

**TOODOGGONE RIVER AREA
(94E)**

By T. G. Schroeter

INTRODUCTION

The Toodoggone River area is situated approximately 300 kilometres north of Smithers (Fig. 38). Access to the area was by aircraft, mainly from Smithers.

The writer spent two weeks in the area, mainly north of the Toodoggone River. Work included fill-in geological mapping using a 1:25 000 scale topographic base, as well as detailed property examinations and core inspection. Particular attention was paid to structural controls, alteration zones, and mode and types of mineralization.

In addition, Andre Panteleyev and Larry Diakow conducted detailed stratigraphic studies in the area (see accompanying reports, this volume). It is hoped that a preliminary map of the Toodoggone area will be available in the spring of 1983 at a scale of 1:50 000.

WORK DONE

The following diamond drilling was completed in the Toodoggone during 1982:

- | | | |
|---------------------------|---------------------|---------------------|
| (1) Kidd Creek Mines Ltd. | | |
| (a) JD | 1 445 metres | (4 739 feet) |
| (b) Porphyry Pearl | 498 metres | (1 632 feet) |
| (c) Al | <u>1 667 metres</u> | <u>(5 469 feet)</u> |
| | 3 610 metres | (11 840 feet) |

Core from this program was briefly examined.

- (2) SEREM Ltd. Approximately 3 597 metres (11 800 feet) of underground and surface drilling on the Amethyst gold breccia zone (Lawyers property).

Core from this program was not examined.

- (3) Lacana Mining Corporation. Drilled 621 metres (2 038 feet) on the Metsantan gold breccia zone.

Core from this program was examined.

- (4) Du Pont of Canada Exploration Limited. Approximately 915 metres (3 000 feet) was drilled on a 'new' (upper) quartz vein at Baker mine. Total drilling in the area was 8 743 metres (28 678 feet).

Core from this program was not examined.

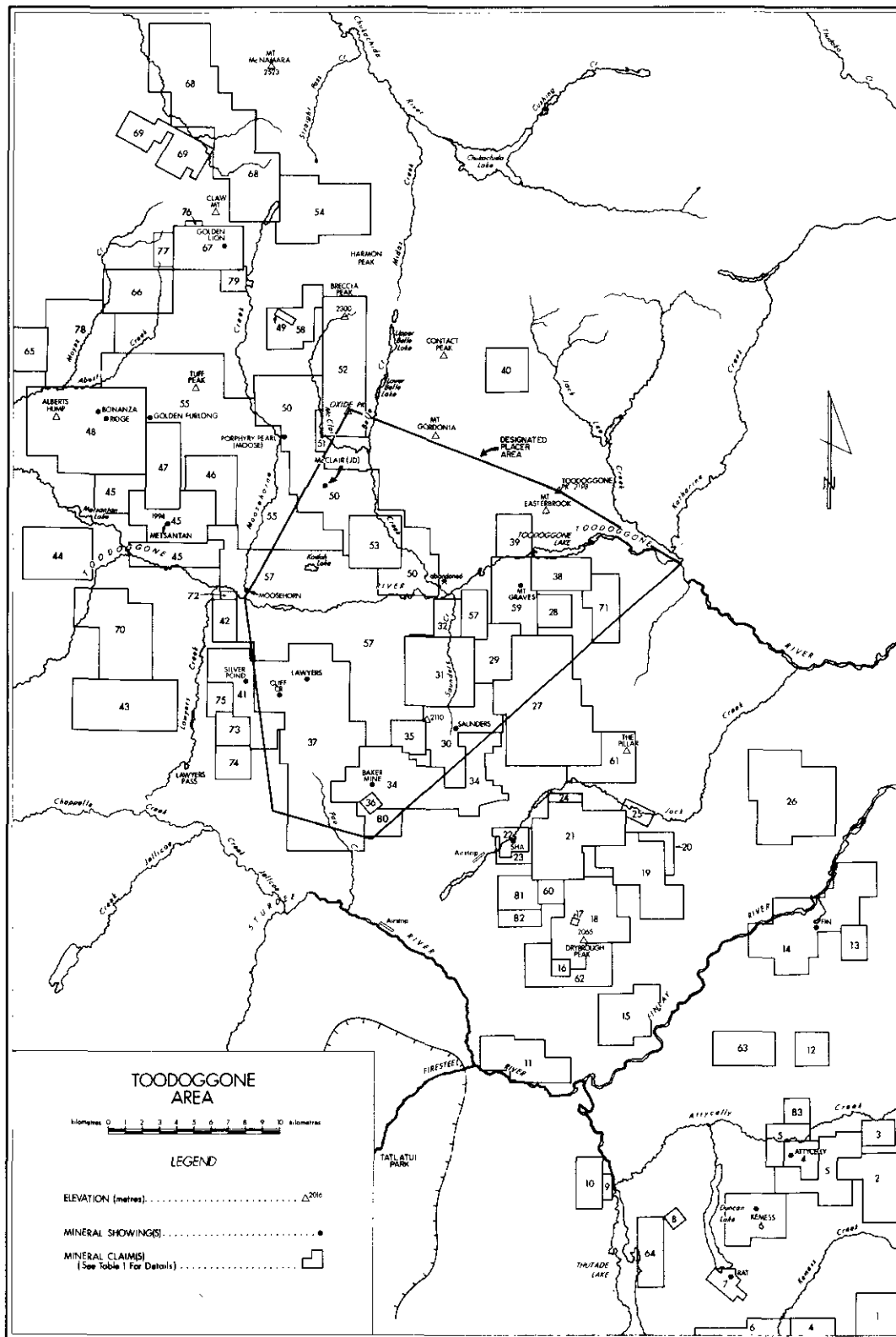


Figure 38. Toodoggone map-area.

TOODOGGONE RIVER AREA, MINERAL PROPERTIES

No.	Claim Name	MDI 94E	Operator	No.	Claim Name	MDI 94E	Operator
1	Aura	-----	SEREM Ltd.	44	Edo 1-4	-----	Du Pont Expl.
2	Mess 1-4	-----	SEREM Ltd.	45	Metsantan 1-9	65	Lacana Mining
3	Audrey 1-2	-----	Kidd Creek Mines	46	Ant 1-3	-----	Du Pont Expl.
4	Audrey East, Audrey West	22	Kidd Creek Mines	47	Mets 1-2	-----	Taiga Cons.
5	Kem 1-9	-----	Kidd Creek Mines	48	Al 1-8	66	Kidd Creek Mines
6	New Kenness 1-2	21	Kennco	49	Har	53	Kennco
7	Rat	25	Cominco Ltd.	50	Scree 1-3, Moose 1-3, JM, JD, JB JR, McClair 1-5, plus fractions	31, 32	Kidd Creek Mines
8	Crown-granted claims	12, 13, 14	Cominco Ltd.	51	Air 1-2	-----	Du Pont Expl.
9	Atty	-----	Taiga Cons.	52	Poo, On, Lou, Oxide	-----	SEREM Ltd.
10	Firesteel	2	SEREM Ltd.	53	Balle 1-2	-----	Taiga Cons.
11	Fire 1-3	-----	Du Pont Expl.	54	Moose 1-4	-----	S. Young
12	Rich	-----	Taiga Cons.	55	Bart, Ernie, Winkle, Bull, Chute, Surprise, Gerome, Oscar Fr., Wankle Fr., Antoine Louis, Tour Sturdee, Big Bird, Kadah, Shodee, RJ Fr., JP Fr.	-----	Kidd Creek Mines
13	Mex	57	Cominco Ltd.	57	GWP 1-43, Doug's Bear	-----	Great Western Pet.
14	Fin 1-9	16	Brinco	58	Gordon Davies, Gordon Davies 2	53	Lacana Mining
15	Grace 1-4	47, 48, 49	D. MacQuarrie	59	Graves 1-4	67	Great Western Pet.
16	Amlgo	58	Cominco Ltd.	60	Itsch	-----	SEREM Ltd.
17	RN	3, 4, 5	Winderra Mines	61	Hercules, Atlas	24	SEREM Ltd.
18	Aca, Pul, Acapulco, Gotch 1-2	3, 4, 5	SEREM Ltd.	62	Star, Co, Sun	58	SEREM Ltd.
19	Jock 1-5	8	Taiga Cons.	63	Wrlch	-----	SEREM Ltd.
20	Gossan 1-2	8	Lacana Mining	64	Ron 1-6	13, 14	R. Wong
21	Jock 1-5	8, 39	SEREM Ltd.	65	Adoo 1-2	-----	Newmont Expl.
22	Shas	50	International Shasta	66	Hump 1-2	-----	Newmont Expl.
23	Silver Reef	45, 50	C. Kowall	67	Golden Lion 1-2	-----	Newmont Expl.
24	Pill	-----	J. Weishaupt	68	QBX 1-12	-----	Taiga Cons.
25	Brenda	-----	J. Weishaupt	69	Claw	46	Umex
26	Nub Mountain	63	SEREM Ltd.	70	Xenos 1-4	-----	Lacana Mining
27	Orange, Argus 1-4, Arg 1-2, OJ 1-4	28, 29, 42	SEREM Ltd.	71	Sun 1-2	-----	Newmont Expl.
28	To No. 2	-----	Du Pont Expl.	72	Kodah 2	-----	SEREM Ltd.
29	GWP 200	7	Great Western Pet.	73	Pipe	-----	Kidd Creek Mines
30	Golden Neighbour 1-4, Camp, Camp Fr., Jolly Roger, Artful Dodger	37	Lacana Mining	74	Dream	-----	Kidd Creek Mines
31	Saunders	40	Taiga Cons.	75	Asap	-----	Great Western Pet.
32	GWP 43	-----	Great Western Pet.	76	Silver Lion	-----	Newmont Expl.
34	Chappelle	26	Du Pont Expl.	77	Golden Lion 3	-----	Newmont Expl.
35	Pei	26	Du Pont Expl.	78	Moyez 1-4	-----	Newmont Expl.
36	Crown-granted claims	27	O. McDonald	79	Golden Lion 4	-----	Newmont Expl.
37	New Lawyers 1-4, Law 1-3, Breeze, Road 1- 111, Perry 1-2, Mason 1-2, GTW 1-3, plus fractions	64	SEREM Ltd.	80	Castle Mtn., Castle Mtn. Fr.	-----	Dynamic Oil Co.
38	Duke 1-2	-----	SEREM Ltd.	81	Foghorn	-----	Kidd Creek Mines
39	To No. 1	-----	Du Pont Expl.	82	Leghorn	-----	Kidd Creek Mines
40	Mul 1-2	52	Du Pont Expl.	83	Awesome	-----	Kidd Creek Mines
41	Silver Pond, Silver Creek, Silver Peak, Silver Grizzly	17	Great Western Pet.				
42	Kodah	17	SEREM Ltd.				
43	Lass 1-4	-----	Du Pont Expl.				

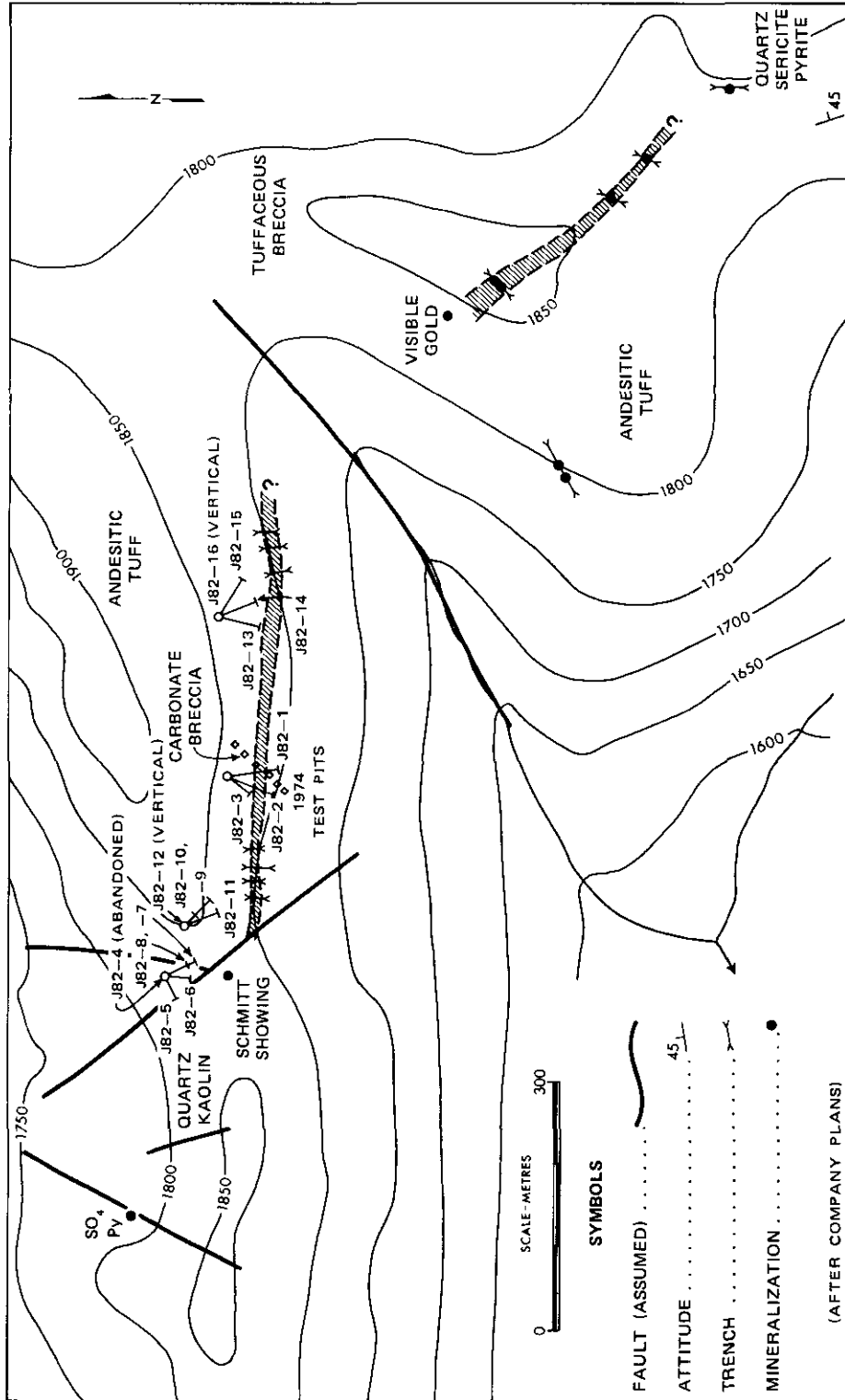


Figure 39. Geology of part of the JD property.

GEOLOGY

The regional geological setting is discussed in Geological Fieldwork, 1981 (Ministry of Energy, Mines and Petroleum Resources, Paper 1982-1, pp. 122, 123).

PROPERTIES

JD (MI 94E-32)

Sixteen diamond-drill holes were drilled by Kidd Creek Mines Ltd. to test the Schmitt and Carbonate breccia showings on the JD claim (see Fig. 39). A quartz-hematite-sulphide zone varying in width from approximately 1 to 4.6 metres was traced along a 600-metre strike length (105 degrees). Dips were north into the hill and varied from 23 degrees at the west end to 50 degrees at the east end. The mineralized zone is open to the east but is cut off to the west by a series of northwesterly and northeasterly trending faults near the Schmitt showing. A persistent gouge zone was intersected on the footwall, and minor quartz stringers were located in the hangingwall. The mineralized quartz structure occurs within a sequence of massive, green to maroon hornblende-feldspar porphyritic-andesitic flows and tuffs of the Toadoggone volcanic series. Locally, there are tuffaceous agglomerates and volcanic breccias. Alteration minerals include hematite, chlorite, and manganese oxide. Gangue minerals include amethystine to white quartz, calcite, and minor amounts of barite. Sulphide minerals include pyrite, chalcopyrite, acanthite, galena, and sphalerite. Approximately 100 metres to the southeast another strong quartz vein structure was traced by hand trenching. It may be an offset of the JD 'vein.' Native gold was recovered from this zone.

PORPHYRY PEARL (MI 94E-31)

Two drill holes were completed by Kidd Creek Mines Ltd. near the junction of Moosehorn and McClair Creeks (see Fig. 38). Pyrite, galena, sphalerite, and chalcopyrite occur as disseminations, fracture fillings, and in quartz-carbonate-anhydrite veins within a hypabyssal monzonite which has been altered in varying degrees to K-feldspar and sericite.

GOLDEN FURLONG

Two holes were drilled by Kidd Creek Mines Ltd. to test a fault-controlled zone of intensely silicified and kaolinized andesitic tuffs. The zone contains native gold in association with hematite (see Fig. 38). Finely banded pyrite with traces of chalcopyrite were found in quartz-rich zones which reach 35 metres in apparent thickness. Drusy, open cavities lined with quartz and/or hematite were common.

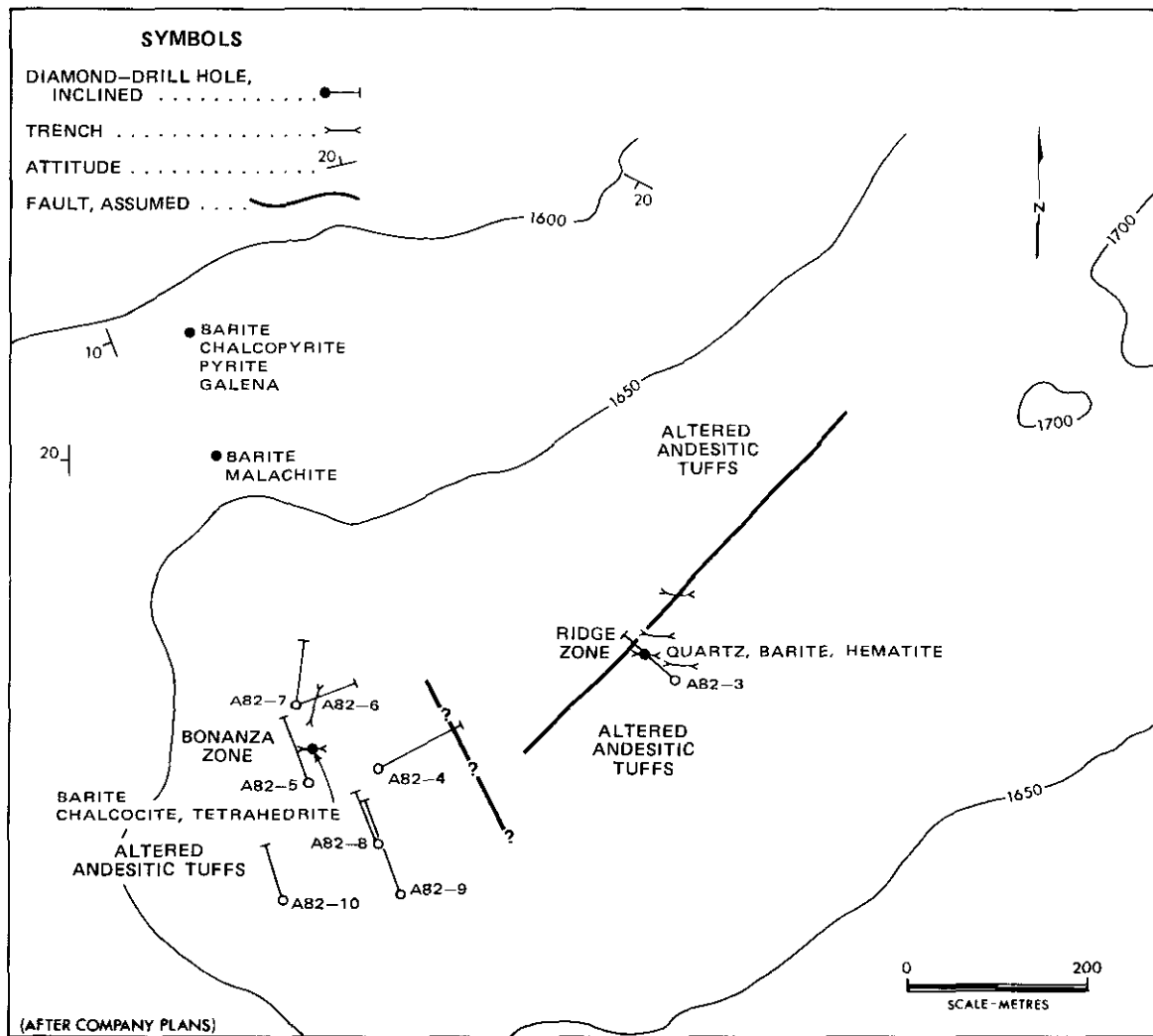


Figure 40. Setting of the Alberts Hump area.

RIDGE

Two diamond-drill holes were completed by Kidd Creek Mines Ltd. to test a highly altered structural zone located approximately 4 kilometres east along an open grassy ridge from Alberts Hump (see Figs. 38 and 40). Andesitic tuffs have been altered to quartz, chlorite, and hematite. Barite is a common gangue mineral. Sulphides encountered included pyrite and galena.

BONANZA

Six diamond-drill holes were completed by Kidd Creek Mines Ltd. to test the Bonanza zone and its relationship to the Ridge zone, which adjoins to the southeast (see Figs. 38 and 40). Andesitic ash tuffs have been

altered to quartz, chlorite, and hematite. Malachite, azurite, pyrite, chalcocite, chalcopyrite, and sphalerite occur within silicified zones. Locally it appears that the pyrite was introduced as a fine-grained 'front', and lithic fragments have been replaced by pyrite. Chloritization of fragments is common.

ALBERTS HUMP

Two drill holes were completed by Kidd Creek Mines Ltd. to test a large zone of quartz±alunite±kaolinite alteration in andesitic to dacitic hornblende-feldspar crystal and lithic tuffs (see Fig. 38). Altered zones contain many vuggy sections. A hypabyssal intrusion was encountered at depth. Pyrite was the main sulphide mineral encountered.

METSANTAN (MI 94E-64) (Geological Fieldwork, 1981, Paper 1982-1, pp. 131, 132)

The Metsantan prospect is located on the southeast flank of 'Metsantan Mountain.' During 1982 Lacana Mining Corporation completed five diamond-drill holes on the Metsantan gold breccia zone (see Fig. 41). A weak quartz stockwork zone with minor amounts of galena, sphalerite, chalcopyrite, and pyrite cuts crystal to lithic tuff which is locally pervasively epidotized, especially feldspar crystals and lithic fragments.

GOLDEN LION

The Golden Lion prospects are located south of Claw Mountain, near the headwaters of Dedeeya Creek and north of Abesti Creek (see Fig. 38). During 1982 Newmont Exploration of Canada Limited conducted surface exploration on this large group of claims. On Golden Lion 1 claim, a zone trending 155 degrees has been traced 2.5 kilometres. Malachite, galena, sphalerite, pyrite, and chalcopyrite occur in a gangue of quartz-hematite-barite. The zone has been traced in talus and apparently has a width of 10 metres. The host rocks are 'Toodoggone' airfall hornblende-feldspar crystal to lithic tuffs.

On the Golden Lion 3 claim, a 600-metre by 75-metre alteration zone trends 340 degrees. Alteration minerals include quartz, hematite, and various clays (alunite ?). Bright green fluorite occurs, but no sulphides were observed.

LAWYERS (MI 94E-66) (Geological Fieldwork, 1981, Paper 1982-1, p. 130)

Underground and fill-in surface diamond drilling by SEREM Ltd. continued to define and develop ore zones on the Lawyers Amethyst gold breccia zone (see Fig. 38). In addition, the Cliff Creek breccia zone was explored by extensive surface trenching along a northwesterly length of approximately 1 000 metres. Locally, spectacular zones with amethyst were encountered.

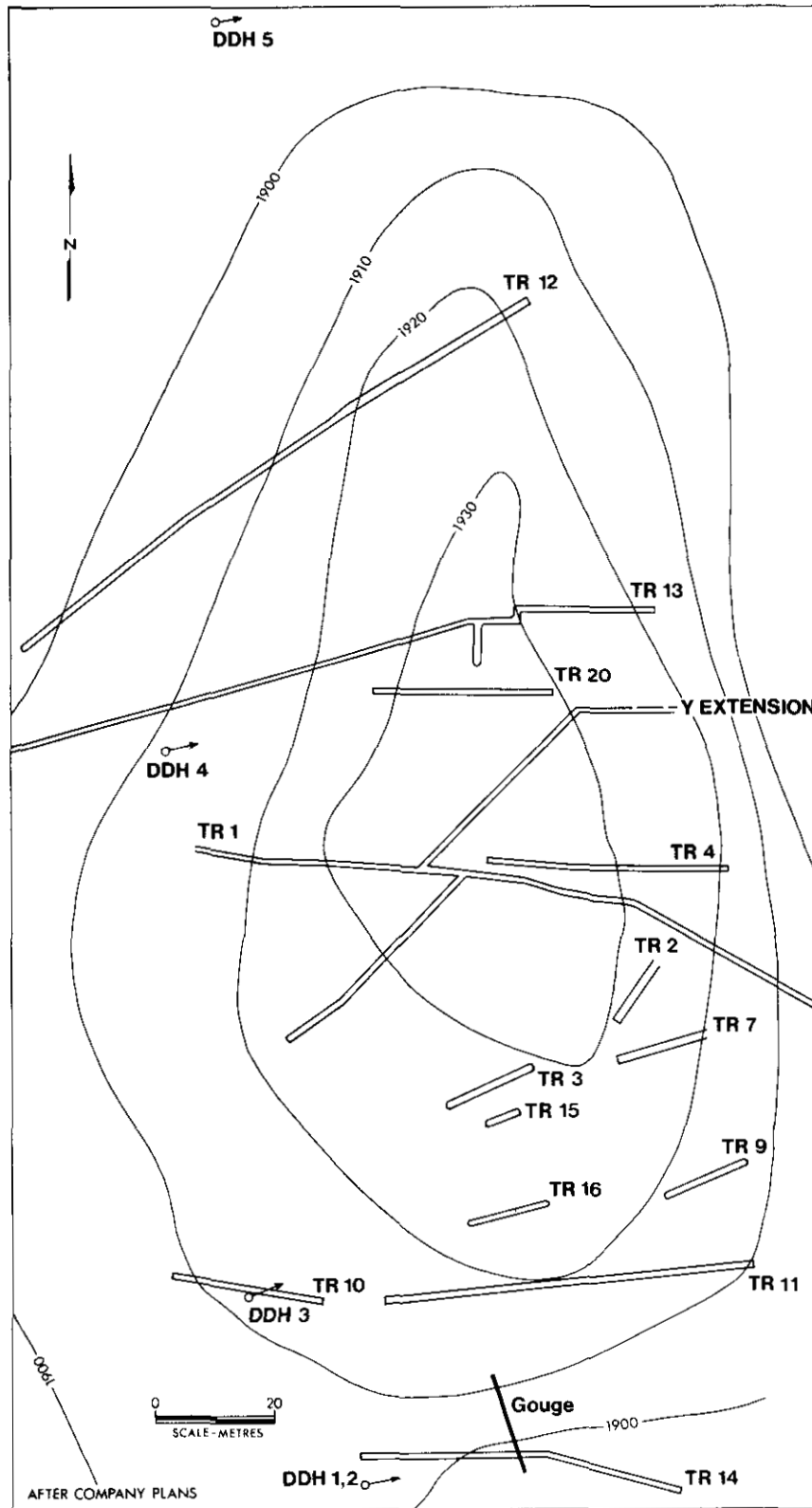


Figure 41. Setting of the Metsantan property.

BAKER MINE (MI 94E-26) (Geological Fieldwork, 1981, Paper 1982-1, pp. 129-132)

Mining continued at a rate of 90 tonnes per day on the A vein. A limited diamond-drill program comprising approximately 915 metres was undertaken to test a newly discovered quartz vein just north of A vein.

MOOSEHORN (Geological Fieldwork, 1981, Paper 1982-1, p. 132)

During 1982 Great Western Petroleum Corporation conducted a detailed chip sampling program on their Moosehorn prospect (see Fig. 38).

MOUNT GRAVES (Geological Fieldwork, 1981, Paper 1982-1, p. 132)

During 1982 Great Western Petroleum Corporation conducted a detailed chip sampling program on their Mount Graves prospect (see Fig. 38).

ACKNOWLEDGMENTS

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REFERENCE

Schroeter, T. G. (1982): Toadoggone River (94E), *B.C. Ministry of Energy, Mines & Pet. Res., Geological Fieldwork, 1981, Paper 1982-1, pp. 122-133.*