PROSPECTING REPORT

ON THE

HIGH ROCK GROUP

(HIGH ROCK 1 - 4 CLAIMS)

COLUMBIA PROJECT

N.T.S. 82G/15E

49°48'10" NORTH, 114°42'50" WEST

CROWSNEST-FORDING RIVER AREA

FORT STEELE MINING DIVISION

SOUTHEASTERN BRITISH COLUMBIA

By

Jennifer Pell, Ph.D., F.G.A.C.

March 15, 1990

Owner: Formosa Resources Corporation
Operator: Formosa Resources Corporation

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COLUMBIA PROJECT

PROSPECTING REPORT ON THE HIGH ROCK CLAIMS

SUMMARY

The High Rock claims are located in the Crowsnest Pass/Fording River area of the Rocky Mountains, Fort Steele Mining Division, southeastern British Columbia. The claims are approximately 15 kilometres northeast of the town of Sparwood, B.C. and are accessed via old logging and exploration roads. The property consists of 40 units of contiguous two-post and metric four-post claims, and is 100% owned and operated by Formosa Resources Corporation, subject to a 5% Net Profit Royalty. Boundary Drilling Inc. was enlisted to undertake the exploration program.

The property is predominantly underlain by a sequence of Late Paleozoic to Mesozoic strata (Permian to early Cretaceous) that were deposited in the Alberta Trough under marine to subareal conditions and were subsequently deformed during the Late Cretaceous. Phosphatic rocks occur in a number of stratigraphic intervals within this sequence; however, the thickest and most continuous phosphate horizon was developed at the base of the Jurassic Fernie Group. The basal Fernie phosphatic strata are generally one to two metres thick and contain unusually high concentrations of yttrium.

The primary objective of the Columbia Project was to evaluate the grade and continuity of the basal Fernie phosphate horizon in terms of establishing its potential as a large tonnage P_2O_5-Y resource. In 1989, approximately $82,635 were spent on reconnaissance and detailed geological mapping and sampling for the entire project. Of this, around $4,958 were spent on prospecting and sampling the High Rock claims. A total of 15 samples were taken and analyzed for P_2O_5 (by gravimetric assay) and for 29 trace elements (including Y) by I.C.P.

Although the contact of the Fernie Group with underlying strata occurs on the property, outcrop is sparse and no exposures of the basal phosphorite were found; however, high yttrium and phosphate grades are reported from the adjoining property to the north.

1. INTRODUCTION - PERSPECTIVES ON THE PHOSPHATE INDUSTRY

Canada imported 2.39 million tonnes of phosphorite in 1986, approximately 80 per cent of which was used in the production of fertilizer. Other products which require the use of phosphorus include organic and inorganic chemicals, soaps and detergents, pesticides, insecticides, alloys, animal-food supplements, ceramics, beverages, catalysts, motor lubricants, photographic materials and dental and silicate cements (Barry, 1987). To date, there are no mines producing phosphate rock in Canada; approximately 55 million tonnes per annum are produced in the United States (Stowasser, 1989). Approximately 50 per cent of the phosphate rock imported into western Canada comes from Florida, the remainder being supplied from the western U.S. (Barry, 1987). The majority of phosphate rock imported into eastern Canada is also from Florida; minor amounts have been imported from Togo, Tunisia and Morocco. Resources in Florida are rapidly being depleted (Stowasser, 1988); some experts feel that the western U.S. sources will not be able to meet the demand when Florida becomes exhausted, which suggests a possible niche for a new producer.

Phosphate rock produced in the U.S. is classified as acid or fertilizer grade, more than 31 per cent P_2O_5; furnace grade, 24 to 31 per cent P_2O_5; and beneficiation grade, 18 to 24 per cent P_2O_5. Acid grade rock is used directly in fertilizer plants, furnace grade rock is charged to electric furnaces and beneficiation grade rock is upgraded to acid or furnace feed (Stowasser, 1985).

The phosphate rock mined in the western United States (Idaho, Montana, Wyoming, Utah) is from the Retort and Meade Peak members of the Permian Phosphoria Formation. The majority of mines are strip mining operations with ore zones ranging from 9 to 18 metres thick, with an average grade of 21.3 per cent P_2O_5. Overburden thickness is commonly 5 to 10 metres (Fantel et al., 1984). Cominco American operates an underground phosphate mine in Montana in which the phosphate horizon is 1 to 1.2 metres thick and has an average grade of >31 per cent P_2O_5. Most western U.S. phosphate ore is beneficiated by crushing, washing, classifying and drying (Stowasser, 1985). Phosphates mined in Florida and south Carolina are from the Miocene Hawthorne Formation and the younger, reworked deposits of the Bone Valley Formation. Ore thickness ranges from 3 to 8 metres, with overburden of 3 to 10 metres. Average grade is 7 per cent P_2O_5. Flotation processes are used to beneficiate the ores. Phosphates mined in Tennessee have a minimum cutoff grade of 16 to 17.2 per cent P_2O_5 and a minimum thickness of 0.6 to 1.2 metres (Fantel et al., 1984).

Currently, the is no byproduct recovery of yttrium from any of the U.S. operations. Phosphoria Formation phosphorites from the western phosphate field contain an average of 300 ppm Y; phosphorites from North Carolina and Florida contain an average of 235-300 ppm Y; and phosphorites from Tennessee contain an average of 63 ppm Y (Altschuler, 1980). The worldwide average yttrium value in phosphorites is 260 ppm (Altschuler, 1980).

The phosphorite beds in the Jurassic Fernie Group are thin (less than 2 metres; Butrenchuk, 1987a) relative to most phosphorites mined in the United States. As with most of the phosphate ores mined in the United States, Fernie phosphorites would require beneficiation to produce an acid grade product. The Fernie phosphorites have anomalous yttrium concentrations with respect to most other sedimentary phosphate deposits. If it proves feasible to recover yttrium during the production of phosphoric acid, as has been suggested by some researchers (Altschuler et al., 1967) the economics of exploiting the Fernie Group basal phosphorite will become significantly more attractive.

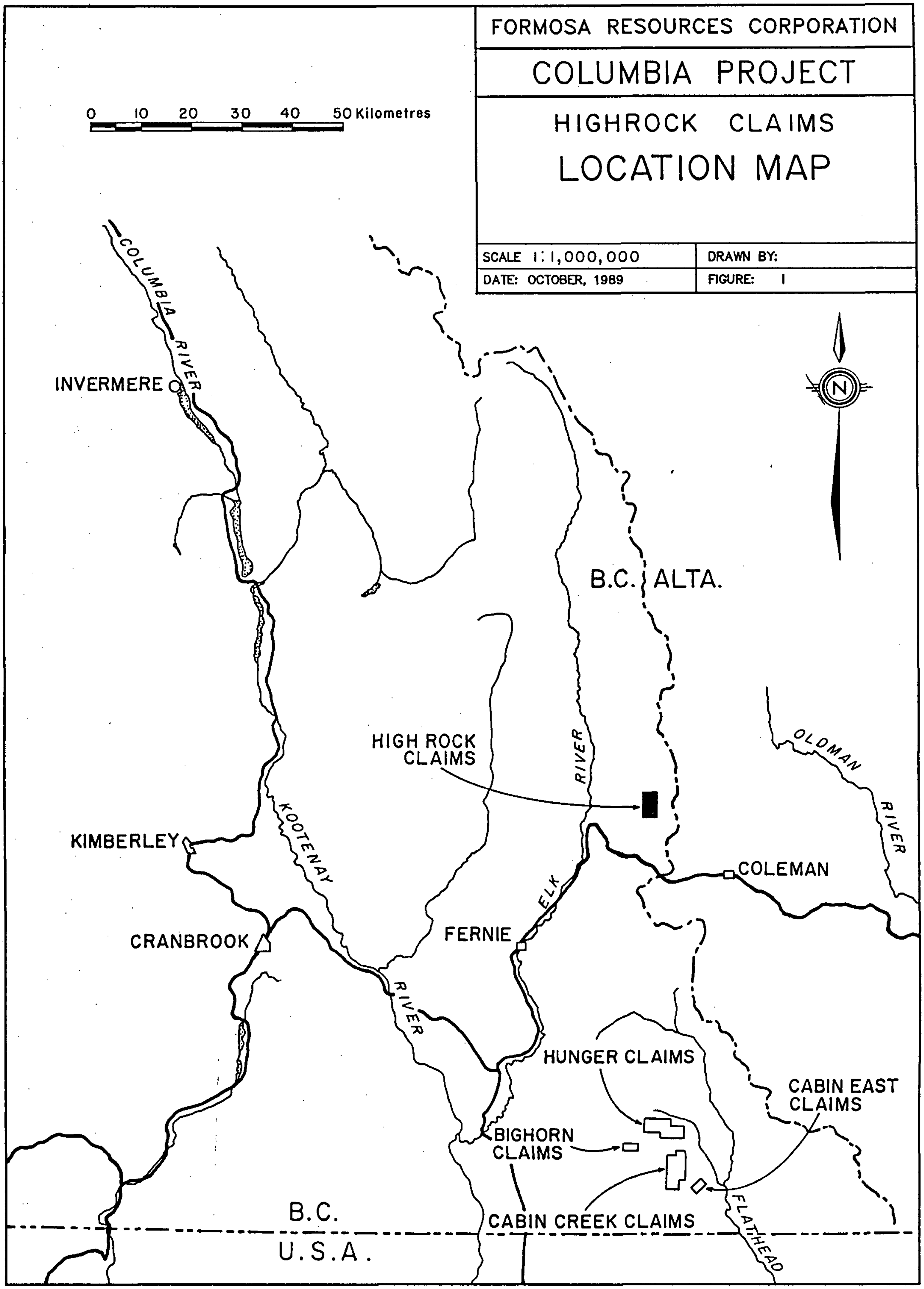
2. PROPERTY

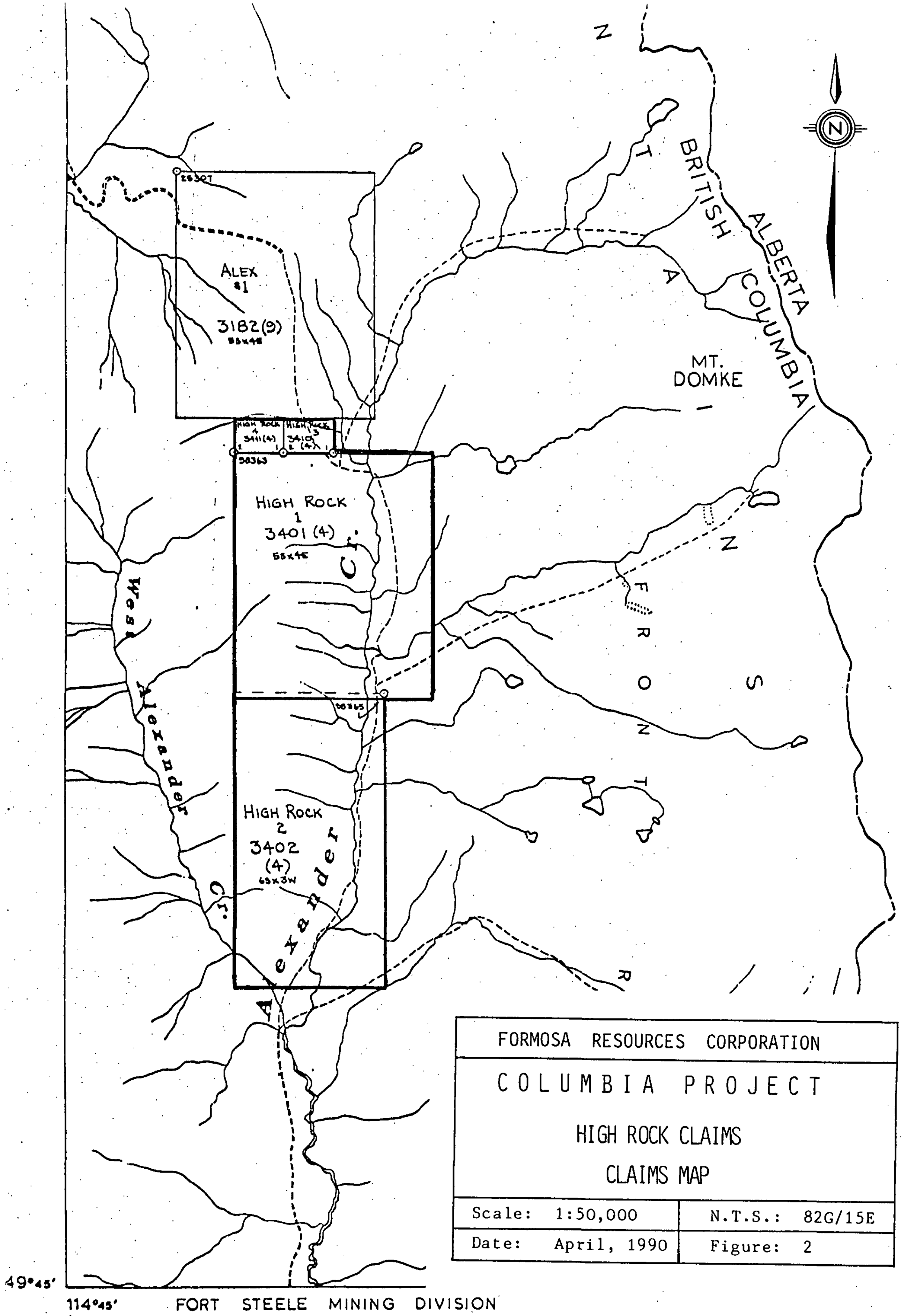
2.1 LOCATION, ACCESS AND PHYSIOGRAPHY

The High Rock claims are located 15 kilometres northeast of the town of Sparwood in southeastern B.C. (Figure 1). The southern portion of the claims can be reached from Sparwood by taking Highway 3 southeast for approximately 17.5 kilometres. Immediately after the Highway crosses Alexander Creek there is a Highway Weigh Station and from here a four-wheel drive road leads north along Alexander Creek. This road must be followed northerly for 17 kilometres to access the south end of the property. From there, old exploration roads access part of the southern portion of the property. The main road continues along Alexander Creek, but is passable only by foot, dirt bike or all-terrain vehicle.

The north end of the claims can be reached from Sparwood by taking the main paved road to Elkford for 16 kilometres. From this point, a road heads east across the Elkford River; after 2 kilometres it branches to the north to the Line Creek Coal Mine and to the southeast along Grave Lake. The southeast fork is followed for 8.5 kilometres to the next fork; the two-wheel drive road which switches back to the north and then follows Grave Creek must be taken. After 7 kilometres the road deteriorates to become passable only on

FIGURE 1 - LOCATION MAP


FORMOSA RESOURCES CORPORATION
COLUMBIA PROJECT
HIGHROCK CLAIMS
LOCATION MAP
SCALE 1:1,000,000
DRAWN BY:
DATE: OCTOBER, 1989
FIGURE: 1
0 10 20 30 40 50 Kilometres
N
COLUMBIA RIVER
INVERMERE
B.C. ALTA.
HIGH ROCK CLAIMS
ELK RIVER
OLDMAN RIVER
KOOTENAY RIVER
KIMBERLEY
COLEMAN
CRANBROOK
FERNIE
HUNGER CLAIMS
CABIN EAST CLAIMS
BIGHORN CLAIMS
CABIN CREEK CLAIMS
FLATHEAD
B.C.
U.S.A.



FORMOSA RESOURCES CORPORATION	
COLUMBIA PROJECT HIGH ROCK CLAIMS CLAIMS MAP	
Scale: 1:50,000	N.T.S.: 82G/15E
Date: April, 1990	Figure: 2

foot, by dirt bike or all-terrain vehicle. The road leads another 6 kilometres on to the north end of the claims.

Elevations on the property range from 1540 metres (5050 feet) to 2255 metres (7400 feet). Most of the property is covered with stands of pine and spruce.

2.2 CLAIMS

The High Rock Group consists of the High Rock 1 to 4 claims, 40 units of contiguous two-post and metric four-post claims (Figure 2) as follows:

CLAIM NAME	UNITS	RECORD NO.	EXPIRY* (D/M/Y)
High Rock 1	20	3401	16/04/1991
High Rock 2	18	3402	16/04/1991
High Rock 3	1	3410	16/04/1993
High Rock 4	1	3411	16/04/1993

The claims are 100% owned and operated by Formosa Resources Corporation, subject to a 5% Net Profit Royalty. Boundary Drilling Inc. was enlisted to carry out the exploration program.

2.3 PROPERTY HISTORY

Phosphatic horizons at the base of the Jurassic Fernie Group in southeastern British Columbia were discovered in 1925 (Telfer, 1933) and have been the subject of periodic exploration by Cominco (Kenny, 1977) and others since that time. The phosphate potential of the area was also addressed in a number of recent academic and government studies (Butrenchuk, 1987a; 1987b; Macdonald, 1985; 1987). Cominco currently holds phosphate leases in the Crowsnest Pass area, 15 kilometres south of the High Rock claims, and at Line Creek, 17.5 kilometres north-northwest of the property. Westrock holds one claim immediately adjacent to the property.

*on acceptance of this report

Most previous work solely addressed the phosphate potential of the basal Fernie Group. First Nuclear Corporation (Hartley, 1982) briefly addressed the potential for trace element by-product recovery, concentrating on uranium and vanadium from phosphorites in the Cabin Creek area. It was discovered that uranium is generally present in the phosphorites in amounts less than 100 ppm and vanadium values were generally less than 200 ppm. In the course of their work, First Nuclear Corp. discovered anomalous yttrium values (the average of five samples containing in excess of 1% P_2O_5 was 570 ppm yttrium; Hartley, 1982). Later government analytical work confirmed the highly anomalous yttrium concentrations of the basal Fernie phosphorites (Butrenchuk, pers. comm., 1989; and in prep.). The Crow deposit, near the mouth of Alexander Creek, south of the High Rock claims, reportedly contains significant intersections grading 25 to 26 per cent P_2O_5 and around 950 ppm yttrium; on the property to the north of the High rock claims, samples contained up to 29.4 per cent P_2O_5 and 1150 ppm yttrium (Butrenchuk, in prep.)

Formosa Resources Corporation began exploration for yttrium and phosphate in the area in the spring of 1989 as part of the Columbia Project. Several claims were staked by Formosa, including the High Rock claims.

3. GEOLOGY

3.1 REGIONAL GEOLOGY

The Crowsnest/Fording River area is underlain by a series of predominantly marine strata which range in age from Devonian to Jurassic, and non-marine fluvio-deltaic sediments of late Jurassic to Cretaceous age. Reconnaissance geological mapping in the region (Newmarch, 1953; Price, 1962; 1961) has shown that these strata are now exposed in a broad, doubly plunging synclinorium, commonly referred to as the Fernie Basin. This synclinorium is broadly delineated by the distribution of the Jurassic Fernie Group in southeastern British Columbia (Figure 3); the structure is complicated by second order folds and later faults, both easterly directed thrusts and west-side-down normal faults.

Phosphatic horizons (Figure 4) are known to occur at a number of intervals within the stratigraphic section (Butrenchuk, 1987a; Kenny, 1977; Macdonald, 1987; Telfer, 1933). Phosphatic strata at the base of the Fernie Group are considered to have the best economic potential (Butrenchuk, 1987a; Macdonald, 1987).

3.1.1 REGIONAL STRATIGRAPHY

Upper Devonian strata exposed in the vicinity of the Fernie Basin consist of massive, grey, fine-grained, cliff-forming limestones of the Palliser Formation. These limestones are commonly mottled and locally interbedded with brown dolostones. They are overlain by the Devono-Mississippian Exshaw Formation, which predominantly consists of black fissile shale, cherty shale, siltstone and minor limestone (Kenny, 1977). The Exshaw Formation is generally 6 to 30 metres thick (Figure 4). Four phosphatic horizons exist within the Exshaw Formation: the lowest is less than 50 cm thick and has grades of less than 9 per cent P_2O_5; the middle two horizons are both around one metre thick, have grades of up to 10 per cent P_2O_5 and are separated by approximately two metres of shale; and the uppermost phosphatic zone, which has very limited extent, contains grades which always exceed 15 per cent P_2O_5 and is always less than 15 cm thick (Macdonald, 1987).

The Mississippian Banff Formation has a gradational contact with the underlying Exshaw Formation. It is 280 to 430 metres thick and consists of dark grey, fissile shale, and bands of argillaceous limestone that grade upwards into dark grey massive, finely crystalline limestone and dolostone. The Rundle Group, also Mississippian in age, conformably overlies the Banff Formation and attains a thickness of approximately 700 metres. It consists of a series of resistant thick-bedded crinoidal limestones, grey and black finely crystalline limestones, dark, argillaceous limestones, dolostones, and minor black and green shale (Butrenchuk, 1987a; Kenny, 1977).

Conformably overlying the Mississippian carbonates are Pennsylvanian strata of the Spray Lakes Group which consist of a lower unit, the Tunnel Mountain Formation, and an upper unit, the Kananaskis Formation. The Tunnel Mountain Formation comprises a monotonous sequence of reddish-brown weathering dolomitic sandstone and siltstone that attains a maximum thickness of 500 metres at its western margin, near the Elk River. The Tunnel Mountain Formation is disconformably overlain by the Kananaskis Formation which consists of light grey, silty dolostones and dolomitic siltstones and is generally around 55 metres thick. Chert nodules and intraformational chert breccias are found in the upper part of the section. Slightly phosphatic horizons, containing up to 9 per cent P_2O_5, are reported as rare occurrences within the Kananaskis Formation (Macdonald, 1987).

The Kananaskis Formation of the Spray Lakes Group is unconformably overlain by Permian strata of the Ishbel Group. Together, the Spray Lake Group and the Ishbel Group comprise the Rocky Mountain Supergroup (Figure 4). The Ishbel Group, which has been correlated with the Phosphoria Formation in the western United States, consists of the Johnston Canyon, Telford, Ross Creek and Ranger Canyon formations, from oldest to youngest respectively.

The Johnston Canyon Formation comprises a series of recessive weathering, thin- to medium-bedded siltstones, silty carbonate rocks and sandstones, with minor shale and chert. It varies from 1 to 60 metres in thickness and commonly contains phosphatic rocks. Thin intraformational phosphate-pebble conglomerate beds are common throughout the formation and locally mark its base. Phosphate is present as black nodules in distinct horizons within the siltstones, locally cements siltstone beds, and locally occurs in pelletal siltstone or pelletal silty phosphorite beds which are slightly greater than 1 metre thick (Butrenchuk, 1987a; Macdonald, 1987). The pelletal phosphorites can contain up to 21 per cent P_2O_5, but are of limited distribution; the basal conglomerate is less than 50 centimetres thick and generally contains only 3-4 per cent P_2O_5; the nodular and phosphate pebble-conglomerate beds can have cumulate thicknesses of up to 22 metres, but grades rarely exceed 10 per cent P_2O_5 over a few 10's of centimetres.

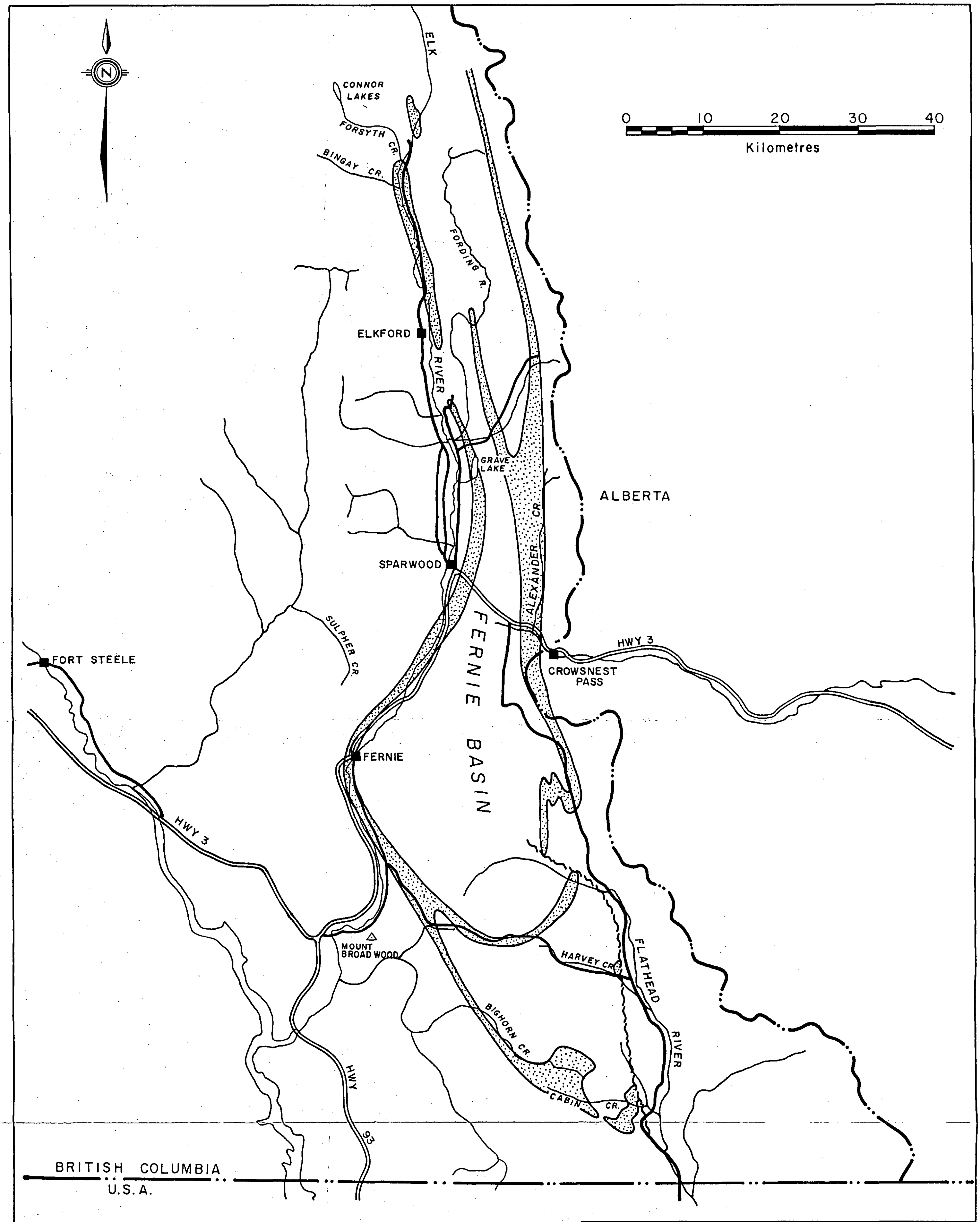
The Telford and Ross Creek Formations, which attain thicknesses of 210-225 and 90-150 metres respectively, are of limited distribution, exposed only in the Telford Thrust, west of the Elk Valley in the Sparwood region. The Telford Formation consists of resistant-weathering, thick-bedded, sandy, oolitic and fossiliferous rocks. Rarely, slightly phosphatic horizons are present, with grades commonly around 11 per cent P_2O_5 across 30 centimetres. The Ross Creek Formation is composed of recessive thin-bedded siltstone, argillaceous siltstone, minor carbonate and chert. Nodular phosphate horizons are present throughout this unit and are best developed in the upper portions. Locally, phosphatic coquinoid beds are also present. Reported phosphate grades are only 1.7 to 6 per cent P_2O_5 (Butrenchuk, 1987a; Macdonald, 1987).

The Ranger Canyon Formation, which can be up to 60 metres thick, paraconformably to disconformably overlies the Ross Creek Formation. It predominantly consists of resistant cliff-forming, thick-bedded, blue-grey cherts, cherty sandstones, siltstones, fine-grained sandstones and conglomerates. Minor gypsum and dolomite are also present. The base of the formation is marked by thin, phosphatecemented, chert-pebble conglomerates that locally contain massive, phosphatic intraclasts. Phosphate also occurs as nodules in brownish-weathering sandstone beds in the upper part of the formation. With the exception of phosphatic strata near the Fernie ski hill, most of the horizons are reportedly low grade; the highest values reported are 13.3 per cent P_2O_5 across 0.5 metres (Butrenchuk, 1987a; Macdonald, 1987).

Permian strata are unconformably overlain by the Triassic Sulphur Mountain Formation of the Spray River Group. The Sulphur Mountain Formation is between 100 and 496 metres thick and typically consists of rusty brown weathering, medium-bedded siltstones, calcareous and dolomitic siltstones, silty dolostones and limestones and minor shale. Locally, the Sulphur Mountain Formation is overlain by pale weathering, variegated dolostones, limestones, sandstones and intraformational breccias of the Whitehorse Formation. The Whitehorse Formation, which is from 6 to 418 metres thick, is middle to upper Triassic in age and is the upper member of the Spray River Group. It is not present in most areas (Butrenchuk, 1987a).

The Jurassic Fernie Group unconformably overlies the Triassic strata. It consists of a lower zone of dark grey to black shales, dark brown shales, phosphates and minor limestones, siltstones and sandstones (the basal phosphate zone and equivalent Nordegg Member, Poker Chip Shales and the Rock Creek Member), a middle unit of light grey shale, calcareous sandstone and sandy limestone (the Grey Beds) and an upper unit of yellowish-grey to pale brown or dark grey weathering glauconitic sandstone and shale grading upwards into interbedded fine-grained sandstone, siltstone and black shales (the Green and Passage beds). In southeastern British Columbia, the Fernie Group is 70 to 376 metres thick and generally thickens to the west (Freebold, 1957; Kenny, 1977; Macdonald, 1987; Price, 1965).

The base of the Fernie Group is marked by a persistent pelletal phosphorite horizon that is 1 to 2 metres thick and generally contains greater than 15 per cent P_2O_5; grades up to 30 per cent P_2O_5 have been found. It commonly consists of two pelletal phosphorite beds separated by a thin, chocolate brown to black phosphatic shale bed. The basal phosphorite rests either directly on Triassic strata or is separated from the underlying rocks by a thin phosphatic conglomerate. Phosphatic shales of variable thickness, generally less than 3 metres, overlie the phosphorites. The top of this sequence is locally marked by a yellow-orange bentonite bed. This part of the formation is Sinemurian in age and generally considered to be a lateral facies of the Nordegg Member and Nordegg equivalent beds. A second phosphatic horizon is present in the Bajocian Rock Creek Member, approximately 60 metres above the base of the Fernie



FORMOSA RESOURCES CORPORATION

COLUMBIA PROJECT

DISTRIBUTION OF
FERNIE GROUP STRATA
IN SOUTHEASTERN B.C.

(Note: Modified from Butrenchuk, 1987a)

NTS: 82 G/2	DRAWN BY:
DATE: MARCH, 1990	FIGURE: 3

Age	Group/Formation (Thickness,metres)	Lithology	Phosphatic Horizons	Thickness (metres)	Grade (% P_2O_5)
Cretaceous	Kootenay Fm.	-grey to black carbonaceous siltstone and sandstone; nonmarine;coal			
Jurassic	Fernie Gp. (+244)	-black shale,siltstone,limestone; marine to nonmarine at top -glauconitic shale in upper section -belemnites; common fossil	-approximately 60 metres above base low-grade phosphate bearing calcareous sandstone horizon or phosphatic shale -Bajocian -basal phosphate in Sinemurian strata; generally pelletal/oolitic; rarely nodular;1-2 metres thick; locally two phosphate horizons; top of phosphate may be marked by a yellowish-orange weathering marker bed.	1-2	11-30
		regional uncomformity			
Triassic	SPRAY RIVER GP.: Whitehorse Fm.	-dolomite,limestone,siltstone			
	SPRAY RIVER GP.: Sulphur Mntn. Fm. (100-496)	-grey to rusty brown weathering sequence of siltstone, calcareous siltstone and sandstone,shale, silty dolomite and limestone	-nonphosphatic in southeastern British Columbia		
		regional unconformity			
Permian	ROCKY MOUNTAIN SUPERGROUP, ISHBEL GROUP: Ranger Canyon Fm. (1-60)	-sequence of chert,sandstone and siltstone;minor dolomite and gypsum;conglomerate at base -shallow marine deposition	-upper portion-brown,nodular phosphatic sandstone;also rare pelletal phosphatic sandstone (few centimetres to +4 metres) -basal conglomerate-chert with phosphate pebbles present ($\leq$1 metre)	0.6 0.5-1.0	9.5 13-18
		unconformity			
	ROCKY MOUNTAIN SUPERGROUP, ISHBEL GROUP: Rose Creek Fm.(90-150)	-sequence of siltstone,shale chert,carbonate and phosphatic horizons areally restricted to Telford thrust sheet -west of Elk River,shallow marine deposition	-phosphate in a number of horizons as nodules and finely disseminated granules within the matrix -phosphatic coquinoid horizons present	0.4-1.0	1.7-6.0
	ROCKY MOUNTAIN SUPERGROUP, ISHBEL GROUP: Telford Fm. (210-225)	-sequence of sandy carbonate containing abundant brachiopod fauna;minor sandstone -shallow marine deposition	-rare,very thin beds or laminae of phosphate;rare phosphatized coquinoid horizon	0.3	11.4
	ROCKY MOUNTAIN SUPERGROUP, ISHBEL GROUP: Johnson Canyon Fm. (1-60)	-thinly bedded,rhythmic sequence of siltstone,chert,shale, sandstone and minor carbonate; basal conglomerate -shallow marine deposition	-locally present as a black phosphatic siltstone or pelletal phosphate -phosphate generally present as black ovoid nodules in light coloured siltstone;phosphatic interval ranges in thickness from 1-22 metres -basal conglomerate (maximum 30 cm thick) contains chert and phosphate pebbles	0.2-0.3 1-22 1-2	3.0-4.0 0.1-11.0 14.2-21.2
		regional unconformity			
Pennsylvanian	SPRAY LAKES GP.: Kananaskis Fm. (±55)	-dolomite,silty,commonly contains chert nodules or beds	-locally,minor phosphatic siltstone in uppermost part of section		
	SPRAY LAKES GP.: Tunnel Mntn Fm. (±500)	-dolomitic sandstone and siltstone			
Mississippian	Rundle Gp. (±700)	-limestone,dolomite,minor shale, sandstone and cherty limestone			
	Banff Fm. (280-430)	-shale,dolomite,limestone			
Devonian-Mississippian	Exshaw Fm. (6-30)	-black shale,limestone -areally restricted in south-eastern British Columbia	-an upper nodular horizon -phosphatic shale and pelletal phosphate 2-3 metres above base -basal phosphate <1 metre thick		
Devonian	Palliser Fm.	-limestone			

FIGURE 4: STRATIGRAPHIC SUMMARY INCLUDING PHOSPHATE-BEARING HORIZONS IN SOUTHEASTERN BRITISH COLUMBIA (modified from Butrenchuk, 1987a). Thickness not to scale.

Group. This zone is extremely low grade, generally containing less than 1 per cent P_2O_5, and is often associated with belemnite-bearing calcareous sandstone beds (Butrenchuk, 1987a; Freebold, 1957; Macdonald, 1987).

The Kootenay Formation, of upper Jurassic to Cretaceous age, overlies rocks of the Fernie Group. It consists of dark grey carbonaceous sandstone, gritty to conglomeratic sandstone, siltstone, shale and coal and is from 150 to 520 metres thick (Price, 1965).

3.2 PROPERTY GEOLOGY AND EXPLORATION

The Alexander Creek area is underlain by a sequence of sedimentary rocks which range from Mississippian to lower Cretaceous in age (Figures 5, 6). Reconnaissance mapping and prospecting, using a topographic base and altimeter with airphoto control, concentrated on locating the basal Fernie Group phosphorite horizon, which marks the Triassic/Jurassic boundary in this region. Good outcrops of the basal phosphorite horizon were found to the north and south of the claims (Figure 5); however, no outcrops of phosphorite were located on the property.

3.2.1 STRATIGRAPHY

The High Rock claims are predominantly underlain by strata correlative with the Ranger Canyon Formation of the Permian Ishbel Group, the Sulphur Mountain Formation of the Triassic Spray River Group, the Jurassic Fernie Group and the upper Jurassic to lower Cretaceous Kootenay Formation (Figure 6). On high ridges to the east and west of the claims, limestones of the Mississippian Rundle Group crop out.

The oldest rocks on the claims belong to the Ranger Canyon Formation. In the Alexander Creek area, this formation consists of buff to light grey weathering, medium- to thick-bedded, fine-grained white sandstones to siltstones. Chert layers and nodules are abundant and cross-beds are locally present.

Brown to yellowish-brown weathering, thin- to medium-bedded dolomitic siltstones with grey to brownish-grey fresh surfaces, correlative with the Triassic Spray River Group, overlie the Ranger Canyon strata. On the High Rock claims, the siltstones are commonly interlayered with thin beds of brown to black shale. Concretionary layers are also locally present.

Fernie Group rocks are recessive weathering and, for the most part, not well exposed. Where the Fernie Group outcrops on the High Rock claims, it consists of very fissile black shales. The basal contact of the Fernie Group and the basal phosphorite horizon were not found exposed on the High Rock claims. To the south of the property, near Highway 3, and to the north, near the headwaters of Grave Creek, the basal phosphorite horizon is exposed (Figure 5, Appendix 1). Belemnite beds and buff, calcareous siltstone layers were observed further upsection, south of the property on Cominco's leases (Figure 5).

Fernie shales are overlain by buff or orange weathering sandstones to gritty sandstones, black fine-grained sandstones or siltstones, and thinly interbedded grey shales and carbonaceous shales of the upper Jurassic to lower Cretaceous Kootenay Formation. Unlike the older strata, which are marine in origin, these rocks were deposited in a fluvio-deltaic environment and have been extensively explored for their coal potential.

3.2.2 STRUCTURE

The High Rock claims lie along the eastern limb of a major north-south trending, variably plunging syncline (Figures 5, 6). An easterly directed thrust fault occurs along the western limb of this syncline for part of its length, juxtaposing Mississippian carbonate rocks with younger strata.

The folds in the Alexander Creek area are conical (rather than cylindrical) in nature and doubly plunging, with north-northwest and south-southeast trending, shallowly to moderately plunging cone axes (352/30 and 164/35) and large to moderate half apical angles (80° and 60°, respectively). The stereonet patterns suggest that synclinal structures open in an up-plunge direction and anticlines open downplunge (Appendix 2).

4. RESULTS

No outcrops of the basal phosphorite horizon were located on the High Rock claims, although it must be present in subcrop, dipping shallowly westward into the hillside above the west bank of Alexander Creek (Figure 6). Field relationships suggest that it may subcrop slightly beneath the surface and a short distance above the highest outcrop of Triassic siltstones. A total of 15 samples were taken from the basal phosphorite horizon outcropping south of the claims and were analyzed by Bondar-Clegg of North Vancouver for P_2O_5 by gravimetric assay, and for 29 trace elements (including Y) by I.C.P. following an HNO3-HCl hot extraction (Appendix 1). Samples taken from this horizon approximately 15 kilometres along strike to the south near the Crow adit contain between 8 and 27 per cent P_2O_5, and are reported to contain up to 950 ppm yttrium. In this vicinity, the phosphorite horizon has been structurally thickened to 4.8 metres. Approximately 2 kilometres north of the High Rock property the same phosphorite horizon reportedly contains up to 29.4 per cent P_2O_5 and 1147 ppm yttrium (Butrenchuk, in prep.). The phosphorite horizon on the High Rock claims has the potential to be fairly thick and high grade; however, until it is exposed by trenching or drilled it cannot be evaluated.

5. CONCLUSIONS

The Alexander Creek area is underlain by a sequence of sedimentary rocks which range from Mississippian to lower Cretaceous in age. Within this sequence, phosphorites occur at a number of stratigraphic intervals; however, the thickest, highest grade and most continuous phosphorite horizon is developed at the base of the Jurassic Fernie Group. No outcrops of the basal Fernie phosphorite horizon were located on the High Rock claims, although the geology and stratigraphic relationships indicate that it must be present on the property, in subcrop. Good outcrops of the basal phosphorite horizon were found along strike to the north and south of the claims. Based on the characteristics of the phosphorite horizon along strike, on the High Rock claims it has the potential to be fairly thick and high grade; however, until it is exposed by trenching or drilled it cannot be evaluated.

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7. STATEMENT OF COSTS

COLUMBIA PROJECT 1989

Wages and Professional Fees*

Field work (May 26-July 26, 1989)	$32,073	
Benefits @ 25%	8,018	
		$40,091

Disbursements:

Truck Rental	2,409	
Gas	1,584	
Meals	3,845	
Accomodation	1,464	
Helicopter charter	5,923	
Assays	15,528	
Miscellaneous rentals	1,200	
Backhoe rental**	4,076	
Expendible supplies	1,515	
Compilation and reports	5,000	
		$42,544
TOTAL ALL CLAIMS		**$82,635**

CLAIM BLOCK ALLOCATION OF EXPENDITURES:

Hunger Group	39%	$32,227
Bighorn Claims	4%	$ 3,307
Cabin Creek Group	26%	$21,485
Cabin East Group	7%	$ 5,784
-> **High Rock Group**	**6%**	**$ 4,958**
Regional	18%	$14,874
TOTAL		**$82,635**

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*Breakdown showing pay rates and days worked follows (Appendix 3)
**Breakdown showing trench work distribution follows (Appendix 3)

8. CERTIFICATE OF QUALIFICATIONS

I, Jennifer A. Pell, of 3011 Quadra Street, Victoria, British Columbia, do hereby certify that:

1. I was in the field in the Fernie area from late May until late July, 1989 and personally supervised the exploration on the High Rock claims.

2. I am a graduate of the University of Ottawa with a Bachelor of Science Honors degree in Geology, 1979.

3. I am a graduate of the University of Calgary with a Doctorate of Philosophy degree in Geology, 1984.

4. I am a Fellow of the Geological Association of Canada.

5. I was employed as an Assistant Professor in the Department of Geology, University of Windsor, teaching Economic Geology, Mineralogy, Structural Geology and Historical Geology from July, 1985 to July, 1986 and as a sessional lecturer at University of British Columbia, teaching Introductory Geology from January to April of 1987.

6. I have been engaged in mineral exploration, geologic mapping and geological research in British Columbia, the Northwest Territories, Manitoba and Ontario since 1977.

7. This report is true and factual, to the best of my knowledge. It is based on my work and work done directly under my supervision as well as a study of available literature.

8. I retain a 5% Net Profit Royalty interest on the properties described in this report.

March, 1990
Victoria, B.C.

Jennifer Pell, Ph.D., F.G.A.C.

APPENDIX 1

ASSAYS

ANALYTICAL RESULTS, ALEXANDER CREEK AREA

SAMPLE NO.	P_2O_5 %	Y PPM	CE PPM	LA PPM	T M	DESCRIPTION
TRENCH NEAR CROW ADIT						
CRW89-600A*	22.10	268	87	119	.57	WEATHERED BROWN SILTY SHALE
CRW89-600B*	23.77	325	94	144	.47	PHOSPHORITE & BROWN PHOSPHATIC SHALE
CRW89-600C*	21.71	557	194	264	.49	PELLETAL PHOSPHORITE
CRW89-600D*	10.05	163	72	83	.35	BLACK SHALE
CRW89-600E*	22.80	536	180	251	.50	PELLETAL PHOSPHORITE
CRW89-600F*	8.83	146	66	75	.40	BROWN SHALE, YELLOW MARKER @ TOP
CRW89-600G*	11.11	138	71	74	.20	BLACK SHALE
CRW89-600H*	25.04	477	154	222	1.41	MIXED PHOSPHORITE AND SHALE
CRW89-600I*	27.07	527	170	254	.23	PELLETAL PHOSPHORITE
CRW89-600J*	20.30	500	185	244	.18	PHOSPHORITE, MIXED WITH SOME SHALE
HIGHWAY 3 OUTCROP						
CRW89-15A*	24.51	288	87	134	0.22	GRITTY PHOSPHORITE W/BASAL CONGLOMERATE LAYER
CRW89-15B*	24.59	625	196	306	0.48	GRITTY PHOSPHORITE
CRW89-15C*	11.31	167	78	98	0.30	PHOSPHORITE AND SHALE, MIXED
CRW89-15D*	16.78	208	104	124	0.18	SHALE AND PHOSPHATIC SHALE
CRW89-15E*	0.80	19	18	10	1.50	SHALE BENEATH THE YELLOW MARKER

* Y, Ce & La analysed by ICP which does not give complete digestion, and therefore these values are only partial analyses

FROM BUTRENCHUK, IN PREP.						
HIGHWAY 3 OUTCROP						
SB86-3**	27.28	351	91	108	GRAB	PELLETAL ARGILLACEOUS PHOSPHORITE
SB86-3B**	21.30	350	77	127	0.50	PHOSPHORITE
TRENCH NEAR CROW ADIT						
SB86-4**	22.33	326	100	141	GRAB	PELLETAL QUARTZITIC PHOSPHORITE
SB86-4A**	26.60	485	116	200	1.00	PHOSPHORITE
SB86-4B**	26.60	946	224	406	1.00	PHOSPHORITE
SB86-4C**	25.70	946	222	409	1.00	PHOSPHORITE
SB86-4D**	25.10	792	205	332	1.00	PHOSPHORITE
SB86-4E**	27.00	617	126	247	0.70	PHOSPHORITE
HEADWATERS OF GRAVE CREEK						
SB86-20**	27.40	907	239	369	GRAB	PHOSPHORITE
SB86-20A**	29.40	1147	293	472	0.30	PHOSPHORITE

** Y, Ce & La analyzed by XRF.

89-1 COMP.

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SAMPLE NUMBER	ELEMENT UNITS	P205 PCT
R2 CBC89-1A		0.50
R2 CBC89-1B		3.44
R2 CBC89-1C		19.04
R2 CBC89-1D		23.09
R2 CBC89-1E		9.25
R2 CBC89-1F		0.58
R2 CBC89-18A		11.44
R2 CBC89-18B		27.73
R2 CBC89-18C		18.69
R2 CBC89-610A		15.45
R2 CBC89-610B		24.58
R2 CBC89-610C		25.87
R2 CBC89-610D		3.52
R2 CBC89-610E		16.53
R2 CBC89-610F		0.42
R2 CBC89-611		23.09
R2 CBC89-611B		27.25
R2 CRW89-600A		22.10
R2 CRW89-600B		23.77
R2 CRW89-600C		21.71
R2 CRW89-600D		10.05
R2 CRW89-600E		22.80
R2 CRW89-600F		8.83
R2 CRW89-600G		11.11
R2 CRW89-600H		25.04
R2 CRW89-600I		27.07
R2 CRW89-600J		20.30
R2 DLY89-1A		1.00
R2 DLY89-1B		8.26
R2 DLY89-1C		25.60
R2 DLY89-5		0.35
R2 INV89-1A		17.87
R2 INV89-1B		12.93

HIGH ROCK

Registered Assayer, Province of British Columbia

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PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 30-JUN-89

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	P205	Phosphorous	33	0.01 PCT		Gravimetric

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	33	2 -150	33	ASSAY PREP	33
				FAX CHARGE	1

REPORT COPIES TO: MR. DOUG LEIGHTON
MS. J. PELL

INVOICE TO: MR. DOUG LEIGHTON

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SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM	Ga PPM
R2 CBC89-1A		0.2	63	306	18.8	3	2	48	18	20	88	<2
R2 CBC89-1B		1.2	99	1248	20.7	11	7	214	27	61	191	<2
R2 CBC89-1C		2.8	189	703	21.9	<2	10	451	19	109	265	<2
R2 CBC89-1D		<0.2	44	529	7.3	<2	2	167	3	97	43	<2
R2 CBC89-1E		<0.2	54	253	12.8	<2	1	104	5	78	48	<2
R2 CBC89-1F		<0.2	246	55	6.9	81	<1	11	2	15	19	89
R2 CBC89-18A		<0.2	48	147	11.3	<2	<1	120	4	108	35	<2
R2 CBC89-18B		<0.2	36	216	5.6	<2	<1	175	2	121	32	<2
R2 CBC89-18C		<0.2	43	165	7.5	<2	<1	119	3	93	32	<2
R2 CBC89-610A		<0.2	49	199	9.9	<2	1	104	4	78	37	<2
R2 CBC89-610B		<0.2	25	180	5.0	<2	1	131	2	103	32	<2
R2 CBC89-610C		<0.2	33	215	5.4	<2	1	225	2	105	33	<2
R2 CBC89-610D		0.3	44	198	14.2	4	2	74	8	85	104	<2
R2 CBC89-610E		1.0	67	315	12.6	<2	1	284	10	79	89	<2
R2 CBC89-610F		0.3	78	424	26.0	15	3	47	25	29	123	8
R2 CBC89-611		<0.2	34	143	7.3	<2	2	166	3	102	45	<2
R2 CBC89-611B		<0.2	35	166	4.5	<2	<1	207	2	112	30	<2
R2 CRW89-600A		<0.2	30	466	9.1	<2	<1	87	2	79	45	<2
R2 CRW89-600B		<0.2	37	814	7.0	<2	1	94	2	112	49	<2
R2 CRW89-600C	HIGH	<0.2	45	1014	4.5	<2	<1	194	1	104	33	<2
R2 CRW89-600D	ROCK	<0.2	45	487	7.1	<2	<1	72	3	77	37	<2
R2 CRW89-600E		<0.2	44	929	5.0	<2	2	180	2	108	37	<2
R2 CRW89-600F		<0.2	43	590	8.0	<2	<1	66	3	71	41	<2
R2 CRW89-600G		<0.2	54	512	6.7	<2	<1	71	3	64	38	<2
R2 CRW89-600H		<0.2	36	1131	5.3	<2	2	154	1	115	35	<2
R2 CRW89-600I		<0.2	43	1308	5.5	<2	1	170	1	134	39	<2
R2 CRW89-600J		<0.2	44	1025	7.9	<2	1	185	3	122	45	<2
R2 DLY89-1A		<0.2	108	804	5.8	18	<1	21	2	32	5	<2
R2 DLY89-1B		<0.2	70	594	9.0	<2	<1	136	3	116	17	<2
R2 DLY89-1C		<0.2	55	1535	10.7	<2	2	209	3	114	53	<2
R2 DLY89-5		<0.2	10	287	5.9	2	<1	22	2	144	7	<2
R2 INV89-1A		<0.2	42	355	7.0	<2	<1	147	2	180	28	<2
R2 INV89-1B		<0.2	39	215	8.4	<2	<1	108	2	230	19	<2

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REPORT: V89-02953.0

DATE PRINTED: 21-JUN-89

PROJECT: 110 PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM	Sr PPM
R2 CBC89-1A		19	12	20	10	143	36	<20	21	7	<20	202
R2 CBC89-1B		137	27	113	9	668	43	36	28	15	<20	346
R2 CBC89-1C		338	17	256	22	927	59	<20	39	27	<20	796
R2 CBC89-1D		229	23	25	24	118	39	<20	24	25	<20	619
R2 CBC89-1E		103	23	42	15	175	40	<20	28	11	<20	283
R2 CBC89-1F		2	22	6	60	59	137	<20	164	4	<20	125
R2 CBC89-18A		133	19	19	17	73	37	<20	27	13	<20	279
R2 CBC89-18B		262	20	6	27	60	41	<20	27	25	<20	608
R2 CBC89-18C		159	21	15	20	54	36	<20	24	19	<20	387
R2 CBC89-610A		120	19	25	19	76	36	<20	23	14	<20	298
R2 CBC89-610B		199	14	13	23	53	33	<20	21	22	<20	432
R2 CBC89-610C		300	16	11	25	61	37	<20	24	25	<20	515
R2 CBC89-610D		55	38	68	7	176	20	65	17	12	<20	196
R2 CBC89-610E		232	21	45	18	222	36	42	23	17	<20	474
R2 CBC89-610F		16	13	36	3	188	31	<20	20	6	<20	76
R2 CBC89-611		215	18	24	22	101	35	55	24	22	<20	372
R2 CBC89-611B		301	13	7	27	43	39	<20	23	24	<20	451
R2 CRW89-600A		119	12	10	21	45	31	23	22	14	<20	550
R2 CRW89-600B		144	15	18	24	68	36	<20	24	18	<20	828
R2 CRW89-600C		264	14	8	28	48	40	<20	27	31	<20	1073
R2 CRW89-600D		83	20	14	20	59	30	40	24	14	<20	646
R2 CRW89-600E		251	15	13	28	60	39	29	28	29	<20	1068
R2 CRW89-600F		75	17	19	20	64	31	<20	25	13	<20	673
R2 CRW89-600G		74	16	33	20	57	32	<20	28	13	<20	655
R2 CRW89-600H		222	14	14	27	57	38	<20	26	27	<20	1054
R2 CRW89-600I		254	14	14	29	61	42	<20	27	31	<20	1150
R2 CRW89-600J		244	20	12	26	69	38	<20	27	33	<20	1099
R2 DLY89-1A		11	11	8	20	23	48	<20	57	4	<20	109
R2 DLY89-1B		139	13	17	17	71	34	<20	31	11	<20	207
R2 DLY89-1C		277	18	30	28	144	46	<20	32	28	<20	594
R2 DLY89-5		8	3	2	3	12	12	<20	6	2	<20	51
R2 INV89-1A		199	10	15	21	50	31	<20	18	13	<20	403
R2 INV89-1B		141	11	14	17	41	26	21	17	10	<20	287

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R2 CBC89-1A		<10	<10	62	<10	31	212	5
R2 CBC89-1B		<10	10	138	<10	226	1061	7
R2 CBC89-1C		<10	28	132	<10	543	1343	6
R2 CBC89-1D		<10	29	64	<10	479	196	11
R2 CBC89-1E		<10	19	43	<10	208	240	5
R2 CBC89-1F		25	86	18	<10	16	158	5
R2 CBC89-18A		<10	20	44	<10	284	149	10
R2 CBC89-18B		<10	34	60	<10	541	131	12
R2 CBC89-18C		<10	22	48	<10	344	125	13
R2 CBC89-610A		<10	19	38	<10	252	154	9
R2 CBC89-610B		<10	26	56	<10	424	98	10
R2 CBC89-610C		<10	30	58	<10	601	103	12
R2 CBC89-610D		<10	<10	90	<10	93	268	10
R2 CBC89-610E		<10	18	77	<10	374	241	8
R2 CBC89-610F		<10	<10	90	<10	29	226	9
R2 CBC89-611		<10	25	58	<10	448	155	11
R2 CBC89-611B		<10	32	41	<10	604	93	12
R2 CRW89-600A		<10	25	28	<10	268	214	8
R2 CRW89-600B		<10	28	48	<10	325	335	10
R2 CRW89-600C		<10	30	45	<10	557	104	9
R2 CRW89-600D	HIGH	<10	15	34	<10	163	85	4
R2 CRW89-600E	ROCK	<10	30	49	<10	536	163	7
R2 CRW89-600F		<10	15	31	<10	146	107	6
R2 CRW89-600G		<10	18	32	<10	138	125	4
R2 CRW89-600H		<10	30	52	<10	477	125	10
R2 CRW89-600I		<10	33	61	<10	527	97	12
R2 CRW89-600J		<10	28	57	<10	500	129	8
R2 DLY89-1A		<10	25	18	<10	21	14	4
R2 DLY89-1B		<10	18	30	<10	282	54	3
R2 DLY89-1C		<10	35	77	<10	573	233	13
R2 DLY89-5		<10	<10	6	<10	17	22	3
R2 INV89-1A		<10	23	59	<10	407	66	6
R2 INV89-1B		<10	17	65	<10	291	64	7

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REFERENCE INFO:

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 21-JUN-89

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Ag	Silver	33	0.2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
2	As	Arsenic	33	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
3	Ba	Barium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
4	Be	Beryllium	33	0.5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
5	Bi	Bismuth	33	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
6	Cd	Cadmium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
7	Ce	Cerium	33	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
8	Co	Cobalt	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
9	Cr	Chromium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
10	Cu	Copper	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
11	Ga	Gallium	33	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
12	La	Lanthanum	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
13	Li	Lithium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
14	Mo	Molybdenum	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
15	Nb	Niobium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
16	Ni	Nickel	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
17	Pb	Lead	33	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
18	Rb	Rubidium	33	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
19	Sb	Antimony	33	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
20	Sc	Scandium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
21	Sn	Tin	33	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
22	Sr	Strontium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
23	Ta	Tantalum	33	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
24	Te	Tellurium	33	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
25	V	Vanadium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
26	W	Tungsten	33	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
27	Y	Yttrium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
28	Zn	Zinc	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
29	Zr	Zirconium	33	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-02953.0 (COMPLETE)

REFERENCE INFO:

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 21-JUN-89

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	33	2 -150	33	ASSAY PREP	33

REPORT COPIES TO: MR. DOUG LEIGHTON
MS. J. PELL

INVOICE TO: MR. DOUG LEIGHTON

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Geochemical Lab Report

REPORT: V89-02997.0

DATE PRINTED: 30-JUN-89
PROJECT: 110

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM	Ga PPM
R2 ABY-89-1A		<0.2	32	869	2.0	<2	<1	74	1	118	36	<2
R2 ABY-89-1B		<0.2	23	932	2.6	<2	<1	70	1	107	59	<2
R2 ABY-89-1C		<0.2	25	824	5.5	<2	<1	95	1	205	45	<2
R2 ABY-89-1D		<0.2	26	948	6.1	<2	<1	68	8	109	78	<2
R2 ABY-89-1E		<0.2	18	1073	2.7	<2	<1	83	1	127	52	<2
R2 ABY-89-1F		<0.2	30	1045	4.8	<2	<1	64	5	138	45	<2
R2 ABY-89-1G		<0.2	37	1545	10.4	10	<1	14	30	26	117	<2
R2 CBC-89-22A		<0.2	21	199	3.5	<2	<1	122	3	174	17	<2
R2 CBC-89-22B		<0.2	38	372	4.5	<2	2	161	3	127	42	<2
R2 CBC-89-22C		0.3	40	1071	10.3	<2	6	98	9	100	103	<2
R2 CBC-89-22D		0.3	39	751	6.0	<2	5	152	5	111	59	<2
R2 CBC-89-22E		0.5	12	651	4.8	3	<1	20	1	12	14	4
R2 CBC-89-22F		0.9	51	540	12.3	7	3	137	28	21	123	<2
R2 CBC-89-607A		<0.2	31	41	0.8	<2	<1	48	<1	100	10	<2
R2 CBC-89-607B		0.2	27	38	1.0	<2	<1	49	<1	112	9	<2
R2 CBC-89-607C		<0.2	25	27	0.6	<2	<1	42	<1	84	8	<2
R2 CBC-89-607D		<0.2	85	17	1.2	11	<1	5	2	100	4	<2
R2 CRW-89-15A	HIGH ROCK	<0.2	30	329	7.5	<2	2	87	2	105	59	<2
R2 CRW-89-15B		<0.2	41	442	2.8	<2	1	196	1	123	38	<2
R2 CRW-89-15C		<0.2	19	306	1.4	<2	3	78	3	92	43	<2
R2 CRW-89-15D		<0.2	43	529	<0.5	<2	<1	104	3	40	35	<2
R2 CRW-89-15E		<0.2	26	217	<0.5	<2	3	18	6	11	58	<2
R2 FDR-89-1A		<0.2	30	171	<0.5	7	<1	29	3	61	9	<2
R2 FDR-89-1B		<0.2	12	297	1.3	<2	4	146	2	117	30	<2
R2 FDR-89-1C		<0.2	16	568	2.2	<2	2	75	2	139	67	<2
R2 FDR-89-1D		<0.2	25	1516	0.9	<2	2	185	<1	106	34	<2
R2 FOX-89-1		13.2	659	64	<0.5	16	51	7	2	19	35	3
R2 FOX-89-2		10.3	358	88	1.6	15	62	13	4	21	25	6
R2 FOX-89-3A		0.5	331	212	<0.5	67	<1	<5	<1	<1	294	<2
R2 FOX-89-3B		0.2	48	42	11.8	<2	<1	17	<1	2	31	<2
R2 FOX-89-3C		<0.2	49	79	7.0	<2	<1	10	<1	<1	36	<2
R2 FOX-89-4		29.4	1298	233	<0.5	27	599	33	<1	<1	371	33
R2 FOX-89-5		2.9	404	450	<0.5	31	83	6	<1	<1	64	<2
R2 FOX-89-6		>50.0	1377	252	<0.5	17	12	<5	3	26	248	<2
R2 FOX-89-7A		0.4	<5	630	<0.5	7	2	33	4	16	52	6
R2 FOX-89-7B		0.5	9	966	<0.5	<2	1	35	4	35	39	<2
R2 FOX-89-7C		<0.2	<5	190	<0.5	17	<1	53	24	20	81	12
R2 FOX-89-7D		<0.2	<5	165	<0.5	3	<1	36	4	51	9	4
R2 FOX-89-8A		1.6	24	153	<0.5	3	<1	14	<1	74	25	<2
R2 FOX-89-8B		<0.2	<5	121	0.9	4	<1	63	6	29	25	4

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DATE PRINTED: 30-JUN-89

REPORT: V89-02997.0

PROJECT: 110 PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM	Sr PPM
R2 ABY-89-1A		122	6	4	21	20	32	<20	18	12	<20	350
R2 ABY-89-1B		139	8	5	33	26	50	<20	26	16	<20	1110
R2 ABY-89-1C		186	12	24	33	50	52	<20	27	24	<20	997
R2 ABY-89-1D		123	20	15	27	63	49	<20	29	17	<20	794
R2 ABY-89-1E		147	7	6	23	30	37	<20	21	15	<20	609
R2 ABY-89-1F		123	12	19	33	43	52	<20	29	18	<20	603
R2 ABY-89-1G		3	7	25	9	81	38	<20	21	5	<20	69
R2 CBC-89-22A		142	8	10	15	48	26	<20	15	9	<20	197
R2 CBC-89-22B		242	25	36	29	64	50	<20	29	23	<20	571
R2 CBC-89-22C		103	49	118	17	183	39	<20	25	15	<20	396
R2 CBC-89-22D		175	37	52	24	94	41	<20	26	21	<20	675
R2 CBC-89-22E		12	6	24	4	39	40	<20	14	3	<20	332
R2 CBC-89-22F		88	16	66	9	260	41	<20	21	9	<20	247
R2 CBC-89-607A		132	4	2	31	25	43	<20	22	1	<20	211
R2 CBC-89-607B		128	4	1	25	22	33	<20	16	2	<20	150
R2 CBC-89-607C		108	4	2	26	22	34	<20	18	1	<20	129
R2 CBC-89-607D		6	3	6	20	23	45	<20	43	2	<20	47
R2 CRW-89-15A	HIGH ROCK	134	15	13	33	46	54	<20	32	12	<20	935
R2 CRW-89-15B		306	14	18	36	60	56	<20	31	30	<20	1216
R2 CRW-89-15C		98	25	10	24	61	40	<20	28	13	<20	1107
R2 CRW-89-15D		124	10	36	31	225	42	<20	26	11	<20	979
R2 CRW-89-15E		10	8	77	23	119	39	<20	18	4	<20	1538
R2 FDR-89-1A		19	8	6	10	28	26	<20	21	3	<20	63
R2 FDR-89-1B		203	17	13	17	46	29	<20	16	15	<20	363
R2 FDR-89-1C		139	24	28	27	60	42	<20	27	18	<20	1008
R2 FDR-89-1D		310	16	11	33	47	43	34	25	35	<20	1018
R2 FOX-89-1		<1	4	<1	2	6	4261	<20	128	1	<20	44
R2 FOX-89-2		4	5	<1	4	8	4424	<20	96	1	<20	70
R2 FOX-89-3A		<1	10	<1	75	6	199	<20	156	<1	34	275
R2 FOX-89-3B		7	4	<1	21	1	57	<20	18	<1	<20	442
R2 FOX-89-3C		4	8	<1	31	1	67	<20	30	2	<20	687
R2 FOX-89-4		<1	9	<1	74	17	>10000	<20	982	<1	<20	236
R2 FOX-89-5		<1	8	<1	71	14	807	<20	193	<1	26	144
R2 FOX-89-6		<1	<1	41	<1	8	>10000	38	400	<1	<20	63
R2 FOX-89-7A		21	12	1	4	3	127	<20	15	4	<20	119
R2 FOX-89-7B		18	12	5	7	3	167	<20	13	2	<20	80
R2 FOX-89-7C		23	31	<1	5	15	39	21	28	12	<20	111
R2 FOX-89-7D		17	7	<1	3	4	37	<20	7	1	<20	65
R2 FOX-89-8A		8	1	15	1	2	290	<20	<5	<1	<20	33
R2 FOX-89-8B		32	19	<1	6	11	30	<20	11	5	<20	390

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REPORT: V89-02997.0

DATE PRINTED: 30-JUN-89
PROJECT: 110

SAMPLE NUMBER	ELEMENT UNITS	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 ABY-89-1A		<10	13	23	<10	294	45	5
R2 ABY-89-1B		<10	37	35	<10	291	71	18
R2 ABY-89-1C		<10	33	48	<10	403	100	17
R2 ABY-89-1D		<10	25	63	<10	284	137	7
R2 ABY-89-1E		<10	21	31	<10	339	89	7
R2 ABY-89-1F		<10	24	50	<10	289	78	8
R2 ABY-89-1G		<10	<10	40	<10	15	175	6
R2 CBC-89-22A		<10	<10	31	<10	292	46	6
R2 CBC-89-22B		<10	25	75	<10	495	157	7
R2 CBC-89-22C		<10	<10	91	<10	186	348	10
R2 CBC-89-22D		<10	20	92	<10	296	309	11
R2 CBC-89-22E		<10	<10	18	<10	15	199	3
R2 CBC-89-22F		<10	<10	101	<10	113	571	7
R2 CBC-89-607A		<10	29	65	<10	187	20	11
R2 CBC-89-607B		<10	18	60	<10	185	19	9
R2 CBC-89-607C		<10	14	43	<10	153	21	6
R2 CBC-89-607D		<10	20	40	<10	10	48	4
R2 CRW-89-15A	HIGH ROCK	<10	33	31	<10	288	829	10
R2 CRW-89-15B	HIGH ROCK	<10	34	56	<10	625	113	8
R2 CRW-89-15C	HIGH ROCK	<10	14	27	<10	167	509	3
R2 CRW-89-15D	HIGH ROCK	<10	22	24	<10	208	152	12
R2 CRW-89-15E	HIGH ROCK	<10	<10	61	<10	19	253	8
R2 FDR-89-1A		<10	<10	20	<10	24	107	3
R2 FDR-89-1B		<10	10	42	<10	413	262	5
R2 FDR-89-1C		<10	26	88	<10	296	157	12
R2 FDR-89-1D		<10	22	60	<10	632	132	8
R2 FOX-89-1		<10	<10	4	57	6	17552	7
R2 FOX-89-2		<10	<10	4	45	5	17243	6
R2 FOX-89-3A		<10	75	19	<10	15	435	4
R2 FOX-89-3B		<10	<10	43	<10	19	69	13
R2 FOX-89-3C		<10	10	77	<10	17	58	13
R2 FOX-89-4		<10	<10	13	489	32	>20000	<1
R2 FOX-89-5		<10	41	49	57	15	>20000	7
R2 FOX-89-6		<10	<10	89	29	2	4673	18
R2 FOX-89-7A		<10	<10	55	<10	6	568	8
R2 FOX-89-7B		<10	<10	45	<10	8	480	9
R2 FOX-89-7C		<10	<10	228	<10	16	133	1
R2 FOX-89-7D		<10	<10	59	<10	7	151	6
R2 FOX-89-8A		<10	<10	49	<10	<1	42	4
R2 FOX-89-8B		<10	<10	61	<10	10	70	17

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Geochemical Lab Report

REPORT: V89-02997.0 (COMPLETE)

REFERENCE INFO: SHIPMENT #89-2

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELI
DATE PRINTED: 30-JUN-89

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Ag	Silver	51	0.2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
2	As	Arsenic	51	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
3	Ba	Barium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
4	Be	Beryllium	51	0.5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
5	Bi	Bismuth	51	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
6	Cd	Cadmium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
7	Ce	Cerium	51	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
8	Co	Cobalt	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
9	Cr	Chromium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
10	Cu	Copper	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
11	Ga	Gallium	51	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
12	La	Lanthanum	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
13	Li	Lithium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
14	Mo	Molybdenum	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
15	Nb	Niobium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
16	Ni	Nickel	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
17	Pb	Lead	51	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
18	Rb	Rubidium	51	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
19	Sb	Antimony	51	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
20	Sc	Scandium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
21	Sn	Tin	51	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
22	Sr	Strontium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
23	Ta	Tantalum	51	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
24	Te	Tellurium	51	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
25	V	Vanadium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
26	W	Tungsten	51	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
27	Y	Yttrium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
28	Zn	Zinc	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
29	Zr	Zirconium	51	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma

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SUBMITTED BY: J. PELL
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SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	51	2 -150	51	CRUSH,PULVERIZE -150	18
				ASSAY PREP	33
				FAX CHARGE	1

REMARKS: BE RESULTS WILL BE ELEVATED DUE TO FE AND CA
INTERFERENCE.

ASSAY OF HIGH AG, PB, AND ZN TO FOLLOW
ON V89-02997.6

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Certificate of Analysis

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-02997.4 (COMPLETE)

REFERENCE INFO: SHIPMENT #89-2

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 29-JUN-89

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	P205	Phosphorous	33	0.01 PCT		Gravimetric

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	33	2 -150	33	ASSAY PREP	33

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Certificate of Analysis

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 29-JUN-89

REPORT: V89-02997.4

PROJECT: 110

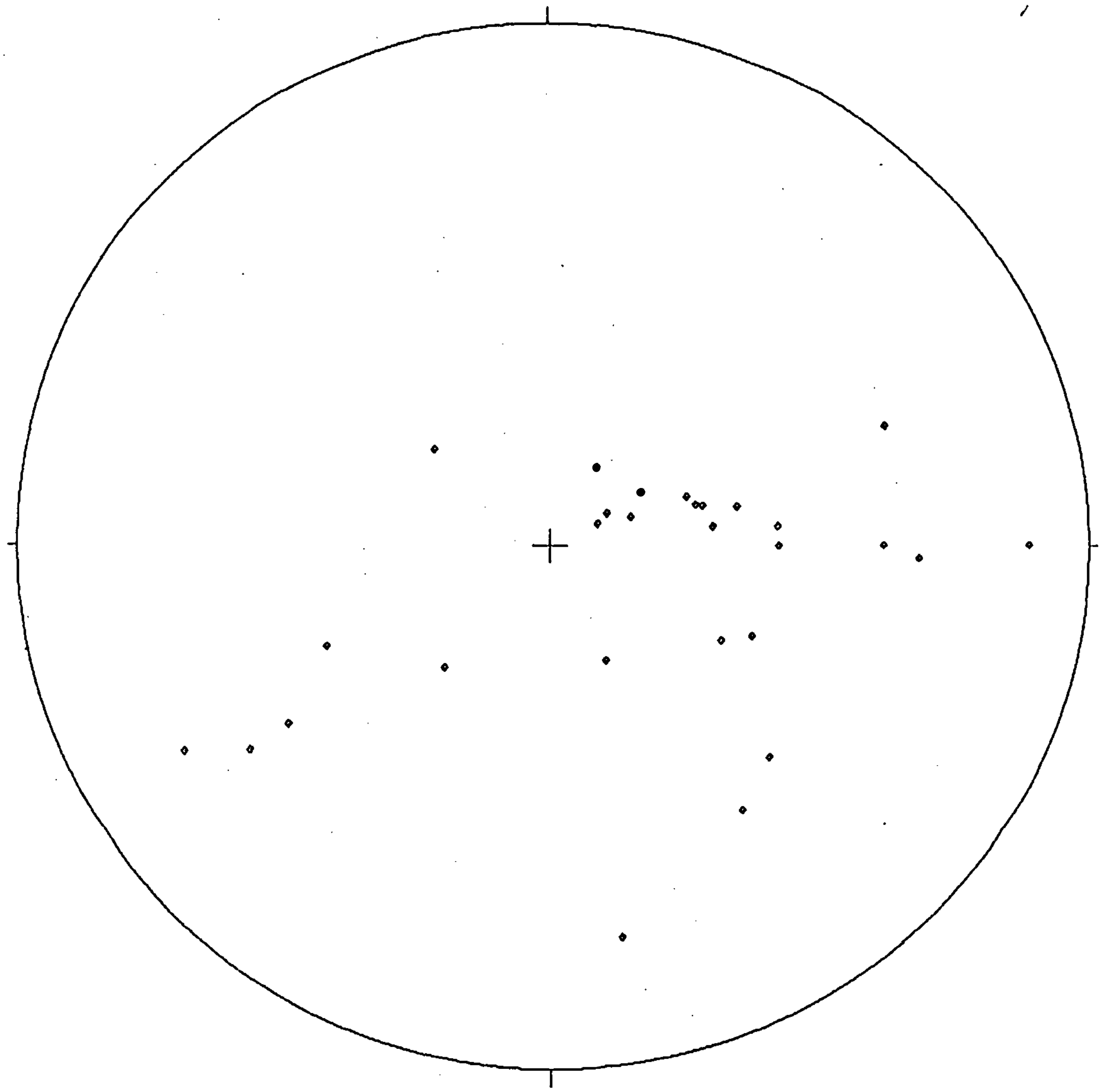
SAMPLE NUMBER	ELEMENT UNITS	P205 PCT
R2 ABY-89-1A		9.12
R2 ABY-89-1B		26.76
R2 ABY-89-1C		26.66
R2 ABY-89-1D		19.17
R2 ABY-89-1E		15.88
R2 ABY-89-1F		17.84
R2 ABY-89-1G		0.70
R2 CBC-89-22A		6.44
R2 CBC-89-22B		18.52
R2 CBC-89-22C		5.52
R2 CBC-89-22D		16.61
R2 CBC-89-22E		1.11
R2 CBC-89-22F		2.17
R2 CBC-89-607A		20.36
R2 CBC-89-607B		12.77
R2 CBC-89-607C		9.35
R2 CBC-89-607D		0.67
R2 CRW-89-15A	HIGH ROCK	24.51
R2 CRW-89-15B		24.59
R2 CRW-89-15C		11.31
R2 CRW-89-15D		16.78
R2 CRW-89-15E		0.80
R2 FDR-89-1A		1.61
R2 FDR-89-1B		11.94
R2 FDR-89-1C		22.43
R2 FDR-89-1D		18.34
R2 PJC-89-1A		20.41
R2 PJC-89-1B		7.10
R2 PJC-89-1C		0.89
R2 PJC-89-1D		4.75
R2 PJC-89-1E		0.78
R2 WEG-89-1		18.15
R2 WEG-89-2		14.95

Registered Assayer, Province of British Columbia

APPENDIX 2

STRUCTURAL ANALYSIS

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA



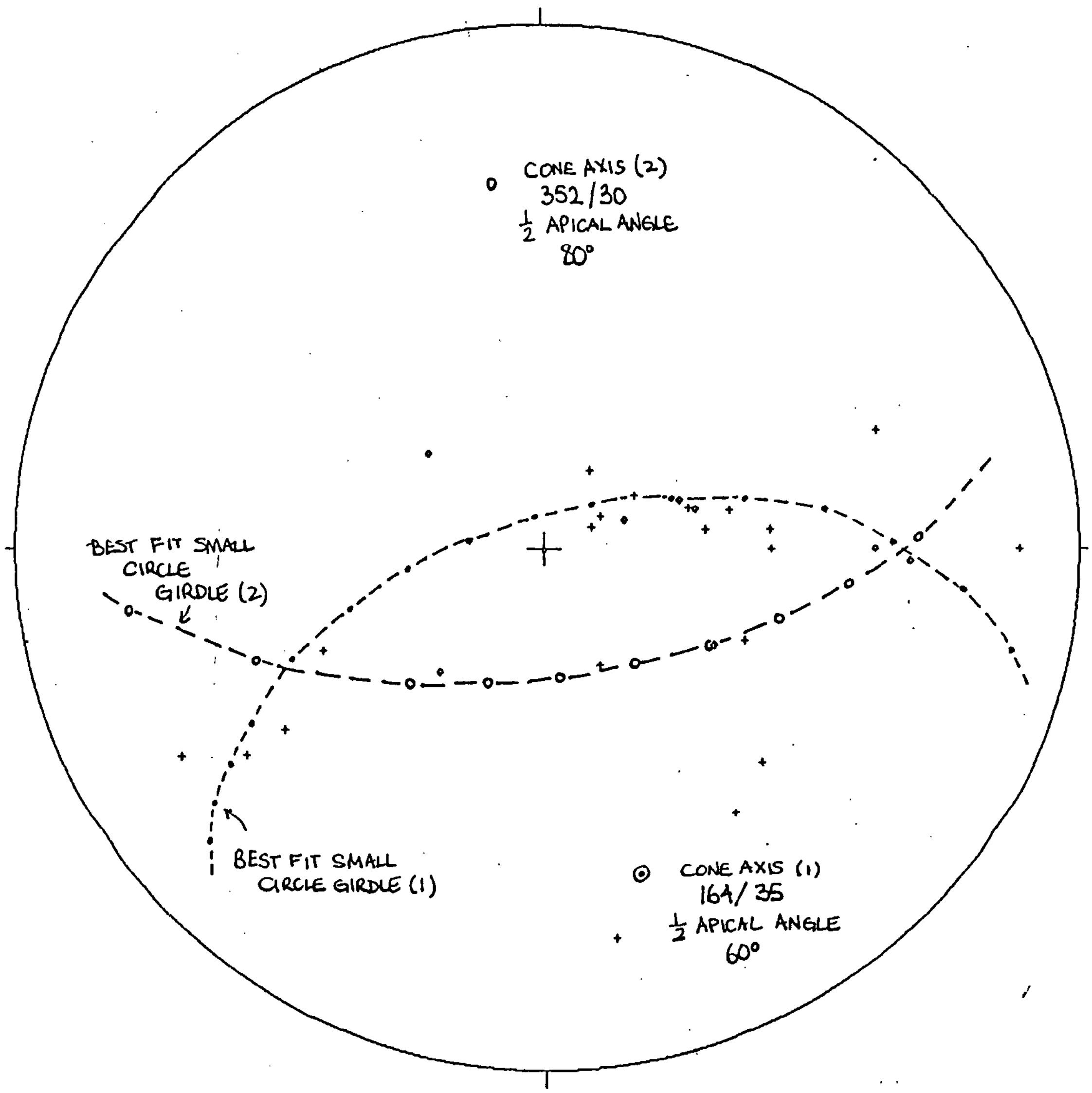
EQUAL AREA PROJECTION

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA

	Symbol
28 Points	◇
28 Points Total	

SPLOT by Darton Software

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA

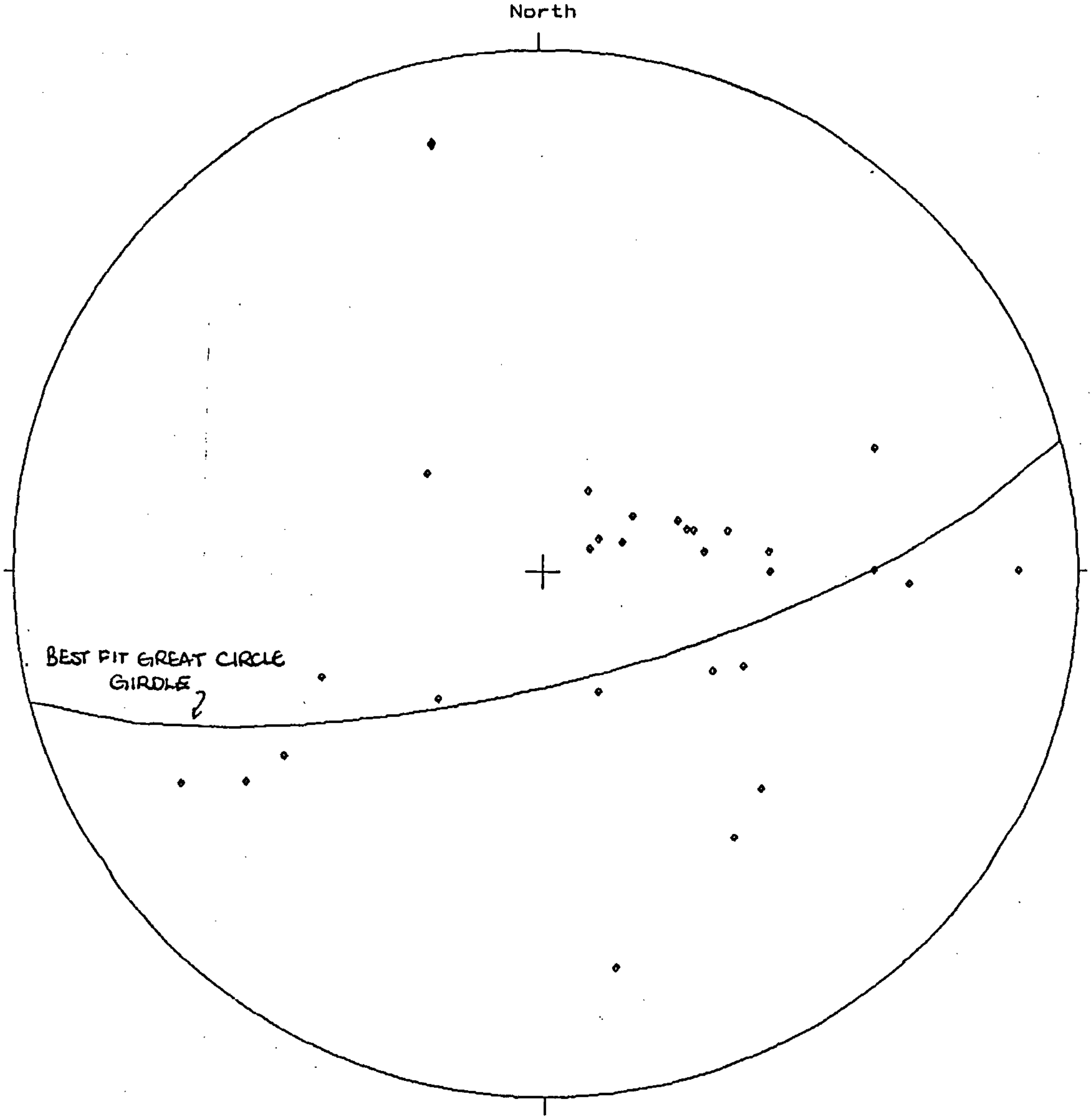


EQUAL AREA PROJECTION

		Symbol
BEDDING ORIENTATIONS, ALEXANDER CREEK SOUTH	20 Points	+
BEDDING ORIENTATIONS, ALEXANDER CREEK NORTH	8 Points	◇
	28 Points Total	

SPLOT by Darton Software

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA



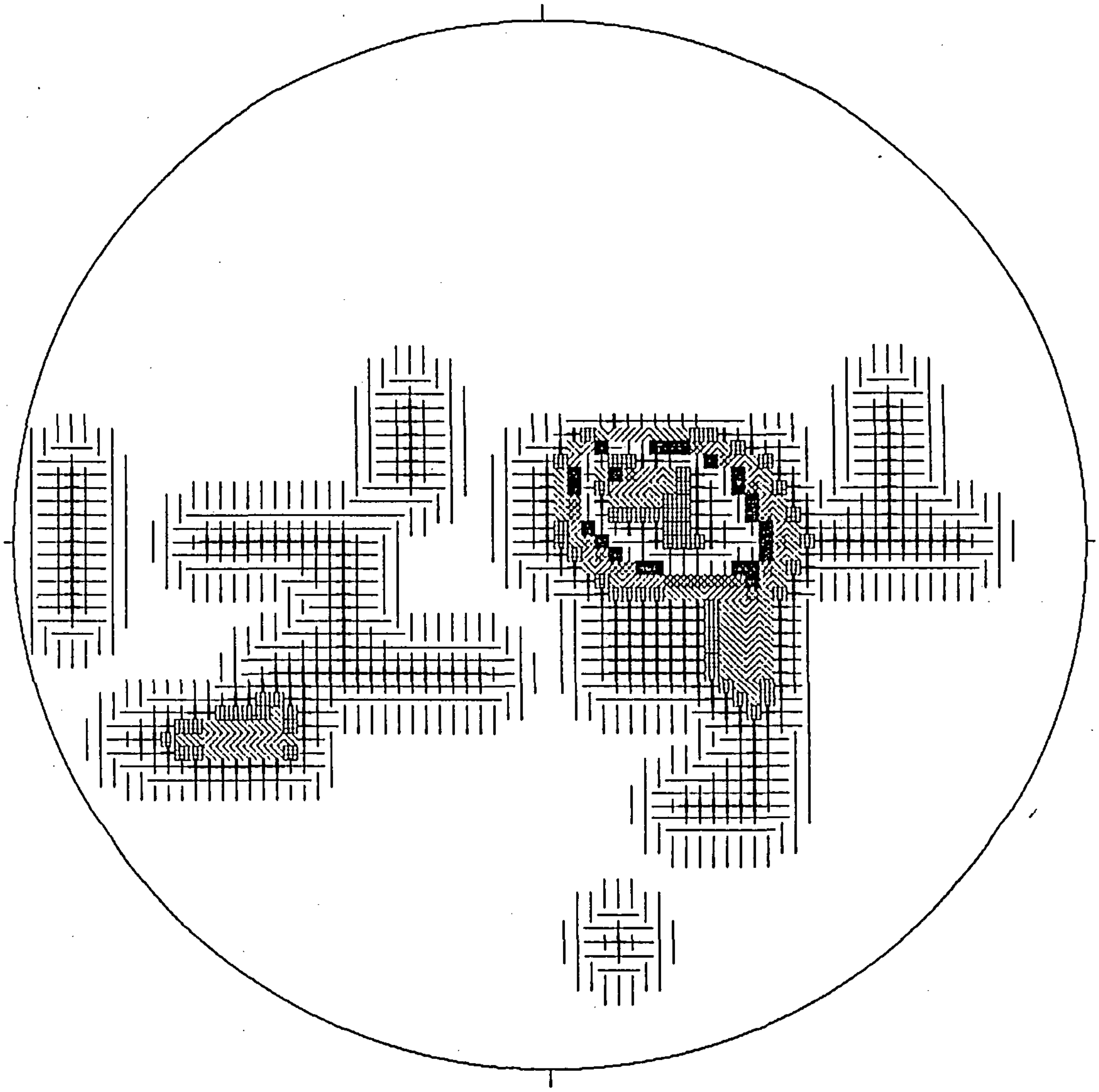
EQUAL AREA PROJECTION

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA	28 Points	Symbol ◇
	28 Points Total	

SPLOT by Darton Software

BEDDING ORIENTATIONS, ALEXANDER CREEK AREA

North



28 Points

LEGEND (for first 9 intervals)

◫	1- 1	▧	6- 6
⊟	2- 2	▨	7- 7
⊞	3- 3	▩	8- 8
⊞	4- 4	■	9- 9
⊞	5- 5		

Contour Method: Schmidt (1925)

Counting Area: 0.010

Contour Interval: 1% Points per 1% Area

Maximum Contour: 18

NOTE: Contour Patterns Repeat Every 9 Intervals

SPLOT Statistical Summary

DataType : Planar
Number of Data Pairs : 28

Test of Uniformity :
The data differ significantly from uniform at the 95% level

Test of Distribution
Ak = 0.87266
Expected Type of Distribution : Girdle
Cstat = 2.01938
Data have weak preferential orientation

Test of Rotational Symmetry S(G)
SG = 13.23268
This differs significantly from a girdle at the .95 level

Best-Fit Gridle on Data:
Strike = 256 Dip = 73
Dip Azimuth = 166
Pi-Point = 346 346

Directional Cosine
L = -3.2106
M = 1.6826
E = 21.4785

Directional Cosine Matrix

2.8007	0.6789	-1.6198
0:6789	7.4985	2.4375
-1.6198	2.4375	17.7008

Eigenvalues
2.4404
7.1744
18.3852

Eigenvectors
-0.9715
0.1951
0.1343

Contents of file: hrk.dat
Title: BEDDING ORIENTATIONS, ALEXANDER CREEK AREA
Data type: Planar
Number of data pairs: 28

164,23	225,48	260,65	149,16	180,35
325,58	330,68	155,08	160,56	180,78
325,50	173,25	205,34	150,10	168,29
335,38	235,52	245,20	120,14	175,35
210,30	165,24	310,25	160,13	160,22
180,52	182,58	040,23		

Contents of file: CRW.DAT
Title: BEDDING ORIENTATIONS, ALEXANDER CREEK SOUTH
Data type: Planar
Number of data pairs: 20

164,23	225,48	260,65	149,16	180,35
325,58	330,68	155,08	160,56	180,78
325,50	173,25	205,34	150,10	168,29
335,38	235,52	245,20	120,14	175,35

Contents of file: HRK2.DAT
Title: BEDDING ORIENTATIONS, ALEXANDER CREEK NORTH
Data type: Planar
Number of data pairs: 8

210,30	165,24	310,25	160,13	160,22
180,52	182,58	040,23		

APPENDIX 3

COLUMBIA PROJECT

COSTS BREAKDOWN

COLUMBIA PROJECT

PAYROLL DISTRIBUTION FOR ASSESSMENT PURPOSES

1989 Field Work

Jennifer Pell - JP @ $275/day
Ray Morris - RM @ $175/day
Randy Lowery - RL @ $150/day

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Mob/Demobilization Travel/Exp./Etc.	JP	MAY																									X	X	X					3
																											X	X	X					
Cabin Creek	JP	MAY																												X			X	2
																														X			X	
Bighorn	JP	MAY																																½
																																½		
Hunger	JP	MAY																														½		½
Regional Recy/ Mapping	JP	MAY																																½
																															½			
Mob/Demobilization Travel/Exp./Etc.	RM	MAY																									X	X	X		X			4
																											X	X	X		X			
Cabin Creek	RM	MAY																												X			X	2
																														X			X	
Bighorn	RM	MAY																																½
																																½		
Hunger	RM	MAY																														½		½
High Rock	JP	MAY																													½			½
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Mob/Demobilization Travel/Exp./Etc.	RL	MAY																													X			1
																															X			
Hunger	RL	MAY																																½
																																½		
Bighorn	RL	MAY																														½		½
Cabin Creek	RL	MAY																															X	1
																																	X	
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Expediting/Organize Etc. - Office Work	JP	JUNE									X			X			X				½							½		½	½	X		6
											X			X			X															X		
Cabin Creek	JP	JUNE		X	X	½				X		X																						6½
				X	X					X		X															½		½	½	½			
Hunger	JP	JUNE					X											X	X	X							½							4½
							X											X	X	X														
Highrock & General Area	JP	JUNE	X					X																										2
			X					X																										
Regional Recy./ Mapping	JP	JUNE											X		X	X																		3
													X		X	X																		
Cabin East	JP	JUNE							X																									1½
						½			X																									
Visiting U.S. Phosphates	JP	JUNE																				X	X	X	X	X								5
																						X	X	X	X	X								
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Expediting/ Organizing, etc.	RM	June									X				X	X					X								X	X	X	X		8
											X				X	X					X								X	X	X	X		
Cabin Creek	RM	June		X	X	½						X																						4
				X	X							X															½							
Hunger	RM	June					X											X	X	X							½							4½
							X											X	X	X														
Highrock/ Alexander Creek	RM	June	X					X		X																								3
			X					X		X																								
Regional Recy./ Mapping, etc.	RM	June											X				X																	2
													X				X																	
Cabin East	RM	June							X					X																				2½
						½			X					X																				
Visiting U.S. Phosphates	RM	June																				X	X	X	X	X								5
																						X	X	X	X	X								
Bighorn	RM	June																										X						1
																												X						
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Expediting/ Organizing/Errands	RL	June	X					½			X				X						X								X	X	X	X		8½
			X								X				X						X								X	X	X	X		
Cabin Creek	RL	June		X	X	X						X																						4½
				X	X	X						X															½							
Hunger	RL	June					X											X	X	X							½							4½
							X											X	X	X														
Highrock & Alexander Creek	RL	June								X																								1½
								½		X																								
Regional Recy./ Prospecting, etc.	RL	June											X			X	X																	3
													X			X	X																	
Cabin East	RL	June							X					X																				2
									X					X																				
Visiting U.S. Phosphates	RL	June																				X	X	X	X	X								5
																						X	X	X	X	X								
Bighorn	RL	June																										X						1
																												X						
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Office Work/ Expediting/Demob, etc.	JP	JULY	½					X				X	½						X					X										5½
								X				X							X					X										
Cabin Creek	JP	JULY															½	X		X	X		X											4½
																		X		X	X		X											
Hunger	JP	JULY		X	X	½	X		X	X				½		X																		8
			½	X	X		X		X	X					½	X																		
Bighorn	JP	JULY									X																							1
											X																							
Cabin East	JP	JULY																				X												1
																						X												
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Expediting/ Demob., etc.	RM	JULY																					X	X	½	X	X	½						6
														½							½		X	X		X	X							
Cabin Creek	RM	JULY															X			X	½													3
																	X			X					½									
Hunger	RM	JULY	X	X	X	X	X	X	X	X	X	X	X	½	X	X																		13½
			X	X	X	X	X	X	X	X	X	X	X		X	X																		
Cabin East	RM	JULY																				X												1
																						X												
Trenching for Westrock	RM	JULY																X	X															2
																		X	X															
Total chargeable																																		

LOCATION	CODE	MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Expediting/ Demob., etc.	RL	JULY	X																					X	½	X	X	½						5½
			X																½					X		X	X							
Cabin Creek	RL	JULY															X	X	½	X	X		X											6
																	X	X		X	X		X		½									
Hunger	RL	JULY		X	X	X	X	X	X	X		X	X	X	X	X																		12½
				X	X	X	X	X	X	X	½	X	X	X	X	X																		
Bighorn	RL	JULY									½																							½
Cabin East	RL	JULY																				X												1
																						X												
Total chargeable																																		

TIME SHEET SUMMARY

TRENCHING RECLAMATION
W/JD SS5 BACKHOE

Year 1989

LOCATION		MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Time Total
Mob/Demobilization etc.		JUNE																												X	X	X		
																														X	X	X		
HUNGER		JULY				X	X	X	X	X	X	X	X	X	X	½																		
						X	X	X	X	X	X	X	X	X	X																			
CABIN CREEK		JULY															X			X	X		X		½									
																½	X			X	X		X											
CABIN EAST		JULY																				X												
																						X												
IDLE		JULY			X																			X										
					X																			X										
MOBILIZATION/ DEMOBILIZATION		JULY	X	X																							X							
			X	X																						½	X							
Contracted to WESTROCK		JULY																X	X															
																		X	X															
Total chargeable																																		

LEGEND

Kk	JURASSIC & (?) CRETACEOUS KOOTENAY FORMATION – DARK GREY CARBONACEOUS SANDSTONE & CONGLOMERATE SANDSTONE, SILTSTONE, SHALE, COAL.
Jf	JURASSIC FERNIE GROUP – GREY CALCAREOUS SHALE, SHALEY LIMESTONE, SILTY LIMESTONE, DARK GREY TO BLACK SHALE, LIMESTONE, SANDSTONE.
	JURASSIC FERNIE GROUP – BASAL PHOSPHORITE BEDS.
TRs	TRIASSIC SPRAY RIVER GROUP – GREY DOLOMITE SILTSTONE & SANDSTONE, BROWN SILTSTONE & SILTY SHALE.
PI	PERMIAN ISHBEL GROUP – WHITE & GREY SILTSTONE, SHALE CHERT, FINEGRAINED SANDSTONE, MINOR DOLOMITE, SOME NODULAR PHOSPHATE ROCK.
Mr	MISSISSIPPIAN RUNDLE GROUP – LIMESTONE, DOLOMITE, MINOR SHALE, SANDSTONE & CHERTY LIMESTONE
	OUTCROP
	GEOLOGICAL CONTACT (approximate, assumed)
	SYNCLINE AXIS
	THRUST FAULT
25	BEDDING STRIKE & DIP
	ROAD
CRW89-600	SAMPLE NUMBER, HAND TRENCH

NOTE: MAPPING BY PELL & MORRIS, 1989; BUTRENCHUK, 1987.
COMPILED BY PELL, 1990.

0 1000 2000 metres

SCALE 1:25,000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,942

FORMOSA RESOURCES CORPORATION

COLUMBIA PROJECT

HIGHROCK CLAIMS

GENERAL GEOLOGY MAP

NTS: 82 G/2	DRAWN BY: PELL/rwr
DATE: MARCH, 1990	FIGURE: 5

HIGHROCK CLAIMS
49° 50'
114° 44'
Kκ
JF
TRS
PI
NO OUTCROP
WEST ALEXANDER CREEK
ALEXANDER CREEK
N
LEGEND
Kκ JURASSIC & (?) CRETACEOUS KOOTENAY FORMATION - DARK GREY CARBONACEOUS SANDSTONE & CONGLOMERATE SANDSTONE, SILTSTONE, SHALE, COAL.
JF JURASSIC FERNIE GROUP - GREY CALCAREOUS SHALE, SHALEY LIMESTONE, SILTY LIMESTONE, DARK GREY TO BLACK SHALE, LIMESTONE, SANDSTONE.
JURASSIC FERNIE GROUP - BASAL PHOSPHORITE BEDS.
TRS TRIASSIC SPRAY RIVER GROUP - GREY DOLOMITE SILTSTONE & SANDSTONE, BROWN SILTSTONE & SILTY SHALE.
PI PERMIAN ISHBEL GROUP - WHITE & GREY SILTSTONE, SHALE CHERT, FINEGRAINED SANDSTONE, MINOR DOLOMITE, SOME NODULAR PHOSPHATE ROCK.
OUTCROP
BEDDING STRIKE & DIP
GEOLOGICAL CONTACT (approximate, assumed)
ROAD
GEOLOGICAL BRANCH
ASSESSMENT REPORT
19,942
MAPPING BY PELL & MORRIS, 1989; COMPILED BY PELL, 1990
INCLUDING WORK BY BUTRENCHUK, 1987.
0 200 400 600 800 1000 METRES
SCALE 1:12,500
FORMOSA RESOURCES CORPORATION
COLUMBIA PROJECT
HIGHROCK CLAIMS
GEOLOGY MAP
ALEXANDER CREEK NORTH
NTS: 82 G/15
DRAWN BY: PELL / rwr
DATE: MARCH, 1990
FIGURE: 6