YUKON MINING INCENTIVE PROGRAM (YMIP) FINAL REPORT FOR A TARGET EVALUATION PROGRAM ON THE 2-MILE, LOWER SULPHUR CREEK PLACER LEASE, YUKON

Grant 1D00880, 2-mile Placer lease

NTS 115O/10

Latitude 63° 40' 15" N Longitude 138° 40' 35" W

UTM (NAD83, Zone 7N)

Easting 611840 Northing 7063365

Dawson Mining District

Prepared by:

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January 31st, 2011

SUMMARY

In September 2010, Tara Christie staked a 2-mile placer lease on Lower Sulphur Creek (*Grant No. 1D00880)* to tie on to existing placer claims after findings on neighboring creeks and reported placer potential on Lower Sulphur Creek (Klippert, 2007). The claims cover a MINFILE occurrence 115O 133, a Au-Ag occurrence.

The proposed 2011 exploration program on the property was a reconnaissance 2D-resistivity geophysical survey to investigate the subsurface conditions and highlight areas with placer potential. Arctic Geophysics of Dawson City was engaged to complete the survey and conducted the field work Jul 30- August 6, 2011.

The intention of the program was that the geophysics would be used to guide the future drilling, and determine if the target was worthy of further work. However, the resistivity work was not conclusive in the view of the author to determine whether there was a sufficient target on the property to warrant the additional expenditures of drilling. Access to the site is difficult and thus the lease owner carefully weighed the costs of drilling the site with what was known from the 2D resistivity and determined that the lease was not worth the high cost of drilling in the fall or winter of 2011.

The lease owner is still evaluating the potential on the lease and intends a further ground reconnaissance in summer of 2012 at which point the final decision to either drill or drop the lease will be made.

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1.0 PROPERTY HISTORY

The 2-mile placer lease is located about 55 km southeast of Dawson City and is accessible via the Sulphur Creek-Dominion Creek road. Approximate road distance from Dawson City to the property is ~ 75 km. The lease was staked during the 2010 field season by Tara Christie and was staked to tie on to the existing Sulphur Creek placer claims based upon findings of auriferous placers within the creeks in the immediate area. The lease is centered over the right limit bench of lower Sulphur Creek. Information regarding the lease, staking can be found in Table 1.

Table 1. *Lower Sulphur Creek, 2-Mile Placer Lease Status**

Grant No.	Staked By	Recording Date	Staking Date	Expiry Date
1D00880	Tara Christie - 100%	2010-09-14	2010-09-12	2011-09-14

**Pending the results from a 2011 reconnaissance program, the applicant may choose to stake placer claims over the area.*

2.0 LOCATION AND ACCESS

The Klondike area is situated between the Indian River to the south and the Klondike River to the north; both westerly flowing tributaries of the Yukon River (Ouellete and Coutts, 1986). Dawson City is accessible by a 530 km, year-round highway to Whitehorse. The lower Sulphur, 2-mile, placer lease is accessible via the Sulphur Creek-Dominion Creek Road. Approximate road distance from Dawson City to the property is ~ 75 km. The lease is centered at a latitude of 63°40' 15" N and a longitude of 138°40'35"W (UTM Zone 7N, NAD83 Easting 611840, Northing 7063365). Please refer to *Figure 1. 2-mile, Lower Sulphur Placer Lease- Location Map* on the next page.

The prospect is accessible by all weather highway from Whitehorse to Dawson, by summer-season gravel road down the Sulphur Creek Road (see *Figure 2. Lower Sulphur Creek Placer Lease Location and Survey Map* on following page).

100000 0 100000
(meters)

Tara Christie (Registered Lease Owner)

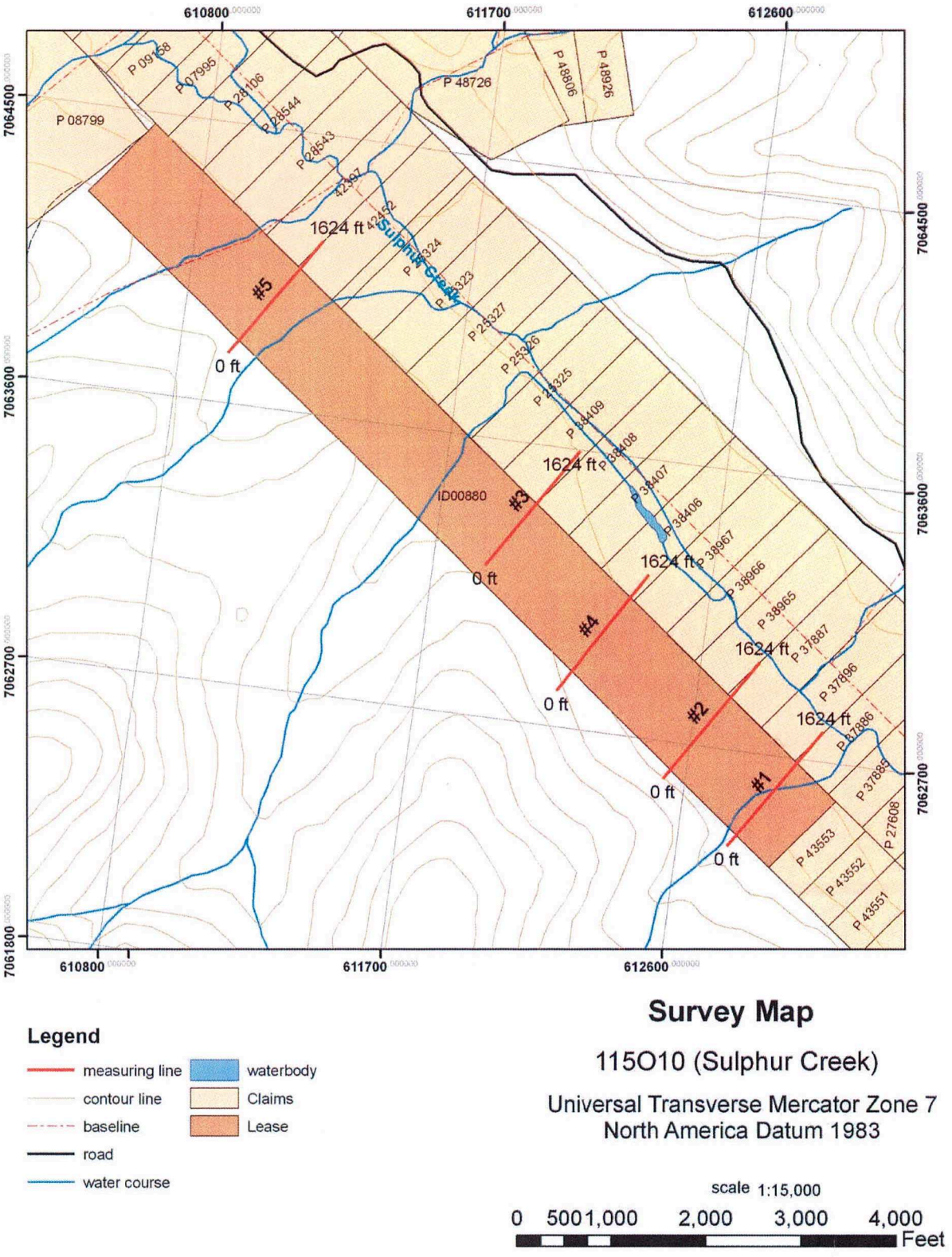
Lower Sulphur- 2011YMIP
Figure 1. Location Map

NTS Map-sheet- 1150/10
Datum- NAD83
Drafted by- L.R. Blackburn

Mining District- Dawson
UTM- Zone 7N
Date- March-3-2011

Keno Hill Exploration Corp.

Figure 2. *Lower Sulphur Creek Placer Lease Location and Survey Map*



3.0 REGIONAL GEOLOGY

The prospect is located on the 1:250 000-scale Stewart River (115O) map-sheet and 1:50 000-scale map sheet 115O/15. The most recent surficial geological mapping of the area was completed in 1993 by E.A. Fuller (Surficial Geological Map of the Black Hills and parts of the Stewart River region, Open File 1993-5(G)). Lowey (2004) examined the placer potential of the Stewart River region (Placer geology of the Stewart River (115N&O) and part of the Dawson (116B&C) map areas, west-central Yukon; Bulletin 14).

The claims are situated within the Klondike goldfield on the southwestern side of the Tintina Trench within the northwestern Yukon-Tanana terrane. The Yukon-Tanana terrane is the largest of the Yukon's terranes, covering a significant portion of the Omineca Belt and is composed of several metamorphic assemblages including the Nisling assemblage, the Nasina assemblage, the Pelly Gneiss and Nisutlin assemblage which were deposited over the terrane's 500 million year long history.

The Klondike goldfield is part of the 'Tintina Gold Belt' which is underlain by highly deformed, greenschist-facies, Paleozoic metasedimentary and meta-igneous rocks of the Klondike Schist and Finlayson assemblage that form part of the Yukon-Tanana terrane, and lesser amount of the little metamorphosed ultramafic rocks of the Slide Mountain terrane (MacKenzie, *et al.*, 2008; *Figure 3. Regional Geology* on the following page and *Table 2. Regional Geological Units,* below).

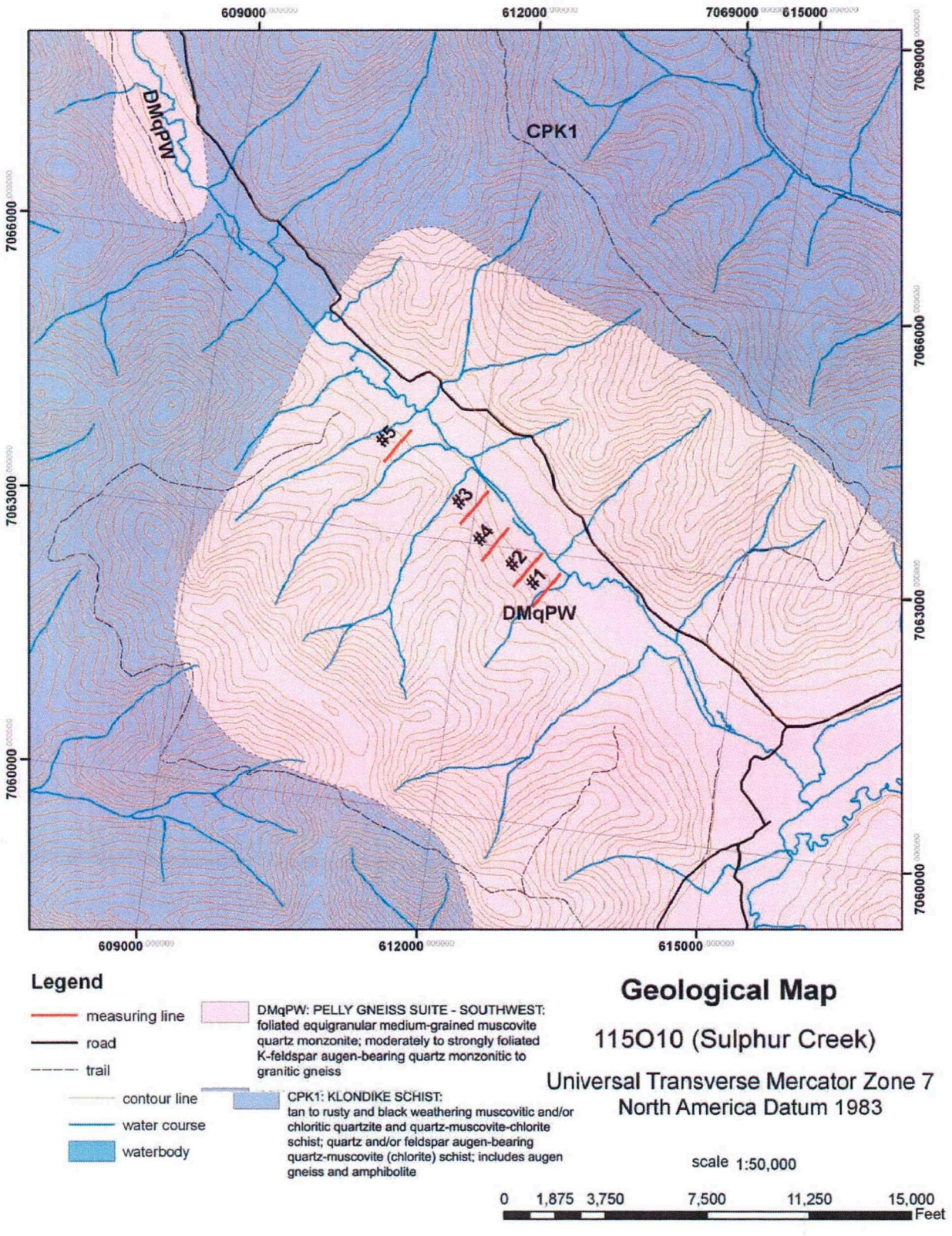


Figure 3. *Regional Geology*

Table 2. *Regional Geological Units* (Gordey, S.P. and Makepeace, A.J. 2003)

Unit	*Age*	*Rock Type*
Klondike Schist (CPK_1)	Carboniferous and Permian	Poorly understood assemblage of metamorphosed pelitic/volcanic rocks and minor marble, including phyllite of uncertain association.
Pelly Gneiss Suite (DMPqW)	Late Devonian to Mississippian	Variably deformed, felsic, granitic rocks; foliated to equigranular medium-grained muscovite quartz monzonite and moderately to strongly foliated K-feldspar augen-bearing quartz monzonite to granitic gneiss.

4.0 SULPHUR CREEK PLACER LEASE SURFICIAL GEOLOGY

The region is thought to be a mature, subdued landscape by Miocene time and underwent a period of uplift and erosion in the Pliocene (Tempelman-Kluit, 1980). The area was not covered by glacial ice during the pre-Reid (latest Pliocene in age) or later glaciations (Lowey, 1999; refer to Stewart River GEOPROCESS map; Doherty *et al.*, 1994). However, glacial outwash (*i.e.*, the Klondike Gravel) was deposited on high-level terraces along the Indian River area (Lowey, 1999).

The following compiles Lebarge's (2007) description of the surficial geology and stratigraphy at Sulphur Creek in five separate placer operations as:

> *The stratigraphic section consisted of 15 to 60ft (5 to 20m) of frozen black muck overlying 5 to 20 ft (5 to 6m) of various gravel layers. These gravel units had 'White Channel' rocks, oxidized round rocks and flat slide rocks, and were comprised of a 4-ft (1-m) grey layer on bedrock. From 15 to 20 ft (5 to 6m) of gravel were sluiced along with ½ to 1 ft (0.2 to 0.3m) of bedrock. Gold fineness ranges from 790 to 805 averaging ~800.*

5.0 2011 YMIP PROGRAM OVERVIEW

The 2011 YMIP program envisioned 2D resistively survey for reconnaissance to determine the possibility of gravels on the benches that might be sufficient for placer mining. 2D-resistivity would be done on lines perpendicular to the creek across the entire lease (6.4 line-km). The geophysics was to be followed up potentially with drilling and staking the lease to claims.

As soon as YMIP funding for this project was confirmed, Arctic Geophysics was contacted to book a time for the survey. Their first availability was for August 1st -7th. In mid-July, we were contacted and told there was a change to the schedule and project lead. The new crew leader Josy Struden, was available to begin on August 30th, but had to find a helper as they were short handed.

On August 30th, Jim Christie and Tara Christie met with Josy Struden and her helper Jude Waldman on Sulphur to orient them to the lease. While Jim and Tara had made a previous trip out to identify access earlier in season, access was no longer available due to erosion from the high precipitation in 2011. Finding a suitable location for equipment had proven a challenge due to the community settling pond, deep channels due to erosion and the steep edge of where previous mining/dredging had occurred to established a deep drain.

A further complication, was that the initial YMIP application envisioned that the geophysics crew would work a bit more independently from a mobile trailer unit out near the lease, however, the geophysicist was not comfortable with her new untrained field assistant and preferred more amenities of an established camp (power, internet, phone). She also wanted to be able to have detailed discussions with Philip Moll, the lead geophysicist, in Germany nightly over the phone or internet and to discuss program with the client each morning/evening. There was a high level of client participation/assistance required to carry out the program and support the geophysicist's crew. This required housing of the Arctic Geophysics in the Gimlex Indian River camp for this short duration

program.

As the helper provided by Arctic Geophysics was new and also did not have an aptitude for physical outdoor work, it made it difficult for the crew to make progress accessing the side with the difficult terrain and they were having difficulty completing the lines. It was clear after the first few days that the geophysicist needed additional support than had been provided by Arctic Geophysics and additional helpers were hired from Gimlex Enterprises Limited to supplement the Arctic Geophysics crew in the field and to help move equipment.

6.0 GEOPHYSICAL SURVEY

6.1 Survey Methods

The survey equipment is described by Arctic Geophysics in detail in the attached report in Appendix I. The methodology is paraphrased and quoted from the Arctic Geophysics report in the following brief section.

"The survey uses a lightweight, custom-built 2D RESISTIVITY and INDUCED POLARIZATION (IP) imaging system with rapid data acquisition was be used. This system weighs approximately 120 kg which is about one third of regular standard equipment. It can be run with a 12V lead battery. The equipment facilitates high mobility and rapid data acquisition with a small crew.

The data acquisition is carried out by the automatic activation of 4-point-electrodes. Thus several thousand measurements are taken, one every 1-2 seconds. The AC transmitter current of 0.26 to 30 Hz is amplified by the electrode control modules, up to a maximum of 100mA and 400V peak to peak. The voltage measured at the receiver electrodes (M, N) is also amplified.

In this geoelectrical survey the ***Schlumberger-array*** *was used. This array is appropriate to image horizontally running layers as is needed for placer prospecting."*

The "2D Resistivity imaging system allows measurements with a depth of up to 180m. With a depth to bedrock of more than 6m we use an electrode spacing of 5m in our placer surveys. This allows us the measuring of large profile lengths in short time with a horizontal measuring resolution of 2.5m. This quantification has proven itself to be reliable in the determination of the bedrock topography and sedimentary arrangement for placer investigation at the most environmental conditions."

The measured Resistivity data are processed with the ***RES2DINV*** *inversion program.*

A combination of computer settings individually adapted to the data sets were used to optimise the processing for getting most realistic profiles.

The resistivity scales of the profiles are balanced to make a compromise between 1) imaging the interfaces and 2) similarity of the scales between the profiles to facilitate its comparison. "

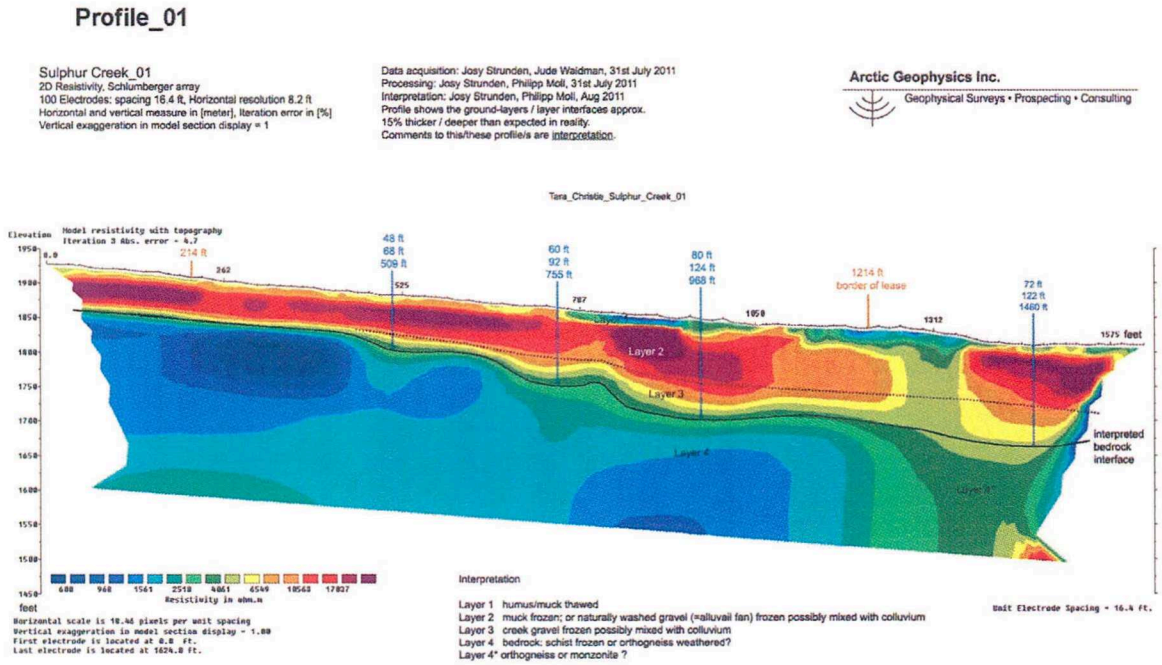
The ground was tested by five 500m-measuring lines, depth 90m from 31st July – 6th Aug 2011. The final report was received from Arctic Geophiscs by e-mail on September 6th and the revised final report and digital data was received later in September. The full report with detailed sections can be found in Appendix A and a copy will be submitted on disk with this report.

6.2 2D- Resistivity Results

The 5 profile lines and full interpretation of the profiles provided by Arctic Geophysics is supplied in their report in Appendix A.

A high level discussion of each profile and the usefulness for identifying placer gravels will be presented in this section as well as an overall discussion of the application to further prospecting on the lease.

Figure 4. *Profile of Line 1 of 2011 Sulphur Creek 2D resistivity survey (larger version in appendix).*



This section identifies that Sulphur Creek has approximately 60 ft deep of loess, washed gravel or colluvium at station 1460ft (assuming the 15% exaggeration referred to in the report). While this seems inconsistent with the depth of what is known for the valley, the profile also seems to change before the lease boundary suggesting that the layer may not be continuous. Layer 2 is reestablished on the lease, but there is no way to distinguish if it is loess or gravels. Further the interpretation suggests that layer 3 or 4 could be a fan of alluvial or colluvial gravel from the small tributary.

From experience with placer deposits, and knowledge of the topography, the interpretation seemed optimistic as it could also represent colluvium over weathered bedrock.

Figure 5. *Profile of Line 2*

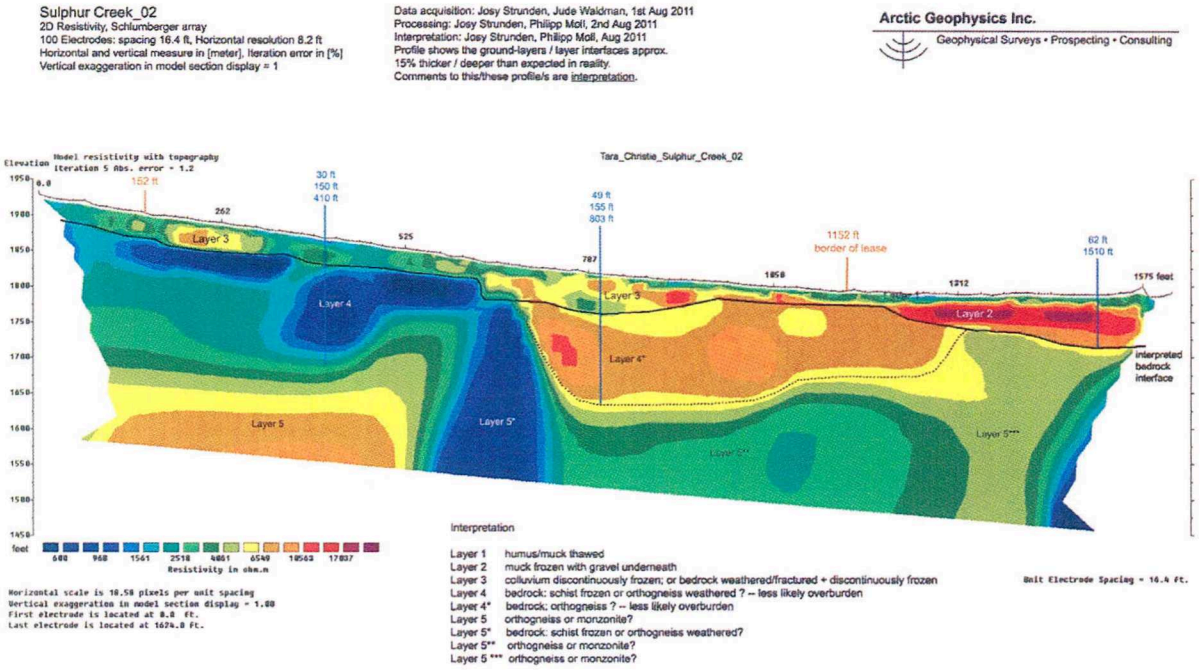
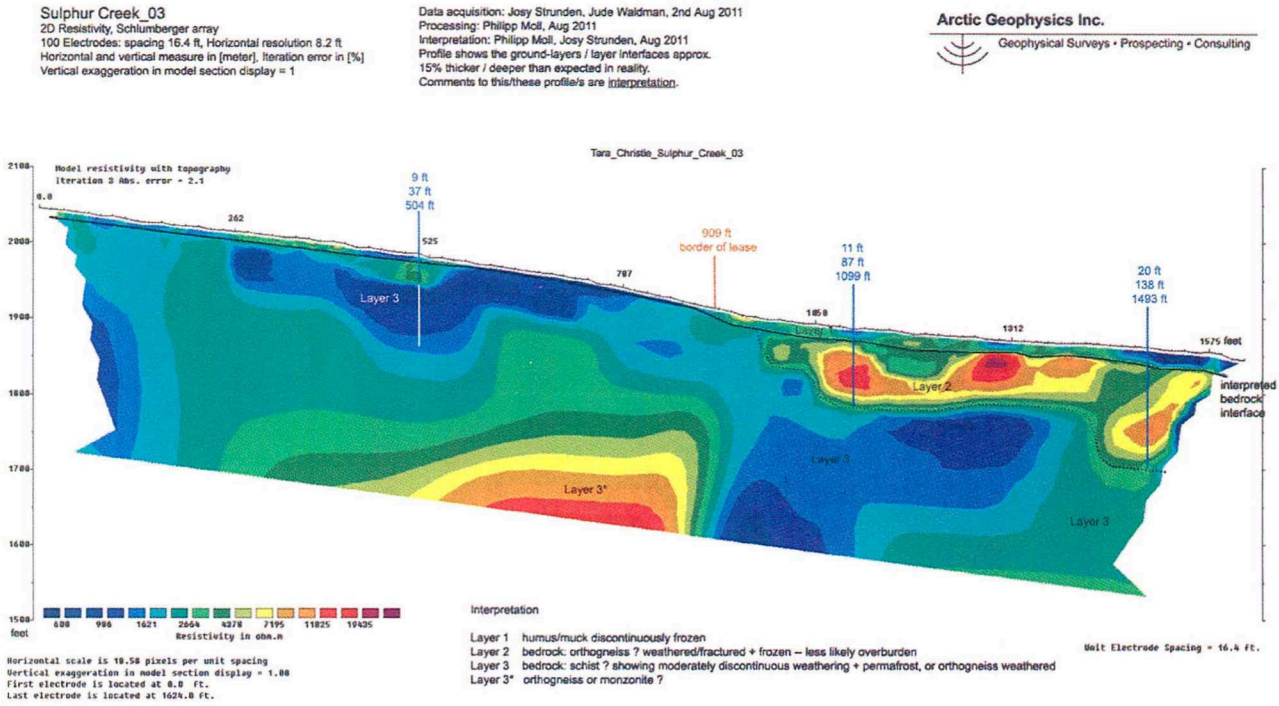


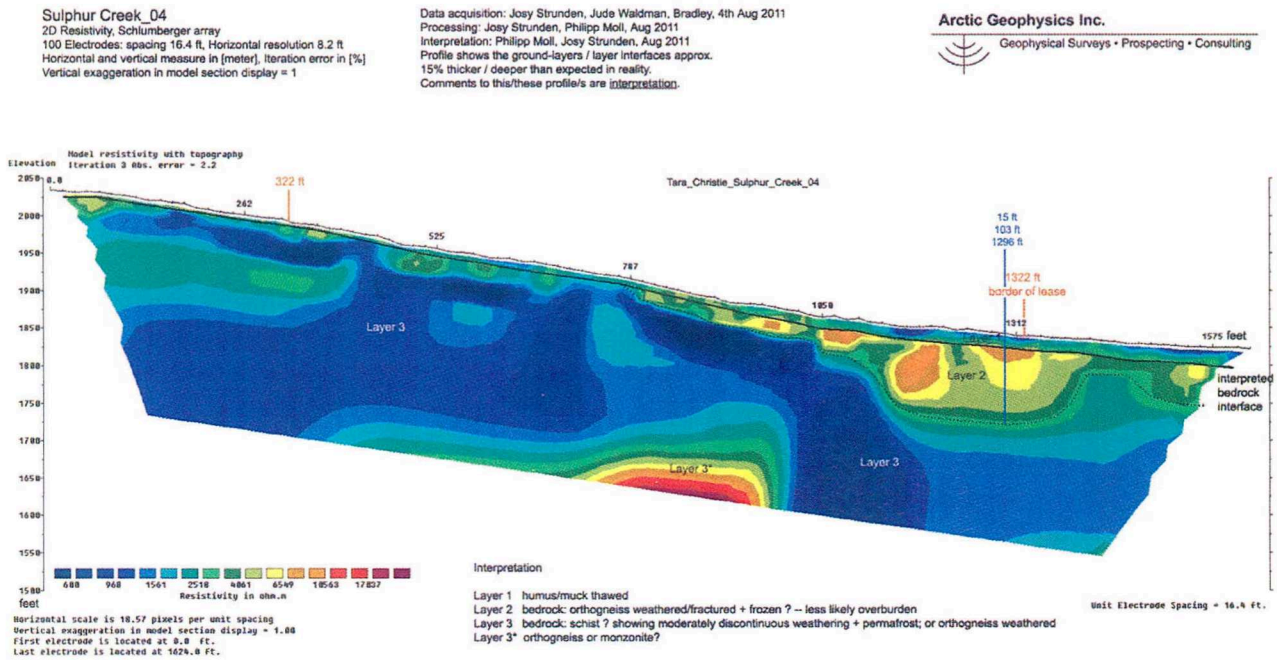
Figure 5 shows profile 2 where the interpretation cannot distinguish if Layer 4 is frozen Klondike schist or gravel. The profiles show that there is likely little opportunity for placer gravels on the lease.

Figure 6. *Profile of Line 3*



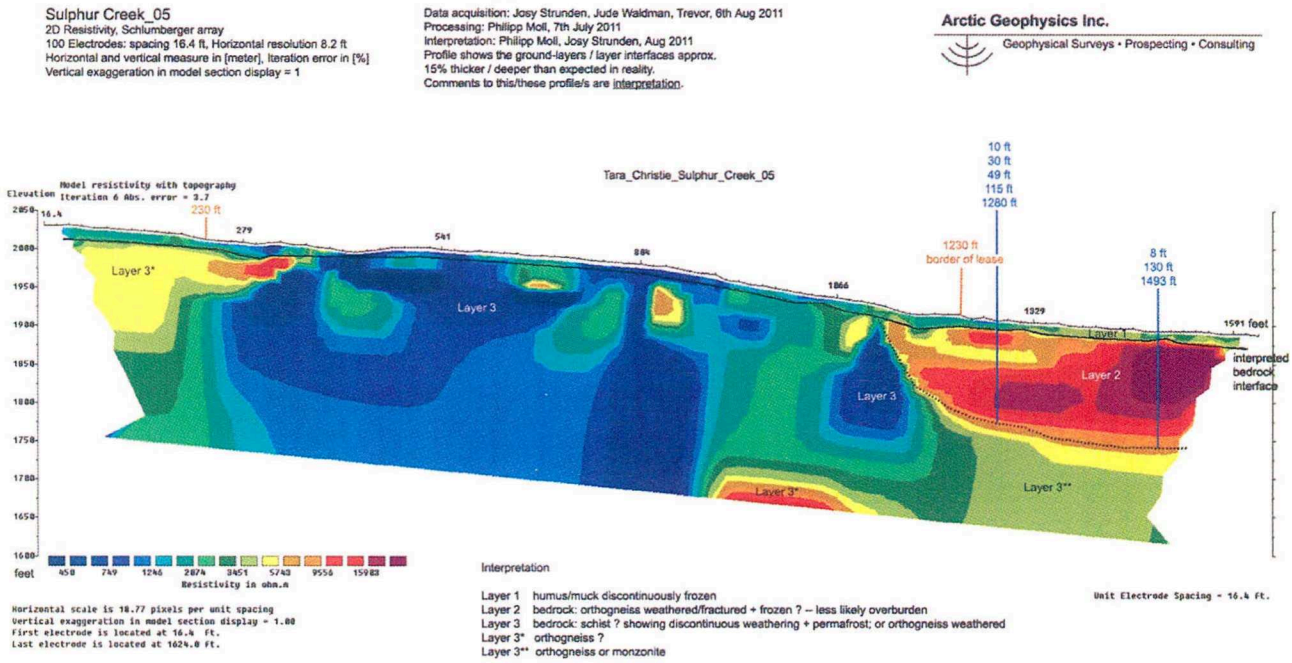
In Figure 6, the profile of Line 3 similarly shows layer 2 as potentially being gravel, but more likely representing a change in lithology.

Figure 7. *Profile of Line 4*



Similar to Line 2 and 3, Layer 2 is interpreted as being either orthogneiss bedrock or gravels but more likely interpreted as bedrock.

Figure 8. *Profile of Line 5*



Again in Line 5, the interpretation shows little potential for gravel on the lease.

In general, the interpretation of sections, including the identification of materials and depths seemed slightly inconsistent with what is known about the placer and surficial deposits in Sulphur Creek area. It also seemed like the geophysics might be indicating changes in bedrock geology or weathering of bedrock rather than placer deposits and in the view of the author may not be a reliable guide of what materials and depths to expect on the lease. The data may be useful for quartz exploration in the area if the depths of the resistivity readings and the lithology changes are accurate. The quartz claims are owned by Taku Gold so examination of the results from a quartz perspective is beyond the scope of this YMIP.

At the end of the program, Tara and Jim Christie spent several hours on the phone with Philip Moll to discuss the findings and the potential interpretation of each section.

Arctic Geophysics provided the following text in their final report received by mail in late September.

> *In this text, the channel-shaped feature on the right side in the profiles has consequently been interpreted in an ambivalent way. Even if the existence of an alluvial channel is estimated to be less likely, it might be reasonable to check it by drilling. To verify or falsify the interpretation aspects mentioned above, we recommend drilling at the locations seen in the table below. Note: The length of the lines (495m) was chosen to reach the full measuring depth of the system (approx. 90m). Thus the measuring lines are longer than the width of the lease. The*

recommendations for drilling refer to the whole ground which was measured in this survey. The red numbers show recommended drill locations located outside of the lease: this information is given for the case that this property will be afforded or staked later.

Profile	Drill Location
01	509 ft, 755 ft, 968 ft, 1460 ft
02	410 ft, 803 ft, 1510 ft
03	504 ft, 1099 ft, 1493 ft
04	360 ft, 673 ft, 918 ft, 1296 ft
05	279 ft., 1230 ft, 1280 ft, 1493 ft

The expected depths/thicknesses of the ground layers and their interpreted materials are shown in the profile images and interpretation texts above.

It was noted that this results section provided above and dated as September 6th, differs significantly from the version e-mailed and reviewed with the applicant on September 6th, 2011. The original conclusions provided only one recommended location to drill on each line and the locations were mostly not on the lease. The revised report showed locations on the lease which might be drilled and locations that were outside the lease which might be drilled to confirm the interpretation and stratigraphy.

These locations are suggested on the basis of confirming the interpretation and stratigraphy and not from a basis of whether there is the potential for an economic placer deposit based on the geophysics. The drill holes were also not prioritized based on which would give the most information to determine if the interpretation was correct with the least cost to the lease owner.

Review of the sections and the final report did bring into question the reliability of the resistivity profiles and the results and whether there was sufficient potential on the property to warrant further expenditures. It was thought that further ground investigation might prove more useful in trying to determine appropriate locations to drill, however, in October the ground was already covered in snow.

6.3 Follow up to Resistivity

While the geophysics was not viewed as clearly indicating that there were placer gravels and specific locations which should be drilled, field reconnaissance to scout potential drill locations and review the topography and potential access sites was warranted. In October,2011, Tara and Jim Christie returned to the site to try to scout access to the lease and some of the preferred drilling locations. Upon returning to lease, it was found access was poor due to recent deep erosion of the Sulphur bypass channel (near the community settling pond) due to heavy rainfall in summer 2011. This event had cut off the known access to one area of the lease where it was believed that the drill would be able to get access. The only remaining way into the lease was at the extreme north end of the lease, however, the small tributaries crossing the lease were deeply incised and the drill would not be able to cross them. This would have required cutting a trail higher on the hill and then coming down the hill between the tributaries to get to the drill target areas. The lease covers a lot of rough country and no way to get help if mechanical problems were to arise late in the season and the drill was the only piece of equipment available. There would have also been lots

of trees that would have been knocked down by the drill access. At the south end of the lease, although there was one location where the drill would be able to cross Sulphur, there were also lots of trees and no way to get up out of abandoned creek channels onto the lease where drilling was recommended. While there was a nodwell mounted auger drill from Gimlex Enterprises that was available after use on another YMIP funded program, it was not clear how to access the drill sites without support of additional equipment and it was unclear if the 2D resistivity identified sufficient potential to warrant the additional expenditures on personal and equipment.

During winter of 2011 we did contact the other local placer drillers to see if they might be drilling in the area or be willing to try to access the site when the creek was frozen; however, there were no drillers contacted that were looking for any additional winter work and access would still be difficult and some of the deeply incised gullies if filled with snow could become treacherous if a driller was not well aware of the topography.

The cost to remobilize in early spring to this site would be very high and far exceed what was anticipated in the original YMIP. The YMIP budget was already higher than the amount allocated to the geophysics, particularly in field and management time for Tara and Jim Christie, much of which was not accounted for or charged to the YMIP.

7.0 SUMMARY AND CONCLUSIONS

In the authors view, the 2D- Resistivity geophysical program conducted by Arctic Geophysics was not successful in clearly delineating areas of potential placer deposits or recommending areas to drill. The author felt there was insufficient information to justify and warrant the high expenditure of accessing this difficult site and determined that the lease was not worth the high cost of drilling in the fall or winter of 2011.

The geophysical program was poorly staffed hampering their work and requiring additional support from the applicant than required. As the main geophysicist who is doing the analysis is in Germany and data must be sent to him for processing overnight, the program is highly dependent on processing, internet access and time intensive for the geophysicist working at the site as well as that of the client.

In hindsight, some reconnaissance drilling earlier in the year when there was some access to the site to test for the existence of placer gravels might have helped calibrate the survey and determine if the resistivity should be conducted. However, this would defeat the purpose that 2D resistivity is a low impact, cost effective early reconnaissance tool. The experience on this program it is not conclusive if the 2D – resistivity is a useful technique for this type of placer deposit.

The lease owner is still evaluating the potential on the lease and intends a further ground reconnaissance in summer of 2012 at which point the final decision to either drill or drop the lease will be made. This decision will also be made in the context of whether the ground could be mined (with the agreement with owners of valley claims) and given the existence of the community settling pond and related infrastructure.

8.0 BIBLIOGRAPHY

Klippert, D., 2007. Yukon Mining Incentive Program (YMIP) report on Sulphur Creek, Bulk Placer Test, Dawson Mining District, 13 pp.

Yukon Placer Mining Industry 2003–2006. W.P. LeBarge and C.S. Welsh (compilers), 2007. Yukon Geology Survey, 235 p.

MacKenzie, D., Craw, D. and Mortensen, J.K. and Liverton, T., 2008. Disseminated gold mineralization associated with orogenic veins in the Klondike Schist, Yukon. *In*: Yukon Exploration and Geology 2007, D.S. Emond, L.R. Blackburn, R.P. Hill and L.H. Weston (eds.), Yukon Geological Survey, p. 215–224.

Ouellette, D.J. and A. Coutts, 1986. United Keno Hill Mines Limited Report on the Upper Sulphur Creek Project. Assessment Report 091946.

Deklerk, R. and Traynor, S. (compilers), 2009. Yukon MINFILE 2009– A database of mineral occurrences.

Gordey, S.P. and A.J. Makepeace (*compilers*), 2003. Complete GIS spatial database of bedrock geology, surficial geology, mineral deposits, palaeontology, geochronology and oil and gas well data for Yukon.

9.0 STATEMENT OF QUALIFICATIONS

I, **Tara M. Christie,** of Dawson City, in Yukon Territory, Canada

Hereby certify:

1. That my address is P.O. Box 660, Dawson City, YT, Y0B 1G0;

2. That I am a graduate of the University of British Columbia:

    a) M.A.Sc., Specialization in Geotechnical Engineering, sub-specialty Geochemistry
    b) B.A.Sc., Specialization in Geotechnical Engineering, sub-specialty Geochemistry;

3. That I am a Professional Engineer (Geological) registered in Yukon and British Columbia;

4. That I have been practicing geology in the Yukon from 1996 to Present;

5. That this report is based on my knowledge of the district; and work on the property and

6. This report is intended to report on the YMIP activities and program only and is not an assessment report.

Dated this 31th day of January 2012 at Vancouver, B.C.,

Tara Christie, P.Eng
Box 660
Dawson City, YT
Y0B 1G0

10.0 APPENDIX

Appendix A- 2011 Sulphur Creek 2D Resistivity Survey, Arctic Geophysics