VATSA PROJECT, TAMPERE DISTRICT

Ownership:	TMOY 100%
Claim Area:	2700 ha reservation
	364 ha claim
Potential ore reserve:	4 000 0000 t
Estimated grade:	2,5 g Au/t
Potential ounces of gold:	320 000 oz

Property Description and Ownership

Lat. — 61.8° N **Long — 26.0° E**

Location and Access - The property is located 110 kilometres ENE of the city of Tampere, and 40 km S of Jyväskylä. There is a secondary road that provides access to the SE corner of the property.

Property and Status — Terra Mining Oy has 364 hectares of claims in four separate blocks, that are in good standing until 10.08.1998, 14.04.2000 and 06.03.2003 respectively. The company also has 2700 hectares reserved in the area.

History

At Tammijärvi, 10 km south of Vatsa, the Geological Survey of Finland has drilled Au-Sn-W mineralisation hosted in metasediments and Au-W associated with quartz veins. The best reported intersection is 0.4 g Au/t over 4.55 m.

Regional mapping has been undertaken by the Geological Survey of Finland.

Terra Mining has completed a detailed till samplings campaign, and follow-up hammer and diamond drilling.

Geology and Mineralisation

The regional geology of the Tampere gold district consists of an east-west trending schist belt, known as the Svecofennian complex, bounded on the north by rocks of the Granitoid intrusion of Central Finland, and in the south by the Siitama granitoid batholith. Structurally the supracrustal rocks of the region form a syncline with a vertical axial plane, and horizontal to sub-horizontal fold axis. The Tampere Schist Belt contains major shear and thrust zones, some of which are genetically associated with extensive geochemical alteration events.

Several gold deposits have been mined in this southern Finland gold district. The most important of these is the dormant Haveri gold-copper mine which is hosted in mafic metavolcanics with the ore bearing minerals being magnetite, pyrrhotite, chalcopyrite, and pyrite. This mine was originally operated to 1865 as an iron ore mine, and from 1942 to 1960 Haveri produced 1.5 million tonnes of gold and copper ore, at an average grade of 2.8 gAu/t and 0.37% Cu.

Also in the same belt in Orivesi is the Kutemajärvi deposit where the gold mineralisation is typically hosted in quartz-sericite-topaz schist with quartz veining in contact with tonalite. Most of the schists are interpreted as intensely hydrothermalised intermediate to mafic pyroclastics. Quartz rich schists intensively crosscut by quartz veins are the most promising for gold mineralisation and they occur as small pipe-like inclusions in the sericite-quartz schists. The estimated reserves (1996) have been calculated at 0.4 million tonnes grading 8 gAu/t.

The gold mineralised zone at Vatsa ranges from 20 to 50 metres wide. The gold is associated with arsenopyrite in a granodiorite intrusive at the contact with a gabbroic body. From the till study it appears that the mineralised zone is open to the east but may be cut off to the west by a thrust fault.

Work by Terra Mining

Extensive geochemical sampling, drilling and trenching has been completed. A large till gold anomaly extends from the known mineralisation towards south in a down Ice direction. Further south there are several separate gold-copper anomalies in till located on secondary splay structures branching from the major thrust fault.

Diamond drilling in 1996 and early 1997 has intersected several intersections of gold mineralisation (5-6 g Au/t) within a wider lower grade zone. Most of this and previous drilling is on 100m spaced sections with some in-fill drilling at 50m spacing. A total of 30 diamond drill holes have been completed on the property. This work has outlined a gold mineralised zone over a strike length of 800m, with till geochemistry indicating a possible strike length of 1,400 metres. Preliminary resources are estimated at 1,050,000 tonnes of ore grading 1.73 gAu/t, containing 59,000 ounces of gold.

Significant Diamond Drill Intersections

Hole number	Section m	length m	Gold g/t	interior section	interval g/t	Hole number	Section m	length m	Gold g/t	interior	interval g/t
90 402	33-35	2	1.03			96 506	32-35	3	1.18		
90 402	59-69	10	0.82			96 509	76-89	13	1.01	4m	1.48
90 403	5-13	8	1.10			96 510	65-67	2	4.59		
90 404	4-8	4	0.58			96 507	66-73	7	1.82	3m	3.5
90 407	41-51	10	0.57			96 511	53-65	12	1.38	6m	1.95
90 408	5-8	3	0.51			96 511	65-72	7	0.71		
90 408	13-16	3	0.53			96 511	79-84	5	0.87		
90 409	9-11	2	0.85			96 511	90-92	2	2.58		
90 409	36-39	3	0.57			96 512	83-88	5	1.47		
90 409	49-52	3	0.85			96 512	90-99	9	2.15	7m	2.55
90 411	16-22	6	0.75			96 513	68-75	7	6.48		
90 412	5-14	9	0.94			96 514	76-81	5	0.84		
90 416	46-49	3	0.59			96 514	89-92	3	0.64		
91 401	6-11	5	1.88	3m	2.84	97 503	61-64	3	0.5		
91 401	18-28	10	1.50	4m	2.97	97 506	128-132	4	0.57		
91 402	74-79	5	1.28	3m	1.93	97 506	136-142	6	0.82		
91 403	71-75	4	0.80			97 506	151-158	7	1.27	4m	2.07
91 405	67-71	4	1.12			97 507	15-17	2	1.45		
91 405	84-90	6	2.14			97 507	75-78	3	1.13		
91 406	6-14	8	2.42	2m	8.12	97 508	67-69	2	3.2		
91 406	19-26	7	2.25	3m	4.54	97 508	142-144	2	1.95		
96504	3-10	7	1.12	2m	2.31	97 508	148-151	3	0.6		
96 505	52-56	4	1.3								

Exploration Potential

The geological environment is typical of Proterozoic lode gold mineralisation. As diamond drilling has confirmed the continuity of the gold mineralisation it is clear that this type target has the potential to host significant gold mineralisation.

Terra Mining has interpreted the property as hosting a major metamorphic hydrothermal alteration zone similar to those found in the Proterozoic gold districts of Africa and Brazil.

Based on the till geochemistry and the drilling results it is estimated that there is potential for more ore in the structure drilled, up to 2 Mt with 2,5 g Au/t. In the other structures, indicated by the till geochemical anomalies, there is potential for additional 2 Mt with corresponding grade.

Proposed Exploration Program and Budget

An exploration program will be implemented to follow up on the drill and till sampling results. This program will be carried out using geological mapping and sampling, ground geophysics, and drilling. Special emphasis should be placed on the use of geophysics due to the swampy nature of the ground, and the limited outcrop exposure available. With this type of information a drilling program will be formulated to follow up on these new targets. Listed below is a budget for the proposed exploration program.

Vatsa	Geological mapping and data compilation		20,000		
	Follow up till sampling		80,000		
	Ground geophysics (mag+EM+IP)		80,000		
	Hammer drilling		420,000		
	Trenching		60,000		
Total		**FIM**	**660,000**	**USD**	**127,000**

HOPEAVUORI PROJECT, TAMPERE DISTRICT

Ownership:	TMOY 100%
Claim Area:	200 ha
Potential ore reserve:	1 000 000 t
Estimated grade	4 g Au/t
Potential ounces of gold:	128 000 oz

Property Description and Ownership

Lat.- 61.2° N Long-23.9° E

Location and Access - The property is located 40 kilometres south of the city of Tampere, just south of the town of Toijala. The main highway that provides access from Tampere to the south, cuts through the north-eastern portion of the property.

Property and Status - Terra Mining Oy has 200 hectares as application for claims in the area. Reserevation for claims was issued directly after the original exploration claims of GSF had expired and the land was available.

History

Sederholm (1897), Seitsaari (1951), and Laitakari (1986) have published geological maps and lithologic studies of the Tampere Schist Belt. Structural and geochemical studies of the Belt have been published by Nironen (1989a, 1989b) and Kähkönen (1987, 1989). Airborne geophysical maps are available from the Geological Survey of Finland (GSF).

From 1992 to 1994 the GSF performed a total of 1,904 metres of drilling in the Hopeavuori property. The GSF prepared a report (M06/2114/-96/1/10) that details their work on the property. The drilling cut several intersections of significant gold mineralisation including the following: 21.36gAu/t over 10.5 m, 13.13gAu/t over 17.5 m, and 14.42gAu/t over 10.65 m.

Geology and Mineralisation

The regional geology of the Tampere gold district consists of an east-west trending schist belt, known as the Svecofennian supracrustals, bounded on the north by rocks of the Granitoid Complex of Central Finland, and in the south by the Siitama granitoid batholith. Structurally the supracrustal rocks of the region form a syncline with a vertical axial plane, and horizontal to sub-horizontal fold axis. The Tampere Schist Belt contains major shear and thrust zones, some of which are genetically associated with extensive geochemical alteration events.

Several gold deposits have been mined in this southern Finland gold district. The most important of these is the dormant Haveri gold-copper mine which is hosted in mafic metavolcanics with the ore bearing minerals being magnetite, pyrrhotite, chalcopyrite, and pyrite. This mine was originally operated to 1865 as an iron ore mine, and from 1942 to 1960 Haveri produced 1.5 million tonnes of gold and copper ore, at an average grade of 2.8 gAu/t and 0.37% Cu.

Also in the same belt is the Kutemajärvi deposit where the gold mineralisation is typically hosted in quartz-sericite-topaz schist with quartz veining in contact with tonalite. Most of the schists are interpreted as intensely hydrothermalised intermediate to mafic pyroclastics. Quartz rich schists intensively crosscut by quartz veins are the most promising for gold mineralisation and they occur as small pipe-like inclusions in the sericite-quartz schists. The estimated reserves (1996) have been calculated at 0.4 million tonnes at 8 gAu/t.

The local geology at Hopeavuori consists of a NW striking ductile shear structure with accompanying felsic porphyry hosted at the contact between a granodiorite and mafic volcanics. The mineralisation

occurs primarily as native gold with pyrite and arsenopyrite in association with extensional quartz veins that have a north-south strike.

Work by Terra Mining

After compilation and interpretation of previously acquired data a till sampling program was set out. The till geochemistry response is quite weak but in addition to the known deposit further gold mineralised bedrock is indicated by the program. Gold anomalous till has been located in conjunction with secondary splay structures branching from the major NW- striking shear zone.

Exploration Potential

The geological environment is typical of Proterozoic lode gold mineralisation. As diamond drilling has started to confirm that the gold mineralisation extends down dip, it is clear that this type target has the potential to host significant gold mineralisation.

Terra Mining has interpreted the property as hosting a major metamorphic hydrothermal alteration zone similar to those found in the Proterozoic gold districts of Africa and Brazil.
Based on the till geochemistry by Terra Mining and the geophysics by GSF the potential mineral resources in the area are estimated to be about one million tonnes with a grade of about 4 g Au/t . The higher grade is indicated by drilling and also by the analogy with the Orivesi deposit grading 8-9 g Au/t.

Proposed Exploration Program and Budget

An exploration program will be implemented to follow up on the drill and till sampling results. This program will be carried out using geological mapping and sampling, ground geophysics, and drilling. Special emphasis should be placed on the use of geophysics in order to define the structures that control the gold mineralisation. With this type of information a drilling program will be formulated to follow up on these new targets. Listed below is a budget for the proposed exploration program.

Hopeavuori	Geological mapping and data compilation		40,000	
	Follow up till sampling		60,000	
	Trenching		80,000	
	Geological work		20,000	
	Claim maintenance		40,000	
	Total	FIM	240,000	USD 46,000

INMUTNINGSOMRÅDE HOPEAVUORI 2

- GTK har gjort guldprospekteringen i området mellan 1992-1994. Området ligger i kartbladet 211410, 3km sydost från Toijala staden.

- Jordtäcken växlar mycket i området eftersom det är ablationmorän områd.

- En man hittade arsenikkis-kvarts gångar i intermediär vulkanitstenar som ledde GTK till området.

- Där finns två olika glaciär riktningar 325º och 272º.

- GTK har gjort i området geologiska karteringen, moränгeokemi, geofysiska mätningar (Mag, IP och Grav) och borrningar. Dom visade inga positiva resultater och därefter GTK avstod området i december 1994.

Geologiska undersökningar

- Huvudbergarter i området är grovporfyritig granodiorit, medelkornigt granodiorit, intermediär vulkanit, kis- och grafithaltigt glimmerskiffer och kvartsporfyr som gångbergart.

- Generell riktning för berg är 110º och berg formas en synklin.

- I mitten av inmutningsområde där finns en stark magnetisk anomali vilken är resultat från magnetkis haltig grafit-glimmerskiffer.

- Kvartsporfyritig gångflocken skärar hel området i 125º riktningen.

Geokemiska undersökningar

- Moränprovtagningen var gjort i två steg med lätt utrustningen. Dom hittade några bra arsenhaltigheter men guld stannade låg. Det bäst prov innehållde 60ppb guld.

Geofysiska undersökningar

- Mättningar var gjort i 3,6km2 stor område. Dom kunde inte placera geofysiska anomalier till guldhaltiga zoner. Så, geofysiken hjälpte inte.

Borrningar

- GTK borrade två hål i området och bäst guldhaltighet från ett meter var 0.03ppm. Så, dom hittade inga guldhaltiga zoner.