

DUBLIN GULCH – SHAMROCK

SITE #90

(MINFILE #106D 025c)

1. LOCATION AND ACCESS

Coordinates 64-03-00 N, 135-47-00 W. Located along the southern slope of Cascallen Gulch, northeast of its intersection with Bawn Bay and Gublin Gulches. Elevation approximately 3900 feet asl. Access to Shamrock is via the South McQuesten Highway (from Highway 11, Silver Trail) to Haggart Creek Road, 1.5 km northeast off Dublin Gulch Road along an access trail leading to Cascallen Gulch.

2. SITE PHYSIOGRAPHY

Identified site features were located along the south slope of the gulch which leads down into a predominantly boggy area, heavily forested by large black spruce. Drainage through this area is via a braided stream through raised hummock terrain which originates at the top of Cascallen Gulch and meanders southwest down into Dublin Gulch. The presence of permafrost soils could not be ascertained; however, the hummocky nature of the terrain along the floor of the gulch suggests the possibility of discontinuous permafrost.

3. GEOLOGY AND MINERALIZATION (from original minfile)

The Dublin Gulch area is underlain by deformed Upper Proterozoic to Lower Cambrian clastic rocks of the Hyland Group that have been intruded by Cretaceous age Tombstone suite stocks, dykes and sills. Alteration and gold and tungsten mineralization is directly associated with the intrusions. The north edge of the Potatoe Hills stock, contains quartz-arsenopyrite veins over a length of 3.2 km. Most veins strike northeast and range in width from a few to 2 m and occasionally wider. Arsenopyrite-rich veins usually occur in the centre of this area and range in width from 10-25 cm. Minor amounts of pyrite occur with the arsenopyrite. A vein on the Victoria claims assayed 8.6 g/t gold and 13 g/t silver over a width of 0.6 m for the 23 m length of the drift. Similar assays were obtained from other veins. Rio Plata conducted a turam survey and bulldozing program which reportedly outlined a narrow, silver-rich vein and more arsenopyrite veins. The presence of silver veins in the area is further suggested by the presence of siderite containing sphalerite, galena, and jamesonite in the placer gravels. The 1986 drilling tested 4 of 14 veins outlined by Queenstake. Best results were obtained from the Catto Vein where one hole returned 44.6 g/t gold over 0.4 m, while a second, 91 m to the west, assayed 60.3 g/t gold also over 0.4 m. A hole in the No. 23 vein intersected 74.7 g/t gold over 0.5 m. In 1988, additional drilling on the Catto vein returned up to 11.2 g/t gold across a true thickness of 2.7 m, while work elsewhere on the property located a few veins on the floor of Dublin Gulch. A chip sample from one of these assayed 41.1 g/t gold over 1 m. Trenching on the Smoky 64, R&D 16 and Bob 3 claims in 1989 exposed three new vein systems

localized along ENE-trending faults which dip steeply south. Channel samples from the trenches returned values up to 8.61 g/t gold. Hole 91-12 intersected 3 m of granodiorite and clay with 1 cm pyrite-arsenopyrite veins, which graded 17.1 g/t gold. Hole 92-36 on the RD2 claim intersected a quartz-arsenopyrite vein cutting sericite-altered granodiorite, which assayed 13.6 g/t gold. Trenching and drilling of the Dublin Gulch deposit by Amax Gold and Ivanhoe in 1991, outlined a resource of 90 million tonnes grading between 0.93 and 13.6 g/t gold. First Dynasty drilled 12 reverse circulation drill holes and one diamond drill hole (2,909.6 m) within the main Eagle Zone to further define the ore zone's grade and extent. Seven of the 12 reverse circulation drill holes returned above-average ore grades and widths, while the remaining 5 were instrumental in defining the boundary of the deposit. The diamond drill hole returned anomalous assays from the top 145 m, grading 0.24 g/t gold with only three samples grading better than (1.02, 1.29 and 1.59) g/t gold. These results showed that mineralization continues along trend but becomes sub-economic to the northeast. At the end of 1996, mineable reserves (proven & probable) in the Eagle Zone were 50.4 mT grading 0.93 g/t gold. The vein material at the site is reported to consist of auriferous quartz scorodite ranging from 1.2 to 2.1 m wide. Host rocks at the Shamrock site consist of a contact of quartzite of the Hyland Group with Tombstone Suite granodiorite; a 1.2 m quartz vein is identified there including 0.5 m of greenish vein material which is auriferous and contains scorodite.

4. SITE HISTORY (from original minfile)

Placer gold was discovered on Haggart Creek in 1895 and on Dublin Gulch in 1898. The first lode staking was Dublin Lode, North Star et. al. (2404) in October, 1901, on which a 14 m adit was driven by 1904. By 1912, development work had been done on five separate properties, including the Shamrock group where trenching and pitting was conducted and recorded in December 1909. In 1938, the claims were sold to Treadwell Yukon L, which performed more trenching. The property was transferred to Keno Mg CL in 1946. Restaked as Avoca, et al. Cl (59052) in October/48 by J.B. O'Neill and J.J. Colt, who explored with hand and bulldozer trenching in 1949-54, sold an interest in 1958 to E.H. Barker, who trenched in 1958-61 and sold the property to Peso Silver ML in 1962. Peso performed trenching in 1962. Restaked as part of the Pea, etc. cl (Y59052) in August/73 by Adonis ML in conjunction with nearby placer work; Shal cl (Y95002) in July/74 by J.M. McNulty; Dog cl (Y97149) in Nov/74 by H. Fomme; Pup cl (YA15128) in May/77 by R. Grant; and Smoky, Bob, DG etc. cl (YA17729) in April/78 by Queenstake Res L & Canada Tungsten Mg Corp L, which conducted extensive mapping, and geochemical and geophysical surveys in 1978 and 1979, backhoe trenching in 1980 and geochem sampling and mapping in 1981. In 1986, Canada Tungsten transferred some of the Smoky and Bob claims to G. Dickson and the remainder to Queenstake, which performed bulldozer trenching and 705m of diamond drilling later that year. The property was optioned to Can Pro Dev L which performed additional diamond drilling later that year and trenched in 1989. Dickson's claims were transferred to Queenstake in April and May, 1991. H-6000 holdings optioned the property in 1991, and joint ventured it to Amax Gold Inc., which explored

with mapping, geochemistry, geophysics and 16 diamond drill holes totalling 2500 m. In 1992, Amax explored with rotary percussion drilling which included 1117.7 m on the R.D. 2 and 16, Bob 1, Smoky 64-65 and 74-76 claims and 2 holes on the Smoky 51-52 claims. The property was returned to Ivanhoe Goldfields Ltd. (a successor company of H-6000 Holdings) which conducted reverse-circulation drilling and backhoe trenching on the Smokey 3,4 and 96 Fr. Claims in 1993. In Aug/94 First Dynasty Mines Ltd. acquired Ivanhoe Goldfields Ltd. In Oct/94 Queenstake Resources Ltd. transferred its interest in the Mar, R & D, DG, Jeff, Bob and Smoky claims to First Dynasty. In 1995, First Dynasty and in 1996 its wholly owned subsidiary, New Millenium Ltd. carried out a major drilling program to outline a core resource/reserve on Eagle Zone (minfile occurrence # 106D 025). The companies also carried out diamond drilling on Potato Hills (minfile occurrence #106D 026) to test for mineralization under the proposed heap leach pad area. In Sept./95 Ivanhoe staked a series of fractional claims (Roni 1-13 – YB64630) in and around the Smokey claims.

5. MINE DEVELOPMENT

5.1. Mine Openings and Excavations

Adits/Shafts/Portals

No apparent openings at this site; however, visibility and mobility within Cascallen Gulch was limited due to heavy spruce forest.

Open Pits

No apparent pits at this site.

Trenches

One large old bulldozer was located at the base of the south slope of Cascalleen Gulch, running southwest, near it's intersection with Bawn Bay Gulch. (Photo 90-1)

Dimensions: (L x W x H): ~ 100 m x 25 m x 7 m

Condition: loose packed overburden; some natural re-colonization evident (see Photo 90-1); appears to be relatively stable and well away from any watercourses.

Accessibility: on foot through heavy forest along Cascallen Gulch.

One small old hand dugout along the top of a ridge above the south slope of Cascallen Gulch (Photo 90-2).

Dimensions: (L x W x H): ~ 10 m x 2.5 m x 1.5 m

Condition: loose packed soil and gravel; relatively stable and in a high, dry area well away from any watercourses.

Accessibility: on foot west of the Cascallen Gulch access trail

5.2. Waste Rock Disposal Areas

No apparent waste rock

5.3. Tailings Impoundments

Tailings Dams

No apparent dams

Tailing Ponds

No apparent tailings ponds

5.4. Minesite Water Treatment

No apparent treatment facilities.

6. MINE SITE INFRASTRUCTURE

6.1. Buildings

No apparent buildings

6.2. Fuel Storage

No apparent fuel storage facilities.

6.3. Rail and Tressel

No apparent activity

6.4. Milling and Processing Infrastructure

No processing facilities apparent.

6.5. Electrical Equipment

No apparent electrical equipment

7. SOLID WASTE DUMPS

No apparent waste dumps.

8. POTENTIAL CONTAMINANTS OF CONCERN

8.1. Out of Service Transformers

None apparent at site

8.2. Metals and Hydrocarbons in Soil

No evidence of staining, spills, or odours.

8.3. Liquid Hazardous Materials

None apparent at site.

8.4. Solid Hazardous Materials

None apparent at site.

9. WATER QUALITY

Surface water quality samples were collected in the watercourse of Cascallen Gulch just downstream of the large trench (99-90-WQ-01) and 200 m upstream of the trench near the geographic centre of the gulch (99-91-WQ-02 and field duplicate 99-91-WQ-03) Results of the geochemistry are listed in Attachment 2.

10. RECLAMATION

Natural revegetation is beginning to occur in the large trench at the bottom and smaller dugout at the top of the gulch (see Photos 90-1 and 90-2). A number of old trails from the early 1900s also occur in Cascallen Gulch, which have been heavily overgrown by forest. No evidence of any reclamation measures at this site.

11. OTHER SOURCES OF INFORMATION AND DATA

Much of the available information for this area is focused on the exploration activities of New Millenium Mining Ltd. within the Dublin Gulch area.

12. REFERENCES AND PERSONAL COMMUNICATIONS

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ATTACHMENT 2: 1999 DUBLIN GULCH - SHAMROCK WATER SAMPLES

LABORATORY RESULTS

Site Number	Detection Limit	Units	99-90-WQ-01 Sept. 17/99	99-90-WQ-02 Sept. 17/99	99-90-WQ-03 Sept. 17/99
Sample Description			Downstream of Trench in Cascallen Gulch	200 m upstream of Trench in Cascallen Gulch	Field Duplicate of WQ-2
Temperature (field)	N/A	oC	3.2	2.3	2.3
pH (field)	N/A	pH	7.25	6.4	6.4
Conductivity (field)	N/A	µS/cm	118	101	101
pH (Lab)	0.01	pH	7.63	7.28	7.37
Conductivity (Lab)	0.01	µS/cm	105	90	88
Total Alkalinity	5	mg CaCO3/L	51	37	31
Chloride	0.05	mg/L	<0.05	0.05	<0.05
Hardness (CaCO3 equiv)	5	mg/L	51.9	46.8	47.7
Nitrate-N	0.05	mg/L	0.07	0.05	0.05
Nitrite-N	0.003	mg/L	<0.003	0.003	0.003
Sulphate	1	mg/L	6.9	5.8	5.9
Total Dissolved Solids	5	mg/L	67	62	56

Analysis by ICP-USN

Aluminum	0.0008	mg/L	0.232	0.0296	0.0165
Antimony	0.005	mg/L	<0.005	<0.005	<0.005
Arsenic	0.01	mg/L	0.04	0.04	0.04
Barium	0.00004	mg/L	0.036	0.046	0.0474
Beryllium	0.00001	mg/L	<0.00001	<0.00001	<0.00001
Bismuth	0.0004	mg/L	<0.0004	<0.0004	<0.0004
Boron	0.002	mg/L	<0.002	<0.002	<0.002
Cadmium	0.00006	mg/L	0.000042	0.000046	0.00005
Calcium	0.002	mg/L	13.8	12.2	12.1
Chromium	0.00006	mg/L	0.00072	0.00017	0.00018
Cobalt	0.00003	mg/L	0.00028	<0.00003	<0.00003
Copper	0.00003	mg/L	0.00133	0.00101	0.00058
Iron	0.00001	mg/L	0.42	0.035	0.016
Lead	0.0003	mg/L	<0.0003	<0.0003	<0.0003
Lithium	0.001	mg/L	0.003	0.002	0.001
Magnesium	0.0005	mg/L	2.62	1.75	1.75
Manganese	0.00002	mg/L	0.0128	0.00218	0.00122
Mercury	0.0001	mg/L	<0.0001	<0.0001	<0.0001
Molybdenum	0.00007	mg/L	0.00294	0.0024	0.00257
Nickel	0.00001	mg/L	0.001	0.0007	0.0009
Phosphorus	0.03	mg/L	<0.03	<0.03	<0.03
Potassium	0.4	mg/L	0.7	0.6	0.5
Selenium	0.004	mg/L	<0.004	<0.004	<0.004
Silicon	0.004	mg/L	4.85	4.45	4.42
Silver	0.00005	mg/L	<0.00005	<0.00005	<0.00005
Sodium	0.004	mg/L	1.3	1.4	1.4
Strontium	0.00002	mg/L	0.093	0.0852	0.0883
Sulphur	0.008	mg/L	2.36	2.03	2.02
Thallium	0.001	mg/L	<0.001	<0.001	<0.001
Titanium	0.00002	mg/L	0.0165	0.00129	0.00069
Vanadium	0.00003	mg/L	0.00077	0.00019	0.00019
Zinc	0.0002	mg/L	0.001	<0.0002	<0.0002

Analysis by Hydride AA

Arsenic	0.0002	mg/L	0.0278	0.0363	0.0364
Selenium	0.0001	mg/L	0.0002	0.0001	<0.0001



Photo 90-1 : Shamrock. Old trench along W. slope of Cascellan Gulch.



Photo 90-2 : Shamrock. Old 1914 trench along S. Ridge of Cascellan Gulch.