GEOLOGICAL, LITHOGEOCHEMICAL

AND

TRENCHING REPORT

ON THE

BARNES #1-#6 CLAIMS

COLUMBIA PROJECT

NTS 82G/7E
49°28' NORTH, 114°42' WEST

FORT STEELE MINING DIVISION

SOUTHEASTERN BRITISH COLUMBIA

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

Owner: Formosa Resources Corporation
Operator: Formosa Resources Corporation

December 15, 1990

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FIGURES

APPENDIX

BARNS LAKE PROPERTY

1. SUMMARY

The Barnes Lake property consist of the Barnes 1 to 6 two-post and metric four-post claims, totalling 44 units. They are 100% owned and operated by Formosa Resources Corporation (subject to a 5% Net Profit Royalty interest). The claims are located in the Barnes Lake/Michel Creek area of the Rocky Mountains, Fort Steele Mining Division, southeastern British Columbia, approximately 40 kilometres south of the town of Sparwood and 27 kilometres east of Fernie, B.C.. They are accessed via an extensive network of logging and exploration roads.

The Barnes claims were staked as part of the Columbia Project, whose primary objective 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. Boundary Drilling Inc. was enlisted to carry out the exploration program. In 1990, $18,266 were spent on reconnaissance and detailed geologic mapping, hand trenching, sampling, backhoe trenching, assaying on the Barnes Claims. Fifty-seven rock samples were collected from 2 hand trenches and 9 backhoe trenches. The samples were analyzed for P_2O_5 (by gravimetric assay), yttrium (by XRF) and gold plus 33 trace elements (by INAA). Twenty-one of the samples were also run for major element oxides (by DCP) and Hg (by AA).

The Barnes Lake property is predominantly underlain by a sequence of Late Paleozoic to Mesozoic strata (Permian to Jurassic) that were deposited in the Alberta Trough under marine conditions and Late Jurassic to Cretaceous fluvio-deltaeic sediments that 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 and is the focus of this project. The basal Fernie phosphatic strata are generally one to two metres thick and contain unusually high concentrations of yttrium.

Preliminary results are encouraging. Many intervals containing in excess of 27% P_2O_5 and 710 ppm yttrium were encountered. Average grades of the basal phosphorite horizon on the property are around 22.5 per cent P_2O_5 and 610 ppm Y across 1.4 metres. In one trench, an incomplete section was measured which ran 30.5 per cent P_2O_5 and 777 ppm yttrium across 0.98 metres.

BARNS LAKE PROPERTY

2. 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 fertilizer industry. 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 from Florida; minor amounts have also 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).

Most commercial phosphate rock is used in fertilizer plants; feed for these plants must meet the following specifications:

P_2O_5 content: 27 to 42%
CaO/P_2O_5 ratio:1.32 to 1.6
R_2O_3/P_2O_5:<0.1; $R_2O_3=Al_2O_3+Fe_2O_3+MgO$
MgO content<1.0%

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. 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 range 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, there 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).

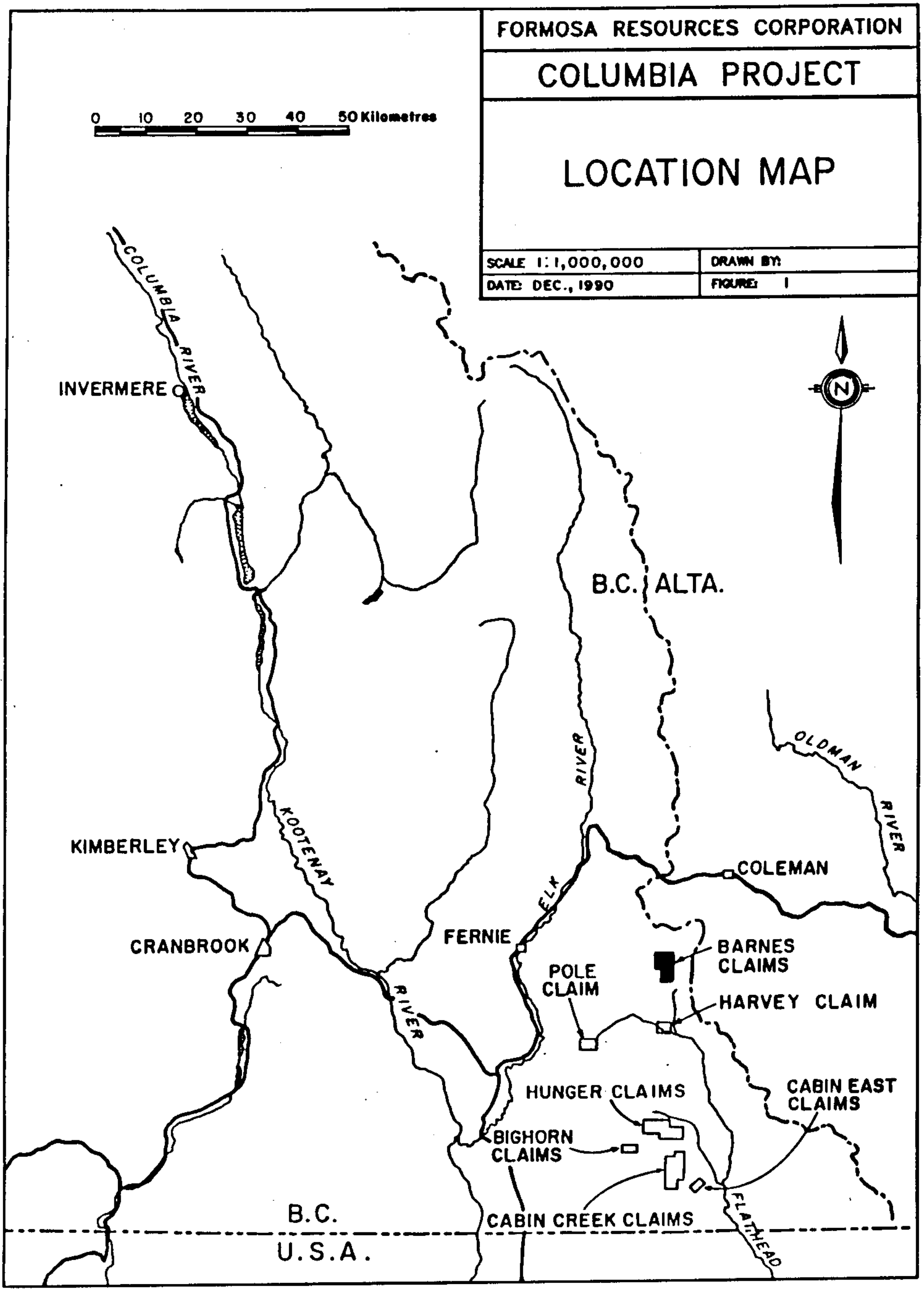
The phosphorite beds in the Jurassic Fernie Group are thin (usually 1 to 2 metres, Butrenchuk, 1987a) relative to most phosphorites mined in the United States. As with most of the phosphate ores mined in the United States, Fernie phosphorites would require beneficiation to produce an acid grade product. 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 horizon will become significantly more attractive.

3. PROPERTY

3.1 LOCATION AND ACCESS

The Barnes Lake claims are located in the Barnes Lake - Michel Creek area, Flathead region, Fort Steele Mining Division, approximately 40 kilometres south of the town of Sparwood and 27 kilometres east of Fernie (Figure 1). The eatern edge of the claims can be reached, by conventional vehicle, from Fernie and Sparwood by taking Highway 3 east for approximately 15 kilometres to Michel and then following the Corbin Mine raod south for approximately 30 kilometres to the Corbin townsite and coal mine. From the Corbin townsite the Michel Creek/Flathead Main haul road is followed south for around four kilometres and then a small road taken to the west that crosses Michel Creek. At that point, you are on the northeastern corner of the Barnes claims and, from there, a four-wheel drive or all terrain vehicle is required to follow this road, an old exploration road, southwesterly for an additional 4.5 kilometres to the main showings.

Elevations on the property range from 1585 metres (5200 feet) to 2255 metres (7400 feet). Stands of spruce and fir are present at lower elevations; the area of the main showings is in alpine and subalpine terrain, some large fir are present but most of the area is above tree line.



FORMOSA RESOURCES CORPORATION
COLUMBIA PROJECT
LOCATION MAP
SCALE 1:1,000,000
DRAWN BY:
DATE: DEC., 1990
FIGURE: 1
0 10 20 30 40 50 Kilometres
N
COLUMBIA RIVER
INVERMERE
KIMBERLEY
CRANBROOK
KOOTENAY RIVER
FERNIE
ELK RIVER
B.C.
ALTA.
OLDMAN RIVER
COLEMAN
BARNES CLAIMS
POLE CLAIM
HARVEY CLAIM
HUNGER CLAIMS
CABIN EAST CLAIMS
BIGHORN CLAIMS
CABIN CREEK CLAIMS
FLATHEAD
B.C.
U.S.A.

3.2 CLAIMS

The Barnes Lake property (Figure 2) consists of 44 units of two-post and metric four-post claims as follows:

CLAIM NAME	UNITS	RECORD NO.	EXPIRY*
Barnes 1	20	3789	29/10/1993
Barnes 2	20	3790	29/10/1993
Barnes 3	1	4782	04/08/1994
Barnes 4	1	4783	04/08/1994
Barnes 5	1	4784	04/08/1994
Barnes 6	1	4785	04/08/1994

Formosa Resources Corp. holds 100 per cent title of these claims subject to a 5% Net Profit Royalty. As operator, Formosa enlisted Boundary Drilling Inc. to conduct the exploration program.

3.3 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. Phosphate strata in the Barnes Lake area were most recently (in the mid and late 1970's) explored by Western Warner Oils Ltd. and Medesto Exploration Ltd. and 262,000 tonnes of phosphate to a depth of 18 metres, outlined (Dorian, 1975; Pelzer, 1977; Dales, 1978). The phosphate potential of the area was also addressed in a number of recent academic and government studies (Butrenchuk, 1987a; 1987b; Macdonald, 1985; 1987).

Most previous exploration work solely addressed the phosphate potential of the basal Fernie Formation. Recent extensive government analytical work has identified anomalous yttrium concentrations of the basal Fernie phosphorites in the Barnes Lake area (Butrenchuk, pers. comm., 1989; and in prep.).

Formosa Resources Corporation staked the Barnes Lake claims in the fall of 1989 and began exploration for yttrium and phosphate in the area in the summer of 1990.

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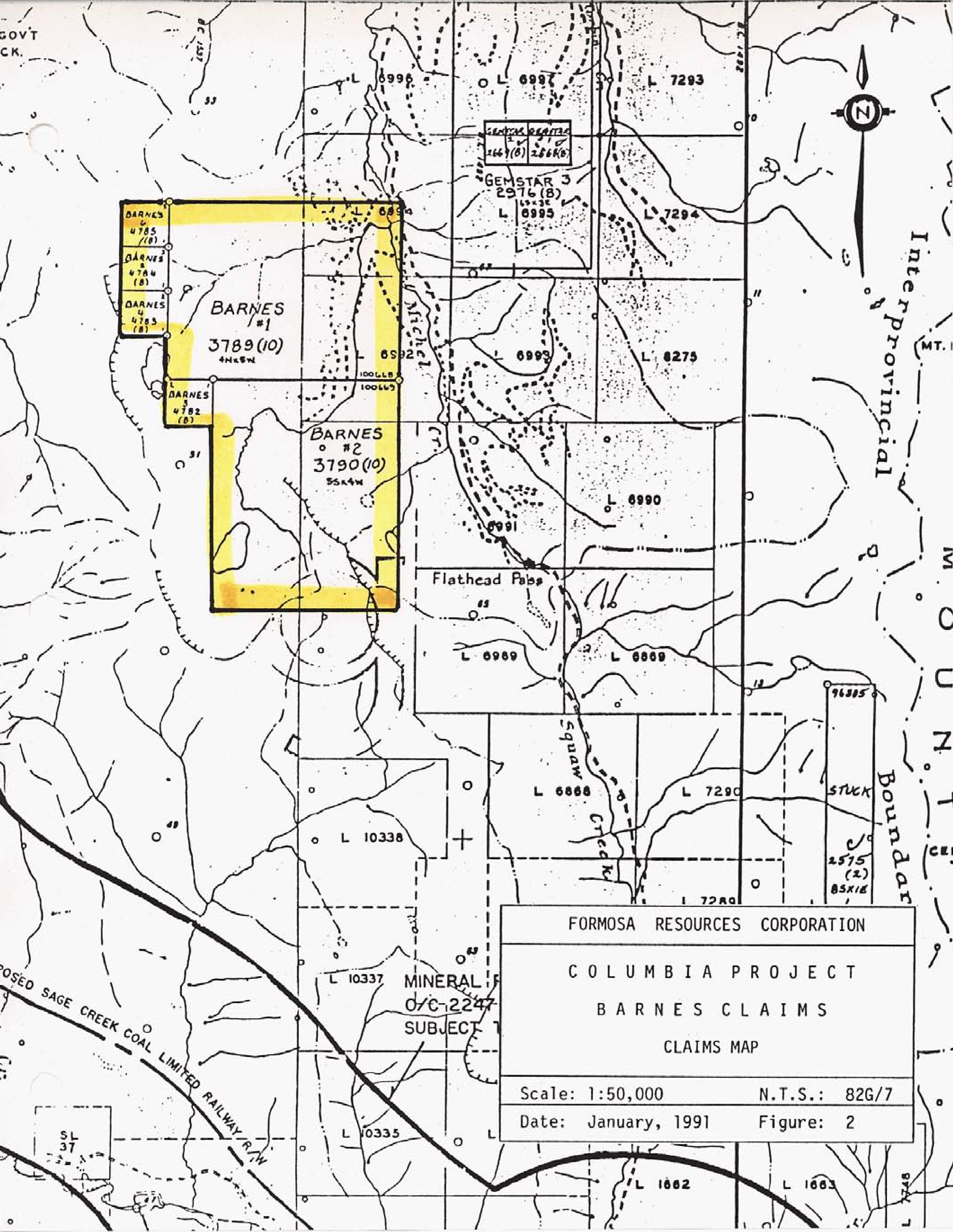
* Upon acceptance of this report



FORMOSA RESOURCES CORPORATION

COLUMBIA PROJECT

BARNES CLAIMS

CLAIMS MAP

Scale: 1:50,000 N.T.S.: 82G/7

Date: January, 1991 Figure: 2

4. REGIONAL GEOLOGY

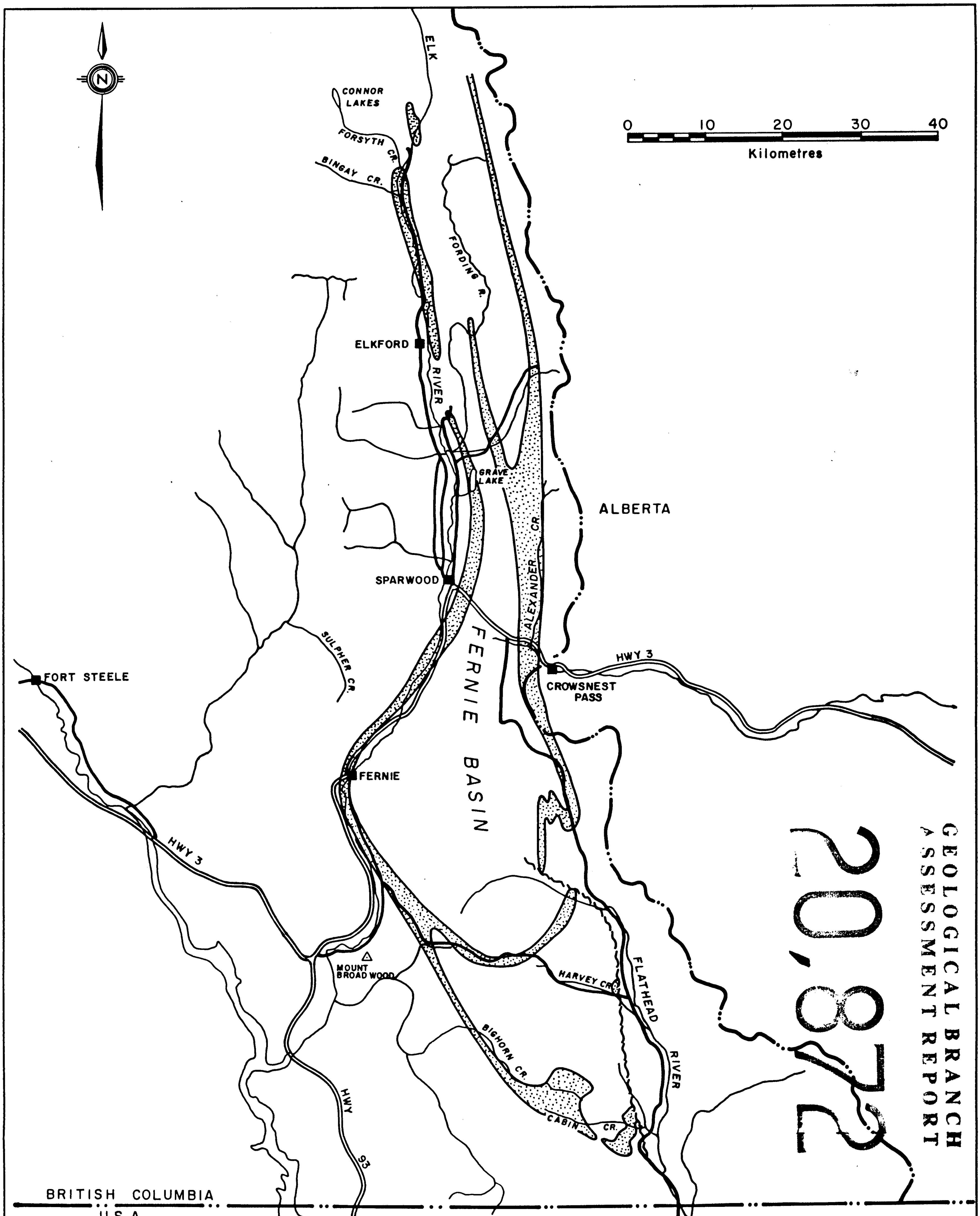
The Barnes Lake area is underlain by a series of predominantly marine strata which range in age from Devonian to Jurassic and non-marine fluvio-deltaic sediments of late Jurassic to Cretaceous age. Reconnaissance geological mapping in the region (Newmarch, 1953; Price,1965; 1964; 1962; 1961) has shown that these strata are now exposed in a broad, doubly plunging syncinorium, 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 Paleozoic and Mesozoic 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 potential (Butrenchuk, 1987a; Macdonald, 1987).

5.1 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 in thickness (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, which is 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).



LEGEND:

OUTCROP OF FERNIE GROUP

FAULT

FORMOSA RESOURCES CORPORATION

COLUMBIA PROJECT

DISTRIBUTION OF FERNIE GROUP STRATA IN SOUTHEASTERN B.C.

(Note: Modified from Butrenchuk, 1987a)

NTS: 82 G	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 unconformity			
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)	0.6	9.5
			-basal conglomerate-chert with phosphate pebbles present (≤1 metre)	0.5-1.0	13-18
		unconformity			
	Ross 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
	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
	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	0.2-0.3	3.0-4.0
			-phosphate generally present as black ovoid nodules in light coloured siltstone;phosphatic interval ranges in thickness from 1-22 metres	1-22	0.1-11.0
			-basal conglomerate (maximum 30 cm thick) contains chert and phosphate pebbles	1-2	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.

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 uniform, 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 in thickness (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 3-4 per cent P_2O_5, only; 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 sandstones and conglomerates. Minor gypsum and dolomite are also present. The base of the formation is marked by thin, phosphate-cemented, 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 can be from 6 to 418 metres in thickness, is 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 in thickness 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 in thickness 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 Group. This zone is extremely low grade, generally containing less than one 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 can be from 150 to 520 metres thick (Price, 1965).

5. PROPERTY GEOLOGY

The Barnes Lake area is underlain by a sequence of sedimentary rocks which range from Permian to Lower Cretaceous in age (Figure 5). Geological mapping (using topographic base map + altimeter control) at a scale of 1:5,000, concentrated on locating the basal Fernie Group phosphorite horizon, which marks the Triassic/Jurassic boundary in this region.

5.1 STRATIGRAPHY

The Barnes Lake claims are underlain by strata correlative with the Ranger Canyon Formation of the Permian Ishbel Group, the Sulphur Mountain Formation of the Triassic Spray River Group and the Jurassic Fernie Group (Figures 5). Ishbel Group strata older than the Ranger Canyon Formation may also be present on the property, but little attention was paid to this part of the stratigraphy. Late Jurassic to early Cretaceous sandstones, siltstones and coal beds of the Kootenay Formation are exposed on a ridge crests on the northwestern corner of the claims (Figure 5).

Rocks assigned to the Ranger Canyon Formation are predominantly medium to thick bedded, cream to buff to light grey weathering, fine grained sandstones, siltstones and dolomitic siltstones with white to light grey fresh surfaces. Locally, thin cherty and chert nodule rich layers are present within the siltstones. Thin grey limey beds may also be present, interlayered with the siltstones and are particularly common at the top of the section, immediately underlying Triassic siltstones. These limey beds are locally fossiliferous, containing rugosan corals and possible crinoid fragments. At one location, along the main access road, dark grey siltstones containing black phosphate nodules were present near the top of the Permian section and were overlain by grey calcareous beds.

Rocks correlative with the Triassic Sulphur Mountain Formation in the Barnes Lake area are predominantly buff, yellowish-brown and chocolate brown weathering, thin to medium bedded siltstones and shaley siltstone with a grey to buff fresh surface. Horizons consisting of dark brown shale with thin siltstone interlayers are common within this formation and, throughout much of the property, occur at the top of the formation.

Fernie Group rocks are recessive weathering and for the most part not well exposed. Where the base of the Fernie is exposed and the section complete, it is marked by a phosphorite horizon that is commonly 1.1 to 2.1 metres thick. In many areas the top of the section has been eroded and therefore thicknesses impossible to estimate; locally, backthrusting has placed Triassic and basal Jurassic strata over Jurassic Fernie shales, disrupting the sequence (see BNT90-1 & 2, Figures 5 & 6A). The basal phosphorite horizon generally consists of poorly to well consolidated, gritty, pelletal phosphorite and shaley phosphorite capped by phosphatic shale. Trenches and hand pits at the southern part of the property revealed beds containing phosphate nodules within a pelletal phosphorite matrix (eg. BNT90-7, 8 and STN. BN90-23, FigureS 5, 6D & 6E). Brown and black shales commonly overlie the phosphorites; locally, extremely hard, dark grey nodular siltstone layers occur within the shales immediately overlying the phosphatic sequence (see BNT90-7, Figure 6D).

The monotonous, fissile black shales which overlie the basal Fernie phosphorites give way, upsection to black, brown and dark grey shales with interbedded boudinaged buff to orange weathering dolostones, buff fossiliferous fine-grained sandstones and light grey limestone beds. Further upsection light grey to yellowish grey calcareous shales occur within the Fernie Group.

On the northwestern corner of the property, gritty grey sandstones, siltstones and thin coal beds of the late Jurassic to Creaceous Kootenay Formation crop out, but were not examined in detail.

5.2 STRUCTURE

The structure of the Barnes Lake are is dominated by a pair of north-northwest trending, upright to overturned anticlines and the intervening overturned syncline (Figure 5) which is cored, in the central and northern part of the property, by a thrust fault. At the south end of the property, parasitic folds on the limbs of these major structures affect outcrop patterns. Small backthrusts occur along the western limb of the easternmost anticline and locally disrupt phosphatic strata.

6. TRENCHING AND ASSAY RESULTS

The Fernie Group rocks are generally poorly exposed; in order to measure sections through the basal phosphorite horizon it was necessary to dig trenches or pits to provide adequate sections. In the course of evaluating the economic potential of this horizon on the Barnes Lake claims, 57 samples were collected from 9 backhoe trenches and 2 hand trenches (Figures 6A, B, C, D, E and Appendix 1). The samples were analyzed for P_2O_5 using a gravimetric assay method, for yttrium using X-ray fluorescence (XRF) and for Au plus 33 trace elements, including some of the rare earths, using induced neutron activation analysis (INAA). As well, twenty-one samples were also analysed for major element oxide composition using the direct coupled plasma emission (DCP) method and for mercury using cold vapour atomic absorption (AA) analysis.

Nine trenches were dug using a John Deere 555 Backhoe (FigureS 6A, B, C, D, & E). The trenches ranged from 3.2 to 29.6 metres in length, 1 to 4.3 metres in width and 0 to 3 metres in depth. The dimensions of individual trenches are summarized as follows:

TRENCH	LENGTH METRES	WIDTH METRES	DEPTH/ BANK HEIGHT METRES	MATERIAL MOVED, METRES^3
BNT90-1	9.3	1-4.3	0-2.4	34.78
BNT90-2	12.3	1-1.5	1-2.6	26.03
BNT90-3	21.5	1	1-2.75	21.09
BNT90-4	3.3	1.3	1.8	7.72
BNT90-5	29.6	1	0-2.2	47.00
BNT90-6	13.3	1	0.4-2.8	8.86
BNT90-7	3.2	2.3	0-2.36	8.68
BNT90-8	5.35	1-3.2	2-3	28.93
BNT90-9	5.6	0.85-3.1	2-3	24.50
TOTAL VOLUME OF MATERIAL MOVED				207.59M^3

Two hand trenches were also dug. These involved the removal of sluffed material from steeply dipping bank sections to clearly expose the phosphate strata.

Continuous samples across measured intervals were collected from all trenches. In the longer backhoe trenches, commonly more than one section was measured. Maximum depth attained by the backhoe was 3 metres; all samples collected may have been affected, to some degree, by surface weathering. Phosphate and yttrium results, from measured sections on the Barnes Lake claims are summarized as follows:

Summary of Measured Sections, Barnes Lake Claims

SECTION	THICKNESS+ METRES	WEIGHTED AVERAGES* P2O5 %	Y PPM
HAND TRENCHES			
BN90-23**	0.98	30.50	777
BN90-37**	0.65	27.29	658
BACKHOE TRENCHES			
BNT90-1**	0.68	25.00	722
BNT90-2**	0.52	25.67	718
BNT90-3-1	1.11	23.16	629
BNT90-3-2	1.11	21.63	712
BNT90-4**	0.78	21.24	582
BNT90-5-1	1.24	23.73	643
BNT90-5-2**	0.75	25.14	758
BNT90-6**	0.87	24.89	712
BNT90-7	1.45	23.58	595
BNT90-8	1.62	20.94	493
BNT90-9	2.07	22.14	565

+ Thicknesses quoted are all true stratigraphic thicknesses, either measured as such or calculated.

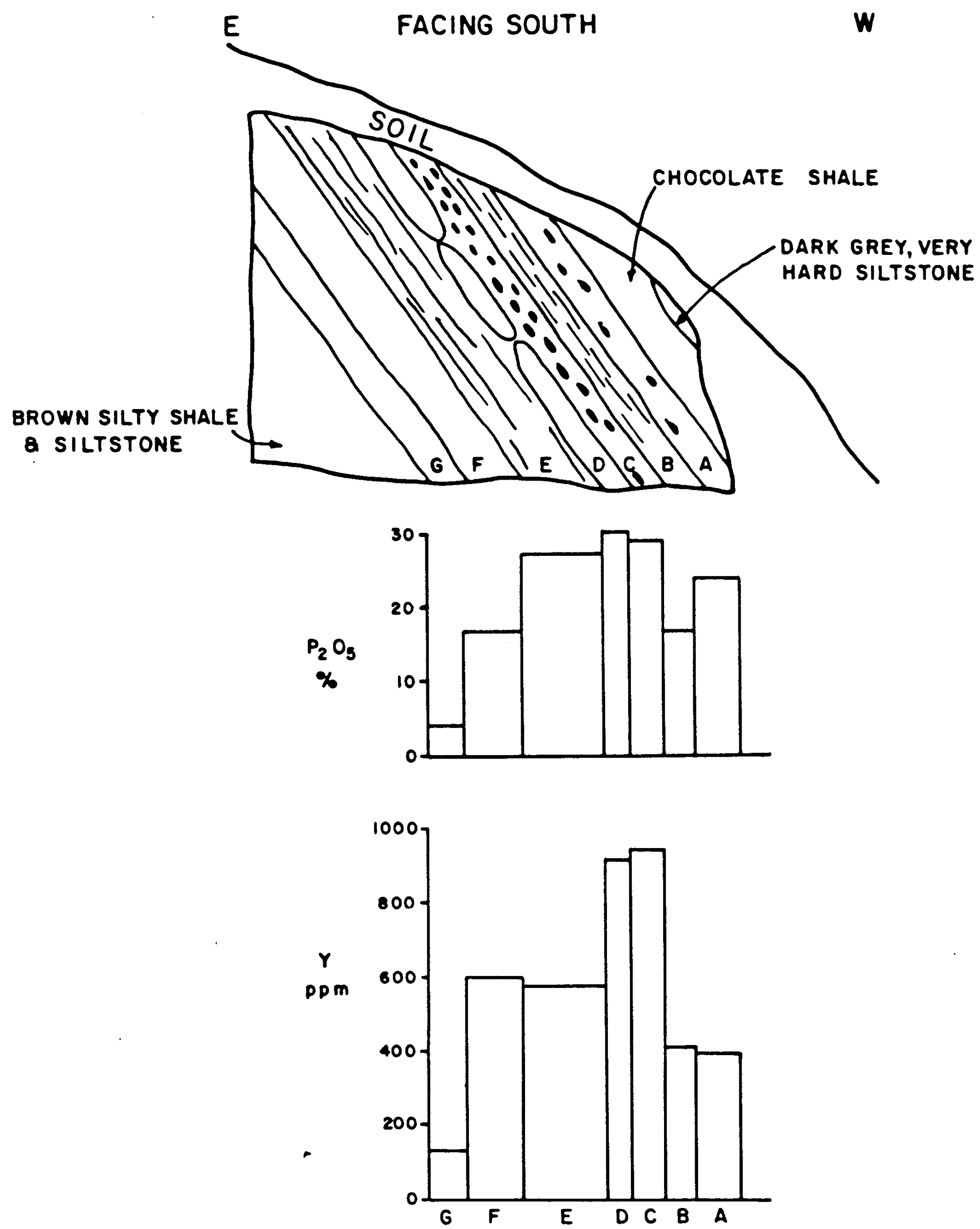
* Measured sections are generally composed of a number of smaller interval samples; weighted averages, based on proportional samples thicknesses, were calculated to represent the yttrium and phosphate content of the entire section.

** Incomplete section due to erosion or faulting

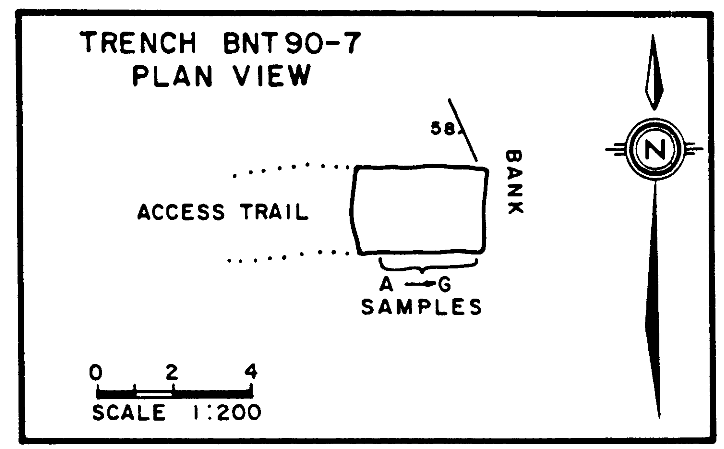
On the Barnes Lake claims, the stratigraphically complete measured sections average 22.53 per cent P_2O_5 and 606 ppm yttrium across an average thickness of 1.43 metres (1.11 to 2.07). One incomplete section contained an average of 30.5% P_2O_5 and 777 ppm Y across 0.98 metres. The values ranged from 2.66 per cent P_2O_5 and 98 ppm yttrium in shale layers within the phosphorite section to 32.18 per cent P_2O_5 and 1065 ppm yttrium in true phosphorites (Appendix 1).

In most trenches in the Barnes Lake area, the phosphorite horizon overlies orange to yellow clays (weathered Triassic siltstones) or interbedded buff to brown Triassic shales and siltstones. The lowest units commonly contain angular orange weathering fragments, probably derived from the underlying Triassic beds, that diminish in abundance upsection. The phosphorites are generally shaley to pelletal in nature and exhibit an increase in grade upsection until a fairly pure phosphorite, containing between 28 and 32% P_2O_5 is developed. Commonly, this high-grade phosphorite is black, pelletal (gritty textured) and overlain by increasingly shaley phosphorite and shale (Figures 6A, B, C, D & E). Locally, (see trenches BNT90-7 & 8, Figures 6D & E) phosphate nodules hosted in a pelletal phosphate matrix are developed in these high-grade beds. Incomplete sections exhibit similar trends, but are often complicated through mixing and

TRENCH BNT90-7 SECTION



A - SHALEY PHOSPHATE WITH HARD PHOSPHATIC NODULES.
B - BANDED SHALEY PHOSPHATE AND SHALE.
C - PHOSPHATE NODULES IN FISSILE PHOSPHATE MATRIX.
D - EXTREMELY HARD FINE GRAINED PHOSPHATE
E - FISSILE, GRITTY PHOSPHATE WITH RUSTY FRAGMENTS
F - BLACK, SANDY TO SHALEY PHOSPHATE WITH ABUNDANT RUSTY FRAGMENTS.
G - BROWN WEATHERED TRIASSIC SILTSTONE



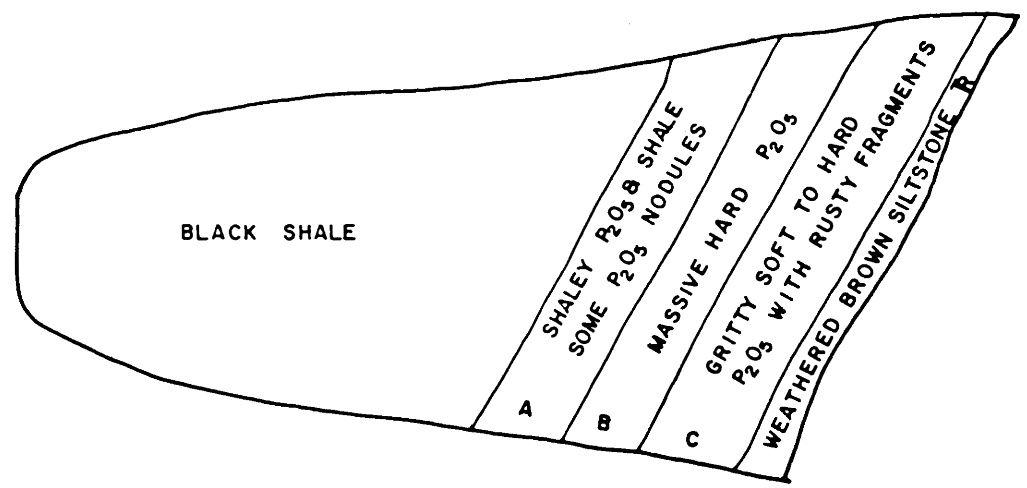
GEOLOGICAL BRANCH
ASSESSMENT REPORT

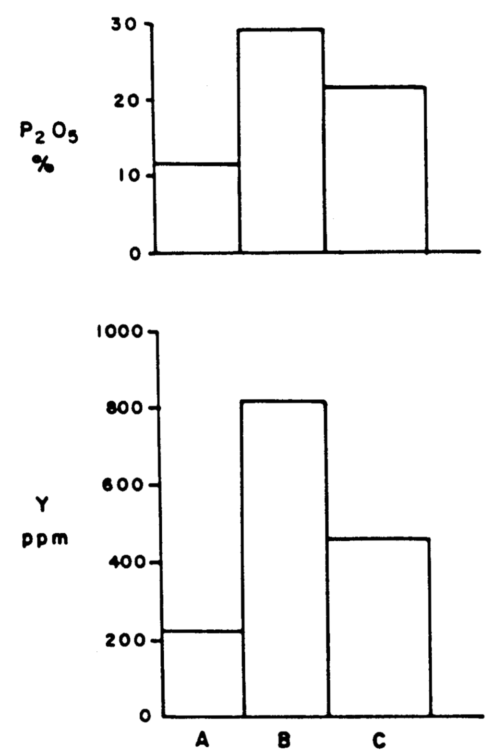
20,872

0 1 2
SCALE 1:50 (metres)

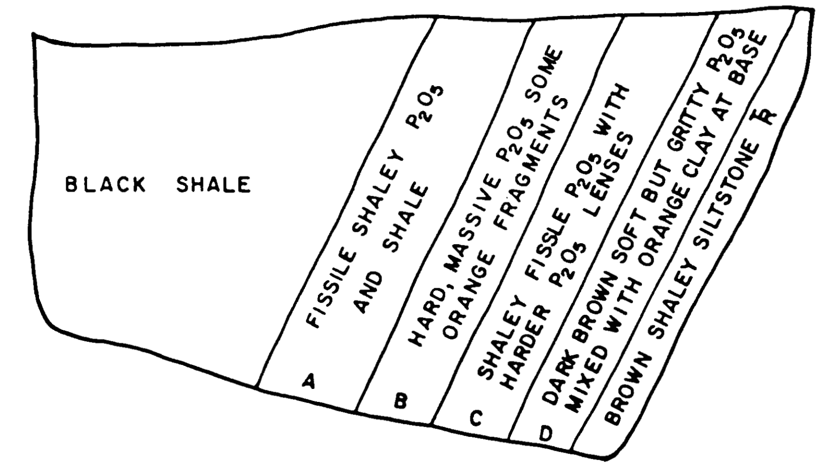
FORMOSA RESOURCES CORPORATION	
COLUMBIA PROJECT	
TRENCH 90-7	
NTS: 82-G-7E	BY: J.P./rwr
DATE: JAN., 1991	FIGURE: 6D

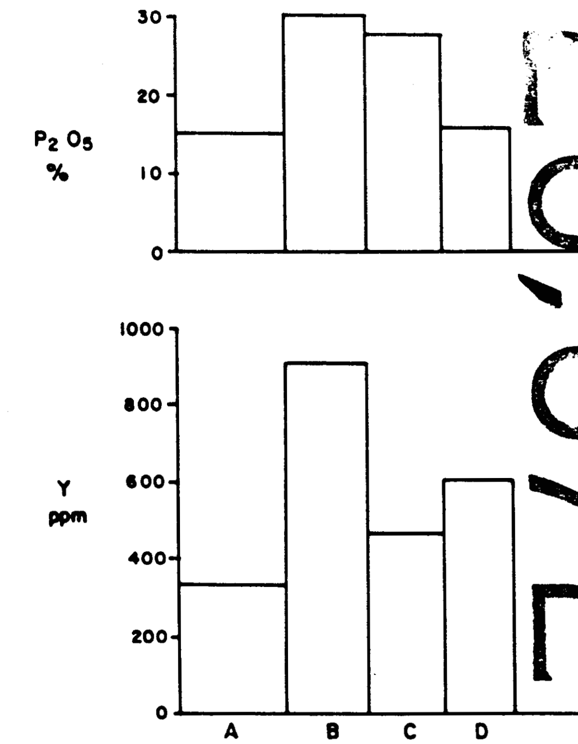
TRENCH BNT 90-8 SECTION

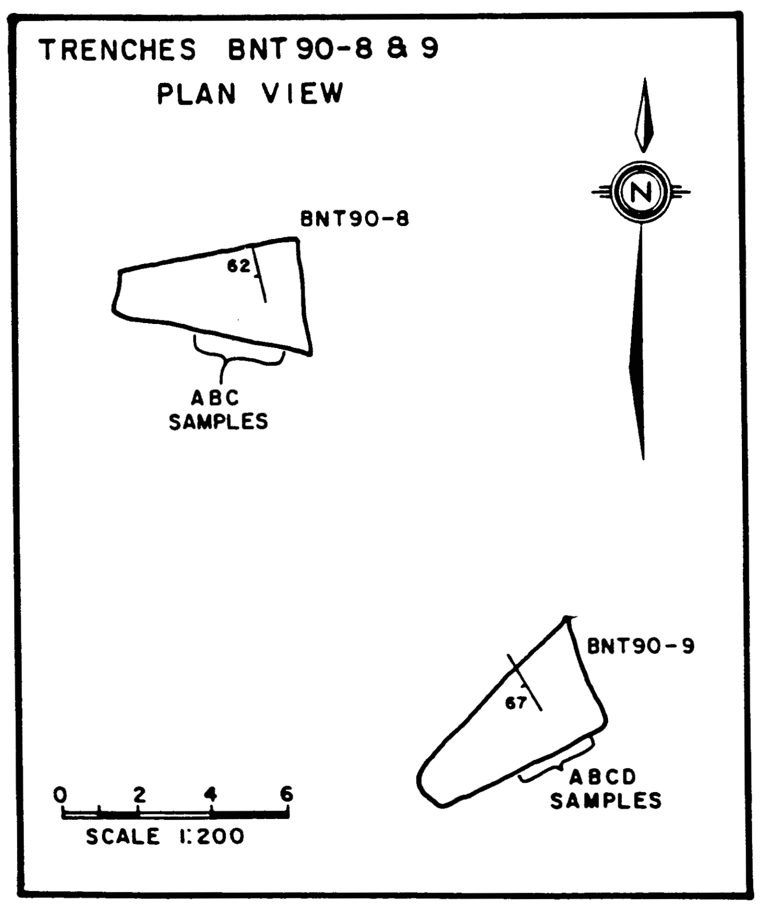




TRENCH BNT 90-9 SECTION







0 1 2
SCALE 1:50 (metres)

FORMOSA RESOURCES CORPORATION	
COLUMBIA PROJECT	
TRENCHES 90-8 & 9	
NTS: 82 G/7	BY: J.P./rwr
DATE: JAN., 1991	FIGURE: 6E

erosion of units. In trenches BNT90-1 & 2 (Figure 6A), the phosphorite bed and a veneer of Triassic siltstones have been thrust westerly over very disrupted black shales and incomplete sections preserved.

All trenches were in phosphatic strata distributed along the western limb of the easternmost anticline (Figure 5). Particularly in the vicinity of Trenches BNT90-3 to 6 the beds are dipping roughly parallel to slightly steeper than the hillside. This dip slope setting suggests that, in this area, it may be possible to define a fairly large deposit that is easily exploited and requires only minimal removal of overburden. Shallow drilling could be used in this area to outline reserves to an acceptable depth.

An attempt was made to access the phosphate horizon on the western limb of the syncline at the north end of the property (on the Barnes 6 claim). An old exploration road leads to the Triassic/Jurassic contact in that area; however, the road was too steep and too badly washed out to be navigated by the John Deere backhoe and it was apparent that a larger machine would be required to reach the showings.

A number of samples were analysed for their major element compositions in order to see how they compare to industry standard specifications for fertilizer plant feed. The results for samples containing greater than 20% P_2O_5 are summarized below:

SAMPLE NUMBER	P_2O_5 %	CaO/P_2O_5	R_2O_3*/P_2O_5	MgO %
BNT90-1A	29.93	1.37	0.19	0.42
BNT90-1B	29.96	1.37	0.20	0.42
BNT90-1C	24.56	1.46	0.26	0.42
BNT90-2A	30.50	1.38	0.17	0.34
BNT90-2B	23.11	1.43	0.35	0.51
BNT90-3-1C	30.26	1.39	0.17	0.35
BNT90-3-1D	24.17	1.46	0.29	0.43
BNT90-3-2C	29.79	1.40	0.19	0.37
BNT90-3-2D	22.71	1.42	0.33	0.44
BNT90-23A	31.39	1.39	0.16	0.29
BNT90-23B	32.91	1.39	0.12	0.23
BNT90-9B	30.53	1.48	0.16	0.33

*$R_2O_3=Al_2O_3+Fe_2O_3+MgO$

In all cases, the CaO/P_2O_5 ratios and MgO contents of the raw samples meet industry standard fertilizer plant feed specifications. In many samples, the P_2O_5 grades of the individual samples (not to mention averages for entire sections) are low and therefore some beneficiation would be necessary. The R_2O_3/P_2O_5 ratios of the raw material exceed standard requirements, ranging from 0.12 to 0.35 where they need to be less than 0.1; the higher the phosphate content, however, the lower the ratio. This, and the fact that the major impurities are clays, suggests that beneficiation techniques should be able to reduce the deleterious compounds to the desired levels.

7. CONCLUSIONS

The Barnes Lake claims, which can be reached by road from Sparwood, B.C., is underlain by a series of Upper Paleozoic and Mesozoic strata that were deposited off the western margin of North America between the Permian and late Jurassic. Phosphatic strata occur at the base of the Jurassic Fernie Group, and in addition to P_2O_5, contain anomalous concentrations of yttrium. On the Barnes Lake claims, phosphorites (>12% P_2O_5) average around 660 ppm Y vs 260 ppm, which is the worldwide phosphorite average. The the main conclusions of this project may be summarized as follows:

1. On the Barnes Lake claims, complete sections of the phosphatic strata are 1.11 to 2.1 metres in thickness and average 22.5 per cent P_2O_5 and 610 ppm yttrium. One incomplete section, where the upper beds were eroded away, was 0.98 metres in thickness and contained 30.5 per cent P_2O_5 and 777 ppm yttrium.

2. North of Barnes Lake, on the western limb of the easternmost anticline, an area was located where the phosphate horizon dips in a downslope direction at an angle approximately parallel to or slightly steeper than the slope; this scenario is favourable for exploiting the resource with minimal removal of overburden.

3. Beneficiation would be required to produce a product that would meet fertilizer plant feed specifications.

Based solely on the phosphate content and thickness, the basal Fernie phosphorites are currently subeconomic, as previous workers concluded; however, significant amounts of yttrium are present and if it is feasible to extract at a reasonable cost, it could change the status from subeconomic to economically exploitable. The work done to date has been preliminary and has not addressed questions such as the effects of surface weathering and the potential of changes in grade with depth from surface. As well, it will be necessary to examine the reality of extracting yttrium during phosphoric acid process before a final assessment can be made.

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9. STATEMENT OF COSTS

Wages and Professional Fees

Field Work July 28 - Aug. 7, 1990

G. Clark	July 28, 28, 29, 30, 31 August 2, 3, 4, 5, 6, 7 10 days @ $175	$1,750	
R. Morris	July 28, 28, 29, 30, 31 August 2, 3, 4, 5, 6, 7 10 days @ $175	1,750	
J. Pell	July 28, 28, 29, 30, 31 August 2, 3, 4, 5, 6, 7 10 days @ $275	2,750	
Benefits @ 25%		1,562	
			$7,812

Disbursements

Assays	$2,126	
Backhoe (JD555)*	4,500	
Truck rental (two at $40/day)	800	
Meals & Accomodation	1,568	
Expendible supplies	135	
Miscellaneous (frieght, fuel, etc.)	445	
Compilation (Maps, report, etc.)	880	
		$10,454
TOTAL		**$18,266**

* Includes charges related to mobilization and demobilization of machine

10. STATEMENT 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 mid July until early August, 1990 and personally supervised the exploration on the Barnes Lake property.

2. I am a graduate of the University of Ottawa with a Bachelor of Science Honours 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 on the properties described in this report.

December 15, 1990
Victoria, B.C.

Jennifer Pell

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

APPENDIX I

SUMMARY OF ANALYTICAL RESULTS AND ASSAYS

ANALYTICAL RESULTS, BARNES CLAIMS

SAMPLE NO.	P_2O_5 %	Y PPM	Ce PPM	La PPM	T M	DESCRIPTION
BNT90-1A	29.93	1065	86	380	.16	SOFT WEATHERED P205
BNT90-1B	29.96	796	95	270	.15	SOFT, GRITTY, PELLETAL P205
BNT90-1C	24.56	365	49	120	.15	FISSILE, SHALEY P205
BNT90-1D	18.34	667	100	230	.22	PHOSPHATIC SHALE AND SHALEY P205
BNT90-2A	30.50	1061	<70	450	.18	GRITTY, PELLETAL P205; FISSILE
BNT90-2B	23.11	536	97	190	.34	P205 & SHALEY P205, VERY FISSILE
BNT90-3-1A	9.54	278	82	110	.29	SHALE, SLIGHTLY PHOSPAHTIC
BNT90-3-1B	13.12	304	97	140	.18	PHOSPHATIC SHALE AND SHALEY P205
BNT90-3-1C	30.26	974	76	380	.34	HARD, MASSIVE PELLETAL P205
BNT90-3-1D	24.17	460	70	160	.38	FISSILE & SHALEY P205
BNT90-3-1E	18.51	657	120	230	.21	BROKEN, VERY FISSILE TO SANDY P205
BNT90-3-1F	5.95	447	120	150	.22	SANDY SHALE, ABUNDANT ORANGE FRAGMENTS
BNT90-3-2A	14.06	283	100	120	.13	SHALE AND PHOSPHATIC SHALE, HARD
BNT90-3-2B	16.47	510	100	200	.19	SOFT, WEATHERED PHOSPHATIC SHALE
BNT90-3-2C	29.79	1001	96	390	.38	MIXED HARD AND SOFT P205
BNT90-3-2D	22.71	680	60	140	.16	HARD, BUT VERY FISSILE P205
BNT90-3-2E	16.38	670	110	230	.25	FISSILE SHALEY P205 AND SHALE
BNT90-3-2F	6.30	440	91	150	.19	BROWN SHALE WITH ORANGE FRAGMENTS
BN90-23A	31.39	681	94	250	GRAB	REPRESENTATIVE SAMPLE ACROSS P205
BN90-23B	32.91	924	86	380	GRAB	HARD, MASSIVE, "NODULAR" P205
BN90-23C	30.06	947	130	330	.14	HARD, FISSILE P205, SOME NODULES
BN90-23D	31.74	967	91	370	.17	MASSIVE, VERY HARD P205 BAND
BN90-23E	32.18	829	87	330	.41	FISSILE P205 W/LARGE, HARD NODULES
BN90-23F	27.27	482	110	170	.26	VERY FISSILE, WEATHERED P205
BN90-37A	17.48	465	110	180	.14	FISSILE PHOSPHATIC SHALE
BN90-37B	31.27	818	140	320	.33	HARD, MASSIVE PHOSPHATE
BN90-37C	27.61	516	110	190	.18	VERY FISSILE, WEATHERED P205
BNT90-4A	2.66	98	89	58	.20	BROWN SHALE
BNT90-4B	16.28	337	130	150	.23	BROKEN SHALE AND PHOSPHATIC SHALE
BNT90-4C	14.54	293	110	140	.19	BROWN SHALE (PHOSPHATIC)
BNT90-4D	27.95	892	110	400	.36	HARD, MASSIVE P205 W/ORANGE FRAGMENTS
BNT90-5-1A	15.69	420	120	180	.17	SHALEY P205, BANDED
BNT90-5-1B	29.50	915	130	420	.20	SOFT MASSIVE P205
BNT90-5-1C	30.23	842	120	390	.36	MASSIVE TO SLIGHTLY FISSILE P205
BNT90-5-1D	19.55	471	92	170	.51	VERY FISSILE TO SHALEY P205
BNT90-5-1E	5.07	233	89	99	.53	BROWNISH SHALEY SILTSTONE
BNT90-5-2A	29.33	921	130	380	.45	MASSIVE TO FISSILE P205
BNT90-5-2B	18.85	514	120	190	.30	FISSILE P205 AND SHALEY P205
BNT90-5-2C	6.20	432	100	150	.31	BROWN TRIASSIC SILTSTONE

BNT90-6A	29.69	1019	89	360	.37	FISSILE, HARD AND SOFT P205
BNT90-6B	24.59	456	72	160	.22	FISSILE, GRITTY P205
BNT90-6C	18.77	507	110	180	.28	SHALEY PHOSPHATE AND SHALE
BNT90-6D	6.30	457	79	170	.45	DARK BROWN SILTSTONE W/ORANGE FRAGMENTS
BNT90-7A	24.19	400	110	190	.21	SHALEY P205 WITH HARD P205 NODULES
BNT90-7B	16.98	409	120	170	.28	SHALEY P205 AND SHALE
BNT90-7C	29.65	948	88	420	.16	NODULAR P205 IN FISSILE P205 MATRIX
BNT90-7D	30.67	920	85	380	.13	VERY, VERY HARD, FINE GRAINED P205
BNT90-7E	27.70	576	92	220	.39	FISSILE, GRITTY P205
BNT90-7F	17.23	600	110	220	.28	SOFT, SANDY TO SHALEY P205
BNT90-7G	4.05	132	55	58	.19	BROWN WEATHERED, CLAYEY TRS SILTST.
BNT90-8A	11.68	222	110	110	.51	SHALEY PHOSPHATE AND SHALE
BNT90-8B	29.38	819	73	320	.49	MASSIVE, HARD P205
BNT90-8C	21.87	457	88	170	.62	SOFT TO HARD, GRITTY P205
BNT90-9A	15.50	331	110	140	.64	FISSILE, SHALEY P205 & SHALE
BNT90-9B	30.53	911	110	370	.51	VERY HARD, MASSIVE P205
BNT90-9C	28.08	468	87	170	.50	FISSILE P205 WITH HARD P205 LENSES
BNT90-9D	16.02	605	120	230	.46	BROWNISH, SOFT BUT GRITTY P205

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 30-AUG-90

REPORT: V90-01560.0

PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ir PPB	Ag PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	As PPM	Sb PPM	Fe PCT	Se PPM
R2 BNT90-1A		<5	<100	<5	<200	<6	<50	<10	<10	18	1.3	0.8	<10
R2 BNT90-1B		<5	<100	<5	<200	20	<50	<10	<10	20	1.2	1.1	<10
R2 BNT90-1C		<5	<100	<5	210	10	<50	<10	<10	12	0.7	0.9	<10
R2 BNT90-1D		<5	<100	<5	260	7	<50	<10	<10	17	1.0	1.7	<10
R2 BNT90-2A		<11	<100	<5	<200	<6	<50	<10	<10	20	1.3	0.7	<10
R2 BNT90-2B		<5	<100	<5	<200	20	<50	<10	<10	14	1.0	1.1	<10
R2 BNT90-3-1A		8	<100	<5	<200	38	51	<10	<10	20	1.1	1.8	<10
R2 BNT90-3-1B		10	<100	<5	220	40	80	<10	<10	16	1.0	2.2	<10
R2 BNT90-3-1C		13	<100	<5	<200	7	<50	<10	<10	17	1.2	0.8	<10
R2 BNT90-3-1D		<5	<100	<5	220	35	<50	<10	<10	13	0.8	0.9	<10
R2 BNT90-3-1E		<5	<100	<5	<200	11	<50	<10	<10	17	0.9	1.9	<10
R2 BNT90-3-1F		<5	<100	<5	<200	5	<50	<10	<10	12	0.7	1.8	<10
R2 BNT90-3-2A		<5	<100	<5	<200	29	<50	<10	<10	27	1.0	2.1	<10
R2 BNT90-3-2B		<5	<100	<5	<200	22	<50	13	<10	15	1.0	1.8	<10
R2 BNT90-3-2C		<5	<100	<5	<200	12	<50	<10	<10	20	1.3	1.0	<10
R2 [illegible]0-3-2D		<5	<100	<5	250	30	<50	<10	<10	15	0.8	1.0	<10
R2 BNT90-3-2E		<5	<100	<5	<200	8	<50	13	<10	19	1.0	1.6	<10
R2 BNT90-3-2F		<5	<100	<5	<200	7	<50	<10	<10	17	0.8	2.2	<10
R2 BNT90-23A		<5	<100	<5	<200	<5	<50	<10	<10	17	0.9	<0.5	<10
R2 BNT90-23B		<5	<100	<5	380	7	<50	<10	<10	23	1.8	0.5	<10
R2 LPT90-1-1A		<5	<100	<5	640	61	300	<10	<10	37	2.4	2.0	<10
R2 LPT90-1-1B		13	<100	<5	440	86	190	<10	<10	21	1.6	2.6	<10
R2 LPT90-1-1C		<5	<100	<5	290	9	<50	<10	<10	26	1.8	1.4	<10
R2 LPT90-1-2A		<5	<100	<5	1500	250	460	18	<10	67	11.0	4.1	<10
R2 LPT90-1-2B		<5	<100	<5	510	62	200	<10	<10	41	2.5	1.9	<10
R2 LPT90-1-2C		<5	<100	<5	370	74	240	<10	<10	20	1.5	2.4	<10
R2 LPT90-1-2D		<5	<100	<5	<200	34	<50	<10	13	23	1.9	1.5	<10
R2 LPT90-1-3A		14	<100	<5	1400	218	420	18	<10	70	8.8	3.7	<10
R2 LPT90-1-3B		<5	<100	<5	360	62	160	<10	<10	41	2.4	2.2	<10
R2 LPT90-1-3C		<5	<100	<5	260	73	210	<10	<10	21	1.8	2.5	<10
R2 LPT90-1-3D		<5	<100	<5	640	79	300	<10	<10	43	2.7	2.1	<10
R2 LPT90-1-3E		<5	<100	<5	<200	46	130	<10	<10	26	1.4	2.1	<10
R2 LPT90-2A		10	<100	<5	460	81	220	11	<10	34	3.7	3.1	<10
R2 LPT90-2B		7	<100	<5	900	100	410	<10	<10	50	4.2	2.9	<10
R2 LPT90-2C		<5	<100	<5	280	14	<50	<10	<10	23	1.4	0.7	<10
R2 L[illegible]-2D		8	<100	<5	320	71	210	<10	<10	22	1.7	2.5	<10

Bondar-Clegg & Company Ltd.
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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 30-AUG-90

REPORT: V90-01560.0

PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Te PPM	Ba PPM	Cr PPM	Sn PPM	W PPM	Cs PPM	La PPM	Ce PPM	Sm PPM	Eu PPM	Tb PPM	Yb PPM
R2 BNT90-1A		<20	<210	230	<430	<2	<1	380	86	88.9	8	19	55
R2 BNT90-1B		<20	<230	330	<200	<2	2	270	95	46.2	4	10	45
R2 BNT90-1C		<20	<100	230	<200	<2	1	120	49	19.0	<2	4	22
R2 BNT90-1D		<20	<100	250	<200	<2	2	230	100	42.2	4	10	40
R2 BNT90-2A		<42	<100	350	<470	<2	<1	450	<70	93.3	13	20	69
R2 BNT90-2B		<20	<100	300	<200	<2	2	190	97	32.6	5	8	33
R2 BNT90-3-1A		<20	<100	250	<200	<2	4	110	82	22.7	3	5	17
R2 BNT90-3-1B		<20	180	300	<200	<2	6	140	97	23.3	4	5	19
R2 BNT90-3-1C		<20	<100	300	<400	<2	2	380	76	74.9	10	16	59
R2 BNT90-3-1D		<20	<100	320	<200	<2	3	160	70	24.3	3	6	29
R2 BNT90-3-1E		<20	<100	310	<200	<2	3	230	120	40.6	4	10	39
R2 BNT90-3-1F		<20	<100	340	<200	<2	1	150	120	38.6	3	7	22
R2 BNT90-3-2A		<20	110	270	<200	<2	3	120	100	23.6	4	5	17
R2 BNT90-3-2B		<20	180	340	<200	3	3	200	100	38.6	4	8	32
R2 BNT90-3-2C		<20	<200	360	<420	<2	3	390	96	78.5	8	17	62
R2 [illegible]0-3-2D		<20	<100	270	<200	<2	2	140	60	22.6	4	5	25
R2 BNT90-3-2E		<20	<100	250	<200	<2	3	230	110	45.6	6	10	39
R2 BNT90-3-2F		<20	190	320	<200	<2	2	150	91	39.1	4	8	22
R2 BNT90-23A		<20	<200	240	<200	<2	2	250	94	47.1	6	10	40
R2 BNT90-23B		<20	<100	190	<420	<2	<1	380	86	83.5	9	18	57
R2 LPT90-1-1A		<20	2200	250	<200	<2	2	140	110	24.8	<2	4	20
R2 LPT90-1-1B		<20	630	410	<200	<2	5	96	87	17.0	3	4	13
R2 LPT90-1-1C		<20	230	270	<200	<2	1	350	120	66.6	10	14	53
R2 LPT90-1-2A		<20	2700	270	<200	<2	4	140	180	32.3	4	6	16
R2 LPT90-1-2B		<20	2900	220	<200	<2	1	120	120	18.0	<2	4	15
R2 LPT90-1-2C		<20	830	330	<200	<2	4	100	83	17.0	2	4	14
R2 LPT90-1-2D		<20	600	310	<200	<2	3	300	160	57.8	9	13	47
R2 LPT90-1-3A		<20	4200	250	<200	<2	3	130	130	27.5	3	5	15
R2 LPT90-1-3B		<20	1100	240	<200	<2	2	140	86	23.0	3	5	19
R2 LPT90-1-3C		<20	690	310	<200	<2	4	94	99	17.0	<2	4	14
R2 LPT90-1-3D		<20	830	270	<200	<2	2	140	67	23.6	3	5	20
R2 LPT90-1-3E		<20	300	270	<200	<2	2	110	96	20.0	4	4	16
R2 LPT90-2A		<20	880	160	<200	<2	6	79	110	17.0	<2	3	9
R2 LPT90-2B		<20	330	220	<200	<2	3	120	120	20.8	<2	4	16
R2 LPT90-2C		<20	220	250	<200	<2	1	300	120	58.5	8	13	48
R2 [illegible]-2D		<20	430	310	<200	<2	5	120	120	25.0	3	5	18

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R2 BNT90-1A		12.0	32.0	6	<1	13.0	66.2	0.11	<1	<24	<500	15.20	0.24
R2 BNT90-1B		10.0	35.0	6	<1	6.3	73.7	0.11	<1	37	<500	14.30	0.24
R2 BNT90-1C		4.3	19.0	7	<1	5.7	37.0	0.25	<1	37	<500	25.40	0.31
R2 BNT90-1D		8.1	29.0	12	<1	11.0	33.0	0.28	1	51	<500	38.00	0.41
R2 BNT90-2A		16.0	42.0	7	<1	15.0	61.7	0.14	2	29	<1300	14.30	0.19
R2 BNT90-2B		6.4	27.0	9	<1	8.5	42.0	0.25	<1	40	<500	28.10	0.34
R2 BNT90-3-1A		3.1	21.0	11	<1	10.0	29.0	0.55	<1	74	640	53.30	0.59
R2 BNT90-3-1B		3.6	25.0	6	<1	8.5	25.0	0.44	<1	75	<500	43.70	0.56
R2 BNT90-3-1C		13.0	39.0	7	<1	12.0	61.6	0.18	<1	<22	<500	14.60	0.23
R2 BNT90-3-1D		5.4	24.0	7	<1	5.5	48.0	0.25	<1	27	<500	25.80	0.34
R2 BNT90-3-1E		7.0	26.0	12	<1	12.0	30.0	0.33	<1	52	<500	36.70	0.40
R2 BNT90-3-1F		3.9	13.0	11	<1	12.0	26.0	0.37	<1	44	830	69.40	0.41
R2 BNT90-3-2A		2.8	18.0	8	<1	9.1	33.0	0.43	<1	69	<500	44.30	0.49
R2 BNT90-3-2B		5.6	28.0	9	<1	10.0	36.0	0.37	<1	56	<500	38.50	0.47
R2 BNT90-3-2C		13.0	41.0	6	<1	13.0	63.5	0.13	<1	<23	1400	15.40	0.22
R[illegible] [illegible]T90-3-2D		4.6	21.0	6	<1	6.3	43.0	0.26	<1	41	<500	28.20	0.36
R2 BNT90-3-2E		7.2	26.0	9	<1	12.0	33.0	0.33	<1	73	<500	41.50	0.42
R2 BNT90-3-2F		3.1	13.0	13	<1	13.0	27.0	0.36	<1	39	<500	69.30	0.40
R2 BNT90-23A		6.9	28.0	7	<1	8.3	64.2	0.16	1	19	<500	14.00	0.23
R2 BNT90-23B		13.0	34.0	6	2	14.0	59.3	0.13	<1	29	<1200	10.20	0.18
R2 LPT90-1-1A		3.6	23.0	10	<1	8.9	42.0	0.30	<1	62	<500	33.80	0.42
R2 LPT90-1-1B		2.3	20.0	9	1	10.0	29.0	0.49	<1	89	720	47.50	0.61
R2 LPT90-1-1C		11.0	28.0	6	<1	13.0	64.8	0.16	<1	36	<500	21.10	0.25
R2 LPT90-1-2A		4.2	20.0	4	<1	12.0	46.0	0.35	3	83	<500	44.10	0.49
R2 LPT90-1-2B		3.6	17.0	7	<1	6.8	62.9	0.32	2	17	<500	32.70	0.34
R2 LPT90-1-2C		2.3	20.0	7	<1	9.3	25.0	0.46	<1	92	<500	44.00	0.55
R2 LPT90-1-2D		9.4	32.0	8	<1	12.0	58.5	0.29	<1	51	<500	29.30	0.38
R2 LPT90-1-3A		4.5	21.0	6	<1	11.0	61.0	0.34	2	82	<500	39.10	0.43
R2 LPT90-1-3B		4.2	22.0	7	1	7.7	56.1	0.39	<1	35	670	36.10	0.41
R2 LPT90-1-3C		2.3	20.0	9	<1	10.0	23.0	0.44	1	81	<500	46.40	0.59
R2 LPT90-1-3D		4.0	22.0	8	<1	8.3	47.0	0.28	<1	45	<500	33.90	0.42
R2 LPT90-1-3E		2.9	21.0	10	<1	7.7	30.0	0.40	<1	50	670	39.90	0.49
R2 LPT90-2A		1.3	15.0	5	<1	13.0	21.0	0.28	1	93	<500	46.40	0.54
R2 LPT90-2B		3.2	19.0	6	<1	8.0	46.0	0.29	2	58	<500	33.50	0.38
R2 LPT90-2C		11.0	26.0	6	<1	12.0	57.2	0.16	<1	28	<500	21.60	0.24
R[illegible] [illegible]T90-2D		3.0	20.0	7	2	11.0	28.0	0.46	<1	94	<500	46.30	0.60

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 30-AUG-90

REPORT: V90-01560.0

PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	LOI PCT	P2O5 PCT	Totals PCT	Hg PPM	Y PPM
R2 BNI90-1A		3.75	1.61	0.04	0.42	41.10	0.22	1.41	5.96	28.10	98.05	0.068	1065
R2 BNI90-1B		3.71	1.99	0.03	0.42	41.00	0.18	1.31	6.37	27.90	97.45	0.089	796
R2 BNI90-1C		4.79	1.18	0.03	0.42	35.80	0.37	1.97	5.81	21.90	97.98	0.065	365
R2 BNI90-1D		7.12	2.46	0.02	0.66	25.50	0.44	2.69	5.20	16.60	99.10	0.066	667
R2 BNI90-2A		3.53	1.39	0.03	0.34	42.10	0.18	1.32	5.63	28.30	97.31	0.060	1061
R2 BNI90-2B		5.75	1.79	0.04	0.51	33.00	0.36	2.11	6.24	20.30	98.54	0.062	536
R2 BNI90-3-1A		8.41	3.01	0.05	0.60	13.10	0.81	3.25	6.58	8.94	98.64	0.103	278
R2 BNI90-3-1B		8.99	3.09	0.05	0.81	18.40	0.66	3.62	7.04	12.40	99.32	0.076	304
R2 BNI90-3-1C		3.57	1.31	0.03	0.35	42.15	0.23	1.59	5.26	29.20	98.52	0.085	974
R2 BNI90-3-1D		5.00	1.64	0.04	0.43	35.40	0.41	2.27	6.13	21.90	99.36	0.055	460
R2 BNI90-3-1E		6.67	2.59	0.03	0.57	25.80	0.46	2.71	5.11	18.00	99.04	0.074	657
R2 BNI90-3-1F		5.36	2.59	0.13	0.28	8.15	0.55	2.71	2.81	5.95	98.34	0.072	447
R2 BNI90-3-2A		6.80	3.23	0.04	0.49	19.60	0.69	2.75	6.88	14.00	99.27	0.106	283
R2 BNI90-3-2B		7.80	2.63	0.03	0.63	22.80	0.54	3.10	7.13	16.00	99.63	0.073	510
R2 BNI90-3-2C		3.82	1.43	0.03	0.37	41.70	0.22	1.63	5.33	28.10	98.25	0.100	1001
R. .I90-3-2D		5.54	1.60	0.04	0.44	32.20	0.42	2.55	6.32	22.30	99.97	0.067	680
R2 BNI90-3-2E		6.69	2.66	0.05	0.53	22.40	0.48	2.87	5.34	15.50	98.44	0.078	670
R2 BNI90-.3-2F		5.54	2.96	0.13	0.30	9.01	0.57	2.75	3.14	5.82	99.92	0.053	440
R2 BNI90-23A		3.52	1.07	0.01	0.29	43.70	0.26	1.47	4.70	29.30	98.55	0.089	681
R2 BNI90-23B		2.80	0.96	<0.01	0.23	45.90	0.19	1.22	4.66	31.20	97.54	0.111	924
R2 LPI90-1-1A		6.46	3.00	0.02	0.59	26.40	0.48	2.53	7.62	17.90	99.22	0.093	299
R2 LPI90-1-1B		10.70	3.74	0.02	1.03	13.00	0.67	4.09	8.40	8.43	98.19	0.083	205
R2 LPI90-1-1C		4.04	1.34	0.01	0.45	40.00	0.21	1.60	4.19	24.80	97.99	0.075	727
R2 LPI90-1-2A		11.90	6.15	0.04	0.80	10.50	0.50	6.07	13.58	4.49	98.62	0.231	277
R2 LPI90-1-2B		4.79	3.10	0.02	0.41	30.20	0.51	1.86	7.30	17.50	98.73	0.079	219
R2 LPI90-1-2C		9.70	3.63	0.03	1.00	17.00	0.69	3.75	8.19	11.10	99.64	0.071	219
R2 LPI90-1-2D		7.12	2.12	0.01	0.72	32.00	0.40	2.93	6.01	17.20	98.19	0.078	690
R2 LPI90-1-3A		10.30	5.66	0.03	0.77	14.90	0.47	5.40	13.67	7.23	97.96	0.199	269
R2 LPI90-1-3B		5.69	3.31	0.02	0.50	25.50	0.57	2.21	6.96	17.40	98.67	0.064	297
R2 LPI90-1-3C		10.20	3.91	0.03	1.06	14.60	0.65	3.75	7.77	9.48	98.44	0.074	215
R2 LPI90-1-3D		6.25	3.53	0.02	0.70	25.60	0.44	2.47	7.75	17.50	98.58	0.110	299
R2 LPI90-1-3E		5.76	3.14	0.02	0.59	23.50	0.69	2.16	7.36	16.40	100.01	0.063	263
R2 LPI90-2A		13.00	4.36	0.04	1.37	10.40	0.38	4.88	15.19	1.93	98.49	0.116	136
R2 LPI90-2B		7.29	3.78	0.03	0.68	24.20	0.35	3.04	11.96	12.80	98.01	0.106	232
R2 LPI90-2C		4.20	1.46	0.01	0.52	40.40	0.20	1.60	4.69	23.30	98.22	0.065	767
R? '90-2D		10.40	3.42	0.01	1.05	15.00	0.60	3.94	7.88	9.48	98.68	0.056	310

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BONDAR-CLEGG

Certificate of Analysis

REPORT: V90-01589.4 (COMPLETE)

REFERENCE INFO:

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 28-AUG-90

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	P205	Phosphorous	37	0.01 PCT		Gravimetric

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	37	2 -150	37	CRUSH,PULVERIZE -150	37

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

INVOICE TO: MR. DOUG LEIGHTON

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PROJECT: 110 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	P205 PCT
R2 BN90-23C		30.06
R2 BN90-23D		31.74
R2 BN90-23E		32.18
R2 BN90-23F		27.27
R2 BN90-37A		17.48
R2 BN90-37B		31.27
R2 BN90-37C		27.61
R2 BNT90-4A		2.66
R2 BNT90-4B		16.28
R2 BNT90-4C		14.54
R2 BNT90-4D		27.95
R2 BNT90-5-1A		15.69
R2 BNT90-5-1B		29.50
R2 BNT90-5-1C		30.23
R2 BNT90-5-1D		19.55
R2 BNT90-5-1E		5.07
R2 BNT90-5-2A		29.33
R2 BNT90-5-2B		18.85
R2 BNT90-5-2C		6.20
R2 BNT90-6A		29.69
R2 BNT90-6B		24.59
R2 BNT90-6C		18.77
R2 BNT90-6D		6.30
R2 BNT90-7A		24.19
R2 BNT90-7B		16.98
R2 BNT90-7C		29.65
R2 BNT90-7D		30.67
R2 BNT90-7E		27.70
R2 BNT90-7F		17.23
R2 BNT90-7G		4.05
R2 BNT90-8A		11.68
R2 BNT90-8B		29.38
R2 BNT90-8C		21.87
R2 BNT90-9A		15.50
R2 BNT90-9B		30.53
R2 BNT90-9C		28.08
R2 BNT90-9D		16.02

Registered Assayer, Province of British Columbia

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SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ir PPB	Ag PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	As PPM	Sb PPM	Fe PCT	Se PPM
R2 BN90-23C		<5	<100	<5	<200	<2	<50	<10	<10	17	0.8	1.0	<10
R2 BN90-23D		<5	<100	<5	440	<2	<50	<10	<10	22	1.1	<0.5	<10
R2 BN90-23E		<5	<100	<5	<200	<2	<50	<10	<10	24	1.2	0.5	<10
R2 BN90-23F		<5	<100	<5	<200	16	<50	<10	<10	19	0.7	1.0	<10
R2 BN90-37A		<5	<100	<5	210	13	60	<10	<10	35	1.8	2.3	<10
R2 BN90-37B		<5	<100	<5	<200	<2	<50	<10	<10	22	0.9	0.8	<10
R2 BN90-37C		<5	<100	<5	360	10	<50	11	<10	22	1.0	0.8	<10
R2 BNI90-4A		16	<100	<5	370	33	86	39	<10	44	4.3	5.4	<10
R2 BNI90-4B		<5	<100	<5	<200	43	<50	<10	<10	33	1.3	1.9	<10
R2 BNI90-4C		<5	<100	<5	250	40	<50	<10	<10	23	1.1	2.0	<10
R2 BNI90-4D		<5	<100	<5	<200	<2	<50	15	<10	21	1.1	1.4	<10
R2 BNI90-5-1A		<5	<100	<5	200	35	<50	<10	<10	17	0.9	2.1	<10
R2 BNI90-5-1B		<5	<100	<5	<200	<2	<50	22	<10	18	0.9	<0.5	<10
R2 BNI90-5-1C		<5	<100	<5	<200	<2	64	<10	<10	24	1.5	0.9	<10
R2 BNI90-5-1D		<5	<100	<5	310	20	52	<10	<10	18	0.9	1.7	<10
R2 [illegible]0-5-1E		<5	<100	<5	<200	7	<50	11	<10	16	1.0	2.2	<10
R2 BNI90-5-2A		13	<100	<5	<200	<2	<50	12	<10	19	1.2	1.0	<10
R2 BNI90-5-2B		<5	<100	<5	<200	15	<50	<10	<10	18	0.9	1.8	<10
R2 BNI90-5-2C		<5	<100	<5	<200	<2	<50	<10	<10	16	0.8	1.8	<10
R2 BNI90-6A		<5	<100	<5	<200	<2	76	<10	<10	21	1.4	0.9	<10
R2 BNI90-6B		<5	<100	<5	<200	30	62	<10	<10	16	0.9	1.1	<10
R2 BNI90-6C		<5	<100	<5	240	13	<50	<10	<10	21	1.1	1.5	<10
R2 BNI90-6D		<5	<100	<5	<200	<2	<50	<10	<10	15	0.8	2.2	<10
R2 BNI90-7A		<5	<100	<5	<200	36	<50	<10	<10	43	1.5	2.0	<10
R2 BNI90-7B		<5	<100	<5	200	31	<50	<10	<10	15	0.9	1.5	<10
R2 BNI90-7C		<5	<100	<5	<200	<2	<50	<10	<10	18	1.0	0.8	<10
R2 BNI90-7D		<5	<100	<5	380	<2	<50	<10	<10	21	1.4	0.8	<10
R2 BNI90-7E		<5	<100	<5	250	15	<50	<10	<10	22	1.1	0.9	<10
R2 BNI90-7F		<5	<100	<5	<200	11	<50	<10	<10	19	0.9	1.5	<10
R2 BNI90-7G		<5	<100	<5	<200	9	<50	<10	<10	23	0.9	3.4	<10
R2 BNI90-8A		<5	<100	<5	420	36	76	12	<10	37	1.7	2.6	<10
R2 BNI90-8B		<5	<100	<5	<200	<2	<50	<10	<10	23	1.3	1.0	<10
R2 BNI90-8C		<5	<100	<5	<200	19	51	<10	<10	23	1.0	1.3	<10
R2 BNI90-9A		<5	<100	<5	340	42	66	<10	<10	36	1.7	2.4	<10
R2 BNI90-9B		<5	<100	<5	<200	<2	<50	12	<10	20	1.1	0.6	<10
R2 [illegible]0-9C		<5	<100	<5	<200	17	<50	<10	<10	17	0.9	1.0	<10
R2 [illegible]0-9D		<5	<100	<5	340	<2	<50	<10	<10	24	1.0	2.3	<10

Bondar-Clegg & Company Ltd.
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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

SAMPLE NUMBER	ELEMENT UNITS	Te PPM	Ba PPM	Cr PPM	Sn PPM	W PPM	Cs PPM	La PPM	Ce PPM	Sm PPM	Eu PPM	Tb PPM	Yb PPM
R2 BN90-23C		<20	<220	250	<200	<2	2	330	130	82.2	8	17	42
R2 BN90-23D		<20	<210	320	<200	<2	<1	370	91	84.2	8	19	52
R2 BN90-23E		<20	<220	270	<200	<2	1	330	87	70.6	6	16	49
R2 BN90-23F		<20	<100	150	<200	<2	2	170	110	27.7	<2	7	29
R2 BN90-37A		<20	<100	230	<200	<2	4	180	110	32.5	3	7	26
R2 BN90-37B		<20	<230	210	<200	<2	1	320	140	64.3	8	13	48
R2 BN90-37C		<20	<100	290	<200	<2	2	190	110	33.5	4	8	31
R2 BNT90-4A		<20	240	100	<200	<2	15	58	89	14.0	<2	3	6
R2 BNT90-4B		<20	<100	280	<200	<2	4	150	130	29.3	4	6	21
R2 BNT90-4C		<20	290	270	<200	<2	6	140	110	23.0	4	5	18
R2 BNT90-4D		<20	<100	380	<200	<2	2	400	110	80.6	13	19	61
R2 BNT90-5-1A		<20	<100	310	<200	<2	4	180	120	32.7	3	7	28
R2 BNT90-5-1B		<20	<220	310	<200	<2	<1	420	130	83.7	11	19	66
R2 BNT90-5-1C		<20	<220	410	<200	<2	<1	390	120	73.9	10	16	63
R2 BNT90-5-1D		<20	110	240	<200	<2	3	170	92	30.8	3	7	30
R2 [illegible]-5-1F		<20	190	320	<200	<2	3	99	89	22.0	<2	5	11
R2 BNT90-5-2A		<20	<100	390	<200	<2	2	380	130	71.7	10	16	59
R2 BNT90-5-2B		<20	120	230	<200	<2	3	190	120	34.4	4	8	33
R2 BNT90-5-2C		<20	190	300	<200	<2	1	150	100	36.7	4	7	20
R2 BNT90-6A		<20	<230	390	<200	<2	<1	360	89	82.4	8	18	48
R2 BNT90-6B		<20	<100	330	<200	<2	2	160	72	26.5	4	6	28
R2 BNT90-6C		<20	150	240	<200	<2	3	180	110	32.9	4	8	31
R2 BNT90-6D		<20	160	390	<200	<2	2	170	79	41.1	4	9	23
R2 BNT90-7A		<20	<290	230	<200	<2	2	190	110	38.0	5	8	24
R2 BNT90-7B		<20	<100	310	<200	<2	4	170	120	29.8	5	7	25
R2 BNT90-7C		<20	<230	300	<200	<2	<1	420	88	85.9	9	19	59
R2 BNT90-7D		<20	<100	370	<200	<2	<1	380	85	79.6	11	18	57
R2 BNT90-7E		<20	<100	290	<200	<2	<1	220	92	36.3	5	9	36
R2 BNT90-7F		<20	<100	230	<200	<2	2	220	110	40.6	5	10	35
R2 BNT90-7G		<20	250	130	<200	<2	2	58	55	12.0	2	2	7
R2 BNT90-8A		<20	<100	250	<200	<2	5	110	110	21.5	2	5	14
R2 BNT90-8B		<20	<210	330	<200	<2	<1	320	73	60.8	6	13	52
R2 BNT90-8C		<20	<100	250	<200	<2	2	170	88	27.4	4	6	28
R2 BNT90-9A		<20	<100	240	<200	<2	4	140	110	28.9	4	6	18
R2 BNT90-9B		<20	<100	290	<200	<2	<1	370	110	72.4	9	16	54
R2 B[illegible]0-9C		<20	<100	240	<200	<2	1	170	87	25.8	3	6	29
R2 B[illegible]-9D		<20	<100	320	<200	<2	2	230	120	46.4	4	10	36

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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 31-AUG-90

REPORT: V90-01589.0

PROJECT: 110

SAMPLE NUMBER	ELEMENT UNITS	Lu PPM	Sc PPM	Hf PPM	Ta PPM	Th PPM	U PPM	Na PCT	Br PPM	Rb PPM	Zr PPM	SiO2 PCT	TiO2 PCT
R2 BN90-23C		4.7	30.0	5	<1	15.0	70.9	0.16	1	<10	<500		
R2 BN90-23D		7.9	32.0	3	<1	16.0	65.1	0.11	<1	53	<500		
R2 BN90-23E		6.9	32.0	4	<1	12.0	70.6	0.14	<1	35	<500		
R2 BN90-23F		2.5	22.0	7	1	6.7	53.7	0.20	2	34	<500		
R2 BN90-37A		2.4	25.0	6	1	10.0	45.0	0.14	2	85	<500		
R2 BN90-37B		7.1	33.0	3	<1	11.0	73.3	0.15	<1	<10	<500		
R2 BN90-37C		3.8	24.0	8	<1	7.1	58.1	0.21	<1	48	<500		
R2 BNT90-4A		<0.5	16.0	5	<1	13.0	23.0	0.30	1	180	790		
R2 BNT90-4B		1.5	21.0	8	<1	9.4	50.6	0.44	<1	69	<500		
R2 BNT90-4C		2.4	24.0	7	<1	8.2	28.0	0.47	<1	87	<500		
R2 BNT90-4D		10.0	40.0	4	<1	15.0	60.8	0.19	<1	<10	1600		
R2 BNT90-5-1A		3.6	30.0	7	2	10.0	35.0	0.39	1	78	<500		
R2 BNT90-5-1B		10.0	42.0	5	<1	15.0	68.2	0.20	<1	43	<500		
R2 BNT90-5-1C		10.0	42.0	3	<1	13.0	70.2	0.21	<1	40	<500		
R2 BNT90-5-1D		4.1	25.0	9	2	10.0	34.0	0.35	<1	46	940		
R2 [illegible]90-5-1E		1.2	11.0	12	<1	12.0	25.0	0.44	<1	89	<500		
R2 BNT90-5-2A		9.4	38.0	7	1	13.0	62.9	0.15	<1	<10	<500		
R2 BNT90-5-2B		4.6	24.0	9	<1	11.0	33.0	0.37	<1	61	<500		
R2 BNT90-5-2C		2.7	12.0	14	<1	12.0	25.0	0.38	1	45	1000		
R2 BNT90-6A		7.4	33.0	4	<1	14.0	72.3	0.14	<1	26	<500		
R2 BNT90-6B		3.9	24.0	7	<1	5.8	50.3	0.22	<1	46	<500		
R2 BNT90-6C		4.7	24.0	10	<1	11.0	32.0	0.34	1	74	1100		
R2 BNT90-6D		2.8	13.0	15	<1	13.0	27.0	0.42	<1	53	<500		
R2 BNT90-7A		3.6	20.0	4	<1	8.8	89.8	0.23	2	30	<500		
R2 BNT90-7B		3.6	30.0	6	1	8.6	32.0	0.41	<1	71	910		
R2 BNT90-7C		10.0	39.0	3	<1	15.0	71.9	0.15	<1	31	<500		
R2 BNT90-7D		10.0	35.0	6	<1	14.0	59.2	0.18	<1	37	<500		
R2 BNT90-7E		5.3	29.0	6	<1	6.3	62.1	0.17	<1	25	<500		
R2 BNT90-7F		5.3	24.0	11	<1	12.0	32.0	0.34	<1	57	950		
R2 BNT90-7G		<0.5	10.0	8	<1	6.6	28.0	1.10	1	39	<500		
R2 BNT90-8A		1.2	20.0	7	<1	10.0	38.0	0.47	2	93	<500		
R2 BNT90-8B		8.1	36.0	3	<1	10.0	66.5	0.15	<1	24	<500		
R2 BNT90-8C		4.1	23.0	9	1	7.5	42.0	0.25	1	55	<500		
R2 BNT90-9A		2.2	22.0	6	<1	10.0	40.0	0.38	<1	74	<500		
R2 BNT90-9B		8.8	38.0	7	<1	12.0	72.2	0.10	<1	68	<500	13.10	0.20
R2 [illegible]0-9C		3.4	25.0	6	<1	4.5	55.2	0.25	<1	37	950		
R2 [illegible]0-9D		5.5	22.0	11	<1	14.0	37.0	0.29	<1	72	<500		

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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 31-AUG-90

REPORT: V90-01589.0

PROJECT: 110 PAGE 1D

SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	LOI PCT	P2O5 PCT	Totals PCT	Hg PPM	Y PPM
R2 BN90-23C													947
R2 BN90-23D													967
R2 BN90-23E													829
R2 BN90-23F													481
R2 BN90-37A													465
R2 BN90-37B													818
R2 BN90-37C													516
R2 BNT90-4A													98
R2 BNT90-4B													337
R2 BNT90-4C													293
R2 BNT90-4D													892
R2 BNT90-5-1A													420
R2 BNT90-5-1B													915
R2 BNT90-5-1C													842
R2 BNT90-5-1D													471
R2 [illegible]0-5-1F													233
R2 BNT90-5-2A													921
R2 BNT90-5-2B													514
R2 BNT90-5-2C													432
R2 BNT90-6A													1019
R2 BNT90-6B													456
R2 BNT90-6C													507
R2 BNT90-6D													457
R2 BNT90-7A													400
R2 BNT90-7B													409
R2 BNT90-7C													948
R2 BNT90-7D													920
R2 BNT90-7E													576
R2 BNT90-7F													600
R2 BNT90-7G													132
R2 BNT90-8A													222
R2 BNT90-8B													819
R2 BNT90-8C													457
R2 BNT90-9A													331
R2 BNT90-9B		3.20	1.32	0.01	0.33	45.20	0.20	1.40	5.24	29.30	99.50	0.100	911
R2 [illegible]0-9C													468
R2 [illegible]90-9D													605

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Certificate of Analysis

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V90-01560.4 (COMPLETE)

REFERENCE INFO:

CLIENT: BOUNDARY DRILLING LTD.
PROJECT: 110

SUBMITTED BY: J. PELL
DATE PRINTED: 16-AUG-90

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	P205	Phosphorous	36	0.01 PCT		Gravimetric

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	36	2 -150	36	CRUSH,PULVERIZE -150	36

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

INVOICE TO: MR. DOUG LEIGHTON

Bondar-Clegg & Company Ltd.
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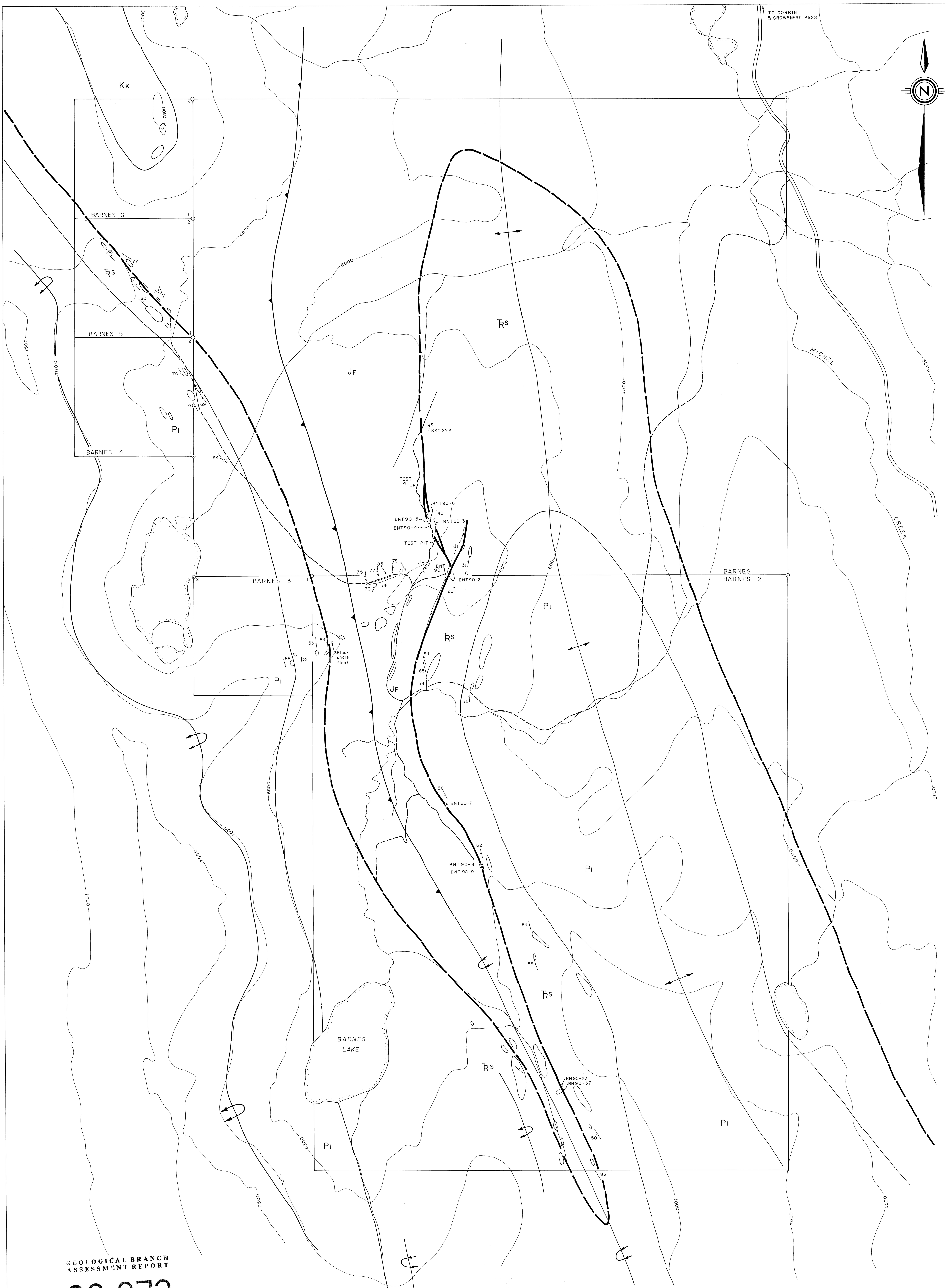
A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 16-AUG-90

REPORT: V90-01560.4

PROJECT: 110 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	P205 PCT
R2 BNT90-1A		29.93
R2 BNT90-1B		29.96
R2 BNT90-1C		24.56
R2 BNT90-1D		18.34
R2 BNT90-2A		30.50
R2 BNT90-2B		23.11
R2 BNT90-3-1A		9.54
R2 BNT90-3-1B		13.12
R2 BNT90-3-1C		30.26
R2 BNT90-3-1D		24.17
R2 BNT90-3-1F		18.51
R2 BNT90-3-1F		5.95
R2 BNT90-3-2A		14.06
R2 BNT90-3-2B		16.47
R2 BNT90-3-2C		29.79
R2 BNT90-3-2D		22.71
R2 BNT90-3-2F		16.38
R2 BNT90-3-2F		6.30
R2 BNT90-23A		31.39
R2 BNT90-23B		32.91
R2 LPT90-1-1A		17.93
R2 LPT90-1-1B		9.12
R2 LPT90-1-1C		27.88
R2 LPT90-1-2A		5.03
R2 LPT90-1-2B		20.68
R2 LPT90-1-2C		11.76
R2 LPT90-1-2D		21.73
R2 LPT90-1-3A		7.82
R2 LPT90-1-3B		18.07
R2 LPT90-1-3C		9.97
R2 LPT90-1-3D		17.85
R2 LPT90-1-3E		16.50
R2 LPT90-2A		2.18
R2 LPT90-2B		13.05
R2 LPT90-2C		27.15
R2 LPT90-2D		9.86



LEGEND:

Kk	JURASSIC & (?) CRETACEOUS KOOTENAY FORMATION DARK GREY CARBONACEOUS SANDSTONE & CONGLOMERATE SANDSRONE, 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
ŦRs	TRIASSIC SPRAY RIVER GROUP GREY DOLOMITE SILTSTONE AND SANDSTONE, BROWN SILTSTONE AND SILTY SHALE
PI	PERMIAN ISHBEL GROUP WHITE AND GREY SILTSTONE, SHALE, CHERT, FINE GRAINED SANDSTONE, MINOR DOLOMITE, SOME NODULAR PHOSPHATE ROCK.

OUTCROP
BEDDING STRIKE AND DIP
GEOLOGICAL CONTACT (approximate)
THRUST FAULT
BN90-23 SAMPLE NUMBER
TRENCH
ROAD

COMPILED FROM MAPPING BY PELL, 1990 (THIS REPORT)
& PRICE R.A. (1964)

0 100 200 300 400 500 metres
SCALE 1:5,000

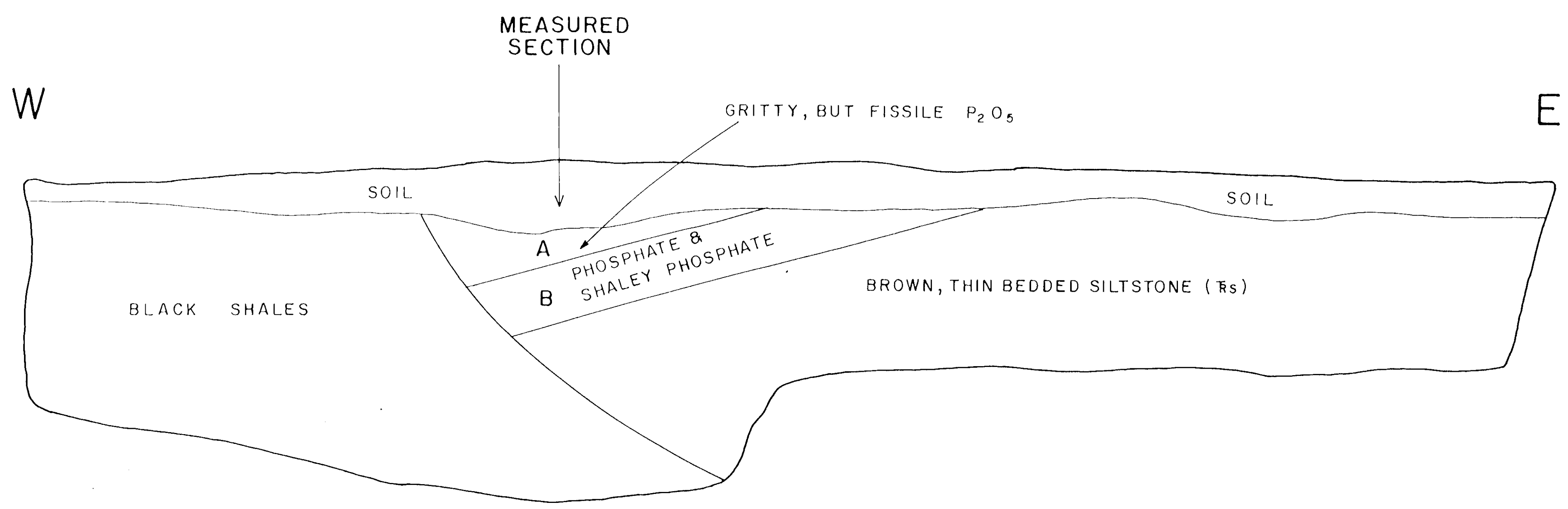
FORMOSA RESOURCES CORPORATION

COLUMBIA PROJECT

BARNES LAKE AREA

GEOLOGY MAP

NTS: 82-G-7E	DRAWN BY: J.P. / rwr
DATE: JANUARY 1991	FIGURE: 5



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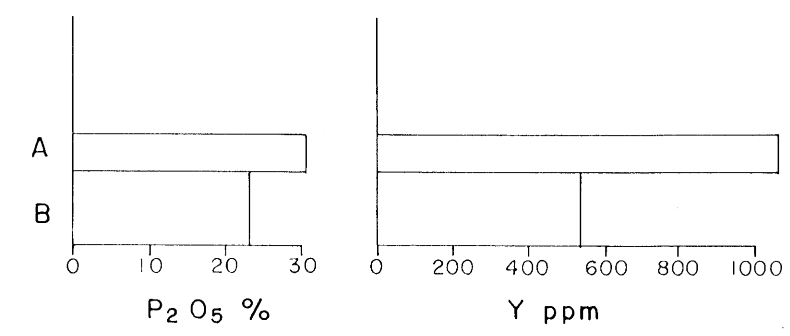

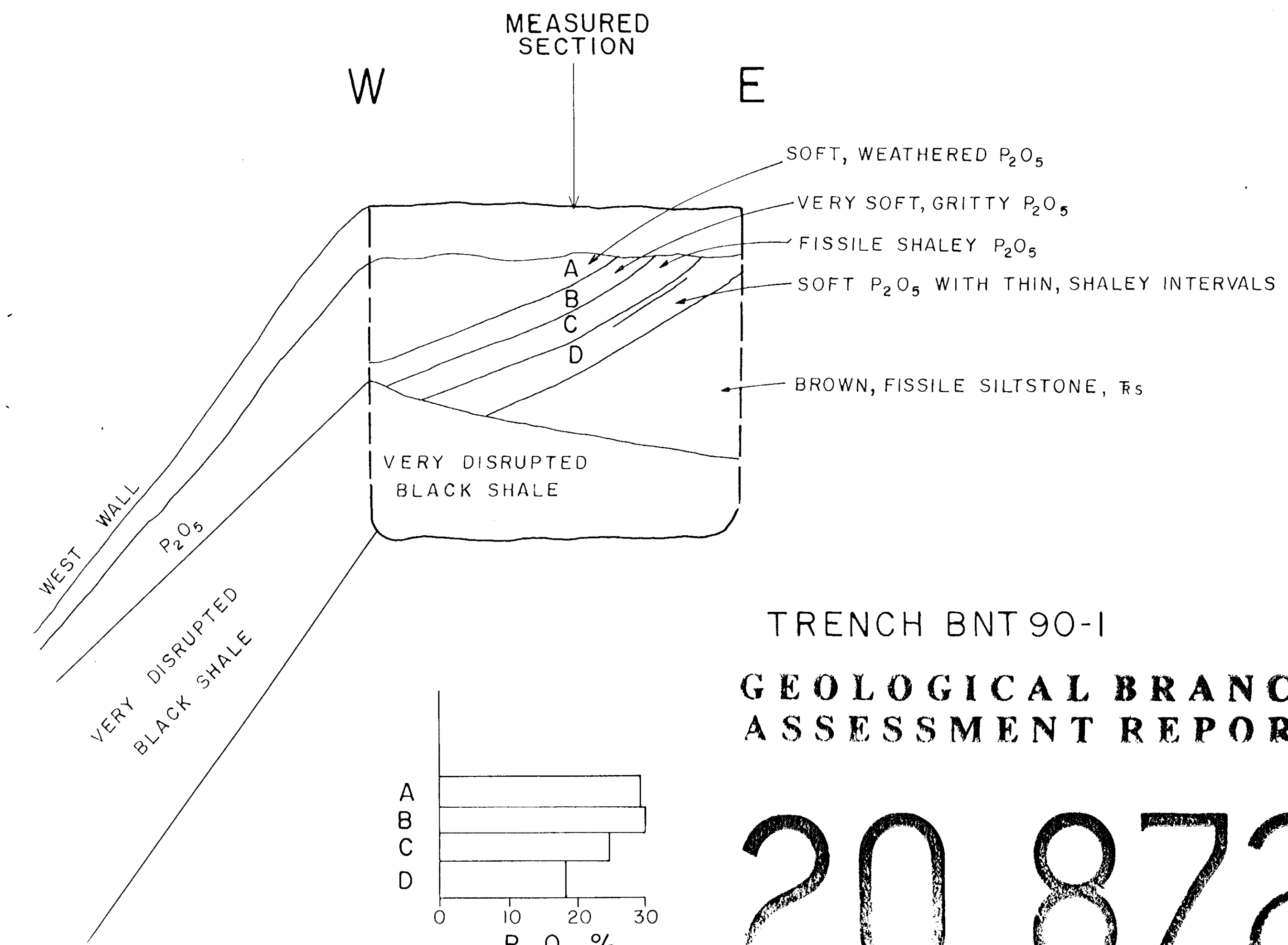

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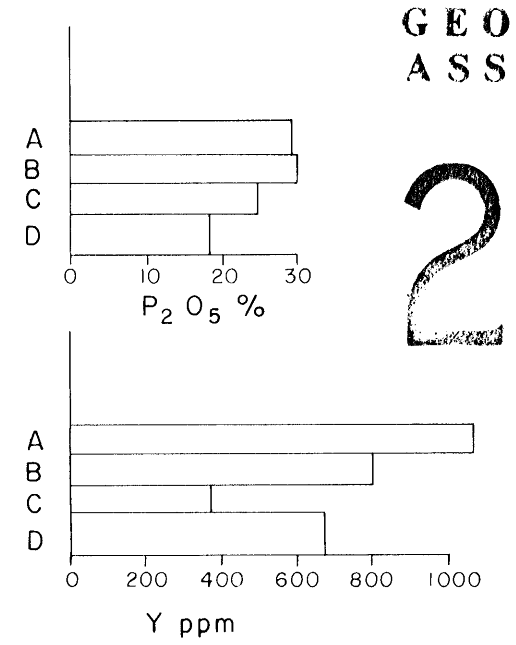
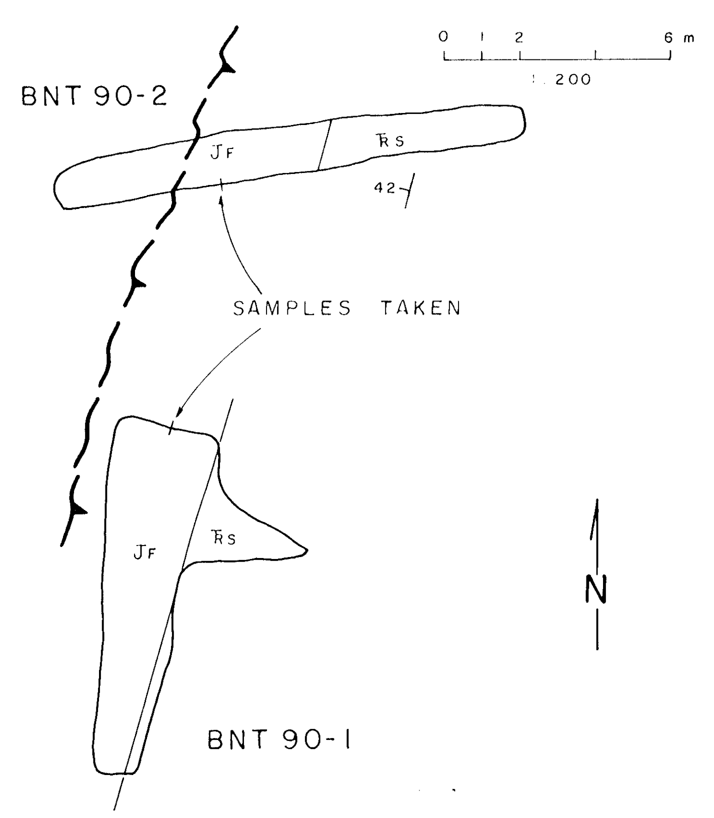
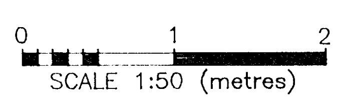


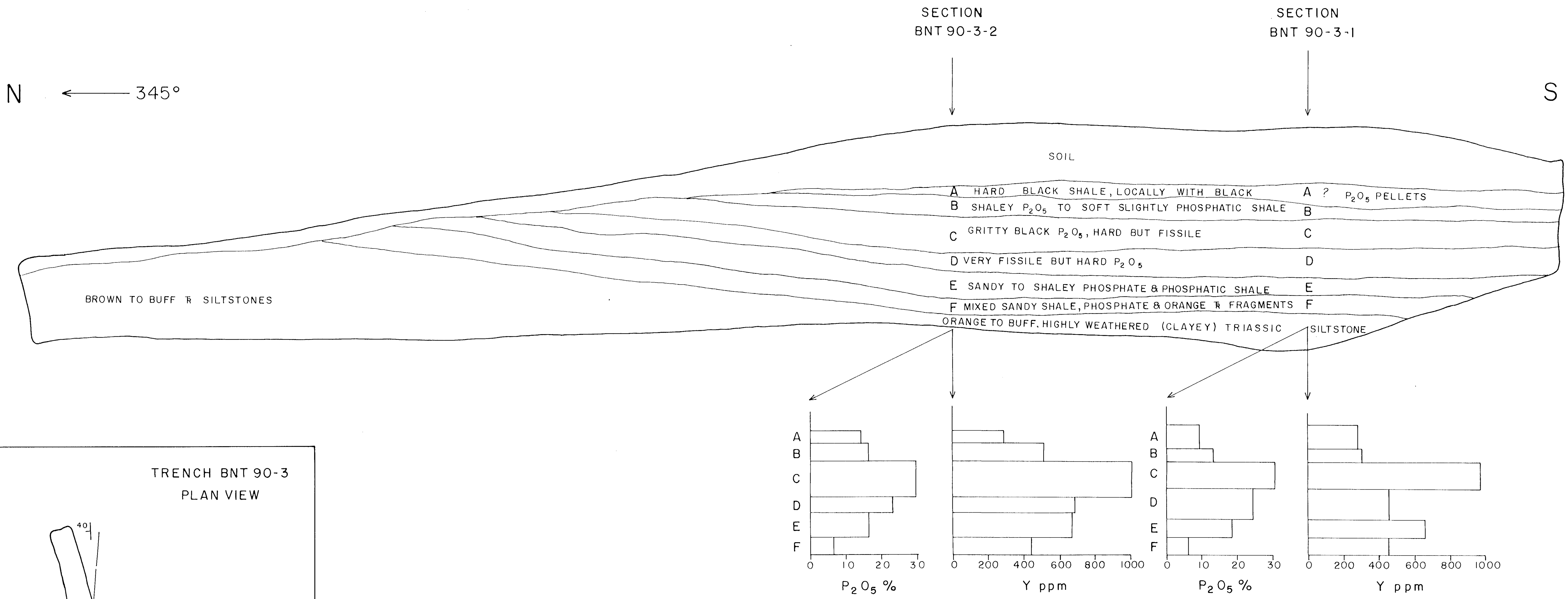


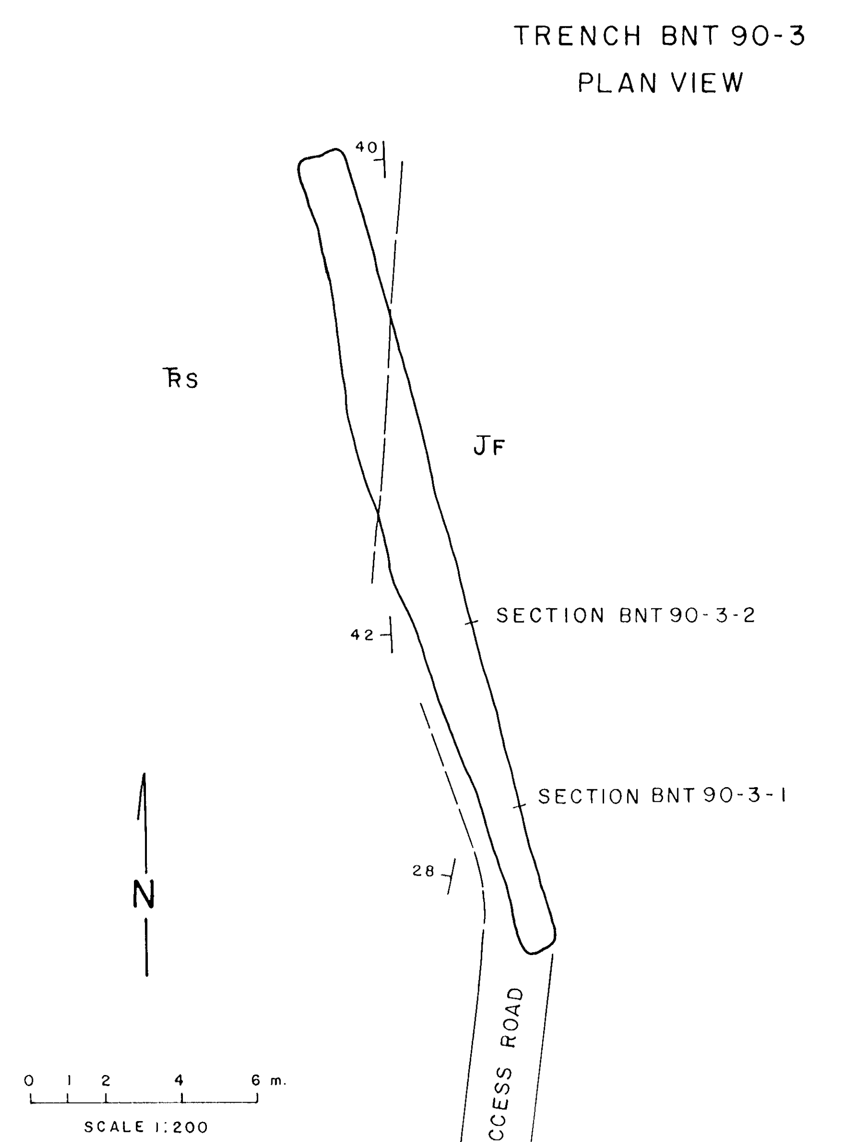
TRENCHES BNT 90-I & 2

PLAN VIEW



FORMOSA RESOURCES CORPORATION	
COLUMBIA PROJECT	
BARNES LAKE AREA	
TRENCH BNT90-I&2	
NTS: 82-G-7E	BY: J.P./rwr
DATE: JAN.,1991	FIGURE: 6A





GEOLOGICAL BRANCH
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TRENCHES BNT 90-4,5 & 6	
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DATE: JAN.,1991	FIGURE: 6C