.0 metres in this hole.

An extensive felsic zone occurs in this hole from 306.0 m to 407.9 m. Mineralization is generally trace pyrite throughout this unit, but shows a marked increase of sporadic pyrite bands or concentrations from about 388.7 to 407.9 m. Highest pyrite concentrations are at 401.75-407.4 (10-20%). Anomalous copper values of between 1503 to 2074 ppm copper were present in the interval 406.1 to 407.9, including a zinc assay of 1.35% from 407.4 to 407.9 m. This hole also contained less abundant zones of chlorite schist (unit 9b) than seen in previous drill holes 97-01, 02 and 03.

TR-97-05

This hole was the most southerly drilled hole of the 1997 drill program. The hole was unique in its general lack of chlorite schist. This hole contained an extensive zone (unit 10) of quartz -sericite alteration, extending from 143.0-249.0 m. This zone of felsic schists also contained widespread pyritic concentrations throughout the unit. Pervasive pyrite bands occur from 194.6-224.6 and 236.6-249.0m, with downward increases ranging from 5-20% across sample intervals. As with the previous drill hole, anomalous zinc and copper concentrations occur at the base of the unit 10 quartz-sericite schists. The interval 242.6 to 249.0 (6.4) m assayed 1508 ppm copper and 423 ppm zinc.

The Red Star felsic horizon is apparently absent in drill hole TR-97-05. The Red Star horizon has possibly been displaced or attenuated by faulting. Fault displacement has likely occurred as a result of emplacement of the diorite sill? (unit 6d) evident in both drill holes 4 and 5.

8.0 **DISCUSSION** (C. Swanson)

The Ti/Zr ratio was plotted with SiO_2 to determine what rock types were being encountered. In a potential VMS hosting stratigraphy the rocks should be bimodal and these values plotted on the sections from drill hole data and surface data indicate that a bimodal stratigraphy is what Red Star has. This data also fits the Westmin geological interpretation.

 Na_2O and CaO were plotted because they typically are depleted proximal to VMS deposits. On the sections that were drilled, Na_2O and CaO exhibited the characteristic depletion halos proximal to where they were expected, in Westmin Unit 8 and Unit 10. It was interesting to note that the best Na and Ca depletion anomalies occurred proximal to the contact between Unit 10 and Unit 11, and on section 1250N closest to the Red Star showing. Barium tended to be enriched where the lowest values of Na and Ca were encountered (typically at the contact) and remained weakly enriched into Unit 11.

 K_2O was also plotted so that it could be looked at in conjunction with the sodium and calcium. The K_2O tended to exhibit weak patchy enrichment in the sodium and calcium depletion anomalies, but did not exhibit a distinct pattern. This lack of distinct pattern is probably a result of potassium development in the form of sericite alteration, as a later metamorphic alteration mineral formed during structural deformation post-massive sulphide deposition.

The MnO% was plotted to determine if this deposit is associated with any manganese minerals as is the case in the Niblack deposit, but alas, there does not appear to be even a hint of manganese associated with this mineralization. This may or may not be good depending on how you look at it, because the lack of manganese could indicate that this is not indeed a prospective VMS target, due to the fact that most VMS deposits report an enrichment in manganese proximal to the deposit or this could imply that this is an Mn-poor VMS deposit.

The Fe/(Fe+Mg) ratio tends to be higher (>0.7) in unit 10 and 11 indicating that there isan increase in the Fe and Mg proximal to the prospective VMS horizon.Diamond Drilling Report, Red Star Project17Greg Thomson

The conclusions drawn from this exercise are that the best prospective VMS hosting stratigraphy is the Westmin Unit 10 and Unit 11 contact, preferably proximal to the Red Star showing as all of the geochemical indicators become more intense proximal to the Red Star showing.

9.0 <u>CONCLUSION</u> (C. Swanson)

This report is a summary of the data collected over the years. The salient points I have gathered are that the structural interpretation is incomplete and the deposit type is still under debate, although further review of the data has lead to the conclusion that it is a potential VMS-hosting stratigraphy.

The structural interpretation has vacillated back and forth from one of strong isoclinal folding to a sheared monoclinal, felsic to mafic, volcano-sedimentary sequence. As such, there does not seem to be sufficient data to definitively convince anyone of either scenario. The current trend on the property is to lean towards the simpler structural interpretation, even though there has been several occurrences of folding noted: macroscopic isoclinal folding noted in outcrop, mesoscopic isoclinal folding noted in the argillites in drill core, and microscopic folding with muscovite development along axial planes noted in thin section work. A consideration impeding the structural interpretation is that there is not enough confidence in the geology on the property to demonstrate correlatable volcaniclastic facies changes within the stratigraphy, thus leaving the interpretation general enough to fit either structural interpretation.

Over the years various groups have mapped the Red Star property with various different rock descriptions, each company lending to their own strived-for individuality, but with one common thread: they all agree that the host rocks for the property are the western facies of the Triassic Nicola Group. The interpretation of the property geology has varied slightly from schists of dominantly sedimentary origin (Allen, G.B., 1966): "The Nicola rocks are typically made up of metamorphosed volcanics with minor metamorphosed sediments. In the report area, however, only rocks of a sedimentary origin were found outcropping. "To the present day interpretation of schists of dominantly bimodal volcanic origin with_minor sediments (Curtis, K., 1990). "Combined with terrane modelling, regional geology indicates that the extreme southwestern flanks of the Nicola Group represent a rift type environment within a Triassic submarine back arc basin. ...the claims are underlain by moderately deformed mafic, felsic and sedimentary rocks of the upper Triassic Nicola Group.".

The other point under debate is the type of deposit that this bimodal felsic to mafic volcano-sedimentary stratigraphy hosts. The various interpretations are a massive sulphide vein related to the intrusion of the Eagle Plutonic Complex, a sulphide lens of remobilized VMS mineralization and a bonafide VMS deposit. The sulphide occurrence has been described as lens shaped and massive with coarse grained sulphides and gangue, which could imply either vein type mineralization or an original massive sulphide body that has been recrystallized. The chemistry done on the rocks and soils over the years shows good indication that it is a VMS deposit: felsic to mafic host rock chemistry, sodium and calcium depletion in the proposed footwall zone, iron content increasing in the footwall closer to the prospective VMS horizon,

barium increase hangingwall to the proposed zone, high Alteration Index numbers in the horizons closest to the target zone and an Fe/(Fe+Mg) ratio that indicates a change in chemistry closer to the prospective target. All of these indicate that we are looking at a VMS hosting, bimodal volcanic stratigraphy.

10.0 <u>RECOMMENDATIONS</u>

The 1997 Teck diamond drill program was based on the following premises:

1) Structural and geochemical data suggest the potential deposit is boudinaged, lying on a plane that strikes generally north-south and dips in a steep westerly direction.

2) The immediate area of the Red Star showing had not been previously drilled. Based on previous rock chemistry studies, the most prospective stratigraphy is at the Westmin Unit 10 and Unit 11 contact, proximal to the Red star showing.

The Teck drill program was successful in locating high grade, narrow width VMS style copper-zinc mineralization. In order to further evaluate the economic potential of the Red Star property, the following procedures are recommended.

a) Further surface exploration should be carried out to delineate the favorable mineralized contact between Westmin Unit 10 and Unit 11. Based on present drill information, this area appears to lie southwards from drill hole TR-97-05 (Section 7+00 N). A limited program of excavator trenching will be required to expose prospective mineralized outcrops.

b) Whole rock studies should be carried out on sections of the 1997 Teck drill core. It is hoped that data from the Teck drill core in combination with Westmin's whole rock data will provide a vector towards more favorable exploration targets.

c) The Knob Hill zone has not yet received examination by Teck personnel. Soil sampling and mapping has shown that the alteration and mineralization associated with theKnob Hill zone extend at least 500 metres south of the main showing. This area should be examined, trenched and considered as a possible future drill target, contingent on encouraging results.

If sufficient encouragement is obtained from any of the above exploration methods, a further program of diamond drilling is recommended for the most favorable target area(s). Consideration should also be given to drill testing the intervening area between drill hole TR-97-03 and Westmin's drill hole holes BC-94-01, 02 drilled on section 12+50N.

11.0 **<u>BIBLIOGRAPHY</u>**

- Awmack, H.J. (1995): Island-Arc Resources Corporation, Qualifying Report on the Red Star Project, October 1995.
- Allen, G.B. (1966): Results of Geological, Geochemical and Geophysical Surveys Conducted on a Portion of Spenho Mines Ltd. (N.P.L.) Property, Similkameen Mining District, B.C., Spenho Mines Ltd. company report. (See Assess. Rpt. # 878)
- BCDM (1900-1956): Annual Reports; British Columbia Department of Mines.
- Casselman, M.J. (1980): Assessment Report for Linecutting and Geological and Soil Geochemical Surveys on the Red Star Property, for Cominco Ltd., May 29, 1980, company report. (Assess. Rpt. # 8170)
- Curtis, K.M., and Toderuk, S.L. (1991): Geological Summary Report on the Bell, Bell 1, Red Star and Anaconda Claims Project. Pamicon Developments Ltd., unpublished company report. (Assess. Rpt. # 21491)
- Di Spirito, F., Grond, H.C., and O'Neill, D. (1987): Geological, Geophysical and Geochemical Report on the Red Star Mineral Claim Group, for Bukara Resources Inc., Oct 19, 1987, company report. (Assess Rpt. #16465)
- Fyles, J.T. (1969): Red Star, in Geology, Exploration and Mining 1969; British Columbia Ministry of Energy, Mines and Petroleum Resources, p. 290-291.
- Greig, C. (1989): Geology and Geochronometry of the Eagle Plutonic Complex, Coquihalla Area, Southwestern British Columbia. (from Curtis, 1991)
- GSC (1923): Pasayten Camp; Geological Survey of Canada Summary Report 1923A, p. 77A-78A.
- Jones, M.I. and Pawliuk, D.J. (1995): 1994 Assessment Report, Bell Creek Property, Unpublished assessment report for Westmin Resources Limited. (Ass.Rpt. #23981)
- Jones, M.I. (1994): 1993 Assessment Report, Volume 1 Bell Creek Property. Unpublished assessment report for Westmin Resources Limited. (Assess Rpt. #23408)
- Jones, M.I. (1993): 1992 Assessment Report, Bell Creek Property. Unpublished assessment report for Westmin Resources Limited. (Assess Rpt. #22934)

- Monger, J.W.H. (1985): Structural Evolution of the Southwestern Intermontane Belt, Ashcroft and Hope Map areas, British Columbia, in Current Reasearch, Geological Survey of Canada Paper 85-1A, p. 349-358.
- Preto, V.A. (1979): Geology of the Nicola Group between Merritt and Princeton, Bulletin 69, British Columbia Ministry of Energy, Mines and Petroleum Resources.
- Rice, H.M.A. (1960): Geology and Mineral Deposits of the Princeton Map-Area, British Columbia, Geological Survey of Canada, Memoir 243.
- Scott, A.R. (1980): Geophysical Report on Induced Polarization, VLF and Magnetics Surveys, Red Star Property, British Columbia Ministry of Energy, Mines and Petroleum Resources (Assessment Report 8170.)
- Simpson, J.G. (1970): Report on Geochemical and Geophysical Survey, Spenho Property; British Columbia Ministry of Energy, Mines and Petroleum Resources (Assessment Report 2807).
- Swanson, C.L. (1996): Data Compilation and Summary on the Red Star Project for Redstar Resources Corporation

<u>APPENDICES</u>

Diamond Drilling Report, Red Star Project Greg Thomson

Statement of Qualifications

I Greg Thomson, of Suite 600, 200 Burrard Street, Vancouver, B.C., V6C 3L9, hereby certify that:

I attended and graduated from the University of British Columbia with a Bachelor of Science Degree in Geology (1970).

I am a registered Professional Geoscientist in the Province of British Columbia.

I have in excess of fifteen years of experience as a mineral exploration geologist, working mainly in British Columbia.

I have been employed as a Project Geologist with Teck Exploration Ltd. since 1989.

Reman

Greg Thomson P.Geo.

PROJECT COST STATEMENT

1. Salaries

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	• G. Thomson (Project Geologist): field supervision, core logging, repo	ort 16247.00
	• G. Evans (Project Geologist)- 6 days, core logging	(included above)
	• C. Evans (Core sampler) - 8 days	1040.00
	• R. Farmer (Supervisor/Manager)	3549.00
2.	Drafting	1000.00(est.)
3.	Geophysical Consulting (Maple Services)	410.00
4.	Diamond Drilling (Beaupre Diamond Drilling) -includes water hauling costs	100,777.00
5.	Assaying (Eco-Tech Laboratories Ltd.)	1337.00
6.	Living Costs Sandman Motel, Princeton, B.C., meals, groceries	1645.00
7.	Vehicle Costs	1837.00
8.	Field Supplies	249.00
9.	Telephone	140.00
10.	Core storage (Manning Park Resort)	400.00
то	TAL	<u>128,631.00</u>
Not	te: The amount of the above total allocated for assessment purposes is:	<u>72,000.00</u>

BELL CREEK PROJECT- Notes on Geophysics.

There are two long HLEM conductors on the property. For purposes of this report, I have designated them West and East.

WEST

This zone runs N/S from16+00N/0+25E to 5+00N/2+50E. The zone dips steeply to the west north of line 9+00N and steeply to the east to the south.Depth to conductive axis is about 40 meters on line 16+00N and gets progressively shallower to the south to 5 meters on line 9+00N, Width is < 12.5 meters throughout, on lines 9+00N to 11+00N where 50 m HLEM data is available, width is < 6 meters. the drill hole 94-02, it appears that the conductor From correlates to a1.5 meter thick fault zone filled with graphitic gouge at a depth of 36.5 meters and a dip of 75 W.Assays show values on both sides of the fault. Assuming that the fault is relative to mineralization, the fault can Hiem can be used as a drill target. The zone here should be tested at depth by stepping back from 94-02 to line 12+50N/0+25E and drilled @ ~60 to the east.

To the south, the Hlem correlates to a discrete magnetic anomaly from lines 11+00N to 7+00N.Two targets are of interest in this section.

A.) Redstone showing @ 10+50N appears to be in the footwall of the hlem, which is at 10+50N/1+25E. This could be drill tested from the road @ line 10+50N/0+75E -60 East.

B.) The strongest conductive section with magnetic correlation appears on Line 8+00N/1+12.5E. Here the zone dips steeply east.It does not appear that this zone has been drilled or trenched. Depth to conductor is <5 meters, and can be drill tested from the road @ line 8+00N/1+67.5E by drilling-60 to the WEST.
EAST

This zone is <12.5 M wide, dips vertically or close to it and exhibits a depth to conductor of <10M.

The anomaly is best defined on lines 11+DON/5+25E and 10+00N/5+37.5E. The entire conductor runs parrallel to and 75 meters east of a magnetic break between map units 12 @ 15. There is no magnetic signature associated with the hlem per se. it is highly probable that the zone is caused by a graphitic or argillic marker horizon. Given no further information, a short hole on line 11+00N/4+75E on the hairpin turn on the road, -60 to the east would adequately test the anomaly.

The one point anomaly on line 17+00N/6+50E appears to me to be cultural.(ie a grounded wire)

CONCLUSIONS

There are three zones of interest on the West anomaly and one on the East anomaly. Recommended drill holes are

- 1.) 12+50N/0+25E -60 East Test zone at depth.
- 2.) 10+50N/0+75E -60 East Test Redstone showing and fault
- 3.) 8+00N/1+67.5E -60 West Test strong HLEM and Magnetics.
- 4.) 11+00N/4+75E -60 East Test strongest section of east Hiem.

With the exception of 1.), all holes can be drilled from road beds. There is no geophysical reason to not move 1.) to the road bed at 12+00N except the loss of a proper section with 94-01 and 02.

Alan Wynne

Consulting Geophysicist.

Al M



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11/29/90

ASSAYING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. +2, Kamloops, B.C. V2C 2J3 Phone (804) 573-5700 Fax (604) 573-4557

Analytical Procedure Assessment Report

BASE METAL ASSAYS (Ag, Cu, Pb, Zn)

Sample: are catalogued and dried. Rock samples are 2 stage crushed followed by pulverizing a 250 gram subsample. The subsample is rolled and homogenized and bagged in a prenumbered bag.

A suitable sample weight is digested with aqua regia. The sample is allowed to cool, bulked up to a suitable volume and analyzed by an atomic absorption instrument, to .01 ppm detection limit.

Appropriate certified reference materials accompany the samples through the process providing accurate quality control.

Result data is entered along with standards and repeat values and are faxed and/or mailed to the client.



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ASSAYING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

10041 E, Trans Canada Hwy., R.R. #2, Kamloops. B C. V2C 2J3 Phone (6C4) 573:5700 Fax (604) 573:4557

Analytical Procedure Assessment Report

MULTI ELEMENT ICP ANALYSIS

Samples are catalogued and dried. Soil samples are screened to obtain a -80 mesh sample. Rock samples are 2 stage crushed to minus 10 mesh and pulverized on a ring mill pulverizer to minus 140 mesh, rolled and homogenized.

A 0.5 gram sample is digested with aqua regia which contain beryllium which acts as an internal standar f. The sample is analyzed on a Jarrell Ash ICP unit.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and/or mailed to the client.

ICP CERTIFICATE OF ANALYSIS AK 97-1313

ECO-TECH LABORATORIES LTD. 10041 East Trans Canada Highway KAMLOOPS, B.C. V2C 6T4

Phone: 604-573-5700 Fitx : 604-573-4557 TECK EXPLORATION LTD. #350-272 VICTORIA STREET KAMLOOP8, B.C. V2C 2A2

ATTENTION: RANDY FARMER

No. of samples received: 43 Sample Type: CORE PROJECT #: 1781 SHIPMENT #: NONE GIVEN Sample submitted by: G. THOMSON

Vetures in ppm unless otherwise reported

Rt E	Tea #	Au(opo)	Aq	AL%	As	Be	BI	Ce X	Cd	Co	Cr	Cu	Fe %	La	Ng % _	Mn	Mo	Na %	NI	P	Pb	Sp	ទីរា	<u>Sr</u> 1	1 %	U	<u> </u>	<u></u>	<u> </u>	
	101551	10	<02	1.46	<5	130	5	0.08	<1	6	67	7	1.60	<10	1.60	113	6	0.01	1	110	2	5	-20	2 <	0.01	<10	4	<10	<1	52
,	101552	>1000	>30	0.75	<5	70	<5	0.46	806	10	119 >	10000	>10	<10	0.58	90	19	0.02	12	>10000	12	-\$	-20	3 ≪	2.01	30	5	<10	- -	>10000
5	101553	- 1000	24	0.43	<5	65	6	D.11	5	6	103	1453	3.02	<10	0.27	35	14	0.02	4	130	4	-\$	<20	2 <	201	<10	2	<10	<1	673
3	404554	535	230	0.90	<5	55	-5	0.25	89	10	80 ×	10000	>10	<10	1.21	91	43	0.01	17	>10000	6	-6	<20	2 🛋	1.01	30	5	<10	<1	>10000
	404666		0.4	7.38	à	<u>an</u>	-	0.10	<1	5	75	64	2.29	<10	2.66	198	4	0.01	- 4	230	2	<5	<20	2 <	0.01	<10	2	<10	<1	115
	101303			2.00					•	•				•••				••••				-		-	•					
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7	101000	10	-0.£ Λ∡	AAR	-5	45	15	0.38	2	44	110	222	>10	<10	4.29	669	10	0.02	22	410	3	<5	<20	3 <(0.01	<10	113	<10	-1	138
,	101007	10	0.4	0.28	<5	50	-5	0.04	<1	5	80	322	5.67	<10	0.05	36	12	0.02	1	30	-2	<5	<20	64	0.01	<10	<1	<10	-1	
	101000	16	12	0.34	<5	45	6	0.04	- i	8	96	491	6.87	<10	0.07	81	12	0.02	3	<10	5	-0	<20	4 4	D.01	<10	1	<10	-1	129
40	101650	16	40 2	1.75	~6>	60	Ś	1.32	<1	95	91	282	>10	<10	1.61	173	20	<0.01	14	60	2	- 6	-20	ନ ଏ	0.01	20	37	<10	<1	35
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44	101661	45	<u>د ۵</u>	3 23	<6	50	10	1.10	-1	72	128	34	>10	<10	2,93	614	18	0.01	20	170	6	- 6	-20	5 ৰ	0.01	-10	89	<10	<1	41
43	101582	10	0.2	3.80	-6	40	10	0.35	-1	49	86	15	>10	<10	3.65	643	10	<0.01	25	450	6	< 6	<20	4 4	0.01	<10	99	-10	ন	45
12	101662		-02	3.99	<6	50	10	0.19	<1	36	98	19	9.82	<10	3.71	639	10	<0.01	24	500	3	<5	<20	2 4	0.0t	<10	98	-10	्रद	60
4.4	101604	10	<0.2	2 80	<5	35	10	0.35	4	43	147	~` <u>9</u>	>10	< 10	2.53	419	12	0.01	19	230	6	<5	<20	3 ৰ	0.01	<10	66	<10	्≺1	496
16	101665	5	0.2	1 23	<5	40		0.13	<1	22	66~-	~ 0	5.23	~10	1.06	228	- 14	0.01	5	120	3	<5	-20	5 ⊲	0.01	<10	7	<10	6	27
10	101000		¥-8	1.000			-																							
18	101588	15	4 0.2	1.93	<5	40	15	0.08	<1	43	94	21	9,2 9	<10	1.81	321	25	0.01	11	150	2	0	<20	2 - 4	0.01	<10	36	<10	-1	33
47	101000	5	40.2	0.07	<5	40	10	0.17	-1	18	87	14	8.68	<10	0.67	265	18	0.01	8	40	- 4	- 🗢	<20	2 4	0.01	-10	3	<10		24
40	404660	15	0.2	0.02	- 25	40	5	0.10	<1	41	92	61	6.61	<10	0.52	258	21	0.01	7	100	2	- 6	<20	3 🖪	0.01	<10	- 6	<10	<1	24
10	101000	10	0.2	0.01		45	-6	1 20	1	64	87	899	>10	<10	0.63	196	24	0.01	6	640	2		<20	7 -	0.01	<10	21	<10	<1	34
18	101000	10	-0	0.70		44	10	0.61	- 1	43	87	16	>10	<10	0.46	110	14	0.02	8	270	17	<6	<20	4 4	0.01	20	16	<10	<1	28
20	1010/0	IU.	-0.4	0.10	νų.	70	10		-,		•																			
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21	1015/1		0.9	4.01	~	155		0.14	15	ã	76	440	2.98	<10	2.05	345	17	<0.01	13	180	2	<5	<20	2 4	0.01	<10	13	<10	-1	3154
22	101572	10	0.0	1.97	5	20	-0	1 38	S1000	Ă	102 :	>10000	4 40	<10	1.27	335	<1	-0.01	11	440	6		<20	<1	0.01	<10	20	<10	- - 1	>10000
23	1010/3	3/0		1.30	:) ~E		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	31.0	AK	11	71	978	5.24	<10	3.24	549	ģ	<0.01	12	480	2	4	<20	<1 <	D.01	<10	- 44	<10	<1	>10000
24	1016/4	200	0,4	3.14	< 0 - F	80		0.10	84	28	45	550	5.49		2.61	385	7	<0.01	13	760	3	<5	-20	2 4	0.01	<10	30	<10	<1	>10000
25	101575	30	0.4	2,45	<0	90	<9	0.19	04	20	**	300	0.74	-10	2.01	~~~	•				-	-		•		-				

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26	101578	20	1.0	1.49	-5	35	10	0.53	~ 1	94	120	47	0.02	-10	2 04	300	10	<0.01	18	420	3	<5	<20	2	-0.01	<10	63	<10	-1	90
27	101677	10	<0.2	3.10	<5	45	10	0,21	3	34	1	07	8.02	410	1 43	221	10	<0.01	44	90	2	<5	<20	3	<0.01	<10	27	<10	<1	39
28	101578	10	<0.2	1.51	<5	50	10	0.22	3	36	68	27	210	~10	0.00	102	24	-0.01	1	-10	5	<5	<20	- 4	⊲0.01	20	2	<10	<1	18
29	101579	10	<0.2	0.34	<6	45	15	1.D1	1	97	86	18	>10	<10 -40	0.23	400	47	~0.01	14	340	Ā	<5	<20	2	≪0.01	<10	43	<10	<1	42
30	101680	5	⊲0.2	2.63	<5	35	10	0.20	<1	35	-74	à	7.94	≪1Ų	2.44	403	12	-0.01	10		-									
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31	101581	18	-0.2	0.82	<5	45	10	0.19	1	65	/5	40	>10	~10	2.41	805	, a	0.01	27	270	2	<5	<20	- 4	<0.01	<10	78	<10	<1	55
32	101582	5	-0.2	3.36	<5	35	10	0.29	-1	79	86	18	>10	~10	3.91	1407	Å	0.01	17	290	3	<5	<20	Ē	<0.01	-10	96	<10	<1	121
33	101683	5	<0.2	4.41	<0	35	5	0.38	<1	63	50	25	2 77	-10	0.07	103	24	0.02	4	20	8	<5	<20	2	<0.01	<10	1	< 10	<1	267
34	101584	96	5.0	0.20	15	45	<6	0.06	4	12	72		3.11	~10	0.07	103	17	0.02	<1 <1	110	2	<5	<20	2	<0.01	<10	<1	<10	<1	31
35	101585	5	0.8	0.35	-6	40	<5	Q.Q8	<1	12	71	20	4.0Z	~10	0.20	100					-									
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36	101588	26	1.5	0.15	5	35		0.03		, 'e		00	285	-10	0.05	26	21	0.02	2	<10	4	0	<20	2	-0.01	<10	<1	<10	<1	41
37	101587	40	2.0	0.19	4	40	<5	0.03	1	2		40	0.44	~10	1.06	140	15	0.03	2	70	з	<5	<20	3	<0.01	-10	2	<10	<1	30
36	101588	30	0.4	0.96		30	5	0.06	<1		00	12	5.41	~10	0.00	10	26	0.03	Ā	<10	3	<5	-20	3	<0.01	20	<1	<10	<1	12
39	101589	30	0.8	0.23	<5	35	<5	0.02	1	22	51	243	210	-10	0.04	44	#7	0.03	3	<10	5	<5	<20	3	<0.01	20	1	<10	<1	10
40	101590	56	0.8	0.16	<5	30	<\$	0.04	1	- 14	78	109	>10	~10	0.04			0.00	Ť		-	-								
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41	101691	15	1.4	0,27	<5	35		0.04			20	18/02	8 10		0.30	65	20	0.04	7	<10	12	5	<20	7	40.01	-10	2	<10	-1	53
42	101692	25	2.8	0.40	<5	25		0.20	<1	2	73	2074	7 GA	e10	0.28	64	14	0.03	5	10	123	335	<20	- 20	-0.01	<10	<1	-10	<1 >	10000
43	101693	105	15.2	0.32	415	20	4	0.20	51	ა	/3	20/4	2.50		0110															
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Reput	101551	E	-0.2	1 52	≪5	135	<5	D.07	<1	6	86	- 11	1.80	<10	1.69	116	7	0.02	2	110	2	2	<20			~10		~10		10
N/3 1	404609	30	-01	0.16	<5	40	<5	0.03	<1	7	101	75	5.58	<10	<0.01	21	59	0.02	2	<10	3	<0	Q 0	-	5 40.01		-1	~ 10	-	
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· 1	101551	10	<0.2	1.37	10	120	<5	0.07	<1	7	70	¥	1.60	<1U	1,49	470		-0.01	17	80	2	<5	<20	1	<0.01 €	10	37	<10	<1	40
10	101550	20	0.2	2 1.73	-5	50	<5	1.37	<1	101	92	272	>10	<10	1.5/	1/0	24	-0.01 A D4		580	-	<6	<20	Ī	8 <0.01	<10	20	<10	<1	40
19	101569	10	0.6	0.75	<5	40	<5	1.28	2	63	84	868	>10	<10	0.04	184	24	0.01	3	40	3	<	-20		2 <0.01	<10	1	<10	<1	13
38	101586	36	1.6	5 0.17	' <5	40	-5	0.03	<1	7	87	85	5.34	<10	<0.01	13	φ,	0.05	2	10	÷	-0								
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05007				s 1.60	55	180	<5	1.68	<1	18	59	86	3.92	<10	0.96	648	<1	0.04	23	600	េខ	<0	<20	D,	≤ U.3∡ ~	7	b0	~10	-	
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dt/1313			•																				Frank	k J. Pe	azzotti, A	LSc.T.				
XLS/97T	ecx																						8.C.	Certifi	ed Assa	yer				

ICP CERTIFICATE OF ANALYSIS AK 97-1313

ECO-TECH LABORATORIES LTD.

TECK EXPLORATION LTD.

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ROD-THOH KAM.

12/08/87

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Apr: 372-1285

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Page 2

BCO-IECH RAW.



ASSAYING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

2-Dec-97

10041 E. Trans Canada Hwy, R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700 Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97-1313

TECK EXPLORATION LTD. #350-272 VICTORIA STREET KAMLOOPS, B.C. V2C 2A2

ATTENTION: RANDY FARMER

No. of samples received: 43 Sample Type: CORE PROJECT #: 1761 SHIPMENT #: NONE GIVEN Sample submitted by: G. THOMSON

		Au	Au	Ag	Ag	Cd	Cu	Zn
ET#.	Tag #	 (g/t)	(oz/t)	(g/t)	(oz/t)	(%)	(%)	(%)
2	101552	1.40	0.041	76.4	2.23	0.074	5,10	14.10
4	101554			33.5	0.98		2.40	1.73
23	101573					0.117	2.22	32.00
24	101574							1.20
25	101575							1.57
43	101593							1.35
QC DATA: Repeat: 2 Standard: STD-M MPla CPb-1	101552	1.78 1.40	0.052 0.041	69.7 .	2.03		1.44	4,42
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ECO-TECH LABORATORIES LTD. Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer

XLS/97Teck fax: @ 372-1285

Page 1

94 (CO-TECH) (O41 East (AMLOOP3 /2C 6T4 2hone: 604- fax : 604-	Dec-87 Trans Cana 5, E.C. 573-6700 673-4557	QR(ES L] Ida Higim	rD. rey						·	(CP	CERT	IFICAT	TE OF /	NALY:	sis ax	(97-132	25					120 #35 KA V20 AT No Se Pf St Se	N EAF 0-272 \ NLOOF 2A2 TENTIC . of san mpla T ROJECT HIPMEN Impla a	/ICTO PS, B.(DN: R pples / ppe: C T #: N ubmitti	RIA ST C. ANDY CRE 181 KONE C KONE C	REET FARME d: 31 given g.Thon	'R VISON				/10/97 11:03 12:250
Values in p	apin unioc	a other Wi	es repoi	nted									.	1.0.0	e n %	Mn	Mol	Na %	NI	P	Pb	8b	Sn	Sr	11%	U <10	V 163	W	<u> </u>	ZA 73	573 4
Ft #.	Tag #	Au(ppb)	Ag	AI %	As	82	BIC	a %	Cd	Co 25	Cr 69	68	6,13	<10	1.53	612	14	0.07	23 24	730 550	12 14	≺5 ≺5	<20 <20	12 18	0.09	<10	161	<10	4	78 71	557
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2	101752	5	<0.2	1.69	<5	00	~Q	3.00 7 OR	<1	31	88	113	7.22	<10	1.25	643	10	0.07	20	1470	15	<5	<20	8	0.11	<10	120	~10	7	208	
2	101753	5	<0.2	1.50	-5	40		4 08		23	66	49	5,16	<10	1.60	850	0 90	0.06	61	2410	18	<5	<20	9	0.09	~10	127	-10	•		
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R	101758	5	0.2	0.70	25	60	40	0.11	द	43	92	49	8.28	~10	4,21	1192	•• •••		37	-800	2R			<u><1</u>	0.05		1229	-270			",
···· ·· ··· ··	101757	- 5		3.88		40		0.25	<1	44	48	71	8,66	<10	3.45	705	21	0.01	15	320	26	-5	< 20	<1	0,01	<10	70	<10	<1	61	The second se
Å	101758	5	Q.8	2.80	• •	4U 60	25	0.36	<1	87	66	22	>10	<10	3,10	207	. А	0.01	36	500	40	-5	-20	<1	0.01	410		-12			뀰
9	101759	10	0.4	3,33	<0 44	25	15	0.18	<1	53	78	9	>10	<10	3.70	1004	J	 ,								~10	41	<10	5	111	5
10	101760	6	0.4	4.21	19	30	.0									200		0.04	<1	280	18	10	<20	<1	<0,01	~10		<10	6	230	1
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11	101781	5	0.4	1,53		25	æ	0.18	<1	4	49	10	3.28	<10	1.98	785	ž	0.03	<1	230	18	10	<20	<1	-0.01	240	à	<10	3	118	
12	101762	5	0.4	1.68	1V ~#	-3-3 -60	<5	0.09	<1	2	74	- 4	1.70	<10	1,30	203	2	0.03	<1	200	12	<5	<20	<1	<0.01	~10	2	<10	4	91	
13	101763	6	<0.2	1.37	<0	40	~	0.09	<1	2	60	248	1.55	<10	0.07	201	3	0.03	<1	220	12	5	<20	≪1	4 0. 01	-10	-	-10			
14	101764	6	1.0	0.93	0 F	45	~	0.10	<1	2	65	112	1.61	<10	0.9-3	العن ا	Ū								-0.04	-10	-	<10	3	50	
15	101765	5	0.4	1.02	5	-10										774	5	0.02	<1	210	10	6	<20	<1	40,01 			<10	2	52	
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16	101765	5	0.2	0,76		45	<5	0.10	<1	3	64	16	5 1.39	i <10	0.04 0.04	, AGO 107	ē	0.02	2	180	6	<5	<20	<1	10,01 1 - 0,01	10	2	- 10	<1	39	
17	101787	5	0.4	0.68	5	40		0.07	<1	3	60	11	1.67	<10	0.20	. 89	Ē	0.02	1	180	6	<5	<20	<1 	0.01	, ~10 , ~10	े जी	-10	-1	120	
18	101768	5	<0.2	0.40				0.10	-1	4	55	30	5 1.74		, 0.21 . 604	4 27		0.02	- 2	2 110	4	<5	<20	< 1	i ≪0.0"	-10					
19	101769	5	0.4	0.30	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		<	0.05	<1	- 4	. 64	114	4 2.00	s <10	0.0																
20	101770	10	1.0	021	-0		•	•• •=																							

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TECK EXPLORATION LTD.

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ECO-TECH LABORATORIES LTD.

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ICP CERTIFICATE OF ANALYSIS AK 97-1325

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TECK EXP	LORATIO	N LTD.													- •	Silen	No	Na %	Ni	P	Pb	55	S n	8r	TI %	U	<u> </u>	₩ <10	¥ <1	Zn 168	/10/1
et 4.	Teg #	Au(ppb)	Ag /	AJ %	As	Ba	Bi (Ca %	Cd <1	Co 4	Cr 92	Cu 114	2.55	<10	0.14	132	12 18	0.02	2 2	90 70	6 8	\$ \$	<20 <20	ন বা	<0.01 <0.01	<10 <10 <10	<1 1	<10 <10	9 7	401 180	1
21 22 23	101771 101772 101773	5 10 5	1,2 1.0 0.8	0.33 0.22 0.59	5 √5	30 50	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0.04	4 3 2	5 3 3	54 58 72	83 157 33	2.80 1.74 2.00	<10 <10 <10	0.47 0.39	179 175	16 13	0.02	<1 <1 <1	200 170 180	12 34 10	-5 -5 -5	<20 <20 <20	<1 <1	<0.01 <0.01 <0.01	<10 <10	1 1	<10 <10	9 6	279 55	11:04
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26 27 28	101776 101777 101778 101779	5 10 15 30	0.4 1.0 0.8 5.8	0.25 0.31 0.43 1.18	\$ \$ \$ \$	25 25 36 45	10 45 45 45 45 45	0.12 0.10 0.08 0.31	<া বা বা 1	10 22 21 8 A	59 50 57 44	225 151 2530 1198	6.68 7.20 8.51 8.63	<10 <10 <10 <10	0.16 0.31 1.42 0.50	57 80 199 163	21 18 32 45	0.02 0.02 0.03 0.02	<1 2 12 4	10 140 110 130	8 22 45 38	ବ ବ ବ ବ ସ	20 <20 <20 <20 <20 <20 <20	<1 2 <1 <1	<0.01 <0.01 <0.01 <0.01 i <0.01	<10 <10 <10 <10	1 3 2 . 3	<10 <10 <10 <10	りょうし	138 301 762	250 573 4
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<u>oc Dá</u> tí Resplit:	Ŀ			4	-8	60	<5	3.12	<1	25	17	7û	6.08	<10	1.56	578	14	t 0.07	22	730	16	<5	<20	1	0 0.13	<10	166	~10	4	76	
R/S 1	101751	5	⊲0.2	1,56	~2				-1	25	71	69	8,20	<10	1.53	612	1	4 0.07	24	750) 14)38	<u>ح</u>	<20	<u> </u>	9 0.1 1 <u>0.0</u>	8 <10 1 <10	162	10 10	5 -1	78 59	000
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19 Standa/ GEO/97	र. च	120	1.4	1.67	70	185	. <	5 1.82	<u>.</u> ~1	21	69	9 84	0 4.30	5 <11	0.91	713	, <	:1 0.03	. 23	3 75	1 22	2 <	5 <20) t	543 0.1	.1 <1() 7	r ≪10	•	, 30	

ECO-TECH LABORATORIES LTD. Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer PY

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TECK EXPLORATION LTD.

HOLE No. TR 97-01

DIAMO OPTIONO Project No: Property: DEPTH (metres)	ND DRILL LOG R: Redstar Resources Corp. 1761 Redstar DESCRIPTION	NTS CLAIM ELEVATION NORTHING EASTING	92H/017 Star 1 1295 m 10+50 N 0+75E STRUC	IURE.	ALTE	DATE: : LOGGI CORES RATION	COLLARED COMPLETED LOGGED ED BY: SIZE: METALLIC MINERALS	Nov. 6 Nov. 1 G. The NQ	/97 0/97 mson SAMPL		<u>PTH</u> DD 08.8 -4	(P A) 5° 9(Z LEN)° DEF CAS WA PRC	IGTH: TH OF OVI SING REMA TERLINE I. DBLEMS. RES	B: AINING: ENGTH: BULTS P5	308.8 m 4.9	
FROM/TO		%	CONTACT	VEINS			(%)	No.	FROM	то	LENGTH	dqq	ppm	ppm	ppm	ppin	r
0-4,9 4,9-30.0 30.0-39,15	Quartz-ser-chlor schist rubble Qtz-ser-chlor schist (ash tuff) pale to medium greenish grey, fine to med. conspic. feldspathic clasts through groundm 0.5-1.0mm, locally to 2-3 mm, wk-mod foli w. mod. banding along fol. @ 80°, perv. tre along fol. as harline wisps, generally broke linton. coatings to approx. 30.0 m (hole close follows slope of hill) Qtz-ser-chlor schist (ash tuff):	grain, ass, ation , py m w. cly															
39.15-61.5	-continuation of previous unit but with less oxidation/fracturing, pale to med. grey, fine med. grain, wk-mod. fol @ 70-80°, perv. ha py wips, trc-0.5%, occas. as fract. fills, spu darkspeckling 1-2 mm (biotite?), wk-mod lumonite along fract's to ~ 35.0 m, rock has overall uniform texture, wk-mod. carb. cont w. minor wht carb bands, fol. parallel, < 1 c @ 33.93-39.15: 1% pervasive blue qtz cycs lmm, tre qtz eyes @ 30.0-33.93 -sharp lower contact w. argillites @ 39.15m @80° core angle.	to irline oradic ent m .~					ру+/-ро										
	med to drk grey to black, mod to intensely foliated, 70-80°, laminated on mm scale, sh black graphite present on disrupted fol'n pla	iny ines ,					tre,local to 1-2%										

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DEPTH			STRUC	TURE	í	METALLIC		Chlan								
(metres)	DESCRIPTION	REC.		1	ALTERATION	MINEBALS	·	SAMPL	E DATA			·	RI	SULTS		
FROM/TO		%	CONTACT	VEINS		(%)	No	EROM	70		Au	Ag	Cu	Рь	Zn	Cd
	mod. to strongly fractured throughout, fissile, perv. carb. bands, hairline-1mm, locally to 1.0 cm, fol'n aligned, perv. pyrite+/- po as fol'n aligned hairline wisps, black graphitic bands sporadic through section, most intense (@ 49.4- 55.4 w. isoelinal folding and assoc. carb. alt'n, sporadic zones are lighter with increased chlor- ser alt'n, sharp fol'n aligned lower contact (@80° ; @ 52.73-4.5 cm q.vn @60°, contains ang. Zmm x 1.7 cm prochert/inclusion								10	LENGTU						
61.5-85.3	Qtz-ser-chlor-bio schist (ash tuff): pale to med. green grey, mod. fract'd, brkn, predom. f.g. locally to 1mm, mod. siliceous w. low fissility, local patches/bands of light carb. alt'n, perv. fol'n aligned f.g. biotite, wk-mod. fol'n/banding @ 80°, locally 60°, py generally absent or as thin fract sfc films, q.vns @ 67.6 (5.5cm) and 72.8 (10cm), mod-strong gouge @ 66.0-66.45 and 69.8 (10 cm), broken, darker (argillaceous) schist @ 73.76-74.8, dark, rubbly arg. schist @ 75.68-76.0, fol'n contacts @ 80°, perv. wht-cream feldspathic alt'n @ 79.15-79.61															
85.3-91.74	Argillaceous schist: dark grey to black, locally banded parallel to fol'n @ 80°, banding where present is on mm scale, w. hairline to 1mm py bands /,wisps, rock is generally very broken w. strong graphite along fol'n stcs.															
91.74-95.5	Qtz-bio-chlor schist: -med. grey, mod-stronly broken, mod-strg fol'n marked by local fine biotite lamillac, fol'n strongly pronounced from 91.74-91.94 at 50°, elsewhere 70-80°, finely fract'd w. perv. hairline py, trc to 0.5%, at approx. 93.6, brkn qtz vn (15cm?) w. increased py along selvages															

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DEPTH			STRUC	TURE	!	METALLIC		SAMPI.	EDATA		<u> </u>		RES	ULTS		
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS	·		[<u> </u>	A u	Ag	Cu	Ph	7.1	<u>C4</u>
FROM/TO		%	CONTACT	VE155		(%n)	No	ЕКОМ	TO	LENGTH		<u></u>			2,11	
95.5-97.54	Chlorite schist (ser+/-bio): pale to med green, overall crushed, friable, mod. foliated 80°, abundant gouge/crackle breeciated areas, more competent zones have fine fol'n aligned py, biot, general fol'n (a) 50-60°, strongest gouge developed from 96.94-97.54															
97.54-98.0	Gradational contact: -zone of mixed chlor schist w.~50% narrow bands of wht-grey felsics containing 1-3% dissem and fol'n hands of f.g. cuhed, py															
98.0-99.21	Qtz-ser-py-chlor schist: wht to pale green, competent, conspicuous pyrite zone, 1-3%, locally to 10% in 1-5 cm bands, py is mainly fol'n aligned but also dissem'd, mod fol'n @ 50-60°													<u></u>		
99.21-114.7	Chlor-ser-qtz schist: light to med green, close spaced friable partings along strong fol'n fabric @ 70°, numerous, narrow gougy/crushed zones, 5-10 cm, most intense at 110.0-113.7, trc. py in hairline sporadic lamillae, often biotite associated, @ 106.4-106.5, gradat, wht-grey felsic band w, 1% dissem py, strong gouge at 113.4-113.7															
114.7-115.7	Altered lapilli tuff schist: (?) zone of mixed mottled, med to drk green mafic volc's w. perv. chlor and weak epidote alt'n, wk banding/schistosity, section contains approx. 20% sporadic whi qtz vns, 5-20 cm w. pronounced drk chlor. sclvages															
115.7-128.74	Ser-chlor-qtz schist (lapili tuff) pale to medium green, contains perv. elongate clasts in fol'n plane @ 80°, clasts are 1-5 mm, pale grey-green giving overall mottled texture, rock is generally highly fissile w. local broken/gougy sections, very minor py traces in fol. plane; @ 128.43-128.74, qtz vn, wht, cryptocrystalline, contains several inclusions of chlor-ser schist, minor cpy, sphal along lower						101551	126.49	128.43	1.94			7		52	

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DEPTH			STRUC	TURE		METALLIC		SAMPI.	E DATA				RES	ULTS		
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS					Au	Ag	Cu	Pb	Zn	
FROM/TO		%	CONTACT	VELS.		(%)	No.	FROM	τo	LENGTH						
	contact @ 128.74											_				
128.74-129.54	Redstar Mineral zone: 128.74-128.94 msv-semimsv granular, med. grain py. w 5-10% assoc granular cpy, sphal, groundmass through pyrite contains a mix of ser-talc+/-chlor and honey colored sphal in 3 cm band, fol'n indistinet at 50-60° 128.94-129.3 wht-greyish qtz-ser schist, mod fol'd 75° w. 0.5% diss. py. 129.3-129.54 semimsv granular py band w 3% cpy + tre sphal., lower contact consists of 3-4 cm ser-chlor gouge					py, cpy, sphal.	101552 101553 101554	128.74 128.94 129.3	128.94 129.3 129.5	0.2 0.36 0.2	1.4 g/t 535	76.4 g/t 2.4 g/t 33.5 g/t	5.1% 1453 2.4%		14.1% 873 1.73%	0.0749 99
129.54-147.83	Chlorite schist: med-drk green, aphanitic, homogenous, mod. fissile along fol'n fabric @ 80°, sporadic light streaky narow banding, py occurs in minor sporad, felsic bands, imm-3mm, rare qtz-carb vnlts, 1-2 cm, wht qtz +/- carb, vn @ 41.3-41.73 w. minor chlor, inclusions, pale green alteration (increased ser) @ 129.54-132.6					ру- trc in perv discrete паптоw bands	101555	129.5	129.9	0.4			64		115	
147.83-157.7	Chlorite schist: -probable continuation of above unit, but w. intense drk green chlor. alt'n, rock is very soft, friable, oriented along 80° fol'n fabric, mod- strong fol'n, locally crushed texture, marked increase in overall py content w. numcrous sporadic lighter colored bands, 1-15 cm, w. 5- 10% fol'n aligned, f.g-m.g euhed. py, locallized lapilli texture, 1-3 mm, whitish, aligned along fol'n fabric, gradat. lower cont (@ 151.9-152.04; semimsv-msv f.g-m.g gran. py (@156.84-156.97; q.v. w. 10% chlor. inclusions (@ 152.7-153.62, missing core					ру	101556	151.64	15195 156.85	0.31			51 222		43	

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DEPTH			STRUC	FURF		METALLIC		SAMPL	Ê DATA				RES	ULTS		
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS			[Au	Λυ	Cu	РЬ	7.	Cd
FROM/TO		%	CONTACT	VLISS.		(%)	No.	FROM	ro	LENGTIL						
167 7 160 85	Chles are aphiati					· · · · · · · · · · · · · · · · · · ·		·	1	لیے۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔ ۲		1 <u></u>				
157.7-160.85	 chior-ser, senist; pale greenish grey, probable continuation of prev. unit, but w. increased sericite, wk-mod. foliated, generally mottled texture w. pale, poorly defined lapilli to 1.0 cm @ 159.0- 160.85,@ 159.8, increased py-3% across 7 cm, 1-3% diss py @ 157.7-157.95, brkn and strong chlor @ 160.02-~ 160.3 															
160.85-161.6	Chlor-ser schist: -zone of brkn schist interrupted by numerous qtz vns @ 160.85 (3cm), 161.0 (10cm), 161.3 (8cm) 161.45 (10 cm) * vns have strong chlor inclusions and selvages, 3% py across 10 cm @ 161.2															
161.6-177.65	Chlorite schist:		· · · · · · · · · · · · · · · · · · ·						ł				<u>├</u> ───┤	h	┝━╌╼┥	
	med-drk green, unifornly banded and fol'd @80° minor fol'n aligned py bands/cone's (3-15 cm), wk-mod. hrkn, perv. whtish bands/spots, 1-3 mm (stretched lapili?), soft gougy, chloritic (@ 177.3-177.65, g.vn/inclusion177.56-177.65															
177.65-182.2	Qtz-chlor-ser schist: - continuationof above unit, slightly paler greenish grey, mod-strong fract'd/broken w. numerous chlor/ser fracture slips, perv. sporadie py bands/concentrations, possible vague lapilli texture															
182.2-191.41	Chlorite schist: -strongly chloritic w. numerous fractures, localized zones of elongate whitish lapilli, minor py bands or dissem's along fol'n (last noticeable py band, 1.0 cm @ 185.1), several sporadic qtz vns, 3-7 cm, fol'n aligned, @ 178.25-178.8, wht q.vn. w. 5% chlor, inclusions					py -tre.										
191.41-202.0	Chlorite (Iapilli) schist: med-drk green, w. conspicuous bands of whitish I-3 mm Iapilli, fol'n @ 80°, from 198.75-202.0 rock is strongly chloritic, mod.brkn w. sporad. 5- 10cm zones of strong fracturing, py absent through this section															

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(metres)		ļ	STRUC	<u>TURE</u>		METALLIC		SAMPL	EDATA				DE		-	
EPOM/TO	DESCRIPTION	REC.		,	ALTERATION	MINERALS		1		Ţ			к <u>е</u> .			
		%	CONTACT	A W		(%)	 No	FROM	ΤΟ	LENGTH	<u>AU</u>	<u>Ag</u>	Cu	Pb	Zn	<u>Cd</u>
202.0-218.7	Chlor-ser, schist-ser-chlor schist:		Ţ	T			1						<u> </u>	1		
1	-pale grey green to med. green, localized> chlor	ļ	1										1]		— —
	zones, mod. fol'd @ 80°, mod-strongly brkn						ĺ		ĺ			[1		1	
1	tre py bands/dissem's from 202.7-203.7														1	
}	Q.vns (a) 204.6-204.8 (patchy), 205.36 (3-4 cm)	ļ	1	[]		ļ										
	208.5 (7.5cm), 212.8-213.0 (20 cm in irreg.									(i	,	ĺ		1		1
ļ	patenes), tre. py as hairline fol'n lamillae from 211.78-212.75		J													
	(@ 215.5-216.5, grey, wkly foliated qtz+/- chlor- ser schist															
218.7-222.6	Qtz-ser schist:			·				├ ───-, <i> </i>								Ì
	med grey, wk-mod. foliated @ 80°, hard, siliceous w. frequent brittle fractures					ĺ								†		†
222.6-235.5	Chlor-ser. schist;		·						····				ł			
	- pale to med grey green, perv. fissile along fol.	[(Í						1			i	—	†	╂────
1	@ 80°, locally brkn due to sofmess of rock,															
1	incly laminated, sporad, hairline to 0.5 cm			}		ŀ										ł
235.5.238.05	Ota set abox and a									[[{	
	Quescif choir schist:															ļ
	green chlor bands, handing generally fine to				}											
	3mm, rock overall is hard, silic's but strongly									ĺ						ĺ
	broken in zones of chlor-ser partings, fol'n mod.			i	ſ			1								1
229.05.241.6	interined (a) 80°, gradat, into lower unit			1									}			i
236.03-241.3	Chlor-senc to Serie-chlor schist +/- qtz:				·			<u> </u>								L
	sporadic limonitic laminations 1.7 mm to 228.4															
	laminated texture becomes less distinct down	[1	Í	1					1		1				
	section w. increased ser., local crushed/gouge			Í												
	sections, 1-5 cm in stronger ser-chlor zones, tre.		1									1		1		
	sporadic qtz bands/vns, 1-3 mm, crushed cataclastic			1	[(1	1	1	1	1		1		
	texture @ 241.25-241.5									l l	ļ					
241.5-246.4	Sericite-chlor schist:		 			·										
	pale greenish grey, rock is soft, fissile w. banded									-	Γ	T				—
	or laminated texture mainly obscured by															
	mod, brkn tre nerv hairline pu laws's		I		1					ļ]	ļ	
R9701 A 1.doc	niou, otkn, irc. perv. hairline py lam's			l								[

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DEPTH		STRUCTURE						SAMPL	e data		<u></u>		RES	ULTS		
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS			<u> </u>		Au	Ag	Cu	РЬ	Zn	Cd
FROM/TO		%	CONTACT	VENS		(%)	No.	FROM	то	LENGTH						
246.4-250.24	Seric-chlor to seric-qt2-chlor schist: pale green to grey, continuation of above unit but w. stronger pervasive sericite alteration, rock has overall mottled, corroded/pitted texture w. sporadic localized cataclastite/gouge, localized bands of alternating qt2-ser and ser-chlor, py tre- as fol'n parallel hairline lamellae															
250.24-254.45	Sericite qtz to qtz-sericite schist: white to pale grey, very soft and friable numerous gouge sections, strongest (@ 252.35- 254.45, perv. mod to strong pyrite from 250.8- 254.45 as scattered fol'n aligned, difffuse bands, locally semimsv across 1-2 cm., py. is fine to med grain occas, as dark sooty streaks to 1.0 cm, mod. foliated 60-70°, tre. chlor band/partings, lower contact consists of chlor. gouge (7cm)					ру, 3-5%	101558 101559	250.24 252.37	252.37 254.4	2.13 2.03			322 491		88 129	
254.45-264.35	Qtz-chlor schist: (Red and green unit) med grey green, conspic. banding along 80° fol'n, banding on nun scale, marked by conspic. hairline biotite partings, rock is generally hard w. low to mod fissility, sporadic minor brownish orange limonitic coatings along fol'n plane or in rare microfract's, coatings may be partly hematitic, rare sporadic qtz vns, 0.5-4.0 cm															
264.35-277.0	Chlor-serie to serie chlor schist: pale to med. grey green, soft, strongly foliated, perv. microfracturing w. crackle brecciation, rock has general wk-mod. crushed texture, very minor tre, py in vague fol'n controlled bands, hairline to 2 cm, tre qtz bands/vns, 1-5 cm as probable fract. fills															
277.0-281.2	Chlor-ser, schist: -continuation of above, but strongly mottled w. mixed light to drk green bands/streaks w. intermixed red brown (hem) streaks, occas, stained rounded augen eyes to 1.0 cm, 2 qtz, bands 5, 10 cm w. minor qtz bands < 1 cm															

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DEPTH			STRUC	TURE		METALER	·····	SAMPLI	DATA			RES	ULTS		
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS		T			 Λü		Ph	.7.0	<u></u>
FROM/TO		%	CONTACT	VEISS		(%)	No	FROM	то	LENGTH	 <u></u>		10	7.11	
281.2-281.55	Qtz-chlor lapilli schist: -overall greyish green, mottled groundmass, strongly siliceous, hard, indistinct ang. lapilli, 1-2 cm, hairline hem, stained microvnlts														
281.55-283.7	Cataclastic contact zone: zone of intense mixed brown and green unit, predom, qtz-chlor-ser schist, strongly broken and crushed w. overall intensely mottled texture, local banding @ 70° in minor competent sections, trc scattered euhed. magnetite blebs, 1-2 mm, three 3-5 cm qtz bands from 283.0-283.5, within strongly crushed chlor schist														
283.7-288.46	Qtz-chlor-epidote schist: -med to drk green ash tuff, mod. banding w. wk. perv. epidote through groundmass, med. grain, perv. sporad. qtz bands to 0.5 cm, wk fol'n @ 80°, strong perv. brown hem. coatings to 285.0 with lesser hem mainly in microfract's to 288.46, wk to mod. fract'd, perv. blue qtz eyes 1-3 nm, 1%														
288.46-292.73	Qtz-ser schist: grey, fine grain, well banded at 80°, perv. fol. aligned hem, minor to perv. bands to 5.0 cm, banding is most prominent over last 1.2 m on 1- 3mm scale, w. wk. chlor-epid. alt'n, low to mod fissility														
292.73-294.9	Qtz-chlor-epid schist: - probable continuation of above ash tuff unit w. slight coarsening and less distinct banding, rock is med green, equigranular w. higher chlor- epidote content, scattered f.g. magnetite blebs and trace 1 mm blue qtz eyes, minor hem, on fract. sfcs, broken/crushed over final 30 cm., overall hard, competent rock														
294.9-296.7	Quartz vein/band: -white, mod. brkn, contains approx. 5% inclusions of surrounding qtz-chlor schist, irregular contacts with schist host										 · · · · · · · · · · · · · · · · · · ·				

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DEPTH			STRUC	TURE		METALLIC		SAMPLE	E DATA				RES	ULTS		
(metres)	DESCRIPTION	REC.		L	AUTERATION	MINERALS				1	Au	Ag	Cu	РЬ	Zn	Cd
FROM/TO		%	CONTACT	VENS		(%)	No.	FROM	то	LENGTH						
296.7-308.76 (end of hole)	Qtz-chlor-epid (lapilli) schist: fine to med. grain, med to drk green, wk to mod foliation/banding, conspic. chlor, cpid bands/streaks, local zones of f.g. chlor. schist, minor hem. on fract's, perv. brown hem coatings @ 301.7-303.18, vague qtz bands,< 1 cm, scatterad bluich at aver. 1 4 nm															

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TECK EXPLORATION LTD.

		NITS	0211/017			184.331	COLLABOR	New 10	V02		EN EN INTER				0/01			
ΙσιλΜΟΙ	ND DRILLLOG	CLAIM	<u>9211/017</u>			DATE	COULLAKED	<u>Nov. 10</u>	0.097		DEPT	H DIP	A/	LEN	GTH:		<u>909.7 m</u>	<u>-</u>
		CLAINI ULUVATION	1 1210	·			COMPLETED	NOV. 13	191				090*		TH OF OVE	<u>ا ا</u>	4.02 m	
OPTIONO	R Redstar Resources	NORTHING	10 + 32 M					C. The		}		<u> </u>		- CAS	ING REMA	INING:		
Project No:	1761	FASTING	Race line (i	0.00		CODE	SIZE:	NO	nson						EKLINE L	ENGTH: -		
Buomontau	Dodator	13/10/11/13	isase inte f	<u>, , , , , , , , , , , , , , , , , , , </u>		, COND		<u>nq</u>					_	- rku	nur.ma:	-		
Property:	Reustar		-									1	I					
DEPTH			STRUC	TURF			METALLIC		SAMPLE	E DAT	'A				RES	ULTS		
(metres)	DESCRIPTION	REC.			ALTE	RATION	MINERALS						Au	Ag	Cu	Pb	Zn	-
FROM/TO		%	CONTACT	VEINS	1		(%)	No.	FROM	то	L L	.ENGTH	ppb ,	ppm	pom	nom	mag	
0-14.02	casing- no core recovery			1													P P R	
14.02-41.0	Otz-chlor lapilli schist:		1														<u>}</u>	
	grey green, strongly brkn throughout (surfact weathering), perv. fract. coatings of brick red oxidation, very broken, rubbly to ~ 30 m, roo medium grained, hard, non-fissile, wk-mod. fol'n, 40-60°, fol'n marked by pale yellow la 0.5-1.0 cm, local areas of fine grained bande tuffs marked by epidote alt'n bands, 2mm-2c also tan colored bands, pervasive sporadic bl qtz eyes, 1-2 mm	e 1 ck is pilli, d cm, ue																
41.0-90.5	Chlorite-qtz to qtz-chlor schist: (fine lapilli tuff), drk green, fine to med. grai uniform, mod-strongly foliated, constant (@5 wk-mod. brkn, sporadic restricted bands of fi grained banded tuff usually w. wk epidote al or buff siliceous bands to 20 cm, sporad, hair to 2 mm wht, carb bands, fol'n aligned, ofter streaky bands to 0.5 cm, local crushed or bro zones w. higher chlor, content, perv. f.g. biot aligned along fol'n (@ 57.3-58.6, whit cryptoxin qtz w. 5% chlor' inclusions/partings, fol, coincident contacts	in, O°, ine t'n cline 1 as oken tite											:					
90.5-116.83	Qtz-chlor schist: (fine to med. grain ash tuff, local lapili) -continuation of prev. unit, med grey green t greenish grey, paling down section, predom.	o f.g.,					py -tre.											
	subangular lapilli, 3-5 cm, f.g. py aligned alc	en, Eng																ł

DEPTH			STRUCT	URF		METALLIC		SAMPL	E DATA				RES	ULTS		
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS					Au	Ag	Cu	Ph	Zn	
FROM/TO		%	CONTACT	MONS		(%)	No	FROM	ro	LENGTH						
	fol'n planes, generally more siliceous (han prev. unit, strongly broken (strongest to 98.45), brkn qtz bands @ 93.05-93.4, 96.32-97.4															
116.83-119.3	Qtz-ser schist:															
	pale greenish grey, mod fract'd/microfract'd, frequent py hairline fract, fill, frequent ser-tale fract slips/fol'n bands, 1-2 mm, mod foliated/banded, hard, siliceous @ 118.65-118.8, band of finely lamin'd argill, schist, tre py along fol'n, frequent hairline earb, fract, fills															
119.3-131.25	Siliceous argillaceous schist (interbedded argillite, siltstone)									1	1					
	-dark grey, fine to med. grain, strongly argillaceous ash-lapilli tuff, wk-mod. foi'n, 70- 80°, hard, siliceous, low fissility, strongly brkn, perv. sporadic round qtz eyes, 1-2 mm; fracture sfcs usually have strong chlor-graphite coatings, tre. py in fract's /foi'n, sporadic hairline carb. fract. fills 130.75-131.25, pale grey, siliceous band, f.g ash tuff, wk foi'n w. hairline fol. aligned py, ~1%															
131.25-159.25	Interbedded argillaceous schist, silstone: -laminated argillaceous ach tuff to dark grey to black, finely laminated (@ 60°, mainly hard, siliceous, perv. wht hairline-2mm carb. lam's-, perv. graphite+/- chlor fol'n sfcs or slips, mod- strong fissility, perv. hairline py fol'n lamillae (trc-0.5%), fol'n 50-60°, locally 80°, mod. brkn, stronger in chlor-graph zones,															
159.25-179.65	Siliceous, handed tuffaceous schist:															
	grey to greenish grey, f.g.m.g, perv. wk-mod. banding, hard, mod-strongly brkn in local chlor(ser) zones, perv. f.g. brownish biotite as fine laminations, wk chlor alt'n through groundmass, fol'n/banding, 50-60°, v. minor py tre'ein fract's, grad, lower contact												}			

DEPTH			STRUC	ר ער די		MELALTIC		0 A N (D)	10 KB 1 44 4						·····	
(metres)	DESCRIPTION	REC		OKI.	ALTERNATION	MINERALS	ļ	SAMPL	II: DATA	· · · · · ·			RES	ULTS	,	r
FROM/TO		%	CONTACT	VEINS	BUILBAIRA	(%)	No.	FROM	то	LENGTE	Au	Ag	Cu	РЬ	Zn	
1 79.65-19 6.3	Argillaceous schist: -mainly dark, finely tarninated w.wht to grey carbonate bands;; perv. hairline-2num, locally 1.0 cm of fract. fill po,py lamillae, strong to intense graphite on fol'n planes , fol'n @ 70-80°, localized isoclinal folding across 10-20 cm zones, with fold axes subnaraliel to cour axe											d				
196.3-205.45	Banded siliceous tuffaceous schirt in the data grey to greenish grey, finely lam'd to banded, fine to med grain, perv. chlor, biotite through matrix or as finely lam. bands, several whi qtz bands or veins 5-20 cm, also@ 202.85-203.65, vns generally have ~ 10% chlor schist inclusions, wkly brkn, trc py as fine fol'n lamillae, fol @ 80° ; drk argillaceous band w. 5% diss.py @ 197.16-197.49;; fol'n @ 60° from 204.7-205.05 ;contact zone w. strong chlor+/- chlor slips at 205.05-205.45											1		 		
205.45-209.6	Chlorite schist: f.g., med to drk green, strongly fol'd (a: 60-70° -numerous pervasive pyrite bands, 1-5 cm, fine to med, grain, cubedral ovrite			**		py bands										
209.6-229.82	Chlorite-sericite schist; pale to medium green, fine-med grain, soft, fissile, mod-strongly brkn, perv. chlor-ser gougy silps, increasing down-section, fol'n (@ 60°, possible vague lapilli texture , 220.68-229.82 - conspicuous pitted texture w. perv. fg. chlor alt'n spots , strong gouge 225.3-25.85, 228.4- 229.0, rare med. grain py. in wht fol, aligned felsic bands, 1-2 mm, rarely 1-3 cm, vuggy brkn qtz vn @ 228.6 m, rare qtz bands to 1.0 cm (fol'n aligned)															
229.82-255.38	Chlorite-sericite schist: -continuation of above unit, pale to med. green, homogenous, fine grain, perv. minor qtz eyes, wht-pale blue, 1-3 mm; strong fol'n (a) 60°, minor sporadic, irreg. py bands, to- 3.0 cm, weakly brkn, mod. fissile, mod-strong slip sfes (a) 249.2-254.2, contains 3 quartz intervals, 20- 40cm from 251254.2						101559	252.37	254.4	2.03			491		129	

DEPTH			STRUCT	TIP1.		METATELC	1	CALIDI	1- 1- 1-1							
(metres)	DESCRIPTION	REC		OIG.	A L TELD A TOTAL				JE DATA	· · · · · · · ·			RES	ULTS		
FROM/TO		0%	CONTACT	VLDS .	ALTERATION	MINERALS					Au	Ag	Cu	Pb	Z.n	
		/0				(%)	No.	I-ROM	10	1 LENGTH						
255.38-272.46	Chlorite schist: -f.g., drk green, stronly foliated and fixsile along 60° fabric, perv. wht qtz(carb) fol'n bands/vns,			i		py bands mod-strong	101560	260.25	261.66	1.41			282		38	
	2-4 mm (-1-2% of section), unit contains conspicuous pervasive py bands often assoc. w. wht-grey felsic bands, 2-5 mm and also as						101562	266.18	200.14 267.9	0.38			15		41	
	irregulat diffuse zones up to 1.0 m, pyrite is locally semimassive, granular across 5-10 em widths, zones of 5-10% py(or>) occur at 260.25- 260.95 (w. trc f.g cpy), 261.45-261.6, 265.9- 266.25, @ 266.55-267.8 - zone of irreg. semicontinuous fm.g py (~1%) in soft chloritic, broken gougy zone						101563	269.44	272.03	2.58			19		50	
272.46-290.3	Qtz-ser-chlor schist:					py bands	101564	2731	274.62	1.52			0		105	
	greenish grey, f.g-m.g, mod. fol'd 50-70°, mod. brkn, perv. fol'n aligned py bands of variable widths usually 5 1 cm but aleu with diffice					-moderate	101565	274.62	275.95	1.33			9		27	
	zones of sporadic grey felsic bands (< 1m), perv. minor bluish, round qtz eyes, rock has localized zones of pitted texture. @ 273.0-273.75 rock has						101566 101567	279.35 280.26	280.26 281.5	0.91 1.24			21 14		33 24	
	perv. crushed texture ,; strongly chloritic@ 273.0-273.75, gradat. lower contact						101568	288.1	289.13	1.03			61		24	
290.3-302.6	Chlorite schist: de green f.g. finely laminated strongly ficcile	``				ру	101569	297.55	297.95	04			899		34	
	along 80° fol'n, py content decreased from previous 2 units, mainly 5-10% py in several, sporadic, discrete, wht-grey felsic bands, 5-60 cm., strongest py zones (>5% py) occur at 297.5- 297.9, 302.3-302.55, 301.0-301.75, irreg. qtz hand at 292.02-292.2					minor local bands	101570 101571	301.15 302.02	301.75 302.54	0.6			16 161		28 200	
302.6-309.68	Chlorite schist:				······································			1	<u>+</u>							
(end of hole)	 f g. with conspicuous rhythmic pale green and dark green bands/streaks, 2-3mm, strong fol'n fabric @ 70°, non mineralized 															



TECK EXPLORATION LTD.

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DIAMO	ND DRILL LOG	NTS CLAIM	9211/017 Star 1		 DATE:	COLLARED COMPLETED	<u>Nov.13</u>	i/97 5/97	151	PTH DI	P A2	LEN	GTH. TH OF OV	3	207.9 m 18.7 m	
OPTIONOI Project No: Property:	R Redstar Resources 1761 Redstar	ELEVATION NORTHING EASTING	1310 m 11+10 N 0+65 E		 ⊔ [LOGGI CORE: 	LOGGED (D BY) SIZE:	G. Tho NQ	mson				CAS WA	ING REMA TERUINE L BLEMS:	UNING: ENGTH:		
DEPTH		hre	STRUC	FUR b		METALLIC		SAMPL	E DATA			······	RES	ULTS		
(metres) FROM/10	DESCRIPTION	KR %	CONTACT	VEINS	RATION	(%)	No.	FROM	то	I FNGTH	Au ppb	ppm	ppm	ppm	Z.n ppm	
0-18.72	Casing - no core recovery															
18.72-25.6	Ash-lapilli tuff: grey, weakly foliated @ 70°,strongly broken to surface weathering, mainly fine grain w. minor elongate subang, grey lapilli frags, variable lost core recovery through this secti- lost core@ 24,38-25.6	due on,														
25.6-43.6	Ash tuff: fine grain, grey to greenish grey, hard, silice w. wk fol'n @ 70-80°, mod-strongly bikn w limon. coatings sporadic zones of gey to gre cherty banding @ 35.1-35.6, minor sporadsi bands elsewhere, 5-10 cm; perv. hatrline, fo aligned py. wisps from 35.5m, variable lost recovery to approx. 35.0 m	ous en c L core														
43.6-44.6	Argillaceous schist: dark, f.g., finely laminated, fine fractures (a) 43.6-43.75 w. carb. fillings, strong fol'n (a) perv. py lamillae, hairline to 2 mm (~1%), n brkn throughout	70°, 10d.														
44.6-55.3	Ash tuff (as previous @ 25.6-43.6) f.g., grey siliccous, weakly brkn, wk fol'n (a wk brownish (biotite) alt'n through grounda from 48.75-52.7 w. 1-2 % bluish qtz eyes, 1 mm, fine tre. py lamillae as hairline, rarely mm wisps through section (unmineralized 4 52.7), bands of finely laminated argillaceou schist at 45.54-45.67, 45.76-45.88, 46.9-47.	2 80° tass -2 -2 8.75- 5 25														

DEPTH			STRUC	TURE		METALLIC		SAMPL	E DATA				RES	ULTS		
(metres) FROM/TO	DESCRIPTION	REC. %	CONTACT	VEBS	ALTERATION	MINERALS (%)	No.	FROM	то	TENGTH	Au	Ag	Cu	РЪ	Zn	Cd
55.3-66.85	Argillaceous schist: drk grey to black, finely laminated, mod strongly brkn, w. numerous zones of intense fracturing, strong graphite developed through section, perv. interlaminated wht carb. streaks/bands on mm scale, minor localized isoclinal folding, strong primary foliation @ 70°, fine perv. py lamillae, occas. as 1-3 mm fract. fills @ 57.25-58.32- interbed of grey f.g. ash tuff; brkn; localizedareas of wider banding: (grey, siliceous), 1-2 cm bands, less argillaceous @ 62.8-66.85, sharp lower contact along 60 fol'n at 66.85 m.	<u> </u>														
66.85-73.0	Ash tuff: fine-med grain, grey to greenish grey, siliceous, wk -mod. fol'n/banding, minor localized breakage along chlor-ser fract. sfcs, wk. perv. f.g. biotite fol'n bands, trc. py mainly in hairline -2mm fract. fills				· · · <u></u>											
73.0-76.5	Interbedded f.gm.g dark grey ash tuff and finely laminated argillaceous schist, mod- strongly brkn, no pyrite, crushed texture (ii) 75.7- 75.98															
76.5-87.1	Banded ash tuff: f.g. grey to greenish grey, strongly brkn, local chlor, ser along fract. slips or local enished zones, overall, hard, siliceous, wk sporad. fine biotite fol'n bands, wk fol'n 80°, perv. banding, 1-3 cm, trc. py in fract's, wk ser+/- chlor alteration, rock becomes more homogenous, less banded, med green w. increased chlorite, mod. fol'n 70° from 86.9-87.1 (grad. contact)															

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DEPTH			STRUC	TURE		METALLIC		SAMPL	<u>6 DATA</u>			T	RES	ULTS		
(metres) FROM/TO	DESCRIPTION	REC.	CONTACT	Migar	ALTERATION	MINERALS (%)	No	FROM	то	LENGTH	Au	Ag	Cu	РЬ	Źn	Cd
87.1-101.33	Chlor-set (qtz) schist:			1				1	ľ.	1		/	/			
	med green, f.g., mod-strong fol'n 70°, mod. to strongly fissile, mod. vague wispy laminations, ; @ 87.1-89.9-sporad. white, fol'n aligned qtz vns, 1-25 cm often w. minor(<5%) chlor-ser inclusions, 4cm qtz band at 92.8 m, local soft/gougy zones, 5-10 cm, frequent gougy (chlor-ser) fol'n partings, py is tre throughout as vague segregations or fol'n bands, 1-3 mm, occasionally increased py concentrations (1-5%) assoc. w. greyish felsic bands, 2-3 cm															
101.33-109.42	Ser-qtz-chlor schist: pale to med. grey green, rock has distinct pitted texture along fol'n plane, generally highly fissile giving poker chip texture, greyish fol'n aligned elongate lapilli streaks/bands, trc. vague py lamellae or segregations, fol'n @ 70, numerous chlor-ser fol'n partings, vague minor grey qtz eyes to 4 mm., q.vns @ 101.7-102.0, 106.5 (9 cm)										,					
109.42-112.95	Ser-qtz-chlor schist: pale-med green, continuation of prev. unit w. less obvious pitted texture,/ fol'n partings, strong rhythmic fol'n bands at 70, trc py in fol'n segregations, 1-3 cm or as fine dissem's along fol'n, mod-strong ser. alt'n, gradational chlor. increase from 112.25-112.95, gradat. lower contact.															
112.95-120.7	Sericite-qtz-chlor schist: pale green w. strong to intense seric. alt'n, rock is very soft, friable with overall pitted/corroded texture, mottled indistinct fol'n texture 70°, trc. f.g. sporadic dissem's or vague irreg bands py., increased chlorite content (chlor-ser schist) w. sharp contacts @ 98.93-99.23 and 120.1-120.7 sporadic euhedral py blebs to 7 mm at 120.1- 120.7															

DEPTH			STRUKT	TURI		METALLIR		SAMPI.	E DATA				RES	OLTS		
(metres)	DESCRIPTION	REC.		<u>. </u>	AUTERATION	MINERALS			[Au	Ag	Cu	Рь	Zn	
FROM/TO		_%	CONTACT	VEINS		(%a)	No	FROM	10	LENGTH				-		
120.7-122.08	120.7-121.2 ser qtz schist: intensely altered, gougy, contains 2 irreg bands, 1 and 2 cm containing f g py w tre drk sphal, honey-colored sphal and tre epy, tre. fg-mg euhed py dissem through gouge matrix 121.2-122.08 chlor-seric schist:med to drk green strongly fract'd w. strong ser-chlor partings, minor carb.						101572	120.7	122.12	1.42			440		3154	
122.08-123.66	Redstar Mineral Zone Chlor +/- serie schist; drk green w. strong fol'n/fract. slips, soft, friable					py, sphal cpy in sporad	101573 101574	122.12 122.18	122.18 122.84	0.06 0.66	375 205'	2.8 g/t	2.22% 976	n	32.0% 1.2%	0.1179 65
	@ 122.18;5-6 cm band mixed msv honey colored sphal, w. $\sim 30\%$ irreg. inclusions and selvages wht qtz carb, minor cpy within sphal, matrix w. higher conc's around selvages of qtz-carb					narrow bands	101575	123.44	123.64	0.20	30		558		1.57%	84
	122.66-122.76, 123.08-123.31: fract'd, fol'n aligned qtz bands w. 10% chlor schist inclusions															
	122.85: 3-4 cm of semimsv sulphide, strongly gouged, 10-20% f.g-m.g py w. minor blebs cpy, brkn qtz through matrix (20%), 1-2 mm wisps/bands honey colored sphal, along upper selvages of 3-4 cm band															
	123.44-123.66: strongly alt'd, gouge w. heavy f.g. py conc's, several qtz frags															
123.66-134.75	Ser-chlor- to chlor-ser, schist: -mainly pale green, locally med, green, uniform, wk-mod fract'd, mod-strongly fissile, vague perv. grey to green qtz eyes, 1-2 mm, uc f.g-m.g cuhed pyas dissem/vague fol aligned bands, 1-2 mm, gradat, increase of chlor, content from ~ 133.3 m, grad, lower contact, fol'n constant 70- 80°															
134.75-142.57	Chlorite schist:								t							{
	med to drk green, conspic. fol aligned whi irreg, bands, spots and streaks, several mm to 0.5 cm (lapilli?), soft, strongly fissile along 80.90° fol'n no sulnhides															

DEPTH			STRUC	TURF		METALLIC		SAMPL	E DATA				RES	ULTS	·	
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS			1		Au	Λg	Cu	Pb	Zn	Cd
FROM/TO		%	CONTACT	VUSS		(%)	No	FROM	то	LENGTH					}	
142.57-163.55	Chlorite schist: -continuation of above, mainly dark green, f.g., fissile w. marked increase in pyrite foliation bands, white spots, streaks or bands possibly distorted lapilli occur as sporadic 20-40 cm zones, pyrite occurs as pervasive sporadic distinct to vague bands/segregations from several mm to ~10 cm, pyrite is f.g.m.g., granular, 5- 10%, locally msv, @146,7-152.75 tock is strongly chloritie w. mod-strong fract/fol'n slips; @153.0-156.0, rock is pale-med. green w. increased sericite and sporadic grey felsic bands, 1-4 cm w. 1-5% py, conspicuous strong sulphide bands (>10% py to msv) occur at 152.75-153.0, bl 7, 162.2, 164.2, 162.26					py bands	101576 101577 101578	152.8 155.5 161.7	153.15 156.97 163.57	0.35 1.47 1.87			24 17 27		168 90 39	
163.55-176.91	Chlor (sericite) schist: pale-med green, well foliated@80°, mottled texture to ~166.7, also 175.4-176.91, crushed or crackle breccia texture (sericitic) @ 166.5-166.7, marked decrease in pyrite content from prev. unit, py. mainly discrete felsic bands, 0.5 -2.0 cm, last noticeable pyrite in hole occurs at 176.7- 176.91 (~10% py)					py occurs as minor sporadic bands										
176.91-198.1	Chlorite schist: dark green, strongly foliated, 70-80°, soft, friable, no sulphides, minor sporad, ytz vns, 2-15 cm, fol. aligned	~														
198.1-201.55	Chlor-qtz-ser schist: grad, continuation of above unit with increased silica content as irreg., fol'n aligned grey qtz bands to 0.5 cm, mottled laminated texture, minor scattered py blebs in more silica rich areas															
201.55-207.9 (end of hole)	Ash tuff schist (qtz-ser-chlor): greyish green, f.g-m.g. locally siliceous with cherty banding, mod. brkn w. chlor-ser. partings ,purplish grey (hem.) alteration @ 205.55-207.9															



HOLE No. TR-97-04

DIAMO OPTIONO Project No: Property:	ND DRILL LOG R Redstar Resources Corp. : 1761 Red Star	NTS CLAIM ELEVATION NORTHING EASTING	92 H 17 Star 1 4260 m asi 10 + 25 N 0 + 15 W	·	· · · · · · · · · · · · · · · · · · ·	DATE: : LOGG CORE	: COLLARED COMPLETED LOGGED ED BY- SIZE:	Nov. 1 Nov. 20 G. Tho NQ	5, 1997 0, 1997 		PTH DI	<u>P</u> A2 90° 	/ LEN DEP CAS WA' PRC	IGTH TH OF OVI UNG REMA TERLINE I DBLEMS:	B. AINING ⁺ JENGTH.	419.1 m 6.7 m	
DEPTH			STRUC	TERI		1	METALLIC		SAMPL			<u>_</u>		RES	JULTS		
(metres) FROM/TO	DESCRIPTION	REC %	CONTACT	NUNS	AL FE	RAHON	MINFRALS (%)	Na.	FROM	10	LENGTH	Au pph	Ag	Cu	Ръ	Zu	
0-6.71	Overburden												<u>. pp.u</u>	ppm	ppm	ppm	
26.71-35.7	Ash tuff-lapilli ash tuff: mcd. greenish grey, f.g-m.g. w. perv zones o sporadic pale greenish grey, elongate lapilli frags, 2-5 mm, wk-mod foliated w. minor loo banding, mod-strongly bikn, w. perv oxid. coatings on fract's, perv. wk. harlione tol'n hands of biotite, grad, lower contact, fol'n (<i>i</i> 80°	of cal 9 70-															
35.7-46.4	Banded ash tuff: grey to greenish grey, siliceous, modestrongl banded 70-80°, f.g. to local med.grain, bands vary 2-3 mm to 5 cm, usually w. wk epid, alt perv. fine biotite fol'n bands, modestrongly F along fol'n planes, limonite coated, wk mod fol'n @ 70-80°, perv. f.g. magnetite through i stronger @ 37.25-37.85 w. conspic mag. blef 2 mm, pale brown (bio?) alt'n (@ 37.85-39.0	y ; t'n, yrkn unit, bs 1- m				·											
46.4-86.9	Lapilli ash tuff: med. grain, greenish-brownish grey, fol'n (2) o minor local interbedded f.g. banded zones, 5 cm (greenis-beige), lapilli 2-5 mm, streiched along fol'n, sporadic irreg, bands/streaks of epidote alteration, perv. bluish qtz eyes, 1-3 locally to 5.0 mm, mod-strongly broken w. hmon. fract/fol'n coatings, fine hairline, fol, aligned biotite, fine perv. magnetite, 3 cm q. (2) 73.3, q.vn (2) 46.87-47.25 fract'd w. 5% c	60° -10 mm, vn hlor			perv w epid	k chlor-											

DEPTI			STRUCT	URE		MULATIC		SAMPLI	E DATA				RES	ULTS		
(metres)	DESCRIPTION	REC.			AUTERATION	MINERALS			I		Au	Ag	Cu	Pb	Zn	
FROM/TO		%	CONTACT	VD88		(%)	No	FROM	10	LENGTH		Ť				
	inclusions and partings (U. cont 60°, L. cont 40°), grad. lower contact of unit															
86-9-101.2	Lapilli ash tuff: (Qtz-chlor+/- epid-biotite) drk green-drk grey green, mostly med grain w. minor local f.g. banded sections -continuation of above unit but w. conspic. perv. irreg bands/streaks epidote alt'd felsics, widths of bands/streaks highly variable from hair line to several cms, lapilli texture indistinct, partially represented by. epid. streaks, wk., fine biotite lamillae along fol'n, perv. magnetism, sporad. blue qtz eyes, 1-3 mm, wk. mod. fol'n 70°, mod. brkn w. lim. fract. coatings		u. cont 70°													
	@ 86.9-87.48- brkn wht qtz vn w. several blebs cpy, other fol'n aligned qtz vns/bands (a' 93.74- 93.96, 94.38-94.65															1
101.2-121.9	Chloritic asf tuff schist: dark green, f.g., perv. f.g. biotite, magnetite through matrix (mod. magnetic overall), perv. discrete wk. epid. alt'd felsic bands, 2 mm-2.0 cm, minor carb. fract fills, hairline - 3 mm, also fol'n aligned bands to 0.5 cm, local epidote alt'd lapilli clasts , 1-3 mm, elongate in fol'n plane, wk-mod (fine) fol'n fabric 70°, non-wkly fissile, mod. brkn, locally strongly brkn															
121. 9-124 .9	Banded ash tuff (schist): fine grain siliceous (cherty), strongly banded @ 60°, broken, brownish grey, fine grain biotite through matrix, repetitious wht-pale green silic's bands, 1-3 mm, wht qtz bands @ 123.7-123.9, 124.05-~ 124.45 (brkn)															
124.9-126.65						-,										
126.65-128.8	Ash tuff: brown, f.g. strongly brkn, strong perv. f.g. biotite through matrix, mod chloritic, wk banding /fol'n															

DEPTH			STRUCI	TURE		METALLR		SAMPLI	DATA				RES	ULTS		
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS	······				Au	A۶	Cu	РЬ	Zn	
FROM/TO		%	CONTACT	VENS		(%)	No.	FROM	то	LENGTH	• • •	, e				
128.8-130.6	Lapilli ash tuff:		1													
	dark green, vague lapilli texture, elogate along fol'n fabric, grey to pale green, irreg, frags to 1.0 cm, mod-strong chlor, alt'n, mod-strongly brkn															
130.6-143.05	Banded ash tuff: fine grain, grey to brownish grey, siliceous, mod- strgly brkn, bands mm to 3 cm widths, usually marked by fine biotite lamillae, local zones of perv. brown biotite alt'n, wk chlor, ser developed along fol/fract planes, banding 50-60° to c.axis, minor sporad. lapilli frags, grad. 1. cont.															
143.05-147.9	Ash tuff schist: pale greenish grey (seric), f.g.m.g. mod-strg fol'n @ 60°, mod to strg ser, chlor fract/fol'n slips, perv. fol'n aligned pyrite lamillac/blebs, also minor hairline fract. fills @ 145.67-146.0, laminated (mm) argillaccous schist w. strong graphitic fol. sfcs (@ 80°				sericite-mod to strong	py-trc										
147.9-157.38	Argillaceous schist: banded to finely laminated, fol'n 80°, alternating grey to dark bands or laminations (mm-3.0 cm), strgly brkn w. minor sporad. chlor, ser. partings, perv. fol. aligned hairline py. lamillae, wk-mod. graphite on fol'n sfcs, sporad. wht carb. fract fills , hairline-3 mm, anastimosing															
157.38-163.75	Argillaceous schist: black, strongly graphitic, perv. strongly hrkn w, ground texture, sporadic competent sections exhibit alternating black and grey laminations (carb. alteration), strong isoclinal folding throughoutn section															
163.75-168.75	Ash tuff: f.g-med. grain, greenish grey, wk. chlor, carb alt'n, mod-strongly brkn, wkly foliated, trc. hairline carbonate volts, wht qtz vn at 167.65- 167.8 m															

DEPTH			STRU	TURI		METALLIC		SAMPLE	DATA				RES	ULTS .		
(metres)	DESCRIPTION	REC			AUTERATION	MINERALS					Au	Λu	<u>Cu</u>	Ph	Zn	
FROM/TO		0% 20	CONTACT	VLD-S		(%)	No	FROM	40	LENGTH	/14			117	211	
168.75-169.85	Argillaceous schist:		[1				I	<u> </u>		^		1		
	mod-strongly laminated, vague alternating grey to black laminations, perv. fot, aligned py bands, hairline to 2 mm, perv. hairline carb, fract fills, fol'n 60-70°, locally graphitic on fol'n planes, greater competency than prey, arg, unit							2 2 2 2								
169.85-177.9	Chloritic ash tuff:		l.cont 60°		• · · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·			·				
	f.g., dark to med green, mod to strongly brkn, laminated u. contact 50-60°, wk. folin or banding, greyish, mottled (a) 175.95-177.0, strgly brkn (a) 177.3-177.9, (a) 176.25-176.56 irreg qtz-carb, veining w. 10-20% chlor selvages, inclusions(1, contact contains irreg, pinkish inclusions), 7 cm qtz vn at 170.3 m										ï					
177.9-216.23	Metadiorite:			ł												
	med grain, med, greyish green, very homogenous, equigranular, non-wkly foliated . perv. anhedral white spots (Plag phenos?), 1mm, 1-2%, 1-2% chlor alt'd pxn phenos, 1-2 mm, no veining, no sulphides, wkly fract'd w. chloritized fract sfes, very minor, tre. carb. fract fills to 3 mm, non-magnetic, gradational into next unit, brownish grey patchy alteration from ~ 211.0 m															
216.23-228.55	Metadiorite:									<u>+</u>						
	continuation of prev. unit but more motified altered texture, non foliated, plag. phenos less distinct, pxn phenos more chlor alt'd (1nim) tre. py on fract's, mod brkn, very strongly brkn ($@ \sim$ 222.85-~225.7 w. some lost core recovery, ($@$ 222.75, 5-10 cm qtz vn w. 10-15% chlor inclusions, patchy bronish grey alteration at 218.4-219.4 m, sharp lower contact															
228.55-228.95	Ash tuff:											······································				
	finegrain, greenish grey, broken, tro. hanline py. lamillae															
228.95-~ 230.43	Argillaceous +/- chlor schist: dark, weakly laminated, greyish, py laniillac, 1- 2%, very strongly broken w. chlor, fract, sfes															

DEPTH			STRUCI	URE		METALLIC		SAMPLI	E DATA				RES	JLTS		
(metres)	DESCRIPTION	REC	1		ALTERATION	MINERALS					Au	Ag	Cu	Ph	Zn	
FROM/TO		%	CONTACT	VEINS	<u> </u>	(%)	No	FROM	то	LENGTH						
-230,43-	Ash tuff:]						····· ····
~233.0	f.g., broken, grey, locally banded, grad. into argill. unit, brkn. qtz vn 232.0-232.3								Ì							
-2330-236.22	Argillaceous schist:		1													
	dark, mod. laminated, handed, mod. foliated 80°, non fissile, strongly brkn @ 233.0-238.5															
236.22-251.0	Metadiorite:		1	l			}	}					1			
	f.g greenish grey, (wk-mod chlor alt'n), rock has very similar appearance to unit @ 216.23- 228.55, perv. 1-2 mm plag phenos, 1%, non foliated, no obvious chloritized pxn phenos, minor sporadic qtz vns or bands 3-5 mm, also qtz vns @ 238.9-239.2, 240.9 (15 cm), 249.0- 249.25(u, cont 50°, 1, cont 60°)										1					
251.0-256.7	Mixed ash tuff, argillaceous ash tuff:															
	interbedded grey to dark, weakly banded f.g. tuff, mod. brkn, strongly brkn @ 254.75 256.7 m															
256.7-261.98	Ash tuff (qtz-chlor):	ļ														
	drk grey green, f.g. wk fol'n/banding 80°, homogenous, weakly brkn		<u> </u>								<u> </u>					
261.98-263.8	Ash tuff: pale grey green to brownish grey, mottled, mod. foliated 70°, fol'n marked by fine hairline streaks biotite, chlorite, py, 5 cm qtz vn @ 263.8															
263.8-266.5	Chlorite-gtz schist:															
	med to drk green, mod-well foliated (ω 70°, conspicuous brown biotite lamillae, harrline to 2 mm, trc. sporadic py. lamillae, hairline occas. to 1.0 cm, grad. into next unit															
266.5-270.8	Cherty qtz-ser schist:					py-tre		}								
	wht to grey, strong mottled banding/foliatin @ 70°, banding is rhythmic, 3-5 mm, perv. tre f.g py., locally to 5% in narrow bands, wisps patches and fol'n aligned bands < 1 cm., crushed, gongy, sericitic @ 269.9-270.36															

DEPTI			STRUCI	URE		METALLIC		SAMPL	E DATA		_		RES	ULTS		
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS					Au	Ag	Cu	РЪ	Zn	
FROM/TO		%	CONTAUL	VEINS		(%)	No	FROM	то	LENGTH					L	
270.8-276.0	Qtz-ser-chlor schist: pale green to greyish, finely laminated, tissile, perv. mod-strong seric. along fol'n planes, locally crushed texture, trc. f.g. py. aligned along 75° foliation					py -trc										
276.0-280.1	Chlor-sericite schist: -strongly disrupted and crushed, locally brecciated, trc. scattered py, within chloritic gouge matrix, perv. sporad. irreg. qtz vis or inclusions (boudins) across S-10 cm intervals, qtz comprises 10-20% of this interval															
280.1-285.93	Chlorite schist: dark green, well foliated @ 70°, finely laminated, perv. minor wht-grey felsic bands, 2-4 nm w. minor assoc py 283 96-284 7, ntz yn w sharp contacts. 2% chlor															
	inclusions, u. cont. 20-30°; 284.8-285.0, qtz vn w. 10% med to coarse py inclusions, sclvages, grad, lower contact into following unit															
285.93-294.2	Qtz-chlor-ser schist:					py.	101579	286.66	287.0	0.34			18		18	
	-pale to med, green, mainly hard, stitecous, weakly fissile, vague lapilli texture from ~ 291.0- 294.2, lapilli are elongate, med, green to 1.0 cm.					-cone, in local bands	101580	291.06	292.26	1.2			9		42	
	zone is marked by conspicuous, pervasive sporadic diffuse grey felsic bands, bands vary from several mm to 30 cm accompanied by 10- 20% f.g to med. grain euhedral pyrite, constant foliation @ 80°, gradational into next unit						101581	293.45	294.13	0.68			9		23	
294.2-305.75	Chlorite schist:					ру	101582	300.0	300.35	0.35			18		55	
	dark green, soft-friable, vague rhyhmic banding, 1-3 mm, ocass, vague 3-5 cm bands, med to drk green, py. continues from prev. section, but decreased, py occurs less as discrete bands to vague concentrations in locally crushed areas, 10-20 cm					-sporadic minor conc's	101583	300.95	301.6	0.65			28		121	
305.75-310.0	Qtz ser <-> chlor schist: pale to med green, per, strongly crushed, less crushed zones have fine to 3-5 mm poker chip laminated texture															

DEPTH			STRUC	TURE		METALLIC		SAMPL	E DATA				RES	ULTS		
(metres)	DESCRIPTION	REC		.	ALTERATION	MINERALS				1	Au	Ag	Cu	РЪ	Zn	
FROM/TO		%	CONTACT	VEBS		(%)	No.	FROM	טד	1 ENGTH		_				
310.0-315.25	Qtz ser- chlor schist: fine grain, pale green, wkly fol'd, cont of prev. unit, mod-strongly brkn, localized chlor, ser fol'n slips, trc. sporad, brown streaks/bands, 1-3 mm, wht qtz vn @ 312.15-312.35															
315.25-318.5	Qtz ser ash tuff schist: grey, f.g. locally crushed zones w. hem coatings, 6 cm qtz vn @ 317.5 m															
318.5-326.82	Ash-lapilli ash tuff (qtz-chlor-ser, schist): pale green to greyish green, foliated at 70°, mainly fine grain w. local lapilli frags., lapilli as dark elongate clasts, occas, as bands or streaks, poker chip laminated texture from ~ 324-25- 326.82										ı					
326.82-341.1	Ash-lapilli ash tuff: grey to green, finely laminated, perv. fohation banding gives rock poker chip texture, perv. strong chlor-ser. fol'n partings, numerous weak red brown (hem) spots, streaks and hairline fol'n lamillae, general mottled texture due to elongate irreg. siliceous clasts, minor sporad. qtz vns/bands, 1-10 cm,															
341.1-375.98	Qtz-ser-chlor schist: pale green to pale greenish grey to grey, perv. scattered bluish qtz eyes, 1-2 mm, 101584 locally laminated giving poker chip texture, tre. py, as vague fol'n aligned patches or wisps @ 345.7-347.95; discont's qtz vns/bands w. ~ 5% chlor, ser schist inclusions @ ~ 369.0-370.5; grey qtz-ser schist, brkn w. strong ser/tale? partings @ 370.5-371.6; discont's qtz veining w. strong ser- tale, chlor partings and selvages, tre. diss med- coarse py 1/- cpy blebs dissem through qtz, ser. vn selvages contain minor scattered blebs py, honey colred shal and cpy @ 373.08-373.65; greyish qtz ser alt'n w 1% scattered py bands @ 373.65-374.83; chlor>ser schist w. greyish pyritic, 0.5% alteration (374.25-374.5.) @ 374.83-375.9 (7 cm), grey pyritic (qtz ser-chlor schist) w. 0.5-1% diss epy						101584	374.83	375.9	1.07	95		771		257	

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DEPTH			STRUC	TURF		METALLIC	ļ	SAMPL	<u>E DATA</u>	•			RES	ULTS	
(metres) FROM/TO	DESCRIPTION	REC. %	CONFACT	VIPS	AUTERATION	MISERALS (%)	No	Еком	то	EENGTH	Λu	Ag	Cu	РЪ	Zu
375.98-386.79	Qtz-ser-chlor schist: pale-med green, , fissile , tre. scattered, vague fol'n aligned py, concentrations, f.g-m.g, coarse py (10%), in chlor schist band, minort sporad qtz bands/boudins to 10 cm width														
386.79-395.8	Qtz-ser (chlor) schist: pale green to grey, fine-med grain, foliated at 80°, increased py content as irreg, vague patchy fol'n bands, py is fine-med grain w. local isoclinal folding, 0.5-1 or 2% locally across 10- 20 cm zones strongest py conc's in grey telsic bands w. no chlor alt'n, marked py increase at 392.72-395.8, 3-5% py overall w. local increases , 10 -20% across sporadie 5 to 20 cm widths, gtz					py. 3-5% in scatt. bands	101585 101586 101587	388.74 393.72 394.96	390.19 394.83 395.8	1.45 1.11 0.84			26 85 98		31 10 41
395.8-403.1	band @ 394.83-394.95 Qtz-ser-chlor schist: strongly foliated/laminated, pale green, E.g., tre. diss. py or as hairline fol'n lamillae, @ 396.0- 396.55;; repetitous qtz bands/vns 6 bands, 2-5 cm @ 400.8-403.1 interbedded, sporadic greyish qtz-ser alteration w. 10-15% py across 10-20 cm widths						101588	401.75	403.13	1.38			19		30
403.1-407.91	Qtz-ser schist: whit to grey, f.g. strongly foliated, zone is marked by pervasive foliation aligned py bands or concentrations of variable width throughout unit 403.1-403.6, trc-0.5% w. two, 5 em py bands (10-20% fg-mg py) 403.6-404.6, 10-20% py w. trc. cpy at 403.8- 404.6 404.6-405.23, 1-2% f.g. scattered py lanullae 405.23-406.1, pale greenish grey qtz-ser schist, trc. py 406.1-406.36, grey felsic band , 10% py 406.36-407.41, mixed grey to pale green qtz-ser schist w. 1-3% py 407.41-407.91, crushed qtz-ser schist, trc py (sphal?)					py	101589 101590 101591 101592 101593	403.13 403.8 406.1 406.71 407.41	403.8 405.23 406.36 407.41 407.91	0 67 0.43 0.26 0.7 0.5	105	1.4 2.8 15.2	243 159 1539 1503 2074		30 12 35 53 1.35%

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DEPTH			STRUCT	TURF		METAFLIC		SAMPL	DATA				RES	ULTS		
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS					Au	Λg	Cu	РЬ	Zn	
FROM/TO		%	CONTACT	VEINS		(%)	No	FROM	TÖ	LENGTH						
			r					<u> </u>	ş	11						
407.91-413.85	Qtz-ser-enfor sense: pale-med green, generally breeciated w. local foliation at 70°, overall mottled, friable texture, numerous irreg, sporadic discontinuoud qtz bands, 1-12 cm, fol'n aligned, sporadic limonite coated zones @ 410.9-411.05, 412.92-413.18 (decreased sericite), trc. f.g py scattered through matrix of schist, py not present in limonitic zones @ 411.75-412.95; breeciated zone w. numerous cherty bands w. chlor. partings and fract. fills @ 408.05-408.15, chlor. zone w. 2 large cpy clasts (2.5x5 cm, 4.5x4.4 cm) @ 412.0 m; trc0.5% py, cpy across 6 cm in breeciated cherty bands @ 412.65-412.94; brkn qtz-ser schist w. 0.5-1% f.g py bands w. tre cpy															
413.88-419.1 (E.O.H.)	Chert schist (Red and Green unit): unit has pervasive brown oxidation coatings throughout rock matrix, irreg interbedded grey chert bands, locally milled or weakly brecciated, fine biotite or chlorite partings, no sulphides, bandind 80-90°, locally to 70°															



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TECK EXPLORATION LTD.

HOLE No. TR97-05

DIAMO	ND DRILL LOG	NTS CLAIM	92H/017 Star		·····	DATE:	COLLARED COMPLETED	<u>Nov. 20</u> Nov. 23	1/97 3/97		EPTH DI -45°	P A2	LEN	GTH: TH OF OVE	B: JNING:	270.1 m 13.5 m	
OPTIONOI Project No: Property:	R Redstar Resources 1761 Redstar	ELEVATION NORTHING EASTING	$\frac{1135 \text{ m}}{7 + 00 \text{N}}$ 1+ 32 E			LOGGI CORE:	DBY: SIZE:	G. Eval NQ	15				WA PRC	FERLINE L	ENGTH		
DEPTH (metres) FROM/TO	DESCRIPTION	REC.	STRUC	FURE	ALTE	RATION	METALLIC MINERALS (%)	No.	SAMPI. FROM	E DATA	LENGTH	Au ppb	Ag ppm	RES Cu ppm	ULTS Pb ppm	Zn ppm	
0-13.5 13.5-15.0	Overburden Argillite: strongly broken/faulted, graphitic argillite w. 30%, 3-5 mm chert lam's at 60° to core axis, bedding narallel. 70% graphitic gouge						trc diss py										
15.0-61.7	Foliated Diorite (sill?): -med grain, plag, pxn diorite, perv. chlor. alt' through matrix, 2-3% whi qtz vns, 0.5-10.0 c mod. foliated 50-60° to core axis, grain size varies somewhat from f. grain to med. grain v chlor, alt'n ocas, masking porph. texture, non magnetic	'n cm, w.					gen. trc dissem py -occas. 2- 3%										
61.7-69.9	Argillite w. chert, seric tuff: -60% finely lam'd silic/graph argill. w. 40% rich tuff +/- chert lam's, 2-50 cm beds, beddi and fol'n @ 45° to c.a.(near vertical) w. good isoclinal folding (shallow pluges), much mor argillaceous @ 65.5-69.9, w. 5-6 % py lams	fol. ing i re			wk ser-	-chlor	1-3% diss f.g py	101751 101752 101753	65.5 67.0 68.5	67.0 68.5 69.9	1.5 1.5 1.4			68 60 113		73 78 71	
69.9-75.7	Sericite tuff w. argill + chert laminations: well lam'd feldspar rich felsie tuff w. 20%, plag phenos w. wk-mod. perv. ser alt'n, 20-3 1-5 cm arg. beds w. occas. chert lam's, still displays good isoclinal folding, occas. 2-10 c late wht qtz vns, fol'n @60° to c.axis	l mm 10% , cm					1-2% py. vnlts	1									
75.7-89.9	Argillite w chert +/- felsic tuff: -mod, silic. arg w. 20%, 1-30 cm cht and ser beds, lam'd and bedded @ 70° @ 85 7-91 7. mod fault w. brkn core and 60	r tuff)%					2-3% lam and diss py (77.1-81.8)	101754 101755 101756	77.1 78.6 80.1	78.6 80.1 81.8	1.5 1.5 1.7			49 34 45		136 208 296	
DEPTH		STRUCTURE			METALLIC												
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(metres)	DESCRIPTION	REC	STRUCTURE		ALTERATION	MINERALS		<u>SAMPL</u>	SAMILLIATA		.	<u> </u>	RES		-		
FROM/TO		%	CONFACT	VENS	ALTERATION	(%)	Nu	FROM	то	LENGTH	Au	Лg	Cu	Po	Zn		
	core recovery, 1% - 5mm late qtz vnlts, occas. subtounded 1-3 cm chert frag. (debris flow?)								1								
89.9-100.0	Felsic tuff w. chert: -distinctive silic. lam'd tuff w. wk. seric. alt'n, contains biotite, 1 mm lam's @ 60-70° to c.a., very silicic unit, 2 quartz veins, late, milky wht, discordant w. ser/chlor/py selvages @ 94.2-94.6, 99.2-100.0					8-12% lam. py	101757 101758	95.2 96.7	96.7 98.2	1.5 1.5			49 71		121 80		
100.0-106.5	Argillite w. felsic tuff, chert: 70% silic. arg., finely lam'd w. 30%, 1-30 cm chert and sericitic tuff beds, lam'd @ 60-70° to c.a., occas. small isoc fold					4-5% 1-3 nm py lam's											
106.5-109.2	Felsic tuff w. chert (as 89.9-100.0): gradational into mixed chlor/seric tuffs -well laminated w. strong seric, development w. occas, biotte vnlt., fol'n, bedding @ 70-75° to c.a.					6-8% py volts											
109.2-143.0	Mixed mafic / felsic laminated tuff: - averg. ~ 1 mm lam's dominated by chlor schist w lesser qtz-ser schist portions, 1-2% late, 10-15 cm milky wht, discord, qtz vns, very aphanitic w. occas. 2-10 mm cht. lam., bedding and fol'n @ 70° @ 133,4-140.8 -strong fault w. only 40% recovery, heavily ground rock and significant fault breecia, bedding strongly distorted as low as 30-35° to core axis, evident fault movement Qtz-ser schist w, 5-10 cm lams w, 20% py lams @ 114.5-115.9, 10%-semimsv py. lam's in chlorite schist @ 129.3-130.4					trc-1% py	101759 101760	114.5	115.9	1.1			22 9		36 61		
143.0-178.4	Felsic qtz eye ash tuff - lapilli tuff: -apple green, w. lam. qtz-ser schist, perv. serie. alt'n, internal textitures vary on 1 m. scale from subrounded 1-2 cm felsic lapilli to felsic tuff +/- chl and chert lam's, typical pitted texture, fol'n and bedding 65-70° to c.axis, qtz eyes, wht -blue, 1-3 mm, trc-5%, occas. 1-2 cm late whit qtz vn, (* possible Redstar Horizon)					trc-1% diss. py -up to 2% in 1 m sections						1					

DEPTH			STRUCTURE			METALLIC	SAMPLE DATA				RESULTS						
(metres)	DESCRIPTION	REC.			ALTERATION	MINERALS					Au	Ag	Cu	РЬ	Zn		
FROM/TO		%	CONTACT	VEINS		(**) (**)	No	FROM	то	LENGTH							
178.4-189.9	Felsic lapilli tuff: -similar composition to above unit, but with larger lapilli and color change w. chlor. Jam's mixed w. hem. alt'n on a 2-5 mm scale, 30%, 1- 4 cm rounded, wht brwn, blk, green aphanitic felsic lapilli (possib. cht but occas5 mm qtz, fp), occas. sections w. 1-3%, 1 mm qtz eyes, fol'n @ 65-70° to core axis	1				trc-1% py											
189.9-208.6	Felsic qtz eye ash tuff 4/- lapilli - apple green, well laminated w. mod. seric alt'n, 2-5%, 1-3 mm whit and blue qtz eyes, up to 20% locally, typical pitted texture, lam's at 70° to c.a. w. occas. small isoclinally folded beds including sulphides, occas. 1-2 cm wht, flattened monded lapilli but not as frequently as 143.0-178.4					1-3 % diss. med grain py, locally 5-8%	101761 101762 101763 101764 101765 101766 101767	194.6 196.6 198.6 200.6 202.6 204.6 206.6	196.6 198.6 200.6 202.6 204.6 206.6 208.6	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0			8 10 4 248 112 12 12 16		111 230 171 116 91 59 52		
208.6-222.6	Felsic qtz eye ash tuff w. sulphides: wht w. gradational sericite increase to wht soft strong alteration, continuation of above unit w. more intense seric. alt'n, laminations 70-80°, some green talc/seric. appearing					increased dissem, lam'd., 8- 10%, poss. cpy, sphal trc's	101768 101769 101770 101771 101772 101773 101774	208.6 210.6 212.6 214.6 216.6 218.6 220.6	210.6 212.6 214.6 216.6 218.6 220.6 222.6	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0			11 30 114 114 83 157 33		33 39 120 168 401 180 279		
222.6-236.6	Felsic qtz eye ash tuff:: -gradational change from above w. decrease in sericite to mod. and decrease in sulphides, lam's @ 80° to c.a., has pitted texture w. 5%, 1-2 mm blue/wht qtz eyes, sulphides occas, display isoclinal folding 232.0-234.6: discontinuous late wht qtz, vns w. 20-30 cm wht, ser, alt'd selvages w. 10% py, q.vn. contacts @ 60° to c.a.					3-5% lam/diss py	101775	222.6	224.6	2.0			12		56		

DEPTH		STRUCT		TURE		METALLIC	SAMPLE DATA				RESULTS						
(metres)	DESCRIPTION	REC			ALTERATION	MINERALS					Au	٨g	Cu	Рь	Zn		
PROMOTO		<u>1/n</u>	COSTACT	1 1100	<u> </u>	<u>(%,)</u>	No	ROM	OT	LENGTH		L	1		{ .		
236.6-249.0	Sericite altered gtz eye ash tuff to lapilli tuff with sulphides:			T		15-20%	101776	236.6	238.6	2.0	5	0.4	8		13		
	whit, upper contact gradat., lower contact is sharp, strong to intense scricite alt'n, qt/ cyes, 2- 3% 1-2 mm blue indictingt silica have may	 				dissem py w. minor tre epy,	101778	238.6	240.6	2.0	10 15	1.0 0.8	225 151 2536 1198		25		
			ĺ				101779 101780	242.6 244.6	244.6 246.6	44.6 2.0 46.6 2.0	30 50	5.8 3.8			138 301	Į	
	have been lapilli?, fol'n averages 80° to c.a., loccas green mica or tale blades	l l	Į				101781	246.6	249.0	2.4	60	3.4	910	l	762		
249.0-270.1 (end of hole)	Laminated felsic tuff, chert-"Red and green unit":					trc-1% diss		1				· · · ·			-		
	-finely lam'd, wk-mod, ser, alt'd felsic tuff w. 30% cht lam's ~ 1cm (+/- hem), lant'd @ 70- 80° to ca. w. occas, small isochinal folds, rare 1- 2 cm late qtz vns, fol'n parallel, some more chloritic lam's (20%), 1-2 cm																



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