831016

Sample	Trench	Width (m)	Au (g/tonne)
G-172	1	1.00	1.15
G-173	1	2.10	0.32
G-174	2	2.40	1.44
G-175	2	1.75	1.24
G-176	2	1.25	0.58
G-177	3	2.00	0.44
G-178	3	2.00	1.10
G-179	4	1.85	0.18
G-180	4	1.80	0.08

Further trenching with a large backhoe is warranted. The zone is open to the east, west and north. The tabular form of the exposed zone suggests that it will persist along strike for a significant distance.

2.4.5 Patti Zone

This is a major hydrothermal center located on the south flank of Metsantan Mountain on the NII claim, 1.5 kilometers southeast of the Ring zone. It is at ~~least 250 meters~~ wide and 350 meters long and may be part of a much larger system. It is not as topographically positive as Steve's zone; much of the zone has been exposed by stream erosion.

The zone comprises two closely spaced, parallel, north-trending "spines" or hogback ridges of completely silicified rock (A_5), surrounded by a large halo of advanced argillic (A_2), argillic-siliceous (A_2-A_5), and rare siliceous-pyritic (A_{7A}) alteration. The central ridges coalesce on the south end of the zone, forming a massive silica outcrop approximately 60 meters wide. Refer to Figure 22.

The siliceous core has the form of an elongated pear in plan; it is sectioned by stream erosion at the south end of the zone, where it appears to widen downwards. The argillic envelope appears less symmetrical but its limits are obscured by its subdued topographic expression and resulting poor exposure.

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The silicified core is typically composed of grey to buff amorphous silica. Vugs lined with tiny quartz crystals (druse) are locally common, particularly in the east-central section. Limonite-coated fractures are very common, as are small sections of breccia.

The clay-rich rocks enveloping the siliceous core are commonly grey-white to yellow-white, porphyritic, and pyritic or hematitic. In a few localized areas in the east-central and west-central sections of the zone, iron-rich argillic rocks are medium to dark brown, or yellow-green, due to more or less oxidized pyrite. Good outcrops of argillic rock are rare due to their susceptibility to erosion.

The primary structural trend of the Patti zone, reflected by its overall symmetry and the orientation of the siliceous core and peripheral tabular silicified zones, is north-south. However, superimposed on this dominant structure is a secondary southeast trending pattern of minor faults, "dry" fractures, and fracture-hosted barite veinlets. These features are most easily seen in the siliceous core but are somewhat obscure in the peripheral argillic halo. The secondary southeast trending fault/fracture pattern is interpreted to postdate the main hydrothermal (silicification-argillization) event. Later mineralizing activity, exemplified by the barite filled fractures, is considered to be contemporaneous with or possibly later than the fracturing and faulting.

The presence of gold mineralization, primarily within the siliceous core, is indicated by grab samples collected late in 1985.

The 10 best samples average 7.14 grams/tonne:

Sample #	Type	Au (grams/tonne)	Comments
G-137	Grab	3.12	Core; A_{5A} + ba
G-138	Grab	1.10	S. core, A_{5A}
G-139	Grab	5.16	S. core, ba
→ G-140	Grab	46.05	S. core - ba vein
G-144	15 cm. chip	3.51	S. core - ba vein

Sample #	Type	Au (grams/tonne)	Comments
G-146	Grab	1.74	Float (local) A_{7A}
G-153	Grab	1.17	N. center A_{5A}
G-159	Grab	3.49	N. center A_{5A} + ba
B-251	Grab	2.20	E. edge
B-264	Grab	3.90	NW edge

The gold is apparently closely associated with massive barite in veins and breccias within the siliceous core.

The last two samples noted in the table were collected from two peripheral siliceous zones, containing abundant pyrite (A_{7A}). Other peripheral siliceous zones did not return gold values over 1.0 grams/tonne.

It appears that gold was deposited at the same time as barite, possibly during a late stage hydrothermal event. Explosive depressurization during the same event may have caused the fracturing and brecciation noted in the siliceous core zone, with contemporaneous deposition of gold-barite mineralization.

Further work on the Patti zone itself should include detailed sampling of the siliceous core zone, with follow-up sampling of local "hot spots" within the argillic envelope. With hole locations based on the results of the detailed sampling, a diamond drill program is recommended to test the zone at depth.

Trenching, using a tractor-mounted backhoe, is warranted north and west of the presently exposed edges of the zone to search for gold bearing siliceous alteration zones. Such zones may not outcrop if they have high porosity or fracture density.

The country between the Patti zone and Steve's zone, 1 kilometer to the east, should be prospected, soil sampled, and trenched. This area has widely scattered outcrops of phyllic, argillic, and silicic alteration. Soil sampling at widely spaced intervals was conducted over the eastern part of

this area by Kidd Creek Mines Ltd. in 1982, but this work was far too generalized for such an altered area. Future soil sampling should be conducted on 25 meter centers and should be accompanied by float prospecting, geological mapping, and rock sampling.

2.4.6 Steve's Zone

This lies near the southeast corner of the Al 6 claim; its southern extremity is covered by the northeastern portion of the NII claim. The zone forms a prominent topographic high due to its erosional resistance.

Kidd Creek Mines Ltd. conducted reconnaissance level geological mapping on Steve's zone in 1982. A few rock samples were taken at the same time; one of these, taken from the northern section of the east "limb" of the zone, returned 1.30 grams/tonne gold. A single sample taken in 1984, from a barite-rich breccia zone 150 meters south of the 1982 sample, assayed 2.70 grams/tonne gold. These results were considered by Energex personnel to be interesting and the zone was accordingly mapped at 1:1000 and sampled in more detail in late 1985.

Steve's zone is a large, roughly ovoid, hydrothermal alteration system approximately 300 meters wide and at least 450 meters long (Figure 23).

In general, the zone can be described as having a silicified core with a large envelope of advanced argillic alteration, similar to the Patti zone. In detail, however, the silicified core of the zone comprises three, and possibly four, separate siliceous outcrops with materially different fracture patterns, textures, and accessory mineralogy.

The largest and most competent outcrop forms a prominent, north-northeast trending hogsback ridge in the west-central section of the zone. This is mainly composed of light grey cryptocrystalline quartz, with relatively few fractures or vugs (A_{5b}). The west side of the outcrop is a steep scarp terminating in blocky talus; the scarp appears to be the western limit of silicification and probably represents a contact with dominantly argillized rocks.