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TULSEQUAH CHIEF PROPERTY
NORTHWESTERN B.C.

1993 EXPLORATION PROGRAM:
GEOLOGY, GEOPHYSICS AND DIAMOND DRILLING
AT THE

BIG BULL MINE AREA

NTS 104K/12E

Latitude: 58°40'N, Longitude: 133°35'W

REDFERN RESOURCES LTD.
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April 13,

SUMMARY

The 1993 exploration program at the Big Bull area of the Tulsequah Chief Property lasted from early June to late October, and was done in conjunction with work at the Tulsequah Chief minesite. Work involved extension of the existing grid, surface mapping and lithogeochemical sampling, ground IP and magnetometer surveys, and 3,556 m of surface diamond drilling in 12 holes. Detailed compilation of the historical drill hole and underground data was also done, using the PC EXPLOR database and GEOMODEL modelling program. This work was designed to determine the extent of the Big Bull massive sulphide deposit, which remained open below the old workings, and of the alteration zone associated with the mineralization.

Five of the 1993 drill holes (BB93001, 002, 005, 006 and 008) intersected massive to semi-massive sulphide mineralization which represents the continuation of the Big Bull deposit.

HOLE	True Width (m)	%Cu	%Pb	%Zn	g/t Ag	g/t Au
BB93001	5.0	0.27	1.33	3.89	68.57	3.67
BB93002	3.9	1.08	0.39	4.49	200.23	3.46
BB93005	2.9	0.44	2.92	5.05	169.72	6.38
BB93006	2.2	0.66	2.28	4.79	812.92	14.23
BB93008	4.0	0.26	1.87	3.54	123.09	3.02

All five intersections are believed to be correlative, and appear to outline one discreet mineralized body which remains open in several directions (Fig 3.1). All of the 1993 holes intersected intense quartz-sericite-pyrite alteration, and several other mineralized intersections were drilled peripheral to the main deposit (Table 3.1). The limits of the Big Bull deposit and alteration zone remain undefined.

Geological mapping was successful in tracing the Big Bull stratigraphy approximately 2.8 km to the north of the deposit. The favourable stratigraphic interval lies to the east of the grid extension cut in 1993 and, as a result, was not covered by detailed mapping or geophysics. Grid coverage and exploration of this stratigraphy remains a high priority for 1994.

Ground geophysics over the Big Bull deposit area indicated that the alteration and mineralization has a distinct geophysical signature, which was found to continue to the north and northeast, forming two discreet anomalies. Mapping and drilling to determine the origin of these anomalies is also a high priority for 1994.

For the 1994 field season, the cut grid will be extended to the east to cover the favourable stratigraphy identified in 1993. This area will be mapped in detail, and will be covered by ground IP and magnetic surveys. Detailed surface exploration is also recommended for the strong geophysical anomaly extending from the north end of the pit to 1+00E on Line 8+50N.

Nineteen diamond drill holes totalling 6,340 m are recommended to continue exploration and definition of the Big Bull deposit. This drilling will attempt to expand the deposit, and will explore adjacent areas to test for the presence of additional massive sulphide deposits. Details of the proposed drilling are given in Section 4.1.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

The Big Bull Mine is one of two historical producers located on Redfern Resources Ltd.'s 100% owned Tulsequah Chief Property in northwestern British Columbia. The Tulsequah Chief and Big Bull mines were worked by Cominco from 1951 to 1957, and produced:

	TONNES	Cu%	Pb%	Zn%	Au g/t	Ag g/t
T. Chief	575 463	1.8	1.3	6.7	3.43	108.34
Big Bull	360 073	1.2	1.9	7.3	5.14	154.29
Total	935 536	1.6	1.5	7.0	3.84	126.52

The total production figures and the tonnages from the Tulsequah Chief and Big Bull are taken from a Cominco report dated September 6, 1957 entitled "Shutdown Report of Tulsequah Operations". The grades from the individual deposits are taken from an October 1986 "Summary Map" produced by Cominco.

The Big Bull Mine was developed on three underground levels, the 4700 and 4850 Levels, which were accessed by a 300 foot deep shaft, and the 5000 Level, which had portal access. 5000 Level stopes were broken through to surface to form the Glory Hole, which produced some 260,000 tonnes of ore. In December of 1955, when low metal prices combined with more favourable economics at the Tulsequah Chief Mine forced the closure of the Big Bull Mine, reserves at the Big Bull totalled **57,541** Tonnes at **1.1%** Cu, **1.5%** Pb, **5.6%** Zn, **3.43** g/t Au and **154.3** g/t Ag. (allowing for 20% dilution, Hammond, 1955). The Tulsequah Chief Mine closed in 1957.

Interest in the Tulsequah Chief Property was rekindled in the early 1970's with the recognition that the deposits were volcanogenic massive sulphide deposits, and not structurally controlled replacements as was originally thought. Diamond drilling was begun again at the Tulsequah Chief Mine in 1987, and to date has successfully increased the geological reserves from 708,000 tonnes to 8,585,000 tonnes. Exploration at the Big Bull Mine during this time was very limited, due to the focus on Tulsequah Chief. In 1992, Cambria Geological undertook detailed surface mapping at the Big Bull, and recommended the compilation and physical work program which was undertaken by Redfern in 1993, and is described in this report.

The Big Bull deposit is a volcanogenic massive sulphide deposit hosted by variably altered dacite crystal and crystal lithic tuffs. The deposit was continuous for some 550m along strike, and 40 and 120 m down dip, and remained open down dip and to the south at the end of mining operations in 1955. Quartz-sericite-pyrite alteration of the dacites is intimately associated with the mineralization, but is significantly more widespread. This alteration is apparently stratiform, but may in part be crosscutting.

The deposit occurs in a quiescent geological environment characterized by fine grained, bedded tuffaceous rocks, although coarse debris flows do occur nearby. This is in contrast to the Tulsequah Chief, where thick dacite flows, debris flows, lapilli tuffs and subvolcanic intrusives indicate a setting much more proximal to a felsic centre.

The Big Bull alteration continues to the south, under the Taku River floodplain, for an unknown distance. Exploration holes drilled by Cominco in the 1950's intersected sericite schist in this area, with the best intersections returning:

C27	**2.7m**	0.6% Cu	1.9% Pb	4.6% Zn	449.1 g/t Ag	5.49 g/t Au
C25	**3.5m**	0.4% Cu	0.7% Pb	3.8% Zn	33.9 g/t Ag	1.76 g/t Au

The mineralized zone in C25 was diluted by a 0.9 m mafic dyke, and the 3 m section underlying the zone was logged as "altered zone - some high grade - minor sulphides", but was not sampled. Several other narrow (<1m) high grade intersections were encountered in this area.

To the north, the alteration has been traced on surface to L5+50 N (Figs. 2.1, 2.2), however geophysical data suggests it continues as a northerly plunging alteration zone, which does not outcrop on surface (Fig. 3.0). This northerly plunge is consistent with the overall structural trend in the deposit area.

The Big Bull massive sulphide deposit was left open down-dip of the workings at the closure of the mine in 1955 (Sections 0+60N and 0+65S). Intersections including:

119 +120	**7.0 m**	2.5% Cu	3.0% Pb	10.0% Zn	274.3 g/t Ag	5.83 g/t Au
and 148	**4.6 m**	0.7% Cu	1.9% Pb	5.9% Zn	102.2 g/t Ag	4.63 g/t Au

were drilled from the 4700 Level, and were not followed up. The 1993 drill program was successful in extending the Big Bull deposit some 150 m down-dip over a strike length of about 120 m (Fig. 3.1), and the ultimate size of the Big Bull massive sulphide body has not yet been determined.

Geological mapping and magnetometer surveys have indicated that the Big Bull stratigraphy continues at least 2.8 km to the north of the deposit area. This stratigraphy represents an area of high potential for the occurrence of other massive sulphide deposits, and additional work in 1994 will evaluate that potential.

1.1 Location and Access

The Big Bull Mine is located approximately 110 km southwest of Atlin, B.C., and 64 km northeast of Juneau, Alaska (Fig. 1.1). The mine is situated on the north side of the Taku River, 4 km upstream of its confluence with the Tulsequah River.

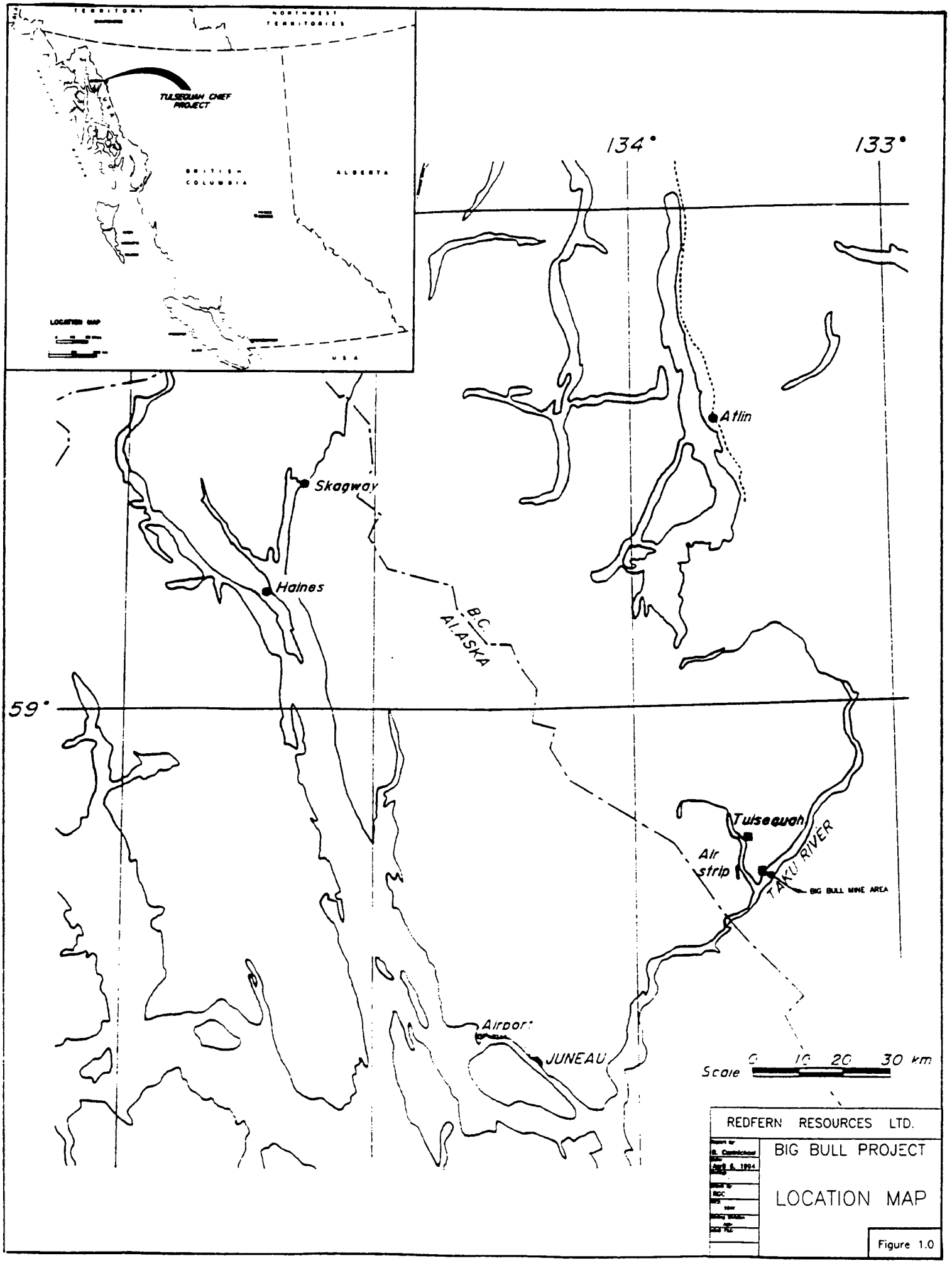
Access is by way of fixed wing aircraft from Atlin or Juneau to a gravel airstrip located in the Tulsequah Valley, and then by helicopter to the property. River boat access is also possible from Juneau or the Tulsequah Chief minesite.

1.2 Property History

The following is a brief summary of the history of the Big Bull Mine, and the reader is referred to the 1992 final report by Cambria Geological Ltd. (Cambria, 1993) for more detail.

The Big Bull deposit was staked in 1929 by V. Manville of Juneau. The massive sulphide ore outcropped in the bed of a small creek over a width of 1.8 to 7.6 m, and a strike length of about 140 m. Sporadic drilling and underground work was carried out by various parties until 1946, when Cominco acquired the property. Cominco conducted underground exploration and development up to the start of production in August of 1951. Production continued until shut-down in December of 1955, with ore being trucked to the millsite at the Polaris-Taku mine. A small amount of broken ore was salvaged in the summer of 1956.

No further work was done on the Big Bull Mine until 1981, when Cominco began a series of sporadic mapping, geochemical and geophysical programs, which lasted until their interest in the project was purchased by Redfern in 1992. Cambria Geological Ltd., on behalf of Redfern, established and mapped 14 km of cut grid line in October of 1992.



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BIG BULL PROJECT

LOCATION MAP

Figure 1.0

2.0 GEOLOGY

2.1 Regional Geology

The regional geology of the area surrounding the Big Bull Mine is described in detail in a separate report (Curtis, 1994) and is only summarized here. The reader is also referred to Mihalynuk (1994) for further details. The generalized regional geology is shown in Figure 2.0.

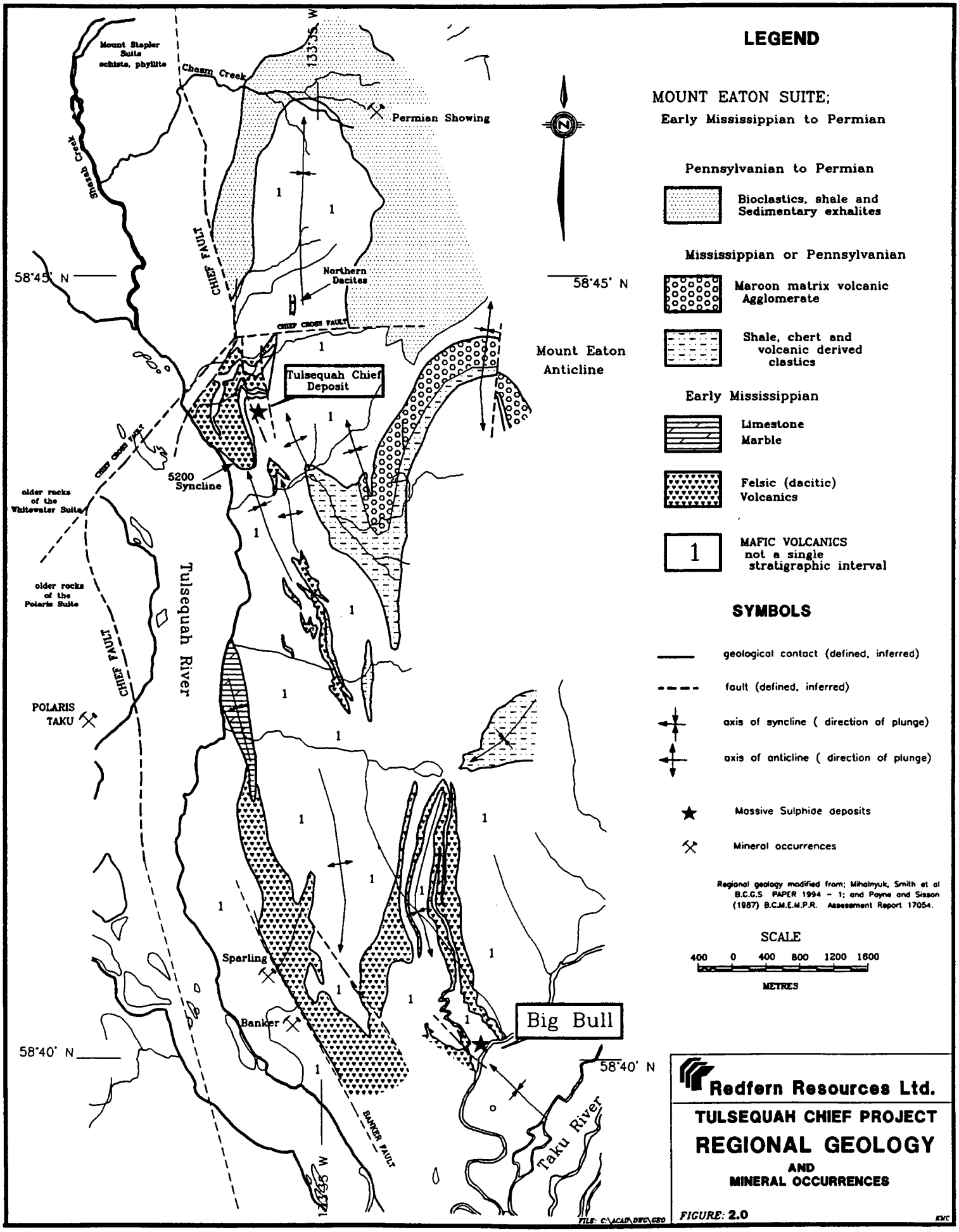
The Tulsequah area is geologically complex, and is underlain by rocks of several Mesozoic to Paleozoic and older tectonostratigraphic terranes, which have been intruded by Cretaceous to Tertiary Coast plutons. The important host rocks for volcanogenic massive sulphide mineralization are assigned to the middle to upper Paleozoic Stikine assemblage. Mihalynuk (1994) has divided the Stikine assemblage in the Tulsequah area into three structural-stratigraphic blocks; the Mount Eaton block, the Sittakanay block and the Mount Strong block.

The Mount Eaton block hosts the massive sulphide mineralization at Tulsequah Chief and Big Bull. This block has been further divided into a lower division, distinguished by relatively common felsic volcanics, a middle division, characterized by massive pyroxene-phyric mafic volcanics, and an upper division, which is predominately sediments with abundant bioclastic limestone.

The Sittakanay block is separated from the Mount Eaton block by the Taku River. It is lithologically similar to the Mount Eaton block, although more deformed, and has been correlated with Mount Eaton stratigraphy by Mihalynuk (1994).

The Mount Strong block is separated from the Mount Eaton block by the Tulsequah River. It is a sediment-dominated package, and correlations with the other blocks are uncertain. The Mount Strong block hosts shear-controlled, mesothermal gold mineralization at the Polaris-Taku deposit.

The regionally significant Llewellyn fault is the largest of a series of north to northwest-trending faults in the area, and can be traced as far north as the southern Yukon. In the Tulsequah area, it has been traced to the Tulsequah Chief mine, where it is offset to the west by the Chief cross fault, and then continues south, under the Tulsequah River gravels.


Mount Stapler Suite schists, phyllite
Chasm Creek
133°35' W
Permian Showing
Sinram Creek
CHIEF FAULT
58°45' N
Northern Dacites
CHIEF CROSS FAULT
Mount Eaton Anticline
Tulsequah Chief Deposit
5200 Syncline
older rocks of the Whitewater Suite
older rocks of the Polaris Suite
Tulsequah River
POLARIS TAKU
Sparling
Banker
Big Bull
58°40' N
BANKER FAULT
Taku River
LEGEND
MOUNT EATON SUITE;
Early Mississippian to Permian
Pennsylvanian to Permian
Bioclastics, shale and Sedimentary exhalites
Mississippian or Pennsylvanian
Maroon matrix volcanic Agglomerate
Shale, chert and volcanic derived clastics
Early Mississippian
Limestone Marble
Felsic (dacitic) Volcanics
MAFIC VOLCANICS not a single stratigraphic interval
SYMBOLS
geological contact (defined, inferred)
fault (defined, inferred)
axis of syncline (direction of plunge)
axis of anticline (direction of plunge)
Massive Sulphide deposits
Mineral occurrences
Regional geology modified from; Mihalynuk, Smith et al B.C.G.S PAPER 1994 - 1; and Payne and Sisson (1987) B.C.M.E.M.P.R. Assessment Report 17054.
SCALE
400 0 400 800 1200 1600
METRES
Redfern Resources Ltd.
TULSEQUAH CHIEF PROJECT
REGIONAL GEOLOGY
AND
MINERAL OCCURRENCES
FIGURE: 2.0
KMC

2.2 Property Geology

2.2.1 Introduction

The Big Bull area is underlain by moderately deformed mafic to felsic volcanic rocks of the Early Mississippian lower division of the Mt. Eaton block, which forms part of the Stikine assemblage (Mihalynuk, 1994). Figures 2.1 to 2.4 show the surface geology of the Big Bull area. Volcanogenic massive sulphide mineralization occurs within a strongly foliated zone of intense sericite-pyrite alteration which is over-and underlain by laminated and chaotically banded dacite crystal tuffs. This sequence has been intruded by irregularly-shaped, aphanitic to fine-grained dark green diabase sills. Preliminary lithogeochemistry suggests the Big Bull felsic volcanics are chemically similar to felsic volcanics at the Tulsequah Chief Deposit (Fig. 2.5, and Sherlock and Barrett, 1994).

The Big Bull stratigraphy has been affected by two phases of folding and sits on the eastern limb of a northwest trending synclinal structure. Several brittle faults cut the deposit area, including both foliation parallel and crosscutting faults.

The preliminary property geology is discussed in the report on the 1992 Geological Program (Cambria, 1993), however, detailed mapping and core logging in 1993 has resulted in several modifications to this work.

2.2.2. Stratigraphy

Drill core logging and 1:500 scale geological mapping of the deposit area, augmented by lithogeochemical analyses, detailed petrographic work (Payne, 1993, Appendix II) and structural investigations (Barclay, 1993 (Appendix III) and Lewis, 1993), has provided for a better understanding of the geological framework of the Big Bull Deposit. Based on this work, the Big Bull stratigraphy has been divided into five lithologic units, which are described below.

UNIT 1: Mafic Volcanics

This unit forms the base of the deposit stratigraphy in the Big Bull area. In drill core, it was encountered only at the bottom of BB93001 where it was a well-bedded, pale-green, weakly propylitized, water-lain mafic ash tuff. This unit is conformably overlain by the dacite package.

UNIT 2: Dacite Tuffs

This sequence of dacite crystal, crystal lithic, and lapill tuffs is the Lower Felsic Volcanic Sequences of Cambria (1993). This unit hosts the alteration and underlies the mineralization at the Big Bull deposit, and has been traced to a ridge top some 2.8 km north of the deposit area. It is primarily a laminated, chaotically-banded dacite, which

petrographic work by Payne (Appendix IV) has identified as "metamorphosed and moderately to strongly deformed dacite tuff and crystal tuff". Chemically, these rocks plot in the "Rhyodacite/Dacite" field of Winchester and Floyd (Fig. 2.5), and are very similar to the felsic volcanics occurring at the Tulsequah Chief deposit.

This unit is commonly grey to greenish-grey, massive to well laminated, and variably altered. Secondary magnetite and/or hematite occurs in amounts up to 15%. Good fragmental textures are rare, and the unit is typically banded on a 2-5 mm scale, with bands being chaotically deformed. Occasional massive, feldspar-phyric flows have been identified in drill core, but are not common.

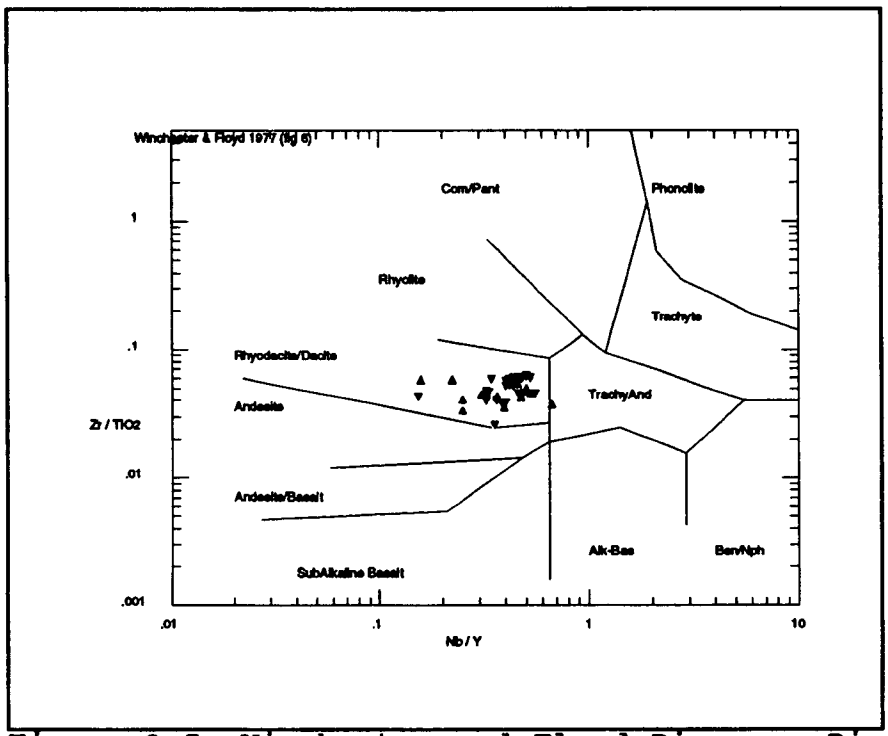


Figure 2.5: Winchester and Floyd Diagram, Big Bull vs. Tulsequah Chief Felsic Volcanics: Upright triangles = Big Bull Dacites, Inverted triangles = Tulsequah Chief Dacites.

UNIT 3: Quartz-Sericite-Pyrite Alteration

This is the most distinct and well exposed unit on the property, and represents hydrothermal alteration of the dacites during the formation of the Big Bull deposit. The unit is typical sericite and quartz-sericite schist, and is strongly foliated, yellow to limonitic in colour, and contains 5 to 20% disseminated to stringer pyrite and local base metal sulphides. The unit is best exposed in the open cut, particularly the east wall, and was intersected in all but one of the 1993 drill holes. This alteration appears to form a stratiform layer within the dacite tuffs, but may in places be crosscutting. The alteration extends south under the Taku River floodplain, and north to L5+50N, where it appears to die out on surface, although the 1993 IP survey suggests it continues at least 400 m to the north of this point.

UNIT 4: Massive Sulphide

This unit occurs at or near the top of the sericite schist, most commonly along the contact with the diabase sill, but occasionally entirely within the sericite schist. It ranges from massive, bedded sulphides (BB93002) to 30 to 40% disseminated sulphides in a gangue of silica and barite (BB93006). Sulphides include pyrite, sphalerite, chalcopyrite and galena, and tetrahedrite is also present. Base metal grades can be visually estimated within this unit, but gold and silver values show little correlation to sulphide content.

Based on historical drill holes and stope plans, the Big Bull massive sulphide body was continuous over about 550 m along strike and 40 to 120 m down dip. The distribution of sulphides within this area was quite irregular, with thicknesses ranging from 1 to 22m. The thickest sections were generally, though not always, associated with irregularities or embayments within the diabase intrusive. It appears that during deformation, the massive diabase acted as a competent block within the sericite schist, resulting in sulphide accumulations in "strain shadows" adjacent to the diabase. In other areas (Section 0+60N), continuous thick sulphides are present in a sheet adjacent to the diabase, possibly representing a primary, stratigraphic thickening of the unit.

The 1993 drilling extended the dip extent of the sulphide body to at least 280 m, but did not change the strike extent of 550 m, although it should be noted that only one hole was drilled outside of this historical extent. The full extent of the massive sulphide unit has not been determined.

UNIT 5: Dacite Tuffs

This unit is very similar to Unit 2, and is differentiated primarily on its position in the hanging wall of the alteration zone and massive sulphides. It generally contains more hematite than Unit 2, including some massive hematite layers (Unit 5a) up to 1.5 m thick. Sulphide mineralization was intersected within Unit 5 in holes BB93001, BB93005, and BB93007, suggesting the potential for stacked sulphide lenses at Big Bull.

UNIT 6b: Calcareous Andesite Debris Flows

This distinct unit forms a northward-thickening wedge within the dacites northwest of the glory hole. It is a green to maroon, calcareous debris flow, of apparent andesitic composition. Fragments are angular, poorly sorted, and range in size from 1 cm to 15 cm. Pervasive and spotted white calcite is the most distinct feature of this unit, and occurs in amounts up to 30%. Texturally, this unit is also distinct, and is less foliated than the surrounding rocks. This unit occurs above the Big Bull alteration zone, and appears to be intercalated with the hanging wall dacites.

UNIT 7a: Diabase Sills (Basalt intrusives)

An important result of the 1993 program was the recognition of the occurrence of several diabase sills within the Big Bull stratigraphy. These sills locally have very irregular geometry, as indicated by drill sections and by large, glacially polished outcrops on the ridge at the northeast corner of the extended grid. They have affected the morphology of the Big Bull deposit, and may have some implications for the location of additional orebodies.

These sills are massive to foliated, aphanitic to fine-grained, dark greenish black rocks, with sharply defined contacts. They typically form slightly crosscutting bodies, ranging from 1 to 25 m thick and show good lateral continuity, although they often terminate abruptly. Contact metamorphism is absent, and they appear to have been emplaced at low temperatures, possibly prior to lithifaction. In the immediate area of the Big Bull deposit, these sills have intruded into the alteration zone, however they appear to diverge down dip until they occur entirely within the hangingwall dacites. This unit was included in the Upper Mafic Volcanic Sequence by Cambria (1993).

2.2.3 Structure

Rocks in the Big Bull area have been affected by two phases of folding and several phases of faulting, creating an area of definite structural complexity. A detailed structural assessment is presented in Appendix III, "Preliminary Assessment of Deformation Style and of Controls on Mineralization at the Big Bull Deposit" by W. Barclay.

The general lithologic trend (S_0) at the Big Bull deposit is NNW, with steep dips to the southwest. The first, and most important, phase of folding (S_1) consists of approximately cylindrical folds with axial planar cleavage oriented at 140/84 SW, and fold axes plunging at 26°-->325. Parasitic folds are consistent with a synclinal closure to the west.

A second, very weak phase of folding is indicated by a spaced, crenulation planar fabric which does not appear to have significantly reoriented either S_0 or S_1. Axial planes are oriented roughly E-W, and dip steeply to the north.

Brittle faulting is an important part of the structural history of the Big Bull deposit. The intimate association between the Big Bull fault and the mineralization prompted early geologists to infer a genetic relationship. Faults generally strike NW and dip steeply both to the west and east. Strike slip faults within the sericite schist show both sinistral and dextral movement, whereas faults bounding the sericite schist indicate an oblique sense of offset. Cross faults have also been observed, adding to the complexity.

2.3 Bull North Grid Extension Geology

One of the goals of the 1993 program was to extend the existing grid to the north of the deposit area and to follow the Big Bull stratigraphy and evaluate its economic potential using geological mapping and geophysics. Some 14 line kilometers of grid was cut and picketed, and geological mapping and magnetometer surveys were completed. During the course of this work, it became apparent that the Big Bull stratigraphy lay to the east of the main grid area, and was only partially crossed by four extended grid lines (L10N, L16N, L22N, L27N). Excellent exposures on the ridgetop near L27N also indicated that the grid was located to the west of the target stratigraphy.

The west part of the grid is underlain by massive to flow-banded dacite flows and lesser lapilli tuffs. This unit corresponds with a distinct mag low which trends NNW. These rocks are commonly feldspar phyric, and locally contain calcite "spots" which may be amygdules. A large diorite intrusive occurs in the central part of the grid area. This unit is massive, medium grained and equigranular, and shows weak propylitic alteration. The diorite has intruded fine grained mafic rocks which may be flows or diabase sills. East of these mafic rocks, in the area covered by the extended grid lines, is a series of hematitic debris flows, and local chaotic-banded dacite which is interpreted as the northern continuation of the Big Bull stratigraphy.

3.0 1993 WORK PROGRAM

3.1 Diamond Drilling

Twelve holes were drilled in the Big Bull area between August 9 and October 19, 1993, for a total of 3,556 m. With the exception of BB93009, which was abandoned due to technical problems, all holes penetrated the Big Bull alteration zone. Table 3.1 shows drill hole data and analytical results, and selected drill sections are included as Figures 3.2 to 3.14 in the map pocket. Five of the holes intersected the continuation of the Big Bull deposit below the old workings. Only two of the holes returned no significant analytical results. Brief descriptions of two drill sections are presented below.

SECTION 0+20S (Figure 3.5)

BB93006 intersected the Big Bull deposit some 65 m down dip of mineralization in the 4700 Level workings. The gold and silver grades (14.229 g/t and 812.92 g/t) are significantly higher here than in the other 1993 holes, although grades of this tenor were not uncommon historically. This mineralization remains open down-dip, and along strike to the south.

SECTION 0+25N (Figure 3.6)

This section clearly shows the diabase intrusive. Contacts between the sill and the sericite schist are extremely sharp, and indicate that this mafic rock is not a flow or tuff as was previously thought. BB93001 intersected 1.6 m (30,5 m to 32.1 m) of copper-rich massive sulphide mineralization in the hanging wall of the alteration zone, highlighting the possibility of stacked lenses. A thick mineralized intersection from 56.7 m to 68.5 m indicates the complex geometry of mineralization draped over the end of the sill. This area was not well tested by the old drilling. The Big Bull deposit was intersected from 107.7 m to 114.2 m, fairly close to the old 4700 level workings.

BB93002 intersected massive sulphide mineralization from 166.2 m to 171.0 m, which represents the down dip extension of the lowermost mineralization in BB93001. Relative to the other Big Bull intersections, this one is significantly copper-rich, and is bedded massive sulphide, rather than semi-massive sulphide, suggesting this may be near the core of this sulphide lens.

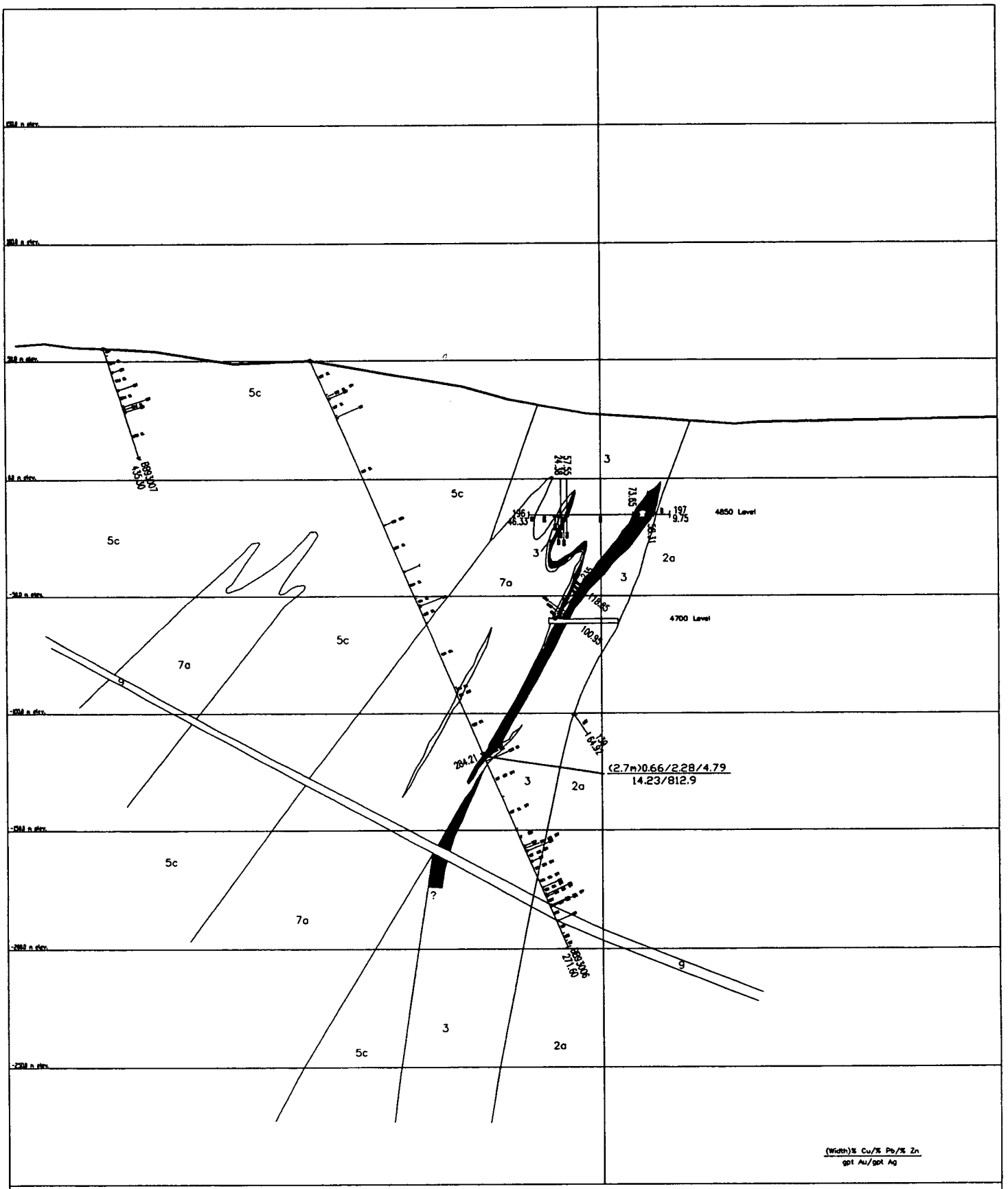
In BB93008, the deposit is sandwiched between two diabase sills. This intersection is 100 m down-dip from BB93002, highlighting the need for infill drilling to test for thickening of the deposit.

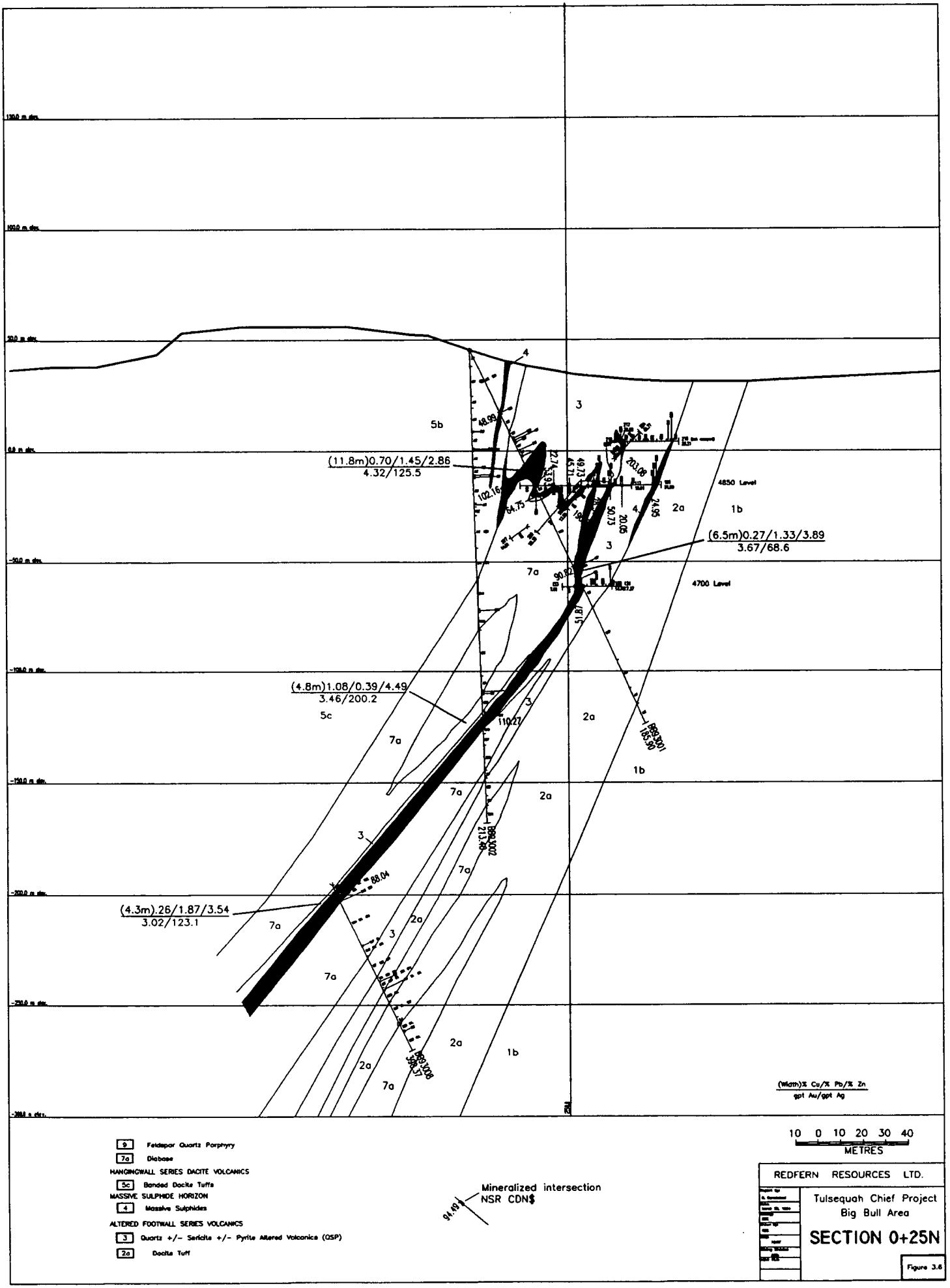
TABLE 3.1: DRILL HOLE INFORMATION AND INTERSECTIONS

HOLE	Northing	Easting	Elev(m.asl)	Length(m)	Azimuth	Dip	From	To	TT(m)	AT(m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	NSR $
BB93001	7088.74	13124.35	45.36	185.9	43.9	-64.5	30.5	32.1		1.6	1.36	0.34	1.25	1.029	32.23	48.99
							56.7	68.5		11.8	0.70	1.45	2.86	4.320	125.49	102.16
							71.5	72.8		1.3	0.39	0.52	3.29	1.714	118.29	64.75
							107.7	114.2	5.0	6.5	0.27	1.33	3.89	3.669	68.57	90.82
BB93002	7088.74	13124.35	45.36	213.4	45.0	-89.0	166.2	171.0	3.9	4.8	1.08	0.39	4.49	3.463	200.23	110.27
BB93003	7399.55	12802.44	177.61	228.6	31.2	-56.4					NO SIGNIFICANT VALUES					
BB93004	7407.51	12902.98	150.95	210.3	40.3	-85.1	106.4	108.3		1.8	0.59	1.91	4.49	2.606	582.52	137.73
							140.2	141.7		1.5	0.25	0.44	2.62	0.171	18.86	31.75
BB93005	7128.28	13048.25	70.31	213.4	45.0	-81.9	130.0	131.8		1.8	0.28	0.65	0.32	5.349	212.92	85.8
							180.6	184.6	2.9	4.0	0.44	2.92	5.05	6.377	169.72	149.09
BB93006	7004.35	13099.51	50.14	271.6	42.2	-65.1	181.8	184.5	2.2	2.7	0.66	2.28	4.79	14.229	812.92	284.21
BB93007	6936.42	13045.21	55.50	435.3	47.9	-71.6	234.4	235.2		0.8	0.16	0.58	2.32	1.920	38.06	48.58
							240.9	243.6		2.7	0.10	0.42	1.10	1.886	70.97	39.01
BB93008	6994.65	12940.24	83.41	398.4	62.6	-63.0	318.1	322.4	4.0	4.3	0.26	1.87	3.54	3.017	123.09	88.04
BB93009	7040.71	12900.40	89.26	170.7	43.8	-54.0					HOLE NOT COMPLETED					
BB93010	7040.83	12900.55	88.93	463.3	42.2	-58.4	351.3	352.8		1.5	0.01	0.08	0.15	2.537	19.54	29.85
BB93011	7208.32	12727.57	126.17	472.4	42.8	-54.8					NO SIGNIFICANT VALUES					
BB93012	6829.56	13080.54	19.12	292.6	65.1	-45.1	201.5	203.0		1.5	0.02	0.14	0.32	3.566	23.66	42.8

Total 3555.9

* NSR = (16.47 x %Cu)+(6.96 x %Pb)+(8.07 x %Zn)+(.089 x g/t Ag)+(10.31 x g/t Au)


5c
7a
3
2a
4850 Level
4700 Level
(2.7m)0.66/2.28/4.79
14.23/812.9
(Width)% Cu/% Pb/% Zn
gpt Au/gpt Ag
9 Feldspar Quartz Porphyry
7a Diabase
HANGINGWALL SERIES DACITE VOLCANICS
5c Banded Dacite Tuffs
MASSIVE SULPHIDE HORIZON
4 Massive Sulphides
ALTERED FOOTWALL SERIES VOLCANICS
3 Quartz +/- Sericite +/- Pyrite Altered Volcanics (QSP)
2a Dacite Tuff
Mineralized intersection
NSR CDN$
10 0 10 20 30 40
METRES
REDFERN RESOURCES LTD.
Tulsequah Chief Project
Big Bull Area
SECTION 0+20S
Figure 3.5


(11.8m)0.70/1.45/2.86
4.32/125.5
(6.5m)0.27/1.33/3.89
3.67/68.6
(4.8m)1.08/0.39/4.49
3.46/200.2
(4.3m).26/1.87/3.54
3.02/123.1
4850 Level
4700 Level
5b
5c
7a
2a
1b
3
4
(Width)% Cu/% Pb/% Zn
gpt Au/gpt Ag
10 0 10 20 30 40
METRES
9 Feldspar Quartz Porphyry
7a Diabase
HANGINGWALL SERIES DACITE VOLCANICS
5c Banded Dacite Tuffs
MASSIVE SULPHIDE HORIZON
4 Massive Sulphides
ALTERED FOOTWALL SERIES VOLCANICS
3 Quartz +/- Sericite +/- Pyrite Altered Volcanics (QSP)
2a Dacite Tuff
Mineralized intersection
NSR CDN$
REDFERN RESOURCES LTD.
Tulsequah Chief Project
Big Bull Area
SECTION 0+25N
Figure 3.6

3.2 Geophysics

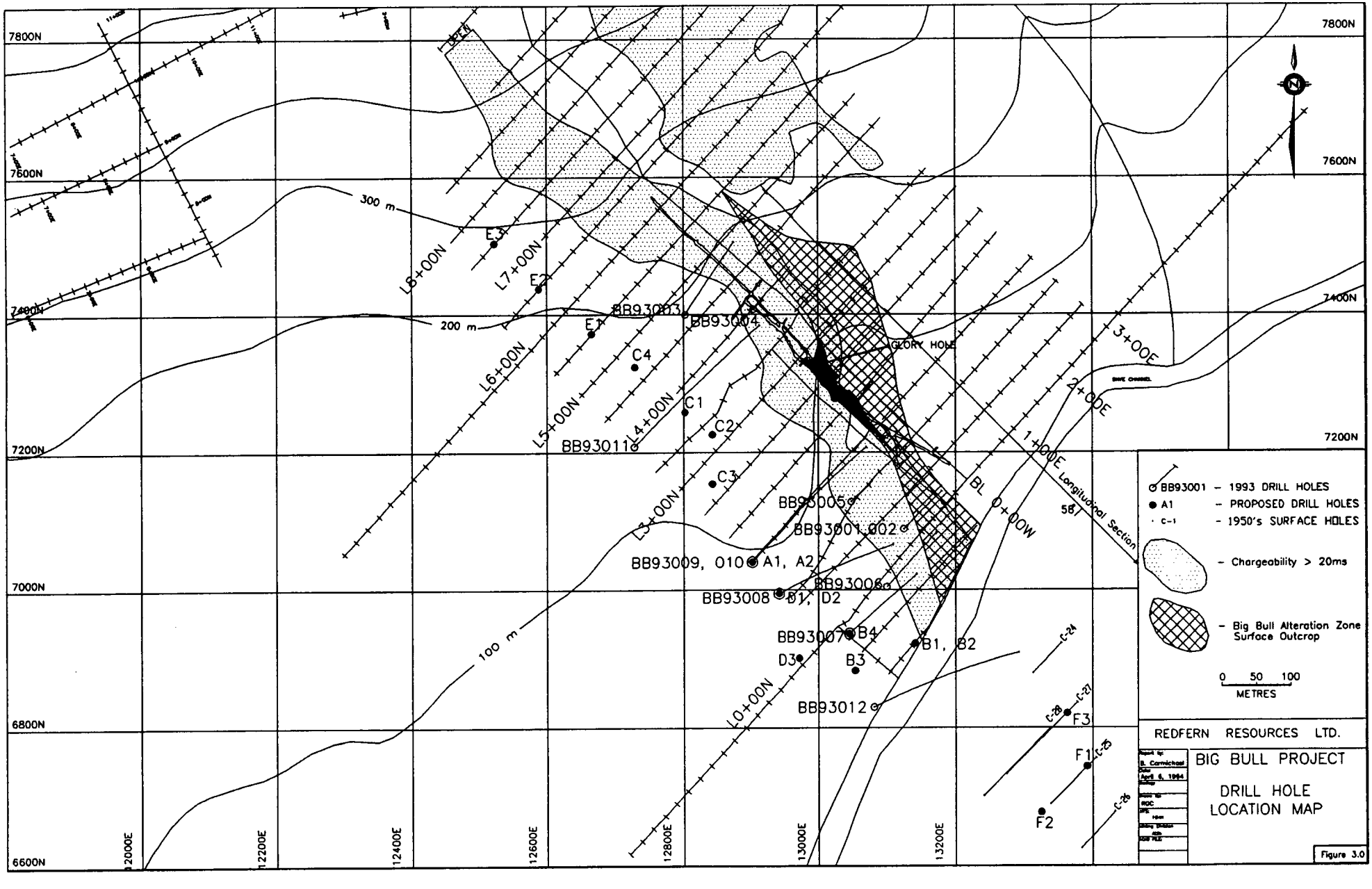
The 1993 geophysical surveys at the Big Bull area are the subject of a separate report by G. Hendrickson of Delta Geoscience, and results are only summarized here. Sections of Hendrickson's report pertaining to Big Bull are included in Appendix V, along with page sized color plots. Geophysical maps at 1 : 2000 scale are included as Figures 3.17 through 3.21.

Magnetometer and gradient array IP surveys were carried out over the Big Bull grid by Delta Geoscience. These techniques successfully identified the Big Bull alteration zone as a magnetic low and a chargeability high. This geophysical response is consistent with a decrease in magnetite and an increase in disseminated pyrite within the alteration zone. The anomalies continue to the north, beyond the current drill information, suggesting a significant untested strike extent of the Big Bull alteration zone (Figure 3.0). Geophysical response of bedrock is masked by thick overburden to the south of the Big Bull Mine.

The chargeability anomaly on Line 4+00N between 0+50W and 0+30E corresponds to the location of the alteration zone as defined by DDH BB93011 and several old holes from the 5000 Level underground (Figure 3.0). This anomaly continues uninterrupted for about 400m to the north of BB93011. The alteration zone does not outcrop in this area, however, there is a dacite unit which may be the continuation of the Big Bull dacites. This chargeability anomaly is consistent with a shallow northerly plunge to the alteration, which would cause it to continue with no surface expression under the steeply rising topography. A coincident mag low follows the IP anomaly to the north.

A second coincident chargeability and mag anomaly occurs at about 0+80W on Line 5+50N, and continues to the northeast. This anomaly is separated from the NW anomaly by a definite break, but is of similar magnitude. Limited data from the Bull extension grid suggests that this anomaly continues to the north, and follows the projection of the Big Bull stratigraphy.

This situation is somewhat ambiguous, as both anomalies can be interpreted as outlining the continuation of the Big Bull stratigraphy and alteration. The western anomaly clearly is continuous with the geophysical response of the Big Bull alteration zone, and so is a higher priority drill target, however, this anomaly also parallels a fault which may be the extension of the Big Bull fault and may be reflecting fault-related alteration. The eastern anomaly is separated from the Big Bull alteration zone by a distinct break, but follows the projection of the favourable stratigraphy to the northeast.


7800N
7600N
7400N
7200N
7000N
6800N
6600N
12000E
12200E
12400E
12600E
12800E
13000E
13200E
300 m
200 m
100 m
L6+00N
L7+00N
L5+00N
L4+00N
L3+00N
L0+00N
3+00E
2+00E
1+00E
0+00W
BL
Longitudinal Section
5871
GLORY HOLE
BB93003
BB93004
BB93011
BB93005
BB93001, 002
BB93009, 010
BB93006
BB93008
BB93007
BB93012
E1
E2
E3
C1
C2
C3
C4
A1, A2
B1, B2
B3
B4
D1, D2
D3
F1
F2
F3
C-24
C-25
C-26
C-27
C-28
BB93001 - 1993 DRILL HOLES
A1 - PROPOSED DRILL HOLES
C-1 - 1950's SURFACE HOLES
- Chargeability > 20ms
- Big Bull Alteration Zone Surface Outcrop
0 50 100
METRES
REDFERN RESOURCES LTD.
BIG BULL PROJECT
DRILL HOLE LOCATION MAP
Figure 3.0

4.0 CONCLUSIONS AND RECOMMENDATIONS

The 1993 exploration program at the Big Bull area was successful in demonstrating that the Big Bull massive sulphide deposit continues below the 1950's workings, and remains open in several directions. The work also indicated that the Big Bull hydrothermal system is open down dip and along strike in both directions, and that the probability of finding other massive sulphide deposits within this large system is excellent. Surface mapping and sampling combined with drilling has provided for a better understanding of both the detailed stratigraphy and geological setting of the deposit, and its regional setting and relationship to the Tulsequah Chief orebodies. Additional work is required to determine the ultimate size of the Big Bull deposit and to search for other deposits within the alteration system.

4.1 Diamond Drilling

Nineteen drill holes totalling 6340 m are recommended for 1994. These holes are grouped into six areas which are shown on Figures 3.0 and 3.1, and are described below:

A): Big Bull deposit - Northern extension: 2 holes totalling **730 m.**

These holes will test for a northern extension to the mineralization intersected in hole BB93005.

B): Big Bull deposit - Southern extension: 4 holes totalling **1150 m.**

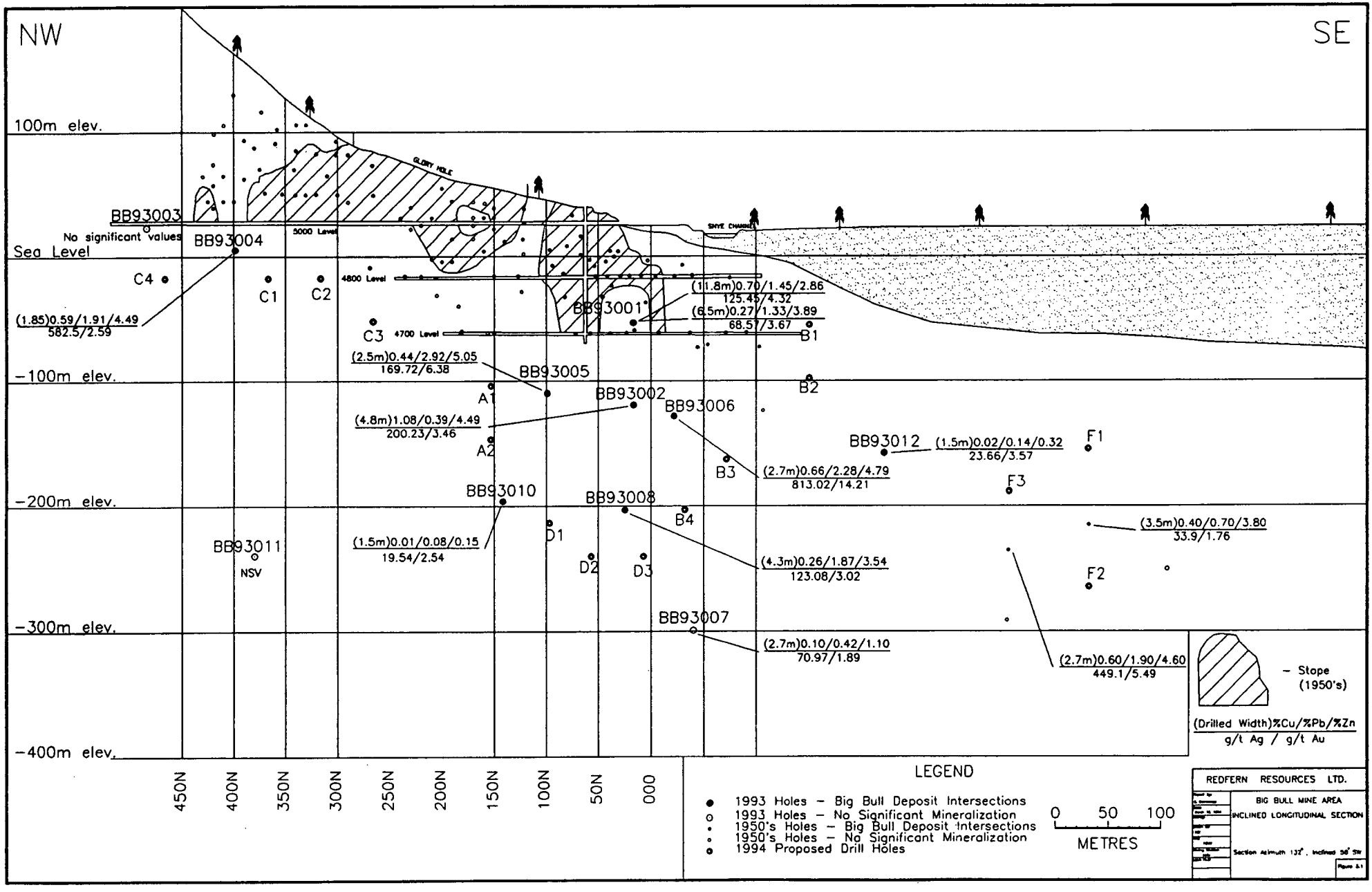
Holes B1 and B2 will test for a southern extension to the mineralization encountered in the southern ends of the 4800 and 4700 Levels (Section 0+65S). On the 4800 Level, the southernmost drill hole (#200) intersected:

9.57 m	0.4% Cu	1.4% Pb	2.8% Zn	126.5 g/t Ag	4.78 g/t Au

Fifty meters down-dip of this intersection, on the 4700 Level, hole 148 intersected:

4.58 m	0.7% Cu	1.9% Pb	5.9% Zn	102.2 g/t Ag	4.63 g/t Au

Holes B3 and B4 will determine the southern extension of the mineralization intersected in holes BB93006 and BB93008.


NW
SE
100m elev.
Sea Level
-100m elev.
-200m elev.
-300m elev.
-400m elev.
BB93003
No significant values
BB93004
5000 Level
4800 Level
4700 Level
GLORY HOLE
SHYE CHANNEL
C4
C1
C2
C3
(1.85)0.59/1.91/4.49
582.5/2.59
(11.8m)0.70/1.45/2.86
125.45/4.32
(6.5m)0.27/1.33/3.89
68.57/3.67
BB93001
B1
B2
(2.5m)0.44/2.92/5.05
169.72/6.38
BB93005
A1
BB93002
BB93006
(4.8m)1.08/0.39/4.49
200.23/3.46
A2
BB93012
(1.5m)0.02/0.14/0.32
23.66/3.57
F1
F3
B3
(2.7m)0.66/2.28/4.79
813.02/14.21
BB93010
BB93008
B4
D1
D2
D3
BB93011
NSV
(1.5m)0.01/0.08/0.15
19.54/2.54
(4.3m)0.26/1.87/3.54
123.08/3.02
(3.5m)0.40/0.70/3.80
33.9/1.76
F2
BB93007
(2.7m)0.10/0.42/1.10
70.97/1.89
(2.7m)0.60/1.90/4.60
449.1/5.49
- Stope (1950's)
(Drilled Width)%Cu/%Pb/%Zn
g/t Ag / g/t Au
450N
400N
350N
300N
250N
200N
150N
100N
50N
000
LEGEND
1993 Holes - Big Bull Deposit Intersections
1993 Holes - No Significant Mineralization
1950's Holes - Big Bull Deposit Intersections
1950's Holes - No Significant Mineralization
1994 Proposed Drill Holes
0 50 100
METRES
REDFERN RESOURCES LTD.
BIG BULL MINE AREA
INCLINED LONGITUDINAL SECTION
Section Azimuth 137°, Inclined 56° SW

C: 5030 Stope area - Depth extension: 4 holes totalling **1470 m.**

Holes C1, C2, C3 and C4 will test the Big Bull zone down dip of the 5030 stope and open cut area, which accounted for most of the production from the mine. It is not known if the mineralization continued below the 5000 Level, as no underground geological or assay data is available, and no holes were drilled below the 5000 Level. Intersections drilled in the ore zone 20 m above the 5000 Level include:

HOLE	WIDTH	% Cu	% Pb	% Zn	g/t Ag	g/t Au
238	4.9 m	0.66	1.07	5.09	91.5	2.37
239	6.1 m	1.03	1.40	5.91	122.7	2.23
240	4.6 m	1.53	2.27	8.94	211.5	3.19
241	8.5 m	0.45	0.80	3.32	53.5	2.61

This relatively shallow area offers excellent potential to extend the Big Bull deposit into an untested area.

D: Big Bull deposit - Depth extension: 3 holes totalling **1340 m.**

Three holes, D1, D2 and D3 will determine the depth extent of the Big Bull deposit below hole BB93008. These holes cover the projected northerly plunge of the mineralization outlined in 1993.

E: Northwest geophysical anomaly: 3 holes totalling **750 m.**

This geophysical anomaly coincides with the Big Bull zone in hole BB93011, and strongly suggests its extension to the north. Three holes (E1, E2 and E3) will be used to confirm this interpretation, and to determine the potential of the zone in this untested area.

F: Big Bull South: 3 holes totalling **900 m.**

This area lies across Snye Channel from the Big Bull camp, under the Taku River floodplain. Two of the five holes drilled in this area in 1955 intersected massive sulphide mineralization (C-25 and C-27, see p. 2), which has not been adequately followed up. This area is some 300 to 350 m south of the main Big Bull deposit, and has the potential to dramatically increase its size.

Lithogeochemical sampling of selected drill cores will be used to gain a further understanding of the stratigraphy and geological setting. Down-hole EM or IP will be used to determine likely directions for continuation of mineralization, and to help target additional drilling.

4.2 Mapping and Surface Geophysics

Mapping will be primarily focused on determining the location of the northward extension of the Big Bull stratigraphy, although additional detailed mapping in the Big Bull deposit area is also required. The Big Bull North grid will be extended to the east and will be mapped and covered with surface IP and magnetometer surveys. Reconnaissance traverses to the west, between the Big Bull and Banker grids will evaluate the massive sulphide potential in this area, and attempt to determine the relationship between the Big Bull and Banker felsic volcanics.

This surface mapping will allow the Big Bull stratigraphy to be traced outside of the main deposit area, and will lead the way to a more detailed examination of the favourable horizon.

5.0 REFERENCES

Mihalynuk, M.G. et.al. (1994): **Regional and Economic Geology of the Tulsequah River and Glacier Areas (104K/12 &13).** in Geological Fieldwork 1993, BCMEMPR, Paper 1994-1.

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Sherlock, R.H., and Barrett, T.J. (1993): **Preliminary Petrographic and Lithogeochemical Data for the Tulsequah Chief Deposit, Northern British Columbia,** unpublished Mineral Deposit Research Unit report.

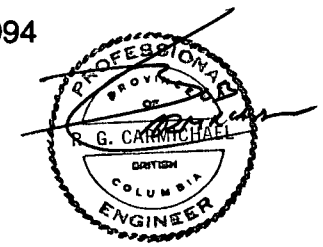
Hendrickson, G. (1994): **Geophysical Report on the Tulsequah Property,** Redfern Resources Ltd. consultant's report.

6.0 STATEMENT OF QUALIFICATIONS

I, Robert G. Carmichael hereby state the following:

1) I obtained a Bachelor of Applied Science degree in Geological Engineering from the University of British Columbia in 1987;
2) I am registered as a Professional Engineer with the Association of Professional Engineers and Geoscientists of British Columbia;
3) I have worked in the mineral exploration industry since graduation, and previously held positions with Esso Minerals Canada and Homestake Mining Company.
4) I have been employed by Redfern Resources Ltd. as a Project Geologist since May of 1993.

Dated this 27 day of April, 1994



Robert G. Carmichael, P.Eng.

I, Kerry M. Curtis hereby state the following:

1) I obtained a Bachelor of Science degree in Geology from the University of British Columbia in 1989;
2) I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia;
3) I have worked in the mineral exploration industry since graduation, and previously held positions with Minnova Inc. and Kennecott Canada Inc.;
4) I have been employed by Redfern Resources Ltd. as a Project Geologist since June of 1993.

Dated this 27 day of APRIL 1994

Kerry M. Curtis

Kerry M. Curtis, P.Geo.

APPENDIX I
1993 DRILL LOGS AND ANALYTICAL DATA

Hole No: BB93001
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7088.74
(metres) E: 13124.35

Azimuth: 43.9
Dip: -64.6
Length (m): 185.90
Elevation (metres): 45.36
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 8, 1993
Completed: Aug. 10, 1993
Recovery:

Date Logged: Aug. 9-10, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 30 Mar, 1994 5:36pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip
0.0	43.9	-64.6
185.9	47.0	-66.0

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	12.90	DACITE ASH TUFF (SERICITE) This heterolithic unit is primarily weakly sericitized dacite (?) ash tuff with very distinctive hematitic laminae. The unit is moderately deformed and weakly foliated, and small scale folds are common throughout. Colour is pale yellowish-grey, against which the red hematitic patches show up distinctly. Sheeted silvery-yellow sericite is about 10%, hematite averages 0.5% overall. Patchy disrupted and deformed quartz - epidote veins occur throughout (0.1% of interval) and contain a patchy, pink carbonate mineral. Bedding and foliation are 50 to 70 degrees where folding is weak. Parasitic folds are 'Z'type.										
12.90	13.80	MASSIVE HEMATITE Bed of massive (70%) fg hematite is cut by 20% quartz stringers (1-5mm). This unusual unit has clearly bedded contacts both sides with laminated ash tuff and is cut by 10% magnetite stringers. Dark reddish black and deep red colour. U.C. 70° L.C. 55°.										
13.80	21.30	DACITE ASH TUFF (SERICITE) (Same as 0.00 - 12.9.).										
21.30	23.30	DACITE LAPILLI TUFF (SERICITE) This interval is darker in colour than the main interval - probably due to increased chlorite. Also, a few elongated, epidotized frags are noted (1%, <1cm). Hematite bands to 1 cm are still present. Compositional layering is ~10° TCA, weak foliation is about 0°. The upper contact is sharp @30°. The lower is marked by a 20cm patchy Qz-Cl-Mg vein.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
23.30	23.75	ALTERED FACIES (SERICITE) (DISSEMINATED SPHALERITE) A strongly foliated, mineralized sericitic tuff unit. Dissem. Py, Sl, Cp, Gl occur along foliation planes and total ~3% of this section. Sericite is ~15%. This unit is quite siliceous (50%). Fol'n dips @25 TCA. Fractures in this unit are limonitic.										
23.75	25.40	DACITE ASH TUFF (SERICITE) (Same as 0.00 - 12.9.).										
25.40	26.90	DACITE LAPILLI TUFF (CHLORITE) Dark grey lapilli tuff is moderately chloritized (15%). Frags are 10% and ~1 cm in size. Foliation is ~30°. Lower contact is marked by 2 cm of fault gouge.										
26.90	30.50	DACITE ASH TUFF (SERICITE) (Same as 0.00 - 12.9.) 27.4 Approximate contact, magnetic below, non-magnetic above.	25451	29.50	30.50	1.00						
30.50	32.10	SEMI-MASSIVE SULPHIDES (CHLORITE) Semi-massive to massive Py, Cp, Sl ± Gl within intensely Cl-Ser altered rock. Probable vein sulphides (Poss. Stratiform?) occur as stringers and disseminations, with a 10cm massive zone @ top and bottom of interval host rock is dark green, mottled and patchy ~20-30% combined Cl and Ser. Contacts are sharp.	25452 25453	30.50 31.30	31.30 32.10	.80 .80	.69 1.51	21.60 43.21	1.21 1.50	.43 .26	1.89 .60	
32.10	40.60	DACITE TUFF (CHLORITE) (MAGNETITE) Dark green ash and lapilli tuffs. This interval contains less sericite and more chlorite (20%) than the previous interval and is distinguished by the presence of 20% Cpy-Ep-Cl-Mg veins. The lower contact of this interval is probably conformable and is marked by a rusty fracture @25° TCA. 33.5 Folds are now 's'type. Fold hinge @~20m?.	25454 25455	32.10 39.60	33.10 40.60	1.00 1.00						
40.60	43.40	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) Intensely sericitized and silicified volcanic. Sheeted yellow sericite (20%) occurs along a strong foliation. Silica and pyrite (10%) make up the remainder. Dissem. Sl, Gl & Cp are scattered throughout, concentrated along fol'n planes. These sulphides probably originated as stringers, some of which can be seen and are strongly deformed. Fol'n @ ~70° TCA.	25456 25457	40.60 42.10	42.10 43.40	1.50 1.30						
43.40	44.60	SEMI-MASSIVE PYRITE Granular pyrite averages ~40% over this interval. Hosted by QSP, Py is weakly banded parallel fol'n (@60-70°). No other sulphides noted. Contacts gradational, defined by amount of Py.	25458	43.40	44.60	1.20						
44.60	45.70	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) (Same as 40.6-43.4.).	25459	44.60	45.70	1.10						

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
45.70	46.60	BASALT DYKE F.G. Dark green basalt dyke. U.C. @25°.	25460	45.70	46.60	.90						
46.60	49.80	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) (Same as 40.6-43.4.).	25461	46.60	48.20	1.60						
			25462	48.20	49.80	1.60						
49.80	50.30	PYRITE FACIES Granular pyrite avg's 70% over this section. A bit (<1%) Sl & Gl noted @ top, otherwise no B.M.sulphides. Pyrite is coarse. Contacts pretty sharp. @ 60°.	25463	49.80	50.30	.50						
50.30	52.60	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) (Same as 40.6-43.4.).	25464	50.30	51.80	1.50						
			25465	51.80	52.60	.80						
52.60	53.50	BASALT DYKE F.G. Dark green basalt dyke. U.C. = L.C. = 80° TCA.	25466	52.60	53.50	.90						
53.50	55.70	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) (Same as 40.6-43.4.).	25467	53.50	54.60	1.10						
			25468	54.60	55.70	1.10						
55.70	60.60	ALTERED FACIES (SILICA) (STRINGER CHALCOPYRITE) Chalcopyrite stringers avg. ~2/m over this section of QSP. Stringers are 1-5mm and massive. Cp also occurs as blebs in vuggy white Qz veins up to 5 cm wide.	25469	55.70	56.70	1.00	1.30	77.15	.32	.01	.04	
			25470	56.70	57.70	1.00	5.31	200.25	1.48	.02	.07	
			25471	57.70	58.70	1.00	4.08	90.87	.27	.01	.04	
			25472	58.70	59.70	1.00	6.82	129.27	1.01	.02	.14	
			25473	59.70	60.60	.90	10.15	131.67	1.41	.02	.29	
60.60	62.20	ZINC FACIES Banded massive sulphides. Sulphides are dark brown resinous Sl(25%), Cp(5%), Gl(5%) & Py(10%). Fragments of chert occur within the sulphides as do sections of poorly mineralized QSP, up to 10cm. U.C. = 60°.	25474	60.60	61.10	.50	8.47	452.63	1.43	7.66	15.58	
			25475	61.10	61.60	.50	12.62	620.99	2.39	9.44	17.11	
			25476	61.60	62.20	.60	4.56	317.18	1.74	4.68	12.18	
62.20	64.90	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) QSP is moderately well mineralized with dissem. Sl, Gl, Cp (total ~5%). Foliation is disrupted. Lower contact marked by 2cm MS. Yellow-grey colour.	25477	62.20	63.70	1.50	4.53	20.23	.14	1.17	1.36	
			25478	63.70	64.90	1.20	1.06	41.15	.64	.94	1.73	
64.90	67.00	ALTERED FACIES (CHLORITE) (DISSEMINATED SPHALERITE) Green, chloritic unit, still contains 10% sericite. Less well foliated and more massive than last section. Cut by a few narrow (2cm) vuggy Qz-Cl-sulphides veins. Still moderately well mineralized, including 5cm of massive buff-coloured Sl @ 66.6m.	25479	64.90	66.40	1.50	1.30	39.09	.08	.47	.88	
			25480	66.40	67.00	.60	2.43	79.55	.11	1.72	3.44	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
67.00	72.80	ALTERED EXHALITE - SULPHIDE BEARING (SERICITE) (DISSEMINATED PYRITE) This unit contains more silica (60%) and a bit less sericite (10%) and more sulphides (15% total) than the QSP. It is more massive and less foliated. Colour is a pale greenish-grey. Sulphides occur in granular, fol'n parallel bands and includes Py (10%), Sl (2%), Cp (2%) & Gl (1%). A 10cm section of massive banded sulphide occurs @ the bottom of this interval. L.C. @ 70°.	25481	67.00	68.50	1.50	1.95	20.23	.07	.71	1.35	
			25482	68.50	70.00	1.50						
			25483	70.00	71.50	1.50						
			25484	71.50	72.80	1.30	1.71	118.30	.39	.52	3.29	
72.80	74.40	ALTERED FACIES (CHLORITE) (DISSEMINATED PYRITE) Medium green chloritic sericitic tuff. Dissem. Py is ~2%. Silica content is only ~20%. Fol'n is weak @ ~65°. B.M. Sulphides absent. Lower contact conformable.	25485	72.80	74.40	1.60						
74.40	88.80	DIABASE (CHLORITE)	25486	74.40	75.90	1.50						
88.80	89.20	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) Homogeneous, dark green diabase sill. Unit is chloritic (10%) and contains numerous vuggy, white quartz veins (4/meter, 1.5cm). A few stretched Qz spots are noted - but are not common. Weak foliation is developed locally, but unit is primarily massive. Lower contact is well preserved and is very sharp, but is not planar. Strongly foliated sericitic tuff contains 10% dissem. Py. Sharp contacts.										
89.20	107.70	DIABASE (CHLORITE) (Same as 74.4-88.8.).	25487	106.20	107.70	1.50						
107.70	109.40	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Intensely sericitized, strongly foliated volcanic - contains 10-15% dissem. Fine Py. Sheeted yellow and buff sericite is ~20%. Quartz @ ~40% occurs between sericite sheets as small patches and lenses. BM sulphides average ~5% above the fault @ 114.2m. Foliation is locally quite convoluted, but in general is ~45-50°.	25488	107.70	108.70	1.00	1.58	44.23	.38	.31	2.90	
			25489	108.70	109.40	.70	3.36	134.74	.66	.50	4.23	
109.40	110.20	SEMI-MASSIVE SULPHIDES (SERICITE) (DISSEMINATED PYRITE) Semi-massive Py(20%), Sl(5%), Gl(2%), banded @ 45° TCA, 20% sheeted sericite. Gangue is mostly barite (20%) and Qz (20%). A 10cm section of 50% barite and 10% total sulphides occurs @ the top of this interval.	25490	109.40	110.20	.80	6.24	129.26	.57	3.16	10.84	
110.20	114.20	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (Same as 107.7-109.4.).	25491	110.20	111.20	1.00	.99	5.49	.02	.14	.62	
			25492	111.20	112.20	1.00	2.13	61.71	.17	1.69	3.81	
			25493	112.20	113.20	1.00	3.84	59.66	.10	2.57	3.66	
			25494	113.20	114.20	1.00	9.15	77.14	.15	1.05	2.63	
114.20	114.90	FAULT (SERICITE) (DISSEMINATED PYRITE) Crushed core and fault gouge. U.C. = 70° and slicks indicate Dip slip.	25495	114.20	114.90	.70						

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		L.C. @ 40°. Same lithology on either side - footwall is much less mineralized.										
114.90	123.30	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Same as 107.7-109.4. Except mineralization is significantly weaker.	25496	114.90	116.50	1.60						
			25497	116.50	118.00	1.50						
			25498	118.00	119.50	1.50						
			25499	119.50	121.00	1.50						
			25500	121.00	122.50	1.50						
			68876	122.50	124.00	1.50						
123.30	124.20	FAULT ZONE (SERICITE) (DISSEMINATED PYRITE) This section contains four 3-cm sections of fault gouge. Dips from 40°-70°.	68877	124.00	125.50	1.50						
124.20	126.70	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (Same as 114.9-123.3).	68878	125.50	127.00	1.50						
126.70	127.30	FAULT ZONE (SERICITE) (DISSEMINATED PYRITE) Core is crushed, two fault gouge sections 3-4cm ~60°.	68879	127.00	128.30	1.30						
127.30	128.10	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (Same as 114.9 - 123.3).										
128.10	128.30	QUARTZ VEIN (CHLORITE) (DISSEMINATED PYRITE) Narrow white Qz vein with 5% chlorite and 2% dissem. Py occurs @ lower contact of QSP unit. This contact is gradational over ~1.5m and may be an alteration contact.										
128.30	154.60	DACITE ASH TUFF (SILICA) Medium green, F.G. Poorly banded silicified ash tuff. Banding is.5-2cm, fairly uniformly oriented @ 60° TCA. A few scattered hematitic bands are noted, generally <.5cm and dissem. Magnetite occurs @ ~2% over the lower 20m of the interval. Except for weak silicification (5-10%) this interval is unaltered and unmineralized. A few Qz-Ep-Py veins occur within the upper 6m.	68880	128.30	129.80	1.50						
154.60	168.60	DACITE LAPILLI TUFF (SILICA) A few (<1%) fragments are noted in this weakly silicified dacitic lapilli ash tuff. It is coarser grained and less well banded than the overlying unit and is in conformable contact. Weak propylitic alteration, consisting of pervasive chlorite (5%) and patchy epidote (7%) is noted.										
	165.80 168.60	DACITE LAPILLI TUFF SIL - This interval contains 40-50% Quartz as patches and bands. Epidote (5%) here is replacing feldspars. Patches (frags?) of hematite are noted. Bands dip ~50° and appear to be stretched fragments as they are										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		often lenticular and discontinuous. Banding becomes convoluted towards the lower contact, which is conformable at ~30°.										
168.60	176.50	DACITE ASH TUFF Dark green, moderate well banded homogeneous dacitic ash tuff. Silicification is very weak to absent, propylitic alteration is very weak and sulphides are absent. Banding is @ 30° TCA. Lower contact conformable. @ 40°.										
176.50	185.90	BASALT ASH TUFF (EPIDOTE) Nicely bedded, epidotized basalt ash tuff. Excellent bedding and a few graded beds suggests water lain tuff. Colour is a distinct apple-green due to 15% pervasive epidote. Bedding is on a 0.4-10cm scale and a couple of poorly graded beds suggest tops up. Homoclinal fold seen from 177.8 - 178.8. Generally bedding is 40-60° TCA.										
185.90		END OF HOLE										

Hole No: BB93001
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7088.74
(metres) E: 13124.35

Azimuth: 43.9
Dip: -64.6
Length (m): 185.90
Elevation: 45.36
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 8, 1993
Completed: Aug. 10, 1993
Recovery:

Date Logged: Aug. 9-10, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 30 Mar, 1994
5:34pm

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
25451	29.50	30.50	1.00	2.75						57	1.2	119	176	396	3.24	39	1	6	334	
25452	30.50	31.30	.80	3.43	.69	21.60	1.21	.43	1.89	780	17.1	10773	3677	14292	14.40	254	68	92	14	
25453	31.30	32.10	.80	3.26	1.51	43.21	1.50	.26	.60	1070	33.6	12840	2260	4643	15.30	1085	19	204	13	
25454	32.10	33.10	1.00	2.83						28	1.1	1195	266	1153	3.59	39	3	9	115	
25455	39.60	40.60	1.00							66	1.3	171	445	479	2.69	19	1	7	366	
25456	40.60	42.10	1.50							100	4.8	674	563	3818	4.26	97	18	96	36	
25457	42.10	43.40	1.30							84	2.7	548	586	4111	2.74	39	20	39	55	
25458	43.40	44.60	1.20							280	5.0	717	349	776	12.65	29	4	7	23	
25459	44.60	45.70	1.10							100	1.3	133	105	986	5.50	12	5	3	24	
25460	45.70	46.60	.90							19	.7	58	10	258	5.82	9	0	2	348	
25461	46.60	48.20	1.60							100	2.0	50	200	450	5.60	9	2	3	21	
25462	48.20	49.80	1.60							81	2.3	97	175	764	7.49	11	3	2	17	
25463	49.80	50.30	.50							750	8.1	504	640	1214	21.31	156	6	2	11	
25464	50.30	51.80	1.50							310	3.4	2331	46	283	5.53	22	2	7	38	
25465	51.80	52.60	.80							140	1.6	996	40	175	3.54	12	1	3	65	
25466	52.60	53.50	.90							23	.5	63	6	230	8.16	13	1	2	92	
25467	53.50	54.60	1.10							120	2.4	1038	30	94	3.86	9	1	2	60	
25468	54.60	55.70	1.10							140	8.6	1599	20	165	4.34	9	1	2	40	
25469	55.70	56.70	1.00	2.76	1.30	77.15	.32	.01	.04	1010	71.7	3180	92	455	3.78	18	1	7	42	
25470	56.70	57.70	1.00	2.76	5.31	200.25	1.48	.02	.07	4120	199.8	15136	240	766	3.84	60	5	51	38	
25471	57.70	58.70	1.00	2.70	4.08	90.87	.27	.01	.04	4580	89.8	2656	148	453	2.36	45	1	16	76	
25472	58.70	59.70	1.00	2.73	6.82	129.27	1.01	.02	.14	6920	133.3	9858	166	1351	3.04	246	7	123	52	
25473	59.70	60.60	.90	2.79	10.15	131.67	1.41	.02	.29	9740	138.8	14363	156	2755	4.11	104	13	84	28	
25474	60.60	61.10	.50	3.42	8.47	452.63	1.43	7.66	15.58	10100	256.2	11222	24408	99999	4.31	995	721	1588	18	
25475	61.10	61.60	.50	3.57	12.62	620.99	2.39	9.44	17.11	29600	350.5	21841	29351	99999	5.84	1393	891	2426	25	
25476	61.60	62.20	.60	3.41	4.56	317.18	1.74	4.68	12.18	3820	250.8	19359	28983	86237	8.73	1137	655	1387	29	
25477	62.20	63.70	1.50	2.86	4.53	20.23	.14	1.17	1.36	1590	26.3	1987	14240	13025	2.78	48	84	74	64	
25478	63.70	64.90	1.20	2.88	1.06	41.15	.64	.94	1.73	880	48.6	8023	11558	16762	7.13	45	90	72	25	
25479	64.90	66.40	1.50	2.84	1.30	39.09	.08	.47	.88	1650	34.4	778	4497	7166	3.98	24	29	43	62	
25480	66.40	67.00	.60	2.97	2.43	79.55	.11	1.72	3.44	2960	77.2	1115	17365	30911	3.74	54	147	111	38	
25481	67.00	68.50	1.50	2.83	1.95	20.23	.07	.71	1.35	1580	14.1	694	7049	10812	5.32	22	55	25	22	
25482	68.50	70.00	1.50	2.86						300	18.8	3823	3256	3161	6.69	33	13	44	21	

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
25483	70.00	71.50	1.50	2.92						440	19.9	4647	3396	4941	9.76	31	19	25	14	
25484	71.50	72.80	1.30	2.89	1.71	118.30	.39	.52	3.29	1190	103.6	3713	4895	28667	4.63	436	131	374	18	
25485	72.80	74.40	1.60	2.82						37	1.6	102	204	783	2.32	28	2	7	144	
25486	74.40	75.90	1.50							11	1.9	177	30	409	6.45	8	1	2	1102	
25487	106.20	107.70	1.50	2.86						43	.2	53	10	135	5.09	11	0	2	1353	
25488	107.70	108.70	1.00	3.09	1.58	44.23	.38	.31	2.90	1330	39.0	3608	2669	23935	9.95	269	109	187	38	
25489	108.70	109.40	.70	3.00	3.36	134.74	.66	.50	4.23	2320	108.4	6295	4387	35872	5.46	1427	159	810	43	
25490	109.40	110.20	.80	3.42	6.24	129.26	.57	3.16	10.84	1780	87.4	3998	27974	98125	3.65	1222	641	437	57	
25491	110.20	111.20	1.00	2.93	.99	5.49	.02	.14	.62	1010	4.3	171	1305	5101	4.40	68	16	16	49	
25492	111.20	112.20	1.00	3.04	2.13	61.71	.17	1.69	3.81	2330	58.4	1588	15819	32174	3.19	502	153	205	51	
25493	112.20	113.20	1.00	2.98	3.84	59.66	.10	2.57	3.66	1160	59.4	967	22846	30483	4.19	297	208	146	36	
25494	113.20	114.20	1.00	2.97	9.15	77.14	.15	1.05	2.63	8010	61.7	1334	9223	21215	5.52	425	112	159	36	
25495	114.20	114.90	.70	2.92						240	3.3	201	307	898	7.90	37	3	2	19	
25496	114.90	116.50	1.60							50	1.1	164	151	825	7.91	27	3	2	18	
25497	116.50	118.00	1.50							55	1.2	153	137	478	8.59	45	2	6	12	
25498	118.00	119.50	1.50							37	.5	164	33	105	9.01	25	1	2	28	
25499	119.50	121.00	1.50							43	1.4	155	520	1349	8.57	24	4	2	33	
25500	121.00	122.50	1.50							50	.5	57	37	1602	6.40	32	4	2	40	
68876	122.50	124.00	1.50							61	.6	66	31	1265	6.07	21	3	2	48	
68877	124.00	125.50	1.50							27	.1	31	14	409	5.75	17	1	2	53	
68878	125.50	127.00	1.50							53	.4	79	21	992	7.01	18	2	2	35	
68879	127.00	128.30	1.30							72	.9	206	21	268	8.29	19	1	2	27	
68880	128.30	129.80	1.50							4	.2	19	10	56	2.37	5	0	2	171	

Hole No: BB93001
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7088.74
(metres) E: 13124.35

Azimuth: 43.9
Dip: -64.6
Length (m): 185.90
Elevation: 45.36
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 8, 1993
Completed: Aug. 10, 1993
Recovery:

Date Logged: Aug. 9-10, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 30 Mar, 1994
5:35pm

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
25451	29.50	30.50	1.00	25	5	2	464	5	5	14	2	5	.14	13	4	.79	.07	3	2
25452	30.50	31.30	.80	19	9	2	912	5	4	4	4	8	.05	2	10	4.14	.01	2	12
25453	31.30	32.10	.80	12	16	1	834	9	4	6	2	8	.05	2	11	4.94	.01	2	1
25454	32.10	33.10	1.00	4	5	2	979	5	4	20	2	6	.50	9	5	1.86	.10	5	1
25455	39.60	40.60	1.00	12	11	5	1344	5	2	63	2	7	1.97	7	6	.89	.15	5	2
25456	40.60	42.10	1.50	7	4	2	227	5	4	6	2	2	.12	6	12	.79	.01	3	1
25457	42.10	43.40	1.30	5	5	4	371	5	4	13	2	2	.21	4	7	.64	.01	4	1
25458	43.40	44.60	1.20	12	11	9	109	5	2	6	9	3	.13	2	6	.23	.01	2	1
25459	44.60	45.70	1.10	9	8	8	166	5	2	11	8	6	.21	3	23	.35	.01	3	1
25460	45.70	46.60	.90	1	32	24	730	5	2	98	2	169	2.97	2	50	3.01	.31	2	1
25461	46.60	48.20	1.60	8	7	9	93	5	2	12	8	6	.24	3	6	.32	.01	3	1
25462	48.20	49.80	1.60	8	8	9	98	5	3	8	5	3	.16	2	14	.32	.01	2	1
25463	49.80	50.30	.50	6	6	4	886	5	2	17	9	5	1.37	2	6	.35	.01	2	1
25464	50.30	51.80	1.50	7	5	5	445	5	2	37	2	8	1.35	2	6	.71	.05	3	1
25465	51.80	52.60	.80	7	6	5	566	5	2	38	4	9	2.00	2	20	.61	.06	3	1
25466	52.60	53.50	.90	3	3	20	832	5	2	65	2	19	4.12	5	2	3.17	.29	2	3
25467	53.50	54.60	1.10	8	6	6	378	5	2	31	4	6	1.37	2	6	.45	.04	2	1
25468	54.60	55.70	1.10	8	6	7	461	5	2	25	6	6	.84	2	16	.83	.03	2	1
25469	55.70	56.70	1.00	11	5	5	536	5	2	16	4	5	.47	2	6	1.48	.02	3	1
25470	56.70	57.70	1.00	9	5	5	465	5	2	14	3	5	.26	2	5	1.24	.01	3	1
25471	57.70	58.70	1.00	7	5	4	522	5	2	19	4	7	.26	3	16	1.48	.01	3	1
25472	58.70	59.70	1.00	6	5	4	984	5	2	22	4	8	.29	2	8	1.82	.01	4	1
25473	59.70	60.60	.90	6	5	5	529	5	2	12	2	5	.11	4	8	1.39	.01	3	1
25474	60.60	61.10	.50	30	6	3	323	5	3	67	2	3	.07	2	18	.47	.01	4	1
25475	61.10	61.60	.50	42	8	3	486	5	3	73	2	4	.12	3	1	.68	.01	4	1
25476	61.60	62.20	.60	44	9	5	533	5	4	57	2	4	.12	4	1	.80	.01	3	2
25477	62.20	63.70	1.50	26	11	9	732	5	8	79	2	9	.17	11	6	.61	.03	5	1
25478	63.70	64.90	1.20	22	9	6	244	5	5	18	2	3	.06	5	1	.24	.01	5	1
25479	64.90	66.40	1.50	2	8	7	1837	5	3	48	2	11	.27	4	4	1.59	.08	4	3
25480	66.40	67.00	.60	11	14	8	915	5	5	33	2	7	.13	4	1	.88	.05	5	2
25481	67.00	68.50	1.50	11	5	5	434	5	3	10	2	4	.07	5	1	.70	.01	3	1
25482	68.50	70.00	1.50	9	5	4	341	5	2	11	3	4	.06	4	8	.70	.01	5	1

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
25483	70.00	71.50	1.50	13	7	4	243	5	2	12	2	4	.05	4	28	.51	.01	4	1
25484	71.50	72.80	1.30	9	9	3	232	5	4	8	2	2	.08	5	1	.46	.01	4	1
25485	72.80	74.40	1.60	1	11	6	573	5	5	8	2	3	.18	4	2	1.30	.01	4	1
25486	74.40	75.90	1.50	1	57	28	1635	5	2	64	2	80	1.99	2	97	3.80	.24	3	2
25487	106.20	107.70	1.50	1	14	18	693	5	2	112	2	47	2.64	2	11	2.36	.16	3	4
25488	107.70	108.70	1.00	12	16	7	92	5	4	10	13	2	.33	12	4	.07	.01	5	2
25489	108.70	109.40	.70	9	9	4	80	5	3	37	8	2	.28	13	1	.04	.01	4	2
25490	109.40	110.20	.80	20	2	2	51	5	2	88	8	2	.08	2	1	.03	.01	2	1
25491	110.20	111.20	1.00	5	13	6	34	5	3	55	2	2	.13	2	2	.03	.01	3	1
25492	111.20	112.20	1.00	7	6	4	48	5	3	82	4	2	.18	3	1	.02	.01	2	2
25493	112.20	113.20	1.00	5	9	5	61	5	3	61	2	2	.21	2	2	.03	.01	3	2
25494	113.20	114.20	1.00	8	9	4	163	5	2	64	2	2	.24	2	3	.08	.01	2	1
25495	114.20	114.90	.70	3	5	14	312	5	2	86	2	5	.83	2	1	.22	.01	3	1
25496	114.90	116.50	1.60	2	27	20	475	5	2	42	5	18	1.02	2	21	.54	.01	3	1
25497	116.50	118.00	1.50	2	9	25	192	5	2	29	2	12	.59	2	3	.12	.01	4	1
25498	118.00	119.50	1.50	1	8	24	353	5	2	27	2	13	.65	2	3	.23	.01	2	1
25499	119.50	121.00	1.50	2	12	28	331	5	2	20	2	10	.60	2	4	.20	.01	2	1
25500	121.00	122.50	1.50	3	3	13	1064	5	3	18	2	10	.65	3	3	1.62	.01	2	1
68876	122.50	124.00	1.50	3	84	17	1173	5	3	17	2	15	.52	3	113	2.37	.01	2	1
68877	124.00	125.50	1.50	2	302	30	1428	5	2	26	2	43	.88	2	466	4.26	.01	2	1
68878	125.50	127.00	1.50	2	6	13	671	5	2	18	2	11	.68	2	5	.75	.01	2	1
68879	127.00	128.30	1.30	2	7	16	614	5	2	24	2	6	1.27	2	5	.54	.01	2	1
68880	128.30	129.80	1.50	1	4	8	440	5	2	79	2	7	1.72	4	6	.65	.05	2	1

Hole No: BB93002
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7088.74
(metres) E: 13124.35

Azimuth: .0
Dip: -90.0
Length (m): 213.40
Elevation: 45.36
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 10, 1993
Completed: Aug. 14, 1993
Recovery:

Date Logged: Aug. 11, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 12:49am

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip
0.0	.0	-90.0
91.4	46.0	-88.0

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	7.50	ANDESITE TUFF (CHLORITE) Dark green, weakly propylitic andesitic tuff. Unit is weakly silicified and non-magnetic. Sulphides are absent, pervasive chlorite is ~15%, patchy and veined epidote is ~5%. A few 'BLOBS' (disrupted beds?, frags.?) of maroon hematite are noted. V. Weak foliation @ ~60°. Lower contact is an alteration contact, gradational over a couple of meters.										
7.50	20.70	DACITE ASH TUFF (SERICITE) (HEMATITIC) Sericitized dacitic lapilli tuff. Yellow-grey colour with 1% maroon hematitic layers (1-5cm). Some sections are finely laminated, with the laminations showing intense deformation. Epidote (5%) occurs as patches and deformed veinlets. Dips of the hematitic bands (bedding) vary widely, from 90° to 0°, folds up to 30cm are seen in the core.										
20.70	25.90	DACITE ASH TUFF (SILICA) (HEMATITIC) Same unit as above, different alteration. Ser decrease, Qz increase. Bluish-grey colour. Silica occurs as disrupted and patchy, poorly formed bands(1-5mm)(40%). Silvery sericite is ~5%, the distinct hematite bands are still present here, up to 10 cm wide. Upper contact is gradational, lower is marked by the presence of magnetite within the hematitic sections and is surprisingly sharp. Banding is steep, 0°-30°.										
25.90	36.40	DACITE ASH TUFF (SILICA) (MAGNETITE) This unit is very similar to the overlying section except it contains ~2% magnetite within the distinct red hematitic layers and patches (frags?). The unit has a fairly distinct laminated texture, core angles are										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		typically flatter than above. Laminations are 1-5mm. Silica content is slightly less than the preceding section. Colour is dark reddish grey. Qz-Ep veins are ~1/meter, 1-4cm. Both contacts are gradational and somewhat interpretive. Core angles:(29.2m/60°)(33.5/40°)(38.1/55°)(45.7m/80°)(49m/50°)(51.8/20°) (55.2/65°) (57.8m/50°).										
36.40	37.00	FAULT (SILICA) Quartz - healed fault. U.C. = 45° (Parallel to laminations) L.C. = 70° Minor malachite and limonite noted on fractures. SFC in immediate footwall.										
37.00	44.20	DACITE ASH TUFF (SILICA) (MAGNETITE) (Same as 25.9-36.4.).										
44.20	44.90	FAULT ZONE (SILICA) Crushed core with several narrow Qz veins and some fault gouge. Magnetite is 40% over the lower 10cm and chlorite in Qz veins is ~20%. Trace malachite. 50-70° TCA - L.C. Is ~80°.										
44.90	45.30	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) This is a fault sliver of typical well mineralized sericitic tuff. Sulphides are Py(5%), Cp(2%), Sl(2%), Gl(1%) and occur as foliation parallel bands. The upper contact is marked by a 10cm Qz-Cl vein, but is not obviously faulted. A slip plane within the QSP is indicated by a contact between EXT (ie. Siliceous QSP) and QSP. This plane dips 40° and terminates sulphide layers dipping parallel to foliation @ 70°.										
45.30	52.50	DACITE ASH TUFF (SILICA) (MAGNETITE) (Same as 25.9-36.4.).										
52.50	53.10	FAULT ZONE (SILICA) Quartz - chlorite healed fault zone with one 2cm section of gouge dipping 50° TCA. (@ bottom contact).										
53.10	56.10	DACITE ASH TUFF (SILICA) (MAGNETITE) (Same as 25.9-36.4.).										
56.10	56.40	QUARTZ VEIN White quartz vein with chlorite sheets.										
56.40	57.80	DACITE ASH TUFF (SILICA) (MAGNETITE) (Same as 25.9-36.4.).										
57.80	68.90	DACITE LAPILLI TUFF (HEMATITIC) This interval is the same composition as the last, however it contains fragments and has lost the laminated texture. Colour is a very dark										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number

reddish grey. This is also non-magnetic, and is slightly less siliceous than the overlying unit, with silica decreasing towards the lower contact. A weak foliation is noted at 50°, and has caused a poorly developed aligning of fragments. This foliation also dies out towards the lower contact. Qz-Ep veins are scarce (1 per 2m, 1-3cm). @ 67m, a weak foliation is @ 80° and is parallel to fragment alignment and possible bedding (or large 10cm fragments). Frags are maroon, weakly feldspar phyric and range from 60% to 5% of rock volume. Lower contact is gradational over ~2m. (possible dyke?).

68.90 70.70 ANDESITE ASH TUFF (HEMATITIC) (MAGNETITE)
This is a bedded, hematitic andesite ash tuff. Hematitic layers appear to be beds (5-20mm), towards the lower contact, these layers contain 40% granular magnetite. Hematitic layers are interbedded with grey andesitic ash layers (5-200mm). Very weak grading in ash layers and some flame structures suggest an upright section. Foliation is absent. Bedding dips consistently @ 65° TCA.

70.70 74.50 FAULT ZONE (SILICA)
Large, quartz - healed fault zone. Breccia textures common. Patchy white quartz (60%), orange ankerite(?)(30%) and a pink mineral (10%) form both matrix and frags. Hanging wall contact sharp. Footwall contact also pretty sharp - Qz, pink mineral veins continue to about 80m (5/m, 1-10cm). Strong silicification of the footwall tuff is noted @ bottom contact. Fractures suggest fault dips 10° - 30° TCA.

74.50 89.10 ANDESITE ASH TUFF (HEMATITIC)
This is the same unit seen @ 15m, and is the same as 70.7-74.5, except for fewer hematitic layers and stronger deformation. Weak silicification and Qz veining are present down to 80m and are related to the fault. Layering generally dips 30-40° (60° @ 84m), except where folds are seen. At 87.8m is a fold. Axial plane dips ~50° TCA.

89.10 103.00 DACITE ASH TUFF (EPIDOTE)
Grey, fg andesitic ash tuff, similar to the last interval but more massive, less hematite, more epidote. Epidote occurs in fractures and veinlets, often associated with Qz. Veinlets are.5-5cm and 10 per m - total Ep ~5%. Iron - rich sections are mostly magnetite here and occur as fragments, rather than beds. ('FRAGS' may be disrupted beds?) 2% sheeted sericite outlines a very weak foliation @ 20° TCA. Lower contact is sharp, marked by 5cm Qz veins. (Mottled unit seen in hole 3 @ bottom 110-121 in hole 6. Alteration of hem banded unit.).

103.00 116.80 DIABASE (CHLORITE)
Weakly propylitized diabase sill. Unit becomes less propylitic and more siliceous towards lower contact. Pervasive chlorite is 15%. Epidote (5%) occurs in Qz-Ep-Cl veinlets up to 30cm, but more commonly 1-2cm. This

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		unit is weakly magnetic to non-magnetic. A weak foliation dips 20° @ 122m; 50° @ 107m; 30° @ 111m; 50° @ 117m; 30° @ 120.5m; 50° @125m. Magnetite increases towards lower contact. No sulphides. Veining dies out below 117m. (Same intrusive as hole 1.).										
116.80	118.30	DIABASE (CHLORITE) Texturally distinct unit. Dark green with distinct foliation bands (5-10m). Magnetite is more abundant in this section (2%), occurring as small patches. Bands dip ~40°. Bands are 'S' folded.										
118.30	126.60	DIABASE (CHLORITE) (Same as 103.0-116.8.).										
126.60	134.00	DACITE ASH TUFF (HEMATITIC) F.G. Weakly bedded dacite ash tuff. 132.60 134.00 DACITE ASH TUFF (HEMATITIC) - Same lithology, bedding 20° TCA, two 20-30cm QZ-CL-MG veins, one 30cm. Red silicified section of Hem & Mg occur in this section. Poss. Minor fold hinge - no repetition of units. Py-Qz-Ep veins (coarse, vuggy) in Hem section. Magnetic section.										
134.00	136.80	DACITE TUFF (HEMATITIC) Grey and maroon dacite lapilli tuffs, ash flows and Feldspar - phyric flows. Primary textures are very well preserved, including fragments and ash layers. Alteration is very weak here, and consists of <<1% Ep-Qz veins. Foliation is also quite weak, although bedding angles are variable, ie. Upper contact 40° - a bit irregular, but prob. Stratiform. 60° @ 129½m; 20° @ 132.6m; 20° @ 135m; 60° @ 135.7m. 135.60 135.70 DACITE ASH TUFF Small fold hinge.										
136.80	138.80	FELDSPAR PHYRIC DACITE FLOWS (HEMATITIC) Maroon, Feldspar-phyric massive dacite flow. 5% subhedral feldspars and massive nature distinguish this section. A few small epidote veinlets are noted. U.C. ≅ 50°.										
138.80	144.10	DACITE TUFF (HEMATITIC) (Same as 134.00-136.8.).										
144.10	144.50	DACITE ASH TUFF (HEMATITIC) Bedded ash tuff contains a 1mm magnetite bed. Bedding dips 35° TCA.										
144.50	147.40	DACITE LAPILLI TUFF (HEMATITIC) Very distinct lapilli tuff. Frags are 5-10%, 1-50mm, and are stretched. Heterolithic including pale yellow siliceous frags, and dark grey F.G. One poss. Mass. Sphalerite. Bedding is 10-20°. 1-3mm magnetite bed occurs @ the lower contact and is folded.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
147.40	153.90	DIABASE (EPIDOTE) Light green, epidotized fg diabase sill. Bottom 50cm is well foliated. Pervasive epidote is 10%, epidote - quartz veins are 2 per meter (1-20cm). A very distinct feature of this unit is 2% magnetite which occurs as black, diffuse envelopes to fractures which are sometimes filled with chlorite. Envelopes are 1-2cm wide.										
153.90	154.90	DIABASE (MAGNETITE) Foliated diabase, with some thin (<1cm) magnetite beds. U.C. Is 'S' folded, limbs dip 40°.										
154.90	155.90	DACITE LAPILLI TUFF Dark grey dacitic lapilli tuff. Rounded frags (1-10mm) are 5%. Pale, F.G. Siliceous frags and magnetite frags mostly, are elongate and dip 30° TCA. Lower contact (over 20cm) is silicified and cut by a few <1cm Qz stringers with ½% brassy pyrite. (Dacite between sills.).										
155.90	163.10	DIABASE (CHLORITE) (DISSEMINATED PYRITE) Dark green, massive, F.G. Chloritic diabase. Pervasive chlorite is ~10%, Tr. Blebby pyrite noted. A pretty homogeneous unit. (Same as intr. In immediate H.W. To sulphides in hole 6.).	68801 68802	161.10 162.10	162.10 163.10	1.00 1.00						
163.10	165.20	ALTERED EXHALITE - SULPHIDE BEARING (CHLORITE) (STRINGER PYRITE) Pale translucent green chloritic, siliceous and pyritic exhalite. 5%pervasive chlorite, 5% sericite, 40% pervasive silica and 5% stringer brassy pyrite. Faint fragmental texture. Sharp upper contact 40-50°. Tr dissem Sl.	68803 68804	163.10 164.10	164.10 165.20	1.00 1.10						
165.20	165.70	CHERT (SERICITE) (STRINGER PYRITE) This exhalitive chert unit contains 5% sericite, 10% brassy pyrite stringers and disseminations and 1% disseminated pale tan sphalerite. This is the immediate HW to the massive sulphides and has a sharp lower contact @ ~40° although it's blocky and hard to measure. U.C. Gradational.	68805	165.20	165.70	.50						
165.70	170.00	ZINC FACIES Massive banded sulphides. Total sulphide content is 80-90%, with Py averaging 60-80%. Sulphides are medium to coarse grained and are banded, banding dips 55°/167.7m; 50°/165.8; 55°/169.1; 55° is about average. Fold hinge seen @ 166.8m, not significant. Other sulphides are both dark brown and buff coloured Sl(10%), Vfg galena(5%) and banded and stringer Cp(2%). Also present is F.G., black tetrahedrite(2-5%). A band of 60% brown Sl occurs from 167.3 to 167.6m and CP is ~5% from 168.8 to 169.1m. FW contact is sharp, conformable and dips ~80° TCA.	68806 68807 68808 68809 68810 68811 68812 68813 68814	165.70 166.20 166.70 167.20 167.70 168.20 168.70 169.20 169.70	166.20 166.70 167.20 167.70 168.20 168.70 169.20 169.70 170.00	.50 .50 .50 .50 .50 .50 .50 .50 .30	.86 .72 3.22 4.49 4.97 5.93 6.89 5.93	50.75 53.49 178.65 178.99 346.33 202.65 291.47 748.89	.11 .19 .93 1.13 1.81 1.46 1.76 3.55	.32 1.40 .90 .07 .34 .20 .06 .13	1.50 2.37 16.18 2.89 3.65 12.12 1.36 3.43	
170.00	173.40	DIABASE (SERICITE) (STRINGER PYRITE) Brownish - grey, intensely sericitized diabase (?). Sericite is pervasive	68815	170.00	171.00	1.00	1.27	85.38	.44	.19	.50	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		and massive and averages ~30-40%. Very finely dissem. And stringer Py is 10%. Silica is only ~20%, as veins and lensoid bands. Sericite content increase towards top. Tr Cp and Tt noted. This section is moderately foliated, dips are steep, (25%) from 171.8 to 172.6m, outlining a monocline, and average ~60° over the rest of the interval.	68816 68817 68818	171.00 172.00 173.00	172.00 173.00 173.40	1.00 1.00 .40						
173.40	174.40	DIABASE (SILICA) (STRINGER PYRITE) Again, the protolith here is uncertain as it is almost totally silicified. Patchy white Qz veins are common. Generally a grey, mottled rock, 80-90% pervasive silica. A banded texture is locally preserved. Bands are <1cm, translucent pale green silica, separated by sheeted sericite. A few fg brassy Py stringers (.5cm) noted, Qz veins carry 5% CHL.	68819	173.40	174.40	1.00						
174.40	174.90	BASALT DYKE (SILICA) (DISSEMINATED PYRITE) Dark green massive, F.G. Basalt dyke. Contacts are fairly sharp, but a bit fuzzy. A few Py porphyroblasts noted, two 1cm Qz veins and unit is pervasively silicified.										
174.90	177.40	DIABASE (SILICA) (STRINGER PYRITE) (Same as 173.4-174.4.).										
177.40	177.70	QUARTZ VEIN (CHLORITE) (STRINGER PYRITE) Mottled and patchy quartz - chlorite vein carries 20% Py, 5% coarse, reddish - brown resinous Sl, 2% coarse Cp and 2% coarse Gl. Vein cuts totally silicified rock, therefore, contacts are not clear.										
177.70	178.60	DIABASE (SILICA) (STRINGER PYRITE) (Same as 173.4-174.4).										
178.60	189.70	BASALTIC INTRUSION (SILICA) (STRINGER PYRITE) Dark green, Vfg siliceous mafic intrusive (dyke?). Feldspar - phyric sections are seen (178.8-179.4m; 186.2-186.9m). They have poorly defined contacts and consist of 5% white subhedral feldspar in a matrix of the same fg silicified basalt that makes up the rest of the interval. Irregular patches of apple - green, pervasive epidote form envelopes to Qz-Py stringers. This unit becomes weakly foliated towards the lower contact (foliation @ 40°), but otherwise is massive. (Silicified - not obviously int.).	68881	188.70	189.70	1.00						
189.70	193.50	CHERT (SERICITE) (DISSEMINATED PYRITE) Pale, yellowish - grey, sericitic chert. This unit is ~85% silica, 10% yellow sericite and 5% sulphides. Py is ~4%, and blebs of Sl and Gl total ~1%. The upper contact is probably conformable (dip ? ~40°). The lower is faulted @ 15° TCA.	68882 68883 68884 68885	189.70 190.70 191.70 192.70	190.70 191.70 192.70 193.50	1.00 1.00 1.00 .80						
193.50	201.30	FAULT (SERICITE)										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Large fault zone. Several sections of gouge and a strong fabric @ 10-20°. Core is crushed and broken. Lithology is mostly sericitized mafic tuff. Pale green and yellowish green, a few small (~1cm) Qz veins and some hematitic patches.	68886	193.50	194.50	1.00						
201.30	205.70	FELSIC DYKE (MAGNETITE) Grey QFP dyke. Qz (2%, 1-2mm) and feldspar phenocrysts (1%, 1-2mm) and chloritized hornblende phenocrysts (2%, 1-2mm) sit in a grey, siliceous matrix. 2% magnetite is disseminated throughout. Minor Qz stringers noted and trace disseminated Py. Upper contact is faulted - fault fabrics continue in first 70cm of dyke, lower is intrusive - sharp and chilled, @ 55° TCA.										
205.70	213.40	DACITE (SILICA) Grey - green silicified basalt (andesite?) flow. Patchy Qz-Epidote veins. Fg, weak foliation @ ~20° TCA. A few translucent green siliceous bands noted (dacite?).(Almost Ep mottled unit.).										
213.40		END OF HOLE										

Hole No: BB93002
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Purpose:

Core Size: NQ
Drill Name: Hagby
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Started: Aug. 10, 1993
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Recovery:

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Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 12:48am

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68801	161.10	162.10	1.00							11	.1	37	4	64	4.08	9	0	2	323	
68802	162.10	163.10	1.00							8	.1	67	2	103	4.46	5	0	2	512	
68803	163.10	164.10	1.00							100	.2	19	9	100	4.36	20	0	2	75	
68804	164.10	165.20	1.10							78	.4	25	8	125	5.13	32	0	2	62	
68805	165.20	165.70	.50							120	1.6	40	32	60	14.17	166	0	20	45	
68806	165.70	166.20	.50							240	4.0	93	329	1784	17.33	182	7	43	54	
68807	166.20	166.70	.50	4.72	.86	50.75	.11	.32	1.50	460	43.4	946	2999	12239	16.66	320	48	337	38	
68808	166.70	167.20	.50	3.51	.72	53.49	.19	1.40	2.37	430	45.1	1675	12718	19542	16.24	200	74	262	150	
68809	167.20	167.70	.50	3.71	3.22	178.65	.93	.90	16.18	1920	111.5	7001	9436	99999	12.33	1215	579	792	154	
68810	167.70	168.20	.50	3.69	4.49	178.99	1.13	.07	2.89	2850	127.2	8589	633	24714	16.49	2514	94	403	87	
68811	168.20	168.70	.50	4.10	4.97	346.33	1.81	.34	3.65	17300	222.5	12174	3067	28761	16.11	4344	112	522	99	
68812	168.70	169.20	.50	3.97	5.93	202.65	1.46	.20	12.12	3140	135.1	11083	1925	99999	15.24	2514	422	216	69	
68813	169.20	169.70	.50	3.72	6.89	291.47	1.76	.06	1.36	7280	190.9	12863	561	11137	16.95	3681	44	398	55	
68814	169.70	170.00	.30	3.57	5.93	748.89	3.55	.13	3.43	5330	488.2	24564	1090	26800	15.27	9851	118	1284	28	
68815	170.00	171.00	1.00	2.94	1.27	85.38	.44	.19	.50	390	78.4	4101	1773	4460	4.01	1534	18	269	74	
68816	171.00	172.00	1.00							38	.8	44	23	103	2.23	60	0	2	140	
68817	172.00	173.00	1.00							42	1.0	47	9	93	2.55	56	0	2	101	
68818	173.00	173.40	.40							91	.7	26	13	162	3.49	16	0	2	106	
68819	173.40	174.40	1.00																	
68881	188.70	189.70	1.00							7	.1	4	6	55	2.20	4	0	2	290	
68882	189.70	190.70	1.00							32	.1	17	18	415	3.17	10	1	2	44	
68883	190.70	191.70	1.00							170	1.5	50	29	1354	1.84	19	4	11	87	
68884	191.70	192.70	1.00							64	.9	33	31	2288	2.16	12	6	5	84	
68885	192.70	193.50	.80							52	.4	11	21	131	1.70	9	0	2	94	
68886	193.50	194.50	1.00							19	.1	19	20	167	1.83	7	1	2	164	

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Report Printed: 4 Jan, 1980 12:48am

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68801	161.10	162.10	1.00	1	55	22	1113	5	2	35	2	113	.77	2	173	3.08	.21	2	2
68802	162.10	163.10	1.00	1	57	27	1567	5	2	36	2	126	.75	3	193	3.58	.24	2	1
68803	163.10	164.10	1.00	3	3	5	1200	5	3	18	2	8	.29	6	2	1.80	.11	2	1
68804	164.10	165.20	1.10	1	4	5	1093	5	3	26	2	6	.39	5	4	1.54	.12	2	1
68805	165.20	165.70	.50	2	7	6	194	5	2	10	2	2	.15	3	2	.25	.04	2	1
68806	165.70	166.20	.50	1	8	5	112	5	2	16	2	2	.08	2	1	.18	.03	2	1
68807	166.20	166.70	.50	5	9	4	154	5	2	14	2	2	.10	2	4	.20	.03	2	1
68808	166.70	167.20	.50	4	22	8	268	5	2	54	2	7	.30	2	10	.52	.05	2	1
68809	167.20	167.70	.50	20	16	5	351	5	2	38	6	7	.18	2	5	.44	.03	2	1
68810	167.70	168.20	.50	10	10	4	561	5	2	35	2	3	.24	2	1	1.98	.06	2	1
68811	168.20	168.70	.50	5	8	3	616	5	2	34	23	2	.18	2	1	1.97	.04	2	1
68812	168.70	169.20	.50	12	7	3	537	5	2	14	44	3	.11	2	2	1.38	.05	2	1
68813	169.20	169.70	.50	28	6	4	994	5	2	28	8	5	.14	2	1	3.74	.05	2	1
68814	169.70	170.00	.30	22	7	6	1159	5	2	20	4	6	.17	2	1	4.20	.05	2	1
68815	170.00	171.00	1.00	3	10	6	879	5	4	19	2	4	.37	2	1	3.59	.08	2	1
68816	171.00	172.00	1.00	1	49	7	479	5	4	20	2	5	.49	3	92	1.94	.07	3	1
68817	172.00	173.00	1.00	1	6	5	338	5	4	22	2	2	.50	3	4	1.25	.07	2	1
68818	173.00	173.40	.40	3	195	24	689	5	2	39	2	22	.97	2	436	3.49	.10	2	1
68819	173.40	174.40	1.00																
68881	188.70	189.70	1.00	1	71	6	417	5	2	74	2	14	2.10	7	148	2.32	.05	2	1
68882	189.70	190.70	1.00	3	24	8	311	5	5	51	2	4	2.33	16	23	.66	.01	2	1
68883	190.70	191.70	1.00	3	3	2	79	5	2	15	2	2	.41	2	3	.04	.01	2	1
68884	191.70	192.70	1.00	3	3	3	196	5	2	26	2	2	.81	2	4	.14	.01	2	1
68885	192.70	193.50	.80	4	3	2	117	5	3	26	2	2	.47	3	3	.09	.01	2	1
68886	193.50	194.50	1.00	2	9	5	463	5	3	88	2	3	3.45	11	7	.62	.01	2	1

Hole No: BB93003
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7399.55
(metres) E: 12802.44

Azimuth: 31.2
Dip: -56.3
Length (m): 228.60
Elevation: 177.61 (metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 14, 1993
Completed: Aug. 18, 1993
Recovery:

Date Logged: Aug. 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 1:26am

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	31.2	-56.3															
106.7	35.0	-56.0	228.6	34.0	-55.5												

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	1.30	CASING										
1.30	1.80	OVER BURDEN Mostly gravel, but one piece of core (1.3-1.7m) is pale green andesite lapilli tuff, the same unit as seen below the maroon andesite. Prob. Just a large boulder.										
1.80	10.10	DACITE ASH TUFF (HEMATITIC) Maroon andesite ash tuff. Fine - grained ash tuff with distinct hematite layers (beds?) <1cm which are strongly folded, and starting to be transposed. Bedding is ~60-70°; foliation is ~30°. Tops are uncertain, one bed possibly fines down hole. Pretty much same unit as top of holes 1 and 2. L. Contact is fault, 2cm of gouge @ 45° TCA and some rubble.										
10.10	22.40	ANDESITE DEBRIS FLOW (CALCITE) Maroon calcareous andesite debris flow. Distinct maroon colour, 10% pervasive, spotted and stringer calcite and large (<15cm) angular frags make this a pretty distinct unit. Frags also calcareous maroon andesite.										
22.40	46.90	ANDESITE LAPILLI TUFF (CALCITE) Same unit as above, but frags are smaller (<5cm) and fewer (1-2%). Also less hem (5%) - not as maroon, more grey. Matrix is granular ash tuff. Calcite spots are ~10%-15% (1-5mm). This unit is very homogeneous, weakly foliated @ ~50° TCA. 45.20 45.40 DACITE ASH TUFF A few (10%) rounded, small (<1mm) quartz fragsments distinguish this sandy layer. Contacts are										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		conformable and dip 70° (upper) and 60° (lower).										
46.90	47.70	QUARTZ VEIN White Qz-Cl-Ca vein. Contacts ~60°. 47.40 47.70 QUARTZ VEIN White Qz vein. No Ca or Cl. Contacts ~85°.										
47.70	48.10	ANDESITE LAPILLI TUFF (CALCITE) (Same as 22.4-46.9.).										
48.10	50.30	ANDESITE ASH TUFF (HEMATITIC) (CALCITE) Maroon calcareous andesite ash tuff. Hematite is 10-30% (deep maroon colour). Calcite (10%) is pervasive and stringers, no more spots. Hem content (defined by maroon colour) decreases down hole. Foliation is: 50° @ 48.3m; 50° @ 60.1m; 40° @ 61.7m; 40° @ 73.2m; 10° @ 82.6m; 40° @ 84m.										
50.30	53.00	(HEMATITIC) This dark maroon unit is 60-70% hematite, 20% pervasive silica and 10% patches (.5-2mm) of calcite. Qz-Ca stringers are quite common (15/m; 1mm-3cm) due to the brittleness of this unit. Contacts are conformable and this appears to be a bed. U.C. @ 70°; L.C. @ 70°.										
53.00	82.90	ANDESITE ASH TUFF (HEMATITIC) (CALCITE) (Same as 48.1-50.3.). 74.70 74.80 FAULT Hematitic fault gouge @ 45° TCA.										
82.90	83.60	DACITE ASH TUFF (QPD?) - Same sandy, Qz - rich unit seen from 45.2-45.4m. This may be a strange Qz - porphyry dyke. U.C. Is very sharp and irregular and cross cuts a steep foliation.										
83.60	85.80	ANDESITE ASH TUFF (HEMATITIC) (CALCITE) (Same as 48.1-50.3.).										
85.80	140.00	ANDESITE LAPILLI TUFF (CALCITE) Medium green, homogeneous calcareous andesite lapilli tuff. This is very similar to the overlying andesitic pyroclastics except for colour change from maroon to green (contact gradational over ~ 5m). Pervasive and stringer calcite is 1-8%. Green colour is due to 10% pervasive epidote. Fragments are elongated black patches of fg hematite. Maybe this is same unit as maroon, but different alteration? Hem content is ~5%. Patches are 1-5mm thick by 5-20mm long, and are elongated parallel to foliation : 50° @ 90m; 45° @ 103.6m; 50° @ 112m; 40° @ 122m; 45° @ 125m; 50° @ 136m. This unit is very homogeneous.										
140.00	156.00	DIABASE (CHLORITE) Weakly propylitized diabase sill. More mafic, finer grained and more massive than the last section. Pervasive chlorite is 5%, epidote 5%. Dark										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		green colour. 2% calcite. No hematite.										
156.00	161.10	DIABASE (SILICA) Silicified diabase in HW of fault. Pervasive and stringer silica is ~50-60°.										
161.10	162.80	FAULT Fault gouge. Green. Both contacts @ 50°.										
162.80	168.60	DIABASE (EPIDOTE) Greenish - black, massive fg rock with 5% Ep-Ca-Mg patches and stringers. Protolith uncertain, but probably fg mafic rock. Unit is noticeably magnetic.										
168.60	178.00	DACITE ASH TUFF (SERICITE) Greenish - grey, mod. Foliated and weakly sericitized dacite ash tuff (?). Translucent green siliceous bands are parallel foliation (1-2mm) @ ~55°. U.C. Is sharp @ 80°, L.C. Gradational alteration contact into QSP. Ser & Py increase. Colour is green & yellow. Silver - grey sericite is ~5%. 10-40cm patchy Qz-Cl veins make up ~20% of this interval. Dissem. Py is ~2%, increasing down hole.										
178.00	179.20	FAULT Broken core and some fault gouge.	68887	179.10	180.10	1.00						
179.20	180.10	DACITE ASH TUFF (SERICITE) (Same as 168.6-178.0.).										
180.10	185.00	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Yellowish - grey, strongly sericitized tuff. Well foliated, 10% dissem Py, Tr, Sl, Gl in Qz veins. Foliation dips: 60° @ 180.7m; 0° @ 181.3m (fold hinge); 60° @ 182.9m - 2nd foliation here @ ~10°. L.C. Sharp @ ~28°.	68888	180.10	181.00	.90						
			68889	181.00	182.00	1.00						
			68890	182.00	183.00	1.00						
			68891	183.00	184.00	1.00						
			68892	184.00	185.00	1.00						
185.00	217.20	DACITE ASH TUFF (SILICA) Intensely silicified grey, fg volcanic. Protolith is uncertain, but some deformed hematitic bands near the bottom suggest it is the banded hematitic ash tuff. Texturally, this is a very distinct mottled and spotted unit. Epidote & Qz & Ca fracture envelopes and patches (alteration of frags?) against a fg siliceous grey groundmass gives this unit it's unique texture. Silicification varies from 70-100%.	68893	185.00	186.00	1.00						
217.20	226.50	QUARTZ FELDSPAR PORPHYRY DYKE Quartz - feldspar - hornblende phyric dyke. Grey, coarse grained. Hornblendes are weakly chloritized. 1% dissem. Magnetite. U. Contact very sharp @ 32°. Grey, siliceous groundmass. 2% Qz; 2-10% feldspar; 1-10% Hb										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		phenocrysts, 1-3mm. C.L. @ 30°.										
226.50	228.60	DACITE ASH TUFF (SILICA) (Same as 185.0-217.2.).										
228.60		END OF HOLE										

Hole No: BB93003
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7399.55
(metres) E: 12802.44

Azimuth: 31.2
Dip: -56.3
Length (m): 228.60
Elevation: 177.61
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 14, 1993
Completed: Aug. 18, 1993
Recovery:

Date Logged: Aug. 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 1:25am

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68887	179.10	180.10	1.00							56	.6	13	102	1972	2.84	15	2	2	70	
68888	180.10	181.00	.90							110	2.4	47	402	1512	3.43	13	3	11	40	
68889	181.00	182.00	1.00							100	4.2	68	746	1734	2.80	15	4	23	55	
68890	182.00	183.00	1.00							230	16.2	413	1300	4299	4.42	63	15	130	55	
68891	183.00	184.00	1.00							140	7.1	108	822	2310	3.91	25	7	31	50	
68892	184.00	185.00	1.00							150	1.4	51	112	273	3.36	9	1	5	71	
68893	185.00	186.00	1.00							23	.3	40	16	127	1.94	3	0	2	307	

Hole No: BB93003
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7399.55
(metres) E: 12802.44

Azimuth: 31.2
Dip: -56.3
Length (m): 228.60
Elevation: 177.61
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 14, 1993
Completed: Aug. 18, 1993
Recovery:

Date Logged: Aug. 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980
1:25am

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68887	179.10	180.10	1.00	2	2	6	537	5	3	25	2	2	.34	15	2	1.26	.01	2	1
68888	180.10	181.00	.90	6	3	5	134	5	4	33	2	2	.27	16	1	.19	.01	2	1
68889	181.00	182.00	1.00	5	6	6	22	5	5	24	2	2	.15	13	3	.03	.01	2	1
68890	182.00	183.00	1.00	5	9	7	26	5	5	15	2	2	.10	7	2	.03	.01	2	1
68891	183.00	184.00	1.00	6	7	7	53	5	5	18	2	2	.20	16	3	.05	.01	2	1
68892	184.00	185.00	1.00	4	73	12	517	5	3	40	2	8	1.23	12	101	.61	.01	2	1
68893	185.00	186.00	1.00	1	48	7	604	5	2	62	2	11	1.23	2	78	1.39	.03	2	1

Hole No: BB93004
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7407.51
(metres) E: 12902.98

Azimuth: 40.3
Dip: -85.1
Length (m): 210.31
Elevation: 150.95
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 19,1993
Completed: Aug. 22, 1993
Recovery:

Date Logged: Aug. 21 - 23, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 2:08am

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip
0.0	40.3	-85.1
210.3	40.0	-83.5

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	1.82	OVER BURDEN										
		.00 1.52 OVER BURDEN Casing. 1.52 1.82 OVER BURDEN Rounded mixed lithologies.										
1.82	7.00	BASALT ASH TUFF (CHLORITE) (CALCITE) A well foliated and finely laminated (compositionally layered) section. Dark green with a soft, chloritic matrix. Section is weakly, but pervasively carbonate rich with 10% crosscutting calcite - quartz stringers at various angles. Some corroded vesicular sections where calcite has eroded. Variable bedding to foliation as follows: 3.05m bedding @ 20° to CA, 6.10m @ 30° to CA, 4.50 @ 60° to CA.										
7.00	7.60	FAULT Broken and sandy core with basalt tuff host. Not gouge, very brittle.										
7.60	10.64	BASALT ASH TUFF (CALCITE) (CHLORITE) A very calcite rich section, 15-30% in stringers and infilling vesicles. Overall dark green chloritic matrix with 2-3mm compositional layering, minor (>1%) 2cm bands of actinolite. Compositional layering at 45° to Ca throughout. Parasitic M-folds at 9.0m.										
10.64	18.39	DEBRIS FLOW (CHLORITE) (CALCITE) BLT(?) - Monolithic debris flows with a basaltic ash tuff matrix. Elongate clasts are black to maroon in colour and consistently hematitic. Clast size varies from 2mm to 3cm and are generally flattened and wispy										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		with a 5:1 ratio. Matrix is also weakly chloritic with 2-5% pale actinolite (?). This section is the same as below excepting a reduced carbonate content (<10%). Core angles are generally steep. @ 10.7m CA = 25°, @ 15.24 CA = 10°, @12.1m CA = 20°, @ 16.80m CA = 10°, @13.6m CA = 15°, @ 18.10m CA = 15° Calcite occurs 2 - 5% in 1cm stringers and pervasive in matrix. Lower contact is transitional to the following section.										
18.39	26.18	DEBRIS FLOW (CALCITE) (CHLORITE) (HEMATITIC) A carbonate rich (>10% stringers and matrix) section of debris flows with the same outline as previous. Wispy hematitic fragments and in some cases beds appear totally transposed into foliation. Lower contact abrupt @ 45° to CA.										
26.18	27.20	DEBRIS FLOW (HEMATITIC) (CALCITE) Same textures as above sections but matrix is hematitic and maroon in colour. Upper contact abrupt with a transitional lower contact. Generally well laminated (2-3mm) throughout with <10% calcite. Bedding/foliation @ 26.8m = 15° to CA. Clast size variable (3mm to 4cm), elongate (4:1) with coarsening down hole.										
27.20	29.68	DEBRIS FLOW (CHLORITE) (CALCITE) Same monolithic textures with a green chloritic (actinolite) matrix. Clast size still variable with 2mm to 4cm elongate sizes. Carbonate increases towards base (>10%). @ 28.3m bedding/foliation = 0°, @ 29.4 = 10°. Transitional contacts on upper and lower sides. S2 (?) spaced @ 40° to CA. - Minor offsets. This looks like a shear fabric (spaced).										
29.68	40.32	DEBRIS FLOW (HEMATITIC) (CALCITE) Fairly coarse, carbonate rich (>30%), and heterolithic debris flows. Generally more maroon, hematitic matrix. Fragments range from 6mm to 10cm (6:1) with dark black solid hematite to pale green fine grained dacitic tuff fragments and larger maroon tuff clasts. Carbonate generally oriented as amygdales parallel to foliation. S(2) fabric (shear related) @ 40° to CA with some normal motion S(0)/S(1) @ 30.48 = 0°, @ 38.0 = 0°, @ 32.2 = 15°, @ 39.1 = 5°, @ 33.5 = 0°, @ 39.6 = 0°, @ 36.5 = 0°. Transitional upper contact with abrupt and very distinctive lower contact @ 30 ° to CA. Possible coarsening towards base.										
40.32	41.87	DEBRIS FLOW (CHLORITE) Distinctive green matrix with very fine clast size. A well developed laminar texture with <10% calcite in matrix and secondary. Clasts are hematitic and 3mm to 6mm in size. S(0)/S(1) = 5° @ 40.4m Transitional lower contact.										
41.87	55.10	DEBRIS FLOW (HEMATITIC) (CALCITE) Generally a darker grey to maroon coloured matrix. Carbonate rich at 10%										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		- 20% and variable. Clasts dominantly hematitic and ovoid (2:1). FLT at 45.9 shows slickensides with left lateral displacement. Dip = 10° to CA. Trace malachite in FLT with strong hematitic fractures and parallel slicks. Carbonate enrichment at base (30 -40%). Gradational lower contact @ 10° to CA.										
55.10	56.46	DEBRIS FLOW (PROPYLITIC) (CALCITE) (HEMATITIC) A pale or apple green section of propylitic debris flow. Matrix is 20% epidote and 20% carbonate (CAL) and fine grained fragments are 2cm - 6cm with some hematitic and exotic amygdaloidal clasts. S(0)/S(1) = 45° @ 55.4 Abrupt contact @ base 30° to CA. S(0)/S(1) = 15° @ 56.46.										
56.46	67.06	DEBRIS FLOW (CALCITE) (HEMATITIC) A dark brown to maroon coloured section with standard hematitic clasts (3mm to 1cm). Carbonate, which fills amygdules (.5cm) increases towards base from 10% to over 40% near basal contact, which is slightly transitional. S(0)/S(1) @ 63.0 = 10° @ 67.0 = 35°.										
67.06	93.80	BASALT ASH TUFF (HEMATITIC) (PROPYLITIC) (CHLORITE) A dark green more massive tuffaceous sequence with small elongate hematitic rips, apparently former beds of fine hematitic material (2-3mm) strongly transposed. Matrix is chloritic with weak propylitic alteration and very weak calcite background. 5-10% crosscutting calcite stringers S(0)/S(1) @ 88.1 = 40°.										
93.80	95.19	FAULT QUARTZ VEIN (MALACHITE) (SULPHIDES) A wide brittle fault zone filled with open spaced quartz veins (30%) with 2cm - 4cm widths. Fault cuts mafic tuffs. Trace malachite at 93.9 within quartz. 2cm high grade massive sulphide at 94.89.										
95.19	96.20	BASALT ASH TUFF (CHLORITE) (HEMATITIC) A chloritic and hematitic tuffaceous unit. Once again hematite appears bedded and transposed into a tectonic breccia.										
96.20	105.53	ANDESITE FLOWS (PROPYLITIC) (DDY?) - A strongly porphyritic (feldspar) unit with clasts of hematitic material. Possibly an intrusive dyke but absent in hornblende as other porphyritic dykes. Feldspar = 4mm to 0.5cm with minor epidotized. A well developed fabric (foliation) suggests a PRE to SYN deformation genesis. (Sill?) Non magnetic.	68851	105.30	106.43	1.13						
105.53	106.43	DACITE ASH TUFF Finely laminated (2-3mm) weakly magnetic section, weakly chloritic, with a black or dark grey colour. S(0)/S(1) = 10° to CA @ 105.7m Transitional upper contact, likely a sheared lower contact. Spaced fractures @ 40° to CA throughout.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
106.43	108.23	SEMI-MASSIVE SULPHIDES ALTERED EXHALITE - SULPHIDE BEARING (SERICITE) (DISSEMINATED PYRITE) Semi-massive sulphides, highly fractured and faulted. The section may correlate with the fault zone at the north west end of the pit. Sulphides are generally black and semi-massive with core angles @ 106.43 @ 15°. Host is a siliceous - sericitic unit which is strongly fractured and foliated. Sulphides present include: Py: 10-20% throughout, CPY: 1-3% Dissem. TT: 1-2% Dissem. GN: 1-3% Stringers/Bands 2mm (GN) or ASPY: 1% on fractures. All sulphides are fine grained (<1mm) ASPY seen @ 108.5.	68852	106.43	107.30	.87	.75	229.40	.22	.92	1.86	
			68853	107.30	108.28	.98	4.22	896.00	.92	2.78	6.82	
108.23	110.23	BASALT ASH TUFF (CALCITE) (CHLORITE) A massive, fine grained, dark green to black unit cut by 10% QCV. An abrupt upper contact (with fault) and a gradational lower contact.	68854	108.28	109.53	1.25						
110.23	119.87	DACITE ASH TUFF (MAGNETITE) (CHLORITE) (BIOTITE) A dark green to dark grey coloured strongly contorted siliceous ash tuff. Unit is highly magnetic with clasts or broken beds of hematitic-magnetite up to 20%. A small chert horizon occurs at 116.3-117.3. Transitional upper contact with sharp lower contact and loss of magnetite. S(0)/S(1) = 40° @ 114.2m = 0° @ 119.3m.	68855	118.37	119.87	1.50						
119.87	120.22	SEMI-MASSIVE SULPHIDES (SERICITE) (SILICA) Semi-massive pyrite, fine - grained with a sericitic-siliceous gangue. Top contact sharp @ 10° to CA. Bottom sharp @ 20° to CA. Non-magnetic. Py = 15 - 30% Weakly banded.	68856	119.87	120.22	.35						
120.22	121.42	DACITE ASH TUFF (CHLORITE) (SERICITE) (DISSEMINATED PYRITE) Strongly chloritized and sericitized, siliceous tuff. Intensely foliated. Possibly an altered equivalent of DAT at 110.23-119.87. Pyritic bands 2-4mm sub parallel to foliation and pervasive. Overall a pale green colour. Sericite, defining foliation, increases towards the base of the unit. Sharp basal contact. S(0)/S(1) = 35° throughout section.	68857	120.22	121.42	1.20						
121.42	121.52	FAULT Gouge sericitic fault zone - Ductile.										
121.52	127.30	ALTERED EXHALITE - SULPHIDE BEARING (SERICITE) (SILICA) (DISSEMINATED PYRITE) Standard quartz-sericite schist, probably felsic in original composition. Overall a grey to dark buff colour with 10-30% fine grained disseminated and banded (4-6mm) pyrite. Silica occurs as laminae interstitial to sericite and pyrite (5mm to 1cm bands). Fine grained pyrite is 30-40% for the upper 1.5m, 10% for rest, fine sphalerite is 1-3% for the upper 1.5m, none for the rest. S0/S1 = 45 degrees @ 122.0m, 20° @ 122.3m, 80° @ 123.2m, 45° @ 123.7m, 45° @ 124.5m, 60° @ 126m, 70° @ 126.6m, 90° @ 127.1m, 45° @ 127.3m. Several quartz veins (2-4cm) which appear as augens.	68858	121.52	122.90	1.38						
			68859	122.90	123.80	.90						
			68860	123.80	125.30	1.50						
			68861	125.30	126.60	1.30						
			68862	126.60	127.30	.70						

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
127.30	127.45	DACITE ASH TUFF (CALCITE) (CHLORITE) (EPIDOTE) An odd calcite rich section (>50%) well banded with carbonate matrix. A slight compositional layering is present and is defined by alternating chlorite, epidote and carbonate. Unit contains 2-10% porphyroblastic (1-3mm) pyrite which is banded. S(0)/S(1) = 45° @ 127.4m Gradational upper and lower contacts.										
127.45	130.80	ALTERED EXHALITE - SULPHIDE BEARING CHERT (SERICITE) (DISSEMINATED PYRITE) Generally the same unit as the above section with an increase in cherty bands (up to 35%). Highly foliated with a secondary S(2) crenulation cleavage throughout. Pyrite is present in bands (6mm) and porphyroblasts (3mm) from 15-20%. S(0)/S(1) @ 128.0m = 45°, @ 129.5 = 90°, @ 130.5 = 80°. Quartz veins @ 128.7 with Tr galena. S(2) = 020° @ 128.9.	68863 68864 68865	127.45 128.95 130.00	128.95 130.00 130.80	1.50 1.05 .80						
130.80	134.62	PYRITIC TUFF (SERICITE) (BARITE) A dark grey, massive unit which shows little distinct lamination, pyrite which is very fine grained is present from 10% - 40% and is likely responsible for the dark grey colour. Matrix is also probably baritic (>10%). Sericite forms a weak foliation at 70° to CA. @ 131.0 S(0)/S(1) = 45° @ 133.90m TR. GN @ 133.9m (F.G.) A fairly sharp upper contact and a transitional lower contact.	68866 68867 68868	130.80 132.12 133.62	132.12 133.62 134.62	1.32 1.50 1.00						
134.62	143.40	ALTERED EXHALITE - SULPHIDE BEARING (SERICITE) (DISSEMINATED PYRITE) (SILICA) A moderately well mineralized section of quartz-sericite schist. Typical strong foliation, defined by sericite with 1 cm bands of cherty tuff. Distinctive grey colour with bands of pyrite (fg) up to 5mm. General increase in quartz and base metal content towards base. 143.4 - 146.4 trace brown sphalerite. <137.16 10cm FLT gouge.> Top 3m similar to PYT above but less massive. 139.26 - 139.76 - banded sulphides, 2-5% SPH 2% Pb, TR TT 139.76 - 140.26 - banded sulphides 1-2cm in width 1% SPH, TR. GN, 20% Py 140.71 - 141.71 = Banded sulphides, 2-3% SPH, 1-2% Pb TR.TT ? No CPY. 141.71 - 141.81 = MSPY, fine grained with 1mm quartz eyes. CA = 45° STRUCTURE: S(0)/S(1) @ 135.62 = 80° @ 138.30 = 70° 137.16 = 70° 139.90 = 80° A strong crenulation cleavage is also present.	68869 68870 68871 68872 68873 68874 68875	134.62 135.72 137.32 138.82 140.21 141.71 143.00	135.72 137.32 138.82 140.21 141.71 143.00 143.40	1.10 1.60 1.50 1.39 1.50 1.29 .40	.17	18.86	.25	.44	2.62	
143.40	143.80	ANDESITE ASH TUFF (CALCITE) A carbonate rich and chloritic section of coarse ash tuff. 5-7% porphyroblastic Py (1-3mm). Pale green colour. S(0)/S(1) @ 45°.										
143.80	152.40	ANDESITE ASH TUFF (CHLORITE) A finely laminated (3-6mm) chloritic andesitic to dacitic ash tuff. Well foliated but fairly competent. Some weak hematite in matrix. General dark green colour. 10% 2-6cm quartz veins. Sharp upper contact. S(0)/S(1) @ 45° throughout.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
152.40	160.00	DACITE FLOW (SILICA) Silicified dacite flows and breccias. Dark grey to maroon in colour with cherty sections (0.3m). Some strongly magnetic sections near fractures and absent in carbonate. Some breccia textures could be tectonic?. Py = TR.- 2% Porphyroblastic. Qtz = 1-2%,.3cm stringers. Weak to absent sericite and chlorite.										
160.00	160.50	ALTERED FACIES (SILICA) Weakly sericitic, cherty tuff. Pale grey colour. No sulphides. Sharp upper contact. Sharp lower contact.										
160.50	161.25	DACITE FLOW Same as above. Transitional to following section.										
161.25	162.00	ALTERED FACIES (SERICITE) Cherty, weakly sericitic pale buff colour. 80% silica, 2-5% sericite, no sulphides.										
162.00	162.70	CHERT (CHLORITE) Well laminated white chert with chloritic partings. 85% chert, 5% chlorite, 1-2% Py (F.G. Porphyroblastic), wk. Epidote. S(0)/S(1) @ 45°.										
162.70	182.20	DACITE ASH TUFF (HEMATITIC) Typical FW ash tuff sequence. Pale maroon to grey and fine grained. 2-7% non-magnetic hematite beds (1-2cm). Upper contact sharp with.5m of moderate sericite alteration. Note minor specularite in hematite bed @ 168.0m. Lower 2m increasingly silicified with mottled propylitic alteration above: S(0)/S(1) @ 164m = 45 @ 175.2 QV = FAX? @ 169.1m = 30 @ 176.8 = 0 @ 170.7 = 10 @ 179.9 = 30 @ 170.3 = 30 @ 181.0 = 70.										
182.20	186.83	QUARTZ FELDSPAR PORPHYRY DYKE Quartz - hornblende dyke. Same as in BB93003. Non-foliated (.5cm) quartz porphyries (milky) with 60% Hb laths. Sharp chilled contacts; upper @ 75° to CA. Lower @ 20° to CA. Mesozoic (?).										
186.83	188.88	DACITE ASH TUFF (PROPYLITIC) Silicified and propylitic altered tuff. Typical mottled epidote patches and pervasive silica alteration.										
188.88	210.31	DACITE ASH TUFF Pale green tuffs. Weakly calcareous and light sericite altered. Top 10m more hematite bands, more massive ash tuffs at base. S(0)/S(1) @ 190.2 = 70° @ 208.7 = 30 @ 199.3 = 45 @ 210.1 = 40 @ 204.0 = 45 S(2) @ 193.5 = 60° END OF HOLE.										

Hole No: BB93004
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7407.51
(metres) E: 12902.98

Azimuth: 40.3
Dip: -85.1
Length (m): 210.31
Elevation: 150.95
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 19,1993
Completed: Aug. 22, 1993
Recovery:

Date Logged: Aug. 21 - 23, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980
2:07am

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68851	105.30	106.43	1.13	2.79						9	1.8	102	43	474	6.27	8	1	9	325	
68852	106.43	107.30	.87	2.92	.75	229.40	.22	.92	1.86	670	204.0	2203	8910	15872	4.87	68	68	489	33	
68853	107.30	108.28	.98	3.18	4.22	896.00	.92	2.78	6.82	2460	224.3	9593	27639	56233	5.66	175	279	1711	32	
68854	108.28	109.53	1.25	2.78						110	8.4	74	255	1243	6.46	7	2	18	962	
68855	118.37	119.87	1.50							29	1.6	29	52	288	5.33	18	1	2	992	
68856	119.87	120.22	.35							63	16.1	289	507	3260	6.90	45	16	47	34	
68857	120.22	121.42	1.20							20	.6	33	33	279	3.57	29	0	6	70	
68858	121.52	122.90	1.38							330	6.8	185	652	1646	4.39	11	8	6	81	
68859	122.90	123.80	.90							130	2.4	44	121	189	4.10	8	1	5	45	
68860	123.80	125.30	1.50							100	1.6	41	76	128	4.48	17	0	10	44	
68861	125.30	126.60	1.30							270	2.5	35	137	123	4.66	11	0	9	69	
68862	126.60	127.30	.70							110	1.6	40	67	104	4.23	18	0	9	43	
68863	127.45	128.95	1.50							88	1.4	66	131	250	3.45	20	1	11	89	
68864	128.95	130.00	1.05							41	1.4	75	426	375	3.01	28	1	17	66	
68865	130.00	130.80	.80							27	.9	56	173	1074	2.66	33	4	6	87	
68866	130.80	132.12	1.32							58	.7	32	28	849	7.41	34	4	3	65	
68867	132.12	133.62	1.50							46	.4	32	72	803	6.56	36	2	2	82	
68868	133.62	134.62	1.00							28	.5	28	165	518	5.09	19	1	2	73	
68869	134.62	135.72	1.10							27	.8	59	258	2095	6.30	22	9	8	56	
68870	135.72	137.32	1.60							24	1.1	69	366	1779	5.43	23	7	4	52	
68871	137.32	138.82	1.50							81	.9	26	92	378	4.15	14	1	2	55	
68872	138.82	140.21	1.39							110	10.5	981	6386	8221	4.38	347	35	164	32	
68873	140.21	141.71	1.50		.17	18.86	.25	.44	2.62	97	17.8	2386	4399	24725	5.86	828	100	350	38	
68874	141.71	143.00	1.29							55	.9	45	181	336	3.12	21	1	6	56	
68875	143.00	143.40	.40							78	.5	22	50	130	3.25	9	0	2	68	

Hole No: BB93004
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7407.51
(metres) E: 12902.98

Azimuth: 40.3
Dip: -85.1
Length (m): 210.31
Elevation: 150.95
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 19,1993
Completed: Aug. 22, 1993
Recovery:

Date Logged: Aug. 21 - 23, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980
2:07am

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68851	105.30	106.43	1.13	1	38	30	994	5	2	94	2	99	1.87	2	56	3.57	.17	3	1
68852	106.43	107.30	.87	10	13	8	309	5	4	20	2	10	.82	3	1	.39	.01	5	7
68853	107.30	108.28	.98	23	17	7	250	5	5	80	2	8	.15	4	1	.34	.01	6	3
68854	108.28	109.53	1.25	1	44	30	2713	5	2	128	2	76	3.23	2	55	3.49	.16	2	1
68855	118.37	119.87	1.50	1	32	22	4624	5	2	144	2	81	4.45	2	19	2.53	.26	2	1
68856	119.87	120.22	.35	18	36	21	1190	15	4	37	2	10	.54	3	13	.85	.05	6	1
68857	120.22	121.42	1.20	3	8	8	1959	5	3	64	2	6	1.14	6	5	2.04	.01	4	1
68858	121.52	122.90	1.38	5	47	9	441	5	3	33	2	3	.53	2	38	.55	.01	3	1
68859	122.90	123.80	.90	5	10	6	173	5	5	15	2	2	.11	3	12	.47	.01	4	1
68860	123.80	125.30	1.50	3	5	6	189	5	5	15	2	2	.33	2	3	.07	.01	5	1
68861	125.30	126.60	1.30	5	15	7	70	5	5	13	2	2	.07	4	3	.19	.01	3	1
68862	126.60	127.30	.70	5	42	9	178	5	4	11	2	3	.19	4	64	.42	.01	3	1
68863	127.45	128.95	1.50	5	136	14	760	5	3	15	2	14	.96	4	160	2.14	.01	3	1
68864	128.95	130.00	1.05	5	7	4	148	5	4	7	2	2	.10	5	8	.26	.01	4	1
68865	130.00	130.80	.80	5	6	3	1336	5	3	11	2	2	.50	10	21	2.34	.01	2	1
68866	130.80	132.12	1.32	4	5	21	1251	5	3	12	2	12	.55	17	4	2.28	.01	4	1
68867	132.12	133.62	1.50	1	3	20	1717	5	2	12	2	19	.56	19	2	3.37	.01	3	1
68868	133.62	134.62	1.00	2	4	14	1599	5	2	12	2	15	.73	16	10	2.72	.01	5	1
68869	134.62	135.72	1.10	3	5	12	927	5	2	10	2	10	.52	15	8	1.36	.01	5	1
68870	135.72	137.32	1.60	6	4	13	2616	5	2	41	2	15	3.26	14	6	2.07	.01	4	1
68871	137.32	138.82	1.50	11	5	6	508	5	4	11	2	4	.40	15	16	.76	.01	3	1
68872	138.82	140.21	1.39	6	6	3	151	5	4	7	2	2	.19	12	11	.22	.01	5	1
68873	140.21	141.71	1.50	5	4	3	143	5	4	7	2	2	.16	17	19	.27	.01	5	1
68874	141.71	143.00	1.29	5	7	4	75	5	4	9	2	2	.15	7	23	.16	.01	3	1
68875	143.00	143.40	.40	4	19	5	127	5	5	8	2	3	.12	10	27	.80	.01	3	1

Hole No: BB93005
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7128.28
(metres) E: 13048.25

Azimuth: 37.3
Dip: -81.9
Length (m): 213.36
Elevation: 70.31
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started:
Completed:
Recovery:

Date Logged: Aug. 26, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980
2:24am

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	37.3	-81.9												

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	1.05	CASING Casing.										
1.05	11.60	ANDESITE ASH TUFF (HEMATITIC) (CHLORITE) A weakly feldspar rich (25%), chloritic, massive to finely laminated unit. A dark green to black matrix with 2-3mm laminae of non-magnetic red hematite. Locally, small intervals of light green chert (<10cm). Ghosted feldspars likely crystal shards. Probably interfingering flows and water - lain tuffs. S(0)/S(1) @ 1.3m = 20° @ 5.8m = 0° @ 1.6 = 20° @ 6.6 = 65° @ 3.1 = 30° @ 8.1 = 90° @ 4.0 = 10° @ 10.2 = 45° Hematite is locally tectonically(?) disrupted forming 0.5cm clasts. Basal contact filled by 0.5m quartz vein.										
11.60	14.74	DACITE FLOW (SILICA) (MALACHITE) (MAGNETITE) (CHERTY TUFF) - Grey, laminated, cherty dacite flow, 2-3mm beds of fine silica with fine magnetic (hematite) bands. This unit could easily be called a chert. The entire section is scattered with malachite which occurs in late fractures. However, a grey sulphide (tt) is locally present in trace amounts. Interstitial pyrrhotite is present with magnetite in very small (trace) amounts. Quartz vein fills contact at base. @ 12.4m isoclinal folds (SYN DEF?) F.A.X. @ 35° S(0)/S(1) @ 12.8 = 20° @ 13.7 = 0° *90% overall silica.	68901 68902	11.60 13.10	13.10 14.00	1.50 .90						
14.74	22.90	ANDESITE ASH TUFF Same as above section, well laminated with minor 5cm intervals of cherty tuff or flow. Overall dark green medium grained and fairly massive.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
22.90	55.66	DACITE FLOW (MAGNETITE) (CHERTY TUFFS) - A very complex unit of finely laminated and contorted cherty flows and thin (<5cm) bands of tuff. Strongly magnetic with transposed bands of magnetite in upper 10m with a transitional loss in magnetite towards base. Overall a grey translucent to pale green colour, weakly chloritic. Some minor brecciation. Unit carries a strong S(2) fabric (crenulation) @ 10° to 0° to CA for top 10m. S(0)/S(1) = 30° @ 27m = 40° @ 39.6 = 10° @ 32.1 = 80° @ 42.6 = 60° @ 34.2 = 0° @ 53.3 = 45° @ 36.5 Overall strongly folded tight F(1) with F(2) crenulation overprinting. Silica laminae 2mm to 6mm. No tops indicated.										
55.66	56.88	FAULT (LIMONITIC) (PROPYLITIC) A brittle, carbonate, rich fault zone with local patches of chlorite. 1-2% pyrite is coarse and usually associated with epidote. No malachite, trace ankerite, generally limonitic with trace hematite at base.										
56.88	63.55	DACITE FLOW (MAGNETITE) (CHERTY TUFF?) - A well laminated, very siliceous (>70%), and strongly magnetic section of flows (banded) and cherty tuffs. Overall a dark grey colour with milky green cherty beds from 2mm to 4mm wide. Section is strongly contorted as above sections and contains 4-6mm bands and clasts of red magnetite. A moderately sharp basal contact @ 70° to CA. S(0)/S(1) = 20° @ 56.90 = 40° @ 62.80 = 10° @ 59.40 = 70° @ 63.50 Vergence up hole @ 63.00m.										
63.55	64.10	DACITE TUFF A more lithic or crystal tuff section, absent of cherty laminae. Overall a very dark green to black, very finely laminated unit (1<mm). Non-magnetic. Well crenulated and folded. S(0)/S(1) @ 75° to CA @ 63.8.										
64.10	73.75	DACITE FLOW (MAGNETITE) (CHERTY TUFF) - A return to finely laminated and cherty dacitic volcanics with 1cm bands of red magnetite (~5%). Generally the same units as previously described.										
73.75	82.00	DACITE TUFF Black, moderately siliceous grainy tuff with lithic and quartz fragments. Generally less magnetic (no beds) with some fracture controlled magnetite silica fragments 1-2mm angular and milky white with weak gradation. A very transitional basal contact with bottom 0.5m increasing in magnetite beds (>5%).										
82.00	85.90	DACITE LAPILLI TUFF (PROPYLITIC) (Rhyolite) - Pervasively and selectively altered lapilli sized clasts in a dark grey cherty tuffaceous matrix. Slightly mottled but still apparent contacts in lapilli show angular shapes and 2mm interstitial magnetite										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		clasts. Weak alteration rims with strong internal epidotization, matrix closed at top and open at base. Possible hyaloclastite(?). Propylitic alteration accounts for 30% of overall section.										
85.90	98.40	RHYOLITE FLOW (MAGNETITE) (RFL/RFX) - A complex, very siliceous series of flows, hyaloclastites, and tuffs. Generally black with pale green siliceous beds, wisps and clasts. A strongly magnetic matrix, with absence of red hematite. From 88.35-88.55 a lapilli tuff unit same as previously described (Tr. MAL, TT). Base of unit becomes more finely brecciated (autoclastic) with up to 40% black magnetite matrix. Generally consistent fabrics. S(0)/S(1) 85.9m = 45° 93.0 = 30° 88.4 = 45° 95.0 = 45° 91.5 = 70° A fairly sharp basal contact.										
98.40	98.64	VOLCANIC SEDIMENTS (MAGNETITE) Bedded magnetite and fine black to maroon volcanic mudstones and wackes. A good marker if laterally extensive. Sequence fines upwards for tops up hole. Approx. 50% black and red magnetite. S(0) = 40° to CA.										
98.64	110.04	DACITE ASH TUFF (MAGNETITE) (DAT/RAT) - Generally black to dark green siliceous (cherty) finely laminated tuffs and lesser flows (?). Strongly magnetic (15-30%) with chaotic contorted folded laminae (2-3mm). S(0)/S(1) @ 101.3 = 55° @ 106.7 = 85° @ 103.7 = 20° @ 109.3 = 30° @ 104.7 = 40°.										
110.04	121.32	DACITE ASH TUFF (CHLORITE) (CALCITE) (SERICITE) A green chloritic ash tuff. Well foliated with a very soft matrix. Unit is cut by 10% quartz stringers and has several red hematitic and magnetic bands in upper 2m. Calcite is present as secondary accretions in matrix and in crosscutting stringers (.75cm) up to 10% and appears to increase towards base. Small (<.5mm) specs of sericite (?) are pervasive throughout. S(0)/S(1) @ 115.8 = 90 @ 117.8 = 30 @ 120.5 = 30.										
121.32	123.00	BASALT ASH TUFF Fine, chloritic ash tuff (>40% chlorite).										
123.00	123.20	FAULT Brittle with calcite, pyrite slicks (L.L.) on several surfaces. Py = 10-20%.										
123.20	124.67	DACITE ASH TUFF (CHLORITE) (SERICITE) (CALCITE) Same as above <FALT> with Specks of white sericite (<0.5mm) and 2-7% calcite in fractures and matrix. Lower contact @ 45° to CA. S(0)/S(1) = 80° @ 124.67.										
124.67	127.16	FAULT A wide brittle fault zone filled with open spaced, vuggy quartz veins and										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		carbonate alteration within F.Z. A change in lithologies is noted by the appearance of rafted blocks of dark, bedded magnetite and sediments. Sediments first appear @ 126.00m, preferential alteration of some beds is apparent and open folds are noted. No slickensides. S(0/S(1) in seds @ 126.00 = 45°.										
127.16	128.96	VOLCANIC SEDIMENTS (MAGNETITE) Strongly magnetic, well bedded sediments may correlate with upper unit of same description. However, grading not as well developed. Some strong brecciation of bedding from upper and lower faults and 5-10cm intercalations of DAT. Preferential alteration (carb?) of beds. S(0)/S(1) = 127.26 = 45° = 127.76 = 30°.										
128.96	129.36	FAULT A healed brittle fault filled with quartz and disrupted VSD-MAG beds.										
129.36	130.00	DACITE ASH TUFF (CHLORITE) (SERICITE) (HEMATITIC) Sericitic and chloritic fine grained unit. Dark green and maroon in colour with 2-3mm bands of non-magnetic red hematite.										
130.00	130.30	MASSIVE SULPHIDES (SERICITE) Massive sulphide in a sericitic tuff. A very low core angle suggests a steep dip parallel to hole. Approx. ½ of core is MS with other ½ sericitic EXT. High grade dark grey sulphide. Pb : 20% F.G. GN Zn : 2-5% F.G. SPH. Dark Brown Cu : 1% Bornite TT : Trace Wavy contacts as shown but roughly 20° to CA.	68903	130.00	130.30	.30	4.59	352.12	.65	1.67	.89	
130.30	131.20	DACITE ASH TUFF (SERICITE) (CHLORITE) (HEMATITIC) Black to maroon fine grained ash tuff. Highly chloritized and sericitized. 20% quartz stringers crosscutting and open spaced. Same unit as above sulphide's. Non-magnetic, no carbonate.										
131.20	131.80	ALTERED EXHALITE - SULPHIDE BEARING (SERICITE) Sericite schist with 2-10% dissem and banded sulphide. Apple green colour with strong malachite on fractures. Highly fractured, with 10% open spaced quartz veins.	68904	131.20	131.80	.60	5.73	143.32	.09	.14	.04	
131.80	132.90	DACITE ASH TUFF (SERICITE) (CHLORITE) (HEMATITIC) Same as above section with transitional lower contact. 130.8 - 131.0 very fine grained, laminated ash tuff with preferential alteration, increasing hematite content towards base.										
132.90	134.52	(HEMATITIC) Massive, black and red, and finely intercalated (DAT). Well bedded at top with tops down (?) hole. Only weakly magnetic at base but increasingly massive (for last 0.7m) with 10-15% calcite fractures. Trace rhodochrosite in QCV's. Sharp basal contact @ 40° to CA.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
134.52	135.42	DACITE ASH TUFF DAT/RAT(?) - Medium grey ash tuff with <1mm quartz shards elongate parallel to CA. Top.5m is rich with red hematite beds (5-10%). Siliceous and massive. Transitional lower contact. Tops up hole by scour features and grained. S(0) @ 60° to CA @ 135.32.										
135.42	136.32	(EPIDOTE) CALC - SILICATE (epidote, diopside alteration) of 80% of total. Weak banding present. Tr. Galena. Weak magnetic bands parallel to core Ax. = 131.90 - 134.52. Carbonate rich.	68905	135.42	136.32	.90						
136.32	144.16	DACITE ASH TUFF DAT/RAT - Same as above - grey quartz sharp rich, massive and siliceous. Increased epidote alteration to 10-15%, Quartz veins also increase towards base to 30%. @ 140.7 folds. A fairly sharp but quartz filled basal contact. (Weak mottled epidote alteration towards bottom.).										
144.16	180.63	ANDESITE FLOWS ANDESITE LAPILLI TUFF Diabase Int. - Same unit as B93001 73.0 - 107.0. Dark green to black, weakly vesicular, weakly laminar flows and lesser tuffs. Upper and lower margins well foliated with more massive and propylitically altered core. Weakly magnetic in places. With hematitic clasts or disrupted beds (.5cm x 2cm) (fiamme?). Bottom 0.2m intensely chloritized. 10cm Qv @ contact. S(0)/S(1) @ 144.56 = 90° @ 165.0 = 70° @ 147.35 = 45° @ 169.0 = 30° @ 150.85 = 45° @ 173.0 = 45° @ 152.30 = 20° @ 179.8 = 30° @ 158.8 = 10°.	68906	179.73	180.63	.90						
180.63	185.03	SEMI-MASSIVE SULPHIDES 40-60% Sulphide content in an EXT matrix. 180.63 - 180.83 EXT 5-10% Py 180.83 - 181.23 semi-massive sulphide 10% Pb, 2% SPH, 10% Py 181.23 - 183.10 DPY with 1-2% SPH 183.10 - 184.6 High grade Pb, Zn, 20% ± Ba. 184.6 - 185.3 Pyritic EXT High grade section has sericitic clasts which appear to grade up hole. General absence of CPY. Core angles are 45° throughout except in high grade which is at 10°.	68907 68908 68909 68910	180.63 181.63 183.08 184.58	181.63 183.08 184.58 185.43	1.00 1.45 1.50 .85	4.66 7.51	38.74 257.15	.12 .65	.42 4.59	1.30 7.55	
185.03	185.43	FAULT Gougey ductile fault zone in basal EXT. FLT @ 0 40 to CA.										
185.43	213.36	DIABASE (PROPYLITIC) (HEMATITIC) A strongly siliceous (or silicified) dark green unit with strong propylitic alteration. Some quartz/amygdules which appear weakly graded. Top 2m is rich in hematite (non-magnetic). Not very laminated at all. END OF HOLE.	68911	185.43	186.43	1.00						

Hole No: BB93005
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7128.28
(metres) E: 13048.25

Azimuth: 37.3
Dip: -81.9
Length (m): 213.36
Elevation: 70.31
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started:
Completed:
Recovery:

Date Logged: Aug. 26, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980
2:24am

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68901	11.60	13.10	1.50							110	2.3	1166	7	70	3.42	2	0	2	84	
68902	13.10	14.00	.90							130	2.8	1469	6	47	2.87	5	0	2	57	
68903	130.00	130.30	.30		4.59	352.12	.65	1.67	.89	6860	302.9	5614	15116	7587	.46	732	135	90	83	
68904	131.20	131.80	.60		5.73	143.32	.09	.14	.04	5620	139.4	850	1258	249	.47	110	2	16	1261	
68905	135.42	136.32	.90							61	1.0	7	21	76	2.34	66	0	2	241	
68906	179.73	180.63	.90							27	.8	17	37	227	5.01	2	0	2	857	
68907	180.63	181.63	1.00		4.66	38.74	.12	.42	1.30	3840	36.0	1016	3488	10378	3.67	152	53	185	10	
68908	181.63	183.08	1.45							350	9.8	185	2259	4318	4.01	57	19	33	15	
68909	183.08	184.58	1.50		7.51	257.15	.65	4.59	7.55	4490	188.6	4404	20388	59888	2.25	1226	357	834	9	
68910	184.58	185.43	.85							370	6.1	675	609	2388	5.61	24	10	13	7	
68911	185.43	186.43	1.00							83	1.9	389	56	287	5.35	4	1	2	64	

Hole No: BB93005
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7128.28
(metres) E: 13048.25

Azimuth: 37.3
Dip: -81.9
Length (m): 213.36
Elevation: 70.31
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started:
Completed:
Recovery:

Date Logged: Aug. 26, 1993
Logged By: K. Curtis
Date Re-logged:
Re-logged By:
Report Printed: 4 Jan, 1980 2:23am

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68901	11.60	13.10	1.50	1	3	4	1044	5	3	18	2	9	.29	3	4	1.03	.09	2	1
68902	13.10	14.00	.90	1	4	2	913	5	3	22	2	7	.33	5	4	.62	.07	2	1
68903	130.00	130.30	.30	4	2	2	295	5	3	337	5	2	.08	9	6	.02	.02	3	1
68904	131.20	131.80	.60	18	2	1	813	5	5	169	2	2	.10	12	2	.03	.04	3	1
68905	135.42	136.32	.90	1	6	3	16941	5	3	123	2	2	6.03	6	3	.34	.07	4	1
68906	179.73	180.63	.90	1	54	29	1509	5	2	63	2	56	1.85	3	74	3.63	.05	3	1
68907	180.63	181.63	1.00	7	7	4	356	5	3	92	2	2	.88	2	6	.16	.01	4	1
68908	181.63	183.08	1.45	1	15	6	247	5	5	31	2	2	.27	6	6	.04	.01	5	1
68909	183.08	184.58	1.50	10	3	1	52	5	2	123	2	2	.10	5	8	.04	.01	3	1
68910	184.58	185.43	.85	8	22	8	317	5	2	100	2	2	.87	2	6	.12	.01	5	1
68911	185.43	186.43	1.00	1	22	11	1179	5	2	97	2	58	2.52	6	7	1.45	.01	4	1

Hole No: BB93006
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7004.35
(metres) E: 13099.51

Azimuth: 42.2
Dip: -65.1
Length (m): 271.60
Elevation: 50.14 (metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 27, 1993
Completed: Aug. 29,1993
Recovery:

Date Logged: Aug. 29 & 30, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 8 Apr, 1994 12:46pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip
0.0	42.2	-65.1
82.3	42.0	-67.0
143.3	42.0	-67.0
204.2	43.0	-67.0
265.2	43.0	-66.5

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	15.90	DACITE (SILICA) Moderately foliated, locally banded, weakly feldspar phyric, dark greenish-grey silicified dacite flow (?). The silica content of this section is 60-90%, occurring as translucent green bands (1-5mm), and locally as intense, pervasive silicification. Alternating with silica bands are dark green chlorite and magnetite bands (1-5mm). Magnetite is also disseminated (0.5%). Red hematite and magnetite patches and disrupted bands are common (0.1%) below about 55m. Patchy, vuggy quartz-epidote-chlorite-magnetite veins occur throughout the interval (1 per 10m, 5-3cm). Foliation dips are pretty variable, average 40 degrees, specifically: 45 degrees @ 8m ('S' fold at 14m), 0 @ 22m, 40 @ 24m, 35 @ 30m, 35 @ 38.2m ('S' fold at 38.2m), 0 @ 54.9m, 20 @ 70.3m. Foliation becomes weak below 70m. Trace chalcopyrite is noted in some quartz veins.										
15.90	17.60	DACITE (SILICA) (STRINGER PYRITE) Pale grey, intensely silicified dacite with 2% pyrite stringers. 1% epidote in frac's.										
17.60	18.40	BASALT DYKE Fg homogeneous dark green mafic dyke. L.C. @ 50°.										
18.40	25.60	DACITE (SILICA) (Same as 0.0-15.9.).										
25.60	27.10	BASALT DYKE Fg homogeneous dark green mafic dyke. U.C. @ 25°; L.C. @ 40°.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
27.10	76.20	DACITE (SILICA) (Same as 0.0-15.9.). 45.70 45.90 BASALT DYKE Fg homogeneous dark green mafic dyke. 46.80 47.00 BASALT DYKE Fg homogeneous dark green mafic dyke. U.C. @ 45°; L.C. @ 45°.										
76.20	76.60	DACITE (HEMATITIC) Strongly hematitic (maroon) banded dacite (?). This may be an iron-rich bed; if so, bedding is @ 55° and contacts are sharp. This is siliceous with Qzstringers and is magnetic.										
76.60	97.50	DACITE (SILICA) (Same as 0.0-15.9.).										
97.50	98.00	FAULT Crushed and bleached core indicates a fault. L.C. @ 40°; U.C. @ 80°.										
98.00	110.30	DACITE (SILICA) (Same as 0.0-15.9.).										
110.30	113.60	DACITE (SILICA) This strongly silicified mottled grey rock probably represents the same protolith as the preceeding interval. The distinct mottled texture is the same as the bottom of BB93003, and is caused by Ep-Qz-Py-Ca veinlets and patches, in a grey, siliceous, fg matrix. Occasional patch of magnetite seen. U.C. Gradational, L.C. Pretty distinct, 1m zone of intense Qz-Ep veining.										
113.60	114.80	BASALT DYKE Fg green mafic dyke.										
114.80	121.50	DACITE (SILICA) (Same as 110.3-113.6.).										
121.50	151.70	DIABASE (CHLORITE) Greenish - black, fg homogeneous mafic flow or intrusive. This is a massive unit, although a weak foliation is noted @ 42° from 129m to 135m. 10-20% pervasive chlorite. Small (1-2mm) irregularly shaped quartz 'spots' (.1%) may be amygdules. Qz-Cl-Ep-Mg & Py veins (1 per 5m; 1-10cm) are patchy and disrupted. Magnetite is weakly disseminated at ~.1% throughout this unit.										
151.70	154.00	DIABASE (BIOTITE) 5% Pervasive fine biotite gives this section a brownish cast. This section is quite strongly magnetic.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
154.00	157.10	DACITE (MAGNETITE) Dark grey dacite flow (?). This is very similar to the dacite unit at the top of the hole, magnetite content is ~1%, as bands and patches (prob disrupted bands). A weak fol'n is present @ 50°. The L.C. Is sharp @ 55°.										
157.10	181.80	DIABASE (EPIDOTE) Very homogeneous and massive FG mafic intrusive. Epidote is 10%, both pervasive and replacing tiny (<1mm) feldspars, and also as rare veinlets. Both contacts are sharp. Medium green color.	68951 68952	179.50 180.50	180.50 181.80	1.00 1.30						
181.80	182.50	DIABASE (STRINGER CHALCOPYRITE) Same unit as main interval, but stringer and dissem. Sulphides total 5-10%. Sulphides are coarse grained and are hosted by quartz - barite veins. Coarse dissem. Py occurs within the intrusive. Cp is 2%; Gl.5%;Sl ~.5%; Tt ~.5%.	68953	181.80	182.50	.70	.99	46.29	.81	.85	3.71	
182.50	184.50	SEMI-MASSIVE SULPHIDES Total sulphide content of this interval is ~ 30% including Py(15%); Sl(9%); Gl(5%); Cp(1%). Sulphides are pretty coarse grained and are banded @ 60° TCA. They occur in a matrix of cream-colored silica, barite and sericite. Sulphide veinlets also occur. The L.C. Is very sharp @ 25° and is an intrusive contact. The U.C. Is also sharp, but is very irregular and also intrusive.	68954 68955	182.50 183.50	183.50 184.50	1.00 1.00	17.59 20.09	1488.70 674.06	.85 .36	3.88 1.67	6.79 3.54	
184.50	186.50	DIABASE (EPIDOTE) Same lithology as above the sulphides. L.C. Seems ~45° but is pretty irregular and marked by Qz veins.	68956 68957	184.50 185.50	185.50 186.50	1.00 1.00						
186.50	202.50	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Moderately foliated, strongly quartz-sericite-pyrite alt'd yellowish grey volcanic. Pretty typical sericitic tuff with 10-20% sheeted yellow sericite separating siliceous bands, and 10% pyrite occurring as wispy bands (1-5mm) andfine disseminations throughout. The lower contact is gradational and is defined by an increase in silica. A slight decrease in SER and a pale greenish cast to the lower unit. Fol'n is pretty consistent @ ~40°. 1-2% combined Sl and Gl occur over the upper 2 m. 193.00 194.50 °.	68958 68959 68960 68961 68962 68963 68964 68965 68966 68967 68968 68969	186.50 187.50 188.50 190.00 191.50 193.00 194.50 196.00 197.50 199.00 200.50 201.50	187.50 188.50 190.00 191.50 193.00 194.50 196.00 197.50 199.00 200.50 201.50 202.50	1.00 1.00 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.00 1.00						
202.50	217.10	ALTERED FACIES (SILICA) (DISSEMINATED PYRITE) Pale translucent green, moderately foliated, strongly alt'd felsic volcanic. Silica is 70-80%, and a faint remnant fine porphyritic texture is seen in places. Poss. A foliated, sericitized and silicified dacite flow? Sheeted yellow sericite is 10%, silica bands have a greenish cast	68970 68971 68972 68973	202.50 204.00 205.50 207.00	204.00 205.50 207.00 208.50	1.50 1.50 1.50 1.50						

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		and are ½-2cm, banded texture is weak. Pyrite (5%) is more coarsely dissem. Than in overlying unit and patches and spots of brown, resinous sphalerite are ~.1%. Patchy white Qz veins are ~1% of the interval.	68974	208.50	210.00	1.50						
			68975	210.00	211.50	1.50						
			68976	211.50	213.00	1.50						
			68977	213.00	214.50	1.50						
			68978	214.50	216.00	1.50						
			68979	216.00	217.10	1.10						
217.10	224.90	FAULT (SERICITE) Crushed core with several sections of gouge. Lithologies are QSP (217.1-220); BDY (220-224); QSP (224-224.9). Fault fabrics dip ~50° TCA.	68980	217.10	218.50	1.40						
			68981	218.50	220.00	1.50						
			68982	220.00	221.50	1.50						
			68983	221.50	223.00	1.50						
			68984	223.00	224.00	1.00						
			68985	224.00	224.90	.90						
224.90	225.40	BASALT DYKE F.G. Dark green basalt dyke. U.C. 40°.	68986	224.90	225.40	.50						
225.40	227.20	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) The same sericitized volcanic seen from 186.5-202.5m. Fol'n variable, butusually ~40°.	68987	225.40	227.20	1.80						
227.20	228.00	BASALT DYKE F.G. Dark green basalt dyke. U.C. = 50° = L.C.	68988	227.20	228.00	.80						
228.00	231.90	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (Same as 225.4-227.2.).	68989	228.00	229.50	1.50						
			68990	229.50	231.00	1.50						
			68991	231.00	231.90	.90						
231.90	232.80	BASALT DYKE F.G. Dark green basalt dyke. U.C. 15°.	68992	231.90	232.80	.90						
232.80	238.80	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (Same as 225.4-227.2.). 237.00 237.20 BASALT DYKE F.G. Dark green basalt dyke. U.C. 60°. L.C. 45°.	68993	232.80	234.30	1.50						
			68994	234.30	235.80	1.50						
			68995	235.80	237.20	1.40						
			68996	237.20	238.80	1.60						
238.80	244.20	DACITE (CHLORITE) (DISSEMINATED PYRITE) Pale translucent green silica bands and patches suggest a dacite, but it's hard to say for sure. Original textures are destroyed and rock is weakly foliated, patchy and mottled. Basalt dykes are very common. Fol'n is outlined by 5% sheeted sericite and ~10% chlorite. Fol'n is usually ~35°, but is closer to 0° from 244.5 to 246.4m. Dissem. Py avg's ~.5%. Weak relict porphoritic texture suggests this is a flow.	68997	238.80	240.30	1.50						

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
244.20	244.50	BASALT DYKE CU 50° CL 40°.										
244.50	247.00	DACITE (CHLORITE) (DISSEMINATED PYRITE) (Same as 238.8-244.2.).										
247.00	248.00	BASALT DYKE No comment shown.										
248.00	248.80	DACITE (CHLORITE) (DISSEMINATED PYRITE) (Same as 238.8-244.2.).										
248.80	252.20	BASALT DYKE 50% Quartz vein. Short interval of QSP from 250.9-251.1. 248.80 250.90 BASALT DYKE C.U. 40°.										
252.20	252.80	DACITE (CHLORITE) (DISSEMINATED PYRITE) (Same as 238.8-244.2.).										
252.80	253.10	QUARTZ VEIN Patchy white quartz vein with 20% blebs of black magnetite.										
253.10	253.20	DACITE (CHLORITE) (DISSEMINATED PYRITE) (Same as 238.8-244.2.).										
253.20	259.50	FELSIC DYKE Grey crowded feldspar porphyry dyke. 10% white subhedral feldspars (1-5mm) and 1% chloritized hornblendes (<1mm) in a grey, siliceous groundmass. Distinct chilled margins. U.C. 32°. L.C. 30°.										
259.50	259.90	DACITE Greenish black mottled dacite. Similar to dacite at top of hole. Weakly magnetic. Translucent green silica patches and discontinuous bands.										
259.90	265.40	BASALT DYKE No comment.										
265.40	268.80	DACITE (Same as 259.5-259.9.). 268.30 268.50 BASALT DYKE No comment.										
268.80	271.60	BASALT DYKE No comment.										

Hole No: BB93006
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7004.35
(metres) E: 13099.51

Azimuth: 42.2
Dip: -65.1
Length (m): 271.60
Elevation: 50.14
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 27, 1993
Completed: Aug. 29,1993
Recovery:

Date Logged: Aug. 29 & 30, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 8 Apr, 1994 12:46pm

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68951	179.50	180.50	1.00								22	2.8	96	392	777	3.06	24	3	13	579
68952	180.50	181.80	1.30	2.84							9	.5	54	12	139	3.88	8	0	2	351
68953	181.80	182.50	.70	3.09	.99	46.29	.81	.85	3.71	500	38.0	6533	5880	23577	8.73	685	135	553	9	
68954	182.50	183.50	1.00	3.05	17.59	1488.70	.85	3.88	6.79	6460	154.9	6116	19359	47779	2.88	1217	259	2792	6	
68955	183.50	184.50	1.00	3.06	20.09	674.06	.36	1.67	3.54	19500	163.5	3660	13997	29044	4.98	601	107	1560	5	
68956	184.50	185.50	1.00	2.84							44	3.3	152	154	616	3.99	20	2	11	133
68957	185.50	186.50	1.00								23	4.4	42	93	274	3.14	20	1	4	909
68958	186.50	187.50	1.00								260	26.2	538	2313	4292	2.24	31	20	25	34
68959	187.50	188.50	1.00								84	8.4	73	719	1777	3.87	44	8	14	19
68960	188.50	190.00	1.50								180	8.2	95	199	367	3.61	28	1	10	19
68961	190.00	191.50	1.50								420	7.3	40	20	211	2.62	7	1	2	26
68962	191.50	193.00	1.50								100	2.4	19	15	110	3.17	27	0	2	19
68963	193.00	194.50	1.50								49	1.5	20	14	137	3.66	17	0	4	21
68964	194.50	196.00	1.50								28	.6	20	10	65	3.76	13	0	2	21
68965	196.00	197.50	1.50								19	.5	13	8	41	2.63	4	0	2	38
68966	197.50	199.00	1.50								60	2.9	84	424	736	3.10	14	4	14	36
68967	199.00	200.50	1.50								88	2.8	108	488	668	3.91	22	3	16	27
68968	200.50	201.50	1.00								80	1.1	42	97	313	3.85	11	1	7	24
68969	201.50	202.50	1.00								88	2.3	133	449	1176	3.06	34	5	33	43
68970	202.50	204.00	1.50								300	6.0	377	864	7491	3.17	65	33	92	38
68971	204.00	205.50	1.50								27	1.4	66	270	1617	3.76	6	7	3	20
68972	205.50	207.00	1.50								14	.7	138	79	1525	2.00	2	5	2	90
68973	207.00	208.50	1.50								25	.7	239	125	4952	2.10	14	19	5	71
68974	208.50	210.00	1.50								45	.6	17	37	396	2.27	12	1	2	68
68975	210.00	211.50	1.50								33	.6	28	123	1464	3.34	13	4	2	53
68976	211.50	213.00	1.50								13	.4	46	113	3414	2.05	5	15	3	65
68977	213.00	214.50	1.50								81	.4	22	37	3010	2.41	13	13	2	76
68978	214.50	216.00	1.50								25	.4	49	30	4311	2.23	8	20	3	67
68979	216.00	217.10	1.10								42	.3	21	21	767	2.60	7	3	2	70
68980	217.10	218.50	1.40								32	.1	5	12	179	3.88	9	0	2	23
68981	218.50	220.00	1.50								55	.3	15	12	93	2.32	3	0	3	69
68982	220.00	221.50	1.50								9	.1	26	3	95	3.19	2	0	2	313

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68983	221.50	223.00	1.50								5	.1	15	2	84	4.20	2	0	2	170
68984	223.00	224.00	1.00								5	.1	7	2	85	4.19	2	0	2	206
68985	224.00	224.90	.90								93	.1	11	5	34	4.01	2	0	2	21
68986	224.90	225.40	.50								11	.1	22	3	70	2.92	2	0	2	452
68987	225.40	227.20	1.80								28	.1	14	4	22	2.28	2	0	2	37
68988	227.20	228.00	.80								6	.2	12	4	52	2.48	2	0	2	185
68989	228.00	229.50	1.50								28	.2	12	6	18	2.29	3	0	4	69
68990	229.50	231.00	1.50								28	.1	7	5	9	2.66	2	0	2	68
68991	231.00	231.90	.90								14	.1	6	5	13	1.63	2	0	2	159
68992	231.90	232.80	.90								15	.1	13	2	39	3.04	2	0	2	319
68993	232.80	234.30	1.50								13	.2	5	3	12	1.72	2	0	2	133
68994	234.30	235.80	1.50								23	.1	5	3	12	3.28	2	0	2	51
68995	235.80	237.20	1.40								63	.1	32	4	17	3.32	2	0	2	56
68996	237.20	238.80	1.60								33	.1	22	3	20	2.84	2	0	2	58
68997	238.80	240.30	1.50								10	.1	6	3	14	2.15	2	0	2	106

Hole No: BB93006
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7004.35
(metres) E: 13099.51

Azimuth: 42.2
Dip: -65.1
Length (m): 271.60
Elevation: 50.14
(metres)
Purpose:

Core Size: NQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Aug. 27, 1993
Completed: Aug. 29,1993
Recovery:

Date Logged: Aug. 29 & 30, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 8 Apr, 1994
12:44pm

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68951	179.50	180.50	1.00	1	41	15	383	5	2	68	2	80	.82	2	113	2.35	.19	3	1
68952	180.50	181.80	1.30	1	53	22	638	5	2	78	2	87	.79	2	129	3.21	.21	2	1
68953	181.80	182.50	.70	11	25	15	710	5	2	48	2	69	.25	2	68	3.37	.09	2	2
68954	182.50	183.50	1.00	3	18	7	263	5	2	89	2	40	.20	2	29	1.00	.08	4	2
68955	183.50	184.50	1.00	7	9	3	97	5	2	111	4	10	.26	2	14	.14	.05	4	2
68956	184.50	185.50	1.00	1	39	22	651	5	2	61	2	98	1.01	2	89	2.99	.22	2	1
68957	185.50	186.50	1.00	1	29	14	555	5	2	97	2	87	1.41	2	67	3.05	.24	2	1
68958	186.50	187.50	1.00	4	4	5	51	5	3	14	2	3	.21	5	6	.29	.04	5	1
68959	187.50	188.50	1.00	4	2	4	83	5	2	18	2	3	.26	4	4	.56	.03	5	1
68960	188.50	190.00	1.50	4	14	6	93	5	2	30	2	2	.36	2	2	.57	.03	5	1
68961	190.00	191.50	1.50	3	6	5	152	5	2	113	2	3	.85	2	2	.69	.05	5	1
68962	191.50	193.00	1.50	3	4	5	137	5	2	52	2	2	.51	2	2	.81	.03	4	1
68963	193.00	194.50	1.50	6	6	5	112	5	4	20	2	2	.29	3	2	.57	.02	6	1
68964	194.50	196.00	1.50	6	5	5	102	5	5	13	2	2	.31	4	2	.35	.01	6	1
68965	196.00	197.50	1.50	3	2	4	163	5	5	54	2	3	.72	2	2	.81	.01	4	1
68966	197.50	199.00	1.50	3	2	4	124	5	5	43	2	2	.55	3	3	.62	.01	3	1
68967	199.00	200.50	1.50	4	2	5	143	5	5	9	2	2	.09	4	2	.50	.01	5	1
68968	200.50	201.50	1.00	4	2	5	84	5	5	8	2	2	.08	3	2	.21	.01	5	1
68969	201.50	202.50	1.00	3	1	4	104	5	5	8	2	2	.12	3	2	.23	.01	4	1
68970	202.50	204.00	1.50	4	2	4	1055	5	4	25	2	3	.91	7	8	2.31	.01	3	1
68971	204.00	205.50	1.50	2	3	8	458	5	2	31	2	6	.89	6	4	1.35	.01	4	1
68972	205.50	207.00	1.50	2	1	3	1198	5	3	75	2	6	2.04	9	3	2.14	.05	3	1
68973	207.00	208.50	1.50	2	2	2	1266	6	5	8	2	2	.41	15	6	2.22	.01	3	1
68974	208.50	210.00	1.50	2	2	3	932	10	4	4	2	2	.21	15	3	1.84	.01	2	1
68975	210.00	211.50	1.50	1	2	4	1741	5	4	6	2	6	.31	11	3	3.14	.01	3	1
68976	211.50	213.00	1.50	3	4	2	1091	5	3	10	2	2	.32	11	8	1.56	.01	3	1
68977	213.00	214.50	1.50	3	6	3	1026	5	4	11	2	2	.43	16	11	1.18	.01	4	1
68978	214.50	216.00	1.50	3	3	3	925	5	4	7	2	2	.33	15	7	1.29	.01	3	1
68979	216.00	217.10	1.10	4	8	4	599	5	3	17	2	2	.64	4	20	1.27	.01	3	1
68980	217.10	218.50	1.40	2	2	4	2218	5	2	24	2	9	1.08	6	2	6.89	.01	4	1
68981	218.50	220.00	1.50	4	6	6	958	5	2	56	2	4	2.32	2	21	1.69	.01	2	1
68982	220.00	221.50	1.50	1	33	16	1138	5	2	100	2	74	3.72	6	135	3.43	.01	3	1

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68983	221.50	223.00	1.50	1	41	19	1563	5	2	134	2	96	5.85	6	154	4.59	.01	2	1
68984	223.00	224.00	1.00	1	44	18	1257	5	2	110	2	98	4.39	6	164	4.12	.01	4	1
68985	224.00	224.90	.90	3	9	11	325	5	2	62	2	14	1.85	4	24	1.30	.01	5	1
68986	224.90	225.40	.50	1	31	12	529	5	2	164	2	64	3.54	4	137	3.17	.10	3	1
68987	225.40	227.20	1.80	3	6	6	280	5	2	68	2	5	1.69	4	16	.87	.01	3	1
68988	227.20	228.00	.80	1	32	16	640	5	2	166	2	59	3.76	3	120	2.35	.08	3	1
68989	228.00	229.50	1.50	12	7	14	216	5	4	69	2	6	1.70	11	4	.49	.01	4	1
68990	229.50	231.00	1.50	23	6	21	73	5	4	71	2	3	1.14	10	5	.18	.01	3	1
68991	231.00	231.90	.90	2	7	8	165	5	3	119	3	10	2.09	3	11	.49	.05	3	1
68992	231.90	232.80	.90	1	26	21	518	5	2	133	2	58	2.94	2	124	2.53	.17	3	1
68993	232.80	234.30	1.50	2	8	9	170	5	4	123	2	10	2.05	2	16	.51	.04	3	1
68994	234.30	235.80	1.50	3	3	6	83	5	4	82	2	4	1.32	7	4	.41	.01	4	1
68995	235.80	237.20	1.40	2	4	7	172	5	3	90	2	5	1.58	7	5	.49	.01	4	1
68996	237.20	238.80	1.60	4	4	5	120	5	4	36	2	2	1.07	18	14	.54	.01	3	1
68997	238.80	240.30	1.50	3	4	10	137	5	3	88	2	7	1.22	4	6	.61	.02	3	1

Hole No: BB93007
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6936.42
(metres) E: 13045.21

Azimuth: 47.9
Dip: -71.6
Length (m): 435.30
Elevation: 55.50
(metres)
Purpose: Test Big Bull zone down dip of BB93006

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenue Diamond Drilling Ltd.
Started: Sept. 15 1993
Completed: Sept. 21 1993
Recovery:

Date Logged: Sept. 17 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994
3:29pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	47.9	-71.6												
60.3	47.0	-72.5	151.8	49.0	-72.8	243.2	49.0	-72.5	334.7	49.0	-72.5	426.1	49.0	-72.2

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	3.30	CASING										
3.30	10.50	FELDSPAR PHYRIC DACITE FLOWS (SILICA) Pale grey, masssive to weakly foliated, feldspar-phyric dacite. This unit is pervasively silicified and contains abundant (2-5%) quartz +/- epidote stringers. Feldspar pheno's are 5% (.5 to 1mm) and are faded and indistinct. Trace amounts of patchy hematite are noted. Overall, this unit is quite homogeneous, except for several basalt dykes and local weakly banded dacite sections. In places where silicification and qz-ep veining are strongest, this unit resembles the silicifed, epidote mottled unit at the bottom of BB93003. Banded sections show a strongly deformed, weak foliation which generally dips about 60 degrees to core axis.										
10.50	11.20	BASALT DYKE Dark green, fine grained basalt dyke is cut by epidote stringers. Upper contact at 50 degrees to core axis.										
11.20	18.40	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
18.40	19.20	BASALT DYKE										
19.20	25.40	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
25.40	26.50	BASALT DYKE										
26.50	27.90	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
27.90	29.00	BASALT DYKE										
29.00	56.90	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
56.90	58.50	BASALT DYKE										
58.50	60.50	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
60.50	63.30	DACITE (HEMATITIC) This dacite is darker grey, banded, has no feldspar phenocrysts, and contains about 5% hematite and magnetite. Possibly a tuffaceous section?.										
63.30	64.00	BASALT DYKE A unique feldspar phyric (40%,.5-1mm) basalt dyke. Contacts dip 45 degrees and well developed chill margins are noted.										
64.00	65.50	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
65.50	65.70	BASALT DYKE										
65.70	68.60	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
68.60	68.90	BASALT DYKE										
68.90	88.40	FELDSPAR PHYRIC DACITE FLOWS (SILICA)										
88.40	95.90	DACITE (HEMATITIC) Dark grey, weakly foliated hematitic dacite. Dark red hematite bands and patches are about 10%. 5% small (<1mm) indistinct feldspar phenocrysts are noted, suggesting this interval is the same as the last, except for the increase in hematite. Foliation is weakly developed @ 45 degrees to the core axis. The upper contact is gradational, the lower is marked by the first occurrence of epidote. This unit is differentiated from the underlying dacite by the absence of epidote here.										
95.90	114.70	DACITE (EPIDOTE) Patchy, mottled epidote alteration (10-15%) and 2% pervasive calcite are the main features of this section. A gradational upper contact, and 2-5% faint feldspar pheno's suggest this is still a dacite flow. Alteration has obliterated most primary textures.										
114.70	114.90	QUARTZ VEIN White quartz vein with 10% coarse, brassy pyrite and 2% blebby chalcopyrite.										
114.90	117.80	DIABASE (CHLORITE) (DISSEMINATED PYRITE)										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Fine-grained mafic unit - probably an intrusive. Dark green color, banded and mottled texture due to weak alteration (chlorite destruction = paler color) along a weak foliation. 0.5% disseminated pyrite. Upper contact is marked by a quartz vein, lower contact is fairly sharp, but erratic.										
117.80	126.00	DACITE (MAGNETITE) Dark grey, banded and mottled unit. Fairly siliceous, probable dacite. Finely disseminated pyrite and magnetite is 5-10% combined. Patchy alteration is silica +/- epidote +/- chlorite +/- pyrite, forms light grey and green patches and discontinuous bands in a dark greenish-black magnetite rich matrix. Banding is at 60 degrees to core axis. Lower contact is gradational.										
126.00	160.10	DIABASE (SILICA) Green, mottled silicified propylitic diabase (or basalt flow?). This is a very distinct unit characterized by 5% quartz segregations which resemble quartz-filled amygdules (1-2mm), moderate pervasive silicification, mottled coloring (dark green and epidote green) and pervasive epidote (10%). Quartz-garnet veins (1-5cm) are noted at 146m, and quartz stringers are about 1% throughout (+/- brassy pyrite). Lower contact is fairly sharp, but obscured by alteration. This is quite a homogeneous unit.										
160.10	172.90	DACITE (HEMATITIC) Dark reddish-grey dacite. Hematite and magnetite patches and bands average about 10%, increasing towards the bottom of the interval. This section is weakly silicified and patchy, disrupted quartz stringers (+/- pv) are 5%. Bands of coarse-grained (1-2mm) massive magnetite up to 1cm occur over the lower 2m of the interval. Transluscent green silica patches and bands are lower 2m of the interval. Transluscent green silica patches and bands are a distinctive feature of this unit. Lower contact dips 35 degrees to the core axis.										
172.90	177.70	FELDSPAR PORPHYRY DYKE Feldspar porphyry dike. 10-20% feldspar phenos (1-3mm) in a grey groundmass. Dyke contains 0.5% disseminated magnetite, 1-2% tiny (<1mm) hornblends (5%) are weakly chloritized. Lower contact 30 degrees TCA.										
177.70	216.40	DACITE (HEMATITIC) Fine-grained to weakly feldspar phyric transluscent greenish-grey hematitic dacite. Reddish, hematite-rich bands and patches form 1% of this interval, generally decreasing towards lower contact. Trace disseminated pyrite is associated with quartz stringers.										
216.40	223.50	DACITE (EPIDOTE) Pale grey, fine-grained unit with 1% disrupted hematite bands (1-10mm) and patches of epidote + quartz +/- pyrite alteration. This section is										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		the same lithology as the last section with different alteration and is the epidote-mottled unit.										
223.50	224.90	BASALT DYKE Fine-grained, green mottled basalt dyke. Upper contact at 42 degrees TCA, lower contact broken.										
224.90	226.20	QUARTZ VEIN Patchy quartz vein contains 40% pinkish-buff colored ankerite and 5% pink calcite. Both contacts dip 15% TCA.										
226.20	226.90	DACITE (HEMATITIC) Greenish-maroon dacite has been silicified and brecciated by faulting.										
226.90	228.90	BASALT DYKE Fine grained, dark green basalt dyke. Contains 0.5% quartz stringers and spots (1mm) and epidote stringers. Dyke is within fault zone, but is post-faulting. Upper contact is very sharp and irregular at about 30 degrees, the lower is also sharp and irregular, the dip is uncertain.										
228.90	233.20	FAULT ZONE (SILICA) Intensely silcified brecciated dacite. This section probably reflects a healed fault zone. Dacite is purplish and shattered with a silica matrix. Patches of ankerite (2%) occur within the quartz. A narrow basalt dyke from 232.4m to 232.6m is also silicified. Cut by patchy quartz veins.	68401	232.10	233.20	1.10	1.23	8.57	.04	.26	.46	
233.20	234.40	ALTERED FACIES (SILICA) (STRINGER PYRITE) Grey, strongly silicified, weakly sericitized felsic volcanic. Silver sericite (10%) occurs between patches of grey, aphanitic silica, which could be chert, but for a weak remnant porphyritic texture. Stringer pyrite, galena, sphalerite and tetrahedrite total about 1%. Upper contact is gradational. This unit also contains about 1% tiny (0.5mm) spots of leucoxene.	68402	233.20	234.40	1.20	.31	13.71	.02	.27	.55	
234.40	234.80	BASALT DYKE	68403	234.40	235.20	.80	1.92	38.06	.16	.58	2.32	
234.80	235.20	DACITE (SILICA) (STRINGER PYRITE) Dark greenish grey mottled silicified dacite. This section is cut by qz-cp-py-gl-sl stringers, with sulphides totalling 3%. Transluscent green silica patches suggest it is the dacite unit, but the strong silicification, veining and brecciation make primary lithology questionable.										
235.20	240.00	DACITE (SILICA) (STRINGER PYRITE) This section is a jumble of narrow basalt dykes, quartz veins and intensely silicified mottled dark greenish-grey dacite. The entire	68404	239.00	240.00	1.00	.03	1.03	.00	.01	.03	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		interval is silicified and white quartz veins are 10%. Quartz veins contain epidote, chlorite, pyrite, galena, sphalerite and chalcopyrite and are vuggy. They are very patchy, lower contact is gradational.										
240.00	242.80	RHYOLITE (SILICA) (STRINGER PYRITE) Pale grey, virtually entirely silicified section. Tiny (.5-1mm) feldspar phenos (1%) are scattered throughout. Sulphide stringers (sl, py, gl, cp) comprise 5% of this interval. Yellowish sericite is 5%. The majority of this section is pale grey, aphanitic quartz with feldspar phenocrysts, suggesting a rhyolite flow, although it may be a totally silicified more mafic rock. Weakly foliated at 60 degrees to core axis.	68405 68406 68407	240.00 240.90 241.90	240.90 241.90 242.80	.90 1.00 .90	.10 3.09 1.27	3.43 86.06 68.91	.00 .10 .02	.01 .22 .14	.03 .95 .33	
242.80	243.60	SEMI-MASSIVE SULPHIDES Semi-massive (40%) pyrite, chalcopyrite, galena and sphalerite in a grainy, chloritic matrix. Sulphides occur as a stockwork, and as stringers cutting heavily disseminated pyritic sections. A 5cm vuggy quartz vein has remobilized sulphides, which occur as coarse euhedral crystals (particularly galena) within vugs. Upper contact is marked by a 1cm gouge zone, lower contact is gradational into dacite (?) unit.	68408	242.80	243.60	.80	1.03	54.17	.18	1.00	2.14	
243.60	244.40	DACITE (SILICA) (DISSEMINATED PYRITE) Another mixed section of grey, grainy dacite, narrow basalt dykes (5-10cm) and banded transluscent green siliceous dacite (244.2-244.4m). Banding is at 80 degrees to core axis, as is the lower contact. White quartz veins cut this section (2%).	68409	243.60	244.40	.80	.86	3.43	.03	.01	.03	
244.40	298.40	DIABASE (CHLORITE) Dark green, fine-grained homogeneous chloritic intrusive. Patchy epidote-quartz veins are 2%. In places where epidote alteration is most intense, this resembles 126.0-160.1m (eg. 261.5-265.0m). The lower contact is very sharp, dips roughly 60 degrees and is fairly irregular.	68410	244.40	245.40	1.00	.03	.34	.01	.01	.02	
298.40	307.30	DACITE FLOW (SILICA) (EPIDOTE) Medium grey, silicified dacite. Mottled texture due to bleaching, silicification and epidote/calcite alteration forming fracture envelopes and patches. Primary lithology is quite massive and homogeneous, probably a flow. Color locally has a slight purple tinge. 0.1% disseminated magnetite throughout. Maroon hematite bands and patches are present, but very rare. Epidote is about 1%. Very faint, faded feldspar phenocrysts (0.5mm, 1-2%) are seen throughout. Silver sericite is about 0.5%.										
307.30	312.50	DACITE (SILICA) (SERICITE) Strongly foliated, silicified and sericitized section of dacite. This section is yellowish-white with distinct dark grey bands (.5cm, 20%). These darker bands may reflect very finely disseminated pyrite in the silica matrix, and are folded. Silica content here is about 85%, with 10%										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		yellow sheeted sericite and 5% pyrite. This is not the sericitic tuff unit, it is less well foliated and contains significantly less sericite and pyrite. Contacts on both sides are gradational, upper contact over about 2m, lower contact over 50cm. Foliation dips average 40-60 degrees. No reason for this increase in alteration and deformation is apparent. Epidote is absent in this section.									
312.50	313.80	DACITE FLOW (SILICA) (EPIDOTE) Same as 298.4 to 307.3m.										
313.80	314.40	BASALT DYKE Basalt dyke cuts core at 10 degrees to core axis. Dyke is only about 5 cm wide. Quartz vein at lower contact.										
314.40	320.90	DACITE FLOW (SILICA) (EPIDOTE) Same as 298.4 to 342.2m.										
320.90	321.20	BASALT DYKE Narrow basalt dyke is cut by quartz-epidote stringers.										
321.20	330.60	DACITE FLOW (SILICA) (EPIDOTE) Same as 298.4m.										
330.60	331.50	FAULT ZONE Badly broken ore indicates a narrow fault zone dipping about 10 degrees TCA.										
331.50	337.80	DACITE FLOW (SILICA) (EPIDOTE) Same as 298.4m.										
337.80	338.10	BASALT DYKE Dark green, fine-grained basalt dyke. Upper contact at 60 degrees, lower contact at 70 degrees. This is a very similar lithology to 244.4 to 298.4m.										
338.10	338.90	DACITE FLOW (SILICA) (EPIDOTE)										
338.90	339.90	BASALT DYKE Dark green, fg basalt dyke cut by quartz-calcite-pyrite-epidote- chlorite stringers. Same stringers are noted in the last dyke. Upper contact at 50 degrees, lower pretty irregular at about 40 degrees.										
339.90	342.20	DACITE FLOW (SILICA) (EPIDOTE)										
342.20	354.00	DACITE (CHLORITE) Greenish-black, weakly banded chloritic (10%) dacite. Banding is 1-3mm, strongly deformed and apparently reflects foliation, rather than primary										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		layering. Bands are pale grey to transluscent green silica, and are separated by sections of sheeted chlorite. Silica bands are discontinuous, dip erratically, and generally make up 50 to 60% of the rock. Patches (<1cm) of reddish hematite are present, but rare (<0.1%). Patchy qz + ep + ca +/- py alteration is also noted, but is weaker than in the overlying dacite. White quartz veins carrying minor epidote and pyrite are common (10%) from 358.1m to 371m. Upper contact is gradational and indistinct, lower is within a fault zone, but appears to be sheared along contact, rather than a faulted contact.									
354.00	356.80	FAULT ZONE A minor fault zone is indicated by weak alteration (bleaching) and by several fractures and small fault surfaces. Zone dips 5-10 degrees TCA.									
356.80	373.00	DACITE (CHLORITE) Continuation of interval from 342.2 to 374.5 m.	68411	372.00	373.00	1.00	.03	1.37	.00	.01	.01	
373.00	374.50	FAULT ZONE Broken core and a bit of shearing indicate a weak fault zone at the contact between overlying dacite and underlying sericitic tuff. Appears to be a gradational alteration contact with some minor shearing along it and not a faulted contact. 1 cm of clay gouge at 374.9 m.	68412	373.00	374.50	1.50	.03	.69	.00	.01	.01	
374.50	395.80	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Typical yellowish-grey, strongly foliated pyrited sericitic tuff. Intense quartz-sericite-pyrite alteration has destroyed any primary texures. 60 to 70% pale grey quartz layers (1-10mm) are discontinuous and folded and are separated by sheeted yellow sericite (20%). Pyrite is finely disseminated at 2-5%. Possible very faint, tiny (<1mm) relict feldspar phenocrysts occur in silica bands. Base metal sulphides are present in trace amounts locally, but are absent for the most part. Foliation is fairly contorted, but in general dips 45 degrees to core axis. A large fault zone occurs within this interval.	68413	374.50	376.00	1.50	.10	.34	.00	.01	.01	
			68414	376.00	377.50	1.50	.79	2.40	.00	.01	.01	
			68415	377.50	379.00	1.50	.03	1.03	.00	.01	.01	
			68416	379.00	380.50	1.50	.03	2.06	.01	.01	.01	
			68417	380.50	382.00	1.50	.14	1.37	.01	.01	.01	
			68418	382.00	383.50	1.50	.07	.69	.00	.01	.01	
			68419	383.50	385.00	1.50	.03	.34	.00	.01	.01	
			68420	385.00	386.50	1.50	.03	1.71	.00	.01	.01	
			68421	386.50	388.00	1.50	.03	1.71	.00	.01	.02	
			68422	388.00	389.50	1.50	.03	.34	.00	.01	.01	
			68423	389.50	391.00	1.50	.03	1.03	.00	.01	.01	
			68424	391.00	392.50	1.50	.03	1.37	.00	.01	.01	
			68425	392.50	394.00	1.50	.07	1.03	.00	.01	.01	
			68426	394.00	395.50	1.50	.07	.34	.00	.01	.01	
			68427	395.50	397.00	1.50	.07	4.46	.00	.02	.02	
395.80	396.10	FAULT Fault gouge dips 52 degrees to core axis.										
396.10	396.80	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) As previous description (374.50 - 395.80m).										
396.80	397.20	FAULT										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Narrow (1cm) fault gouge sections dip at 55 degrees to core axis.	68428	397.00	398.50	1.50	.07	3.09	.00	.02	.03	
397.20	400.40	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) As previous description (374.50 - 395.80m).	68429	398.50	400.00	1.50	.03	3.43	.00	.01	.04	
			68430	400.00	401.50	1.50	.03	2.06	.00	.01	.02	
400.40	413.00	FAULT ZONE Zone of badly broken and crushed core with several sections of fault gouge. Fault planes dip both about 50 degrees and about 10 degrees to core axis. Lower contact marks change in lithology, but the fault zone continues into the next interval.	68431	401.50	403.00	1.50	.03	1.71	.00	.01	.02	
			68432	403.00	404.50	1.50	.03	1.03	.00	.01	.01	
			68433	404.50	406.00	1.50	.07	1.71	.00	.01	.01	
			68434	406.00	407.50	1.50	.03	1.37	.00	.01	.01	
			68435	407.50	409.00	1.50	.21	12.69	.01	.01	.02	
			68436	409.00	410.50	1.50	.21	5.49	.01	.01	.02	
			68437	410.50	412.00	1.50	.14	1.37	.00	.01	.01	
			68438	412.00	413.00	1.00	.27	1.03	.00	.01	.01	
413.00	423.50	FAULT ZONE Continuation of fault zone into chloritic dacite unit. Core is crushed and cut by 1 to 5% white quartz stringers.	68439	413.00	414.00	1.00	.03	.34	.00	.01	.01	
423.50	424.40	DACITE (CHLORITE) Dark greenish-black wiakly banded chloritic eacite is the same unit seen from 342.2 to 374.5m. Is this a fault repetition? Upper contact indicated by the presence of chlorite in faulted, altered tuff. The upper 2m are moderately silicified and sericitic, and alteration tapers off towards the bottom. Foliation is variable, ranging from 0 to 50 degrees to core axis.										
424.40	424.60	BASALT DYKE										
424.60	425.00	DACITE (CHLORITE) Description as per 423.50 - 424.40m.										
425.00	425.20	BASALT DYKE UC @ 55 degrees, LC @ 70 degrees to core axis.										
425.20	429.80	DACITE (CHLORITE) Description as per 423.50 - 424.40m.										
429.80	431.50	BASALT DYKE UC @ 25 degrees to core axis.										
431.50	435.30	DACITE (CHLORITE) Description as per 423.50 - 424.40m.										
435.30		END OF HOLE										

Hole No: BB93007
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6936.42
(metres) E: 13045.21

Azimuth: 47.9
Dip: -71.6
Length (m): 435.30
Elevation: 55.50
(metres)
Purpose: Test Big Bull zone down dip of BB93006

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenue Diamond Drilling Ltd.
Started: Sept. 15 1993
Completed: Sept. 21 1993
Recovery:

Date Logged: Sept. 17 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:29pm

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68401	232.10	233.20	1.10		1.23	8.57	.04	.26	.46		9.9	393	2276	4055	1.61	2	13	2	265	
68402	233.20	234.40	1.20		.31	13.71	.02	.27	.55		11.8	176	2483	4800	1.24	9	13	20	117	
68403	234.40	235.20	.80		1.92	38.06	.16	.58	2.32		34.0	1519	4500	18861	3.77	7	83	14	98	
68404	239.00	240.00	1.00		.03	1.03	.00	.01	.03		1.2	48	64	249	2.02	13	1	2	99	
68405	240.00	240.90	.90		.10	3.43	.00	.01	.03		2.9	39	52	259	1.93	16	2	3	24	
68406	240.90	241.90	1.00		3.09	86.06	.10	.22	.95		85.4	954	1971	8401	2.07	77	28	152	27	
68407	241.90	242.80	.90		1.27	68.91	.02	.14	.33		65.3	223	1241	3049	1.59	56	16	56	30	
68408	242.80	243.60	.80		1.03	54.17	.18	1.00	2.14		49.2	1679	7536	17279	10.36	37	87	67	12	
68409	243.60	244.40	.80		.86	3.43	.03	.01	.03		2.4	337	82	215	3.20	13	1	3	29	
68410	244.40	245.40	1.00		.03	.34	.01	.01	.02		.3	84	11	158	8.24	15	0	2	666	
68411	372.00	373.00	1.00		.03	1.37	.00	.01	.01		.3	13	37	115	1.98	8	0	2	70	
68412	373.00	374.50	1.50		.03	.69	.00	.01	.01		.2	10	5	49	1.68	6	0	2	60	
68413	374.50	376.00	1.50		.10	.34	.00	.01	.01		.6	19	14	39	1.92	8	0	2	50	
68414	376.00	377.50	1.50		.79	2.40	.00	.01	.01		.8	19	39	106	2.28	2	1	2	53	
68415	377.50	379.00	1.50		.03	1.03	.00	.01	.01		.5	12	27	69	2.19	3	0	2	39	
68416	379.00	380.50	1.50		.03	2.06	.01	.01	.01		2.0	58	51	88	2.16	6	1	8	34	
68417	380.50	382.00	1.50		.14	1.37	.01	.01	.01		.8	60	39	105	2.13	14	1	2	45	
68418	382.00	383.50	1.50		.07	.69	.00	.01	.01		.4	12	7	46	1.82	5	0	2	51	
68419	383.50	385.00	1.50		.03	.34	.00	.01	.01		.4	11	10	46	1.89	12	0	2	51	
68420	385.00	386.50	1.50		.03	1.71	.00	.01	.01		1.0	18	21	77	2.24	3	0	5	40	
68421	386.50	388.00	1.50		.03	1.71	.00	.01	.02		1.3	23	27	205	2.28	10	1	6	48	
68422	388.00	389.50	1.50		.03	.34	.00	.01	.01		.6	19	11	61	1.93	13	0	2	40	
68423	389.50	391.00	1.50		.03	1.03	.00	.01	.01		.5	13	13	31	1.84	7	0	2	37	
68424	391.00	392.50	1.50		.03	1.37	.00	.01	.01		.5	14	18	51	1.65	28	0	2	41	
68425	392.50	394.00	1.50		.07	1.03	.00	.01	.01		.6	23	11	47	1.69	13	0	4	29	
68426	394.00	395.50	1.50		.07	.34	.00	.01	.01		.8	23	10	49	2.19	17	0	2	73	
68427	395.50	397.00	1.50		.07	4.46	.00	.02	.02		3.3	51	233	220	1.70	8	2	6	75	
68428	397.00	398.50	1.50		.07	3.09	.00	.02	.03		1.8	21	152	288	1.37	4	3	5	69	
68429	398.50	400.00	1.50		.03	3.43	.00	.01	.04		1.4	18	68	211	1.46	3	2	3	52	
68430	400.00	401.50	1.50		.03	2.06	.00	.01	.02		1.1	17	33	101	1.57	13	1	3	44	
68431	401.50	403.00	1.50		.03	1.71	.00	.01	.02		.6	14	15	42	1.71	25	0	2	68	
68432	403.00	404.50	1.50		.03	1.03	.00	.01	.01		.9	22	10	38	1.65	5	0	2	50	

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68433	404.50	406.00	1.50		.07	1.71	.00	.01	.01		1.2	13	21	65	1.55	7	0	3	66	
68434	406.00	407.50	1.50		.03	1.37	.00	.01	.01		1.1	17	12	78	1.23	7	1	2	79	
68435	407.50	409.00	1.50		.21	12.69	.01	.01	.02		1.4	58	23	75	2.75	14	1	2	51	
68436	409.00	410.50	1.50		.21	5.49	.01	.01	.02		2.1	112	29	138	2.90	9	2	2	48	
68437	410.50	412.00	1.50		.14	1.37	.00	.01	.01		.5	16	11	52	1.73	2	1	2	53	
68438	412.00	413.00	1.00		.27	1.03	.00	.01	.01		1.3	12	31	93	1.68	4	1	2	52	
68439	413.00	414.00	1.00		.03	.34	.00	.01	.01		.3	34	9	41	1.57	2	0	2	61	

Hole No: BB93007
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6936.42
(metres) E: 13045.21

Azimuth: 47.9
Dip: -71.6
Length (m): 435.30
Elevation: 55.50
(metres)
Purpose: Test Big Bull zone down dip of BB93006

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenue Diamond Drilling Ltd.
Started: Sept. 15 1993
Completed: Sept. 21 1993
Recovery:

Date Logged: Sept. 17 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:28pm

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68401	232.10	233.20	1.10	2	28	4	1571	5	3	50	2	15	.79	4	46	.74	.10	2	1
68402	233.20	234.40	1.20	98	12	4	226	5	4	28	2	5	.28	2	21	.41	.02	3	1
68403	234.40	235.20	.80	3	388	33	1715	5	2	50	2	60	1.18	2	739	4.49	.10	2	1
68404	239.00	240.00	1.00	1	7	5	1417	6	3	41	2	13	1.18	4	9	.61	.12	2	2
68405	240.00	240.90	.90	2	8	3	395	7	2	75	2	3	.68	5	10	.13	.03	3	1
68406	240.90	241.90	1.00	3	7	4	258	5	2	31	2	3	1.03	3	7	.08	.02	2	1
68407	241.90	242.80	.90	2	4	3	186	5	2	53	2	3	.72	2	4	.14	.02	2	1
68408	242.80	243.60	.80	17	19	16	635	5	2	26	2	9	.56	2	6	1.43	.06	2	1
68409	243.60	244.40	.80	1	12	11	349	5	2	54	2	35	.68	2	4	.63	.12	2	1
68410	244.40	245.40	1.00	1	13	21	889	5	2	28	2	202	.64	2	25	2.07	.24	2	1
68411	372.00	373.00	1.00	1	3	2	615	5	3	62	2	2	.99	5	11	.94	.14	2	1
68412	373.00	374.50	1.50	1	2	2	711	5	4	102	2	2	1.41	7	4	1.00	.14	3	1
68413	374.50	376.00	1.50	3	2	3	303	6	3	33	2	2	1.41	5	4	.41	.04	2	1
68414	376.00	377.50	1.50	3	2	4	146	5	4	13	2	2	.63	4	10	.16	.02	2	1
68415	377.50	379.00	1.50	2	2	4	144	5	3	10	2	2	.60	3	3	.15	.01	2	1
68416	379.00	380.50	1.50	3	1	4	155	5	3	21	2	2	1.08	4	3	.07	.01	4	1
68417	380.50	382.00	1.50	2	2	4	250	5	2	32	2	2	1.92	3	10	.09	.01	2	1
68418	382.00	383.50	1.50	2	2	4	327	5	3	35	2	2	1.91	6	4	.27	.01	2	1
68419	383.50	385.00	1.50	2	1	4	292	5	3	23	2	2	1.43	10	3	.23	.01	2	1
68420	385.00	386.50	1.50	4	3	3	121	5	4	11	2	2	.65	11	12	.06	.01	2	1
68421	386.50	388.00	1.50	2	2	3	121	5	4	13	2	2	.54	15	4	.12	.01	3	1
68422	388.00	389.50	1.50	1	3	3	233	5	3	18	2	2	.92	12	5	.26	.01	2	1
68423	389.50	391.00	1.50	3	3	3	233	5	4	19	2	2	.90	11	14	.17	.01	2	1
68424	391.00	392.50	1.50	2	2	3	213	5	3	23	2	2	.93	13	5	.18	.01	2	1
68425	392.50	394.00	1.50	1	2	3	130	5	3	10	2	2	.49	15	6	.08	.01	3	1
68426	394.00	395.50	1.50	2	54	8	304	5	3	42	2	12	1.36	8	115	.71	.04	2	1
68427	395.50	397.00	1.50	3	6	4	201	5	3	28	2	2	1.13	13	7	.23	.01	3	1
68428	397.00	398.50	1.50	3	3	3	88	5	3	13	2	2	.40	12	4	.14	.01	3	1
68429	398.50	400.00	1.50	4	5	3	147	5	3	11	2	2	.56	15	18	.14	.01	3	1
68430	400.00	401.50	1.50	3	4	3	133	5	3	14	2	2	.73	16	4	.16	.01	2	1
68431	401.50	403.00	1.50	3	12	3	211	5	3	19	2	2	1.19	10	10	.36	.01	2	1
68432	403.00	404.50	1.50	4	4	3	122	5	3	24	2	2	.85	15	16	.19	.01	2	1

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68433	404.50	406.00	1.50	3	5	3	66	5	4	10	2	2	.37	12	5	.09	.01	4	1
68434	406.00	407.50	1.50	5	8	4	128	5	3	22	2	2	1.15	13	8	.19	.01	3	1
68435	407.50	409.00	1.50	9	35	6	429	5	2	58	2	7	3.12	13	49	1.06	.03	3	1
68436	409.00	410.50	1.50	7	9	5	189	5	4	41	2	2	1.64	12	9	.33	.02	2	1
68437	410.50	412.00	1.50	5	21	5	248	5	3	44	2	3	1.63	6	18	.62	.03	2	1
68438	412.00	413.00	1.00	10	9	5	108	5	4	25	2	2	.72	5	13	.25	.03	3	1
68439	413.00	414.00	1.00	1	27	8	304	5	3	105	2	19	1.58	4	47	.94	.11	3	2

Hole No: BB93008
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6991.00
(metres) E: 12927.01

Azimuth: 62.6
Dip: -61.2
Length (m): 398.37
Elevation: 85.37
(metres)
Purpose: Test down-dip extent of mineralization in holes BB002, 005, and 006.

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 23 1993
Completed: Sept. 28, 1993
Recovery:

Date Logged: Sept. 24, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:39pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	62.6	-61.2															
3.1	62.6	-61.2	71.2	64.5	-61.1	139.3	65.8	-61.0	207.4	67.9	-61.0	275.5	68.3	-60.9	343.6	69.4	-60.4
6.2	62.8	-61.1	74.3	64.5	-61.1	142.4	65.8	-61.0	210.5	67.9	-61.0	278.6	68.5	-60.8	346.7	69.4	-60.4
9.3	63.0	-61.1	77.4	64.7	-61.0	145.5	66.0	-60.9	213.6	67.9	-61.0	281.7	68.5	-60.8	349.8	69.4	-60.4
12.4	63.0	-61.1	80.5	64.7	-61.1	148.6	66.0	-60.9	216.7	67.9	-61.0	284.8	68.7	-60.7	352.9	69.4	-60.4
15.5	63.0	-61.1	83.6	64.7	-61.1	151.7	66.2	-60.8	219.8	67.9	-61.0	287.9	68.7	-60.7	356.0	69.4	-60.4
18.6	63.2	-61.1	86.7	64.7	-61.1	154.8	66.4	-60.8	222.9	67.9	-61.0	291.0	68.5	-60.7	359.0	69.4	-60.4
21.7	63.2	-61.1	89.8	64.9	-61.1	157.9	66.6	-60.9	225.9	68.1	-60.9	294.0	68.5	-60.7	362.1	69.6	-60.3
24.8	63.2	-61.1	92.9	64.9	-61.1	160.9	66.8	-60.9	229.1	68.1	-60.9	297.1	68.5	-60.6	365.2	69.6	-60.3
27.9	63.2	-61.1	95.9	64.9	-61.1	164.1	66.8	-60.9	232.1	68.1	-60.9	300.2	68.5	-60.6	368.3	69.6	-60.2
31.0	63.4	-61.0	99.1	64.9	-61.1	167.1	67.0	-61.0	235.2	67.9	-60.9	303.3	68.7	-60.7	371.4	69.6	-60.1
34.0	63.4	-61.0	102.1	64.9	-61.1	170.2	67.2	-61.1	238.3	67.9	-60.9	306.4	68.8	-60.7	374.5	69.6	-60.0
37.1	63.6	-61.0	105.2	64.9	-61.1	173.3	67.3	-61.1	241.4	67.9	-60.9	309.5	68.8	-60.7	377.6	69.6	-60.0
40.2	63.8	-61.0	108.3	65.1	-61.1	176.4	67.3	-61.1	244.5	67.9	-60.9	312.6	68.8	-60.6	380.7	69.6	-60.0
43.3	64.0	-61.1	111.4	65.1	-61.1	179.5	67.3	-61.0	247.6	67.9	-60.9	315.7	69.0	-60.6	383.8	69.6	-60.0
46.4	64.1	-61.1	114.5	65.3	-61.1	182.6	67.5	-61.0	250.7	67.9	-60.9	318.8	69.0	-60.6	386.9	69.6	-60.0
49.5	64.3	-61.1	117.6	65.5	-61.1	185.7	67.7	-61.1	253.8	67.9	-60.9	321.9	69.2	-60.5	390.0	69.6	-60.0
52.6	64.3	-61.1	120.7	65.5	-61.1	188.8	67.7	-61.1	256.9	67.9	-60.9	325.0	69.2	-60.5	393.1	69.6	-60.0
55.7	64.3	-61.1	123.8	65.7	-61.1	191.9	67.7	-61.1	260.0	67.9	-60.9	328.1	69.2	-60.5	396.2	69.8	-60.0
58.8	64.5	-61.1	126.9	65.7	-61.1	195.0	67.7	-61.1	263.1	67.9	-60.9	331.2	69.2	-60.5	398.4	69.8	-60.0
61.9	64.5	-61.1	130.0	65.7	-61.1	198.1	67.9	-61.0	266.2	68.1	-60.9	334.3	69.4	-60.4			
65.0	64.5	-61.1	133.1	65.7	-61.1	201.2	67.9	-61.0	269.3	68.3	-60.9	337.4	69.4	-60.4			
68.1	64.5	-61.1	136.2	65.8	-61.0	204.3	67.9	-61.0	272.4	68.3	-60.9	340.5	69.4	-60.4			

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	1.70	CASING										
1.70	18.68	BASALTIC INTRUSION (CHLORITE) (CALCITE) Fine-grained, dark green chloritic mafic intrusive. Pervasive chlorite is 20- 30%, pervasive calcite is 0.1%, occurring primarily in										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		whitish-coloured sections, and in quartz-calcite veins. These lighter-coloured sections give the unit a mottled texture and appear to be faintly banded. Quartz veins with epidote, calcite and pyrite (<10cm) are 5%, and are patchy and irregular. These patchy veins are parallel to a very weak foliation at 50 degrees to core axis. The lower contact is very sharp at 20 degrees.									
18.68	20.65	BASALTIC INTRUSION (CHLORITE) (SILICA) Very similar to the preceding interval, except for a porphyritic texture and very weak silicification. Pervasive chlorite is still 10-20%, calcite is 0.1%, and the colour is the same as the last interval. Pale grey, rounded, subhedral feldspar phenocrysts (1-3mm) are about 10%, disseminated magnetite is about 2%. Quartz-epidote veins are not as common. The lower contact is marked by a 5 cm qz-ep-cl-ca-py vein at 22 degrees to core axis.									
20.65	22.45	FELDSPAR PHYRIC BASALT DYKE Fine-grained, weakly feldspar-phyric basalt dyke. Trace disseminated pyrite, well-developed chill margins. Medium green, weakly propylitic. Lower contact at 27 degrees.									
22.45	25.08	BASALTIC INTRUSION (CHLORITE) (SILICA) Same as 18.68 to 25.08m.									
25.08	26.60	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (CHLORITE) Medium grey, silicified feldspar-phyric dacite - probably a flow. Numerous fractures are filled with chlorite. Patchy qz-ep-ca-py veins are 5%. Trace disseminated pyrite, 1% patchy and disseminated magnetite. Lower contact sharp at 80 degrees.									
26.60	33.85	BASALTIC INTRUSION (CHLORITE) Fine-grained, dark green to greenish-black mafic intrusive. Massive to very weakly foliated (45 degrees). Pervasive chlorite is 10-20%, trace pervasive calcite, 5% patchy qz-ep-py-ca veins. Same unit as 1.70 to 18.68m. Lower contact is in a section of intense silicification and abundant quartz veins which may be a fault. Limonite occurs on fracture surfaces.									
33.85	57.80	DACITE (SILICA) Greenish-grey, quartz-epidote mottled silicified dacite. Silicification is both pervasive and as envelopes to fractures, along with epidote. Chlorite occasionally occurs in the centre of these fractures. These qz-ep alteration patches are 15% and result in a distinct mottled texture. Pervasive dark green chlorite is 5% within this unit, occurring between disrupted bands and patches of translucent green silica. Qz-ep-py-cl veins are 15% of the upper 3.5 m of this interval, with individual veins to 30 cm. The lower contact is sharp, dips 25 degrees,									

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		and cuts across a weak foliation also at 25 degrees, but dipping opposite.										
57.80	59.24	BASALTIC INTRUSION (CHLORITE) Dark green, fine-grained mafic intrusive - same as 26.6 to 33.85m. Very sharp lower contact is a good intrusive contact and dips 15-20 degrees. A 20 cm xenolith of silicified dacite occurs within this section.										
59.24	69.42	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (CHLORITE) (MAGNETITE) Grey, silicified weakly feldspar phyric dacite flow. Rock is primarily grey silica which contains 1-2% 1mm feldspar phenocrysts and is cut by diffuse white quartz stringers. Dark green chlorite (10%) occurs in irregular patches, along with 1-8% magnetite, which is also finely disseminated throughout the silica patches. Trace disseminated pyrite occurs throughout. The lower 7 m is strongly magnetic.										
69.42	70.50	BASALT DYKE (CHLORITE) Fine-grained, dark green basalt dyke. This unit contains a 10 cm xenolith of dacite at 72.0m, and is cut by a feldspar-phyric mafic dyke. Upper contact is irregular at 70 degrees, lower contact (@ 72.32 m) is marked by a quartz vein.										
70.50	71.60	FELDSPAR PHYRIC BASALT DYKE Crowded mafic feldspar porphyry dyke. Feldspar phenocrysts are 15-20%, 1-4 mm. Excellent chilled margins. Both contacts at 24 degrees.										
71.60	72.32	BASALT DYKE (CHLORITE) Continuation of dyke starting at 69.42 m.										
72.32	107.50	DACITE (MAGNETITE) (SILICA) Dark grey, strongly silicified and magnetic dacite. Distinct disrupted banded of laminated texture typical of this unit. Silica is pervasive, with a few stringers. Magnetite (5%) and chlorite (5%) occur between siliceous bands and within hairline fractures. Trace disseminated pyrite and minor (0.1%) qz-ep veining noted. This is quite a homogeneous unit. Lower contact is gradational.										
107.50	116.52	DACITE (SILICA) This interval is 60% patchy,irregular white quartz-calcite veins. Lithology is the same as the preceding interval. Veins have no preferred orientation, and occur as patches of white quartz, containing 5% patchy white calcite. Contacts are marked by a decrease in vein density, not a lithological change.										
116.52	144.70	DACITE (EPIDOTE) (SILICA) (MAGNETITE) Same unit to 160.14m. Same magnetic, banded dacite as above. Alteration here is characterized by patchy epidote + quartz + pyrite + calcite, giving the unit a distinct mottled texture. Alteration is primarily as										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		diffuse envelopes to fractures. Magnetite content is 1-2%, epidote is 5%, pyrite is trace. This dacite contains the usual translucent green disrupted silica bands, with 5% chlorite separating them. Fine grained, basalt dykes occur at: 144.70 to 144.97, 145.27 to 145.47, 145.87 to 146.73, 147.13 to 147.56, 148.45 to 148.7m.										
144.70	144.97	BASALT DYKE										
144.97	145.27	DACITE (EPIDOTE) (SILICA)										
145.27	145.47	BASALT DYKE										
145.47	145.87	DACITE (EPIDOTE) (SILICA)										
145.87	146.73	BASALT DYKE										
146.73	147.13	DACITE (EPIDOTE) (SILICA)										
147.13	147.56	BASALT DYKE										
147.56	148.45	DACITE (EPIDOTE) (SILICA)										
148.45	148.70	BASALT DYKE										
148.70	160.14	DACITE (EPIDOTE) (SILICA)										
160.14	166.56	FELDSPAR PORPHYRY DYKE Feldspar porphyry dyke. Contains 1% disseminated magnetite. Upper contact at 5 degrees to core axis, lower contact at 30 degrees, both pretty irregular.										
166.56	168.14	DACITE (SILICA) Typical grey, silicified disrupted banded dacite. Lower contact gradational.										
168.14	178.30	DACITE (MAGNETITE) Fine-grained to weakly banded dark grey-green magnetic dacite. Pretty similar to preceding dacitic sections, but not as silicified and less well banded. Magnetite averages 5%, up to 10% in some sections, and occurs disseminated and as black and dark red bands and patches with hematite (2%).										
178.30	199.12	ANDESITE (MAGNETITE) (CHLORITE) Dark green, fine-grained, weakly chloritic and magnetic andesite (?). Silica content is noticeably less than the preceding dacites. Magnetite is both disseminated and patchy (stringers?). This unit is quite soft, with a waxy, greenish appearance in places. Patchy ep-ca-qz veins are 5%										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		over the lower 8 m and a quartz vein with garnet, epidote, pyrite and magnetite occurs from 193.5 m to 194 m. Lower contact is pretty sharp. This unit is texturally similar to some of the dacitic sections, the main difference being its reduced silica content - maybe different protolith, maybe same lithology, but not as silicified.									
199.12	211.33	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Massive, dark green, fine-grained chloritic and magnetic mafic sill. This unit is quite homogenous, except for 1-2% qz-ep-ca-mg-py veins. Pervasive chlorite is 20%, disseminated magnetite is 2-5%. Lower contact pretty sharp at 80 degrees.										
211.33	222.80	ANDESITE (CHLORITE) (MAGNETITE) This interval continues to 257.5 m and is the same unit as 178.3 m to 199.12 m. Soft, dark green chloritic andesite is weakly to extremely magnetic (2-5 %), and has a fine, granular texture. This unit is quite similar to some of the dacitic units higher in the hole - the main difference being silica content. Typical translucent green silica bands are seen here, but are much less common than above. A weak foliation at 30 degrees to core axis is seen at 246 m.										
222.80	223.20	BASALT DYKE										
223.20	231.05	ANDESITE (CHLORITE) (MAGNETITE)										
231.05	231.32	FELDSPAR PORPHYRY DYKE Narrow dyke - same type as 160.14 to 166.56 m. Upper contact is 38 degrees, lower contact is 55 degrees.										
231.32	238.60	FELDSPAR PHYRIC ANDESITE (CHLORITE) This section is non-magnetic and has a faint porphyritic texture (15% 1mm subhedral feldspars). A few possible fragments are noted (eg. 234.5 m), which are siliceous and definitely porphyritic, again with 15%, 1 mm feldspars. Are these fragments, or do they reflect patchy alteration? Contacts are very vague and gradational.										
238.60	252.32	ANDESITE (CHLORITE) (MAGNETITE)										
252.32	252.80	BASALT DYKE										
252.80	257.50	ANDESITE (CHLORITE) (MAGNETITE)										
257.50	276.87	ANDESITE ASH TUFF (HEMATITIC) (MAGNETITE) Medium grey, granular andesite has distinct maroon hematite and magnetite bands and patches. Chlorite is conspicuously absent. Sheeted silvery sericite is 2-5%. Hematite layers are 0.1 to 5 cm, and are discreet, often deformed,layers and irregular patches. This section is moderately										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		foliated (0 to 30 degrees), average about 30 degrees. Patchy quartz-carbonate veins are 5% from 263.7m to 272 m (0.5 to 5 cm, very irregularly shaped). This section is also more strongly foliated - resulting in a distinct laminated texture. Upper contact is very gradational, lower is intrusive and dips 55 degrees. A 1 cm band of 40% pyrite with trace chalcopyrite occurs at, and parallel to, the lower contact. Patchy and mottled quartz-ep-ca alteration is 5% over the lower 5 m.										
276.87	277.24	BASALT DYKE Fine-grained, dark green basalt dyke. Lower contact at 40 degrees.										
277.24	278.13	ANDESITE (MAGNETITE) (EPIDOTE) Dark, greenish-grey andesite with 2% hematite and magnetite patches and bands, and 2% patchy ep-qz-ca alteration. Same lithology as 257.5 m to 276.87 m, except for 5% pervasive chlorite and dark green colour here.										
278.13	278.85	BASALT DYKE Typical basalt dyke, upper contact at 54 degrees, lower at 43 degrees.										
278.85	280.40	ANDESITE LAPILLI TUFF (CHLORITE) A strange section of foliated andesite, gradational contact at 280.4 m. This is more chloritic (5%), more well foliated (50 degrees) and contains 10% pretty convincing fragments (1-10 cm) which are elongated parallel to foliation. This unit is cut by 5% 5 cm vuggy qz-ep-ankerite veins which are unique to this interval.										
280.40	282.55	ANDESITE ASH TUFF (MAGNETITE) (SILICA) Same unit as 257.5 m to 276.87 m. Moderately pervasively silicified here, particularly towards the lower contact. Typical magnetite and hematite bands and patchy, mottled ep-qz-ca alteration.										
282.55	283.47	BASALT DYKE (MAGNETITE) An unusual basalt dyke is strongly magnetic and contains fracture envelopes (up to 0.5 cm) of massive magnetite. Total magnetite content is about 8%. Upper contact is very sharp and irregular at about 80 degrees, the lower is at 35 degrees.										
283.47	284.08	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Intensely silicified, medium grey weakly feldspar phyric dacite - probably a flow. This interval continues to 291.0 m. 2% magnetite occurs as diffuse envelopes to fractures, and as fine disseminations throughout the core. Silicification is almost total, silica content is >90%. Hairline fractures are randomly oriented, most have black magnetite envelopes, some are qz (2%) and/or epidote (0.5%) filled. Quartz stringers are preferentially oriented at 60 to 65 degrees, and are offset a few millimetres along fractures which dip 50 degrees the opposite way,										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		and generally have magnetite envelopes. Epidote increases to 5% over the lower 50 cm, and weak banding is developed at 55 degrees. Both contacts are intrusive, lower dips 50 degrees.										
284.08	284.26	FELDSPAR PHYRIC BASALT DYKE (CHLORITE) (EPIDOTE) Narrow, dark green porphyritic basalt dyke with well developed chill margins. Contacts dip 45 degrees and cross cut weak banding (@38 degrees) in dacites. Dyke is roughly parallel to strike of banding (ie. Strikes same as stratigraphy, dips to the east.).										
284.26	291.00	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Continuation of interval from 283.47 m.										
291.00	297.50	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Fine to medium-grained homogeneous massive mafic sill. This interval continues to 303.4 m. Pervasive chlorite (20%), patchy and banded epidote (5%) and disseminated magnetite (2%). Good fine-grained intrusive textures are seen locally (eg. 262.61 m), and intrusive contacts are well-preserved. This unit is cut by a few qz-ep veins (1-5 cm). Very weak foliation is locally developed at 40 degrees, but this is mainly a massive unit.										
297.50	298.10	FAULT ZONE (SILICA) (CALCITE) Narrow fault zone dips 27 degrees. Strike-slip slickensides noted. Fault filled with a banded and weakly brecciated quartz-calcite vein.										
298.10	302.46	BASALTIC INTRUSION (CHLORITE) (MAGNETITE)										
302.46	302.88	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Same unit as 283.47 m to 291.0 m. Xenolith within intrusive - near lower edge. Upper contact at 43 degrees. For 30 cm above the contact, the intrusive is brecciated and distinctly orange-buff coloured due to ankerite. Lower contact is 38 degrees and very irregular.										
302.88	303.00	BASALTIC INTRUSION (CHLORITE) (MAGNETITE)										
303.00	303.21	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Same as 302.46 m to 302.88 m. Upper and lower contacts at 45 degrees and are very irregular.										
303.21	303.40	BASALTIC INTRUSION (CHLORITE) (MAGNETITE)										
303.40	306.21	DACITE (SILICA) (MAGNETITE) Pretty much the same unit as 283.47 m to 291.00 m at the top of this interval, becoming less silicified, more foliated and possibly fragmental towards the bottom. Foliation dips 45 degrees, magnetite is 2%. A few garnet veins cut this interval, the largest (5 cm) is at the lower										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		contact. Lower contact is 5 degrees to core axis and is definitely intrusive. Upper contact at 15 degrees.										
306.21	316.28	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Continuation of mafic sill from 291.0 m to 303.4 m. Well-developed chill margins here. Lower contact very sharp at 85 degrees to core axis.	68440	315.28	316.28	1.00	.03	.34	.00	.01	.01	
316.28	317.75	DACITE (SILICA) (SERICITE) Strongly silicified, sericitic pale grey banded rock - probably and altered dacite. Banded texture is caused by 0.5 to 1 cm bands of white, secondary quartz (ie. Veins) which occur about 1 every 2 cm. These quartz bands are separated by silicified, grey, granular sections with 5% silver sericite. 2% tiny (<1 mm) cream-coloured leucoxene spots and trace disseminated pyrite+/- sphalerite+/-tetrahedrite are also noted. Bands dip 70 degrees to core axis.	68441	316.28	317.75	1.47	.10	.69	.00	.02	.01	
317.75	318.13	DACITE (SILICA) (DISSEMINATED SULPHIDES) Pale grey rock with 90% pervasive silica and 5% sheeted yellowish sericite. Disseminated pyrite, galena, sphalerite and tetrahedrite total about 2%. A quartz vein occurs from 217.98 m to 218.13 m.	68442	317.75	318.13	.38	.48	18.17	.06	.25	.50	
318.13	321.50	SEMI-MASSIVE SULPHIDES (SERICITE) (CHLORITE) This interval contains 20 to 30% total sulphides including pyrite (15 to 25%), sphalerite, galena and chalcopyrite. Minor tetrahedrite is also present. Matrix is waxy greenish sericite and chlorite. Leucoxene spots (<1 mm, 5%) are distinctive. This is a massive, homogeneous unit, except for quartz- calcite veins from 319.06 - 319.12 m, 320.04 - 320.24 m, 320.70 - 321.20m.	68443 68444 68445	318.13 319.13 320.13	319.13 320.13 321.50	1.00 1.00 1.37	.55 .38 .99	38.40 21.26 7.54	.06 .08 .09	.97 1.33 .16	2.25 2.86 .32	
321.50	322.40	SEMI-MASSIVE SULPHIDES (SERICITE) Sericite schist with three narrow (<20 cm) high grade massive sulphide bands (321.50 - 321.63 m, 321.88 - 322.06 m, 322.33 - 322.40 m). These bands dip 70 degrees to core axis, and cut across a strong foliation at 0 to 5 degrees. The upper contact is sharp at 68 degrees (between silica and underlying massive sulphide). The lower contact is at 59 degrees, and is a very sharp intrusive contact.	68446	321.50	322.40	.90	11.83	506.40	.94	6.08	10.62	
322.40	344.71	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Same unit as 291.0 m to 303.4 m, this interval continues to 350.34 m.	68447 68448	322.40 343.71	323.40 344.71	1.00 1.00	.10 .03	5.49 .34	.03 .01	.05 .01	.06 .03	
344.71	345.34	SEMI-MASSIVE PYRITE (SILICA) Banded pyrite and silica xenolith within the intrusive. 2% leucoxene spots, 20% waxy green sericite, 20% fine-grained banded and disseminated pyrite. Upper contact dips 70 degrees in the opposite direction to banding which dips 75 degrees. This is pretty much the same unit as 318.13 m to 321.50 m. Lower contact is a narrow fault and quartz vein	68449	344.71	345.34	.63	.27	6.86	.01	.09	.09	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		dipping 50 degrees.										
345.34	350.34	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Continuation of interval beginning at 322.40 m.	68450	345.34	346.34	1.00	.03	.34	.00	.01	.01	
			68451	346.34	347.84	1.50	.03	1.03	.00	.01	.01	
			68452	347.84	349.34	1.50	.03	.34	.01	.01	.01	
			68453	349.34	350.34	1.00	.03	.69	.01	.01	.01	
350.34	360.73	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Typical sericitic tuff (quartz-sericite schist). Pale grey silica layers are separated by 20% sheeted yellow sericite. Foliation dips 70 degrees. Bands of pyrite are 5-10% and trace amounts of tetrahedrite, sphalerite and galena are noted, particularly at the top of the interval. Lower contact is gradational. Two narrow basalt dykes cut this section (354.53 - 354.77 m, 355.44 - 355.82 m). Narrow (2 cm) faults occur at the upper contact of the lower dyke and at 356.62 m.	68454	350.34	351.34	1.00	.58	6.17	.01	.08	.16	
			68455	351.34	352.34	1.00	.89	7.89	.01	.03	.09	
			68456	352.34	353.34	1.00	.41	9.26	.00	.03	.07	
			68457	353.34	354.34	1.00	.10	3.09	.00	.02	.04	
			68458	354.34	355.34	1.00	.07	.69	.00	.01	.01	
			68459	355.34	356.34	1.00	.07	.34	.00	.01	.01	
			68460	356.34	357.34	1.00	.03	1.37	.00	.01	.01	
			68461	357.34	358.34	1.00	.03	1.03	.00	.01	.01	
			68462	358.34	359.34	1.00	.03	1.71	.00	.01	.01	
			68463	359.34	360.73	1.39	.03	.69	.00	.01	.03	
360.73	363.27	DACITE ASH TUFF (SERICITE) (EPIDOTE) Pale grey, fine-grained, weakly foliated dacite. This interval continues to 366.6 m. Gradational upper contact and section of sericitic tuff within this interval are pretty good evidence for this being the protolith of the sericitic tuff unit. Relative to this, the QSP has better foliation, more sericite, pyrite and silica. Patchy epidote and quartz are 2% here. Silver sericite is 5%, sulphides are absent. Lower contact is within a broken section with several quartz veins.	68464	360.73	361.73	1.00	.03	.34	.00	.01	.01	
363.27	363.60	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) Sericitic tuff section with well preserved gradational contacts into the dacite unit.										
363.60	366.60	DACITE ASH TUFF (SERICITE) (EPIDOTE)										
366.60	368.10	FAULT ZONE (SILICA) (CHLORITE) Silicified and brecciated, silica-healed fault zone dips 20 to 40 degrees.										
368.10	373.90	BASALTIC INTRUSION (CHLORITE) Dark green, fine-grained mafic sill. Same as sill higher up in hole, but no magnetite here. Chlorite is 20-30%. This unit is weakly foliated (at 35 degrees) over the upper 3.5 m, but the rest of this interval is massive. Is this foliation related to the fault? Lower contact is very sharp at 72 degrees.	68465	372.90	373.90	1.00	.03	.34	.01	.01	.01	
373.90	381.35	DACITE (SILICA) (SERICITE) Pale grey to yellowish grey silicified dacite. A couple of hematite and	68466	373.90	375.40	1.50	.03	.34	.01	.01	.02	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		magnetite bands occur within this section. Sericite is 2-5%. 2% py is very finely disseminated throughout. A tiny amount of sphalerite and tetrahedrite occurs in stringers. Same lithology as 360.73 m to 366.60m, but more altered.	68467	375.40	376.90	1.50	.07	.34	.01	.01	.01	
			68468	376.90	378.40	1.50	.03	.34	.00	.01	.01	
			68469	378.40	379.90	1.50	.03	.34	.00	.01	.01	
			68470	379.90	381.35	1.45	.03	.34	.00	.01	.01	
381.35	385.03	FAULT ZONE Same lithology as last interval. Core is sheared and several sections of fault gouge are noted (381.35 - 381.54 m, 384.20 - 384.23 m, 384.43 - 384.86 m). A few patchy quartz and pink calcite veins are noted. Fabrics dip 55 to 60 degrees to core axis.	68471	381.35	382.35	1.00	.03	.34	.00	.01	.01	
385.03	388.30	BASALT (CHLORITE) Dark bluish-grey, chloritic basalt (?). Not the intrusive unit. This section is weakly foliated, fine-grained and mottled. 10% patchy chlorite, weak brownish tinge suggests some biotite. This is the same unit seen at the end of BB93002. This interval continues to the end of this hole.										
388.30	389.20	FAULT ZONE Narrow fault zone with the same alteration noted in the last fault zone.										
389.20	398.37	BASALT (CHLORITE) Continuation of interval from 385.03 m.										
398.37		END OF HOLE										

Hole No: BB93008
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6991.00
(metres) E: 12927.01

Azimuth: 62.6
Dip: -61.2
Length (m): 398.37
Elevation: 85.37
(metres)

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 23 1993
Completed: Sept. 28, 1993
Recovery:

Purpose: Test down-dip extent of mineralization in holes BB002, 005, and 006.

Date Logged: Sept. 24, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:38pm

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68440	315.28	316.28	1.00		.03	.34	.00	.01	.01		.1	55	3	49	6.04	17	0	2	402	
68441	316.28	317.75	1.47		.10	.69	.00	.02	.01		1.0	45	203	158	1.55	6	1	2	45	
68442	317.75	318.13	.38		.48	18.17	.06	.25	.50		18.1	604	2410	5077	2.33	52	19	75	10	
68443	318.13	319.13	1.00		.55	38.40	.06	.97	2.25		31.0	615	9071	22112	7.06	117	93	93	4	
68444	319.13	320.13	1.00		.38	21.26	.08	1.33	2.86		23.6	787	12016	26420	4.80	32	110	15	3	
68445	320.13	321.50	1.37		.99	7.54	.09	.16	.32		7.3	944	1353	2785	1.79	15	9	9	8	
68446	321.50	322.40	.90		11.83	506.40	.94	6.08	10.62		208.9	7948	16619	99999	1.71	1627	0	2201	2	
68447	322.40	323.40	1.00		.10	5.49	.03	.05	.06		3.2	242	213	501	4.81	24	2	10	248	
68448	343.71	344.71	1.00		.03	.34	.01	.01	.03		.7	125	41	264	5.82	10	0	2	434	
68449	344.71	345.34	.63		.27	6.86	.01	.09	.09		6.7	122	784	843	5.59	40	3	9	5	
68450	345.34	346.34	1.00		.03	.34	.00	.01	.01		.2	20	18	65	2.97	17	0	3	225	
68451	346.34	347.84	1.50		.03	1.03	.00	.01	.01		.2	42	8	34	3.59	13	0	2	109	
68452	347.84	349.34	1.50		.03	.34	.01	.01	.01		.3	58	21	72	3.77	28	0	2	212	
68453	349.34	350.34	1.00		.03	.69	.01	.01	.01		.6	70	22	84	4.05	22	0	2	197	
68454	350.34	351.34	1.00		.58	6.17	.01	.08	.16		6.4	96	764	1337	2.44	25	7	8	14	
68455	351.34	352.34	1.00		.89	7.89	.01	.03	.09		7.3	63	276	825	2.04	15	4	11	11	
68456	352.34	353.34	1.00		.41	9.26	.00	.03	.07		9.6	50	323	612	3.86	18	2	14	4	
68457	353.34	354.34	1.00		.10	3.09	.00	.02	.04		2.5	40	147	362	3.34	16	1	5	4	
68458	354.34	355.34	1.00		.07	.69	.00	.01	.01		.4	44	12	2	2.58	15	0	2	12	
68459	355.34	356.34	1.00		.07	.34	.00	.01	.01		.3	43	16	5	4.35	19	0	2	7	
68460	356.34	357.34	1.00		.03	1.37	.00	.01	.01		.4	13	19	56	3.67	14	0	2	4	
68461	357.34	358.34	1.00		.03	1.03	.00	.01	.01		1.0	10	14	109	3.13	10	0	4	6	
68462	358.34	359.34	1.00		.03	1.71	.00	.01	.01		1.4	11	12	74	3.18	13	0	3	6	
68463	359.34	360.73	1.39		.03	.69	.00	.01	.03		.4	12	9	307	2.89	11	0	2	10	
68464	360.73	361.73	1.00		.03	.34	.00	.01	.01		.1	1	6	97	.90	4	0	2	126	
68465	372.90	373.90	1.00		.03	.34	.01	.01	.01		.2	57	3	5	3.37	21	0	2	370	
68466	373.90	375.40	1.50		.03	.34	.01	.01	.02		.2	66	18	185	1.45	6	2	2	32	
68467	375.40	376.90	1.50		.07	.34	.01	.01	.01		.4	110	26	70	.96	2	0	2	325	
68468	376.90	378.40	1.50		.03	.34	.00	.01	.01		.1	16	9	32	1.05	4	0	2	723	
68469	378.40	379.90	1.50		.03	.34	.00	.01	.01		.1	14	16	20	.81	2	0	2	568	
68470	379.90	381.35	1.45		.03	.34	.00	.01	.01		.2	20	17	32	.73	5	0	2	471	
68471	381.35	382.35	1.00		.03	.34	.00	.01	.01		.1	9	7	37	.81	4	0	2	427	

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number

Hole No: BB93008
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6991.00
(metres) E: 12927.01

Azimuth: 62.6
Dip: -61.2
Length (m): 398.37
Elevation: 85.37
(metres)
Purpose: Test down-dip extent of mineralization in holes BB002, 005, and 006.

Core Size: BQ
Drill Name: Hagby
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 23 1993
Completed: Sept. 28, 1993
Recovery:

Date Logged: Sept. 24, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:37pm

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68440	315.28	316.28	1.00	1	65	35	1026	5	2	129	2	153	1.49	2	111	3.26	.39	2	1
68441	316.28	317.75	1.47	2	12	5	244	5	5	12	2	9	.43	8	8	.20	.06	2	1
68442	317.75	318.13	.38	22	18	6	196	5	3	90	2	2	.58	8	16	.02	.01	2	1
68443	318.13	319.13	1.00	16	8	6	110	6	5	5	3	2	.13	3	1	.02	.01	2	1
68444	319.13	320.13	1.00	6	19	6	109	5	6	4	2	2	.11	2	1	.05	.01	5	2
68445	320.13	321.50	1.37	4	13	6	2379	5	4	116	2	4	6.12	2	9	.15	.01	2	1
68446	321.50	322.40	.90	20	14	3	182	5	2	87	5	3	.16	2	3	.07	.01	2	2
68447	322.40	323.40	1.00	2	25	19	738	5	2	53	2	125	1.19	2	103	2.56	.31	3	1
68448	343.71	344.71	1.00	2	17	22	551	5	2	29	2	150	.63	2	24	2.52	.24	5	1
68449	344.71	345.34	.63	3	18	16	430	5	2	24	2	36	1.46	3	21	.90	.09	2	1
68450	345.34	346.34	1.00	1	37	14	729	5	2	71	2	75	2.04	2	69	1.91	.22	2	1
68451	346.34	347.84	1.50	2	47	21	758	5	2	87	2	94	2.20	2	93	2.36	.23	2	1
68452	347.84	349.34	1.50	1	51	30	910	5	2	83	2	95	2.55	2	94	2.60	.27	2	1
68453	349.34	350.34	1.00	1	50	29	996	5	2	102	3	99	3.17	2	91	2.42	.26	3	1
68454	350.34	351.34	1.00	6	5	3	109	5	2	11	2	2	.45	4	17	.14	.01	2	1
68455	351.34	352.34	1.00	4	5	4	97	5	3	15	2	2	.59	4	3	.09	.01	3	1
68456	352.34	353.34	1.00	4	6	4	173	5	4	37	2	2	1.12	5	5	.22	.01	3	1
68457	353.34	354.34	1.00	5	29	8	292	5	3	39	2	10	1.15	5	74	.83	.02	2	1
68458	354.34	355.34	1.00	2	193	18	303	5	3	49	7	19	1.82	8	282	1.93	.06	2	2
68459	355.34	356.34	1.00	1	260	24	333	5	3	54	2	27	2.34	11	398	2.65	.07	2	1
68460	356.34	357.34	1.00	4	9	7	76	5	5	13	2	2	.74	14	16	.09	.01	4	2
68461	357.34	358.34	1.00	4	2	5	54	5	4	13	2	2	.54	9	5	.07	.01	3	1
68462	358.34	359.34	1.00	2	6	5	33	5	4	9	2	2	.38	18	6	.05	.01	2	1
68463	359.34	360.73	1.39	3	5	5	157	5	4	14	2	3	1.22	6	15	.09	.02	2	1
68464	360.73	361.73	1.00	1	4	1	208	5	3	33	2	13	1.14	6	4	.29	.10	2	1
68465	372.90	373.90	1.00	3	44	21	568	5	2	131	2	92	1.94	2	210	2.63	.26	2	1
68466	373.90	375.40	1.50	8	10	13	198	9	3	52	2	5	.93	8	30	.13	.01	2	1
68467	375.40	376.90	1.50	5	5	7	249	5	2	60	2	2	.84	10	21	.02	.01	2	1
68468	376.90	378.40	1.50	2	4	2	342	5	3	78	2	3	1.03	14	5	.01	.01	2	2
68469	378.40	379.90	1.50	2	4	1	313	5	3	67	2	2	1.01	16	17	.01	.01	2	1
68470	379.90	381.35	1.45	2	4	2	360	5	3	78	2	2	1.63	13	5	.04	.01	2	2
68471	381.35	382.35	1.00	1	4	3	584	5	4	115	2	2	3.13	21	3	.19	.01	2	1

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm

Hole No: BB93009
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.71
(metres) E: 12900.43

Azimuth: 43.8
Dip: -54.0
Length (m): 170.69
Elevation: 89.26
(metres)
Purpose:

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 28, 1993
Completed: Oct. 1, 1993
Recovery:

Date Logged: SEPT. 30, 1993
Logged By: B. CARMICHAEL
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994
3:41pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	43.8	-54.0															

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	8.16	DACITE (MAGNETITE) (SILICA) (CHLORITE) Dark grey to black, chaotically banded magnetic dacite. Distinct grey to green translucent silica bands (1-5mm) are strongly deformed. Magnetite (2%) and chlorite (5%) occur in hairline fractures and between silica bands. The unit is weakly silicified (10%) and cut by patchy quartz-chlorite-epidote veins, up to 30 cm (1% of interval).										
8.16	9.81	BASALT DYKE (CHLORITE) Chloritic, patchy, dark green basalt dyke.										
9.81	18.85	DACITE (MAGNETITE) (SILICA) (CHLORITE) Same as 0 to 8.16 m.										
18.85	22.33	BASALT DYKE (CHLORITE) (MAGNETITE) Dark green, magnetic (3%) chloritic (30%) fine-grained basalt dyke. 5% patchy epidote and calcite alteration. UC @ 70, LC @ 45.										
22.33	23.22	QUARTZ BRECCIA (MAGNETITE) Brecciated quartz vein may indicate a silica-healed fault zone.										
23.22	40.60	DACITE (MAGNETITE) (SILICA) (CHLORITE) Same unit as 0.0 m to 18.85 m.										
40.60	41.10	BASALT DYKE (CHLORITE) (MAGNETITE) Dark green, fine-grained basalt dyke. Both contacts slightly sheared, UC @ 28, LC @ 45.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
41.10	56.85	FELDSPAR PHYRIC DACITE FLOWS (MAGNETITE) (SILICA) Purplish-grey silicified, intensely fractured, feldspar-phyric dacite flow. Very siliceous unit, 1-2% faint feldspar phenocrysts (1-3 mm). Magnetite is 1-2%, occurring as patches (<1 cm) and fine disseminations. Numerous hairline fractures give the unit a shattered appearance. Quartz, magnetite and epidote occur in some fractures. This is a pretty homogeneous unit. LC is extremely sharp, and is marked by a 20 cm quartz breccia zone which cuts across banding in the underlying unit.										
56.85	67.66	DACITE (CHLORITE) (MAGNETITE) (SILICA) Dark grey, magnetic dacite with distinct deformed silica bands. Bands are 1-5 mm, grey to greenish silica, and are separated by chlorite (10%) and magnetite (5%). These bands are parasitically folded. LC is intrusive.										
67.66	73.15	BASALTIC INTRUSION (CHLORITE) (CALCITE) Fine-grained, dark green chloritic mafic intrusive with 5% calcite in weakly developed bands and stringers. Same intrusive as within zone in hole BB93001. This section is moderately foliated, and dips are variable, but average about 30 degrees.										
73.15	74.37	DACITE (CHLORITE) (MAGNETITE) (SILICA) Same unit as 56.85 m to 67.66 m. This interval continues to 92.76 m. This section is cut by several basalt dykes. Stockwork of hairline chlorite and magnetite stringers locally develops into a crackle breccia. Pervasive silicification of the unit apparently pre-dates chlorite and magnetite. Chaotic banding is present here, but not as common as last DAU section.										
74.37	74.82	BASALT DYKE (CHLORITE) LC @ 52.										
74.82	77.43	DACITE (CHLORITE) (MAGNETITE) (SILICA) Same as 73.15 m to 74.37 m.										
77.43	78.19	FELDSPAR PHYRIC BASALT DYKE Late-stage feldspar-phyric basalt dyke. Weakly propylitic, weakly magnetic within 10 cm of contact only. Well-developed chill margins. UC @ 36, LC broken.										
78.19	83.83	DACITE (CHLORITE) (MAGNETITE) (SILICA) Fine-grained, green chloritic basalt dyke. 5% quartz veins, minor fault zone from 84.6 m to 85 m. Faulting post-dates dyke. Contacts are very irregular.										
83.83	85.00	BASALT DYKE (CHLORITE) Fine-grained, green chloritic basalt dyke. 5% quartz veins, minor fault										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		zone from 84.6 m to 85 m. Faulting post-dates dyke. Contacts are very irregular.										
85.00	88.90	DACITE (CHLORITE) (MAGNETITE) (SILICA) Continuation of 73.15 m to 92.76 m.										
88.90	89.40	BASALT DYKE										
89.40	90.56	DACITE (CHLORITE) (MAGNETITE) (SILICA) Continuation of 73.15 to 92.76 m.										
90.56	90.70	BASALT DYKE Contacts at 10 degrees.										
90.70	90.80	DACITE (CHLORITE) (MAGNETITE) (SILICA) Continuation of 73.15 to 92.76 m.										
90.80	91.10	BASALT DYKE Upper contact at 26 degrees.										
91.10	92.10	DACITE (CHLORITE) (MAGNETITE) (SILICA) Continuation of 73.15 to 92.76 m.										
92.10	92.76	BASALT DYKE Upper contact at 32 degrees.										
92.76	95.73	DACITE FLOW (SILICA) (MAGNETITE) Purplish-grey, intensely fractured massive silicified dacite flow. Fractures are filled with quartz and magnetite. LC is quite sharp at 48 degrees.										
95.73	113.42	DACITE (MAGNETITE) (CHLORITE) (SILICA) Typical chaotically banded dacite. Weakly silicified, with 1% magnetite and 5-10% chlorite occurring between silica bands and in patches. A few patches of quartz-epidote-calcite +/- chlorite are noted. Lower contact is gradational.										
113.42	126.00	DACITE (EPIDOTE) (SILICA) Medium grey, dacite is more granular and massive here - no banding is seen. This section is characterized by mottled epidote, quartz, calcite alteration (10-15%). Contacts are gradational. Magnetite and chlorite (0.1% and 2%) are rare here compared to over- and underlying sections.										
126.00	138.88	DACITE (MAGNETITE) (CHLORITE) (SILICA) Chaotic banding occurs throughout this dacitic interval, and epidote, quartz, calcite alteration is noticeably less intense than in the overlying unit. Silicification is quite strong here. Lower contact is										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		gradational and is marked by a decrease in pervasive silicification, and an increase in mottled epidote, calcite and quartz alteration.										
138.88	144.35	DACITE (EPIDOTE) (MAGNETITE) (CHLORITE) Dark grey dacite. This interval continues to 147.22 m. Weakly silicified, mottled epidote, calcite, quartz alteration is 1-2%. A few dark red massive magnetite and hematite patches (<1cm) noted. Translucent green silica bands are present, but rare (5%). Chlorite is 5%.										
144.35	144.77	BASALT DYKE Upper contact at 30, lower contact at 28.										
144.77	147.22	DACITE (EPIDOTE) (MAGNETITE) (CHLORITE) Continuation of 138.88 to 147.22 m.										
147.22	151.96	DACITE TUFF (SILICA) (MAGNETITE) Grey, medium-grained silicified dacitic tuff. This interval continues to 164.00 m. Chlorite is absent. Magnetite and hematite patches, which may be fragments, are 1% (<1cm), magnetite also occurs as stringers. A weak foliation is present at 70 to 75 degrees, and is quite consistent, as compared to the overlying chaotically banded unit. Foliation is outlined by 1 - 2% silvery sericite. This is quite a distinct and homogeneous unit, unlike most of the overlying interval. Quartz veins are 40% over the lower 1.5 m.										
151.96	152.92	BASALT DYKE (CHLORITE) Dark green, fine-grained basalt dyke. UC @ 70, LC @ 65.										
152.92	164.00	DACITE TUFF (SILICA) (MAGNETITE) Continuation of 147.22 to 164.0 m.										
164.00	170.69	DACITE TUFF (HEMATITIC) (EPIDOTE) Well-banded medium grey hematitic dacite tuff. Discreet hematite + magnetite bands (beds?) are the most distinct feature of this unit. Bands are 1 to 20 mm and dip consistently at 70 degrees. These maroon bands are also very siliceous. Weak mottled epidote alteration is present here.										
170.69		END OF HOLE Hole lost at this depth. Rods stuck, broke off tap and lost rods down hole. BB93010 is re-drill of this hole at -60 degrees.										

Hole No: BB93009
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.71
(metres) E: 12900.43

Azimuth: 43.8
Dip: -54.0
Length (m): 170.69
Elevation: 89.26
(metres)
Purpose:

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 28, 1993
Completed: Oct. 1, 1993
Recovery:

Date Logged: SEPT. 30, 1993
Logged By: B. CARMICHAEL
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:41pm

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number

Hole No: BB93009
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.71
(metres) E: 12900.43

Azimuth: 43.8
Dip: -54.0
Length (m): 170.69
Elevation: 89.26
(metres)
Purpose:

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: Sept. 28, 1993
Completed: Oct. 1, 1993
Recovery:

Date Logged: SEPT. 30, 1993
Logged By: B. CARMICHAEL
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994
3:40pm

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm

Hole No: BB93010
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.83
(metres) E: 12900.55

Azimuth: 42.2
Dip: -58.4
Length (m): 463.30
Elevation: 88.93
(metres)
Purpose: Re-drill of hole BB93009, which was abandoned.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 1, 1993
Completed: October 7, 1993
Recovery:

Date Logged: October 2, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:50pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	42.2	-58.4															
3.1	42.4	-58.3	80.3	44.0	-58.7	157.5	43.8	-58.9	234.7	45.5	-59.6	312.0	46.3	-59.5	389.2	47.3	-59.1
6.2	42.6	-58.2	83.4	44.0	-58.7	160.6	43.8	-58.9	237.8	45.5	-59.6	315.0	46.3	-59.5	392.3	47.3	-59.1
9.3	42.8	-58.2	86.5	44.0	-58.7	163.7	43.8	-58.9	240.9	45.5	-59.6	318.1	46.5	-59.4	395.4	47.3	-59.1
12.4	42.8	-58.2	89.6	44.0	-58.7	166.8	43.8	-58.9	244.0	45.5	-59.6	321.2	46.7	-59.4	398.4	47.3	-59.1
15.4	42.8	-58.2	92.7	44.0	-58.7	169.9	43.8	-58.9	247.1	45.5	-59.6	324.3	46.7	-59.4	401.5	47.5	-59.2
18.5	42.8	-58.2	95.8	44.0	-58.7	173.0	44.0	-59.0	250.2	45.7	-59.6	327.4	46.7	-59.4	404.6	47.5	-59.2
21.6	42.8	-58.2	98.8	44.0	-58.7	176.1	44.0	-59.0	253.3	45.7	-59.6	330.5	46.7	-59.4	407.7	47.5	-59.1
24.7	42.8	-58.2	101.9	44.0	-58.8	179.1	44.0	-59.0	256.4	45.9	-59.6	333.6	46.7	-59.4	410.8	47.5	-59.1
27.8	42.8	-58.3	105.0	44.0	-58.8	182.2	44.2	-59.1	259.5	45.9	-59.6	336.7	46.7	-59.4	413.9	47.7	-59.1
30.9	42.8	-58.4	108.1	44.0	-58.8	185.3	44.2	-59.1	262.5	45.9	-59.6	339.8	46.9	-59.4	417.0	47.7	-59.1
34.0	42.8	-58.5	111.2	44.0	-58.9	188.4	44.4	-59.2	265.6	45.9	-59.6	342.8	46.9	-59.4	420.1	47.7	-59.1
37.1	42.8	-58.5	114.3	43.8	-58.9	191.5	44.4	-59.2	268.7	45.9	-59.6	345.9	46.9	-59.4	423.1	47.7	-59.1
40.2	42.8	-58.5	117.4	43.8	-58.9	194.6	44.4	-59.2	271.8	45.9	-59.6	349.0	46.9	-59.4	426.2	47.7	-59.1
43.2	43.0	-58.6	120.5	43.8	-58.9	197.7	44.6	-59.2	274.9	46.1	-59.6	352.1	46.9	-59.4	429.3	47.7	-59.1
46.3	43.2	-58.6	123.6	43.8	-58.9	200.8	44.8	-59.3	278.0	46.1	-59.6	355.2	46.9	-59.4	432.4	47.9	-59.0
49.4	43.4	-58.6	126.6	43.8	-58.9	203.9	44.8	-59.3	281.1	46.1	-59.5	358.3	47.1	-59.4	435.5	47.9	-59.0
52.5	43.4	-58.6	129.7	43.8	-58.9	206.9	44.8	-59.3	284.1	46.1	-59.5	361.4	47.1	-59.4	438.6	47.9	-59.0
55.6	43.6	-58.6	132.8	43.8	-58.9	210.0	45.0	-59.4	287.2	46.1	-59.5	364.5	47.1	-59.3	441.7	48.1	-59.1
58.7	43.8	-58.6	135.9	43.8	-58.9	213.1	45.0	-59.4	290.3	46.1	-59.5	367.5	47.1	-59.3	444.8	48.3	-59.2
61.8	44.0	-58.7	139.0	43.8	-58.9	216.2	45.0	-59.4	293.4	46.1	-59.5	370.6	47.3	-59.2	447.9	48.3	-59.2
64.9	44.0	-58.7	142.1	43.8	-58.9	219.3	45.0	-59.4	296.5	46.3	-59.5	373.7	47.3	-59.1	450.9	48.3	-59.3
67.9	44.0	-58.7	145.2	43.8	-58.9	222.4	45.0	-59.4	299.6	46.3	-59.5	376.8	47.3	-59.1	454.0	48.5	-59.4
71.0	44.0	-58.7	148.3	43.8	-58.9	225.5	45.2	-59.5	302.7	46.3	-59.5	379.9	47.3	-59.1	457.1	48.5	-59.5
74.1	44.0	-58.7	151.3	43.8	-58.9	228.6	45.2	-59.5	305.8	46.3	-59.5	383.0	47.3	-59.1	460.2	48.5	-59.6
77.2	44.0	-58.7	154.4	43.8	-58.9	231.6	45.5	-59.6	308.9	46.3	-59.5	386.1	47.3	-59.1	463.3	48.5	-59.6

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	8.22	DACITE (MAGNETITE) (CHLORITE) Chaotically banded dacite. Silica bands (1-5 mm) are separated by 1-5%										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		magnetite and 10% chlorite.										
8.22	11.03	BASALT DYKE (CHLORITE) (MAGNETITE) (SILICA) Dark-green, mottled magnetic (5%), chloritic (30%) basalt dyke is cut by 10% patchy quartz+calcite+/-epidote veins. LC @ 80, but is very irregular. Weak foliation dips 0 to 10 degrees.										
11.03	16.77	DACITE (MAGNETITE) (CHLORITE) (SILICA) Dark grey to black, chaotically banded magnetic dacite. Magnetite varies from 1 to 5%. Bands are moderately to well-developed, 1-5 mm and are dark grey silica. Pervasive silicification is variable, averages 30%. Dark greenish-black chlorite is 5 to 10%, occurring between silica bands. Bands dip about 30 degrees, but are quite variable. Locally, kink bands dip 40 to 50 degrees, opposite to banding. This interval continues to 47.33 m.										
16.77	21.46	BASALT DYKE (CHLORITE) (MAGNETITE) Fine-grained, chloritic magnetic basalt dyke or sill. Upper contact is 15 cm section of silica-healed fault breccia at 80 degrees to core axis. 20.44 m to 20.74 m is badly broken, maybe small fault. LC is obscured by quartz-epidote veins.										
21.46	24.64	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 11.03 to 47.33 m.										
24.64	27.80	QUARTZ VEIN (CHLORITE) (MAGNETITE) Patchy white quartz veins and breccias make up 70% of this interval. Chlorite, magnetite, calcite and minor epidote occur in breccia matrix and in veins.										
27.80	29.34	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 11.03 to 47.33 m.										
29.34	31.37	QUARTZ VEIN Same as last quartz vein interval, but veining is 90% here. Patchy quartz veins also occur at 31.68 to 32.07 m and 32.37 to 32.82 m.										
31.37	47.33	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 11.03 m to 47.33 m.										
47.33	56.20	FELDSPAR PHYRIC DACITE FLOWS (MAGNETITE) (SILICA) Purplish-grey, weakly feldspar-phyric dacite flow. Compared to over- and underlying dacite, this unit is more siliceous, contains no chlorite, contains distinct feldspar phenocrysts (2-3%, 1-2 mm) and is more massive. Magnetite (2%) occurs as stringers. A weak foliation has started to slice this unit into bands - suggesting a possible origin for bands in chaotically banded unit. This section is homogeneous, and has gradational										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		contacts.										
56.20	60.40	DACITE (MAGNETITE) (CHLORITE) (SILICA) Chaotically banded, dark grey chloritic and magnetic dacite. Chlorite (10%) and magnetite (2%) occur between silica bands.										
60.40	63.78	BASALT DYKE (CHLORITE) (MAGNETITE) (SILICA) Typical mafic intrusive. Lower 1.5 m is a patchy quartz+chlorite+calcite vein.										
63.78	67.89	DACITE (MAGNETITE) (CHLORITE) (SILICA) Dark grey, chaotically banded dacite. This interval continues to 92.8 m. Magnetite (5%) and chlorite (5%) occur as stringers, and between silica bands. Unit is pervasively silicified, and very hard. Banding may be foliation of a massive dacite. Magnetite and chlorite are secondary. Magnetite-chlorite stockwork is seen where banding is poorly developed.										
67.89	68.08	FAULT ZONE Very minor fault zone.										
68.08	75.69	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 63.78 to 92.80 m.										
75.69	76.75	BASALT DYKE (CHLORITE) (MAGNETITE) Basalt dyke. UC @ 70, LC @ quartz vein.										
76.75	82.00	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 63.78 to 92.8 m.										
82.00	83.80	DACITE 40% Patchy quartz-chlorite veins.										
83.80	85.56	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 63.78 to 92.8 m.										
85.56	86.19	FELDSPAR PHYRIC BASALT DYKE Feldspar-phyric basalt dyke. Good chill margins. Both contacts at 44 degrees.										
86.19	92.80	DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 63.78 to 92.8 m.										
92.80	98.65	DIABASE (CHLORITE) (MAGNETITE) (CALCITE) Dark green, fine-grained, homogeneous, mafic sill. Very weak foliation. 30% chlorite, 2% magnetite, 0.5% calcite stringers. UC @ 35, LC @ about 10 degrees, but is pretty indistinct.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
98.65	100.75	DACITE (MAGNETITE) (CHLORITE) (SILICA) Dark, greenish-grey, weakly chaotically banded magnetic dacite. Banding dips about 45 degrees. Chlorite is 5%, magnetite is 3%. Patchy quartz - epidote - calcite alteration is weak (1%). LC is quite sharp, marked by a colour change reflecting a decrease in magnetite and chlorite, and an increase in pervasive silica.										
100.75	109.20	DACITE (SILICA) (EPIDOTE) Pale-grey, weakly chaotically banded dacite. Patchy and mottled quartz - epidote - calcite alteration is 10%. Magnetite present in trace amounts only. Chlorite is <1%, occurring as hairline stringers. Lower contact is gradational.										
109.20	115.70	DACITE (MAGNETITE) (CHLORITE) (SILICA) Medium-grey, weakly banded magnetic dacite. Banding locally resembles foliation of a massive unit, and some silica bands are very weakly porphyritic. Maybe a strongly foliated massive flow? Magnetite is back up to 5%, chlorite is 5%, epidote - quartz - calcite alteration is 0.5%. Trace pyrite occurs in quartz stringers. Contacts are gradational and are alteration, not lithological contacts.										
115.70	132.20	DACITE (SILICA) (EPIDOTE) Pale grey, distinctly epidote - quartz - calcite mottled non-magnetic dacite. Banding is very weakly developed, silica patches are very pale translucent green in a grey background. Epidote - quartz - calcite patches are 20%. Chlorite and magnetite are <1%. Lower contact is gradational.										
132.20	137.17	DACITE FLOW (SILICA) (MAGNETITE) (CHLORITE) Strongly fractured, weakly foliated silicified dacite - probably a flow. Translucent greenish-grey colour, no ep-qz-ca alteration, shattered to weakly foliated textures. Shattered sections are very faintly feldspar phyric, translucent green silica cut by stockwork of quartz +/- epidote and/or chlorite and magnetite hairline stringers. Contacts are gradational alteration contacts.										
137.17	147.64	DACITE (MAGNETITE) (CHLORITE) (SILICA) Dark grey to black, strongly magnetic, weakly chaotically banded dacite. Mottled ep-qz-ca alteration is 1%. Magnetite is 5 - 8%, chlorite is 5%. Pervasive silicification is quite strong (30 - 40%). Some massive, possibly feldspar phyric sections suggest protolith may be a flow.										
147.64	155.64	DACITE (EPIDOTE) (SILICA) (CHLORITE) Medium grey, chaotically banded, epidote mottled dacite. Magnetite is <1%. Ep-qz-ca mottling is 10%. Distinct translucent green silica bands are chaotically deformed. A few (0.1%) red, hematitic silica layers are noted. Chlorite is 2%. Again, silica layers are very weakly porphyritic.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Foliated flow? Fragmental? This interval continues to 158.1 m.										
155.64	156.20	BASALT DYKE (CHLORITE) Dark green chloritic basalt dyke. UC @ 54, LC @ 90.										
156.20	158.10	DACITE (EPIDOTE) (SILICA) (CHLORITE) Continuation of 147.64 to 158.10 m.										
158.10	164.20	FELDSPAR PORPHYRY DYKE (MAGNETITE) Coarse grained feldspar porphyry dyke. Good chilled margins. UC @ 25, LC @ 39. 5% finely disseminated magnetite and trace disseminated pyrite.										
164.20	171.80	DACITE (HEMATITIC) (SILICA) (MAGNETITE) Pale grey, siliceous, locally well banded, fine-grained dacite. Moderate foliation at 45 degrees. Maroon hematitic patches and bands are present, but rare (<1%). Ep-qz-ca mottling is 0.1%. Quite a homogeneous unit, except for 171.8 m to 172.46 m. This unit continues to 173.74 m.										
171.80	172.46	DACITE (HEMATITIC) This section is well-banded. Bands are 1-10 mm, quite planar, and dip 70 degrees to core axis. Maroon hematite bands are 10%.										
172.46	173.74	DACITE (HEMATITIC) (SILICA) (MAGNETITE) Continuation of 164.2 to 173.74 m.										
173.74	174.47	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Purplish grey, weakly feldspar phyric silicified dacite flow. UC is broken - may be a fault, but doubtful. 2% magnetite and 2% chlorite in stringers.										
174.47	176.56	DACITE (CHLORITE) (MAGNETITE) Dark greyish-green magnetic dacite. Translucent green silica occurs as disrupted bands and patches. Chlorite is 10-15%, magnetite is 5%. Contacts are gradational and indistinct. This interval continues to 183.43 m.										
176.56	176.89	BASALT DYKE (CHLORITE) Basalt dyke. Contacts at 68. Trace pyrite associated with quartz veins.										
176.89	183.43	DACITE (CHLORITE) (MAGNETITE) Continuation of 174.47 to 183.43 m.										
183.43	187.36	DACITE (HEMATITIC) (SILICA) (SERICITE) Dark purplish-grey, hematitic dacite. Magnetite is <1%, and chlorite is absent. Silvery sericite is 1%. Distinct dark red and maroon, hematite patches and disrupted layers are 5%. Moderate foliation is at 70 to 75 degrees. Contacts are gradational and indistinct, primarily										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		differentiated by magnetite and chlorite content and colour.										
187.36	188.05	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Black, fine-grained, weakly banded hematitic rock. This interval continues to 193.57 m. Silica too low for dacite. Hematite and magnetite are disseminated and also occur as dark red patches and bands - total 20%. Chlorite is also about 20%. Weak foliation at 65 degrees. This unit is weakly silicified and contains 1% quartz stringers. Upper contact is fairly sharp at 70 degrees, lower contact (at 193.57 m) is intrusive, but indistinct.										
188.05	188.45	QUARTZ VEIN (EPIDOTE) (DISSEMINATED PYRITE) Epidote (30%) - quartz (60%) vein carries 2% coarse pyrite and 5% calcite. Distinct epidote-green colour. UC @ 72, LC @ 39. Possibly a healed fault.										
188.45	189.50	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Continuation of 187.36 to 193.57 m.										
189.50	190.05	HEMATITIC ANDESITE (CALCITE) Unusual calcareous section. Calcite content goes from 0% to 30% in the same rock type. Distinct white spotted or speckled texture. Chlorite, hematite and magnetite are reduced a bit. Contacts are very sharp, UC @ 75, LC broken.										
190.05	192.27	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Continuation of 187.36 to 193.57 m.										
192.27	192.68	HEMATITIC ANDESITE (CALCITE) Same as last calcareous interval. UC @ 80, LC @ 70.										
192.68	193.57	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Continuation of 187.36 to 193.57 m.										
193.57	198.85	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (CALCITE) Dark-green, fine-grained mafic intrusive. Core is very broken throughout this interval. Magnetite (1%) and calcite (5%) are very patchy. Calcareous sections resemble 189.5 m to 190.05 m. A 10 cm quartz vein at 25 degrees occurs at 196.5 m and contains 15% coarse, brassy pyrite.										
198.85	199.58	DACITE (HEMATITIC) (MAGNETITE) Dark greenish-grey dacite (?) with 5% distinct red hematite +/- magnetite patches and disrupted bands. This unit has the chaotic translucent green silica bands seen in the above DAU units, the only difference being the presence of hematite. This section is very similar to 174.47 m to 183.43 m. This interval continues to 212.1 m.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
199.58	200.68	FELDSPAR PORPHYRY DYKE Grey, fine grained feldspar porphyry dyke of the same type as 158.1 m, but much finer grained here. UC @ 52, LC @ 7.										
200.68	201.71	DACITE (HEMATITIC) (MAGNETITE) Continuation of 198.85 to 212.1 m.										
201.71	202.30	FAULT ZONE (SILICA) 10 Cm of fault gouge plus broken quartz breccia indicate a narrow fault zone.										
202.30	209.87	DACITE (HEMATITIC) (MAGNETITE) Continuation of 198.85 to 212.1 m.										
209.87	210.70	QUARTZ VEIN (CHLORITE) (DISSEMINATED PYRITE) This section is 60% patchy quartz-chlorite veins with 10% coarse blebby pyrite.										
210.70	212.10	DACITE (HEMATITIC) (MAGNETITE) Continuation of 198.85 to 212.1 m.										
212.10	224.16	HEMATITIC DACITE (HEMATITIC) (MAGNETITE) (SERICITE) Medium grey, granular, homogeneous dacite tuff (?). This interval continues to 261.37 m. The most distinct feature of this unit is the presence of 5% maroon hematite +/- magnetite bands and patches, which stand out against the grey background. This is the same unit as at the top of holes BB93001 and BB93002. Patchy and mottled ep-qz-ca alteration is 1% throughout. Silvery sericite (?) is 5% throughout, and finely disseminated magnetite is 1%. 'Granular' texture is caused by 1mm silica patches, surrounded by sericite. No sulphides are present. This is quite a distinctive unit. Banding is 30 degrees @ 217 m, 45 degrees @ 241 m.										
224.16	224.70	BASALT DYKE (CHLORITE)										
224.70	249.94	HEMATITIC DACITE (HEMATITIC) (MAGNETITE) (SERICITE) Continuation of 212.1 to 261.37 m.										
249.94	252.64	FAULT ZONE Broken core, silicified hematitic dacite and a 1.1 m (251.54-252.64 m) quartz- ankerite vein indicate a fault zone. This distinct orange-cream coloured ankerite is also noted in holes BB93001 and BB93002, probably along the same structure.										
252.64	260.06	HEMATITIC DACITE (HEMATITIC) (MAGNETITE) (SERICITE) Continuation of 212.1 to 261.37 m.										
260.06	261.37	HEMATITIC DACITE (CHLORITE) (HEMATITIC) (MAGNETITE)										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Dark green chloritic rock, still with hematite and magnetite bands. Textures are very similar to the main interval, but chlorite here is 15%. Gradational contact. Is rest of interval an altered version of this? Is this andesite or dacite? Lower contact is intrusive, is this contact alteration?.										
261.37	262.75	BASALTIC INTRUSION (CALCITE) (CHLORITE) Dark greenish-black mafic intrusive. Wispy white bands of calcite are 10%, no magnetite, 40% chlorite.										
262.75	267.00	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Dark green, fine-grained chloritic (40%), magnetic (5%) mafic intrusive.										
267.00	279.90	BASALTIC INTRUSION (PROPYLITIC) (MAGNETITE) Weakly propylitized homogeneous fine- to medium-grained mafic sill. Distinct epidote-green colour, 1-5% disseminated magnetite. Propylitic alteration contact is quite sharp at 267.0m. LC @ 23 degrees. Weak banding is noted at 40 to 45 degrees over the lower 40 cm, and propylitic alteration dies out over this same section.										
279.90	280.73	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) (CHLORITE) Translucent green to grey, weakly feldspar phyric silicified dacite flow. Faint white feldspar phenocrysts are 1% and <1mm. Disseminated magnetite is 0.5%, pervasive chlorite is 2%. Silicification is moderate to intense, intensely silicified section described below. This interval continues to 282.65 m.										
280.73	282.00	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Intensely silicified, grey dacite. This is a massive grey rock, 90% silica with 1% feldspar phenocrysts. It is cut by a stockwork of magnetite stringers, 1-5 mm and 5%. Contacts are gradational.										
282.00	282.30	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) (CHLORITE)										
282.30	282.65	FAULT ZONE Brecciated, quartz-healed fault zone.										
282.65	283.10	VOLCANIC SEDIMENTS (MAGNETITE) Bedded, brownish-green magnetic volcanic siltstone. This is very similar to BB93002 at 145m. Bedding is 45 to 50 degrees, and 1-5 cm. Magnetite is 5%. Brownish cast possibly due to fine-grained biotite. This interval continues to 284.27 m.										
283.10	283.40	QUARTZ VEIN (CALCITE) (ANKERITE) White quartz vein with 10% white calcite and 10% orange ankerite(?).										
283.40	284.27	VOLCANIC SEDIMENTS (MAGNETITE)										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Continuation of interval from 282.65 m to 284.27 m.										
284.27	286.89	FELDSPAR PHYRIC DACITE FLOWS (SILICA) (MAGNETITE) Grey, intensely silicified, weakly feldspar phyric dacite flow with 5% magnetite stringers. Same as 280.73 m to 282.0 m. UC conformable at 45 degrees, LC quite sharp, but irregular.										
286.89	289.13	VOLCANIC SEDIMENTS (CALCITE) (CHLORITE) (MAGNETITE) A heterogeneous interval, mainly of green and maroon volcanic siltstone, similar to 282.65 m to 284.27 m. Calcite is 5 to 15%, bedding is no longer planar. Lower contact sharp at 70 degrees.										
289.13	291.77	DACITE (STRINGER PYRITE) (SILICA) (SERICITE) Intensely silicified dacite(?). This unit is 80% silica, 10% stringer pyrite, and 5% sericite. Trace sphalerite and galena noted towards lower contact. This interval continues to 296.13 m.	68472 68473	289.13 290.60	290.60 291.77	1.47 1.17	.27 .10	17.83 5.49	.00 .01	.02 .02	.08 .03	
291.77	293.74	DACITE (CHLORITE) (MAGNETITE) Less silicified dacite and volcanic sediments. Magnetite layers (beds?) to 2 cm noted. Gradational contacts. This section is similar to 286.89 m to 289.13m.	68474 68475	291.77 292.77	292.77 293.74	1.00 .97	.03 .10	.34 2.06	.00 .01	.01 .04	.04 .06	
293.74	296.13	DACITE (STRINGER PYRITE) (SILICA) (SERICITE) Continuation of interval from 289.13 m to 296.13 m.	68476 68477	293.74 295.20	295.20 296.13	1.46 .93	.38 .72	11.31 7.89	.02 .03	.18 .03	.15 .06	
296.13	307.08	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Massive, weakly to moderately propylitized mafic sill. This interval continues to 337.84 m. This is the same unit as 261.37 m to 279.9 m. It is primarily fine grained, but some feldspar phyric sections are noted. Freshest rock is dark green, with 30% pervasive chlorite, 2% finely disseminated magnetite and a fine grained, weakly spotted appearance. 'Spots' are diffuse patches of granular silica with disseminated magnetite, and are 5% and 1-5 mm. In areas of intense epidote-quartz +/- calcite alteration, these silica spots become distinct quartz spots, reminiscent of amygdules. Distinct feldspar phyric sections are noted, but only occur below 320 m. These porphyritic sections are similar to late-stage feldspar phyric basalt dykes noted elsewhere, but seem to grade in and out of fine grained intrusive here. Upper contact is sharp at 68 degrees, lower contact (337.84 m) is at 45 degrees.	68478	296.13	297.63	1.50	.07	2.06	.03	.01	.02	
307.08	307.63	FAULT ZONE Broken core and minor fault gouge.										
307.63	318.56	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Continuation of interval from 296.13 m to 337.84 m.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
318.56	321.50	FAULT ZONE Broken core, local brecciated, silicified sections and an envelope of white stringers (aragonite?) indicate a fairly major fault zone. Feldspar phyric sections are seen below here, but not above, although the main lithology doesn't change.										
321.50	323.60	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Continuation of interval from 296.13 m to 337.84 m.										
323.60	323.80	QUARTZ VEIN (DISSEMINATED PYRITE) (CHLORITE) White quartz-chlorite vein with 20% coarse pyrite, 1% magnetite and 1% blebby chalcopyrite. Contacts dip 27 degrees.										
323.80	337.84	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Continuation of interval from 296.13 m to 337.84 m.										
337.84	342.00	DACITE LAPILLI TUFF (SILICA) (CHLORITE) (DISSEMINATED PYRITE) This is the same unit seen in the immediate footwall to the massive sulphide mineralization in BB93002. Moderately foliated, possibly fragmental unit. Foliation is at 60 degrees. Pale, translucent green silica patches may be fragments. Matrix is also siliceous and contains 10% brownish chlorite (biotite?). Silicification is moderate to intense, trace sphalerite noted in intensely silicified sections. 1-2% disseminated pyrite. Lower contact is intrusive at 60 degrees.										
342.00	346.75	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Fine-grained homogeneous, massive dark green chloritic (20%), magnetic (1%) mafic intrusive. Lower contact very sharp at 56 degrees.	68479	345.75	346.75	1.00	.03	.69	.00	.01	.01	
346.75	348.03	ALTERED FACIES (SERICITE) (SILICA) (STRINGER PYRITE) Grey to yellowish-grey, strongly quartz-sericite-pyrite altered rock. This interval continues to 361.1 m. Unit is moderately to strongly foliated, average about 50 degrees. Foliation is outlined by 10-20% sheeted yellow to cream coloured sericite. Fine grained pyrite occurs in foliation parallel bands and stringers, average 5-10%. Trace sphalerite and tetrahedrite noted within pyritic sections, particularly from 352 to 353 m. Lower contact is gradational.	68480	346.75	348.03	1.28	.07	1.37	.01	.01	.02	
348.03	348.29	BASALT DYKE (DISSEMINATED PYRITE) Narrow basalt dyke. LC @ 60, UC @ 45. Trace chalcopyrite noted in quartz - chlorite stringer.	68481	348.03	348.29	.26	.41	7.20	.09	.01	.03	
348.29	359.10	ALTERED FACIES (SERICITE) (SILICA) (STRINGER PYRITE) Continuation of interval from 346.75 m to 361.1 m.	68482	348.29	349.80	1.51	.07	.69	.00	.01	.02	
			68483	349.80	351.30	1.50	.21	1.71	.00	.01	.03	
			68484	351.30	352.80	1.50	2.54	19.54	.01	.08	.15	
			68485	352.80	354.30	1.50	1.13	11.66	.00	.05	.10	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
			68486	354.30	355.80	1.50	.10	1.03	.00	.01	.06	
			68487	355.80	357.30	1.50	.03	.69	.00	.01	.09	
			68488	357.30	359.10	1.80	.03	.34	.00	.01	.04	
359.10	360.24	FELDSPAR PHYRIC BASALT DYKE (CHLORITE) (MAGNETITE) Dark green, feldspar phyric (15%, 1-3 mm) mafic dyke. Well developed chill margins. UC along a small shear at 23 degrees, LC @ 21.	68489	359.10	360.24	1.14	.03	.69	.00	.01	.02	
360.24	361.10	ALTERED FACIES (SERICITE) (SILICA) (STRINGER PYRITE) Continuation of interval from 346.75 m to 361.1 m.	68490	360.24	361.10	.86	.07	.34	.00	.01	.01	
361.10	367.27	DACITE (SILICA) (SERICITE) Intensely silicified grey to greenish-grey dacite. This interval continues to 373.10 m. A few reddish hematite and magnetite bands and patches suggest this is dacite ash tuff. Trace disseminated magnetite is also noted. This is the same unit seen in BB93008 at 381 m. It is weakly foliated (60 to 65). Foliation is outlined by sheeted sericite (5%), giving a weak, banded appearance, with 1 foliation plane per 2mm. Local purplish tinge and fine grained massive appearance suggest dacite flow protolith. Silicification is intense (85-90%). Very fine disseminated pyrite is about 0.5%. Upper contact is gradational into sericite schist, lower contact is at a fault zone. This is also similar to upper, well banded sericitic zone in BB93007.	68491	361.10	362.60	1.50	.07	.34	.00	.01	.01	
367.27	367.94	BASALT DYKE (CHLORITE) Fine-grained, dark green mafic dyke or sill. UC @ 80, LC @ 40.										
367.94	368.20	DACITE (SILICA) (SERICITE) Continuation of interval from 361.1 m to 373.1 m.										
368.20	369.48	BASALT DYKE (CHLORITE) Basalt dyke. Both contacts at 80 degrees.										
369.48	373.10	DACITE (SILICA) (SERICITE) Continuation of interval from 361.1 m to 373.1 m.										
373.10	373.94	FAULT Very nice fault breccia. Fault planes dip 45 degrees.										
373.94	381.86	DACITE (SERICITE) (SILICA) Most of this section is a fault zone, as indicated by gougey sections and crushed core. Same lithology as last interval, with a bit more sericite (10-15%) and less silica. This is approaching the QSP unit, but still contains only 1% disseminated pyrite. Foliation is stronger than in the last interval, with foliation planes often forming slip surfaces. Foliation averages about 45 degrees, but is often steeper. Lower contact is gradational. This interval continues to 387.1 m.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
381.86	383.98	FELDSPAR PHYRIC BASALT DYKE (CHLORITE) Feldspar phyric mafic dyke. Dark green, good chill margins. UC @ 35, LC @ 28. Dyke post-dates faulting, although LC is a minor slip.										
383.98	384.80	DACITE (SERICITE) (SILICA) Continuation of interval from 373.94 m to 387.1 m.										
384.80	385.85	BASALT DYKE (CHLORITE) Fine grained massive chloritic dark greenish-black basalt dyke. This dyke contains patchy quartz vein material, and appears to have been deformed by the fault.										
385.85	387.10	DACITE (SERICITE) (SILICA) Continuation of interval from 373.94 m to 387.1 m.	68492	385.85	387.10	1.25	.14	.34	.00	.01	.01	
387.10	391.64	VOLCANICS, FELSIC, NON-SCHISTOS (DISSEMINATED PYRITE) (SILICA) Pale grey, granular silica with 5% disseminated pyrite and 5% cream coloured speckles (leucoxene?). Probable felsic volcanic protolith, but hard to identify due to intense alteration. This is a very homogeneous, massive unit. Very weak foliation at 55-60 degrees. Sericite content about 1%. Lower contact is gradational over 20 cm. Sericite increases, foliation becomes more intense and silica becomes more glassy, less granular.	68493	387.10	388.50	1.40	.07	1.03	.00	.01	.01	
			68494	388.50	390.00	1.50	.10	.34	.00	.01	.01	
			68495	390.00	391.64	1.64	.07	.34	.00	.01	.01	
391.64	392.32	BASALT DYKE (CHLORITE) Basalt dyke. UC @ 22, LC @ 39.	68496	391.64	392.32	.68	.27	1.37	.00	.01	.01	
392.32	398.99	VOLCANICS, FELSIC, NON-SCHISTOS (DISSEMINATED PYRITE) (SILICA) Continuation of interval from 387.1 m to 398.99 m.	68497	392.32	393.80	1.48	.14	.69	.00	.01	.01	
			68498	393.80	395.30	1.50	.27	.69	.00	.01	.01	
			68499	395.30	396.80	1.50	.14	.69	.00	.01	.01	
			68500	396.80	398.99	2.19	.21	1.71	.00	.01	.03	
398.99	402.54	ALTERED FACIES (SERICITE) (SILICA) (STRINGER PYRITE) Very siliceous, yellowish-grey quartz-sericite-pyrite altered rock. Contorted foliation is moderately developed and outlined by sheeted yellow sericite (5-10%). Trace sphalerite and tetrahedrite. More siliceous and less sericitic than the usual QSP. Both contacts are gradational.	63151	398.99	400.50	1.51	.24	4.11	.00	.03	.02	
			63152	400.50	401.50	1.00	.27	6.51	.00	.13	.03	
			63153	401.50	402.54	1.04	.89	13.37	.01	.04	.03	
402.54	410.30	VOLCANICS, FELSIC, NON-SCHISTOS (SILICA) (DISSEMINATED PYRITE) (SERICITE) Same as last FEVL, but a bit more siliceous, and with a bit more sericite (5%). Pyrite is still 5%, mostly disseminated, but with a few ptygmatic quartz- pyrite stringers. Intense silica-pyrite alteration has destroyed primary textures. Foliation is very weak to absent. Both contacts are	63154	402.54	404.00	1.46	.03	1.03	.00	.01	.01	
			63155	404.00	405.50	1.50	.03	.34	.00	.06	.02	
			63156	405.50	407.00	1.50	.07	.34	.00	.03	.06	
			63157	407.00	408.50	1.50	.03	.34	.00	.01	.05	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		gradational. Pale grey colour, massive, homogeneous, weak granular texture.	63158	408.50	410.30	1.80	.03	.34	.00	.01	.01	
410.30	411.28	ALTERED FACIES (SILICA) (SERICITE) (STRINGER PYRITE) Yellowish-grey, intensely silica-sericite-pyrite altered rock. Sericite (10-15%) is pale yellow and is sheeted between lenticular silica bands. Total pyrite content is 10%, occurring both disseminated throughout, and in ptygmatic quartz sulphide stringers, occasionally with trace sphalerite and tetrahedrite. Weak banding is contorted and irregular. This interval continues to 429.89m.	63159	410.30	411.28	.98	.03	.34	.00	.01	.01	
411.28	411.83	DACITE (CHLORITE) (SILICA) Green, chloritic dacite. This is very similar to the chaotically banded dacite, with translucent green silica bands separated by 10% chlorite. Gradational contacts. Pretty good evidence for this as protolith to the QSP.	63160	411.28	411.83	.55	.03	.34	.01	.01	.01	
411.83	429.89	ALTERED FACIES (SILICA) (SERICITE) (STRINGER PYRITE) Continuation of interval from 410.3 m to 429.89 m.	63161	411.83	413.00	1.17	.03	.34	.00	.01	.01	
			63162	413.00	414.50	1.50	.03	1.71	.00	.01	.05	
			63163	414.50	416.00	1.50	.03	.69	.00	.01	.02	
			63164	416.00	417.50	1.50	.03	2.06	.00	.01	.02	
			63165	417.50	419.00	1.50	.03	.34	.00	.01	.01	
			63166	419.00	420.50	1.50	.07	1.03	.00	.01	.02	
			63167	420.50	422.00	1.50	.07	1.37	.00	.01	.02	
			63168	422.00	423.50	1.50	.14	4.11	.01	.03	.11	
			63169	423.50	425.00	1.50	.03	.34	.00	.01	.01	
			63170	425.00	426.50	1.50	.03	.34	.00	.01	.01	
			63171	426.50	428.00	1.50	.03	.34	.00	.01	.01	
			63172	428.00	429.89	1.89	.03	.34	.00	.01	.01	
429.89	463.30	DACITE (CHLORITE) (MAGNETITE) (EPIDOTE) Dark greenish-grey, chaotically banded dacite. Very similar to hanging wall lithologies. Distinct translucent green chaotic bands of silica, 10% chlorite and 0.5 to 1% disseminated magnetite. Patchy ep-qz-ca alteration is 1-2%. Banding is variable throughout this section, but commonly dips 0 to 10 degrees. Discreet, fine-grained chloritic mafic sills are noted below, but in addition to these, several 'patches' of this material are scattered throughout the interval, probably indicating very irregular intrusive contacts. Upper contact is gradational over 3-4 mm and leaves little doubt that this is the protolith for the overlying QSP. Is this alteration stratiform or crosscutting?.	63173	429.89	431.50	1.61	.03	.34	.00	.01	.01	

Hole No: BB93010
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.83
(metres) E: 12900.55

Azimuth: 42.2
Dip: -58.4
Length (m): 463.30
Elevation: 88.93
(metres)
Purpose: Re-drill of hole BB93009, which was abandoned.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 1, 1993
Completed: October 7, 1993
Recovery:

Date Logged: October 2, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:48pm

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
68472	289.13	290.60	1.47		.27	17.83	.00	.02	.08		16.9	58	144	729	5.04	39	4	8	7	
68473	290.60	291.77	1.17		.10	5.49	.01	.02	.03		4.3	145	165	267	3.83	66	0	5	14	
68474	291.77	292.77	1.00		.03	.34	.00	.01	.04		.3	22	9	329	5.72	8	0	2	519	
68475	292.77	293.74	.97		.10	2.06	.01	.04	.06		2.6	126	289	509	4.78	14	1	3	151	
68476	293.74	295.20	1.46		.38	11.31	.02	.18	.15		10.1	172	1417	1393	3.05	41	6	11	23	
68477	295.20	296.13	.93		.72	7.89	.03	.03	.06		6.9	301	221	572	3.29	30	3	2	56	
68478	296.13	297.63	1.50		.07	2.06	.03	.01	.02		2.4	217	6	147	5.53	9	0	2	329	
68479	345.75	346.75	1.00		.03	.69	.00	.01	.01		.3	37	2	83	4.41	4	0	2	398	
68480	346.75	348.03	1.28		.07	1.37	.01	.01	.02		1.3	63	17	157	3.94	21	1	4	38	
68481	348.03	348.29	.26		.41	7.20	.09	.01	.03		7.1	832	2	257	4.70	7	0	2	104	
68482	348.29	349.80	1.51		.07	.69	.00	.01	.02		1.0	28	13	142	3.47	19	0	3	59	
68483	349.80	351.30	1.50		.21	1.71	.00	.01	.03		1.6	35	34	273	5.55	48	0	9	60	
68484	351.30	352.80	1.50		2.54	19.54	.01	.08	.15		18.4	84	640	1343	4.59	41	5	28	44	
68485	352.80	354.30	1.50		1.13	11.66	.00	.05	.10		10.6	45	427	998	2.36	28	3	17	60	
68486	354.30	355.80	1.50		.10	1.03	.00	.01	.06		.3	24	9	539	1.86	7	2	2	85	
68487	355.80	357.30	1.50		.03	.69	.00	.01	.09		.3	17	24	893	1.81	6	3	2	98	
68488	357.30	359.10	1.80		.03	.34	.00	.01	.04		.2	12	16	402	2.13	6	2	3	69	
68489	359.10	360.24	1.14		.03	.69	.00	.01	.02		.2	15	8	145	4.12	2	0	2	423	
68490	360.24	361.10	.86		.07	.34	.00	.01	.01		.3	16	8	24	1.09	3	0	3	221	
68491	361.10	362.60	1.50		.07	.34	.00	.01	.01		.1	37	6	19	1.18	3	0	2	278	
68492	385.85	387.10	1.25		.14	.34	.00	.01	.01		.3	14	6	43	1.50	3	0	3	119	
68493	387.10	388.50	1.40		.07	1.03	.00	.01	.01		.3	13	8	31	1.51	3	0	4	99	
68494	388.50	390.00	1.50		.10	.34	.00	.01	.01		.5	16	8	33	1.88	5	1	5	78	
68495	390.00	391.64	1.64		.07	.34	.00	.01	.01		.4	12	7	34	1.91	4	1	3	115	
68496	391.64	392.32	.68		.27	1.37	.00	.01	.01		.5	39	2	69	3.01	7	0	2	109	
68497	392.32	393.80	1.48		.14	.69	.00	.01	.01		.4	15	15	45	2.76	7	0	2	84	
68498	393.80	395.30	1.50		.27	.69	.00	.01	.01		1.4	17	33	44	3.44	8	0	6	52	
68499	395.30	396.80	1.50		.14	.69	.00	.01	.01		1.4	23	41	115	4.16	11	0	7	41	
68500	396.80	398.99	2.19		.21	1.71	.00	.01	.03		2.6	27	73	277	4.17	18	1	8	40	
63151	398.99	400.50	1.51		.24	4.11	.00	.03	.02		4.3	28	39	171	2.66	68	1	10	62	
63152	400.50	401.50	1.00		.27	6.51	.00	.13	.03		6.0	34	91	277	2.58	27	1	14	59	
63153	401.50	402.54	1.04		.89	13.37	.01	.04	.03		13.4	57	119	241	2.51	98	1	23	33	

Sample No.	From (m)	To (m)	Inter-val (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
63154	402.54	404.00	1.46		.03	1.03	.00	.01	.01		.9	14	21	73	2.55	40	0	4	77	
63155	404.00	405.50	1.50		.03	.34	.00	.06	.02		.9	19	23	148	2.18	19	2	5	69	
63156	405.50	407.00	1.50		.07	.34	.00	.03	.06		.8	16	27	514	2.06	31	13	5	48	
63157	407.00	408.50	1.50		.03	.34	.00	.01	.05		.3	14	13	427	2.11	21	6	3	67	
63158	408.50	410.30	1.80		.03	.34	.00	.01	.01		.4	13	13	81	2.21	15	1	3	62	
63159	410.30	411.28	.98		.03	.34	.00	.01	.01		.2	18	11	22	1.83	25	0	2	137	
63160	411.28	411.83	.55		.03	.34	.01	.01	.01		.4	55	6	63	1.01	7	0	2	236	
63161	411.83	413.00	1.17		.03	.34	.00	.01	.01		.4	17	22	46	2.34	9	0	3	88	
63162	413.00	414.50	1.50		.03	1.71	.00	.01	.05		.7	28	72	465	2.82	10	2	2	72	
63163	414.50	416.00	1.50		.03	.69	.00	.01	.02		.9	27	40	154	3.61	11	0	6	50	
63164	416.00	417.50	1.50		.03	2.06	.00	.01	.02		.7	28	48	212	2.87	8	1	3	64	
63165	417.50	419.00	1.50		.03	.34	.00	.01	.01		.7	19	22	69	2.95	10	0	5	65	
63166	419.00	420.50	1.50		.07	1.03	.00	.01	.02		1.0	24	32	176	3.11	10	1	7	56	
63167	420.50	422.00	1.50		.07	1.37	.00	.01	.02		1.4	27	55	152	3.29	10	1	6	69	
63168	422.00	423.50	1.50		.14	4.11	.01	.03	.11		3.9	84	266	951	5.62	12	4	13	56	
63169	423.50	425.00	1.50		.03	.34	.00	.01	.01		.4	18	12	73	2.33	5	0	2	82	
63170	425.00	426.50	1.50		.03	.34	.00	.01	.01		.6	29	4	90	2.35	6	0	6	103	
63171	426.50	428.00	1.50		.03	.34	.00	.01	.01		.1	9	10	33	1.49	4	0	2	105	
63172	428.00	429.89	1.89		.03	.34	.00	.01	.01		.1	13	7	43	1.06	2	0	2	153	
63173	429.89	431.50	1.61		.03	.34	.00	.01	.01		.1	16	5	34	1.35	2	0	2	256	

Hole No: BB93010
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7040.83
(metres) E: 12900.55

Azimuth: 42.2
Dip: -58.4
Length (m): 463.30
Elevation: 88.93
(metres)
Purpose: Re-drill of hole BB93009, which was abandoned.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 1, 1993
Completed: October 7, 1993
Recovery:

Date Logged: October 2, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:47pm

Sample No.	From (m)	To (m)	Interval (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
68472	289.13	290.60	1.47	3	5	10	691	5	2	96	2	10	.47	2	13	.23	.04	2	1
68473	290.60	291.77	1.17	1	6	20	1192	5	2	84	2	27	.41	2	5	.89	.13	2	1
68474	291.77	292.77	1.00	1	3	2	1364	5	2	96	2	24	.66	4	4	.52	.13	2	1
68475	292.77	293.74	.97	1	4	6	1716	5	2	61	2	25	.66	4	10	.76	.12	2	1
68476	293.74	295.20	1.46	4	5	11	797	5	2	29	2	13	.95	4	6	.32	.06	2	2
68477	295.20	296.13	.93	1	4	3	1192	5	2	42	2	21	.66	3	3	.99	.09	2	1
68478	296.13	297.63	1.50	1	15	18	1186	5	2	42	2	182	1.08	2	10	1.58	.23	2	1
68479	345.75	346.75	1.00	1	40	21	896	5	2	37	2	118	.66	2	103	3.42	.18	2	1
68480	346.75	348.03	1.28	4	13	6	212	5	2	49	2	12	.35	4	25	.73	.06	5	1
68481	348.03	348.29	.26	1	89	24	974	5	2	48	2	127	.69	2	189	4.14	.22	2	1
68482	348.29	349.80	1.51	2	23	9	290	5	3	43	2	16	.77	2	40	.88	.05	2	3
68483	349.80	351.30	1.50	3	15	10	43	5	3	8	2	2	.18	2	2	.15	.01	5	9
68484	351.30	352.80	1.50	3	6	5	135	5	2	48	2	2	.94	2	13	.14	.01	5	2
68485	352.80	354.30	1.50	3	3	6	65	5	3	16	2	2	.49	5	6	.07	.01	3	4
68486	354.30	355.80	1.50	2	2	3	133	5	3	23	2	2	.99	4	4	.08	.01	2	1
68487	355.80	357.30	1.50	2	3	4	174	5	3	28	2	4	1.17	3	14	.07	.01	2	1
68488	357.30	359.10	1.80	2	2	6	320	5	4	68	2	5	2.22	2	4	.19	.01	2	1
68489	359.10	360.24	1.14	1	4	14	612	5	2	161	2	89	2.26	4	3	1.57	.21	2	1
68490	360.24	361.10	.86	3	6	4	527	5	4	134	2	4	2.85	10	16	.09	.01	2	2
68491	361.10	362.60	1.50	2	5	1	320	5	3	54	2	3	1.23	15	5	.02	.01	2	1
68492	385.85	387.10	1.25	2	5	4	473	5	4	96	2	5	3.42	10	4	.62	.01	2	1
68493	387.10	388.50	1.40	2	5	3	379	5	5	53	2	2	2.70	10	11	.31	.01	2	1
68494	388.50	390.00	1.50	2	3	4	182	5	4	33	2	2	1.49	11	3	.20	.02	2	1
68495	390.00	391.64	1.64	2	3	3	328	5	3	70	2	3	2.55	3	3	.43	.04	2	2
68496	391.64	392.32	.68	1	355	42	499	5	2	102	2	33	3.75	2	469	3.44	.09	2	1
68497	392.32	393.80	1.48	3	6	5	248	5	4	54	2	2	1.95	5	7	.39	.03	5	2
68498	393.80	395.30	1.50	4	4	4	195	5	5	42	2	2	1.51	3	3	.17	.03	2	1
68499	395.30	396.80	1.50	4	4	4	102	5	4	21	2	2	.76	7	13	.09	.01	2	1
68500	396.80	398.99	2.19	4	4	4	56	5	5	9	2	2	.38	9	4	.04	.01	2	1
63151	398.99	400.50	1.51	4	4	3	39	6	4	4	2	2	.10	11	4	.02	.01	4	1
63152	400.50	401.50	1.00	3	5	4	46	5	3	4	2	2	.09	7	16	.02	.01	5	2
63153	401.50	402.54	1.04	12	6	3	46	5	3	14	2	2	.19	7	7	.02	.01	5	1

Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
63154	402.54	404.00	1.46	3	3	4	117	5	3	21	2	2	.91	3	5	.06	.02	5	1
63155	404.00	405.50	1.50	4	4	4	136	5	3	23	2	2	1.29	3	18	.03	.02	4	1
63156	405.50	407.00	1.50	3	5	4	129	7	4	41	2	2	1.39	3	6	.01	.02	3	1
63157	407.00	408.50	1.50	3	5	3	100	5	2	40	2	2	.86	3	6	.01	.01	4	1
63158	408.50	410.30	1.80	4	5	4	156	5	2	39	2	2	1.54	2	20	.04	.02	3	1
63159	410.30	411.28	.98	4	4	4	276	5	2	61	2	2	2.41	2	5	.18	.03	4	2
63160	411.28	411.83	.55	1	4	1	481	5	3	87	2	6	3.07	2	4	.59	.06	3	1
63161	411.83	413.00	1.17	4	6	4	244	5	3	41	2	2	1.20	4	19	.29	.02	4	1
63162	413.00	414.50	1.50	3	3	4	248	5	3	32	2	2	.83	6	5	.35	.01	3	1
63163	414.50	416.00	1.50	4	3	5	52	11	5	10	2	2	.20	7	4	.05	.01	4	1
63164	416.00	417.50	1.50	5	4	4	223	5	3	28	2	2	1.07	6	20	.06	.01	3	1
63165	417.50	419.00	1.50	3	4	4	75	5	4	27	2	2	.51	2	5	.05	.01	3	1
63166	419.00	420.50	1.50	3	4	4	38	5	3	11	2	2	.16	2	5	.02	.01	4	1
63167	420.50	422.00	1.50	4	3	4	43	5	4	16	2	2	.31	3	15	.03	.01	5	1
63168	422.00	423.50	1.50	3	4	4	88	5	3	44	2	2	.76	2	6	.13	.01	6	1
63169	423.50	425.00	1.50	5	56	8	204	5	2	74	2	6	1.75	2	48	.69	.04	2	1
63170	425.00	426.50	1.50	4	133	16	320	6	2	99	2	14	2.70	2	132	1.12	.07	3	2
63171	426.50	428.00	1.50	4	6	5	169	5	2	38	2	2	1.42	2	6	.07	.02	2	1
63172	428.00	429.89	1.89	4	3	5	149	5	2	46	2	2	1.24	2	5	.04	.01	3	1
63173	429.89	431.50	1.61	3	5	2	295	5	2	127	2	4	2.29	2	20	.17	.04	2	1

Hole No: BB93011
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7208.32
(metres) E: 12727.57

Azimuth: 42.8
Dip: -54.8
Length (m): 472.44
Elevation: 126.17
(metres)
Purpose: Large step-out down dip of open cut mineralization.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 8, 1993
Completed: October 15, 1993
Recovery:

Date Logged: October 10, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994
3:56pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	42.8	-54.8															
3.2	42.9	-54.8	82.4	44.7	-56.0	161.7	45.7	-57.2	241.0	46.3	-57.6	320.2	47.0	-58.5	399.5	48.2	-59.4
6.3	43.3	-54.8	85.6	44.7	-56.0	164.9	45.7	-57.3	244.1	46.3	-57.6	323.4	47.0	-58.4	402.7	48.2	-59.4
9.5	43.6	-54.8	88.8	44.8	-56.0	168.1	45.9	-57.4	247.3	46.3	-57.6	326.6	47.0	-58.4	405.9	48.4	-59.5
12.7	43.8	-55.1	91.9	44.8	-56.1	171.2	45.9	-57.5	250.5	46.3	-57.6	329.8	47.0	-58.4	409.0	48.4	-59.5
15.9	44.0	-55.1	95.1	45.0	-56.2	174.4	45.9	-57.5	253.7	46.5	-57.7	332.9	47.0	-58.4	412.2	48.4	-59.5
19.0	44.1	-55.2	98.3	45.2	-56.2	177.6	45.9	-57.5	256.8	46.5	-57.7	336.1	47.0	-58.4	415.4	48.4	-59.5
22.2	44.1	-55.3	101.5	45.2	-56.2	180.7	45.9	-57.5	260.0	46.5	-57.8	339.3	47.2	-58.4	418.5	48.4	-59.5
25.4	44.1	-55.4	104.6	45.2	-56.2	183.9	46.1	-57.6	263.2	46.5	-57.8	342.4	47.2	-58.4	421.7	48.4	-59.6
28.5	44.1	-55.4	107.8	45.4	-56.3	187.1	46.1	-57.6	266.3	46.5	-57.8	345.6	47.4	-58.5	424.9	48.6	-59.7
31.7	44.1	-55.4	111.0	45.4	-56.4	190.2	46.1	-57.6	269.5	46.5	-57.8	348.8	47.4	-58.5	428.0	48.8	-59.7
34.9	44.1	-55.4	114.2	45.5	-56.5	193.4	46.1	-57.6	272.7	46.5	-57.9	352.0	47.4	-58.6	431.2	49.0	-59.6
38.0	44.1	-55.4	117.3	45.5	-56.6	196.6	46.1	-57.6	275.9	46.5	-58.0	355.1	47.4	-58.7	434.4	49.2	-59.6
41.2	44.3	-55.5	120.5	45.5	-56.7	199.8	46.1	-57.6	279.0	46.5	-58.1	358.3	47.4	-58.8	437.6	49.4	-59.6
44.4	44.5	-55.6	123.7	45.5	-56.7	202.9	46.1	-57.6	282.2	46.5	-58.2	361.5	47.4	-58.8	440.7	49.2	-59.5
47.6	44.5	-55.6	126.8	45.5	-56.7	206.1	46.1	-57.6	285.4	46.5	-58.3	364.6	47.4	-58.8	443.9	49.4	-59.4
50.7	44.5	-55.6	130.0	45.5	-56.8	209.3	46.1	-57.6	288.5	46.5	-58.3	367.8	47.6	-58.9	447.1	49.6	-59.3
53.9	44.7	-55.7	133.2	45.4	-56.8	212.4	46.3	-57.6	291.7	46.5	-58.3	371.0	47.8	-59.0	450.2	49.6	-59.2
57.1	44.7	-55.8	136.3	45.4	-56.9	215.6	46.3	-57.6	294.9	46.5	-58.3	374.1	47.8	-59.0	453.4	49.8	-59.1
60.2	44.7	-55.8	139.5	45.4	-56.9	218.8	46.3	-57.6	298.0	46.5	-58.4	377.3	47.8	-59.2	456.6	49.8	-59.0
63.4	44.7	-55.9	142.7	45.4	-56.9	221.9	46.3	-57.6	301.2	46.5	-58.4	380.5	47.8	-59.2	459.8	50.0	-58.9
66.6	44.7	-56.0	145.9	45.4	-56.9	225.1	46.3	-57.6	304.4	46.5	-58.4	383.7	47.8	-59.3	462.9	50.1	-58.8
69.8	44.7	-56.0	149.0	45.4	-56.9	228.3	46.3	-57.6	307.6	46.7	-58.4	386.8	48.0	-59.3	466.1	50.3	-58.6
72.9	44.7	-56.0	152.2	45.5	-57.0	231.5	46.3	-57.6	310.7	46.7	-58.4	390.0	48.2	-59.4	469.3	50.5	-58.5
76.1	44.7	-56.0	155.4	45.5	-57.1	234.6	46.3	-57.6	313.9	46.7	-58.4	393.2	48.2	-59.4	472.4	50.9	-58.4
79.3	44.7	-56.0	158.5	45.5	-57.1	237.8	46.3	-57.6	317.1	46.8	-58.5	396.3	48.2	-59.4			

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	11.20	CASING Edge of gravel terrace.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
11.20	31.50	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) (SERICITE) Dark grey, chaotically banded dacite. Magnetite (2%), chlorite (10%) and yellow to silver sericite (1-2%) occur between chaotic and discontinuous bands of translucent grey to green silica. Banding dips erratically, and minor fold hinges are noted. Trace disseminated pyrite. Lower contact is pretty sharp, and seems to dip about 50 degrees to core axis.										
31.50	34.47	DACITE (SILICA) (MAGNETITE) (SERICITE) Pale grey, intensely silicified dacite. Probably same protolith as last interval, but no banding here due to intense silicification. Patchy texture, silica is cut by 1% magnetite stringers and contains 0.5% yellow sericite.										
34.47	53.12	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) Dark grey, strongly magnetic chaotic banded dacite. Magnetite is 5%, chlorite 5%, sericite is absent. The upper 2 m is purplish and massive.										
53.12	58.30	HEMATITIC DACITE (HEMATITIC) (SERICITE) Pale grey, moderately foliated, weakly sericitic dacite contains 2% bands and patches of hematite +/- magnetite. Foliation at 60 degrees. 40 cm quartz vein at upper contact and broken core suggests fault zone from 53.12 to 54.5 m.										
58.30	59.07	BASALT DYKE (CHLORITE)										
59.07	63.45	FELDSPAR PORPHYRY DYKE Grey, coarse-grained feldspar porphyry dyke. Lower contact at 45 degrees, cuts across foliation.										
63.45	74.29	DACITE (SILICA) (HEMATITIC) Pale grey, locally very well banded, silicified dacite. Magnetite is present only in trace amounts. Banding (foliation) dips 45 degrees. A few (0.5%) maroon hematite-rich layers are noted. Lower contact is very sharp and is marked by a colour change and an increase in chlorite.										
74.29	77.49	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) Dark grey, moderately to strongly magnetic chaotic banded dacite. This interval continues to 94.81 m.										
77.49	78.50	BASALT DYKE (CHLORITE) (CALCITE) Green, calcareous mafic dyke.										
78.50	84.60	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) Continuation of 74.29 to 94.81 m.										
84.60	85.34	FAULT ZONE										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		Bleached, brecciated section indicates a minor fault zone.										
85.34	91.83	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) Continuation of 74.29 to 94.81 m.										
91.83	93.15	MAGNETIC DACITE (MAGNETITE) (CHLORITE) Black, strongly magnetic (40-50% magnetite) 'bed' within chaotic banded dacite. This seems to be a relatively thick section of the material usually occurring between bands of silica. Contacts are gradational, with dacite becoming more magnetic and chloritic towards this section.										
93.15	94.81	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) Continuation of 74.29 to 94.81 m.										
94.81	96.40	BASALT DYKE (CHLORITE) (MAGNETITE) Another fine grained, black chloritic and magnetic section, very similar to the last section except magnetite is only 5% here. Quartz-calcite stringers (1-10 mm, 2%) carry minor pyrite and chalcopyrite. Upper contact is sharp and planar against a brecciated section of dacite, and dips 25 degrees. Lower contact is parallel to foliation at 30 degrees. This may be a fine-grained mafic sill, or may be a chloritic and magnetic section of dacite.										
96.40	97.00	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) This section of purplish banded dacite is a fold hinge. Banding can be traced around, and the contact at 96.4 m is repeated at 97.0 m.										
97.00	101.70	BASALT DYKE (CHLORITE) (MAGNETITE) Same unit as 94.81 m to 96.4 m. A fold hinge is noted at 98.10 m.										
101.70	110.65	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) (SILICA) Medium to pale grey, chaotic banded dacite. This section continues to 144.97 m. This unit has relatively little magnetite (1-2%) and chlorite (1-2%) and is a very siliceous (silicified?) unit. Banding is moderately well-developed on a 1-8 mm scale, and is chaotically deformed. The most siliceous sections resemble a ribbon-banded chert. Colour varies with the amount of chlorite and magnetite, texture is very homogeneous.										
110.65	111.09	BASALT DYKE (CHLORITE) (MAGNETITE) Another fine grained, massive black chlorite-magnetite rich section - possibly a mafic dyke, although contacts seem a bit gradational.										
111.09	120.27	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 101.7 to 144.97 m.										
120.27	125.32	CHAOTICALLY BANDED DACITE (SERICITE) (MAGNETITE) (SILICA) Pale grey, siliceous chaotic banded dacite. This interval contains 1%										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		yellow sericite in sheets between silica bands. Chlorite is absent, magnetite is <1%. Contacts are gradational.										
125.32	143.96	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 101.7 to 144.97 m.										
143.96	144.45	BASALT DYKE (CALCITE) (CHLORITE) Green and white-spotted calcareous mafic dyke. Calcite is 10%, contacts are sharp at 55 degrees.										
144.45	144.97	CHAOTICALLY BANDED DACITE (MAGNETITE) (CHLORITE) (SILICA) Continuation of 101.7 to 144.97 m.										
144.97	148.06	BASALT DYKE (MAGNETITE) (CHLORITE) Dark green, fine grained chlorite (20%) - magnetite (5%) rich rock. A few quartz - calcite stringers noted. Contacts parallel to banding - look more conformable than intrusive. Upper contact at 35 degrees.										
148.06	175.28	CHAOTICALLY BANDED DACITE (CHLORITE) (MAGNETITE) Dark greenish - black chloritic (10%) magnetic (5%) chaotic banded dacite. Translucent green silica bands are deformed. Lower contact apparently faulted.										
175.28	175.86	FAULT ZONE Quartz healed fault breccia.										
175.86	182.35	DACITE (CHLORITE) (MAGNETITE) Medium grey, weakly granular, weakly chloritic (1-2%) and magnetic (1-2%) dacite, possible ash tuff. This unit continues to 186.62 m. Silica bands are present only sporadically here, unit typically has a fine granular texture, although chaotic deformation is still noted, and it is more banded than massive. Lower contact is gradational and indistinct.										
182.35	183.00	BASALT DYKE (CHLORITE) (MAGNETITE) Fine grained, greenish-black, massive chlorite (20%), magnetite (10%) rich rock. Possible mafic sill or dyke, although it is moderately banded. Upper contact sharp at 45 degrees, lower contact discordant to banding, dips 20 degrees.										
183.00	186.62	DACITE (CHLORITE) (MAGNETITE) Continuation of 175.86 to 186.62 m.										
186.62	197.38	DACITE FLOW (SILICA) (CHLORITE) (MAGNETITE) Pale greenish-grey, strongly silicified, weakly chaotically banded dacite. 5% chlorite, 2% magnetite separate silica bands. Very weak porphyritic texture and relatively weak banding suggest this is a foliated flow. Lower contact is gradational, although a quartz-chlorite										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		breccia is seen from 197.00 to 197.38 m - possible fault.										
197.38	212.33	CHAOTICALLY BANDED DACITE (CHLORITE) (MAGNETITE) Greenish-grey chaotic banded dacite. This interval continues to 226.15 m. Chlorite (10%) and magnetite (2-5%) are relatively abundant here, silica is much less than in the preceding interval. Trace white calcite occurs in wispy bands (<1mm). Banding is not as well - developed here, and a faint granular texture is noted.										
212.33	216.41	CHAOTICALLY BANDED DACITE (SERICITE) (SILICA) Pale yellowish-grey, silica-sericite alteration of chaotic banded unit. Contacts are gradational. Sericite is 2-5%, trace pyrite, no magnetite.										
216.41	226.15	CHAOTICALLY BANDED DACITE (CHLORITE) (MAGNETITE) Continuation of 197.38 to 226.15 m.										
226.15	237.39	BASALTIC INTRUSION (CHLORITE) (HEMATITIC) Dark green, fine-grained hematite-rich mafic rock. Probably intrusive. This interval continues to 245.45 m. Black hematite is 5-8%, no magnetite present. Chlorite is about 30%. Unit is very weakly banded, banding is cut by a very weak foliation. Banding at 60 degrees, foliation at 45 degrees, both weak and hard to measure. White calcite stringers are 1-5% over the upper and lower 1.5 to 2 m. Upper contact is at narrow (10 cm) fault zone at 30 degrees, lower contact sharp, but irregular.										
237.39	238.60	CHAOTICALLY BANDED DACITE (CHLORITE) Dark green chaotic banded dacite with 50% patchy quartz-chlorite veins.										
238.60	245.45	BASALTIC INTRUSION (CHLORITE) (HEMATITIC) Continuation of 226.15 to 245.45 m.										
245.45	253.91	ANDESITE (EPIDOTE) (CALCITE) Very distinct bright apple-green intensely epidotized calcareous rock. Possible altered calcareous andesite. 60% epidote, 5% pervasive fine-grained calcite, 10% chlorite. Locally banded on a 1 cm scale. Both contacts sharp.										
253.91	270.00	ANDESITE ASH TUFF (HEMATITIC) (CALCITE) Maroon to grey, strongly hematitic, variably calcareous andesitic tuffs. This interval continues to 295.28 m. Mostly massive, but bedding is locally well developed. Calcite varies from 0 to 20% and is present as distinct white wispy patches. Grain size is very fine. Hematite content averages about 10%. Bedding is 0-5 degrees @ 262.13 m, 40-50 @ 276 m, and 40 @ 292 m.										
270.00	275.70	ANDESITE ASH TUFF (CALCITE) Calcareous (20%) andesite ash tuff.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
275.70	279.60	ANDESITE LAPILLI TUFF (HEMATITIC) Green, hematitic andesite lapilli tuff. Fragments are 40%, 1-3 mm. Black specular hematite is 10%.										
279.60	280.63	ANDESITE ASH TUFF (HEMATITIC) (CALCITE) Continuation of 253.91 to 295.28 m.										
280.63	281.87	QUARTZ VEIN (HEMATITIC) Distinct pink hematitic silicified sections and quartz veins make up 60% of this interval.										
281.87	295.28	ANDESITE ASH TUFF (HEMATITIC) (CALCITE)										
295.28	297.00	HEMATITIC ANDESITE (HEMATITIC) (CHLORITE) (SILICA) Reddish-grey, locally chaotic banded hematitic andesite. This interval continues to 316.47 m. Hematite (1-10%) increases down hole and occurs as massive, deep red bands and patches. Chaotic bands of translucent green silica are 1-2 mm, about 5%. Pervasive silicification increases towards the lower contact and the bottom 6 m are strongly silicified. Also towards the lower contact (@ 316.47 m), hematite sections become strongly magnetic. Both contacts are quite sharp.										
297.00	297.86	BASALT DYKE (CHLORITE) Medium grained chloritic basalt dyke.										
297.86	316.47	HEMATITIC ANDESITE (HEMATITIC) (CHLORITE) (SILICA) Continuation of 295.28 to 316.47 m.										
316.47	319.00	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (CALCITE) Dark greenish-black, massive to very weakly laminated chloritic (30-40%), magnetic (1-2%) mafic intrusive. This interval continues to 327.7 m. Distinct white-spotted calcareous sections are noted. Layering occurs at 69 degrees. Total calcite is about 2%.										
319.00	319.11	FAULT (CALCITE) Fault dips about 45 degrees, indicated by 1-2 cm of gouge.										
319.11	324.22	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (CALCITE) Continuation of 316.47 to 327.7 m.										
324.22	324.76	MASSIVE HEMATITE (SILICA) Massive hematite with 40% patchy white quartz veins. Is this a quartz-hematite vein? At lower contact, on fracture surface, is minor botryoidal malachite and a bright orange mineral (realgar?), as well as a speck of native copper.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
324.76	327.70	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (CALCITE) Continuation of 316.47 to 327.7 m.										
327.70	333.30	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Dark greenish-grey andesite with distinct deep red bands and patches of hematite and magnetite. This interval continues to 341.38 m. This unit is moderately chloritic (10%) and very weakly sericitic (1%). Total magnetite plus hematite is 10%. Translucent green silica bands are reminiscent of the chaotic banded dacite. Trace amounts of spotted (<1 mm) cream coloured leucoxene (?) are noted.										
333.30	334.53	QUARTZ VEIN (CHLORITE) (MAGNETITE) (EPIDOTE) Patchy quartz vein with 20% chlorite, 5% epidote, 5% magnetite and 5% of a pale pink mineral.										
334.53	341.38	HEMATITIC ANDESITE (HEMATITIC) (MAGNETITE) (CHLORITE) Continuation of 327.7 to 341.38 m.										
341.38	373.66	HEMATITIC ANDESITE (SERICITE) (SILICA) Weak quartz-sericite alteration of the preceding unit. Hematite patches are preserved, but are noticeably less magnetic. Sericite is 5%. Yellowish-grey matrix. Foliation at 56 degrees. Lower contact sharp, marked by 2 cm gouge. Fault is parallel to foliation.										
373.66	382.20	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Fine-grained, homogeneous, massive dark green mafic intrusive. This interval continues to 383.7 m. Local very weak banding is at 58 degrees. Pervasive chlorite is 30%, 2-5% magnetite is finely disseminated. Sections of weak epidote alteration occur towards the bottom, often accompanied by an increase in magnetite. These sections are a medium green colour and often have a mottled texture. Fractures are often hematitic and slickensided. Quartz-calcite stringers are <1%.										
382.20	382.86	FAULT ZONE Broken core, and increase in quartz veins, and a strong foliation indicate a fault zone near to, but not at the lower contact of the main interval.										
382.86	383.70	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Continuation of 373.66 to 383.7 m.										
383.70	427.82	DIORITE (EPIDOTE) Fine-grained, apple-green, massive homogeneous pervasively epidotized diorite intrusive. Locally feldspar-phyric. Down to about 403 m, the unit contains scattered darker green spots (0.5%, 1-4 mm). These spots have very sharp edges, but appear to be less epidotized sections and are not phenocrysts. This unit is cut by 1% quartz +/- calcite stringers. It	63174	426.82	427.82	1.00	.03	.34	.01	.01	.01	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		appears to intrude the overlying unit. Lower contact is sharp and marked by a 1 cm planar quartz vein dipping 63 degrees. This is the same unit seen in BB93006 at 165 m.										
427.82	428.30	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Yellowish to brownish-grey intensely quartz-sericite-pyrite altered volcanic. This interval continues to 449.26 m. Total disseminated and finely banded pyrite is 5%. Sericite is 10%. Foliation is moderate to well-developed and typically dips about 45 degrees, except from 430.64 m to about 432.8 m, where it is sub-parallel to the core axis. Only trace mineralization is noted, mostly from about 428.5 m to 428.8 m. Lower contact is quite sharp and appears to be an alteration contact dipping about 49 degrees.	63175	427.82	428.30	.48	.24	3.09	.01	.01	.01	
428.30	428.44	BASALT DYKE (CHLORITE) Medium green mafic dyke with very sharp crosscutting contacts, UC @ 48, LC @ 54.	63176	428.30	428.44	.14	.10	.34	.01	.01	.02	
428.44	429.47	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 427.82 to 449.26 m.	63177	428.44	429.47	1.03	.03	.69	.00	.03	.06	
429.47	430.52	BASALT DYKE (CHLORITE) (DISSEMINATED PYRITE) Med green mafic dyke UC @ 57, LC @ 30.	63178	429.47	430.52	1.05	.03	.34	.01	.01	.01	
430.52	440.44	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 427.82 to 449.26 m.	63179	430.52	432.00	1.48	.03	.34	.00	.01	.01	
			63180	432.00	433.50	1.50	.03	.34	.00	.01	.01	
			63181	433.50	435.00	1.50	.03	.69	.00	.01	.01	
			63182	435.00	436.50	1.50	.03	.34	.00	.01	.01	
			63183	436.50	438.00	1.50	.03	.34	.00	.01	.01	
			63184	438.00	439.50	1.50	.03	.34	.00	.01	.01	
			63185	439.50	440.44	.94	.03	.34	.00	.01	.01	
440.44	441.64	ALTERED FACIES (CHLORITE) (SILICA) (DISSEMINATED PYRITE) Not really sericitic tuff, gradational contacts into a zone of intense black chlorite and patchy, convoluted quartz veins. Maybe a more mafic protolith?.	63186	440.44	441.64	1.20	.03	.34	.00	.01	.01	
441.64	449.26	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 427.82 to 449.26 m.	63187	441.64	443.00	1.36	.03	.34	.00	.01	.01	
			63188	443.00	444.50	1.50	.03	.34	.00	.01	.01	
			63189	444.50	446.00	1.50	.03	.34	.00	.01	.02	
			63190	446.00	447.50	1.50	.03	.34	.00	.01	.01	
			63191	447.50	449.26	1.76	.03	.34	.00	.01	.01	
449.26	463.45	DACITE (CHLORITE) (HEMATITIC) (CALCITE) Dark, bluish grey, massive chloritic dacite (andesite?). This interval	63192	449.26	450.26	1.00	.03	.69	.00	.01	.01	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		continues to 472.44m. Patches and blobs of translucent green silica, 10-15% black chlorite in matrix, probably tuffaceous. A few contorted hematite bands and calcite stringers are noted.										
463.45	463.73	BASALT DYKE (CHLORITE) (MAGNETITE) Good example of the irregular nature of these mafic intrusives.										
463.73	465.07	DACITE (CHLORITE) (HEMATITIC) (CALCITE) Continuation of 449.26 to 472.44 m.										
465.07	466.28	FELDSPAR PHYRIC BASALT DYKE (CHLORITE) (MAGNETITE) Epidotized feldspar phyric mafic dyke. UC @ 60, LC @ 48.										
466.28	472.44	DACITE (CHLORITE) (HEMATITIC) (CALCITE) Continuation of 449.26 to 472.44 m.										
472.44		END OF HOLE										

Hole No: BB93011
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 7208.32
(metres) E: 12727.57

Azimuth: 42.8
Dip: -54.8
Length (m): 472.44
Elevation: 126.17
(metres)
Purpose: Large step-out down dip of open cut mineralization.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 8, 1993
Completed: October 15, 1993
Recovery:

Date Logged: October 10, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:55pm

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
63174	426.82	427.82	1.00		.03	.34	.01	.01	.01		.4	58	2	97	4.53	8	0	2	75	
63175	427.82	428.30	.48		.24	3.09	.01	.01	.01		3.5	90	121	33	2.97	32	0	18	41	
63176	428.30	428.44	.14		.10	.34	.01	.01	.02		.4	98	2	182	5.55	3	0	2	172	
63177	428.44	429.47	1.03		.03	.69	.00	.03	.06		1.5	27	219	533	2.28	19	3	6	77	
63178	429.47	430.52	1.05		.03	.34	.01	.01	.01		.4	50	2	93	4.29	6	0	2	400	
63179	430.52	432.00	1.48		.03	.34	.00	.01	.01		.5	18	7	63	3.56	22	1	4	41	
63180	432.00	433.50	1.50		.03	.34	.00	.01	.01		.6	16	14	108	3.99	11	1	3	32	
63181	433.50	435.00	1.50		.03	.69	.00	.01	.01		.4	19	9	122	2.55	10	1	3	54	
63182	435.00	436.50	1.50		.03	.34	.00	.01	.01		.6	25	2	77	2.75	8	0	2	44	
63183	436.50	438.00	1.50		.03	.34	.00	.01	.01		.4	35	9	124	1.77	6	1	2	120	
63184	438.00	439.50	1.50		.03	.34	.00	.01	.01		.5	56	7	113	3.01	12	0	3	45	
63185	439.50	440.44	.94		.03	.34	.00	.01	.01		.4	30	9	109	1.97	8	1	2	111	
63186	440.44	441.64	1.20		.03	.34	.00	.01	.01		.2	18	3	107	2.94	2	0	2	155	
63187	441.64	443.00	1.36		.03	.34	.00	.01	.01		.2	14	9	80	2.22	9	0	2	58	
63188	443.00	444.50	1.50		.03	.34	.00	.01	.01		.2	17	5	71	1.96	11	0	3	85	
63189	444.50	446.00	1.50		.03	.34	.00	.01	.02		.3	17	4	176	1.87	14	0	4	81	
63190	446.00	447.50	1.50		.03	.34	.00	.01	.01		.3	12	4	72	1.72	7	0	2	81	
63191	447.50	449.26	1.76		.03	.34	.00	.01	.01		.3	13	8	44	1.61	8	0	4	86	
63192	449.26	450.26	1.00		.03	.69	.00	.01	.01		.2	14	3	60	2.21	9	0	2	135	

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Sample No.	From (m)	To (m)	Inter-val (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
63174	426.82	427.82	1.00	1	56	23	1117	5	2	27	2	96	1.27	2	133	3.48	.16	2	1
63175	427.82	428.30	.48	3	6	6	135	5	4	29	2	3	.73	2	3	.09	.01	5	1
63176	428.30	428.44	.14	1	48	24	1463	5	2	37	3	114	.73	2	102	4.55	.21	6	13
63177	428.44	429.47	1.03	2	4	5	247	5	3	12	2	8	.44	4	7	.84	.06	2	1
63178	429.47	430.52	1.05	1	53	22	1284	5	2	30	2	109	1.14	2	127	4.37	.16	4	1
63179	430.52	432.00	1.48	2	10	5	167	5	3	9	2	8	.25	3	11	.56	.04	4	1
63180	432.00	433.50	1.50	2	3	5	80	5	3	9	2	3	.37	4	2	.18	.03	3	1
63181	433.50	435.00	1.50	1	3	4	213	5	3	17	2	7	.90	4	3	.53	.05	3	1
63182	435.00	436.50	1.50	2	2	5	162	5	4	14	2	4	.61	4	6	.52	.03	3	1
63183	436.50	438.00	1.50	1	3	4	303	5	4	21	2	11	1.33	4	2	.66	.05	3	1
63184	438.00	439.50	1.50	2	5	6	243	5	3	23	2	4	.95	3	3	.66	.03	2	1
63185	439.50	440.44	.94	2	7	4	284	5	3	36	2	5	1.15	3	10	.81	.03	4	1
63186	440.44	441.64	1.20	1	424	33	812	5	2	102	2	36	6.22	2	617	3.61	.14	2	1
63187	441.64	443.00	1.36	1	3	6	177	5	4	47	2	3	1.37	2	4	.52	.02	3	1
63188	443.00	444.50	1.50	1	3	3	139	5	4	14	2	2	.86	3	7	.17	.03	5	2
63189	444.50	446.00	1.50	1	3	3	182	5	4	19	2	2	1.35	3	3	.12	.03	2	1
63190	446.00	447.50	1.50	1	2	3	222	5	3	25	2	2	1.75	3	2	.09	.01	2	1
63191	447.50	449.26	1.76	1	3	3	225	5	4	33	2	2	1.87	2	5	.06	.01	3	1
63192	449.26	450.26	1.00	2	3	6	448	5	3	45	2	4	1.45	3	4	.78	.04	6	1

Hole No: BB93012
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6829.56
(metres) E: 13080.54

Azimuth: 65.1
Dip: -45.1
Length (m): 292.61
Elevation: 19.12
(metres)
Purpose: To test the Big Bull zone between holes C23 and C24, under Snye Channel.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 15, 1993
Completed: October 19, 1993
Recovery:

Date Logged: October 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:59pm

DOWN HOLE SURVEY TESTS:

Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip	Depth (m)	Azimuth	Dip
0.0	65.1	-45.1															
3.1	64.7	-44.4	52.4	65.3	-43.0	101.6	67.4	-41.2	150.9	69.0	-39.9	200.2	71.5	-37.1	249.5	73.6	-34.8
6.2	64.1	-43.8	55.4	65.5	-42.9	104.7	67.5	-41.1	154.0	69.1	-39.7	203.3	71.7	-36.9	252.6	73.7	-34.7
9.2	63.8	-43.3	58.5	65.6	-42.8	107.8	67.5	-41.1	157.1	69.3	-39.5	206.4	71.8	-36.6	255.6	73.9	-34.5
12.3	63.8	-43.3	61.6	65.7	-42.7	110.9	67.6	-41.0	160.2	69.4	-39.4	209.4	71.8	-36.4	258.7	74.1	-34.3
15.4	63.8	-43.6	64.7	65.9	-42.6	114.0	67.7	-41.0	163.3	69.7	-39.2	212.5	72.1	-36.2	261.8	74.2	-34.1
18.5	63.9	-43.5	67.8	66.0	-42.5	117.0	67.9	-40.9	166.3	69.9	-39.0	215.6	72.2	-36.0	264.9	74.5	-33.9
21.6	64.1	-43.4	70.8	66.2	-42.3	120.1	68.0	-40.8	169.4	70.1	-38.8	218.7	72.3	-35.9	268.0	74.6	-33.8
24.6	64.2	-43.4	73.9	66.4	-42.2	123.2	68.0	-40.7	172.5	70.2	-38.7	221.8	72.4	-35.8	271.0	74.9	-33.5
27.7	64.2	-43.4	77.0	66.6	-42.0	126.3	68.1	-40.6	175.6	70.2	-38.6	224.9	72.5	-35.7	274.1	75.0	-33.5
30.8	64.3	-43.4	80.1	66.7	-41.9	129.4	68.2	-40.5	178.6	70.3	-38.5	227.9	72.6	-35.6	277.2	75.0	-33.5
33.9	64.4	-43.4	83.2	66.9	-41.8	132.4	68.4	-40.4	181.7	70.4	-38.4	231.0	72.8	-35.5	280.3	75.0	-33.5
37.0	64.6	-43.4	86.2	67.0	-41.7	135.5	68.4	-40.4	184.8	70.5	-38.3	234.1	72.9	-35.4	283.4	75.1	-33.4
40.0	64.7	-43.4	89.3	67.1	-41.6	138.6	68.5	-40.3	187.9	70.7	-38.0	237.2	73.0	-35.2	286.5	75.3	-33.3
43.1	65.0	-43.3	92.4	67.2	-41.5	141.7	68.6	-40.2	191.0	70.8	-37.9	240.3	73.1	-35.1	289.5	75.4	-33.2
46.2	65.1	-43.2	95.5	67.4	-41.4	144.8	68.7	-40.1	194.1	71.0	-37.7	243.3	73.2	-35.0	292.6	75.5	-33.1
49.3	65.2	-43.1	98.6	67.4	-41.3	147.9	68.7	-40.0	197.1	71.2	-37.4	246.4	73.3	-35.0			

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
.00	13.72	CASING Bedrock encountered at about 10 m, NQ drilled to 13.72 m. Casing left in hole.										
13.72	58.92	DACITE (CHLORITE) (MAGNETITE) Dark greenish-grey dacite. A few possible fragments suggest a lapilli ash tuff. Locally chaotically banded. 5% chlorite and an average of 0.5% magnetite occur throughout, although local patches of massive steely grey magnetite up to 2 cm are noted. This is very similar to the usual chaotic banded dacite unit, but has less silica and magnetite, and banding is not as well developed.										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
58.92	60.80	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) Good example of greenish-black, fine grained, massive mafic intrusive. Lower contact is a particularly well-preserved irregular intrusive contact. This unit is cut by 2% patchy quartz-epidote-chlorite-calcite veins.										
60.80	77.74	DACITE (EPIDOTE) (SILICA) (CHLORITE) Same lithology as preceding DAU section, however mottled epidote-quartz-calcite alteration is moderate to intense here. This interval continues to 96.04 m. The alteration actually starts picking up at about 57.0 m. Distinct, deformed red hematite layers are present, but rare (<1%). Secondary silica is about 10%, epidote is 5%, calcite is 1% and an associated pinkish orange amorphous mineral is 0.5%. Typical mottled alteration forms diffuse fracture envelopes and patches. Lower contact (@ 96.04 m) is intrusive. Magnetite has increased to 2%.										
77.74	79.45	QUARTZ VEIN (EPIDOTE) Patchy, quartz vein with 5% epidote, 10% pinkish mineral, trace pyrite.										
79.45	94.69	DACITE (EPIDOTE) (SILICA) (CHLORITE) Continuation of 60.8 to 96.04 m.										
94.69	94.94	BASALT DYKE (CHLORITE) Dark green, fine grained basalt dyke. Contacts very sharp and irregular, dip 60 to 70 degrees.										
94.94	96.04	DACITE (EPIDOTE) (SILICA) (CHLORITE) Continuation of 60.8 to 96.04 m.										
96.04	98.51	BASALTIC INTRUSION (MAGNETITE) (CHLORITE) (DISSEMINATED PYRITE) Dark green-black fine grained magnetic mafic sill. Magnetite averages 10%. Contacts are excellent intrusive contacts. Disseminated pyrite is 1-2%. Irregular xenoliths of dacite occur within this sill.										
98.51	138.00	DACITE TUFF (CHLORITE) (MAGNETITE) Dark greenish-grey chloritic and magnetic dacite tuffs. No epidote-quartz alteration here. Pervasive chlorite (5%) and magnetite (1%). Local very weak chaotic banded sections, but mostly massive and homogeneous. Lower contact is gradational.										
138.00	149.08	DACITE TUFF Pale translucent green tuffaceous unit. Similar to last interval except no chlorite and only 1% magnetite which is restricted to the upper and lower couple of meters of this section. No visible difference in these sections except for magnetite content. Mainly a grainy texture, but a few patches of massive translucent green silica which may be fragments. Upper										

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		contact gradational, lower contact is broken, and 'cave' was noted by the drillers, suggesting it may be faulted.										
149.08	157.61	DACITE TUFF (CHLORITE) (MAGNETITE) (DISSEMINATED PYRITE) Strong pervasive blue-black chlorite alteration and local magnetite-banded sections characterize this interval. Chlorite (10-20%) alteration decreases downwards, while magnetite content increases. Lower contact is an alteration contact in the same unit.										
157.61	164.00	HEMATITIC DACITE (EPIDOTE) (HEMATITIC) (MAGNETITE) Strong mottled epidote-quartz-calcite alteration of grey dacite tuff(?). This interval continues to 173.04 m. The unit contains distinct maroon hematite and magnetite layers, which are commonly folded, in a medium grey, homogeneous fine grained magnetic matrix. 10% mottled epidote+quartz+calcite. Banding dips about 60 degrees.										
164.00	164.59	BASALT DYKE (CHLORITE) (MAGNETITE) Mafic dyke displays epidote - quartz - calcite alteration.										
164.59	173.04	HEMATITIC DACITE (EPIDOTE) (HEMATITIC) (MAGNETITE) Continuation of 157.61 to 173.04 m.										
173.04	191.40	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Fine-grained, dark green massive mafic sill. This unit continues to 192.43 m. Epidote - quartz - chlorite - calcite alteration (2% total) gives unit a patchy texture. Magnetite varies from 0.5 to 10%. A faint to moderate banding (foliation?) is noted locally (dips about 60 degrees) and is commonly deformed. Magnetite is mostly disseminated, but occasional patches and bands of steely grey massive magnetite are noted.	63101	190.40	191.40	1.00	.07	.34	.01	.01	.02	
191.40	191.92	SEMI-MASSIVE PYRITE (SILICA) (SERICITE) Semi-massive (30%) fine-grained pyrite in a silica-sericite matrix. Trace sphalerite and tetrahedrite noted. Contacts are sharp and intrusive at about 45 degrees.	63102	191.40	191.92	.52	.31	2.40	.02	.01	.01	
191.92	192.43	BASALTIC INTRUSION (CHLORITE) (MAGNETITE) (EPIDOTE) Continuation of 173.04 to 192.43 m.	63103	191.92	192.43	.51	.24	1.71	.04	.01	.04	
192.43	206.60	ALTERED FACIES (SERICITE) (DISSEMINATED PYRITE) (SILICA) Intensely sericite-silica-pyrite altered rock. Disseminated pyrite averages 8% over this interval, and traces of sphalerite and tetrahedrite are also noted, particularly in patches of quartz vein material. Pretty typical brownish to yellow-grey sericite schist. Excellent banding at 205 m dips 44 degrees to core axis. Sphalerite and tetrahedrite are about 1% over the upper 1 m (trace chalcopyrite here too), and from 202.5 m to 203.12 m (no chalco.).	63104	192.43	194.00	1.57	.69	39.43	.13	.05	.37	
			63105	194.00	195.50	1.50	.24	6.17	.01	.04	.08	
			63106	195.50	197.00	1.50	.21	4.11	.01	.02	.06	
			63107	197.00	198.50	1.50	.03	1.03	.00	.01	.01	
			63108	198.50	200.00	1.50	.14	4.11	.00	.07	.18	
			63109	200.00	201.50	1.50	.45	9.26	.01	.04	.16	
			63110	201.50	203.00	1.50	3.57	23.66	.02	.14	.32	
			63111	203.00	204.50	1.50	.69	1.71	.00	.01	.03	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
			63112	204.50	206.60	2.10	.21	.34	.00	.01	.01	
206.60	213.37	FAULT ZONE (SILICA) (SERICITE) (DISSEMINATED PYRITE) Crushed and broken core with fault gouge at 207 m indicate a fault zone. All core is QSP, and is strongly silicified, with 5% pyrite and trace sphalerite and tetrahedrite. Patchy quartz veins occur aver the upper 2 m. Fault surface at 207 m dips 10 degrees.	63113	206.60	208.00	1.40	.03	.34	.00	.01	.01	
			63114	208.00	209.50	1.50	.10	1.03	.02	.01	.01	
			63115	209.50	211.00	1.50	.03	1.03	.00	.01	.03	
			63116	211.00	212.50	1.50	.14	4.46	.01	.09	.28	
			63117	212.50	213.37	.87	.07	1.37	.01	.07	.22	
213.37	215.00	FELDSPAR PHYRIC BASALT DYKE Medium green, medium grained dyke - same kind as seen cutting the west wall of the Big Bull open cut. Quartz spots are about 1%, and are rounded, not obvious phenocrysts. Lower contact is very sharp and dips 73 degrees.	63118	213.37	215.00	1.63	.03	.34	.00	.01	.01	
215.00	219.00	ALTERED EXHALITE - SULPHIDE BEARING (SILICA) (SERICITE) Light grey exhalitic chert with 5% sulphide stringers and disseminations, including pyrite, reddish-brown resinous sphalerite, galena and tetrahedrite. 5% sericite, otherwise this is massive glassy pale grey silica. Lower contact is pretty sharp, marked by an increase in pyrite.	63119	215.00	216.50	1.50	.03	.34	.01	.09	.14	
			63120	216.50	218.00	1.50	.07	5.49	.06	.62	1.29	
			63121	218.00	219.00	1.00	.17	5.49	.04	.24	.45	
219.00	233.42	ALTERED FACIES (DISSEMINATED PYRITE) (SERICITE) (SILICA) Strongly pyritic sericite schist. Pyrite averages 10 - 30%, occurring as disseminations as well as in discreet bands which at 0.5 to 1 cm thick and dip 45 degrees. Sericite (10 - 15%) is buff coloured, not the usual yellow. It is sheeted along foliation surfaces, which also dip 45 degrees.	63122	219.00	220.50	1.50	.21	.34	.01	.01	.02	
			63123	220.50	222.00	1.50	.07	.34	.01	.01	.01	
			63124	222.00	223.50	1.50	.03	.34	.01	.01	.01	
			63125	223.50	225.00	1.50	.03	.34	.02	.01	.01	
			63126	225.00	226.50	1.50	.03	.34	.01	.01	.01	
			63127	226.50	228.00	1.50	.07	.69	.01	.01	.01	
			63128	228.00	229.50	1.50	.10	.34	.01	.01	.01	
			63129	229.50	231.00	1.50	.07	.34	.01	.01	.09	
			63130	231.00	232.50	1.50	.03	.34	.01	.01	.28	
			63131	232.50	233.42	.92	.03	.34	.00	.01	.09	
233.42	237.00	ALTERED FACIES (SILICA) (SERICITE) (DISSEMINATED PYRITE) This unit is more siliceous than usual, and is made distinct by the pale translucent green colour of the silica. Minor (2%) dark brown chlorite is also noted. Buff-coloured sericite is 10% and disseminated pyrite is 5%. Trace sphalerite and tetrahedrite. Lower contact is a small slip plane.	63132	233.42	234.50	1.08	.03	.34	.00	.01	.01	
			63133	234.50	236.00	1.50	.03	.34	.01	.01	.16	
			63134	236.00	237.00	1.00	.03	.34	.01	.01	.22	
237.00	241.67	ALTERED EXHALITE - SULPHIDE BEARING (SILICA) (SERICITE) (STRINGER PYRITE) This section is 80% pale grey glassy silica. 10% buff sericite is sheeted throughout - not usually planar. Pyrite is about 8%, as disseminations and stringers. Trace sphalerite and tetrahedrite stringers are noted in the more siliceous sections, very similar to the last EXT unit. Lower contact is gradational, marked by an increase in pyrite.	63135	237.00	238.50	1.50	.10	1.71	.01	.05	.17	
			63136	238.50	240.00	1.50	.07	4.11	.03	.18	.47	
			63137	240.00	241.67	1.67	.03	.34	.01	.01	.02	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Inter-val (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
241.67	246.12	SEMI-MASSIVE PYRITE (SERICITE) (SILICA) Semi-massive (40-50%) pyrite is medium to coarse grained and is heavily disseminated throughout a matrix of silica and buff sericite. No other sulphides are noted. Contacts are gradational and are characterized by an increase in silica at the expense of pyrite. Weak foliation dips about 60 degrees.	63138	241.67	243.00	1.33	.07	.69	.02	.02	.20	
			63139	243.00	244.50	1.50	.10	1.71	.02	.02	.15	
			63140	244.50	246.12	1.62	.10	1.03	.02	.02	.01	
246.12	252.98	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) More typical sericite schist, at least over the upper 2 m. This section is really a gradational contact between the overlying brownish-grey coloured pyrite - sericite - silica units, and the underlying pale translucent green coloured silica - sericite - pyrite +/- chlorite section. 20% buff sericite and 20% disseminated pyrite are present. Resinous brown sphalerite is <1%, occurring as 1 - 2 mm stringers. A weak foliation dips 45 to 55 degrees.	63141	246.12	247.50	1.38	.03	.34	.01	.02	.48	
			63142	247.50	249.00	1.50	.03	.34	.01	.01	.21	
			63143	249.00	250.50	1.50	.03	.34	.01	.01	.40	
			63144	250.50	252.00	1.50	.03	.34	.00	.01	.09	
			63145	252.00	252.98	.98	.03	.34	.01	.01	.19	
252.98	269.15	DACITE (SILICA) (CHLORITE) (DISSEMINATED PYRITE) Pale translucent green, strongly silicified rock with 10% greenish-black fine chlorite on foliation surfaces. Lensoid bands of greenish silica (1-2 cm) are separated by chlorite. Pyrite content is down to 5%, disseminated throughout, but concentrated on foliation planes. Minor (2%) sheeted sericite is also noted. Trace pale brown resinous sphalerite stringers occur. This unit is similar to that seen at the south end of the open cut, on the east side. 2% patchy, deformed white quartz veins noted.	63146	252.98	254.50	1.52	.03	.34	.00	.01	.23	
			63147	254.50	256.00	1.50	.03	.34	.00	.01	.12	
			63148	256.00	257.50	1.50	.03	.34	.00	.01	.06	
			63149	257.50	259.00	1.50	.03	.34	.03	.01	.26	
			63150	259.00	260.50	1.50	.03	.34	.00	.01	.06	
			63201	260.50	262.00	1.50	.03	.34	.00	.01	.02	
			63202	262.00	263.50	1.50	.03	.34	.00	.01	.14	
			63203	263.50	265.00	1.50	.07	.34	.00	.01	.07	
			63204	265.00	266.50	1.50	.03	1.03	.00	.01	.31	
			63205	266.50	268.00	1.50	.03	.34	.01	.01	.38	
			63206	268.00	269.15	1.15	.07	.69	.00	.01	.23	
269.15	272.90	FAULT ZONE (CHLORITE) (SERICITE) (SILICA) Crushed, broken core and numerous slip planes indicate a fairly major fault zone. Lithology is pretty much the same as the last interval, although generally less silica and more sericite and chlorite. Disseminated pyrite is about 2% and patchy white quartz veins are 5%.	63207	269.15	270.50	1.35	.03	.34	.00	.01	.13	
			63208	270.50	272.00	1.50	.03	.34	.00	.01	.14	
			63209	272.00	272.90	.90	.07	.34	.01	.01	.05	
272.90	275.22	SPOTTED TUFF (SERICITE) (CHLORITE) (DISSEMINATED PYRITE) Pale green spotted tuff. Strongly sericite altered, weak to moderate pervasive fine green-black chlorite. Very distinct spots, reminiscent of cordierite alteration at the Tulsequah Chief. These spots are pale yellow and sericitic, however textures continue right through them. Tiny (0.5 to 1 mm) flattened quartz shards are about 5%, suggesting a felsic tuff. This section is within the main fault zone, the upper contact is marked by 1 cm of fault gouge (@ 80 degrees), and the lower contact is also a fault.	63210	272.90	273.90	1.00	.21	6.86	.18	.06	.51	
			63211	273.90	275.22	1.32	.07	.34	.00	.01	.01	
275.22	275.81	FAULT (SERICITE) (CHLORITE) (DISSEMINATED PYRITE) Gouge zone indicates a fault dipping at 58 degrees to core axis. Change	63212	275.22	275.81	.59	.07	.34	.00	.01	.01	

INTERVAL (m) From:	To:	DESCRIPTION	Sample No.	From (m)	To (m)	Interval (m)	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Field Number
		of lithology across this fault indicates significant offset. Chalcopyrite stringers are noted in one 5 cm piece of core.										
275.81	281.14	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Typical yellow-grey, strongly foliated sericite schist continues to 285.29 m. Sheeted yellow sericite is 20%, disseminated pyrite is 5-15%, and the rest is pale grey, glassy silica. Limonite is noted on some fractures. Patchy, deformed quartz veins are up to 20 cm, and make up 5% of the interval. Several mafic dykes cut this unit. The lower contact (@ 285.29 m) is an alteration contact.	63213 63214 63215 63216	275.81 276.50 278.00 279.50	276.50 278.00 279.50 281.14	.69 1.50 1.50 1.64	.03	.34	.00	.01	.01	
281.14	282.32	BASALT DYKE (CHLORITE) Fine-grained dark green chloritic mafic dyke. UC @ 60, LC @ 41.	63217	281.14	282.32	1.18	.03	.34	.00	.01	.01	
282.32	282.47	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 275.81 to 285.29 m.	63218	282.32	282.47	.15						
282.47	282.76	BASALT DYKE (CHLORITE) Basalt dyke. UC @ 64, LC @ 78.	63219	282.47	282.76	.29	.03	.34	.00	.01	.01	
282.76	283.29	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 275.81 to 285.29 m.	63220	282.76	283.29	.53	.03	.34	.00	.01	.01	
283.29	284.34	BASALT DYKE (CHLORITE) Basalt dyke. UC irregular, LC @ 62.	63221	283.29	284.34	1.05	.03	.34	.00	.01	.01	
284.34	284.92	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 275.81 to 285.29 m.	63222	284.34	285.14	.80	.03	.34	.00	.01	.01	
284.92	285.14	BASALT DYKE (CHLORITE) Basalt dyke.										
285.14	285.29	ALTERED FACIES (SERICITE) (SILICA) (DISSEMINATED PYRITE) Continuation of 275.81 to 285.29 m.	63223	285.14	285.29	.15	.07	.34	.00	.01	.01	
285.29	292.61	DACITE (CHLORITE) (EPIDOTE) (SILICA) Medium grey dacite. Strong epidote - quartz - calcite mottling and veining. Veins contain brassy pyrite and also blebby pyrrhotite and trace chalcopyrite. Typical translucent green silica patches and local chaotic bands with 10% chlorite. No magnetite present.	63224	285.29	286.50	1.21						
292.61		END OF HOLE										

Hole No: BB93012
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6829.56
(metres) E: 13080.54

Azimuth: 65.1
Dip: -45.1
Length (m): 292.61
Elevation: 19.12
(metres)
Purpose: To test the Big Bull zone between holes C23 and C24, under Snye Channel.

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 15, 1993
Completed: October 19, 1993
Recovery:

Date Logged: October 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:58pm

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
63101	190.40	191.40	1.00		.07	.34	.01	.01	.02		.6	87	10	187	5.48	8	1	2	327	
63102	191.40	191.92	.52		.31	2.40	.02	.01	.01		2.3	183	42	102	10.75	70	1	7	30	
63103	191.92	192.43	.51		.24	1.71	.04	.01	.04		2.6	334	18	295	4.82	33	1	4	150	
63104	192.43	194.00	1.57		.69	39.43	.13	.05	.37		37.4	1134	406	3390	5.10	113	18	209	49	
63105	194.00	195.50	1.50		.24	6.17	.01	.04	.08		5.3	87	345	753	3.23	34	3	15	60	
63106	195.50	197.00	1.50		.21	4.11	.01	.02	.06		4.8	86	233	625	3.51	32	2	12	52	
63107	197.00	198.50	1.50		.03	1.03	.00	.01	.01		1.3	30	34	92	1.97	13	0	5	101	
63108	198.50	200.00	1.50		.14	4.11	.00	.07	.18		3.9	43	581	1700	2.78	11	6	5	72	
63109	200.00	201.50	1.50		.45	9.26	.01	.04	.16		8.8	81	324	1484	4.35	29	6	25	57	
63110	201.50	203.00	1.50		3.57	23.66	.02	.14	.32		22.1	208	1144	2983	8.05	65	15	59	53	
63111	203.00	204.50	1.50		.69	1.71	.00	.01	.03		1.9	37	46	316	5.38	17	2	10	51	
63112	204.50	206.60	2.10		.21	.34	.00	.01	.01		1.5	42	29	141	4.67	16	1	9	45	
63113	206.60	208.00	1.40		.03	.34	.00	.01	.01		.2	16	11	55	2.87	7	0	3	86	
63114	208.00	209.50	1.50		.10	1.03	.02	.01	.01		2.1	191	20	134	2.68	13	1	6	77	
63115	209.50	211.00	1.50		.03	1.03	.00	.01	.03		1.3	43	42	304	2.94	15	1	4	57	
63116	211.00	212.50	1.50		.14	4.46	.01	.09	.28		5.1	119	739	2737	4.73	23	12	14	39	
63117	212.50	213.37	.87		.07	1.37	.01	.07	.22		1.8	121	623	2138	3.86	22	9	4	48	
63118	213.37	215.00	1.63		.03	.34	.00	.01	.01		.4	19	2	133	5.76	4	1	2	606	
63119	215.00	216.50	1.50		.03	.34	.01	.09	.14		.8	86	713	1443	3.06	23	5	3	47	
63120	216.50	218.00	1.50		.07	5.49	.06	.62	1.29		5.7	532	4650	9194	3.99	60	42	43	43	
63121	218.00	219.00	1.00		.17	5.49	.04	.24	.45		5.2	339	1944	4110	2.26	49	16	46	49	
63122	219.00	220.50	1.50		.21	.34	.01	.01	.02		.5	111	61	184	10.43	37	0	3	23	
63123	220.50	222.00	1.50		.07	.34	.01	.01	.01		.9	149	11	30	12.35	51	0	11	16	
63124	222.00	223.50	1.50		.03	.34	.01	.01	.01		.4	98	16	28	11.28	33	0	2	18	
63125	223.50	225.00	1.50		.03	.34	.02	.01	.01		.6	165	13	53	8.58	38	0	2	23	
63126	225.00	226.50	1.50		.03	.34	.01	.01	.01		.4	87	19	117	9.85	74	0	2	21	
63127	226.50	228.00	1.50		.07	.69	.01	.01	.01		1.6	162	102	80	11.33	85	0	15	17	
63128	228.00	229.50	1.50		.10	.34	.01	.01	.01		.9	143	31	116	12.65	71	0	2	18	
63129	229.50	231.00	1.50		.07	.34	.01	.01	.09		.5	96	16	831	7.05	26	3	2	31	
63130	231.00	232.50	1.50		.03	.34	.01	.01	.28		.3	119	4	2668	5.56	16	11	2	45	
63131	232.50	233.42	.92		.03	.34	.00	.01	.09		.2	33	7	952	4.73	16	4	2	48	
63132	233.42	234.50	1.08		.03	.34	.00	.01	.01		.1	18	9	134	3.96	10	1	2	44	

Sample No.	From (m)	To (m)	Interval (m)	SG	Au g/T	Ag g/T	Cu %	Pb %	Zn %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Fe %	As ppm	Cd ppm	Sb ppm	Ba ppm	Field Number
63133	234.50	236.00	1.50		.03	.34	.01	.01	.16	.1	50	21	1501	2.84	11	7	2	83		
63134	236.00	237.00	1.00		.03	.34	.01	.01	.22	.5	137	66	2123	4.07	21	9	2	57		
63135	237.00	238.50	1.50		.10	1.71	.01	.05	.17	1.9	96	464	1493	3.66	27	7	16	45		
63136	238.50	240.00	1.50		.07	4.11	.03	.18	.47	4.1	283	1467	3811	5.99	58	13	25	29		
63137	240.00	241.67	1.67		.03	.34	.01	.01	.02	.5	99	31	129	6.53	74	0	4	22		
63138	241.67	243.00	1.33		.07	.69	.02	.02	.20	1.2	207	88	1514	14.00	44	5	4	12		
63139	243.00	244.50	1.50		.10	1.71	.02	.02	.15	1.8	192	138	1120	12.80	61	4	10	10		
63140	244.50	246.12	1.62		.10	1.03	.02	.02	.01	1.3	170	106	52	11.89	61	0	6	16		
63141	246.12	247.50	1.38		.03	.34	.01	.02	.48	.6	108	152	3855	8.24	24	18	2	15		
63142	247.50	249.00	1.50		.03	.34	.01	.01	.21	.6	107	56	1753	7.97	34	6	3	26		
63143	249.00	250.50	1.50		.03	.34	.01	.01	.40	.6	129	50	3195	6.26	22	14	2	35		
63144	250.50	252.00	1.50		.03	.34	.00	.01	.09	.3	32	13	781	5.01	31	3	2	38		
63145	252.00	252.98	.98		.03	.34	.01	.01	.19	.1	71	12	1684	2.25	14	7	2	80		
63146	252.98	254.50	1.52		.03	.34	.00	.01	.23	.2	54	15	1982	2.40	20	8	2	80		
63147	254.50	256.00	1.50		.03	.34	.00	.01	.12	.2	31	16	1104	3.03	30	4	2	89		
63148	256.00	257.50	1.50		.03	.34	.00	.01	.06	.1	20	15	536	2.97	25	1	2	95		
63149	257.50	259.00	1.50		.03	.34	.03	.01	.26	.3	288	10	2234	2.83	16	10	2	87		
63150	259.00	260.50	1.50		.03	.34	.00	.01	.06	.1	16	10	487	1.73	10	2	2	73		
63201	260.50	262.00	1.50		.03	.34	.00	.01	.02	.1	9	8	170	1.93	14	0	2	83		
63202	262.00	263.50	1.50		.03	.34	.00	.01	.14	.3	34	67	1364	2.82	17	4	2	73		
63203	263.50	265.00	1.50		.07	.34	.00	.01	.07	.3	15	9	645	4.26	35	1	2	62		
63204	265.00	266.50	1.50		.03	1.03	.00	.01	.31	.6	51	13	3412	2.74	15	8	2	60		
63205	266.50	268.00	1.50		.03	.34	.01	.01	.38	.5	65	15	4348	2.02	14	11	2	57		
63206	268.00	269.15	1.15		.07	.69	.00	.01	.23	.4	42	79	2137	1.79	7	6	2	57		
63207	269.15	270.50	1.35		.03	.34	.00	.01	.13	.1	31	16	1284	2.13	5	4	2	78		
63208	270.50	272.00	1.50		.03	.34	.00	.01	.14	.1	53	32	1247	2.52	12	4	2	92		
63209	272.00	272.90	.90		.07	.34	.01	.01	.05	.2	63	57	451	2.51	23	0	2	90		
63210	272.90	273.90	1.00		.21	6.86	.18	.06	.51	6.2	1706	449	5178	6.70	18	18	2	16		
63211	273.90	275.22	1.32		.07	.34	.00	.01	.01	.6	10	16	115	3.09	4	0	2	54		
63212	275.22	275.81	.59		.07	.34	.00	.01	.01	.5	26	35	118	3.09	12	1	2	46		
63213	275.81	276.50	.69		.03	.34	.00	.01	.01	.3	36	38	46	3.63	9	0	2	46		
63214	276.50	278.00	1.50																	
63215	278.00	279.50	1.50																	
63216	279.50	281.14	1.64		.03	.34	.00	.01	.01	.1	11	11	15	3.01	2	0	2	47		
63217	281.14	282.32	1.18		.03	.34	.00	.01	.01	.3	13	2	37	2.75	2	0	2	157		
63218	282.32	282.47	.15																	
63219	282.47	282.76	.29		.03	.34	.00	.01	.01	.3	7	2	29	3.74	3	0	2	65		
63220	282.76	283.29	.53		.03	.34	.00	.01	.01	.1	6	2	12	1.78	2	0	2	98		
63221	283.29	284.34	1.05		.03	.34	.00	.01	.01	.2	15	2	32	1.90	2	0	2	231		
63222	284.34	285.14	.80		.03	.34	.00	.01	.01	.1	3	4	10	2.68	4	0	2	77		
63223	285.14	285.29	.15		.07	.34	.00	.01	.01	.2	12	2	31	2.06	2	0	2	260		
63224	285.29	286.50	1.21																	

Hole No: BB93012
Owner: REDFERN RESOURCES LTD.
Property: Big Bull
Claim:
Co-ords: N: 6829.56
(metres) E: 13080.54

Azimuth: 65.1
Dip: -45.1
Length (m): 292.61
Elevation: 19.12
(metres)

Core Size: BQ
Drill Name: HAGBY
Contractor: F. Boisvenu Drilling Ltd.
Started: October 15, 1993
Completed: October 19, 1993
Recovery:

Purpose: To test the Big Bull zone between holes C23 and C24, under Snye Channel.

Date Logged: October 18, 1993
Logged By: B. Carmichael
Date Re-logged:
Re-logged By:
Report Printed: 4 Apr, 1994 3:57pm

Sample No.	From (m)	To (m)	Interval (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
63101	190.40	191.40	1.00	1	66	27	676	5	2	79	2	107	1.41	2	124	4.37	.22	2	1
63102	191.40	191.92	.52	9	15	8	171	9	2	46	2	11	.34	2	9	.48	.03	2	1
63103	191.92	192.43	.51	1	33	16	1020	5	2	132	2	113	1.67	2	71	3.72	.18	2	2
63104	192.43	194.00	1.57	2	6	8	63	5	3	13	2	3	.15	2	6	.14	.01	3	1
63105	194.00	195.50	1.50	3	7	13	64	5	2	20	2	3	.15	3	4	.22	.01	3	1
63106	195.50	197.00	1.50	3	13	22	85	5	3	10	2	3	.22	3	3	.27	.01	3	1
63107	197.00	198.50	1.50	2	4	8	127	5	3	18	2	4	.26	3	2	.48	.01	2	1
63108	198.50	200.00	1.50	2	5	6	176	5	2	23	2	6	.39	2	5	.63	.01	2	1
63109	200.00	201.50	1.50	4	11	6	101	5	2	11	2	2	.20	2	4	.31	.01	4	1
63110	201.50	203.00	1.50	9	24	7	74	5	4	7	2	2	.07	2	4	.30	.01	2	1
63111	203.00	204.50	1.50	7	17	7	78	5	4	10	2	2	.19	2	2	.28	.01	2	1
63112	204.50	206.60	2.10	3	8	6	91	5	5	5	2	2	.05	2	1	.42	.01	2	1
63113	206.60	208.00	1.40	3	4	4	183	5	5	14	2	2	.42	2	1	.60	.01	2	1
63114	208.00	209.50	1.50	3	4	5	68	5	4	5	2	2	.19	2	3	.12	.01	2	1
63115	209.50	211.00	1.50	3	4	4	101	5	3	4	2	2	.26	3	2	.16	.01	2	1
63116	211.00	212.50	1.50	4	3	3	112	5	4	4	2	2	.20	3	5	.16	.01	2	1
63117	212.50	213.37	.87	4	2	3	204	5	4	9	2	2	.38	7	5	.25	.01	2	1
63118	213.37	215.00	1.63	1	14	17	928	5	2	226	2	97	3.76	25	21	2.10	.04	2	1
63119	215.00	216.50	1.50	3	2	2	220	5	2	11	2	2	.39	5	3	.25	.01	2	1
63120	216.50	218.00	1.50	2	2	1	433	5	2	4	2	2	.23	2	4	.83	.01	2	15
63121	218.00	219.00	1.00	2	2	2	241	5	2	5	2	2	.18	3	7	.35	.01	2	1
63122	219.00	220.50	1.50	2	7	17	377	5	2	5	2	5	.24	2	2	.69	.01	2	1
63123	220.50	222.00	1.50	2	10	20	35	5	2	6	2	5	.25	2	1	.06	.01	2	1
63124	222.00	223.50	1.50	2	9	26	19	5	2	7	2	5	.27	2	1	.02	.01	2	1
63125	223.50	225.00	1.50	2	7	20	27	5	2	6	2	5	.24	2	1	.04	.01	2	1
63126	225.00	226.50	1.50	1	7	17	25	5	2	5	2	4	.19	2	2	.04	.01	2	1
63127	226.50	228.00	1.50	2	4	12	22	5	2	4	2	3	.17	2	1	.02	.01	2	1
63128	228.00	229.50	1.50	2	9	21	26	5	2	5	2	4	.21	2	2	.04	.01	2	1
63129	229.50	231.00	1.50	4	68	23	409	5	2	27	2	21	.52	2	92	1.55	.03	2	1
63130	231.00	232.50	1.50	3	2	11	341	5	2	8	2	7	.34	3	5	.56	.01	2	1
63131	232.50	233.42	.92	5	2	6	373	5	2	9	2	7	.37	2	3	.49	.01	2	1
63132	233.42	234.50	1.08	2	5	7	339	5	2	39	2	21	.83	2	2	.95	.04	2	1

Sample No.	From (m)	To (m)	Interval (m)	Mo ppm	Ni ppm	Co ppm	Mn ppm	U ppm	Th ppm	Sr ppm	Bi ppm	V ppm	Ca %	La ppm	Cr ppm	Mg %	Ti %	B ppm	W ppm
63133	234.50	236.00	1.50	2	60	5	417	5	2	27	2	9	.45	2	92	1.83	.03	2	1
63134	236.00	237.00	1.00	2	59	9	704	5	2	23	2	6	.70	2	99	1.40	.01	2	1
63135	237.00	238.50	1.50	3	2	4	93	5	3	7	3	2	.14	3	2	.20	.01	2	1
63136	238.50	240.00	1.50	2	3	9	99	5	2	4	3	2	.16	2	2	.13	.01	2	1
63137	240.00	241.67	1.67	1	7	19	118	5	2	6	4	7	.28	2	3	.09	.01	2	1
63138	241.67	243.00	1.33	1	5	23	334	5	2	10	4	16	.38	2	2	.33	.02	2	1
63139	243.00	244.50	1.50	1	4	16	138	5	2	10	3	7	.37	2	1	.12	.01	2	1
63140	244.50	246.12	1.62	1	10	27	40	5	2	5	2	8	.21	2	2	.02	.01	2	1
63141	246.12	247.50	1.38	2	5	22	154	5	2	7	3	5	.28	2	1	.13	.01	2	1
63142	247.50	249.00	1.50	2	1	12	284	5	2	7	5	6	.33	2	1	.43	.01	2	1
63143	249.00	250.50	1.50	2	1	10	686	5	2	11	2	10	.44	2	1	.91	.03	2	1
63144	250.50	252.00	1.50	2	2	9	742	5	2	10	2	8	.35	2	2	.86	.02	2	1
63145	252.00	252.98	.98	2	1	2	946	5	2	19	2	2	.54	2	2	.96	.04	2	1
63146	252.98	254.50	1.52	2	4	3	768	5	2	14	2	2	.38	2	3	.79	.02	2	1
63147	254.50	256.00	1.50	3	1	2	925	5	3	5	2	2	.11	2	9	1.42	.01	2	1
63148	256.00	257.50	1.50	2	1	3	1121	5	3	6	3	2	.15	2	2	1.69	.01	2	1
63149	257.50	259.00	1.50	2	1	2	951	5	3	4	2	2	.13	2	1	1.27	.01	2	1
63150	259.00	260.50	1.50	3	1	1	924	5	3	4	2	2	.09	2	9	1.61	.01	2	1
63201	260.50	262.00	1.50	2	2	2	853	5	4	6	2	2	.21	4	3	1.85	.01	3	1
63202	262.00	263.50	1.50	4	4	6	982	5	3	6	2	6	.20	2	15	1.64	.01	3	1
63203	263.50	265.00	1.50	1	6	14	1411	5	2	5	2	21	.14	2	5	2.81	.01	3	1
63204	265.00	266.50	1.50	2	4	7	1480	5	2	9	2	9	.24	2	4	2.03	.02	3	1
63205	266.50	268.00	1.50	2	2	4	1399	5	3	6	2	2	.20	2	8	1.70	.01	3	1
63206	268.00	269.15	1.15	2	2	3	1458	5	2	8	2	2	.25	8	4	1.79	.01	2	1
63207	269.15	270.50	1.35	3	3	3	1077	5	3	9	2	2	.43	10	4	2.42	.01	2	1
63208	270.50	272.00	1.50	2	3	3	1045	5	3	10	2	3	.64	16	11	3.17	.01	2	1
63209	272.00	272.90	.90	2	2	3	701	5	3	11	2	4	.43	8	4	3.43	.01	2	1
63210	272.90	273.90	1.00	3	2	9	949	5	4	11	18	5	.53	11	3	4.64	.01	2	1
63211	273.90	275.22	1.32	3	4	5	333	5	3	11	2	3	.29	10	12	2.03	.01	2	1
63212	275.22	275.81	.59	3	2	5	127	5	4	7	2	2	.12	3	3	.54	.01	2	1
63213	275.81	276.50	.69	3	8	5	57	5	4	10	2	2	.10	3	6	.13	.01	4	1
63214	276.50	278.00	1.50																
63215	278.00	279.50	1.50																
63216	279.50	281.14	1.64	4	21	6	66	5	4	25	2	3	.32	2	32	.26	.01	2	1
63217	281.14	282.32	1.18	1	27	11	248	5	2	120	2	49	1.91	2	104	2.19	.11	2	1
63218	282.32	282.47	.15																
63219	282.47	282.76	.29	3	22	15	193	5	3	89	2	50	1.28	2	92	2.40	.11	2	1
63220	282.76	283.29	.53	5	9	6	103	5	3	78	2	16	1.25	2	36	.68	.06	3	1
63221	283.29	284.34	1.05	1	26	8	288	5	2	143	2	51	2.68	2	116	1.72	.12	2	1
63222	284.34	285.14	.80	4	6	7	80	5	4	84	2	7	.93	2	9	.31	.02	3	1
63223	285.14	285.29	.15	2	20	8	236	5	2	134	2	45	1.78	2	84	1.75	.10	2	1
63224	285.29	286.50	1.21																

APPENDIX II
STRUCTURAL REPORT
W. BARCLAY

W.A. BARCLAY
EXPLORATION
SERVICES LTD.

23 GRENADIER RD. TORONTO ONTARIO M6R 1H1 TEL. (416) 537-4523. FAX. (416) 537-435

PRELIMINARY ASSESSMENT OF DEFORMATION STYLE AND OF CONTROLS ON MINERALIZATION AT THE BIG BULL DEPOSIT, N. BRITISH COLUMBIA

INTRODUCTION

The following report describes results from mapping of strain fabric elements and fabric relationships on part of the Big Bull Property.

This mapping exercise was carried out principally within the pit, and along traverses to the east of the pit. Its purpose was to discern the style of deformation which has affected the known, previously developed, mineral setting and, thereby, to assess any possible structural controls on the mineralization in preliminary fashion. The results may usefully guide future exploration along the immediate setting.

The comments which follow are additionally informed by cursory review of selected drill core, by introductory traversing beyond the mapped area accompanied by Redfern personnel, and by a review and partial compilation of previous geological plans and sections through the upper levels (+5000') of the formerly producing mine.

The field study was carried out from September 21 to October 7, 1993. It was undertaken at the request of Mr. T. E. Chandler, Vice President Exploration, Redfern Resources Ltd.

STRUCTURAL STYLE

Lithologic trends across the mapped area strike roughly NNW. They apparently are displaced by an inferred fault along a creek roughly 30 metres east of the pit, and have been displaced by the subparallel Big Bull Fault (and associated splays) in the setting of the deposit. The overall lithologic trend through the mapped

area is consistent with the attitudes of banding and lamination (inferred primary) surfaces, measured within and east of the pit during this study. These surfaces have generally steep SW dips, with local NE reversals. The broadening of trends up-slope and immediately east of the deposit is mainly a reflection of steeply rising topography.

Banding and laminations have been folded only locally: through several zones in the map area which are characterized by a gentle to close layer crumpling over m-scale widths in W-shaped hinges, and across narrow (generally <1 metre) asymmetric, close to tight Z-shaped hinges. Folds in both of these types of settings plunge shallowly to moderately NW. The asymmetric folds generally are indicative of eastward vergence.

No larger-scale fold closures have been positively observed in the area which has been mapped during this project.

An equal-area stereographic projection of poles to 79 measured lamination, bedding and banding surfaces (hereafter S0) indicates a broad great circle girdle distribution (Fig. 1). The projected pole to this great circle falls at a mean trend and plunge of 325 ---> 26. This alignment is virtually identical to the mean trend and plunge of measured fold axes and intersection (S0/penetrative cleavage) intersections (321 ---> 30).

A penetrative, steeply dipping cleavage is weakly expressed in volcanic rocks on the property and, generally, is well-defined in sericitic schist within the pit. Therein it is subparallel to the S0 lamination commonly, cutting S0 (including thin sulphide bands observed in walls of the pit) at a low angle. Where S0 has been folded, this cleavage (S1) is axial planar to the preserved close to tight minor folds, both in sericite schist and mafic units.

In stereonet, the poles to measured S1 planes cluster along an axis aligned at 050 ---> 06 (Fig. 2). This corresponds to a mean cleavage orientation of 140/84SW. Field measurements of S1 have been obtained only where this cleavage can be clearly resolved in outcrop from S0.

A second superimposed cleavage has been noted in a few outcrop exposures, particularly of well-banded rocks. This cleavage (S2) forms a spaced, crenulation planar fabric which does not appear to have significantly reoriented either S0 or S1 in the map area at large-scale. It may be related to a set of uncommonly noted contractional kink bands which locally overprint both S0 and S1 in sericite schist above the east wall of the pit. Only four S2 cleavage planes have been measured in the field; these data are clearly limited, but suggest roughly E-W strikes and moderate to steep northerly dips (Fig. 3). The S2 cleavage and kink bands likely result from a weakly expressed episode of layer-parallel shortening within the setting.

These data, in concert, suggest that rocks within the map area

have been principally affected by a D1 folding event which may be approximated by cylindrical folding. The S1 axial planar cleavage to these D1 folds has not been significantly deflected by post-D1 folding in this area, and is at best weakly crenulated in places. If the observed small-scale folds are congruent (parasitic) to an inferred larger-scale fold pattern, then the mineralized setting probably lies on the west limb of an inferred antiformal regional closure. Reported and observed facing directions as deduced from outcrop and core are consistent with anti*clinal* closure to the E, and synclinal closure to the W. No concrete evidence from strain fabric relationships has been obtained which supports a previous suggestion (Lewis, 1993) that the area occurs on the lower, east limb of a west-verging refolded recumbent fold.

FAULTS AND SLIP SURFACES

Past records (plans and sections) indicate that the setting of the Big Bull deposit is dissected by a major, throughgoing fault. The Big Bull Fault has been previously mapped as a structure that cuts through the past workings, reportedly characterized by 6" to several feet of fault gouge and clay. Low angle splays have also been recorded in previous geologic plans. The main component of this fault system is projected from old plans and sections along the east flank of the pit, and northeast of the "greenstone nose" which remains exposed at the NW end of the pit. However, it is not exposed either on the floor or on the east wall of the pit in its present condition. The fault dips roughly 75 degrees to the SW according to past plans.

Several days' mapping in the pit have produced a comprehensive set of orientation data derived from measured individual faults, fine slip surfaces, and ductile shears which are preserved along the pit walls. It is not clear which of these fault systems can be ascribed to the Big Bull Fault proper. Slickenline and/or slickenside lineations are preserved on most slip surfaces: both oblique-slip displacement and strike-slip offset have been noted.

The west side of the pit is lined mainly by oblique-slip fault surfaces, most of which dip steeply to the NE (Fig. 4). Direction of displacement lies along a moderately plunging axis to ESE with the exception of one measured lineation. Those slickensides from which sense of movement can be obtained suggest SW-side-up offset in the dip direction, with an accompanying dextral offset in plan view. This set of slips was observed *only* along contacts between mafic rocks and sericite schist on the pit west wall.

Predominantly strike-slip NW-SE faults are noted, on the other hand, exclusively within the sericite schist itself. Other strike directed faults crosscut the immediate setting. Both dextral and sinistral senses of displacement have been inferred, from stepped slickenside lineations (Fig. 5). The NW-SE slips that are traced subparallel to S0 and S1 through the pit generally show a dextral

offset along SE-plunging axes, or sinistral offset along shallow NW-plunging axes.

Observations in the pit also suggest that the deposit has been cut by cross-faults, and likely systematically block-faulted. It would hence seem that the immediate setting enveloped by sericite schist has been radically sliced and diced preferentially, and it would further appear that such faulting has modified the geometry of the deposit more significantly than did earlier folding.

FINITE GEOMETRY OF MINERALIZATION

Longitudinal sections of past development at the Big Bull Mine suggest an apparent distribution of previously defined ore blocks along a shallow SE- to S-aligned axis.

All fold axes and intersection lineations related to D1 on the property plunge NW, however, at a mean near 30 degrees (Fig. 1). Near the pit, minor fold plunges range from 15 to 35 degrees NW. No corelation, therefore, exists between the *apparent* plunge of ore, as defined by past stope outlines, and preserved D1 linear strain fabrics. It is improbable that the massive sulphides, if assumed to be syngenetic or at least pre-deformation, remained unaffected by D1 folding.

Two possibilities can be suggested. Either the axis which can be inferred from past workings is an artifact of mine development priorities, perhaps focussed inappropriately through insufficient advance exploration drilling. Or, alternatively, the axis occurs as a result of major fault displacements through the guts of this deposit. In either case, the apparent SE plunge may be misrepresentative of the deposit's potential finite geometry.

In past plans and sections, the Big Bull Fault is described as a dextral fault. No observations are recorded in available notes which comment on possible dip-slip or oblique-slip movement along the fault. Nor are direct measurements of slickenside orientation or sense recorded. It is not, therefore, certain whether the Big Bull Fault was predominantly strike-slip, or was oblique-slip.

Much of the ore material in upper workings occurred in the HW of the SW-dipping fault. Present observations suggest that many of the displacements in the setting were oblique-slip. If offset along this fault was mainly oblique-slip rather than strike-slip, with a SW-side-up sense, then HW ore might have been displaced to a higher elevation than FW ore. This scenario could result in an apparent south axis through displaced ore.

There is a tentative indication in cross-section that the base metal mineralization may instead plunge NW. Previously compiled, successive cross-sections through the "glory hole" and contiguous upper mine workings indicate that the base of the ore falls along

a shallowly plunging NW-axis, instead of a SE-axis. This appears particularly evident through sections 8.5-22, in the 1954-1955 developments above elevation 5000' level. West of section 22, the deposit geometry is complicated somewhat by an interfering "greenstone nose", so that the resulting geometry in that area is indeed SE-plunging.

There exists tentative evidence, therefore, that the SE-plunge apparent in longitudinal section may in part at least constitute an artifact. The Big Bull deposit may offer additional potential down-plunge to the NW. Such a plunge would conform to structural style of folding in the setting, as documented during this study. It is also more consistent with fold and ore geometries further N at Tulsequah Chief.

RECOMMENDATIONS

Drilling to date, both historic and recent, has not tested the possibilities for additional ore down-plunge to the NW at the Big Bull setting. The area is, in fact, wide open in this direction.

Any advanced exploration planning at Big Bull should include a provision for at least several diamond drill holes directed down-plunge of the glory hole and 5030 Stope. These should attempt to trace mineralization initially only about 75 metres beyond trends that can be projected through the following past drill holes with significant Zn mineralization: DDH C15 and C16; C21 and C22; AJ4, C8, and C13; and at a lower level L6, C1, C7 and C4. The initial restraint to roughly 75 metres projection can be slackened if the early results confirm that ore-grade mineralization continues NW.

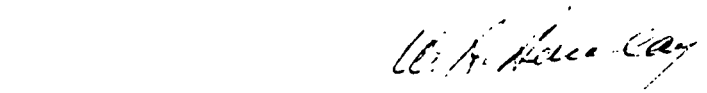
Future exploration would be well served, also, by preparation of contoured grade x thickness values in longitudinal section *for individual zones of continuous mineralization,* rather than for the deposit as a whole.

Compilation of data from plans and sections at lower levels in the deposit should be undertaken, similar to that carried out for this study above 5000' elevation. Such an exercise could lead to a further focus for future drill testing.

Should the opportunity arise, structural mapping can usefully be extended west of the pit. Some data are presently available from property-scale mapping; these can be compiled on stereonet. It would appear at present that the region is marked by complex folding, possibly analogous at larger-scale to the narrow zones of W-shaped crumple folding observed during this study east of the pit. Units to the west thus might possibly occur within a broad synformal closure with a NW plunge. If this proves to be the case, there is a further possibility intimated: i.e., that the favourable stratigraphic setting for the Big Bull deposit may be repeated further west.

Each of these recommendations is designed to refute or confirm the presently perceived likelihood that base metal mineralization in the setting plunges NW rather than SE. If confirmed, then far more broadly applied exploration drilling in the future could be targetted on possible buried deposits of similar geometry, which lack surface expression, between the Big Bull and Tulsequah Chief sites.

Respectfully submitted



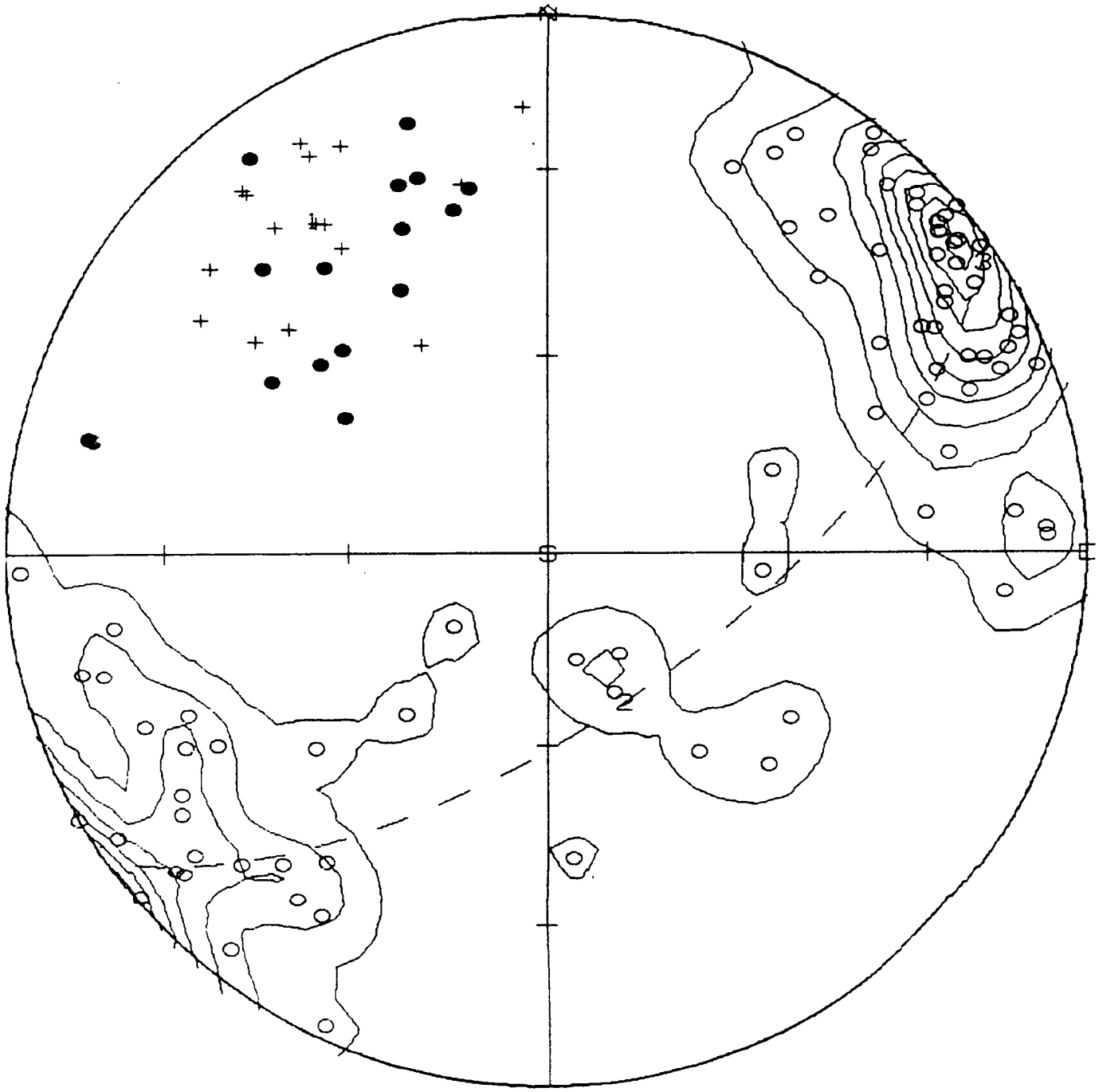
W.A. Barclay, M.Sc.
Exploration Geological
Consultant

October 11, 1993

REFERENCES

Lewis, Peter D., 1993. Structural Analysis of the Big Bull Pit. MDRU Preliminary Report; 7pp.

Big Bull - Contoured Poles to Laminations, Banding and Bedding; Fold Axes and Intersection Lineations

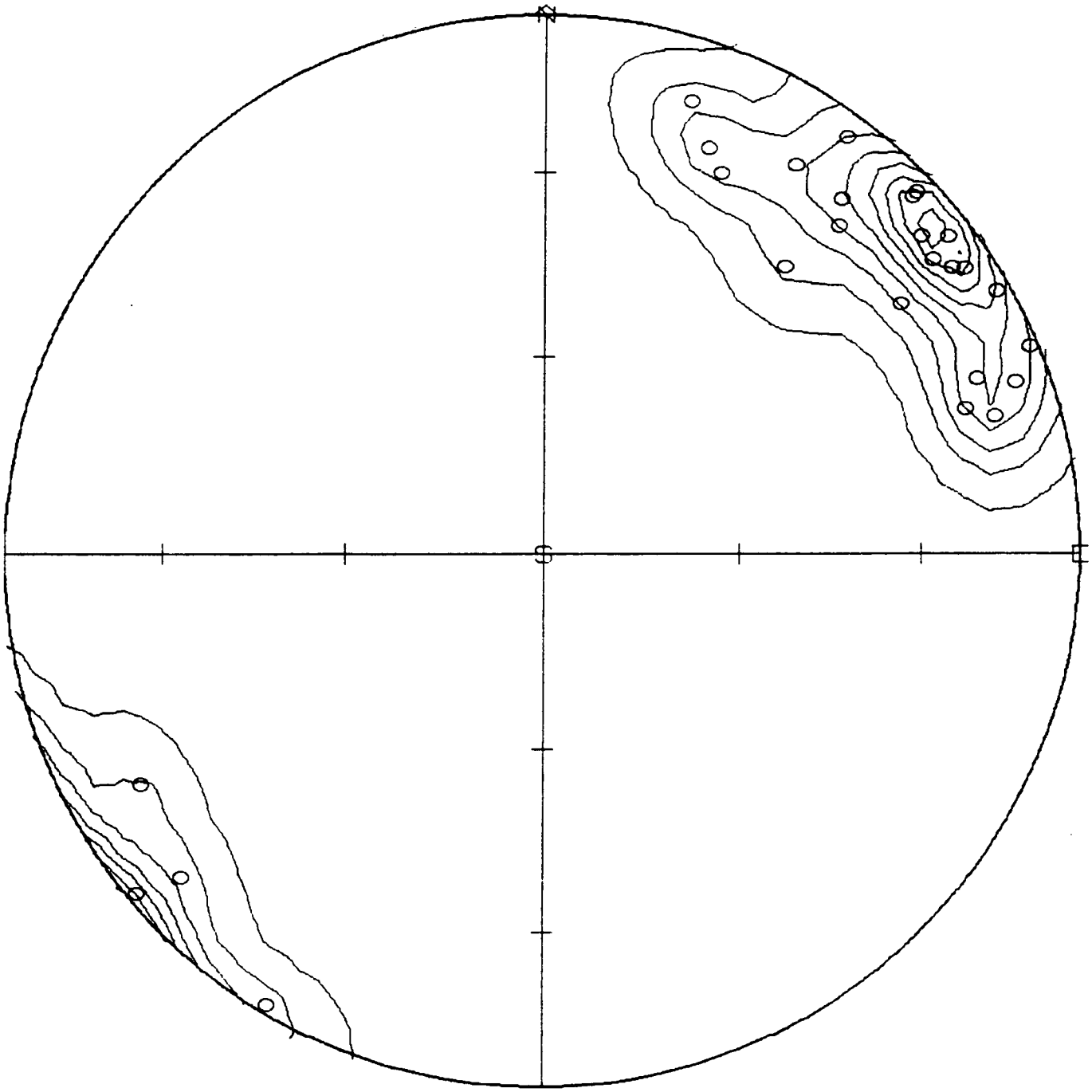


○ poles to banding, etc.
● fold axes
+ intersection lineations

N = 79
k = 100.00
E = 0.79
Sigma = 0.62
(Peak - E)/Sigma = 17.1
Peak position : 54.5 / 5.0

Fig 1

Big Bull Setting
Contoured Poles to Cleavage Surfaces



N = 27
k = 100.00
E = 0.27
Sigma = 0.36
(Peak - E)/Sigma = 17.8
Peak position : 49.8 / 6.0

1 of 1

Big Bull Setting
Poles to Overprinted Crenulation Cleavage

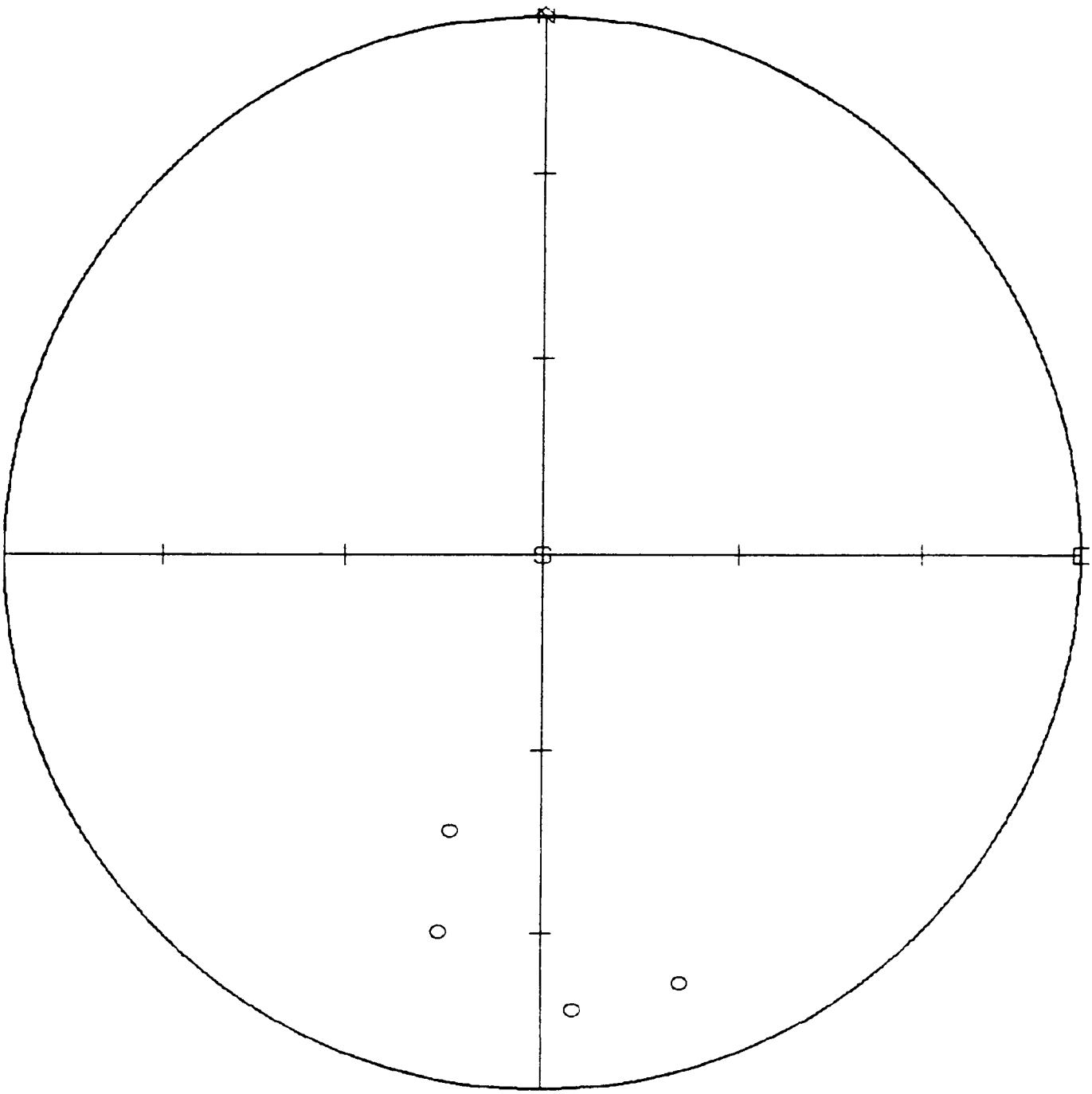
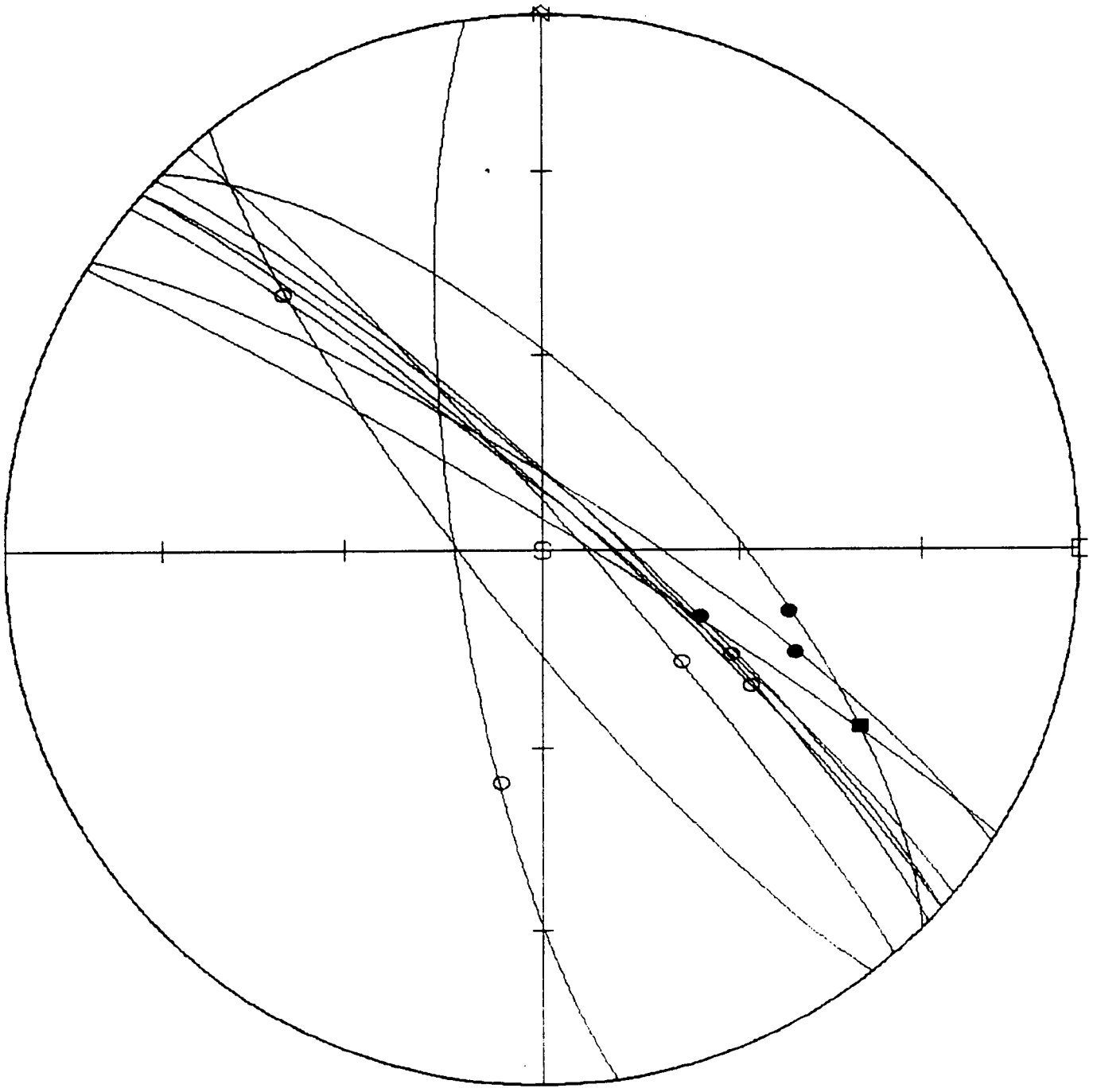


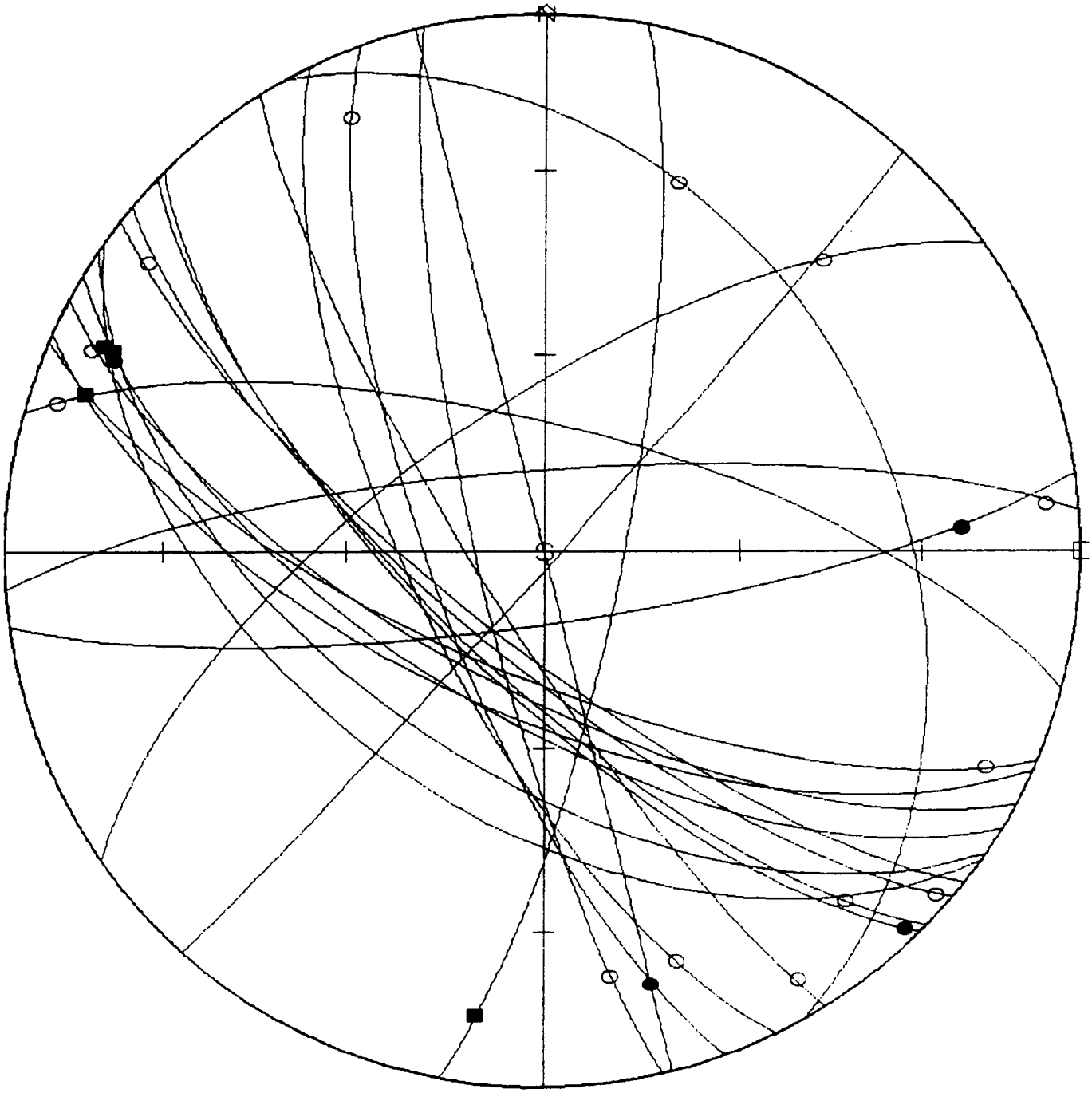
Fig. 4

Big Bull Pit
Oblique-slip Faults with Slickenline Orientations



● SW side up, NE side down
■ NE side up, SW side down
○ sense unknown

Big Bull Pit
Strike-slip Faults with Slickenline Orientations



● dextral
■ sinistral
○ sense unknown

W.A. BARCLAY EXPLORATION SERVICES LTD.

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February 8, 1994

Mr. Kerry M. Curtis, Project Geologist
Redfern Resources Ltd.
205-10711 Cambie Road
Richmond, B.C.
V6X 3G5

Dear Kerry

Enclosed are plots of contoured poles to layering and laminations at the Big Bull setting, for the east side (my data), the west side (your data), and the combined data. They are strikingly consistent, so we must be doing something right.

The poles to the best fit great circle for each data set are shown by the number 1 in each plot, and are respectively:

east data: 325 ---> 26
west data: 311 ---> 34
combined data: 321 ---> 30

The latter is weighted in favour of the east data only because there are more than twice the data measurements in that set than are in the west set.

This constitues fairly solid confirmation that the dominant fold style derives from a NW-plunging structural pattern, likely tight to isoclinal, and that synformal closure occurs west of the pit. It is difficult to speculate on whether the 14° shift in trend between east and west sets is significant or, even, real: perhaps the result of a late overprint through shearing or faulting along the Tulsequah axis to the west, or maybe simply a bias in orientation measurements. You might tuck this thought in the back of your mind for next summer's field mapping.

I am quite intrigued by the consistent petrofabric evidence for an S2 overprint described by John Payne. The kink or chevron style does not surprise me, given the presence of kink banding in outcrop east of the pit, but its pervasiveness at microscopic scale does somewhat. It would appear that the cross-folding evident north of Big Bull has been reflected over a much broader area than I would have anticipated from my limited mapping east of the pit. We may be looking at non-coaxial

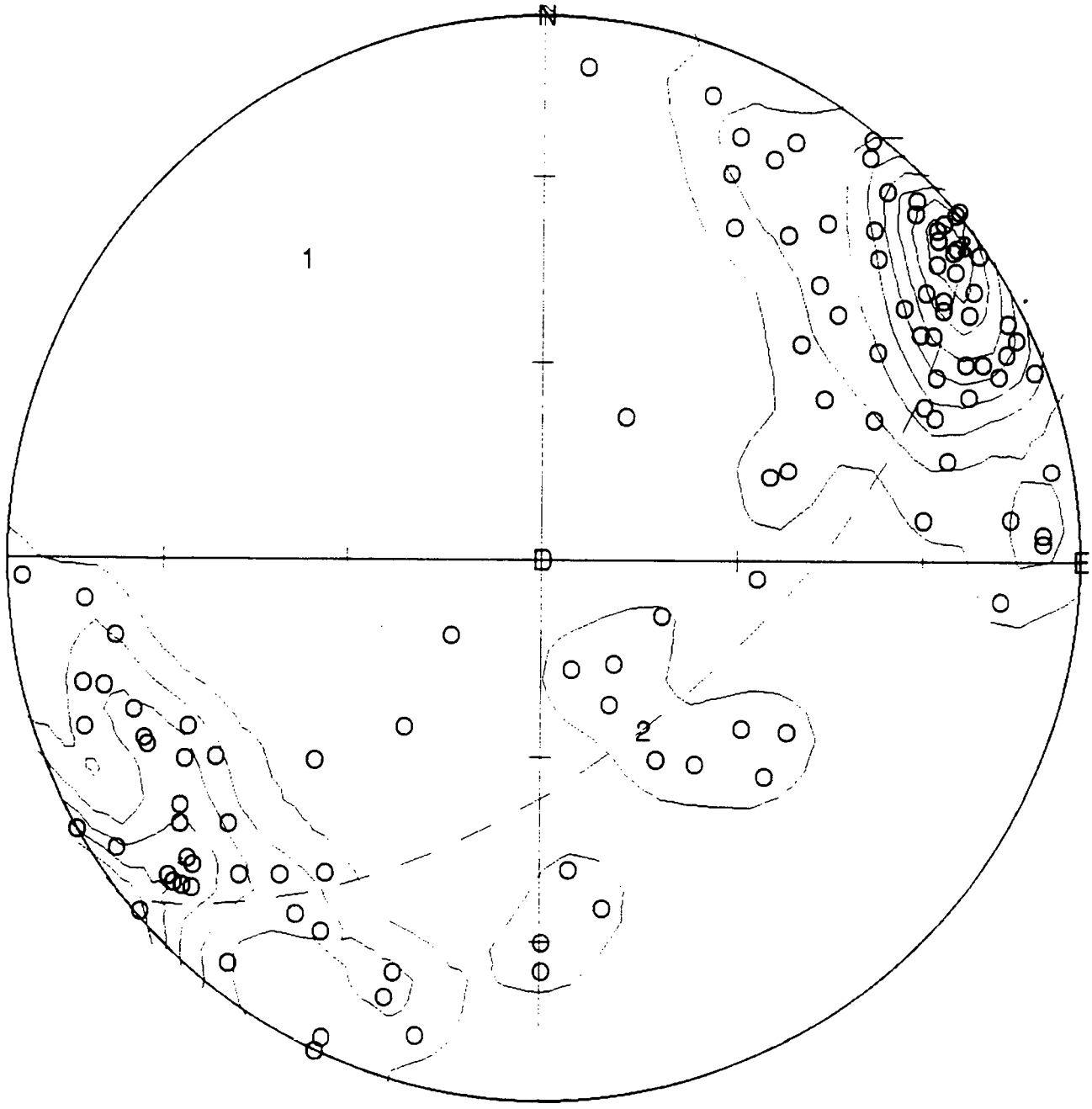
fold interference (Ramsay's Type 1?), and in 3-dimensions! I have the sense that what we loosely referred to as "crumple zones" last autumn may be pertinent to this second deformation episode.

Thanks again for running through your progress to date when I was out in Vancouver.

Best regards

W.A. Barclay

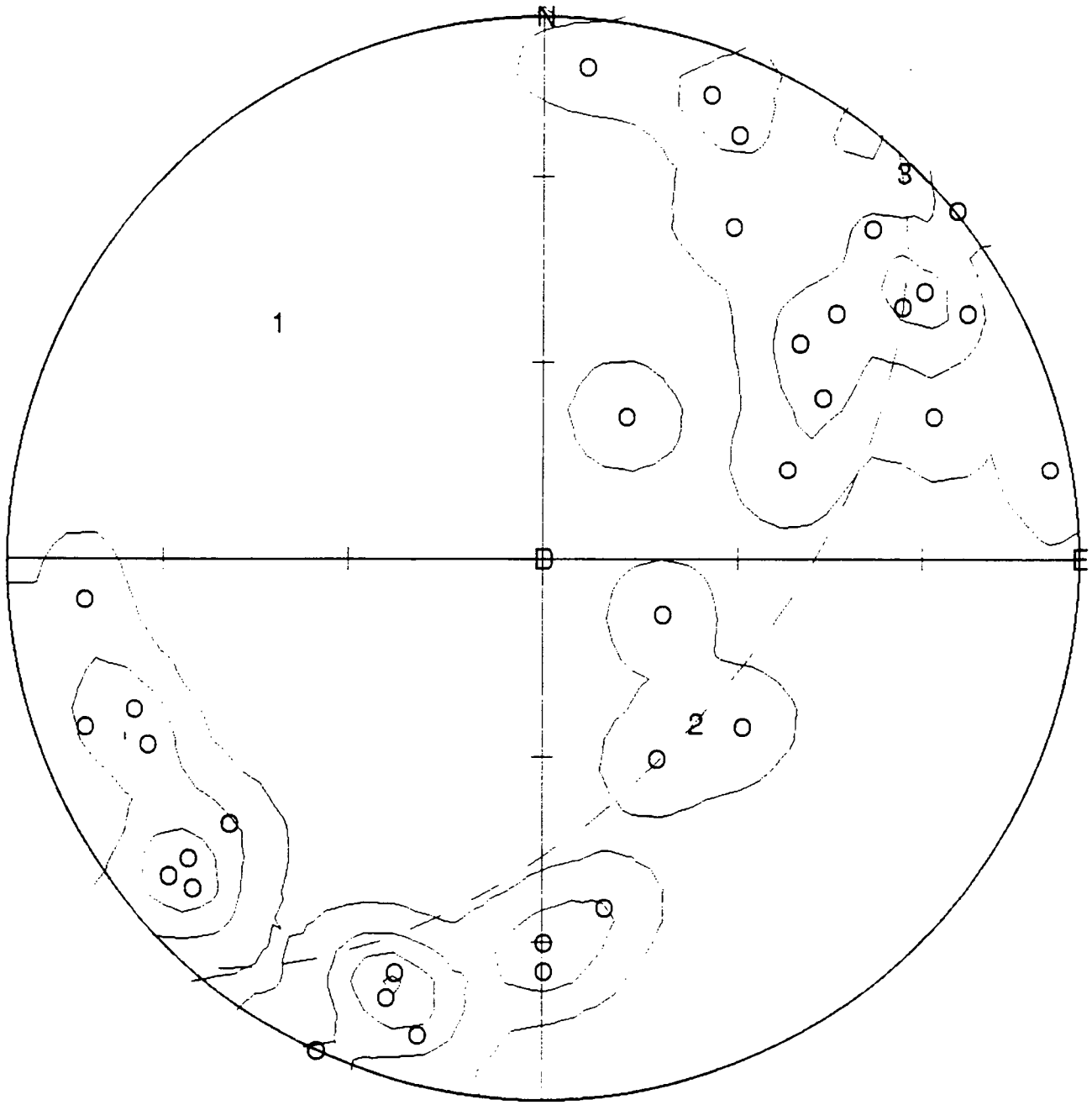
Big Bull Deposit: Contoured Poles to Layering and Laminations (combined data)



N = 114
k = 100.00
(Peak - E)/Sigma = 15.4
Peak position : 54.5°/ 5.0°

E = 1.14
Sigma = 0.75

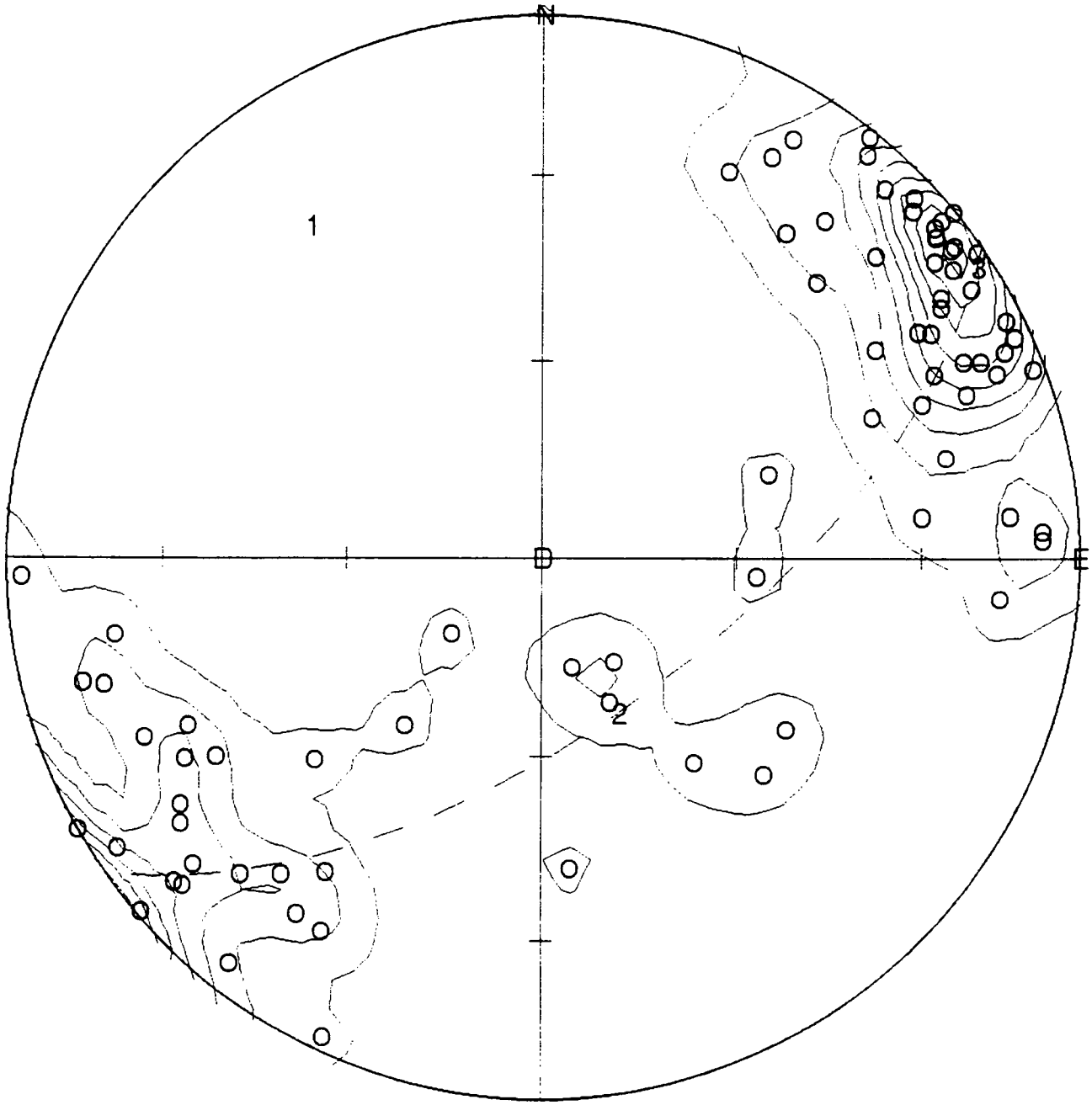
Big Bull Deposit: Contoured Poles to Layering and Laminations, West of Pit



N = 35
k = 100.00
(Peak - E)/Sigma = 6.4
Peak position : 199.7°/ 18.5°

E = 0.35
Sigma = 0.41

Big Bull Deposit: Contoured Poles to Laminations and Layering, East of Pit



N = 79
k = 100.00
(Peak - E)/Sigma = 17.1
Peak position : 54.5°/ 5.0°

E = 0.79
Sigma = 0.62

APPENDIX III
LITHOGEOCHEMICAL DATA AND SAMPLE LOCATIONS

SAMPLE LOCATIONS

NOTE: Sample locations are shown on Figure 2.2, Big Bull Deposit Geology, 1:2000 Scale, located in Map Pocket.

Sample	Northing	Easting
KBL001	7398	13022
KBL002	7420	13010
KBL003	7190	13175
KBL004	7347	13003
KBL005	7362	13001
KBL006	7225	13100
KBL007	7120	13203
KBL008	7560	12908
KBL009	7578	12912
KBL010	7518	12938
KBL011	7510	12928
KBL012	7510	12850
KBL013	7440	13000
KBL014	BB93010	10.3 m
KBL015	BB93001	102.5 m
KBL016	BB93007	312.0 m
KBL017	7302	12948
KBL018	7335	12920
KBL019	7330	13016
KBL020	7320	13024
KBL021	7315	13030
KBL022	7298	13030
KBL023	7275	13050
KBL024	7260	13062
KBL025	7240	13070
KBL026	7232	13077

Sample	Drill Hole	Depth
BB01-01	BB93001	112.5 m
BB03-01	BB93003	182.5 m
BB04-01	BB93004	129.0 m
BB05-01	BB93005	181.0 m
BB06-01	BB93006	213.0 m
BB06-02	BB93006	217.0 m
BB07-01	BB93007	431.7 m
BB07-02	BB93007	HW Dacite
BB10-01	BB93010	401.0 m
BB12-01	BB93012	152.5 m
BB12-02	BB93012	39.5 m
BB12-03	BB93012	60.6 m
BB12-04	BB93012	175.3 m
BB12-05	BB93012	195.4 m
BB12-06	BB93012	268.0 m
BB12-07	BB93012	274.3 m

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: REDFERN RESOURCES LIMITED

205 - 10711 CAMBIE RD.
RICHMOND, B.C.
V6X 3G5

Project : BIG BULL
Comments: ATTN: TERRY CHANDLER CC: REDFERN RES. - ATLIN, BC

Certificate Date: 01-DEC-93
Invoice No. : I9323437
P.O. Number :
Account : PL

CERTIFICATE OF ANALYSIS A9323437

SAMPLE	PREP CODE		Au ppb FA+AA	Al2O3 % XRF	CaO % XRF	Cr2O3 % XRF	Fe2O3 % XRF	K2O % XRF	MgO % XRF	MnO % XRF	Na2O % XRF	P2O5 % XRF	SiO2 % XRF	TiO2 % XRF	LOI % XRF	TOTAL %	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm
KPL-001	205	226	75	9.28	0.21	0.03	2.03	2.91	0.49	0.02	0.17	0.04	82.10	0.22	2.45	99.90	805	54	15	7	105
KPL-002	205	226	20	11.30	0.25	0.01	3.64	3.01	1.98	0.14	0.17	0.11	75.30	0.26	2.85	99.00	1160	54	26	9	125
KPL-003	205	226	< 5	14.70	2.70	0.01	2.49	2.62	1.06	0.07	1.04	0.10	73.40	0.35	1.75	100.30	1640	39	281	8	157
KPL-004	205	226	50	15.30	2.61	0.02	12.80	4.23	2.26	0.20	0.34	0.10	52.00	0.38	8.75	99.00	2170	70	42	8	143
KPL-005	205	226	95	32.00	0.54	< 0.01	4.99	8.98	3.34	0.14	0.43	0.12	42.60	0.74	5.35	99.20	4500	129	63	15	323
KPL-006	205	226	35	12.40	0.20	0.02	2.38	3.46	0.37	0.02	0.26	0.03	78.20	0.30	2.60	100.20	1080	48	67	9	127
KPL-007	205	226	20	10.10	0.40	0.02	4.05	2.93	1.19	0.04	0.21	0.04	77.60	0.21	3.25	100.00	1680	57	19	10	111
KPL-008	205	226	30	20.00	0.57	< 0.01	2.62	2.12	1.81	0.06	5.90	0.08	63.60	0.46	3.05	100.30	1580	37	178	13	214
KPL-009	205	226	< 5	16.40	0.43	< 0.01	3.18	2.07	2.14	0.09	4.82	0.07	68.10	0.40	2.20	99.90	1400	39	88	11	181
KPL-010	205	226	< 5	15.50	0.86	< 0.01	3.67	2.85	3.73	0.08	0.67	0.08	69.60	0.36	2.90	100.30	1200	52	199	10	164
KPL-011	205	226	55	22.00	0.18	< 0.01	3.94	5.66	2.74	0.10	0.53	0.04	58.10	0.48	4.65	98.40	7000	89	60	11	207
KPL-012	205	226	5	21.10	0.33	< 0.01	7.11	4.13	3.67	0.22	0.72	0.12	56.40	0.67	4.10	98.60	5470	72	90	12	174
KPL-013	205	226	10	14.60	0.22	0.02	1.79	4.28	0.52	0.02	0.38	0.05	74.60	0.35	3.05	99.90	1160	66	44	10	147
KPL-014	205	226	5	14.80	1.95	< 0.01	4.77	3.86	1.83	0.08	2.62	0.11	68.10	0.44	1.40	100.00	1050	64	135	10	148
KPL-015	205	226	< 5	18.90	3.13	< 0.01	9.36	5.53	6.53	0.22	0.51	0.05	51.70	0.88	2.20	99.00	2490	104	72	6	61
KPL-016	205	226	< 5	12.40	3.70	< 0.01	0.98	2.65	0.29	0.07	2.88	0.08	73.90	0.29	1.70	98.90	692	32	93	10	136
KPL-017	205	226	< 5	18.70	5.97	< 0.01	3.17	6.82	1.13	0.26	0.17	0.09	55.70	0.35	6.85	99.20	1640	60	139	10	197
KPL-018	205	226	< 5	22.40	0.83	< 0.01	4.28	7.95	2.25	0.07	0.88	0.10	55.20	0.49	3.70	98.10	6640	120	58	12	224
KPL-019	205	226	140	25.50	0.22	< 0.01	4.43	7.15	0.96	0.02	0.58	0.02	54.50	0.56	5.70	99.60	4100	111	62	11	245
KPL-020	205	226	270	31.80	0.18	< 0.01	5.84	9.39	1.52	0.04	0.60	0.03	42.30	0.73	7.45	99.90	3020	134	78	14	324
KPL-021	205	226	15	19.80	0.42	0.02	7.58	5.70	1.80	0.08	0.58	0.13	54.20	1.24	6.80	98.30	1680	92	36	4	65
KPL-022	205	226	100	22.50	0.22	< 0.01	3.86	5.78	3.01	0.10	0.49	0.05	58.30	0.51	4.95	99.80	3330	95	51	10	227
KPL-023	205	226	15	20.00	0.41	0.02	9.56	6.40	0.87	0.03	0.29	0.11	54.80	1.20	7.10	100.80	1650	92	33	5	55
KPL-024	205	226	945	24.10	0.21	0.01	8.61	7.49	1.37	0.03	0.39	0.04	49.40	0.55	7.65	99.80	3570	117	36	11	239
KPL-025	205	226	935	32.50	0.18	< 0.01	4.02	9.92	1.30	0.02	0.40	0.02	44.60	0.70	6.10	99.80	4230	148	70	14	347
KPL-026	205	226	240	17.30	3.99	0.02	13.50	2.16	7.96	0.94	2.80	0.23	45.90	0.86	2.75	98.40	945	48	268	3	57

CERTIFICATION: Hart Bichler

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212 Brooksbank Ave., North Vancouver
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To: REDFERN RESOURCES LIMITED

205 - 10711 CAMBIE RD.
RICHMOND, B.C.
V6X 3G5

Page Number : 1-B
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Certificate Date: 01-DEC-93
Invoice No. : I9323437
P.O. Number :
Account : PL

Project : BIG BULL
Comments: ATTN: TERRY CHANDLER CC: REDFERN RES. - ATLIN, BC

CERTIFICATE OF ANALYSIS A9323437

SAMPLE	PREP CODE		Y ppm	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
KPL-001	205	226	26	4.0	< 1	72	1.28	15	1	2	30	84
KPL-002	205	226	27	< 0.5	1	7	2.35	880	1	2	8	164
KPL-003	205	226	26	< 0.5	3	65	1.24	275	< 1	1	2	26
KPL-004	205	226	12	0.5	4	101	7.72	1155	2	< 1	1110	2720
KPL-005	205	226	44	< 0.5	6	12	2.55	875	4	< 1	14	380
KPL-006	205	226	22	< 0.5	2	7	1.54	15	1	2	6	14
KPL-007	205	226	18	0.5	2	774	2.54	145	1	1	204	436
KPL-008	205	226	28	< 0.5	3	9	1.73	300	< 1	3	8	110
KPL-009	205	226	35	< 0.5	5	3	1.91	495	< 1	2	2	146
KPL-010	205	226	19	< 0.5	4	6	2.15	410	< 1	4	2	72
KPL-011	205	226	31	< 0.5	3	15	2.64	500	3	< 1	52	272
KPL-012	205	226	34	< 0.5	6	9	4.27	1415	< 1	6	12	544
KPL-013	205	226	15	< 0.5	< 1	2	1.07	30	2	2	6	12
KPL-014	205	226	40	< 0.5	7	38	2.68	380	< 1	2	< 2	64
KPL-015	205	226	14	< 0.5	23	1	5.30	1205	< 1	46	< 2	98
KPL-016	205	226	17	< 0.5	3	7	0.37	365	< 1	2	10	52
KPL-017	205	226	30	< 0.5	< 1	1	0.34	1640	< 1	1	4	14
KPL-018	205	226	35	< 0.5	1	< 1	0.77	310	< 1	2	< 2	20
KPL-019	205	226	17	3.0	4	18	3.26	20	3	8	22	38
KPL-020	205	226	51	3.0	4	11	3.92	95	3	< 1	12	62
KPL-021	205	226	25	< 0.5	18	110	5.33	425	< 1	6	62	420
KPL-022	205	226	35	< 0.5	6	20	2.51	395	3	< 1	4	278
KPL-023	205	226	19	0.5	21	35	6.40	25	< 1	6	8	418
KPL-024	205	226	28	6.0	4	201	5.80	60	4	3	138	414
KPL-025	205	226	26	6.0	4	22	2.39	5	3	2	140	60
KPL-026	205	226	27	< 0.5	28	65	7.06	4100	< 1	50	72	776

CERTIFICATION: Stuart Buchler

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V6X 3G5

Project : TUCSEQUAH-BIG BULL
Comments: ATTN: TERRY CHANDLER/KERRY CURTIS

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CERTIFICATE OF ANALYSIS A9323737

SAMPLE	PREP CODE		Al2O3 % XRF	CaO % XRF	Cr2O3 % XRF	Fe2O3 % XRF	K2O % XRF	MgO % XRF	MnO % XRF	Na2O % XRF	P2O5 % XRF	SiO2 % XRF	TiO2 % XRF	LOI % XRF	TOTAL %	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
BB01-01	299	--	29.20	0.76	< 0.01	4.94	7.78	1.34	0.02	0.99	0.21	45.50	0.67	5.80	97.20	10900	130	133	12	261	43
BB03-01	299	--	22.50	0.50	0.03	5.33	6.04	0.92	0.02	0.72	0.06	54.40	0.50	5.80	96.80	9670	99	206	12	202	8
BB04-01	299	--	22.30	0.49	< 0.01	6.71	6.32	0.99	0.03	0.55	0.05	55.40	0.52	6.20	99.60	3890	95	79	14	239	37
BB05-01	299	--	21.80	1.31	< 0.01	7.84	6.28	1.09	0.06	0.68	0.07	46.40	0.58	7.16	93.30	17500	95	413	12	186	< 2
BB06-01	299	--	12.70	0.68	0.01	3.93	3.08	3.19	0.20	0.25	0.07	71.70	0.25	3.15	99.20	1250	50	19	9	146	27
BB06-02	299	--	17.00	1.72	0.01	4.34	4.32	2.44	0.09	0.24	0.08	63.20	0.39	4.20	98.00	1770	61	126	9	176	31
BB07-01	299	--	14.80	2.26	< 0.01	4.71	3.62	1.48	0.11	2.69	0.08	68.70	0.30	1.05	99.80	1340	62	299	9	176	57
BB07-02	299	--	17.90	3.05	< 0.01	5.01	4.24	1.43	0.11	3.10	0.08	63.80	0.38	1.40	100.50	986	79	187	12	193	24
BB10-01	299	--	12.80	0.29	< 0.01	3.29	3.90	0.46	0.02	0.21	0.06	75.80	0.27	3.05	100.10	915	43	23	10	138	25
BB12-01	299	--	20.70	5.74	< 0.01	4.44	4.17	4.65	0.09	1.70	0.13	55.40	0.52	1.55	99.10	1580	65	224	10	212	40
BB12-02	299	--	16.00	2.55	< 0.01	4.19	4.18	2.52	0.08	1.98	0.08	65.80	0.31	1.75	99.40	1530	68	97	8	181	36
BB12-03	299	--	19.50	7.33	0.03	16.80	5.13	6.93	0.51	0.81	0.31	36.90	2.85	0.80	97.90	2440	123	244	10	211	49
BB12-04	299	--	18.20	3.68	0.01	10.60	5.35	7.76	0.21	2.40	0.19	48.60	0.82	0.55	98.40	700	120	150	5	59	20
BB12-05	299	--	16.70	0.55	< 0.01	4.17	5.02	1.36	0.04	0.43	0.08	66.40	0.47	4.35	99.60	4020	83	75	9	145	22
BB12-06	299	--	12.90	0.59	< 0.01	3.91	3.17	2.95	0.24	0.37	0.07	71.70	0.25	3.05	99.20	1160	46	37	6	139	27
BB12-07	299	--	12.70	0.55	< 0.01	3.93	2.16	6.28	0.12	0.20	0.09	69.60	0.29	3.55	99.50	1240	31	30	8	125	22

CERTIFICATION: Adriana Fernandez

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205 - 10711 CAMBIE RD.
RICHMOND, B.C.
V6X 3G5

Project : TUCSEQUAH-BIG BULL
Comments: ATTN: TERRY CHANDLER/KERRY CURTIS

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CERTIFICATE OF ANALYSIS A9323736

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
BB01-01	205	274	235	14.0	4	414	3.41	75	1	6	158	3250
BB03-01	205	274	285	23.0	6	676	3.67	35	6	6	1395	7120
BB04-01	205	274	225	4.0	8	373	4.52	35	8	1	244	1640
BB05-01	205	274	1200	18.0	10	458	5.27	275	8	18	3710	9530
BB06-01	205	274	35	< 0.5	2	58	2.23	1160	3	2	208	4230
BB06-02	205	274	30	< 0.5	7	33	2.55	540	2	2	38	330
BB07-01	205	274	5	< 0.5	4	17	2.83	560	< 1	8	2	64
BB07-02	205	274	25	< 0.5	4	17	2.66	490	< 1	3	6	68
BB10-01	205	274	1000	13.0	3	63	2.19	10	2	1	80	620
BB12-01	205	274	10	< 0.5	5	4	2.37	495	< 1	8	16	66
BB12-02	205	274	< 5	< 0.5	4	9	2.23	395	< 1	3	< 2	46
BB12-03	205	274	< 5	< 0.5	37	97	8.72	1620	< 1	75	14	116
BB12-04	205	274	< 5	< 0.5	28	12	5.94	1220	< 1	53	6	100
BB12-05	205	274	260	5.0	18	77	2.82	90	4	11	368	1510
BB12-06	205	274	20	< 0.5	5	57	2.27	1400	2	2	24	3650
BB12-07	205	274	50	< 0.5	1	43	2.22	680	1	1	154	510

CERTIFICATION: Stewart Buchler

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CERTIFICATE OF ANALYSIS A9323734

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
KC93006	208	274	5.2	0.84	28	1150	< 0.5	2	0.20	3.5	6	94	184	3.55	< 10	1	0.42	10	0.23	355	6
KC93007	208	274	4.8	1.10	< 2	240	< 0.5	20	0.28	31.0	8	77	693	7.40	< 10	< 1	0.45	< 10	0.31	180	7
KBT001	208	274	5.6	1.53	76	420	< 0.5	4	0.10	5.0	7	64	226	5.70	< 10	< 1	0.57	10	0.59	210	12
KBT002	208	274	2.8	1.59	32	770	< 0.5	4	0.03	< 0.5	3	150	42	2.11	< 10	< 1	0.33	20	0.72	405	19
KBT003	208	274	0.8	4.03	2	670	< 0.5	16	1.59	< 0.5	23	147	173	5.60	10	< 1	0.54	30	2.77	1240	1
KBT004	208	274	23.0	1.84	6	880	< 0.5	6	0.06	1.0	5	63	756	9.48	10	31	0.58	< 10	0.69	240	47

CERTIFICATION: Khai D Ma

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CERTIFICATE OF ANALYSIS A9323734

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
KC93006	208	274	0.02	3	790	484	< 2	< 1	37	0.10	< 10	< 10	4	< 10	1180
KC93007	208	274	0.05	1	390	46	< 2	1	11	< 0.01	< 10	10	6	< 10	6790
KBT001	208	274	0.03	8	310	886	2	1	15	< 0.01	< 10	< 10	4	< 10	1510
KBT002	208	274	0.06	2	240	382	4	1	16	< 0.01	< 10	< 10	7	< 10	272
KBT003	208	274	0.07	83	2420	18	< 2	12	89	0.23	< 10	< 10	94	< 10	136
KBT004	208	274	0.02	8	730	5980	< 2	2	6	0.01	< 10	< 10	19	< 10	1515

CERTIFICATION: Thai D'Ma

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SAMPLE	PREP CODE		Au ppb FA+AA
KC93006	244	--	250
KC93007	244	--	95
KBT001	244	--	145
KBT002	244	--	95
KBT003	244	--	< 5
KBT004	244	--	920

CERTIFICATION:

APPENDIX IV
PETROGRAPHIC REPORT
J. PAYNE

Vancouver Petrographics Ltd.

8080 GLOVER ROAD, LANGLEY, B.C. V3A 4P9
PHONE (604) 888-1323 • FAX (604) 888-3642

Report for: **Kerry Curtis,**
Redfern Resources Ltd.,
205 - 10711 Cambie Road,
RICHMOND, B.C., V6X 3G5

Job 930708
November 1993

Project: **Big Bull**

Samples: KBL Series: 003, 010, 014, 015, 016. 019, 023
BB07-01, BB10-01, BB12-07

Summary:

Samples are of metamorphosed and moderately to strongly deformed dacite tuff and crystal tuff, except for one sample of metamorphosed diabase(?). The crystal tuffs contain minor to locally moderately abundant plagioclase megacrysts which represent original phenocrysts or crystal fragments in the tuffaceous rocks.

The hangingwall rocks are less siliceous than the footwall and main zone rocks, with plagioclase more abundant than quartz.

Metamorphic and deformation features are defined as follows:

D1 - primary deformation, forming metamorphic foliation (S1), probably large-scale folds (F1) with S1 as axial planar cleavage.

D2 - later deformation producing microscopic to mesoscopic drag, chevron, and kink folds, which are most prominent in micaceous layers. Locally , minor mica is recrystallized into the axial plane of the folds (S2).

The petrography of the rocks is summarized below, and specific questions in the covering letter are discussed. Rocks are grouped according to stratigraphic position in, above, or below the main zone.

A: Footwall Rocks

KBL-003 is slightly more mafic than some of the other dacite tuffs (as indicated by the moderate biotite content), but is much less mafic than the diabase (KBL-015). Banding in the diabase was not prominent in the sample provided. Quartz-rich lenses parallel to foliation probably were formed during metamorphism.

Sample KBL-003 is a quartz-plagioclase-sericite-(biotite) schist formed from a dacite crystal tuff. Partly recrystallized phenocrysts of plagioclase, minor ones of biotite, and a few fragments of hypabyssal dacite are set in a variable, well foliated (S1) groundmass dominated by quartz with less abundant plagioclase and sericite and minor biotite. Locally, the groundmass is folded tightly in small drag folds (F2). Late veinlets are of biotite-plagioclase.

Sample KBL-010 is a deformed sericite-quartz-(chlorite) schist formed from a fine dacite tuff. Minor minerals are montmorillonite and epidote. Sericite and quartz are moderately segregated into sericite-rich and quartz-rich zones. An earlier metamorphic foliation (S1) defined by sericite and chlorite is deformed tightly about chevron folds on the scale of 0.05-0.15 mm, and some sericite is recrystallized in the axial plane (S2) of the chevron folds (F2). This deformation is much more obvious in the sericite-rich zones than in the quartz-rich zones. A few early quartz-(epidote) veinlets are deformed into serpentine folds.

Sample BB12-07 is a "porphyroblastic" quartz-sericite schist formed from a dacite tuff. Rounded "porphyroblasts" of quartz aggregates and lenses of quartz-pyrite-(montmorillonite) are set in a contorted, extremely fine grained groundmass of quartz and sericite with much less montmorillonite and chlorite and minor patches of pyrite. The porphyroblasts and lenses may represent strongly deformed and boudinaged, early veins. Nothing suggests that they were formed from cordierite (as at Tulsequah Chief). Later quartz-(base-metal sulfide) veins were deformed cataclastically during a second(?) stage of deformation. Late veinlets of calcite-(quartz) cut the foliation and deformed veins.

B: Main Zone Rocks

Sample KBL-019 is a sericite/muscovite-quartz-(pyrite) schist formed from a fine, well bedded dacitic tuffaceous mudstone. It contains a prominent foliation (S1) which was folded tightly about a second axial planar cleavage (S2). S1 is parallel to coarse color banding/compositional layering in the hand sample, which suggests that the primary rock was a well bedded tuffaceous mudstone. Minor quartz-pyrite veinlets were boudinaged.

Sample KBL-023 is a sericite/muscovite-quartz-pyrite schist formed from a fine dacite tuff. A metamorphic foliation (S1) defined by sericite/muscovite-Ti-oxide is contorted tightly on a microscopic scale during a later deformation (D2). Quartz and pyrite are concentrated in patches and lenses parallel to S1.

Sample BB10-01 is a strongly deformed quartz-sericite/muscovite-plagioclase schist formed from a fine dacite tuff. Pyrite forms disseminated grains and lenses. Irregular (deformed) replacement patches and veins are dominated by quartz with less calcite and minor pyrite and plagioclase. Locally, the foliation (S1) is deformed by drag folds (F2) on the scale of 1 mm.

C: Hangingwall Rocks

Sample KBL-014 is a plagioclase-quartz-sericite schist formed from a dacite crystal tuff containing phenocrysts (crystal fragments) of plagioclase in a groundmass dominated by plagioclase-quartz. Sericite and quartz are concentrated moderately to strongly in sericite-rich and quartz-rich seams, respectively. The rock was deformed strongly into drag folds (F2) on the scale of 0.5-1.5 cm, and locally on a microscopic scale. Secondary seams of biotite-(hematite) cut the rock; their distribution is controlled moderately by the folded structure of the rock. Some biotite-(hematite) seams are subparallel to the axial plane of the drag folds (S2).

Sample KBL-016 is a well banded plagioclase-quartz-sericite/muscovite schist formed from a dacite (crystal) tuff. Major bands are dominated by plagioclase and quartz, and less abundant bands are dominated by sericite/muscovite. Minor crystal fragments of plagioclase and lenses of plagioclase-quartz indicate the fragmental (probably tuffaceous) origin of the rock. Bands are warped broadly in mesoscopic folds up to 2 cm across. Much tighter, microscopic folds are concentrated in sericite/muscovite-rich layers. Pre-deformation veinlets are of quartz-(calcite).

This sample is less siliceous than apparent in hand sample, because it contains abundant fresh sodic plagioclase.

Sample BB07-01 is a strongly deformed quartz-feldspar-biotite schist formed from a dacite crystal tuff containing scattered phenocrysts of plagioclase in a strongly foliated groundmass of quartz, plagioclase, K-feldspar, and biotite. Early veinlets or metamorphic segregations are dominated by quartz. Late deformation was concentrated along seams which were recrystallized to sericite-Ti-oxide.

D: Diabase

Sample KBL-015 is a well foliated chlorite/montmorillonite-biotite-quartz-epidote schist which probably was formed from a diabase intrusion. No primary textures are preserved. Early veinlets are of quartz and of quartz-(calcite-biotite).

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Sample KBL-003 **Quartz-Plagioclase-Sericite-(Biotite) Schist; (Dacite Crystal Tuff); Minor Biotite-Plagioclase Veinlets**

Partly recrystallized phenocrysts of plagioclase, minor ones of biotite, and a few fragments of hypabyssal dacite are set in a variable, well foliated (S1) groundmass dominated by quartz with less abundant plagioclase and sericite and minor biotite. Locally, the groundmass is folded tightly in small drag folds (F2). Late veinlets are of biotite-plagioclase.

phenocrysts (crystal fragments)	
plagioclase	5- 7%
biotite	0.1
lithic fragments	
dacite	2- 3
groundmass	
quartz	40-45
plagioclase	20-25
sericite	17-20
biotite	5- 7
ilmenite/Ti-oxide	0.3
epidote	0.2
montmorillonite	0.2
chlorite	0.1
apatite	minor
pyrite	trace
late veinlets	
biotite-plagioclase	0.2

Plagioclase forms anhedral to subhedral phenocrysts averaging 0.2-0.5 mm in size. Most are recrystallized slightly to moderately to much finer grained aggregates.

Biotite forms a very few phenocrysts from 0.4-1.2 mm long. Alteration is complete to extremely fine grained quartz, minor pseudomorphic muscovite/sericite, and abundant lenses of Ti-oxide, which are concentrated along the original cleavage in the biotite.

The largest dacite fragment, 2 mm long, is a flattened ellipsoid elongated slightly in the foliation plane (length/width = 1.3/1). It and several smaller, similar fragments are dominated by equant plagioclase grains averaging 0.2-0.5 mm in size, which have moderately interlocking grain borders and are altered slightly to sericite. Interstitial to these are patches up to 0.2 mm in size of extremely fine grained quartz and sericite.

Quartz occurs in two main modes. It forms lenses of interlocking grains averaging 0.01-0.015 mm in grain size intergrown with irregular patches and seams parallel to foliation of extremely fine grained sericite. Scattered through the rock are coarser grains, patches, and lenses of quartz averaging 0.03-0.05 mm in grain size. A few much coarser grained quartz lenses contain grains up to 1 mm long. Some equant quartz grains averaging 0.3-0.5 mm in size may represent original detrital grains; however, recrystallization of grain borders is too intense to allow definite identification.

(continued)

Plagioclase forms aggregates of interlocking grains ranging from 0.01-0.03 mm in grain size, and locally up to 0.05 mm across. In places it is difficult to distinguish from quartz.

Sericite and less abundant biotite form irregular lenses and patches, mainly oriented parallel to foliation. A few sericite/muscovite-rich bands are up to 2 mm wide.

Biotite grains average 0.02-0.03 mm long and are pleochroic from pale to light, slightly brownish green, with moderate birefringence. Chlorite forms scattered flakes averaging 0.05-0.15 mm in size; pleochroism is similar to that of biotite and birefringence is very low.

Epidote forms disseminated, commonly irregular patches and lenses averaging 0.05-0.15 mm in size of very fine grained aggregates, mainly associated with biotite/chlorite. A few ragged lenses parallel to foliation are up to 1 mm long.

Ilmenite/Ti-oxide forms disseminated, patches averaging 0.02-0.05 mm in size of anhedral to subhedral grains. It is concentrated moderately in wispy seams parallel to the foliation.

Montmorillonite forms disseminated patches up to 0.1 mm in size of extremely fine grained aggregates.

Pyrite forms a few grains averaging 0.01 mm in size enclosed in quartz.

Apatite forms ragged to subhedral prismatic grains up to 0.15 mm long.

A few wispy seams up to 0.1 mm wide of very fine grained biotite and plagioclase with minor epidote cut across the foliation at a moderate angle.

Sample KBL-010 **Deformed Sericite-Quartz-(Chlorite) Schist: (Dacite Tuff); Early, Deformed Quartz-(Epidote) Veinlets**

The sample is an altered fine dacite tuff dominated by sericite and quartz with less abundant chlorite and minor montmorillonite and epidote. Sericite and quartz are moderately segregated into sericite-rich and quartz-rich zones. An earlier metamorphic foliation (S1) defined by sericite and chlorite is deformed tightly about chevron folds on the scale of 0.05-0.15 mm, and some sericite is recrystallized in the axial plane (S2) of the chevron folds (F2). This deformation is much more obvious in the sericite-rich zones than in the quartz-rich zones. A few early quartz-(epidote) veinlets are deformed into serpentine folds.

sericite	60-65%	epidote	0.5%
quartz	20-25	Ti-oxide	minor
chlorite	5- 7	apatite	trace
montmorillonite	1- 2		
veinlets			
quartz-(epidote-chlorite-sericite)	4- 5		

Sericite forms flakes averaging 0.02-0.03 mm in length, which were oriented parallel to a metamorphic foliation. During later deformation, sericite was warped into microscopic chevron folds about axial planes at a high angle to the primary foliation. During this deformation, sericite was recrystallized slightly into flakes up to 0.1 mm long in the axial plane of the chevron folds.

Quartz occurs in two main textures. Some patches consist of grains averaging 0.01-0.02 mm in size intergrown with minor to moderately abundant sericite. Some quartz-rich lenses and patches are moderately coarser grained, averaging 0.02-0.05 mm in grain size.

Chlorite is concentrated slightly to moderately in certain patches and lenses as extremely fine grains intergrown with quartz.

Montmorillonite occurs in a similar texture to chlorite, and is concentrated moderately to strongly in a few patches. It has similar optical properties to chlorite except that it has a very low refractive index and moderate negative relief.

Epidote is concentrated moderately to strongly in very irregular patches up to 0.3 mm in size of cryptocrystalline, equant grains, commonly enclosed in quartz-rich patches. Because of the fineness of the grains, these appear to have a higher relief than normal.

Ti-oxide forms elongate to irregular grains averaging 0.02-0.05 mm in size. A few patches up to 0.25 mm across consist of cryptocrystalline Ti-oxide aggregates. Ti-oxide probably is secondary after ilmenite.

Apatite forms disseminated, anhedral to subhedral prismatic grains up to 0.1 mm in size.

Quartz-rich veinlets up to 0.5 mm wide are deformed tightly in serpentine folds on the scale of 0.5-1 mm. Epidote forms irregular patches as in the groundmass. Sericite and chlorite form disseminated flakes. A few rounded patches up to 1 mm across are of quartz-epidote-(chlorite); these represent relic fold noses or boudinaged parts of the early quartz-rich veinlets.

Sample KBL-014 **Plagioclase-Quartz-Sericite Schist; Dacite Crystal Tuff, (Tightly Folded); Biotite-(Hematite) Seams**

Relic phenocrysts (crystal fragments) of plagioclase are set in a groundmass dominated by plagioclase-quartz. Sericite and quartz are concentrated moderately to strongly in sericite-rich and quartz-rich seams, respectively. The rock was deformed strongly into drag folds on the scale of 0.5-1.5 cm, and locally on a microscopic scale. Secondary seams of biotite-(hematite) cut the rock; their distribution is controlled moderately by the folded structure of the rock. Some biotite-(hematite) seams are subparallel to the axial plane of the drag folds (S2).

phenocrysts, crystal fragments			
plagioclase	3- 4%		
groundmass		interstitial patches	
plagioclase	65-70	quartz	1- 2%
quartz	12-15	K-feldspar	0.3
sericite	7- 8	pyrite	0.1
K-feldspar	2	calcite	0.1
biotite	0.3	chlorite	trace
chlorite	0.1		
pyrite	0.1		
calcite	minor		
Ti-oxide	trace		
late seams			
biotite	3- 4		
hematite	0.5		

Plagioclase forms anhedral crystal fragments and phenocrysts averaging 0.2-0.5 mm in size, and a few up to 0.9 mm long. Some are fractured and warped slightly, and a few are recrystallized slightly to moderately to groundmass quartz. One is replaced moderately by irregular patches of K-feldspar and a few are replaced slightly to moderately by patches of sericite.

The groundmass is dominated by slightly interlocking to submosaic aggregates of plagioclase averaging 0.01-0.03 mm in grain size. Some lenses parallel to S1 are dominated by slightly interlocking quartz grains averaging 0.02-0.03 mm in size. In some lenses, plagioclase and quartz are difficult to identify because plagioclase commonly is not twinned, and their refractive indices are similar.

Sericite/muscovite is concentrated in bands averaging 0.1-0.5 mm wide. These show strong internal folding with small kink folds developed with their axial planes parallel to the band or parallel to S2.

Chlorite and biotite each form disseminated flakes and small clusters of a few flakes disseminated in quartz and plagioclase aggregates. Chlorite is pleochroic from pale to light green, and biotite is pleochroic from pale to medium brown.

Pyrite forms disseminated, subhedral to euhedral grains averaging 0.03-0.05 mm in size, and a few anhedral grains up to 0.07 mm across. A few of the latter contain a few blebby inclusions of pyrrhotite and minor ones of chalcopyrite up to 0.02 mm in size. Ti-oxide forms disseminated grains averaging 0.02-0.03 mm in size.

(continued)

A few discontinuous lenses are of slightly coarser grained, recrystallized quartz averaging 0.05-0.1 mm in grain size. Some of these contain clusters of subhedral to euhedral pyrite grains averaging 0.05-0.2 mm in size. Pyrite commonly contains blebby inclusions of chalcopyrite and pyrrhotite averaging 0.01-0.03 mm in size. One lens contains a few quartz and interstitial calcite grains averaging 0.3-0.5 mm in size. A few lenses contain K-feldspar grains averaging 0.2-0.3 mm in size.

Late seams and lenses up to 0.3 mm wide are of crypto-crystalline to extremely fine grained biotite and disseminated grains of hematite averaging 0.02-0.05 mm in size. Some magnetite grains contain one or a few inclusions 1-2 microns across of pyrite and/or pyrrhotite.

Sample KBL-015 **Chlorite/Montmorillonite-Biotite-Quartz Schist; Deformed Diabase(?); Early Veinlets of Quartz and of Quartz-(Calcite-Biotite)**

The sample is a well foliated, metamorphosed diabase(?) dominated by chlorite/montmorillonite, biotite, quartz, and epidote, with minor ilmenite/Ti-oxide. No primary textures are preserved. Pre-deformation veinlets are of quartz and of quartz-(calcite-biotite).

chlorite/montmorillonite	40-45%
biotite	20-25
quartz	15-17
epidote	8-10
sericite	3- 4
ilmenite/Ti-oxide	0.3
veinlets	
quartz-(calcite-biotite)	4- 5

Quartz forms disseminated grains and lenses parallel to foliation of equant grains averaging 0.02 mm in size.

Chlorite/montmorillonite forms extremely fine grained aggregates of flakes, commonly intergrown with biotite and/or sericite of similar texture. A few patches averaging 0.2-0.8 mm in size of chlorite/montmorillonite are free of biotite or sericite. Flakes are moderately oriented parallel to foliation. In places, foliation appears to have been deformed tightly, but evidence is not conclusive. Chlorite/montmorillonite is pale green in color. Confusion over its identification comes form the fact that much of it appears to have a very low refractive index and moderate negative relief (suggesting montmorillonite).

Biotite is pleochroic from pale to medium greenish brown. Some patches of biotite and sericite appear to have negative relief (similar to that of chlorite/montmorillonite).

Epidote forms disseminated, ragged grains averaging 0.03-0.15 mm in size, mainly enclosed in phyllosilicates.

Ilmenite and Ti-oxide (after ilmenite) form disseminated patches up to 0.2 mm long. Ti-oxide also forms dusty seams parallel to foliation.

Several discontinuous veinlets averaging 0.1-0.2 mm wide are dominated by very fine grained quartz with a recrystallized texture. One veinlet 0.3 mm wide also contains patches of calcite and disseminated flakes up to 0.2 mm long of biotite. These probably were formed by metamorphic segregation.

Sample KBL-016 **Banded Plagioclase-Quartz-Sericite/Muscovite Schist; (Dacite [Crystal] Tuff); Early Quartz-(Calcite) Veins**

The sample is well banded, with major bands dominated by plagioclase and quartz, and less abundant bands dominated by sericite/muscovite. Minor crystal fragments of plagioclase and lenses of plagioclase-quartz indicate the fragmental (probably tuffaceous) origin of the rock. Bands are warped broadly in mesoscopic folds up to 2 cm across. Much tighter, microscopic folds are concentrated in sericite/muscovite-rich layers. Pre-deformation veinlets are of quartz-(calcite).

crystal fragments, lenses			
plagioclase	3- 4%		
quartz	1		
groundmass			
plagioclase	50-55		
quartz	20-25	Ti-oxide	minor
sericite	8-10	apatite	minor
pyrite	0.3	sphalerite	trace
calcite/dolomite	0.2	epidote	trace
veinlets, lenses			
quartz-(calcite)	4- 5		

Plagioclase forms subhedral to anhedral, prismatic grains averaging 0.3-0.7 mm in size and locally up to 1.3 mm long. A few lenses up to 1.7 mm long are of very fine to fine grained plagioclase and quartz. A few contain very irregular replacement patches of calcite and some contain abundant dusty hematite.

The groundmass is dominated by albite and quartz in moderately interlocking aggregates ranging from 0.01-0.1 mm in grain size. Prismatic plagioclase grains commonly are oriented parallel to foliation.

Sericite/muscovite is concentrated in irregular layers up to a few mm wide and also forms wispy seams in plagioclase-quartz-rich layers. In these layers and seams the metamorphic foliation (S1) was warped into microscopic folds on the scale of 0.3-1 mm in size, and locally sericite was recrystallized in the axial plane (S2) of the later folds.

Calcite/dolomite forms scattered interstitial grains averaging 0.05-0.25 mm in size.

Pyrite forms disseminated grains and clusters of grains averaging 0.03-0.2 mm in size. Pyrite and Ti-oxide are concentrated in sericite/muscovite-rich seams up to 0.2 mm wide.

Sphalerite forms an irregular patch 0.3 mm across intergrown with silicates and minor pyrite. Sphalerite contains disseminated blebs of chalcopyrite averaging 0.002-0.003 mm in size.

Apatite forms anhedral prismatic grains averaging 0.07-0.1 mm long. Epidote forms a few subhedral to anhedral grains up to 0.1 mm in size.

Discontinuous veinlets and lenses up to 1.5 mm wide are dominated by very fine grained, submosaic quartz. A few contain minor to moderately abundant patches and disseminated grains of very fine grained calcite.

Sample KBL-019 **Sericite/Muscovite-Quartz-(Pyrite) Schist; (Dacite Tuff); Strong Microscopic Deformation; Deformed Quartz-Pyrite Veinlets**

The sample is a sericite/muscovite-quartz-(pyrite) schist with a prominent foliation (S1) which was folded tightly about a second axial planar cleavage (S2). S1 is parallel to coarse color banding in the hand sample, which suggests that the rock may have been a well bedded tuffaceous mudstone. Minor quartz-pyrite veinlets were boudinaged.

sericite/muscovite	75-80%
quartz	15-20
pyrite	1- 2
Ti-oxide	0.1
veinlets, pods	
quartz-pyrite	2- 3

Sericite/muscovite forms very fine to fine grained flakes parallel to foliation (S1). They are deformed strongly in kink to chevron folds on a scale of 0.05-0.15 mm at a moderate to high angle to S1. Only minor sericite was recrystallized in the axial plane of the chevron folds (S2). Intergrown with sericite are equant grains of quartz averaging 0.01 mm in size.

Quartz is concentrated moderately to strongly in quartz-rich lenses of grains averaging 0.01-0.02 mm in size. In these sericite forms disseminated flakes averaging 0.02-0.03 mm long.

Pyrite forms disseminated grains averaging 0.03-0.1 mm in size, and a few from 0.2-0.5 mm across. Some larger grains have a partial halo of comb-textured to irregular quartz extending outwards from pyrite crystal faces.

Ti-oxide forms wispy seams in some sericite-rich layers; these outline the tight chevron folds. The Ti-oxide rich bands cause some of the color variation between layers in the hand sample. Ti-oxide also forms disseminated patches up to 0.12 mm in size of cryptocrystalline to extremely fine grained aggregates.

Veinlets up to 0.3 mm wide of quartz and minor to moderately abundant pyrite were folded and boudiaged during the later deformation (D2). Some isolated patches up to 1.5 mm in size of similar quartz or quartz-pyrite may represent replacement patches or parts of strongly deformed veinlets. In some of these, quartz forms very fine grained aggregates with finely sutured grain borders.

Sample KBL-023 **Sericite/Muscovite-Quartz-Pyrite Schist; (Dacite Tuff); Strong Microscopic Deformation**

The sample is dominated by sericite/muscovite, with patches and lenses dominated by quartz-pyrite. A primary foliation defined by sericite/muscovite-Ti-oxide is contorted tightly on a microscopic scale.

sericite/muscovite	75%
quartz	20
pyrite	5
Ti-oxide	0.3
chalcopyrite	trace

Sericite/muscovite forms flakes averaging 0.02-0.07 mm in size. It was oriented parallel to a metamorphic foliation (S1), which was later contorted strongly on a microscopic scale (0.05-0.2 mm) into irregular kink folds, many of which are outlined by wispy seams of Ti-oxide. Kink folds do not show an overall orientation.

A few patches of host rock are dominated by equant grains of quartz averaging 0.01-0.02 mm in size, with much less abundant sericite as flakes averaging 0.02 mm long between quartz grains.

Quartz and pyrite are concentrated in lenses and patches up to 2 mm wide oriented parallel to S1. Many of these may be boudinaged remnants of more continuous pre-deformation seams or veins. Quartz ranges in grain size from 0.01-0.2 mm. Adjacent to pyrite it commonly forms irregular, comb-textured aggregates oriented perpendicular to pyrite crystal faces. Elsewhere, quartz commonly has finely sutured grain borders, which probably were formed during the latest deformation.

Pyrite forms disseminated, anhedral to subhedral grains averaging 0.03-0.3 mm in size, mainly included in quartz. Many grains have a corroded appearance; this may have been produced by rolling and partial solution during deformation. One pyrite grain contains a rounded bleb of galena 0.025 mm across.

Ti-oxide forms tabular grains averaging 0.03-0.05 mm in size. It is concentrated moderately in clusters up to 0.15 mm across.

Chalcopyrite forms a few patches up to 0.07 mm in size adjacent to pyrite grains, and a few blebby inclusions up to 0.03 mm in size in pyrite grains.

Sample BB07-01 **Strongly Deformed Quartz-Feldspar-Biotite-Sericite Schist: (Dacite Crystal Tuff); Veinlet of Pyrite-Epidote**

Scattered phenocrysts of plagioclase are set in a strongly foliated groundmass of quartz, plagioclase, K-feldspar, biotite and sericite. Early veinlets or metamorphic segregations are dominated by quartz. Late deformation was concentrated along seams which were recrystallized to sericite-Ti-oxide.

phenocrysts	
plagioclase	1- 2%
groundmass	
quartz	35-40
plagioclase	30-35
biotite	7- 8
K-feldspar	5- 7
sericite	5- 7
pyrite	0.1
Ti-oxide	minor
apatite	trace
veinlets, segregations	
quartz	3- 4
pyrite-epidote	0.1

Plagioclase forms subhedral to anhedral, prismatic phenocrysts up to 1.2 mm in size, and a few clusters of two or three phenocrysts. Some are altered slightly to moderately to irregular patches of K-feldspar. Some appear to be partly recrystallized along their margins to groundmass quartz. Apatite forms a prismatic grain 0.1 mm long enclosed in a plagioclase phenocryst.

In the groundmass, plagioclase and much less K-feldspar form aggregates of grains averaging 0.003-0.015 mm in size. The abundance and distribution of K-feldspar is determined mainly from the stained offcut block.

Quartz is concentrated moderately in quartz-rich patches and lenses up to a few mm across averaging 0.015-0.03 mm in grain size, and a few grains up to 0.07 mm across. Some quartz patches are unfoliated, and some show a moderate foliation defined by parallel orientation of elongate grains. A few grains up to 0.3 mm long are elongated parallel to foliation.

Biotite forms flakes averaging 0.015-0.03 mm long with pleochroism from pale to light/medium brownish green. It is concentrated moderately to strongly in patches and lenses parallel to foliation, and is intergrown intimately with feldspars.

Sericite is concentrated in discontinuous seams and lenses up to 0.5 mm wide. These are contorted moderately to strongly

Pyrite forms disseminated, anhedral to subhedral grains averaging 0.03-0.15 mm in size. A few contain an inclusion of chalcopyrite most of the latter are 0.01-0.03 mm in size and one elongate lens is 0.08 mm long. A very few contain a blebby inclusion of pyrrhotite.

(continued)

Ti-oxide forms disseminated grains averaging 0.005-0.01 mm in size. It is concentrated strongly in a few patches and lenses up to 0.25 mm long, which may represent original ilmenite or sphene.

Some discontinuous, elongate, coarser grained quartz patches may represent early veins of metamorphic segregations. They are discontinuous, and may represent segments of early veinlets which were contorted moderately to strongly in the later deformation.

A veinlet 0.07-0.1 mm wide is of very fine grained pyrite and epidote. A veinlet 0.05 mm wide and 1 mm long is of pyrite and less abundant quartz.

Sample BB10-01 **Quartz-Sericite/Muscovite-Plagioclase Schist; (Dacite Tuff); Quartz-Calcite Veins and Replacement**

The rock is a strongly altered and deformed fine dacitic tuff. It is dominated by quartz, plagioclase, and sericite/muscovite, with disseminated grains and lenses of pyrite. Irregular (deformed) replacement patches and veins are dominated by quartz with less calcite and minor pyrite and plagioclase. Locally, the foliation is deformed by drag folds on the scale of 1 mm.

quartz	50-55%
sericite/muscovite	12-15
plagioclase	10-12
pyrite	1- 2
Ti-oxide	0.1
veins	
quartz	17-20
calcite	7- 8
pyrite	0.1
plagioclase	0.1

Quartz forms equant grains averaging 0.02-0.05 mm in size. It and sericite/muscovite each are concentrated moderately in lenses parallel to foliation.

Plagioclase forms a few patches up to 0.3 mm in size of equant grains up to 0.1 mm in size. These may represent original phenocrysts or crystal fragments. They are replaced slightly to moderately to quartz. Plagioclase also is concentrated in lenses as aggregates averaging 0.005-0.01 mm in grain size. Some of these may be intergrown intimately with quartz. Alteration is slight to moderate to sericite.

Sericite/muscovite forms grains ranging from 0.02-0.1 mm in length; these are oriented parallel to foliation and concentrated in wispy seams and lenses. Many of these patches and lenses probably are secondary after plagioclase.

Pyrite forms disseminated grains and clusters of grains averaging 0.02-0.07 mm in size, and a few up to 0.15 mm across.

Ti-oxide forms irregular, cryptocrystalline patches averaging 0.02-0.05 mm in size.

Replacement veins and patches up to several mm across are dominated by equant quartz and calcite grains averaging 0.03-0.08 mm in size. A few quartz grain up to 0.6 mm across show moderately to strongly strained extinction.

Calcite is concentrated moderately to strongly in a few patches up to 1.5 mm in size. In quartz-rich patches, calcite commonly forms irregular selvages or aggregates of extremely fine grains between quartz grains.

Plagioclase (oligoclase?) forms a few subhedral to irregular grains from 0.3-0.7 mm long; alteration is slight to moderate to sericite and dusty hematite. One grain of fresh albite 0.2 mm long is enclosed in calcite.

Pyrite forms disseminated subhedral to euhedral grains averaging 0.07-0.2 mm in size, and a few up to 0.4 mm across.

Sample BB12-07 **Porphyroblastic Quartz-Sericite Schist; (Dacite Tuff); Veins of Quartz-(Base-Metal Sulfides); Calcite-(Quartz)**

Rounded "porphyroblasts" of quartz aggregates and lenses of quartz-pyrite-(montmorillonite) are set in a contorted, extremely fine grained groundmass of quartz and sericite with much less montmorillonite and chlorite and minor patches of pyrite. The porphyroblasts and lenses may represent strongly deformed and boudinaged, early veins. Later quartz-(base-metal sulfide) veins were deformed cataclastically during a second(?) stage of deformation. Late veinlets of calcite-(quartz) cut the foliation and deformed veins.

porphyroblasts, lenses	
quartz	10-12%
pyrite	1- 2
montmorillonite	0.3
groundmass	
quartz	35-40
sericite	35-40
chlorite(?)	2- 3
montmorillonite	1- 2
pyrite	0.3
Ti-oxide	minor
apatite	minor
chalcopyrite	trace
veins	
quartz-(galena-chalcopyrite-sphalerite)	4- 5
calcite-(quartz)	1- 2

Rounded patches averaging 0.5-0.8 mm in diameter consist of very fine grained, submosaic quartz. Some also contain minor to moderately abundant extremely fine to very fine grained montmorillonite. Other lensy patches up to 1.7 mm in length with similar texture may represent boudinaged and strongly deformed vein noses. Some quartz-rich lenses contain elongate lenses up to 1.8 mm long and equant patches averaging 1 mm across of anhedral grains of pyrite averaging 0.03-0.15 mm in size. A few pyrite grains contain one to a few irregular inclusions up to 0.02 mm in size of galena.

In the groundmass, quartz grains averaging 0.03-0.05 mm in size occur in patches and lenses mainly less than 0.15 mm in size intergrown with sericite. The latter, with a trace of coarser grained muscovite is concentrated slightly to moderately in seams parallel to original foliation. These were warped moderately on a scale of 0.05-0.1 mm. Chlorite is concentrated in patches averaging 0.1-0.3 mm in size of grains averaging 0.005 mm in size intergrown with minor to moderately abundant sericite and montmorillonite.

Pyrite forms disseminated, anhedral grains and clusters of grains averaging 0.03-0.15 mm in grain size, and a few up to 0.3 mm across. Chalcopyrite forms grains up to 0.03 mm in size, mainly in quartz.

(continued)

Ti-oxide forms patches up to 0.15 mm in size of extremely fine grained to cryptocrystalline aggregates of equant to acicular grains. Apatite forms anhedral grains averaging 0.03-0.05 mm in size, and a few up to 0.1 mm long.

On both sides of the section are veins up to 1 mm wide dominated by quartz. Very fine grained intergrowths of quartz appear to have been recrystallized from coarser grains. The larger vein contains a very irregular patch up to 0.4 mm across of galena, and a few patches up to 0.07 mm in size of chalcopyrite and up to 0.05 mm in size of sphalerite. Wispy seams of chlorite-(sericite) parallel to the zone suggest late cataclastic deformation.

A discontinuous calcite veinlet up to 0.3 mm wide occurs in one of these seams along the larger quartz vein; in it calcite grains average 0.1-0.3 mm in size. A second late veinlet averaging 0.2-0.3 mm wide of very fine grained calcite and minor quartz fills an irregular fracture at a high angle to foliation. Quartz commonly has euhedral terminations against calcite. Calcite contains moderately abundant, extremely fine semi-opaque/fluid inclusions.

APPENDIX V
SELECTIONS FROM GEOPHYSICAL REPORT
G. HENDRICKSON

REPORT ON

GEOPHYSICAL SURVEYS

AT THE

TULSEQUAH PROJECT, NORTHWEST B.C.

NTS 104K

FOR

REDFERN RESOURCES LTD.

BY

DELTA GEOSCIENCE LTD.

APRIL 13, 1994.

GRANT A. HENDRICKSON, P.GEO.

PERSONNEL

Tom Peregoodoff	- Geophysicist - Crew Chief.
Roger March	- Geologist.
Dan Mayes	- Student (undergraduate).
Brian McGrath	- Geologist.
Grant Hendrickson	- Senior Geophysicist/Supervisor.

EQUIPMENT

2 - B.R.G.M. IP-6 Receivers.
1 - Huntec 7.5 kva I.P. Transmitter System.
1 - B.R.G.M. Melis EM System - a two channel frequency EM receiver (frequency range 0.12 Hz to 7600Hz) connected to coils for the Hz and Hr EM field components.
1 - B.R.G.M. TX1000 Variable Frequency EM Transmitter.
1 - Geonics EM 37D (3 component Digital EM System).
2 - Scintrex I.G.S. VLF-EM/MAG/Gradiometer Receivers.
1 - Scintrex MPS Base Station Magnetometer.
1 - Apex Parametrics Maxmin 1-9-MMC EM System.
1 - Toshiba T3100SX Field Computer.
1 - Fujitsu DL2600 Printer/Plotter.
8 - Km. I.P. Wire.
4 - Km. Melis and Protem EM Loop Wire.
6 - King VHF Radios.

SURVEY PROCEDURE

Redfern personnel ensured the preparation of the grid lines, spaced 100 meters apart, was well underway prior to the arrival of the Delta Geoscience crew. Survey stations were slope corrected to 25 meter horizontal intervals.

For the Induced Polarization work, two array configurations were used, the Gradient and the Schlumberger arrays. The bulk of the work was done with the gradient array.

The standard survey gradient array coverage was carried out with a current electrode separation (AB) of 1400m and a potential electrode separation (MN) of 50m. This array is focused at the approximate 160 meter depth, however the focal plane of the array is large (50-200 meters). Very shallow mineralization with very poor depth extent (less than 50 meters) would not respond well to this array.

Note the convention that "AB" denotes the current electrode separation, and "MN" denotes the potential electrode separation. It is preferable to keep the "MN" distance as small as signal levels will permit. The slight D.C. data shift often present when comparing adjacent gradient array blocks, was determined by overlapping the blocks and was subsequently corrected, if necessary, by adjusting the data to one level. The chargeability data generally repeated very well, whereas the resistivity data varied moderately.

Overlap on each reading was 50%, i.e. 25 meters between reading points to maximize the horizontal resolution of the shallower features.

A small area of interest in the Tulsequah Chief grid also received lateral detail work utilizing a smaller AB spacing (950m). This area is referred to as the" T.C. Detail Block".

The gradient array provides for good horizontal resolution of anomalies and a deep depth of investigation. The wavelength and asymmetry of gradient array responses often provides the first indication of the target depth and dip. By varying the current electrode separation, one can also find the focus depth of an anomaly and subsequently produce a chargeability and resistivity section that illustrates the depth and shape of the target. This type of data illustration is relatively free of the geometric distortions seen in dipole-dipole and pole-dipole work. Gradient arrays also minimize operational problems in rough difficult terrain like Tulsequah - a feature which ultimately leads to cost savings.

To produce the chargeability and resistivity section of L.3+00N, T.C. grid, a series of gradient and Schlumberger array traverses were necessary to dramatically vary the depth of investigation. The AB separations used for these arrays are as follows:

AB = 1400m, AB = 950m, AB = 500m, AB = 200m.

The smaller two AB spacings utilized the moving Schlumberger array, an array very similar to the gradient array.

To summarize, the geophysical survey described in the preceding section was designed to help evaluate the property in a cost effective manner for:

a) the spatial position and strength of any buried disseminated or semi-massive sulphide mineralization.

b) the spatial position of structures and major alteration zones. The significant weathering of mineralization along porous fault structures is often reflected by lenticular shaped induced polarization lows coincident with magnetic lows.

c) the detection of the different lithologies to assist in geological mapping.

The Induced Polarization survey (chargeability) was expected to respond primarily to disseminated and/or massive sulphide mineralization. A moderately weak response was expected from unmineralized volcanics and metasediments, although metasediments that are pyritic and weakly graphitic will have a moderate I.P. response.

The Resistivity survey was expected to respond primarily to the lithology and alteration. Deep poorly conductive sulphide deposits would only produce a modest resistivity low. Hydrothermal alterations along structural breaks often result in silicification (high resistivity) and minor sulphide mineralization (moderate I.P. response). Areas where there is a direct correlation of high chargeability with low resistivity can

signify massive sulphide mineralization, particularly when the host geology is supportive. Metasediments generally have a moderately low resistivity often similar to tuffs, whereas volcanic flows and intrusives tend to have a much higher resistivity. Felsic flows and intrusives tend to have a very high resistivity.

Disseminated sulphide mineralization generally has to be quite concentrated (>10%), in order to substantially reduce the bulk resistivity of the host rock, although there are some important exceptions to this generalization.

The Magnetic survey was expected to respond strongly to changes in lithology, due to significant changes in the magnetic susceptibility of the underlying bedrock. Mafic rocks and their related dikes and sills normally have a strong magnetic response. The magnetic response depends largely on the amount of disseminated magnetite mineralization present - a feature which can vary considerably even in the same rock type. Metasediments and felsic volcanics generally have a low magnetic response, thus the magnetic data can help differentiate between mafic and felsic volcanics. Unfortunately, the metasediments will generally have the same magnetic response as the felsic rocks.

Intense hydrothermal alteration along structures can alter magnetic mineralization to non-magnetic limonite, thus a very localized magnetic low can be a significant exploration lead.

DISCUSSION OF THE DATA

BIG BULL GRID:

The Induced Polarization survey has outlined five anomalous areas of apparent sulphide mineralization:

Area 1: Centered at 13125E, 7120N.
A strong narrow response from a shallow southwest dipping body that has good downdip extent. This response is probably directly related to the Big Bull Deposit.

Area 2: Centered at 12900E, 7040N.
A possible deep satellite deposit or fault repetition of the Big Bull Deposit.
An interesting area that requires more deep looking I.P. work, as it lies on the flank of the existing geophysical coverage.

Area 3: Centered at 12890E, 7480N.
A long narrow southwest dipping anomaly of good depth extent that appears to be getting deeper and steepening to the northwest. Depth to the top of this body is estimated to be 50 meters.

Area 4: Centered at 12800E, 7820N.
A broad anomaly with an apparent moderate dip to the east. Depth to the top of this good depth extent anomaly is estimated to be 75 meters.

Area 5: Centered at 13280E, 7300N.
A narrow weak response to the northeast of the Big Bull Deposit.
This shallow response may be due to cultural noise (wires, pipes, etc.) from past mining activity. Should be field checked before ignoring.

In general, the I.P. anomalies recorded on the Big Bull grid are occurring in the lower resistivity and low magnetic field strength rocks. The I.P. anomalies appear closely related to the very high resistivity rocks that flank them. These high resistivity rocks may represent felsic domes, although there also appears to be a magnetic phase to some of the high resistivity areas, possibly mafic volcanic flows and/or mafic intrusive bodies.

The correlation of low magnetic field strength (magnetic susceptibility) with the I.P. anomalies, suggests a felsic host rock, however could also signify metasediments - the possible lateral distal equivalent to the felsic rocks.

The relatively low resistivity area (approx. 2,000 ohm-m) in the southwest corner of the grid does not appear to fit well with the mapped surface geology. This may be due to a rapid change of the geology with depth - a feature suggested by the I.P. response. A shift in the resistivity response as the gradient survey block electrodes were moved to the northwest is obvious, however the magnitude of this shift could only be caused by a sequence of lower resistivity rocks to the southwest.

BIG BULL EXTENSION GRID:

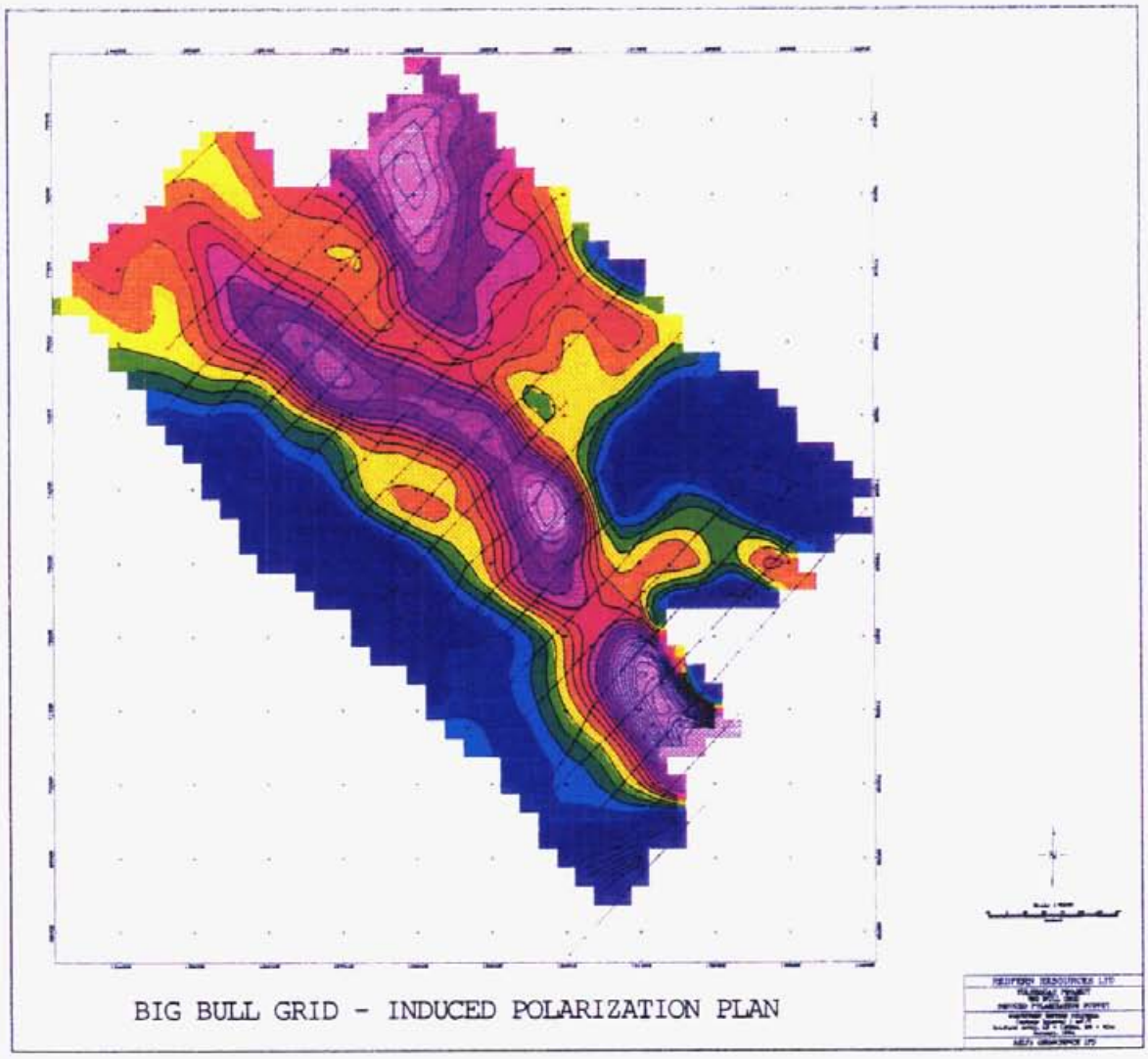
- Only magnetic field strength surveying was completed on this grid.
- This data will help in extending the Big Bull geology to the north and also suggests the grid lines should extend further to the east.
- At some point in the future, this grid should receive induced polarization/resistivity coverage.

BANKER GRID:

There is a very interesting correlation of the high chargeability response with lower resistivity and low magnetic field strength. The complex contour patterns to the numerous I.P. anomalies suggest an area of intercalated volcanics (pyritic felsic tuffs?) and metasediments with perhaps the sedimentary component increasing to the west. In any event, sulphide mineralization appears to occur over a thick sequence of the stratigraphy.

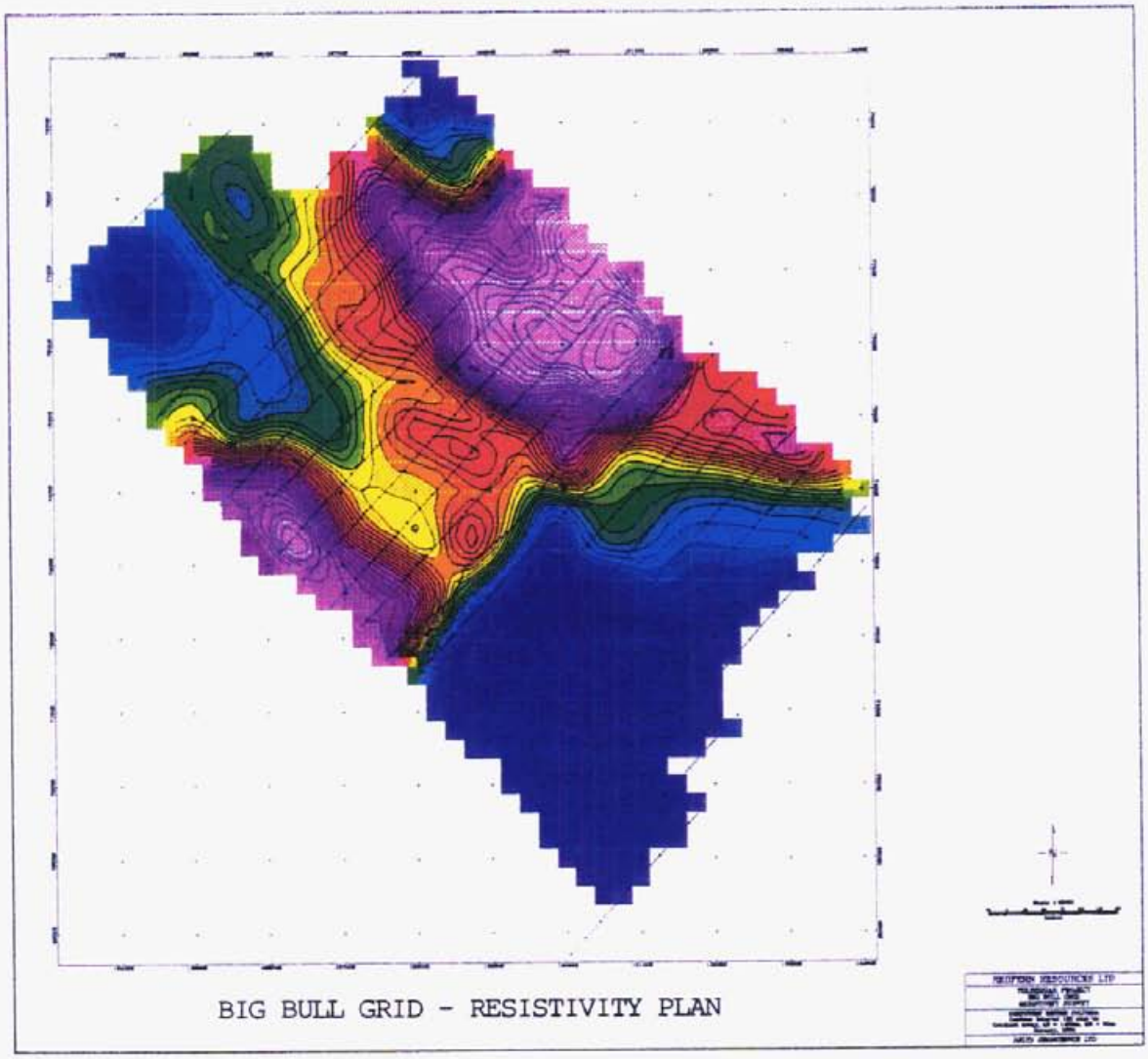
Note that only the southern portion of the Banker Grid received induced polarization/resistivity surveying.

The very abrupt rise of the I.P. response at approx. 7700N suggests an east-west oriented fault, however this location for a fault is not supported in the magnetic data. A facies change to more sulphidic horizons along strike to the north is a more likely scenario. At this time, the I.P. anomalies do not appear to have a formational nature, although more I.P. surveying to the north and west should be undertaken. The blank (no data) areas within the grid were omitted because of severe topography.



Scale Reduced to 1:10,000.

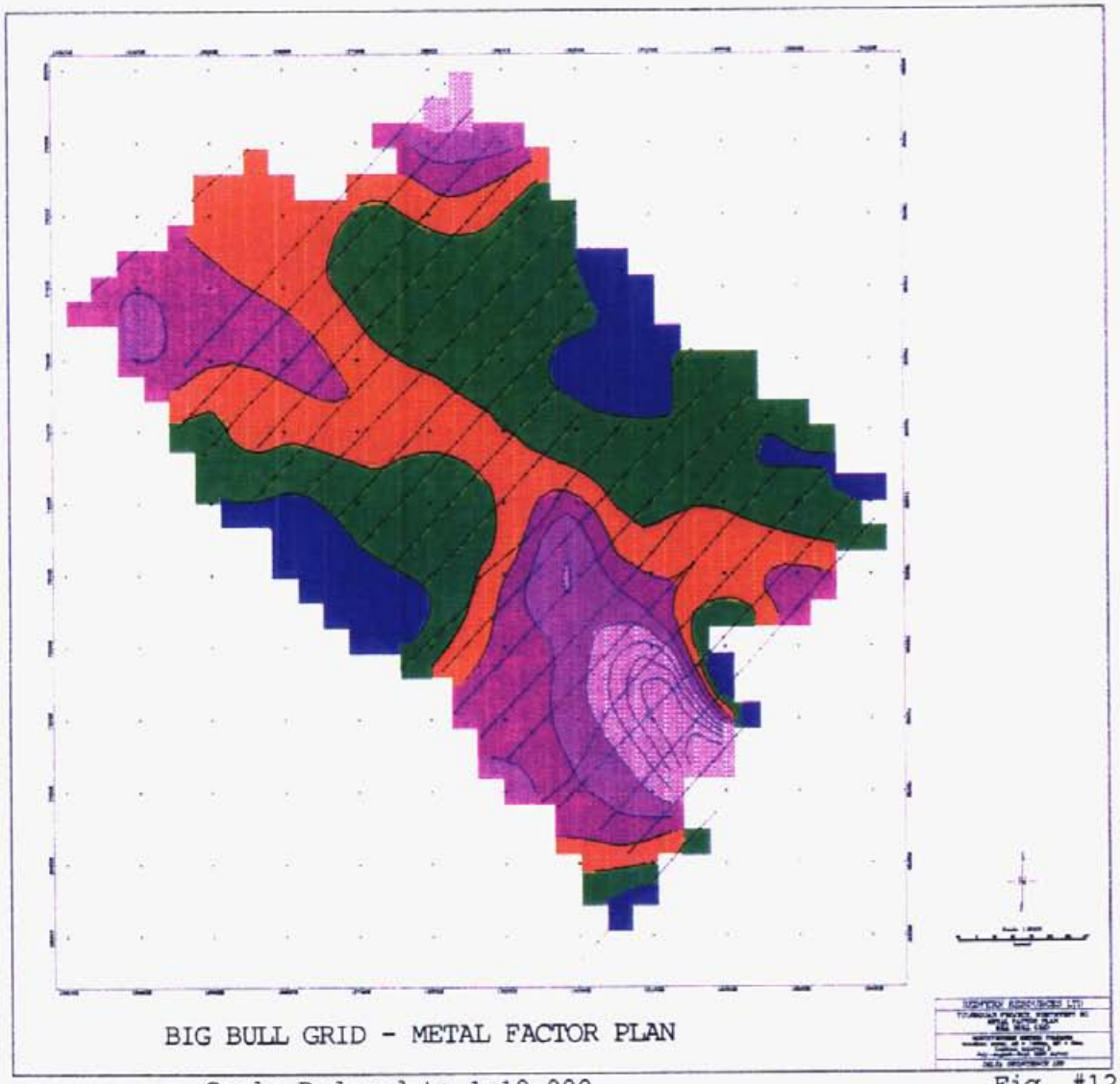
Fig. #10.



BIG BULL GRID - RESISTIVITY PLAN

Scale Reduced to 1:10,000.

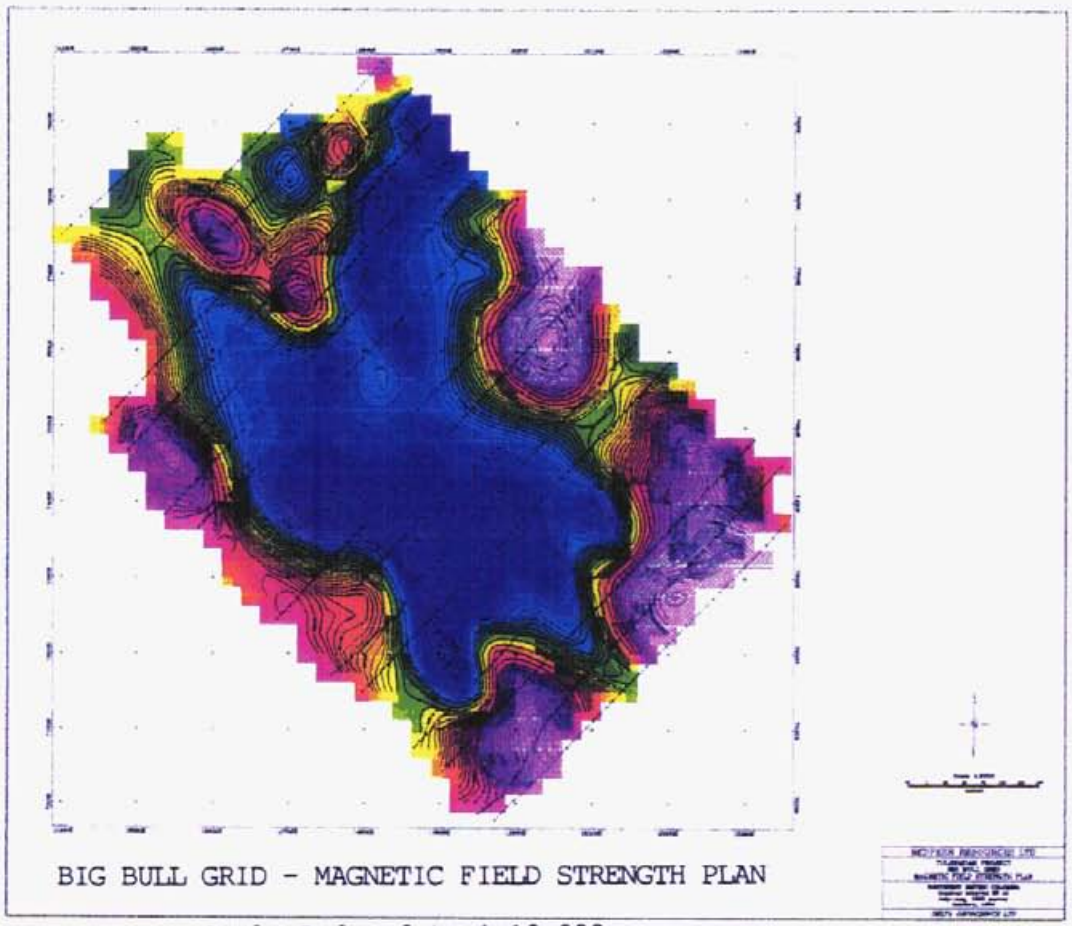
Fig. #11.



BIG BULL GRID - METAL FACTOR PLAN

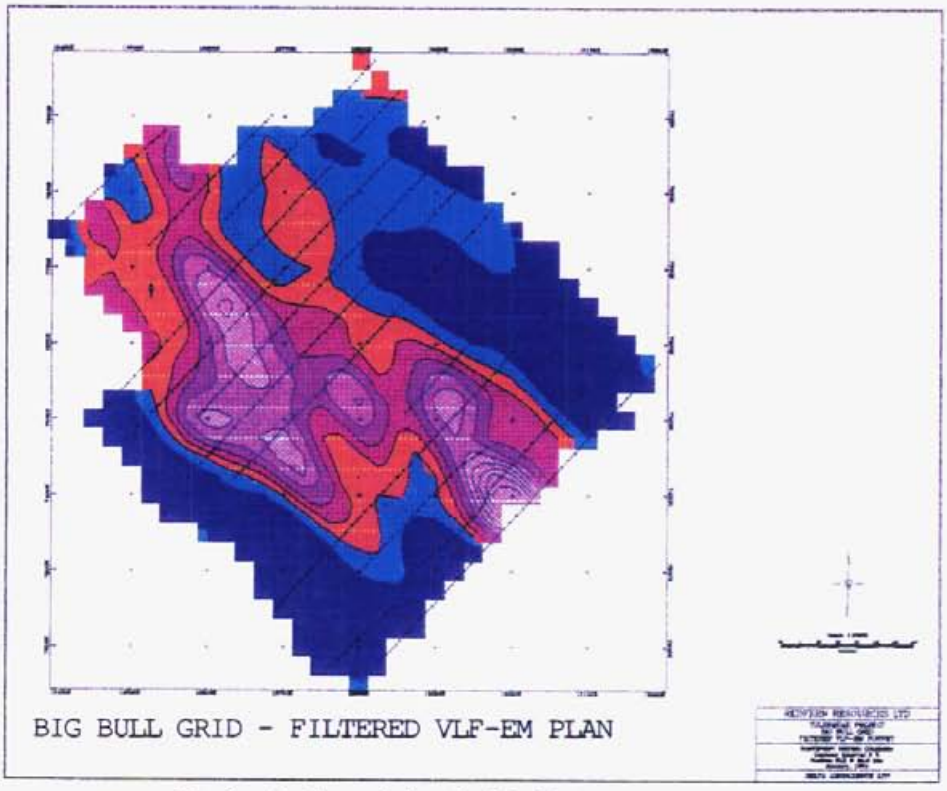
Scale Reduced to 1:10,000.

Fig. #12.



Scale Reduced to 1:10,000.

Fig. #13.



Scale Reduced to 1:10,000

Fig. #14.

11750 E

12000 E

12250 E

12500 E

12750 E

13000 E

9750 N

9500 N

9250 N

9000 N

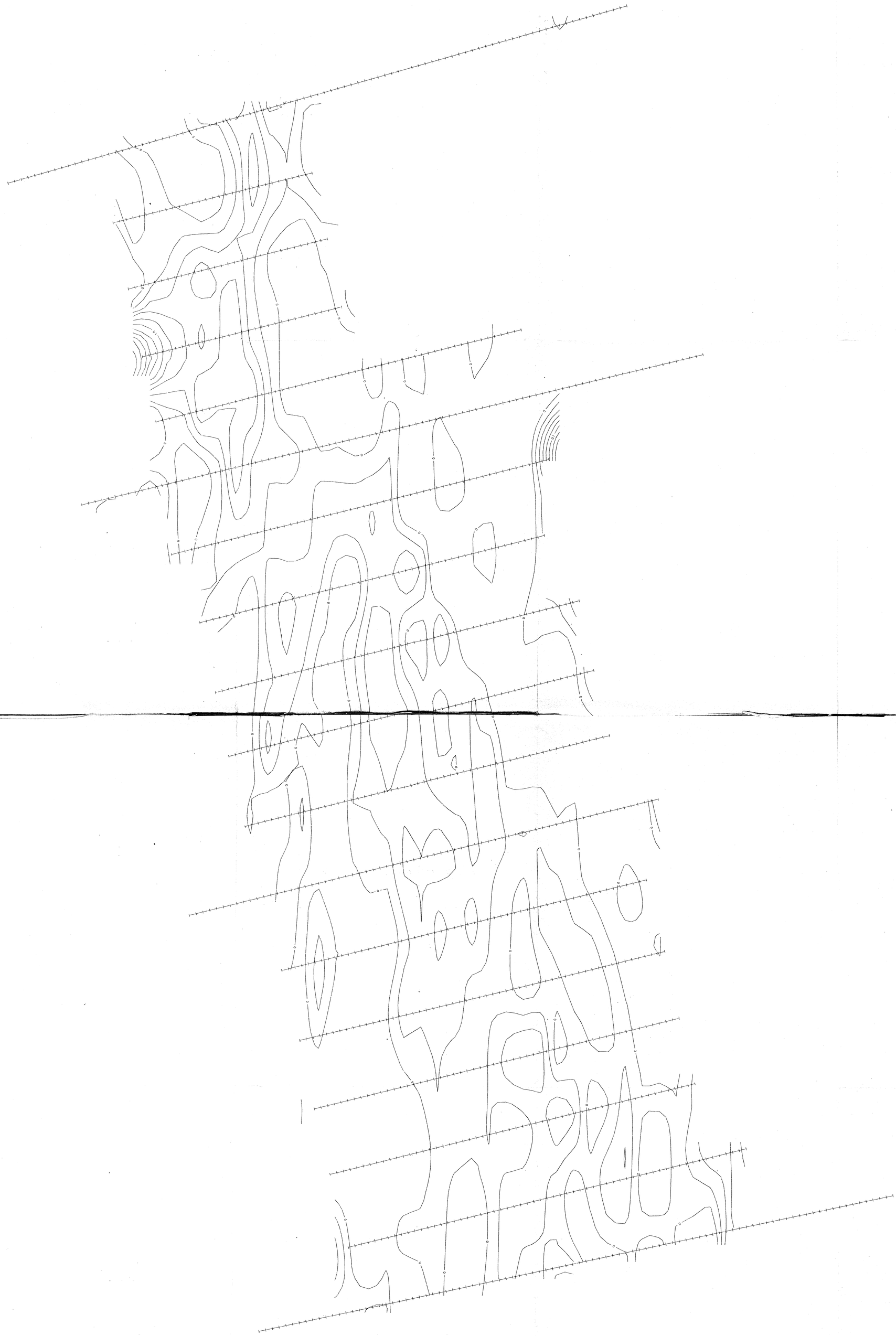
8750 N

8500 N

8250 N

8000 N

7750 N



GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,559

Scale 1:2000

25 0 25 50 75 100 125 150
(metres)

REDFERN RESOURCES LTD.

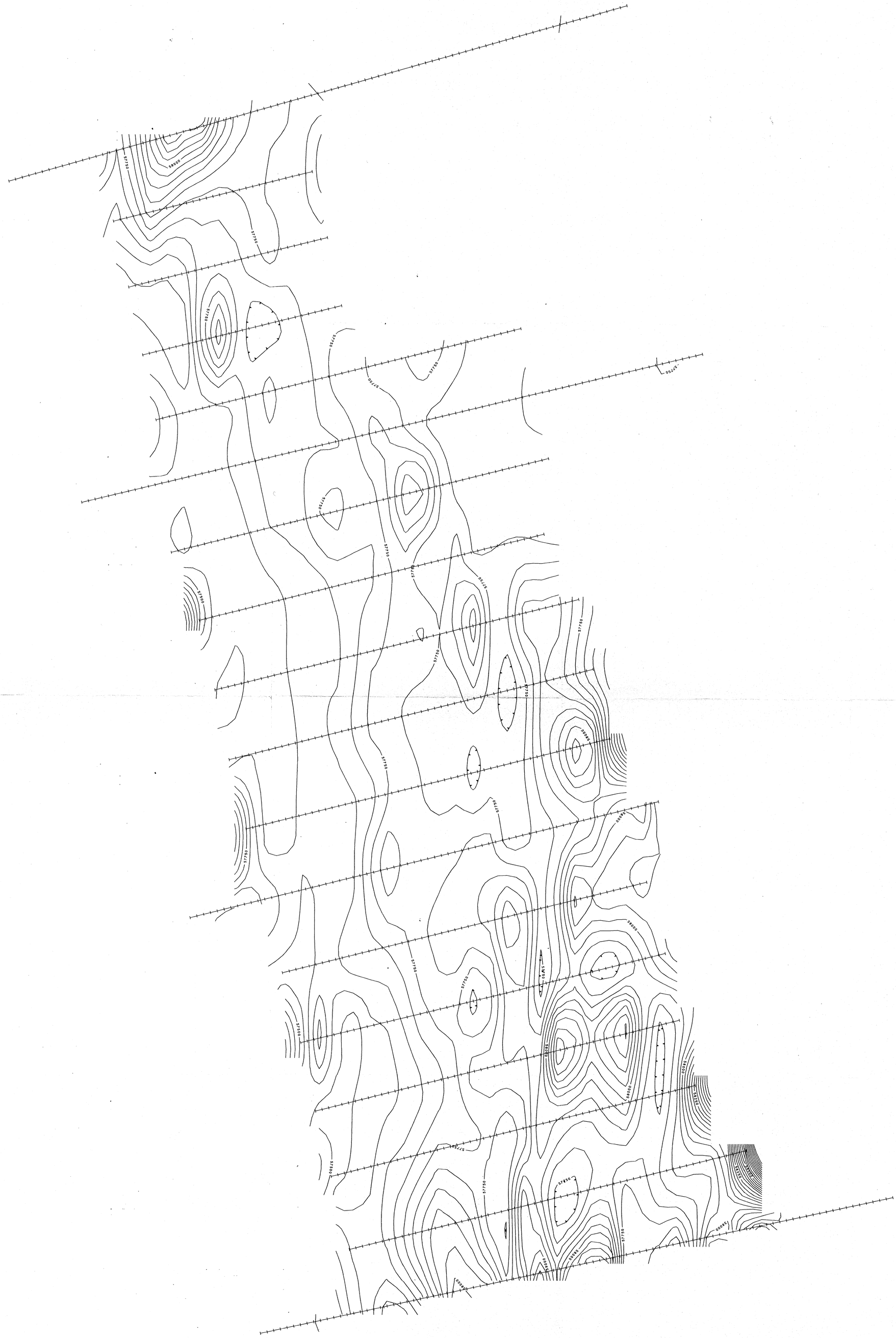
TULSEQUAH CHIEF PROJECT, BIG BULL EXTENSION GRID
VLF-EM FRASER FILTER

Contour Interval = 2
Tx Seattle @ 24.8 kHz.
December, 1993

DELTA GEOSCIENCE LTD Figure 3.21

11750 E | 12000 E | 12250 E | 12500 E | 12750 E | 13000 E

9750 N
9500 N
9250 N
9000 N
8750 N
8500 N
8250 N
8000 N
7750 N



GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,559

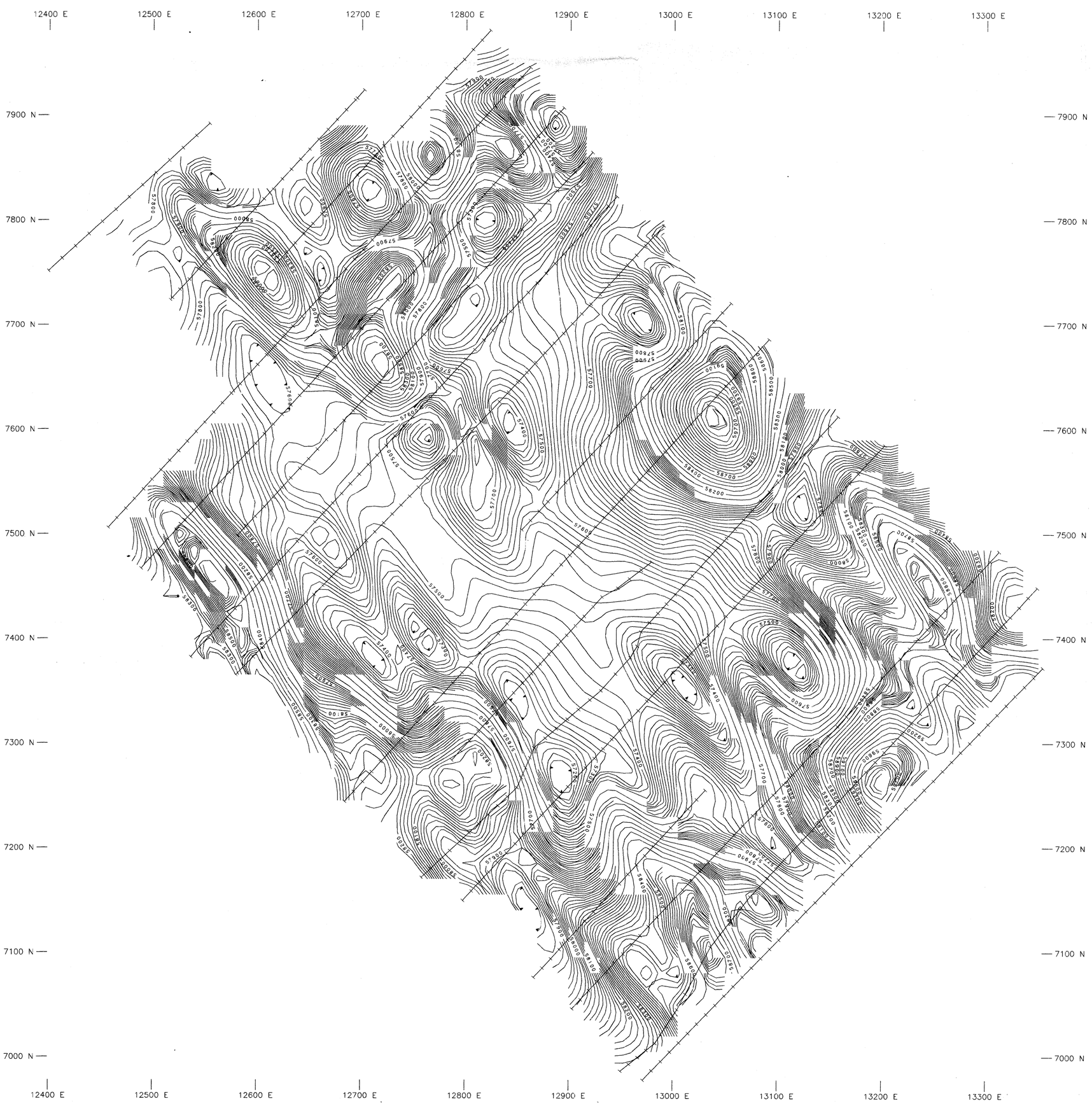
Scale 1:2000
25 0 25 50 75 100 125 150
(metres)

REDFERN RESOURCES LTD.

TULSEQUAH CHIEF PROJECT BIG BULL EXTENSION GRID
TOTAL MAGNETIC FIELD PLAN

Contour Interval = 50 nT
Base Field = 57500 nT
December, 1993

DELTA GEOSCIENCE LTD FIGURE 3.20



GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,559

Scale 1:2000

25 0 25 50 75 100 125 150

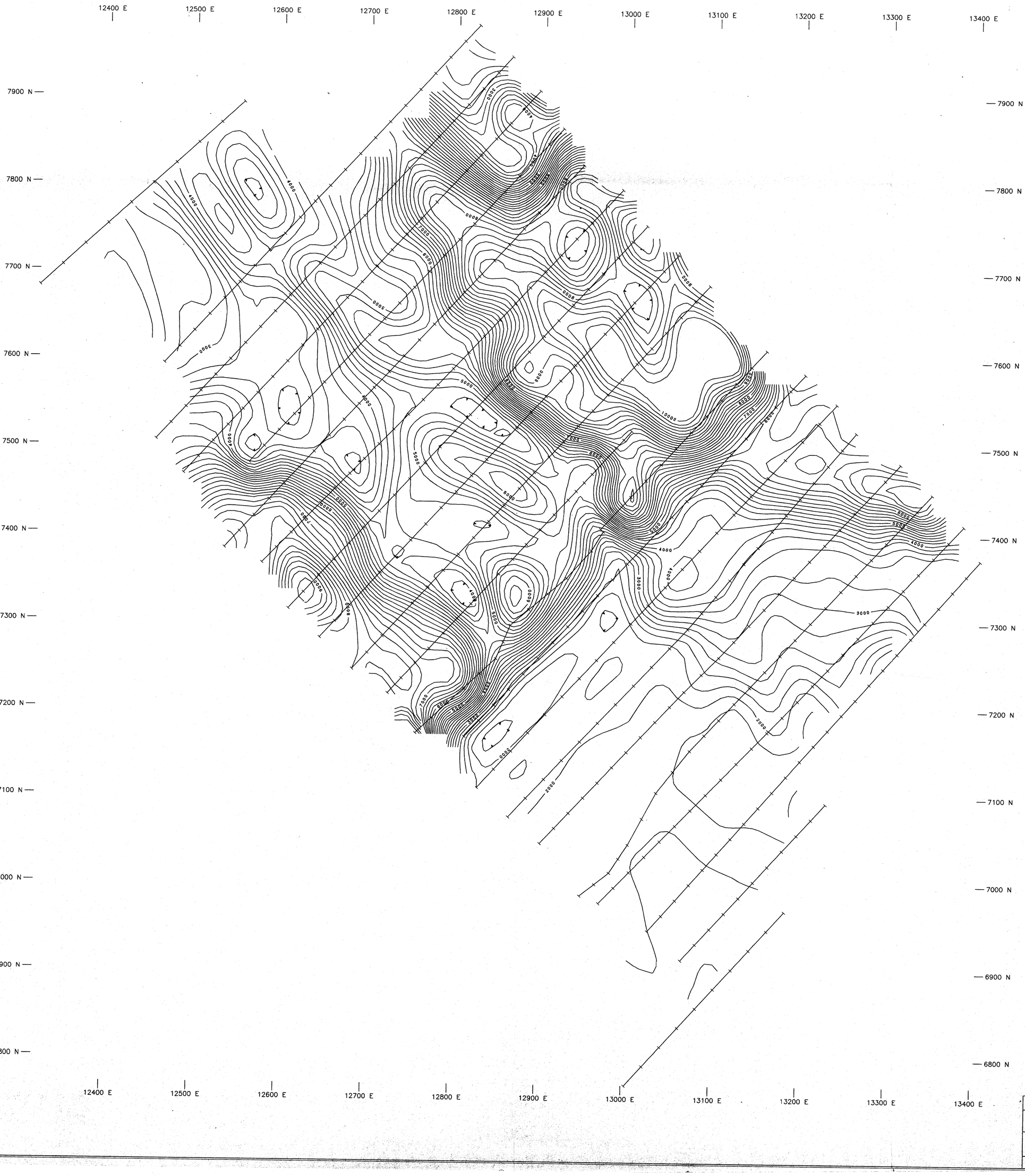
(meters)

REDFERN RESOURCES LTD

TULSUQUAH PROJECT, BIG BULL GRID
MAGNETIC FIELD STRENGTH PLAN

NORTHWEST BRITISH COLUMBIA
contour interval 20 nt
July 1993

DELTA GEOSCIENCE LTD FIGURE 3.19



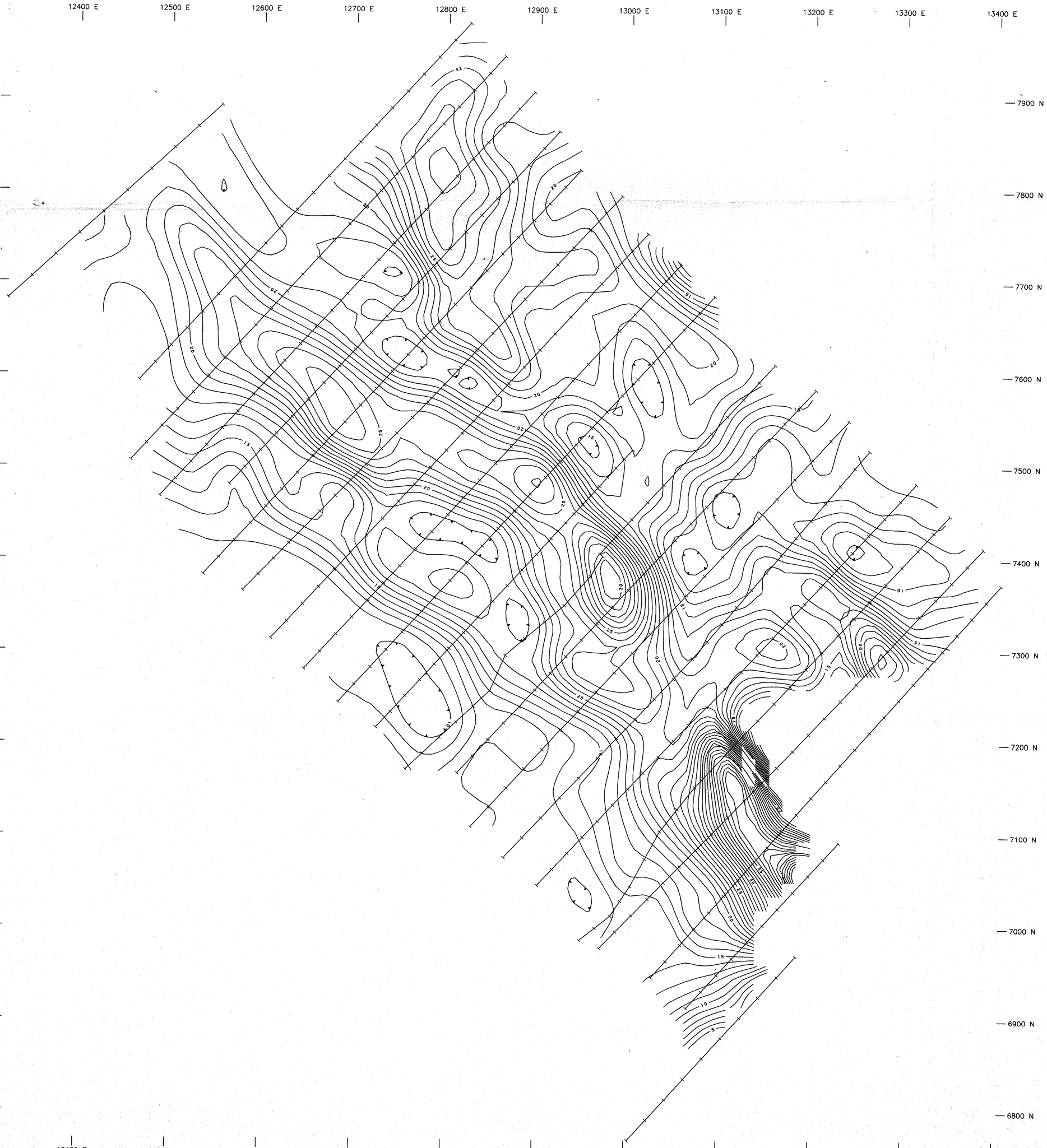
GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,559

Scale 1:2000

25 0 25 50 75 100 125 150
(meters)

REDFERN RESOURCES LTD
TULSUQUAH PROJECT, BIG BULL GRID INDUCED POLARIZATION / RESISTIVITY
RESISTIVITY PLAN Gradient array, AB = 1400m, MN = 50m Contour interval 200 ohm-m, July 1993
DELTA GEOSCIENCE LTD FIGURE 3.18



GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,559

Scale 1:2000

25 0 25 50 75 100 125 150
(meters)

REDFERN RESOURCES LTD

TULSUQUAH PROJECT, BIG BULL GRID
INDUCED POLARIZATION / RESISTIVITY

CHARGEABILITY PLAN
Gradient array, AB = 1400m, MN = 50m
Contour interval 1 mV/V, July 1993

DELTA GEOSCIENCE LTD FIGURE 3.17