GEOLOGICAL / GEOCHEMICAL REPORT

ON THE

ELDORADO GOLD PROJECT

LILLOOET MINING DIVISION

NTS: 092O.006 and 092O.007

Latitude 51° 2' 30" N Longitude 122° 49' 00" W

UTM NAD 83 5654500 mN 513000 mE

by:

R.M. Durfeld, B.Sc., P.Geo.
Box 4438
Williams Lake, BC V2G 2V5

Effective Date: June 20, 2008

TABLE OF CONTENTS

List of Illustrations (Item 26)

Item 3: Summary

Figure 1: Eldorado Project Location Map

Item 4: Introduction

The ‘Eldorado Gold Project’, located in the Lillooet Mining Division is a joint venture covering mineral tenures owned by Ken Shannon, Mel Stewart and Rudi Durfeld. This report documents geological mapping, prospecting and geochemical sampling (rock and silt) that was completed in the claim area during the period July 7th to August 31st, 2007. Historic data from government surveys, government filed assessment reports and private company reports describing mineral exploration and development in the Eldorado property area has also been included. All data has been compiled in access and excel data bases and imported to the Manifold GIS program for presentation. The Eldorado Project was acquired for its potential of hosting an ‘Orogenic Gold Deposit’.

RM (Rudi) Durfeld, B.Sc., P.Geo., supervised the 2007 field program and is the author of this report.

Item 5: Reliance on Other Experts

There were no other experts involved in preparing this report.

Item 6: Property Description and Location

The 3780 hectare contiguous Eldorado Gold Project is located in the Lillooet Mining Division, British Columbia, 17 kilometres north of the community of Gold Bridge and 11 kilometres northwest of Tyaughton Lake (Figure 1). More precisely, it is located at 51° 02' 30" north latitude and 122° 49" 00" west longitude and UTM NAD 83, 5654500 mN, 513000 mE. (National Topographic System Map 92O.006 and 007).

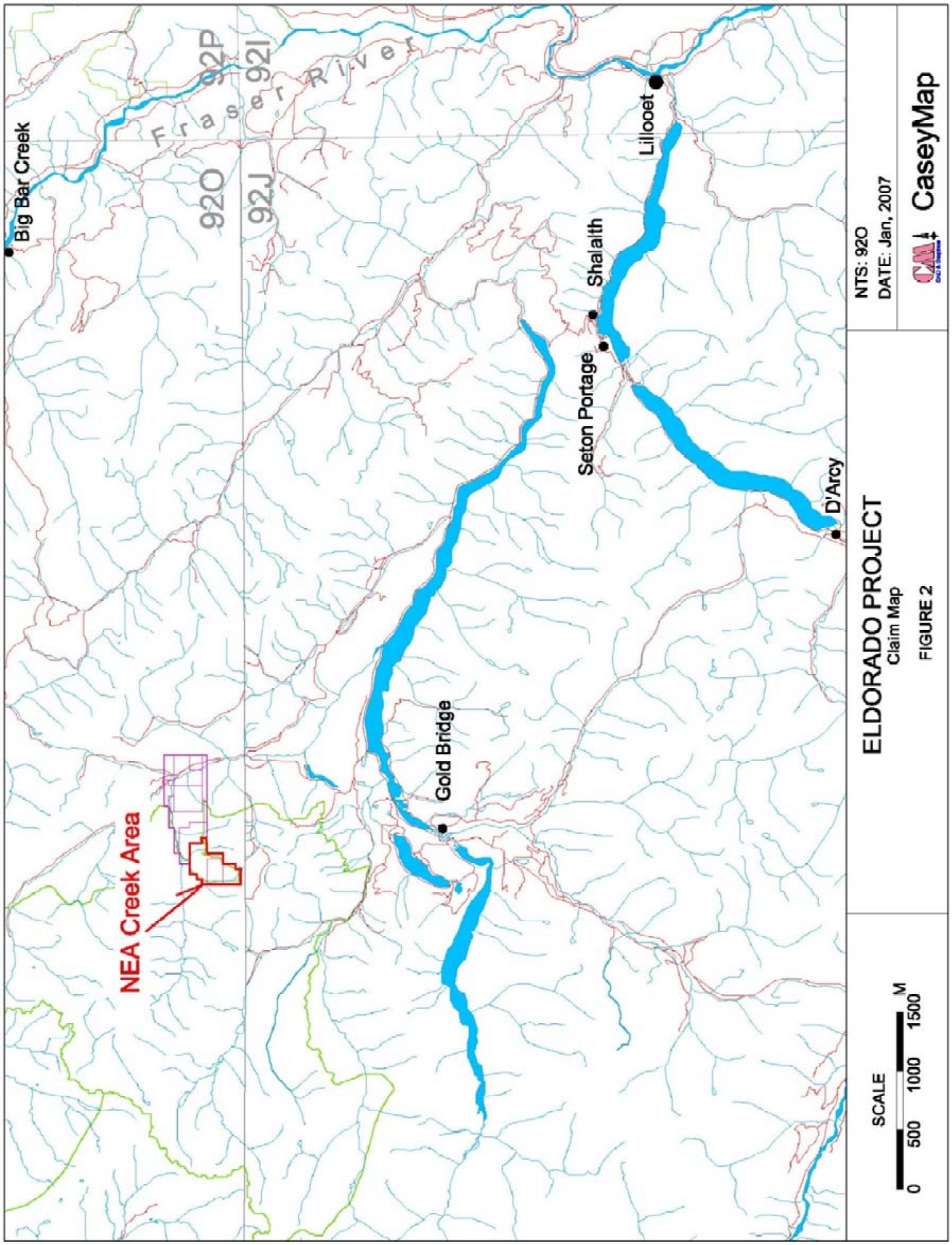
The Eldorado property, comprised of 12 mineral tenures, is registered to Ken Shannon (FMC 124369), Mel Stewart (FMC 125752) and Rudi Durfeld (FMC 107306). The following table lists the detailed tenure information (tenure number, type, claim name, expiry date and area) and the relative claim locations are shown on the Claim Map (Figure 2)

Table 1: Tenure Information

Tenure Number	Tenure Type	Owner	Map Number	Good To Date	Area (Hectare)
514957	Mineral	124369 (100%)	092O	2009/feb/27	305.0
502853	Mineral	125752 (100%)	092O	2008/aug/13	508.0
502887	Mineral	125752 (100%)	092O	2008/aug/13	182.9
502929	Mineral	125752 (100%)	092O	2008/aug/13	60.9
506719	Mineral	125752 (100%)	092O	2008/aug/13	142.2
513822	Mineral	125752 (100%)	092O	2009/apr/17	223.7
520689	Mineral	125752 (100%)	092O	2008/oct/01	121.9
525464	Mineral	125752 (100%)	092O	2008/aug/13	223.5
502809	Mineral	107306 (100%)	092O	2008/aug/13	508.2
502818	Mineral	107306 (100%)	092O	2008/aug/13	508.1
502828	Mineral	107306 (100%)	092O	2008/aug/13	508.0
502835	Mineral	107306 (100%)	092O	2008/aug/13	487.7
			Total Area		**3780.0**

In British Columbia acquisition of Crown mineral rights is governed by the Mineral Tenure Act and administered by the Mineral Titles Branch. Exploration and development required to maintain a mineral claim in British Columbia for 1 year is $4/hectare for the first, second and third anniversary years and $8/hectare for each subsequent year and applicable recording fees.

Figure 2: Eldorado Claim Map



Item 7: Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Eldorado Project is accessed from Lillooet, via the Goldbridge Highway 40 to the Marshall Main (46 km), up Marshall Main a further 35 km, from where local logging roads provide westerly access through the property to the Nea Basin. Late in 2005 Ainsworth Lumber extended the Bonanza Main logging road 5 kilometres west, terminating in the Nea Basin, just west of the Robson adit. With less than 200 metres of trail this road was linked to the historic mining trail / road network. Helicopter access is available from Tyaughton Lake or Lillooet.

The project lies in the Chilcotin Ranges of the south-central British Columbia interior, representing the eastern portion of the Coast Mountain Physiographic region. The area has a mean annual precipitation is 150 to 250 cm per year. With an average of 60 frost free days a year snow can be expected anytime after September 15th .   Ground surveys are most effective from Mid-May to Mid-October, whereas drilling can be conducted year round with the extra expense of snow removal.

The Project is linked by allweather roads to the communities of Goldbridge and Lillooet, where infrastructure would easily support and welcome any development in the Eldorado area. A reliable supply of water is readily available from the Tyaughton River system. There is adequate area on the property for mine-mill development and waste or tailings disposal.

This region is characterized by narrow immature glacial valleys and interconnected basins with elevations on the property ranging from 1100 metres (3600 feet) to 2400 metres (7900 feet) above sea level. The western portion of the property is in the upper reaches of the north flowing Nea Basin.

The lower reaches of the property cover pine and fir forests that give way to a transition zone from alpine coniferous (pine-spruce-fir) to low lying alders and alpine grasses and flowers which on the steeper side hills give way to rusty outcrops and scree slopes.

Item 8: History

From west to east the property covers five past producers as the Robson, Silver Quick, Tungsten King, Tungsten Queen and Manitou documenting a long history of prospecting, explortation and development.

Robson Deposit

Latitude 51° 01' 23" N Longitude 122° 53' 20" W

UTM 10 (NAD 83) Northing 5652395 Easting 507793

Early exploration identified the Robson deposit as seams and veins of predominantly quartz and auriferous arsenopyrite along a southwest trending and steeply dipping shear zone. Other metallic minerals identified were pyrite, jamesonite, sphalerite, chalcopyrite, stibnite, boulangerite, pyrrhotite and pyrargyrite. Silica, carbonate and chlorite alteration are associated with the mine.

The Robson deposit was mined in 1939 and 1940 producing a total of 34 tonnes of ore which yielded 18kilograms of silver, 2.2 kilograms of gold, 193 kilograms of copper and 2640 kilograms of lead. A 1986, a 0.79 metre diamond-drill interval of the vein structure assayed 468.95 grams per tonne silver and 45.24 grams per tonne gold.

Silver Quick Deposit

Latitude 51° 02' 26" N Longitude 122° 49' 05" W

UTM 10 (NAD 83) Northing 5654351 Easting 512756

The Silverquick mercury deposit, is hosted in extremely fractured and sheared chert pebble conglomerate and interbedded sandstone-shale and chert lithic quartz arenite of the Upper Cretaceous Silverquick Formation. Cinnabar is present as disseminated grains, streaks and small lenses within the brecciated conglomerate and accompanied by quartz,calcite, limonite and clay.

The mine, produced most of its ore in the early to mid 1960's, yielded about 3180 kilograms of mercury. About 34 kilograms of mercury were produced in 1955.

Tungsten King, Cinnabar King, Lorntzsen

Latitude 51° 02' 44" N Longitude 122° 45' 32" W

UTM 10 (NAD 83) Northing 5654919 Easting 516902

The Tungsten King deposit is hosted within quartz-carbonate-mariposite rock, or listwanite and dolomite which is intensely brecciated, recrystallized and sheared. Feldspar porphyry dykes intrude listwanite, although not immediately adjacent to the significant metal concentrations. Quartz veins with scheelite and stibnite were first discovered within a two-metre wide fracture zone in brecciated recrystallized and sheared dolomite. Stibnite veins and disseminations also occur within listwanite. Cinnabar (for which the area was first prospected) occurs as films along shear planes as well as disseminations within foliated greenstone and listwanite, peripheral to the main scheelite-stibnite showings. In 1942 and 1952about 34 tonnes of ore were mined grading about 5% tungsten trioxide (WO3).

Tungsten Queen, Phillips' Tungsten, Phillips' Cinnabar

Latitude 51° 02' 10" N Longitude 122° 45' 17" W

UTM 10 (NAD 83) Northing 5653869Easting 517198

The Tungsten Queen deposit occurs near the south end of a large fault-bound body of quartzcarbonate altered serpentinite (quartz-carbonate-mariposite rock, or listwanite) assigned to the Shulaps Ultramafic Complex. All these rocks are cut by irregular bodies and dykes of (Tertiary ?) feldspar porphyry. The Tungsten Queen deposit consists of essentially eight scheelite-bearing veins of variable thickness and continuity. Almost all of the veins strike northeast with most terminated by faults and adjacent tectonically emplaced Bridge River rocks. The principal vein, number 6, which yielded most of the high grade ore, was up to 18 centimetres thick and continuous for 21 metres. Other scheelite-bearing veins are much smaller. The veins consist of massive, almost pure white scheelite, with stibnite, quartz and carbonate. It is reported that between 1940 and 1953, 7,896 kilograms of tungsten trioxide Wo3 were recovered from 55 tonnes of ore; 41 tonnes had been mined by 1943 with the remainder being mined in 1952 and 1953. Virtually all scheelite-bearing material has been mined out.

Manitou, Empire, Rose Group

Latitude 51° 03' 36" N Longitude 122° 46' 10" W

UTM 10 (NAD 83) Northing 5656522 Easting 516157

The Manitou mercury deposit, 800 metres northeast of the confluence of Relay and Tyaughton creeks, is hosted by a foliated greenstone and along contacts between greenstone and ribboned chert of the Mississippian to Jurassic Bridge River Complex (Group). The rocks are extremely faulted and principal shear zones trend north and northwest. Mercury occurs as cinnabar, chiefly with foliated green and purple volcanic rocks (greenstone) along foliation and shear places. Recorded production, from 1938 to 1939, is 141.5 tonnes of ore which yielded 542.5 kilograms of mercury (National Mineral Inventory 092O2 Hg1).

There was not a lot of exploration conducted in the area after the closure of the Silver Quick Mine until the increase in gold price rekindled interest in the late 70's. Much of the property area was explored until mid 1980's. The last drilling was on the Robson in 1986. Durfeld and Stewart acquired their interest in the area since 2003, By staking and combined that interest with Shannon's existing tenure. This report documents results of ongoing exploration rock and silt sampling and compiling and verifying results of historic surveys while identifying new targets for exploration.

Item 9: Geological Setting

9.1 Regional Geology

The Eldorado Project area is described by P. Schiarizza,P.Geo. et al of the Geological Survey Branch of the Ministry of Energy and Mines, Bulletin 100, 'Geology and Mineral Occurences of the Taseko-Bridge River Area (February 1997).

The project lies in the Coast geomorphological belt, characterized by rugged mountains that are underlain by Late Jurassic to Early Tertiary granitic rocks of the Coast Plutonic Complex. More specifically the project is in the Southeastern portion of the Coast Belt, containing a smaller percentage of granitic rocks that are Mid-Cretaceous to Early Tertiary in Age. The supracrustal rocks include rocks of the Bridge River, Cadwallader and Methow terranes, that originated in ocean basins, volcanic arc and clastic basin environments. These Late Paleozoic to Cretaceous Age units are juxtaposed across a complex system of contractional, strike-slip and extensional faults of mainly Cretaceous and Tertiary Age.

9.2 Property Geology

The attached 'Eldorado Project Geology Plan' (figure 3) was downloaded from the BC Ministry of Energy and Mines website. Contacts and features were modified to reflect locally observed features.

The imbricated chert, clastics, limestone, greenstone and serpentinite, in the eastern project area, belong to the Mississippian to Mid Jurassic Age Bridge River Complex (MmJBgs). The central project area documents sedimentary basinal deposition from Upper Triassic to Cretaceous time. The siltstones and shales of the Hurley Formation (uTrCHs) document Upper Triassic clastic deposition in the Cadwallader Terrane. The Upper Triassic Tyaughton Group (uTrTy) to the northwest of the Hurley represents a nonmarine to shallow marine facies equivalent of the Hurley Formation. The Lower Cretaceous Age sandstones, siltstones and conglomerates of Taylor Group Dash (lKTD) and Lizard (lKTL) Formations form the west and east limbs of a core nonmarine conglomerate and finer clastics of the Cretaceous Age Silverquick Formation (KSq). The Silverquick formation forms the upper part of the Tyaughton basin.

In the southwest project area, the horseshoe shaped 4 kilometre by 2 kilometre, biotite hornblende quartz diorite and granodiorite Eldorado stock (LTTgd) occupies the upper Nea basin. Immediately north of the projcet a 2 kilometre north-south elongate Eocene Age feldspar prophyry (Efp) occurs. The recently mapped feldspar prophyries at the Silverquick, Tungsten King and Tungsten Queen have been included in the (Efp).

a) Structure

Complex Cretaceous to Tertiary Age North to northwesterly trending faults and thrusts juxtapose the clastic rocks. These structures and the subsidaries are often healed with quartz carbonate sulphide veins.

b) Alteration

A one kilometre zone of hornfels (biotite, pyrite) envelopes the Eldorado stock contact, developing a strong gossan in the Nea Basin. A narrower zone of clay alteration is noted as bleaching close to the stock contact. Clay alteration was also noted in the area of the Silverquick, Tungsten King and Tungsten Queen.

Quartz carbonate alteration as matrix flooding, vein breccia and veining occurs throughout the Nea Basin and at the Silverquick, Tungsten Queen and Tungsten King prospects.

The Nea and Drabble vein structures occur in strong hornfels and sheared sediments immediately north of the intrusive contact.

Item 10: Deposit Types

The style of alteration, mineral zoning, silicification - quartz veining and gold in quartz veins fits a telescoping mesothermal to epithermal orogenic gold system for the Eldorado project area. The presence of mercury and base metals with gold in the Nea / Robson area would fit the central portion of the model. Whereas the high mercury and general lack of base metals in the Silverquick area would suggest the top of the model.

Item 11: Mineralization

Sulphide mineralization noted in order of abundance occurs as pyrite, arsenopyrite, cinibar, stibnite, galena, chalcopyrite and sphalerite. Pyrite occurs as disseminations and veins, while the other sulphides are generally restricted to quartz veins and fractures.

Previous work in the Nea Basin has identified the Robson High Grade, Drabble and disseminated intrusion hosted gold mineralized targets.

The Robson and Drabble targets are developed as mineralized quartz sulphide veins and shears in altered sediments immediately north of the Eldorado intrusive contact. The 2006 work focused on the Robson area. Limited hand trenching in the Robson trench exposed 2 areas of massive sulphide quartz veins intruding altered sediments. The relationship of the veins to the previous work is presented as ‘Nea-Robson Trench Detail’ (figure 3B) attached to this report. From these exposures a 60 to 80 degree strike with 45 to 50 degree northerly dip was measured for the vein. This is supported by the downhole intersection in drill hole CR86-3. The observed geometry suggests that this vein is unique from the vein mined from the Robson Adit 120 metres to the north. A quartz vein / breccia some 200 metres southeast of the trench showed a northwesterly, west dipping trend. Again cross cutting the trench vein trend.

This suggests three unique vein structures:

- the Robson Adit where float of gold base metal quartz vein breccia assayed 41.430 g/tonne Au, >200 ppm Ag, >1% As, >1% Cu, > 1% Pb, >1% Zn, 960 ppb Hg

- the Robson Trench with 123.3 g/tonne Au over .3 metres or 48.7 g/tonne Au over 1 metre in a area where quartz massive sulphide vein float had yielded 94.800 g/tonne Au, >166 ppm Ag, >1% As, 6.08% Pb, >1% Sb, 524 ppm Zn and the southeast vein with 2.43 g/tonne Au over 1 metre in a quartz vein breccia.

Drabble (2 kilometres south-southwest of Robson)

Sampling of quartz healed shears near the intrusive contact in the Drabble area:

645 ppb Au, >1% As

The intrusive - contact between the Robson and Drabble areas should be targeted for ongoing exploration.

Historic work in the southwestern property area had shown strongly anomalous soils >3000 ppb gold. Limited 2006 rock sampling did not identify a mineralized source, showing only weakly anomalous gold values. Additional sampling is required to evaluate the full potential in this area.

2004 rock sampling of the granodiorite in the central stock showed 546 ppb Au, 32.6 ppm Ag, 1752 ppm As, 0.3 % Cu, 584 ppm Pb, 1253 ppb Sb

Silverquick

As expected the sampling in the open cuts and adits assayed high mercury up to 1.92% mercury, with anomalous mercury over a larger area with weakly anomalous gold (40 to 60 ppb gold). Below the adits is an area of altered feldspar porphyry float returned 115 and ppb Au 1440 ppm As. The 2006 prospecting and sampling showed additional conglomertate to the south with disseminated cinnibar that was not analyzed for mercury.

Tungsten King and Tungsten Queen

Limited rock sampling continues to identify elevated gold with anomalous arsenic and antimony and strongly anomalous mercury (up to 11,300 ppb Hg) related to intrusive plugs and sills into mafic rocks.

Item 12: Exploration

The objective of the 2007 program was to conduct geological mapping and prospecting, and geochemical rock and silt sampling to refine the exploration targets in the property area. To this end a series of traverses were designed to collect a combination of silt and rock samples in conjunction with prospecting and geological mapping. This work was focussed in four general areas from west to east as the Nea / Robson (A), Bruce Creek (B), Silverquick (C) and Tungsten King / Queen (D) The results of this work are documented in this report.

Item 13: Drilling

The relative location of the 1986 drilling in the Robson Area are shown on the attached detailed plan (Figure 3B).

Item 14: Sampling Method and Approach

14.1 Geochemical Sampling

During the 2007 program 46 rock and 57 silt samples were collected in the property area.
Rock samples were collected of both float and as outcrop. The location and rock type were summarized and plotted on the geology map which was updated to reflect the observed lithologies. All samples were located using a GPS and the coordinates recorded in UTM NAD 83 and added to the sample description.

Stream sediments were taken from variable stream sizes and characteristics that were observed and number coded as per the following table and recorded with the sample location.

Type	Character	Texture	Origin	Colour
1 Sediment	1 Active	1 Silt	1 Local Residual	1 Yellow
2 Soil	2 Dry	2 Sand	2 Colluvial	2 Brown
	3 Swamp	3 Organic	3 Alluvial	3 Grey
	4 Seep	4 Clay	4 Glacial	4 Red
		5 Gravel		5 Black

Representative rock samples were collected of both float and as outcrop by collecting random chips of the sample area.

Item 15: Sample Preparation, Analyses and Security

Silt samples were placed in Kraft bags and labeled with a unique number. Rock samples were placed in plastic bags to which a unique assay tag was added. After samples were organized a sample shipment listing was completed and the samples were placed in a bags or boxes and shipped via public freight to Assayers Canada in Vancouver for analysis.

After confirming receipt of the sample shipment Assayers Canada in Vancouver analyzed the samples for gold and multi element ICP. The analytical procedures employed at Assayers are given as Appendix III. Assayers provided the results in hard copy and as an XL file that are listed with the compiled geology as Appendix I and with the silt sample location as Appendix II. Internally, Assayers inserted standards and re ran samples as checks. There were no blanks or standards inserted as field samples.

No extra security was provided with the shipping of the samples.

Item 16: Data Presentation and Verification

The coordinates were added as part of the sample description and merged with the geochemical results Appendix I for rock samples and Appendix II for silt samples . This data was then imported to the Manifold GIS program which generated the individual geochemical plots for rock and silt results for gold, arsenic, mercury, lead, antimony, zinc and rock location, Figures 4, 4E, 5, 5E, 6, 6E, 7, 7E, 8, 8E, 10, 10E and 9. The previous rock data is included with these plots. Figure 9 shows the location of the 46 2007 rock samples.

The plots of the sample locations were verified with the field plots. The plotted values for the elements were confirmed with the laboratory results.

Item 17: Adjacent Properties

The Bralorne-Bridge River mineral district, 25 km south of the project, hosts a large range of epigenetic mineral deposit types. The region is dominated by the Bralorne-Pioneer orogenic vein system that generated more than 4.1 million ounces of gold from high-grade ores (0.58 opt) between 1897 and 1971. Exploration in the Bralorne-Bridge River district is ongoing.

Item 18: Mineral Processing and Metallurgical Testing

Mineral processing has not been conducted on the property.

Item 19: Mineral Resource and Mineral Reserve Estimates

A mineral resource has not been defined on the Eldorado property.

Item 20: Other Relevant Data and Information

No other relevant data and information is known to the authors that would influence this report.

Item 21: Interpretation and Conclusions

The 3,780 hectare Eldorado Gold Project, acquired as an orogenic gold target, is located in south central British Columbia. The project lies 25 kilometres north of the Bralorne-Bridge River mineral district which produced >4 million ounces of gold .

The property encompasses a section of Upper Triassic to Cretaceous accreted clastic to volcanoclastic rock. Complex Cretaceous to Tertiary Age north to northwesterly trending faults and thrusts juxtapose the clastic rocks. The Cretaceous Age 4 kilometre by 2 kilometre Eldorado stock intrudes the sediments in the western property area. The finer feldspar porphyries mapped in the Silverquick and Tungsten King and Queen areas are thought to be Tertiary in Age.

The alteration / mineralization are structure / intrusion related.

The 2007 sampling expanded the sampling and mapping to identify additional areas on intrusive activity / alteration and / or anomalous mineralization. The sampling was conducted in four distinct areas from west to east as Nea Basin, Bruce Creek, Silverquick and Tungsten King and Queen. The following table summarizes the geochemical results for the four areas.

	NEA	**BRUCE CREEK**	**`SILVERQUICK**	**TUNGSTEN KING/QUEEN**
GOLD IN ROCK Figure 4	Strongly anomalous -as quartz vein -altered intrusive	3 anomalous rocks	3 weak anomalous -altered fine feldspar porphyry	2 weak anomalous
GOLD IN SILT Figure 4E	Strongly anomalous -all of upper basin	2 anomalous sites in upper and slightly east drainage	Background	Background
ARSENIC IN ROCK Figure 5	Strongly anomalous -as quartz vein -altered intrusive	3 anomalous rocks	Several anomalous	Area of anomalous
ARSENIC IN SILT Figure 5E	Strongly anomalous, all of basin.	Strongly anomalous	Background	Background
MERCURY IN ROCK Figure 6	Weakly anomalous	Background	Strongly Anomalous areas.	Strongly Anomalous areas.
MERCURY IN SILT Figure 6E	Anomalous	Background	Anomalous	Anomalous
LEAD IN ROCK Figure 7	Strong Anomalous	Strong Anomalous	Weak Anomalous	Weak Anomalous
LEAD IN SILT Figure 7E	Strong Anomalous	Background	Weak Anomalous	Weak Anomalous

ANTIMONY IN ROCK Figure 8	Strong Anomalous	Strong Anomalous	Background	Strong Anomalous
ANTIMONY IN SILT Figure 8E	Anomalous	Background	Background	Background
ZINC IN ROCK Figure 10	Strong Anomalous	Anomalous	Anomalous	Background
ZINC IN SILT Figure 10E	Anomalous	Background	Background	Background

The Eldorado Project covers a large area of anomalous gold in rock and silt with coincident anomalous arsenic, mercury, lead, antimony and zinc. The broad zoned geochemistry, intrusion / structural related alteration – veining – mineralization fits the model of a telescoping orogenic god prospect.

Historically the Nea Basin has a large gold in soil anomaly hosted in the Eldorado Stock. The 2007 rock sampling with strongly anomalous gold values (1040 ppb) in the Eldorado stock supports an intrusion hosted model. At the Robson Trench, immediately north of the Eldorado stock, a quartz sulphide vein assays up to 123.3 g/T gold over .3 metres.

The other three targets namely Bruce Creek, Silverquick and Tungsten King and Queen show clay altered rock with weaker gold and a strong support of anomalous pathfinder elements of arsenic, mercury, lead, antimony and zinc.

Item 21 A: Recommendations

Ongoing, expanded exploration will consist of follow-up in anomalous areas as geological mapping, prospecting, geochemical sampling (rock and soil). In the Nea Basin / Robson areas this will continue to define the extent and tenure of the gold mineralization. The other targets are modeled as zoned orogenic gold targets. The ongoing exploration will identify the anomalous gold component.

Item 22: Cost Statement

ELDORADO GOLD PROJECT					
July 5th to 8th, 2007					
	Map in Robson Area and Clear Access Trail / Helipad				
Travel / Room / Board					
	2 4X4 Pickup	1280 km	@ .70/km	$896.00	
	2 Quad	3 day	@ $70/day	$420.00	
	Room and Board	3 day	Tyax Lodge	$1,132.15	
Wages					
Geologist	RM Durfeld, P.Geo	4 day	@ $700/day	$2,800.00	
Prospector	JM Stewart	4 day	@ $300/day	$1,200.00	
Assistant	J Courschene	4 day	@ $250/day	$1,000.00	
July 16th, 2007					
	Helicopter Tour Jack McClintock in NEA Basin / Map and Rock Sample				
Wages					
Geologist	J McClintock, P.Eng. Du	1 day	@ $700/day	$700.00	
Geologist	RM Durfeld, P.Geo	1 day	@ $700/day	$700.00	
Helicopter	Caribou Chilcotin	2 hours	@ $1000/ hour	$2,000.00	
August 20th to 27th, 2007					
	Geological Mapping, Prospecting, Silt and Rock Sampling				
Travel / Room / Board					
	2 4X4 Pickup	1950 km	@ .70/km	$1,365.00	
	1 Quad	3 day	@ $70/day	$210.00	
	Room and Board	3 day	Tyax Lodge	$1,132.15	
Wages					
Geologist	RM Durfeld, P.Geo	6 day	@ $700/day	$4,200.00	
Assistant	AF Penner			$1,419.74	
	GR Durfeld			$1,242.96	
	CC Lees			$1,225.56	
	LR Durfeld			$1,133.98	
Analytical					
	McClintock Samples	17 rock	@ $ 18	$360.00	
	Stewart July Samples			$478.80	
	Durfeld (Assayers Canada)			$1,806.64	
Reporting					
	Drafting and Plotting			$820.00	
	Report			$1,200.00	
	TOTAL 2007 PROJECT COST			**$27,442.98**	

Item 23: References

Item 24: Certificate of Author

I, Rudolf M. Durfeld, P.Geo. do hereby certify that:

1. I am currently employed as a consulting geologist by Durfeld Geological Management Ltd. with offices at 2029 South Lakeside Drive, Williams Lake, BC.

2. I am a graduate of the University of British Columbia, B.Sc. Geology 1972, and have practised my profession with various mining and/or exploration companies and as an independent geological consultant since graduation.

3. I am a member of the Canadian Institute of Mining and Metallurgy. That I am registered as a Professional Geoscientist by the Association of Engineers and Geoscientists of B.C. (No. 18241).

4. That this report is based on:
   a. my supervision, observations and participation in the 2007 Bonanza Gold Project.
   b. compilation of the 2007 data with previous data.
   c. my personal knowledge of the property area and a review of available government maps and assessment reports.

Dated at Williams Lake, British Columbia this 20th day of June 2008.

R.M. Durfeld, B.Sc., P.Geo.

Item 24.2 Consent of Author

Item 25: Additional Requirements for Technical Reports On Development Properties And Production Properties

Appendices

APPENDIX I: ELDORADO GOLD PROJECT - 2007 ROCK SAMPLING

							SAMPLE	Au		Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn		Ag	Pb
Way point	UTM east	UTM north	Sample Number / feature					ppm		ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm		%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm		ppm	%
Helicopter (	508440	5651521					Sample		Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe		Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn	Zr		
Sample #	Easting	Northing			Lithology	Description	Name		ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%		ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm		
3073	513365	5654340			Sd,cht,S	Coarse SD with abundant cht grains,silicious matrix	3073		4	0.3	0.22	17	142	<0.5	<5	0.02	<1	2	201	18	0.58		4	0.06	<10	0.01	47	<2	0.01	18	83	<2	0.06	20	2	1	<5	<0.01	<10	<10	13	<10	14	2		
3074	514222	5654528			Sd,cng,qv	qv float in area of sandstone and conglomerate rubble	3074		17	0.6	0.28	<5	48	<0.5	<5	0.19	<1	4	345	18	0.97		<1	0.02	<10	0.28	232	<2	0.03	21	697	<2	<0.01	12	1	6	<5	0.02	<10	<10	12	<10	19	3		
3075	514335	5654669			Sd,qv,gos	float of gossanous sandstone with qv.	3075		3	0.3	0.16	<5	142	<0.5	<5	0.37	1	8	194	16	1.36		1	0.02	<10	0.18	630	2	0.01	35	127	<2	<0.01	7	2	6	<5	<0.01	<10	<10	24	<10	18	3		
3076	514602	5655008			Felsic int	atered rubble of silicious felsic intrusive	3076		6	<0.2	0.4	<5	141	0.5	<5	0.93	1	5	71	16	1.34		1	0.14	10	0.06	459	<2	0.05	18	492	15	<0.01	<5	1	3	<5	<0.01	<10	<10	14	<10	45	4		
3077	514667	5655063			HP alt	Altered fine HP in felsic matrix with dis pyrite.	3077		7	<0.2	1.74	41	130	0.5	<5	0.79	2	26	236	36	3.88		1	0.09	14	2.01	581	<2	0.05	133	866	9	0.04	7	9	3	5	0.01	17	<10	94	<10	75	8		
3078	514778	5654998			" " py	As previous with dis pyrite	3078		4	<0.2	0.38	56	123	<0.5	<5	1.25	1	12	59	21	2.5		1	0.17	14	0.4	458	<2	0.04	47	667	27	0.03	6	4	106	<5	<0.01	<10	<10	17	<10	64	8		
3079	507968	5651808			Q,chal V	Bande qtz - chalcedony vein in 10/vert structure, host is altered brown silicious intrusive.	3079		15	<0.2	0.4	7	96	<0.5	<5	6.32	1	10	48	24	2.88		<1	0.02	<10	2.98	564	<2	0.02	14	253	5	0.04	<5	5	244	<5	<0.01	<10	<10	71	<10	41	4		
3080	508090	5651816			QV	1 m banded qv with minor sulphide 040˚/65˚SE.	3080		30	<0.2	0.36	187	91	<0.5	<5	0.04	1	5	150	25	1.28		2	0.04	<10	0.02	70	2	0.01	13	55	4	0.05	14	2	<1	<5	<0.01	18	<10	15	<10	25	2		
3081	508184	5651765			S QV	silicified and chalcedonic qtz	3081		10	<0.2	0.47	44	61	<0.5	<5	3.6	1	8	52	28	2.63		<1	0.03	<10	1.63	405	<2	0.01	13	301	2	0.05	7	6	121	<5	<0.01	<10	<10	59	<10	33	3		
3082	508184	5651789			S A	silicified and altered on contact zone.	3082		5	<0.2	0.46	14	62	<0.5	<5	3.29	1	9	94	7	2.62		1	0.01	<10	1.42	469	<2	0.01	12	181	3	0.03	8	5	80	<5	<0.01	<10	<10	51	<10	32	3		
3083	508144	5652144			Hfls bio S	5 m banded silicious-biotite-pyrite hornfels 105˚/70˚ S trend	3083		416	1.9	5.26	1061	68	<0.5	<5	3.46	4	80	51	974	8.64		1	0.16	<10	0.37	322	<2	0.25	25	712	<2	4.87	13	10	73	5	0.05	10	12	63	<10	51	6		
3084	514507	5654411					3084		3	0.2	0.52	<5	119	0.6	<5	10.59	1	11	72	24	2.21		1	0.04	10	0.78	946	<2	0.02	34	349	<2	<0.01	7	6	43	6	<0.01	<10	<10	54	<10	25	3		
3085	507220	5650765					3085		9	0.3	0.41	16	60	<0.5	<5	1.01	2	10	80	45	3.51		2	0.11	<10	0.49	515	2	0.06	15	898	<2	0.84	7	6	10	<5	0.01	<10	<10	51	<10	65	3		
3086	508052	5651796			Kspar peg	Labelled 'A'Pegmatite K-spar in glassy qv	A		9	<0.2	0.23	7	52	<0.5	<5	0.03	<1	3	96	70	0.85		2	0.13	<10	0.02	80	2	0.02	7	72	7	0.01	<5	1	6	7	<0.01	<10	<10	7	<10	15	3		
20307	507566	5652880			Hfls Py	Hornfelsed Pyritic argillite	20307		4	<0.2	7.33	70	568	0.7	<5	3.14	3	22	47	47	5.95		1	0.76	<10	1.58	1168	<2	0.39	15	907	<2	0.35	25	28	128	5	0.12	<10	<10	274	<10	155	5		
20308	507551	5652891			Hfls S Py	Hornfels Lt grey silicious - pyritic	20308		7	0.2	4.19	37	145	0.8	<5	0.89	1	13	63	31	3.57		2	0.27	<10	0.43	384	<2	0.21	15	530	<2	0.61	52	4	246	<5	0.06	<10	<10	44	23	54	3		
20309	507497	5652913			Bx S	Banded silicious breccia in argillite	20309		7	<0.2	0.43	23	70	<0.5	<5	13.22	2	5	10	1	5.99		<1	0.03	<10	4.58	1346	<2	0.02	5	232	<2	<0.01	33	5	420	6	<0.01	14	<10	48	<10	37	5		
20310	507454	5652927			Bx S A Sd	Siliciious clay alterd and Bx in sediment	20310		10	0.3	0.47	88	42	<0.5	<5	0.11	2	3	57	8	3.42		3	0.08	<10	0.03	61	18	0.03	4	891	12	0.05	3217	2	7	<5	<0.01	13	15	17	<10	88	4		
20311	507431	5652913			Felsic py	Felsic altered with fine dis sulphides	20311		3	0.7	0.96	16	121	0.6	<5	0.19	2	10	8	19	4.2		1	0.13	<10	0.12	524	<2	0.01	11	494	2	0.14	18	6	11	<5	<0.01	13	<10	38	<10	80	3		
20312	507407	5652923			Fel qv cv	Chalcedonic and calcite vein in fine felsic with tr sulphides frac 270/vert, 150/vert	20312		7	0.4	0.25	40	92	<0.5	<5	7.7	1	4	33	11	2.75		<1	0.05	<10	0.72	880	<2	0.01	4	328	<2	0.16	8	7	68	<5	<0.01	<10	<10	16	<10	60	2		
20313	507389	5652921			Qv oy	banded qtz vein with sulphide lense	20313		5	<0.2	0.35	68	97	<0.5	<5	12.47	3	6	8	3	7.23		<1	0.1	<10	3.32	1454	<2	0.02	5	185	4	0.42	13	2	283	6	<0.01	24	<10	17	<10	40	6		
20314	507360	5652966			S A py	extreme alt'd silicious felsic with py. Strong 145 degree fabric	20314		5	0.2	0.52	32	49	<0.5	<5	5.58	2	9	29	36	4.36		1	0.06	<10	1.56	1289	6	0.02	11	598	2	0.18	15	12	60	<5	<0.01	17	<10	68	<10	51	4		
20315	507331	5652967			Ss A py	fine altered sediment with pyrite	20315		7	0.8	3.41	7	967	0.7	<5	0.7	2	11	50	41	4.19		2	0.71	<10	0.63	202	<2	0.22	13	348	<2	0.07	24	17	36	<5	0.08	18	<10	99	<10	99	3		
	508188	5651718			contact	upper contact @ 200˚, more granodiorite 100 m downslope. Strong altered int as silicification and iron carbonate. - bands of qtz and prevasive silicification with dis sulphide.	VA07080240 - Finalized																																							
	507708	5652583			Hbl bio gd	hornblende biotite granodiorite, chlorite altered and pyrite.																																								
	507692	5652624			Qtz Carb v	Banded quartz carbonate vein @ 270˚/75˚ N in GD																																								
								Au-AA25		ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61		ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61		Ag-OG62	Pb-OG62
Way point	UTM east	UTM north	Sample Number / feature				SAMPLE	Au		Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn		Ag	Pb
Helicopter (	508440	5651521						ppm		ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm		%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm		ppm	%
C328559	508420	5651413			QP&VN		C328559	0.17	170	<0.5	6.33	978	150	0.6	<2	5.55	<0.5	11	51	38	3.37	10		0.33	10	2.18	2780	1	0.05	22	630	28	0.07	57	9	544	<20	0.3	<10	<10	100	20	117			
C328560	508420	5651413			BioGD		C328560	0.02	20	<0.5	8.98	31	410	0.9	<2	3.81	<0.5	18	60	64	4.13	20		1.28	10	1.99	617	<1	2.99	33	850	17	0.01	<5	13	593	<20	0.45	<10	10	148	<10	72			
C328561	508420	5651413			QP&Qv		C328561	1.04	1040	<0.5	1.44	2270	80	<0.5	<2	14.15	<0.5	3	8	16	3.77	<10		0.21	<10	5.74	2240	1	0.12	4	160	12	0.43	48	2	371	<20	0.07	<10	10	23	<10	19			
C328562	508416	5651319			BioGD		C328562	0.13	130	0.5	9.16	21	400	0.7	<2	4.76	<0.5	20	55	57	4.91	20		0.96	<10	2.54	876	2	3.05	28	1070	9	0.01	5	16	775	<20	0.55	<10	<10	188	10	92			
C328563	508416	5651319			Qcarb Vn		C328563	0.02	20	<0.5	8.52	521	210	0.6	<2	6.76	<0.5	19	42	77	5.1	20		0.07	<10	2.23	874	<1	0.03	32	1040	13	0.45	48	14	653	<20	0.46	<10	<10	173	40	68			
C328564	508416	5651319			GD		C328564	0.03	30	<0.5	8.91	104	320	0.6	<2	5.27	<0.5	19	89	50	5.01	20		0.74	<10	2.95	803	<1	2.8	47	990	24	0.01	33	16	768	<20	0.48	<10	<10	185	<10	110			
	508285	5651128			VnBx		C328565	0.23	230	1.6	1.58	472	120	<0.5	<2	8.13	<0.5	1	26	121	3.14	<10		0.45	<10	3.66	1270	1	0.06	7	110	7	0.18	104	2	165	<20	0.04	<10	<10	18	<10	15			
C328566	508416	5651319			Dior		C328566	<0.01	10	<0.5	9.14	26	400	0.7	<2	5.04	<0.5	23	69	42	4.89	20		0.87	<10	2.5	774	1	3.1	41	1010	13	0.01	5	15	736	<20	0.54	<10	<10	177	<10	89			
C328567	508293	5651127			Qcarb		C328567	0.02	20	<0.5	7.3	63	520	0.8	<2	0.7	<0.5	7	36	210	2.32	20		1.74	20	0.21	256	5	0.45	19	510	15	0.22	14	6	376	<20	0.23	<10	<10	66	10	40			
C328568	508293	5651127			QvAltCpy		C328568	0.03	30	0.6	6.44	138	190	0.6	<2	3.02	<0.5	5	52	277	2.29	20		0.76	10	1.06	417	13	0.04	13	430	13	0.29	55	5	293	<20	0.19	<10	<10	54	20	38			
C328569	508242	5651150			MzBio		C328569	0.01	10	<0.5	8.09	16	3340	1.2	<2	1.49	<0.5	9	37	319	2.38	20		2.97	10	0.59	164	4	2.59	20	520	9	0.49	5	7	424	<20	0.26	<10	10	71	<10	26			
C328570	508218	5651166					C328570	0.09	90	<0.5	7.29	26	510	0.5	<2	5.26	<0.5	7	39	303	3.56	20		0.76	10	2.11	592	4	0.05	17	500	7	0.54	41	6	508	<20	0.25	<10	<10	69	20	27			
C328571	508141	5651271			AltGD		C328571	0.12	120	<0.5	7.96	27	1190	1.1	<2	0.82	<0.5	7	64	1070	2.18	20		2.68	20	0.3	126	36	1.23	21	520	10	0.66	<5	6	401	<20	0.2	<10	<10	71	10	21			
C328572	508125	5651329			AltGD		C328572	0.01	10	<0.5	7.39	72	290	0.6	<2	1.26	<0.5	8	56	88	2.67	20		0.33	10	0.33	332	2	0.04	27	610	11	0.06	16	8	648	<20	0.29	<10	<10	77	20	48			
C328573	507833	5652225			QSulVn		C328573	34.5	34500	>100	1.91	>10000	100	<0.5	<2	0.07	70	<1	8	1800	9.77	<10		0.77	<10	0.1	240	2	0.02	4	190	>10000	5.5	>10000	6	28	<20	0.1	10	<10	45	<10	291		771	11.55
	507955	5652320			VnWallrx		C328575	0.06	60	1.6	9.6	265	880	0.6	<2	2.5	<0.5	2	37	61	4.63	20		1.17	<10	0.2	235	3	1.87	3	460	265	0.28	314	23	218	<20	0.53	<10	<10	188	<10	52			
	507933	5652234			Hfls		C328576	0.01	10	0.6	9.9	76	860	0.8	<2	2.93	<0.5	11	33	72	5.67	20		1.36	10	1.18	578	8	1.6	20	640	59	1.5	70	28	216	<20	0.54	<10	<10	246	<10	108			
								Au-AA25		ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61		ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61			
							SAMPLE	Au		Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga		K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn			
							DESCRIPT	ppm		ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm		%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm			
							W-11	0.03	30	<0.5	7.63	342	480	0.8	<2	2.39	<0.5	44	167	129	9.81	20		1.18	20	2.66	1660	<1	1.37	71	1700	24	0.02	24	32	319	<20	0.85	<10	<10	341	<10	163			
							W-12	0.11	110	<0.5	8.42	562	360	0.8	<2	2.53	<0.5	31	114	93	6.75	20		0.83	10	2.01	1200	<1	1.85	53	1700	57	0.05	35	18	425	<20	0.68	<10	<10	226	<10	142			
Soil W13							W-13	0.14	140	<0.5	8.56	1000	350	0.8	<2	2.49	<0.5	31	120	110	6.92	20		0.86	10	2.04	1280	<1	1.78	55	1460	115	0.05	63	18	417	<20	0.7	<10	<10	231	<10	157			
Main Creek	507937	5651769																																												
						Geochem	Geochem																																							
Sample							Sample		Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe		Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn	Zr		
Name							Name		ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%		ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm		
8551	507783	5652175			GDBio		8551		15	0.2	1.89	30	234	<0.5	<5	0.34	1	12	56	24	2.86		1	0.47	<10	0.68	262	<2	0.12	15	212	<2	0.49	10	19	<1	<5	0.17	<10	10	152	<10	58	2		
8552	507737	5652330			QvAsp		8552		6873	>200.0	0.11	>10000	15	<0.5	131	0.08	115	5	11	5501	>15.00		3	0.03	<10	0.04	185	<2	0.02	<1	228	>10000	>5.00	>10000	<1	21	<5	<0.01	<10	87	7	11	1454	12		
8553	507737	5652300			HflsBio		8553		497	3	5.88	1434	88	<0.5	<5	3.1	2	14	50	91	3.92		2	0.18	<10	0.43	177	<2	0.86	14	1167	374	1.6	315	4	119	<5	0.04	<10	25	56	<10	35	3		
8554	507833	5652210			QSulVn	High grade float 15 M south of trench	8554		4877	>200.0	0.1	>10000	16	<0.5	106	0.02	293	2	19	9141	9.7		4	0.07	<10	0.01	625	<2	0.01	<1	218	>10000	>5.00	>10000	<1	9	<5	<0.01	<10	31	3	<10	7940	6		
8555	509110	5654610			GphPysh	Altered SD caronaceous and Py on shear	8555		394	4.3	0.97	1140	51	0.5	<5	2.39	4	14	60	91	5.26		<1	0.05	<10	1.48	500	<2	0.05	34	422	1029	0.66	720	12	116	<5	<0.01	<10	13	89	<10	123	5		
8556	509110	5654615			SDA	Altered SD same location as 55	8556		989	16.7	0.71	2382	65	<0.5	<5	5.04	7	8	20	130	4.86		<1	0.06	<10	0.93	663	<2	0.01	7	372	2945	0.16	2307	21	51	<5	<0.01	<10	<10	78	<10	116	3		
8557	509110	5654620			SDAAsp	Float	8557		742	3.8	0.37	>10000	23	<0.5	<5	0.06	3	14	17	115	5.22		<1	0.27	<10	0.03	<5	<2	0.01	9	452	146	4.59	168	2	3	<5	<0.01	<10	37	7	10	28	3		

APPENDIX II: ELDORADO GOLD PROJECT - 2007 SILT SAMPLING

The Finger Aug. 2007

Silt Samples

Sample #	Easting	Northing	Types	Charate	Texture	Origin	Horizon	Colour	Data	Certificate Number	Sample Name	Geochem Au ppb	Certificate Number	Sample Name	ICP Ag ppm	ICP Al %	ICP As ppm	ICP Ba ppm	ICP Be ppm	ICP Bi ppm	ICP Ca %	ICP Cd ppm	ICP Co ppm	ICP Cr ppm	ICP Cu ppm	ICP Fe %	ICP Hg ppm	ICP K %	ICP La ppm	ICP Mg %	ICP Mn ppm	ICP Mo ppm	ICP Na %	ICP Ni ppm	ICP P ppm	ICP Pb ppm	ICP S %	ICP Sb ppm	ICP Sc ppm	ICP Sr ppm	ICP Th ppm	ICP Ti %	ICP Tl ppm	ICP U ppm	ICP V ppm	ICP W ppm	ICP Zn ppm	ICP Zr ppm
AP-01	0507416	5652176	1	4	21	2		2	Small, slow moving	7V1800SG	AP-01	435	7V1800SJ	AP-01	0.4	1.2	719	97	<0.5	<5	0.3	2	15	48	55	3.21	<1	0.17	<10	0.67	238	<2	0.01	29	480	17	0.03	27	5	1	<5	0.16	<10	<10	88	<10	59	2
AP-02	0507734	5652443	1	1	21	2		12	Medium	7V1800SG	AP-02	62	7V1800SJ	AP-02	0.2	0.64	566	155	<0.5	<5	1.27	3	31	35	103	5.65	<1	0.27	14	0.82	944	<2	0.01	35	2078	30	0.05	23	12	<1	5	0.11	<10	<10	137	<10	117	5
AP-03	0507806	5652483	1	1	1	2		12	Medium	7V1800SG	AP-03	357	7V1800SJ	AP-03	0.6	1.19	1070	126	<0.5	<5	0.33	3	19	33	73	5.16	<1	0.15	<10	0.39	707	2	0.02	29	804	87	0.12	74	11	3	<5	0.05	<10	<10	97	<10	207	3
AP-04	0507813	5653102	1	4	21	2		2	Small, slow moving	7V1800SG	AP-04	30	7V1800SJ	AP-04	0.2	1.64	75	127	0.5	<5	0.55	3	18	22	39	5.4	1	0.16	<10	0.43	771	<2	0.03	29	617	8	0.05	21	9	4	<5	0.03	<10	<10	87	<10	168	4
AP-05	0508003	5653191	1	4	21	2		23	Small, slow moving	7V1800SG	AP-05	30	7V1800SJ	AP-05	0.3	3.59	234	192	0.7	<5	0.55	4	19	20	60	7.16	<1	0.28	<10	0.63	703	<2	0.1	29	665	<2	0.11	30	9	33	<5	0.02	<10	13	86	<10	198	5
AP-06	0509375	5653268	1	1	1	2		21	Large, fast moving	7V1800SG	AP-06	66	7V1800SJ	AP-06	0.3	0.96	239	70	<0.5	<5	0.28	1	15	46	37	3.37	1	0.12	<10	0.61	341	<2	0.02	27	714	5	0.02	15	3	1	<5	0.11	<10	<10	111	<10	61	2
AP-07	0509724	5653242	1	2	1	2		2	Small, slow moving	7V1800SG	AP-07	12	7V1800SJ	AP-07	<0.2	1.13	69	63	<0.5	<5	0.26	1	14	28	10	3.15	1	0.06	<10	0.38	381	2	0.01	21	524	3	0.02	9	3	2	<5	0.09	<10	<10	85	<10	49	2
AP-08	0509798	5653242	1	1	1	2		12	Large, fast moving	7V1800SG	AP-08	33	7V1800SJ	AP-08	0.2	1.15	158	88	<0.5	<5	0.33	1	18	69	28	3.16	1	0.18	<10	1.1	381	<2	0.02	90	702	<2	0.01	14	5	1	<5	0.13	<10	<10	84	<10	68	2
AP-09	0509953	5653174	1	1	1	2		21	Medium	7V1800SG	AP-09	10	7V1800SJ	AP-09	<0.2	0.55	114	41	<0.5	<5	0.35	1	8	43	<1	1.69	<1	0.06	<10	0.36	372	<2	0.02	22	695	<2	0.03	7	1	1	<5	0.09	<10	<10	46	<10	29	1
AP-10	0510431	5653341	1	4	21	2		2	Small, slow moving	7V1800SG	AP-10	18	7V1800SJ	AP-10	<0.2	0.83	22	56	<0.5	<5	0.36	1	12	39	2	2.37	<1	0.04	<10	0.41	765	<2	0.02	37	566	<2	0.02	<5	2	<1	<5	0.04	<10	<10	45	<10	34	2
AP-11	0510823	5653614	1	4	251	2		5	Very small, slow	7V1800SG	AP-11	24	7V1800SJ	AP-11	<0.2	1.15	8	163	<0.5	<5	1.11	1	13	21	8	2.56	1	0.05	<10	0.48	2373	<2	0.02	26	585	<2	0.05	<5	3	52	<5	0.03	<10	<10	43	<10	39	3
AP-12	0511082	5653479	1	4	251	2		3	Small, slow moving	7V1800SG	AP-12	40	7V1800SJ	AP-12	<0.2	1.63	10	126	<0.5	<5	0.49	1	11	32	7	3.01	<1	0.05	<10	0.48	437	<2	0.02	43	650	<2	0.04	6	4	<1	<5	0.03	<10	<10	61	<10	59	3
AP-13	0511269	5653401	1	1	1	2		12	Large, fast moving	7V1800SG	AP-13	9	7V1800SJ	AP-13	0.3	1.13	42	73	0.5	<5	0.3	2	21	58	32	4.64	8	0.06	<10	0.67	698	<2	0.01	86	608	<2	0.02	<5	8	1	<5	0.02	<10	<10	73	<10	89	4
AP-14	0511434	5654534	1	1	1	2		32	Medium	7V1800SG	AP-14	6	7V1800SJ	AP-14	<0.2	0.93	<5	125	<0.5	<5	0.37	1	12	32	3	2.73	1	0.05	<10	0.42	668	<2	0.02	32	340	<2	0.01	6	3	2	<5	0.05	<10	<10	63	<10	48	3
AP-15	0511529	5654758	1	4	21	2		32	Small, slow moving	7V1800SG	AP-15	12	7V1800SJ	AP-15	<0.2	1.39	7	177	<0.5	<5	0.49	1	16	43	8	3.31	1	0.07	<10	0.62	553	<2	0.02	48	419	2	0.01	<5	5	24	<5	0.06	<10	<10	68	<10	51	4
AP-16	0511110	5654884	1	1	21	2		2	Medium	7V1800SG	AP-16	18	7V1800SJ	AP-16	<0.2	1.45	9	189	<0.5	<5	0.41	2	20	47	17	4.04	3	0.07	<10	0.67	951	<2	0.02	55	526	<2	0.01	6	7	<1	<5	0.05	<10	<10	81	<10	91	4
AP-17	0511091	5654881	1	1	251	2		3	Large, fast moving	7V1800SG	AP-17	8	7V1800SJ	AP-17	<0.2	1.2	38	75	<0.5	<5	0.31	2	20	58	29	4.5	7	0.06	<10	0.7	665	<2	0.01	80	604	<2	0.01	7	8	1	<5	0.02	<10	<10	73	<10	85	3
AP-18	0509990	5655241	1	4	1	2		2	Medium	7V1800SG	AP-18	104	7V1800SJ	AP-18	<0.2	0.96	74	71	<0.5	<5	0.35	1	13	57	3	3.16	<1	0.09	<10	0.61	395	<2	0.02	45	544	<2	0.02	9	3	2	<5	0.09	<10	<10	95	<10	50	2
AP-19	0509114	5654611	1	4	21	2		3	Large, fast moving	7V1800SG	AP-19	17	7V1800SJ	AP-19	<0.2	1.28	223	101	<0.5	<5	0.34	2	16	44	28	3.76	1	0.15	<10	0.77	457	<2	0.02	44	669	3	0.06	9	6	2	<5	0.08	<10	<10	79	<10	89	3
AP-20	0508106	5654334	1	4	1	2		2	Small, slow moving	7V1800SG	AP-20	30	7V1800SJ	AP-20	<0.2	1.48	36	105	<0.5	<5	0.47	2	12	20	13	3.86	<1	0.07	<10	0.49	548	<2	0.03	22	487	<2	0.02	8	6	1	<5	0.02	<10	<10	63	<10	98	4
AP-21	0507860	5653884	1	4	1	2		2	Small, slow moving	7V1800SG	AP-21	45	7V1800SJ	AP-21	0.5	2.64	285	152	0.6	<5	0.91	3	18	22	45	5.81	2	0.16	<10	0.53	765	<2	0.06	24	853	7	0.1	32	10	23	<5	0.02	<10	<10	81	<10	181	5
AP-22	0507351	5652290	1	1	1	2		12	Medium	7V1800SG	AP-22	96	7V1800SJ	AP-22	<0.2	0.67	543	137	<0.5	<5	1.1	3	30	32	94	5.53	<1	0.22	11	0.74	908	<2	0.01	33	1611	39	0.04	33	11	1	<5	0.1	<10	<10	126	<10	130	5
AP-23	0516131	5654312	1	4	21	2		2	Medium	7V1800SG	AP-23	36	7V1800SJ	AP-23	0.2	1.05	15	128	<0.5	<5	0.68	2	20	52	23	4.26	6	0.06	<10	0.72	634	<2	0.02	73	538	<2	0.03	9	7	<1	<5	0.06	<10	<10	80	<10	80	5
AP-24	0515915	5654787	1	4	21	2		23	Large, fast moving	7V1800SG	AP-24	12	7V1800SJ	AP-24	<0.2	1.04	12	115	<0.5	<5	0.49	2	21	71	22	4.26	26	0.05	<10	0.75	653	<2	0.01	91	531	<2	0.02	7	7	2	<5	0.05	<10	<10	78	<10	74	6
AP-25	0515227	5655998	1	2	52	2		23	Large, dry	7V1800SG	AP-25	6	7V1800SJ	AP-25	<0.2	1.02	25	71	0.5	<5	1.13	2	23	63	34	4.74	<1	0.07	<10	0.89	583	<2	0.02	116	603	4	0.02	11	8	<1	<5	0.02	<10	11	58	<10	107	5
AP-26	0515206	5655978	1	2	52	2		23	Medium, dry	7V1800SG	AP-26	6	7V1800SJ	AP-26	<0.2	1.06	27	72	0.5	<5	1.12	2	25	70	34	4.94	<1	0.07	<10	0.9	595	<2	0.02	117	620	4	0.03	8	8	<1	<5	0.02	<10	<10	60	<10	109	6
AP-27	0515172	5655981	1	2	52	2		32	Medium, dry	7V1800SG	AP-27	5		AP-27	<0.2	1.18	26	87	0.5	<5	0.92	2	25	68	35	4.98	<1	0.07	<10	0.94	672	<2	0.02	128	633	3	0.02	9	8	<1	<5	0.02	<10	<10	62	<10	110	5
AP-28	0515100	5656029	1	4	1	2		52	Small, slow moving	7V1800SG	AP-28	12		AP-28	<0.2	1.1	39	149	<0.5	<5	2.2	2	18	33	19	4.62	<1	0.06	<10	0.64	1460	<2	0.02	53	768	8	0.06	11	5	49	<5	0.02	<10	<10	67	<10	104	4
AP-29	0514638	5656010	1	2	1	2		2	Medium, dry	7V1800SG	AP-29	18		AP-29	<0.2	1.83	58	111	<0.5	<5	0.72	2	28	32	30	4.45	2	0.13	<10	0.69	1002	<2	0.02	40	1228	8	0.04	9	7	11	<5	0.04	<10	<10	62	<10	136	4
AP-30	0514470	5656019	1	2	21	2		2	Small, dry	7V1800SG	AP-30	18		AP-30	<0.2	1.12	58	111	<0.5	<5	0.72	2	17	24	34	4.59	<1	0.07	10	0.52	655	<2	0.02	40	972	5	0.04	8	8	<1	<5	0.01	<10	10	55	<10	114	4
AP-31	0514276	5656118	1	2	1	2		2	Small, dry	7V1800SG	AP-31	6		AP-31	<0.2	0.93	39	140	<0.5	<5	0.6	2	17	19	35	5.37	1	0.08	<10	0.36	660	<2	0.01	36	1097	10	0.09	8	10	<1	<5	<0.01	<10	17	57	<10	146	4
AP-32	0513795	5655539	1	4	1	2		2	Medium	7V1800SG	AP-32	3		AP-32	<0.2	1.05	14	135	0.5	<5	0.31	2	24	59	42	4.86	38	0.06	<10	0.64	806	<2	0.01	106	492	6	0.01	10	10	<1	<5	0.01	<10	<10	75	<10	90	4
GD-01	0507542	5651133	1	1	21	2		12	Large, fast moving	7V1800SG	GD-01	135		GD-01	<0.2	1.11	432	99	<0.5	<5	0.42	2	23	140	56	4.59	<1	0.2	<10	1.01	501	<2	0.01	56	1171	20	0.02	26	5	<1	<5	0.16	<10	19	203	<10	92	3
GD-02	0507996	5651436	1	2	21	2		2		7V1800SG	GD-02	105		GD-02	<0.2	1.12	587	213	0.5	<5	0.9	2	34	67	178	5.7	1	0.29	11	0.73	1235	<2	0.01	58	1222	11	0.02	25	14	<1	<5	0.13	<10	<10	151	<10	98	4
GD-03	0508041	5650880	1	2	21	2		2		7V1800SG	GD-03	77		GD-03	<0.2	1.13	365	98	<0.5	<5	0.28	2	22	99	53	3.97	<1	0.26	<10	0.94	535	<2	0.02	46	1017	15	0.01	20	5	<1	<5	0.17	<10	15	154	<10	83	3
GD-04	0508032	5650818	1	4	21	2		12	Medium	7V1800SG	GD-04	288		GD-04	<0.2	1.45	1198	245	<0.5	<5	0.64	3	37	109	126	7.02	<1	0.46	14	1.3	1302	<2	0.02	52	1804	16	0.01	78	12	<1	<5	0.28	<10	<10	220	<10	146	6
GD-05	0507337	5650713	1	1	21	2		12	Large, fast moving	7V1800SG	GD-05	12		GD-05	<0.2	1.01	537	117	<0.5	<5	0.67	3	28	97	59	5.08	<1	0.27	10	1.19	905	<2	0.02	87	1136	10	0.06	16	9	<1	<5	0.17	<10	<10	127	<10	113	3
GD-06	0507266	5650715	1	1	21	2		2	Large, fast moving	7V1800SG	GD-06	19		GD-06	<0.2	1.11	511	99	<0.5	<5	0.58	3	23	43	62	5.72	<1	0.13	<10	0.51	760	<2	0.02	36	1015	15	0.31	17	10	<1	<5	0.06	<10	12	98	<10	148	4
GD-07	0507220	5650765	1	1	21	2		12	Large, fast moving	7V1800SG	GD-07	258		GD-07	<0.2	1.04	568	123	<0.5	<5	0.58	3	24	71	51	5.89	<1	0.18	10	0.79	959	<2	0.02	55	1066	11	0.21	16	10	<1	<5	0.1	<10	<10	122	<10	138	4
GD-09	0507185	5651092	1	1	21	2		2	Large, fast moving	7V1800SG	GD-09	66		GD-09	<0.2	0.84	200	92	<0.5	<5	0.7	2	15	145	17	4.27	<1	0.1	<10	0.6	493	<2	0.02	41	1016	10	0.05	21	3	<1	<5	0.12	<10	11	216	<10	87	3
GD-10	0507199	5651167	1	1	21	2		3	Very small, slow	7V1800SG	GD-10	33		GD-10	<0.2	0.8	277	109	<0.5	<5	0.61	4	38	108	54	7.78	1	0.17	20	0.57	1439	<2	0.01	69	1648	12	0.02	20	18	2	<5	0.08	<10	<10	176	<10	137	5
GD-11	0507202	5651975	1	2	21	2		2		7V1800SG	GD-11	38		GD-11	<0.2	1.45	351	157	<0.5	<5	0.38	2	20	95	45	4.2	<1	0.15	<10	0.94	466	<2	0.02	64	647	9	0.02	21	5	<1	<5	0.17	<10	17	131	<10	102	3
GD-12	0507230	5651633	1			2		12	possible hydraulic mine	7V1800SG	GD-12	144		GD-12	<0.2	1.79	418	214	<0.5	<5	0.43	3	37	99	103	6.1	<1	0.46	14	1.3	965	<2	0.01	75	1206	8	0.01	27	11	2	<5	0.29	<10	<10	155	<10	109	6
GD-13	0512660	5654999	1	1	21	2		2	Medium	7V1800SG	GD-13	12		GD-13	<0.2	1.75	9	195	0.5	<5	0.6	2	25	66	35	4.29	56	0.09	<10	0.9	555	<2	0.02	95	577	<2	0.22	10	9	<1	<5	0.05	<10	<10	80	<10	89	5
GD-14	0513813	5656071	1	1	21	2		2	Large, fast moving	7V1800SG	GD-14	3		GD-14	<0.2	1.05	15	135	0.5	<5	0.37	2	24	61	35	4.91	64	0.06	<10	0.65	760	<2	0.01	98	524	7	0.02	11	10	<1	<5	0.02	<10	<10	80	<10	93	4
GD-15	0514200	5656159	1	1	21	2		35	Very large, fast moving	7V1800SG	GD-15	20		GD-15	<0.2	1.51	37	229	<0.5	<5	1.36	3	18	37	29	5.78	9	0.06	<10	0.7	718	<2	0.02	34	840	6	0.25	9	9	12	<5	0.03	<10	12	100	<10	141	7
GD-16	0515219	5656040	1	1	21	2		3	Very large, fast moving	7V1800SG	GD-16	124		GD-16	<0.2	1.59	34	166	<0.5	<5	1.42	3	18	24	30	5.12	<1	0.07	<10	0.73	755	<2	0.02	32	724	4	0.17	6	10	15	<5	0.02	<10	<10	75	<10	138	6
GD-17	0515507	5656075	1	1	21	2		3	Very large, fast moving	7V1800SG	GD-17	5		GD-17	0.2	2.13	14	245	0.5	<5	1.03	3	20	27	30	4.95	<1	0.07	<10	1	655	<2	0.02	37	776	27	0.11	16	9	25	<5	0.09	<10	<10	74	<10	297	10
GD-18	0515725	5655663	1	1	21	2		3	Very large, fast moving	7V1800SG	GD-18	5		GD-18	0.2	1.67	7	177	<0.5	<5	0.66	2	20	64	29	3.88	13	0.08	<10	1.18	611	<2	0.02	82	629	5	0.04	7	7	4	<5	0.08	11	<10	66	<10	92	8
GD-19	0516640	5654877	1	1	21	2		2	Small, slow moving	7V1800SG	GD-19	6		GD-19	<0.2	1.41	14	230	0.6	<5	0.8	2	30	147	26	4.68	12	0.09	<10	2.22	800	<2	0.02	225	598	10	0.02	24	7	8	<5	0.14	11	<10	74	<10	163	10
GD-20	0516103	5655396	1	2	21	2		12		7V1800SG	GD-20	6		GD-20	<0.2	1.46	13	232	0.6	<5	2.03	3	55	271	53	6.01	35	0.1	<10	4.48	1561	<2	0.02	520	820	12	0.01	33	14	149	<5	0.03	<10	<10	108	<10	147	6
GD-21	0516970	5654015	1	1	21	2		2	Very small, slow	7V1800SG	GD-21	12		GD-21	<0.2	0.79	7	286	<0.5	<5	11.79	1	14	59	13	2.51	7	0.08	<10	1.26	514	<2	0.02	97	575	12	0.05	13	4	259	<5	0.06	<10	<10	37	<10	99	4
GD-22	0513286	5654445	1	1	21	2		2	Medium	7V1800SG	GD-22	5		GD-22	<0.2	1.38	10	145	0.5	<5	0.35	2	21	40	19	3.66	12	0.07	<10	0.58	913	<2	0.01	60	380	8	0.01	8	6	<1	<5	0.02	<10	<10	64	<10	109	3
GD-23	0513370	5654344	1	1	21	2		2	Large, fast moving	7V1800SG	GD-23	6		GD-23	<0.2	1.23	17	150	0.5	<5	0.33	2	26	65	45	5.21	31	0.07	<10	0.73	870	<2	0.01	123	510	5	0.01	9	12	3	<5	0.01	<10	<10	77	<10	135	4
GD-24	0513523	5654301	1	1	21	2		2	Small, slow moving	7V1800SG	GD-24	12		GD-24	<0.2	1.6	8	270	0.5	<5	0.71	2	19	69	14	4.13	9	0.06	<10	0.73	1060	<2	0.02	76	584	7	0.04	9	7	24	<5	0.03	<10	<10	77	<10	119	4
GD-25	0514303	5654164	1	1	21	2		2	Medium	7V1800SG	GD-25	4		GD-25	<0.2	1.36	8	178	<0.5	<5	0.35	2	19	59	21	3.66	1	0.05	<10	0.79	682	<2	0.02	82	420	2	<0.01	8	6	1	<5	0.05	<10	<10	71	<10	99	4
RD-05	0508143	5651993	1			2		1	Wet, in moss	7V1800SG	RD-05	3	7V1800SJ	RD-05	<0.2	0.94	365	92	<0.5	<5	0.34	2	15	31	34	3.43	<1	0.15	<10	0.55	385	<2	0.01	22	702	38	0.02	25	4	<1	<5	0.11	<10	<10	94	<10	155	3

Assayers Canada Services Explained

Sample Preparation

Sample preparation procedures are normally fairly straightforward, and can be summarized as:

- **If a sample is wet, it will normally need to be dried**
- **Large samples must be split, often several times, to provide a portion small enough to be handled by the analytical equipment. The size of the final sample is a function of the element being analysed and the analytical method being employed.**
- **The size of particles within the sample must be reduced so that the elements of interest can be properly liberated from the rest of the rock.**

Sample Drying

At Assayers Canada, samples of rock, stream sediments and soils are all dried in an oven at about 60 degrees Celsius. It is possible to dry the samples more quickly (i.e. at a higher temperature), but certain volatile elements (notably Hg) can be lost at higher temperatures.

Sample Size and Particle Size Reduction

The optimum mix of crushing, pulverising and splitting samples to achieve a sample that is small enough and fine grained enough to be analysed, while still giving a fair representation of the element concentrations in the original sample, is a topic about which textbooks have been written, and is a much discussed problem. While the theory and mathematics of the discussion is too complex to be included in this web site, it is advisable that all geologists at least have a cursory understanding of the issues involved here, particularly if the project in question includes very coarse grained ore minerals.

In general, the coarser and less homogenous the distribution of the ore minerals, the finer a specimen should be crushed (or pulverised) before a portion of it is split off for analysis or further sample preparation. Ideally, the entire sample (say 10kg of drill core) would be pulverised to -150 mesh before splitting off a portion for analysis. The trouble with this is that it takes a long time to pulverise a large sample, and hence this would be a very costly solution to the problem.

At Assayers Canada, soil and stream sediment samples (where elements of interest are found in the fine fraction) are passed through an -80 mesh sieve, and the fine fraction is then split (if necessary) and pulverised.

Rock and drill core samples, on the other hand, are first crushed with a jaw crusher and the put through a secondary crusher so that it is 60% less than 10 mesh in size. The sample is then mixed, and a 250-gram sub sample split is taken. The sub sample is then pulverised in a ring pulverizer until 90% of the sample is less than 150 mesh, at which time it is ready for analysis.

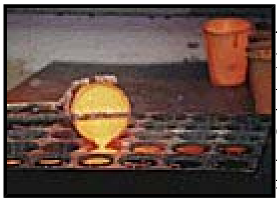
Note that coarse gold does not pulverise well, but rather tends to become smeared along the plates of the pulverizer. If a sample is known to contain coarse gold, therefore, it should be sieved after it is pulverised to remove the coarse gold particles. The entire coarse fraction is then analysed, as is a split of the fine fraction. The two assays are then combined to give the total gold content of the original sample.

Assayers Canada Services Explained

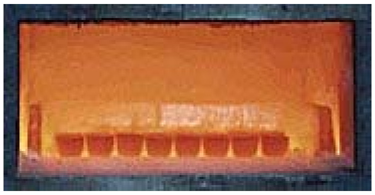
Gold and Precious Metal Analysis by Fire Assay

Fire Assaying, a technique that has been around for centuries, is still the most generally accepted method of analysis for gold, and platinum group elements.

Though a number of variations are available (depending on the size of sample assayed and the method of final reading of the metal concentration), the basic technique in Fire Assaying for gold involves adding flux (which includes lead) and silver to the pulverised sample and fusing (melting) it. The extra silver acts as a collector of the gold, and, in very low-grade samples, ensures that at the end of the fusing there is enough precious metal to be easily handled.



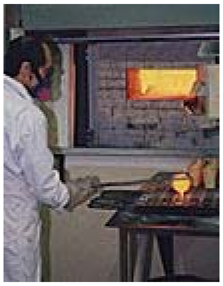
At the end of the fusion process, the resultant molten material is poured into a metal mould and allowed to cool into a lead button (which contains the precious metals) at the bottom, overlain by silica glass slag. The slag is chipped off and discarded, and the lead button is subjected to a second process called cupellation, in which the precious metals are separated from the lead.



In cupellation the lead button (containing the gold) is placed into a small porous crucible called a cupel, and heated. The lead then becomes oxidised and is absorbed into the cupel, leaving a small silver/gold bead remaining in the cupel.

It now remains only to separate the silver from the gold. To do this, the bead is placed in a test tube and nitric acid is added, which, when the test tube is put in a hot water bath, dissolves the silver, leaving a small particle of pure gold.

If the particle of gold is large enough, it is usually weighed to determine the original grade of the sample. This is called a gravimetric finish to the fire assay. For lower grade samples with very small and difficult to handle gold particles the gold is dissolved in hydrochloric acid and the gold concentration is measured using AAS.



While Fire Assaying is normally done on a 1 Assay Tonne (roughly 30 gram) split of the pulverised material, a slight cost saving is to be found in selecting a smaller (15-gram) sample size. On the other hand, high-grade samples, for which there must be a gravimetric finish, are slightly more expensive than those that are read on the AAS.

In the analysis of platinum group elements, roughly the same procedure is followed, but the final element readings are normally done using ICP.

Assayers Canada Services Explained

Other Options for Gold Analysis

1. Cyanide Leaching

This method is often used for very sensitive analysis of bulk stream sediments or soils.

The entire sample is put into a cyanide solution and agitated for up to 24 hours, and the free gold in the sample is thus dissolved. The solution is then read on an AAS to determine the gold concentration of the original sample.

This method has the advantage of being able to detect small amounts of gold in large samples, and no additional sample preparation errors are introduced, since the entire sample is leached.

The disadvantage is mainly that the gold must be leachable by cyanide. Thus, it would not be effective in a situation where the gold is tied up in a pyrite matrix, as is the case in refractory ores. For this reason, it is normally recommended only for alluvial or well-oxidized samples.

2. Aqua Regia MIBK

This method is sometimes favoured over fire assay because there is a slight cost saving.

After normal sample preparation, a 10-gram split of the sample is dissolved in Aqua Regia. The gold is liberated from the other constituents of the solution with the addition of Methyl-isobutylketone (MIBK) and then read on the AAS.

While being a little bit less expensive than Fire Assaying, this method is not really recommended for gold analysis, because it is not effective in detecting refractory gold, and MIBK is a highly toxic chemical which raises difficult and largely unnecessary safety and environmental issues.

Assayers Canada Services Explained

Trace Level Geochemistry

There are three basic options available for analysing exploration samples for geochemical levels of most elements normally of interest to the exploration geologist. Geochemical samples (i.e. those not *normally* expected to have ore grade concentrations of critical elements) can be analysed either individually by a variety of traditional wet chemical techniques, or by multi-element ICP, or by Neutron Activation Analysis.

1. Traditional Wet Geochemistry

A wide variety of techniques are employed in traditional geochemical analysis, depending on the element being analysed.

Traditional geochemical analysis basically involves getting a sample into solution, and then using an appropriate method to read the element concentration in the solution. The sample is put into solution by dissolution with mineral acids. Depending on the element being analysed a fusion process may precede this. The type of acid used in the dissolving process is again dependent on the element being assayed. The solutions are then read by AAS, ICP or occasionally some other method.

2. ICP-AES Multi-Element Analysis

The sample is put into a test tube and treated with either Aqua Regia or a cocktail consisting of nitric-perchloric-hydrofluoric-hydrochloric acids, depending on the elements and the detection limits desired.

The beauty of ICP-AES multi-element analysis is the wide range of elements that can be read simultaneously. It is important, however, to be aware of the limitations of the method, the most serious being the fact that, depending on the sample mineralogy, not all elements that are analysed by ICP will invariably dissolve in the Aqua Regia or multi-acid digests. Thus, there is a chance that ICP will underestimate the concentrations of these elements. Another serious limitation to ICP is the fact that there can be interference between different elements. That is, the wavelength of one element's light emission will be close enough to that of another element to cause problems in reading the elements. This is particularly true if one of the elements has a very high concentration.

For the above reasons, ICP is not recommended for analyses that will be used in ore reserve calculations.

3. Instrumental Neutron Activation Analysis (INAA)

INAA has the very real advantage of not requiring the sample to be in solution (thus removing one step in the process, and eliminating any errors associated with that step), and of being able to measure many different elements, including gold, simultaneously.

One disadvantage of INAA is that many elements of interest (including copper and lead) cannot be analysed by the technique. Another disadvantage is the fact that this method requires a nuclear reactor, and there are few of these readily available in Canada.

The sample is prepared as normal and put into vials, which are then put into the reactor. Detection limits can be improved by using larger samples. This method is particularly good for analysis of panned concentrate samples, as it gives gold plus up to 34 different elements from one sample. Using a traditional fire assay (where, for panned concentrates, the entire sample is usually analysed), you can get only the concentration of gold in the sample.

Since Assayers Canada does not have direct access to a nuclear reactor, requests for INAA analysis are contracted out.

COMPARISON OF DIFFERENT TRACE ELEMENT ANALYSIS METHODS

Element	**Geochem**	**ICP AR**	**ICP MAD**	**INAA**
	(Range)	(Range)	(Range)	(DL)
Antimony	0.2-1000	5-10000	---	0.2
Aluminum	---	0.01-15%*	0.01-15%*	---
Arsenic	1-10000	5-10000	---	2
Barium	5-10000	10-10000*	10-10000*	100
Beryllium	2-1000	5-100*	0.5-100	---
Bismuth	0.1-1000	5-10000	5-10000	---
Boron	1-10000	---	---	---
Bromine	---	---	---	1
Calcium	---	0.01-15%*	0.01-15%	1%
Cadmium	0.1-200	1-100	1-100	---
Cerium	---	---	---	3
Cesium	---	---	---	2
Chlorine	---	---	---	100
Chromium	1-10000	1-10000*	1-10000	10
Cobalt	1-10000	1-10000	1-10000	5
Copper	1-10000	1-10000	1-10000	---
Copper Oxide	1-10000	---	---	---
Europium	---	---	---	0.2
Fluorine	10-10000	---	---	---
Gallium	5-10000 (ICP)	---	---	---
Germanium	5-1000 (ICP)	---	---	---
Gold	---	---	---	5 ppb
Hafnium	---	---	---	1
Iridium	---	---	---	5 ppb
Iron	10-10000	0.01-15%*	0.01-15%	0.02%

Lanthanum	---	---	---	1
Lead	1-10000	2-10000	2-10000	---
Lutetium	---	---	---	0.05
Magnesium	---	0.01-15%*	0.01-15%*	---
Manganese	5-10000	5-10000*	5-10000*	---
Mercury	5-50000 ppb	---	---	1
Molybdenum	1-1000	2-10000	2-10000	5
Neodymium	---	---	---	5
Nickel	1-10000	1-10000	1-10000	50
Niobium	10-10000 (ICP)	---	---	---
Phosphorous	10-10000 (ICP)	10-10000*	10-10000	---
Potassium	---	0.01-10%*	0.01-10%	---
Rubidium	---	---	---	30
Samarium	---	---	---	0.1
Scandium	---	1-10000	---	0.1
Selenium	1-100	---	---	5
Silver	0.1-200	0.2-200	0.2-200	5
Sodium	---	0.01-5%*	0.01-5%	0.05%
Strontium	1-10000 (ICP)	1-10000*	1-10000	0.05%
Tantalum	---	---	---	1
Tellurium	2-100	---	---	---
Terbium	---	---	---	0.5
Thallium	5-10000 ppb	---	---	---
Thorium	2-10000 (ICP)	---	---	0.5
Tin	2-1000	10-1000*	---	0.01%
Titanium	---	0.01-10*	0.01-10%	---
Tungsten	5-1000	10-10000*	10-10000	4
Uranium	---	---	---	0.5
Vanadium	5-10000	1-10000	1-10000	---
Ytterbium	---	---	---	0.2
Yttrium	---	1-10000	---	---
Zinc	1-10000	1-10000	1-10000	50
Zirconium	---	1-10000*	---	---

* Elements thus marked may not dissolve completely, or may experience some losses

Assayers Canada Services Explained

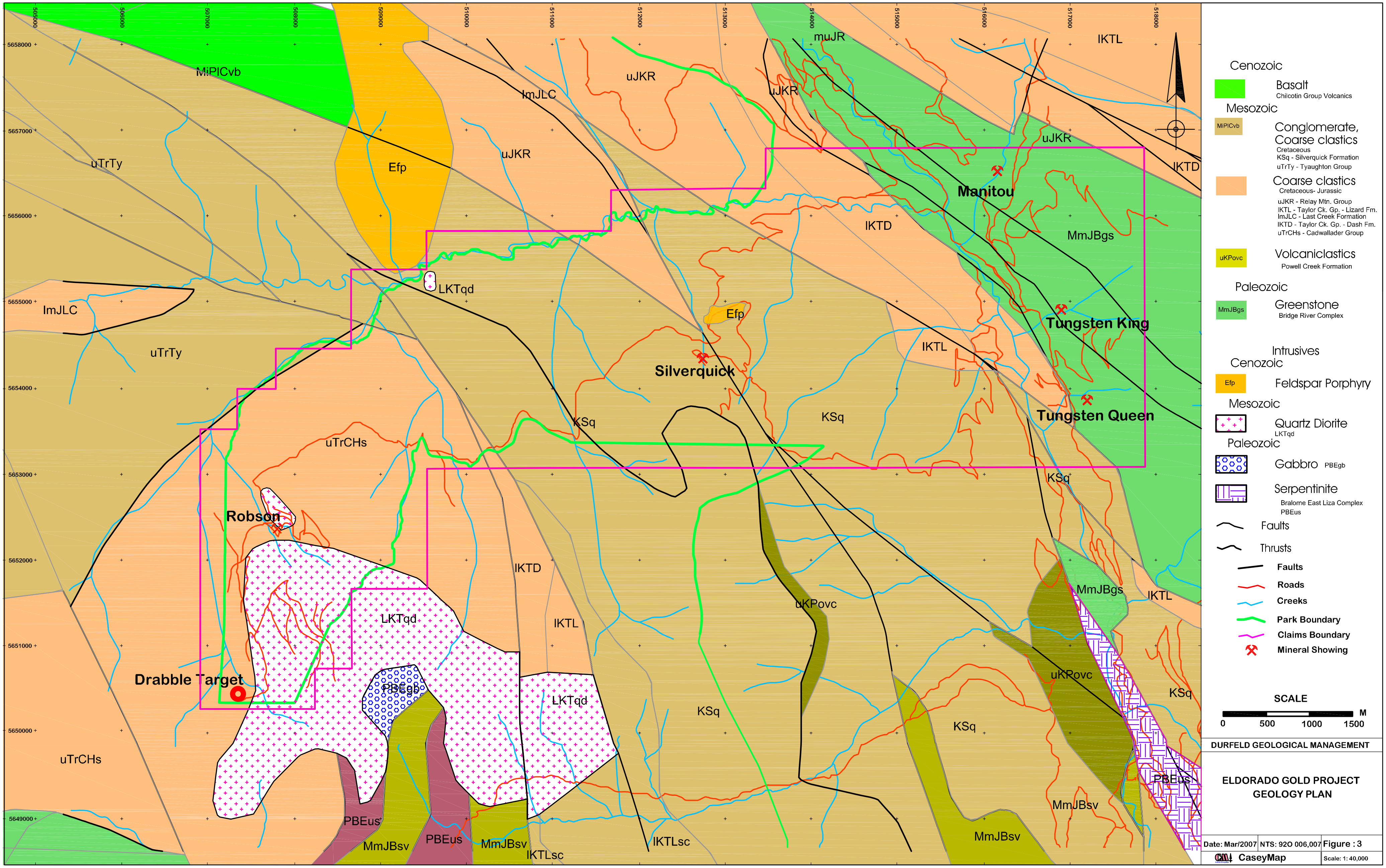
Ore Grade Analysis

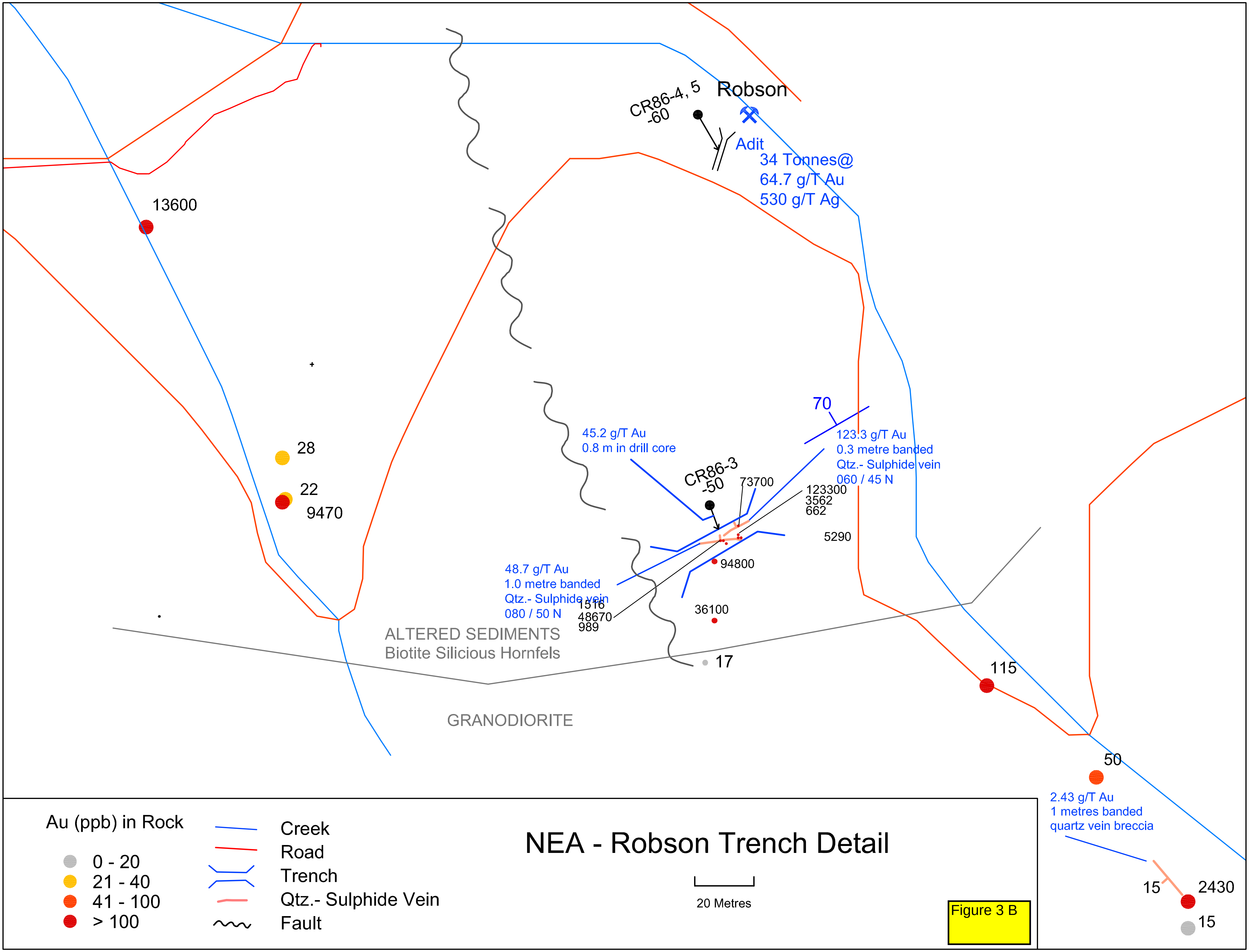
The above techniques, subject to the limitations mentioned, give reasonably reliable analytical results in the detection ranges indicated. For higher grade samples, and in situations where additional confidence is required in the results (to be reported to the stock exchange, for example) traditional wet chemical techniques are recommended.

For trace level geochemical analyses, the recipe of getting the samples into solution which can be read by the instruments is standard, and does not make allowances for variations in the rock matrix or for the concentration of the element being analysed. As such, if the minerals present in the sample are not those usually encountered not all of it may dissolve, and the analysis may then be on the low side for certain elements. High grade samples, when put into solution using a standard trace level recipe, may result in solutions which have greater concentrations of the elements of interest than the instrument can reliably read. In this case, they would be reported simply as "greater than the maximum value for the technique".

Depending on which elements are being analysed, the methods for ore grade analysis may not differ greatly from those for trace elements. If an ore grade analysis is requested, however, the sample is dissolved using solvents that more vigorously attack it, (thus ensuring that all of that element is in solution) and the solution is then diluted so that concentration of the element is within the range of the instrument on which it will be read.

This attention to detail results in the higher cost of the ore grade analysis.


MiPlCvb
uTrTy
ImJLC
Efp
uJKR
muJR
IKTL
IKTD
LKTqd
Manitou
MmJBgs
Tungsten King
Tungsten Queen
Silverquick
KSq
uTrCHs
Robson
Drabble Target
PBEgb
uKPovc
PBEus
MmJBsv
IKTLsc
Cenozoic
Basalt
Chilcotin Group Volcanics
Mesozoic
Conglomerate, Coarse clastics
Cretaceous
KSq - Silverquick Formation
uTrTy - Tyaughton Group
Coarse clastics
Cretaceous- Jurassic
uJKR - Relay Mtn. Group
IKTL - Taylor Ck. Gp. - Lizard Fm.
lmJLC - Last Creek Formation
IKTD - Taylor Ck. Gp. - Dash Fm.
uTrCHs - Cadwallader Group
Volcaniclastics
Powell Creek Formation
Paleozoic
Greenstone
Bridge River Complex
Intrusives
Cenozoic
Feldspar Porphyry
Mesozoic
Quartz Diorite
Paleozoic
Gabbro PBEgb
Serpentinite
Bralome East Liza Complex
PBEus
Faults
Thrusts
Roads
Creeks
Park Boundary
Claims Boundary
Mineral Showing
SCALE
0 500 1000 1500 M
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
GEOLOGY PLAN
Date: Mar/2007
NTS: 92O 006,007
Figure : 3
CaseyMap
Scale: 1: 40,000



Robson
CR86-4, 5
-60
Adit
34 Tonnes@
64.7 g/T Au
530 g/T Ag
13600
28
22
9470
70
45.2 g/T Au
0.8 m in drill core
123.3 g/T Au
0.3 metre banded
Qtz.- Sulphide vein
060 / 45 N
CR86-3
-50
73700
123300
3562
662
5290
94800
48.7 g/T Au
1.0 metre banded
Qtz.- Sulphide vein
080 / 50 N
1516
48670
989
36100
ALTERED SEDIMENTS
Biotite Silicious Hornfels
17
115
GRANODIORITE
50
2.43 g/T Au
1 metres banded
quartz vein breccia
15
2430
15
Au (ppb) in Rock
0 - 20
21 - 40
41 - 100
> 100
Creek
Road
Trench
Qtz.- Sulphide Vein
Fault
NEA - Robson Trench Detail
20 Metres
Figure 3 B


506000
508000
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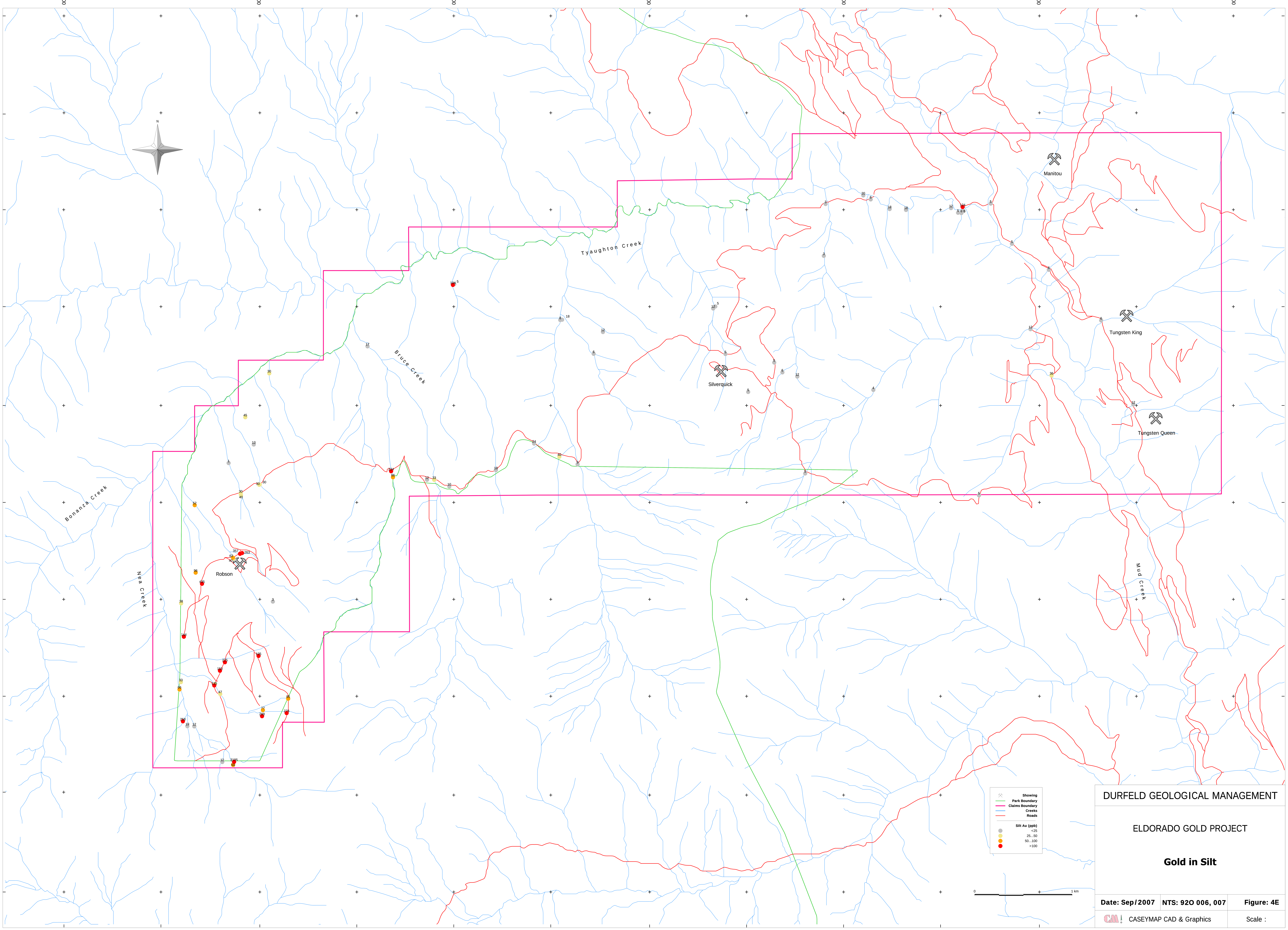
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Rock Au
Points : Au(ppb)
<50
50...100
100...300
>300
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Gold in Rock
Date: Sep/2007
NTS: 92O 006, 007
Figure: 4
CASEYMAP CAD & Graphics
S ale :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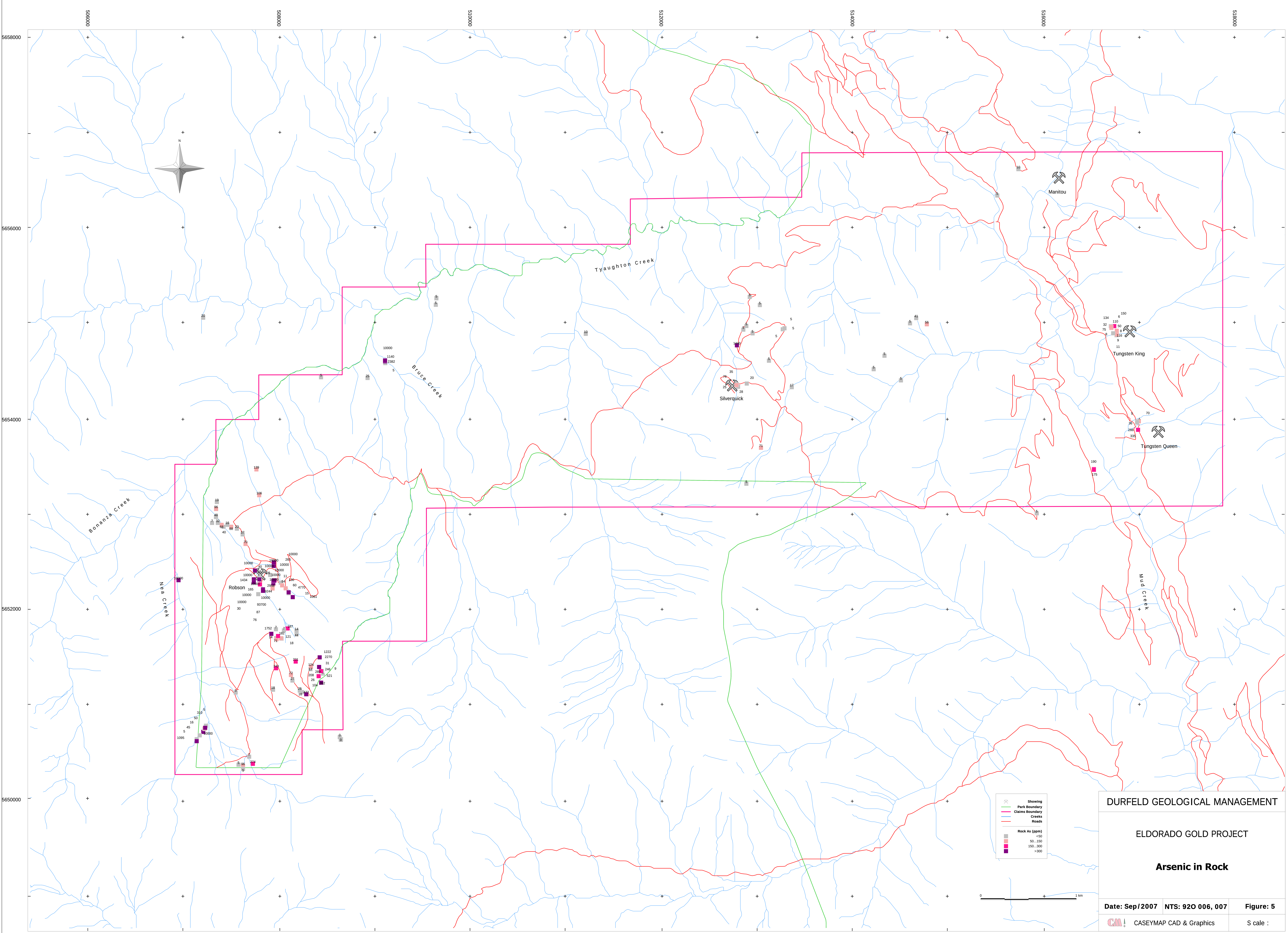
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Silt Au (ppb)
<25
25...50
50...100
>100
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Gold in Silt
Date: Sep/2007
NTS: 92O 006, 007
Figure: 4E
CASEYMAP CAD & Graphics
Scale :



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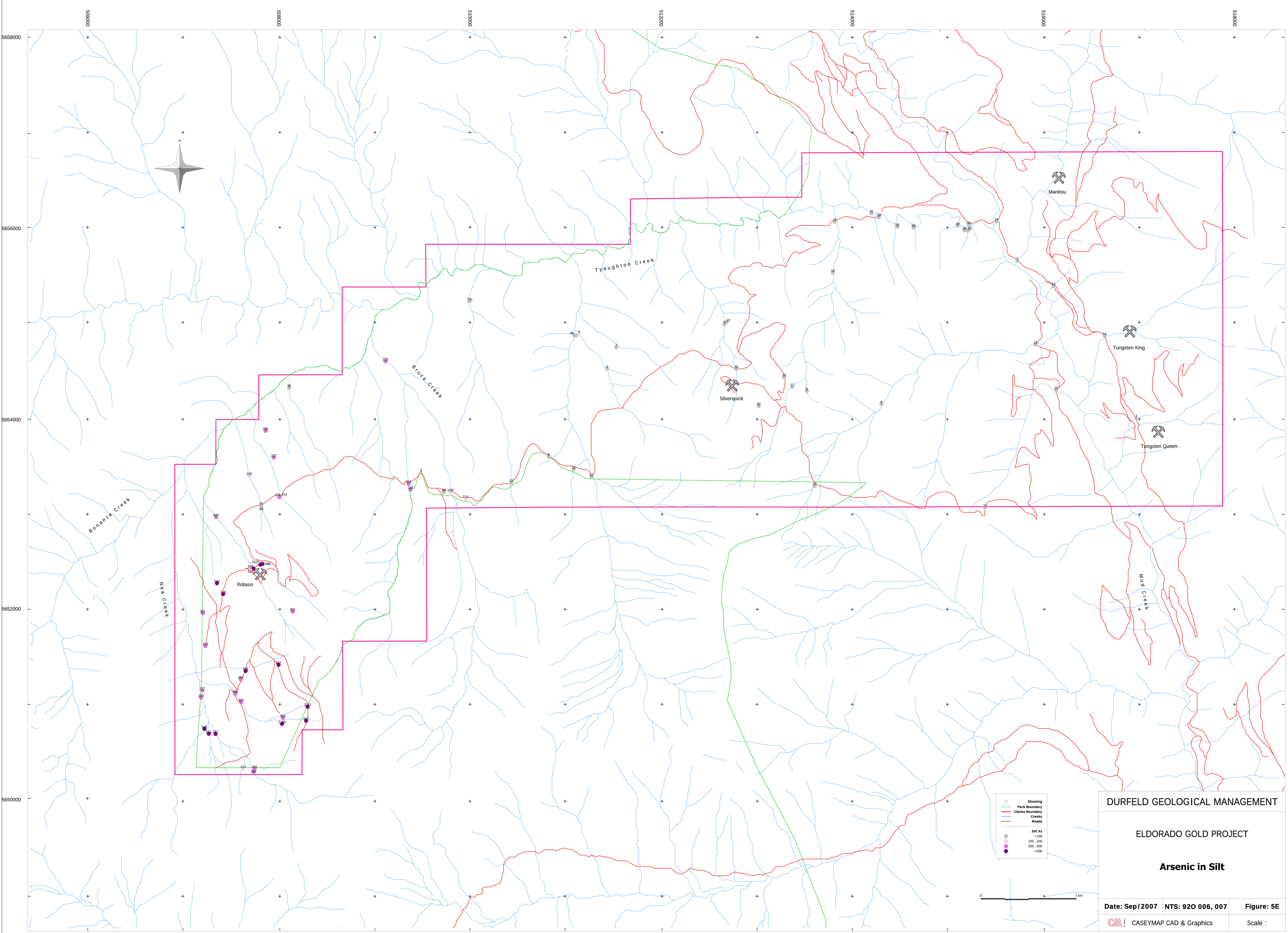
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Rock As (ppm)
<50
50...150
150...300
>300
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Arsenic in Rock
Date: Sep/2007
NTS: 92O 006, 007
Figure: 5
CASEYMAP CAD & Graphics
S cale :



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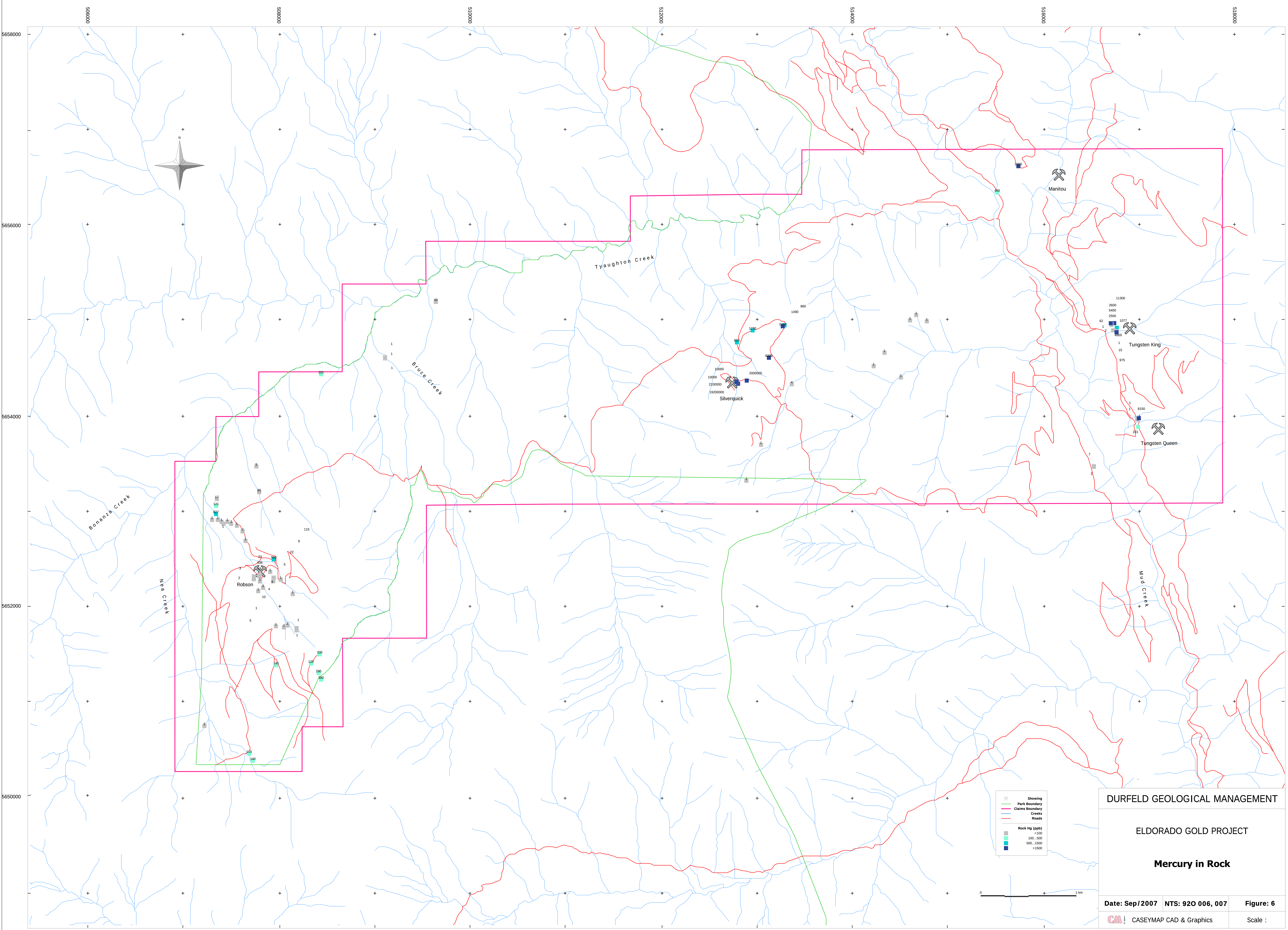
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Silt As
<100
100...200
200...500
>500
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Arsenic in Silt
Date: Sep/2007
NTS: 92O 006, 007
Figure: 5E
CASEYMAP CAD & Graphics
Scale :



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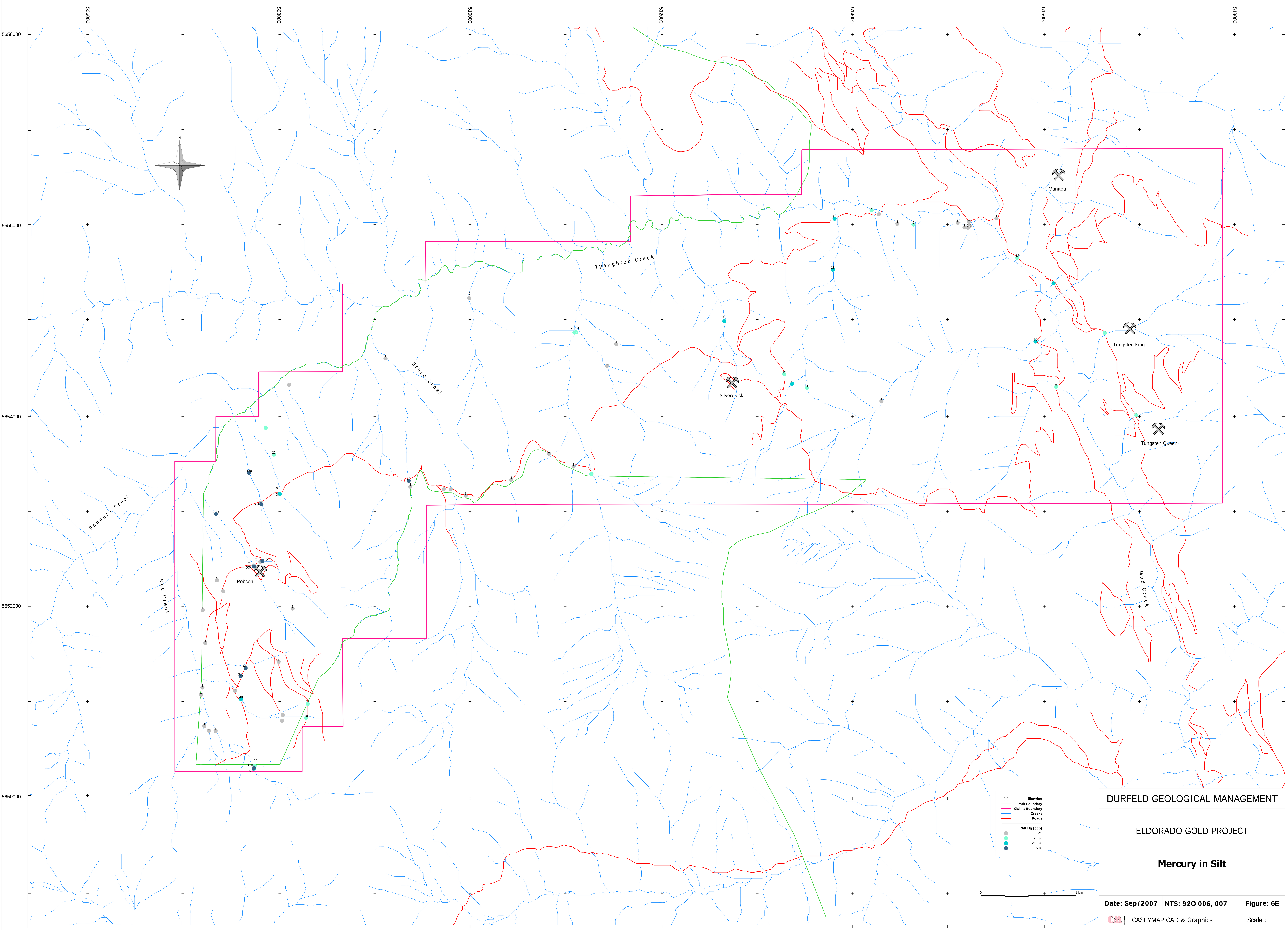
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Silverquick
Tungsten King
Tungsten Queen
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Rock Hg (ppb)
<100
100...500
500...1500
>1500
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Mercury in Rock
Date: Sep/2007
NTS: 92O 006, 007
Figure: 6
CASEYMAP CAD & Graphics
Scale :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5652000
5650000
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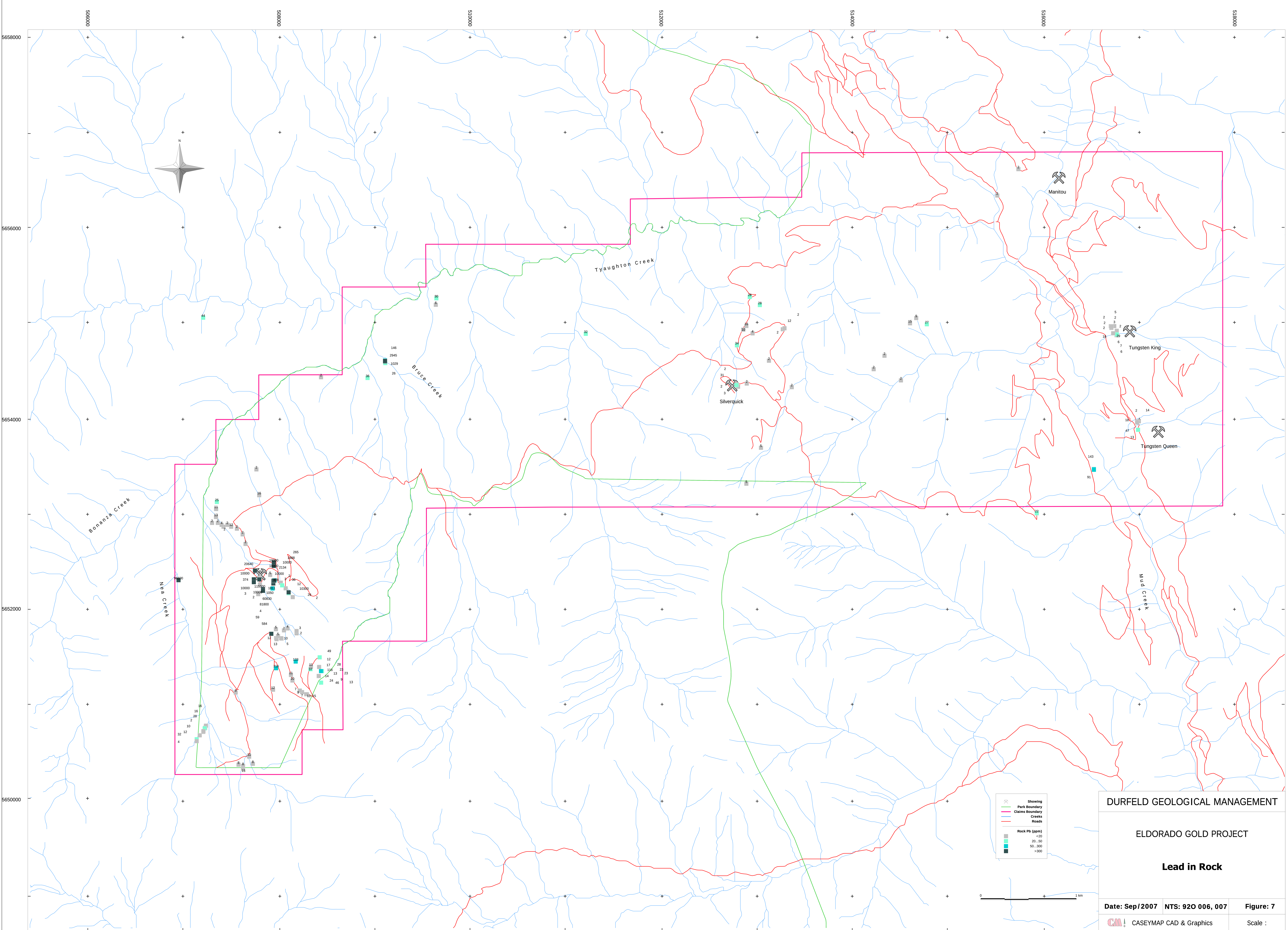
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Silverquick
Tungsten Queen
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Silt Hg (ppb)
<2
2...26
26...70
>70
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Mercury in Silt
Date: Sep/2007
NTS: 92O 006, 007
Figure: 6E
CASEYMAP CAD & Graphics
Scale :

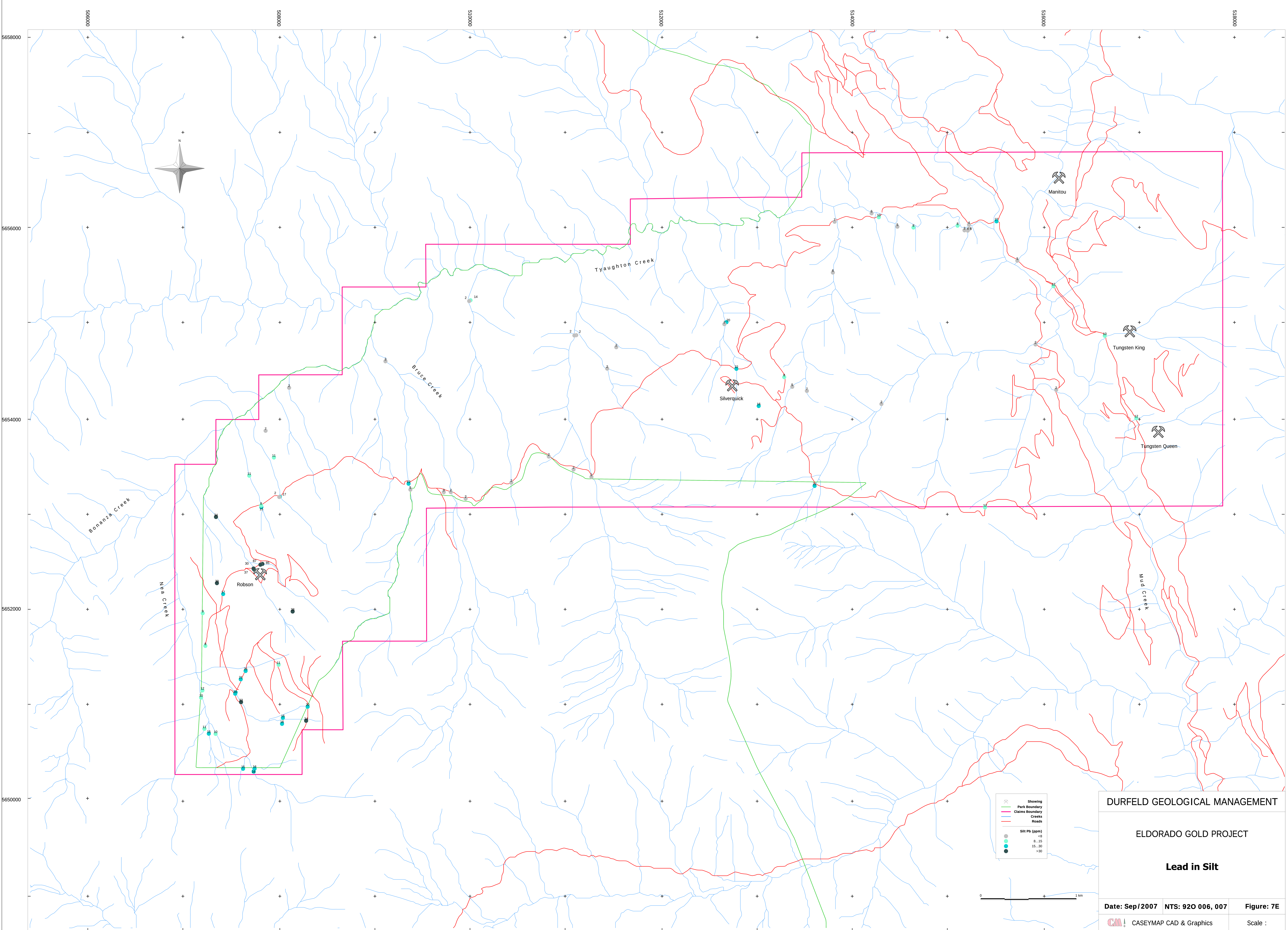


DURFELD GEOLOGICAL MANAGEMENT

ELDORADO GOLD PROJECT

Lead in Rock

Date: Sep/2007	**NTS: 92O 006, 007**	**Figure: 7**
CASEYMAP CAD & Graphics		Scale :



506000
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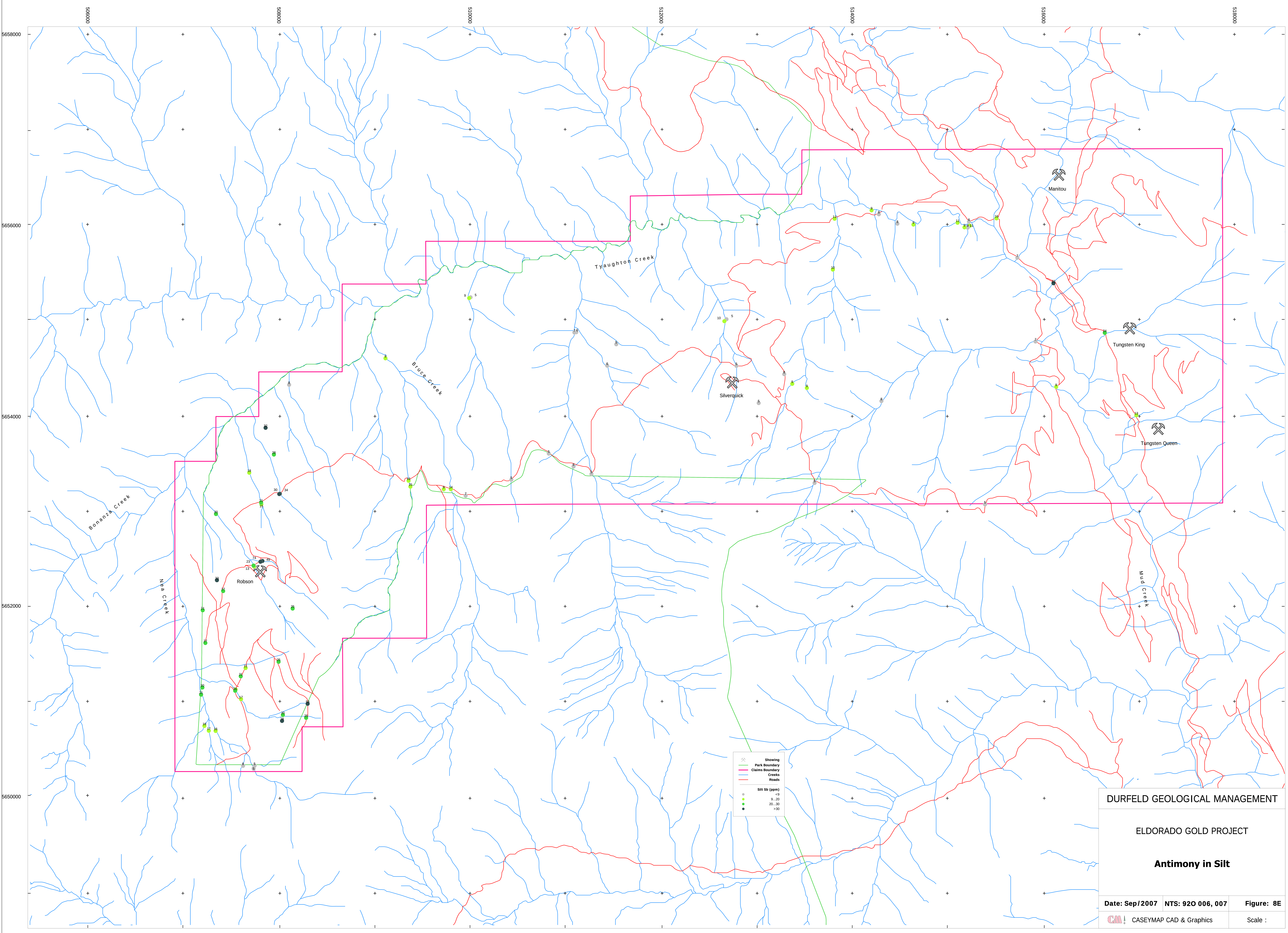
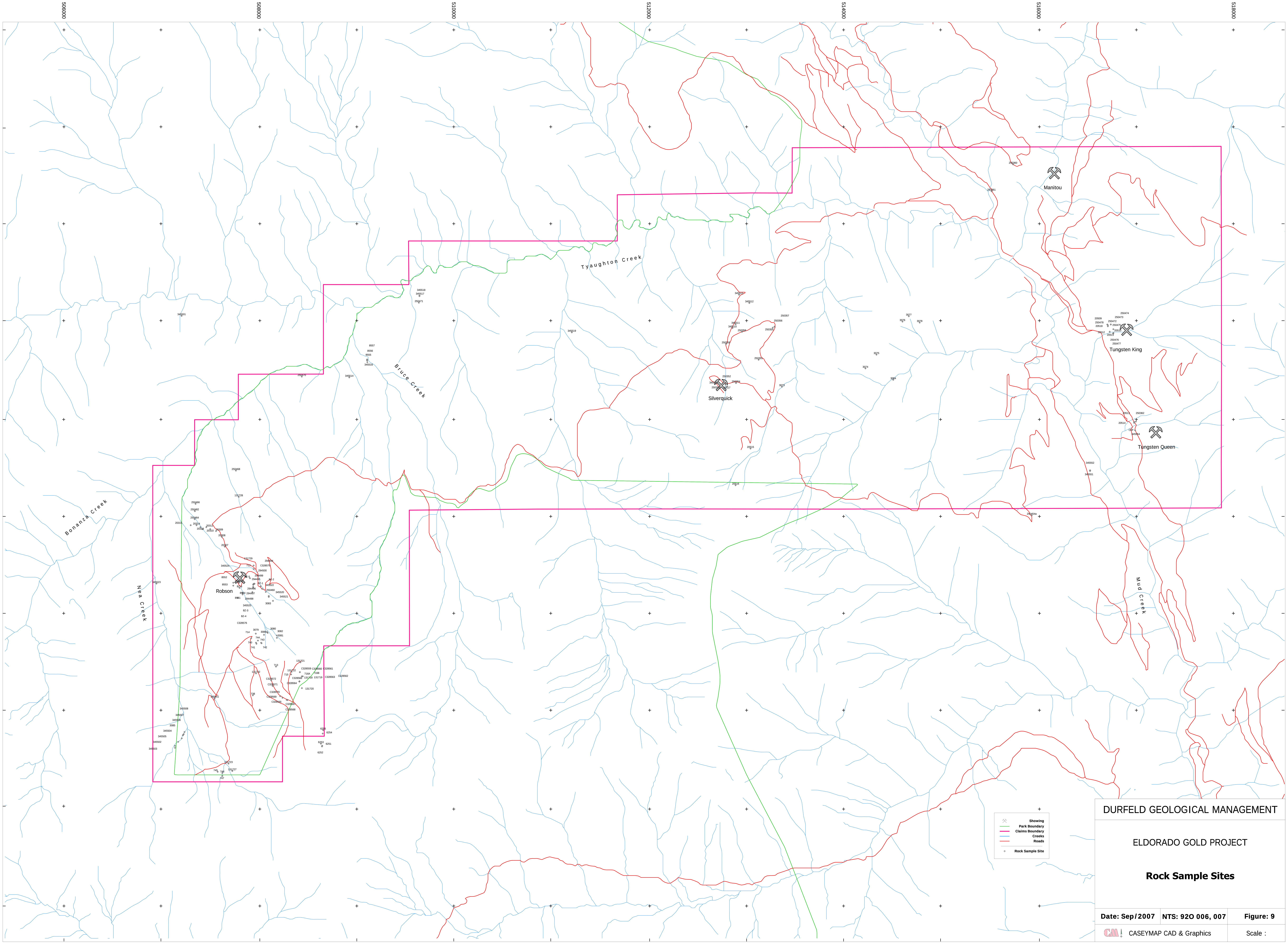
N
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Silt Pb (ppm)
<8
8...15
15...30
>30
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Lead in Silt
Date: Sep/2007
NTS: 92O 006, 007
Figure: 7E
CASEYMAP CAD & Graphics
Scale :


506000
508000
510000
512000
514000
516000
518000
5658000
5656000
5654000
5652000
5650000
N
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Rock Sb (ppm)
<50
50...100
100...200
>200
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Antimony in Rock
Date: Sep/2007
NTS: 92O 006, 007
Figure: 8
CASEYMAP CAD & Graphics
Scale :



506000
508000
510000
512000
514000
516000
518000
5658000
5656000
5654000
5652000
5650000
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Manitou
Tungsten King
Tungsten Queen
Silverquick
Robson
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Silt Sb (ppm)
<9
9...20
20...30
>30
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Antimony in Silt
Date: Sep/2007
NTS: 92O 006, 007
Figure: 8E
CASEYMAP CAD & Graphics
Scale :

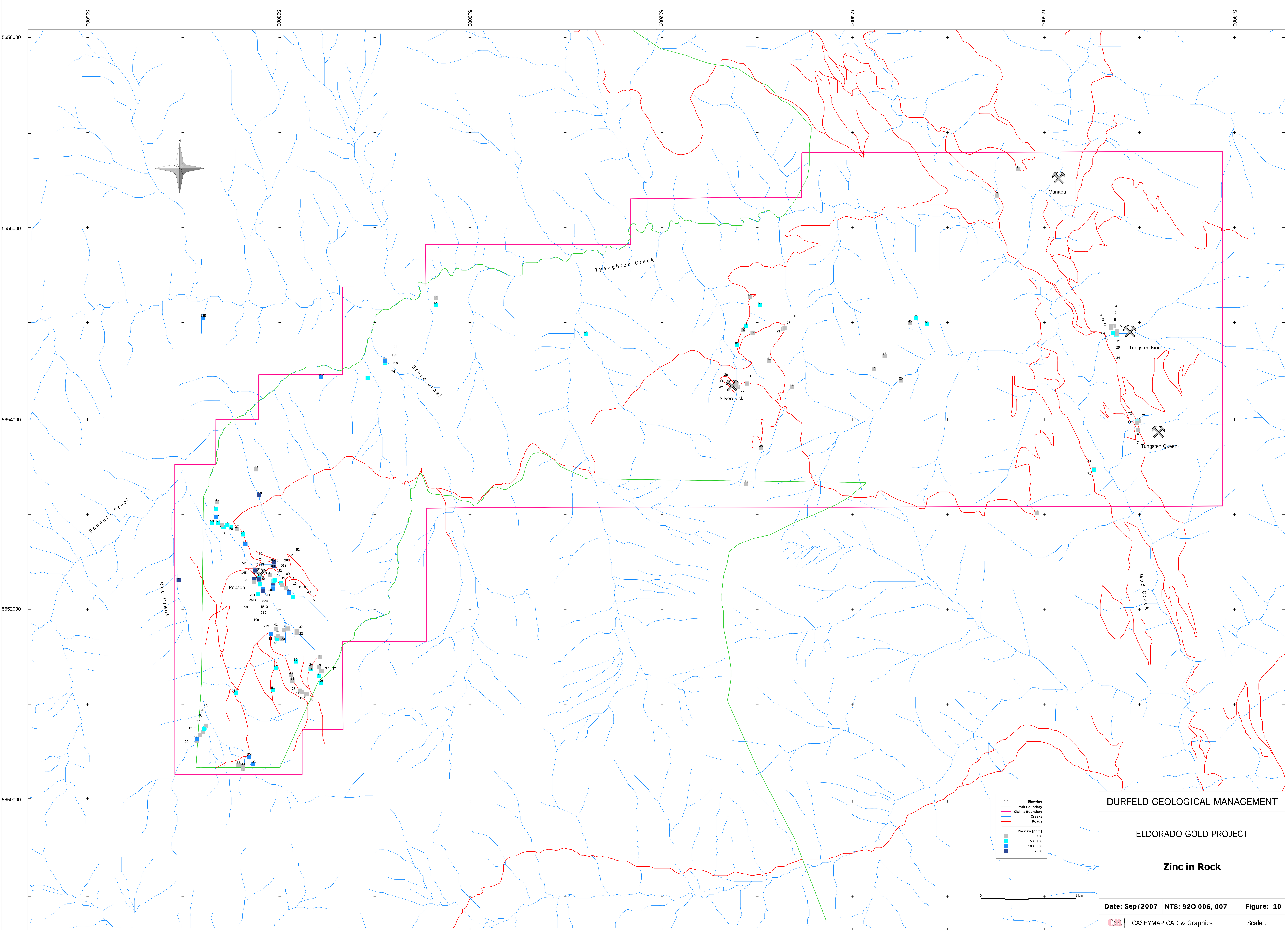


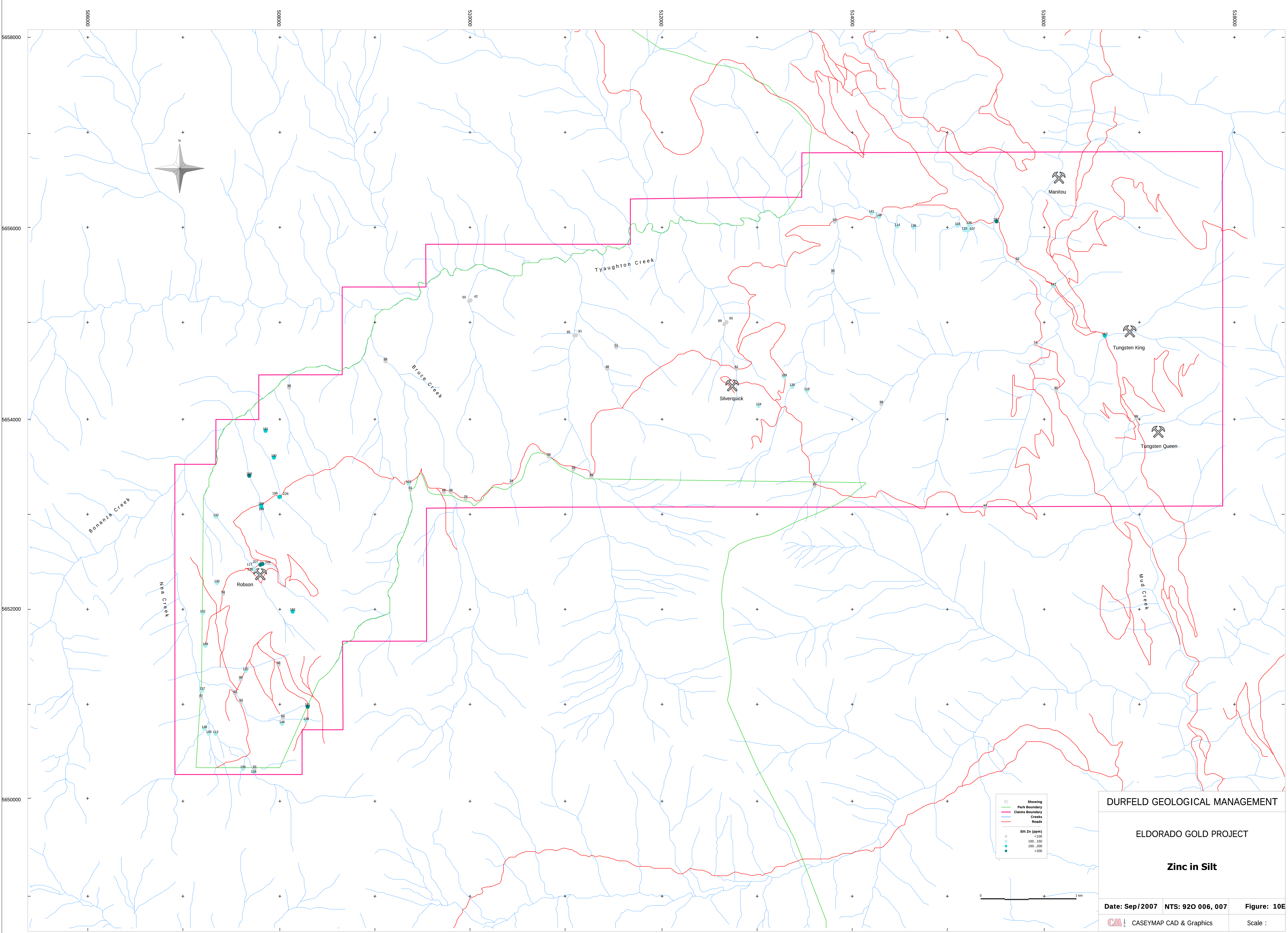
DURFELD GEOLOGICAL MANAGEMENT

ELDORADO GOLD PROJECT

Rock Sample Sites

Date: Sep/2007	**NTS: 92O 006, 007**	**Figure: 9**
CASEYMAP CAD & Graphics		Scale :


506000
508000
510000
512000
514000
516000
518000
5658000
5656000
5654000
5652000
5650000
N
Tyaughton Creek
Bruce Creek
Bonanza Creek
Nea Creek
Mud Creek
Robson
Silverquick
Manitou
Tungsten King
Tungsten Queen
Showing
Park Boundary
Claims Boundary
Creeks
Roads
Rock Zn (ppm)
<50
50...100
100...300
>300
0
1 km
DURFELD GEOLOGICAL MANAGEMENT
ELDORADO GOLD PROJECT
Zinc in Rock
Date: Sep/2007
NTS: 92O 006, 007
Figure: 10
CASEYMAP CAD & Graphics
Scale :



DURFELD GEOLOGICAL MANAGEMENT

ELDORADO GOLD PROJECT

Zinc in Silt

Date: Sep/2007	NTS: 92O 006, 007	Figure: 10E
CASEYMAP CAD & Graphics		Scale :