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FERNIE PHOSPHATE PROJECT

1999 ASSESSMENT REPORT

Bighorn	49° 09'	114° 46'	082G 02W
Cabin Creek	49° 09'	114° 41'	082G 02E

Fort Steele Mining Division

For

Mammoth Geological Ltd.
604 Noowick Road, R.R.#1
Mill Bay, British Columbia V0R 2P0

R.Tim Henneberry, P.Geo.

August 15, 1999

SUMMARY

The Fernie Phosphate Project now consists of two properties totaling 31 units. The sedimentary phosphorite properties lie in the Jurassic Fernie Basin, in the Fort Steele Mining Division of southeastern British Columbia.

The 1999 exploration program consisted of surface sampling and some hand trenching to obtain 5 gallon pails of phosphorite for metallurgical and agronomical testing. Samples were obtained from both the Cabin Creek and Bighorn properties.

The program was undertaken by Steve Butrenchuk, P.Geol., the geologist who undertook the phosphate study for the provincial geological survey branch.

An exploration program of backhoe or excavator trenching, in combination with expansion of the property base by further staking is recommended.

The cost of the 1999 exploration program is $2,619, broken down between the two properties as follows:

Bighorn	$511
Cabin Creek	$2,619

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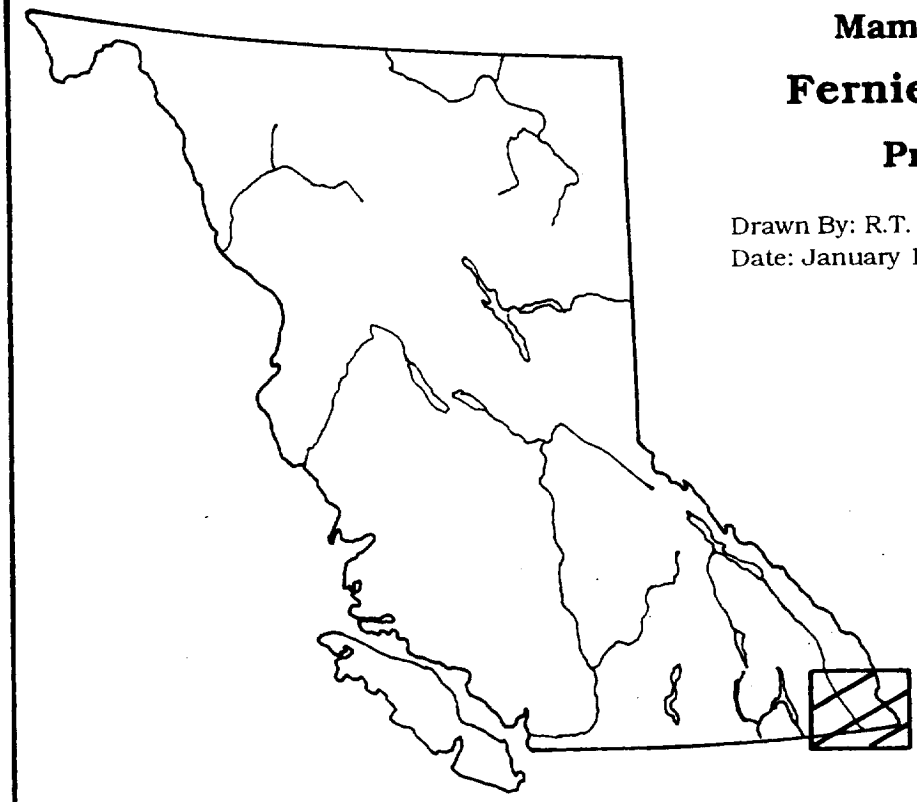
Mammoth Geological Ltd.

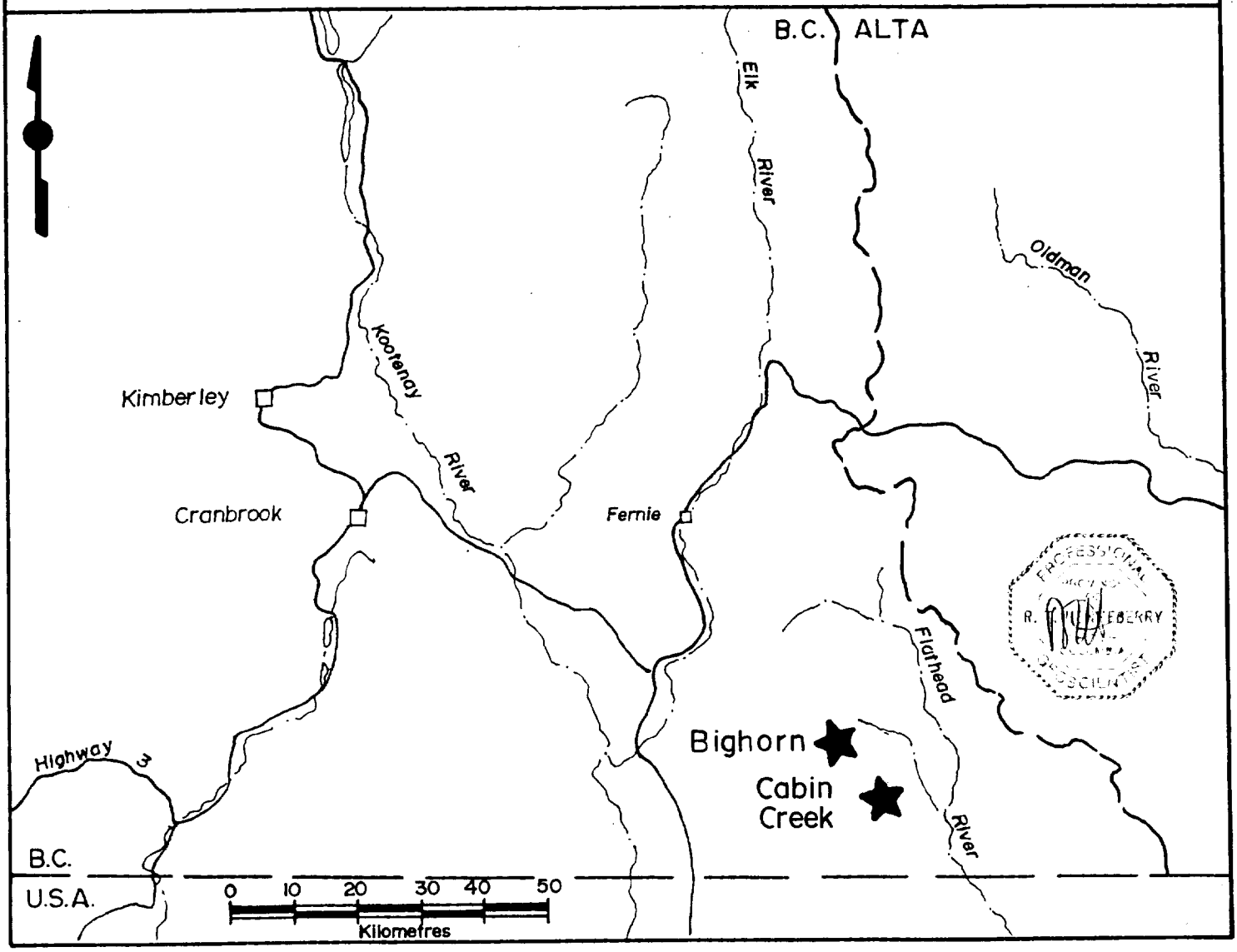
Fernie Phosphate Project

Property Locations

Drawn By: R.T. Henneberry
Date: January 1997

Figure 1





INTRODUCTION

A large exploration program originally planned for 1999 was not undertaken because Ecomineral Resources Ltd. was unable to obtain financing. Mammoth Geological Ltd. was able to provide minimal funds to complete a small program to hold as much of the Cabin Creek occurrence as possible, as well as the Bighorn occurrence. Unfortunately, the Barnes Lake and Leslie Creek claims lapsed.

Phosphate is one of the primary agricultural minerals, a key component of fertilizers.

Ecominerals Resources Ltd. is developing a proprietary process to utilize the raw unbeneficiated (but crushed) phosphate rock in combination with plant wastes and/or oxidized coal for agronomical applications. This process should circumvent the traditional stumbling block of the Fernie phosphates, poor beneficiation results.

The shallow dips and soft broken nature of the host rocks, and in several instances the phosphate rock itself, could lead to relatively uncomplicated surface mining techniques.

The Jurassic Fernie basin lies in the southeastern corner of British Columbia, within the Fort Steele Mining Division. The area of the basin is loosely bounded by the Alberta border to the east, highways 3 and 43 to the west, the International Border to the south and Elkford to the north. The area is serviced by the towns of Elkford in the north, Sparwood in the centre and Fernie in the south. A myriad of logging roads provide access to much of the basin, though road deactivation can severely hamper access to individual occurrences.

The Cabin Creek property and Bighorn property both lie in the same general area, 40 to 45 kilometres southeast of Fernie. The properties are accessible by the Cabin Creek (Ram) Forestry Road and its spurs originating from Highway 3 at the Morrissey turnoff. Cross-ditched and / or waterbarred secondary roads provide access to the known showings on both of the properties.

Elevations range from 1675 metres to 2135 metres. Most of the upper Cabin Creek (east flowing) and Bighorn Creek (west flowing) valleys have been recently clear-cut. The unlogged areas host stands of spruce and fir. The property area is snow-covered from late-October to early June. Water is relatively abundant, though shortages could be encountered at higher elevations..

PREVIOUS EXPLORATION

The Fernie basin phosphorites have experienced several periods of exploration since their discovery in the 1920's. Exploration programs were generally halted due to poor beneficiation results, as opposed to poor exploration results.

The predecessor company of Cominco Ltd. explored the entire basin in the period 1925 to 1932, outlining various phosphate horizons and defining areas which offered the greatest economic potential. Three small exploratory underground mines were opened, but work was halted due to poor beneficiation results. Cominco did obtain mining leases on the important showings. Cominco reexamined and further explored several of the leases in the 1960-'s, utilizing new metallurgical techniques. Preliminary feasibility studies were conducted on two of the leases, but poor beneficiation characteristics halted the projects. (Kenny, 1977).

Logging operations progressively opened much of the southern Fernie basin, resulting in an exploration boom in the 1970's and early 1980's. Cominco Ltd. and several other companies were active during this period, completing mapping, sampling, trenching and drilling programs. Cominco Ltd. and the Federal Government undertook metallurgical testing on samples from the southern basin.

The provincial geological survey branch initiated a phosphate inventory program in 1986-1987 resulting in a preliminary publication (Butrenchuk, 1987) and later a final report (Butrenchuk, 1996). This initiative lead to the most recent exploration activity: Formosa Resources Corporation in the southern basin during 1989-1990 and Doug Allen's group in the Crowsnest Pass area during 1996-1997.

Imperial Oil Limited (Van Fraassen, 1978) completed a sampling and percussion drilling program in the Cabin Creek area, including the present Cabin Creek property. First Nuclear Corporation Limited (Hartley, 1982) explored the phosphorites by mapping, and hand and cat trenching in 1981. Hartley examined the previously known showings and located several additional ones, including all those on the present Bighorn and Cabin Creek properties. Formosa Resources Corporation (Pell, 1990a; 1990b) completed mapping and backhoe trenching programs on both of the presently held properties. Both Hartley and Pell obtained grades ranging from 15% to 27% P_2O_5 over widths up to 1.5 metres. Henneberry (1997) calculated preliminary mineral estimates for the present Cabin Creek property utilizing the earlier sampling data. A resource estimate has not been calculated for the Bighorn property.

Property	Source	width	$\%P_2O_5$	ppmY	to 18 m	to 25 m
Cabin Creek	Henneberry (1997)	1.50	19.74	605		145,411

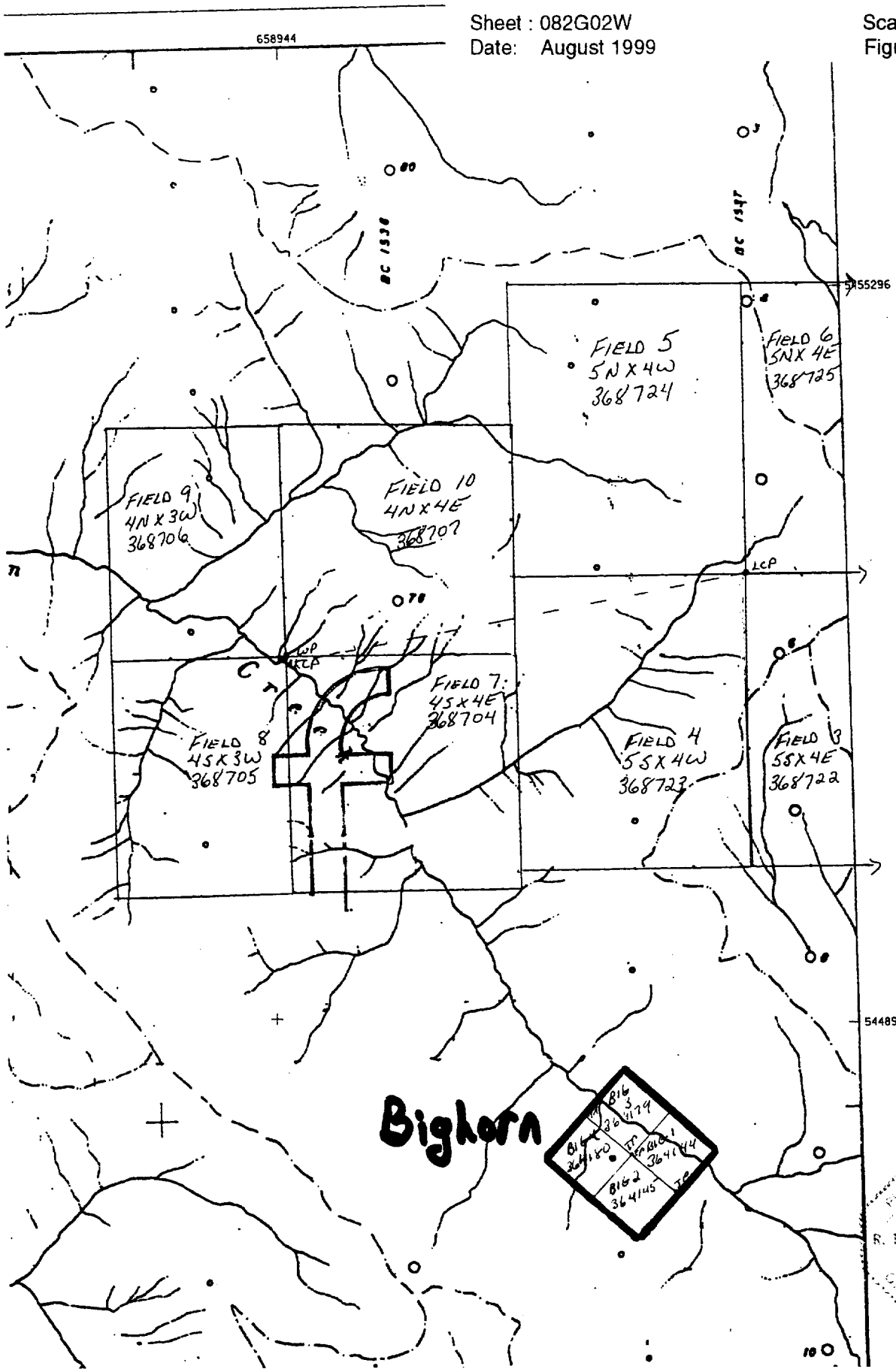
Mammoth Geological Ltd.

Fernie Phosphate Project

Bighorn Claim Locations

Sheet : 082G02W
Date: August 1999

Scale: 1:50,000
Figure: 2



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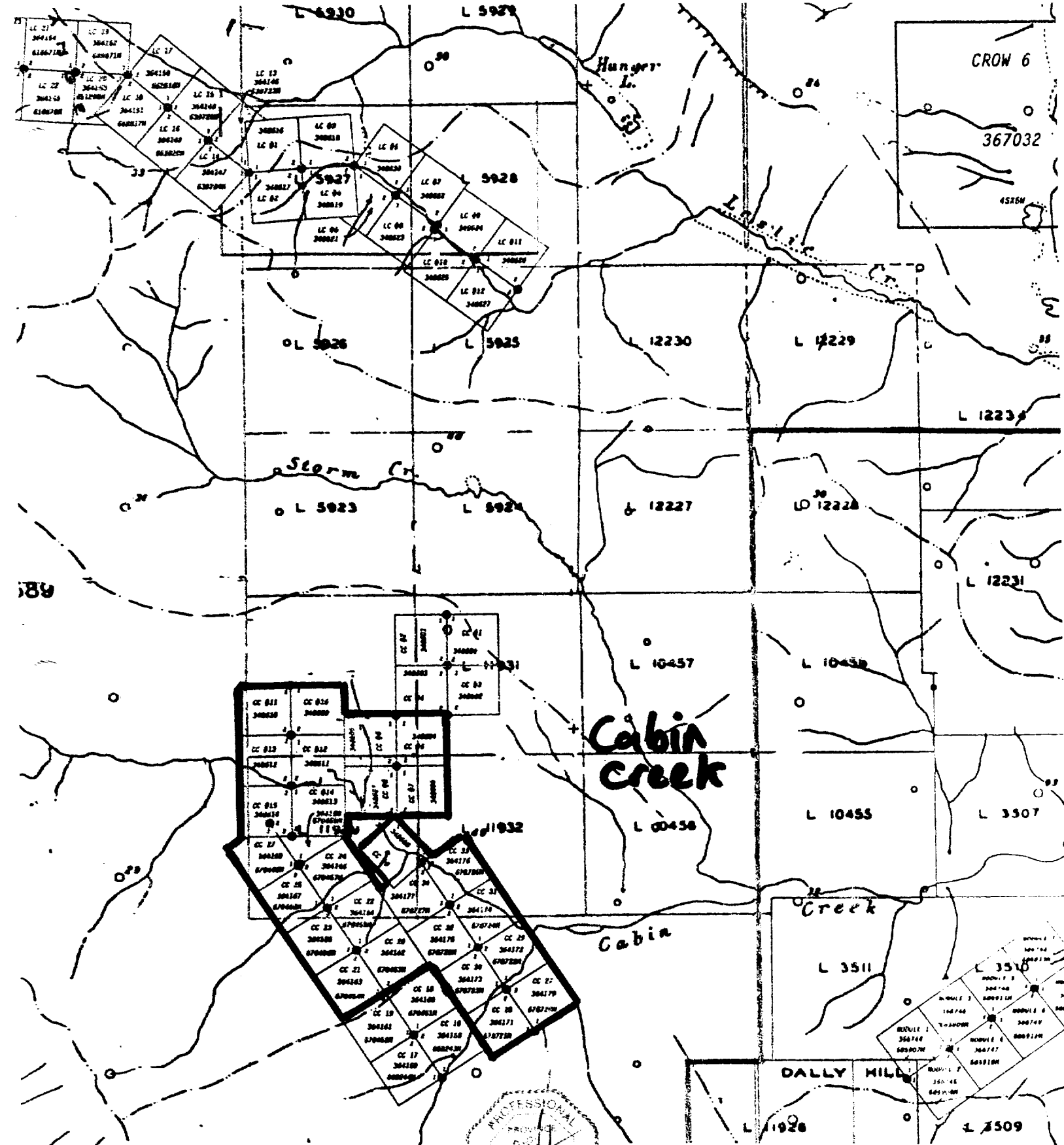

Mammoth Geological Ltd.

Fernie Phosphate Project

Cabin Creek Claim Locations

Sheet : 082G02E
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Figure: 3

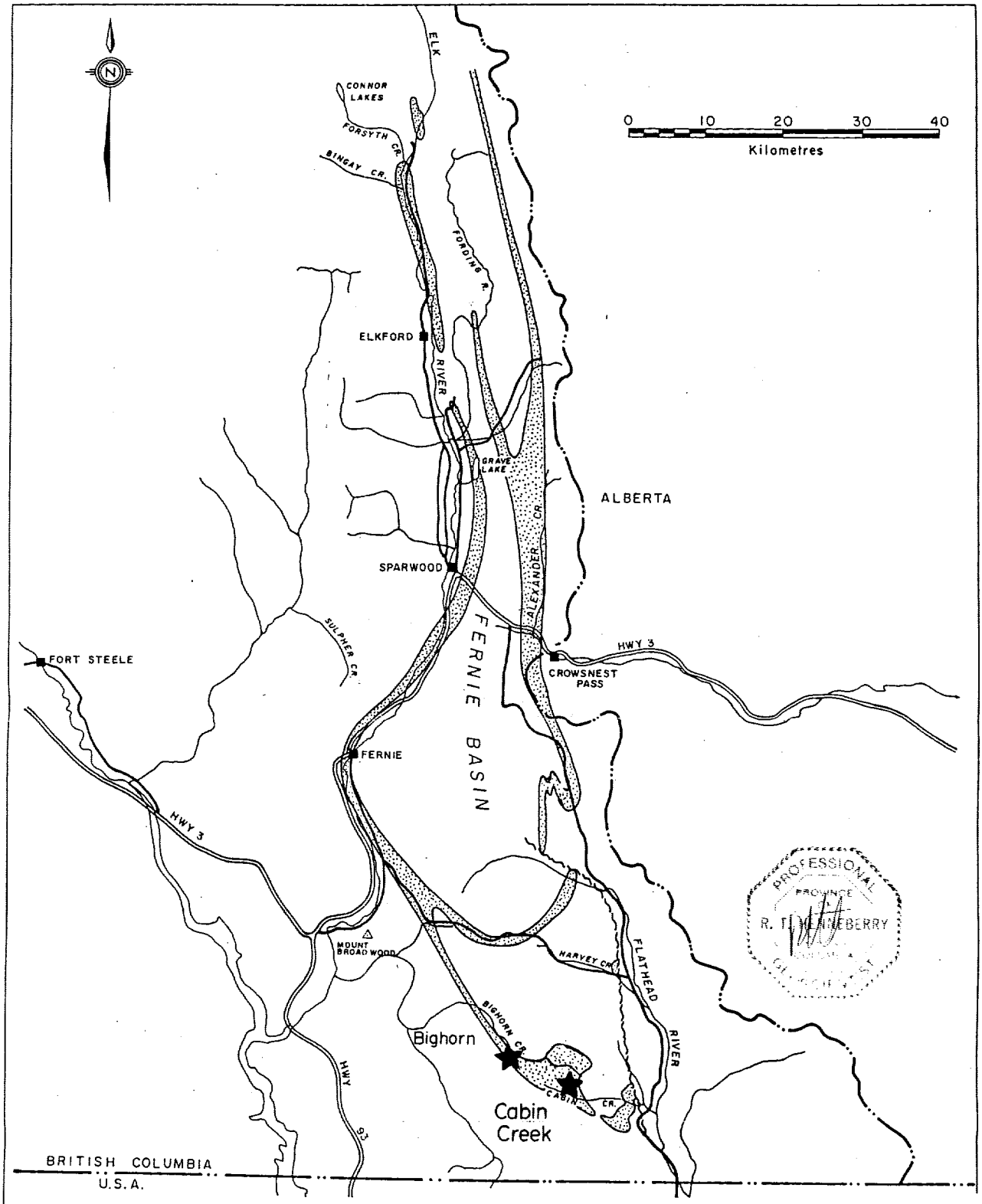
CLAIM HOLDINGS

The Fernie Phosphate project now consists of two groups totaling 31 units. This report will provide assessment credits for all units listed below:

Claim	Staking Date	Record Number	Anniversary Date
Cabin Creek - 082G 02E			
CC #5-#9	July 13, 1996	348604-348608	July 13, 2000
CC #10-#15	July 14, 1996	348609-348614	July 14, 2000
CC #20-#27	July 12, 1998	364162-364169	July 12, 2000
CC #27-#34	July 13, 1998	364170-364177	July 13, 2000
Bighorn - 082G 02W			
BIG #1-#2	July 13, 1998	364144-364145	July 13, 2000
BIG #3-#4	July 13, 1998	364179-364180	July 13, 2000

* pending approval of 1999 work program for assessment credits

All units are held in the name of the author, R. Tim Henneberry of Mill Bay, British Columbia.



LEGEND:

OUTCROP OF FERNIE GROUP

FAULT

Mammoth Geological Ltd.

Fernie Phosphate Project

Fernie Group Distribution

Modified from: Butrenchuk (1987)
Date: August 1999

Figure: 4

Regional Geology - (Summarized from Butrenchuk, 1987; 1996)

Southeastern British Columbia is characterized by a sequence of Devonian to lower Jurassic marine strata deposited in a miogeosyncline along the western edge of the stable proto- North American craton. Depositional environments for the different sequences varied from platformal to basinal.

Cambrian to Mississippian strata, consisting of shallow water carbonate assemblages that pass westward into deeper water, are predominantly limestone, shale and siltstone. Pennsylvanian strata were deposited in a shallow marine environment, producing fine clastic and carbonate units. Low energy, shoreline conditions characterized the Permian, depositing fine-grained sandstone, siltstone, chert and minor shale. The end of the Permian is marked by a major unconformity.

Triassic sedimentation took place in a stable shelf environment, marked by bar and deltaic deposits on the eastern limits of the shelf and widespread finer clastic sediments to the west. The end of the Triassic is also defined by a major unconformity.

Moderately deep-water sedimentation, and minimal miogeosynclinal subsidence characterized the Jurassic. Deposition of widespread phosphorite and phosphatic shale carried throughout the lower Jurassic, especially at the base of the Fernie Formation, within the Fernie Basin.

Non-marine Cretaceous strata containing extensive coal measures overlie the miogeosynclinal stratigraphy.

Thrust faulting, with older rocks overriding younger rocks to the east is a common phenomenon of the eastern Rocky Mountains. Further complications structure, the Fernie Basin has been folded in a doubly-plunging syncline. Several west-side-down normal faults cut the centre of the synclinorium.

Fernie Formation - (Summarized from Butrenchuk, 1987; 1996)

Yttrium-rich phosphatic rocks occur in a number of stratigraphic intervals within the miogeosyncline: however, the thickest and most continuous phosphate horizon was developed at the base of the Jurassic Fernie Formation. The basal Fernie phosphate strata contain high concentrations of yttrium.

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 then 15% P_2O_5. Grades in excess of 30% P_2O_5 have been located. The horizon 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.

The entire Triassic / Jurassic sequence has been structurally deformed, primarily by folding and thrust faulting. This structural deformation is important as it can result in considerable thickening of the phosphorite horizon, either by thrusting one section of the horizon directly on top of another, or by slumping during folding resulting in increased thicknesses at the nose folds. The folding can also bring larger areas of the horizon close to surface, paralleling the topography. A combination of any or all of these phenomenon makes an especially attractive target.

Bighorn - (Summarized from Pell, 1990b)

The Bighorn property is underlain by Permian through to Jurassic strata. Permian Ranger Canyon Formation rocks are medium to thick-bedded, cream to buff to light-grey weathering, fine-grained sandstones, siltstones and dolomitic siltstones. Triassic Sulphur Mountain Formation units are predominantly light, yellowish-brown to medium brown weathering, medium- to thin- bedded siltstones, and calcareous or dolomitic light grey siltstones. Jurassic Fernie Group rocks, the phosphorite host rocks, are recessive weathering and poorly exposed. These rocks are monotonous fissile black shales, with cream to light grey weathering siltstones and silty limestones, as well as shales and silty shales much higher up in the section.

The basal phosphorite horizon ranges in width from 50cm to 110 cm, consisting of well indurated pelletal phosphorite. In the main exposure the footwall of the phosphorite is 60 cm in width and massive in nature. The hanging wall is 50 cm of weathered phosphorite. The hanging wall has been eroded and the footwall is comprised of Triassic sandstones and siltstones.

The structure of the Bighorn Creek area is dominated by the northwest-southeast trending MacDonald Thrust Fault and northwest-southeast trending folds. The phosphorite horizon is steeply dipping and tightly folded on the property. The phosphate horizon is dipping into the valley at an angle which is slightly steeper than the hillside.

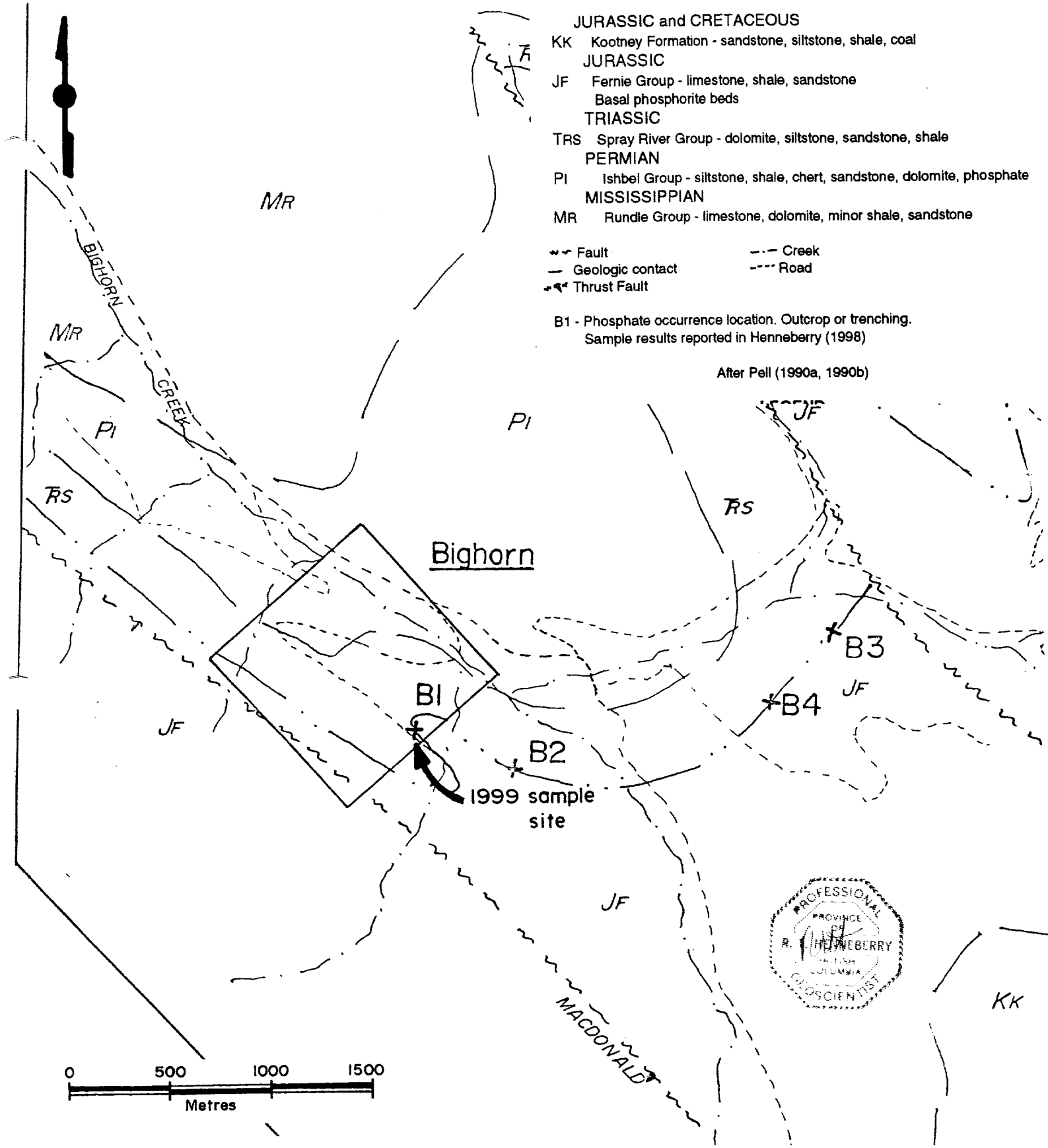
Cabin Creek - (Summarized from Pell, 1990a)

The Cabin Creek property is underlain by Permian through to Jurassic strata. Permian Ranger Canyon Formation rocks are medium to thick-bedded, cream to buff to light-grey, or locally pink-weathering, fine-grained sandstones, siltstones and dolomitic siltstones. Triassic Sulphur Mountain Formation units are predominantly buff, yellowish-brown and chocolate brown weathering, thin to medium- bedded siltstones and shaley siltstones. Jurassic Fernie Group rocks, the phosphorite host rocks, are recessive weathering and poorly exposed. These rocks are brown and black shales overlain by black, brown and dark grey shales with interbedded buff to orange weathering dolostones, buff, fine-grained sandstones and light-grey limestones.

The basal phosphorite horizon is 1.15 to 3.51 metres thick, consisting of two poorly consolidated, gritty, pelletal phosphorite layers separated by 15cm to 60cm of brown shale. In most exposures, the phosphorite horizon overlies buff to grey Triassic siltstones or sandstone. The base of the phosphorite horizon is a 25cm to 86cm pelletal phosphorite to phosphatic shale horizon, overlain by the chocolate brown shale, in turn overlain by a second 15cm to 135cm pelletal horizon. The phosphatic sequence is capped by a 2cm to 15cm thick yellow bentonite bed.

The structure of the Cabin Creek area is dominated by a series of northwest-southeast trending folds and thrust faults. Two anticlines, cored by thrust faults, and the intervening syncline have been mapped. Surface mapping has detailed an outcrop pattern indicative of a double plunging anticline.

Two areas of particular interest were noted. At the first, on the limb of an anticline, the dip of the phosphate horizon and the hillside are roughly parallel. At the second, a large flat bench, the phosphate horizon is flat under 1 to 3 metres of overburden.



site	sampler	P2O5	m width	site	sampler	%P2O5	m width
B 1	Butrenchuk	17.87	0.6	B 3	Van Frassen	21.22	0.69
	Pell	18.50	2.0				
	Henneberry	20.28	1.0	B 4	Van Frassen	19.66	0.36
	Hartley	17.83	1.0				
	Butrenchuk	15.7	1.2				
	Pell	23.74	0.51				

PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
R. T. HENNEBERRY

Mammoth Geological Ltd.

Bighorn Property

Geology / Sample Locations

Drawn by: RT Henneberry
Date: August 1999

Scale: 1:25,000
Figure: 5

1999 SAMPLING PROGRAM

The 1999 exploration program was significantly scaled back as a result of Ecomineral Resources Ltd.'s lack of available funding. Several of the claim groups were dropped with only the key claims held.

The aim of the program was to obtain sufficient material to carry out further agronomy testing.

Ten kilograms of weathered phosphorite was taken from the Bighorn property. On the Cabin Creek property, the area around the previous C1, C2 and C3 showings (acquired last year) was prospected for the phosphate horizon. One of the previously known showing on the Cabin Creek property was extended by hand trenching and 25 kilograms of weathered phosphorite was removed .

The phosphate from both properties will be screened to minus 10 mesh for proprietary agricultural testing.

The program was undertaken by Steve Butrenchuk, P.Geol., with one assistant from July 5 to July 7, 1999.

Bighorn

The main showing on the Bighorn property was sampled on July 7, 1999. A 10 kilogram sample was collected from the east end of the known showing. The phosphorite sampled was weathered and soft, taken from just below the overburden cover.

The weathered phosphorite was taken to avoid the need to crush solid phosphorite for testing. The weathered phosphorite will be screened to minus 10 mesh for agricultural testing.

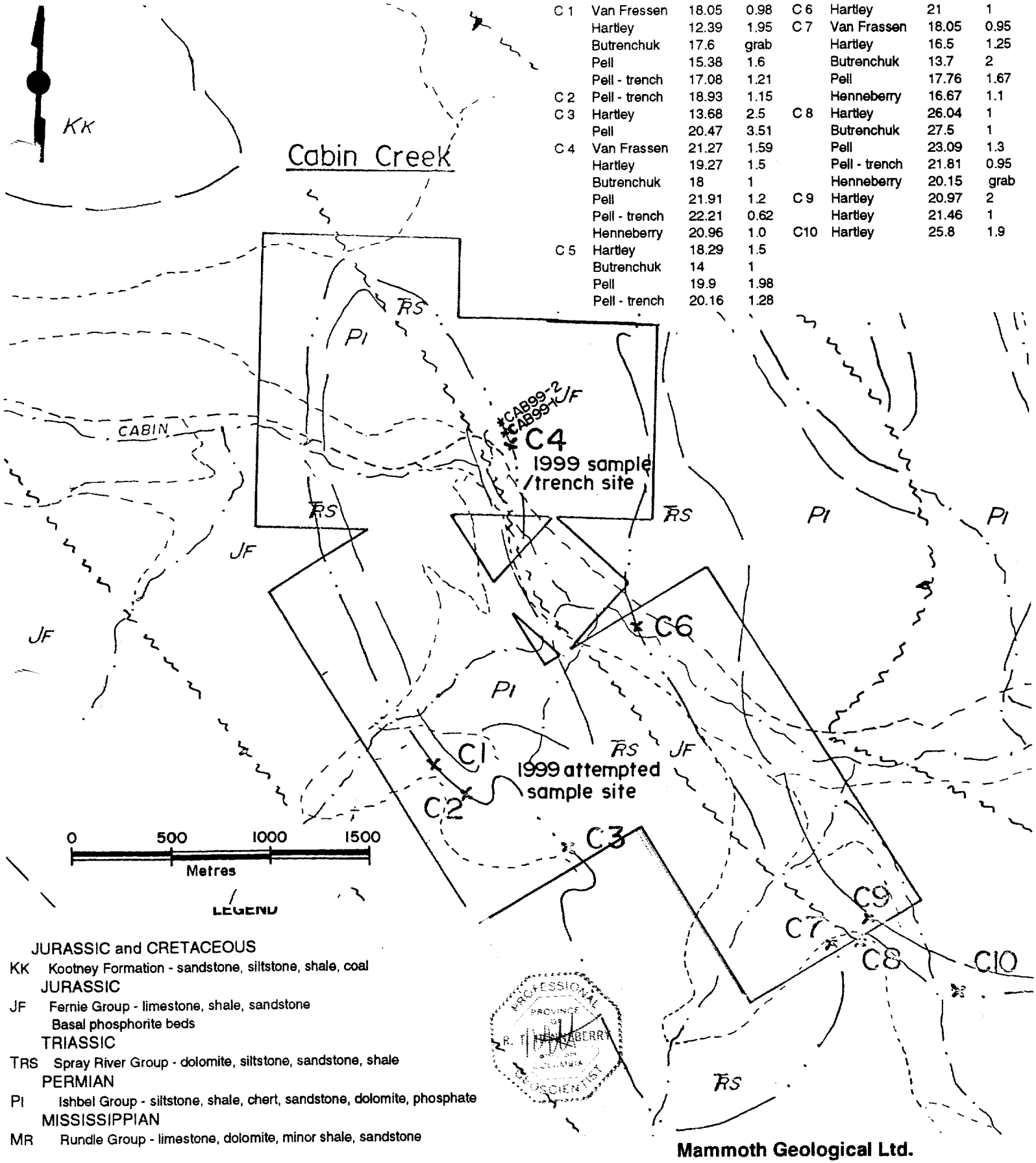
Cabin Creek

Exploration was concentrated in two areas on the Cabin Creek property: the main showing on C.C.#7 and in an area of several previous trenches on C.C.#21 and C.C.#23.

C.C.#21 and C.C.#23

This is the area of the previous C1, C2 &C3 showings and trenches previously sampled by Hartley (1982) and Pell (1990a). The area was examined in the hope of obtaining a 10 kilogram sample for agricultural testing.

The area has become overgrown since 1990. The previous trenching in the area has been reclaimed with the phosphate horizon being covered over. No samples were obtained despite an exhaustive search for the phosphorite.



C 1	Van Fressen	18.05	0.98	C 6	Hartley	21	1
	Hartley	12.39	1.95	C 7	Van Frassen	18.05	0.95
	Butrenchuk	17.6	grab		Hartley	16.5	1.25
	Pell	15.38	1.6		Butrenchuk	13.7	2
	Pell - trench	17.08	1.21		Pell	17.76	1.67
C 2	Pell - trench	18.93	1.15		Henneberry	16.67	1.1
C 3	Hartley	13.68	2.5	C 8	Hartley	26.04	1
	Pell	20.47	3.51		Butrenchuk	27.5	1
C 4	Van Frassen	21.27	1.59		Pell	23.09	1.3
	Hartley	19.27	1.5		Pell - trench	21.81	0.95
	Butrenchuk	18	1		Henneberry	20.15	grab
	Pell	21.91	1.2	C 9	Hartley	20.97	2
	Pell - trench	22.21	0.62		Hartley	21.46	1
	Henneberry	20.96	1.0	C10	Hartley	25.8	1.9
C 5	Hartley	18.29	1.5				
	Butrenchuk	14	1				
	Pell	19.9	1.98				
	Pell - trench	20.16	1.28				

JURASSIC and CRETACEOUS

KK Kootney Formation - sandstone, siltstone, shale, coal

JURASSIC

JF Fernie Group - limestone, shale, sandstone

Basal phosphorite beds

TRIASSIC

TRS Spray River Group - dolomite, siltstone, sandstone, shale

PERMIAN

PI Ishbel Group - siltstone, shale, chert, sandstone, dolomite, phosphate

MISSISSIPPIAN

MR Rundle Group - limestone, dolomite, minor shale, sandstone

Fault — Creek

Geologic contact — Road

ust Fault

C1 - Phosphate occurrence location. Outcrop or trenching. Sample results reported in Henneberry (1998)

After Pell (1990a, 1990b)

Mammoth Geological Ltd.

Cabin Creek Property

Geology / Sample Locations

Drawn by: RT Henneberry

Date: August 1999

Scale: 1:25,000

Figure: 6

C.C.#7

The phosphate horizon in this location is exposed on the right limit of a small creek. The horizon at this location was extended 18 metres to the north by hand trenching.

CAB99-1 - The phosphorite is exposed along the right limit of the creek below approximately 5cm of soil. The entire width of the horizon is not exposed, meaning the minimum thickness must be in excess of 1 metre. The phosphate is weathered and crumbly, very similar in appearance to the main showing 10 metres to the south (Henneberry, 1998).

CAB99-2 - A small hand trench was dug across the projected surface trace of the phosphorite 8 metres to the north of CAB99-1. The trench is 10cm to 20cm deep. Sub-crop of material that appears to be derived from the phosphorite was located. A 25 kilogram sample was taken from this location for agricultural testing. This general area has been previously disturbed by logging operations, with the old logging trail now partially overgrown.

DISCUSSION

The results to date on the Fernie Phosphate Project warrant continued exploration. The thorough mapping programs completed by Formosa Resources Corporation (Pell, 1990a; 1990b) leave little need for further property wide mapping. All the previous exploration programs concentrated on sampling the existing previously known exposures. There is little point in continually re-sampling these exposures, except to obtain larger 10 kg to 25 kg samples for preliminary agricultural testing. Further surface mapping and sampling should be directed at tracing the phosphorite horizons along strike.

The lack of funding forced the dropping of several units, including the Leslie Creek property. A staking program should be directed at re-acquiring most of the lapsed ground. As well, much of the remaining strike projections of the phosphorite horizons should be staked..

Formosa Resources Corporation's backhoe trenching programs (Pell, 1990a; 1990b) were successful in confirming results from the earlier exploration and in identifying target areas within the phosphorites. This program was especially successful on the Leslie Creek property (Pell, 1990b), where there is little actual phosphorite outcropping. This backhoe trenching program should be expanded to test the phosphorites at regular intervals along strike.

Two distinct markets are being considered for the Fernie Phosphate Project. The first market, Ecomineral Resources Ltd., will require raw, crushed but unbeneficiated, phosphate rock for its agronomy testing of its proprietary process. This market is likely to be in the 25,000 to 50,000 ton per annum basis over the next several years.

The second market is the larger fertilizer market where phosphate rock in the range of 24% to 32% P_2O_5 is required. The Fernie phosphates can only achieve this grade through beneficiation. Existing technology is slowly progressing, but has yet to produce an economical salable concentrate from the Fernie phosphates. Pioneering work by Judd et al (1986), Wilemon and Scheiner (1987) and Habashi (1994) is evaluating a new vat leaching process with moderate success to date in laboratory scale testing. This leaching process will bypass the chief stumbling block with raw phosphate rock, carbonate, which consumes sulphuric acid and precipitates phosphogypsum, a waste product considered an environmental risk due to its numerous impurities.

The near surface exposures and relatively weathered or friable nature of the hanging wall host rock (and often the phosphorite itself) suggests a strip mining / open cut mining operation would be feasible, at least initially. The phosphorite will be mined along strike to a shallow depth (±25 metres or 75 feet). This will likely result in one or more long, narrow trenches, following the phosphorite bed across topography.

A mining plan could easily be realized where the overburden and waste ahead is used to backfill the open-cut behind, in much the same manner as placer mining follows the pay streak up the creek valley. This type of mining plan will have minimal environmental impact. This plan will, however, require long claim blocks along the surface strike projections of the phosphorite beds.

The exploration of the Fernie Phosphate Project should continue with these goals in mind.

The next stage should consist of continuing property acquisition to hold long continuous blocks of claims along the projected strike of the phosphorite horizon. Part of this phase should also include exploring these strike projections for new exposures and physically marking the strike projections in the field with pickets.

At the same time, the excavator or backhoe trenching program can be initiated. The purpose is to test and verify the strike projections of the phosphorite, to sample the phosphorites for confirmation and / or upgrade of the existing mineral resource estimates and to supply sufficient phosphate rock to allow initial vat leaching metallurgical testing.

The third stage will involve a large scale bulk sampling program. The bulk sampling will supply sufficient phosphate rock to undertake pilot scale testing of the vat leaching process and to continue with the Ecomineral Resources Ltd. agronomical testing. Preliminary open cuts will be excavated and 500 to 1000 tons of phosphate rock will be stockpiled from each open cut. The purpose is to ensure Fernie phosphate will be amenable to the vat leaching process.

CONCLUSIONS AND RECOMMENDATIONS

The Fernie Phosphate Project consists of two properties totaling 31 units. The sedimentary phosphorite properties lie in the Jurassic Fernie basin, in the Fort Steele Mining Division of southeastern British Columbia.

Previous exploration programs have outlined a shallow mineral reserve estimate in the range of 150,000 tons at a grade in the range of 20% P_2O_5 and 600 ppm yttrium on the Cabin Creek property. The recent government phosphate project (Butrenchuk, 1996) suggested the entire strike lengths of the phosphorite horizons in the Cabin Creek - Bighorn Creek area could contain in excess of 30 million tonnes to 300 metres of depth.

Metallurgical testing using standard grinding and flotation techniques has yet to produce salable concentrates from the Fernie phosphorites. Recent research and development in the field of vat leaching has met with reasonable success in bench scale testing. Ecomineral Resources Ltd. is evaluating a proprietary agronomical process which will utilize raw crushed phosphate rock and plant wastes.

The exploration program of 1999 was severely hampered by a lack of funding. Nonetheless, samples for agronomical testing were obtained. These samples have also been stored for future testing. A small volume of phosphate rock has been sent to Ecomineral Resources Ltd. for testing in the proprietary agronomical process.

Further exploration consisting of continuing property acquisition, excavator / backhoe trenching and bulk sampling is recommended.

Phase I will consist of tracing the phosphorite beds along strike to dig a number of test pits for 20 litre samples. As well, further staking is required to cover the remaining readily accessible sections of the phosphorite beds. The Phase I program is now budgeted at $15,630.

Phase II will consist of excavator trenching and beneficiation testing. The purpose of the excavator trenching is to examine, map and sample the phosphate horizons at regular intervals along strike. This will allow an increase in confidence in the preliminary phosphate resources, as the near surface resources will be recategorized as proven and probable reserves as opposed to probable reserves and inferred resources. Sufficient phosphate rock will be stockpiled to allow both beneficiation testing and agronomy testing. The time frame for phase II is 8 days at a total cost of $43,840.

Phase III will consist of large scale bulk testing. Preliminary open cuts will be excavated and 500 to 1000 tons of phosphate rock will be stockpiled from each open cut. The time frame for phase III is 30 days at a total cost of $122,250.

Phase I	$15,630
Phase II	$43,840
Phase III	$122,250

Total Budget	$181,720

At the conclusion of phase III of the exploration and development program, a firm mineral reserve should be in hand for each of the two properties. A total of ± 2,000 tons of phosphate rock should be excavated and stored on surface. All data should be in hand to complete a feasibility study prior to production.

The cost of the 1999 exploration program is $3,130, broken down between the two properties as follows:

Bighorn	$511
Cabin Creek	$2,619

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STATEMENT OF QUALIFICATIONS

I, R. Tim Henneberry, am the principle of Mammoth Geological Ltd., a geological consulting firm with an office at 604 Noowick Road, R.R. #1 Mill Bay, B.C. V0R 2P0.

I earned a Bachelor of Science Degree majoring in geology from Dalhousie University, graduating in May 1980.

I have practiced my profession continuously since graduation.

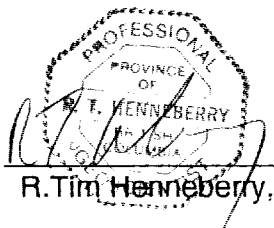
I am registered with the Association of Professional Engineers and Geoscientists in the Province of British Columbia as a Professional Geoscientist (registration number 19759). I am also a Fellow of the Geological Association of Canada.

I am the registered owner of the claim groups of the Fernie Phosphate Project: CC #5-#15 (record numbers 348604-348614), BIG #1-#2 (record numbers 364144-364145), BIG #3-#4 (record numbers 364179-364180) and CC #20-#34 (record numbers 364162-364177).

I supervised the sampling program described in this report completed on the following dates: CC #5-#15 and C.C.#20-#34 on July 5, 6, 7,1999, and BIG #1-#4 on July 7, 1999.

This report may be used for any purpose normal to the business of Mammoth Geological Ltd., provided no part is used in such a manner to convey a meaning different than that set out in the whole.

Dated this 16th day of August in the town of Mill Bay, British Columbia.



R.Tim Henneberry, P.Geo.

STATEMENT OF COSTS

July 5, 6, 7			**Total**	**Cabin**	**Bighorn**
Steve Butrenchuk	3 day	@ $400	$1,200	$1,000	$200
J. Butrenchuk	3 day	@ $100	$300	$250	$50
Vehicle	3 day	@ $75	$225	$188	$37
Mileage	975km	@ $.40	$390	$325	$65
Room and Board			$55	$46	$9
Report	1.5 d	@ $300	$450	$300	$150
Totals			**$2,620**	**$2,108**	**$511**

COST ESTIMATES

Phase I - Initial Testing and Additional Staking

Complete check mapping and sampling on each property
Dig a number of test pits and remove a 5 gallon pail of phosphate rock from each pit
Add to property base by staking along strike of the phosphorite beds.

File one year assessment work on all claims

Time frame

Cabin Creek	4 days
Bighorn / Leslie	6 days

Personnel	$7,000
Support	$2,350
Analysis	$3,400
Reports	$2,100
Filing Fees	$780
Phase I Budget	$15,630

Phase II - Trenching and Metallurgical Testing

Undertake an excavator trenching program at regular intervals along strike
Stockpile ±50 tons from each trench and take samples for analysis
Combine phosphate rock from trenches to form composite samples for metallurgical testing
Calculate and update mineral inventory for each property

File two years of assessment work for all claims

Time frame

Cabin Creek	4 days
Bighorn / Leslie	4 days

Personnel	$4,800
Support	$4,280
Analysis	$2,100
Excavator	$4,800
Reports	$2,800
Contingency	$3,500
Metallurgical tests	$14,000
Filing Fees	$2,560
Bond	$5,000
Phase II Budget	$43,840

Phase III - Bulk Testing
Take a bulk test of ±2,500 tons from each property
Truck phosphate rock to a local site
Sample mined phosphate rock at regular intervals
Update mineral inventory for each property

File 5 years of assessment work on all claim groups

Time frame

Cabin Creek	15 days
Bighorn / Leslie	15 days

Personnel	$18,000
Support	$14,550
Analysis	$10,000
Equipment	$46,300
Reports	$7,000
Contingency	$10,000
Filing Fees	$6,400
Bonds	$10,000
Phase III Budget	$122,250