

# **2010 Geochemical Sampling Program**

**on the  
GK Property**

**BC Geological Survey  
Assessment Report  
31678**

Beaverdell Area  
(NTS 82E/07),

Greenwood Mining Division, South-Central British Columbia  
Latitude 49° 25' 30", Longitude 118° 56' 24"

for

**Bitterroot Resources Ltd.**

by

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September 30, 2010

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## **1.0 Summary**

In June 2010 a program of soil and stream sediment sampling was undertaken on nine new mineral tenures that had been added to the north and northeast of the tenures that comprised the original GK property. A total of 428 soils, 139 silts and 140 moss mat samples were collected. Of these, 213 soils, 69 silts, 71 moss mat samples and 18 blanks were analyzed for gold plus a suite of 35 elements. The remaining samples, which comprised every second sample collected, were retained in storage for possible future analysis to better define anomalous areas defined by the first tranche of samples. To date, these additional samples have not been analyzed.

The GK property is centered about 10 kilometres east of Beavertown, in southern British Columbia and extends east to the Kettle River. The sample area for the program described in this report is located about 16 kilometres northeast of Beavertown.

The objective of the soil sampling was to explore for possible extensions of an area of anomalous gold, known as the Hornet Zone, into untested areas to the north and south. The objective of the stream sediment and moss mat sampling was to discover anomalous drainage areas which would warrant follow-up with soil sample grids.

The property has had a fairly extensive exploration history and more recent work, from 2003 through 2007, has disclosed a number of gold-bearing zones along a 2.5 kilometre-long, mineralized belt that remains open to the north and south. Soil geochemical surveys have defined not only gold-in-soil anomalies but also coincident polymetallic Au-As-Ag-Cu-Zn anomalies.

Based upon sampling from drilling and trenching programs, gold-bearing mineralization has been found to occur in both feldspathic tuff and in diorite dykes, and is often localized along contacts between the two. Most of the anomalous gold values occur in extensively brecciated and silicified zones and typically, the higher gold values coincide with increased abundance of arsenopyrite and, to

a lesser extent, with pyrite. Tourmaline, as disseminations or fine veinlets, also shows a close association with anomalous gold values.

Diamond drilling was undertaken in 2007 in the Hornet Zone, which is located 1.5 kilometres south of the area tested by the soil geochemical grid that is the subject of this report. Significant widths of mineralization were encountered in the Hornet drill holes; up to 13.9 m averaging 1.47 g/t Au. Also, individual samples returned a few high values, such as 7.13 g/t Au over 2.6 m and 9.47 g/t Au over 0.7 m. The four holes drilled in the Hornet Zone to date have provided only preliminary testing of targets revealed by previous trenching, which had indicated three main mineral trends, each extending over more than 100 metres of strike extent. The grid soil sampling undertaken in the current program has returned results suggesting that the Hornet gold system may continue in a north-northeast direction for as much as 2000 metres.

The GK property exhibits good exploration potential in several areas; many related to a large, north-northwest trending, mineralizing system that has been outlined by previous work. The recommendations of this report relate only to a limited sampling program on a small portion of the property and should be viewed in conjunction with the recommendations outlined for other areas, as described in previous assessment reports detailing exploration programs undertaken by Bitterroot Resources Ltd on the GK Property.

With respect to the areas of the property explored by this sampling program, it is recommended that anomalous trends indicated by the grid soil sampling should be prospected and geologically mapped and, if the targets have promising potential they should be further tested by Induced Polarization and Magnetometer surveys followed by excavator trenching to expose bedrock for mapping and sampling. Additional grid soil sampling should be undertaken in two drainage basins where anomalous gold and associated elements were indicated by the silt and moss mat samples.

## **2.0 Location, Access, Physiography, Climate, and Vegetation**

The GK property extends from 4 to 17 kilometres east of the village of Beaverdell, in south-central British Columbia (Figs. 1, 2). The claims cover a north-south distance of approximately 30 kilometres. Beaverdell, with a population of approximately 250, is approximately a one-hour drive south of Kelowna, or a 40-minute drive north of Rock Creek, along Highway 33, a paved, two-lane road. Beaverdell can also be accessed from Penticton, to the west, via the Carmi forest service road (FSR), the 201 FSR, and Highway 33, in approximately 90 minutes of driving time (Fig. 2).

The GK property is readily accessible from Beaverdell by two-wheel drive vehicle along a number of forest service roads (Fig. 3). The most direct route follows the Beaver Creek/ State Creek and Crouse Creek FSRs, and travel time to the centre of the property from Beaverdell averages forty minutes. The Crouse Creek FSR runs through the centre of the property and links the Beaver Creek/ State Creek FSR on the northwest to the Christian Valley FSR on the southeast. Both road systems eventually lead to Highway 33. In addition, the east side of the GK Property may be accessed by the Fourth of July and South Canyon FSRs, via the Christian Valley road, and the west side may be accessed via the Crystal Butte FSR from the north, and the Hoodoo Lake FSR from the south. Not all of the forest service road systems are maintained and in the winter months so it is essential to have a four-wheel drive vehicle equipped with chains, although even with chains the roads may be inaccessible due to snow.

Topography on the GK property is variable, with relief exceeding 600 metres, but steep cliffs occur only locally, along the sides of Crouse Creek. Maximum elevations on the property reach approximately 1520 metres on the north-trending ridge systems that flank the valley of Crouse Creek. Snow is present from November through April, and typically the property can be worked for 8

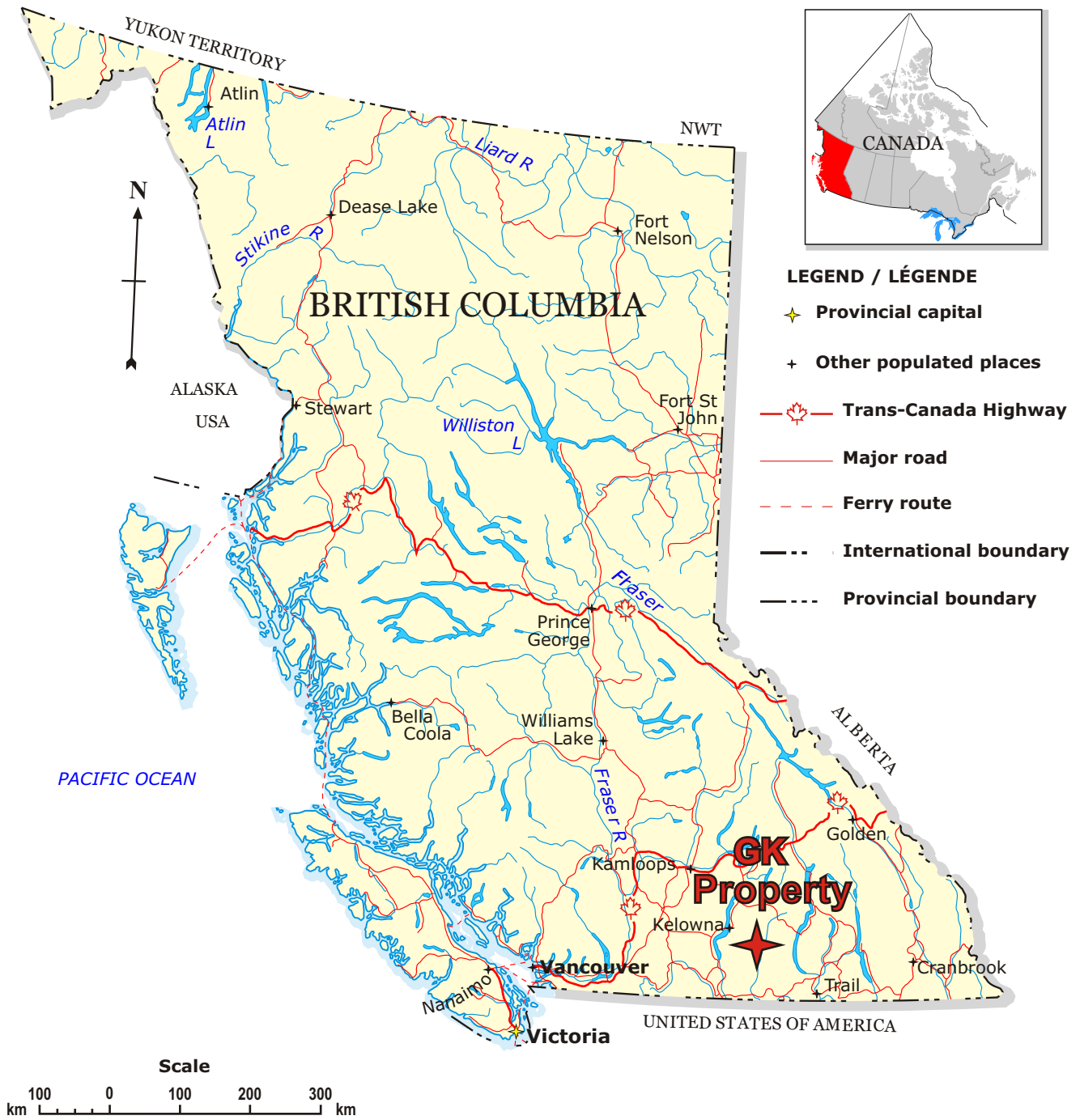


Figure 1. Location of the GK Property, southern British Columbia.

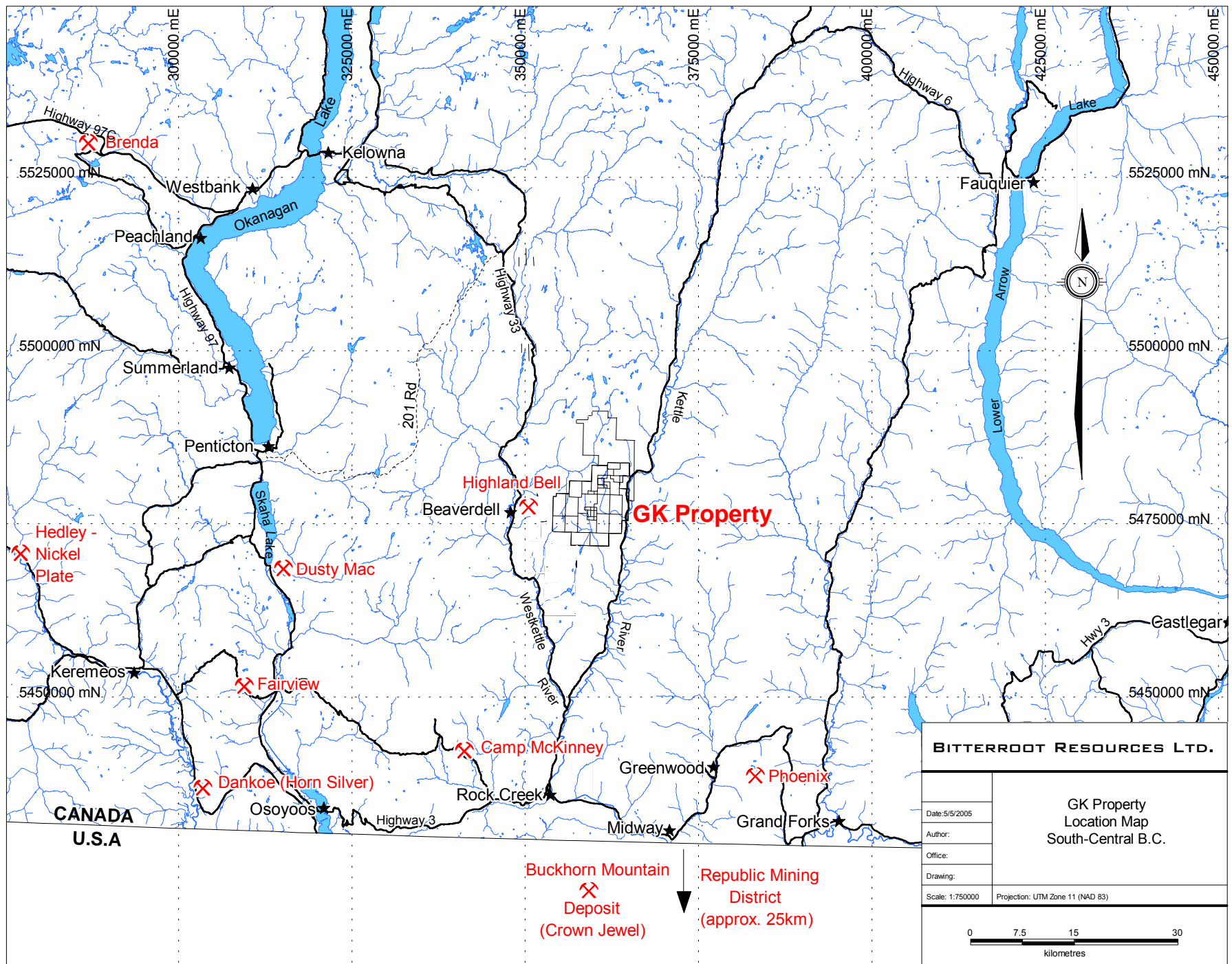


Figure 2. Location of the GK property and selected past producing mines or significant mineral occurrences in the surrounding parts of south-central British Columbia and north-central Washington State.



months of the year. Spring commonly has moderate amounts of rainfall, while summer and autumn are typically very dry, with moderate to high temperatures.

Much of the property is covered by second growth forest approximately 25 years old, but there are also several recent clear-cuts. Fir, pine, and larch are the dominant species, with cedar, poplar, and aspen locally abundant. In some places, foot access may be hindered by abundant windfall in the second growth forests or by locally thick slide alder.

Crouse Creek flows southerly through the middle of the claims and, except in several areas where flow appears to be subterranean, it contains water throughout the year. Many other creeks on the property flow intermittently and are typically dry by the end of summer. Water for diamond drilling operations in many parts of the property would need to be brought onsite by a tank truck.

Outcrop is variable, and generally much more abundant on the ridge tops. Talus and colluvium blanket many of the slopes and in the valley bottoms the cover is predominantly glacial till and glacio-fluvial material.

### **3.0 Claims**

The GK property consists of 51 tenures covering approximately 14,425 hectares (Table 1; Fig. 3). The original GK claims were staked in January 2003 with additional claims added in 2003 and 2004. In July 2005, the GK property tenures were converted online to conform to the new Mineral Titles Online grid system, and since that time, additional claims have been added to the northeast and southwest corners of the property and some claims have been dropped. A sizeable area of new claims added in 2009 were explored by soil and stream sediment sampling described in this report.

Tenure Number	Claim Name	Owner	Issue Date	Good To Date	Area (ha)
516784		C. Greig	2005/jul/11	2015/mar/30	419.99
516790		C. Greig	2005/jul/11	2015/mar/30	630.56
516791		C. Greig	2005/jul/11	2015/mar/30	504.41
516795		C. Greig	2005/jul/11	2015/mar/30	567.18
516798		C. Greig	2005/jul/11	2015/mar/30	525.17
516799		C. Greig	2005/jul/11	2015/mar/30	42.02
516802		C. Greig	2005/jul/11	2015/mar/30	42.03
516804		C. Greig	2005/jul/11	2015/mar/30	42.03
516806		C. Greig	2005/jul/11	2015/mar/30	42.03
516808		C. Greig	2005/jul/11	2015/mar/30	21.02
516811		C. Greig	2005/jul/11	2015/mar/30	21.01
516812		C. Greig	2005/jul/11	2015/mar/30	21.01
516815		C. Greig	2005/jul/11	2015/mar/30	42.03
516818		C. Greig	2005/jul/11	2015/mar/30	525.22
516819		C. Greig	2005/jul/11	2015/mar/30	504.16
516820		C. Greig	2005/jul/11	2015/mar/30	420.38
516823		C. Greig	2005/jul/11	2015/mar/30	504.41
516826		C. Greig	2005/jul/11	2015/mar/30	567.24
516827		C. Greig	2005/jul/11	2015/mar/30	504.63
516828		C. Greig	2005/jul/11	2015/mar/30	420.38
516829		C. Greig	2005/jul/11	2015/mar/30	504.64
516830		C. Greig	2005/jul/11	2015/mar/30	42.00
516831		C. Greig	2005/jul/11	2015/mar/30	21.00
516833		C. Greig	2005/jul/11	2015/mar/30	230.98
520539	MOGUL	C. Greig	2005/sep/28	2015/mar/30	83.96
539983	NOB	C. Greig	2006/aug/28	2015/mar/30	462.13
545347	HIGHLAND-HACKLABARN	C. Greig	2006/nov/14	2015/mar/30	335.81
545355	FILLME-BRIMFUL	C. Greig	2006/nov/14	2015/mar/30	524.80
547109	GKN	C. Greig	2006/dec/10	2015/mar/30	168.00
547110	WARD_OF_THE_ROOT	C. Greig	2006/dec/10	2015/mar/30	335.95
547114	GIVER	C. Greig	2006/dec/10	2015/mar/30	42.00
547713	STEW	C. Greig	2006/dec/20	2015/mar/30	41.99
548820	GIVER 2	C. Greig	2007/jan/07	2015/mar/30	62.98
554905	SILVER AND GOLD DOLL HAIR	C. Greig	2007/mar/23	2015/mar/30	167.89
567246	GOT2BGK	C. Greig	2007/oct/02	2015/mar/30	104.96
567325	ZZZZ TIME	C. Greig	2007/oct/03	2015/mar/30	62.99
592459	GK-MINIME	C. Greig	2008/oct/03	2013/jun/15	21.00
606245	STINGER	C. Greig	2009/jun/18	2013/jun/15	188.95
606246	DOMINATORT	C. Greig	2009/jun/18	2013/jun/15	503.87
606250	WOOZ!!!	C. Greig	2009/jun/18	2013/jun/15	21.00
606252	BAO-WAO	C. Greig	2009/jun/18	2013/jun/15	524.50
606253	IVY LEAGUE	C. Greig	2009/jun/18	2013/jun/15	503.43
606255	G4TG	C. Greig	2009/jun/18	2013/jun/15	440.54
606257	DONGLE-HOLDER	C. Greig	2009/jun/18	2013/jun/15	524.45
606258	SEVEN GHOSTS	C. Greig	2009/jun/18	2013/jun/15	524.15
606259	BUHD	C. Greig	2009/jun/18	2013/jun/15	503.32
606261	RIZZO	C. Greig	2009/jun/18	2013/jun/15	524.01
609947	YO LAME WORKERS, U LAME!	C. Greig	2009/jul/22	2013/jun/15	21.00
641344	CHIMNOBUTT	C. Greig	2009/sep/26	2013/jun/15	21.00
641363	DONG LISTANCE	C. Greig	2009/sep/26	2013/jun/15	20.99
810502	LHR-YVR	C. Greig	2010/jul/07	2011/jul/07	524.26
<b>Total</b>					14425.42

Table 1. GK Property Claims

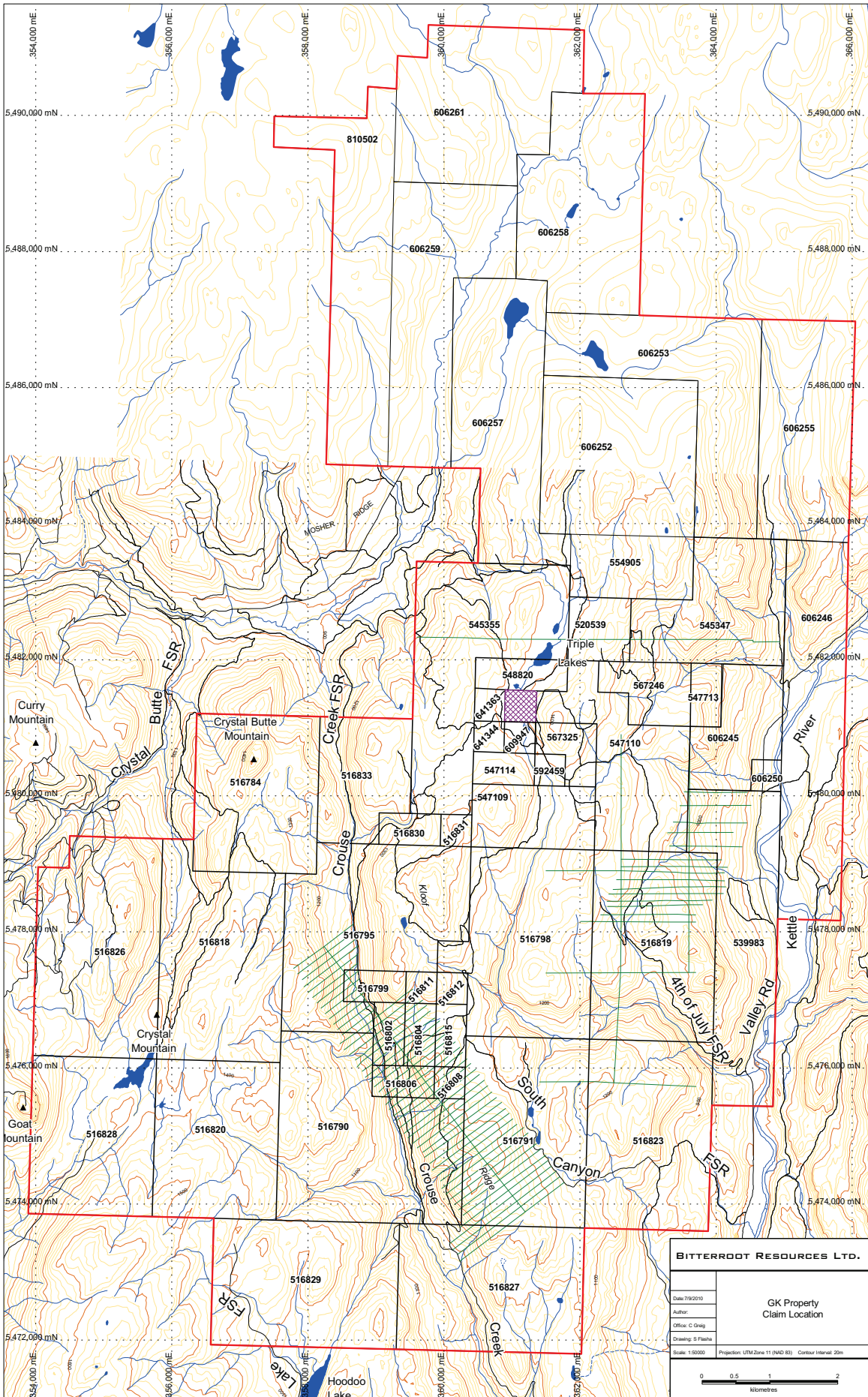


Figure 3. GK property claim locations and local access, Beaverdell area, south-central B.C.

#### 4.0 Regional Geologic Setting

Published geological maps show the GK property and surrounding area to be underlain primarily by greenschist grade metamorphic rocks and greenstone of the Carboniferous to Permian “Anarchist Group” (Tempelman-Kluit 1989), (Figs. 4a, 4b). Some of the earliest, and the most comprehensive, regional-scale mapping encompassing the GK property is that of Reinecke (1915). Reinecke assigned the oldest stratified rocks in the area to the Wallace formation, which he described as consisting largely of andesite and andesite tuff that Reinecke appeared to consider to be both intrusive and extrusive. On the broader scale, rocks of the Wallace formation were considered by Reinecke to be the stratigraphic equivalents of Paleozoic rocks to the east and west, including those of the Anarchist Group, or Anarchist “schist.” This package of stratified rocks is amongst the oldest making up the Quesnel terrane, or Quesnellia, that underlies much of southernmost British Columbia. The Anarchist rocks were deposited in an oceanic setting and although they are probably largely mid-Paleozoic in age, they include rocks as young as Triassic and as old as Ordovician. They consist of marine sedimentary and volcanic arc-related rocks, and they are typically overlain by Upper Triassic marine arc-related volcanic and sedimentary rocks of the Nicola Group.

In the southwestern part of the property the Anarchist group lithologies are intruded by Cretaceous (?) granodiorite of the “Okanagan Batholith.” Areas in the southwest, southeast and central parts of the property are underlain by intrusive rocks that are part of the Westkettle batholith consisting of quartz diorite, diorite, granodiorite and local granite. These intrusions are tentatively dated as Middle Jurassic to early Tertiary. In the north part of the property a granitic stock of Paleocene to Eocene age intrudes Anarchist Group rocks as well as Westkettle diorite. To the west of the property, near Beaverdell, a number of similar granitic intrusive bodies have been dated by Watson et al. (1982) and Godwin et al. (1986). These include the Beaverdell stock, which was dated

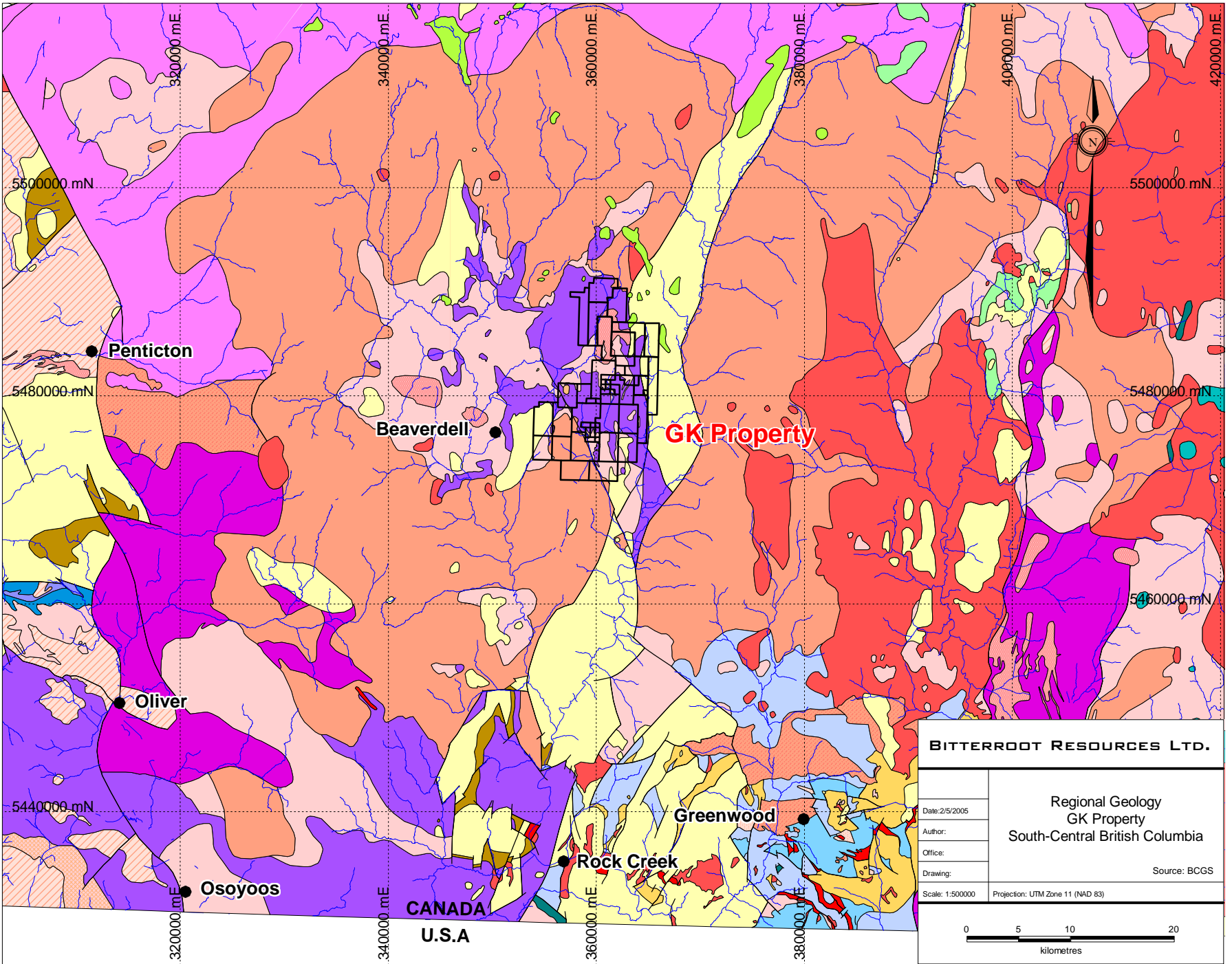


Figure 4a. Regional geology, Okanagan-Boundary area, south-central British Columbia

# Intrusive Rocks

## Eocene



Coryell Plutonic Suite  
syenitic to monzonitic intrusive rocks

## Paleocene to Eocene



Beaverdell Batholith, and Sheppard, Tuzo Creek,  
and Shingle Creek Intrusions granite, alkali feldspar  
granite intrusive rocks

## Cretaceous



granodioritic intrusive rocks



Okanagan Batholith - Ladybird and Valhalla intrusions  
intrusive rocks, undivided

## Middle Jurassic (to Early Tertiary?)



Westkettle batholith (in part)  
quartz diorite, diorite, granodiorite, local granite,  
alkali feldspar granite intrusive rocks



Okanagan Batholith  
granodioritic intrusive rocks



Providence Lake Complex  
dioritic intrusive rocks



Kruger  
syenitic to monzonitic intrusive rocks

# Stratified Rocks

## Miocene to Pliocene



Chilcotin Group  
basaltic volcanic rocks

## Eocene

### *Penticton Group*



undivided volcanic rocks



mudstone, siltstone, shale fine  
clastic sedimentary rocks

## Triassic



Brooklyn Formation  
undivided sedimentary rocks



Apex Mountain Volcanics  
greenstone, greenschist metamorphic rocks

## Carboniferous to Permian



Attwood Group  
undivided sedimentary rocks



Harper Ranch Group  
volcaniclastic rocks



Anarchist Group or Wallace Formation  
greenstone, greenschist metamorphic rocks



Mount Roberts Formation?  
ultramafic rocks



Mount Roberts Formation  
mudstone, siltstone, shale fine clastic sedimentary rocks

## Permian to Triassic



Shoemaker Formation  
chert, siliceous argillite, siliciclastic rocks

## Permian



Chapperon Group  
mudstone, siltstone, shale fine clastic sedimentary rocks

## Devonian to Permian



Knob Hill Group  
chert, siliceous argillite, siliciclastic rocks

## Proterozoic to Paleozoic



Shuswap Assemblage  
metamorphic rocks, undivided

## Proterozoic



Grand Forks Gneiss / Monashee Complex  
paragneiss metamorphic rocks

Figure 4b. Legend for Regional Geology, Okanagan-Boundary area; see map on previous page.

as Late Paleocene (58.8 Ma, K-Ar biotite) (Godwin et al. 1986), and the Late Paleocene to early Eocene Eugene Creek and Tuzo Creek stocks (Watson et al. 1982). The close lithologic similarities between these dated stocks and dykes in the vicinity of the mines at Beaverdell, with some of the rocks mapped on the GK property, less than ten kilometres to the east, together with the fact that they are spatially associated with mineralization in both areas, suggests that these distinctive intrusive rocks are of considerable regional economic significance.

## **5.0 Mineral Potential**

### **5.1 Regional Mineral Deposits**

In southern British Columbia and northern Washington State some of the more significant mineral deposits include the rich past-producing skarn deposits of the Nickel Plate mine west of Penticton (nearly 2.5 million ounces Au), the Phoenix mine near Greenwood (>800,000 ounces Au, >5 million ounces Ag, and >250,000 tonnes Cu), and the recently mined-out Lamfoot deposit in the Republic district of northern Washington State (Fig. 2). The Buckhorn Mountain deposit, also in northern Washington State is a similar deposit which has a gold resource of nearly 1.0 million ounces and is currently producing 130,000 ounces gold per year.

Deposits in the Republic district are of particular interest, in part because of their proximity to the GK property, in part because of the Tertiary age, and in part because several styles of mineralization are present in the district, from skarn or replacement-type, to epithermal vein and disseminated gold deposits. Total production from the Republic district totals more than 2.5 million ounces of gold and 14 million ounces of silver. The Republic graben, and the Toroda Creek graben to the west, are sub-parallel to, and in part along trend from, the graben that underlies the Christian (Kettle River) valley, located immediately east of the GK property.

Perhaps the most significant mineral deposits near the GK property are the Ag-Pb-Zn-Au veins at Beaverdell, which lie less than 10 km to the west (Fig. 2). The mines are now closed, but production from the narrow, but very high-grade, veins of the main producer in the camp (Highland-Bell) was over 35 million ounces Ag, nearly 12 million kg Pb, 14 million kg Zn, and 17,000 ounces Au from approximately 1.2 million tonnes of ore. The veins at Beaverdell are hosted in dioritic rocks of the Westkettle batholith, which was presumed by Reinecke (1915) to be of Jurassic age, but which remains undated. The ore bodies consist of tabular bodies of brecciated rock, with quartz, calcite, and ore minerals that include pyrite, sphalerite, and galena, with some arsenopyrite, chalcopyrite and significant amounts of silver-bearing minerals and native silver (White 1949). Alteration haloes to the veins, up to fifteen metres across, consist of sericite, clay, chlorite, calcite, epidote, and hematite (White 1949). The fracture systems most commonly hosting ore trend east-west and dip moderately to steeply to the south.

## **5.2 Local Mineral Occurrences**

The Provincial Government mineral occurrence files (MinFile) list a number of precious metals mineral occurrences within the boundaries of the GK property (Fig. 5). The Gut-Crouse occurrence, located in the Crouse creek valley, was discovered by Teck Corporation Limited in 1975. Teck observed low gold values in pyritic fractures in greenstone and diorite. Drilling by Bitterroot Resources in the area south of the Gut showing in 2004 returned an interval of nearly 50 metres averaging 250 ppb gold but there were few higher grade gold values. The Kettle and Montana occurrences, on the east side of the property, have been explored by numerous old trenches, adits, and pits and have again been the focus for relatively recent exploration (Gewargis 1983; Sookochoff 1990; Gal 1996; O'Neill et al 2008). The Bluejay occurrence, situated on the south end of the GK



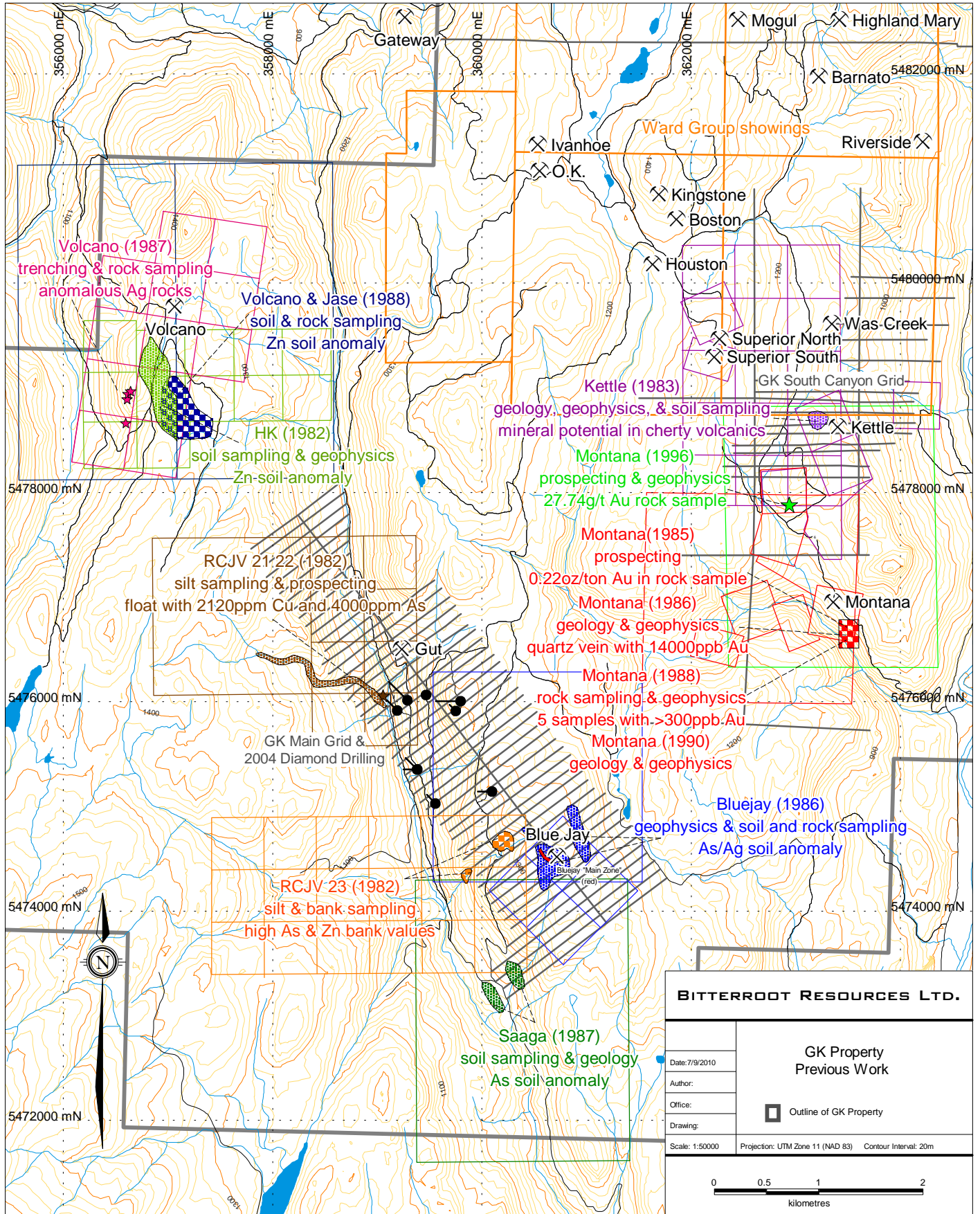


Figure 5. Location of areas of previous work and B.C. MinFile occurrences on the GK property

Main grid, has been tested by trenching, soil sampling, and drilling (Pringle 1983; Gewargis 1986; Rowe et al 2009). Northwest of the main grid, west of Crouse Creek, the Volcano and HK areas yielded several large Zn-in-soil anomalies and a number of grab samples with anomalous Ag values (Allen 1982c; Stevenson 1989). At the southern end of the GK grid on Kloof ridge, west of the Blue Jay showing, previously outlined arsenic soil and silt anomalies are widespread, and some remain untested for gold (Allen 1982a; Allen 1983b; Partridge 1987; Fig. 5).

The east-central part of the GK property was originally known as the Ward property. This ground includes several reverted crown grants, and encompasses a number of occurrences from which significant amounts of high-grade gold ore were shipped over the past 70 years (Fig.5). These occurrences include the Barnato showing, from which 85 tons of ore grading 1.58 oz/ton Au were shipped in 1938, the Mogul showing, from which 212 tons yielded 9580 grams of Au and 5193 grams of Ag in 1940, and the Ivanhoe/O.K. showings, from which 5 tons yielded 127 grams Au and 187 grams Ag in 1938 (Gale 2003).

Recently, Bitterroot has explored the area previously called the Kettle showing; conducting trenching and drilling in 2007. This area is now referred to as the Hornet Zone. The soil sampling program described in this report covered areas to the north and south of the Hornet Zone and the stream sediment sampling program in part covered the area that was known as the Ward property, as well as testing areas farther to the north and northwest.

## **6.0 Previous Work**

The earliest reported work on what presently constitutes the GK property dates back to 1878, and since that time over thirty assessment reports detailing work within the area have been filed with the Provincial Government. Until the 1970's, the majority of the work reported was undertaken in the

east-central part of the GK Property (Ward Group). The recorded work has included geochemical and geophysical surveys, geological mapping, prospecting, trenching, silt and biogeochemical sampling and drilling. In most cases, at least some positive results were reported. A relatively complete review of previous work conducted on the property is given in the 2007 Diamond Drilling Report on the GK Property (O'Neill, Flasha and Greig, 2008) and in the 2004 GK Report (Greig and Flasha, 2005). Results of previous work programs are discussed below for only the areas that pertain to this year's sampling program.

Some of the more significant results of previous work have come from what were once known as the Montana claims located just south of the Hornet zone (Fig.5). Sookochoff (1985) reported sampling "pockets of sulphides in a volcanic debris matrix" from an old dump, and one of the samples assayed 0.22 oz/ton Au, 11.7 oz/ton Ag, and 5.62% Cu. He noted that the mineralization was associated with quartz veins hosted in northwest-trending volcanic rocks, and that the contact between the volcanic rocks and an adjacent sedimentary sequence appeared to be the most prospective horizon. In following programs, from 1986 to 1996, VLF-EM surveys, rock sampling and mapping were undertaken on the Montana claims. An adit on the Fourth of July Crown Grant, found near the northernmost end of the Montana claim, was sampled and a 15-centimetre thick sulphide pod hosted by a vein returned 27.74 g/t Au and 160.7 g/t Ag (Gal 1996). A positive correlation was noted among gold, lead, zinc, and arsenic anomalous values.

In the summer of 2007 an excavator-trenching program was undertaken that included trenches in the Hornet and West Hornet Zones, located on the east side of the property, about 1.5 kilometres south of this year's soil geochemical sampling grid. In the Hornet Zone, 14 trenches totaled 1043 linear-metres and in the West Hornet Zone 3 trenches totaled 312 linear-metres (O'Neill et al, 2008).

The Hornet Zone trenches revealed three relatively continuous, sub-parallel, north-northwest trending, mineralized zones over lengths of 60 to 350 m and spaced about 150 m apart. Anomalous Au values were returned in twelve out of the fourteen trenches; however, testing the continuity of these zones will require additional trenching. Some of the more significant intercepts were 22.1 g/t Au over 5.2 m, 8.05 g/t Au over 8.0 m and 4.17 g/t Au over 14.0 m, however, some of the sampling was subsequently found to be oriented along mineralized structures, therefore true widths of mineralization may be somewhat narrower. Limited trenching in the West Hornet Zone returned a few significant gold values of up to 3.54 g/t Au over 3 metres.

Mineralized zones are found within both tuff and diorite host rocks. Mineralization in the Hornet zone consists of pyrite, pyrrhotite, arsenopyrite and subordinate chalcopyrite in quartz veining or stockworks and also in siliceous tourmaline-bearing breccia matrix. Gold-in-soil geochemical anomalies extend to the northwest and southeast of the trenching area and part of this year's sampling was designed to test the areas along trend.

A program of diamond drilling was undertaken in the fall of 2007 consisting of seventeen holes totaling 3340 metres. Four of the holes were located in the Hornet Zone, to test areas beneath the mineralized trenches. The other holes were located in the Blue Jay Zone, located 5 km southwest of Hornet. Some of the better results from the Hornet drilling include 7.13 g/t Au over 2.6 m within a wider interval of 13.9 m averaging 1.47 g/t Au (Rowe et al, 2007). This mineralized zone is comprised of strongly crackle brecciated, silicified and bleached diorite with local strong sericitization, chlorite and epidote veining. Quartz and calcite veinlets, most less than 1 cm, occur throughout, often in local masses. Pyrite and pyrrhotite are common as disseminations and also as blebs in veins, with arsenopyrite and chalcopyrite occurring rarely in veins.

## **7.0 Property Geology**

Five map units were distinguished in a 2004 geological mapping program on the GK property (Greig and Flasha, 2005) (Fig. 6). Descriptions of the five map units are summarized below from the 2005 report. They are, from oldest to youngest, feldspathic fine tuff, hornblende crowded feldspar diorite, potassium feldspar megacrystic quartz monzonite, porphyritic latite/phonolite, and porphyritic dacite.

### **7.1 Stratified Rocks**

The oldest rocks on the GK property are a sequence of fine-grained stratified rocks consisting mainly of pale to medium green, siliceous, feldspathic fine tuff. The tuffaceous rocks are locally interbedded with subordinate dark gray to black, fine-grained clastic rocks, but these clastic rocks have not been subdivided as a separate unit. The tuffaceous rocks are variably stratified, with typical thin to medium beds, although locally, bedding may be difficult to recognize. In several locations on the property, the feldspathic fine tuff is commonly well mineralized with disseminations and local fracture fillings of pyrite and lesser pyrrhotite, comprising between 0.5% and 1% of the rock.

Brecciated feldspathic fine tuffaceous rocks are found in several locations on the property. They consist of angular, centimetre-scale fragments of tuff that are often cemented by calcite. It is common for the breccia matrix to be silicified and mineralized with very fine-grained disseminated pyrite, pyrrhotite, and locally, with dark-coloured sulphides(?) of uncertain composition. The brecciated zones occur mainly in the vicinity of intrusions of hornblende crowded feldspar diorite and porphyritic latite/phonolite.

### **7.2 Intrusive Rocks**

The four main intrusive rock types found in the GK mapping area are diorite, quartz monzonite, and two varieties of porphyritic dykes.

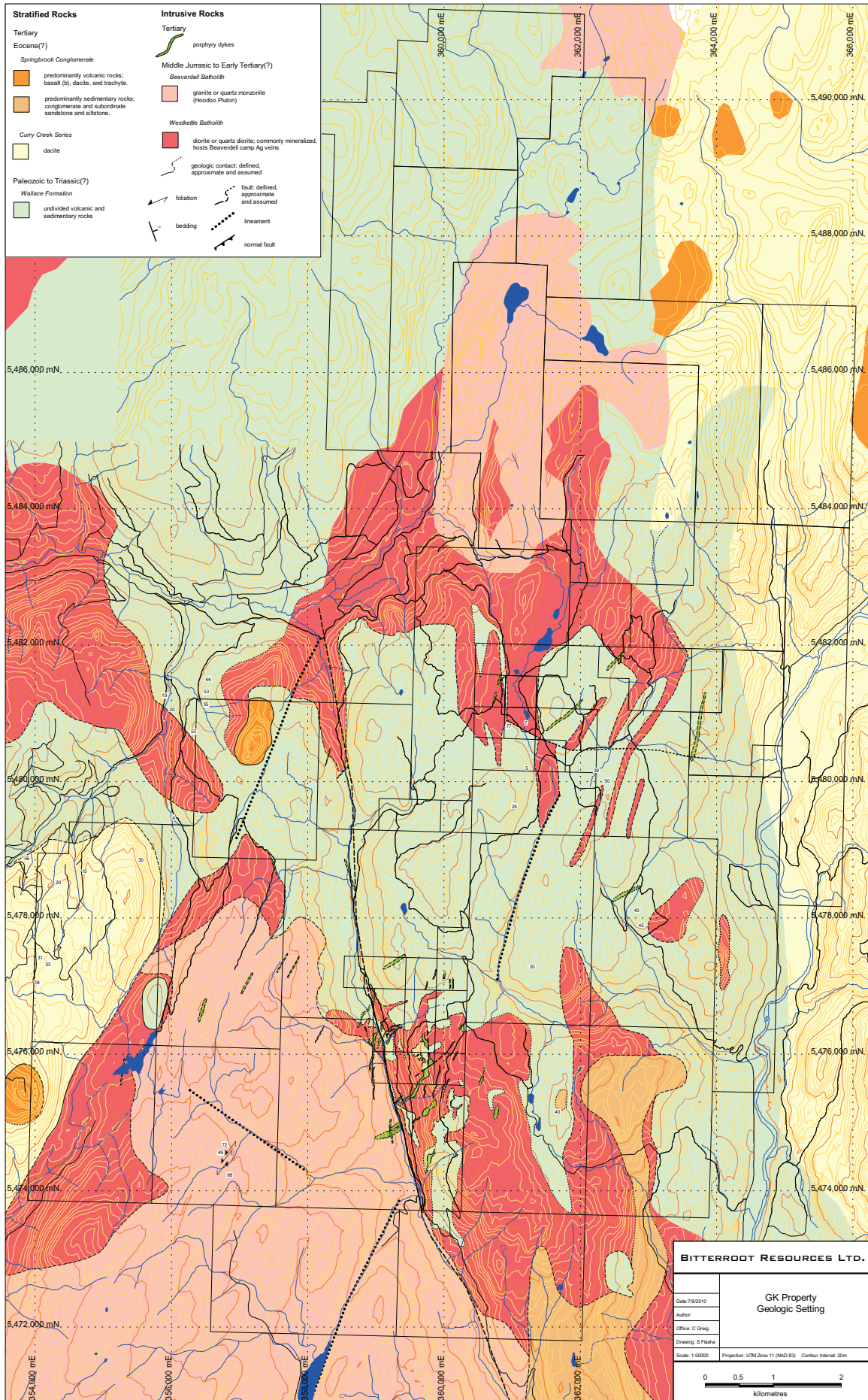


Figure 6. Geology of the GK property, south-central British Columbia

### **7.2.1 Hornblende Crowded Feldspar Diorite**

Hornblende crowded feldspar diorite is one of the predominant rock types on the GK property and has been approximately dated as between Middle Jurassic and Paleocene. The diorite occurs in several separate bodies on the grid, and all appear to have sinuous contacts of irregular orientation, with abundant dykes extending from their peripheries. Dioritic rocks are readily identified by an abundance of unaltered hornblende, ranging between 5 and 20%, as well as by their overall “crowded” appearance, imparted by even more abundant plagioclase feldspar (on average 70% and more). The plagioclase feldspar sits in a matrix of subordinate and typically finer-grained hornblende, potassium feldspar, and quartz. Where mineralized, the hornblende crowded feldspar diorite typically contains 1-5% disseminated pyrrhotite and subordinate pyrite, with rare arsenopyrite; it also commonly contains thin pyrite veinlets, and is often very rusty weathering in outcrop. Mineralized parts of the hornblende crowded feldspar diorite are generally found near contacts with feldspathic tuff.

### **7.2.2 Potassium Feldspar Megacrystic Quartz Monzonite**

Potassium feldspar megacrystic quartz monzonite is found in the southwest section of the property, and is believed to be part of the “Okanagan Batholith” of Cretaceous age. The quartz monzonite has an overall greyish-white colour, but contains common, and very distinctive, 10 centimetre-long pink potassium feldspar megacrysts set in a medium- to coarse-grained groundmass of plagioclase feldspar, quartz, and biotite. Near the Crouse Creek lineament (Fig. 6), the quartz monzonite is commonly fractured and chlorite- and carbonate-altered. In this area, the overprint of fracturing and alteration seem to obscure the otherwise prominent megacrysts, but the quartz monzonite may be recognized by its grain size and by the relative abundance of quartz.

In the northern part of the property, another granitic body has been mapped; however, it is believed to be of younger age, possibly Paleocene to Eocene (Fig. 6). This unit appears to have intruded into a diorite body that is part of the Westkettle intrusions. These intrusions underlie a good portion of the area explored in the 2010 sampling program.

### **7.2.3 Porphyritic Latite/Phonolite Dykes**

Porphyritic latite/phonolite dykes are found throughout the GK property (Fig. 6). The general trend of the dykes is to the north-northeast, but locally they vary greatly in orientation. The dykes also vary greatly in thickness, from decimetre-scale to as much as several tens of metres. The porphyritic latite/phonolite dykes are identifiable in the field from their typical “pocked” weathering character, where millimetre-scale pyroxene (or possibly feldspathoid?) phenocrysts have preferentially weathered out and left a somewhat pitted surface. The dykes are also readily recognized by the presence of common blocky to tabular medium- or rarely, fine grained white plagioclase feldspar phenocrysts, which are clearly evident on clean weathered surfaces and recognized in drill core by the same plagioclase phenocrysts and the amorphous habit of black pyroxene phenocrysts. Porphyritic latite/phonolite dykes are commonly moderately to strongly magnetic due to finely disseminated magnetite.

### **7.2.4 Porphyritic Dacite Dykes**

Hornblende needle, feldspar porphyry, dacite dykes are found mainly on the west side of Crouse Creek, on the west side of the property. Three, north-trending, porphyritic dacite dykes, up to several metres thick, were observed in one location to intrude a northeast-trending porphyritic latite/phonolite dyke, which itself cuts potassium feldspar megacrystic quartz monzonite. The dacite dykes are characterized by a distinctive flaggy or platy weathering fabric, which is oriented sub-parallel to dyke contacts, by their pale pink colour and by the presence of unaltered needles of



hornblende. The dykes also contain white-weathering fine- to medium-grained phenocrysts of plagioclase feldspar.

## **8.0 Geochemical Sampling**

### **8.1 Program Logistics**

The 2010 soil and stream sediment sampling program was undertaken in an area of recently added claims, to explore for gold mineralization similar to that which has been discovered by trenching and diamond drilling in the area 1.5 km to the south, called the Hornet Zone. To the north of the Hornet area, 355 soil samples were collected from a 1400 m x 700 m grid of flag-and-compass lines oriented at a bearing of 180 degrees, with samples spaced at 25 m, along lines spaced 100 m apart (Fig. 7). Every second sample (50 m interval) was selected for analysis, and the remaining samples were retained for possible analysis at a later date. A total of 176 soils and 12 blanks were analyzed from this small grid area. In addition, 73 soil samples were collected at 50 m intervals along two reconnaissance lines, 400 to 500 m apart that approximately followed elevation contours for about 2 km southerly from the Hornet Zone (Fig. 8). From these two lines, 37 soils (100 m intervals) and 1 blank were analyzed and the remaining samples were retained in storage.

Hand-held GPS units were used to locate soil line starting points at the appropriate UTM co-ordinates. The lines were compassed and measured with a hip chain and at 25 m stations were marked with sample-numbered flagging. UTM co-ordinates were recorded for each station. Samples were collected from the "B" soil horizon with mattocks and placed in Kraft paper bags marked with the sample number.

A large part of this area of new claims was evaluated by relatively close-spaced stream sediment sampling, collected at 50 to 100 m intervals along a number of drainages that traverse the claims (Figs. 15 & 16). The objective of the sediment sampling was to identify anomalous gold

values within drainage basins that will subsequently be followed up by grid soil sampling across the upstream source areas of the anomalous drainages. In some channels there was insufficient silt available for collection due to fast flowing water, so moss mat samples containing trapped silt were collected from the stream banks in these locations.

Totals of 139 silt and 140 moss mat samples were collected from 15 separate stream branches in an exploration area measuring approximately 9 by 6 km. Every second sample was selected for analysis, representing sample spacings of 100 to 200 m along the drainages. Totals of 69 silts, 71 moss mat samples and 5 blanks were analyzed.

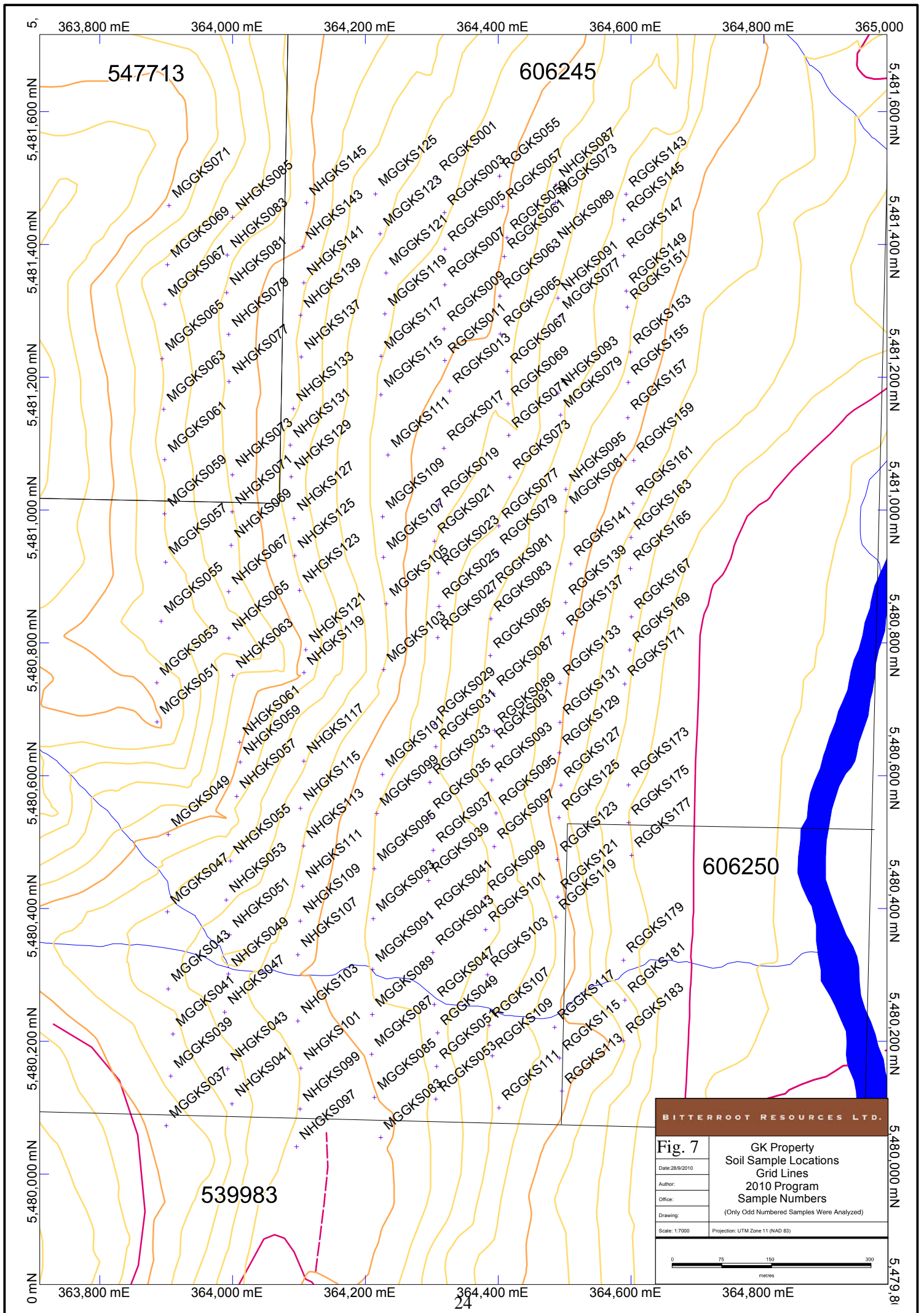
Stream sediment stations were marked with sample-numbered flagging and UTM co-ordinates were recorded for each station. Samples were placed in Kraft paper bags marked with identifying numbers which include a "T" for silt sample or an "M" for moss mat sample.

Soil and sediment samples were packed into plastic bags, placed into rice bags and shipped to ALS Chemex Laboratories in North Vancouver where they were dried, sieved and the -80 mesh fraction analyzed for gold by fire assay with atomic absorption finish and for a suite of 34 elements by ICP techniques. Sample locations, as well as plots of selected element values, are shown on Figures 7-23 and sample analytical results are attached in Appendix I.

## **8.2 Program Results**

### **8.2.1 Soil Geochemistry**

The results from the soil sample grid indicate a moderate to strong coincidence of anomalous Au with As, Ag, Cu, Pb and Zn, as has been noted in other areas of the property from previous sampling programs (Figs. 9-14). Trends of gold anomalies are both northwesterly and northeasterly across the grid, similar to trends in the Hornet Area to the south. In broad, general terms there is a

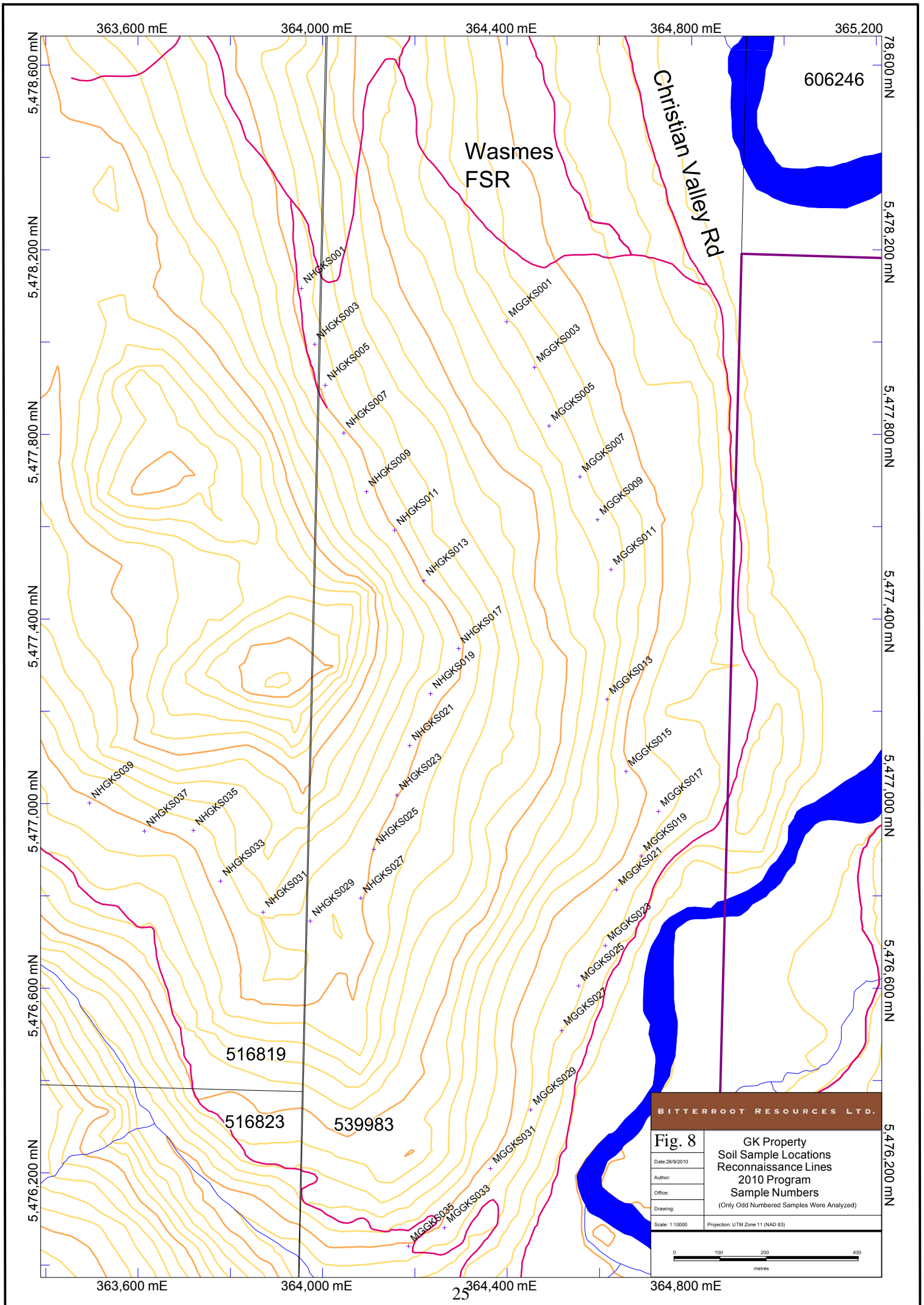


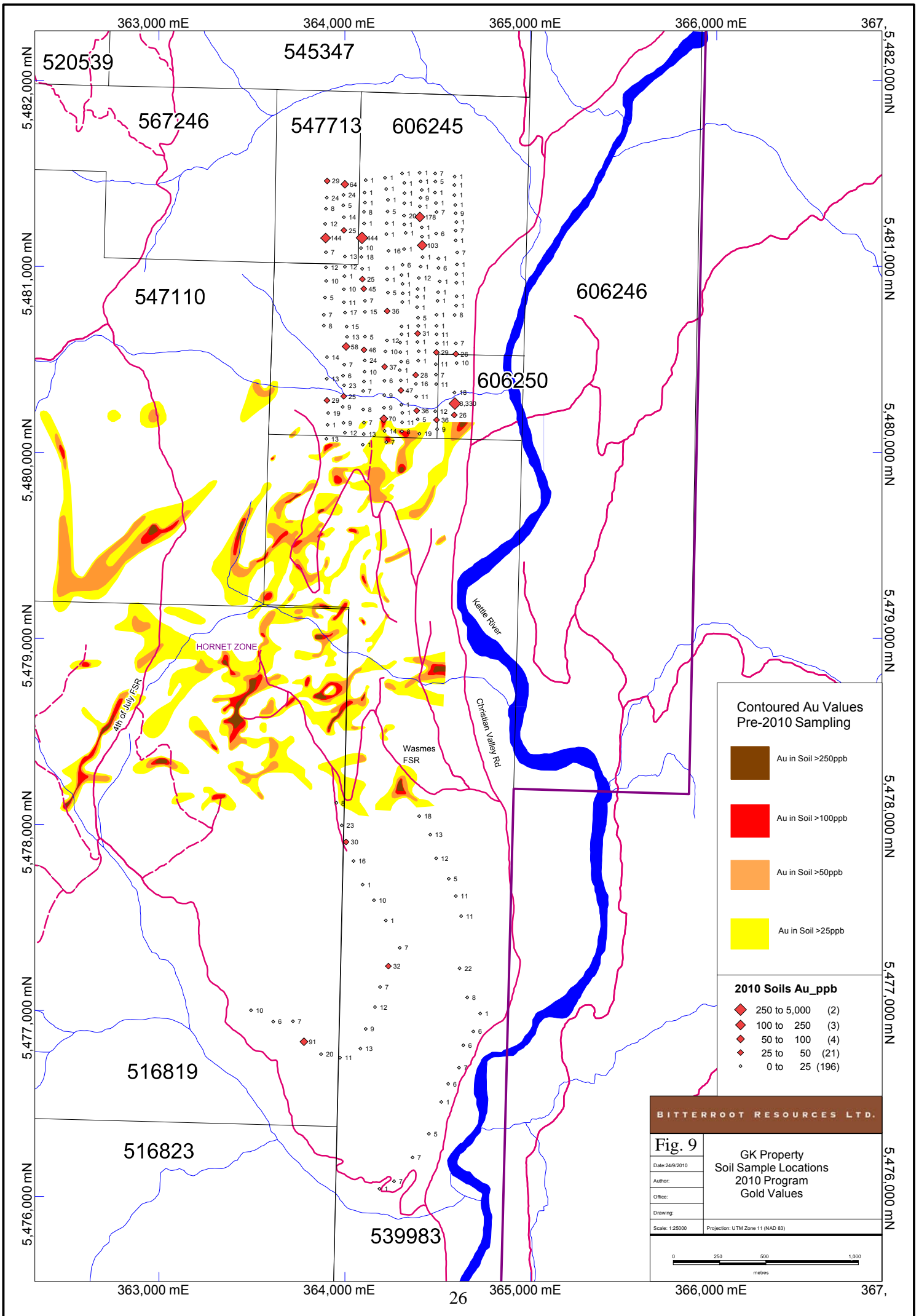
**BITTERROOT RESOURCES LTD.**

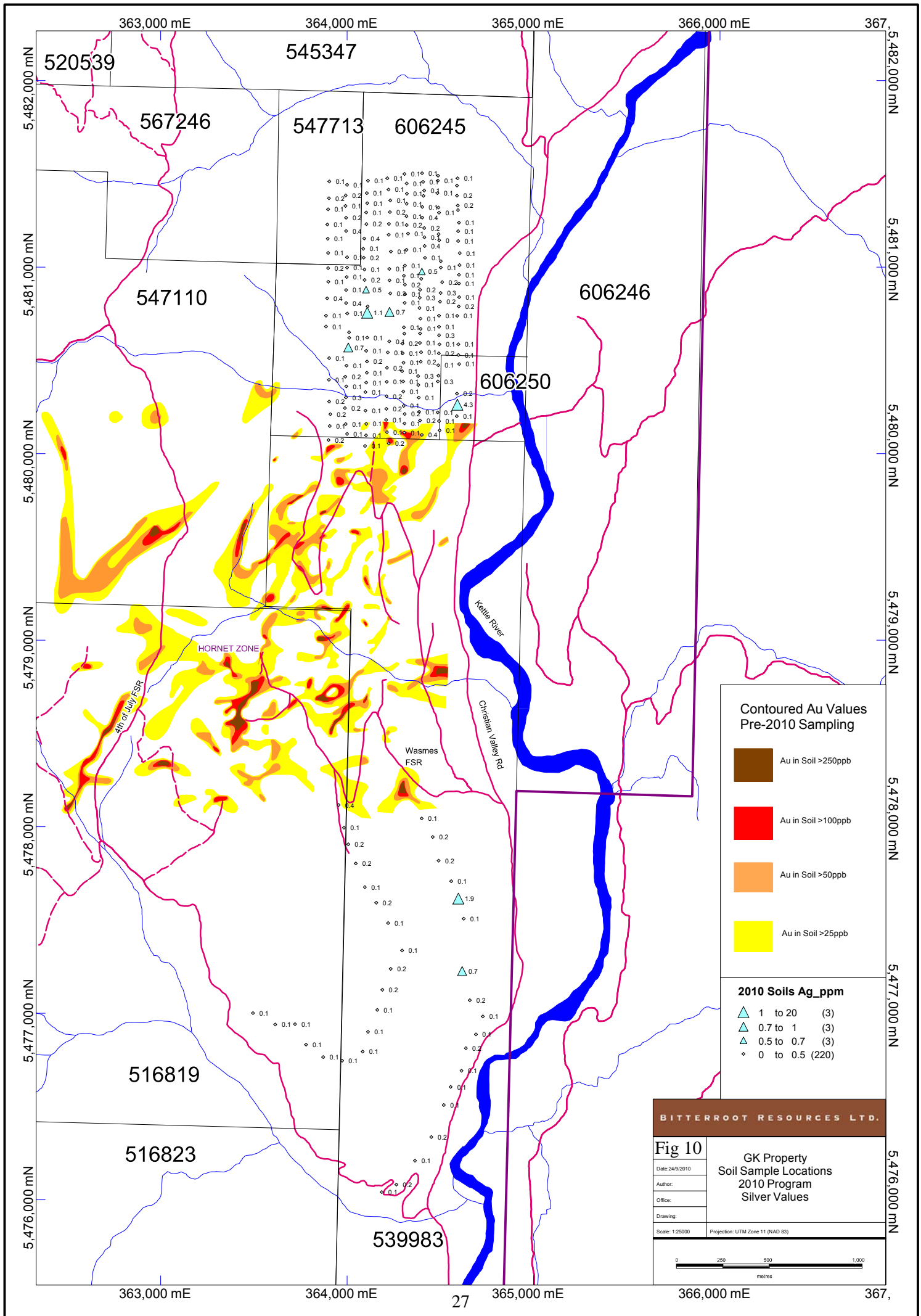
**Fig. 7**  
 GK Property  
 Soil Sample Locations  
 Grid Lines  
 2010 Program  
 Sample Numbers  
 (Only Odd Numbered Samples Were Analyzed)

Date: 28/9/2010  
 Author:  
 Office:  
 Drawing:  
 Scale: 1:7000  
 Projection: UTM Zone 11 (NAD 83)

0 75 150 300  
 metres







**Contoured Au Values  
Pre-2010 Sampling**

- Au in Soil >250ppb
- Au in Soil >100ppb
- Au in Soil >50ppb
- Au in Soil >25ppb

**2010 Soils Ag\_ppm**

- 1 to 20 (3)
- 0.7 to 1 (3)
- 0.5 to 0.7 (3)
- 0 to 0.5 (220)

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**Fig 10**

Date: 24/9/2010

Author:

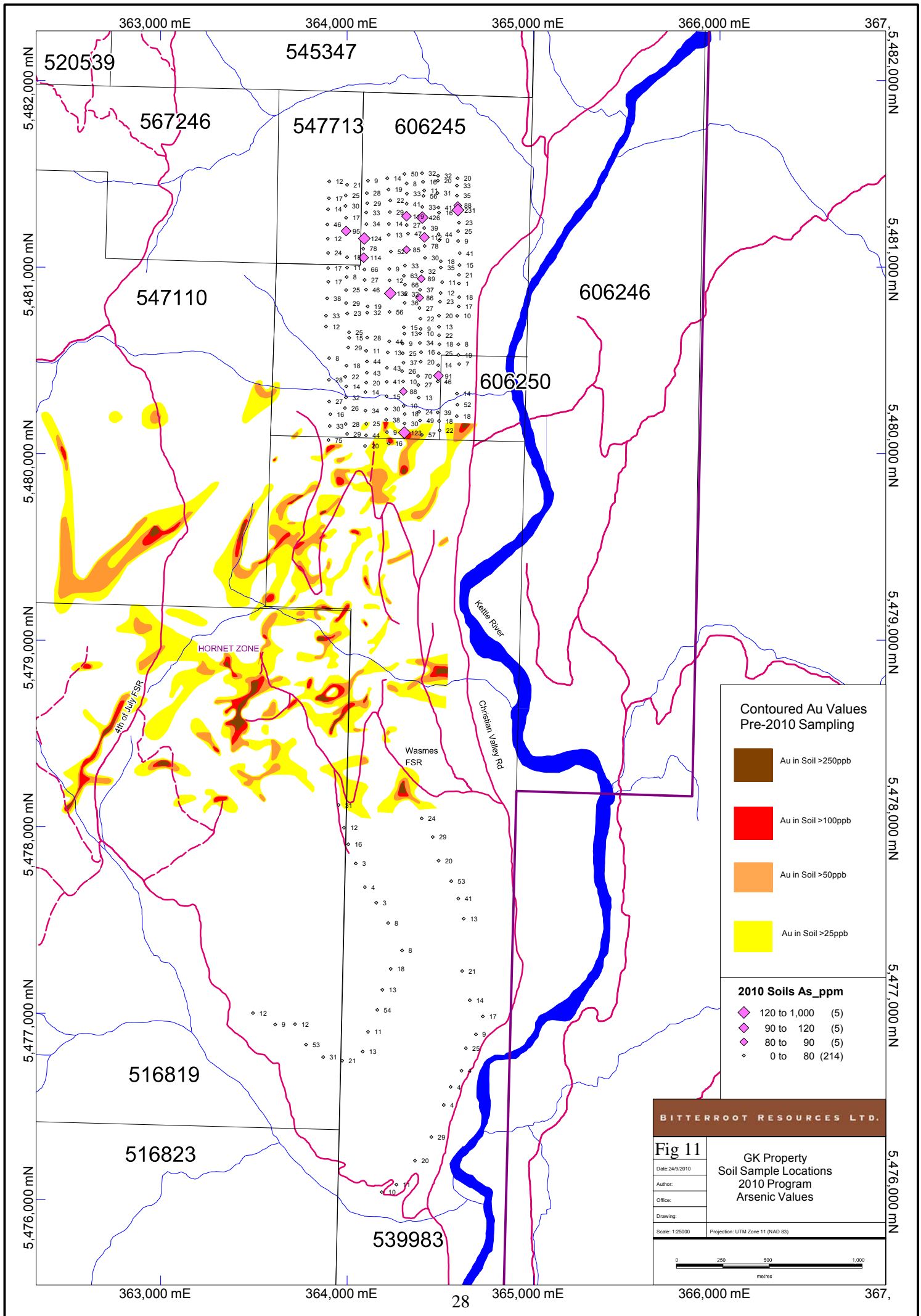
Office:

Drawing:

Scale: 1:25000      Projection: UTM Zone 11 (NAD 83)

**GK Property  
Soil Sample Locations  
2010 Program  
Silver Values**

metres



**Contoured Au Values Pre-2010 Sampling**

- Au in Soil >250ppb
- Au in Soil >100ppb
- Au in Soil >50ppb
- Au in Soil >25ppb

**2010 Soils As\_ppm**

- 120 to 1,000 (5)
- 90 to 120 (5)
- 80 to 90 (5)
- 0 to 80 (214)

**BITTERROOT RESOURCES LTD.**

**Fig 11**

Date: 24/9/2010

Author:

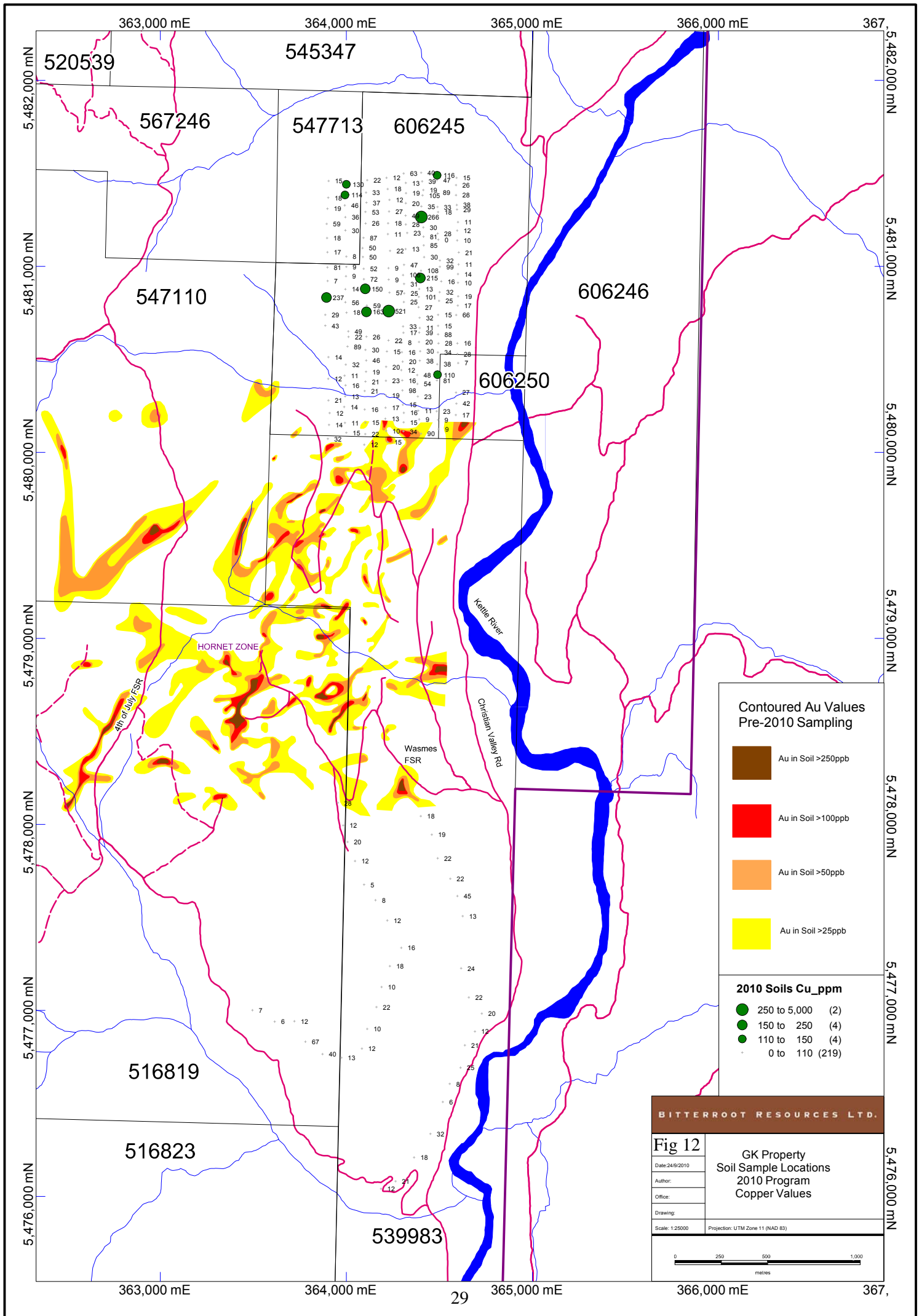
Office:

Drawing:

Scale: 1:25000      Projection: UTM Zone 11 (NAD 83)

**GK Property  
Soil Sample Locations  
2010 Program  
Arsenic Values**

metres



**Contoured Au Values Pre-2010 Sampling**

- Au in Soil >250ppb
- Au in Soil >100ppb
- Au in Soil >50ppb
- Au in Soil >25ppb

**2010 Soils Cu\_ppm**

- 250 to 5,000 (2)
- 150 to 250 (4)
- 110 to 150 (4)
- 0 to 110 (219)

**BITTERROOT RESOURCES LTD.**

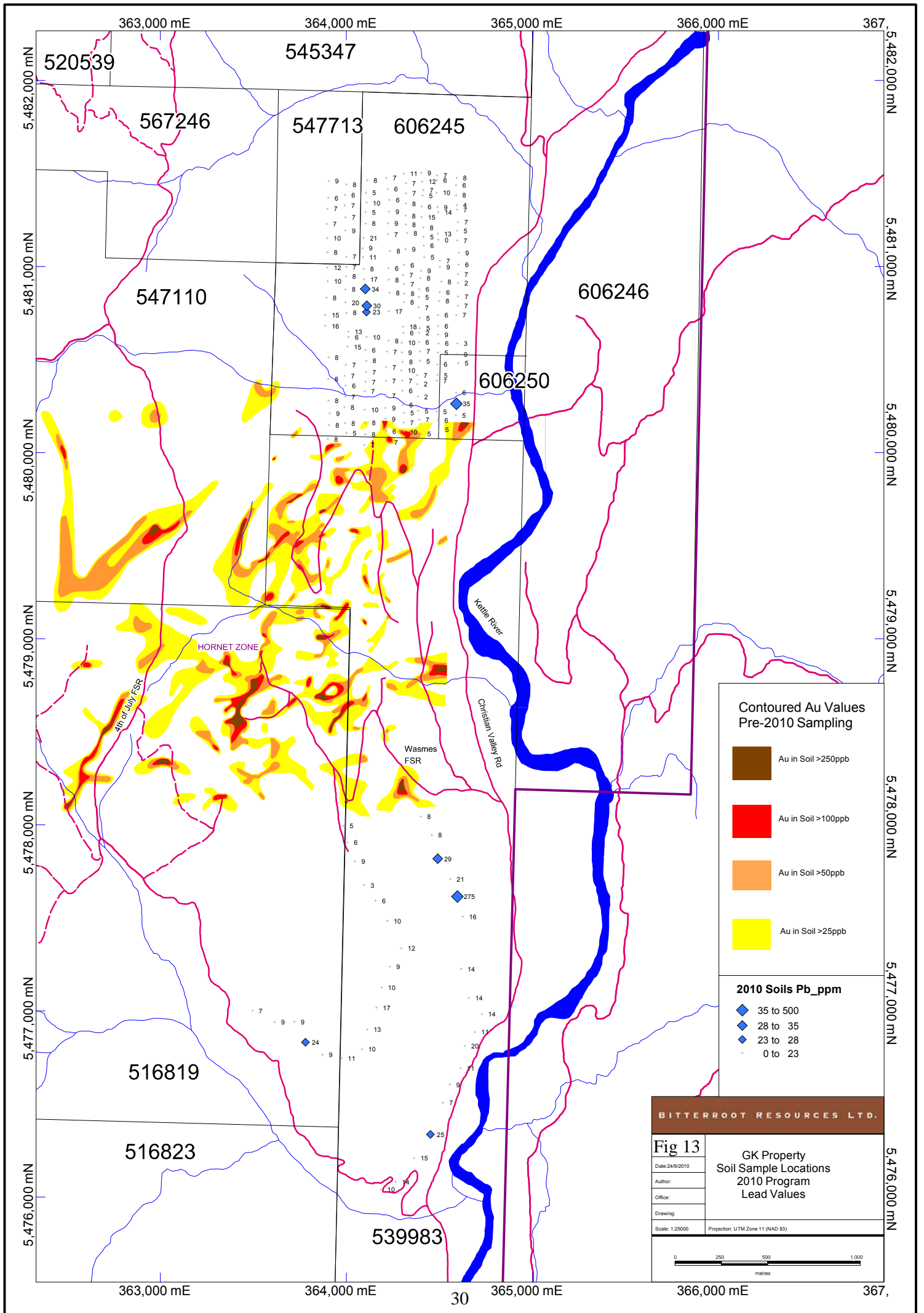
**Fig 12**

GK Property  
Soil Sample Locations  
2010 Program  
Copper Values

Date: 24/9/2010  
Author:  
Office:  
Drawing:  
Scale: 1:25000  
Projection: UTM Zone 11 (NAD 83)

0    250    500    1,000  
metres





**Contoured Au Values  
Pre-2010 Sampling**

- Au in Soil >250ppb
- Au in Soil >100ppb
- Au in Soil >50ppb
- Au in Soil >25ppb

**2010 Soils Pb\_ppm**

- 35 to 500
- 28 to 35
- 23 to 28
- 0 to 23

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**Fig 13**

Date: 24/9/2010

Author:

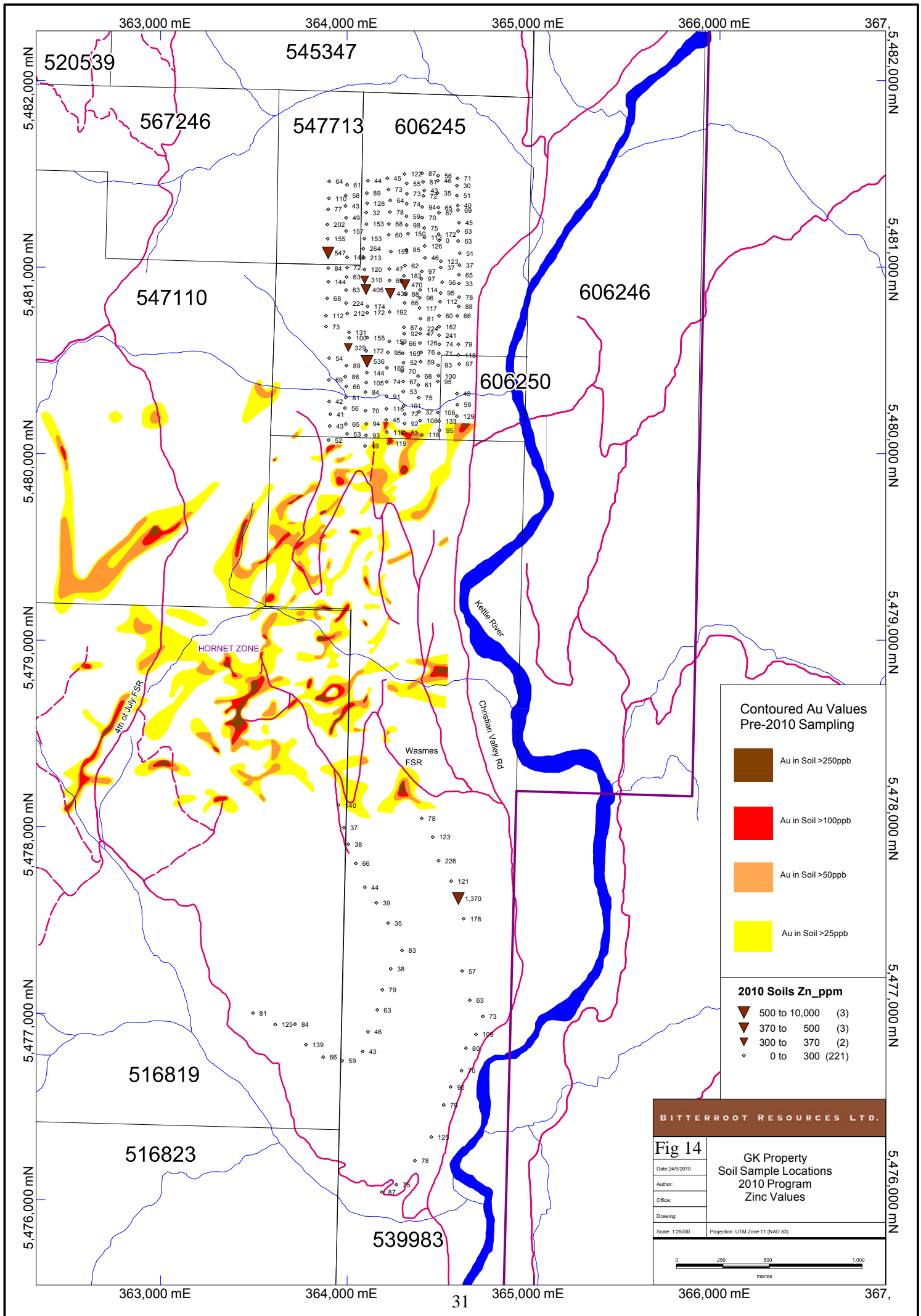
Office:

Drawing:

Scale: 1:25000      Projection: UTM Zone 11 (NAD 83)

**GK Property  
Soil Sample Locations  
2010 Program  
Lead Values**

metres



**Contoured Au Values Pre-2010 Sampling**

- Au in Soil >250ppb
- Au in Soil >100ppb
- Au in Soil >50ppb
- Au in Soil >25ppb

**2010 Soils Zn\_ppm**

- 500 to 10,000 (3)
- 370 to 500 (3)
- 300 to 370 (2)
- 0 to 300 (221)

**BITTERROOT RESOURCES LTD.**

**Fig 14**

GK Property  
Soil Sample Locations  
2010 Program  
Zinc Values

Date: 24/9/2010  
Author:  
Office:  
Drawing:  
Scale: 1:25000    Projection: UTM Zone 11 (NAD 83)

0    250    500    1,000  
metres

northeasterly trend extending from the Hornet area and continuing across this new grid for a total distance of more than 3 km. This trend may be related to unmapped northeast-trending diorite dykes cutting the volcanic rocks in this area, similar to several large dykes that are mapped a short distance to the west. In closer detail there are a number of narrower, northwest-trending gold anomalies that may be caused by mineralized veins similar to those that occur in the Hornet Zone, which have bearings of between 130 and 160 degrees.

Within the grid area there are three anomalous groupings that may indicate separate mineral zones. In the northern part of the grid there is a close association of Au and As anomalies with lesser Cu, dispersed along a northeast trend. MinFile occurrence No 082ESE253 is sited in the northwest part of the soil grid near these anomalies. This showing, called “Riverside”, consists of northwest-trending quartz veins, mineralized with pyrite, pyrrhotite, arsenopyrite, sphalerite and chalcopyrite, within Anarchist Group andesite.

In the central part of the grid the associated anomalous elements in soils are Au, Cu, Ag and Pb with lesser Zn and As, trending more easterly. No mineral showings are known in this area.

In the southern part of the grid the association is Au and As, with local high Ag and Pb, that appears to continue northeast along trend from anomalies on the Hornet grid. MinFile No 082ESE246 references a mineral showing in the southeast part of the grid area. This showing, called “Maybe” was developed by a short adit in the 1930’s and has had production of 443 tonnes, producing 9798 grams of gold, 17,075 grams of silver, 118 kilograms of copper and 39 kilograms of lead. The northerly-striking, 50-degree, east-dipping quartz vein occurs in locally brecciated volcanic rocks of the Anarchist Group. Mineralization consists of pyrite, pyrrhotite, arsenopyrite, sphalerite and minor chalcopyrite. This showing likely is located near the soil sample that returned 3,330 ppb Au (Fig. 9).

The soil grid area is located on a moderately steep east-facing slope so the distribution of the anomalous samples may, in part, be due to downslope transport of mineralized fragments from source areas near the west side of the grid. Follow-up examination of the anomalous sample sites and the known mineral showings is definitely warranted, as is additional soil sampling in areas to the west and north of the grid where anomalies remain open in those directions.

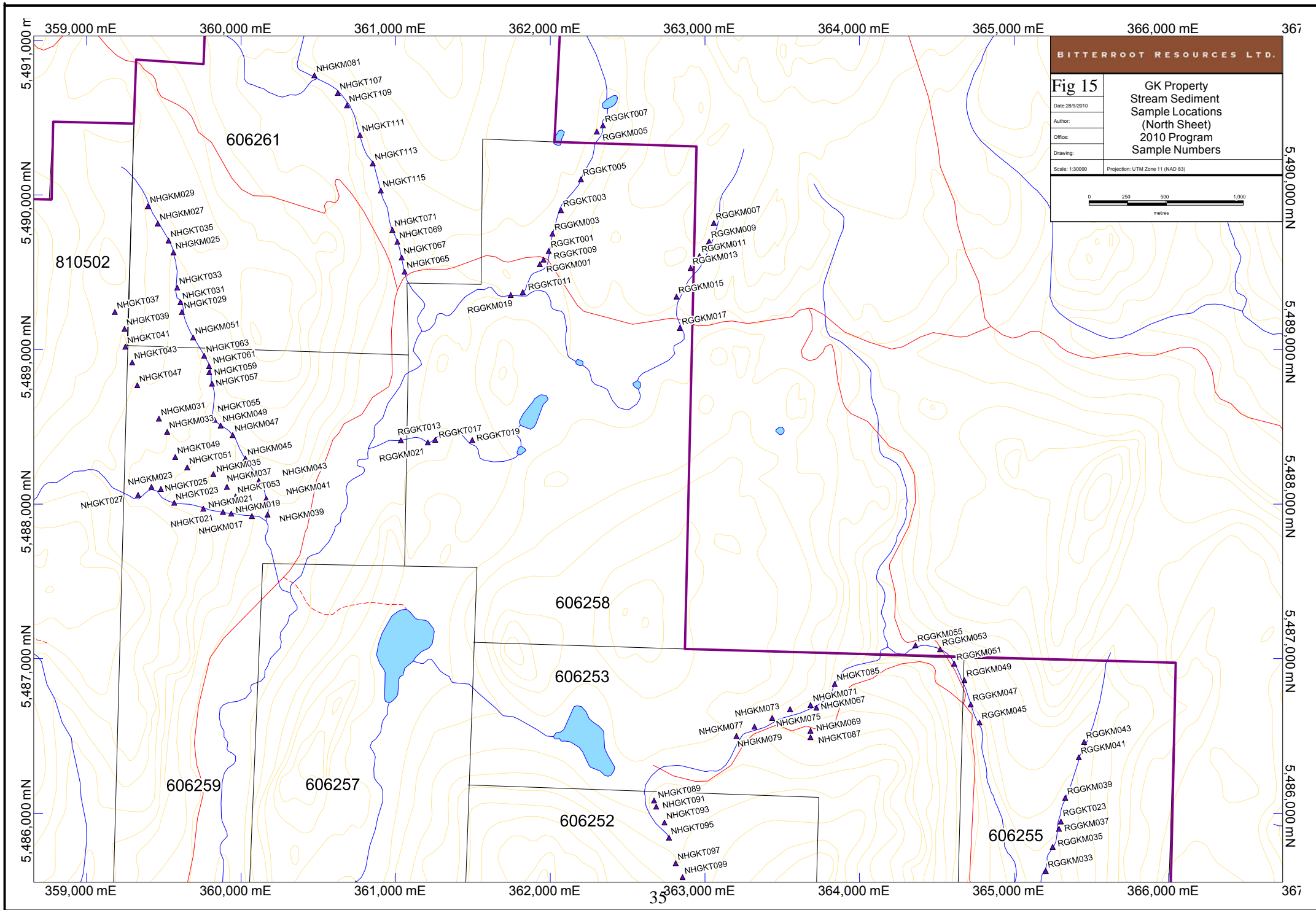
Analytical values from the two reconnaissance soil lines south of the Hornet Zone did not indicate any extensive areas of anomalous gold even though a MinFile occurrence is indicated nearby. On the upper elevation line there were three spot highs of 30, 32 and 91 ppb Au but other element values at these sites were basically at threshold levels (Figs. 9-14). On the lower elevation line there was one site with strongly anomalous Ag, Pb and Zn values but only 11 ppb Au. Some moderate Ag and Pb values occur nearby but don't extend over a large area. This reconnaissance sampling is quite wide-spaced so some follow-up sampling around these four anomalies is warranted to determine if they have a wider extent.

The "Montana" showing, MinFile No 082ESE111, is located a short distance west and downslope from, the westernmost sample of the upper reconnaissance soil line. Small open cuts and short underground workings were developed on at least two mineralized structures. The principal mineralization consists of irregularly distributed iron sulphides with traces of gold and silver, associated with north-dipping quartz lenses in a sheared fine grained igneous rock within black shaley beds. A well mineralized grab sample from the dump is reported to have assayed 0.35% copper, 0.44% lead, 4.28% zinc, 107 g/t silver, and 21 g/t gold. Other nearby zones consist of northwest-trending, steeply dipping oxidized quartz veins up to 0.8 m wide that contain pyrite, chalcopyrite, galena and sphalerite with high values in silver but typically only about 1 g/t gold.

### 8.2.2 Stream Sediment Geochemistry

Results from the stream sediment analyses indicated two areas of very good potential for mineralization and several other weak, spotty anomalies that would suggest that the drainage areas have limited potential (Figs. 15-24). The most prospective area is in the northwest part of the new claims where three branches of a drainage returned anomalous Au values of up to 71 ppb and, in one of the branches, high values of As and Ag. The area drained by these streams measures approximately 2 km by 2 km. In the northernmost branch the anomalous values start near the upper reaches of the stream channel so the source is probably located nearby. This region has been mapped as undivided volcanic and sedimentary rocks of the Wallace Formation situated about a kilometre west of the contact with a granitic stock. No known showings are documented in the drainage area.

The second area with high potential is indicated by anomalous sediments from a stream in the southern part of the sampling area where there are five MinFile showings documented within a 1 km by 1.5 km area. The drainage is strongly anomalous in Cu with a high Au value of 68 ppb. Two of the more significant showings are located to the north and to the west of the drainage and are possibly parts of the same mineral zone, which could continue across the upper reaches of the drainage. To the north, the Highland Mary showing, MinFile No 082ESE245, has been explored by several pits and open cuts. One of them exposed a 1.3 m wide vein, striking 025 degrees and dipping 65 degrees southeast, composed of almost solid arsenopyrite, with several narrow stringers of arsenopyrite located nearby. The lowest pit exposed a steeply southeast-dipping arsenopyrite, pyrrhotite, pyrite-bearing quartz vein, 23 cm wide, striking 040 degrees, from which a sample assayed 17 g/t gold and 10 g/t silver. Re-sampling and mapping in 1990 showed this vein to vary in width from 20 to 140 cm with grades ranging up to 9.5 g/t gold and 31% arsenic. A parallel vein, 15 metres to the west,



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**Fig 15**

GK Property  
Stream Sediment  
Sample Locations  
(North Sheet)  
2010 Program  
Sample Numbers

Date: 28/9/2010

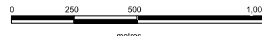
Author:

Office:

Drawing:

Scale: 1:30000

Projection: UTM Zone 11 (NAD 83)



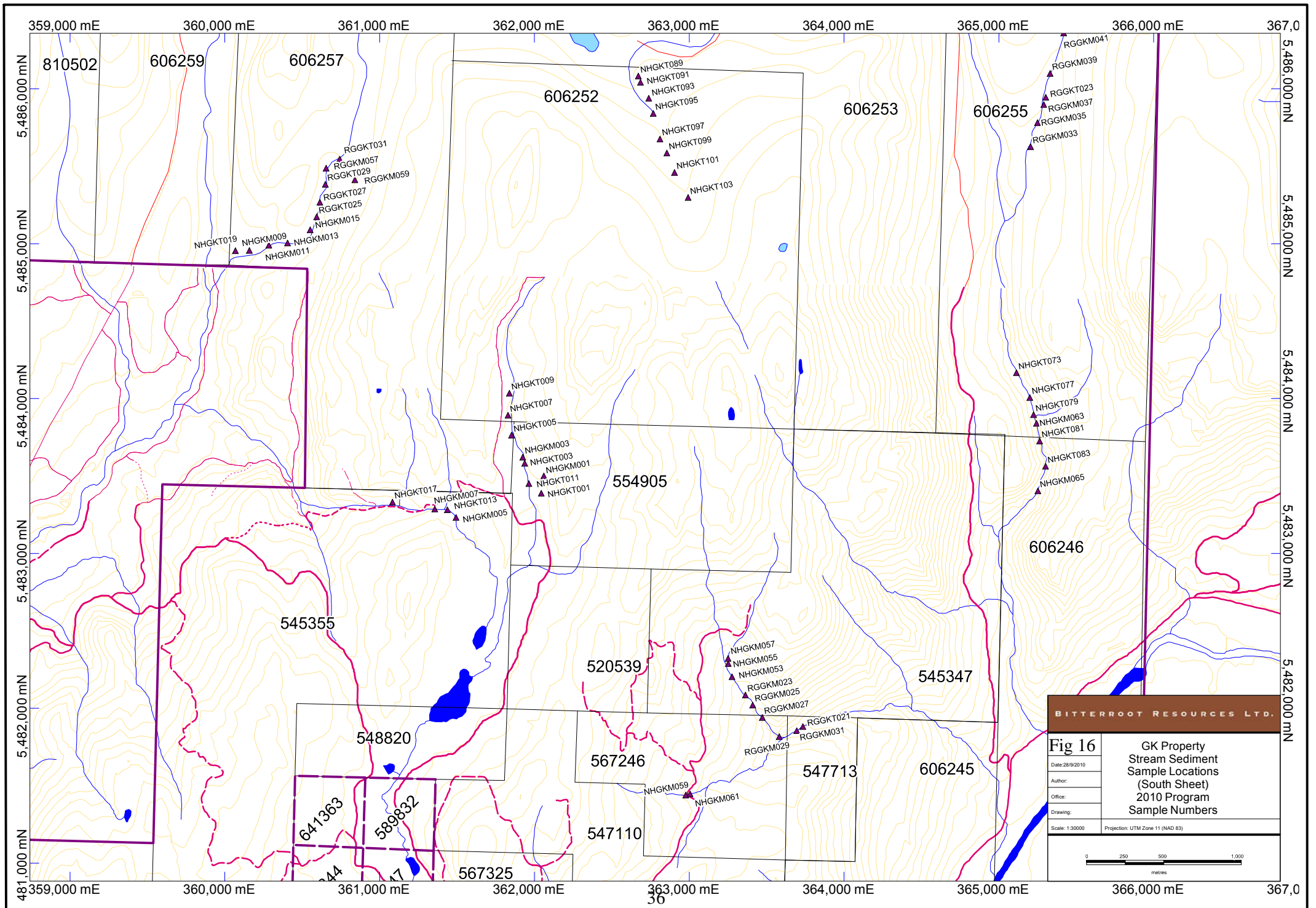


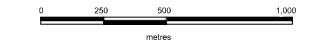
Fig 17

Date: 28/9/2010  
Author:  
Office:  
Drawing:

GK Property  
Stream Sediment  
Sample Locations  
(North Sheet)  
2010 Program  
Gold Values

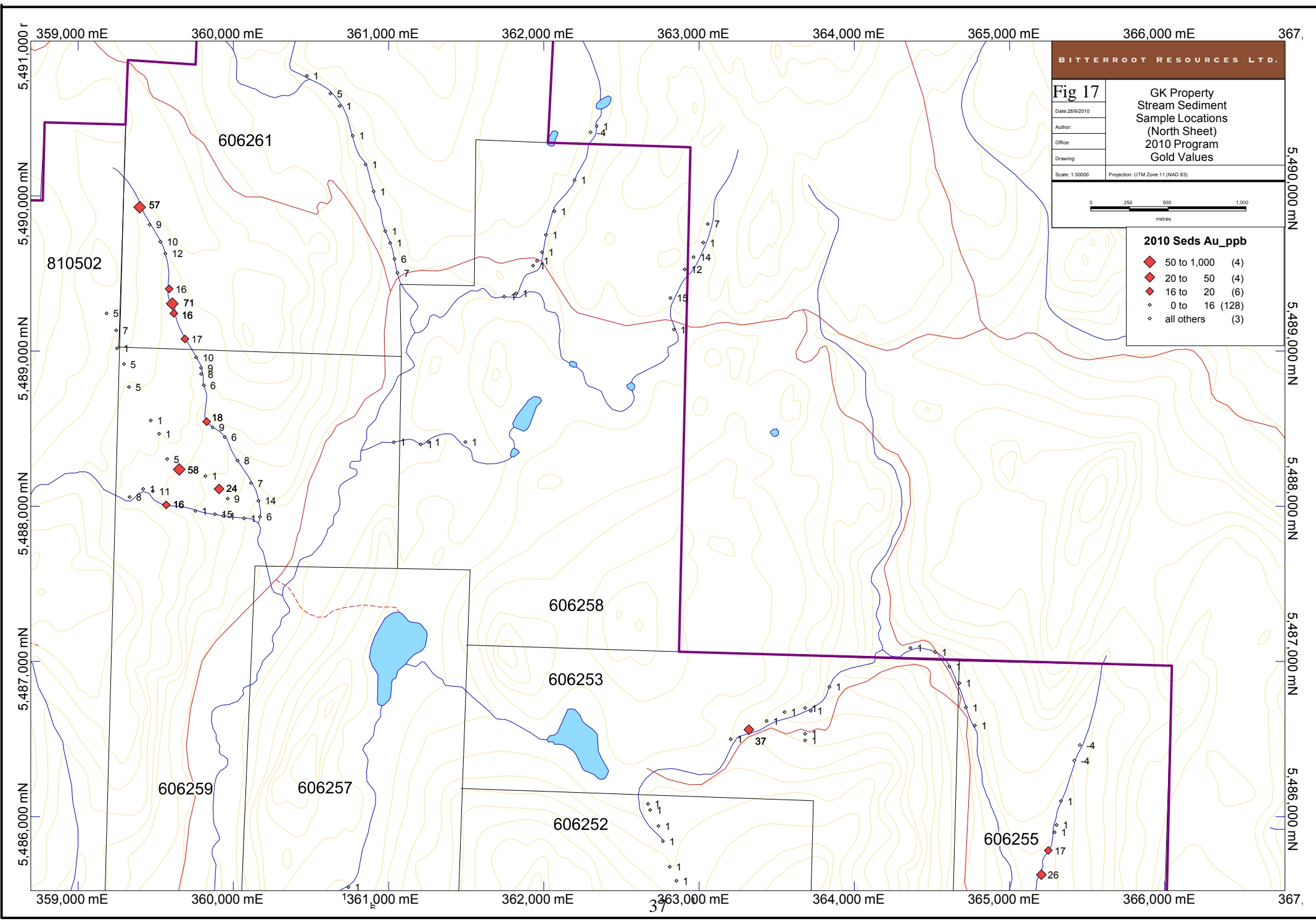
Scale: 1:30000

Projection: UTM Zone 11 (NAD 83)

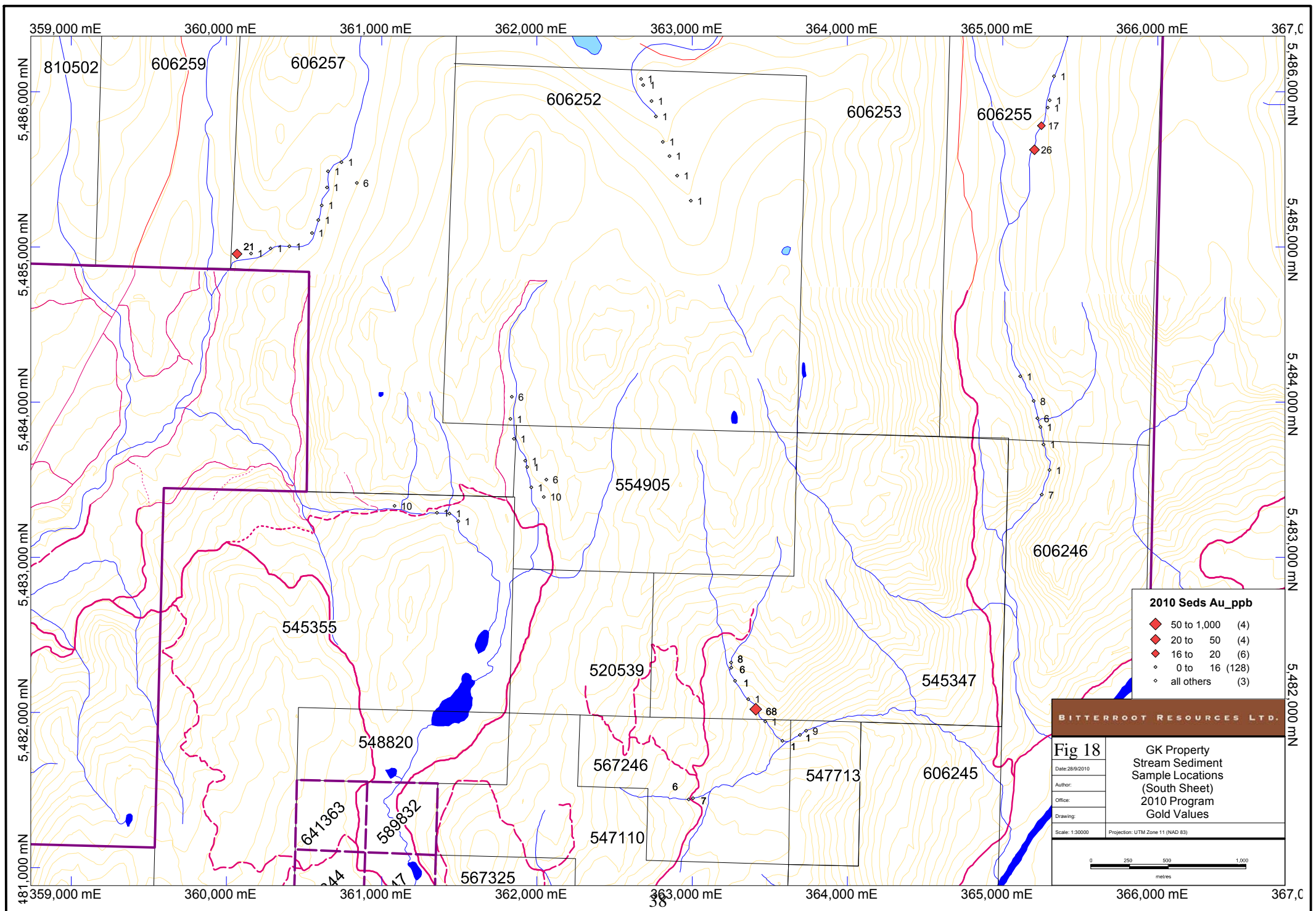


**2010 Seds Au\_ppb**

◆	50 to 1,000	(4)
◆	20 to 50	(4)
◆	16 to 20	(6)
◊	0 to 16	(128)
◊	all others	(3)







**2010 Seds Au\_ppb**

- ◆ 50 to 1,000 (4)
- ◆ 20 to 50 (4)
- ◆ 16 to 20 (6)
- 0 to 16 (128)
- all others (3)

**BITTERROOT RESOURCES LTD.**

**Fig 18**  
 GK Property  
 Stream Sediment  
 Sample Locations  
 (South Sheet)  
 2010 Program  
 Gold Values

Date: 28/9/2010  
 Author:  
 Office:  
 Drawing:  
 Scale: 1:20000    Projection: UTM Zone 11 (NAD 83)

0    250    500    1,000  
 metres

**BITTERROOT RESOURCES LTD.**

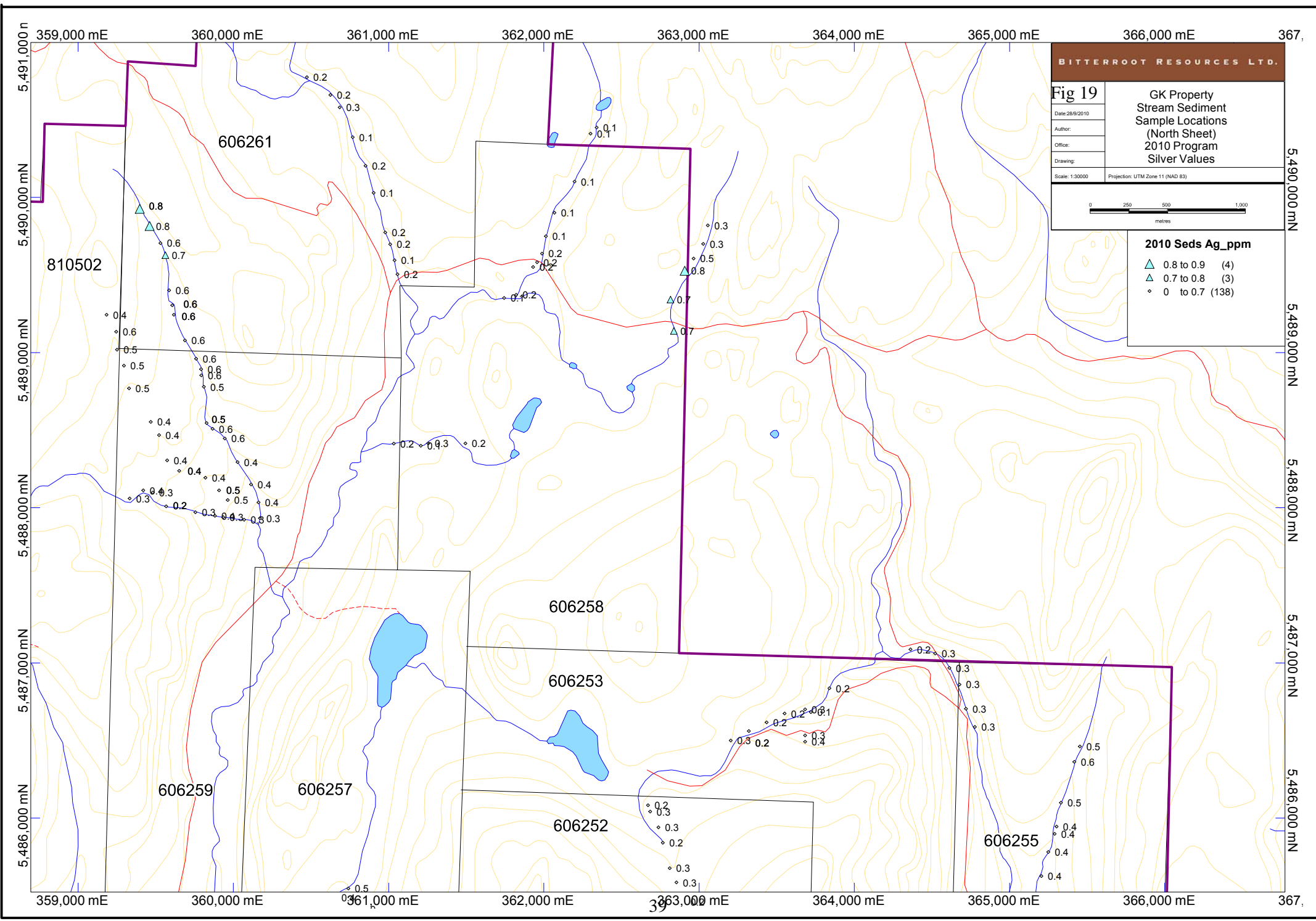
**Fig 19**  
 GK Property  
 Stream Sediment  
 Sample Locations  
 (North Sheet)  
 2010 Program  
 Silver Values

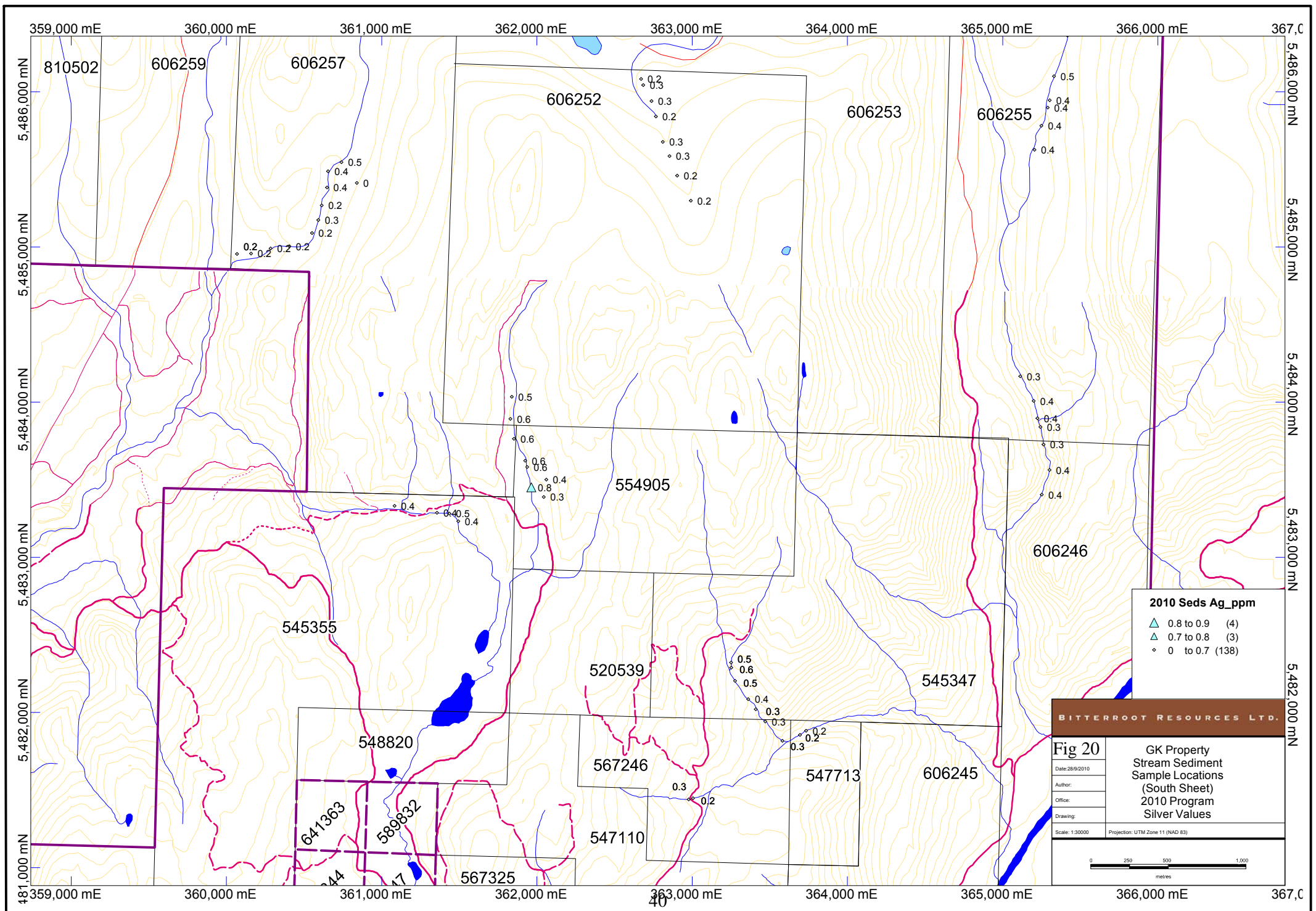
Date: 28/9/2010  
 Author:  
 Office:  
 Drawing:  
 Scale: 1:30000  
 Projection: UTM Zone 11 (NAD 83)



**2010 Seds Ag\_ppm**

▲	0.8 to 0.9	(4)
△	0.7 to 0.8	(3)
◊	0 to 0.7	(138)



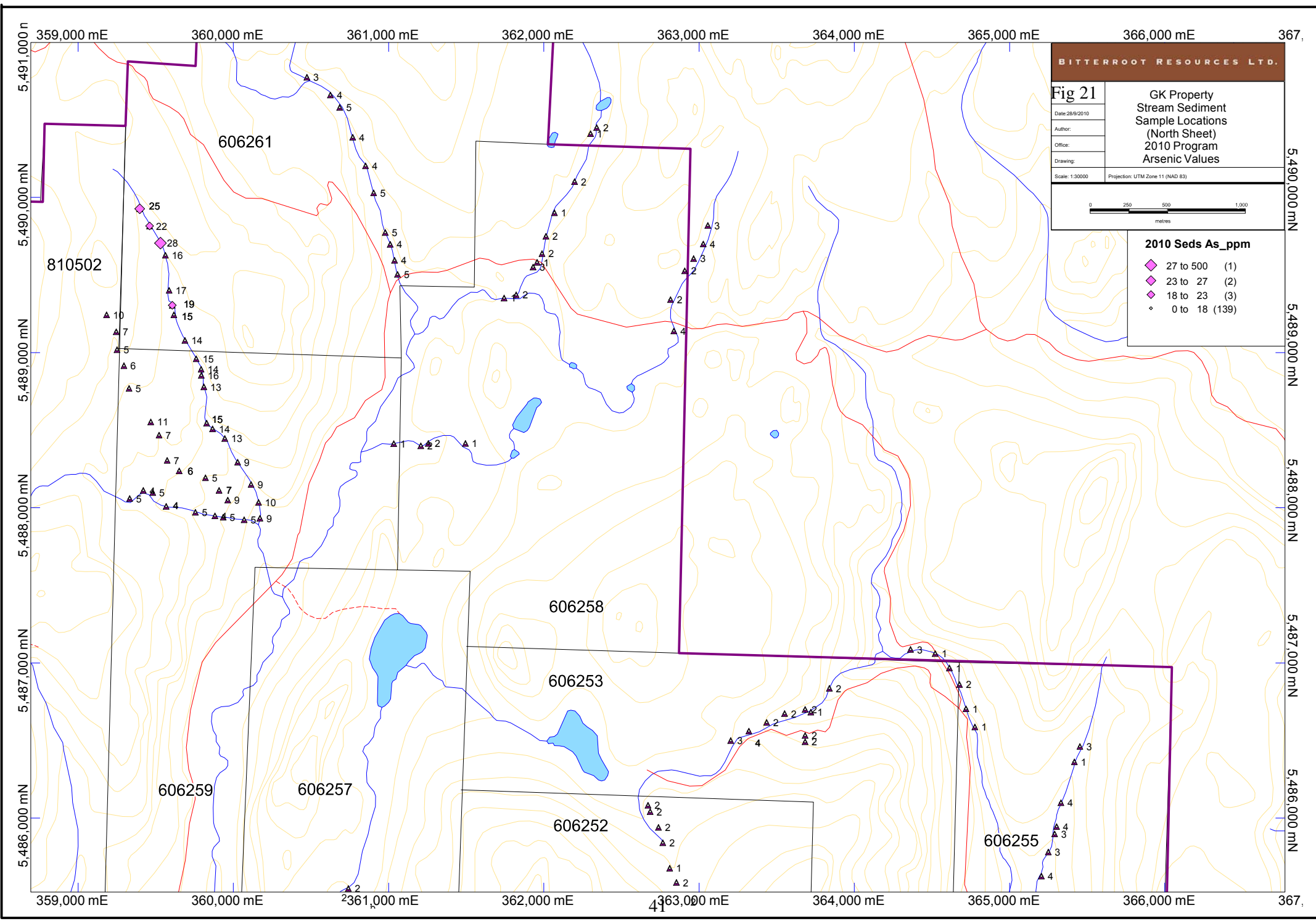


**BITTERROOT RESOURCES LTD.**

**Fig 20**  
 GK Property  
 Stream Sediment  
 Sample Locations  
 (South Sheet)  
 2010 Program  
 Silver Values

Date: 28/9/2010  
 Author:  
 Office:  
 Drawing:  
 Scale: 1:20000  
 Projection: UTM Zone 11 (NAD 83)

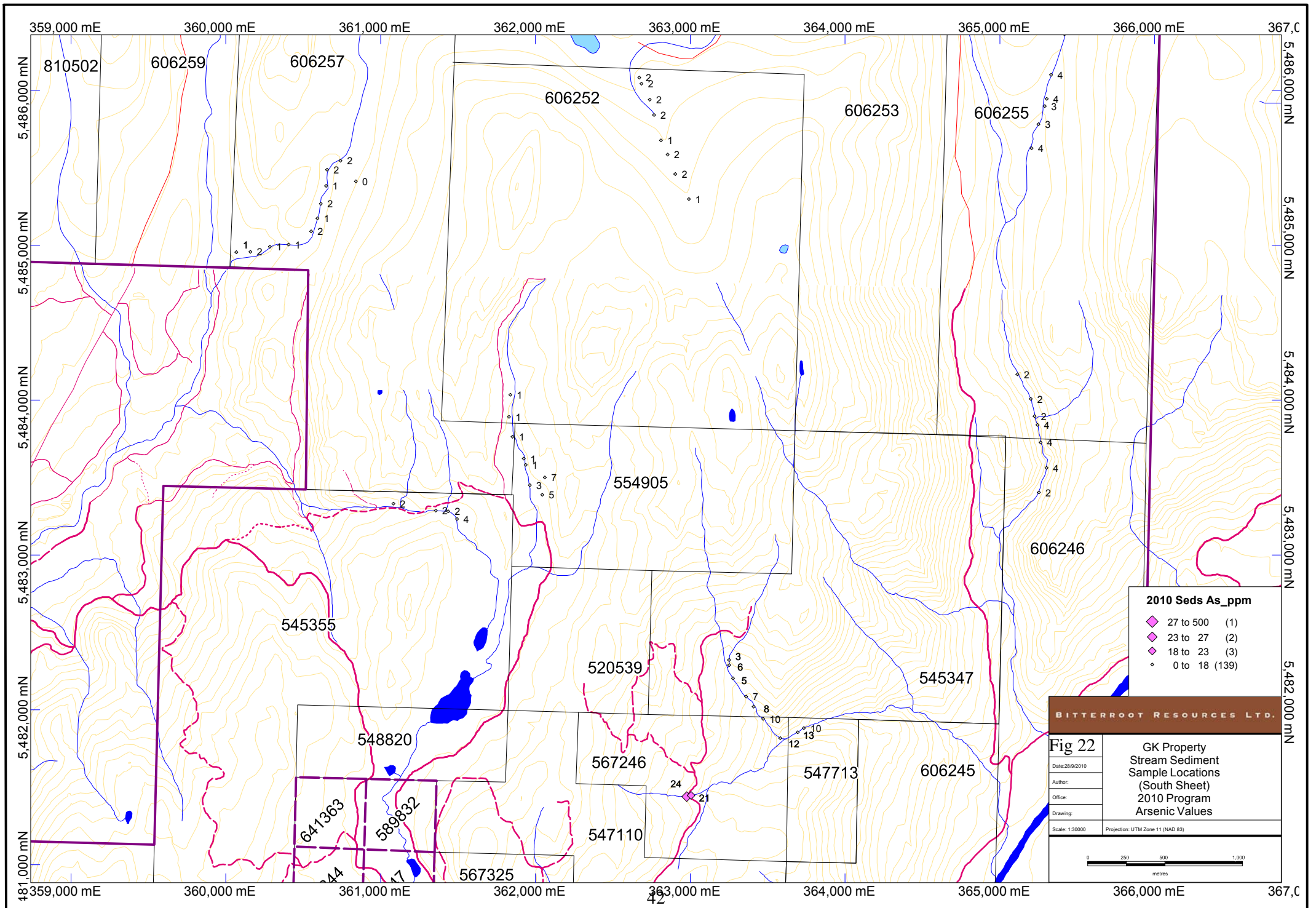
0 250 500 1000  
 metres

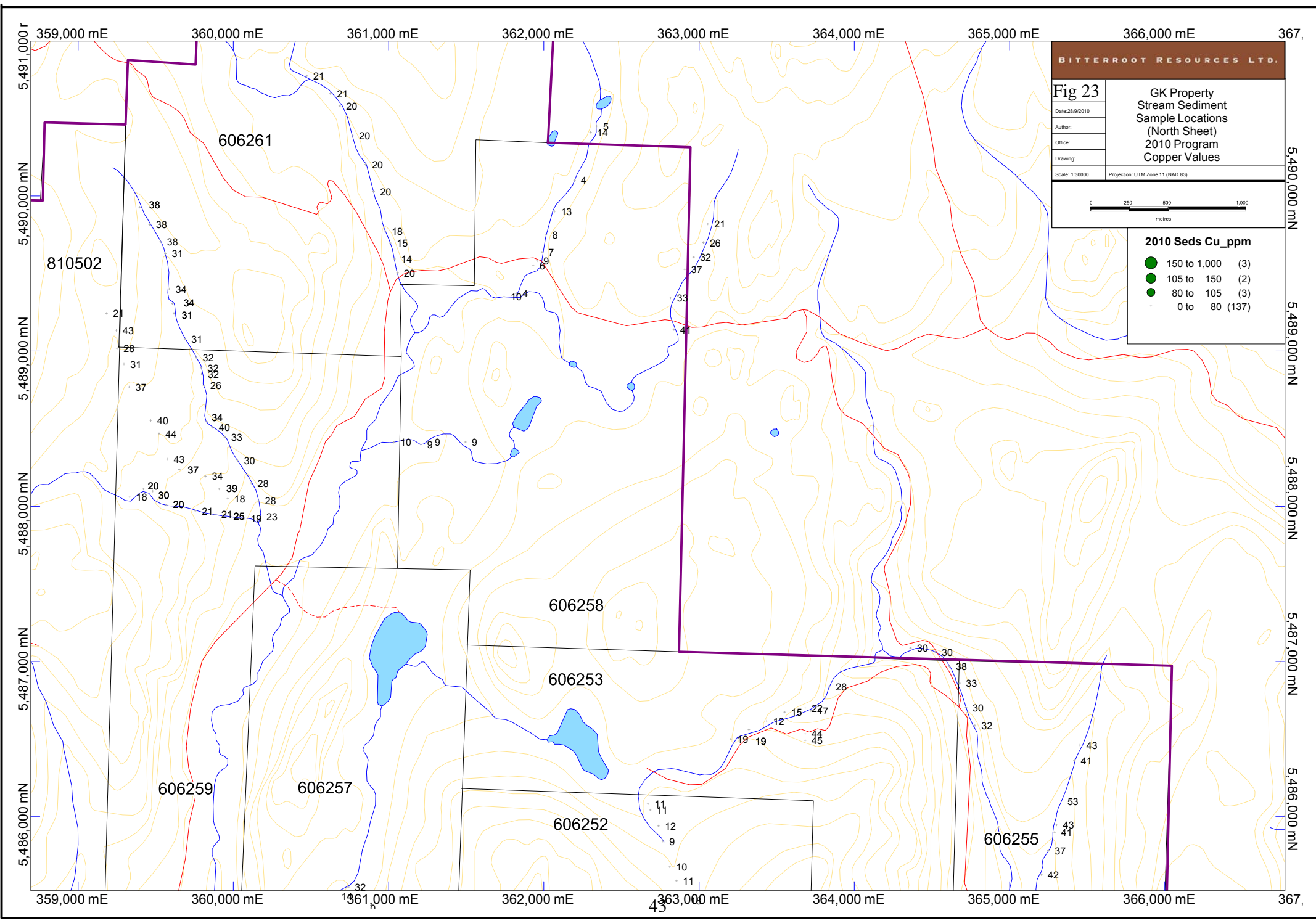


359,000 mE 360,000 mE 361,000 mE 362,000 mE 363,000 mE 364,000 mE 365,000 mE 366,000 mE 367,000 mE

5,491,000 mN  
 5,490,000 mN  
 5,489,000 mN  
 5,488,000 mN  
 5,487,000 mN  
 5,486,000 mN

606261  
 810502  
 606258  
 606253  
 606259  
 606257  
 606252  
 606255





359,000 mE 360,000 mE 361,000 mE 362,000 mE 363,000 mE 364,000 mE 365,000 mE 366,000 mE 367,000 mE

5,491,000 mN  
 5,490,000 mN  
 5,489,000 mN  
 5,488,000 mN  
 5,487,000 mN  
 5,486,000 mN

810502

606261

606258

606253

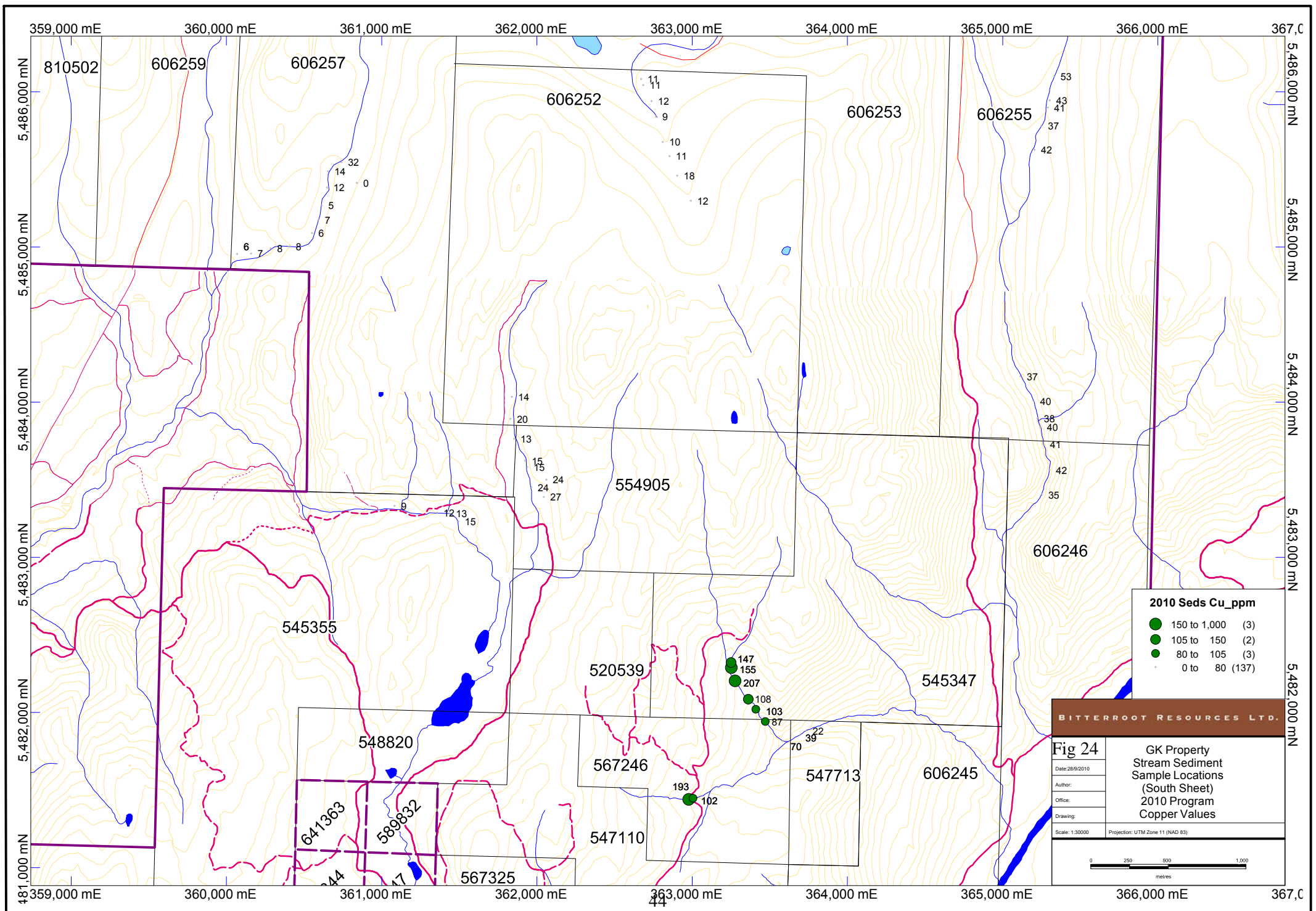
606259

606257

606252

606255

Sample locations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53



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**Fig 24**  
 GK Property  
 Stream Sediment  
 Sample Locations  
 (South Sheet)  
 2010 Program  
 Copper Values

Date: 28/9/2010  
 Author:  
 Office:  
 Drawing:  
 Scale: 1:20,000  
 Projection: UTM Zone 11 (NAD 83)

0 250 500 1,000  
 metres

assayed 18.5 g/t gold and 28.8% arsenic over a sampling width 30 cm. Both veins remain open along strike.

The showing to the west of the anomalous creek is called Barnato, MinFile No 082ESE109, and it has had fairly extensive exploration, as well as minor production in the 1930's and 1960's that totalled 296 tonnes containing 9704 grams of gold, 4136 grams of silver, 407 kg of copper and 119 kg of lead. Limited underground workings and open cuts exploited a 0.8 m wide quartz vein that carried some pyrite and arsenopyrite.

The principal Barnato zone is associated with a narrow, irregular fissure which strikes 035 degrees and dips 70 degrees southeast within a 15 metre-long drift. Open cuts have traced the mineralized fissure 24 m northward, and 60 m southward from the adit. Locally within the open cut, the zone widens outward from the fissure and consists of bands, stringers, irregular masses and impregnations of sulphides. The mineralization is hosted by quartz diorite that has been strongly sericite- and kaolinite-altered; the dioritic texture being almost completely destroyed. Sulphides include pyrite, arsenopyrite, sphalerite, pyrrhotite, chalcopyrite and galena. Massive vein quartz is present but commonly the sulphides occur in silicified rock containing watery-looking quartz.

Subsequent programs of mapping, prospecting, geophysics, test pitting and drilling showed that the veins in the vicinity of the main Barnato workings are erratic along strike and diminish in thickness and grade with depth.

The remaining drainages that were sampled returned only a few weakly anomalous gold values, generally without coincident anomalous elements. This suggests that the anomalies may be caused by erratic mineralized material, possibly glacially transported, or that small or weakly mineralized zones may occur near the anomalous sample sites. More substantial mineral zones within the drainage areas would be expected to show a wider dispersion pattern downstream.



One drainage, at the northeast edge of the property, has three consecutive samples with weakly anomalous Ag values, up to 0.8 ppm, and slightly elevated Au values up to 15 ppb (Figs. 17 & 19). This area warrants follow-up sampling however the source of the anomaly may be located off the claims.

The stream sediment sampling effectively evaluated the mineral potential of several large areas of the new claims but there are obvious holes in the coverage where there are no drainages suitable for sampling. Perhaps the best way to evaluate these areas would be with reconnaissance contour soil sample lines near the base of slopes to pick up any mineralized material that may have been distributed down the hill from sources at higher elevations.

## **9.0 Conclusions**

Grid soil sampling in the area north of the Hornet Zone was effective in defining three anomalous trends that merit detailed follow-up work. Reconnaissance contour soil lines, south of the Hornet Zone, produced only scattered, single point anomalies that are of limited interest, especially if the target is a sizeable zone of low to moderate grade gold.

Stream sediment sampling effectively evaluated areas with good drainage distribution but left untested holes where there were not enough suitable drainages present. Of the areas tested, two showed good mineral potential; one in an area of known mineral occurrences that have had considerable exploration in the past with limited success, and the other in an area that has no known showings but excellent potential based on strong Au, As, Ag values that represent quite a large drainage area.

Known gold-bearing mineral zones on the property typically consist of quartz veins, silicified breccia zones or shears that contain variable amounts of sulphide minerals including pyrite,

pyrrhotite, arsenopyrite, and lesser chalcopyrite, galena and sphalerite. Sericite, chlorite and local kaolinite alteration commonly surround the mineral zones. Mineralization is often located near contacts between tuffaceous rocks and intrusive bodies, possibly because the intrusive events created breccia zones that were favourable locations for later hydrothermal circulation. All of these observations can be useful exploration aids to take into consideration when mapping areas of alteration, interpreting geophysical signatures or evaluating geochemical sampling results.

## **10.0 Recommendations for Future Work**

The GK property exhibits good exploration potential in several areas; many related to a large, north-northwest trending, mineralizing system that has been outlined by previous work. The recommendations of this report should be viewed in conjunction with the recommendations outlined by Greig and Flasha (2005) for other areas of the property along the GK Mineralized Trend, in order to prioritize targets and efficiently plan further exploration programs.

With respect to the areas of the property explored by this geochemical sampling program, it is recommended that prospecting and geological mapping be undertaken in geochemically anomalous areas defined by the soil sampling. In particular, the MinFile showings that are reported to occur in the north and south parts of the soil grid should be located, geologically assessed and determined if they are the sources of the soil anomalies. Additional soil sampling should be carried out to the west and north of the grid area where geochemical anomalies remain open to extension. If significant mineral potential is indicated then additional exploration techniques are warranted, such as induced polarization geophysical surveys to test for sulphide mineralization as well as possible silicification, with priority targets to be followed up by excavator trenching or diamond drilling.

The two areas of anomalous stream sediment samples that were defined by this program should be followed up with soil sample grids situated to span the areas drained by the anomalous creeks. Each of these areas encompasses approximately 2 km by 2 km. In the southern area there are several documented known mineral showings that should be located, geologically mapped and sampled.

Unevaluated areas, situated between the drainages that were tested in this program, should be sampled by reconnaissance contour soil lines positioned to intercept any mineralization that may have traveled downslope from zones exposed on the hillsides. Any anomalous values encountered on these lines should be followed up by grid soil sampling over the possible source areas.

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Appendix I. Soil, Silt and Moss Mat Sample  
Analytical Results

















## Appendix II. Cost Statement

Exploration Work Type	Comment				Totals
<b>Personnel/ Position</b>		<b>Days</b>	<b>Rate</b>	<b>Subtotal</b>	
J. Rowe - Geologist	Report Prep, Supervision	10	500.00	5,000.00	
C. Greig - Geologist	Management, Supervision	4	500.00	2,000.00	
S. Flasha - Geologist	Drafting	4	500.00	2,000.00	
R. Greig - Sampler	Sampling	10	315.00	3,150.00	
M. Greig - Sampler	Sampling	8	315.00	2,520.00	
N. Harrichhausen - Sampler	Sampling	10	315.00	3,150.00	
					<b>17,820.00</b>
<b>Geochemical Samples</b>		<b>Number</b>	<b>Rate</b>	<b>Subtotal</b>	
Soils	Analysis	226	25.00	5,650.00	
Silts/ Moss Mats	Analysis	145	25.00	3,625.00	
					<b>9,275.00</b>
<b>Transportation</b>		<b>Number</b>	<b>Rate</b>	<b>Subtotal</b>	
Truck	Day Rate	10	85.00	850.00	
Km Rate		1404	0.25	351.00	
Fuel				326.00	
					<b>1,527.00</b>
<b>Accomodation &amp; Food</b>		<b>Number</b>	<b>Rate</b>	<b>Subtotal</b>	
Lodging	Day Rate	10	150.00	1,500.00	
Food	Manday Rate	28	50.00	1,400.00	
					<b>2,900.00</b>
<b>Equipment, Supplies, Freight</b>					
Field Supplies	Bags, flagging, tools, gps rent			600.00	
Ship Samples	Greyhound Bus			300.00	
					<b>900.00</b>
<b>TOTAL EXPENDITURES</b>					<b>32,422.00</b>



## Appendix III. Statements of Qualifications

I, Jeffrey D. Rowe, of 2537 Evergreen Drive, Penticton, British Columbia, Canada, hereby certify that:

1. I am a graduate of the University of British Columbia with a B.Sc. (Honours)(Geological Sciences, 1975), and have practiced my profession continuously from 1975 to 1999 and from 2007 to present.
2. I have been employed in the geoscience industry for over 25 years, and have explored for gold and base metals in North and South America for both senior and junior mining companies, on exploration properties as well as at a producing mine.
3. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, the omission to disclose which makes the technical report misleading.
4. I am an author of the report entitled: "2010 Geochemical Sampling Program on the GK Property," dated September 2010. I worked on and supervised a part of the work program reported on herein.

Dated at Penticton, British Columbia, this 30<sup>th</sup> day of September, 2010.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J D Rowe". The signature is written in a cursive, flowing style.

Jeffrey D. Rowe

I, Charles James Greig, of 250 Farrell St., Penticton, British Columbia, Canada, hereby certify that:

1. I am a graduate of the University of British Columbia with a B.Comm. (1981), a B.Sc. (Geological Sciences, 1985), and an M.Sc. (Geological Sciences, 1989), and have practiced my profession continuously since graduation.
2. I have been employed in the geoscience industry for over 25 years, and have explored for gold and base metals in North, Central, and South America, and Africa for both senior and junior mining companies, and have several years of experience in regional-scale government geological mapping.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (license #27529).
4. I am a "Qualified Person" as defined by National Instrument 43-101.
5. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, the omission to disclose which makes the technical report misleading.
6. I own shares of Bitterroot Resources Ltd., who is the optionee of the North Brenda Property. I am an optionor of the GK Property, and hold a half interest in it with my partner, B.J. Kreft, of Whitehorse, Yukon Territory.
7. I am an author of the report entitled; "2010 Geochemical Sampling Program on the GK Property" dated September 2010. I worked on and supervised the work program reported on herein. I have been involved with exploration on behalf of Bitterroot Resources Ltd. since 1996.
8. I have read National Instrument 43-101 and Form 43-101F1 and the technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

Dated at Penticton, British Columbia, this 28<sup>th</sup> day of September, 2010.

Respectfully submitted,



Charles James Greig, M.Sc. P. Geo