ARIS SUMMARY SHEET

District Geologist, Prince George Off Confidential: 90.05.02 ASSESSMENT REPORT 18815 MINING DIVISION: Cariboo PROPERTY: LOCATION: Toppergold LAT 52 18 00 LONG 120 43 00 5796643 UTM 10 655697 1 NTS 093A07E CAMP: 036 Cariboo - Quesnel Belt CLAIM(S): OPERATOR(S): Jolly Jack Grand National Res. AUTHOR(S): Symonds, D.F. 1989, 25 Pages **REPORT YEAR:** COMMODITIES SEARCHED FOR: Gold KEYWORDS: WORK Triassic, Quesnel River Group, Phyllites, Argillites, Sericite Schists DONE: Geochemical HMIN 17 sample(s) ;AU,AG,CU,PB,ZN RELATED **REPORTS:** 17989

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	GEOCHEMICAL ASSESSMENT REPORT JUN - 1 1989
	M.R. #
	on the VANCOULL, D.C.
	TOPPERGOLD PROPERTY Crooked Lake Area, Cariboo Mining Division
	CLAIMS: Tip, Top, Topper, Topper #1-5 (TOPPER GROUP) Jolly Jack (UNGROUPED)
	NTS: 93A/7 Latitude: 52 ⁰ 18' North Longitude: 120 ⁰ 43' West
	FILMED
	on behalf of
	GRAND NATIONAL RESOURCES INC. 905-626 West Pender Street Vancouver, B.C., V6B 1V9
	by
	D.F. SYMONDS, B.Sc.(Geol.)
	Burton Consulting Inc. May 25, 1989
	Vancouver, B.C., V6B 1V9
•	GEOLOGICAL BRANCH ASSESSMENT REPORT
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1.0 INTRODUCTION

This report has been written on behalf of Grand National Resources Inc., of Vancouver, B.C. It describes field work, including heavy mineral sampling, which was carried out on the Toppergold property (Jolly Jack mineral claim), located in the Cariboo area near Crooked Lake, B.C. This work was carried out during April and May of 1989 under the supervision of the author.

A statement of costs incurred directly as a result of the 1989 work program is included. This cost statement was prepared by a representative of Grand National Resources Inc. and supplied to Burton Consulting Inc.

Recommendations are made for further work on the property.

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2.0 SUMMARY & CONCLUSIONS

The Toppergold property, consisting of 9 metric claims totalling 100 units is located near Crooked Lake in the Cariboo area of British Columbia. The property is held by Grand National Resources Inc., of Vancouver, B.C. Access to the property is by road from 100 Mile House, B.C. northeasterly via the Canim Lake/Hendrix Lake/McKusky Creek road network, a total distance of approximately 140.0 kilometres.

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Mineralization on the property consists mainly of trace values of gold and silver in quartz sweats and veins occurring within sedimentary rocks of the Upper Triassic Quesnel River Group. Galena and sphalerite mineralization has been reported within the quartz material.

Immediately to the east of the Toppergold property, on the southwesterly-dipping limb of the Eureka Syncline, gold mineralization occurs in stratiform quartz sweats within a knotted phyllite unit on the Frasergold property. In April of 1987, Eureka Resources announced potential large tonnage, open-pittable gold reserves of 20 million tons grading 0.06 oz./ton gold and higher grade underground reserves of 1.2 million tons grading 0.40 oz./ton gold.

Prior to 1984 there does not appear to have been any work recorded on the Jolly Jack claim area. In 1984 and 1985, geochemical soil sampling, rock chip sampling and geological mapping were carried out. Isolated high values in Au, Ag, Pb, Zn and Cu were detected in soil samples taken on a survey grid which covered the Jolly Jack claim. Gold analyses were carried out on the -80 mesh fraction of the soil. A -150 mesh grind of the total sample, with subsequent gold analysis has been proven to be a more effective geochemical exploration technique⁵.

A total of 8 heavy mineral samples were taken from creeks draining the claim area during a 1988 assessment work program⁵. These samples were taken using a portable suction dredge/sluice box set-up. The samples were split into coarse and fine fractions and analysed separately. One of the fine fraction samples was highly anomalous in gold (Sample NOM #3 - 4350 ppb Au). The location of this sample is on "No Name" Creek, approximately 210 metres downstream from the junction of a main tributary coming in from the north. This tributary cuts the east side of the Jolly Jack claim.

A total of 17 heavy mineral samples were taken from the Jolly Jack claim area during the 1989 assessment work

program. The purpose of this sampling was to follow up the high gold value obtained from 1988 work. One of the fine fraction samples was anomalous in gold (Sample NOM #89-20 -1140 ppb Au). This could represent gold shed from a lode deposit some distance upstream. Weather conditions hampered sampling at higher elevations on the main creek and side creeks.

3

It is recommended that further heavy mineral sampling be carried out upstream from the anomalous sites. Once the potential source of the gold mineralization has been soil narrowed down, would а geochemical survey be recommended. Analysis should be carried out on a -150 mesh grind of the total soil sample. Trenching can be employed to expose the soil anomalies.

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3.0 LOCATION & ACCESS

The Toppergold property is located immediately north and east of Crooked Lake, a small lake roughly 10.0 kilometres in length which drains into the Horsefly River and eventually into the Quesnel River/Fraser River drainage(see Figure 3-1).

4

Access to the property is by road from 100 Mile House on Highway 97. The turnoff to Canim Lake is taken easterly to Eagle Creek on the north side of Canim Lake, a distance of approximately 60.0 kilometres. At Eagle Creek, the turnoff to the Boss Mountain Mine area near Hendrix Lake is taken northerly for a distance of approximately 75.0 kilometres along the Canim Lake/Hendrix Lake road and the McKusky Creek road to the west end of Crooked Lake. Access to the western end of the property can be gained by using logging road "K", which leaves the McKusky Creek forest road approximately 7.0 kilometres northwest of Crooked Lake. An old fire access road provides seasonal access to the Tip claim and to the northern end of the Topper #1 to #4 claims.



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4.0 CLAIM INFORMATION

The Toppergold property is located in the Cariboo Mining Division of British Columbia. The property is comprised of 9 metric claims totalling 120 units. The Topper Group consists of 8 mineral claims totalling 100 units. The 20 unit Jolly Jack mineral claim also forms part of the property. Claim information is as follows:

Top	per	Grou	p
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<u>Claim Name(</u>	<u> units)</u>	<u>Record #</u>	Record Date	Expiry Date
	· . · ·			
Topper	(16)	4803	22AUG83	22AUG90
Topper #1	(20)	5097	22AUG83	22AUG90
Topper #2	(12)	5098	22AUG83	22AUG89
Topper #3	(6)	5099	22AUG83	22AUG90
Topper #4	(18)	7095	15AUG85	15AUG89
Topper #5	(16)	7229	28NOV85	28NOV90
Tip	(8)	6001	19APR84	19APR90
Тор	(4)	6774	18MAR84	18MAR90
-				

100 units

Ungrouped

Jolly Jack (20)

TOTAL

03MAY83

03MAY92**

6

** Pending acceptance of this report.

4803

Claim information and location is shown in Figure 4-1.



5.0 HISTORY & PREVIOUS WORK

Prior to the exploration programs carried out by Grand National Resources Inc. and World Cement Industries Inc. during 1984, there does not appear to have been any recorded work carried out on the claim area. During the 1984 and 1985 field seasons, geochemical surveys including "B" horizon soil sampling and rock chip sampling were carried out. Geological mapping at a scale of 1:25,000 was carried out. Three zones of geochemically anomalous copper, zinc, silver and accessory lead and gold values were outlined, with an "apparent regional extent inferred to be greater than 3 kilometres".

During 1984, a VLF-EM survey conducted on the Jolly Jack claim detected a number of anomalies. These anomalies were interpreted as relating to the graphitic nature of the phyllitic rocks in the area.

During 1985, geochemical surveys on the Topper Group were successful in extending and outlining a number of anomalous zones. Three broad zones have been located which have been called the West, Central and South anomalies. These zones are "defined by strongly anomalous geochemical silver, zinc and copper values with an accessory gold and lead association. The geochemical signature suggests a particular mineralized stratigraphic horizon within the underlying black phyllites. This would give the Topper property the potential to host a low-grade bulk-tonnage silver/base metal/gold deposit"¹.

Immediately to the east of the Toppergold property, work on the Frasergold property has resulted in the announcement of potential large tonnage, open-pittable gold reserves of 20 million tons grading 0.06 oz./ton gold and higher grade underground reserves of 1.2 million tons grading 0.40 oz./ton gold. The Toppergold property is in a geologic environment similar to the Frasergold property.

During 1986, geological mapping was carried out along road cuts and prominent ridges(1:2,500). Rock chip sampling of quartz sweats, veins and stockwork and all pyritic rocks along with further geochemical soil sampling and heavy mineral concentrate sampling at five localities was completed. Anomalous levels of silver and gold were found at several sites thought to be underlain by "knotty" phyllitic rocks. The "West" zone as outlined during the 1985 sampling program was confirmed and extended for 500 metres to the northwest.

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6.0 GEOLOGY

The Toppergold property has been mapped geologically at a scale of 1:25,000 (Kregosky, 1984-85). The Upper Triassic formation of the Quesnel River Group is shown as four distinct units on the property(see Figure 6-1). These four units (not differentiated by age) are:

- 1) Phyllites
- 2) Calcareous argillites and argillites
- 3) Phyllites, slaty argillites and schist
- 4) Chlorite sericite schist

A dioritic intrusive of possible Triassic/Jurassic age has also been mapped on the property. These intrusive rocks are of interest as they are found to be associated with gold mineralization further north within the Quesnel Trough. The "QR" deposit of Dome Mines Ltd. contains over one million tons of ore grading 0.2 oz/ton gold. This ore occurs at the contact of an intensely propylitized package of basaltic calcareous fragmental volcanics and overlying sediments. Α quartz-poor diorite stock which outcrops nearby is thought to be the heat source for fluids responsible for remobilizing the gold.

At several locations on the property a "knotty" or "knobby" phyllitic unit has been observed. This unit is similar in appearance to the rock which hosts gold-bearing quartz on the Frasergold property to the east. The "knotty" texture is caused by iron oxide or iron carbonate-stained blebs or porphyroblasts.

Volcanic rock units on the property were observed both interbedded as thin beds with the sediments and as massive beds. Extreme alteration makes the identification of original rock types difficult.

Contacts between the various rock units on the property trend generally northwest.

Mineralization on the property consists mainly of trace values of gold and silver in quartz sweats and veins occurring within the phyllites and other sediments on the property. Large pyrite cubes and fine-grained disseminated pyrite can be found in some of the quartz sweats. Galena and sphalerite mineralization has been reported within the quartz material. Significant multielement geochemical anomalies on the property would indicate that considerable surface leaching and depletion has taken place, and that samples of fresh, unweathered mineralized material should provide better results.

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Mineralization on the Toppergold property occurs in a geological environment similar to that of the Frasergold property, located immediately to the east. In April of 1987, Eureka Resources announced potential large tonnage, open-pittable gold reserves grading 0.06 oz./ton gold and higher grade underground reserves of 1.2 million tons grading 0.40 oz./ton gold.

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7.0 HEAVY MINERAL SAMPLING

Heavy mineral sampling was carried out at 17 sites within the Jolly Jack claim area in an attempt to trace the source of the anomalous gold values detected by previous heavy mineral surveys. Sampling locations and results are shown in Figure 7-1 and the results are also shown in Appendix I.

A portable sluice box and pump/suction dredge were used to sample active drainages at a nominal 150 to 200 metre spacing. The sluice box was set up on the creek bank so that no reject material from the box would be put back in the creek. The suction hose was used to pick up stream deposits in a localized(usually 6.0 m^2) area. The method concentrates on picking up material from natural "traps" such as underneath stream boulders, in cracks and on inside curves in the stream.

About one hour is required at each sample site(once the site is reached) to dredge and sluice approximately 0.5 m³ to 0.75 m³ of material. The material which is trapped by the fine riffles and the matting in the sluice box is washed carefully into a large heavy poly bag, allowed to settle. Most of the water can then be poured off.

The samples were sent to Chemex Laboratories Ltd., 212 Brooksbank Ave., North Vancouver, B.C., V7J 2C1 where they were processed as follows:



The detection limits for heavy mineral sample analysis were as follows:

Gold - 5 ppb Copper - 1 ppm Lead - 1 ppm Zinc - 1 ppm Silver - 0.2 ppm

Results of Heavy Mineral Stream Sampling

The arithmetic average value for 17 gold samples in the fine fraction was 127 ppb. The arithmetic average value for the corresponding coarse fraction was less than 5 ppb. The fine fraction most probably reflects gold being shed from a lode deposit.

Anomalous gold values in the fine fraction occur immediately downstream from the junction of a tributary entering "No Name" Creek from the north. Sample NOM #3, taken in 1988, 210 metres downstream from the creek junction returned a value of 4350 ppb gold in the fine fraction. Sample NOM89-20, taken 25 metres downstream from the same junction, returned a value of 1140 ppb gold in the fine fraction.

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SAMPLE A	HEA AU(ppb)	VY MINERAL	SAMPLIN CU(ppm)	G RESULTS PB(ppm)	S ZN(ppm)	AG(ppm)	CROOKED
SAMPLE A NUMBER +14	HEA AU(ppb) 40 mesh	VY MINERAL AU(ppb) -140 mesh	SAMPLING CU(ppm)	G RESULTS PB(ppm) (all -14	S ZN(ppm) 40 mesh)	AG(ppm)	CROOKED
SAMPLE A NUMBER +14	HEA AU(ppb) 40 mesh	VY MINERAL AU(ppb) -140 mesh	SAMPLING CU(ppm)	G RESULTS PB(ppm) (all -14	2N(ppm) 40 mesh)	AG(ppm)	CROOKED
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11	HEA AU(ppb) 40 mesh 5 <5	VY MINERAL AU(ppb) -140 mesh 60 250	SAMPLING CU(ppm) 62 68	G RESULTS PB(ppm) (all -14 19 12	2N(ppm) 40 mesh) 115 125	AG(ppm) 0.3 0.3	CROOKED LAKE
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12	HEA AU(ppb) 60 mesh 5 <5 <5	AU(ppb) -140 mesh 60 250 15	SAMPL I N CU (ppm) 62 68 63	G RESULTS PB(ppm) (all -14 19 12 15	2N(ppm) 60 mesh) 115 125 122	AG(ppm) 0.3 0.3 0.2	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-14	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5	4U(ppb) -140 mesh 60 250 15 45	SAMPL IN CU(ppm) 62 68 63 70 68	G RESULTS PB(ppm) (all -14 19 12 15 15 14	2N(ppm) 40 mesh) 115 125 122 124 112	AG(ppm) 0.3 0.3 0.2 0.2 1 8	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-14 NOM 89-15	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5 <5 <5 <5	AU(ppb) -140 mesh 60 250 15 45 100 <5	SAMPL IN CU(ppm) 62 68 63 70 68 68 68	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15	ZN(ppm) 0 mesh) 115 125 122 124 112 140	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-14 NOM 89-15 NOM 89-16	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5 <5 <5 5 5	AU(ppb) -140 mesh 60 250 15 45 100 <5 5	SAMPL IN CU(ppm) 62 68 63 70 68 68 68 70	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15 14	ZN(ppm) 40 mesh) 115 125 122 124 112 140 124	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-15 NOM 89-15 NOM 89-16 NOM 89-17	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5 <5 5 5 5	AU(ppb) -140 mesh 60 250 15 45 100 <5 5 5	SAMPL IN CU(ppm) 62 68 63 70 68 68 68 70 67	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15 14 16	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-15 NOM 89-15 NOM 89-16 NOM 89-17 NOM 89-18	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5	AU(ppb) -140 mesh 60 250 15 45 100 <5 5 5 5	SAMPLIN CU(ppm) 62 68 63 70 68 68 68 70 67 70 77	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15 14 15 14 16 14 14	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130 132 120	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.3 0.3	CROOKED LAKE + - 1988 SAMPLE (4350 ppb Au)
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-16 NOM 89-17 NOM 89-18 NOM 89-19 NOM 89-20	HEA AU (ppb) 40 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <	VY MINERAL AU(ppb) -140 mesh 60 250 15 45 100 <5 5 5 5 5 <5 5 <5 5 5 5 5 5 5 5 5 5	CU(ppm) 62 68 63 70 68 68 70 67 70 76 80	G RESULTS PB(ppm) (all -14 19 12 15 14 15 14 16 14 16 14 14 29	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130 132 120 122	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.3 0.2 0.5	CROOKED LAKE - 1988 SAMPLE (4350 ppb Au) GRAND NATIONAL RESOURCES INC.
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SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-14 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-17 NOM 89-17 NOM 89-19 NOM 89-20 NOM 89-21 NOM 89-22 NOM 89-23 NOM 89-24 NOM 89-25	HEA AU(ppb) 0 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5	VY MINERAL AU(ppb) -140 mesh 60 250 15 45 100 <5 5 5 <5 5 <5 5 <5 5 5 5 5 5 5 5 5 5	SAMPL IN CU (ppm) 62 68 63 70 68 68 68 70 67 70 76 80 78 78 86 70 86 70 86	G RESULTS PB(ppm) (all -14 19 12 15 14 15 14 15 14 16 14 14 29 19 16 18 20 22	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130 132 120 122 115 124 134 114 132	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	CROOKED LAKE T - 1988 SAMPLE (4350 ppb Au) GRAND NATIONAL RESOURCES INC. HEAVY MINERAL SAMPLING
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-14 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-16 NOM 89-17 NOM 89-18 NOM 89-19 NOM 89-20 NOM 89-21 NOM 89-22 NOM 89-23 NOM 89-25 NOM 89-25 NOM 89-26	HEA AU(ppb) 40 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <	VY MINERAL AU(ppb) -140 mesh 60 250 15 45 100 <5 5 <5 <5 <5 <140 100 65 30 50 70 210	SAMPL IN CU(ppm) 62 68 63 70 68 68 67 70 76 80 78 78 86 70 86 70 86 70	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15 14 16 14 14 29 19 16 18 20 22 13	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130 122 120 122 115 124 134 114 132 120	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	CROOKED LAKE TOPPERGOLD PROPERTY
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-14 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-17 NOM 89-17 NOM 89-18 NOM 89-19 NOM 89-20 NOM 89-21 NOM 89-22 NOM 89-22 NOM 89-23 NOM 89-25 NOM 89-26	HEA AU (ppb) 0 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <	VY MINERAL AU(ppb) -140 mesh 60 250 15 45 100 <5 5 <5 <5 <5 <140 100 65 30 50 70 210	SAMPL IN CU(ppm) 62 68 63 70 68 68 70 67 70 76 80 78 86 70 86 70	G RESULTS PB(ppm) (all -14 19 12 15 15 14 15 14 16 14 14 29 19 16 18 20 22 13	ZN(ppm) 0 mesh) 115 125 122 124 112 140 124 130 122 120 122 115 124 134 114 132 120	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.3 0.2 0.5 0.4 0.4 0.4 0.3 0.2 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	CROOKED LAKE TOPPERGOLD PROPERTY Burton Consulting Inc.
SAMPLE A NUMBER +14 NOM 89-10 NOM 89-11 NOM 89-12 NOM 89-13 NOM 89-13 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-15 NOM 89-17 NOM 89-17 NOM 89-19 NOM 89-20 NOM 89-21 NOM 89-21 NOM 89-22 NOM 89-23 NOM 89-25 NOM 89-25 NOM 89-26	HEA AU(ppb) 0 mesh 5 <5 <5 <5 <5 <5 <5 <5 <5 <5	VY MINERAL AU(ppb) -140 mesh 60 250 15 45 100 <5 5 <5 <5 <5 1140 100 65 30 50 70 210 met	SAMPL IN CU(ppm) 62 68 63 70 68 68 68 70 67 70 76 80 78 78 86 70 86 70 86 70	G RESULTS PB(ppm) (all -14 19 12 15 14 15 14 15 14 16 14 14 29 19 16 18 20 22 13	ZN(ppm) 40 mesh) 115 125 122 124 112 140 124 130 132 120 122 115 124 134 114 132 120	AG(ppm) 0.3 0.3 0.2 0.2 1.8 0.4 0.3 0.3 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.3 0.3 0.2 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	CROOKED LAKE TOPPERGOLD PROPERTY Burton Consulting Inc.

Section Sectio

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8.0 DISCUSSION & RECOMMENDATIONS

Analysis of heavy mineral samples taken on "No Name" creek, which drains the Jolly Jack claim area indicate several anomalous values in the fine fractions as analysed for gold. These results indicate the potential for lode gold mineralization in these areas. Further heavy mineral sampling should be carried out with respect to these anomalous areas, to more closely define areas for more detailed follow-up work. The untested portions of the claim block should also be tested using the heavy mineral sampling technique as a vehicle for prioratizing further exploration areas and targets.

BURTON CONSULTING INC.

9.0 COST BREAKDOWN

following The cost breakdown was prepared by а of representative Grand National Resources Inc. from information supplied in part by Burton Consulting Inc.

GRAND NATIONAL RESOURCES INC.

Suite 905 - 626 West Pender Street, Vancouver, B.C. Canada V6B 1V9 Telephone (604) 682-5648 Fax (604) 682-5649

WORK COMPLETED ON JOLLY JACK MINERAL CLAIM AND EXPENSES INCURRED

Cariboo Mining Division

April 25th to May 2nd, 1989 (8 days)

SUPERVISION PERSONNEL:

Burton Consulting Inc. \$ 450.00 per day Alex Burton, P.Eng., Doug. Symonds, Geologist, L.M.Schram, field manager Dennis Wager, field assistant I.R. Schram, field assistant \$150.00 per day \$150.00 per day

L.M.Schram, field mgr. heavy mineral sampling 8 day	s \$ 1,600.00
Dennis Wager, field assistant 8 day	s 1,200.00
I.R. Schram, field assistant 8 day	s 1,200.00
Board and room 24 mandays @ \$70.00 per day	1,680.00
Doug Symonds, Geologist 4 days \$300.00 per day	1,200.00
Alex Burton, P.Eng. 1 day @ \$450.00 per day	450.00
Truck rental 8 days @ \$100.00 per day	800.00
Assaying @ analysis	1,000.00
Freight and supplies	200.00
Mobilization 2 days	700.00
Report writing, drafting data analysis	450.00
	\$10,480.00
PAC withdrawl	1.520.00

\$12,000.00

Wishart, eter F

President.

10.0 CERTIFICATE

I, Douglas Frederick Symonds, of 5900 #1 Road, Richmond, B.C., do certify that:

1. I am a geologist and a graduate of the University of British Columbia(B.Sc.(Geol.), 1972).

2. I have practised my profession in Canada and the United States since 1972.

3. I have based this report on field work carried out under my supervision during April and May, 1989.

4. I have no personal interest, directly or indirectly in the property or securities of **Grand National Resources Inc.**, nor do I expect to receive any such interest, directly or indirectly in any such property or securities.

Dated this 25th day of May, in Vancouver, B.C.

DOUGLAS F. SYMONDS, B.SC. (Geol.) Geologist

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<u>APPENDIX I</u> (Heavy Mineral Sampling Analyses)

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hemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.

905 - 626 W. PENDER ST. VANCOUVER, BC V6B 1V9

A8915622

Comments: ATTN: P. WISHART

CC: BURTON CONSULTING INC.

CERTIFICATE A8915622

1.125

GRAND NATIONAL RESOURCES INC. PROJECT : P.O.# : NONE

Samples submitted to our lab in Vancouver, BC. This report was printed on 18-MAY-89.

	SAMF	PLE P	REPAR	RATION
CHEMEX NUMBER CODE SAMPLES			DESC	RIPTION
217	17	Geochem:Ri	ing only,no	crush∥spli t

CODE	NUMBER SAMPLES		DESCRIPTION	METHOD	DETECTION UPPER LIMIT LIMIT
983	17	Au ppb: Fuse	30 g sample	FA-AAS	5 10000
		-			
		· ·			
	1				

ANALYTICAL PROCEDURES



(1) 5------

Cher

Analytical Chemists * Geochemists * Registered Assayers

PHONE (604) 984-0221

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

D

To : GRAND NATIONAL RESOURCES INC.

905 - 626 W. PENDER ST. VANCOUVER, BC

**Page No. :1 Tot. Pages:1 Date :15-MAY-89 Invoice #:I-8915622 P.O. # :NONE

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V6B 1V9
Project :

Comments: ATTN: P. WISHART CC: BURTON CONSULTING INC.

Bert - 197

CERTIFICATE OF ANALYSIS A8915622

100

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA IA A						
NOM 89-10 +140FR NOM 89-11 +140FR NOM 89-12 +140FR NOM 89-13 +140FR NOM 89-14 +140FR	217 217 217 217 217 217	<pre></pre>						
NOM 89-15 +140FR NOM 89-16 +140FR NOM 89-17 +140FR NOM 89-18 +140FR NOM 89-19 +140FR	217 217 217 217 217 217	<pre>< 5 < 5 </pre>						
NOM 89-20 +140FR NOM 89-21 +140FR NOM 89-22 +140FR NOM 89-23 +140FR NOM 89-24 +140FR	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<pre>< 5 < 5 < 5 < 5 < 5 < 5</pre>		2				
NOM 89-25 +140FR NOM 89-26 +140FR	217 217	< 5 1 5				- - -		
						the	h Vm	h

CERTIFICATION : _



Chemex Labs

Analytical Chemists * Geochemists * Registered Assayers 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.

905 - 626 W. PENDER ST. VANCOUVER, BC V6B 1V9

A8915617

Comments: ATTN: P. WISHART CC: BURTON CONSULTING INC.

CERTIFICATE A8915617

GRAND NATIONAL RESOURCES INC. PROJECT P.O.# : NONE

Samples submitted to our lab in Vancouver, BC. This report was printed on 18-MAY-89.

SAMPLE PREPARATION								
CHEMEX NUMBER CODE SAMPLES		DESCRIPTION						
202 216	1717	Dry, sieve –80 mesh, save reject Surcharge: –140 mesh						

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER Samples	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	17	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
2	17	Cu ppm: HNO3-aqua regia digest	AAS	1 · · · 1	10000
4	17	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
5	17	Zn ppm: HNO3-aqua regia digest	AAS	1	10000
6	17	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0



Chemex Labs Ltd.

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PHONE (604) 984-0221

Analytical Chemists * Geochemists * Registered Assayers 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

905 - 626 W. PENDER ST.

To : GRAND NATIONAL RESOURCES INC.

VANCOUVER, BC

**Page No. :1 Tot. Pages:1 Date :15-MAY-89 Invoice #:I-8915617 P.O. # :NONE

AND COMPANY

V6B		I	٧9	
Project	:			

Comments: ATTN: P. WISHART CC: BURTON CONSULTING INC.

CERTIFICATE OF ANALYSIS A8915617

1.1

SAMPLE PREP DESCRIPTION CODE	Au ppb Cu FA I AA ppm	Рь Z ppm p	Zn opm	Ag ppm Aqua R			
NCM89-10-140FR202216NCM89-11-140FR202216NCM89-12-140FR202216NCM89-13-140FR202216NCM89-14-140FR202216	60 62 250 68 15 63 45 70 100 68	19 12 15 15 14	1 1 5 1 2 5 1 2 2 1 2 4 1 1 2	0.3 0.3 0.2 0.2 1.8			
NCM89-15-140FR202216NCM89-16-140FR202216NCM89-17-140FR202216NCM89-18-140FR202216NCM89-19-140FR202216	<pre>< 5 68 5 70 5 67 < 5 70 < 5 70 < 5 70 < 5 70 < 5 76</pre>	15 14 16 14 14	1 4 0 1 2 4 1 3 0 1 3 2 1 2 0	0.4 0.3 0.3 0.3 0.2			
NCM 89-20 -140FR 202 216 NCM 89-21 -140FR 202 216 NCM 89-22 -140FR 202 216 NCM 89-23 -140FR 202 216 NCM 89-23 -140FR 202 216 NCM 89-24 -140FR 202 216	1 1 4 0 8 0 1 0 0 7 8 6 5 7 8 3 0 8 6 5 0 7 0	29 19 16 18 20	1 2 2 1 1 5 1 2 4 1 3 4 1 1 4	0.5 0.4 0.4 0.4 0.3			
NOM 89-25 -140FR 202 216 NOM 89-26 -140FR 202 216	70 210 70	2 2 1 3	1 3 2 1 2 0	0.3 0.4			
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<u>APPENDIX II</u> (References)

REFERENCES

- Kregosky, R.; "Geochemical Report on the Topper Group"; Private(Assessment) Report on behalf of Grand National Resources Inc. & World Cement Industries Inc.; September 6, 1985
- 2. Borovic, I.; "Report on the Mineral Exploration of Jolly Jack-Topper Properties"; Private Report on behalf of Grand National Resources Inc.; August 30, 1984.
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- 5. Symonds, D.F.; "Geochemical Report on the Toppergold Property; Assessment Report on behalf of Grand National Resources Inc.; November 8, 1988.