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GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,703

GEOLOGICAL REPORT ON THE SMOKEY PINES CLAIM

(Record Number 5211)

OMINECA MINING DISTRICT
Mapsheet 93E/14W

Latitude 53° 45' N Longitude 127° 24' W

By: Doug G. Hooper
Ryan Exploration Co., Ltd.

September 18, 1984

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SUMMARY AND RECOMMENDATIONS

A four-man crew from Ryan Exploration Company, Ltd. spent two days working on the Smokey Pines property during July, 1984. Preliminary geological mapping, as well as rock chip geochemical sampling was carried out. Unseasonally late snow covered over 50% of the property, including a 3 meter snow bank over the high-grade silver showing in the northwest saddle. Although the showing has been previously sampled by Ryan workers, this writer was not able to observe it. A total of 34 rock samples were obtained from the area, of which 19 are from within the claim boundaries. All samples were analysed for Cu, Pb, Zn, Mo, W, Ag and Au.

Results of the sampling duplicated good Ag and Cu anomalies from previous years' work, but failed to achieve the spectacular Ag grade results (up to 400 oz/ton) from work done in 1982 (assays from the "saddle" showing). Economic potential of the property can not be properly evaluated without further sampling and mapping of the "saddle" showing, therefore it is recommended that a two-man crew spend one week on the claim site doing a detailed evaluation of the Ag showing, and continuing the small scale mapping and sampling program initiated this year.

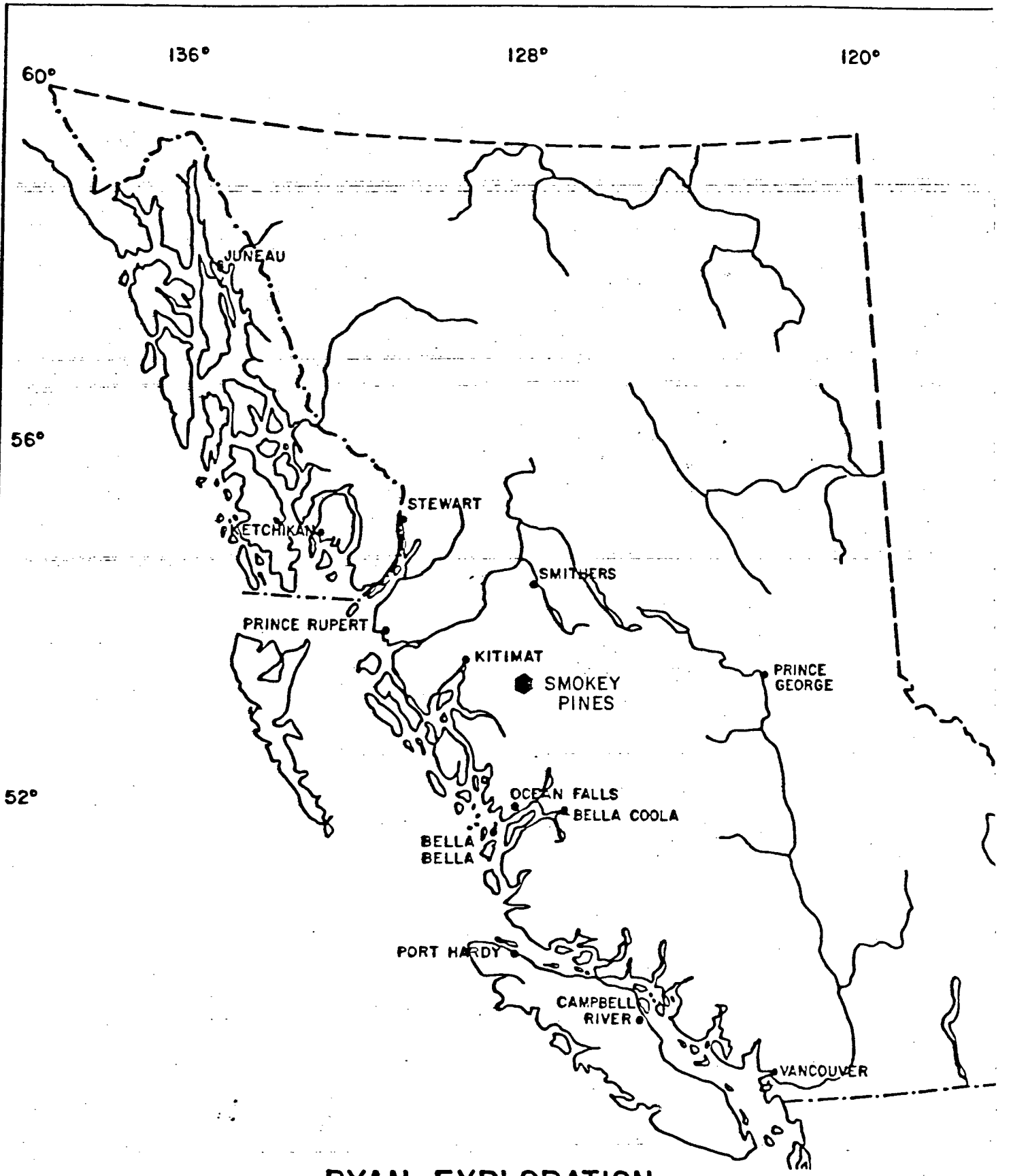
INTRODUCTION

The Smokey Pines claim is located 5 kilometers north of Tahtsa Lake on the Nechako Reservoir, and approximately 90 kilometers southwest of the town of Houston, British Columbia (Figures 1 and 2). The property lies within high alpine glacial terrain at an average elevation of 6000 feet. Access to the property is by helicopter, either from Houston or Kemano. Logging and mining roads pass within two kilometers to the north of the claims, while water access to major roads is easily attainable on the Nechako Reservoir.

Staking of the Smokey Pines claims was carried out by representatives of Ryan Exploration Company, Ltd. in June, 1983 and initially constituted two 20-unit claim blocks, Smokey Pines 1 and 2. The claims were held to 1984 by payment of cash-in-lieu and the claims were reduced to a 16-unit block, Smokey Pines 1, in May, 1984. Lead-zinc mineralization in the northwest saddle on the property was recorded by S. Duffel of the Geological Survey of Canada in 1959. Previous work on the saddle showing included a 10 m X 2 m trench, from which 1982 sampling yielded Ag grades ranging from 19 - 400 oz/ton.

Preliminary geological mapping was carried out at a scale of 1:5,000, and was supplemented by rock chip and talus sampling. Snow cover and time restraints restricted this work to only one-

third of the property area.

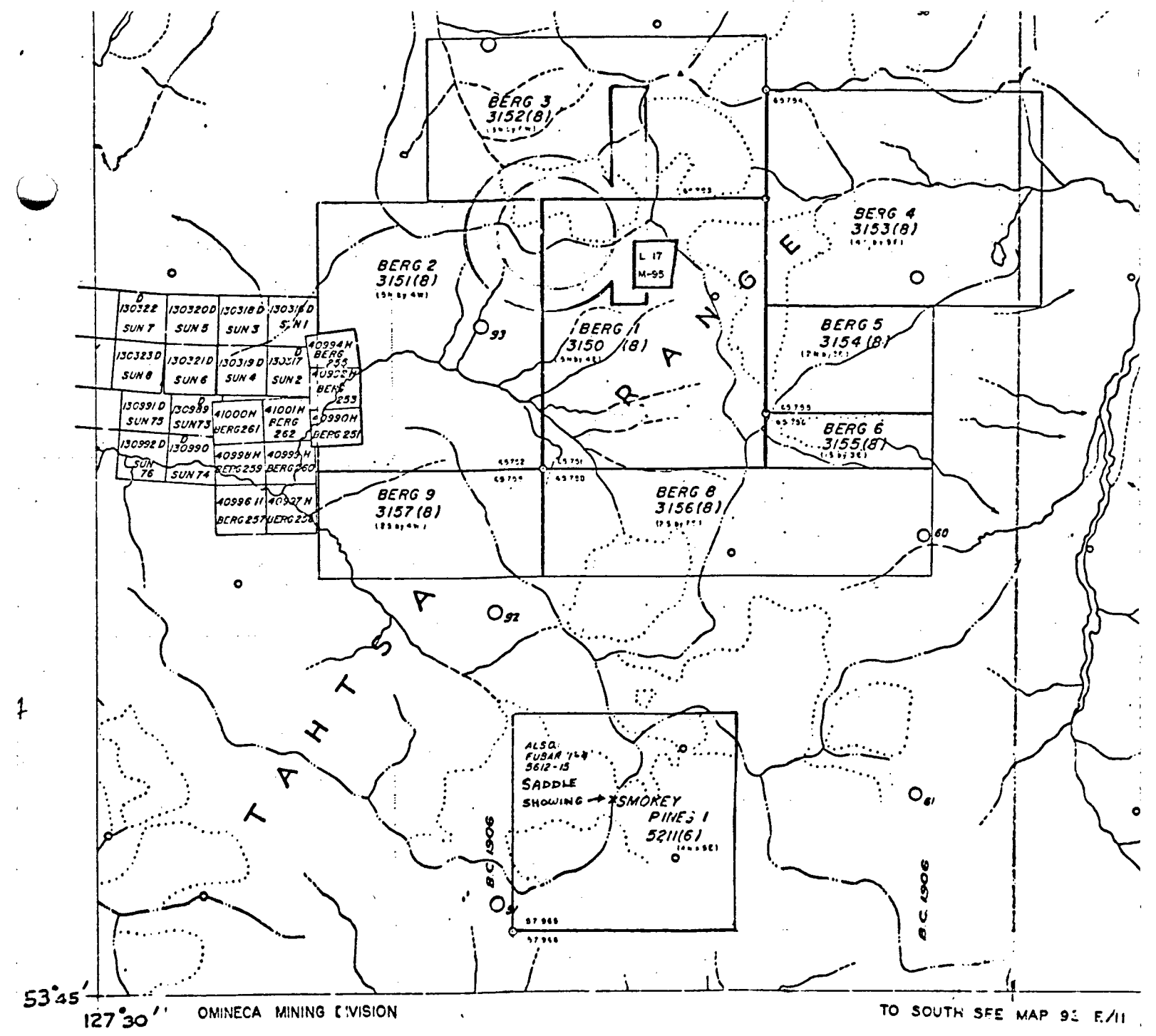


RYAN EXPLORATION

BRITISH COLUMBIA
CANADA

0 100 200 300 KM

FIGURE 1: Property Location Map



RYAN EXPLORATION COMPANY, LTD.

FIGURE 2: Property Claim Map

N.T.S. 93E/14W

Scale 1:50,000

September, 1984

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REGIONAL GEOLOGY

Work by G. Woodsworth (et. al., 1980) of the Geological Survey of Canada shows the Smokey Pines area to be a geologically complex terrain, hosting six different groups of rocks. Eocene granite to granodiorite lie in contact with older Late Cretaceous and/or early Tertiary diorite and gabbro in the northwest saddle area. Upper Cretaceous Skeena Group sediments, including micaceous sandstone, siltstone and shale, lie to the east and south of the intrusives. Lower Jurassic Hazelton Group Telkwa Formation volcanic tuffs and flows with minor sediments lie to the west and north of the property. Hazelton volcanics border with Upper Cretaceous Kasalka Group rhyolite to andesite volcanics to the south. The relationships between these groups appear enigmatic, and preliminary mapping by Ryan Exploration geologists only confirmed the complex lithologic setting.

PROPERTY GEOLOGY

Since snow cover was extensive, 1:5,000 scale preliminary mapping was restricted to three areas: 1) the ridge to the north and northwest of the saddle showing, and its valley on the southwest side; 2) the eastern face of the ridge to the south of the saddle showing; and 3) the ridge on the east side of the claim area (Figure 3). An Eocene (?) quartz-diorite to granodiorite plug underlies the saddle showing and areas to the north and northeast of the showing. Tourmalene veins with cockscomb quartz crystals, indicative of open space filling, cross-cut the intrusives. A 150 meter thick wedge of rhyolite and dacite flows (?), with minor sediments, lie immediately north of the saddle showing. This wedge abuts a larger quartz-diorite to granodiorite plug to the north and east. The contact between these two bodies is marked by a gossanous band, 1-5 meters wide, which is traceable over 150-200 meters.

The northwest ridge on the property is predominantly the same Eocene (?) granodiorite plug which gives way to andesite tuff and small bodies of quartzite and siltstone. The valley to the southwest of this ridge hosts similar andesite tuffs with minor interbedded volcaniclastic sediments. The volcaniclastics follow a contact, parallel to the creek, with green andesite and andesite feldspar porphyry flows. Dykes of basaltic, rhyolitic composition cross-cut the volcanics locally.

A quartz-diorite plug lies to the south and southwest of the saddle showing. This unit is locally dioritic and may be equivalent to the Late Cretaceous and/or early Tertiary diorite and gabbro group mapped by G. Woodsworth. Gossanous weathering dacite-andesite tuffs (?) and silicified, pyritized quartz-diorite are in possible fault contact with unaltered quartz-diorite to the south of the claims.

The ridge on the eastern edge of the property is comprised primarily of sediments with interbedded volcanic tuffs, flows (?) which are in contact with the Eocene (?) quartz-diorite to granodiorite body to the north. This intermixed sedimentary and volcanic unit is believed to be of the Upper Cretaceous Skeena Group. The sediments are predominantly lithic arenite, cherty argillite, limey siltstone, and limestone. The lithic arenite becomes micaceous to the north, and is difficult to differentiate from the intrusives. Intermixed dacite and dacite tuffs appear conformable to bedding, although the presence of cross-cutting basalt and rhyolite dykes may be indicative of more complex relationships.

MINERALIZATION

Anomalous mineralized showings are scattered throughout the Smokey Pines area, although only the Ag grades appear to favour economic potential (Figure 4). The volcanic and sedimentary wedge north of the saddle showing hosts small quartz-epidote and quartz-tourmalene veins containing pyrite, chalcopyrite, and arsenopyrite. One sample with epidote-pyrite-chalcopyrite veinlets contained 47.3 ppm Ag. The gossanous pyritized, silicified quartz-diorite plug to the south of the property assayed at 36.5 ppm Ag.

The most significant showing on the property is the sphalerite, galena, chalcopyrite and pyrite mineralization in the northwest saddle; this is referred to as the "saddle" showing and is exposed along a 10 m X 2 m trench (Figure 2). The showing was sampled and described by B. Devlin of Ryan Exploration in 1982. Mineralization is hosted by narrow 4-8 cm wide quartz stringers in the quartz-diorite stock. The stringers fill open-space fractures which trend 040 degrees and dip vertically. Sulphides are disseminated in the veins, although massive galena and sphalerite were found. Five samples from trenched boulders yielded assays of 19.0, 19.1, 96.2, 135, and 400 oz/ton Ag with less than one ppm Au. The hosting quartz-diorite has undergone silicification and pyritization.

CONCLUSIONS

Epigenitic late stage argenitiferous quartz, quartz-tourmalene and quartz-epidote veins host disseminated and massive sulphide mineralization. Work by Ryan Exploration geologists has not delineated any extension of high grade silver veins in the saddle showing, although extensive snow cover has restricted this work. The size and extent of the Ag veins discourage estimations of economic potential, yet the high grade nature of the veins warrant additional consideration before the property can be written off.

ITEMIZED COST STATEMENT

WAGES

Name	Position	Dates Worked (1984)	Total Days	Rate Per Day	Total
D. Hooper	Geologist	May 7-8; July 23-24; Sept. 17-18	6	$150	$ 900
B. Devlin	Geologist	July 23-24	2	$150	$ 300
R. Haslinger	Assistant	July 23-24	2	$ 80	$ 160
D. Moore	Assistant	July 23-24	2	$ 80	$ 160
				Total Wages	$1,520

ACCOMMODATION

Kemano Staff House — July 23-24 — 8 Man-days @ $50.00/day ..... $ 400

FOOD AND SUPPLIES

July 23-24 8 Man-days @ $10.00/day ..... $ 80

TRANSPORTATION

Truck $35.00/day for 2 days ..... $ 70

Helicopter $475.00/hr. (incl. fuel) 5.0 hours $2,375

ANALYSES

19 rock samples analysed for Cu, Pb, Zn, Au, Ag, Mo, W
@ $25.00/sample (incl. shipping) ..... $ 475

REPORT PREPARATION

Maps: Blow-up ..... $ 180

Drafting, typing, reproduction ..... $ 200

TOTAL EXPENDITURES $5,300

STATEMENT OF QUALIFICATIONS

I, Doug G. Hooper of 679 Arbutus Avenue, Maple Bay, in the province of British Columbia hereby certify that:

1) I obtained a B.Sc. in Geology from the University of British Columbia in 1984.

2) I have worked seasonally in mineral exploration since 1978.

3) I have been employed by Ryan Exploration Company, Ltd. since May 1, 1984.

4) This report is based on personally working on the Smokey Pines claims during July, 1984.

APPENDIX I: ANALYTICAL PROCEDURES

The following procedures are the standard analytical techniques used by the U.S. Borax Research Corporation in Anaheim which processes Ryan Exploration's samples.

Cu, Pb, Zn, Mo, Ag: Samples dissolved in aqua regia and values determined by atomic absorption.

Au: Fire assay pre-concentration followed by atomic absorption analysis of the dore bead.

As: Samples digested with aqua regia and values determined by hydride generation-atomic absorption.

APPENDIX II: GEOCHEMICAL ANALYSES

USBRC Geochemical Analysis --- BC84RC26 --- 24-AUG-84

Field Number	CU PPM	MO PPM	PB PPM	ZN PPM	AU/AA PPM
CDKE 40313 1R	210.	25.	30.	213.	0.05
CDKE 40314 2R	1330.	< 5.	20.	60.	< 0.02
CDKE 40315 5R	86.	81.	609.	2030.	0.50
CDKE 40316 1R	201.	15.	22.	33.	< 0.02
CDKE 42093 1R	4240.	< 5.	32.	49.	0.11
CDKE 42094 7R	9130.	< 5.	57.	119.	0.15
CDKE 42095 7R	41.	< 5.	68.	290.	0.08
CDKE 42096 1R	764.	< 5.	4710.	18600.	0.45
CDKE 42097 1R	384.	< 5.	36.	138.	0.05
CDKE 42098 7R	12300.	12.	36.	435.	< 0.02
CDKE 41395 3R	733.	< 5.	20.	46.	< 0.02
CDKE 41396 0R	397.	11.	56.	114.	< 0.02
CDKE 41397 1R	5640.	< 5.	21.	61.	0.77
CDKE 41398 1R	108.	< 5.	15.	39.	< 0.02
CDKE 41399 3R	179.	< 5.	60.	115.	< 0.02
CDKE 41400 3R	333.	11.	25.	283.	< 0.02
CDKE 41401 3R	2730.	9.	18.	57.	0.77
CDKE 41402 3R	27.	< 5.	12.	52.	< 0.02
CDKE 41403 7R	15.	< 5.	13.	73.	< 0.02
CDKE 41404 9R	64.	< 5.	43.	47.	< 0.02
CDKE 41405 9R	13.	< 5.	16.	66.	< 0.02
CDKE 41406 8R	20.	5.	84.	144.	< 0.02
CDKE 41407 1R	9.	< 5.	23.	15.	< 0.02
CDKE 41408 1R	22.	5.	14.	15.	< 0.02
CDKE 41409 7R	13.	< 5.	32.	50.	< 0.02
CDKE 41410 1R	125.	< 5.	16.	111.	< 0.02
CDKE 41411 1R	29.	< 5.	13.	34.	< 0.02
CDKE 42099 1R	111.	< 5.	22.	43.	< 0.02
CDKE 42100 7R	24.	< 5.	8.	19.	< 0.02
CDKE 42101 1R	52.	< 5.	7.	46.	< 0.02
CDKE 42102 9R	38.	< 5.	10.	60.	< 0.02
CDKE 42103 R-	34.	< 5.	18.	40.	< 0.02
CDKE 42104 1R	146.	< 5.	318.	1360.	< 0.02
CDKE 42105 1R	4670.	< 5.	34.	34.	< 0.02

Field Number	AG/AA PPM	W PPM	AS PPM
CDKE 40313 1R	4.1	32.	46.
CDKE 40314 2R	2.4	2.	11.
CDKE 40315 5R	36.5	7.	65.
CDKE 40316 1R	1.4	4.	< 2.
CDKE 42093 1R	9.8	1.	12.
CDKE 42094 7R	8.2	2.	28.
CDKE 42095 7R	5.0	2.	18.
CDKE 42096 1R	268.8	4.	187.
CDKE 42097 1R	2.2	1.	17.
CDKE 42098 7R	9.8	16.	31.
CDKE 41395 3R	1.0	2.	6.
CDKE 41396 0R	4.8	7.	41.
CDKE 41397 1R	47.3	1.	23.
CDKE 41398 1R	1.0	2.	110.
CDKE 41399 3R	1.2	1.	118.
CDKE 41400 3R	1.7	2.	774.
CDKE 41401 3R	8.4	14.	> 2000.
CDKE 41402 3R	1.0	1.	109.
CDKE 41403 7R	1.2	4.	25.
CDKE 41404 9R	1.9	2.	131.
CDKE 41405 9R	0.7	1.	20.
CDKE 41406 8R	8.2	1.	53.
CDKE 41407 1R	0.2	1.	3.
CDKE 41408 1R	0.7	1.	4.
CDKE 41409 7R	1.7	1.	279.
CDKE 41410 1R	2.2	2.	36.
CDKE 41411 1R	0.5	1.	56.
CDKE 42099 1R	< 0.2	22.	207.
CDKE 42100 7R	< 0.2	6.	40.
CDKE 42101 1R	0.2	2.	5.
CDKE 42102 9R	0.2	3.	< 2.
CDKE 42103 1R	1.4	1.	80.
CDKE 42104 1R	10.8	3.	13.
CDKE 42105 1R	11.0	6.	10.

4300
5400
6000
6500
4000
atne
Icefield
OOTSA FOREST
maroon andesite tuff
and. tuff (ep.)
andesite tuff.
quartzite
siltstone
and. tuff
mixed seds & volcanics
argillite py
GRDR-QDR
dacite-py-G at contact
GRDR (locally chloritic)
andesite tuff
green andesite
bedded volcanics sst, slst, congl.
bedded shale, sst, slst.
dark green andesite
small cpy-mal vein
andesite tuff
and. tuff
andesite
rhyolite dyke
and. fsp.ø
Qz-Ca-py-cpy vn.
and. fsp.ø
GRDR
dacite dyke
andesite tuff
dacite dyke-plag phenos
small tourmaline-py vein
f.g. andesite tuff-py
andesite -locally amygdaloidal porphyritic
andesite
GRDR-QDR
GRDR
QDR-GRDR
QDR-GRDR
Gossan zone at contact of QDR & volc. flows -py., aspy.
dac.?
rhyolite & dacite flows? minor slst. arenite py., po.
rhyolite dyke?
talus rhyolite, dacite breccia
volc. INT.
QDR-f.g. -vn. of Qtz-ep
QDR -f.g. basalt-and. dykes -pyrite
QDR
QDR-GRDR
QDR
lithic arenite - micaceous - minor slst, dacite, rhy (tuffs?)
mixed seds., volc. rx.
lithic arenite
dacite tuff
basalt fsp.ø dyke?
micaceous arenite
lithic arenite, cherty argillite
G
dacite tuffs (flows?)
rhyolite dyke
alternating beds of arenite, dac. tuff, limey slst. rhyodacite
rhyolite dike
lithic arenite
dacite
basalt fspø - amygdules of calcite, fluorite
interbedded lithic arenite, siliceous slst.
arenite, slst.
lithic arenite
rusty weathering cherty argillite
Q.DR.
L.CP TAG No. 57965
QDR
amygdaloidal basalt dyke
QDR
G
QDR -sil zone -py
bleached alt volc (and tuff
lahar (agglom ?) tuff 88
dacite (crystal lithic tuff
andesite -py G
RYAN EXPLORATION COMPANY, LTD.
SMOKEY PINES CLAIM
FIGURE 3: GEOLOGY (Preliminary Map)
N.T.S. 93E/11,14
Scale 1:5,000
0 100 200 m.
Sept. 1984 D. Hooper, B. Devlin, R. Haslinger
LEGEND
85 bedding
dyke attitude (vertical)
15 vein attitude
65 foliation
and. outcrop
area of talus, outcrop
possible contact
fault
G gossan
L.C.P. - legal corner post
Contour interval: 100'
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SMOKEY PINES CLAIM
Figure 4 : GEOCHEMISTRY (1980-1984)
N.T.S. 93E/11,14
Scale 1:5,000
0 100 200 m.
SEPT. 1984, D. Hooper
LEGEND
rock sample
float (1984)
stream sediment sample
soil sample
streams
Cu Au
Pb Ag
Zn As
Mo W
- assay values (ppm)
L.C.P. legal corner post
CONTOUR INTERVAL = 100'
Drafted by: K. Bogle
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ASSESSMENT REPORT
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OOTSA FOREST
Icefield
LAKE
SADDLE
SHOWING
25246-50
RE-ASSAYS
Ag (oz/ton) | Au (ppm) | Sb (ppm)
25246 135 0.68 4910
25247 400 0.22 5800
25248 96.2 0.54 1500
25249 19.1 0.28 255
25250 19.0 0.83 327
4300
5400
6000
6500
4000
LCP
TAG No. 57965