Assessment Report

on the

2004 Exploration Program
Rock Sampling, Trenching, Diamond Drilling

UNION PROPERTY

FRANKLIN CAMP

NTS 82E/9

Lat: 49° 34' 00'' N Long: 118° 20' 30'' W
(at approximate centre of property)

Greenwood Mining Division
British Columbia, Canada

Prepared for:
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1.0 SUMMARY

The Union property is an exploration stage prospect held under option by Solitaire Minerals Corp. The property is located in the historic Franklin Mining Camp, approximately 55 kilometres north of Grand Forks, B.C. The property includes a past-producing gold-silver mine, the Union Mine, from which a total of 122,555 tonnes was historically mined, returning an average grade of 14.1 g/t Au and 353.4 g/t Ag.

A $237,000 exploration program was carried out on the property during 2004. Work consisted of rock sampling, excavator trenching (350 lineal meters in 11 trenches) and diamond drilling (1643 meters in 7 holes). The program tested five discrete targets. In general, results were disappointing.

Rock sampling and trenching at the Cabin Zone and drilling the Gloucester EM conductor failed to uncover any significant mineralization. No further work on these targets is recommended.

Trenching at the White Bear epithermal zone returned elevated gold values, to 330 ppb Au. A single drill hole was drilled to test for an increase in grade with depth. The hole intersected a series of narrow quartz veins and zones of argillic alteration, intermittently over a total zone width of about 50 meters, however samples failed to return any elevated values of gold or silver. Despite the lack of encouraging results at the White Bear zone, this is relatively newly discovered style of mineralization on the property, and is under-explored for in the Franklin Camp. Given the significance of this type of mineralization elsewhere in the Boundary District and the favorable structural setting on the Union property, detailed prospecting is warranted to further explore the claims for epithermal gold mineralization.

Five trenches and 1 drill hole tested the western portion of the Maple Leaf Crush Zone, a major east-west trending structure with associated mineralization. Trenching showed that gold values are elevated across the Crush Zone, typically in the range of 100-300 ppb Au. Copper and silver are also fairly consistently elevated within the zone. Higher precious and base metal values occur locally and are associated with narrow structures or veins within (or adjacent to) the wider fault zone. These zones of higher-grade mineralization are very limited however, and not in-themselves a good exploration target. A single drill hole was drilled to test for a possible increase in grade with depth in the Crush Zone, without success. No further work is warranted on the western portion of the Crush Zone. The structure appears to extend some 300 meters downhill to the east, however. This eastern portion of the zone should be prospected in detail and close-spaced soil sampling should be done to assess the potential for areas of stronger mineralization.

Four diamond drill holes were drilled at the West Union target, in an attempt to locate the western faulted offset of the Union Vein, west of the Maple Leaf fault and beneath post-mineral sedimentary cover. Drilling in this area is hindered by the very steep topography and by poor ground conditions associated with the Eocene unconformity. Drilling was successful in intersecting a zone of silicification, which may represent the off-faulted extension of the Union vein, however gold and silver values were only slightly elevated within the zone, to 135 ppb Au and 3.7 ppm Ag. The zone was intersected at a very low core angle and would be better tested with south-directed drill holes. Additional drilling is warranted to test the zone on strike to the west.

Prospecting should also be done to re-locate and assess the Dane and Little showings, which were untested during the 2004 program.

2.0 INTRODUCTION

This report summarises the results of the 2004 exploration program on the Union property by Solitaire Minerals Corp. The 2004 work program included rock sampling, excavator trenching and diamond drilling, and followed the recommendations made in an earlier report by the author (Caron, 2004c).

2.1 Property Location and Description

The Union property is located about 55 kilometres north of Grand Forks, B.C. in the historic Franklin Mining Camp. The property is situated on NTS map sheet 082E/09, as shown in Figure 1. It is centred at latitude of 49° 34' 00'' N and a longitude of 118° 20' 30'' W, covering an area of about 800 hectares.

The property consists of twenty-three located, contiguous mineral claims (a total of 34 units) and four crown granted mineral claims located on Mineral Tenure map sheet 082E.059 in the Greenwood Mining District. The claims are shown in Figure 2 and summarised below in Table 1. The locations of known mineralized zones, discussed in detail later in this report, are shown relative to the property boundary in Figure 3.

John Carson is the registered owner of all of the claims comprising the Union property. In addition, Mr. Carson holds the undersurface rights for the four crown grants. Solitaire Minerals Corp. holds the claims and crown grants under option from Mr. Carson by an agreement dated June 10, 2004. Under the terms of the agreement, Solitaire Minerals can acquire a 100% undivided interest in the property, in consideration for staged cash and share payments totaling $105,000 and 150,000 shares over a 5 year period and for cumulate exploration expenditures totaling $900,000 over 6 years. The 23 mineral claims are subject to a 1.5% NSR payment to the vendor. The 1.5% NSR payable to the vendor is capped at $300,000. In addition to this, the Buck #2-5 and Al #9-12 claims are subject to a 1.5% Net Smelter Return (NSR) payment, capped at $500,000, to Signature Resources Ltd, and the Union, Paper Dollar, Idaho and Union Fraction crown grants are subject to a 3% NSR payment, capped at $1 million US, to Acadia Mineral Ventures Ltd.

Most of the Union property is located on crown land. In the vicinity of the Union Mine, District Lot 3672 covers the Paper Dollar crown grant, the eastern portion of the Union crown grant, and a small part of the Buck #1 and Dodge 99 mineral claims. Surface rights to DL 3672 are held by Malcolm Muir of Calgary, Alberta, while the underlying mineral rights are held by Mr. Carson.

2.2 Access, Climate, Local Resources, Infrastructure and Physiography

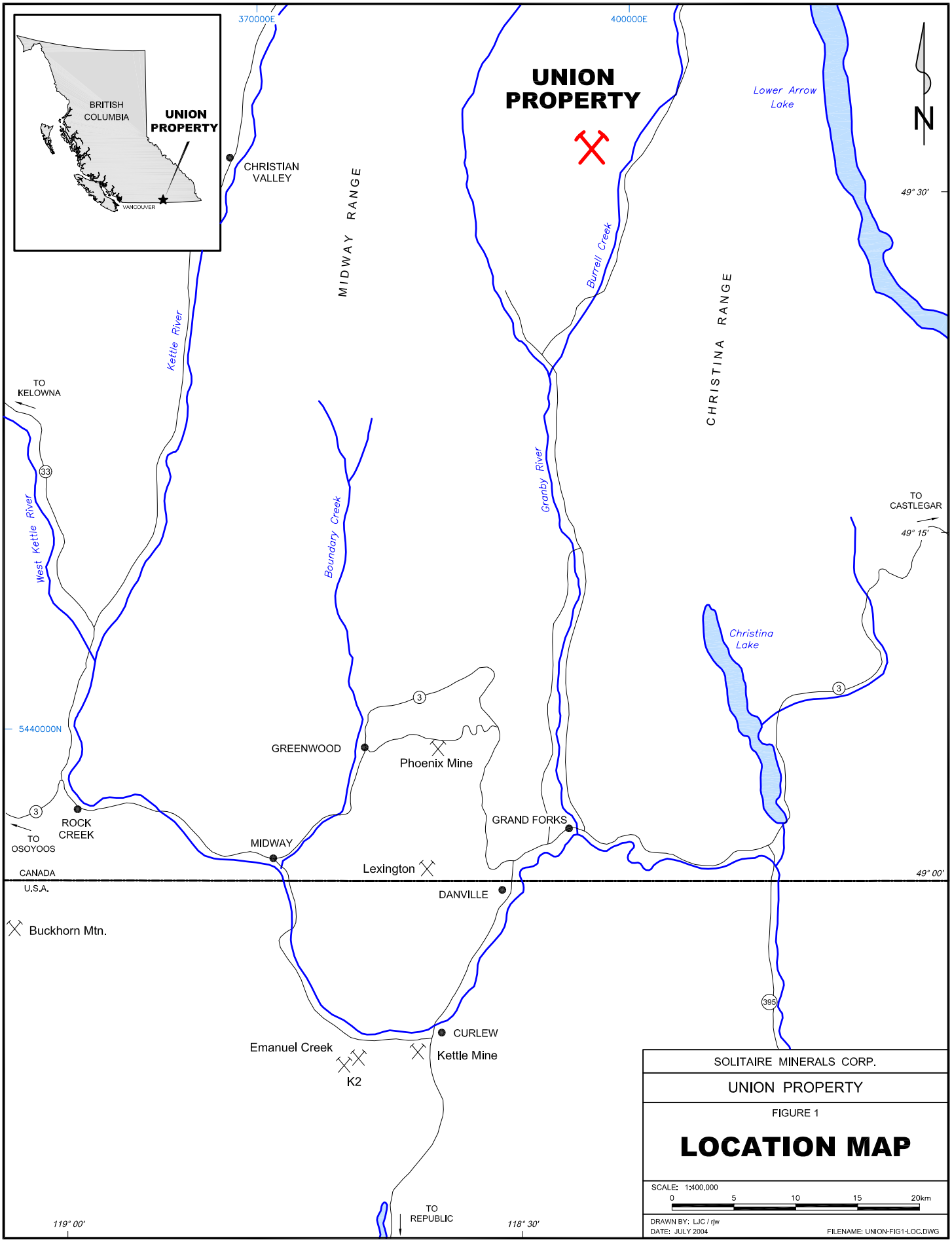
Road access to the Union property is good, with year round access maintained to the eastern portion of the property, along the Burrell Creek Forest Service Road. From Highway 3 at Grand Forks, the paved Granby road is taken north for 42 kilometres to the "28 mile" bridge. At the bridge, the Granby Forest Service road is followed for 1 kilometre before turning right (north) onto the Burrell Creek Forest Service road for an additional 25 kilometres to the property. The Gloucester and Union Forest Service roads, and the old Union Mine and Maple Leaf roads, provide further road access to areas of interest on the property.

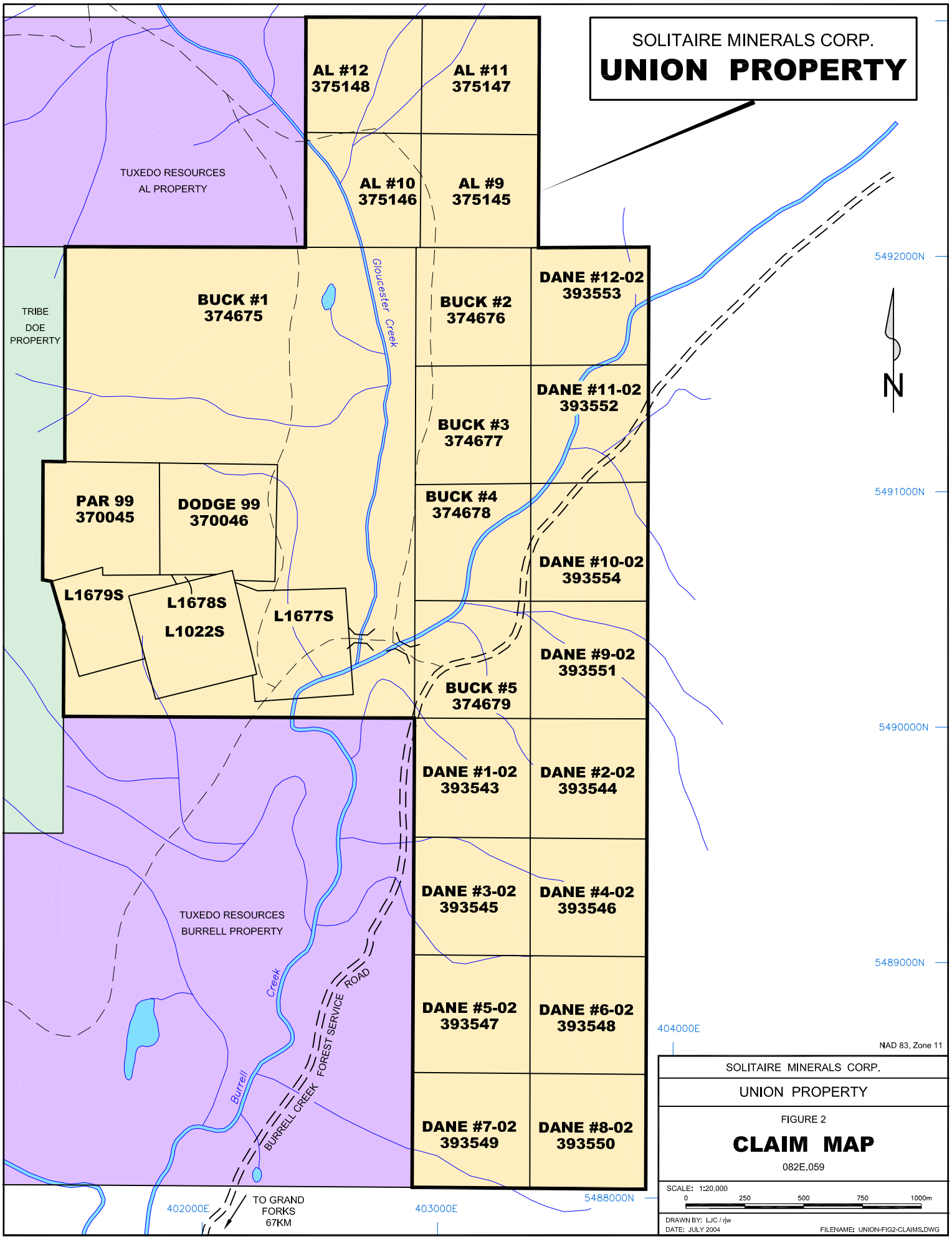
Most services needed for exploration, including room, board, fuel, supplies and labour, are available in Grand Forks. The closest full-service airports are located in Kelowna, Penticton or Castlegar and the closest power to the property is some 35 kilometres to the south in the North Fork Valley. Active rail service is available in Grand Forks.

The western part of the property, in the vicinity of the Union Mine and Maple Leaf showings, covers a portion of the steep east-facing slope of Mount Franklin. To the east, the claims cover portions of the

CLAIM NAME	TENURE #	UNITS	EXPIRY DATE*
Par 99	370045	1	2009.04.20
Dodge 99	370046	1	2009.04.20
Buck #1	374675	12	2009.04.20
Buck #2	374676	1	2008.04.20
Buck #3	374677	1	2008.04.20
Buck #4	374678	1	2008.04.20
Buck #5	374679	1	2009.04.20
Al #9	375145	1	2008.04.20
Al #10	375146	1	2008.04.20
Al #11	375147	1	2008.04.20
Al #12	375148	1	2008.04.20
Dane #1-02	393543	1	2008.04.20
Dane #2-02	393544	1	2008.04.20
Dane #3-02	393545	1	2008.04.20
Dane #4-02	393546	1	2008.04.20
Dane #5-02	393547	1	2008.04.20
Dane #6-02	393548	1	2008.04.20
Dane #7-02	393549	1	2008.04.20
Dane #8-02	393550	1	2008.04.20
Dane #9-02	393551	1	2008.04.20
Dane #10-02	393554	1	2008.04.20
Dane #11-02	393552	1	2008.04.20
Dane #12-02	393553	1	2008.04.20
Paper Dollar Fr.	L 1677s		
Union Fr.	L 1678s		
Idaho Fr.	L 1679s		
Union	L 1022s		

Table 1: Claim Information


BRITISH COLUMBIA
UNION PROPERTY
VANCOUVER
370000E
400000E
UNION PROPERTY
Lower Arrow Lake
N
CHRISTIAN VALLEY
MIDWAY RANGE
Burrell Creek
CHRISTINA RANGE
49° 30'
Kettle River
TO KELOWNA
33
West Kettle River
Boundary Creek
Granby River
TO CASTLEGAR
49° 15'
Christina Lake
3
5440000N
GREENWOOD
Phoenix Mine
ROCK CREEK
TO OSOYOOS
MIDWAY
GRAND FORKS
CANADA
U.S.A.
Lexington
49° 00'
DANVILLE
Buckhorn Mtn.
395
CURLEW
Emanuel Creek
Kettle Mine
K2
TO REPUBLIC
119° 00'
118° 30'
SOLITAIRE MINERALS CORP.
UNION PROPERTY
FIGURE 1
LOCATION MAP
SCALE: 1:400,000
0 5 10 15 20km
DRAWN BY: LJC / rjw
DATE: JULY 2004
FILENAME: UNION-FIG1-LOC.DWG


SOLITAIRE MINERALS CORP.
UNION PROPERTY
AL #12
375148
AL #11
375147
AL #10
375146
AL #9
375145
TUXEDO RESOURCES
AL PROPERTY
TRIBE
DOE
PROPERTY
BUCK #1
374675
BUCK #2
374676
BUCK #3
374677
BUCK #4
374678
BUCK #5
374679
Gloucester Creek
DANE #12-02
393553
DANE #11-02
393552
DANE #10-02
393554
DANE #9-02
393551
DANE #1-02
393543
DANE #2-02
393544
DANE #3-02
393545
DANE #4-02
393546
DANE #5-02
393547
DANE #6-02
393548
DANE #7-02
393549
DANE #8-02
393550
PAR 99
370045
DODGE 99
370046
L1679S
L1678S
L1022S
L1677S
TUXEDO RESOURCES
BURRELL PROPERTY
Burrell Creek
FOREST SERVICE ROAD
TO GRAND
FORKS
67KM
5492000N
5491000N
5490000N
5489000N
5488000N
402000E
403000E
404000E
N
NAD 83, Zone 11
SOLITAIRE MINERALS CORP.
UNION PROPERTY
FIGURE 2
CLAIM MAP
082E.059
SCALE: 1:20,000
0
250
500
750
1000m
DRAWN BY: LJC / rjw
DATE: JULY 2004
FILENAME: UNION-FIG2-CLAIMS.DWG

Gloucester and Burrell Creek drainages. Valley bottoms are typically broad and flat, with little outcrop, although locally the creeks are steeply incised with good rock exposure. The eastern part of the property covers the steep west facing slopes above Burrell Creek. Elevations on the property range from about 820 metres along Burrell Creek in the southern part of the claim block, to 1430 metres at the summit of Mount Franklin, just west of the property.

Areas of high topographic relief have good rock exposure and are typically covered by mixed, open second growth forest. The east-facing slope of Mount Franklin has little tree cover, but scrub brush is locally very thick. Valley bottoms tend to be covered with mixed forest with moderate undergrowth. These areas generally have little rock exposure.

The climate is typical of the area, with moderately dry, hot summers (although mountain storms are common) and with cold winters with significant snowfall. Snow accumulation is typically in the order of 2-3 metres. The property is generally snow free from mid May to early November. Water is available for drilling from Burrell or Gloucester Creeks, and seasonally from several intermittent creeks or sloughs on the property.

3.0 HISTORY

3.1 Regional Exploration History

The Union property is situated within the historic Franklin Mining Camp, an area with numerous known mineral occurrences and one significant past producer, the Union Mine. The Union Mine, part of Solitaire's Union property, has produced 122,555 tonnes grading 14.1 g/t Au and 353.4 g/t Ag, primarily during the early 1930's.

The Franklin Camp is situated in southern B.C., in the northern portion of the Boundary District. The Boundary District is an area with a long history of exploration and mining activity in a number of discrete mining camps, including the Greenwood Camp some 50 kilometres southwest of the Union property, the Rossland Camp 90 kilometres to the southeast, and the Republic area of Washington State some 100 kilometres to the south. Kinross' Emanuel Creek deposit near Curlew, Washington, approximately 85 kilometres south of the Union property, is currently the only active gold mine in the Boundary District.

The following discussion pertains only to the regional exploration history in the Franklin Camp, in the more immediate vicinity of the Union property, and is taken in part from an earlier report by the author (Caron, 2004c). A detailed discussion of the history of exploration on the Union property itself is contained in Section 3.2 of this report.

Exploration in the Franklin Camp dates back to 1896, when the Banner and McKinley claims were located. A very large number of other claims were staked within the next decade, covering most, if not all, the currently known areas of mineralization. Many of the claims were subsequently crown granted and a number of these crown grants remain in good standing today. Numerous prospect pits, shallow shafts and short adits were completed in the latter part of the 19th century and early part of the 20th century. This work was directed at a number of different styles of mineralization, including quartz veins and silicified zones with gold and silver (Union vein type), massive chalcopyrite in shear zones associated with pyroxenite ("Black lead type"), and replacement type lead-zinc mineralization associated with limestone. More details of the geology and style of mineralization of the significant showings in the camp are given in subsequent sections of this report and in Caron (2004c) and Peatfield (2002).

The extent of the early exploration activity on the area is reflected in both the number old workings and in the number of Minfile occurrences in the camp. Some 23 such Minfile occurrences are documented in the Franklin Camp. It is beyond the scope of this report to give a detailed history of exploration for each of these occurrences. The following summarises the highlights of the exploration and development history for the camp. Additional details are available in various Annual Reports of the BC Minister of Mines, in numerous other references listed below, and in Caron (2004a).

Early work in the camp was hampered by the lack of infrastructure, and in 1900 a government trail was cut from Grand Forks to the Franklin Camp. In 1906, considerable work was done in the area, including surveying the Gloucester City townsite near the junction of Burrell and Gloucester Creeks. By 1908 the trail from Grand Forks had been upgraded to a wagon road and work continued on a number of properties, including the Maple Leaf, Banner, Gloucester and McKinley.

C.W. Drysdale spent the summer of 1911 in the Franklin Camp, visiting many of the mineral properties and completing regional geological mapping for the Geological Survey of Canada. His report, published as GSC Memoir 56, remains one of the few comprehensive reports of the Franklin Camp and describes the early exploration and development history of the camp (Drysdale, 1915).

In 1914, Larsen and Verrill visited the camp on behalf of the BC Bureau of Mines and published a thorough

review of work to this point. The main properties active at the time were the Union, McKinley and the Banner. Their report gives a good account of the camp at this time, and is available in the 1914 BC Minister of Mines Annual Report. Larsen and Verrill concluded that, "the high cost of transportation is practically prohibitive to the development and working of the large mineral resources indicated in this district." Despite this, the Union Mine was producing at a rate of 30 to 40 tons per day, but the ore had to be hauled by wagon to the end of the rail at Lynch Creek, and from there by rail to the Granby Smelter in Grand Forks, at high cost.

By 1918, the Imperial Munitions Board in London indicated a shortage in the supply of platinum needed for the war, and initiated an examination and evaluation of a number of properties in Canada, including the Franklin Camp (Thomlinson, 1920). One sample collected by Tomlinson from the Maple Leaf area returned 0.17 oz/t Pt and started a period of exploration on the property for platinum group elements (PGE's) that has lasted through to the present.

The Union Mine was bonded to Hecla Mining Company in 1927. During the next few years, Hecla did considerable exploration and development work on the property, including construction of a 145 tonne per day flotation mill. The mill was later upgraded to include Wifley tables to recover free-milling gold. Production began in 1930 and continued through to 1933 when a cyanide plant was constructed to treat the tailings from the earlier milling operation. From 1934-36 the tailings were reprocessed and a small amount of additional mining was done (Pike, 1935; Minfile 082ENE003).

After the Hecla era, there was little work done in the camp until the 1960's when Spud Huestis assembled a large land position for Franklin Mines Ltd. Considerable exploration was done over the next few years, including cat trenching, geophysics, geochemistry and diamond drilling. This work was directed primarily at the bulk tonnage PGE potential of the property, as detailed by Chilcott (1965) and by Chilcott and Lisle (1965).

Newmont Mines Ltd. recognized the similarity between the rocks in the Franklin Camp and the Triassic Brooklyn Formation (host rocks to the Phoenix deposit near Greenwood), and in 1968, acquired a large land package in the camp. Newmont carried out a program of silt sampling, line cutting, geological mapping and rock chip sampling, as well as small scale soil, magnetometer and IP surveys in the McKinley and Banner areas. An airborne helicopter magnetometer survey was also completed. High copper values in silt samples from creeks in the vicinity of the current IXL property led to a major trenching program during 1969 to test for porphyry copper mineralization. Trenching was followed by a 3 hole diamond drill program (Norman, 1968, 1969).

Pearl Resources acquired the Union Mine in 1979 and over the next few years completed a thorough compilation of previous work at the mine, as well as considerable exploration. Underground workings were rehabilitated, surface mapping, and rock and soil geochemistry was done and 5 surface diamond drill holes were drilled in the western portion of the Union vein (Lisle, 1979, 1980a, 1980b; Lisle and Seraphim, 1980). Further work was done in 1984, including 19 underground diamond drill holes (1076 metres) and 34 underground percussion holes, totalling 397 metres (Drown, 1985).

In 1985, 24K Mining Inc. optioned the Union Mine property from Pearl Resources. The following year, 24K Mining Inc. merged with Summit Ventures Inc. to form Sumac Ventures Inc. Sumac constructed a cyanide heap leach facility to reprocess the Union Mine tailings, however a breach in the liner pad caused serious problems for the company. These problems were more of a political nature, the actual environmental problem being minor, but regardless, they resulted in the project being closed in 1989. No further work has been done at the Union Mine since this time. Total production to date from the Union Mine, excluding the processing of tailings by Hecla during the 1930's and by Sumac Ventures in the 1980's, amounts to 122,555

tonnes at an average grade of 14.1 g/t Au and 353.4 g/t Ag.

At the same time that Pearl Resources/Sumac Ventures were actively working the Union Mine, Longreach Resources had assembled a large land package over the northern part of the Franklin Camp and were exploring their claims for PGE's. Longreach did considerable work during 1986, including drilling 32 diamond drill holes (Clark, 1987a, 1987b, 1987b). Placer Dome Inc. optioned the property from Longreach in 1987 and completed a large exploration program during 1987, including a wide spread soil geochemical survey, significant rock sampling, and geological mapping. Placer also drilled 10 diamond drill holes (Pinsent and Cannon, 1988). Placer's interest in the property was originally for the PGE potential of the area (the project was known as the Platinum Blonde project) but by late in 1987, the focus of work had shifted to "Union Mine" type targets. Financial disputes with Longreach, combined with Placer's inability to obtain title to what they considered the key claims, caused Placer to abandon the property in 1989.

Concurrent with Placer's work in the camp, Myra Keep completed a study of the geology and petrology of the Averill plutonic rocks as the basis for a M.Sc. thesis at the University of British Columbia (Keep, 1989; Keep and Russell, 1987, 1989, 1992). An important outcome of Keep's work was a potassium-argon date that establishes a Jurassic age for the Averill suite. All previous workers had assumed these rocks to be a part of the Eocene Coryell suite (as originally suggested by Drysdale, 1915).

Canamax Resources Inc. optioned the IXL claims in 1991 and completed an airborne geophysical survey, soil and rock chip sampling, as well as geological mapping (Harris, 1991; Johnson, 1991).

Sway Resources carried out a significant amount of drilling in the Deadwood-Homestake-Banner areas during 1993 and 1994, including some 29(?) diamond drill holes and 14(?) percussion holes. During 1994, Sway also drilled 8 holes at the IXL showing.

No further significant work was done in the Franklin Camp until 2001, when Tuxedo Resources Ltd. assembled a very large land package, by way of 7 separate option agreements. Tuxedo's Franklin property included the majority of the current Union property. Tuxedo flew an airborne geophysical survey over essentially the entire Franklin Camp during 2001 (Smith, 2001). Following this, Peatfield (2002) prepared a Technical Report on the property and made recommendations for further exploration. One of the Peatfield's recommendations was that a thorough compilation of all previous exploration results in the camp should be completed. This compilation was undertaken during 2002 (Caron, 2002). Numerous exploration targets were identified as a result of the compilation program and recommendations were made for a follow-up work program

During 2003, Tuxedo carried out regional prospecting and rock sampling, as well as a detailed exploration program in the Homestake-Deadwood area. This program included soil and rock sampling, geological mapping, trenching (364 metres in 15 trenches) and diamond drilling (8 holes totalling 360 metres). At the IXL, prospecting and rock sampling was also done, followed by drilling a single diamond drill hole totalling 131 metres. Recommendations were made for additional work on the Franklin property, in the IXL and Union Mine areas (Caron, 2004a).

By the end of the 2003 work program, Tuxedo Resources had earned 100% ownership in some of the claims in the camp. Early in 2004 Tuxedo Resources (now Signature Resources) terminated the option agreements on all the remaining claims in the camp. Cougar Minerals Corp. subsequently optioned the IXL property from Mr. Carson, by way of an underlying agreement with New Cantech Ventures and carried out a sizeable exploration program on the property, including 11 trenches totalling 620 lineal meters, 11.7 line kilometres of 3D IP and drilled 12 diamond drill holes, totalling 1741 meters (Caron, 2005).

Also during 2004, Solitaire Minerals Corp. optioned the Union property and completed the work program described in this report.

3.2 History of Exploration, Union Property

Exploration on the Union property dates back to the first part of the 20th century. There are 8 zones of known mineralization on the property, as shown on Figure 3. Most of the previous exploration has been focussed at the Union Mine and the Maple Leaf showing, two areas that for much of their history have been under separate ownership and have been explored independently. A lesser amount of work has tested the White Bear - Lucky Jack area, in the northeastern portion of the current Union property. The exploration history of these three areas is discussed separately below, following which exploration elsewhere on the property is presented. Where no specific reference is listed, information has been taken from the British Columbia Minister of Mines Annual reports or from the BC Geological Survey Branch Mineral Inventory File (Minfile).

Union Mine

The history of exploration and development at the Union Mine has been in three main periods, the discovery and early development of the property (pre 1927), the Hecla era (1928-33), and the Pearl Resources-Sumac Resources era (1980's), as summarised below.

Pre-1927

The Union claim was one of the first claims located in the Franklin Camp, but it was recorded under a different name and was subsequently allowed to lapse. In 1906, L. Johnson and P. McGinnis re-staked the Union claim, as well as the adjacent Paper Dollar and Idaho claims. The Union claim was crown granted during 1914 and over the next few years, the adjoining Paper Dollar Fr., Idaho Fr. and Union Fr. crown grants were issued.

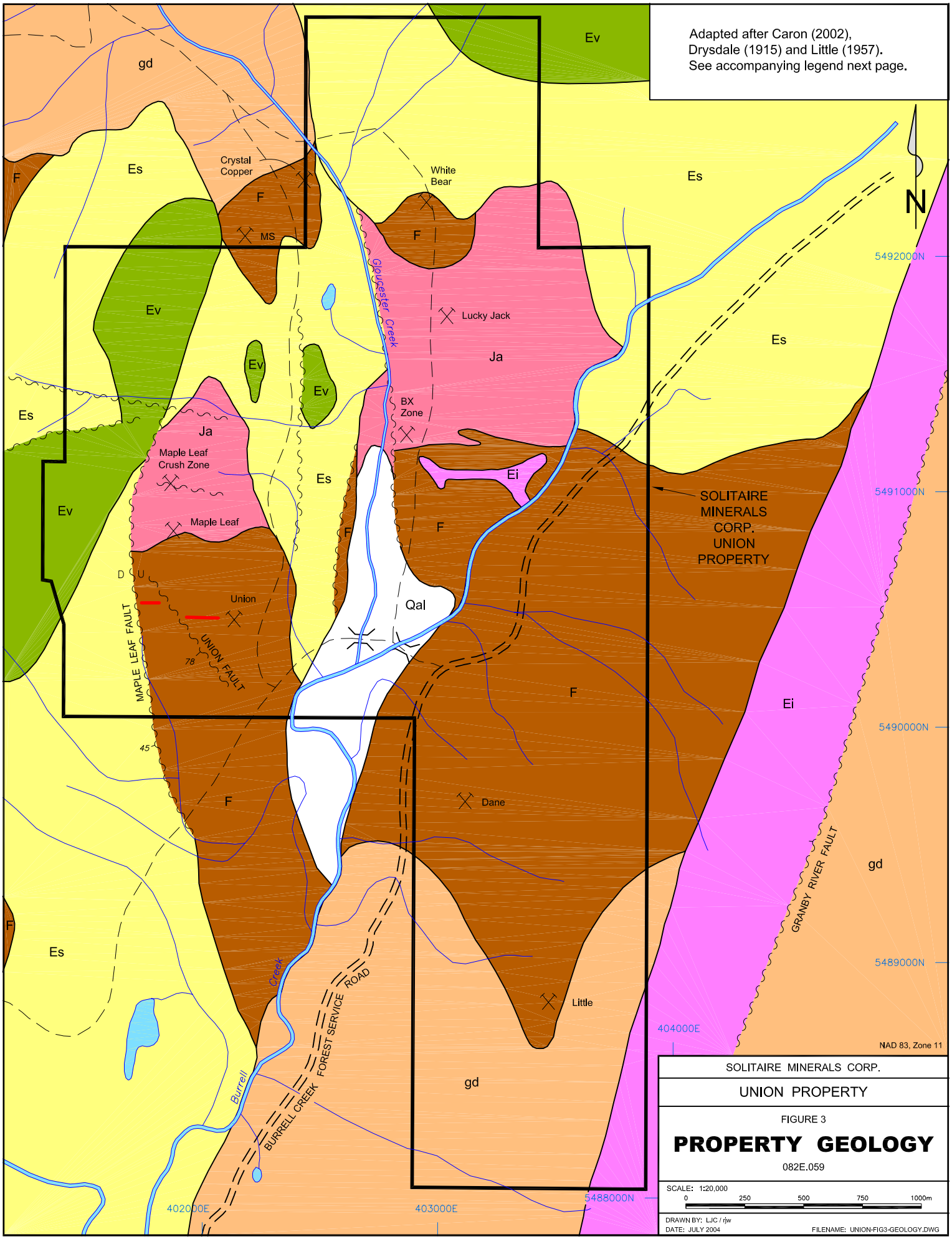
A large open-cut was dug on surface and from 1913 - 1920, several thousand tonnes of silver-gold ore was shipped from the open cut and upper workings on the Union vein. The mineralized zone trended east-west, averaged about 2.4 metres in width, and was described as:

> *"not … a true quartz vein, but is rather a very complete replacement of limestone, probably along a fissured zone …The vein matter is about ¾ quartz, the balance being calcite and iron-pyrites with a little hematite and garnet. The gold values are probably associated with the iron-pyrites while the silver would seem to occur as silver-sulfide, and possibly in part as ruby silver. The ore is very deceptive in appearance, as it shows very little mineralization and would hardly be taken at first glance to be high grade ore. The ore as shipped to the smelter in car-load lots assays about $60 a ton."*

Ore had to be hauled by wagon to the end of the rail at Lynch Creek, and from there by rail to the Granby Smelter in Grand Forks. When the Granby Smelter closed temporarily during 1914 and 1915, ore was shipped to the smelter in Trail. Only high-grade ore that would stand the high costs of transportation and direct shipping to the smelter was mined during these early years.

Pike (1935) reported that, by the end of 1916:

> " *ore to the value of approximately $100,000 had been shipped. This consisted of practically all of the easily obtainable ore such as occurred near the surface and in the glory hole. It was now seen that a large outlay of capital would be required to further develop the property since it was thought that the ore remaining was of milling grade only."*


Adapted after Caron (2002), Drysdale (1915) and Little (1957). See accompanying legend next page.
N
gd
Ev
Es
F
Ja
Ei
Qal
Crystal Copper
White Bear
MS
Lucky Jack
BX Zone
Maple Leaf Crush Zone
Maple Leaf
Union
Dane
Little
Gloucester Creek
Burrell Creek
MAPLE LEAF FAULT
UNION FAULT
GRANBY RIVER FAULT
FOREST SERVICE ROAD
SOLITAIRE MINERALS CORP. UNION PROPERTY
5492000N
5491000N
5490000N
5489000N
5488000N
402000E
403000E
404000E
NAD 83, Zone 11
SOLITAIRE MINERALS CORP.
UNION PROPERTY
FIGURE 3
PROPERTY GEOLOGY
082E.059
SCALE: 1:20,000
0 250 500 750 1000m
DRAWN BY: LJC / rjw
DATE: JULY 2004
FILENAME: UNION-FIG3-GEOLOGY.DWG

LEGEND TO ACCOMPANY FIGURE 3

Qal — Quaternary Alluvium

EOCENE

Ei — Coryell syenite and pulaskite dykes and plugs.

Ev — Marron Formation. Andesite and trachytic flows.

Es — Kettle River Formation. Arkosic sandstone, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd — Nelson granodiorite.

JURASSIC

Ja — Undifferentiated Averill Plutonic Complex. Includes:

- sy — syenite, includes a coarse trachytic syenite phase
- monz — monzonite
- px — pyroxenite

TRIASSIC (?)

F — Undifferentiated Franklin Group. Includes:

- Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
- Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

Fault

Zone of Known Mineralization

Sulfide Mineralization

Quartz Vein / Silicified Zone

Hornfels

Adit

Shaft

Test Pit

Trench or Open Cut

Open Stope

Mine Dump

Road

1927-1936 The Hecla era

In 1927, an agreement was reached with the Hecla Mining Company to purchase the property. A considerable amount of exploration, development and mining was carried out over the next few years, including most of the historic production from the property. The Union vein was developed on the second, third and fourth levels and upraises were driven to connect the different levels. In the upper levels it is reported that the ore body:

> *"… varies in width from 5 to 12 feet and is mineralized chiefly with pyrite, containing gold and silver in a gangue of quartz and greenstone. Numerous block faults displace the vein a few feet. There are no commercial walls to the fissure and the size of the vein can be determined only by close sampling and assaying. The country rock, a greenstone, adjacent to the vein is to all appearances similar to the ore.*
>
> *In the fourth or lowest level, only disintegrated pieces of ore have been found up to the present. The country rock and ore has the appearance of recemented fragments."*

Construction of a 136 tonne (150 ton) per day flotation mill was started in 1929. The mill was later upgraded to include Wifley tables to recover free-milling gold. Steady production started in 1930 and continued through to 1933, with just over 110,000 tonnes mined and milled during this period. The recovered grade from the milling operation was an average of 13.4 g/t Au and 305 g/t Ag.

In 1933, a cyanide plant was constructed to treat flotation tailings and from 1934-36, Hecla reprocessed almost 50,000 tonnes of tailings, recovering an additional average 1.4 g/t Au and 47.5 g/t Ag. A small quantity of ore, remnants left during the earlier mining operation, was also mined.

1937-1979

From 1937 through to 1942, W.E. McArthur leased the Union Mine from Hecla and completed a small amount of drifting, raising and surface trenching, as well as some 840 metres of diamond drilling. Just over 7,500 tonnes of ore was mined during this period. In 1947, C. and J. Small leased the property and shipped an additional small quantity of ore. No further work is reported until 1971, when Mustang Resources Ltd. optioned the property from Hecla and constructed a closed-circuit cyanide plant to reprocess tailings on the property. The operation was not economic and the plant was closed after only a few months.

1979 - 1989 The Pearl Resources/Sumac Resources era

During 1979 and 1980, Pearl Resources optioned the crown grants covering the Union Mine from Hecla and staked much of the ground surrounding the Union Mine. Detailed geological mapping was completed. This work was followed up by a 5 hole (675 metre) surface diamond drill program. Drilling tested the western known portion of the Union vein for areas of additional mineralization, without success (Lisle, 1980a,b; Lisle and Seraphim, 1980).

In 1984, Pearl Resources carried out a major work program on the property, including rehabilitation of underground workings and 192 metres of new drifting on the No. 4 level. Thirty-four percussion holes were drilled underground to test the walls of the new drift and 19 underground diamond drill holes (1,076 metres) were drilled to test for extensions to known zones of mineralization. While drilling confirmed the presence of a strong quartz vein in several places, for the most part, gold and silver grade were minimal. East of the Union fault and between the No. 2 level and surface (and immediately south of the Open Stope) a narrow portion of the mineralized vein does remain

unmined (the Union South Zone). Sampling and drilling in 1984 indicated a *"tonnage potential of 8-10,000 tons grading 0.255 oz/t Au and 8.59 oz/t Ag over a 5 foot mining width"* (Drown, 1985). Note: This estimate does not conform to 43-101 standards.

The 1984 underground drill program also returned several attractive intercepts on the Union vein below the Open Stope and between the No. 3 and No. 4 levels. These included:

ddh PU-5: 8.4 metres @ 8.9 g/t Au, 357.5 g/t Ag (27.5 feet @ 0.26 oz/t Au, 10.44 oz/t Ag) (as well as several other narrower, lower grade zones in the same hole), and,

ddh PU-8: 1.6 metres @ 37.2 g/t Au, 2148 g/t Ag (5.4 feet @ 1.086 oz/t Au, 62.71 oz/t Ag)

Drown (1985) estimated a "possible reserve" of about 7000 tonnes grading 32.5 g/t Au and 1858 g/t Ag for this zone. Note that, again, this estimate does not conform to 43-101 standards.

A limited soil survey was also completed during 1984 and geological mapping was done, both on surface and in all accessible underground workings. Historic dumps and tailings were sampled and a "potentially significant" heap-leach resource was recognized (Drown, 1985).

24K Mining optioned the property from Pearl Resources in 1985 and then in 1986, 24K Mining merged with Summit Ventures to form Sumac Ventures Inc. Work on the property during 1986 and 1987 included rehabilitating the No. 3 and No. 4 levels, sublevel drifting and raising, and diamond drilling (16 surface holes). Results from the 1986 surface drilling are unavailable.

In 1987, Placer Dome entered into an agreement with Longreach Resources on the Platinum Blonde property, covering much of the Franklin Camp to the north, east and west of the Union Mine. At the same time, Placer had an agreement to with Sumac Ventures *"whereby the Company has been granted the right to explore for a faulted off-set to the Union vein on ground which is currently held by Sumac"* (Pinsent and Cannon, 1988). One diamond drill hole (87-41) was drilled to test for the Union vein west of the Maple Leaf fault, without success.

Late in 1987, Sumac began a cyanide heap leach operation to treat tailings from Hecla's 1930's milling operation. The heap leach operation continued seasonally through to 1989, with about 42,500 tonnes treated and 13 kg Au and 393 kg Ag recovered. A breach in the pond liner occurred in the spring of 1989 and, although actual environmental damage was negligible, in June of 1989 the Minister of Environment declared an "environmental emergency", the operation was forced into closure, and the Ministry of Environment stepped in to take control of the clean-up operation (Sumac Ventures news releases).

To date, 122,555 tonnes of ore has been mined from the Union Mine. Note that this quantity excludes the tailings reprocessed by Hecla during the 1930's and by Sumac Ventures in the 1980's (whereas totals listed in Minfile include the tailings and are not a good indication of the size of the Union ore body). A total of 1727 kg gold and 43,306 kg Ag was recovered (from the direct smelting ore, milled ore and reprocessed tailings). Dividing the total metals recovered (by all methods) by the quantity mined gives an average grade of 14.1 g/t Au and 353.4 g/t Ag for the 122,555 tonnes mined from the Union vein.

Maple Leaf

As with the Union Mine, exploration on the Maple Leaf showing can be divided into three main periods, a period of early exploration and development following the discovery of mineralization (pre 1927), the Hecla era (1927 - 1936) and a period of activity in the 1980's. This work, as well as minor work outside of these main periods of activity, is summarised below. Two main areas of mineralization are present, the Maple

Leaf zone and the Maple Leaf Crush zone, some 250 metres to the north. Apart from a small amount of hand cobbed ore shipped from the Maple Leaf zone in 1915-16, there has not been any production from this area.

Pre 1927

Work was first reported on the Maple Leaf claim in 1906. Much stripping and open cut work was said to have been done on the claim (at the Maple Leaf zone), uncovering, it was reported *"some fine bodies of ore … The ore is chalcopyrite and the surface showings are rich"*.

No further work is documented until 1913, when work was done on the "Upper Workings". A shaft 6 metres deep was dug and a crosscut tunnel driven for 45 metres. The material at the face of the tunnel was reported to be *"mainly silica and somewhat similar in appearance to the high grade ore of the Union property. A sample taken, however, only returned traces of gold and silver."*

Two car loads of hand cobbed high grade copper ore were made from the large open cut at the Maple Leaf zone in 1915-16, which were said to have averaged 5.6% Cu and 9.6% Cu respectively and, according to the owner, *"each ton shipped contained nearly one-quarter of an ounce of platinum"* (Thomlinson, 1920). The total production is given as 36 tonnes averaging 7.6% Cu, 1.7 g/t Au and 172 g/t Ag (Minfile 082ENE009).

By 1918, the Imperial Munitions Board in London indicated a shortage in the supply of platinum needed for the war, and initiated an examination and evaluation of a number of properties in Canada, including the Franklin Camp (Thomlinson, 1920). Two samples collected from the Maple Leaf zone by the Munitions Board contained 5.1 g/t and 5.8 g/t Pt (0.15 and 0.17 oz/t Pt) respectively. A sample of almost pure chalcopyrite, occurring as a small lens in the pyroxenite, assayed 13 g/t Pt (0.38 oz/t Pt).

These results sparked a period of activity on the property, including a program of drifting and cross cutting in 1919. Unfortunately this work appears to have been largely promotional in nature. The 1921 Minister of Mines Report states that:

> *"… a careful sampling of the lower workings was carried out. During the past few years remarkable results had been obtained by the former management … resulting in a good deal of speculation. The results of the 1921 sampling were practically nil for Co, Pb and Pt, and only a very small percentage of Cu ….If the money spent in driving the lower tunnel about 340' and on the partial installation of a 50 ton smelter and ore bins had been used for legitimate development in and near the upper workings, the stockholders would have the satisfaction at least of knowing that their money had been spent in the right place."*

The following year several new cuts were excavated in an attempt to trace the mineral zone. A shaft was also sunk about 12 metres and a crosscut driven for about 4.5 metres into a north striking, west dipping siliceous vein located south of the old upper workings, near the cabins. Samples from the vein were reported to carry values in gold and silver, but not high enough for shipping purposes.

1927 - 1936 The Hecla era

In 1927, the Maple Leaf claim was bonded to Hecla, along with the Union Mine. While most of Hecla's work was focused on the Union vein as detailed earlier in the report, some work was done at the Maple Leaf during this period. In 1932 it was reported that:

> "*Two crosscuts were driven, one from No. 1 level westerly and another from the intermediate level 100' below the No. 1, to prospect copper-platinum outcrops found many years ago. … a good deal of pyritic mineralization was found in the crosscuts, but*

no payable ore."

Diamond drilling was also reported, but neither the drilling nor the cross cutting was successful in discovering any ore.

1936 - 1986

Following Hecla's work on the property there was a long period of inactivity at the Maple Leaf. No further work is reported in this area until the mid-1960's, when Franklin Mines Ltd. assembled a large land package in the camp to test for the bulk tonnage PGE potential of the area. In 1964, mapping and detailed sampling of the Maple Leaf zone was completed with some good results (to 1.36% Cu and 8.9 g/t Pt over 4.3 metres in one old pit). Two diamond drill holes were drilled in 1965, in close proximity to the historic open cut. A 0.3 metre (1 foot) zone of massive chalcopyrite and pyrite was intersected near the top of hole 65-1 that returned 15.24% Cu, 6.8 g/t Ptand 4.8 g/t Pd (Chilcott and Lisle, 1964).

In 1966, a small IP survey was completed and a very strong, northwest trending chargeability anomaly was identified in the vicinity of the Maple Leaf Crush Zone (Mouritsen, 1966).

Apart from a minor soil geochemistry in 1972 (Friesen, 1972), no further work was done in the Maple Leaf area until in was acquired by Longreach Resources in 1986.

1986 - 1988 The Longreach - Placer Dome era

In 1986, Longreach Resources assembled a large land package in the Franklin Camp (the Platinum Blonde property) to explore for Cu-PGE mineralization. Sixteen diamond drill holes were drilled in the Maple Leaf area as part of a larger (32 hole) drill program. A number of narrow intervals of elevated copper were intersected in the drilling, but platinum and palladium values were low, to a maximum of 1620 ppb Pd and 700 ppb Pd with 1.9% Cu over a 1.5 metre interval in hole 86-12 (at the Maple Leaf zone and near the ddh 65-1 intercept).

Drilling did identify a prominent west-northwest trending shear zone about 250 metres north of the main Maple Leaf showing. This shear zone, the Maple Leaf Crush zone, cuts hematitic, and locally malachite stained Averill syenite. Numerous bleached and clay altered intermediate dykes have been emplaced within the fault, and with sporadic quartz veining with associated gold mineralization, occurs locally. Hole 86-7 returned 0.5 metres grading 25.9 g/t Au from the Maple Leaf Crush zone, while hole 86-16 returned 3 metres grading 6.8 g/t Au (Clark, 1987a,b).

In 1987, Placer Dome Inc. optioned the Platinum Blonde property from Longreach and completed a large exploration program including a widespread soil geochemical survey, significant rock sampling, and geological mapping. Placer drilled 3 holes in the Maple Leaf area, as part of a 10 diamond drill program on the Platinum Blonde property. Two of Placer's drill holes (87-38, 39) tested the Maple Leaf Crush zone. Both holes returned elevated gold values from the zone. The best interval was 2.7 metres grading 3.25 g/t Au near the top of hole 87-38. The third Placer drill hole (87-40) tested the Maple Leaf zone near the ddh 86-12 and 65-1 intercepts, without significant results (Pinsent and Cannon, 1988).

1988 - present

Little exploration has been done in the Maple Leaf area since Placer's work in 1987. In 2001 a program of detailed geological mapping and rock sampling was done to further explore the known copper/PGE mineralization (Wilkinson, 2001) and in 2003, Tuxedo Resources prospected the area. Two samples of sulfidic quartz were collected, returning highly anomalous Hg and Ag (+Cu, Pb, Zn, Se +/- Sb), but no significant enrichment in Au. Two samples were also collected from the

Maple Leaf Crush zone, returning values to 3244 ppb Au. Anomalous gold (to 1406 ppb Au) was also returned from an area of quartz veining and silicification about 100 metres southeast of the Maple Leaf cabin and due west of the Union vein (Caron, 2004a).

White Bear - Lucky Jack

The earliest documentation of work on the White Bear Group (which included the White Bear and Lucky Jack claims) is in 1906. The Minister of Mines Annual Report for this year states that a large body of "white iron" (siderite?) carrying gold and copper occurs on the property and runs from "$1 to $10". Several chutes of high grade chalcopyrite were reported running "through the lead".

The Imperial Munitions Board collected several samples from the Lucky Jack area during their investigations into the platinum potential of the Franklin Camp in 1918. A maximum of 2.7 g/t Pt (0.08 oz/t Pt) was returned from a sample of pyroxenite with disseminated chalcopyrite in this area (Thomlinson, 1920).

J.C. Stephen Explorations Ltd./Newmont Exploration completed a very small program of soil and rock sampling in the White Bear area in 1979. An epithermal quartz breccia zone in Eocene sediments was discovered a short distance from the old White Bear shaft. Float from the silicified zone was traced over a strike length of 120 metres. There were no significant gold values in soil samples from this area. Three rock samples collected from the silicified zone were only slightly anomalous in gold (an average of 140 ppb Au) (Shearer, 1980).

In 1984, BC Gold Syndicate and J. Walls carried out a very small soil survey (21 samples) over the White Bear silicified/breccia zone, as well as minor hand trenching and rock sampling (3 samples) to test the zone. One rock sample returned 900 ppb Au from the breccia zone, and one soil sample returned 420 ppb Au (Walls, 1984).

A small VLF/magnetometer survey was run in the Lucky Jack area in 1986 (McDougall and Presunka, 1986). This was followed up with 3 diamond drill holes to test for PGE mineralization (Clark, 1987a,b). There were no significant results from the drilling.

Exploration on the balance of the Union Property

The majority of previous exploration on Solitaire's Union Property has been in the three areas described above. Only minor work as been done elsewhere on the property, as follows.

Several pits and short adits on the property, at the Dane and Little showings and in the area north of the Union No. 4 portal, date back to the very early part of the 20th century.

Falconbridge Nickel Mines drilled 2 short EX packsack diamond drill holes in 1978, to test for uranium and for gold in Eocene sediments approximately 1 kilometre north of the Maple Leaf zone. There were no significant results (Wilson and McDougall, 1979).

Zelon Enterprises optioned the Axe and DAJG claims in 1981. A small rock sampling program was completed at the Dane showing, returning a number of samples of elevated copper and silver from an east-west trending shear zone cutting Franklin Group rocks (Cunningham and Hajek, 1981).

Tuxedo Resources Ltd. assembled a very large land package in the Franklin Camp in 2001. A DIGHEM helicopter-borne geophysical survey was flown over their property, and a strong EM conductor was

delineated along Gloucester Creek, west of the White Bear showing. A small prospecting and rock sampling program was also completed on the present Union property. There were no significant results from rock samples collected outside of the Union - Maple Leaf areas.

3.3 Summary of 2004 Work Program

The 2004 field program Union property started on August 17, 2004 and continued through to November 22, 2004, with data analysis and report preparation completed subsequent to this. The program was supervised by Linda Caron.

A small program of rock sampling and prospecting was done during August, in preparation for excavator trenching. Eighteen rock samples were collected and shipped to Eco Tech Labs in Kamloops for preparation and analysis for Au plus a multi-element ICP suite. Prospecting and rock sampling was completed by Linda Caron and John Kemp.

An excavator trenching program was completed during September-October 2004. Trenching was carried out using a Hitachi EX300LC-3 excavator owned by Lime Creek Logging of Grand Forks and operated by Henry Funk. A total of 350 lineal meters of trenching was done in 11 trenches. Trenches were dug to bedrock and then hand-mucked, mapped and laid out for sampling. Geological mapping and sample supervision was done by Linda Caron. Trench mucking and sampling was completed by Cody Cook and John Kemp, of Rainbows Exploration Services Ltd. A total of 103 samples were collected from the trenches and shipped to Eco Tech Labs in Kamloops for preparation and analysis for Au plus a multi-element ICP suite.

A 7 hole, 5,391 foot (1643 m) diamond drill program was completed during October-November 2004. Holes 04-1 to 04-5 were NQ2 holes drilled by Atlas Drilling of Kamloops, BC., while holes 04-6 and 04-7 were NQ holes drilled by Lone Ranger Diamond Drilling of Lumby, B.C. Drill access roads and site preparation was completed using Lime Creek's Hitachi 300 excavator. A total of 0.6 kilometers of drill access road was built, as shown on Figures 4 and 5. Water for drilling (holes 04-1 to 04-3) was trucked by Kettle River Management. The program was supervised by Linda Caron, with assistance from John Boutwell and Jim Kermeen.

Drill core was transported daily to Grand Forks, for logging and sawing. Core was logged and marked for sampling by Linda Caron or by Jim Kermeen. Intervals selected for sampling were sawn, with half of the core submitted for sampling and half of the core retained for reference. Core sawing and sampling was done by Alfreda Elden, under the supervision of Linda Caron. A total of 178 drill core samples were collected and shipped to Eco Tech Laboratories in Kamloops for gold and multi-element ICP analyses. The drill core is currently stored at John Carson's residence, at 7225 North Fork Road, Grand Forks.

All of the excavator trenches and drill sites have been backfilled. Reclamation work, including reseeding backfilled trenches, drill roads and drill sites and bucking and scattering any timber disturbed by the trenching or drill programs was completed by John Boutwell.

4.0 GEOLOGY & MINERALIZATION

4.1 Regional Geology and Deposit Types

The Union property is situated within the Franklin Mining Camp, in the northern portion of the Boundary District. The Franklin Camp covers an inlier of Paleozoic to Mesozoic volcanic and sedimentary rocks, surrounded by Mesozoic and Tertiary plutonic rocks. Locally the older rocks are overlain by Tertiary sediments and volcanics and intruded by small intrusive bodies of various ages (Drysdale,1915; Pinsent and Cannon, 1988; Caron, 2004a). The geology of the Union property is described in more detail in the following section of the report.

High-grade metamorphic rocks, part of the Grand Forks metamorphic complex, occur to the east and slightly south of the camp. A major north trending normal fault, the Granby Fault, separates the gneisses from the younger rocks to the west. This fault forms the eastern boundary to the Republic graben in Washington State and can be traced for over 100 kilometres northwards to the Franklin property, where it follows Burrell Creek.

The oldest rocks exposed in the Franklin Camp are a sequence of sediments, volcanics and related intrusives known locally as the Franklin Group. No fossil or istopic dating has been done to explicitly define the age of these rocks, however there is a remarkable lithological and stratigraphic similarity between the Franklin Group and type sections of the Triassic Brooklyn Formation in the Greenwood-Grand Forks area (and in the Belcher District of Washington State). Both the Franklin Group and the Brooklyn Formation contain similar lithological and stratigraphic sequences, including argillite, conglomerate, chert, tuffaceous siltstone, limestone and greenstone. Furthermore, both the Franklin Group and the Brooklyn Formation contain a very distinctive chert pebble conglomerate (referred to as "sharpstone conglomerate" in the Greenwood area) and both contain an unusual looking limestone cobble conglomerate (known in the Grand Forks area as "puddingstone"). Given these similarities, it seems very likely that the Franklin Group is correlative with the Brooklyn Formation. This correlation is significant because of the presence of stratabound volcanogenic mineralization within the Brooklyn Formation, which may also occur within the Franklin Group. Further details of the lithologies within the Franklin Group are given by Caron (2004a) and Pinsent and Cannon (1988).

Rocks of the Franklin Group are intruded by several types of plutonic rocks, including granodiorite and diorite of the Jurassic-Cretaceous Nelson Plutonic complex, probable Jurassic aged quartz-feldspar porphyry (lithologically similar to the Lexington porphyry of the Greenwood Camp), alkalic intrusives of the Jurassic Averill complex, and syenite and lamprophyre dykes and stocks of the Eocene Coryell suite. The alkalic intrusives of the Averill suite, described below, are significant because of their association with PGE mineralization.

> *The Averill plutonic complex … comprises pyroxenite, monzogabbro, monzonite and syenite phases and two compositionally distinct sets of late dikes. The intrusion is concentrically zoned, with pyroxenite at the centre, grading outwards through monzogabbro and monzodiorite, to monzonite at the perimeter. Trachytic syenite occurs along the axis of the pluton as a coarse-grained core and a fine-grained marginal phase. It is mineralogically distinct and is characterized by a prominent alignment of K-feldspar megacrysts … The syenite intrudes the pyroxenite and monzogabbro, and the mafic phases are brecciated along the margin of the syenite.* (Keep and Russell, 1992)

Drysdale (1915) first suggested an Eocene age to the Averill rocks and this notion persisted through to Keep's work in the late 1980's (despite the fact that clasts of various phases of the Averill suite occur within the basal conglomerate of the Eocene strata). A K-Ar age date on the Averill suite of 150 +/- 5 Ma now explicitly identifies these rocks as Jurassic (Keep and Russell, 1992).

Clastic sediments of the Eocene Kettle River Formation unconformably overlie the older rocks. These rocks include arkosic sediments, conglomerates, and water-lain tuffs, as described by Drysdale (1915). Rhyolite flows are also present. An extensive area of rhyolite, the McKinley rhyolite, covers part of Mount McKinley to the south of the Union property. The Eocene sediments are overlain by andesite and trachyte flows of the Eocene Marron Formation. These volcanics form the highest points on the property, on Mount Franklin and Mount McKinley.

Mineralization in the Franklin Camp can broadly be classified into 4 main styles, as summarized below.

Union Mine type veins/silicified zones

The Union Mine is the only significant past-producing mine in the camp. A total of 122,555 tonnes at an average grade of 14.1 g/t Au and 353.4 g/t Ag was produced from the Union Mine. Rather than being a planar vein with sharp contacts, the Union vein is a broad silicified zone with assay walls. The mineralized zone, which trends at $080^{o}/90^{o}$, is hosted within greenstone and silicified calcareous sediments of the Franklin Group. The sulfide content within the quartz/silicified zone is generally less than 5%, with sulfides consisting of pyrite, galena, sphalerite and minor chalcopyrite. Higher gold values are typically associated with higher sulfide content, although free gold (with spectacular gold values) occurs locally. At the Union Mine, the vein is cut off on the west by a fault that places unmineralized Eocene sediments and overlying volcanics in contact with the vein. Drilling during 2004 was successful in intersecting a zone of silicification which may represent the off-faulted extension of the vein, however this western zone failed to return elevated values of gold or silver, as detailed in Section 6 of this report.

The Union vein has a geochemical signature of Au:Ag:Cu:Pb:Zn:Hg:Se:Te. Mineralization in the Homestake - Banner area, on the west side of Mount Franklin, also belongs to this style of mineralization. Lead isotope analysis on galena done on a sample of the Homestake vein during 2003 and suggests a Jurassic age to the mineralization (Caron, 2004a).

The nature of Union-type mineralization remains unresolved. The veins may be epithermal veins, as suggested by some previous workers (Peatfield, 2002; Pinsent and Cannon, 1988), but evidence suggests that they do not belong to the Eocene epithermal event that is economically significant elsewhere in the Boundary District. Several examples of Eocene aged epithermal style veining are in fact known elsewhere in the Franklin Camp, as described later in this report, however no significant precious metal values have been returned from these veins to date.

Black Lead type Cu-PGE zones

Much of the previous exploration in the Franklin Camp has been directed at "Black Lead" type mineralization. These zones are poddy, shear hosted zones of massive chalcopyrite (+ lesser pyrite, pyrrhotite and other sulfides) with erratic platinum and palladium values. They are associated most commonly with the pyroxenite phase of the Averill plutonic complex, but also occur in the syenite and along contacts with various other phases. Examples include the Maple Leaf, part of the Union property, as well as the Buffalo, Averill, Alpha, Ottawa-Evening Star showings to the north-northeast. Results of previous exploration suggest that these "Black lead" zones of mineralization are a lower priority for exploration that the other styles of mineralization in the area, because of their poddy, discontinuous nature (Caron, 2002).

Contact Metamorphic (Base Metal Skarn) zones

The McKinley property, situated some 2.5 kilometres southwest of the Union property, is an example of skarn type mineralization in the Franklin Camp. Massive pyrite-chalcopyrite, pods and disseminations of galena-sphalerite-chalcopyrite and zones of massive magnetite-pyrite are associated with garnet-epidote (+ pyroxene) skarn along Franklin Group limestone contacts with various intrusives. Similar base metal skarn mineralization is associated with limestone contacts in the IXL area west of the McKinley property. A small

tonnage was produced from the McKinley in 1949, however surface and underground exploration, including diamond drilling, failed to find any additional areas of mineralization.

IXL type

The IXL showing, 4.5 kilometres west-southwest of the Union property, is an area of disseminated and fracture controlled pyrite and chalcopyrite in epidote-chlorite-magnetite "skarn" altered mafic to intermediate tuff of the Franklin Group. Two parallel, northeast trending, steep to moderately east dipping mineralized epidote-chlorite-magnetite "skarn" horizons have been exposed on surface by trenching. The Upper Zone has returned values to 0.42% Cu and 1.88 g/t Au over 18.4 metres while the Lower Zone has returned values to 0.65% Cu and 0.86 g/t Au to over 30 meters (including 21 meters at 0.83% Cu and 1.16 g/t Au) and 0.8% Cu and 3.85 g/t Au over 5.5 meters. Attempts to drill both the Upper and Lower zones have shown that the mineralization has a limited depth extent due to the abundance of feldspar porphyry, and later syenite, dykes and sills. Low-grade (but sub-economic) copper-gold porphyry style mineralization is common within the feldspar porphyry. Values to 0.17% Cu and 0.23 g/t Au over 41.5 meters have been returned from this style of mineralization, although typically grades are lower. This area is described in detail in Caron (2005).

Pods of coarse-grained garnet-epidote (+/- pyroxene) skarn with chalcopyrite, galena, and sphalerite, similar to the McKinley showings, occur in close proximity to intrusive contacts with lenses of Franklin Group limestone. These zones of base metal-silver rich skarn mineralization typically have much lower gold values than the epidote-chlorite-magnetite volcanic hosted mineralization.

One further point is worth noting in the discussion concerning styles of mineralization. The possibility that auriferous volcanogenic sulfide/oxide mineralization exists on the property should be considered. Rasmussen (1993) describes "gold bearing, magnetite-pyrrhotite-pyrite syngenetic, volcanogenic mineralization" in the Belcher District of Washington State. A number of deposits of this type have been discovered in the Belcher District, the largest being the Lamefoot deposit (2 million tonnes at an average grade of 7 g/t Au - now mined out). The known massive sulfide-oxide deposits all occur at the same horizon within the Triassic Brooklyn Formation, with a stratigraphic footwall of felsic volcaniclastics (the top of the "sharpstone" unit) and with a massive limestone hangingwall. Base metal VMS type mineralization occurs along this same horizon. Auriferous quartz-sulfide and sulfide veinlets occur in the footwall of the Lamefoot-type deposits, and at least part of the gold mineralization is attributed to a late stage epigenetic event. A later skarn event may cause remobilization of earlier syngenetic mineralization along the Lamefoot horizon. A strong argument can be made that the Franklin Group is equivalent to the Brooklyn Formation, and thus that has potential to host Lamefoot-type mineralization. To date, no definitive examples of this style of mineralization are recognized in the Franklin Camp, although the volcanic hosted "skarn" mineralization at the IXL showing is at least suggestive of stratabound syngenetic mineralization with a later skarn overprint.

4.2 Property Geology and Mineralization (Figures 3, 4, 5)

The geological setting of the Union property is shown in Figure 3. More detail in the vicinity of the Maple Leaf area is shown as Figure 4, and in the White Bear area as Figure 5.

A large area of north to northeast trending, steeply east dipping Triassic (?) Franklin Group sediments and volcanics occurs in the south-central part of the property. These rocks host much of the known mineralization on the claims.

The Franklin volcanic assemblage includes predominantly green fine-grained andesitic volcanics, breccias and tuffs while the sedimentary package is a complex sequence of tuffaceous sandstone and siltstone, chert, argillite, conglomerate and minor limestone. The conglomerate may be a chert pebble conglomerate or it may be a polymictic conglomerate, locally with prominent limestone clasts. Gradational contacts between the various units within the Franklin Group are common. Rocks of the Franklin Group typically become strongly hornfelsed near contacts with younger intrusives.

The Franklin Group volcanics and sediments are intruded by the east-west trending, concentrically zoned Jurassic Averill alkalic intrusive complex. The intrusive complex is comprised of syenite, monzonite and pyroxenite phases (Keep, 1989; Keep and Russell, 1992). Copper-PGE mineralization in the Maple Leaf and Lucky Jack areas is hosted within and genetically related to the Averill complex. Two discrete areas of Averill intrusives occur on the property, one in the Maple Leaf area and a second area east of Gloucester Creek in the Lucky Jack area. The two areas are separated by the Gloucester fault and by younger Eocene sedimentary cover.

A large body of Nelson granodiorite intrudes the Franklin Group in the southeastern part of the property. In the north and western parts of the property, the older rocks are unconformably overlain by Eocene sediments and volcanics.

Several north trending faults are present on the property, including one along Gloucester Creek in the central portion of the property. The Gloucester Fault, which is marked by a major zone of low apparent resistivity, places Eocene sediments against the Lucky Jack Averill intrusive and likely offsets the intrusive in a left-lateral sense.

The Maple Leaf fault, in the western part of the property, separates the older rocks to the east from Eocene sediments and volcanics to the west. The Maple Leaf fault is roughly parallel to (and sympathetic with) the main Granby River fault to the east. It truncates the known portion of the Union vein on the west.

Eight areas of mineralization are known on the Union property, as shown on Figure 3. Each of these areas is discussed below. More detail of these zones of mineralization are given in an earlier report by the author (Caron, 2004c).

Union Mine Minfile 082ENE003

The Union Mine, the only significant past-producing mine in the Franklin Camp, is the most significant zone of known mineralization on the Union Property. A total of 122,555 tonnes was mined from the Union Mine, primarily during the 1930's, returning an average grade of 14.1 g/t Au and 353.4 g/t Ag (note: this grade is calculated from the total gold recovered, including later reprocessing of tailings).

The Union vein is variably a massive white to grey to grey-green coloured, intensely silicified fissure zone with "assay walls" (and without well defined contacts) and a well developed, strongly brecciated, quartz fissure vein. It is hosted within Franklin Group volcanics and sediments. Changes in vein character have been attributed to wall rock conditions. The sulfide content within the quartz/silicified zone is generally less than 5%, with sulfides consisting of pyrite, galena, sphalerite and minor chalcopyrite. Higher gold values are typically associated with higher sulfide content; free gold (and spectacular gold values) occurs locally and is commonly associated with coarse crystalline galena. A general metal zonation is noted, with the gold:silver ratio (and gold grade) higher in the western portion of the system, with a higher silver grade and lower gold:silver ratio in the eastern part of the vein, and with both gold and silver grades dropping off abruptly at depth.

The vein exhibits some characteristics consistent with epithermal style mineralization, including the broad

silicified zones, the quartz-carbonate association, low sulfide content, strong vertical control to gold mineralization and a geochemical signature of Au:Ag:Cu:Pb:Zn:Hg:Se:Te. Mineralization appears to pre-date the deposition of Eocene sediments and volcanics. This may be a Jurassic system, related to the intrusion of the Averill Intrusive Complex (as suggested by lead isotope analysis of galena from similar style mineralization at the Homestake mine (Caron, 2004a)), however a late-stage (Eocene?) gold overprint is suggested.

Numerous post-vein faults complexly offset and displace the Union vein into several discrete vein segments, with each segment trending approximately 270-290°/75-90°N. It appears that some late stage (Eocene?) enrichment of the vein has occurred along the offsetting faults, as the better grades are typically situated adjacent to post-vein faults. The vein has been explored and developed underground by 4 levels (and by an intermediate level). Historically it was mined, in three discrete faulted segments, over a width of 1.5 - 7.5 metres, over a cumulate strike length of about 410 metres and over a vertical range of about 160 metres. From east to west, the three known vein segments are: the Union vein/Open Stope segment, the Iron Stope-Gold Stope segment and the Schulz Stope segment.

The Schulz vein segment is truncated on the west by the Maple Leaf fault, a north trending, moderate west dipping normal fault that places (on surface and down to a level near the No. 1 Level in the Union Mine) Eocene Kettle River sediments to the west against the older Franklin Group rocks to the east. The Maple Leaf fault varies in thickness from less than 1 metre, to greater than 15 metres, and is youngest of the faults which displace the vein.

A significant amount of drilling has been done to test the 3 known segments of Union vein (the Union/Open Stope segment, the Gold Stope/Iron Stope segment and the Schulz segment), in an attempt to extend mineralization beyond the stoped areas, with only limited success. The main exploration potential of the Union vein is in locating the western faulted offset segment of the vein, west of the Maple Leaf fault and under the Eocene conglomerate cover. This is a particularly attractive target in light of the metal zonation in the vein that suggests higher gold grades in the western part of the vein system. Four drill holes were drilled during 2004 to test for the western faulted offset of the vein, as described in Section 6 of this report. Drilling was successful in intersecting a zone of intense silicification/veining, sparsely mineralized with pyrite and was visually similar to portions of the Union vein exposed in old workings east of the Maple Leaf fault. Gold and silver values were only slightly elevated within the zone, however, to 135 ppb Au and 3.7 ppm Ag.

Maple Leaf Minfile 082ENE009

Two separate and geologically distinct zones of mineralization (the Maple Leaf zone and the Maple Leaf Crush zone) occur in the Maple Leaf area. The Maple Leaf showing, situated near the southern contact of a large body of Averill intrusive rocks with strongly hornfelsed sediments and volcanics of the Franklin Group, to the south, refers to the known Cu-PGE showings. Disseminated and massive poddy chalcopyrite, with associated (erratic) platinum and palladium mineralization, occurs in the coarse grained trachytic Averill syenite, along a northwest trending, steep west dipping shear zone. This area has been explored by an open cut and an adit, plus 10 diamond drill holes. A total of 36 tonnes averaging 7.6% Cu, 1.7 g/t Au and 172 g/t Ag was produced from the Maple Leaf zone in 1915-16. Elevated copper values (1000 - 5000 ppm) are common in rock chip samples and drill core from the Maple Leaf showing, however mineralized zones tend to be narrow (1-2 metres) and discontinuous. Anomalous platinum and palladium values are extremely erratic and associated only with very narrow zones of high grade copper mineralization. Drilling returned a maximum of 6.8 g/t Pt and 4.8 g/t Pd with 15.24% Cu, over 0.3 metres, very near surface in ddh 65-1.

The second area of mineralization, the Maple Leaf Crush zone, is located approximately 250 metres to the

north of the Maple Leaf showing, is a strong west-northwest trending, steeply north dipping fault zone. A strong gold soil anomaly was detected in the vicinity of the Maple Leaf Crush zone, by a wide spaced geochemical survey by Placer Dome in 1987 (Pinsent and Cannon, 1988), however there is little rock exposed across the Crush Zone. Excavator trenching during 2004 uncovered a zone, approximately 15 meters wide, with bleached, brecciated, chlorite-clay (+/- hematite) altered intermediate dykes cutting hematitic Averill syenite. Gold values are elevated within the altered dykes, to 510 ppb Au, with local higher values associated with narrow structures or veins. Copper and silver are also locally elevated, to 919 ppm Cu and to 8.7 ppm Ag. Previous drill intercepts include 0.5 m grading 25.9 g/t Au (ddh 86-7) and 3.0 m grading 6.8 g/t Au (ddh 86-16) from local zones of silicification/quartz veining. A single drill hole was drilled in 2004 to test the zone at depth, but returned no significant values.

Cabin Zone

The 1922 Minister of Mines Annual Report reports a shaft sunk about 12 metres and a crosscut driven for about 4.5 metres into a north striking, west dipping siliceous vein located near the cabins. Samples from the vein were reported to carry values in gold and silver, but not high enough for shipping purposes. During 2004, several samples were collected from the shaft dump, and one trench was dug to test this zone. No significant mineralization was discovered in the trench.

White Bear Minfile 082ENE057

A shaft and several pits have been dug about 200 metres east of the Gloucester road in the northeastern part of the Union property. The workings test pyritic Franklin Group greenstone, with local malachite staining, near the contact of the Franklin Group rocks with Averill syenite. Grab samples from the White Bear pits have returned elevated copper and silver values, to 0.58% Cu and 8.9 g/t Au (Caron, 2004a).

A north trending zone of silicification and vuggy quartz breccia occurs about 50 metres uphill and to the east of the White Bear shaft. The zone of silicification is hosted within arkosic sediments of the Eocene Kettle River Formation and is located about 1 kilometre on-strike to the north of the BX zone (described below). Three trenches were dug during the 2004 program to better expose the White Bear epithermal system for sampling. Trenching uncovered a 2.5 meter wide silicified/quartz breccia zone, and a series of north trending, steeply dipping faults, with associated widespread, pervasive strong argillic alteration, within the Eocene sediments. Narrow vuggy quartz veinlets occur locally within the argillic altered zones. Gold is elevated within the silicified zone, to a maximum of 320 ppb Au from samples collected from the 2004 trenches. A single diamond drill hole was drilled in 2004 to test the zone at depth. The hole intersected a series of narrow quartz veins and zones of argillic alteration, intermittently over a total zone width of about 50 meters, however there were no elevated values in gold or silver across the zone.

A major north trending fault zone roughly follows Gloucester Creek in the central part of the Union property and is marked by a zone of low apparent resistivity with several north to northeast trending conductors. A strong EM conductor was defined in the northern portion of the resistivity low, just east of Gloucester Creek and about 250 hundred metres west of the White Bear showing. The conductor was tested by drilling during the 2004 program and was attributed to graphitic shale within Eocene sediments.

Lucky Jack Minfile 082ENE056

Little information exists regarding the Lucky Jack showing, except that it is a "Black Lead" Cu-PGE occurrence. Historic workings consist of a short drift and a small shaft, located 60 metres to the east of the drift. The workings test chalcopyrite-pyrite mineralization in Averill pyroxenite. Three samples collected from the Luck Jack claim in 1918 returned anomalous platinum, to 2.74 g/t Pt Thomlinson (1920). Rock samples from this area have returned values to 3158 ppm Cu (Cunningham and Hajek, 1981) but 3 holes drilled in 1986 returned no significant results (Clark, 1987a,b).

Several old pits and trenches are also reported within Averill intrusive rocks, about 500 metres to the northeast of the main Lucky Jack workings. Rock samples from this area are elevated in copper, to 2420 ppb Cu, but without associated elevated platinum or palladium values (Pinsent and Cannon, 1988). A single station 430 ppb Au soil anomaly was identified by Placer's 1987 soil survey (40 metre sample spacing on 100 metre spaced north-south lines) a short distance east of these pits.

BX Zone

Epithermal style vuggy quartz breccia veining occurs along the Gloucester road, approximately 0.8 kilometres north of the bridge. The zone of veining trends north-south and is hosted in a carbonate altered intrusive. The BX zone is situated approximately 1 kilometre on-strike to the south of the quartz breccia zone at the White Bear and may be the on-strike continuation of the same zone. Rock samples from the BX zone collected during 2003 did not return any significant results (Caron, 2004a). Several single station gold soil anomalies (to 250 ppb Au) were detected in this area by a 1987 Placer Dome geochemical survey, however soil samples were collected at a 40 metre sample spacing on north-south oriented lines spaced 100 metres apart, and are not a good test for relatively narrow north-south trending mineralized zones.

Dane

The Dane showing is situated approximately 200 metres east of the Burrell Creek road and 1.1 kilometres southeast of the Union Mine, as shown on Figure 3. A series of pits, a trench and an adit test an irregular east-west trending, near vertical shear zone that cuts dirty limestone, siliceous tuff and quartzite of the Franklin Group. The shear zone is mineralized with minor pyrite and chalcopyrite. Copper and silver values are elevated in the shear zone, with grab samples returning values to 1.3% Cu and 42.3 g/t Ag (Cunningham and Hajek, 1981).

Little Minfile 082ENE004

The Little showing is situated at an elevation of about 1130 metres, approximately 1 kilometre east of Burrell Creek, in the southeastern portion of Solitaire's Union property (see Figure 3). Drysdale (1915) describes the showing as a Union-style crustiform quartz-calcite-siderite fissure vein with a very low sulfide content. The vein is hosted in Franklin Group sediments and volcaniclastics, near the contact with Nelson granodiorite and has been explored by way of an adit. Gold and silver grade are not documented and there is no reference to work done on this showing since Drysdale's mention of it in 1915.

Two other zones of mineralization (Crystal Copper and MS) are situated very near to the Union property boundary, as shown on Figure 3 and described below. Only a limited amount is known about either of these areas.

Crystal Copper and MS

The Crystal Copper and MS showings are shown on Drysdale's 1915 geology map of the Franklin Camp and described as contact metasomatic (skarn) zones near the contact of Nelson granodiorite with epidote-chlorite altered volcanics of the older Franklin Group. An short adit and old pit are situated just west of the old Union mine road, near the western boundary of Solitaire's Union property (between the Al #10 claim and the adjoining Al #8 claim to the west). The old workings test magnetite-pyrrhotite-pyrite mineralization within Franklin Group volcanics. Rock samples from this area returned values to 2872 ppm Cu, and to 27.9 ppm Ag and 1893 ppb Au (Caron, 2004a). A short distance southwest of these workings, the hillside is riddled with old pits testing an area of propylitic Franklin Group volcanics, but no significant results are reported. The host rocks and style of mineralization have some similarity to the IXL area.

5.0 ROCK SAMPLING & TRENCHING (Figures 4 - 8)

5.1 Rock Sampling

A small prospecting and rock sampling program was completed on the Union property during August 2004, to assess targets for follow-up trenching. Eighteen rock samples were collected, as shown on Figures 4 and 5. Prospecting and rock sampling was carried out by Linda Caron and John Kemp. Rock sample descriptions are contained in Appendix 1a, and sample locations are shown on Figures 4 and 5.

Samples were shipped to Eco Tech Labs in Kamloops for analysis for Au plus a multi-element ICP suite. Assays were done for samples returning over-limit values of Au, Ag, Cu, Pb, or Zn. Details of the analytical procedures are contained in Appendix 3a. Complete analytical results are included in Appendix 2a, and results for select elements are shown in Table 2 below, and on Figures 4 and 5.

Sample #	Target	Au	Ag	As	Cu	Mo	Pb	Sb	Zn
		ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
7901	Cabin	5	<0.2	15	21	18	18	<5	91
7902	Cabin	25	0.2	30	49	<1	18	<5	108
7903	Cabin	5	<0.2	<5	15	17	12	<5	48
7904	Cabin	10	0.8	25	456	217	14	<5	32
7905	Cabin	5	1.1	170	78	10	58	<5	488
7906	Maple Leaf Crush	<5	0.6	<5	85	6	1146	<5	52
7907	Maple Leaf Crush	75	18.8	<5	6231	2	3.26%	<5	3443
7908	Maple Leaf Crush	35	1.0	<5	148	7	370	<5	994
7909	Maple Leaf Crush	225	424.0	520	7.77%	120	6.21%	235	1286
7910	Maple Leaf Crush	135	94.3	215	7360	165	2.36%	200	6.43%
7911	Maple Leaf Crush	3.06 g/t	16.8	<5	30	<1	56	<5	80
7912	White Bear Epithermal	45	0.5	<5	15	24	50	<5	57
7913	White Bear Epithermal	120	0.3	<5	9	30	92	<5	23
7914	White Bear Epithermal	145	0.5	<5	11	20	24	<5	29
7915	White Bear Epithermal	25	0.7	5	17	79	38	<5	52
7916	White Bear Epithermal	15	<0.2	5	12	1	22	<5	76
7917	White Bear Epithermal	265	0.9	<5	8	38	46	<5	25
7918	White Bear Epithermal	20	0.5	<5	6	37	10	<5	13

Table 2 - Rock Sample Results

Five samples (7901-7905) were collected from Cabin Zone shaft dump. This shaft was reported to have been dug on a siliceous vein carrying values in gold and silver, however samples collected during the 2004 program were not anomalous in gold or silver. One sample did have elevated arsenic (170 ppm As) and a second sample was slightly elevated in copper (456 ppm Cu) and molybdenum (217 ppm Mo). A single excavator trench was later dug to test this area, without success, as described in the following section of this report.

There is limited rock exposure across the Maple Leaf Crush Zone, however six samples (7906-7911) were collected from old pits in this general area. One sample (7911) returned 3.06 g/t Au from bleached, pyritic-siliceous rock on the dump of an old pit. This area was later trenched as Trench MLC04-4. Two samples (7909, 10) were collected from the dump of an old shaft that had been dug on a narrow quartz vein. The

quartz vein is well mineralized with chalcopyrite, sphalerite, galena and pyrite, returning values to 7.8% Cu, 6.2% Pb, 6.4% Zn, 424 ppm Ag and 225 ppb Au (+ elevated As, Mo, Sb) from grab samples of the vein. This area was later trenched as Trench MLC04-3. Finally, three samples (7906-8) were collected from several old pits within the Crush Zone gully, just east of the access road. Grab samples from cobbles of semi-massive sulfides on the dumps of the old pits returned values to 0.62% Cu, 3.26% Pb, 0.34% Zn and 18.8 ppm Ag. Trench MLC04-1 was later dug to better test this zone. Results from trenching are described in Section 5.2 of this report.

The White Bear epithermal zone was poorly exposed in outcrop, however seven samples (7912-18) were collected from float or subcrop. Gold and silver were elevated, to 265 ppb Au and 0.9 ppm Ag. Molybdenum was also anomalous, to 79 ppb Mo. Three trenches dug during 2004 to better expose the White Bear zone for sampling, as described below.

5.2 Trenching

An excavator trenching program was completed on the Union property during September-October 2004. Trenching was carried out using a Hitachi EX300LC-3 excavator owned by Lime Creek Logging of Grand Forks and operated by Henry Funk. Trenching was done in 4 discrete areas, the Maple Leaf Crush Zone, the Cabin Zone, the White Bear epithermal zone and the Gloucester Creek EM conductor. A total of 350 lineal meters of trenching was done in 11 trenches, as shown on Figures 4 and 5. The program was supervised by Linda Caron.

Trenches were dug to bedrock and then hand-mucked, mapped and laid out for sampling. Overburden depth ranged from less than 1 meter to in excess of 8 meters, depending on the underlying lithology and degree and type of alteration. Geological mapping and sample supervision was done by Linda Caron. Detailed trench maps are included as Figures 6-8.

Trench mucking and sampling was completed by Cody Cook and John Kemp, of Rainbows Exploration Services Ltd. A total of 103 samples were collected from the trenches and shipped to Eco Tech Labs in Kamloops for preparation and analysis for Au plus a multi-element ICP suite. Complete analytical results for trench samples are included in Appendix 2a and analytical procedures are described in Appendix 3a. Sample locations, sample widths and results for select elements are shown on Figures 6-8. Significant results* are also tabulated below (Table 3). Unless indicated, all of the reported results are based on continuous channel samples collected across the exposed width of the mineralized zones.

Sample	Target	Au	Ag	Cu	Pb	Zn
		ppb	ppm	ppm	ppm	ppm
7990	Maple Leaf Crush Zone	510	3.2	85	16	34
8003+	Maple Leaf Crush Zone	190	180	6.67 %	2.67 %	3.27 %
8004+	Maple Leaf Crush Zone	90	73.9	1.72 %	1.42 %	8.88 %
8008	Maple Leaf Crush Zone	1.7 g/t	23.2	53	42	64
8009	Maple Leaf Crush Zone	690	3.3	47	22	26
8011	Maple Leaf Crush Zone	2.41 g/t	12.4	138	34	60
8014	Maple Leaf Crush Zone	640	1.1	20	18	46

Table 3 - Anomalous Trench Sample Results

* results for samples returning > 500 ppb Au, or > 10 ppm Ag, or > 1000 ppm Cu, Pb or Zn are included in Table 3.
+ grab sample

Trenching was done in four discrete areas, as follows:

White Bear Zone (Figures 5, 6)

Three trenches (WB04-1 to WB04-3) were dug to better expose a zone of epithermal silicification and quartz breccia within Eocene conglomerate and arkose, as shown on Figures 4 and 6. Previous grab samples from float and very limited outcrop of the zone had returned elevated gold values from the zone. Trenching tested the system over a strike length of approximately 75 meters. A strongly silicified/quartz breccia zone, 2.5 meters in true thickness, was discovered in Trench WB04-1. Trenching also uncovered a series of north trending, steeply dipping faults, with associated widespread, pervasive strong argillic alteration, within the Eocene sediments. Narrow vuggy quartz veinlets occur locally within the argillic altered zones. Gold was only weakly enriched, to a maximum of 320 ppb Au. A single drill hole was subsequently drilled to test the White Bear epithermal system at depth, as described in the following section of the report.

Gloucester Creek Zone (Figure 5)

The 2002 Fugro airborne geophysical survey of the property showed a very strong north-south trending EM conductor along Gloucester Creek. A second weaker conductor parallels the first, about 100 meters to the east. One trench and one test pit were dug in an attempt to test eastern conductor, as shown on Figure 5. Overburden thickness exceeds 8 meters in this area; neither trench was successful in reaching bedrock. The western conductor was subsequently drilled, as described in Section 6.0.

Maple Leaf Crush Zone (Figures 4, 8)

Five trenches (MLC04-1 to 04-5) were dug at the Maple Leaf Crush Zone where previous wide spaced drilling had returned anomalous intercepts including 0.5 meters @ 25.9 g/t Au, 3.0 meters @ 6.8 g/t Au and 2.7 meters @ 3.25 g/t Au and where rock sampling earlier in 2004 had shown anomalous values of Au, Ag, Cu, Pb, and Zn from the dumps of several old pits. Trenching tested the Crush Zone over a strike length of approximately 150 meters. The zone was widest and most intense in the westernmost trench, Trench MLC04-1, where it measured 24 meters in true thickness. A series of bleached, brecciated, chlorite-clay (+/- hematite) altered intermediate dykes cut hematitic (+ albitic, silicified) Averill syenite within the fault zone.

Trenching showed that gold values are elevated across the Crush Zone, typically in the range of 100-300 ppb Au, and to a maximum of 510 ppb Au. Copper and silver are also fairly consistently elevated within the zone, typically in the range of 1-4 ppm Ag and 100-600 ppm Cu, to a maximum of 8.7 ppm Ag and 919 ppm Cu. Higher precious and base metal values are locally associated with narrow structures or veins within (or adjacent to) the wider fault zone. A zone of silicification and pyrite mineralization along a narrow fault in Trench 04-4 returned 2.41 g/t Au and 12.4 ppm Ag and a narrow quartz vein in Trench 04-3, south of the Crush Zone, returned values to 6.67% Cu, 2.67% Pb, 8.88% Zn, 180 ppm Ag and 190 ppb Au. A single drill hole was subsequently drilled to test the Maple Leaf Crush Zone at depth, as described in the following section of the report.

Cabin Zone (Figures 4, 7)

One trench (CAB04-1) was dug to test for mineralization at the Cabin Zone, where an old shaft, now caved, was reported to have tested mineralization that was similar in appearance to the Union Vein, and "carried values in gold and silver, but not high enough for shipping purposes". No significant mineralization was discovered in the trench, however trenching was successful in exposing the surface trace of the (post-mineral) Maple Leaf fault.

All trenches have been backfilled, reseeded, and any timber disturbed has been bucked and scattered.

6.0 DIAMOND DRILLING (Figures 4, 5, 9 - 13)

A 7 hole, 5391 foot (1643 m) diamond drill program was completed on the Union property during October-November 2004. Drilling tested 4 separate targets, as described below. Holes 04-1 to 04-5 were NQ2 holes drilled by Atlas Drilling of Kamloops, B.C., while Holes 04-6 and 04-7 were NQ holes drilled by Lone Ranger Diamond Drilling of Lumby, B.C.

Drill hole locations are shown on Figures 4 and 5 and drill hole specifications are listed below in Table 4. None of the drill collars have been surveyed. All drill collars have been marked with posts and metal tags indicating hole number, azimuth, dip and hole depth. The casing was pulled from all of the drill holes, with the exception of holes 04-3 and 04-5.

For holes 04-1 to 04-3, water for drilling was hauled from Burrell Creek, under contract by Kettle River Management. After hitting water in hole 04-3, this hole was used as a water source for drilling holes 04-4 and 04-5. Water for drilling holes 04-6 and 04-7 was pumped from Gloucester Creek.

Drill Hole	Collar*		Azimuth	Dip	Elev. (m)	Depth	Samples	Target
	Easting	Northing			(approx.)	meters		
Union 04-1	401355	5490473	000º	-50º	1180	102.41	3001-3003	to test for Union vein west of Maple Leaf fault
Union 04-2	401505	5490675	210º	-50º	1152	270.05	3004-3013	to test for Union vein west of Maple Leaf fault
Union 04-3	401393	5490547	005º	-50º	1163	361.45	3014-3033	to test for Union vein west of Maple Leaf fault
Union 04-4	401421	5490592	000º	-50º	1160	202.97	3034-3061	to test silic'd zone in hole 04-3 approx 65 meters higher in elev
Union 04-5	401740	5491060	000º	-50º	1180	282.21	3062-3105	Maple Leaf Crush Zone at depth
Union 04-6	402535	5492200	090º	-50º	907	193.52	3106-3127	Gloucester Ck airborne EM conductor
Union 04-7	403010	5492272	090º	-60º	990	230.4	3128-3178	White Bear epithermal zone at depth

* coordinates listed are UTM Nad 83, Zone 11

Table 4 - Diamond Drill Hole Specifications

Drill core was transported daily to Grand Forks, for logging and sawing. Holes 04-1, 04-2 and part of hole 04-3 were logged and marked for sampling by Jim Kermeen, while the remaining holes were logged by Linda Caron. Diamond drill logs are contained in Appendix 4 and drill hole sections are included as Figures 9-13. Drill core is currently stored at John Carson's residence, at 7225 North Fork Road, Grand Forks.

Intervals selected for sampling were sawn, with half of the core submitted for sampling and half of the core retained for reference. A total of 178 drill core samples were collected and shipped to Eco Tech

Laboratories in Kamloops for gold and multi-element ICP analyses. Details of analytical procedures are contained in Appendix 3a. Complete analytical results are included in Appendix 2b and results for select elements are included in the drill logs (Appendix 4) and on drill sections (Figures 9-13). Analytical results from the 2004 drill program were generally disappointing.

Quality control measures were employed, including company inserted standards and blanks. Standard and blank samples are clearly identified on drill logs and sections. A standard sample and a blank sample were inserted after approximately every 20th core sample collected. For blanks, a large quantity of fresh Coryell syenite was collected from a road outcrop on the property. Several fist-sized pieces of this rock were used for blank material, so that each blank sample required crushing and pulverized in the sample sequence. Two different gold standards, a higher grade standard and a lower grade standard, were obtained from CDN Resource Labs in Vancouver. Each standard consisted of approximately 30 grams of pulverized material. The high grade and low grade standards were used alternately. Reference information regarding the standards, including the origin and assay grade of the sample, is contained in Appendix 3b.

Holes 04-1 to 04-4 were drilled at the West Union target, in an attempt to locate the western faulted offset of the Union Vein, west of the Maple Leaf fault and beneath post-mineral sedimentary cover. Drilling in this area is hindered by the very steep topography, which physically limits where the drill can be set up, and by poor ground conditions associated with the Eocene unconformity.

Hole 04-1 was collared at the southern-most drill site and was drilled due north. The hole intersected 96 meters of unmineralized post-mineral Eocene sediments (a vertical thickness of approximately 74 metres) before passing through a major unconformity into Franklin Group volcanics and sediments (the prospective host rocks for the Union vein). Despite attempting to reduce from NQ2 to BQ core, the hole had to be abandoned just below the unconformity, before testing its target area, due to severe drilling problems resulting from poor ground conditions associated with the unconformity.

Hole 04-2 was collared approximately 270 meters to the northeast of hole 04-1, and was angled back towards the hole 04-1 site to test the prospective ground that hole 04-1 failed to test. Hole 04-2 successfully penetrated the unconformity between the post-mineral sediments and the prospective Franklin host rocks at a depth of approximately 121 meters in the hole. The hole was drilled for a further 149 meters through Franklin volcanics and sediments, to a total depth of 270 meters. It failed to encounter any significant mineralization.

Hole 04-3 was then drilled to test for the Union vein, north of the section tested by Hole 04-2. After successfully drilling through the unconformity at a depth of 125 meters in the drill hole, hole 04-3 intersected a thick sequence of Franklin volcanics and sediments. A zone of intense silicification/veining was intersected from 255.12 - 257.62 meters in the drill hole. This zone is sparsely mineralized with pyrite and is visually similar to portions of the Union vein exposed in old workings east of the Maple Leaf fault. Gold and silver values were only slightly elevated within the zone, however, to 135 ppb Au and 3.7 ppm Ag. The drill hole was drilled to a depth of 361 meters without encountering any further mineralization.

Drill hole 04-4 was drilled to test the silicified zone at a point approximately 65 meters higher in elevation than where intersected by hole 04-3. The zone was intersected at a very low core angle and was much narrower than in hole 04-3, with no elevated gold or silver values. Two samples of hematitic volcanic breccia with minor pyrite from hole 04-4 did return moderately anomalous silver values (22.8 and 7.3 g/t Ag).

Hole 04-5 was drilled to test the Maple Leaf Crush Zone at a depth of 180 meters vertically below surface, to test for a possible vertical zonation in gold within the zone. The “Crush Zone” had a true width of about

14.5 meters where intersected in hole 04-5, but was only weakly mineralized with pyrite. There were no elevated gold and silver values. A narrow interval of syenite did return elevated copper (0.21% Cu over 0.34 m)

Hole 04-6 tested a strong north-trending EM conductor along Gloucester Creek, in an area that could not be explored by trenching because of deep overburden cover. The EM conductor was attributed to black graphitic shale in Eocene sediments. No significant mineralization was encountered in the hole.

The final drill hole, hole 04-7, tested the White Bear epithermal zone at depth. Trenching had exposed a strong north-trending silicified zone in Eocene sediments which had returned weakly elevated gold values. Hole 04-7 was drilled to test for the possibility of a vertical zonation to gold and silver within the zone and was designed to intersect the zone at a vertical depth of about 130 meters below surface. The hole intersected a series of narrow quartz veins and zones of argillic alteration, intermittently over a total zone width of about 50 meters. Samples failed to return any elevated values of gold or silver. Copper values were elevated in samples of 'skarny' Franklin volcanics near the top of the drill hole.

7.0 CONCLUSIONS & RECOMMENDATIONS

The 2004 exploration program tested five discrete targets on the Union property, the Cabin Zone, Gloucester Creek EM conductor, White Bear epithermal zone, Maple Leaf Crush Zone and western faulted extension of the Union vein. In general, assay results were disappointing.

Rock sampling and trenching at the Cabin Zone failed to uncover any significant mineralization and no further work on this target is recommended.

The Gloucester EM conductor was tested by diamond drilling and was found to be a result of graphitic shale in Eocene sediments that fill the Gloucester Creek valley. No further work is warranted on this target.

Trenching at the White Bear epithermal zone returned elevated gold values, to 330 ppb Au from a silicified/quartz breccia zone in Eocene sediments. Drill hole 04-7 was drilled to test for the possibility of a vertical zonation to gold and silver within the zone and was designed to intersect the zone at a vertical depth of about 130 meters below surface. The hole intersected a series of narrow quartz veins and zones of argillic alteration, intermittently over a total zone width of about 50 meters, however samples failed to return any elevated values of gold or silver. Despite the lack of encouraging results at the White Bear zone, this is relatively newly discovered style of mineralization on the property which is under-explored for in the Franklin Camp. Given the significance of this type of mineralization elsewhere in the Boundary District and the favorable structural setting on the Union property, detailed prospecting is warranted to further explore the claims for epithermal gold mineralization. Previous soil geochemical surveys on the property are a poor test for this target, given the wide line-spacing and the orientation of lines parallel to the epithermal zones.

Trenching showed that gold values are elevated across the Maple Leaf Crush Zone, typically in the range of 100-300 ppb Au. Copper and silver are also fairly consistently elevated within the zone, typically in the range of 1-4 ppm Ag and 100-600 ppm Cu. Higher precious and base metal values are associated with narrow structures or veins within (or adjacent to) the wider fault zone but are quite restricted. A single drill hole was drilled to test the Maple Leaf Crush Zone at a vertical depth of about 180 meters, to test for a possible increase in grade with depth, without success. No further work is warranted on the western portion of the Crush zone. That said, the zone appears to extend some 300 meters downhill to the east. Given the elevated gold values within the Crush Zone, this eastern portion of the zone should be prospected in detail and close-spaced soil sampling should be done to assess the potential for areas of stronger mineralization.

Four diamond drill holes were drilled at the West Union target, in an attempt to locate the western faulted offset of the Union Vein, west of the Maple Leaf fault and beneath post-mineral sedimentary cover. Drilling in this area is hindered by the very steep topography and by poor ground conditions associated with the Eocene unconformity. Drilling was successful in intersecting a zone of silicification, which may represent the off-faulted extension of the vein, however gold and silver values were only slightly elevated within the zone, to 135 ppb Au and 3.7 ppm Ag. The zone was intersected at a very low core angle and would be better tested with south-directed drill holes. Additional drilling is warranted to test the zone on strike to the west.

Prospecting should also be done to re-locate and assess the Dane and Little showings, which were untested during the 2004 program.

8.0 STATEMENT OF QUALIFICATIONS

I, Linda J. Caron, certify that:

1. I am an independent consulting geologist residing at 717 75th Ave (Box 2493), Grand Forks, B.C., V0H 1H0

2. I obtained a B.A.Sc. in Geological Engineering (Honours) in the Mineral Exploration Option, from the University of British Columbia (1985) and graduated with an M.Sc. in Geology and Geophysics from the University of Calgary (1988).

3. I have practised my profession since 1987 and have worked in the mineral exploration industry since 1980. Since 1989, I have done extensive geological work in Southern B.C. and particularly in the Greenwood - Grand Forks area, both for exploration companies and as an independent consultant.

4. I am a member in good standing with the Association of Professional Engineers and Geoscientists of B.C. with professional engineer status.

5. I supervised the 2004 exploration program described in this report, and completed geological work on the property, including mapping trenches and logging drill core.

6. I have no direct or indirect interest in the property described herein, or in the securities of Solitaire Minerals Corp. nor do I expect to receive any.

Linda Caron, M.Sc., P. Eng. Date

10.0 COST STATEMENT

Labour			
Linda Caron, Geologist	geological mapping, core logging, trench mapping, program supervision, report preparation		
	50 days @ $450/day	$ 22,500.00	
Jim Kermeen, Geologist	core logging		
	9 days @ $450/day	$ 4,050.00	
John Boutwell, Prospector	prospecting, reclamation, drill layout and supervision		
	21 days @ $250/day	$ 5,250.00	
Afreda Elden, Prospector	core cutting, reclamation		
	16.5 days @ $200/day	$ 3,300.00	
Rainbows Exploration Services: trench mucking & sampling		$ 2,675.00	
		$ 37,775.00	
Analytical Costs			
Eco Tech Labs, Kamloops	121 rock & trench samples, 178 drill core samples	$ 8,222.50	
	Analysis for Au + 34 element ICP + select Au, Ag, Cu, Pb, Zn assays. Costs include shipping.		
CDN Resource Labs, Vancouver	drill core standards	$ 187.82	
		$ 8,410.32	
Trenching (including backfilling trenches, reclaiming roads)			
Lime Creek Logging Ltd., Grand Forks, B.C.			
Hitachi EX300LC-3 Excavator	87.5 hours @ $166.27/hr	$ 14,548.63	
	mob/demob	$ 1,200.54	
		$ 15,749.17	
Diamond Drilling			
Lone Ranger Diamond Drilling, Lumby, B.C.			
	427 meters NQ drilling @ $73.32/meter all-in cost (incl mob/demob)	$ 31,306.76	
Atlas Drilling, Kamloops, B.C.			
	1219 meters NQ2 drilling @ $89.55/meter all-in cost (incl mob/demob)	$109,165.58	
Kettle River Management Ltd. Grand Forks (Water Haul for holes 04-1 to 04-3)		$ 22,620.00	
		$163,092.34	
Expenses			
Food, accommodation		$ 1,953.69	
Fuel		$ 1,180.87	
Chainsaw rental	5 days @ $50/day		$ 250.00
Core saw blades - Pothier Enterprises		$ 1,012.22	
Vehicle rental	71 days @ $50/day	$ 3,550.00	
Kettle River Management - core shack rental & expenses, core saw rental			$ 1,677.78
Freeman's Farm Supply - grass seed for reclamation		$ 318.09	
Misc. field supplies & shipping costs (Deakin, Greyhound, etc)		$ 713.40	
Wildrock Resources - drafting & map copying for report		$ 1,345.00	
Report copying & binding		$ 160.00	
		$ 12,161.05	
	Total:	**$237,187.88**	

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APPENDIX 1

Rock Sample Descriptions

Sample #	UTM Nad 83 Northing	Easting	Area	Type	Description
7901	5490685	401675	Cabin Zone	grab	Shaft ~ 40 m south of Maple Leaf cabin, on W side of road dug on siliceous quartz bx zone, possibly trends 360/80E, but not clear. Dirty grey-pale green-white colour, v hard with 50-80% angular - sub round grey aphanitic siliceous frags to 0.5-3 cm with qtz/silic'd gmass and with 1-2% diss py. Locally gmass is pale green, chloritic (less siliceous). Zone appears to trend essentially along the trace of the Maple Leaf fault (Eocene seds on W, Franklin volcs/seds on E). Samples 7901, 7902 are qtz bx from dump.
7902	5490685	401675	Cabin Zone	grab	See 7901. Tr gal.
7903	5490685	401675	Cabin Zone	grab	Same loc as 7901, 7902. Sample 7903 is probable host rock to silic bx zone. Dark green-maroon, calcareous Franklin Group volcanics with weak-mod ep-hem alt'n and with 2% diss py. Mod silic'd and bx'd.
7904	5490685	401675	Cabin Zone	grab	Same loc as 7901-03. Strong siliceous epidote-hematite skarned Franklin volcanics with 5-10% poddy massive py from dump of shaft.
7905	5490665	401700	Cabin Zone	grab	SE of Cabin Zone shaft, on E side of Maple Leaf road is 15 m long E-W trending trench. Trench is mostly sloughed but some angular boulders in floor of trench of med-dark grey siliceous bx - poss crackled chert. Minor diss py.
7906	5491150	401710	Maple Leaf Crush Zone	grab	2x2x1.5 m deep pit, ~ 5 m E of main drill road in Crush Zone gully. Hematitic syenite with weak malachite stain and local irregular patchy silic'd & bleached zones with minor diss py and tr gal.
7907	5491150	401710	Maple Leaf Crush Zone	grab	Same loc as 7906. Select grab of quartz vein/silic'd zone with 3-5 cm quartz vn in intensely silic'd syenite. Poddy gal-sphal + py, to 10% sulfides. Tr mal stain. Vein trends ~ 000/10W.
7908	5491140	401730	Maple Leaf Crush Zone	grab	Two 2x2x2m pits aligned N-S across Crush Zone gully, ~ 20 m E of 7906,7. Pits are in weak-mod silic'd, hematitic crushed syenite. Sample 7908 is pale grey intensely silicified zone/vn in syenite exposed in pit. Zone trends 010/60E, poss 30 cm wide but not well exposed. 5% fine diss py, tr gal, cpy.
7909	5491105	401790	Maple Leaf Crush Zone	grab	Old shaft and caved adit (Upper Maple Leaf workings in old Annual Reports). Same sample location as JB026, 027. Workings are in crushed, sheared hematitic + silic'd or chl syenite (+/- bladed Kspar phenos) with minor py, cpy. Sample 7909 is strongly oxidized semi-massive sulfides from dump (gal, sphal, py, cpy).
7910	5491105	401790	Maple Leaf Crush Zone	grab	See 7909. Sample 7910 is white quartz with 10% coarse poddy gal + sphal + lesser py, cpy. Vein is locally vuggy with drusy quartz xtals. See multiple veins of various orientations in pits - weak stockwork? One 10 cm vein in place in workings has orientation of 065/40N. Shear zone at portal of caved adit trends 020/60E.
7911	5491150	401880	Maple Leaf Crush Zone	grab	2x2x1.5 m deep pit in Maple Leaf Crush Zone gully. Same sample site as JB186. V rusty weathering, pale pink-grey, mod-str silic'd Averill syenite with 5-10% v fine grey py as semi massive patches.

Sample #	UTM Nad 83 Northing	Easting	Area	Type	Description
7912	5492280	403060	White Bear Epithermal Zone	grab	Outcrop on mod-steep W facing hillside, ~ 30-40 m E of White Bear pit. Silicified/quartz bx zone in Kettle River pebble conglomerate is exposed for ~ 10 m in outcrop. Zone trends 000/? (poss 80E dip but contacts not well exposed). Moderately silicified conglomerate with 10-30% late vuggy quartz veinlets to 4 mm define weak-mod bx texture.
7913	5492280	403060	White Bear Epithermal Zone	grab	Same location as 7912. Sample 7913 has 2 cm white chalcedonic quartz vein in silic'd conglom.
7914	5492295	403060	White Bear Epithermal Zone	grab	Float or subcrop ~ 15 m north of 7912,13, along strike. Rose coloured, hematitic, silicified pebble conglom with 10-20% late vuggy quartz veinlets.
7915	5492310	403060	White Bear Epithermal Zone	grab	Outcrop ~ 10 m N of 7914, on strike of epithermal zone. Silicified, veined outcrop of Kettle River conglomerate. Bleached, buff coloured silicified arkosic gmass with dark grey argillaceous cobbles that are cut by 10-20% vuggy quartz veinlets.
7916	5492340	403060	White Bear Epithermal Zone	grab	Subcrop ~ 25 m N of 7915, on strike of epithermal zone. Buff-grey siliceous arkose. Hard to tell if this is silic'd or whether quartz is primary grains. Rusty speckled weathering, poss after dissem py. Note: GPS readings are not good, due to heavy forest cover. Chained back from 7916 to 7912 = 55 meters.
7917	5492265	403030	White Bear Epithermal Zone	float	Boulders of epithermal quartz float by upper White Bear pit (in dark greey skarny Franklin volcs with poddy py + minor cpy). Silicified conglom with late vuggy quartz veinlets define weak-mod bx texture. Same as 7912,13 and likely from that outcrop.
7918	5492400	402840	White Bear Epithermal Zone	float	Several v large epithermal silic'd, vn'd boulders in Kettle River pebble conglomerate at road junction on Glouchester (3 way junction). Intense silicification & vuggy + chalcedonic quartz veining, to 30%.

APPENDIX 2a

Analytical Results - Rock and Trench Samples

10-Sep-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1100

Values in ppm unless otherwise reported

Solitaire Minerals Corp.
1788 - 650 W. Georgia St.
Vancouver, BC
V6B 4N8

Attention: Charles Desjardins

No. of samples received: 18
Sample type: Rock
Project: Union
Samples Submitted by: Linda Caron

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	7901	5	<0.2	0.34	15	10	<5	1.25	<1	4	163	21	1.65	<10	0.40	382	18	<0.01	14	180	18	<5	<20	94	<0.01	<10	23	<10	2	91
2	7902	25	0.2	0.43	30	<5	<5	5.28	<1	11	144	49	2.41	<10	0.58	1153	<1	<0.01	22	20	18	<5	<20	187	<0.01	<10	23	<10	6	108
3	7903	5	<0.2	1.30	<5	40	<5	8.20	<1	9	139	15	3.94	<10	1.15	2072	17	0.01	41	880	12	<5	<20	205	0.03	<10	74	<10	9	48
4	7904	10	0.8	1.06	25	50	<5	>10	<1	30	119	456	7.02	20	0.70	2235	217	<0.01	85	940	14	<5	<20	344	0.06	<10	39	<10	8	32
5	7905	5	1.1	1.43	170	60	<5	4.68	2	16	152	78	2.89	<10	1.13	1258	10	0.06	41	590	58	<5	<20	47	0.03	<10	81	<10	8	488
6	7906	<5	0.6	0.19	<5	325	<5	0.14	<1	5	148	85	3.72	20	0.07	34	6	<0.01	5	600	1146	<5	<20	71	0.02	<10	27	<10	2	52
7	7907	75	18.8	0.11	<5	115	<5	0.11	57	3	148	6231	1.05	<10	0.03	175	2	<0.01	3	770	>10000	<5	<20	33	0.02	<10	43	<10	1	3443
8	7908	35	1.0	0.14	<5	100	<5	4.28	10	11	134	148	2.95	20	0.42	2351	7	<0.01	13	700	370	<5	<20	165	<0.01	<10	10	<10	3	994
9	7909	225	>30	0.13	520	100	<5	0.04	21	<1	152	>10000	>10	20	0.32	<1	120	<0.01	84	>10000	>10000	235	<20	70	<0.01	<10	21	<10	<1	1286
10	7910	135	>30	0.13	215	465	<5	0.15	963	<1	179	7360	2.05	<10	0.06	171	165	<0.01	23	<10	>10000	200	<20	155	<0.01	<10	46	<10	2	>10000
11	7911	>1000	16.8	0.10	<5	55	<5	0.02	<1	47	140	30	>10	60	0.14	<1	<1	<0.01	4	660	56	<5	<20	<1	<0.01	<10	1	<10	<1	80
12	7912	45	0.5	0.12	<5	1365	<5	0.03	<1	3	177	15	0.87	20	0.02	209	24	<0.01	7	160	50	<5	<20	54	<0.01	<10	3	<10	<1	57
13	7913	120	0.3	0.14	<5	1860	<5	0.04	<1	3	185	9	0.69	20	0.02	112	30	<0.01	6	130	92	<5	<20	52	<0.01	<10	3	<10	<1	23
14	7914	145	0.5	0.18	<5	1905	<5	0.05	<1	3	188	11	0.67	30	0.02	119	20	<0.01	6	180	24	<5	<20	48	<0.01	<10	3	<10	<1	29
15	7915	25	0.7	0.21	5	1405	<5	0.08	<1	6	168	17	1.40	30	0.03	322	79	<0.01	8	370	38	<5	<20	91	<0.01	<10	5	<10	3	52
16	7916	15	<0.2	0.43	5	200	<5	0.46	<1	4	106	12	1.80	80	0.11	324	1	0.03	6	640	22	<5	<20	44	<0.01	<10	7	<10	6	76
17	7917	265	0.9	0.19	<5	1335	<5	0.07	<1	3	189	8	0.76	40	0.02	145	38	<0.01	7	240	46	<5	<20	37	<0.01	<10	3	<10	2	25
18	7918	20	0.5	0.14	<5	265	<5	0.05	<1	2	187	6	0.91	30	0.02	35	37	<0.01	7	170	10	<5	<20	65	<0.01	<10	5	<10	2	13
QC DATA:																														
Repeat:																														
1	7901	5	0.3	0.24	10	10	<5	1.22	<1	3	170	23	1.66	<10	0.38	384	16	<0.01	12	210	16	<5	<20	96	<0.01	<10	20	<10	1	100
Resplit:																														
1	7901	5	0.2	0.34	15	5	<5	1.37	<1	4	159	21	1.70	<10	0.41	388	16	<0.01	14	180	16	<5	<20	100	<0.01	<10	23	<10	2	101
Standard:																														
GEO '04		135	1.5	1.72	60	150	<5	1.81	<1	21	60	83	3.88	<10	0.95	670	<1	0.03	30	670	22	<5	<20	45	0.11	<10	64	<10	9	73

JJ/kk
df/1184r
XLS/04

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

CERTIFICATE OF ASSAY AK 2004-1100

Solitaire Minerals Corp. 10-Sep-04
1788 - 650 W. Georgia St.
Vancouver, BC
V6B 4N8

Attention: Charles Desjardins

No. of samples received: 18
Sample type: Rock
Project: Union
Samples Submitted by: Linda Caron

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	Cu (%)	Pb (%)	Zn (%)
7	7907						3.26	
9	7909			424	12.37	7.77	6.21	
10	7910			94.3	2.75		2.36	6.43
11	7911	3.06	0.089					
QC DATA:								
Repeat:								
7	7907						3.21	
11	7911	2.89	0.084					
Standard:								
OXE21		0.61	0.018					
Pb104				104	3.03	0.42	0.99	1.47

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/jm
XLS/04

18-Oct-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1493

Solitaire Minerals
1788-650 W. Georgia St
Vancouver, BC
V6B 4N8

Attention: Charles Desjardins

No. of samples received: 37
Sample type:Rock
Project: Union
Submitted by: Linda Caron

Values in ppm unless otherwise reported

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	7919	20	0.2	0.26	<5	695	<5	0.13	<1	<1	75	6	0.70	30	0.02	299	5	<0.01	3	370	8	<5	<20	33	<0.01	<10	3	<10	6	19
2	7920	80	0.3	0.19	<5	885	<5	0.07	<1	<1	91	4	0.36	30	0.01	44	8	<0.01	3	220	22	<5	<20	42	<0.01	<10	2	<10	3	6
3	7921	320	0.3	0.21	<5	805	<5	0.07	<1	<1	72	6	0.55	30	0.02	91	9	<0.01	3	240	46	<5	<20	39	<0.01	<10	3	<10	3	11
4	7922	305	0.4	0.21	<5	965	<5	0.08	<1	<1	100	6	0.55	30	0.01	214	9	<0.01	3	250	26	<5	<20	30	<0.01	<10	2	<10	2	17
5	7923	95	0.3	0.26	5	495	<5	0.08	<1	<1	107	8	0.77	30	0.02	127	9	<0.01	4	320	46	<5	<20	36	<0.01	<10	4	<10	2	23
6	7924	70	0.3	0.24	<5	625	<5	0.07	<1	<1	111	7	0.64	20	0.02	119	14	<0.01	4	240	78	<5	<20	38	<0.01	<10	4	<10	2	10
7	7925	85	0.2	0.19	<5	1095	<5	0.05	<1	<1	109	5	0.54	30	0.01	159	7	<0.01	4	190	32	<5	<20	46	<0.01	<10	3	<10	<1	13
8	7926	10	<0.2	0.71	<5	175	<5	0.17	<1	5	47	31	2.33	40	0.20	717	5	<0.01	4	620	12	<5	<20	23	<0.01	<10	31	<10	4	59
9	7927	20	0.2	0.32	<5	880	<5	0.12	<1	<1	37	4	0.66	30	0.02	300	5	<0.01	1	440	28	<5	<20	33	<0.01	<10	2	<10	9	76
10	7928	35	0.2	0.27	<5	990	<5	0.09	<1	<1	50	5	0.66	40	0.02	244	7	<0.01	1	370	18	<5	<20	32	<0.01	<10	2	<10	4	47
11	7929	15	0.2	0.33	<5	960	<5	0.13	<1	<1	82	3	0.51	90	0.02	152	12	<0.01	3	420	10	<5	<20	61	<0.01	<10	2	<10	8	12
12	7930	20	0.2	0.28	<5	150	<5	0.05	<1	<1	31	4	1.21	100	0.02	779	7	0.05	2	80	34	<5	<20	15	<0.01	<10	3	<10	5	86
13	7931	20	0.3	1.15	125	40	<5	0.15	<1	9	67	43	6.31	60	0.21	390	6	0.02	4	600	6	<5	<20	42	<0.01	<10	113	<10	<1	94
14	7932	145	1.2	0.42	10	345	<5	0.17	<1	7	47	71	2.39	<10	0.04	462	6	<0.01	10	480	36	<5	<20	68	<0.01	<10	20	<10	17	90
15	7933	245	0.9	0.18	15	215	<5	0.03	<1	2	109	13	0.96	<10	0.02	45	11	<0.01	4	90	336	<5	<20	39	<0.01	<10	8	<10	<1	11
16	7934	15	0.4	0.31	<5	835	<5	0.12	<1	<1	67	6	0.80	50	0.02	221	16	<0.01	3	460	28	<5	<20	45	<0.01	<10	3	<10	9	22
17	7935	30	0.9	0.55	<5	415	<5	0.98	<1	11	33	80	2.67	10	0.15	960	5	<0.01	9	750	10	<5	<20	73	<0.01	<10	36	<10	11	126
18	7936	15	0.4	1.23	<5	740	<5	0.63	<1	14	61	127	4.08	20	0.71	1274	3	<0.01	21	670	2	<5	<20	70	<0.01	<10	81	<10	17	155
19	7937	50	0.7	0.62	<5	590	<5	0.37	<1	18	50	142	2.94	10	0.18	1043	7	<0.01	17	570	6	<5	<20	53	<0.01	<10	40	<10	13	176
20	7938	<5	0.2	0.45	<5	165	<5	0.14	<1	5	42	28	1.79	50	0.11	577	6	<0.01	4	570	8	<5	<20	19	<0.01	<10	16	<10	6	56
21	7939	25	0.6	0.33	10	895	<5	0.10	<1	2	69	29	1.24	40	0.03	449	9	<0.01	5	440	12	<5	<20	30	<0.01	<10	9	<10	2	43
22	7940	25	0.3	0.35	<5	325	<5	0.11	<1	<1	32	3	0.90	110	0.02	217	8	<0.01	1	80	32	<5	<20	33	<0.01	<10	1	<10	2	64
23	7941	20	0.3	0.44	10	310	<5	0.18	<1	3	116	29	0.96	<10	0.23	298	4	<0.01	12	690	8	<5	<20	11	<0.01	<10	26	<10	4	41
24	7942	10	0.2	1.59	<5	110	<5	0.55	<1	15	206	36	1.91	<10	1.90	545	3	<0.01	158	1030	8	<5	<20	60	<0.01	<10	64	<10	9	59
25	7943	80	0.6	0.30	10	175	<5	0.07	<1	2	117	26	0.82	<10	0.23	205	8	<0.01	10	280	16	<5	<20	8	<0.01	<10	17	<10	<1	148
26	7944	15	<0.2	4.31	<5	160	<5	0.61	2	40	467	60	4.17	30	6.27	903	2	<0.01	472	1960	6	<5	<20	83	0.02	<10	138	<10	19	428
27	7945	5	<0.2	2.44	<5	95	<5	0.79	<1	24	300	49	2.76	20	3.22	754	3	<0.01	279	1360	8	<5	<20	101	<0.01	<10	106	<10	14	112
28	7946	10	<0.2	4.50	<5	90	<5	1.27	<1	41	454	42	4.26	30	6.78	884	1	<0.01	492	1920	4	<5	<20	124	<0.01	<10	154	<10	11	89
29	7947	10	<0.2	3.17	<5	820	<5	2.35	<1	18	147	63	4.68	<10	3.76	803	1	0.02	153	1110	<2	<5	<20	343	0.02	<10	159	<10	<1	48
30	7948	5	<0.2	2.77	<5	140	5	1.52	<1	17	68	46	5.02	<10	2.79	1128	2	0.02	25	680	<2	<5	<20	143	0.01	<10	203	<10	4	49

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
31	7949	5	<0.2	3.42	<5	215	10	0.85	<1	16	60	27	5.67	<10	3.26	1228	3	0.08	19	590	<2	<5	<20	135	0.01	<10	228	<10	2	50
32	7950	5	<0.2	3.13	<5	440	10	0.59	<1	11	42	28	4.82	<10	3.30	1250	2	0.03	17	610	<2	<5	<20	104	0.01	<10	184	<10	5	54
33	7951	5	<0.2	3.64	<5	390	<5	1.67	<1	10	52	27	5.43	<10	2.92	1165	2	0.23	16	520	<2	<5	<20	337	0.03	<10	267	<10	5	50
34	7952	45	<0.2	2.19	<5	60	<5	1.99	<1	14	25	82	4.39	<10	1.80	760	3	0.02	5	760	<2	<5	<20	140	<0.01	<10	131	<10	8	38
35	7953	105	0.2	1.36	10	35	<5	1.22	<1	17	20	160	3.99	<10	0.94	412	9	0.02	<1	1090	<2	<5	<20	74	<0.01	<10	61	<10	8	28
36	7954	95	0.2	1.67	15	80	5	3.19	<1	15	11	69	5.63	<10	1.01	617	11	0.02	3	1160	36	<5	<20	174	<0.01	<10	105	<10	13	60
37	7955	15	0.2	0.77	10	340	<5	0.68	<1	6	36	24	1.78	40	0.26	446	4	<0.01	8	700	54	<5	<20	81	<0.01	<10	20	<10	23	63
QC DATA:																														
Repeat:																														
1	7919	30	0.2	0.26	<5	720	<5	0.13	<1	<1	76	6	0.70	30	0.02	299	5	<0.01	4	360	8	<5	<20	32	<0.01	<10	3	<10	6	20
10	7928	35	0.2	0.28	<5	1020	<5	0.09	<1	<1	50	5	0.65	40	0.02	247	7	<0.01	1	370	18	<5	<20	35	<0.01	<10	2	<10	4	44
19	7937	50	0.7	0.63	<5	605	<5	0.37	<1	18	54	138	2.95	10	0.18	1038	7	<0.01	18	560	6	<5	<20	55	<0.01	<10	40	<10	12	179
36	7954	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resplit:																														
1	7919	20	0.2	0.23	<5	680	<5	0.13	<1	<1	70	6	0.68	30	0.02	288	6	<0.01	2	370	8	<5	<20	32	<0.01	<10	3	<10	5	19
36	7954	120	0.2	1.60	25	75	5	3.15	<1	16	12	69	5.74	<10	0.98	614	12	0.01	2	1230	40	<5	<20	170	<0.01	<10	103	<10	16	62
Standard:																														
GEO '04		135	1.4	1.48	55	145	<5	1.14	<1	18	60	86	2.67	<10	0.81	510	1	0.02	30	510	20	<5	<20	56	0.09	<10	58	<10	11	76
GEO '04		135	1.4	1.42	55	155	<5	1.74	<1	21	61	84	3.91	<10	0.76	686	<1	0.02	30	640	24	<5	<20	54	0.11	<10	60	<10	11	74

ECO TECH LABORATORY LTD.
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B.C. Certified Assayer

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df/1479/1493
XLS/04

21-Oct-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1548

Solitaire Minerals Corp.
1788 - 650 W. georgia Street
Vancouver, BC
V6B 4N8

Attention: Charles Desjardins

No. of samples received: 66
Sample type: Rock
Submitted by: Linda Caron

Values in ppm unless otherwise reported

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	7956	25	8.7	0.46	<5	140	<5	0.34	<1	13	55	690	3.43	20	0.06	765	4	0.03	3	1200	68	<5	<20	81	0.03	<10	101	<10	13	262
2	7957	250	3.1	0.27	<5	155	<5	0.06	<1	13	24	52	3.57	10	<0.01	476	42	0.04	2	870	18	<5	<20	63	<0.01	<10	14	<10	10	19
3	7958	160	0.8	0.21	<5	250	<5	0.06	<1	3	29	44	2.03	20	<0.01	139	13	0.03	1	420	16	<5	<20	48	<0.01	<10	13	<10	4	18
4	7959	75	1.1	0.32	<5	175	<5	0.08	<1	12	19	148	3.52	10	<0.01	703	21	0.02	2	890	16	<5	<20	40	<0.01	<10	13	<10	6	35
5	7960	150	3.0	0.22	<5	240	<5	0.04	<1	6	37	87	2.69	10	<0.01	79	44	0.01	2	420	50	<5	<20	41	<0.01	<10	5	<10	<1	13
6	7961	205	3.5	0.23	<5	170	<5	0.06	1	19	35	165	3.53	20	<0.01	1399	21	<0.01	3	470	64	<5	<20	54	0.01	<10	27	<10	8	79
7	7962	90	0.8	0.16	<5	65	<5	0.14	<1	9	86	81	2.91	<10	<0.01	337	6	<0.01	4	550	134	<5	<20	44	0.03	<10	34	<10	<1	77
8	7963	30	0.5	0.23	<5	695	<5	0.20	2	8	69	83	3.85	<10	0.02	1226	7	<0.01	4	800	124	<5	<20	73	0.02	<10	35	<10	<1	213
9	7964	45	2.6	0.34	<5	260	<5	0.28	4	10	76	535	3.70	<10	0.02	1327	5	<0.01	5	940	628	<5	<20	36	0.02	<10	27	<10	8	382
10	7965	15	1.0	0.22	<5	105	<5	0.20	4	5	98	422	1.84	10	0.02	953	3	<0.01	4	540	174	<5	<20	30	<0.01	<10	14	<10	6	300
11	7966	60	1.3	0.27	<5	65	<5	0.21	1	8	97	541	2.70	<10	0.01	433	4	<0.01	6	750	82	<5	<20	19	0.02	<10	25	<10	9	197
12	7967	40	1.7	0.25	<5	70	<5	0.24	2	10	93	919	3.13	<10	0.01	723	4	<0.01	5	880	78	<5	<20	21	0.02	<10	27	<10	7	261
13	7968	130	2.4	0.27	<5	55	<5	0.16	<1	8	71	376	2.20	<10	0.01	261	3	<0.01	5	500	130	<5	<20	15	<0.01	<10	16	<10	5	149
14	7969	25	1.0	0.20	<5	50	<5	0.16	<1	3	107	357	1.50	<10	0.02	173	3	<0.01	3	440	44	<5	<20	21	<0.01	<10	12	<10	3	60
15	7970	40	0.8	0.25	<5	120	<5	0.20	<1	3	117	328	1.54	<10	0.01	161	3	<0.01	5	630	40	<5	<20	25	<0.01	<10	12	<10	6	62
16	7971	35	0.7	0.20	<5	60	<5	0.16	<1	3	123	275	1.32	<10	0.01	146	3	<0.01	4	460	36	<5	<20	19	<0.01	<10	11	<10	4	52
17	7972	20	0.6	0.24	<5	55	<5	0.15	<1	3	73	206	1.14	10	0.05	201	2	0.01	3	410	22	<5	<20	22	<0.01	<10	16	<10	9	64
18	7973	10	0.5	0.30	<5	165	<5	0.22	2	8	93	220	2.27	<10	0.09	1013	3	0.01	8	550	20	<5	<20	27	0.01	<10	19	<10	15	108
19	7974	30	0.9	0.25	<5	130	<5	0.23	1	9	89	415	3.30	<10	0.02	1021	3	<0.01	4	750	254	<5	<20	22	0.02	<10	29	<10	2	179
20	7975	40	0.7	0.28	<5	1040	<5	0.27	4	5	109	326	3.60	<10	0.02	1150	4	<0.01	3	690	188	<5	<20	41	0.02	<10	32	<10	6	357
21	7976	45	7.4	0.23	<5	240	<5	0.14	1	4	88	481	2.18	<10	0.01	285	5	<0.01	3	790	446	<5	<20	41	<0.01	<10	26	<10	<1	179
22	7977	60	0.7	0.33	<5	70	<5	0.35	<1	7	88	255	3.86	<10	0.01	292	6	<0.01	4	1270	98	<5	<20	39	0.03	<10	45	<10	9	103
23	7978	35	0.6	0.26	<5	95	<5	0.30	<1	6	69	361	2.90	10	0.01	525	4	<0.01	4	980	70	<5	<20	38	0.02	<10	34	<10	10	80
24	7979	40	0.4	0.21	<5	60	<5	0.15	<1	4	112	852	1.60	<10	0.01	367	3	<0.01	4	420	308	<5	<20	30	<0.01	<10	25	<10	3	48
25	7980	55	0.8	0.21	<5	90	<5	0.14	<1	6	91	357	2.15	10	0.01	368	4	<0.01	6	400	74	<5	<20	24	0.01	<10	18	<10	3	46
26	7981	25	0.6	0.33	<5	190	<5	0.35	<1	8	59	343	3.19	20	0.03	602	4	0.01	4	1300	34	<5	<20	40	0.02	<10	36	<10	12	102
27	7982	95	0.5	0.26	<5	295	<5	0.32	<1	10	45	52	3.38	20	0.02	840	5	0.01	3	1290	28	<5	<20	41	0.02	<10	29	<10	13	45
28	7983	110	0.4	0.25	<5	120	<5	0.33	<1	12	46	68	3.88	10	0.01	554	6	0.02	4	1320	18	<5	<20	57	0.03	<10	47	<10	12	35
29	7984	105	0.8	0.21	<5	90	<5	0.24	<1	11	72	123	4.83	10	<0.01	324	8	0.02	5	880	26	<5	<20	47	0.04	<10	60	<10	3	32
30	7985	120	0.4	0.23	<5	105	<5	0.25	<1	13	55	47	3.73	<10	0.01	407	6	0.03	4	930	18	<5	<20	62	0.03	<10	44	<10	6	38

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
31	7986	50	1.1	0.32	<5	210	<5	0.07	<1	10	32	46	3.76	<10	<0.01	316	18	0.03	2	1120	48	<5	<20	37	0.01	<10	34	<10	<1	34
32	7987	105	1.3	0.50	<5	140	<5	0.09	<1	10	30	53	4.43	<10	<0.01	241	8	0.02	2	1610	28	<5	<20	37	0.01	<10	33	<10	<1	28
33	7988	325	2.9	0.42	<5	205	<5	0.04	<1	1	25	36	2.92	10	<0.01	24	18	0.04	<1	990	46	<5	<20	51	<0.01	<10	8	<10	<1	7
34	7989	65	1.0	0.26	<5	155	<5	0.07	<1	5	29	25	2.12	20	<0.01	126	5	0.03	1	900	22	<5	<20	54	<0.01	<10	13	<10	<1	18
35	7990	510	3.2	0.28	<5	110	<5	0.15	<1	8	20	85	3.12	10	<0.01	527	8	0.02	1	910	16	<5	<20	55	0.02	<10	56	<10	3	34
36	7991	330	2.5	0.31	<5	125	<5	0.06	<1	7	20	46	2.52	10	<0.01	313	11	0.03	<1	750	12	<5	<20	56	<0.01	<10	25	<10	2	27
37	7992	150	1.4	0.37	<5	115	<5	0.12	<1	12	32	52	2.38	20	0.02	881	9	0.03	2	840	10	<5	<20	50	<0.01	<10	28	<10	8	39
38	7993	160	1.7	0.37	<5	230	<5	0.08	<1	9	53	40	3.09	10	0.04	314	38	0.03	3	810	16	<5	<20	57	<0.01	<10	13	<10	6	29
39	7994	170	2.1	0.26	<5	145	<5	0.05	<1	4	32	15	2.68	<10	<0.01	110	13	0.03	1	530	22	<5	<20	68	<0.01	<10	5	<10	<1	13
40	7995	200	3.6	0.32	<5	170	<5	0.05	<1	11	59	134	3.28	<10	<0.01	369	10	0.02	2	340	30	<5	<20	55	<0.01	<10	5	<10	<1	43
41	7996	250	3.9	0.38	<5	115	<5	0.06	<1	15	36	156	5.08	<10	<0.01	409	33	0.02	2	510	48	<5	<20	67	<0.01	<10	4	<10	<1	39
42	7997	250	3.3	0.20	<5	45	<5	0.14	<1	5	56	50	2.06	10	0.01	118	7	<0.01	1	600	48	<5	<20	75	0.03	<10	31	<10	5	26
43	7998	190	2.1	0.17	<5	115	<5	0.13	<1	16	51	88	2.83	10	<0.01	650	8	<0.01	4	500	64	<5	<20	96	0.03	<10	44	<10	1	102
44	7999	70	1.8	0.49	<5	105	<5	0.42	<1	27	54	236	5.32	30	0.19	1560	76	0.04	13	970	40	<5	<20	68	<0.01	<10	96	<10	21	159
45	8000	20	0.5	0.46	<5	85	<5	0.89	2	14	39	203	4.13	20	0.27	1353	49	0.03	15	920	30	<5	<20	89	<0.01	<10	108	<10	33	401
46	8001	40	0.6	0.36	<5	45	<5	2.70	<1	17	34	201	3.68	10	0.73	1155	9	0.02	4	1370	12	<5	<20	184	<0.01	<10	102	<10	14	77
47	8002	30	0.6	0.51	<5	60	<5	2.93	<1	21	37	278	5.62	<10	1.06	1739	9	0.03	7	1440	12	<5	<20	216	0.01	<10	189	<10	22	116
48	8003	190	>30	0.19	<5	55	<5	0.22	271	27	65	>10000	9.09	<10	0.03	629	18	0.02	<1	>10000	>10000	<5	<20	44	<0.01	<10	31	<10	<1	>10000
49	8004	90	>30	0.17	<5	20	<5	0.25	821	14	85	>10000	2.14	<10	0.11	218	<1	0.01	<1	<10	>10000	<5	<20	36	<0.01	<10	21	<10	<1	>10000
50	8005	50	2.2	0.49	<5	60	<5	4.35	<1	32	59	605	5.76	10	1.31	1857	10	0.05	16	1590	46	<5	<20	334	0.02	<10	186	<10	15	110
51	8006	350	2.0	0.53	<5	135	<5	0.22	6	47	31	433	7.54	<10	0.06	1884	28	0.02	9	1010	142	<5	<20	47	0.01	<10	95	<10	6	1015
52	8007	40	1.2	1.23	<5	100	<5	0.35	2	25	38	172	5.63	10	0.81	1156	21	0.07	9	1190	52	<5	<20	16	0.07	<10	93	<10	30	278
53	8008	>1000	23.2	0.25	<5	130	10	0.08	<1	37	34	53	8.51	<10	<0.01	720	156	0.03	3	1020	42	<5	<20	59	<0.01	<10	30	<10	<1	64
54	8009	690	3.3	0.53	<5	120	<5	0.05	<1	14	46	47	3.90	<10	0.20	573	16	0.04	3	790	22	<5	<20	42	<0.01	<10	33	<10	<1	26
55	8010	80	0.8	0.91	<5	70	<5	1.36	<1	13	27	51	3.59	10	0.52	1134	7	0.02	1	1010	16	<5	<20	251	<0.01	<10	77	<10	18	49
56	8011	>1000	12.4	0.83	<5	65	<5	0.29	<1	41	38	138	7.00	10	0.31	2330	27	0.03	5	940	34	<5	<20	56	<0.01	<10	36	<10	17	60
57	8012	270	0.8	1.20	<5	155	<5	0.34	<1	14	55	38	3.37	20	0.62	947	13	0.01	5	1100	20	<5	<20	32	<0.01	<10	33	<10	31	40
58	8013	110	0.5	0.58	<5	125	<5	0.22	<1	15	23	28	3.25	30	0.26	925	6	0.02	3	790	16	<5	<20	27	0.02	<10	36	<10	20	50
59	8014	640	1.1	0.43	<5	325	<5	0.17	<1	15	36	20	3.34	20	0.07	841	10	0.02	2	920	18	<5	<20	40	0.01	<10	26	<10	11	46
60	8015	20	0.4	0.22	<5	95	<5	0.20	3	14	29	86	4.00	<10	<0.01	978	6	0.02	3	820	10	<5	<20	41	0.03	<10	51	<10	9	166
61	8016	40	0.7	0.19	<5	130	<5	0.19	1	13	38	215	3.74	<10	<0.01	568	9	<0.01	3	860	18	<5	<20	41	0.03	<10	61	<10	11	95
62	8017	120	5.2	0.21	<5	185	<5	0.06	<1	9	53	472	1.83	10	0.02	220	59	<0.01	3	410	62	<5	<20	56	<0.01	<10	10	<10	10	71
63	8018	225	1.6	0.23	<5	70	<5	0.20	<1	15	59	124	3.12	20	<0.01	684	11	<0.01	5	850	20	<5	<20	119	0.03	<10	39	<10	11	71
64	8019	160	1.1	0.81	<5	105	<5	0.40	<1	19	33	115	4.38	20	0.14	2120	15	0.01	8	1130	22	<5	<20	72	<0.01	<10	64	<10	17	115
65	8020	160	1.4	0.89	<5	240	<5	0.62	1	17	89	302	4.05	10	0.34	2761	20	0.01	9	1070	20	<5	<20	99	<0.01	<10	61	<10	14	116
66	8021	400	1.5	1.06	<5	135	5	0.58	<1	20	23	28	4.69	10	0.43	1680	19	0.01	5	1460	20	<5	<20	89	<0.01	<10	65	<10	16	90
QC DATA:																														
Resplit:																														
1	7956	30	10.1	0.43	<5	135	<5	0.29	<1	13	58	649	3.34	20	0.06	747	4	0.03	4	1180	70	<5	<20	83	0.02	<10	98	<10	12	250
36	7991	340	2.5	0.30	<5	115	<5	0.07	<1	7	21	44	2.43	10	<0.01	319	11	0.02	<1	710	12	<5	<20	52	<0.01	<10	25	<10	2	28

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
Repeat:																														
1	7956	25	9.3	0.44	<5	135	<5	0.34	<1	13	57	708	3.45	20	0.06	783	4	0.03	3	1210	70	<5	<20	79	0.02	<10	100	<10	13	270
10	7965	15	1.0	0.21	<5	100	<5	0.20	5	5	95	416	1.81	10	0.02	940	3	<0.01	3	530	172	<5	<20	28	<0.01	<10	13	<10	6	295
19	7974	50	0.8	0.24	<5	125	<5	0.23	<1	10	88	419	3.33	<10	0.02	1028	3	<0.01	4	760	256	<5	<20	22	0.02	<10	29	<10	2	181
33	7988	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	7990	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	7991	320	2.5	0.32	<5	120	<5	0.06	<1	7	20	45	2.47	10	<0.01	309	11	0.03	<1	690	12	<5	<20	53	<0.01	<10	25	<10	2	27
45	8000	20	0.6	0.46	<5	85	<5	0.88	2	14	38	202	4.13	20	0.27	1347	49	0.03	16	910	30	<5	<20	89	<0.01	<10	108	<10	33	397
54	8009	920	3.2	0.51	<5	125	<5	0.05	<1	14	48	46	3.83	<10	0.20	559	16	0.04	1	790	22	<5	<20	40	<0.01	<10	32	<10	<1	25
54	8009	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard:																														
GEO '04		140	1.5	1.47	50	130	<5	1.31	<1	16	56	84	3.01	<10	0.80	557	2	0.02	28	600	22	<5	<20	58	0.09	<10	58	<10	10	74
GEO '04		140	1.5	1.54	50	140	<5	1.36	<1	17	59	87	3.15	<10	0.83	580	2	0.03	27	610	24	<5	<20	59	0.08	<10	59	<10	10	76

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/sc
df/1548
XLS/04

CERTIFICATE OF ASSAY AK 2004-1548

Solitaire Minerals Corp.
1788 - 650 W. georgia Street
Vancouver, BC
V6B 4N8

21-Oct-04

Attention: Charles Desjardins

No. of samples received: 66
Sample type: Rock

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	Cu (%)	Pb (%)	Zn (%)
48	8003			180	5.25	6.67	2.67	3.27
49	8004			73.9	2.16	1.72	1.42	8.88
53	8008	1.70	0.050					
56	8011	2.41	0.070					
QC DATA:								
Repeat:								
48	8003			180	5.25	6.67	2.67	3.27
Standard:								
SH13		1.32	0.038					
Pb106				58.0	1.69	0.62	0.52	0.84
Cu106				136	3.97	1.43		

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/jm
XLS/04

APPENDIX 2b

Analytical Results - Drill Samples

23-Nov-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1807

Solitaire Mineral Corp.
1788-650 W. Georgia Street
Vancouver, BC
V6B 4N8

No. of samples received: 33
Sample type: CORE
Submitted by: Linda Caron
Project: Union

Values in ppm unless otherwise reported

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	3001	10	<0.2	0.67	220	25	<5	1.24	<1	8	22	35	3.35	10	0.23	226	25	0.02	9	370	42	<5	<20	159	<0.01	<10	19	<10	7	121
2	3002	10	<0.2	0.31	50	50	<5	1.51	<1	4	7	17	1.48	10	0.12	239	7	0.02	7	80	30	<5	<20	215	<0.01	<10	5	<10	8	57
3	3003	5	<0.2	0.48	30	60	<5	2.80	<1	3	21	398	1.49	10	0.20	568	4	0.02	6	190	24	<5	<20	299	<0.01	<10	9	<10	10	53
4	3004	10	<0.2	1.21	20	35	<5	0.86	<1	18	50	12	3.80	<10	1.19	618	1	0.06	11	920	26	<5	<20	55	0.12	<10	59	<10	6	102
5	3005	15	<0.2	2.70	170	45	<5	6.57	<1	33	144	57	6.54	<10	2.42	1295	14	0.04	54	1050	46	<5	<20	217	<0.01	<10	227	<10	9	108
6	3006	15	<0.2	3.04	215	35	5	7.73	<1	31	159	99	7.27	<10	2.70	1451	5	0.03	58	1010	50	<5	<20	207	<0.01	<10	242	<10	12	94
7	3007	15	<0.2	3.37	60	35	<5	4.78	<1	30	162	52	7.03	<10	2.89	1165	3	0.04	52	1030	44	<5	<20	146	<0.01	<10	234	<10	9	98
8	3008	10	<0.2	3.50	70	25	5	4.99	<1	33	172	58	7.43	<10	3.03	1283	4	0.02	57	1190	44	<5	<20	162	<0.01	<10	247	<10	13	99
9	3009	15	<0.2	3.23	80	40	5	3.18	<1	29	96	50	7.57	<10	2.91	1291	5	0.04	35	960	50	<5	<20	141	0.02	<10	232	<10	8	106
10	3010	15	<0.2	2.08	240	40	10	6.07	<1	32	58	48	6.95	<10	1.81	1758	14	0.05	30	1020	52	<5	<20	229	0.08	<10	169	<10	8	88
11	3011	15	<0.2	2.54	240	35	10	3.90	<1	40	39	58	8.75	<10	2.18	1710	13	0.11	21	1160	66	<5	<20	169	0.13	<10	228	<10	6	104
12	3012	15	<0.2	2.78	275	40	<5	3.82	<1	40	38	63	8.65	<10	2.45	1783	17	0.12	17	1170	54	<5	<20	163	0.19	<10	261	<10	<1	114
13	3013	20	1.3	2.14	75	45	<5	2.99	<1	24	43	154	6.31	<10	1.50	1230	5	0.07	21	1550	52	<5	<20	133	0.15	<10	169	<10	6	161
14	3014	10	0.6	2.08	50	35	<5	2.39	<1	25	82	119	4.83	<10	1.48	927	6	0.10	30	1280	50	<5	<20	91	0.04	<10	193	<10	11	61
15	3015	10	1.6	2.67	65	110	<5	6.42	<1	21	44	120	5.72	<10	2.07	1422	4	0.09	32	1300	60	<5	<20	299	<0.01	<10	146	<10	13	145
16	3016	1	0.9	2.09	80	110	<5	3.76	<1	22	40	121	6.02	<10	1.66	1471	5	0.03	16	2080	66	<5	<20	190	0.03	<10	183	<10	14	191
17	3017	85	2.3	0.71	760	15	<5	3.83	<1	13	88	88	3.64	<10	0.66	995	79	<0.01	74	850	46	<5	<20	145	<0.01	<10	74	<10	10	354
18	3018	100	1.7	0.14	65	80	<5	6.19	3	3	144	30	1.56	<10	0.33	1536	20	<0.01	12	210	102	<5	<20	244	<0.01	<10	13	<10	7	341
19	3019	40	1.9	0.18	110	35	<5	1.34	12	7	121	51	1.78	<10	0.26	327	12	<0.01	21	450	38	<5	<20	116	<0.01	<10	12	<10	2	1722
20	3020	135	3.7	0.41	125	20	<5	2.59	4	9	158	68	2.89	<10	0.41	726	14	<0.01	16	400	394	<5	<20	142	<0.01	<10	26	<10	3	419
21	3021	20	1.0	2.47	20	35	<5	3.30	<1	23	34	85	7.77	<10	1.82	1398	5	0.03	13	1520	54	<5	<20	186	0.01	<10	231	<10	3	197
22	3022	5	<0.2	0.66	<5	5	<5	0.25	<1	3	47	3	3.31	60	0.21	702	5	0.06	2	610	44	<5	<20	10	0.02	<10	11	<10	13	113
23	3023	>1000	<0.2	1.60	<5	105	<5	1.09	<1	29	1118	57	4.26	<10	0.70	537	12	0.16	939	630	32	<5	<20	57	0.15	<10	68	<10	4	71
24	3024	130	1.2	2.86	55	45	<5	3.79	<1	21	62	114	5.33	<10	1.42	1306	4	0.23	29	1580	70	<5	<20	228	0.04	<10	190	<10	14	200
25	3025	60	1.7	2.35	60	35	<5	3.27	<1	16	79	84	4.59	<10	1.28	1264	13	0.20	24	1560	118	<5	<20	155	0.03	<10	173	<10	14	321
26	3026	120	2.2	1.45	115	15	<5	3.69	4	16	88	79	4.56	<10	1.26	1133	38	0.03	52	1140	86	5	<20	144	<0.01	<10	148	<10	18	815
27	3027	70	1.0	2.31	70	40	<5	4.29	<1	20	53	78	5.55	<10	1.47	1570	6	0.13	21	1450	64	<5	<20	207	0.03	<10	186	<10	13	141
28	3028	15	0.7	2.68	45	40	<5	6.53	<1	24	51	87	6.10	<10	1.55	1560	7	0.16	20	1290	62	<5	<20	223	0.04	<10	199	<10	11	162
29	3029	10	0.5	2.66	45	45	<5	7.41	<1	22	50	69	5.57	<10	1.55	1441	5	0.20	17	1220	52	<5	<20	247	0.06	<10	204	<10	7	148
30	3030	25	0.7	1.80	50	40	<5	9.37	<1	21	90	74	4.59	<10	1.27	1389	6	0.11	33	2000	46	<5	<20	231	0.08	<10	208	<10	16	108

Et #.	Tag #	u (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
31	3031	15	0.7	2.15	40	20	<5	5.87	<1	23	56	54	5.80	<10	1.72	1475	11	0.07	24	1200	58	<5	<20	239	0.09	<10	213	<10	11	169
32	3032	20	1.4	1.91	40	15	<5	6.16	<1	25	52	121	5.76	<10	1.43	1448	5	0.06	20	1110	52	<5	<20	206	0.09	<10	188	<10	8	197
33	3033	15	1.2	2.25	45	20	<5	7.35	<1	26	55	136	6.79	<10	1.78	1581	5	0.06	22	1160	64	<5	<20	274	0.09	<10	228	<10	8	262
QC DATA:																														
Repeat:																														
1	3001	10	<0.2	0.70	235	30	<5	1.32	<1	9	24	35	3.57	10	0.23	239	26	0.02	12	420	54	<5	<20	160	<0.01	<10	21	<10	8	137
10	3010	20	0.2	2.14	255	45	<5	6.11	<1	31	60	50	6.99	<10	1.86	1776	13	0.06	26	990	48	<5	<20	235	0.11	<10	172	<10	7	88
19	3019	65	1.8	0.18	110	40	<5	1.29	11	7	119	51	1.75	<10	0.26	320	12	<0.01	21	450	36	<5	<20	115	<0.01	<10	12	<10	2	1626
Resplit:																														
1	3001	15	<0.2	0.68	245	35	<5	1.32	<1	9	31	35	3.46	10	0.23	237	26	0.02	10	400	46	<5	<20	158	<0.01	<10	21	<10	7	131
Standard:																														
GEO '04		135	1.4	1.42	60	150	<5	1.62	<1	20	66	86	4.02	<10	0.75	665	<1	0.02	35	690	22	<5	<20	58	0.09	<10	69	<10	9	74

ECO TECH LABORATORY LTD.
Jutta Jealouse
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JJ/
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24-Nov-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
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ICP CERTIFICATE OF ANALYSIS AK 2004-1822

Solitaire Minerals Corp.
1788 - 650 W. Georgia Street
Vancouver, BC
V6B 4N8

No. of samples received: 28
Sample type: Core
Submitted by: Linda Caron
Project: Union

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	3034	<5	0.2	2.08	<5	60	<5	2.21	<1	19	15	31	5.08	<10	1.19	1083	3	0.03	3	940	20	<5	<20	213	0.01	<10	75	<10	10	73
2	3035	20	1.0	2.01	15	55	<5	2.50	<1	13	12	35	4.98	<10	1.11	849	4	0.04	4	1120	30	<5	<20	209	0.01	<10	84	<10	12	80
3	3036	10	<0.2	1.02	5	45	<5	1.86	<1	4	20	5	2.65	40	0.39	636	5	0.04	1	720	34	<5	<20	140	<0.01	<10	23	<10	5	73
4	3037	10	0.3	2.15	10	60	<5	2.36	<1	17	13	23	5.41	<10	1.26	853	3	0.05	4	1020	20	<5	<20	193	0.02	<10	87	<10	11	77
5	3038	35	2.1	1.88	15	55	<5	1.46	<1	22	23	52	5.20	<10	1.10	821	3	0.03	2	1150	24	<5	<20	169	0.03	<10	78	<10	12	64
6	3039	>1000	<0.2	1.63	<5	100	<5	0.95	<1	23	903	63	3.79	<10	0.71	484	8	0.17	693	520	14	<5	<20	66	0.19	<10	73	<10	8	39
7	3040	20	<0.2	0.64	<5	20	<5	0.15	<1	3	39	3	2.71	70	0.22	617	3	0.06	1	500	26	<5	<20	10	0.04	<10	10	<10	16	74
8	3041	90	1.2	2.07	20	90	<5	1.00	<1	23	12	100	6.45	<10	1.46	887	4	0.02	3	950	18	<5	<20	225	0.06	<10	123	<10	11	76
9	3042	35	0.6	1.64	10	80	<5	1.42	<1	17	54	37	4.70	<10	1.19	1009	3	0.03	10	600	20	<5	<20	155	0.03	<10	96	<10	8	80
10	3043	35	7.3	1.88	10	85	<5	1.86	<1	21	40	26	5.12	<10	1.51	1366	2	0.03	14	750	22	<5	<20	203	0.05	<10	101	<10	11	152
11	3044	90	22.8	2.27	10	135	<5	1.07	<1	19	32	49	5.16	<10	1.51	963	2	0.02	10	870	24	<5	<20	224	0.05	<10	124	<10	15	201
12	3045	15	0.6	2.52	25	50	<5	2.47	<1	13	27	96	4.71	<10	1.93	923	3	0.04	15	1310	22	<5	<20	202	<0.01	<10	117	<10	14	89
13	3046	10	0.8	1.19	10	25	<5	5.41	<1	10	55	103	2.44	<10	0.88	862	5	0.03	12	590	14	<5	<20	218	<0.01	<10	82	<10	16	47
14	3047	10	0.5	2.47	10	45	<5	3.23	<1	14	26	154	4.71	<10	1.73	1062	5	0.06	18	1290	20	<5	<20	286	0.02	<10	148	<10	15	80
15	3048	10	0.6	2.45	20	45	<5	3.62	<1	15	33	98	4.64	<10	1.71	1126	4	0.08	13	1200	24	<5	<20	246	<0.01	<10	122	<10	15	105
16	3049	10	1.1	2.97	25	65	<5	2.75	<1	14	25	79	4.60	<10	1.90	1030	4	0.17	15	1230	24	<5	<20	259	<0.01	<10	123	<10	13	97
17	3050	30	0.9	2.35	25	40	<5	6.74	<1	12	29	91	3.73	<10	1.46	1268	3	0.07	8	940	16	<5	<20	362	<0.01	<10	91	<10	18	81
18	3051	15	1.6	2.41	30	40	<5	3.41	<1	16	25	128	4.22	<10	1.55	1048	7	0.09	15	1310	26	<5	<20	249	<0.01	<10	114	<10	16	115
19	3052	15	1.8	3.15	20	55	<5	3.77	<1	21	42	102	4.85	<10	1.71	1378	4	0.28	17	1250	28	<5	<20	211	0.04	<10	167	<10	10	103
20	3053	45	1.3	2.01	25	70	<5	1.93	<1	17	41	74	4.46	<10	1.53	1188	20	0.04	15	1060	40	<5	<20	124	0.03	<10	163	<10	9	278
21	3054	20	2.0	2.40	25	50	<5	4.36	<1	24	32	128	5.40	<10	1.69	1500	3	0.08	17	970	26	<5	<20	180	0.05	<10	169	<10	9	105
22	3055	10	1.8	3.25	45	60	<5	4.00	<1	23	32	113	5.34	<10	1.97	1457	5	0.24	19	1160	28	<5	<20	222	0.04	<10	159	<10	10	171
23	3056	10	1.7	2.36	35	50	<5	3.71	<1	19	29	116	4.71	<10	1.58	1219	3	0.10	16	1280	20	<5	<20	171	0.03	<10	128	<10	9	120
24	3057	30	1.9	1.91	85	35	<5	2.14	<1	17	38	113	4.64	<10	1.38	1000	18	0.04	17	1060	28	<5	<20	133	0.02	<10	130	<10	9	100
25	3058	55	2.2	2.14	100	35	<5	2.86	<1	18	71	79	4.72	<10	1.61	1185	11	0.05	25	960	32	<5	<20	125	0.03	<10	130	<10	12	157
26	3059	35	2.0	1.94	65	35	<5	2.90	<1	16	56	85	4.39	<10	1.47	1156	5	0.03	22	1050	26	<5	<20	143	0.02	<10	139	<10	10	122
27	3060	>1000	<0.2	1.73	<5	100	<5	1.02	<1	25	986	63	3.71	<10	0.75	488	10	0.16	757	600	18	<5	<20	65	0.07	<10	60	<10	9	43
28	3061	<5	<0.2	0.66	<5	15	<5	0.17	<1	3	24	3	2.75	70	0.22	595	2	0.05	<1	540	24	<5	<20	10	<0.01	<10	11	<10	14	73

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC DATA:																														
Repeat:																														
1	3034	5	0.2	2.15	<5	60	5	2.24	<1	19	15	30	5.13	<10	1.21	1093	3	0.03	4	970	22	<5	<20	219	0.02	<10	76	<10	11	75
10	3043	35	7.2	1.91	5	90	5	1.66	<1	22	41	27	5.05	<10	1.51	1360	2	0.03	14	770	22	<5	<20	207	0.05	<10	103	<10	12	151
19	3052	15	1.8	3.41	25	65	<5	3.98	<1	21	49	108	5.08	<10	1.79	1440	4	0.32	19	1330	34	<5	<20	228	0.04	<10	172	<10	11	108
Resplit:																														
1	3034		0.2	2.12	<5	60	<5	2.29	<1	19	20	36	5.18	<10	1.22	1113	2	0.03	3	1020	24	<5	<20	215	<0.01	<10	75	<10	10	77
Standard:																														
GEO '04		135	1.4	1.48	55	140	<5	1.37	<1	16	59	86	3.73	<10	0.79	583	1	0.02	22	620	26	<5	<20	50	0.05	<10	63	<10	9	72

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/jm
df/1822
XLS/04

25-Nov-04

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ICP CERTIFICATE OF ANALYSIS AK 2004-1842

Solitaire Minerals Corp
1788-650W Georgia Street
Vancouver, BC
V6B 4N8

No. of samples received: 45
Sample type: Core
Submitted by: Linda Caron
Project: Union

Values in ppm unless otherwise reported

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	3062	65	0.7	0.32	<5	85	<5	0.52	<1	10	39	418	3.71	30	0.09	500	4	0.03	5	1210	8	<5	<20	81	0.01	<10	144	<10	14	60
2	3063	30	0.4	0.62	<5	105	<5	0.81	<1	15	23	272	4.62	<10	0.31	753	3	0.03	5	1490	6	<5	<20	61	0.06	<10	168	<10	12	64
3	3064	15	<0.2	0.27	<5	45	<5	4.14	<1	8	38	55	3.93	10	0.36	1092	2	0.03	4	1380	4	<5	<20	353	0.04	<10	214	<10	9	35
4	3065	75	0.3	0.24	<5	90	<5	0.78	<1	11	34	204	4.28	20	0.07	382	3	0.02	4	1380	14	<5	<20	82	0.03	<10	178	<10	7	131
5	3066	25	0.5	0.39	<5	40	<5	3.08	<1	11	25	242	3.79	10	0.44	998	4	0.02	3	1220	6	<5	<20	268	0.02	<10	176	<10	12	71
6	3067	70	0.3	0.20	<5	35	<5	1.34	<1	6	85	90	2.44	10	0.15	438	5	0.02	5	1040	4	<5	<20	133	0.02	<10	84	<10	8	39
7	3068	30	0.2	0.45	<5	40	<5	2.65	<1	12	25	142	3.70	20	0.45	967	2	0.02	5	1530	2	<5	<20	291	0.04	<10	176	<10	16	71
8	3069	20	0.2	0.62	<5	35	<5	3.19	<1	14	26	114	4.45	10	0.74	1065	2	0.02	4	1560	4	<5	<20	339	0.02	<10	238	<10	13	73
9	3070	25	0.3	0.70	<5	30	<5	3.71	<1	16	19	207	4.74	10	0.85	1210	10	0.01	4	1760	8	<5	<20	446	0.02	<10	245	<10	17	77
10	3071	30	0.4	0.61	<5	55	<5	4.05	<1	17	31	149	4.94	10	0.71	1090	21	0.02	6	1770	8	<5	<20	603	0.03	<10	215	<10	11	68
11	3072	25	0.2	1.26	<5	60	<5	3.46	<1	17	27	99	5.30	<10	1.23	1035	4	0.09	5	1460	8	<5	<20	517	0.07	<10	215	<10	6	53
12	3073	15	0.4	1.09	<5	35	<5	4.60	<1	14	36	123	4.90	<10	1.18	1449	3	0.02	6	1860	18	<5	<20	797	0.02	<10	200	<10	9	61
13	3074	35	0.6	0.87	<5	60	<5	4.41	<1	16	30	224	4.25	<10	1.08	1306	4	0.02	3	1440	10	<5	<20	626	0.03	<10	168	<10	8	100
14	3075	140	0.4	0.63	<5	80	<5	4.58	<1	14	31	196	3.74	10	0.81	1107	3	0.02	4	1490	6	<5	<20	671	0.02	<10	164	<10	11	117
15	3076	15	<0.2	0.52	<5	40	<5	2.69	<1	12	26	76	4.04	20	0.55	959	2	0.02	4	1180	6	<5	<20	242	0.03	<10	161	<10	14	68
16	3077	20	0.4	0.65	<5	50	<5	2.08	<1	14	29	210	5.27	20	0.19	944	2	0.02	5	1790	8	<5	<20	204	0.01	<10	218	<10	18	91
17	3078	70	2.0	0.93	<5	45	<5	4.36	<1	30	29	2172	9.43	40	0.59	2929	7	0.02	9	3330	6	<5	<20	369	0.02	<10	332	<10	46	201
18	3079	>1000	<0.2	1.45	<5	100	<5	0.87	<1	21	854	62	3.62	<10	0.63	456	12	0.17	674	520	6	<5	<20	62	0.09	<10	53	<10	5	45
19	3080	20	<0.2	0.58	<5	15	<5	0.15	<1	3	11	4	2.64	60	0.19	610	2	0.03	1	530	22	<5	<20	9	<0.01	<10	11	<10	12	74
20	3081	10	0.2	0.55	<5	55	<5	3.50	<1	11	25	71	3.53	20	0.56	1136	2	0.02	3	1070	2	<5	<20	353	0.03	<10	153	<10	18	68
21	3082	85	0.9	0.27	<5	50	<5	2.75	<1	9	27	107	3.81	20	0.08	938	2	0.02	2	1240	8	<5	<20	282	0.04	<10	178	<10	20	52
22	3083	30	0.5	0.54	<5	60	<5	3.84	<1	12	25	104	3.94	20	0.65	1213	3	0.02	3	1180	8	<5	<20	392	0.02	<10	164	<10	17	103
23	3084	15	0.4	0.65	<5	60	<5	3.88	<1	11	28	141	3.98	20	0.72	1276	2	0.02	3	1140	8	<5	<20	375	0.02	<10	174	<10	18	86
24	3085	15	0.4	0.58	<5	45	<5	3.41	<1	12	24	91	3.93	20	0.64	1140	4	0.02	4	1160	8	<5	<20	346	0.02	<10	163	<10	18	75
25	3086	15	0.4	0.68	<5	50	<5	3.71	<1	13	27	92	4.23	20	0.72	1261	3	0.03	3	1240	14	<5	<20	414	0.03	<10	197	<10	15	100
26	3087	25	0.7	0.55	<5	30	<5	3.53	1	13	23	128	4.09	20	0.59	1199	13	0.02	3	1200	34	<5	<20	410	0.02	<10	171	<10	12	137
27	3088	20	0.7	0.41	<5	80	<5	3.28	<1	11	28	168	4.03	20	0.39	1093	3	0.03	3	1250	42	<5	<20	273	0.03	<10	160	<10	8	143
28	3089	20	0.5	0.35	<5	115	<5	2.81	<1	11	25	88	3.52	20	0.37	972	3	0.03	3	1030	32	<5	<20	268	0.02	<10	144	<10	10	131
29	3090	5	0.3	0.37	<5	100	<5	2.79	<1	11	25	92	3.95	20	0.39	931	2	0.03	3	1140	8	<5	<20	301	0.03	<10	172	<10	11	69
30	3091	60	0.4	0.30	<5	180	<5	0.97	<1	12	25	347	5.16	10	0.19	449	3	0.02	4	1370	10	<5	<20	154	0.03	<10	65	<10	5	57

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
31	3092	145	1.0	1.26	<5	80	<5	4.73	<1	16	18	416	4.16	<10	1.00	1979	23	0.02	7	1480	10	<5	<20	895	<0.01	<10	30	<10	12	83
32	3093	40	0.4	0.70	<5	65	<5	4.47	<1	14	6	49	5.23	<10	0.50	1058	3	0.01	5	1520	12	<5	<20	256	0.02	<10	29	<10	8	44
33	3094	15	0.5	1.41	<5	35	<5	4.38	<1	15	10	264	4.27	<10	1.10	1253	6	0.02	7	1530	12	<5	<20	800	<0.01	<10	41	<10	9	56
34	3095	0	0.2	0.89	<5	170	<5	3.42	<1	12	12	116	3.91	<10	1.08	861	3	0.02	6	1190	6	<5	<20	337	<0.01	<10	30	<10	7	46
35	3096	5	0.3	0.73	<5	385	<5	4.08	<1	12	10	167	4.33	<10	1.33	1028	3	0.02	5	1250	4	<5	<20	245	<0.01	<10	31	<10	7	48
36	3097	15	0.5	0.88	<5	250	<5	4.24	<1	17	8	357	4.99	<10	1.49	1056	4	0.02	8	1380	6	<5	<20	223	<0.01	<10	33	<10	6	55
37	3098	15	0.6	0.83	<5	80	<5	4.99	<1	22	13	317	5.17	<10	1.71	1163	4	0.02	12	1280	10	<5	<20	245	<0.01	<10	35	<10	6	57
38	3099	20	0.3	1.53	<5	115	<5	4.07	<1	19	29	222	4.40	<10	1.53	893	3	0.02	14	910	12	<5	<20	338	<0.01	<10	54	<10	4	61
39	3100	20	0.2	1.60	<5	125	<5	4.13	<1	17	30	162	4.14	<10	1.18	1059	4	0.02	13	810	14	<5	<20	271	<0.01	<10	48	<10	4	55
40	3101	>1000	<0.2	1.56	<5	100	<5	0.96	<1	23	967	60	3.62	<10	0.67	470	12	0.17	766	560	8	<5	<20	61	0.10	<10	57	<10	7	51
41	3102	15	<0.2	0.64	<5	15	<5	0.15	<1	3	26	3	2.76	60	0.20	621	3	0.05	2	540	28	<5	<20	9	<0.01	<10	11	<10	12	78
42	3103	25	0.2	1.67	<5	160	<5	4.18	<1	17	34	139	4.25	<10	1.12	1139	2	0.02	13	820	12	<5	<20	192	<0.01	<10	51	<10	5	57
43	3104	20	0.2	1.67	<5	175	<5	4.06	<1	18	30	148	4.44	<10	1.00	1178	5	0.02	15	850	14	<5	<20	219	<0.01	<10	59	<10	5	62
44	3105	10	<0.2	0.44	<5	725	<5	1.29	<1	<1	24	23	1.81	50	0.21	355	<1	0.03	2	200	6	<5	<20	108	<0.01	<10	16	<10	6	27
45	AE010	15	1.7	0.62	5	60	<5	0.14	<1	5	92	189	3.37	<10	0.33	141	55	0.07	8	430	126	<5	<20	24	0.02	<10	184	<10	<1	58

QC DATA:

Repeat:

1	3062	65	0.7	0.27	<5	80	<5	0.52	<1	10	37	416	3.48	30	0.08	501	4	0.03	5	1200	8	<5	<20	84	0.01	<10	131	<10	15	62
10	3071	30	0.4	0.59	<5	45	<5	4.03	<1	16	31	146	4.79	10	0.69	1082	21	0.02	7	1740	4	<5	<20	580	0.02	<10	202	<10	13	70
19	3080	15	<0.2	0.55	<5	5	<5	0.15	<1	2	10	4	2.63	60	0.19	606	2	0.03	<1	510	24	<5	<20	8	<0.01	<10	11	<10	11	77
21	3082	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	3092	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	3097	15	0.5	0.82	<5	230	<5	4.11	<1	16	8	334	4.82	<10	1.41	1023	4	0.02	8	1350	6	<5	<20	207	<0.01	<10	30	<10	6	56

Resplit:

1	3062	75	0.7	0.26	<5	75	<5	0.53	<1	10	35	374	3.54	30	0.08	485	5	0.02	5	1220	10	<5	<20	74	0.01	<10	130	<10	14	66
36	3097	30	0.5	0.90	<5	265	<5	4.22	<1	16	10	334	4.99	<10	1.45	1049	4	0.02	9	1390	8	<5	<20	218	<0.01	<10	35	<10	5	56

Standard:

GEO '04		140	1.6	1.35	55	135	<5	1.34	<1	15	57	85	3.67	<10	0.72	560	<1	0.02	27	610	22	<5	<20	58	0.09	<10	64	<10	9	74
GEO '04		130	1.4	1.41	55	145	<5	1.38	<1	16	59	87	3.82	<10	0.74	579	<1	0.03	27	660	24	<5	<20	61	0.08	<10	64	<10	9	76

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/sc
df/1842
XLS/04

26-Nov-04

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ICP CERTIFICATE OF ANALYSIS AK 2004-1856

Solitaire Minerals Corp.
1788 - 650 W. Georgia Street
Vancouver, BC
Vancouver, BC
V6B 4N8

No. of samples received: 22
Sample type:Core
Submitted by:Linda Caron
Project: Union

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	3106	10	<0.2	0.19	<5	355	<5	0.68	<1	2	64	7	1.68	20	0.22	355	4	0.03	5	360	18	<5	<20	204	<0.01	<10	4	<10	5	34
2	3107	5	<0.2	0.18	<5	125	<5	1.65	<1	2	68	5	0.91	20	0.16	194	6	0.03	3	340	20	<5	<20	408	<0.01	<10	2	<10	6	37
3	3108	<5	<0.2	0.22	10	20	<5	1.60	<1	2	54	3	1.53	20	0.15	262	3	0.03	2	540	20	<5	<20	310	<0.01	<10	4	<10	7	46
4	3109	5	<0.2	0.21	15	<5	<5	3.67	<1	3	56	4	1.30	20	0.13	438	7	0.03	3	500	20	<5	<20	976	<0.01	<10	5	<10	9	49
5	3110	<5	<0.2	0.35	15	25	<5	1.20	<1	3	62	4	1.09	40	0.09	160	5	0.03	3	580	20	<5	<20	191	<0.01	<10	9	<10	6	43
6	3111	5	<0.2	0.33	5	255	<5	1.20	<1	<1	89	11	0.74	30	0.08	173	16	0.02	3	240	12	<5	<20	159	<0.01	<10	5	<10	5	15
7	3112	5	<0.2	0.38	25	20	<5	1.95	<1	2	119	32	1.41	70	0.09	226	16	0.03	3	400	14	<5	<20	249	<0.01	<10	10	<10	9	20
8	3113	10	<0.2	0.47	5	35	<5	1.36	<1	2	71	13	1.26	50	0.14	239	9	0.04	3	320	10	<5	<20	230	<0.01	<10	16	<10	8	18
9	3114	5	<0.2	0.42	10	35	<5	1.32	<1	2	112	11	1.25	80	0.10	197	15	0.03	3	330	12	<5	<20	195	<0.01	<10	14	<10	10	25
10	3115	5	<0.2	0.36	10	30	<5	0.90	<1	1	74	7	0.98	100	0.09	150	26	0.03	3	280	12	<5	<20	128	<0.01	<10	9	<10	9	17
11	3116	5	<0.2	0.32	20	15	<5	1.91	<1	1	92	7	0.95	100	0.06	190	25	0.03	3	380	14	<5	<20	272	<0.01	<10	6	<10	11	19
12	3117	5	<0.2	0.42	<5	35	<5	1.36	<1	2	62	4	0.67	50	0.21	359	3	0.04	2	230	18	<5	<20	238	<0.01	<10	4	<10	9	29
13	3118	20	<0.2	1.00	<5	335	<5	1.08	<1	33	53	120	4.65	<10	0.58	1199	3	0.05	19	380	10	<5	<20	189	0.01	<10	131	<10	8	145
14	3119	10	<0.2	1.00	<5	240	<5	0.37	<1	49	27	94	5.18	<10	0.50	966	4	0.05	33	190	8	<5	<20	199	<0.01	<10	166	<10	7	149
15	3120	>1000	<0.2	1.57	<5	100	<5	0.88	<1	22	877	63	3.73	<10	0.69	472	11	0.18	679	500	6	<5	<20	63	0.12	<10	60	<10	5	42
16	3121	10	<0.2	0.68	<5	15	<5	0.19	<1	3	32	3	2.75	70	0.22	666	4	0.07	<1	510	24	<5	<20	12	0.01	<10	13	<10	12	68
17	3122	10	0.2	1.34	25	115	<5	3.49	<1	22	54	178	4.04	<10	0.69	1632	4	0.05	26	1100	14	<5	<20	353	<0.01	<10	78	<10	16	135
18	3123	10	0.3	1.24	20	50	<5	4.13	<1	14	69	142	3.62	<10	0.82	1437	5	0.04	22	990	14	<5	<20	609	<0.01	<10	115	<10	15	99
19	3124	5	0.2	1.30	<5	115	<5	4.19	<1	14	77	154	3.95	<10	0.89	1295	4	0.04	25	1040	8	<5	<20	401	<0.01	<10	119	<10	11	98
20	3125	5	0.2	1.56	20	100	<5	4.53	<1	15	82	106	4.36	<10	1.12	1364	3	0.04	22	990	8	<5	<20	817	0.02	<10	151	<10	10	92
21	3126	10	0.2	1.58	10	50	<5	4.99	<1	25	92	108	5.27	<10	1.48	1309	8	0.03	32	960	8	<5	<20	605	0.02	<10	150	<10	9	64
22	3127	10	0.2	1.87	<5	55	<5	6.23	<1	34	176	373	4.65	<10	2.48	1055	4	0.05	62	1330	6	<5	<20	618	0.05	<10	188	<10	<1	49

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC DATA:																														
Repeat:																														
1	3106	5	<0.2	0.20	<5	370	<5	0.68	<1	1	64	7	1.67	20	0.22	352	4	0.03	4	390	18	<5	<20	201	<0.01	<10	4	<10	6	36
10	3115	5	<0.2	0.37	10	25	<5	0.92	<1	1	75	7	0.99	100	0.09	151	27	0.03	4	270	10	<5	<20	131	<0.01	<10	9	<10	9	17
Resplit:																														
1	3106	<5	<0.2	0.19	<5	340	<5	0.69	<1	2	65	7	1.71	20	0.22	358	4	0.03	5	370	18	<5	<20	199	<0.01	<10	4	<10	5	35
Standard:																														
GEO '04		130	1.4	1.42	55	135	<5	1.35	<1	16	56	87	3.65	<10	0.77	572	<1	0.03	26	600	22	<5	<20	50	0.09	<10	67	<10	10	69

ECO TECH LABORATORY LTD.
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29-Nov-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
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V2C 6T4

Phone: 250-573-5700
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ICP CERTIFICATE OF ANALYSIS AK 2004-1902

Solitaire Minerals Corp.
1788-650 W. Georgia St
Vancouver, BC
V6B 4N8

No. of samples received: 51
Sample type: Core
Submitted by: Linda Caron
Project: Union

Values in ppm unless otherwise reported

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	3128	5	1.8	1.40	30	135	<5	2.80	<1	36	128	698	4.80	<10	0.47	2149	4	0.02	29	1200	148	<5	<20	135	<0.01	<10	84	<10	12	244
2	3129	5	1.3	1.33	100	40	<5	1.87	<1	43	92	193	7.67	<10	0.22	2026	5	0.01	22	980	32	<5	<20	100	<0.01	<10	117	<10	5	146
3	3130	5	0.8	1.52	<5	130	<5	4.92	<1	23	81	432	6.62	<10	0.53	3206	3	0.01	25	1430	18	<5	<20	350	0.01	<10	157	<10	11	141
4	3131	10	1.2	1.32	10	110	<5	3.55	<1	29	86	474	4.44	<10	0.56	1853	3	0.02	27	1070	42	<5	<20	596	0.01	<10	87	<10	12	150
5	3132	10	2.1	1.67	35	70	<5	3.43	<1	49	112	451	5.97	<10	0.67	2134	5	<0.01	26	1120	60	<5	<20	813	<0.01	<10	89	<10	15	209
6	3133	10	1.2	1.51	60	50	<5	3.85	<1	38	93	399	5.47	<10	0.65	2287	5	0.01	22	1230	18	<5	<20	1146	0.01	<10	102	<10	13	117
7	3134	5	0.9	1.19	<5	90	<5	2.54	<1	43	82	325	6.22	<10	0.56	1459	5	0.02	15	1250	14	<5	<20	596	0.02	<10	128	<10	9	92
8	3135	15	1.2	0.54	<5	555	<5	1.35	<1	45	72	640	>10	<10	0.08	1057	5	<0.01	8	1320	12	<5	<20	232	0.11	<10	147	<10	<1	71
9	3136	10	0.8	0.55	<5	665	<5	2.53	<1	67	71	400	4.87	<10	0.15	1738	5	0.01	21	1080	10	<5	<20	357	0.05	<10	60	<10	19	89
10	3137	20	1.4	0.67	<5	655	<5	2.61	<1	85	62	455	9.42	<10	0.22	1476	6	0.01	22	1510	10	<5	<20	404	0.05	<10	107	<10	9	80
11	3138	5	0.6	1.19	<5	315	<5	3.34	<1	59	34	610	4.95	<10	0.64	1619	2	0.02	24	890	14	<5	<20	1045	0.03	<10	103	<10	10	76
12	3139	10	0.2	1.07	<5	235	<5	2.94	<1	29	37	201	2.68	<10	0.97	930	2	0.03	12	940	10	<5	<20	214	0.05	<10	65	<10	<1	82
13	3140	10	0.2	1.00	<5	145	<5	2.50	<1	29	37	237	2.63	<10	0.92	895	2	0.04	10	970	8	<5	<20	192	0.03	<10	75	<10	6	82
14	3141	>1000	<0.2	1.48	<5	105	<5	0.89	<1	24	1001	58	3.61	<10	0.65	464	12	0.14	799	580	14	<5	<20	53	0.16	<10	66	<10	5	53
15	3142	10	<0.2	0.59	<5	15	<5	0.17	<1	3	33	3	2.75	70	0.20	615	4	0.06	2	550	28	<5	<20	8	0.01	<10	10	<10	13	80
16	3143	10	0.3	0.73	<5	110	<5	3.03	<1	23	31	222	3.24	<10	0.92	992	<1	0.02	8	1050	10	<5	<20	321	<0.01	<10	41	<10	7	48
17	3144	25	0.3	0.54	<5	55	<5	2.01	<1	11	37	123	2.51	<10	0.70	687	3	0.01	9	980	32	<5	<20	254	<0.01	<10	33	<10	6	32
18	3145	15	0.6	0.56	<5	5	<5	2.90	<1	28	24	217	3.48	<10	1.00	1000	9	<0.01	14	1060	34	<5	<20	592	<0.01	<10	44	<10	5	31
19	3146	5	0.2	1.16	<5	105	<5	3.40	<1	28	42	223	3.31	<10	1.00	598	4	0.03	11	930	10	<5	<20	291	<0.01	<10	103	<10	6	53
20	3147	10	0.3	1.31	<5	105	<5	3.43	<1	36	57	328	3.98	<10	1.32	763	1	0.04	15	1200	10	<5	<20	491	0.02	<10	94	<10	3	68
21	3148	10	0.5	0.40	<5	95	<5	5.16	<1	25	18	181	3.83	<10	1.27	1062	3	<0.01	10	1040	8	<5	<20	809	<0.01	<10	42	<10	11	40
22	3149	15	0.3	1.76	<5	165	<5	4.42	<1	47	101	498	5.50	<10	2.05	1216	2	0.02	34	2000	14	<5	<20	871	0.04	<10	147	<10	3	76
23	3150	10	0.4	2.21	<5	95	<5	5.97	<1	48	146	506	6.69	<10	2.43	1471	2	0.03	48	1330	16	<5	<20	537	0.06	<10	182	<10	<1	105
24	3151	5	0.5	2.08	<5	30	<5	3.90	<1	41	235	248	7.17	<10	2.91	1267	2	0.03	71	2250	16	<5	<20	2298	0.08	<10	209	<10	<1	102
25	3152	10	0.6	0.51	<5	35	<5	4.94	<1	25	58	104	4.73	<10	1.52	1391	4	<0.01	41	1950	10	<5	<20	532	<0.01	<10	85	<10	9	49
26	3153	15	0.3	0.33	<5	340	<5	>10	<1	12	51	186	3.97	<10	1.97	1825	1	<0.01	20	1110	2	<5	<20	1001	<0.01	<10	65	<10	5	39
27	3154	20	0.5	0.57	<5	45	<5	5.55	<1	24	66	133	4.92	<10	1.93	1388	3	<0.01	41	1920	8	<5	<20	601	<0.01	<10	110	<10	7	52
28	3155	5	0.4	0.30	<5	<5	<5	6.97	<1	19	58	75	4.89	<10	2.00	1362	4	<0.01	43	1730	8	<5	<20	655	<0.01	<10	65	<10	4	56
29	3156	5	0.3	1.48	<5	45	<5	3.58	<1	24	108	157	5.69	<10	2.30	1324	4	0.02	50	2110	16	<5	<20	300	<0.01	<10	155	<10	7	76
30	3157	10	0.3	0.27	<5	15	<5	2.80	<1	7	44	38	2.60	10	0.82	1132	13	<0.01	11	390	36	<5	<20	301	<0.01	<10	16	<10	2	87

Et #.	Tag #	Au (ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
31	3158	20	0.4	0.24	<5	5	<5	1.99	1	5	59	12	2.62	20	0.60	850	41	<0.01	9	60	46	<5	<20	278	<0.01	<10	5	<10	<1	109
32	3159	5	0.2	0.64	<5	150	<5	0.72	<1	5	74	4	2.12	<10	0.51	537	11	0.02	8	670	20	<5	<20	91	0.07	<10	17	<10	1	66
33	3160	10	0.6	0.23	<5	50	<5	6.21	<1	14	97	139	4.37	<10	2.00	1446	3	<0.01	26	1360	6	<5	<20	563	<0.01	<10	61	<10	3	44
34	3161	10	0.2	1.09	<5	130	<5	4.30	<1	22	97	107	5.30	<10	2.02	1110	4	0.01	46	1890	12	<5	<20	447	0.01	<10	158	<10	7	63
35	3162	35	1.0	0.15	10	<5	<5	9.49	<1	27	78	137	7.15	<10	2.96	2651	36	<0.01	44	1150	16	<5	<20	1000	<0.01	<10	108	<10	<1	75
36	3163	>1000	<0.2	1.40	<5	110	<5	0.85	<1	23	945	59	3.80	<10	0.63	471	12	0.15	761	570	14	<5	<20	56	0.12	<10	57	<10	5	51
37	3164	15	<0.2	0.62	<5	15	<5	0.19	<1	3	33	3	2.82	70	0.21	648	4	0.06	<1	580	26	<5	<20	10	<0.01	<10	12	<10	12	82
38	3165	15	<0.2	1.15	<5	220	<5	3.77	<1	23	104	122	5.09	<10	2.15	1057	3	0.02	47	1880	12	<5	<20	294	<0.01	<10	149	<10	5	64
39	3166	15	0.3	0.76	<5	80	<5	5.27	<1	23	76	169	5.31	<10	2.05	1503	6	<0.01	44	1980	10	<5	<20	511	<0.01	<10	126	<10	7	60
40	3167	15	0.3	0.22	<5	10	<5	2.00	<1	5	41	10	2.55	20	0.59	1179	17	<0.01	6	300	38	<5	<20	205	<0.01	<10	5	<10	<1	85
41	3168	10	0.2	0.23	<5	15	<5	0.92	<1	3	42	10	1.90	30	0.24	1088	2	0.03	<1	200	52	<5	<20	102	0.01	<10	2	<10	2	126
42	3169	10	<0.2	0.17	<5	10	<5	0.37	<1	1	84	1	1.43	20	0.10	415	3	<0.01	3	<10	36	<5	<20	108	<0.01	<10	1	<10	<1	69
43	3170	30	0.2	0.22	<5	10	<5	0.84	<1	2	31	2	2.36	30	0.28	861	5	<0.01	2	40	66	<5	<20	176	<0.01	<10	1	<10	<1	120
44	3171	30	<0.2	0.23	<5	10	<5	1.58	<1	4	53	7	1.81	30	0.40	1002	5	<0.01	8	350	34	<5	<20	184	<0.01	<10	4	<10	3	54
45	3172	15	0.4	0.31	<5	105	<5	5.61	<1	20	47	113	5.30	<10	1.69	2409	19	<0.01	26	1710	14	<5	<20	536	<0.01	<10	58	<10	4	58
46	3173	10	0.2	0.19	<5	125	<5	6.44	<1	14	109	109	4.94	<10	2.01	1651	12	<0.01	23	960	10	<5	<20	584	<0.01	<10	56	<10	<1	51
47	3174	10	0.2	0.41	<5	55	<5	5.92	<1	21	62	173	4.73	<10	2.06	1287	6	<0.01	35	1810	8	<5	<20	485	<0.01	<10	88	<10	8	50
48	3175	25	0.4	0.17	<5	20	<5	5.67	<1	18	77	75	4.41	<10	1.72	1273	4	<0.01	21	930	10	<5	<20	569	<0.01	<10	65	<10	4	45
49	3176	15	0.3	0.27	<5	165	<5	6.22	<1	23	58	88	5.34	<10	1.97	1306	3	<0.01	29	1910	8	<5	<20	679	<0.01	<10	117	<10	7	62
50	3177	5	<0.2	0.88	<5	165	<5	5.18	<1	25	83	95	5.76	<10	2.03	1290	2	0.01	40	2130	8	<5	<20	567	<0.01	<10	166	<10	8	76
51	3178	15	0.4	0.78	<5	155	<5	4.61	<1	20	44	167	5.24	<10	1.75	1202	4	0.01	20	1890	10	<5	<20	491	<0.01	<10	131	<10	10	62

QC DATA:

Repeat:

1	3128	5	1.8	1.37	35	130	<5	2.94	<1	38	131	684	4.98	<10	0.46	2209	5	0.02	31	1290	166	<5	<20	129	<0.01	<10	85	<10	12	267
10	3137	20	2.1	0.64	<5	615	<5	2.51	<1	81	59	466	8.76	<10	0.22	1423	5	0.01	21	1460	12	<5	<20	393	0.05	<10	99	<10	9	76
19	3146	5	0.2	1.12	<5	95	<5	3.36	<1	27	41	221	3.29	<10	0.98	591	4	0.03	13	960	10	<5	<20	281	<0.01	<10	101	<10	6	54
36	3163		<0.2	1.41	<5	105	<5	0.86	<1	22	938	58	3.80	<10	0.63	471	13	0.15	753	580	14	<5	<20	55	0.12	<10	56	<10	5	51
37	3164	5																												

Resplit:

1	3128	5	2.2	1.32	40	125	<5	2.98	<1	39	123	706	5.07	<10	0.45	2230	5	0.01	29	1250	166	<5	<20	130	<0.01	<10	83	<10	11	261
37	3164	5	<0.2	0.62	<5	15	<5	0.20	<1	3	42	4	2.83	70	0.21	652	3	0.06	<1	590	28	<5	<20	12	<0.01	<10	12	<10	11	84

Standard:

GEO '04	-	1.4	1.27	60	145	<5	1.27	<1	16	56	84	3.70	<10	0.70	572	<1	0.02	29	680	22	<5	<20	50	0.08	<10	65	<10	9	73
GEO '04	-	1.4	1.29	60	145	<5	1.30	<1	15	57	82	3.70	<10	0.70	566	<1	0.02	28	680	20	<5	<20	52	0.08	<10	60	<10	10	73
OXE21	645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/jm
df/1903
XLS/04

APPENDIX 3a

Analytical Procedures

Eco-Tech Labs Analytical Procedure

SAMPLE PREPARATION

Samples are catalogued and dried. Soils are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Samples unable to produce adequate minus 80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh. Rock samples are 2 stage crushed to minus 10 mesh and a 250 gram subsample is pulverized on a ring mill pulverizer to -140 mesh. The subsample is rolled, homogenized and bagged in a prenumbered bag.

GEOCHEMICAL GOLD ANALYSIS

The sample is weighed to 30 grams and fused along with proper fluxing materials. The bead is digested in aqua regia and analyzed on an atomic absorption instrument. Over-range values for rocks are re-analyzed using gold assay methods.

Appropriate reference materials accompany the samples through the process allowing for quality control assessment. Results are entered and printed along with quality control data (repeats and standards). The data is faxed and/or mailed to the client.

QUALITY CONTROL STANDARDS AND CERTIFIED STANDARDS

Approximately 50 CanMet Certified reference material, WCM Minerals reference ores and Inhouse Standards are currently in use in our laboratory. Each batch of samples analysed will contain one standard of similar composition to monitor the analysis. If the result of the reference material falls within the accepted limits the results of the samples will be accepted. In case the results of the reference material falls outside the accepted limits the results of the samples are suspect and the analysis will be repeated.

GOLD ASSAY

A 30 g sample size is fire assayed using appropriate fluxes. The resultant dore bead is parted and then digested with aqua regia and then analyzed on a Perkin Elmer AA instrument.

Appropriate standards and repeat sample (Quality Control Components) accompany the samples on the data sheet.

BASE METAL ASSAYS (Ag,Cu,Pb,Zn)

Samples are catalogued and dried. Rock samples are 2 stage crushed followed by pulverizing a 250 gram subsample. The subsample is rolled and homogenized and bagged in a pre-numbered bag.

A suitable sample weight is digested with aqua regia. The sample is allowed to cool, bulked up to a suitable volume and analysed by an atomic absorption instrument, to .01 % detection limit.

Appropriate certified reference materials accompany the samples through the process providing accurate quality control. Result data is entered along with standards and repeat values and are faxed and/or mailed to the client.

MULTI ELEMENT ICP ANALYSIS

A 0.5 gram sample is digested with 3ml of a 3:1:2 (HCl:HN03:H20) which contains beryllium which acts as an internal standard for 90 minutes in a water bath at 95°C. The sample is then diluted to 10ml with water. The sample is analyzed on a Jarrell Ash ICP unit.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and/or mailed to the client.

	Detection Limit	
	Low	Upper
Ag	0.2ppm	30.0ppm
Al	0.01%	10.0%
As	5ppm	10,000ppm
Ba	5ppm	10,000ppm
Bi	5ppm	10,000ppm
Ca	0.01%	10,00%
Cd	1ppm	10,000ppm
Co	1ppm	10,000ppm
Cr	1ppm	10,000ppm
Cu	1ppm	10,000ppm
Sn	20ppm	10,000ppm
Sr	1ppm	10,000ppm
Ti	0.01%	10.00%
U	10ppm	10,000ppm
V	1ppm	10,000ppm
Y	1ppm	10,000ppm
Zn	1ppm	10,000ppm

	Detection Limit	
	Low	Upper
Fe	0.01%	10.00%
La	10ppm	10,000ppm
Mg	0.01%	10.00%
Mn	1ppm	10,000ppm
Mo	1ppm	10,000ppm
Na	0.01%	10.00%
Ni	1ppm	10,000ppm
P	10ppm	10,000ppm
Pb	2ppm	10,000ppm
Sb	5ppm	10,000ppm

APPENDIX 3b

Reference Standard Information

CDN Resource Laboratories Ltd.

10945-B River Road, Delta, B.C., V4C 2R8, 604 596-2245, Fax: 604 588-3960

GOLD ORE REFERENCE STANDARD: CDN-GS-5A

Recommended value and 95% Confidence Interval (±2SD)

Gold concentration: 5.10 ± 0.27 g/t

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 4 days in a rotary mixer. After internal assaying to test for homogeneity, splits were taken and sent to 7 commercial laboratories for round robin assaying. Round robin results are displayed below:

		Lab. 1	Lab. 2	Lab. 3	Lab. 4	Lab. 5	Lab. 6	Lab. 7
		Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)
GS5A-1		4.80	5.28	5.20	5.07	5.04	5.21	5.09
GS5A-2		5.19	5.18	5.13	4.96	5.08	5.22	5.05
GS5A-3		5.05	5.35	5.01	4.79	4.73	5.19	5.01
GS5A-4		4.92	5.27	5.19	5.14	4.87	5.21	5.05
GS5A-5		5.00	5.26	5.12	4.89	5.14	5.26	5.19
GS5A-6		5.02	5.20	5.25	4.83	5.01	5.29	5.11
GS5A-7		5.03	5.16	5.05	5.16	4.66	5.24	4.97
GS5A-8		4.90	5.31	5.01	4.92	5.21	5.24	5.05
GS5A-9		4.99	5.31	5.17	4.80	5.11	5.20	5.07
GS5A-10		4.89	5.24	5.18	5.02	5.01	5.21	5.01
GS5A-11		4.95	5.28	5.07	5.11	5.08	5.27	5.00
GS5A-12		4.83	5.56	5.14	5.01	4.60	5.20	5.05
Mean		4.96	5.28	5.13	4.98	4.96	5.23	5.05
Std. Dev.		0.106	0.104	0.077	0.131	0.200	0.032	0.058
%RSD		2.14	1.96	1.51	2.63	4.02	0.60	1.15

Assay Procedure: all assays were fire assay, AA or ICP finish on 30g samples

APPROXIMATE CHEMICAL COMPOSITION:

	Percent			Percent
SiO2	58.8		Na2O	3.6
Al2O3	16.6		MgO	2.7
Fe2O3	8.9		K2O	1.5
CaO	5.6		TiO2	0.6
MnO	0.2		LOI	0.8

GOLD ORE REFERENCE STANDARD: CDN-GS-5A

Statistical Procedures:

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean ± 2 Standard Deviations from all data. These outliers were removed from the data and a new mean and standard deviation was determined. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Certified Limits published on other standards.

Participating Laboratories:
(not in same order as table of assays)

Acme Analytical Laboratories Ltd.
ALS Canada Inc.
Assayers Canada Ltd., Vancouver
Geolaboratory, Geological Survey of Finland
International Plasma Laboratories Ltd., Vancouver
OMAC Laboratory, Ireland
TSL Laboratories Ltd., Saskatoon

Availability: Lots of 500g, 1 kg, 2 kg, or as per request.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by _____
Duncan Sanderson
Licensed Assayer of British Columbia

Geochemist 
_____
Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

10945-B River Road, Delta, B.C., V4C 2R8, 604 596-2245, Fax: 604 588-3960

GOLD ORE REFERENCE STANDARD: CDN-GS-20

Recommended value and 95% Confidence Interval (±2SD)
Gold concentration: 20.60 ± 0.67 g/t

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 4 days in a rotary mixer. After internal assaying to test for homogeneity, splits were taken and sent to 7 commercial laboratories for round robin assaying. Round robin results are displayed below:

		Lab. 1	Lab. 2	Lab. 3	Lab. 4	Lab. 5	Lab. 6	Lab. 7
		Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)	Au (g/t)
GS20-1		20.17	20.55	20.95	19.95	20.75	20.98	20.60
GS20-2		20.17	20.10	20.74	19.80	20.44	20.49	20.00
GS20-3		20.17	20.40	20.78	20.40	20.37	21.06	20.40
GS20-4		19.80	20.40	20.61	20.40	20.99	21.14	20.50
GS20-5		20.57	20.40	20.74	20.10	20.47	21.06	19.80
GS20-6		20.53	20.70	20.98	20.40	20.82	20.98	20.50
GS20-7		20.40	20.45	21.26	20.30	20.23	20.82	20.00
GS20-8		20.50	20.00	21.15	20.10	21.06	20.82	20.20
GS20-9		20.60	20.70	21.43	20.70	20.47	20.82	20.70
GS20-10		20.50	20.25	21.05	20.60	21.12	20.90	20.50
GS20-11		20.63	20.40	21.09	20.50	20.99	20.90	20.40
GS20-12		20.23	20.95	21.22	20.40	20.23	21.06	20.90
Mean		20.36	20.44	21.00	20.30	20.66	20.92	20.38
Std. Dev.		0.249	0.263	0.247	0.267	0.330	0.173	0.319
%RSD		1.22	1.29	1.18	1.31	1.60	0.83	1.57

Assay Procedure: all assays were fire assay, gravimetric finish on 30g samples (with the exception of Lab. 7 which reported with an AA finish).

APPROXIMATE CHEMICAL COMPOSITION:

	Percent			Percent
SiO2	61.9		Na2O	3.5
Al2O3	15.1		MgO	2.7
Fe2O3	7.5		K2O	1.3
CaO	4.8		TiO2	0.1
MnO	0.1		LOI	1.1

GOLD ORE REFERENCE STANDARD: CDN-GS-20

Statistical Procedures:

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean ± 2 Standard Deviations from all data. These outliers were removed from the data and a new mean and standard deviation was determined. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Certified Limits published on other standards.

Participating Laboratories:
(not in same order as table of assays)

Acme Analytical Laboratories Ltd.
ALS Canada Inc.
Assayers Canada Ltd., Vancouver
Geolaboratory, Geological Survey of Finland
International Plasma Laboratories Ltd., Vancouver
OMAC Laboratory, Ireland
TSL Laboratories Ltd., Saskatoon

Availability: Lots of 500g, 1 kg, 2 kg, or as per request.
Minimum order: 1 kg.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by _____
Duncan Sanderson
Licensed Assayer of British Columbia

Geochemist 
_____
Barry Smee, Ph.D., P. Geo.

APPENDIX 4

Diamond Drill Logs

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-1

Coordinates: Grid
GPS 401355E 5490473N NAD 83
Claim: L 1679s Idaho Fr
Operator: Solitaire Minerals Corp.
Purpose: to test for Union vein west of Maple Leaf fault

Azimuth: 000º
Dip: - 50º
Depth: 102.41 m (336')
Elevation: 1180 m (approx)
Dip Tests: none

Started: Oct 19/04
Completed: Oct 22/04
Drilled by: Atlas Drilling
Logged by: J. Kermeen
Core size: NQ2, attempt to reduce to BQ without success

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	3.05	Casing										
3.05	96.32	Eocene arkose	3.05 - 18.30 Conglomerate. Clasts are chiefly rounded to semi-rounded but some angular; largely									
		(+ interbedded	clast supported clasts up to 6 cm, but most < 3 cm. Polymictic, including aphanitic black argillite,									
		conglomerate	fine grained grayish green igneous rocks and many more. Generally poorly sorted but vague									
		& minor siltstone	bedding here and there @ 40-50º to CA.									
		& black shale)										
			Broken core, possible faulting @ 15.9 m @ 50º to CA and again at 16.65 - 16.90 @ 40-50º to CA									
			18.30 - 20.20 Arkose (tuff?). Clast70% feldspathic, mostly light greenish-grey, some white. 30%									
			finer grained dark greenish clasts. Well bedded with finer material at 18.5 m 45º to CA, then									
			banding nearly parallel to core. Lower contact @ 30º to CA.									
			20.2 - 24.6 aphanitic to fine grained argillite - siltstone (or very fine grained tuff). Medium									
			greenish grey in colour, in part very thinly bedded.									
			Bedding: @ 20.4 m @ 28º to CA									
			@ 21.8 m @ 22º to CA									
			@ 22.9 m @ 26º to CA									
			24.6 - 25.0 Tertiary conglomerate, similar to 3.05 - 18.30.									
			25.0 - 51.62 Tertiary arkose, light greenish grey with perhaps 20% near white feldspar clasts. Fine									
			grained matrix is darker greenish grey. Generally poorly sorted but at several locations where									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
3.05	96.32	Eocene arkose	25.0 - 51.62 cont… is fine grained, or alternately fine to coarse, bedding is well defined.									
	cont …	(+ interbedded	Bedding: @ 27.2 @ 45º to CA									
		conglomerate	@ 28.7 @ 45º to CA									
		& minor siltstone	@ 36.4 @ 30º to CA									
		& black shale)										
		cont …	37.30 - 42.5 finer grained but similar composition.									
			50.60 - 51.20 very fine grained siltstone, bedding @ 40º to CA									
			51.20 - 51.62 numerous thin layers of dark grey siltstone beds @ 45º to CA									
			51.62 - 58.20 Siltstone. Dark grey siltstone with 10 cm bed of arkose. Bedding @ 25-30º to CA.									
			58.20 - 59.30 conglomerate, similar to 3.05 - 18.30									
			59.30 - 70.90 Arkose - similar to 18.3 - 20.2. Upper contact is marked with 4 cm bed of fine									
			grained, dark grey siltstone. Bedding @ 36º to CA.									
			70.90 - 71.36 conglomerate, similar to 3.05 - 18.30									
			71.36 - 72.64 Black shale - highly graphitic and sheared. Very bad ground. Shearing and probably	3001	71.36	72.61	1.25	10	<0.2	22	42	121
			bedding @ 24º to CA.									
			72.64 - 77.67 Siltstone/shale. “dunn coloured” grey-beige, very fine grained siltstone - chiefly									
			quite massive but has intervals of thin bedding, quite contorted. Bedding @ 0-40º to CA.									
			77.67 - 96.32 FAULTED ZONE (Eocene unconformity). Alternating bands of graphitic black									
			shale, dark coloured siltstone and a coarse breccia with angular clasts of siltstone in a dark grey fine-									
			grained siltstone matrix. Drillers had major problems in this zone and eventually could not									
			penetrate with N rods (significant sections of graphitic fault gouge).									
			77.67 - 78.56 Black shale, in part foliated at 0-20º to CA									
			78.56 - 79.15 grades to dunn coloured siltstone									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			79.15 - 80.40 Black shale - highly graphitic and sheared @ ~ 20º to CA, much broken core.	3002	79.15	80.30	1.15	10	<0.2	17	30	57
3.05	96.32	Eocene arkose	77.67 - 96.32 FAULTED ZONE, cont ...									
	cont …	(+ interbedded	80.40 - 81.76 “Breccia” possibly a variety of conglomerate or may be a tectonic breccia or a									
		conglomerate	volcanic breccia (Franklin?). Foliated @ 0-15º to CA.									
		& minor siltstone										
		& black shale)	81.76 - 83.21 Dark grey siltstone grading to dunn coloured massive rock									
		cont …										
			83.21 - 89.60 alternating intense graphitic black shale and badly broken siltstone; some	3003	87.66	88.63	0.97	5	<0.2	398	24	53
			“breccia” as in 80.40 - 81.76; graphitic sections sheared @ 30º to CA									
			89.60 - 92.00 “breccia” similar to 80.40 - 81.76									
			92.0 - 96.32 alternating beds of “black shale” and dunn coloured siltstone, bedding @ 45º to									
			CA.									
			92.13 - 92.32 graphitic fault gouge									
			94.36 5 cm gouge seam									
			96.01 - 96.32 completely broken and graphitic - Fault zone.									
			96.32 - unconformity at base of Eocene									
96.32	102.41	Franklin volcanic	Intermediate volcanic breccia - fairly sure this is Franklin volcanics.									
		breccia										
102.41	EOH											

Box #	From	To	Recovery
1	3.05	8.92	97%
2	8.92	14.66	100%
3	14.66	20.12	100%
4	20.12	25.84	100%
5	25.84	31.60	100%
6	31.60	37.30	100%
7	37.30	43.00	100%
8	43.00	48.63	97%
9	48.63	54.50	100%
10	54.50	60.11	100%
11	60.11	65.83	100%
12	65.83	71.36	100%
13	71.36	77.00	83%
14	77.00	82.60	100%
15	82.60	90.12	68%
16	90.12	95.72	95%
17	95.72	101.24	95%
18	101.24	102.41	100%

Box #	From	To	Recovery

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-2

Coordinates: Grid
GPS 401505E 5490675N NAD 83
Claim: L 1679s Idaho Fr.
Operator: Solitaire Minerals Corp.
Purpose: to test for Union vein west of Maple Leaf fault in section hole 1 failed to test

Azimuth: 210º
Dip: - 50º
Depth: 270.05 m (886')
Elevation: 1152 m (approx)
Dip Tests: -52º @ 259.05 m

Started: Oct 23/04
Completed: Oct 26/04
Drilled by: Atlas Drilling
Logged by: J. Kermeen
Core size: NQ2

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	6.10	Casing										
6.10	120.85	Eocene sediments	6.10 - 11.20 conglomerate, largely clast supported. Clasts to 3-4 cm, polymictic. Core much									
		(interbedded	broken, bedding not discernable.									
		arkose, siltstone,										
		conglomerate)	11.20 - 11.25 5 cm seam of gouge									
			11.25 - 15.22 Siltstone, very fine grained (or very fine grained tuff?). Grey to dunn coloured, fairly									
			soft. In part thinly bedded @ 48º to CA. Towards end of section coarser beds are interbedded with									
			fine grained dark beds.									
			15.22 - 21.00 Arkose. Similar to that described in ddh 04-1, with a few thin beds of fine grained									
			siltstone/tuff. Bedding @ 48º to CA.									
			21.00 - 25.26 conglomerate as above but larger clasts to 8 cm. Angular to rounded clasts.									
			25.26 - 28.82 alternating arkose and coarse conglomerate									
			28.80 - 28.92 "Feldspar porphyry". Reddish with euhedral light grey feldspars in fine grained									
			matrix, fine dusting of specularite and significant % of rock stained with hematite. Very hard.									
			Probably xtal rich ignimbrite (ash flow tuff) (L. Caron addition to log - JK calls it a feldspar	3004	28.80	28.92	0.12	10	<0.2	12	26	102
			porphyry dyke)									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
6.10	120.85	Eocene sediments	28.92 - 34.80 Arkose. Medium to coarse grained, thick bedded. A few interbeds of siltstone.									
	cont …	(interbedded	Bedding @ 47º to CA.									
		arkose, siltstone,	34.80 - 41.10 Mixed arkose and conglomerate. 80% medium grained arkose, 20% coarse									
		conglomerate)	conglomerate clasts scattered through it. Tops from graded bedding up the hole. Bedding @ 45º to									
		cont …	CA.									
			41.10 - 45.90 Alternating thin beds of arkose and fine grained to very fine grained siltstone.									
			Bedding @ 45º to CA.									
			45.90 - 65.04 Siltstone & claystone. Very fine grained, very thin bedded, light to dark grey									
			siltstone to claystone. Recovery almost 100% throughout. Bedding @ 45º to CA. Tops up hole.									
			65.04 - 77.70 Arkose. Medium grained arkose. Thick bedding. Appears almost massive. Some									
			fine grained siltstone/claystone interbeds @ 45º toward end of section. Toward end of section									
			scattered angular soft black shale clasts appear. Possible water lain tuff, as in ddh 04-4 78.35-105.5									
			and ddh 04-3 53.0 - 110.0.									
			77.70 - 89.43 Interbedded siltstone, very fine grained siltstone and fine grained arkose. Bedding @									
			47º to CA.									
			84.62 - 85.83 Syenite “pulaskite” dyke. Pale grey irregular shaped feldspar									
			phenocrysts in medium grey fine grained matrix.									
			89.43 - 94.50 Arkose. Feldspathic sandstone (or possible qtz/fsp pyroclastics). Considerably more									
			quartz clasts and is harder than prior arkose sections. No distinct bedding.									
			94.50 - 102.48 Arkose/conglomerate. Grades from arkose to conglomerate with an increasing									
			number of large rounded to angular clasts down the hole.									
			96.56 - 97.35 Syenite “pulaskite” dyke as in 84.62 - 85.83.									
			102.48 - 115.60 Conglomerate. Polymictic, clast supported, both rounded and angular clasts up									
			to 10 cm. No distinct bedding.									
			115.60 - 115.79 Fault. Heavy graphite slips.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
6.10	120.85	Eocene sediments	115.79 - 117.60 Siltstone/shale. Fine grained to aphanitic siltstone/shale/claystone. Grey-buff. No									
	cont …	(interbedded	bedding.									
		arkose, siltstone,										
		conglomerate)	117.6 - 120.85 Siltstone/shale. Thinly bedded interbedded siltstone and shale. Bedding ~ 25º to									
		cont …	CA. Considerable core loss.									
			118.43 - 118.55 Fault gouge									
			118.94 - 119.00 Fault gouge									
			120.60 - 120.70 Fault gouge									
			@ 120.85 Eocene/Franklin unconformity. Highly faulted with highly graphitic shears above									
			unconformity.									
120.85	138.74	Franklin	Fragmental, intermediate Franklin volcanics. Pale greenish grey, fine grained to aphanitic angular									
		fragmental	fragments up to 5 cm, in matrix of smaller fragments and finer grained darker material. Flow									
		volcanic	banding not readily apparent but occasional thin interbeds indicate bedding ~ 27º to CA. Non									
			magnetic. Towards end of section a few white cc stringers. No sulfides.									
			131.80 - 132.83 polymictic conglomerate (Franklin or dyke of Eocene conglomerate filling									
			fracture in older rocks. Angular and rounded clasts to 3 cm.									
			136.55 - 136.86 broken core and gouge - minor fault.									
138.74	175.80	Franklin	Harder, more felsic and lighter coloured than previous section but no well defined contact with									
		volcanics	fragmental volcanics above. Probably trachyte to rhyolite or latite composition. Fine grained,									
			massive with little evidence of flow banding. Short, irregular veinlets of white calcite scattered									
			throughout but a very small % of rock. Perhaps some matrix calcite. Poss flow interbed @ 173.2 m									
			@ 45º to CA.									
175.80	182.22	Syenite dyke	Massive Eocene syenite? dyke. Near white euhedral to rounded, 1 - 5 mm, fsp phenos in a fine									
			grained grey gmass. Sharp lower contact @ 45º to CA.									
182.22	184.71	Franklin	Intermediate fragmental volcanic, angular to rounded clasts of more than one material in fine-									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
		fragmental	grained matrix.									
		volcanics										
184.71	224.30	Calcareous	“Black shale” - very fine grained, dark grey to black, massive, relatively soft. Angular lighter									
		argillite	coloured coarser grained tephra? throughout, percentage and clast size increase through the section.									
			No noticeable bedding. Significant calcite both in the matrix and in wispy white veinlets scattered	3005	190.40	191.40	1.0	15	<0.2	57	46	108
			throughout.	3006	191.40	192.40	1.0	15	<0.2	99	50	94
				3007	192.40	194.40	2.0	15	<0.2	52	44	98
			190.40 - 204.10 sulfides (chiefly pyrite) occur both as disseminations in the matrix and with	3008	194.40	196.40	2.0	10	<0.2	58	44	99
			calcite in veinlets. Maximum sulfide content might be 2% for short sections.	3009	196.40	198.40	2.0	15	<0.2	50	50	106
			191.5 - 192.3 0.2 - 0.5 cm wide pyrite vein with some calcite, running parallel to core	3010	198.40	200.40	2.0	15	<0.2	48	52	88
				3011	200.40	202.40	2.0	15	<0.2	58	66	104
			Note: hardness of this unit gradually increases to end of sections, possibly indicating grading	3012	202.40	204.10	1.7	15	<0.2	63	54	114
			toward felsic side.									
224.30	270.05	Calcareous	Pale greenish grey calcareous shale (or intermediate tuff). Very fine grained matrix with variable									
		shale	composition clasts to 1 cm. Fairly soft at beginning of section - increasing in hardness up to cherty									
			section. The rock is calcareous throughout, both in the fine matrix and as numerous white calcite									
			veinlets - with the exception of the noted “cherty” looking section. Calcite veining is most intense									
			from 262.9 - 265.56.									
			234.55 - 237.44 Medium grey cherty looking, but then grades to softer again. Probably very									
			fine grained rhyolite tuff? or flow? (LC on entering log - probably calcareous greenstone, grading to									
			siliceous greenstone)									
			265.66 - 265.9 Fault - broken core and some gouge. Slip face @ 40º to CA									
270.05	EOH											

Box #	From	To	Recovery
1	6.10	13.27	74%
2	13.27	18.80	100%
3	18.80	24.42	100%
4	24.42	30.08	100%
5	30.08	35.94	100%
6	35.94	41.66	100%
7	41.66	47.32	82%
8	47.32	52.74	100%
9	52.74	58.17	100%
10	58.17	63.63	100%
11	63.63	69.28	100%
12	69.28	75.00	100%
13	75.00	80.80	100%
14	80.80	85.56	85%
15	85.56	92.45	100%
16	92.45	98.25	100%
17	98.25	103.95	100%
18	103.95	109.48	100%
19	109.48	115.45	100%
20	115.45	120.85	85%
21	120.85	126.13	100%
22	126.13	131.78	100%
23	131.78	137.38	100%
24	137.38	143.00	100%
25	143.00	148.56	84%
26	148.56	154.50	100%
27	154.50	160.02	99%
28	160.02	165.80	100%
29	165.80	171.47	100%
30	171.47	176.83	100%
31	176.83	182.41	100%

Box #	From	To	Recovery
32	182.41	187.76	100%
33	187.76	192.94	100%
34	192.94	198.56	100%
35	198.56	204.16	100%
36	204.16	209.82	100%
37	209.82	215.40	100%
38	215.40	220.97	100%
39	220.97	226.52	100%
40	226.52	232.58	94%
41	232.58	237.92	100%
42	237.92	243.80	97%
43	243.80	249.55	99%
44	249.55	255.15	
45	255.15	260.83	
46	260.83	266.28	
47	266.28	270.05	

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-3

Coordinates: Grid
GPS 401393E 5490547 NAD 83
Claim: L1679s Idaho Fr
Operator: Solitaire Minerals Corp.
Purpose: to test for Union vein west of Maple Leaf fault

Azimuth: 005º
Dip: - 50º
Depth: 361.45 m (1186')
Elevation: 1163 m (approx)
Dip Tests: -56º @ 352.3 m
Note: hole is producing water @ sufficient rate for drilling

Started: Oct 27/04
Completed: Nov 3/04
Drilled by: Atlas Drilling
Logged by: J. Kermeen / L. Caron
Core size: NQ2 14.02 - 135.03 m
BQ 135.03 - 361.45 m

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	14.02	Casing	casing + rubble. One large conglom boulder cored.									
14.02	124.0	Eocene sediments	14.02 - 18.61 Conglomerate. Polymictic, rounded and some angular pebble clasts up to 10 cm									
		(interbedded	diameter.									
		arkose, conglom,	17.30 - 17.63 Arkose. Medium grained. Bedding @ 45º to CA									
		siltstone)										
			18.61 - 21.80 Arkose with siltstone interbeds @ 45º to CA									
			21.80 - 30.00 Arkose. Coarse grained arkose with 20% conglomerate clasts (large black soft									
			argillite? or mafic tuff? clasts predominate). Bedding ~ 47º to CA.									
			30.0 - 53.0 Siltstone/shale. Fine grained siltstone to argillite. Very thinly bedded throughout.									
			Light grey with darker grey layers. Quite soft. Bedding @ 42 - 45º to CA.									
			53.0 - 110.0 Arkose (or waterlain tuff?, as in ddh 04-4 78.35 - 105.50m). Predominantly typical									
			Eocene arkose. Medium to coarse grained, grey to pinkish, thick bedded except where there are									
			siltstone interbeds.									
			67.40 - 67.80 dark grey to black shaley layer @ 45º to CA, sheared.									
			89.95 - 110.0 prominent rounded "pebbles" of dark greenish-grey basalt begin to appear, here									
			and there, embedded in the arkose. Some have sparse dissem pyrite. From 93.4 - 97.3 they make up									
			25% of core - may be a clue to the timing of mafic volcanic event (ie. these may be rounded ejecta									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			"volcanic bombs" in a tuff/arkose.									
14.02	124.0	Eocene sediments	110.0 - 119.2 Conglomerate (agglomerate). Polymictic, but all look volcanic except two pebbles of									
	cont …	(interbedded	"red dyke". Possible faulting @ 115.56.									
		arkose, conglom,										
		siltstone)	119.2 - 119.95 Arkose - fine to medium grained.									
		cont …										
			119.95 - 120.60 Calcareous black shale. Graphitic, broken and faulted. Bedding @ 47º to CA.									
			120.6 - 124.00 Siltstone/shale. Fine grained to aphanitic, dark grey to dunn coloured.									
			121.35 - 124.0 Broken core, probably 3 m of core loss									
124.0	124.90	Fault zone	Eocene - Franklin unconformity. Core much broken, some gouge, faulted. 50% core recovery.									
129.0	139.17	Franklin	Intermediate Franklin volcanics, highly fragmental. Larger fragments to 3 cm, chiefly pale greenish									
		fragmental	grey. Finer material tends to be dark green to black. No bedding or banding discernable.									
		volcanics										
139.17	167.28	Franklin	Massive intermediate to felsic volcanic, chiefly very fine grained, a few short fragmental sections.									
		volcanics	Medium greenish-grey to pale greenish-grey, lighter coloured sections are harder. No distinct flow									
			banding or bedding. Fractures vary from 40-80º to CA.									
167.28	171.15	Syenite	Feldspar porphyry dyke - pale greenish phenocrysts in medium greenish-grey fine grained matrix.									
		"pulaskite"	Contacts sharp @ 20-30º to CA.									
171.15	174.5	Franklin shale	Very fine grained to aphanitic, dunn coloured rock, fairly soft.									
		(mudstone)	171.5 - 173.5 shattered, almost brecciated, fine fractures filled with black material and some cc									
174.5	240.65	Franklin	Fine grained, massive, intermediate siltstone/shale. Muddy grey colour, medium hardness. Fine									
		siltstone / shale	irregular veinlets of white calcite throughout which might constitute <1% - 5% of rock mass. Very									
			minor disseminations of pyrite here and there and widespaced minor pyrite in fractures. Core									
			recovery very good. Probably a very fine grained tuff.									
			198.42 broken core, some gouge - minor fault									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			198.42 - 199.80 fragmental - angular frags of med grey-green and light grey fine grained volc									
			205.28 - 205.46 silic'd with wisps of pyrite	3014	205.26	205.46	0.20	10	0.6	119	50	61
174.5	240.65	Franklin	213.0 thin bedding @ 22º to CA. Also 5 cm wide microbreccia @ 50º to CA and again @									
	cont …	siltstone / shale	236.35.	3013	224.0	227.0	3.0	20	1.3	154	52	161
		cont …	221.0 & 227.5 thin bedding @ 22º to CA									
			224.6 0.8 cm qtz/cc vein with py on contacts, 40º to CA									
			238.5 thin bedding @ 18º to CA									
240.65	242.47	Franklin	Aphanitic black shale or mafic tuff. Soft. Criss crossed with white calcite veinlets and small breccia	3015	240.63	242.47	1.84	10	1.6	120	60	145
		calcareous	infillings; matrix also calcareous. Upper contact sharp @ 45º to CA.									
		argillite										
242.47	245.46	Franklin	Aphanitic to very fine grained medium muddy grey shaley sediment or intermediate tuff, as in 174.5									
		siltstone / shale	- 240.65.									
		(as in 174.5 -	245.18 - 245.44 "black shale" some pyrite in irregular veinlets									
		240.65)										
245.46	251.12	Syenite	Feldspar porphyry syenite "pulaskite" dyke (or sill?). Light buff Kspar megacrysts to 1 cm + minor									
			mafic phenos in fine grained medium grey matrix. Upper contact sharp @ 60º to CA. Lower									
			contact sharp @ 78º to CA. Both contacts have chilled margins.									
251.12	253.86	Franklin	Very fine grained, medium grey fragmental. Sparse white calcite veinlets.									
		calcareous										
		shale										
253.86	255.12	Franklin	Light grey to dunn to creamy, fine grained, somewhat harder than previous section. Possibly									
		shale?	somewhat silicified.									
255.12	257.62	Silicified Zone	Intense silicification of intermediate to felsic volcanic fragmental. Silicification is most intense at	3016	252.90	253.85	0.95	1	0.9	121	66	191
			upper contact. Towards end of section original fragmental texture more obvious. Lower contact is a	3017	253.85	255.05	1.20	85	2.3	88	46	354
			major fault with 0.5 cm gouge @ 22º to CA. Tiny close spaced fractures throughout, in places	3018	255.05	256.03	0.98	100	1.7	30	102	341
			forming a crackle pattern - many filled with very fine later quartz. Sparse very fine grained	3019	256.03	256.80	0.77	40	1.9	51	38	1722
			disseminated pyrite throughout. Perhaps a few grains of chalcopyrite and very fine grained galena.	3020	256.80	257.62	0.82	135	3.7	68	394	419

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
				3021	257.62	258.62	1.00	20	1.0	85	54	197
			Zone is at 20 - 35º to CA. Contact is stepped and somewhat irregular.	3022	BLANK			5	<0.2	3	44	113
				3023	STANDARD GS-5A			>1000	<0.2	57	32	71
257.62	280.70	Franklin	Massive, weak-mod calcareous, tuffaceous fine grained siltstone. Medium grey-green, matrix									
		calcareous	calcareous and small white calcite veinlets throughout. No bedding noted. Fine grained with relic									
		tuffaceous	fsp xtals. Local intervals with up to 30% 0.5-1 cm lithic frags. Minor diss py.									
		siltstone										
			@ 260.3 narrow gouge/bx zone @ 35º to CA									
			@ 261.82 narrow gouge zone @ 50º to CA									
			269.2 - 269.3 Fault/crush zone									
			@ 280.7 sharp contact @ 45º to CA to fine conglomerate									
280.70	330.5	Franklin	280.70 - 281.85 Interbedded fine grained conglomerate & sst/siltstone. Matrix supported with 60%									
		conglomerate	3 mm - 1 cm clasts (avg 4-6 mm) of chert, black shalte, silic tuff, + … in medium grey, non-									
		(+ interbedded	calcareous fine grained gmass, as in sst interbeds. Minor cc vnlts.									
		calc sst, black										
		shale)	@ 281.85 grades to a dark grey coarse grained polymictic conglomerate, typically matrix supported									
			but may locally be clast supported with avg 75% 0.5 - 7 cm (& perhaps as much as 35-50 cm)									
			subround to angular clasts of black shale, buff tuffaceous siltstone, limestone, & chert in a grey-									
			brown typically calcareous, fine grained gmass. Common cc vnlts. Minor diss py. This is									
			interbedded with a grey-brown, moderately well bedded calcareous sandstone and with well bedded									
			black argillite + very minor limestone. Larger interbeds are noted. Some intervals may be very									
			large boulders in conglomerate, rather than beds (ie. where contacts are at distinctly different angles									
			from bedding) - these are not listed.									
			290.9 - 291.1 limestone - irregular upper contact, faulted lower contact									
			291.1 - 291.77 very fine grained, dark grey-brown calcareous siltstone/mudstone. Sharp lower									
			contact back to conglomerate @ 85º to CA.									
			292.5 - 293.45 Grey brown calcareous sandstone with well developed bedding @ 50º to CA. Sharp									
			but irregular lower contact to black calcareous shale/argillite below.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			293.45 - 297.25 Black calcareous shale / argillite + minor interbedded calcareous sst, as in 292.5 -									
			293.45. Good bedding @ 50º to CA.									
			299.0 - 300.0 Probably fault zone - very strongly crushed, ground core. No good orientation.									
280.70	330.5	Franklin	303.0 - 327.0 conglomerate has become clast supported with 95% clasts. Minor diss py.									
	cont …	conglomerate										
		(+ interbedded	327.0 - 330.5 grades down section to massive grey-brown calcareous sandstone									
		calc sst, black										
		shale) cont …										
330.5	334.75	Franklin	Massive grey-brown calcareous sandstone & minor interbedded fine grained matrix supported									
		sandstone	conglomerate.									
			@ 332.0 strong fracture with cc and slickensides @ 0º to CA. Core is very broken 332.0-333.0									
			@ 334.75 grades down section into fine grained siltstone.									
334.75	361.45	Franklin	334.75 - 344.82 Aphanitic grey-buff-tan- brown, mottled, very hard to moderately hard - pervasive									
		siltstone	silic'n + albite? alt'n. Cut by 2-5% py-chl stockwork microfractures with bleached buff alteration	3024	334.75	337.07	2.32	130	1.2	114	70	200
		+/- calcareous	envelopes + locally patchy py to 1 xm x 0.5 cm. Crackled.	3025	337.07	340.11	3.04	60	1.7	84	118	321
		locally silic'd,		3026	340.11	342.0	1.89	120	2.2	79	86	815
		albite, py	Driller reports a major fault 1106-1116 feet (337.07 - 340.11). Core in this section is very broken	3027	342.0	344.0	2.0	70	1.0	78	64	141
			and blocky with local 5 - 10 cm bx zones @ 45º to CA, with 20-40% silic'd siltstone clasts in black	3028	344.0	346.0	2.0	15	0.7	87	62	162
			siliceous-pyritic mtrx. This could be the Maple Leaf Fault.	3029	346.0	348.0	2.0	10	0.5	69	52	148
				3030	348.0	350.0	2.0	25	0.7	74	46	108
			@ 344.82 1 cm narrow gouge zone @ 45º to CA	3031	350.0	352.0	2.0	15	0.7	54	52	169
				3032	352.0	354.0	2.0	20	1.4	121	58	197
			344.82 - 354.0 weak-mod calcareous siltstone, mod hard but can scratch, massive, medium grey-									
			green colour, aphanitic to fine grained. Common cc vnlts. Minor diss py + minor chl/py									
			microfractures & rare grey qtz vnlts with patchy py, to 1 cm.									
			349.5 - 350.0 aphanitic black calcareous shale interbed @ 75º to CA									
			354.0 - 359.0 Mod-strongly calcareous siltstone - sandstone. Massive, med grey-brown, fine									
			grained siltstone to very fine grained sandstone. Common cc vnlts. 2% chl-py microfractures.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			359.0 - 361.45 grades to a massive, fine grained, mottled, buff-pale grey-brown weakly calcareous	3033	359.0	361.45	2.45	15	1.2	136	64	262
			siltstone. Pervasive silic'n + albite? alteration. Mod hard. 5% chl-cc-py vnlts with bleached									
			alteration envelopes, similar to 334.75 - 344.82. Abund late cc vnlts.									
361.35	EOH											

Box #	From	To	Recovery
1	14.90	18.72	100%
2	18.72	24.50	100%
3	24.50	30.23	100%
4	30.23	35.96	100%
5	35.96	41.45	100%
6	41.45	47.05	100%
7	47.05	52.90	100%
8	52.90	58.52	100%
9	58.52	64.35	100%
10	64.35	70.30	97%
11	70.30	76.05	100%
12	76.05	81.70	100%
13	81.70	87.41	100%
14	87.41	93.27	100%
15	93.27	98.95	100%
16	98.95	104.65	100%
17	104.65	110.28	100%
18	110.28	116.0	100%
19	116.0	121.6	100%
20	121.6	127.50	98%
21	127.50	133.0	98%
22	133.0	138.80	98%
23	138.80	145.84	95%
24	145.84	152.32	100%
25	152.32	159.26	100%
26	159.26	166.42	98%
27	166.42	173.50	100%
28	173.50	180.14	95%
29	180.14	187.20	96%
30	187.20	194.36	98%
31	194.36	201.58	98%

Box #	From	To	Recovery
32	201.58	208.39	100%
33	208.39	215.35	100%
34	215.35	221.68	100%
35	221.68	228.00	100%
36	228.00	235.90	100%
37	235.90	241.95	95%
38	241.95	249.20	100%
39	249.20	256.20	100%
40	256.20	263.66	98%
41	263.66	270.80	100%
42	270.80	277.82	100%
43	277.82	285.29	98%
44	285.29	292.00	99%
45	292.00	298.77	98%
46	298.77	305.95	90%
47	305.95	312.90	95%
48	312.90	319.73	97%
49	319.73	326.68	97%
50	326.68	331.10	97%
51	331.10	340.11	95%
52	340.11	343.16	100% part filled box
53	343.16	349.84	98%
54	349.84	357.10	99%
55	357.10	361.45	99%

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-4

Coordinates:	Grid		Azimuth:	000º	Started: Nov 4/04
	GPS	401421E 5490592N NAD 83	Dip:	- 50º	Completed: Nov 5/04
Claim:		L 1679s Idaho Fr	Depth:	202.97 m (666')	Drilled by: Atlas Drilling
Operator:		Solitaire Minerals Corp.	Elevation:	1160 m (approx)	Logged by: L. Caron
Purpose:		to test silic'd zone in ddh04-3 approx 65 m higher in elev	Dip Tests:	-54º @ 199.92 m	Core size: NQ2

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	6.4	Casing +										
		rubble										
6.4	19.60	Eocene arkose	Medium grey, coarse-medium grained arkosic sst with good bedding @ 60º to CA & frequent									
			narrow finer grained sst-siltstone interbeds. Prominent abundant blocky white fsp, v minor 3 mm -									
			1 cm angular - subround frags of gst, black shale, etc & minor qtz grains.									
			19.47 - 19.60 Fault zone @ 45º to CA. 2 crush gouge zones, 1 is 2 cm wide, 1 is 4 cm wide.									
19.60	26.52	Eocene conglom	Typical coarse grained, polymictic, matrix supported conglomerate with 50-60% < 1 cm to > 10 cm									
			(avg 1-3 cm) rounded to subangular clasts of greenstone, black shale, chert, siltstone + v minor									
			small jasper frags, in a medium grained arkosic gmass. Weakly bedded @ 60º to CA in finer									
			grained intervals.									
			Faulted upper contact. Sharp stratigraphic lower contact @ 50º to CA.									
26.52	30.1	Eocene arkose	Medium grey, coarse grained, massive to weakly bedded arkosic sst. Bedding @ 60º to CA.									
30.1	40.15	Eocene conglom	Typical polymictic matrix supported conglomerate as in 16.6 - 26.52, except in interval 30.1 - 34.3.									
			In this interval the conglomerate contains abundant pale green qtz-Kspar porphyry clasts in addition									
			to polymictic clasts as above (perhaps this is Drysdale's "rhyolite porphyry"). These clasts have									
			10% prominent pinkish-salmon coloured Kspar megacrysts to 1 cm & 5% grey qtz phenos 2 mm - 8									
			mm, in a fine grained intrusive matrix with abund Kspar & qtz. There are also prominent Kspar									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)					
30.1	40.15	Eocene conglom	xtals in gmass of conglom that are identical to those in the fragments.									
	cont …	cont …										
			Common finer grained arkosic interbeds show well developed bedding @ 60º to CA.									
40.15	47.60	Eocene arkose	as in 26.52 - 30.1, with common finer grained sst/siltstone interbeds @ 60º to CA									
			44.70 - 44.82 finely lamellar mudstone bed									
			46.8 - 47.1 irregular white, mod soft, non-calcareous vnlts @ 0-30º to CA, 1-2 cm wide, probably									
			gypsum.									
47.60	58.56	Eocene	Medium grey colour, fine grained, mod soft, fresh, interbedded siltstone & mudstone + minor									
		interbedded	coarser sst interbeds. Bedding @ 55-60º to CA.									
		siltstone &										
		mudstone	49.8 - 51.0 strong fracture with wk-mod Fe ox @ 0º to CA									
			Typically muddy silt to mudstone with mm scale dark interbeds. Can be very finely lamellar bedded									
			with up to 5 of these dark interbeds per cm.									
			Abrupt contact/change to arkose @ 58.56, @ 50º to CA									
58.56	78.35	Eocene arkose	Massive, medium grey, medium grained arkosic sst, as higher in hole, with minor finer grained sst +									
			siltstone interbeds @ 50º to CA. Rare angular cm scale fragments/clasts. Perhaps some minor									
			tuffaceous interbeds ie. 66.7 - 67.16, or they could be sedimentary.									
			@ 72.0 grades to a finer grained, massive, pale grey sst that lacks the prominent fsp of the arkose,									
			then grades back into arkose ~ 73.0									
			76.5 - 78.35 becomes well bedded arkose with interbedded finer grained sst & siltstone & minor									
			black graphitic shale ie. 5 cm @ 77.0, 8 cm @ 77.25. Bedding @ 60º to CA.									
			@ 78.35 rapid change to coarse qtz-Kspar rich sst. Contact somewhat irregular but generally @ 60º									
			to CA.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
78.35	105.50	Eocene arkose	Dominantly a massive, coarse grained sandstone or xtal rich tuff with abundant 2-4 mm white fsp &									
		(or water lain	pinkish Kspar + abundant (to 10%) grey qtz grains (1-4 mm). Looks like it could be derived from									
		tuff)	unit that produces clasts in conglomerate @ 30.1 - 34.3m. Locally contains up to 10% cm scale									
			rounded fine grained green volc bombs or clasts + minor lithic clasts, but generally much less than									
			this.									
			Although generally this is a massive, non-bedded interval, there are very minor finer grained sst to									
			siltstone interbeds ie. 88.66-90.14 with bedding @ 65º to CA.									
			105.5 grades rapidly to a coarse polymictic matrix supported conglomerate									
105.50	116.04	Eocene conglom	Coarse polymictic matrix supported conglomerate as in 19.6 - 26.52. Matrix becomes darker,									
			locally argillaceous towards base of interval.									
			Sharp faulted lower contact @ 60º to CA.									
116.04	124.50	Eocene black	Fine grained, locally aphanitic black shale. Finely bedding @ 60º to CA. Minor coarser siltstone to sandstone interbeds and locally large conglomerate clasts in a black shaley matrix.									
		shale										
			116.04 - 116.15 Fault zone - black graphitic + grey gouge zone @ 60º to CA									
			119.75 - 124.50 Coarse bx/conglom with large angular clasts of Franklin volc in mod soft, muddy,									
			chl-argillaceous and locally hematitic matrix. Basal conglomerate.									
			120.52 - 120.59 gouge/fault zone @ 80º to CA	3034	122.0	124.17	2.17	<5	0.2	31	20	73
			124.17 1 cm grey-green gouge zone @ 85º to CA	3035	124.17	124.5	0.33	20	1.0	35	30	80
			124.17 - 124.5 hard, mod perv silic'n, minor diss py	3036	124.5	125.77	1.27	10	<0.2	5	34	73
			124.5 Eocene/Franklin unconformity									
124.5	125.77	Syenite	Muddy grey-green aphanitic dyke with 5% avg 4 mm Kspar phenos, part alt'd. May be weakly									
		"Pulaskite" dyke	bleached and wk perv silic'n?									
			Upper contact irregular intrusive contact @ 40º to CA. Lower contact faulted @ 80º to CA.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
125.77	138.58	Franklin	125.77 - 130.0 Med grey-green, non-magnetic, non-calcareous, aphanitic to very fine grained, fine									
		fragmental volc	relic fsp xtals visible locally. Mottled & vague coarse fragmental texture (volcanic bx). Typically	3037	125.77	128.0	2.23	10	0.3	23	20	77
			moderately soft but locally very hard perv silic'd zones ie. 129.45 - 129.80. 1% diss py. Minor cc	3038	128.0	130.0	2.0	35	2.1	52	24	64
			vnlts. Wk local hematite alt'd patches.	3039	STANDARD GS-20			>1000	<0.2	63	14	39
				3040	BLANK			20	<0.2	3	26	74
			130.0 - 137.3 Maroon hematitic fragmental volcanic - typically fine grained, moderately soft,	3041	130.0	132.5	2.5	90	1.2	100	18	76
			maroon, hematitic (& locally grey-green chl) volc or volcanic matrix to breccia. Bx can be either a	3042	132.5	135.0	2.5	35	0.6	37	20	80
			coarse volc bx with large subangular clasts of grey-green volc & relatively little matrix, or a tectonic	3043	135.0	137.3	2.3	35	7.3	26	22	152
			looking bx with ~30% angular clasts of chert + jasper + …. with 70% hematitic matrix. Typically									
			2% diss py & locally up to 5% py - diss + vnlts + rimming bx frags.									
			130.5 - 130.55 gouge/crush zone									
			134.15 - 134.28 gouge/crush zone									
			137.3 - 138.58 Med-dark grey green, mottled looking fragmental volc to lapilli rich tuff, as in	3044	137.3	138.58	1.28	90	22.8	49	24	201
			125.77 - 130.0 Mod soft. 1% diss py. Locally hematitic.									
			@ 138.58 2 cm gouge/bx zone @ 40º to CA									
138.58	158.76	Franklin	Typically massive (no bedding), fine grained, med-dark grey-green, wk-mod calcareous (but locally									
		calcareous volc?	non-calcareous), mod hard but scratches. Fine grained volcanic or tuff. Locally grades to a slightly									
		or tuff?	harder, more siliceous, aphanitic, non-calcareous cherty volc. This is a thick section of massive									
			unaltered Franklin volcanics. Common cc vnlts.									
			158.71 - 158.76 Fault zone with 3-5 cm grey gouge @ 30-45º to CA									
158.76	161.85	Franklin lapilli	Med-dark grey-green, mod-str calcareous, probably fine grained lithic lapilli tuff. Massive, no									
		tuff (or conglom)	bedding. 10% 2-8 mm angular lithic polymictic fragments in a medium to dark grey-green fine									
			grained gmass. Could be a matrix supported clast poor conglomerate ie. perhaps matrix is not									
			tuffaceous. Common cc vnlts.									
161.85	164.2	Chert & siltstone	Mottled pale grey-green, aphanitic, non-calcareous, v hard cherty greenstone with v minor py vnlts									
			with bleached halos. Local mod-soft with strong banding/bedding - interbedded mudstone to									
			siltstone ie. 162.7 - 163.1. Bedding @ 50º to CA.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			162.1 1 cm gouge/bx zone @ 55º to CA									
			162.2 narrow gouge/bx zone @ 60º to CA (opposite direction to zone @ 162.1)									
164.2	175.40	Lithic lapilli	Med grey-green, mod-str calcareous, fine grained lithic lapilli rich tuff (or conglom), similar to									
		rich tuff or	158.76 - 161.85 but >> lapilli/clasts, to 20% average and locally to 40%. As above this could be a									
		conglom	matrix supported relatively clast poor conglomerate. Clasts are angular to rounded and range up to									
			6 cm in size but more typically are ~ 0.5 cm in size. Common cc vnlts.									
			167.3 - 167.5 fracture @ 10º to CA with minor chl gouge + slickensides									
			169.45 - 170.20 hole is drilling down gouge/bx zone @ 0-10º to CA									
			172.30 - 176.60 hole is drilling down gouge/bx zone @ 0-10º to CA, as above									
			(this could all be same structure)									
			175.4 sharp contact @ 70º to CA									
175.40	202.97	Mudstone	Med grey-green, mottled with irregular bleached patches (sericite alt'n?). Mod soft, aphanitic to									
			very fine grained mudstone to siltstone. Local good mm to cm scale bedding but rock is strongly									
			crackled and with hairline chl +/- py +/- qtz vnlts that disrupt bedding. Typically non calcareous but									
			locally is weakly calcareous. Trace py - vnlts & patches. Mod cc vnlts.									
			@ 176.78 1 cm gouge/bx zone @ 45º to CA									
			176.88 - 177.33 Fault zone - gouge + bx + crushed rock. Can't tell orientation. Could be @ 45º to									
			CA, as above, or possibly @ 20º to CA, like vein below.									
				3045	175.40	177.33	1.93	15	0.6	96	22	89
			177.33 - 178.10 Siliceous/qtz bx vein running down drill core @ very low core angle (0-20º). True	3046	177.33	177.70	0.37	10	0.8	103	14	47
			width of vein ranges from ~ 6 cm from 177.33 - 177.70, to 1-3 cm from 177.70 - 178.10. 10-15%	3047	177.70	178.10	0.4	10	0.5	154	20	80
			angular 2 mm to > 1 cm green siltstone bx frags in white-grey siliceous mrtx. Tr py.	3048	178.10	180.0	1.9	10	0.6	98	24	105
				3049	180.0	182.70	2.7	10	1.1	79	24	97
			182.70 - 182.99 Siliceous/qtz bx zone, as in 177.33 - 177.70 @ 25º to CA. True width of vein is	3050	182.7	182.99	0.29	30	0.9	91	16	81
			about 6-8 cm.									
				3051	182.99	185.0	2.01	15	1.6	26	26	115
			182.99 - 195.85 more massive, less crackled mod soft mudstone. Bedding is @ 0-20º to CA.	3052	185.0	187.0	2.0	15	1.8	28	28	103
			Weak-mod seric alt'n. Weakly calcareous.	3053	187.0	189.0	2.0	45	1.3	40	40	278

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			188.0 - 195.85 1-2% grey qtz vnlts, as in 182.70 - 182.99. Vnlts to 1 cm, @ various core angles	3054	189.0	191.0	2.0	20	2.0	26	26	105
			(0 - 60º). Also narrow qtz-py-chl vnlts. 2-3% py.	3055	191.0	193.0	2.0	10	1.8	28	28	171
				3056	193.0	195.85	2.85	10	1.7	20	20	120
175.40	202.97	Mudstone	195.85 - 202.97 Strong crackle bx. Mod to v hard & locally mod soft. Perhaps locally grades to a	3057	195.85	198.0	2.15	30	1.9	113	28	100
	cont …	cont …	cherty mud-siltstone or this may be pervasive silic'n of mudstone. Mottled buff-grey green colour.	3058	198.0	200.5	2.5	55	2.2	79	32	157
			5% chl-py microfractures define strong crackle bx texture. 1-2% qtz-py vnlts as above. Common cc	3059	200.5	202.97	2.47	35	2.0	85	26	122
			vnlts.	3060	STANDARD GS 5A			>1000	<0.2	63	18	43
			199.95 - 200.70 massive fine grained calcareous sandstone	3061	BLANK			<5	<0.2	3	24	73
202.97	EOH											

Box #	From	To	Recovery
1	6.1	11.51	100%
2	11.51	17.07	100%
3	17.07	27.95	100%
4	27.95	28.64	100%
5	28.64	34.16	100%
6	34.16	39.84	100%
7	39.84	45.55	100%
8	45.55	50.92	98%
9	50.92	56.44	99%
10	56.44	62.14	100%
11	62.14	67.70	100%
12	67.70	73.32	99%
13	73.32	78.87	100%
14	78.87	84.61	100%
15	84.61	90.34	100%
16	90.34	96.27	100%
17	96.27	102.05	100%
18	102.05	107.90	100%
19	107.90	113.60	100%
20	113.60	119.29	100%
21	119.29	125.0	100%
22	125.0	130.68	97%
23	130.68	136.25	98%
24	136.25	141.90	100%
25	141.90	147.60	100%
26	147.60	153.02	100%
27	153.02	158.44	100%
28	158.44	164.0	93%
29	164.0	169.05	99%
30	169.05	174.20	97%
31	174.20	179.45	98%

Box #	From	To	Recovery
32	179.45	184.93	100%
33	184.93	190.72	100%
34	190.72	196.34	100%
35	196.34	201.96	100%
36	201.96	202.97	100%

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-5

Coordinates: Grid
GPS 401740E 5491060 NAD 83
Claim: Dodge 99
Operator: Solitaire Minerals Corp.
Purpose: to test Maple Leaf crush zone at depth

Azimuth: 000º
Dip: - 50º
Depth: 282.21 m (926')
Elevation: 1180 m (approx)
Dip Tests: -56º @ 276.1 m

Started: Nov 6/04
Completed: Nov 10/04
Drilled by: Atlas Drilling
Logged by: L. Caron
Core size: NQ2

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	0.61	Casing										
0.61	235.22	Averill Syenite	This is a very thick interval of massive syenite +/- weak to moderate hematite alteration, with some									
		(Kspar trachytic)	subtle textural variations and minor dykes. The syenite is cut by fairly common rusty fractures and									
			rusty Fe ox zones + hematite/Fe ox shear zones.									
			0.61 - 18.64 Pinkish grey, massive Kspar trachytic syenite. Hard, mod-str magnetic, medium									
			grained. 5-20% euhedral 1-4 mm x avg 1 cm Kspar phenos, weakly aligned, in a medium grained									
			hypidiomorphic granular intrusive with ~ 35% mafics, 65% Kspar-plag. Tr py. Common chl +									
			hem microfractures. Minor cc vnlts. Locally weak-mod pervasive hem alt'n - maroon hematitic									
			colour.									
			@ 15.5 trachytic texture - aligned elongate Kspar phenos @ 75º to CA									
			Mod Fe-ox fracs down to ~ 24.5 m.									
			18.64 - 21.6 Fault zone - rusty hematitic zone. Abundant rusty fractures and Fe staining. 2% diss	3062	18.64	21.60	2.96	65	0.7	418		
			py + spec hematite? Minor qtz vnlts. Weakly magnetic. Perhaps wk pervasive silic'n.									
			21.6 - 22.36 Strong trachytic texture with up to 80% elongate Kspar phenos. Possible later									
			trachytic syenite dyke in fault zone.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0.61	235.22	Averill Syenite	22.36 - 24.57 Massive, grey, strongly magnetic monzonite? dyke with 15% amphibole as phenos									
	cont …	(Kspar trachytic)	(euhedral, to 2 mm x 1 cm) plus blocky and finer grained amphibole in grey plag rich gmass. Cuts									
		cont …	syenite @ 75º to CA with sharp contacts.									
			23.40 - 23.80 Fault - rusty-hematitic Fe ox zone as above. Part in syenite. Probable that	3063	23.40	23.80	0.40	30	0.4	272		
			monz and trachytic syenite dykes have intruded along fault.									
			24.57 - 47.54 Back into massive pinkish grey Kspar trachytic syenite as in 0.61 - 18.64 but									
			typically only weakly magnetic. Local weak-mod pervasive hematite alt'n. Cut by numerous									
			hairline hem fracs. Minor cc vnlts. Minor rusty fractures.									
			29.82 1 cm rusty shear zone @ 45º to CA									
			30.30 - 31.35 Interval is grey, weakly bleached? with 56-10% hairline to mm scale grey	3064	30.30	31.35	1.05	15	<0.2	55		
			silica/qtz vnlts, commonly @ 25-30º to CA but may be any angle.									
			35.35 - 37.95 mod-str rusty weathering syenite with common Fe ox fractures, dom @ 45º to	3065	35.35	37.95	2.60	75	0.3	204		
			CA	3066	37.95	39.57	1.62	25	0.5	242		
			37.95 - 39.57 3-5% hairline-mm scale grey silica/qtz vnlts @ 25-45º to CA	3067	39.57	39.67	0.10	70	0.3	90		
			39.57 - 39.67 irregular 3-5 cm grey silica vnlt/flood zone with v faint v fine bx texture, @ 25-	3068	39.67	40.67	1.0	30	0.2	142		
			40º to CA, with tr py, tr cpy.									
			45.1 - 45.55 Rusty Fe ox zone									
			47.30 - 47.45 Str Fe ox frac @ 40º to CA + mod rusty stain									
			47.54 - 110.45 Mod magnetic, med grained, pinkish grey hematitic trachytic syenite with minor									
			hairline hem fracs/vnlts as above, but >> magnetic. Locally has >> elongate Kspar phenos, to 35%									
			and locally is a medium grained equigranular syenite that lacks prominent elongate Kspars.									
			47.54 - 61.90 Cut by common hem+qtz hairline - mm scale vnlts (+ 2% py) & by larger cm	3069	47.54	49.5	1.96	20	0.2	114		
			scale bx & flood zones with syenite clasts in hem-qtz matrix with minor py & by less common	3070	49.5	51.50	2.0	25	0.3	207		
			white-grey qtz vnlts 1-3 cm, dom @ 30º to CA, with minor py + tr sphal?. On average these	3071	51.50	53.50	2.0	30	0.4	149		
			qtz & hem-qtz vnlts comprise ~ 5% of the interval but locally they make up as much as 15% (in part	3072	53.50	55.50	2.0	25	0.2	99		
			because core angles can be very low so that veins run down core locally). Pyrite very locally to 5%.	3073	55.50	57.50	2.0	15	0.4	123		
			@ 68.50 strong trachytic texture with aligned elongate Kspars @ 50º to CA	3074	57.50	59.50	2.0	35	0.6	224		
			@ 72.15 1 cm grey qtz-silica vn @ 15º to CA	3075	59.50	61.90	2.4	140	0.4	196		
			80.4 - 81.2 grades to a coarser grained mod magnetic more mafic syenite with locally									
			10% blocky 0.5 cm black augite.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0.61	235.22	Averill Syenite	86.9 - 87.33 hem bx zone @ 70º to CA with 40% pinkish syenite frags, 1 mm to > 6 cm,	3076	86.9	87.33	0.43	15	<0.2	76		
	cont …	(Kspar trachytic)	subround, supported by fine grained maroon hematitic mtrx.									
		cont …	95.90 - 97.30 Fault zone - strong Fe ox zone with abundant rusty fracs, commonly @ 30º to	3077	95.90	97.30	1.4	20	0.4	210		
			CA									
			97.30 - 97.64 mod soft, pale green-maroon mottled colour - perv hem-chl + clay? alt'n	3078	97.30	97.64	0.34	70	2.0	2172		
			97.64 strongly hematitic	3079	STANDARD GS-20			>1000	<0.2	62		
			108.30 - 110.45 strongly hematitic with low angle rusty Fe ox + hem frac from 109.7 - 110.2	3080	BLANK			20	<0.2	4		
			110.45 - 133.40 Pinkish grey, massive, medium grained, non-magnetic, hypidiomorphic granular to									
			weakly Kspar trachytic syenite with 40% mafics, 60% Kspar + plag. Massive, fresh - lacks the									
			abundant hem vnlts & perv hem alt'n of above. V weak fabric @ 50º to CA.									
			126.37 - 128.07 Interval contains 3-5% grey silica-py flood zones & vnlts, wk silic'n	3081	126.37	128.07	1.70	10	0.2	71		
			133.40 - 139.0 mod hematitic Kspar trachytic syenite, weakly magnetic									
			133.90 - 135.8 broken zone with abund strong rusty Fe ox + hem fracs	3082	133.90	136.50	2.6	85	0.9	107		
			135.95 - 136.50 several 2 mm qtz-py-hem vnlts @ 0º to CA									
			139.0 - 210.93 Pinkish grey, massive, weak hematitic syenite. Weakly magnetic (locally grades to									
			non-magnetic). Weak fabric @ 45-60º to CA. Weak to strongly Kspar trachytic texture. V minor									
			late cc vnlts. V minor py in vnlts with chl/hem & silica + with silicia &/or aphanitic to very fine	3083	140.6	143.0	2.4	30	0.5	104		
			grained, muddy grey-green intermediate dyke material, as matrix to narrow tectonic bx zones.	3084	143.0	145.5	2.5	15	0.4	141		
			Intervals where py is > are noted specifically.	3085	145.5	148.0	2.5	15	0.4	91		
			140.6 - 153.0 2-5% py + silica (+hem, cc, chl) vnlts - hairline to mm scale, irreg networking	3086	148.0	150.5	2.5	15	0.4	92		
			vnlts & locally mtrx to bx zones (mtrx can also be fine grained intermed intrus as in 206.94 -	3087	150.5	153.0	2.5	25	0.7	128		
			207.22).									
			172.1 - 178.6 Mod-str hematitic syenite - perv hem alt'n + common hematitic microfractures.	3088	172.1	174.0	1.9	20	0.7	168		
			Local weak silica flood. 1-2% py - as vnlts & v fine diss in silica vnlts/zones. @ 172.1 contact is v	3089	174.0	176.5	2.5	20	0.5	88		
			sharp with non-hematitic syenite above, @ 45º to CA.	3090	176.5	178.6	2.1	5	0.3	92		
			~ 201 m grades to moderately hematitic syenite									
			206.94 - 207.22 Medium muddy grey-green intermediate dyke. Very fine grained to aphanitic									
			with 2% 0.5 mm mafics. Mod soft. Dyke as sharp intrusive contacts @ 50º to CA. Similar to									
			matrix to numerous narrow bx zones in syenite above.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0.61	235.22	Averill Syenite	210.93 - 212.58 Med grey-green intermed dyke. Massive, mod hard, fine grained with 5% 1 mm									
	cont …	(Kspar trachytic)	fsp & 2% 0.5 mm mafics in fine grained gmass. Upper contact sharp intrusive contact @ 45º to CA.									
		cont …	Lower contact is sharp hematitic fracture @ 15º to CA.									
			212.58 - 215.78 Kspar trachytic syenite as above									
			215.78 - 217.20 Intermed dyke as in 210.93 - 212.58 but < fsp phenos and > mafic phenos. Dyke									
			@ 45º to CA.									
			217.20 - 223.13 Kspar trachytic syenite as above									
			223.13 - 226.7 Intermed dyke as in 210.93 - 212.58. Cut by numerous irregular hem-cc vnlts.									
			Weak autobreccia to tectonic bx texture, particularly adjacent to lower contact. Finer grained hem-									
			chl zones or vnlts between frags. Common trachytic syenite xenoliths. Upper contact is sharp									
			intrusive contact @ 45º to CA with narrow chilled margin to dyke. Lower contact is sharp intrusive									
			contact @ 0-10º to CA, from 226.0 - 226.7.									
			226.7 - 233.90 Strongly trachytic Kspar syenite with 30% 2 mm x 1 cm Kspar phenos, moderately									
			aligned @ 65º to CA, 30% mafics, 40% fine grained interstitial fsp. Grades down section to >									
			trachytic.									
			@ 231.4 grades down hole to str hem alt'd									
			231.4 - 233.9 v strongly hematitic. Maroon, mod soft, mod bx'd near lower contact	3091	231.4	233.9	2.5	60	0.4	347		
			@ 233.9 sharp contact @ 65º to CA									
			233.90 - 234.77 Pale muddy green intermed? dyke?? or poss fine tectonic bx. Fine grained,	3092	233.9	234.77	0.87	145	1.0	416		
			mottled, soft with pervasive chl-clay alt'n. Tr py. Contains 2-5% 0.5 mm to 2 cm phenos + angular									
			fragments/xenoliths? of dom Kspar + 2% fine angular frags or xenoliths of fine grained green									
			volcanic or intrusive. Sharp intrusive like contacts @ 60-65º to CA.									
			234.77 - 235.22 Aphanitic, deep red-maroon, mod soft, hematitic bx zone	3093	234.77	235.22	0.45	40	0.4	49		

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
235.22	260.43	"Crush Zone"	Medium grey-green, typically mod soft, breccia zone. Variably a crackle to tectonic bx. Strong									
		Chl-clay + albite?	pervasive chl-clay alt'n of probably fine grained intermediate (dior?) intrusive - probably similar to	3094	235.22	238.0	2.78	15	0.5	264		
		alt'd bx'd	dykes above. Chilled contacts at 235.22 and at 260.44 suggest that this is an intrusive bx into the	3095	238.0	241.0	3.0	0	0.2	116		
		intermed	syenite, although at first glance this whole zone could be called Franklin fragmental volcanic.	3096	241.0	244.0	3.0	5	0.3	167		
		intrusive	Non magnetic, non calcareous, 1% diss py. Bx intervals have 70-90% angular to subround	3097	244.0	247.0	3.0	15	0.5	357		
			fragments, < 0.5 cm to > 3 cm, of variably 1) aphanitic buff mod hard albite? alt'd ?? or	3098	247.0	250.0	3.0	15	0.6	317		
			2) coarse grained pinkish-salmon coloured syenite? or	3099	250.0	253.0	3.0	20	0.3	222		
			3) grey with pinkish tinge, fine grained, mod soft, clay	3100	253.0	256.0	3.0	20	0.2	162		
			alt'd ?, or	3101	STANDARD GS-5A			>1000	<0.2	60		
			4) green mod soft chl alt'd fine grained intrusive	3102	BLANK			15	<0.2	3		
			with 10-30% green, mod soft, chl-clay alt'd matrix. Fragment boundaries may be quite fuzzy - not									
			always sharp. Crackled intervals are 95% pale pinkish-grey to green, mod soft, fine grained,									
			pervasive chl-clay alt'd rock with a network of dark green chl fractures defining crackle texture.									
			Seems like near sy contacts fragments may be in part xenoliths of adjacent syenite while towards									
			center there is more autobrecciation without foreign fragments. V minor mm scale qtz vnlts. V									
			minor patchy cpy (ie. 245.2, 258.34).									
			235.22 - 235.40 Pale muddy grey-green fine grained chilled margin to "Crush Zone" at contact									
			with syenite above, with fine bx frags or xenoliths, as in 233.90 - 234.77. Very irregular contacts									
			@ ~ 30º to CA.									
			248.80 - 250.45 Pale muddy grey-green dyke?, as in 233.90 - 234.77. Locally bx'd. 2% white qtz-									
			cc vnlts/gash filling. Upper contact is intrusive contact @ 70º to CA.									
			@ 249.42 0.5 cm grey gouge zone @ 45º to CA									
			@ 250.45 slicks on frac @ 45º to CA. This may not be lower contact of dyke? Rock									
			becomes strongly bx'd and can't tell where it changes back to bx zone below dyke.									
			250.45 - 260.43 In this section the "crush zone" locally has a distinct intrusive component with pale	3103	256.0	259.0	3.0	25	0.2	139		
			grey fine grained equigranular diorite? (60% plag, 40% alt'd mafics avg 0.5 mm). Sometimes it	3104	259.0	260.43	1.43	20	0.2	148		
			looks like this diorite forms the interstitial spaces between fine grained bx frags, other places it									
			appears that the diorite forms the fragments and the fine green material is interstitial. Fragment									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			boundaries are typically fuzzy. Minor red hematitic, mod hard “jasper” fragments.									
235.22	260.43	“Crush Zone”	@ 260.43 sharp contact @ 80º with syenite below. 10 cm muddy chilled margin from 260.33-									
	cont …	cont …	260.43, similar to 235.22 - 235.40.									
260.43	279.45	Coarse Syenite	Coarse grained pinkish syenite, non-magnetic, with 10% prominent tabular Kspar phenos to 5 mm x									
		(Averill)	2 cm, in med grained equigranular matrix of 30% augite, 60% fsp. Mafics may be in part to	3105	260.43	261.85	1.42	10	<0.2	60		
			completely replaced by hematite, giving rock a locally mod-str hematitic colour.									
			260.43 - 261.82 Strong tectonic bx’d coarse grained pinkish syenite with prominent blocky Kspar									
			phenos. 70% syenite fragments - subround, 2 mm - 6 cm, with fine grained, mod soft, hematitic									
			matrix.									
			261.82 3 cm grey gouge zone @ 70º to CA									
			261.85 - 262.07 Fine grained, grey-green intermediate dyke. Upper contact faulted @ 70º to CA.									
			Lower contact intrusive @ 90º to CA.									
			262.07 - 270.50 10-30% of the interval is made up of fine grained green intermediate dyke that cuts									
			syenite at a very low core angle - core comes in and out of dyke.									
			@ 279.5 sharp contact @ 10º to CA									
279.5	282.21	Intermediate	Dark green, fine grained, mod hard, intermed dyke. Weak hem alt’n.									
		dyke										
282.21	EOH											

Box #	From	To	Recovery
1	0.61	6.54	100%
2	6.54	11.1	100%
3	11.1	17.76	100%
4	17.76	23.10	97%
5	23.10	28.52	100%
6	28.52	34.10	100%
7	34.10	39.83	100%
8	39.83	45.46	100%
9	45.46	51.11	100%
10	51.11	57.01	100%
11	57.01	62.68	100%
12	62.68	68.50	100%
13	68.50	74.22	100%
14	74.22	80.0	100%
15	80.0	85.58	100%
16	85.58	91.31	100%
17	91.31	97.01	99%
18	97.01	102.68	99%
19	102.68	108.50	100%
20	108.50	114.23	100%
21	114.23	119.90	100%
22	119.90	125.60	100%
23	125.60	131.28	100%
24	131.28	136.66	98%
25	136.66	142.29	100%
26	142.29	148.01	100%
27	148.01	153.65	100%
28	153.65	159.25	100%
29	159.25	165.05	100%
30	165.05	170.77	100%
31	170.77	176.40	100%

Box #	From	To	Recovery
32	176.40	182.14	100%
33	182.14	187.92	100%
34	187.92	193.67	100%
35	193.67	199.40	100%
36	199.40	205.13	100%
37	205.13	210.96	100%
38	210.96	216.58	100%
39	216.58	221.98	98%
40	221.98	227.35	98%
41	227.35	233.10	100%
42	233.10	238.78	100%
43	238.78	244.57	100%
44	244.57	250.22	100%
45	250.22	255.87	100%
46	255.87	261.63	100%
47	261.63	267.30	100%
48	267.30	273.07	100%
49	273.07	278.92	100%
50	278.92	282.21	100%

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-6

Coordinates:	Grid		Azimuth:	090º	Started: Nov 9/04
	GPS	402535E 5492200N NAD 83	Dip:	- 50º	Completed: Nov 13/04
Claim:		Al #10	Depth:	193.52 m (635')	Drilled by: Lone Ranger Drilling
Operator:		Solitaire Minerals Corp.	Elevation:	907 m (approx)	Logged by: L. Caron
Purpose:		to test for Gloucester Creek EM Conductor	Dip Tests:	-50º @ 193.52 m	Core size: NQ

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	6.1	Casing	casing to 6.1 m but core from 4.9 m									
6.1	143.02	Kettle River	Thick section of typical pale to medium grey, massive to weakly bedded, medium to coarse grained									
		Sediments	arkosic sandstone with minor interbedded conglomerate, siltstone and black shale (+/- graphitic).									
		(dominantly										
		arkose)	4.9 - 7.7 Medium grained massive arkose. Bedding appears to be @ 0º to CA									
			6.5 - 7.7 thin black argillaceous bed at 0º to CA with 1 cm sandy unconsolidated seam									
			7.7 - 10.6 Narrow interbed of fine grained matrix supported polymictic conglomerate with 40% 0.5									
			cm average clasts in arkosic mtrx.									
			@ 8.7 see contact @ 0º to CA									
			10.6 - 22.75 Medium grained arkose, as in 4.9 - 7.7, with rare fragments to 0.5 cm and with minor									
			finer or coarser grained intervals.									
			12.65-13.4 narrow gouge filled fracture @ 0º to CA									
			13.4 5 cm gouge zone @ 50º to CA									
			15.5 bedding @ 25º to CA defined by mm scale argillaceous interbeds									
			17.4 1 cm gouge zone @ 50º to CA									
			18.0 - 20.90 1% white qtz vnlts to 0.5 cm @ various core angles. Tr py.	3106	18.0	20.90	2.90	10	<0.2			
			20.90 - 21.03 Fault - crush zone									
			21.90 good bedding @ 40º to CA defined by 10 cm fine grained sst & 5 cm fine pebble									
			conglom beds.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
6.1	143.02	Kettle River	22.75 - 22.95 Interval includes 10 cm black graphitic gouge zone in black shale interbed @ 40º to									
	cont …	Sediments	CA. Minor marcasite near shale/arkose contact.									
		cont…										
			22.95 - 24.93 Very fine grained, pale tan mudstone with black argillaceous interbeds, from < 1 mm									
			wispy interbeds up to 1 cm. V minor py clots. Minor cc vnlts. Bedding @ 30º to CA.									
			24.93 - 26.06 Fault zone - strong zone @ 35-40º to CA. Gouge + bx. Local black graphitic gouge,									
			but dominantly grey gouge.									
			26.06 - 29.09 Finely bedded mudstone, similar to 22.95 - 24.93 but has fewer argillaceous									
			interbeds. Well bedded, alternating pale tan and brown mm to cm scale beds.									
			@ 26.5 good bedding @ 45º to CA									
			@ 27.2 good bedding @ 55º to CA									
			29.09 - 29.37 Buff coloured, very hard, fine grained felsic (rhyolite) dyke with 5% mm size fsp									
			xtals, 1% diss py.									
			Sharp upper contact @ 50º to CA. Sharp lower contact @ 65º to CA.									
			29.37 - 29.87 Grey-brown fine grained sandstone									
			29.87 - 34.42 Grey, coarse grained arkose with minor interbedded conglomerate and common black									
			shale interbeds that often become black graphite gouge zones, as follows:									
			29.87 - 30.07 black shale bed with few cm graphite gouge. No good orientation									
			30.41 - 30.50 black shale @ 45º to CA									
			32.95 - 33.25 black graphite									
			33.40 - 33.65 black graphite gouge zone @ 70º to CA									
			33.80 - 33.90 black graphite gouge zone									
			34.42 - 35.3 Black shale and graphite. Upper contact is gradational @ 90º to CA. Lower contact is									
			sharp @ 0-20º to CA (core continues in and out of black shale at low core angle to 35.75 with minor									
			pyrite seam in shale @ 35.65).									
			35.25 v minor mm scale vuggy qtz vnlts									
			36.5 bedding @ 45º to CA									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
6.1	143.02	Kettle River	36.80 - 42.17 coarse to very coarse arkose and locally a polymictic matrix supported pebble									
	cont …	Sediments	conglomerate with up to 40% 0.5 - 1 cm clasts in a coarse arkosic mtrx.									
		cont…	38.3 - 39.5 1% 1-3 mm white chalcedonic qtz vnlts @ 40-45º to CA	3107	38.3	39.5	1.2	5	<0.2			
			42.17 - 42.37 Black graphitic shale									
			42.37 - 44.0 Fine grained sandstone, bedding @ 40º to CA									
			@ 44.0 1 cm black gouge @ 40º to CA									
			44.0 - 45.46 Black shale with graphitic fractures.									
			45.46 - 66.0 Grey-brown to tan, fine grained siltstone to mudstone. Typically moderately soft.									
			May be massive or may be finely bedded with common mm scale black argillaceous beds. Bedding									
			may be very regular or it may be swirly with soft sed deformation features.									
			@ 46.5 bedding @ 20º to CA									
			@ 54.3 bedding @ 30º to CA									
			@ 58.55 bedding @ 70º to CA									
			@ 60.0 bedding @ 10º to CA									
			65.5 - 66.0 abundant graphitic/argillaceous mm scale interbeds @ 80º to CA									
			66.0 - 66.90 Aphanitic black shale with common graphite gouge zones & fractures.									
			66.90 - 68.58 Medium-coarse arkose with minor 4 mm frags of black shale + … & minor wispy									
			argillaceous interbeds. Bedding @ 40º to CA.									
			68.58 - 75.05 Brown - tan well bedded mudstone and siltstone with alternating darker and paler mm									
			scale beds. Bedding @ 60º to CA. Mod soft to mod hard.									
			71.85 - 72.00 Fault zone - Badly crushed, broken rx + gouge									
			75.05 - 83.2 Med-coarse arkosic sst with good bedding and abundant mm to cm scale finer									
			grained &/or argillaceous interbeds. Minor <0.5 to > 1 cm fragments.	3108	76.8	79.0	2.2	<5	<0.2			
			@ 77.5 bedding @ 50º to CA	3109	79.0	81.0	2.0	5	<0.2			

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			76.8 - 83.20 Local mod silic'n of coarser grained beds, with 1-2% py - diss + patchy + minor	3110	81.0	83.2	2.2	<5	<0.2			
			vnlts.									
6.1	143.02	Kettle River	80.1 - 80.5 Fault zone - gouge + crushed rx + 2 cm cc vn @ 0º to CA (this may also be									
	cont …	Sediments	fault orientation but not sure).									
		cont…										
			83.2 - 83.9 Fault zone @ 0º to CA. Strong argillic alt'n + gouge (narrow gouge zone continues									
			down hole to 84.5 m)									
			83.9 - 89.75 Interbedded medium grained arkose (beds to 40 cm) and finely bedded fine grained									
			sandstone to siltstone with mm scale argillaceous beds & mm to cm scale alternating light-dark									
			beds. Good bedding @ 30-40º to CA.									
			89.75 - 106.65 Very coarse qtz-fsp rich sst to very fine conglomerate. Massive without good									
			bedding. V minor py - diss + vnlts.									
			99.8 - 103.5 minor mm scale black argillaceous interbeds	3111	101.2	104.0	2.8	5	<0.2			
			101.2 - 106.65 mod soft. Weak-mod perv clay alt'n + v local silic'n. 1% white qtz	3112	104.0	106.65	2.65	5	<0.2			
			vnlts to 1.5 cm. Minor diss py.									
			106.65 - 107.44 Fault zone @ 70º to CA. Gouge + intense argillic alt'd arkose.									
			107.44 - 114.76 Grey-dark grey coarse grained arkosic sst with minor fragments & local mm scale									
			black argillaceous interbeds + minor siltstone interbeds.									
			107.44 - 108.2 weak argillic alt'n									
			108.55 - 108.9 Fault zone - crushed, broken rx									
			109.0 - 109.58 siltstone									
			@ 110.5 bedding @ 30º to CA									
			111.5 - 111.75 black-dark grey argillaceous fine sandstone + gouge @ 35º to CA									
				3113	114.76	116.5	1.74	10	<0.2			
			114.76 - 121.4 Pale grey coarse qtz rich arkose to v fine pebble conglomerate. Very hard. Weak-	3114	116.5	118.0	1.5	5	<0.2			
			mod pervasive silic'n. 1% diss py. 2-5% mm scale white-grey qtz vnlts with minor py.	3115	118.0	119.5	1.5	5	<0.2			
			121.4 2-3 cm gouge + crush zone @ 30º to CA	3116	119.5	121.4	1.9	5	<0.2			
			121.4 - 133.1 Interbedded coarse, grey sst & greenish-grey siltstone. Alternating sst/siltstone beds									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			are 1 cm to ~70 cm thick, typically 10-20 cm. Siltstone intervals are well bedded on cm to mm									
			scale, with <1-1 mm argillaceous beds giving rock a green-black striped appearance. Good bedding									
			@ 10-20º to CA.									
6.1	143.02	Kettle River	133.1 - 138.0 Grey, medium to coarse grained arkose to very fine conglomerate (as in sst beds @									
	cont …	Sediments	121.4 - 133.1). Massive without good bedding. V hard - qtz rich but not silic'd. Tr py, very very									
		cont…	minor qtz &/or cc vnlts.									
			@ 138.0 3 cm gouge/bx zone @ 15º to CA									
			138.0 - 143.02 Pale grey-green, mod soft, altered arkose (or possible felsic xtal rich tuff). A									
			distinctly different colour than above - has an epidote coloured tinge to it. Weak-mod pervasive									
			clay (+ep?, chl?) alt'n. See qtz + fsp xtals (or grains?) + fine black mafic xtals or fine argillite frags?									
			Minor soft, bleached muddy looking 1 cm size frags (mudstone) and minor black argillaceous frags.									
			Suggestion for tuff is the finely banded chilled appearance adjacent to the Franklin rocks at the									
			unconformity (but this could very well be due to alteration).	3117	141.02	143.02	2.0	5	<0.2			
			@ 143.02 Unconformity at base of Eocene. Not faulted. Contact @ 70º to CA.									
143.02	162.99	Franklin volcs	143.02 - 143.40 Dark green, mod soft, fine grained chl-ep alt'd volc.	3118	143.02	145.02	2.0	20	<0.2			
		(greenstone)	@ 143.25 narrow gouge zone @ 75º to CA	3119	145.02	147.03	2.01	10	<0.2			
			@ 143.40 sharp contact @ 85º to CA	3120	STANDARD GS-20			>1000	<0.2			
				3121	BLANK			10	<0.2			
			143.40 - 147.03 Maroon, mottled, very soft, very strongly hematite + clay altered. Fine grained									
			with faint bx texture and ghosty relic 0.5 cm - 1 cm fragments (<5%).									
			147.03 - 162.99 Dark green-mottled, with local pinkish or maroon tinge. Fine grained. Typically	3122	147.03	150.03	3.0	10	0.2			
			mod soft. Commonly crackled or bx'd. Mod-str chl alt'n + local ep, hematite and local motted	3123	150.03	153.03	3.0	10	0.3			
			albite? alt'd zones (hard pinkish aphanitic - or these may be irregular zones of more siliceous	3124	153.03	156.03	3.0	5	0.2			
			(primary) greenstone). Common crush, bx & gouge zones, as listed below. 2-3% py - diss. Minor	3125	156.03	159.03	3.0	5	0.2			
			cc vnlts (& rare cc vns to 3 cm).	3126	159.03	161.03	2.0	10	0.2			
			150.90 - 151.35 strong tectonic bx with local gouge zones & gouge filling between bx frags.	3127	161.03	162.99	1.96	10	0.2			
			Fault orientation may be 45º to CA, but not really clear.									
			155.15 - 155.75 Strong bx, crackling									
			156.50 - 156.85 Fault - broken, bx'd rx + gouge									
			156.85 - 162.99 mod to v hard, siliceous. May be primary (ie. siliceous gst). 5% py.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
162.99	193.52	Averill	Dark grey-green, massive, medium grained, equigranular, fresh looking intrusive. Strongly									
		monzonite	magnetic. 35% py, avg 1-2 mm, with interstitial plag + lesser Kspar (presence of Kspar makes this a									
			monzonite rather than a diorite). Minor fine biotite. Minor v fine cc vnlts & chl-hem hairline									
			fractures.									
193.52	EOH											

Box #	From	To	Recovery
1	6.1	10.6	100%
2	10.6	15.80	100%
3	15.80	21.03	99%
4	21.03	26.45	90%
5	26.45	31.84	98%
6	31.84	37.47	99%
7	37.47	43.26	99%
8	43.26	49.20	93%
9	49.20	54.52	99%
10	54.52	60.10	99%
11	60.10	65.70	94%
12	65.70	71.18	98%
13	71.18	76.70	97%
14	76.70	82.75	97%
15	82.75	88.37	97%
16	88.37	94.21	100%
17	94.21	99.92	100%
18	99.92	105.64	100%
19	105.64	111.33	99%
20	111.33	116.87	99%
21	116.87	122.65	100%
22	122.65	128.23	99%
23	128.23	133.50	99%
24	133.50	139.14	100%
25	139.14	144.90	100%
26	144.90	150.56	99%
27	150.56	156.17	99%
28	156.17	161.82	98%
29	161.82	167.58	100%
30	167.58	173.43	100%
31	173.43	179.24	100%

Box #	From	To	Recovery
32	179.24	184.95	100%
33	184.95	190.75	100%
34	190.75	193.52	100%

DIAMOND DRILL RECORD

PROPERTY Union **HOLE #** 04-7

Coordinates:	Grid		Azimuth:	090º	Started: Nov 13/04
	GPS	403010E 5492272N NAD 83	Dip:	- 60º	Completed: Nov 17/04
Claim:	Al #9		Depth:	230.4 m (756')	Drilled by: Lone Ranger Drilling
Operator:	Solitaire Minerals Corp.		Elevation:	990 m (approx)	Logged by: L. Caron
Purpose:	to test the White Bear epithermal zone at depth		Dip Tests:	-64º @ 230.4 m	Core size: NQ

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
0	3.05	Casing										
3.05	52.80	Franklin	Dark grey-green-maroon mottled, moderate chl-ep-hem (+albite?) altered volcanics (greenstone) and	3128	3.05	6.0	2.95	5	1.8	698		
		volcanics (chl-ep-	locally perhaps volcanic bx. Non calcareous, non magnetic. Similar to ddh Union 04-6 143.02 -	3129	6.0	9.0	3.0	5	1.3	193		
		hem+albite?	162.99m. Grades back and forth from mod soft, chl alt'd to mod hard probable original siliceous gst	3130	9.0	12.0	3.0	5	0.8	432		
		alt'd)	but possibly harder due to pervasive albite alt'n. Harder intervals are paler grey-green with pinkish-	3131	12.0	15.0	3.0	10	1.2	474		
			maroon tinge. Local mod ep alt'n & local mod soft maroon str hem alt'n. Common hematite &/or									
			chlorite microfractures. Minor cc vnlts. 1-3% py - coarse clots + dissem & v minor vnlts. Minor									
			cpy - lacy patchy and massive clots. Typically cpy is not associated with py.									
			3.05 - 7.2 wk Fe ox fractures near surface									
			@ 22.0 1.5 cm massive py vn @ 45º to CA									
			~ 22.5 grades into str hematite alt'd volc									
				3132	15.0	18.0	3.0	10	2.1	451		
			22.5 - 33.4 mod soft to mod hard, strong to v strong hematite alt'n. Weak bx texture. Local ep	3133	18.0	21.0	3.0	10	1.2	399		
			alt'n & siliceous "skarn". Minor py. Minor cpy.	3134	21.0	24.0	3.0	5	0.9	325		
			@ 33.4 grades out of str hem alt'd volc into chl-ep skarn	3135	24.0	27.0	3.0	15	1.2	640		
				3136	27.0	30.0	3.0	10	0.8	400		
			33.4 - 40.48 Pale-med grey-green-maroon mottled, mod hard to hard, siliceous (+ albite?)-epidote	3137	30.0	33.0	3.0	20	1.4	455		
			(+chl, hem) "skarny" Franklin volcanics. Non calcareous, non-magnetic. Common chl &/or hem,									
			ep microfractures. Minor py.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			@ 40.48 narrow grey gouge zone @ 70º to CA									
3.05	52.80	Franklin	40.48 - 44.81 Epithermal altered zone in Franklin Volcanics. Buff-pale grey, bleached, mod-str	3138	33.0	36.0	3.0	5	0.6	610		
	cont …	volcanics	argillic alt'd zone (+ local silic'n adjacent to qtz vnlts) cut by numerous greenish chl-clay (or talc?)	3139	36.0	39.0	3.0	10	0.2	210		
		cont…	vnlts, common py vnlts, common hem vnlts, and minor grey-white qtz vnlts to 2.5 cm (dominantly	3140	39.0	40.48	1.48	10	0.2	237		
			@ 25-30º to CA). Local tectonic bx zones @ 25-30º to CA. 2-3% py.	3141	STANDARD GS-5A			>1000	<0.2	58		
				3142	BLANK			10	<0.2	3		
			@ 44.81 grades rapidly back into siliceous "skarned" Franklin volcanics as in 33.4 - 40.48	3143	40.48	42.0	1.52	10	0.3	222		
				3144	42.0	43.5	1.50	25	0.3	123		
			44.81 - 52.80 Mottled, pale-med grey-green-maroon, mod soft (chl alt'd) to v hard (siliceous) ep-	3145	43.5	44.81	1.31	15	0.6	217		
			hem-chl skarned Franklin volcs &/or fine grained microdiorite as in 33.4 - 40.48. Minor py.	3146	44.81	46.82	2.01	5	0.2	223		
				3147	46.82	48.82	2.0	10	0.3	328		
			48.82 - 49.40 Bleached, buff coloured strong argillic alt'd zone as in 40.48 - 44.81 @ 45º to	3148	48.82	49.40	0.58	10	0.5	181		
			CA. Numerous green clay (or talc?) vnlts. Minor py - diss + vnlts.	3149	49.40	51.40	2.0	15	0.3	498		
				3150	51.40	52.80	1.4	10	0.4	506		
52.80	151.3	Averill	Dark grey, strongly magnetic, massive, medium grained, equigranular intrusive as in ddh Union 04-									
		monzonite	6 162.99-193.52m. This is a fresh massive unit (with minor biotite) that could be mistaken for an									
			Eocene intrusive, but near the bottom on the interval it is cut by common pink-grey syenite-granite									
			dykes (Nelson). 40% 1-2 mm, subhedral px, 50% interstitial plag + Kspar, 5% magnetite, 5% fine									
			biotite (possibly after pyroxene. Biotite may be part alt'd to py). Common cc vnlts & minor hem									
			microfractures. V minor diss py. Generally very fresh and massive but has local epithermal altered									
			zones, as listed, as well as skarny ep-hem alt'n near upper contact with Franklin volcs.									
			52.80 - 54.0 Fine grained, strongly magnetic, mod ep alt'n + minor hem fractures. Probably chilled	3151	52.80	54.0	1.2	5	0.5	248		
			contact zone of monzonite (with weak endoskarn). 1% py, 1% cpy.									
			54.0 - 61.5 weak ep-hem alt'n									
			70.5 - 71.45 Bleached, weak-mod argillic alt'd zone with gradational contacts.	3152	70.5	71.45	0.95	10	0.6	104		
			@ 71.07 5 cm qtz-cc vn @ 45º to CA (vuggy - banded - bx'd).									
			@ 75.40 5 cm & 2 cm qtz-cc vns @ 10-15º to CA with narrow grey-white silica/qtz vn selvages	3153	75.29	75.62	0.33	15	0.3	186		
			and coarsely xtalline vuggy cc vn cores. Sample from 75.29 - 75.62 is ~ 50% vn material but total									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			true width of vn within this is ~ 7 cm.									
			84.90 - 85.60 bx'd, hem alt'd									
52.80	151.3	Averill	89.12 - 91.5 weakly bleached									
	cont …	monzonite										
		cont …	92.9 - 95.0 Weakly bleached zone with gradational contacts. Moderately hard, weakly magnetic,	3154	93.30	94.93	1.63	20	0.5	133		
			but still good relic intrusive texture. Includes 3 vuggy banded 1- 2 cm qtz vns at low core angles (0-									
			20º) - or could be going in and out of same vein. Qtz vnlts are grey-white banded silica/qtz with									
			drusy qtz xtals in vuggy cavities to 3 cm x 4 cm. Minor diss py along vein selvages.									
			Sample from 93.30 - 94.93 has ~ 10 vein material.									
			100.73 - 100.95 Fault zone - strongly bleached, mod clay alt'd zone + 3 cm grey-white banded	3155	100.73	100.95	0.22	5	0.4	75		
			vuggy qtz vn (as in 92.9 - 95.0) @ 45º to CA + 5 cm grey-buff gouge zone.									
			100.95 - 113.25 Weak propylitic altered monzonite. Mod-str magnetic as above but in general is									
			paler coloured with weakly saus. fsp. Commonly grades to finer grained mod soft, darker grey									
			intervals with indistinct blurred intrusive texture - perv chl alt'n? Minor chl-hem microfractures,									
			v minor qtz vnlts. Tr to 0.5% py. V minor tectonic bx zones, to 10 cm, with silic'd matrix with									
			up to 5% fine py.									
			112.4 - 113.25 1-2% py - diss + vnlts	3156	112.40	113.25	0.85	5	0.3	157		
			113.25 - 115.1 Intensely bleached and argillic alt'd felsic dyke. Very soft, pale yellowish-tan	3157	113.25	115.40	2.15	10	0.3	38		
			colour, fine grained with 10% relic lath shaped fsp phenos to 1 mm x 6 mm. 2% py + hem +/- qtz	3158	115.40	115.96	0.56	20	0.4	12		
			stockwork vnlts. Sharp but irregular upper contact. Sharp lower contact @ 45º to CA. Both upper									
			and lower contacts have narrow aphanitic, mossy to apple green, soft talc? zones (altered chilled									
			contact zones?)									
			@ 114.85 3 cm gouge zone @ 45º to CA									
			115.1 - 115.4 silic'd monzonite between dykes									
			115.4 - 115.96 Bleached dyke, as in 113.25 - 115.1, but with 10% stockwork qtz-py vnlts, hairline	3159	115.96	116.75	0.79	5	0.2	4		
			to 1 mm. Sharp upper contact @ 40º to CA. Sharp lower contact @ 60º to CA.									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			115.96 - 116.75 monzonite with 3% qtz (+/- hem) and qtz-cc vnlts, to 4 mm. Vnlts dominantly @									
			60º to CA.									
52.80	151.3	Averill	116.75 - 117.1 Epithermal banded vuggy qtz bx vn. Irregular vein at ~ 20º to CA with bx frags of	3160	116.75	117.1	0.35	10	0.6	139		
	cont …	monzonite	weakly bleached monzonite. Sample from 116.75 to 117.1 has ~ 40% vein material.									
		cont …										
			120.1 - 120.8 Weakly bleached, weak argillic alteration.	3161	117.1	120.4	3.3	10	0.2	107		
			120.4 - 120.8 epithermal qtz vning + qtz bx zone. Banded grey-white qtz vn + early grey qtz	3162	120.4	120.8	0.4	35	1.0	137		
			frags & minor massive py frags in white qtz matrix with 2-3% diss py.	3163	STANDARD GS-20			>1000	<0.2	59		
			@ 120.4 narrow gouge zone @ 30º to CA	3164	BLANK			15	<0.2	3		
			@ 120.8 narrow gouge zone @ 30º to CA									
			126.50 - 127.16 Very dark grey, fresh, massive, mod magnetic, biotite rich (prob after px phenos)									
			fine-medium grained intrusive cuts monzonite @ 60º to CA. This could be a later phase of the									
			Averill, perhaps syenite composition, or it could possibly be Eocene.									
			129.17 - 129.45 mod hem alt'n + weak silic'n	3165	129.17	129.85	0.68	15	<0.2	122		
			@ 129.82 1 cm banded vuggy qtz vn @ 45º to CA cuts narrow irregular hem-qtz zone									
			129.85 - 131.6 mod-weakly bleached, weakly silic'd monzonite cut by minor banded qtz vnlts to	3166	129.85	131.6	1.75	15	0.3	169		
			1 cm.									
			131.6 - 132.23 Bleached dyke as in 113.25 - 115.1. Sharp upper contact @ 25º to CA. Chilled	3167	131.6	132.23	0.63	15	0.3	10		
			contacts. Mod soft (intense clay alt'n) to mod hard (wk-mod silic'n?). 5% hairline qtz-py-hem									
			stockwork vnlts.									
			132.23 - 132.53 Fault zone. Gouge + crushed rock. Upper contact is broken with no good	3168	132.23	134.05	1.82	10	0.2	10		
			orientation. Lower contact is sharp @ 70º to CA.									
			132.53 - 137.65 Pale pink-buff colour, bleached looking dyke. Fine grained with 10% relic 0.5 x 4									
			mm lath shaped fsp. Mod soft. Mod pervasive argillic alt'n. Prob same as in 131.6 - 132.23 abut	3169	134.05	134.45	0.40	10	<0.2	1		
			less intensely altered here. 2% hairline qtz-py-hem stockwork vnlts & minor banded vuggy qtz	3170	134.45	135.62	1.17	30	0.2	2		

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			vnlts to 2-3 cm ie) 134.05-134.45 @ 0-15º to CA.									
			134.5 - 134.57 gouge zone									
			135.62 - 136.55 Late dyke - possibly pulaskite, cuts bleached dyke with 5 cm crushed and	3171	135.62	137.65	2.03	30	<0.2	7		
			gougey faulted contacts. 5% large anhedral saus Kspar? phenos, to 0.5 cm, in fine grained, mod soft									
52.80	151.3	Averill	grey, mod argillic alt'd gmass. Upper contact faulted @ 45º to CA. Lower contact faulted (no									
	cont …	monzonite	good orientation).									
		cont …										
			137.65 - 137.80 Fault zone - gouge	3172	137.65	138.05	0.40	15	0.4	113		
			@ 137.80 Back into monzonite									
			137.80- 138.05 Monzonite is mod bleached, mod soft, mod perv argillic alt'n.									
			138.05 - 138.20 Grey cryptocrystalline qtz vn cuts monzonite. Upper contact is sharp @ 45º to CA.	3173	138.05	138.20	0.15	10	0.2	109		
			Lower contact is faulted.									
			138.20 - 140.8 Weakly bleached monzonite, grades down hole into dark grey strongly magnetic									
			syenite? as in 126.5 - 127.16									
			140.8 - 143.95 Fresh, massive, str magnetic, fine grained, equigranular, biotite (after px) syenite as									
			in 126.5 - 127.16.									
			143.95 - 149.63 Pale grey bleached monzonite but still good relic texture. Mod to very strong	3174	143.95	145.22	1.27	10	0.2	173		
			pervasive silic'n and cut by numerous qtz +/- bx vns, grading to a true qtz flooding/bx zone. Silic'n									
			is magnetite destructive. This zone is weak to non magnetic.									
			145.22 - 147.30 Qtz flooding/qtz bx zone with up to 50 grey & white cryptocrystalline qtz	3175	145.22	147.30	2.08	25	0.4	75		
			(locally vuggy) with fine bx frags of early white qtz + silic'd monzonite and with minor diss py, in									
			silic'd monzonite. Can't tell orientation of zone. Some veins within the zone are at low core angles									
			(0-20º), but others are at 45-80º to CA.									
			148.05 - 148.15 crush/gouge zone (at 60º to CA?)									
			149.63 - 150.0 Fault zone - crush/gouge/bx zone @ 40º to CA	3176	147.3	149.65	2.35	15	0.3	88		

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
				3177	149.65	151.3	1.65	5	<0.2	95		
			150.0 - 151.30 Weakly bleached & silic'd monzonite with 3-5% 0.5 - 2 cm grey qtz (+/- bx) vns, at									
			40-60º to CA									
			@ 151.3 abrupt change at 50º to CA									
151.3	212.90	Averill augite	Fresh massive fine-medium grained, very dark grey, strongly magnetic px phyric syenite or									
		syenite	possibly monzonite. 10% 3-5 mm large anhedral px phenos are partly resorbed and alt'd to biotite									
		(or monz?)	+ perhaps some primary fine biotite & 15% relic mafics in pinkish grey Kspar rich gmass.									
			This phase is always very fresh and it could easily be interpreted as an Eocene intrusive, but									
			contacts to altered monzonite are commonly gradational, both in this section and in the above									
			interval where dykes of this unit cut the monzonite or sometimes grade into it (ie. 126.5 - 127.16).									
			Also, near the end of this interval the augite syenite is cut by common pink-grey syenite-granite									
			dykes therefore can't be Eocene.									
			Very minor white qtz vnlts, to 1 cm, and abundant cc vnlts.									
			155.15 - 156.05 Coarse grained pink syenite dyke cuts dark grey str magnetic px (+ bio after px)									
			syenite. Sharp upper contact @ 20º to CA. Sharp lower contact @ 75º to CA.									
			@ 164.0 grades into bleached, wk-mod argillic alt'd monz.									
			164.0 - 167.7 pale grey-green bleached Averill monzonite as above. Weak-mod argillic alt'n &	3178	164.0	167.7	3.7	15	0.4	167		
			cut by minor banded qtz vns, to 1 cm.									
			@ 164.65 narrow gouge zone @ 15º to CA									
			165.6 - 166.1 coarse pegmatitic syenite dyke @ 20º to CA, with abundant 1 cm x 0.5 cm									
			Kspar phenos. Later tectonic bx'n.									
			@ 167.7 abrupt change back to fresh dark grey syenite, at 50º to CA. It seems that syenite is									
			later than monzonite and for the most part is unmineralized.									
			Below 167.7 rocks are very fresh, massive, dark grey, strongly magnetic. Typically 10% anhedral									
			px phenos, partly resorbed and alt'd to biotite, 3-5 mm, 15% relic mafics, in pinkish grey Kspar rich									
			gmass.									
			187.6 - 192.5 Monzonite phase. Paler grey, lacks large px phenos. Med grained equigranular									

DOMINANT ROCK TYPE			DESCRIPTION	SAMPLE				Au	Ag	Cu	Pb	Zn
From (m)	To (m)	Lithology		Sample #	From (m)	To (m)	Interval (m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)
			phase.									
			204.0 - 212.90 Common pink-grey syenite to granite dykelets, commonly at 45º to CA.									
			@ 212.90 gouge contact @ 45º to CA									
212.90	216.80	Eocene fine	Pinkish brown, fine grained with 2% Kspar phenos and glomerocrysts, to 0.5 cm. Weakly magnetic.									
		grained syenite	Muddy grey-green Kspar phyric “pulaskite” chilled margins. Lower contact is sharp at 55º to CA.									
		dyke “pulaskite”	Upper contact is faulted at 45º to CA, but still chilled contact to dyke.									
216.80	230.4	Averill	Dark green-black, very fine grained, massive, fresh, very strongly magnetic, 10% magnetite.									
		Pyroxenite	Common cc vnlts. V minor local diss py. Locally weakly hematitic.									
230.4	EOH											

Box #	From	To	Recovery
1	3.05	8.85	99%
2	8.85	14.53	100%
3	14.53	20.34	100%
4	20.34	26.05	100%
5	26.05	31.80	100%
6	31.80	37.50	100%
7	37.50	43.25	100%
8	43.25	48.94	100%
9	48.94	54.70	100%
10	54.70	60.38	100%
11	60.38	66.14	100%
12	66.14	72.03	100%
13	72.03	77.75	100%
14	77.75	83.52	100%
15	83.52	89.12	100%
16	89.12	94.93	100%
17	94.93	100.73	100%
18	100.73	106.55	99%
19	106.55	112.20	100%
20	112.20	118.08	100%
21	118.08	123.99	99%
22	123.99	129.57	100%
23	129.57	134.73	98%
24	134.73	140.36	98%
25	140.36	145.90	99%
26	145.90	151.49	97%
27	151.49	157.11	100%
28	157.11	162.78	100%
29	162.78	168.38	100%
30	168.38	173.90	100%
31	173.90	179.60	100%

Box #	From	To	Recovery
32	179.60	185.29	100%
33	185.29	190.92	100%
34	190.92	196.88	100%
35	196.88	202.56	100%
36	202.56	208.65	100%
37	208.65	214.48	100%
38	214.48	220.17	100%
39	220.17	225.71	100%
40	225.71	230.40	100%

GRID NORTH
TRUE NORTH

BUCK #1

86-8
86-7
86-15,16
TRENCH MLC 04-2
7906
7907,8
TRENCH MLC 04-1
TRENCH MLC 04-5
7911
MAPLE LEAF 'CRUSH ZONE'
TRENCH MLC 04-4
87-39
86-10
7909,10
TRENCH MLC 04-3
87-38
86-11
86-9
86-5
04-5

Ev

MAPLE LEAF FAULT

Ja

5491000N

PAR 99
DODGE 99
MAPLE LEAF ZONE
65-1,2
86-3,4
86-1,2
86-12
86-13,14
87-40

F

Maple Leaf Cabin
TRENCH CAB 04-1
7901-4
7905
Fe Stope
Gold Stope
L 1678S
L1022S
vent raise
Schulz Stope
UNION VEIN
PROSPECT ADIT
Open Stopes
78
UNION FAULT

possible western faulted offset of Union Vein beneath Eocene sediments

04-2
04-4
04-3
04-1
spring

Es

87-41

5490500N

BUCK #1
L1679S
401500E
402000E
TO UNION & BURRELL CK ROADS

1200
1100
1000
900

ROCK SAMPLE RESULTS

Sample	Au	Ag	As	Cu	Pb	Zn
	ppb	ppm	ppm	ppm	ppm	ppm
7901	5	<0.2	15	21	18	91
7902	25	0.2	30	49	18	108
7903	5	<0.2	<5	15	12	48
7904	10	0.8	25	456	14	32
7905	5	1.1	170	78	58	488
7906	<5	0.6	<5	85	1146	52
7907	75	18.8	<5	6231	3.26 %	3443
7908	35	1.0	<5	148	370	994
7909	225	424.0	520	7.77 %	6.21 %	1286
7910	135	94.3	215	7360	2.36 %	6.43 %
7911	3.06 g/t	16.8	<5	30	56	80

LEGEND

Qal — Quaternary Alluvium

EOCENE

Ei — Coryell syenite and pulaskite dykes and plugs.

Ev — Marron Formation. Andesite and trachytic flows.

Es — Kettle River Formation. Arkosic sandstone, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd — Nelson granodiorite.

JURASSIC

Ja — Undifferentiated Averill Plutonic Complex. Includes:

- sy — syenite, includes a coarse trachytic syenite phase
- monz — monzonite
- px — pyroxenite

TRIASSIC (?)

F — Undifferentiated Franklin Group. Includes:

- Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
- Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

Fault
Sulfide Mineralization
Quartz Vein / Silicified Zone
Hornfels
Adit
Shaft
Test Pit
Trench
Stope - Projected to Surface
Mine Dump
Road
7905 — Rock Sample Location
04-2 — 2004 Diamond Drill Hole
86-7 — Diamond Drill Hole
Claim Boundary
Airborne EM Conductor

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 4

UNION-MAPLE LEAF AREA ROCK SAMPLE, TRENCH & DRILL HOLE LOCATIONS

082E,059

SCALE: 1:2000
0 25 50 75 100m

DRAWN BY: LJC / dw
DATE: DECEMBER 2004

FILENAME: UNION-FIG4-SAMPLE-TR-DDH.DWG

5492500N

TRENCH GL04-1
8m DEEP, NO BEDROCK

7918

Qal

TEST PIT
GL04-2
5+m DEEP,
NO BEDROCK

7916

7915

TRENCH WB04-3

7914

TRENCH WB04-1

04-7

7917

7912,13

TRENCH WB04-2

Es

Fv

Ja

Qal

04-6

AL#10 AL#9

BUCK#1 BUCK#2

20

Ja

5492000N

402500E

403000E

GRID NORTH
TRUE NORTH

ROCK SAMPLE RESULTS

Sample	Au	Ag	As	Cu	Pb	Zn
	ppb	ppm	ppm	ppm	ppm	ppm
7912	45	0.5	<5	15	50	57
7913	120	0.3	<5	9	92	23
7914	145	0.5	<5	11	24	29
7915	25	0.7	5	17	38	52
7916	15	<0.2	5	12	22	76
7917	265	0.9	<5	8	46	25
7918	20	0.5	<5	6	10	13

LEGEND

- Qal — Quaternary Alluvium

EOCENE

- Ei — Coryell syenite and pulaskite dykes and plugs.
- Ev — Marron Formation. Andesite and trachytic flows.
- Es — Kettle River Formation. Arkosic sandstone, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

- gd — Nelson granodiorite.

JURASSIC

- Ja — Undifferentiated Averill Plutonic Complex. Includes:
  - sy — syenite, includes a coarse trachytic syenite phase
  - monz — monzonite
  - px — pyroxenite

TRIASSIC (?)

- F — Undifferentiated Franklin Group. Includes:
  - Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
  - Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

- Fault
- Sulfide Mineralization
- Quartz Vein / Silicified Zone
- Hornfels
- Adit
- Shaft
- Test Pit
- Trench
- Stope - Projected to Surface
- Mine Dump
- Road
- 7905 — Rock Sample Location
- 04-2 — 2004 Diamond Drill Hole
- 86-7 — Diamond Drill Hole
- Claim Boundary
- Airborne EM Conductor

NAD 83, Zone 11

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FIGURE 5

WHITE BEAR AREA
ROCK SAMPLE, TRENCH & DRILL HOLE LOCATIONS

082E.059

SCALE: 1:2000

0 25 50 75 100m

DRAWN BY: LJC / dw
DATE: DECEMBER 2004

FILENAME: UNION-FIGS-SAMPLE-TR-DDH.DWG

TRENCH WB 04-1

50m long
0.5–2m deep
trends 245°
on steep WSW slope
samples 7919–7930

TRENCH WB 04-2

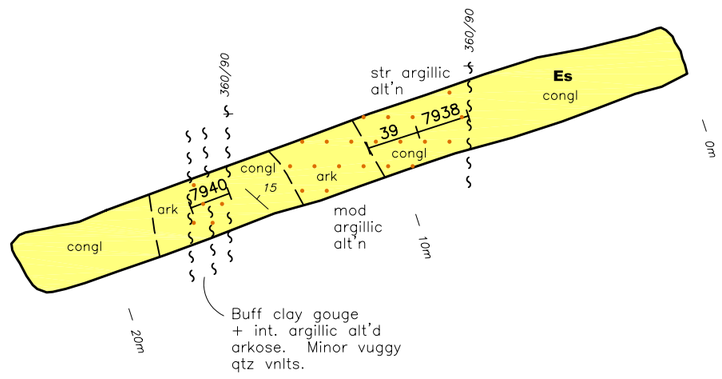
32m long
1–2.5m deep
trends 250°
on steep WSW slope
samples 7931–7937

TRENCH WB 04-3

23m long
1–2m deep
trends 252°
on steep WSW slope
samples 7938–7940

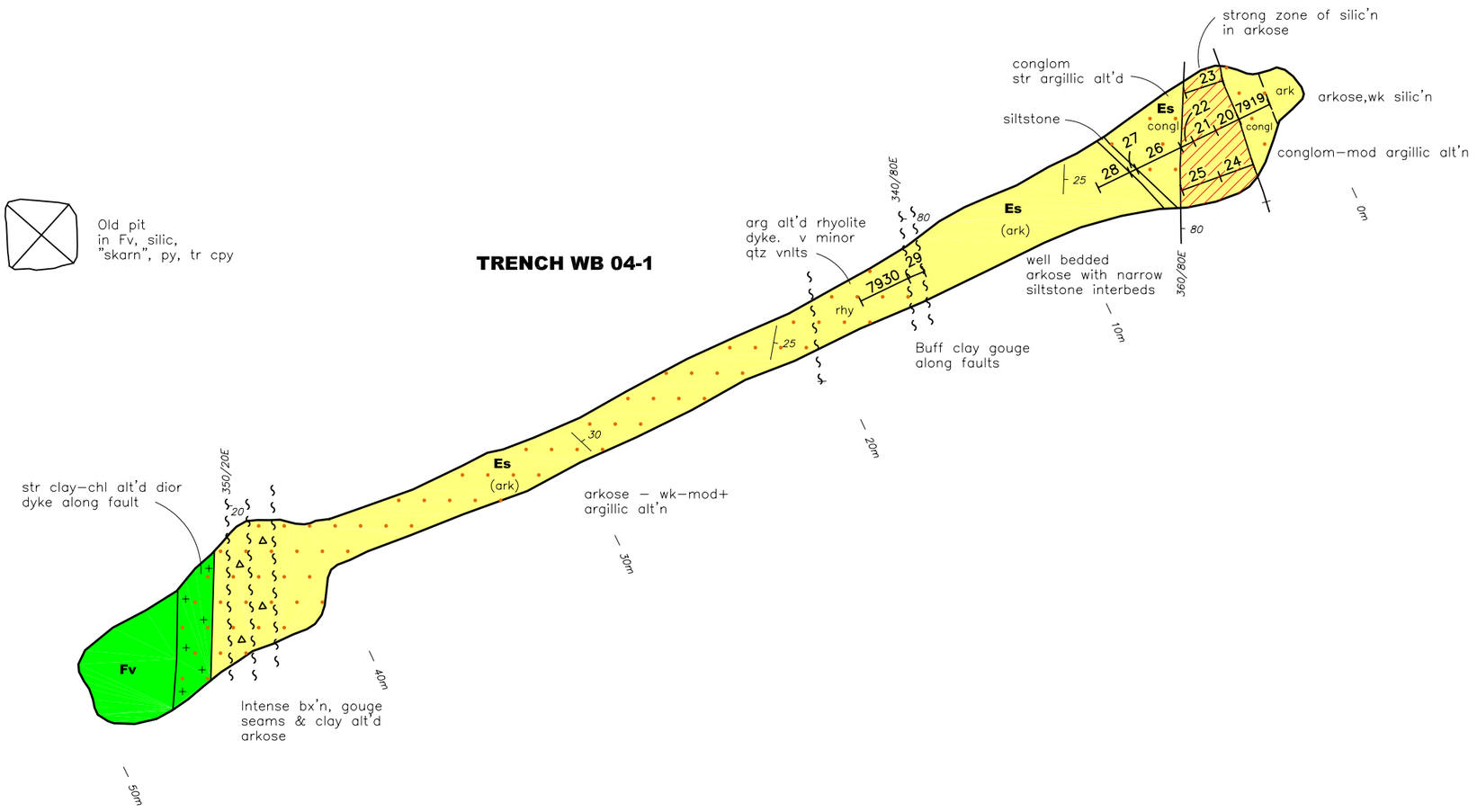
SAMPLE RESULTS TRENCHES WB04-1, 04-2, 04-3								
Sample	Interval	Sample Width	Au	Ag	As	Cu	Pb	Zn
	m	m	ppb	ppm	ppm	ppm	ppm	ppm
Trench WB04-1								
7919	1.0 - 2.1	1.1	20	0.2	<5	6	8	19
7920	2.1 - 3.0	0.9	80	0.3	<5	4	22	6
7921	3.0 - 4.0	1.0	320	0.3	<5	6	46	11
7922	4.0 - 4.5	0.5	305	0.4	<5	6	26	17
7923	2.0 - 4.5	2.5	95	0.3	5	8	46	23
7924	2.0 - 3.5	1.5	70	0.3	<5	7	78	10
7925	3.5 - 5.0	1.5	85	0.2	<5	5	32	13
7926	4.5 - 5.8	1.3	10	<0.2	<5	31	12	59
7927	5.8 - 6.2	0.4	20	0.2	<5	4	28	76
7928	5.2 - 8.0	1.8	35	0.2	<5	5	18	47
7929	15.0 - 15.8	0.8	15	0.2	<5	3	10	12
7930	15.8 - 18.0	2.2	20	0.2	<5	4	34	86
Trench WB04-2								
7931	@ 6	grab	20	0.3	125	43	6	94
7932	19.5 - 20.5	1.0	145	1.2	10	71	36	90
7933	20.5 - 21.0	0.5	245	0.9	15	13	336	11
7934	21.0 - 23.0	2.0	15	0.4	<5	6	28	22
7935	28.0 - 29.0	1.0	30	0.9	<5	80	10	126
7936	29.0 - 30.5	1.5	15	0.4	<5	127	2	155
7937	30.5 - 32.0	1.5	50	0.7	<5	142	6	176
Trench WB04-3								
7938	7.5 - 9.0	1.5	<5	0.2	<5	28	8	56
7939	9.0 - 10.5	1.5	25	0.6	10	29	12	43
7940	15.5 - 16.8	1.3	25	0.3	<5	3	32	64

TRENCH WB 04-3

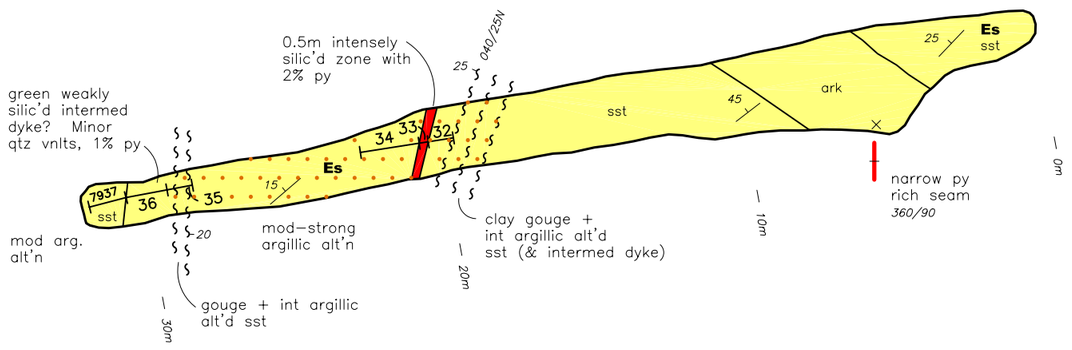


Old pit in Fv, silic, "skarn", py, tr cpy

TRENCH WB 04-1



TRENCH WB 04-2



LEGEND

ob — Quaternary Alluvium

EOCENE

Ei — Coryell syenite and pulaskite dykes and plugs.

Ev — Marron Formation. Andesite and trachytic flows.

Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd — Nelson granodiorite.

d — Fine grained intermediate dyke.

JURASSIC

Ja — Undifferentiated Averill Plutonic Complex. Includes:

- sy — syenite, Includes a coarse trachytic syenite phase
- monz — monzonite
- px — pyroxenite

TRIASSIC (?)

F — Undifferentiated Franklin Group. Includes:

- Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
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Fault
Zone of Known Mineralization
Sulfide Mineralization
Quartz Vein / Silicified Zone
Hornfels
Argillic Alteration
Adit
Shaft
Test Pit
Trench
Open Stope
Mine Dump
Road
Trench or Drill Road
Outcrop
8017 — Chip Sample
7930 × — Grab Sample
04–1 — Diamond Drill Hole
30 — Strike / Dip of Bedding

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite		
bx	breccia				

NAD 83, Zone 11

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FIGURE 6

TRENCHES WB04-1, 04-2, 04-3
GEOLOGY, SAMPLE LOCATIONS & RESULTS

082E.059

SCALE: 1:200

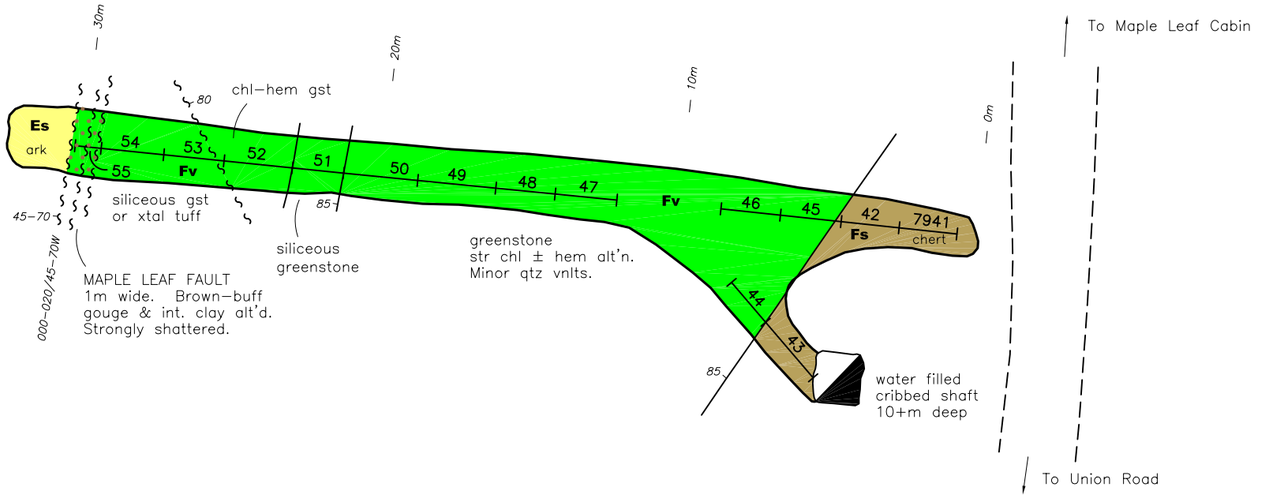
0 2.5 5.0 7.5 10m

DRAWN BY: LJC / rjw
DATE: DECEMBER 2004
FILENAME: UNION-FIG6-TR-04-1-2-3.DWG

TRENCH CAB 04-1

32m long
1–2m deep
trends 276°,
across N–S draw
samples 7941–7955

TRENCH CAB 04-1



SAMPLE RESULTS TRENCHES CAB04-1								
Sample	Interval	Sample Width	Au	Ag	As	Cu	Pb	Zn
	m	m	ppb	ppm	ppm	ppm	ppm	ppm
7941	0.5 - 2.5	2.0	20	0.3	10	29	8	41
7942	2.5 - 4.5	2.0	10	0.2	<5	36	8	59
7943	@ shaft 0-2.5	2.5	80	0.6	10	26	16	148
7944	@ shaft 2.5 - 4.5	2.5	15	<0.2	<5	60	6	428
7945	4.5 - 6.5	2.0	5	<0.2	<5	49	8	112
7946	6.5 - 8.5	2.0	10	<0.2	<5	42	4	89
7947	12.0 - 14.0	2.0	10	<0.2	<5	63	<2	48
7948	14.0 - 16.0	2.0	5	<0.2	<5	46	<2	49
7949	16.0 - 18.5	2.5	5	<0.2	<5	27	<2	50
7950	18.5 - 21.0	2.5	5	<0.2	<5	28	<2	54
7951	21.0 - 22.5	1.5	5	<0.2	<5	27	<2	50
7952	22.5 - 25.5	3.0	45	<0.2	<5	82	<2	38
7953	25.5 - 27.0	1.5	105	0.2	10	160	<2	28
7954	27.0 - 29.0	2.0	95	0.2	15	69	36	60
7955	29.0 - 30.0	1.0	15	0.2	10	24	54	63

NAD 83, Zone 11

LEGEND

- ob — Quaternary Alluvium

EOCENE

- Ei — Coryell syenite and pulaskite dykes and plugs.
- Ev — Marron Formation. Andesite and trachytic flows.
- Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

- gd — Nelson granodiorite.
- d — Fine grained intermediate dyke.

JURASSIC

- Ja — Undifferentiated Averill Plutonic Complex. Includes:
  - sy — syenite, includes a coarse trachytic syenite phase
  - monz — monzonite
  - px — pyroxenite

TRIASSIC (?)

- F — Undifferentiated Franklin Group. Includes:
  - Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
  - Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

- Fault
- Zone of Known Mineralization
- Sulfide Mineralization
- Quartz Vein / Silicified Zone
- Hornfels
- Argillic Alteration
- Adit
- Shaft
- Test Pit
- Trench
- Open Stope
- Mine Dump
- Road
- Trench or Drill Road
- Outcrop
- 8017 — Chip Sample
- 7930 × — Grab Sample
- 04–1 — Diamond Drill Hole
- 30 — Strike / Dip of Bedding

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite		
bx	breccia				

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FIGURE 7

TRENCH CAB 04-1
GEOLOGY, SAMPLE LOCATIONS & RESULTS

082E.059

SCALE: 1:200
0 2.5 5.0 7.5 10m

DRAWN BY: LJC / rjw
DATE: DECEMBER 2004

FILENAME: UNION-FIG7-TR-CAB04-1.DWG

TO MAPLE LEAF CABIN AND UNION ROAD

N

86–7

86–15,16

87–39

MAPLE LEAF 'CRUSH ZONE' DRAW

mod hem alt'd

str hem alt'n

hem+albite? alt'n

mottled white–pale maroon colour, v hard, mod–str silic'd &/or albite alt'd. Minor qtz vnlts, minor py, tr cpy. Common mal on fracs.

TRENCH MLC 04-1

Augite syenite dyke

15cm wide zone–gouge + crushed syenite & minor qtz vnlts

Buff, bleached, str clay al'd interm dyke? Local wk silica or albite alt'n. Minor mm scale stockwork qtz vnlts. 5% leached vuggy cavities (after py?)

40cm buff clay gouge

Maroon, mod soft, str hem alt'd sy with local patchy zones of bleached org alt'd intermed dyke (?) Mod qtz stockwork. Local silic'n. Patchy malachite stain.

TRENCH MLC 04-2

Augite–syenite dyke cuts earlier coarse grained ± trachytic syenite

Intermediate dyke? Weak–mod jarosite stain. Mod–str clay alt'd, bleached + locally silic'd and minor healed qtz bx zones. Contains irregular pods & zones of relatively fresh syenite.

Buff, strongly bleached, mod–str clay alt'd intermed dyke? Local silic'n. Mod–str jarosite stain. Minor qtz vnlts.

TRENCH MLC 04-3

silic'd, wk hem alt'd zone, 5% py. Minor qtz vnlts. Tr cpy.

old shaft, water/muck filled 3–4m deep?

3–5cm qtz vn with 5% cpy poddy massive sphal + gal to 5%. Strong mal stain.

TRENCH MLC 04-4

hem alt'd, local patchy argillic alt'n

30cm grey–maroon gouge

old pit 2.5m deep sample 7911

fault zone 015/90 Bleached, rusty sy with local qtz/silic zones

fine grained intermed dyke cuts syenite

Massive fresh syenite

TRENCH MLC 04-5

str hem alt'n minor qtz vnlts

mottled maroon–white, hard. probable albite–hem alt'n

0.5m buff, bleached, Fe ox, silic'd zone with qtz vnlts

0.5m clay gouge

TRENCH MLC 04-1	TRENCH MLC 04-2	TRENCH MLC 04-3	TRENCHMLC 04-4	TRENCH MLC 04-5
62m long 0.5–2.5m deep trends 175° gentle E slope and across E–W draw samples 7956–7985	45m long 0.5–2.5m deep trends 175° mod S slope and across E–W draw samples 7986–7998	17m total 2–3m deep re–excavation of old shaft and diggings mod E slope samples 7999–8007	43m long 0.5–2m deep trends 005° on mod E slope samples 8008–8014	16m long 1–m deep trends ~200° along roadcut across E–W draw samples 8015–8021

SAMPLE RESULTS TRENCHES MLC04-1 to MLC04-5

Sample	Interval	Sample Width	Au	Ag	As	Cu	Pb	Zn
	m	m	ppb	ppm	ppm	ppm	ppm	ppm
Trench MLC04-1								
7956	13.5 - 13.65	0.2	25	8.7	<5	690	68	262
7957	23.0 - 25.0	2.0	250	3.1	<5	52	18	19
7958	25.0 - 27.0	2.0	160	0.8	<5	44	16	18
7959	27.0 - 28.5	1.5	75	1.1	<5	148	16	35
7960	28.5 - 29.5	1.0	150	3.0	<5	87	50	13
7961	29.5 - 31.0	1.5	205	3.5	<5	165	64	79
7962	31.0 - 33.0	2.0	90	0.8	<5	81	134	77
7963	33.0 - 35.0	2.0	30	0.5	<5	83	124	213
7964	35.0 - 37.0	2.0	45	2.6	<5	535	628	382
7965	37.0 - 39.0	2.0	15	1.0	<5	422	174	300
7966	39.0 - 40.0	1.0	60	1.3	<5	541	82	197
7967	40.0 - 41.0	1.0	40	1.7	<5	919	78	261
7968	41.0 - 42.0	1.0	130	2.4	<5	376	130	149
7969	42.0 - 43.0	1.0	25	1.0	<5	357	44	60
7970	43.0 - 44.0	1.0	40	0.8	<5	328	40	62
7971	44.0 - 45.0	1.0	35	0.7	<5	275	36	52
7972	45.0 - 46.0	1.0	20	0.6	<5	206	22	64
7973	46.0 - 47.0	1.0	10	0.5	<5	220	20	108
7974	34.6 - 36.6	2.0	30	0.9	<5	415	254	179
7975	36.6 - 38.6	2.0	40	0.7	<5	326	188	357
7976	38.6 - 39.6	1.0	45	7.4	<5	481	446	179
7977	39.6 - 40.6	1.0	60	0.7	<5	255	98	103
7978	40.6 - 41.6	1.0	35	0.6	<5	361	70	80
7979	41.6 - 42.6	1.0	40	0.4	<5	852	308	48
7980	42.6 - 43.6	1.0	55	0.8	<5	357	74	46
7981	47.0 - 49.0	2.0	25	0.6	<5	343	34	102
7982	49.0 - 51.0	2.0	95	0.5	<5	52	28	45
7983	51.0 - 53.0	2.0	110	0.4	<5	68	18	35
7984	53.0 - 55.0	2.0	105	0.8	<5	123	26	32
7985	55.0 - 58.0	3.0	120	0.4	<5	47	18	38
Trench MLC04-2								
7986	23.5 - 25.0	1.5	50	1.1	<5	46	48	34
7987	25.0 - 26.0	1.0	105	1.3	<5	53	28	28
7988	26.0 - 27.0	1.0	325	2.9	<5	36	46	7
7989	27.0 - 28.0	1.0	65	1.0	<5	25	22	18
7990	28.0 - 30.0	2.0	510	3.2	<5	85	16	34
7991	30.0 - 32.0	2.0	330	2.5	<5	46	12	27
7992	32.0 -33.5	1.5	150	1.4	<5	52	10	39
7993	33.5 - 34.5	1.0	160	1.7	<5	40	16	29
7994	34.5 - 35.5	1.0	170	2.1	<5	15	22	13
7995	35.5 - 36.5	1.0	200	3.6	<5	134	30	43
7996	36.5 - 37.5	1.0	250	3.9	<5	156	48	39
7997	37.5 -39.5	2.0	250	3.3	<5	60	48	26
7998	39.5 - 41.5	2.0	190	2.1	<5	88	64	102
Trench MLC04-3								
7999	@ 7	1.0	70	1.8	<5	236	40	159
0000	@ 7	1.0	20	0.5	<5	203	30	401
8001	@ 7	1.0	40	0.6	<5	201	12	77
8002	@ 7	1.0	30	0.6	<5	278	12	116
8003	@ 4	grab	190	180	<5	6.67 %	2.67 %	3.27 %
8004	@ 4	grab	90	73.9	<5	1.72 %	1.42 %	6.88 %
8005	@ 2.5	1.0	50	2.2	<5	605	46	110
8006	@ 12	1.0	350	2.0	<5	433	142	1015
8007	@ 8	2.0	40	1.2	<5	172	52	276
Trench MLC04-4								
8008	@ 25	0.5	1.7 g/t	23.2	<5	53	42	64
8009	@ 30	0.3	690	3.3	<5	47	22	26
8010	@ 30	1.5	80	0.8	<5	51	16	49
8011	@ 30	0.4	2.41 g/t	12.4	<5	138	34	60
8012	38.5 - 39.0	0.5	270	0.8	<5	38	20	40
8013	39.0 - 41.0	2.0	110	0.5	<5	28	16	50
8014	41.0 - 43.0	2.0	640	1.1	<5	20	18	46
Trench MLC04-5								
8015	5.5 - 7.5	2.0	20	0.4	<5	86	10	166
8016	7.5 - 9.5	2.0	40	0.7	<5	215	18	95
8017	9.5 - 10.0	0.5	120	5.2	<5	472	62	71
8018	10.0 - 12.0	2.0	225	1.6	<5	124	20	71
8019	12.0 - 12.5	0.5	160	1.1	<5	115	22	115
8020	12.5 - 14.0	1.5	160	1.4	<5	302	20	116
8021	14.0 - 16.0	2.0	400	1.5	<5	28	20	90

LEGEND

- ob — Quaternary Alluvium
- EOCENE
  - Et — Coryell syenite and pulaskite dykes and plugs.
  - Ev — Marron Formation. Andesite and trachytic flows.
  - Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.
- JURASSIC to CRETACEOUS
  - gd — Nelson granodiorite.
  - d — Fine grained intermediate dyke.
- JURASSIC
  - Ja — Undifferentiated Averill Plutonic Complex. Includes:
    - sy — syenite, includes a coarse trachytic syenite phase
    - mons — monzonite
    - px — pyroxenite
- TRIASSIC (?)
  - F — Undifferentiated Franklin Group. Includes:
    - Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
    - Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.
- Fault
- Zone of Known Mineralization
- Sulfide Mineralization
- Quartz Vein / Silicified Zone
- Hornfels
- Argillic Alteration
- Adit
- Shaft
- Test Pit
- Trench
- Open Stope
- Mine Dump
- Road
- Trench or Drill Road
- Outcrop
- Chip Sample
- Grab Sample
- Diamond Drill Hole
- Strike / Dip of Bedding

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mall	malachite		
bx	breccia				

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE #

TRENCHES MLC 04-1 to 04-5 GEOLOGY, SAMPLE LOCATIONS & RESULTS

082E.059

SCALE: 1:200

0 2.5 5 7.5 10m

DRAWN BY: LAC / tn

DATE: DECEMBER 2004

FILENAME: UNION-FIG-MLC-04-1TO5.DWG

S

N

DDH UNION 04-1
Az: 000°
Dip: -50°
Elev: 1180m (approx)
TD: 102.41m

DDH UNION 04-3
Az: 005°
Dip: -50°
Elev: 1163m (approx)
TD: 361,45m

DDH UNION 04-4
Az: 000°
Dip: -50°
Elev: 1160m (approx)
TD: 202.97m

Elev.
1150m

1100m

1050m

1000m

950m

900m

ob
conglom
arkose
siltstone
Es
bedding
siltstone
arkose
conglom
black graphitic shale
Major zone of faulting
with numerous graphitic shale
and graphitic gouge zones
EOCENE UNCONFORMITY
Fv
intermed volc bx
TD 102.41m
arkose + siltstone
siltstone & shale/argillite
arkose or water lain tuff
conglom
siltstone / shale + minor graphitic shale
frag volc
gst
Ei
mudstone
Fs
siltstone/shale
intensely silic'd zone
tr py
calcareous shale
calcareous, tuffaceous siltstone
sandstone
siltstone
TD 361,45m
siltstone / mudstone
black shale
calc volc or tuff
lapilli tuff (or congl?)
chert + siltstone
lapilli tuff or matrix
supported conglom
6cm qtz-bx vn @ 0-20° to CA. Tr py
6-8cm qtz-bx vn @ 25° to CA
1-2% qtz vnlts, to 1cm @ 0-60° to CA
and narrow qtz-py-chl vnlts
TD 202.97m

NORTH-SOUTH VERTICAL SECTION THROUGH COLLAR DDH UNION 04-3.
DDH UNION 04-1 IS PROJECTED 40m FRONTWARDS (E) ONTO SECTION.
DDH UNION IS PROJECTED 32m BACKWARDS (W) ONTO SECTION.

LEGEND

ob Overburden

EOCENE

Ei Coryell syenite and pulaskite dykes and plugs.

Ev Marron Formation. Andesite and trachytic flows.

Es Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd Nelson granodiorite.

d Fine grained intermediate dyke.

JURASSIC

Ja Undifferentiated Averill Plutonic Complex. Includes:

sy syenite. Includes a coarse trachytic syenite phase

monz monzonite

px pyroxenite

TRIASSIC (?)

F Undifferentiated Franklin Group. Includes:

Fv Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.

Fs Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate a limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

Fault

Sulfide Mineralization

Quartz Vein / Silicified Zone

Hornfels

Argillic Alteration

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite	bx	breccia

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 9A

DRILL SECTION
UNION 04-1, 04-3, 04-4
GEOLOGY

06DE.059

SCALE: 1/500
0 5 10 15 20 25m

DRAWN BY: LJC / bv
DATE: DECEMBER 2004

FILENAME: UNION-FIG9A-DDHSEC-04-1-3-4-GEOLOWG

S

N

DDH UNION 04-1
Az: 000°
Dip: -50°
Elev: 1180m (approx)
TD: 102.41m

DDH UNION 04-3
Az: 005°
Dip: -50°
Elev: 1163m (approx)
TD: 361,45m

DDH UNION 04-4
Az: 000°
Dip: -50°
Elev: 1160m (approx)
TD: 202.97m

Elev.
1150m

1100m

1050m

1000m

950m

900m

3001
3002
3003
TD 102.41m

3014
3015
3016
3017
3018
3019
3020
3021
3022 STANDARD
3023 BLANK
3024
3025
3026
3027
3028
3029
3030
3031
3032
3033
TD 361,45m

3039 STANDARD
3040 BLANK
3041
3042
3043
3044
3045
3046
3047
3048
3049
3050
3051
3052
3053
3054
3055
3056
3057
3058
3059
TD 202.97m

3060 STANDARD
3061 BLANK

NORTH-SOUTH VERTICAL SECTION THROUGH COLLAR DDH UNION 04-3.
DDH UNION 04-1 IS PROJECTED 40m FRONTWARDS (E) ONTO SECTION.
DDH UNION IS PROJECTED 32m BACKWARDS (W) ONTO SECTION.

SAMPLE RESULTS ddh UNION 04-1, 04-3, 04-4

Sample	From	To	Width	Au	Ag	As	Cu	Pb	Zn
	m	m	m	ppb	ppm	ppm	ppm	ppm	ppm
ddh Union 04-1									
3001	71.36	72.61	1.25	10	<0.2	220	35	42	121
3002	79.15	80.30	1.15	10	<0.2	50	17	30	57
3003	87.66	88.63	0.97	5	<0.2	30	398	24	53
ddh Union 04-3									
3014	205.26	205.46	0.20	10	0.6	50	119	50	61
3013	224.00	227.00	3.00	20	1.3	75	154	52	161
3015	240.63	242.47	1.84	10	1.6	65	120	60	145
3016	252.90	253.85	0.95	1	0.9	80	121	66	191
3017	253.85	255.05	1.20	85	2.3	760	88	46	354
3018	255.05	256.03	0.98	100	1.7	65	30	102	341
3019	256.03	256.80	0.77	40	1.9	110	51	38	1722
3020	256.80	257.62	0.82	135	3.7	125	68	394	419
3021	257.62	258.62	1.00	20	1.0	20	85	54	197
3022	BLANK			5	<0.2	<5	3	44	113
3023	STANDARD GS-5A			>1000	<0.2	<5	57	32	71
3024	334.75	337.07	2.32	130	1.2	55	114	70	200
3025	337.07	340.11	3.04	60	1.7	60	84	118	321
3026	340.11	342.00	1.89	120	2.2	115	79	86	815
3027	342.00	344.00	2.00	70	1.0	70	78	64	141
3028	344.00	346.00	2.00	15	0.7	45	87	62	162
3029	346.00	348.00	2.00	10	0.5	45	69	52	148
3030	348.00	350.00	2.00	25	0.7	50	74	46	108
3031	350.00	352.00	2.00	15	0.7	40	54	58	169
3032	352.00	354.00	2.00	20	1.4	40	121	52	197
3033	359.00	361.45	2.45	15	1.2	45	136	64	282
ddh Union 04-4									
3034	122.00	124.17	2.17	<5	0.2	<5	31	20	73
3035	124.17	124.50	0.33	20	1.0	15	35	30	80
3036	124.50	125.77	1.27	10	<0.2	5	5	34	73
3037	125.77	128.00	2.23	10	0.3	10	23	20	77
3038	128.00	130.00	2.00	35	2.1	15	52	24	64
3039	STANDARD GS-20			>1000	<0.2	<5	63	14	39
3040	BLANK			20	<0.2	<5	3	26	74
3041	130.00	132.50	2.50	90	1.2	20	100	18	76
3042	132.50	135.00	2.50	35	0.6	10	37	20	80
3043	135.00	137.30	2.30	35	7.3	10	26	22	152
3044	137.30	138.58	1.28	90	22.8	10	49	24	201
3045	175.40	177.33	1.93	15	0.6	25	96	22	89
3046	177.33	177.70	0.37	10	0.8	10	103	14	47
3047	177.70	178.10	0.40	10	0.5	10	154	20	80
3048	178.10	180.00	1.90	10	0.6	20	98	24	105
3049	180.00	182.70	2.70	10	1.1	25	79	24	97
3050	182.70	182.99	0.29	30	0.9	25	91	16	81
3051	182.99	185.00	2.01	15	1.6	30	128	26	115
3052	185.00	187.00	2.00	15	1.8	20	102	28	103
3053	187.00	189.00	2.00	45	1.3	25	74	40	278
3054	189.00	191.00	2.00	20	2.0	25	128	26	105
3055	191.00	193.00	2.00	10	1.8	45	113	28	171
3056	193.00	195.85	2.85	10	1.7	35	116	20	120
3057	195.85	198.00	2.15	30	1.9	85	113	28	100
3058	198.00	200.50	2.50	55	2.2	100	79	32	157
3059	200.50	202.97	2.47	35	2.0	65	85	26	122
3060	STANDARD GS-5A			>1000	<0.2	<5	63	18	43
3061	BLANK			<5	<0.2	<5	3	24	73

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 9B

DRILL SECTION
UNION 04-1, 04-3, 04-4
SAMPLE LOCATIONS & RESULTS

DEDE DSV

SCALE: 1000
0 5 10 15 20 25m

DRAWN BY: LJC / tje
DATE: DECEMBER 2004 FILENAME: UNION-FIG9B-DDHSEC-04-1-3-4-SAMPLES.DWG

SW NE

DDH UNION 04-2
Az: 210°
Dip: -50°
Elev: 1152m (approx)
TD: 270.05m

Elev. 1150m

1100m

1050m

1000m

950m

ob
conglom
siltstone
arkose
arkose & conglom
conglom
arkose & conglom
arkose & siltstone
Es
siltstone
arkose (or water lain tuff)
Ei
interbedded siltstone & fine sandstone
Ei
arkose
arkose & conglom
conglom
graphitic fault
siltstone & shale
EOCENE UNCONFORMITY
intermediate fragmental volc
Fv
intermediate to felsic volcanic
Ei
Fv
intermediate fragmental volcanic
2% py
Fs
calcareous argillite "black shale"
Fs
calcareous shale (or intermediate tuff)

TD 270,05m

VERTICAL SECTION IN PLANE OF DRILL HOLE

LEGEND

ob — Overburden

EOCENE

Ei — Coryell syenite and pulaskite dykes and plugs.

Ev — Marron Formation. Andesite and trachytic flows.

Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd — Nelson granodiorite.

d — Fine grained intermediate dyke.

JURASSIC

Ja — Undifferentiated Averill Plutonic Complex. Includes:

sy — syenite, includes a coarse trachytic syenite phase

monz — monzonite

px — pyroxenite

TRIASSIC (?)

F — Undifferentiated Franklin Group. Includes:

Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.

Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

Fault

Sulfide Mineralization

Quartz Vein / Silicified Zone

Hornfels

Argillic Alteration

sillc	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite	bx	breccia

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 10A

DRILL SECTION
UNION 04-2
GEOLOGY

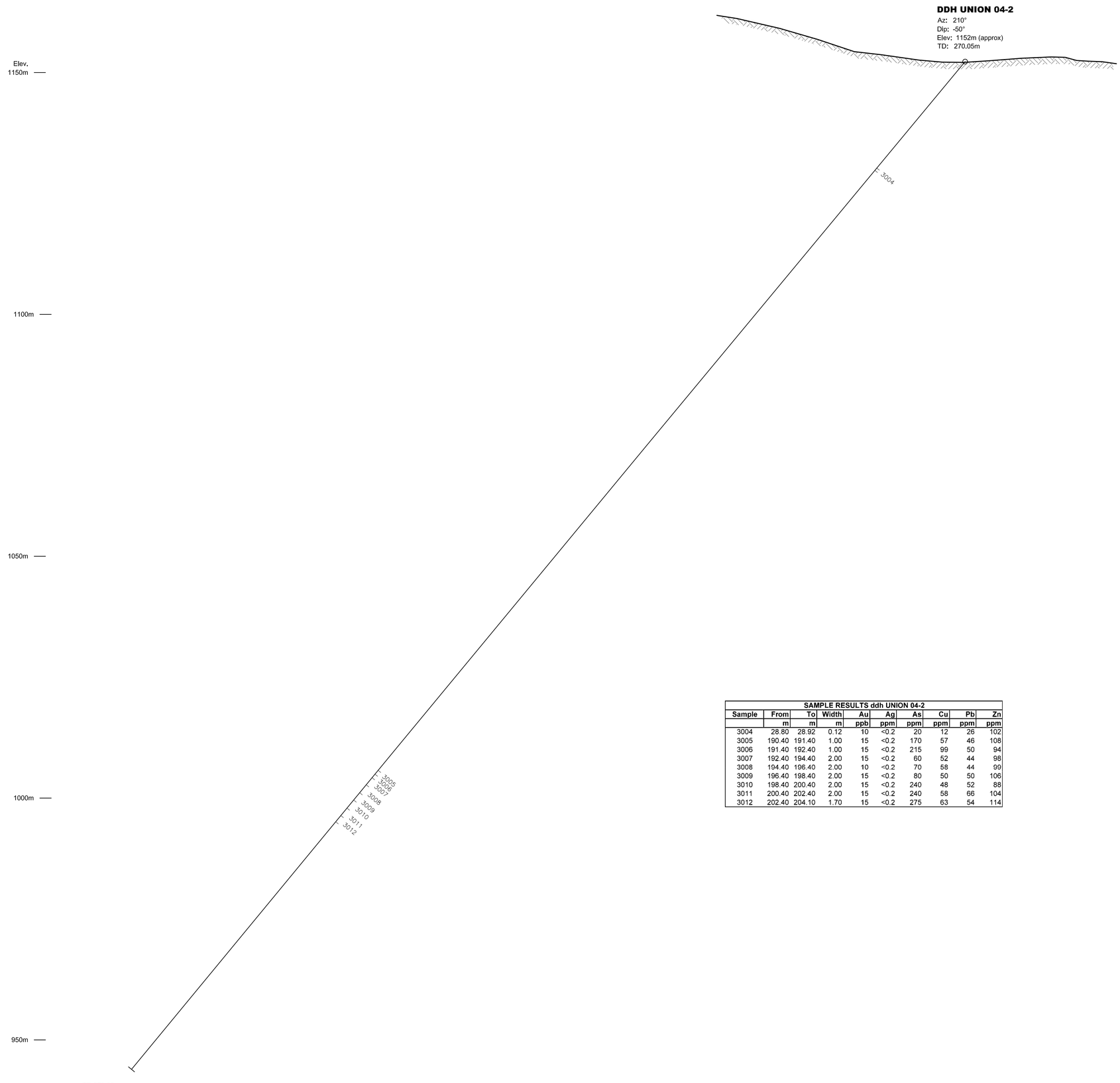
082E.059

SCALE: 1:500
0 5 10 15 20 25m

DRAWN BY: LJC / ljv
DATE: DECEMBER 2004

FILENAME: UNION-FIG10A-DDHSEC-04-2-GEOL.DWG

SW NE



SAMPLE RESULTS ddh UNION 04-2

Sample	From	To	Width	Au	Ag	As	Cu	Pb	Zn
	m	m	m	ppb	ppm	ppm	ppm	ppm	ppm
3004	28.80	28.92	0.12	10	<0.2	20	12	26	102
3005	190.40	191.40	1.00	15	<0.2	170	57	46	108
3006	191.40	192.40	1.00	15	<0.2	215	99	50	94
3007	192.40	194.40	2.00	15	<0.2	60	52	44	98
3008	194.40	196.40	2.00	10	<0.2	70	58	44	99
3009	196.40	198.40	2.00	15	<0.2	80	50	50	106
3010	198.40	200.40	2.00	15	<0.2	240	48	52	88
3011	200.40	202.40	2.00	15	<0.2	240	58	66	104
3012	202.40	204.10	1.70	15	<0.2	275	63	54	114

VERTICAL SECTION IN PLANE OF DRILL HOLE

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 10b

DRILL SECTION
UNION 04-2
SAMPLE LOCATIONS & RESULTS

082E.059

SCALE: 1:500
0 5 10 15 20 25m

DRAWN BY: LJC / ilw
DATE: DECEMBER 2004 FILENAME: UNION-FIG10B-DDHSEC-04-2-SAMPLE.DWG

S

N

DDH UNION 04-5
Az: 000°
Dip: -50°
Elev: 1180m (approx)
TD: 282.21m

86-7

TRENCH MLC 04-1

Ja (sy)
wk-mod hem alt'n

Ja (monz)
dyke

Ja (sy)

Ja (sy)

Ja (sy)

Ja (sy)

d

(+d)

d
hem-clay alt'n
bx

Common hem + qtz veinlts, to 5%,
& flooding. Local bx'n.

Ja (sy)
wk-mod hem alt'n

sillica-py vnlts & flooding

2-5% py + silica (+hem, chl, cc) vnlts
and locally matrix to bx zones

d
d
d

fine grained, grey-green intermed
dyke with avg 5% 1mm fsp

hem

d

"CRUSH ZONE"
chl-clay alt'd & local hem altered,
bx'd fine grained intermediate dyke

Ja (sy)

TD 282.21m

Elev.
1150m

1100m

1050m

1000m

950m

VERTICAL SECTION IN PLANE OF DRILL HOLE

LEGEND

ob — Overburden

EOCENE

Ei — Coryell syenite and pulaskite dykes and plugs.

Ev — Marron Formation. Andesite and trachytic flows.

Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

gd — Nelson granodiorite.

d — Fine grained intermediate dyke.

JURASSIC

Ja — Undifferentiated Averill Plutonic Complex. Includes:

- sy — syenite, includes a coarse trachytic syenite phase
- monz — monzonite
- px — pyroxenite

TRIASSIC (?)

F — Undifferentiated Franklin Group. Includes:

- Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
- Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

Fault
Sulfide Mineralization
Quartz Vein / Silicified Zone
Hornfels
Argillic Alteration

sillc	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite	bx	breccia

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 11A
DRILL SECTION
UNION 04-5
GEOLOGY
082E.059

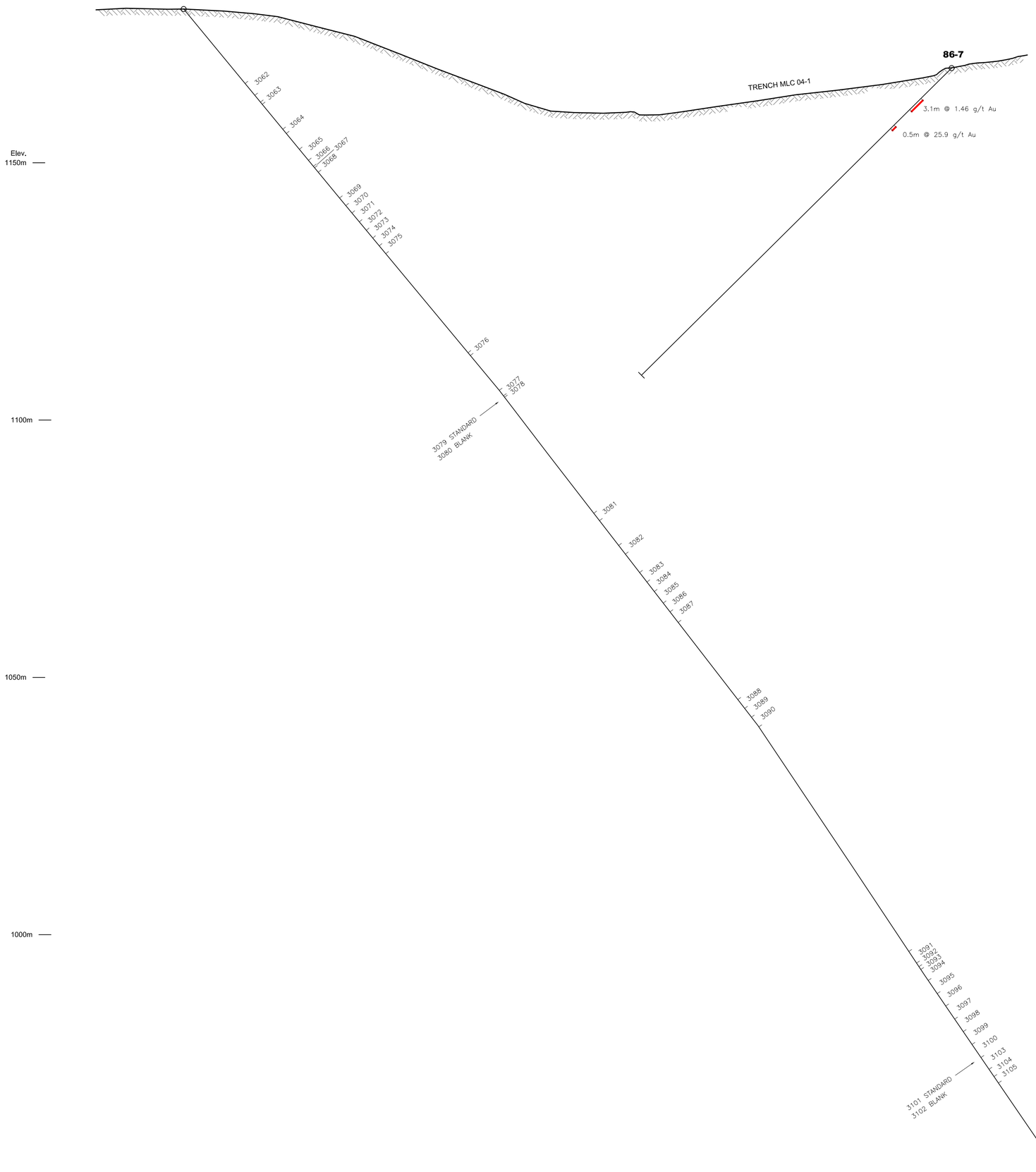
SCALE: 1:500
0 5 10 15 20 25m

DRAWN BY: LJC / dw
DATE: DECEMBER 2004

FILENAME: UNION-FIG11A-DDHSEC-04-5-GEOL.DWG

S N

DDH UNION 04-5
Az: 000°
Dip: -50°
Elev: 1180m (approx)
TD: 282.21m



SAMPLE RESULTS ddh UNION 04-5

Sample	From	To	Width	Au	Ag	As	Cu	Pb	Zn
	m	m	m	ppb	ppm	ppm	ppm	ppm	ppm
3062	18.64	21.60	2.96	65	0.7	<5	418	8	60
3063	23.40	23.80	0.40	30	0.4	<5	272	6	64
3064	30.30	31.35	1.05	15	<0.2	<5	55	4	35
3065	35.35	37.95	2.60	75	0.3	<5	204	14	131
3066	37.95	39.57	1.62	25	0.5	<5	242	6	71
3067	39.57	39.67	0.10	70	0.3	<5	90	4	39
3068	39.67	40.67	1.00	30	0.2	<5	142	2	71
3069	47.54	49.50	1.96	20	0.2	<5	114	4	73
3070	49.50	51.50	2.00	25	0.3	<5	207	8	77
3071	51.50	53.50	2.00	30	0.4	<5	149	8	68
3072	53.50	55.50	2.00	25	0.2	<5	99	8	53
3073	55.50	57.50	2.00	15	0.4	<5	123	18	61
3074	57.50	59.50	2.00	35	0.6	<5	224	10	100
3075	59.50	61.90	2.40	140	0.4	<5	196	6	117
3076	86.90	87.33	0.43	15	<0.2	<5	76	6	68
3077	95.90	97.30	1.40	20	0.4	<5	210	8	91
3078	97.30	97.64	0.34	70	2.0	<5	2172	6	201
3079	STANDARD GS-20			>1000	<0.2	<5	62	6	45
3080	BLANK			20	<0.2	<5	4	22	74
3081	126.37	128.07	1.70	10	0.2	<5	71	2	68
3082	133.90	136.50	2.60	85	0.9	<5	107	8	52
3083	140.60	143.00	2.40	30	0.5	<5	104	8	103
3084	143.00	145.50	2.50	15	0.4	<5	141	8	86
3085	145.50	148.00	2.50	15	0.4	<5	91	8	75
3086	148.00	150.50	2.50	15	0.4	<5	92	14	100
3087	150.50	153.00	2.50	25	0.7	<5	128	34	137
3088	172.10	174.00	1.90	20	0.7	<5	168	42	143
3089	174.00	176.50	2.50	20	0.5	<5	88	32	131
3090	176.50	178.60	2.10	5	0.3	<5	92	8	69
3091	231.40	233.90	2.50	60	0.4	<5	347	10	57
3092	233.90	234.77	0.87	145	1.0	<5	416	10	83
3093	234.77	235.22	0.45	40	0.4	<5	49	12	44
3094	235.22	238.00	2.78	15	0.5	<5	264	12	56
3095	238.00	241.00	3.00	0	0.2	<5	116	6	46
3096	241.00	244.00	3.00	5	0.3	<5	167	4	48
3097	244.00	247.00	3.00	15	0.5	<5	357	6	55
3098	247.00	250.00	3.00	15	0.6	<5	317	10	57
3099	250.00	253.00	3.00	20	0.3	<5	222	12	61
3100	253.00	256.00	3.00	20	0.2	<5	162	14	55
3101	STANDARD GS-5A			>1000	<0.2	<5	60	8	51
3102	BLANK			15	<0.2	<5	3	28	78
3103	256.00	259.00	3.00	25	0.2	<5	139	12	57
3104	259.00	260.43	1.43	20	0.2	<5	148	14	62
3105	260.43	261.85	1.42	10	<0.2	<5	23	6	27

VERTICAL SECTION IN PLANE OF DRILL HOLE

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 11B

DRILL SECTION
UNION 04-5
SAMPLE LOCATIONS & RESULTS

062E.059

SCALE: 1:500
0 5 10 15 20 25m

DRAWN BY: LJC / dw
DATE: DECEMBER 2004

FILENAME: UNION-FIG11B-DDHSEC-04-5-SAMPLE.DWG

W

E

DDH UNION 04-6

Az: 090°
Dip: -50°
Elev: 907m (approx)
TD: 193.52m

FUGRO EM CONDUCTOR

Gloucester Creek

Elev.
900m

ob

graphite

graphite seams

graphite

graphite

graphite

wk silic

Es

dominantly arkose with minor interbedded conglom, siltstone and black (± graphitic) shale

850m

EOCENE UNCONFORMITY

mod chl alt'n + local ep, hem + albite?

Fv

Ja
(monz)

TD 193.52m

800m

750m

VERTICAL SECTION IN PLANE OF DRILL HOLE

LEGEND

ob	Overburden
EOCENE	
Ei	Coryell syenite and pulaskite dykes and plugs.
Ev	Marron Formation. Andesite and trachytic flows.
Es	Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.
JURASSIC to CRETACEOUS	
gd	Nelson granodiorite.
d	Fine grained intermediate dyke.
JURASSIC	
Ja	Undifferentiated Averill Plutonic Complex. Includes:
sy	syenite, includes a coarse trachytic syenite phase
monz	monzonite
px	pyroxenite
TRIASSIC (?)	
F	Undifferentiated Franklin Group. Includes:
Fv	Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
Fs	Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.
	Fault
	Sulfide Mineralization
	Quartz Vein / Silicified Zone
	Hornfels
	Argillic Alteration

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite	bx	breccia

NAD 83, Zone 11

SOLITAIRE MINERALS CORP.

UNION PROPERTY

FIGURE 12A

DRILL SECTION
UNION 04-6
GEOLOGY

082E.059

SCALE: 1:500
0 5 10 15 20 25m

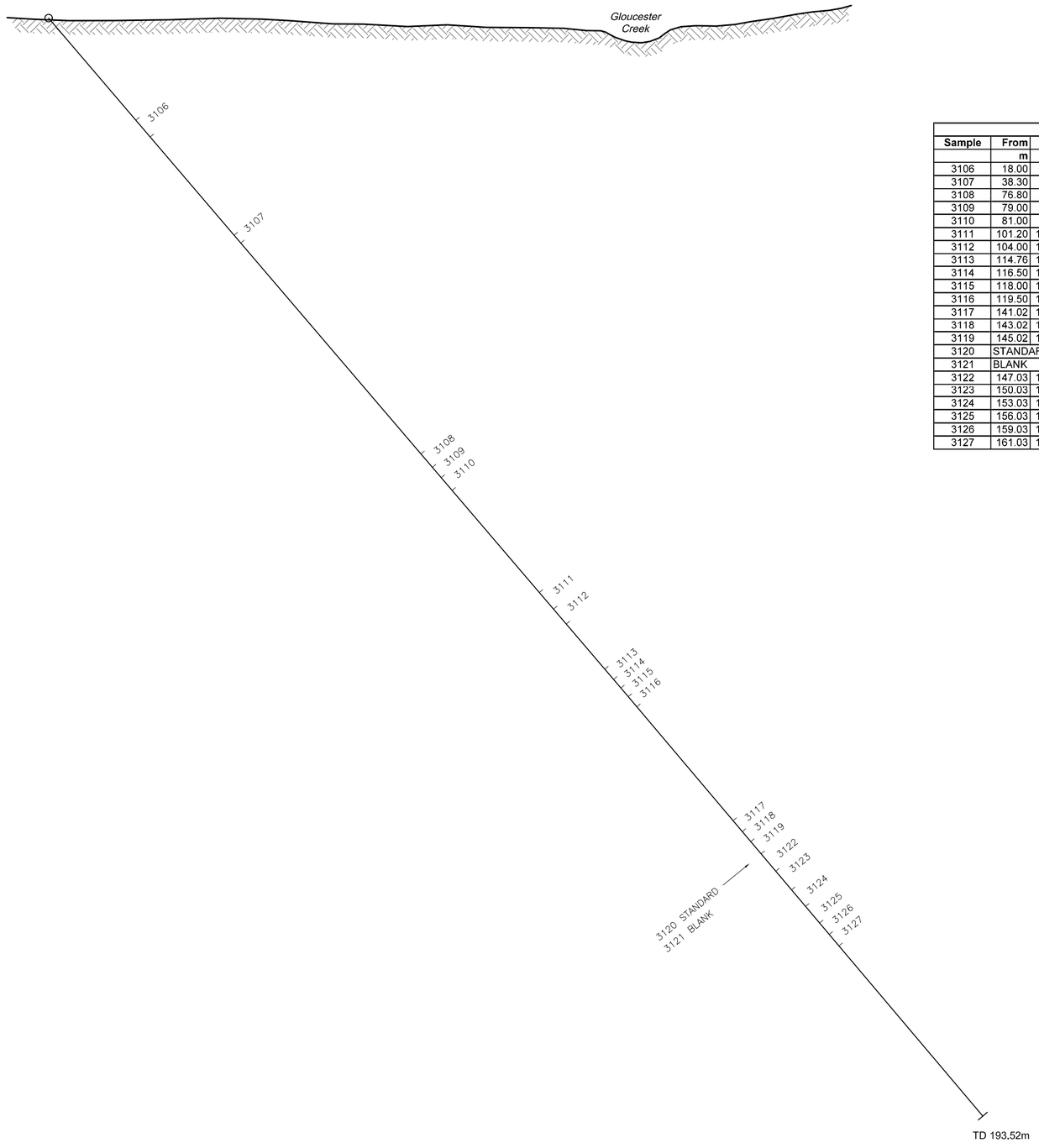
DRAWN BY: LJC / dw
DATE: DECEMBER 2004

FILENAME: UNION-FIG12A-DDHSEC-04-6-GEOL.DWG

W E

DDH UNION 04-6

Az: 090°
Dip: -50°
Elev: 907m (approx)
TD: 193.52m



SAMPLE RESULTS ddh UNION 04-6

Sample	From	To	Width	Au	Ag	As	Cu	Pb	Zn
	m	m	m	ppb	ppm	ppm	ppm	ppm	ppm
3106	18.00	20.90	2.90	10	<0.2	<5	7	18	34
3107	38.30	39.50	1.20	5	<0.2	<5	5	20	37
3108	76.80	79.00	2.20	<5	<0.2	10	3	20	46
3109	79.00	81.00	2.00	5	<0.2	15	4	20	49
3110	81.00	83.20	2.20	<5	<0.2	15	4	20	43
3111	101.20	104.00	2.80	5	<0.2	5	11	12	15
3112	104.00	106.65	2.65	5	<0.2	25	32	14	20
3113	114.76	116.50	1.74	10	<0.2	5	13	10	18
3114	116.50	118.00	1.50	5	<0.2	10	11	12	25
3115	118.00	119.50	1.50	5	<0.2	10	7	12	17
3116	119.50	121.40	1.90	5	<0.2	20	7	14	19
3117	141.02	143.02	2.00	5	<0.2	<5	4	18	29
3118	143.02	145.02	2.00	20	<0.2	<5	120	10	145
3119	145.02	147.03	2.01	10	<0.2	<5	94	8	149
3120	STANDARD GS-20			>1000	<0.2	<5	63	6	42
3121	BLANK			10	<0.2	<5	3	24	68
3122	147.03	150.03	3.00	10	0.2	25	178	14	135
3123	150.03	153.03	3.00	10	0.3	20	142	14	99
3124	153.03	156.03	3.00	5	0.2	<5	154	8	98
3125	156.03	159.03	3.00	5	0.2	20	106	8	92
3126	159.03	161.03	2.00	10	0.2	10	108	8	64
3127	161.03	162.99	1.96	10	0.2	<5	373	6	49

NAD 83, Zone 11

VERTICAL SECTION IN PLANE OF DRILL HOLE

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FIGURE 12B

DRILL SECTION
UNION 04-6
SAMPLE LOCATIONS & RESULTS

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SCALE: 1:500
0 5 10 15 20 25m

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DATE: DECEMBER 2004
FILENAME: UNION-FIG12B-DDHSEC-04-6-SAMPLE.DWG

W

E

Elev.
1000m

950m

900m

850m

800m

DDH UNION 04-7
Az: 090°
Dip: -60°
Elev: 990m (approx)
TD: 230.40m

TRENCH WB04-1

Es
arkose + conglom

ob

Fv

Fv
strong chl-ep-hem (+albite?)
alt'n ("skarn"). Locally siliceous.
Minor py + cpy.

argillic alt'n,
py vnlts, hem vnlts,
minor qtz vnlts

argillic alt'n
talc vnlts

mod ep alt'n at contact

wk-mod argillic alt'n, narrow vuggy
qtz-cc vn

common narow qtz-cc
vnlts @ low core angles

Ja (monz)

Fault zone - mod clay alt'n,
minor vuggy qtz vnlts

banded, vuggy,
qtz bx vein
@20° to CA

minor vuggy qtz vnlts @ 20-45° to CA

Bleached, arg alt'd felsic 'dyke' with
2-10% py+hem ± qtz stockwork vnlts

felsic dyke as above but less altered

qtz flooding / qtz bx zone

Ja (sy)

Ei

Ja (sy)

TD 230.40m

VERTICAL SECTION IN PLANE OF DRILL HOLE

LEGEND

- ob — Overburden

EOCENE

- Ei — Coryell syenite and pulaskite dykes and plugs.
- Ev — Marron Formation. Andesite and trachytic flows.
- Es — Kettle River Formation. Sandstone, arkose, polymictic pebble to cobble size conglomerate and minor quartz eye rhyolite.

JURASSIC to CRETACEOUS

- gd — Nelson granodiorite.
- d — Fine grained intermediate dyke.

JURASSIC

- Ja — Undifferentiated Averill Plutonic Complex. Includes:
  - sy — syenite, includes a coarse trachytic syenite phase
  - monz — monzonite
  - px — pyroxenite

TRIASSIC (?)

- F — Undifferentiated Franklin Group. Includes:
  - Fv — Franklin volcanics. Fine grained to aphanitic greenstone and volcanic breccia.
  - Fs — Franklin sediments. Includes tuffaceous sandstone and siltstone, chert, argillite, conglomerate (chert pebble conglomerate or polymictic conglomerate ± limestone clasts) and limestone. May be strongly hornfelsed near intrusive contacts.

- Fault
- Sulfide Mineralization
- Quartz Vein / Silicified Zone
- Hornfels
- Argillic Alteration

silic	silicified	py	pyrite	hem	hematite
ep	epidote	cpy	chalcopyrite	sphal	sphalerite
qtz	quartz	gal	galena	chl	chlorite
cc	calcite	mal	malachite	bx	breccia

NAD 83, Zone 11

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FIGURE 13A

DRILL SECTION
UNION 04-7
GEOLOGY

082E.059

SCALE: 1:500
0 5 10 15 20 25m

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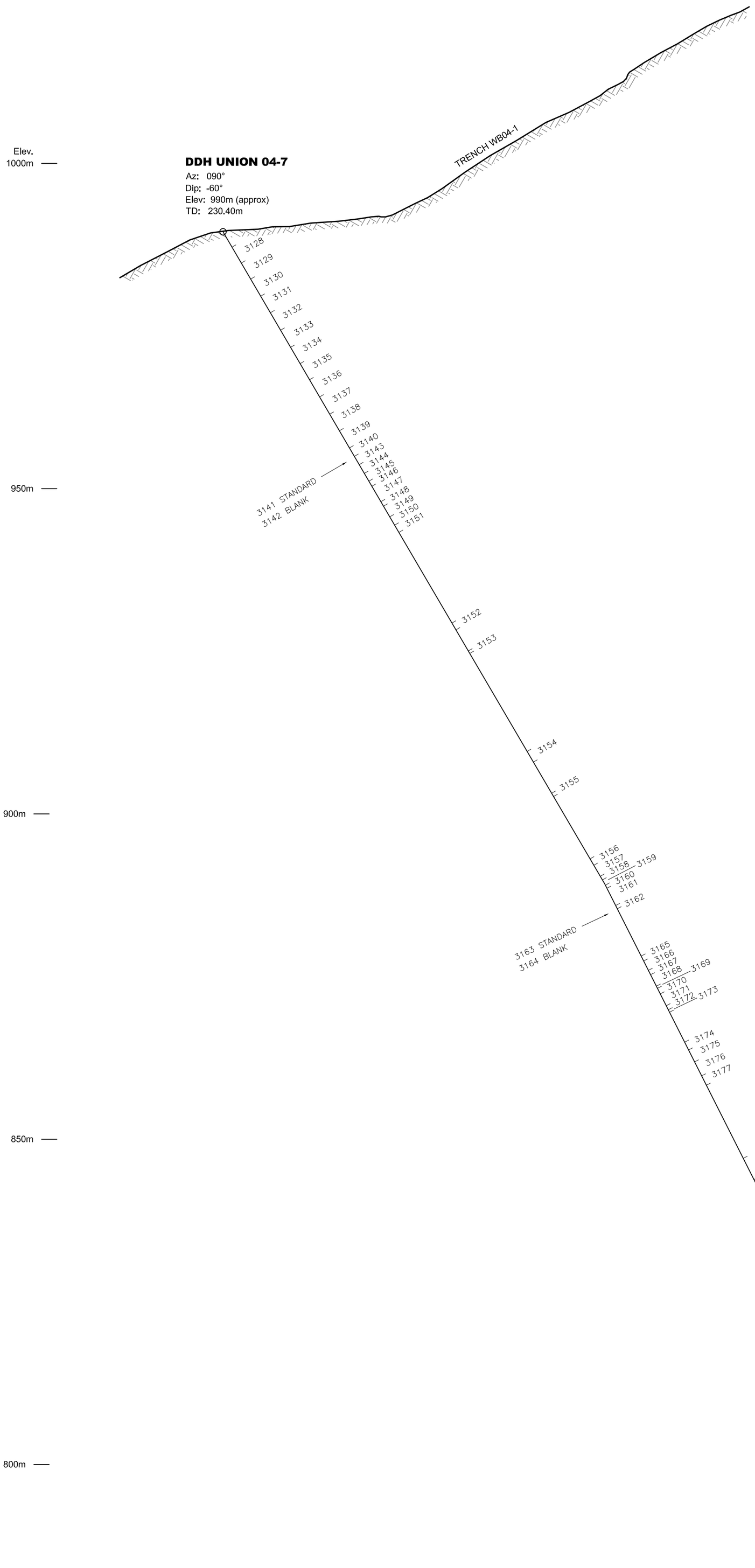
FILENAME: UNION-FIG13A-DDHSEC-04-7-GEOL.DWG



SAMPLE RESULTS ddh UNION 04-7

Sample	From	To	Width	Au	Ag	As	Cu	Pb	Zn
	m	m	m	ppb	ppm	ppm	ppm	ppm	ppm
3128	3.05	6.00	2.95	5	1.8	30	698	148	244
3129	6.00	9.00	3.00	5	1.3	100	193	32	146
3130	9.00	12.00	3.00	5	0.8	<5	432	18	141
3131	12.00	15.00	3.00	10	1.2	10	474	42	150
3132	15.00	18.00	3.00	10	2.1	35	451	60	209
3133	18.00	21.00	3.00	10	1.2	60	399	18	117
3134	21.00	24.00	3.00	5	0.9	<5	325	14	92
3135	24.00	27.00	3.00	15	1.2	<5	640	12	71
3136	27.00	30.00	3.00	10	0.8	<5	400	10	89
3137	30.00	33.00	3.00	20	1.4	<5	455	10	80
3138	33.00	36.00	3.00	5	0.6	<5	610	14	76
3139	36.00	39.00	3.00	10	0.2	<5	201	10	82
3140	39.00	40.48	1.48	10	0.2	<5	237	8	82
3141	STANDARD GS-5A			>1000	<0.2	<5	58	14	53
3142	BLANK			10	<0.2	<5	3	28	80
3143	40.48	42.00	1.52	10	0.3	<5	222	10	48
3144	42.00	43.50	1.50	25	0.3	<5	123	32	32
3145	43.50	44.81	1.31	15	0.6	<5	217	34	31
3146	44.81	46.82	2.01	5	0.2	<5	223	10	53
3147	46.82	48.82	2.00	10	0.3	<5	328	10	68
3148	48.82	49.40	0.58	10	0.5	<5	181	8	40
3149	49.40	51.40	2.00	15	0.3	<5	498	14	76
3150	51.40	52.80	1.40	10	0.4	<5	506	16	105
3151	52.80	54.00	1.20	5	0.5	<5	248	16	102
3152	70.50	71.45	0.95	10	0.6	<5	104	10	49
3153	75.29	75.62	0.33	15	0.3	<5	186	2	39
3154	93.30	94.93	1.63	20	0.5	<5	133	8	52
3155	100.73	100.95	0.22	5	0.4	<5	75	8	56
3156	112.40	113.25	0.85	5	0.3	<5	157	16	76
3157	113.25	115.40	2.15	10	0.3	<5	38	36	87
3158	115.40	115.96	0.56	20	0.4	<5	12	46	109
3159	115.96	116.75	0.79	5	0.2	<5	4	20	66
3160	116.75	117.10	0.35	10	0.6	<5	139	6	44
3161	117.10	120.40	3.30	10	0.2	<5	107	12	63
3162	120.40	120.80	0.40	35	1.0	10	137	16	75
3163	STANDARD GS-20			>1000	<0.2	<5	59	14	51
3164	BLANK			15	<0.2	<5	3	26	82
3165	129.17	129.85	0.68	15	<0.2	<5	122	12	64
3166	129.85	131.60	1.75	15	0.3	<5	169	10	60
3167	131.60	132.23	0.63	15	0.3	<5	10	38	85
3168	132.23	134.05	1.82	10	0.2	<5	10	52	126
3169	134.05	134.45	0.40	10	<0.2	<5	1	36	69
3170	134.45	135.62	1.17	30	0.2	<5	2	66	120
3171	135.62	137.65	2.03	30	<0.2	<5	7	34	54
3172	137.65	138.05	0.40	15	0.4	<5	113	14	58
3173	138.05	138.20	0.15	10	0.2	<5	109	10	51
3174	143.95	145.22	1.27	10	0.2	<5	173	8	50
3175	145.22	147.30	2.08	25	0.4	<5	75	10	45
3176	147.30	149.65	2.35	15	0.3	<5	88	8	62
3177	149.65	151.30	1.65	5	<0.2	<5	95	8	76
3178	164.00	167.70	3.70	15	0.4	<5	167	10	62

NAD 83, Zone 11

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FIGURE 13B

DRILL SECTION
UNION 04-7
SAMPLE LOCATIONS & RESULTS

082E.059

SCALE: 1:500
0 5 10 15 20 25m

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DATE: DECEMBER 2004 FILENAME: UNION-FIG13B-DDHSEC-04-7-SAMPLE.DWG