

## DUBLIN GULCH - STEWART & CATTO

SITE #91

(MINFILE #106D 025d)

### 1. LOCATION AND ACCESS

Coordinates 64-02-00 N, 135-47-00 W. Located along Olive Gulch and a ridge straddling this gulch and Stewart Gulch (approximately 1 km due southwest) 800 m from its confluence with Dublin Gulch. Elevation approximately 3800-4000 feet asl. Access to the site is via the South McQuesten Highway (from Highway 11, Silver Trail) to Haggart Creek Road, 200 m southeast off Dublin Gulch Road along the Olive Gulch access road.

### 2. SITE PHYSIOGRAPHY

The site is located along the northeast side of a relatively-dry ridge leading into Olive Gulch. A small semi-subterranean creek runs down into the gulch under large boulders from the southeast (Photo 91-1), daylighting alongside a small placer mining camp along the site access road (see Photo 91-7). The stream splits into two channels at a small placer campsite located there with one of the forks following into a dugout trench while the other follows the Olive Gulch access road to the northwest. The stream drainage beyond this point has been altered by overburden from placer activities and trenching, resulting in flooding and wet, soggy conditions along Olive Gulch access road (Photo 91-2). This gulch eventually drains into Dublin Gulch to the northwest. The presence of permafrost soils could not be ascertained; however, the sparse cover of smaller trees and the high elevation suggests the possibility of discontinuous permafrost (Photo 91-3).

### 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 cm 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 occurs 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.

#### 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 Stewart-Catto group. On the Stewart Catto group (Happy Jack (8029)) and Victoria (8022) cl) recorded in Jun.- Oct., 1908, two adits were driven, the first 38 m long and off the vein, and the second a 600 m crosscut with 23 m of drifting on the vein. T. McKay and A.H. Martin tied on Bob, Mucking Futch et. al. Cl (55056) to the Olive claim in November, 1937, and

prospected with pits and shallow shafts. 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 Millennium 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

One of the old adits developed between 1908 and 1914, "Victoria" was discovered along the upper access road winding up the northeast-facing slope of Olive Gulch. The opening was located 200m upslope and due southeast from the bottom of the gulch and approximately 80 m down from the top of the ridge. The adit opening was exposed and partially filled with rocks (Photo 91-4). Two drill-casing pipes were also noted sticking out of the ground above the adit at a 45 degree angle, possibly from old drilling activities or for shaft-venting.

Dimensions (L x W x H): ~83 m x 1.5 m x 1.75 m)

Supports: No structural supports in place

Condition: Appears to be stable.

Access: 3 m from edge of upper access road leading up-slope from Olive Gulch to top of ridge.

Sampling: One rock sample (99-91-WR01) was taken from the interior of this adit for acid rock drainage (ARD) analysis. Results of the geochemistry are listed in Attachment 2.

#### Open Pits

No apparent pits at this site.

#### Trenches

A number of (40 to 70 m) long bulldozer and backhoe trenches were found near the top of the ridge towards its northwest side, among extensive roadworks, above the adit opening (Photos 91-5 and 91-6).

Dimensions (L x W x H): ~ 40-70 m x 2-3 m x 1-2 m

Condition: loose packed overburden; some natural re-colonization evident (see Photos 91-5 and 91-6); appear to be relatively stable

Accessibility: upper access road leading up-slope from Olive Gulch to top of ridge, above adit.

Recent, large, flooded bulldozer trench along Olive Gulch water course, opposite placer camp (Photo 91-7, see also Photo 91-2); approximately 100 m from Dublin Gulch Road.

Dimensions: (L x W x H): ~ 40 m x 4 m x 5 m

Condition: loose packed soil and gravel; erosion occurring from surface run-off; potentially unstable during high flow/runoff conditions.

Accessibility: along Olive Gulch access road.

## **5.2. Waste Rock Disposal Areas**

No apparent waste rock, aside from overburden and large boulders. Although no physical indications of Acid Rock Drainage were noted at the Stewart Catto site Victoria adit such as staining, the results of the Acid Base Accounting from the adit sample suggest the potential for acid generation (AP/NP = 0.6). A visual assessment of a rock sample collected at the subject site did not indicate any visual indications of sulphide minerals.

## **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 intact buildings, aside from two trailers being used as a camp for current placer mining and salvage activities (Photos 91-7 and 91-8). Two miners were camping on site at the time of the 1999 investigation. Two old, collapsing burned-out log cabins were located on the opposite side of the watercourse, in addition to an old demolished wood and siding building by the campsite along the southwest side of the watercourse.

## **6.2. Fuel Storage**

No apparent fuel storage facilities, aside from possible propane tanks being used by trailers of placer miners.

## **6.3. Rail and Tressel**

No apparent activity

## **6.4. Milling and Processing Infrastructure**

No processing facilities apparent, aside from an old loader pan located along the south edge of the dugout trench, shelite recovery sieve (used by the miners), and a large sheet sieve (2 x 6 m) towards the north west end of the camp.

## **6.5. Electrical Equipment**

No apparent electrical equipment

## **7. SOLID WASTE DUMPS**

No apparent waste dumps; however, wood and metal debris (pieces of mining equipment and siding) were scattered across the site. Some PVC piping was also recently piled on the opposite side of the watercourse from the camp (Photos 91-7 and 91-8).

## **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 Olive Gulch at the campsite (99-91-WQ-01) and 5 m downstream of the base of the dugout trench situated 100 m northwest of the camp (99-91-WQ-02, see Photo 91-2). Results of the geochemistry are listed in Attachment 2.

## **10. RECLAMATION**

Natural revegetation is beginning to occur both in the trench areas above the adit (see Photo 91.5) and less disturbed areas around the camp site (see Photo 91-7). No evidence of any reclamation measures at this site aside from local salvaging operations.

## **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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Yukon Exploration and Geology, 1979-80, p.238-240. (used in production of minfile)

**ATTACHMENT 2: 1999 DUBLIN GULCH - STEWART & CATTO WATER SAMPLES**

**LABORATORY RESULTS**

Site Number	Detection Limit	Units		99-91-WQ-01 Sept. 17/99	99-91-WQ-02 Sept. 17/99	99-91-WQ-03 Sept. 17/99
Sample Description				North side of campsite in stream	5 m downstream of trench in stream	Field duplicate of WQ-2
Temperature (field)	N/A	oC		2	7.3	7.3
pH (field)	N/A	pH		7.12	7.9	7.9
Conductivity (field)	N/A	µS/cm		120	123	123
pH (Lab)	0.01	pH		7.61	7.6	7.6
Conductivity (Lab)	0.01	µS/cm		105	105	105
Total Alkalinity	5	mg CaCO3/L		45	48	41
Chloride	0.05	mg/L		0.07	0.05	0.06
Hardness (CaCO3 equiv)	5	mg/L		53.9	56.1	55.3
Nitrate-N	0.05	mg/L		0.21	0.16	0.16
Nitrite-N	0.003	mg/L		<0.003	0.003	<0.003
Sulphate	1	mg/L		6	7.5	7.6
Total Dissolved Solids	5	mg/L		378	398	128
<b>Analysis by ICP-USN</b>						
Aluminum	0.0008	mg/L		0.0219	1.72	1.28
Antimony	0.005	mg/L		<0.005	0.005	<0.005
Arsenic	0.01	mg/L		0.04	0.08	0.08
Barium	0.00004	mg/L		0.0418	0.0723	0.066
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		0.000082	0.00016	0.00014
Calcium	0.002	mg/L		13.9	14.6	14.7
Chromium	0.00006	mg/L		<0.00006	0.00314	0.00244
Cobalt	0.00003	mg/L		<0.00003	0.0014	0.00117
Copper	0.00003	mg/L		0.00072	0.00371	0.00324
Iron	0.00001	mg/L		0.022	2.73	2.11
Lead	0.0003	mg/L		<0.0003	0.0059	0.0054
Lithium	0.001	mg/L		0.002	0.005	0.004
Magnesium	0.0005	mg/L		2.45	3.24	3.12
Manganese	0.00002	mg/L		0.00033	0.0825	0.0701
Mercury	0.0001	mg/L		<0.0001	<0.0001	<0.0001
Molybdenum	0.00007	mg/L		0.0051	0.00548	0.0056
Nickel	0.00001	mg/L		0.0009	0.0036	0.0034
Phosphorus	0.03	mg/L		<0.03	0.12	0.11
Potassium	0.4	mg/L		0.7	1.1	1
Selenium	0.004	mg/L		<0.004	<0.004	<0.004
Silicon	0.004	mg/L		4.24	6.39	5.74
Silver	0.00005	mg/L		<0.00005	<0.00005	<0.00005
Sodium	0.004	mg/L		1.6	1.7	1.7
Strontium	0.00002	mg/L		0.0799	0.0835	0.0835
Sulphur	0.008	mg/L		1.98	2.61	2.6
Thallium	0.001	mg/L		<0.001	<0.001	<0.001
Titanium	0.00002	mg/L		0.00134	0.117	0.0861
Vanadium	0.00003	mg/L		0.00014	0.0043	0.00339
Zinc	0.0002	mg/L		<0.0002	0.0167	0.011
<b>Analysis by Hydride AA</b>						
Arsenic	0.0002	mg/L		0.0359	0.0746	0.0715
Selenium	0.0001	mg/L		<0.0001	0.0002	<0.0001

**ATTACHMENT 2: 1999 DUBLIN GULCH - STEWART & CATTO WASTE ROCK SAMPLES LABORATORY RESULTS  
MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING TEST**

SAMPLE	SITE DESCRIPTION	PASTE pH	S(T) %	S(SO4) %	AP	NP	NET NP	NP/AP
99-91-WR-01 - Sept 15/99	Victoria Adil	6.1	0.07	0.03	1.3	0.7	-0.6	0.6

AP = ACID POTENTIAL IN TONNES CaCO<sub>3</sub> EQUIVALENT PER 1000 TONNES OF MATERIAL.

NP = NEUTRALIZATION POTENTIAL IN TONNES CaCO<sub>3</sub> EQUIVALENT PER 1000 TONNES OF MATERIAL.

NET NP = NET NEUTRALIZATION POTENTIAL = TONNES CaCO<sub>3</sub> EQUIVALENT PER 1000 TONNES OF MATERIAL.

NOTE: WHEN S(T) AND/OR S(SO<sub>4</sub>) IS REPORTED AS <0.01, IT IS ASSUMED TO BE ZERO FOR THE AP CALCULATION.

N/D = NO DUPLICATE ASSAY. CALCULATIONS ARE BASED ON ASSAY RESULTS OF THE INITIAL SAMPLE.

RE = REPLICATE.

NOTE - A HIGH LEVEL OF SOLUBLE METALS (ESPECIALLY IRON) WERE OBSERVED IN MANY SAMPLES DURING THE ABA TITRATIONS.

SAMPLES WITH A NEGATIVE NET NP SHOULD BE TESTED FOR MOBILE METALS USING STANDARD SHAKE FLASK EXTRACTION TESTS.



Photo 91-1 : Stewart-Catto. View from hill looking at top of gulch upstream & east of site.



Photo 91-2 : Stewart-Catto. Trench N.W. of site looking E.



Photo 91-3 : Stewart-Catto. View from hill looking E. Showing "upstream area" of camp site.



Photo 91-4 : Stewart-Catto. Old 1914 mine adit along old access road to top of hill.



Photo 91-5 : Stewart-Catto. Long trench looking upslope  
& S.W. to hill top.



Photo 91-6 : Stewart-Catto. One of many bulldoze trenches near top of hill looking N.E.



Photo 91-7 : Stewart-Catto. View from hill looking N. showing lower portion of camp site & debris.



Photo 91-8 : Stewart-Catto. View from hill looking N.E. Showing upper portion of camp site & debris.