

**2011 GEOCHEMICAL WORK REPORT ON THE
NORTHWEST YUKON WHITE GOLD PROPERTY**

Located in the North Dawson Range

Whitehorse Mining District

NTS 1150/04

63°9'10.8" N Latitude; 139°49'26.4" Longitude

UTM 559,320 E, 7,003,520 N (NAD 83 Z 7N)

WORK CONDUCTED ON JULY 28TH, 2011

Claims: MGK 57-107

Prepared for:

CACHE MINERALS INC.

Suite G-19, 350 Wellington St., Toronto, ON, M5V 3W9

Prepared by:

Kristy Beal, BSc. and David Lentz, PhD.

CACHE EXPLORATION INC.

Suite G-19, 350 Wellington St., Toronto, ON, M5V 3W9

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Introduction

Cache Exploration Inc., for Cache Minerals Inc., completed a small geochemical survey on July 28th 2011 on the Yukon White Gold Northwest Property (Yukon documented claim names: MGK). The property is located south of the White River near the intersection with the Yukon River, approximately 100km south of Dawson City (See inset of Figure 1). The White River area is currently host to significant exploration interest, since the discovery of the Golden Saddle Zone by Underworld Resources Inc. in 2009; the resources of this deposit includes 1,004,570 indicated ounces at 3.2 gpt Au, with an additional 407,413 inferred ounces at 2.5 gpt Au. The Golden Saddle Zone is located less than 15km to the property of Cache Minerals Inc.

The purpose of further exploration on the property is to determine the potential to host an economic Au deposit with a similar style of mineralization to the nearby Saddle Zone Deposit and other Au deposits. Focus is on the southern portion of the property where an As anomaly was identified in previous work; as has a correlation to Au mineralization at the Golden Saddle Deposit (MacKenzie et al. 2010).

Accessibility

The area is accessible by helicopter from Dawson City; though there are areas for landing on the relatively barren crest of the rolling hills in the area. For field work completed in 2011, this area could not be accessed because of low cloud cover so the helicopter landed in an area along the slope that was opened due to a recent forest fire the year earlier. Depending on the scale of project, supplies can be flown to the Thistle airstrip along Thistle Creek approximately 25 km southeast of the property.

The property is characterized by rolling hills typical of the Dawson Ranges with elevations between 600 and 1250 m; the property follows a southward-trending ridge that has a maximum elevation of 1100 m. Vegetation towards the lower elevation or in creek valleys is dominated by spruce, birch, aspen, alder, and willow trees whereas at higher elevations is thick moss, grasses and scrub birch. It has been noted by a predecessor company that exploration can be carried out on the property from June until October during the cool, wet summer and fall.

Property Tenure

The Yukon White Gold Northwest Property consists of 51 quartz mineral claims covering approximately 10.3 km², as summarized in **Appendix A** (Fig. 1). The claims were first recorded on June 19, 2009 and currently belong to Cache Minerals Inc. Surface rights over the property are owned by the Yukon Territory.

Exploration History

Exploration west of the Yukon River prior to the 2009 Golden Saddle discovery was largely restricted to regional, government-based surveys. Airborne magnetics (200m interval as presented at the 2011 Vancouver Round-up by the Yukon Geological Survey) indicate that the Golden Saddle Zone and other deposits to the east of the Yukon River have predominant N-NW magnetic features; these features are generally absent on the west side of the river with the exception of a non-defined feature at the west of the Yukon White Gold Northwest Property. In 2003, a regional stream sediment survey was conducted with several samples on the property and elsewhere in the White River Au District; the property contains two samples that yielded 1 and 5 ppb Au (Heon 2003). In addition, a 2004 regional soil survey was completed in the area and was mainly focused on areas accessible to helicopter where several B-horizon soil samples were taken at 100m intervals. Samples taken on the southern crest of the hill yielded anomalous As values between 14 and 107 ppm; samples did not yield Au values greater than 8 ppb (Ryan 2004).

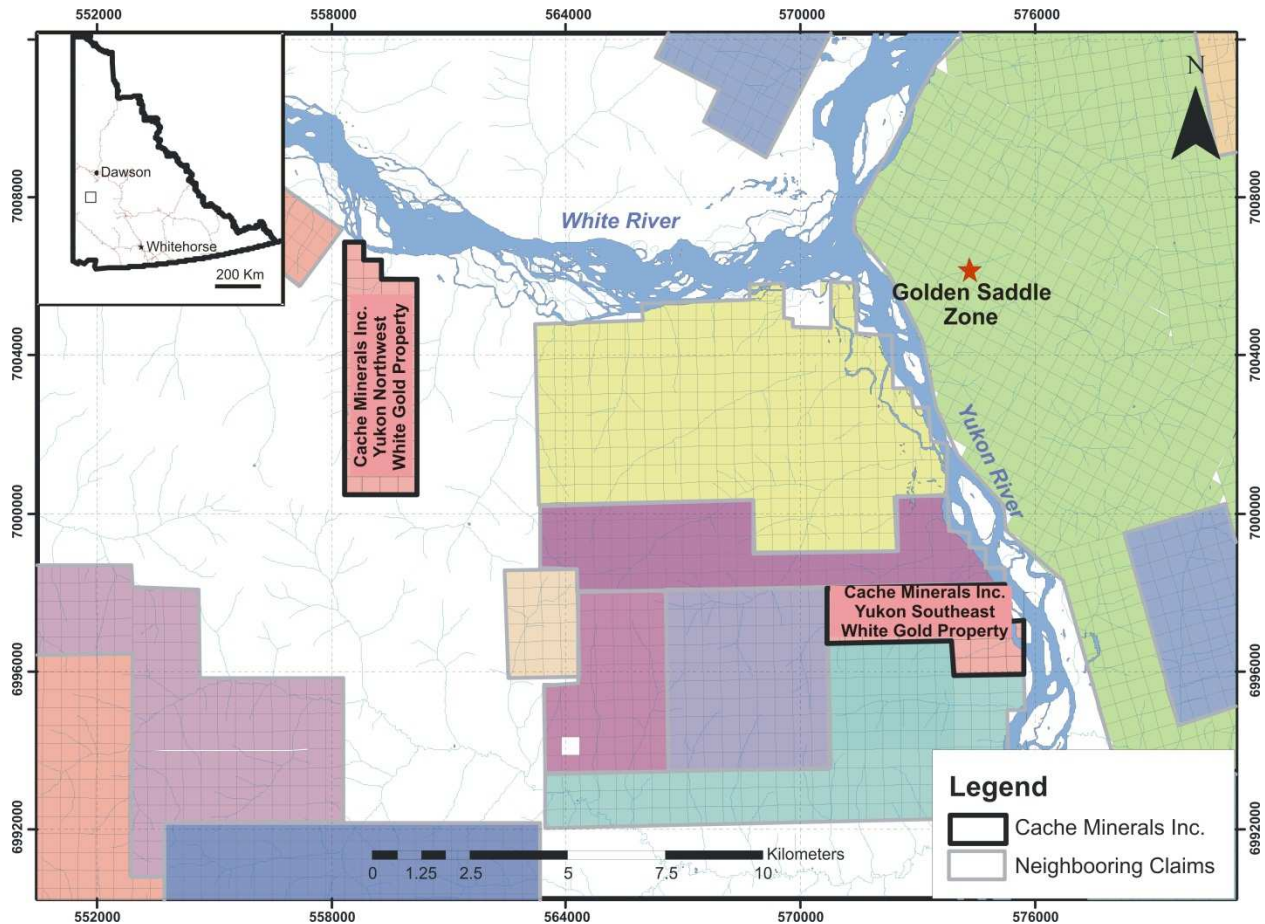


Fig. 1: Claim location map showing those of Cache Minerals Inc. and the location of the Golden Saddle Zone that initiated more focused Au exploration in the area.

The area came to prominence in 2007 when Underworld Resources Ltd. acquired the White Gold property and defined several gold-bearing showings within a 1.2 x 7.5 kilometre soil geochemical anomaly. Initial trenching and drilling results were encouraging and in May 2009, Underworld announced a drill hole with 104 metres grading 3.4 g/tonne Au. In 2009, the property was staked and a B-horizon soil sampling program was completed by Equity Exploration Consultants Ltd. For predecessor company with spacing of 75m between samples taken along the N-S trending ridge through the property (Perk 2009); the results along the southern portion of the ridge were anomalous in As confirming the samples taken in the 2004 regional soil survey; a correlation between Au with As, Mo, and Sb has been noted at the White Gold Property (MacKenzie et al. 2010). There were 5 samples taken during this survey that noted Au values > 10 ppb[they were not continuous, but two of the samples were located in the area that is anomalous in As.

Geology

The White Gold District lies within the Tintina Gold Belt (a 200-km-wide, 1,200-km-long arc extending from northern British Columbia into southwest Alaska) and is underlain by rocks of the Yukon-Tanana geologic terrane.

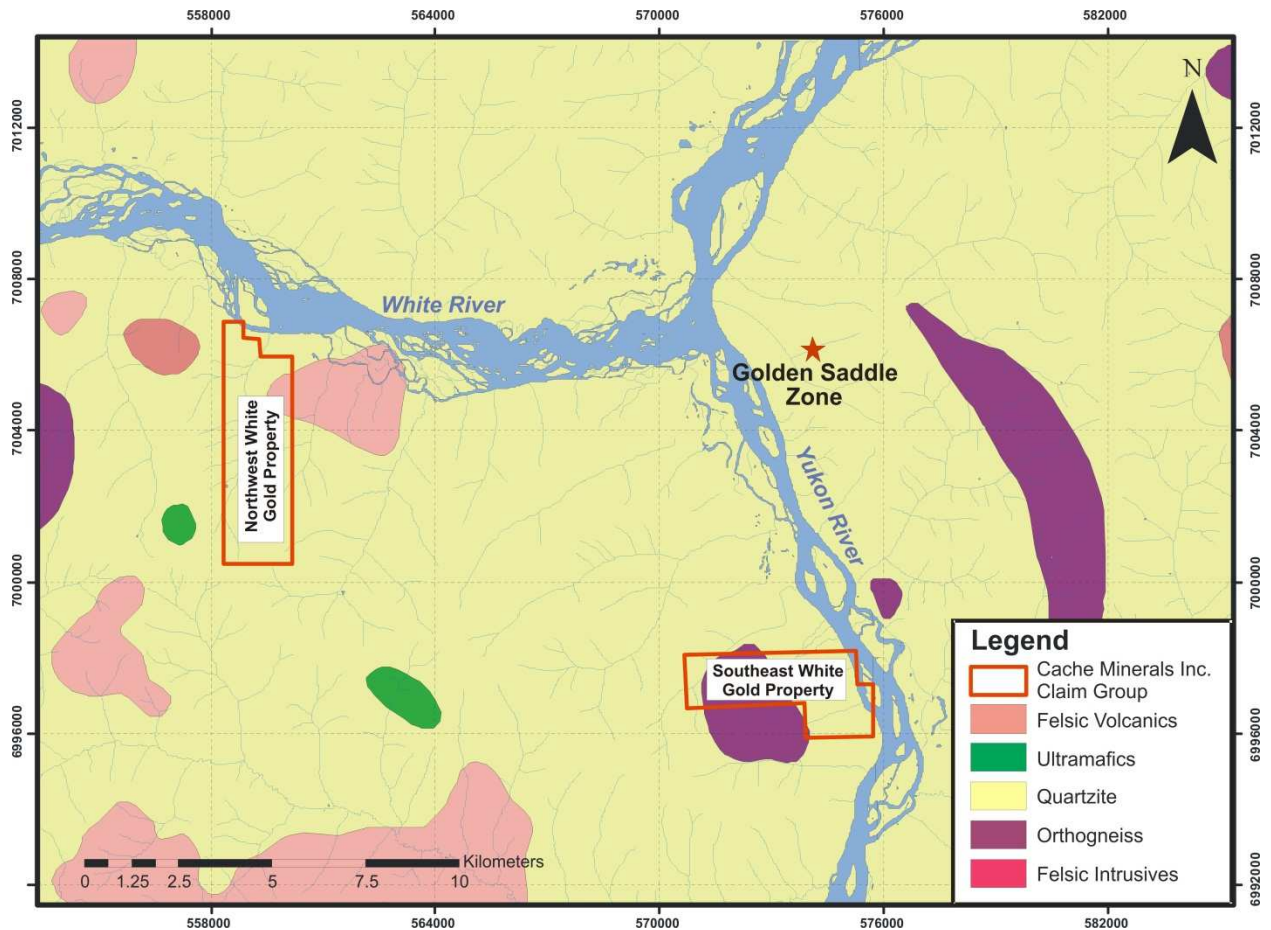


Fig. 2: Regional Geology of the White Gold District (Gordey and Makepeace 1999)

The basement rocks in the White River area consist of Paleozoic schists and gneisses that underwent Late Paleozoic deformation and metamorphism up to the amphibolite facies (Fig. 2). The basement rocks include quartzite, marble, biotite gneiss, hornblende gneiss, and felsic gneiss that have been cut by brittle faults with predominately northward and eastward strikes. Hydrothermal alteration of the quartzite units by the tectonically and magmatically emplaced felsic and ultramafic bodies hosted within the amphibolite gneisses resulted in reduced graphite-arsenopyrite veins and associated disseminated arsenopyrite, pyrrhotite, and pyrite. In addition, the felsic gneiss has a relatively oxidised mineral assemblage with disseminated pyrite and intense alteration; hydrothermal alteration of this unit also resulted in the addition of As with minor Mo and Sb. Gold is associated with both types of alteration styles. While there are other metamorphosed units in the White Gold District, they were not as fractured and altered by hydrothermal fluid that resulted from middle Cretaceous to early Tertiary extensional faults.

The Yukon Gold Northwest Property is underlain by Paleozoic metamorphosed quartzite or quartz muscovite schist. In addition, towards the north of the property near White River, a small unit of unfoliated intermediate volcanic rocks was noted.

2011 Exploration Program

A four person crew from Cache Exploration Inc. completed a one day helicopter trip on July 28th, 2011 to the NW Property. The objective was to do B-horizon sampling following the topographic contours around the As anomaly at the southern portion of the claim group; however, due to poor weather and a low ceiling, only the southwestern corner of the property was visited (As anomaly is on the southeast corner). A total of 15 samples (see **Appendix B** for sample description) were taken from this area; 5 B-horizon soil samples, 7 sediment samples from seeps along the ridge, and 3 samples from the stream at the base of the ridge (Fig. 3).

All samples were dropped off at the Activation Laboratory Ltd. preparation lab in Stewart BC on August 3rd and were analysed by instrumental neutron activation analysis (INAA) and four acid digestion inductively coupled plasma methods (ICP). Canadian certified reference material for soil/stream sediment was submitted with the samples to test the laboratory for accuracy. Accuracy measurements and the certificate of analysis are available in **Appendix C**.

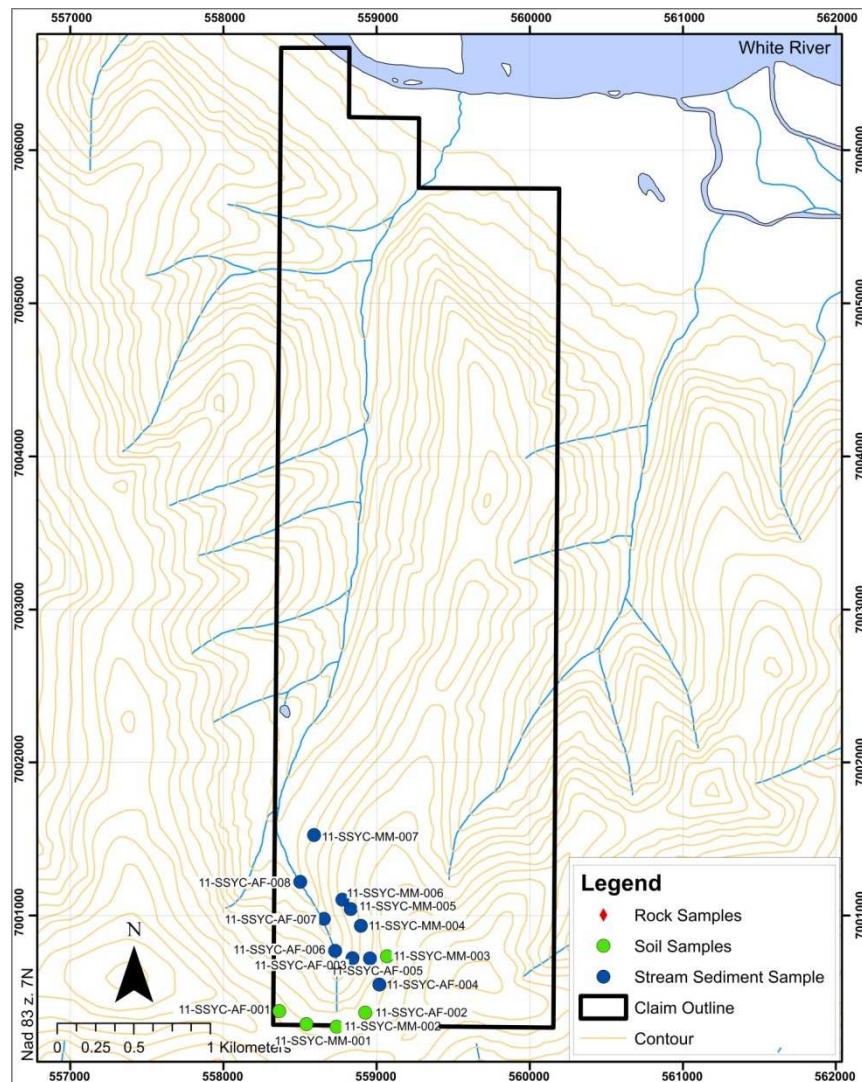
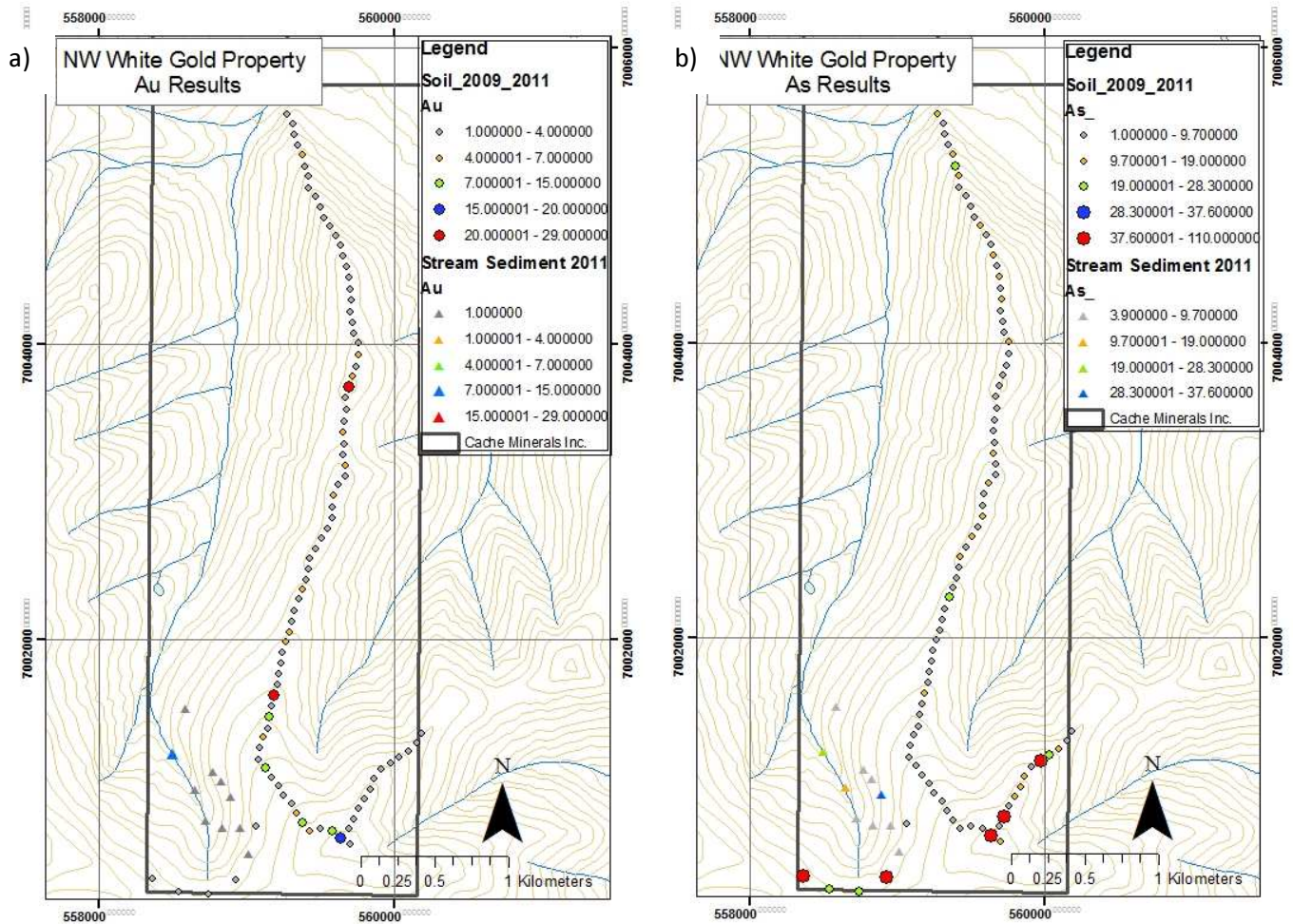


Fig. 3: Location map of samples collected from the 2011 exploration program.

Results

The results from the 2011 exploration program at the Northwest White Gold Property revealed a sediment sample collected from the stream that contained 10 ppb (sample 11-SSYC-AF-008); all other samples collected in 2011 yielded Au values below the detection limit for INAA (Fig. 4a).

However, based on the correlation between Au and As (in addition to Mo and Sb) at the Saddle Zone Deposit in the White Gold District (MacKenzie et al. 2010), the 2011 program expanded the As anomaly characterized in previous work with up to 110 ppm As (11-SSYC-MM-002) that was collected in a soil sample. The compilation of samples (soil and stream sediment) collected in 2009 and in 2011 (with the 110 ppm As outlier



removed) has an average of 9.7 ppm As with a standard deviation (9.3 ppm) and can be displayed following the statistical treatment of data (Table 1) presented in Rose et al. (1979) in Figure 4b.

Fig. 4: Geochemical a) Au and b) As results from the 2009 (Perk 2009) and 2011 exploration programs completed on the Northwest White Gold Property

Table 1: Statistical overview of As geochemistry in soil and stream sediment samples taken on the Northwest White Gold Property in 2009 and 2011 with a sample that yielded 110 ppm As removed.

	As ppm
σ	9.7
$\sigma + \text{st.dev. (14 ppm)}$	19
$\sigma + 2*\text{st.dev.}$	28.3
$\sigma + 3*\text{st.dev.}$	37.6

The As geochemistry from 2009 revealed an As anomaly at the summit of the ridge at the southern end of the Northwest White Gold claims; this As anomaly can be extended along the west along the elevated portions of the ridge, based on the results from the 2011 exploration program.

Within the White Gold District, there is also a correlation of Au with Mo and Sb. The 2011 exploration program revealed two sediment samples with 8 and 6 ppm Mo (in samples 11-SSYC-MM-001 and 002, respectively) with the highest Mo sample from the 2009 exploration program yielding up to 5 ppm Mo at the top of the ridge. The highest Sb assays were from the same samples with 1.5 and 2.1 ppm Sb, respectively; the 2009 exploration program revealed isolated samples of up to 3ppm Sb towards the north of the property and a sample with 2 ppm Sb at the ridge at the south of the property.

Conclusions

Though the initial strategy to determine the size of the 2009 As anomaly on the property was abandoned due to the weather conditions during the day crews visited the property, the anomaly can be traced westward along the ridge at the southern end of the claim group. Previous work on the property in 2009 (Perk 2009) revealed As values up to 52 ppm, while the 2011 program revealed an assay of 110 ppm As. There has been a correlation between gold mineralization at the Golden Saddle Zone and other elements that were mobilized by mineralizing hydrothermal fluids, such as As, Sb, and Mo (MacKenzie et al. 2010). The correlation is not apparent in the 2011 work completed on the Northwest White Gold Property with only one sample above detection limit for gold (10 ppb Au in a stream sediment sample).

Recommendations

Due to the proximity to the Golden Saddle Deposit, other gold prospects, and a placer mining operation on the east of the Yukon River; more exploration should be completed on the Northwest White Gold Property to evaluate the potential for gold. However, consideration must be given to the cost of conducting exploration in the area that commonly experiences unpredictable and quickly-changing weather at high elevations; in addition, the property is a 40 min helicopter ride from Dawson. It is suggested that if an exploration program continues for more than two days in the area that an exploration camp be set up and that there is one person per sampling crew that can carry a firearm so there can be more independence while sampling. Focus should be towards the northern portion of the property that displays modest possibility for Au based on As results.

References

- Gordey, S.P. and Makepeace, A.J. 1999. Yukon bedrock geology in Yukon digital geology. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-1 (D).
- Heon, D. 2003. Yukon Regional Geochemical Database 2003. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.
- MacKenzie, D., Craw, D., Cooley, M., and Fleming, A. 2010. Lithogeochemical localisation of disseminated gold in the White River area, Yukon, Canada. *Mineralium Deposita*, 45, 683-705.
- Perk, N. 2009. 2009. Geochemical Work Report on the Yukon Gold Project. NTS # 115N/01 and 115O/04. Whitehorse and Dawson Mining Districts, Yukon, 159 pgs.
- Rose, A.W., Hawkes, H.E., and Webb, J.S. 1979. *Geochemistry in Mineral Exploration*, Second Edition, Academic Press, 657 p.
- Ryan, S. 2004. White River Regional Soil Survey Report. NTS # 115O/4. Dawson Mining District, Yukon. YMIP 04-041, 28 pgs.

Certificate of Qualifications

I, Kristy-Lee Beal, do hereby certify that:

- I am the Exploration Manager with Cache Exploration Inc. (Suite G-19, 350 Wellington St., Toronto, ON) since May of 2011.
- I am a graduate of the University of New Brunswick (BSc. In geology, 2008) and am currently completing my MSc. at the University of New Brunswick in Earth Sciences.
- In addition to attending school, I have practiced my profession since 2005.
- I am a Member-In-Training registered with the Association of Professional Engineers And Geoscientists of the Province of New Brunswick as a resident member, #J3683
- This report is based on work carried out on the Northwest White Gold Property in early August 2011 where I was the supervisor. I have full confidence in the abilities of the persons taking samples in the 2011 program and am satisfied that samples were taken properly and with care.

This report was prepared solely for satisfying assessment work requirements in accordance with government regulations.

Dated at Fredericton, NB, this 11th day of January 2012.



Kristy-Lee Beal, BSc.

I, David R. Lentz, do hereby certify that:

1. I am a mineral property consultant with an office at 208 Stanley Street, Fredericton, NB
2. I am a graduate of the University of New Brunswick (B.Sc. Honours Geology, 1983; M.Sc. Geology, 1986) and the University of Ottawa (Ph.D. Geology, 1992)
3. I am a Professional Geologist registered with the Association of Professional Engineers and Geoscientists in the Province of New Brunswick (M5612) and been register since 2001.
4. I have practiced my profession since 1982.
5. This report is based upon work carried out on the Yukon White Gold Northwest Property. All people on the project were supervised by Kristy Beal and myself, so all sampling and analytical protocols were followed.
6. I am a principle of Cache Exploration Inc. and Cache Minerals Inc., owner of the Yukon White Gold Properties; this report was prepared solely for satisfying assessment work requirements in accordance with government regulations.

Dated at Fredericton, NB this 14th day of January, 2012.

A handwritten signature in black ink, appearing to read "David R. Lentz". The signature is fluid and cursive, with a large initial "D" and "L".

David R. Lentz PhD, P.Geo.

Statement of Expenditures

Main Cost Item	Description/Comments	Unit Cost (\$)	Units	# of Units	Estimated Cost	Subtotals
Staff	Description					
Preparation						
	Geologist - Kristy Beal - Prep and research	\$375	day	3.6	\$1,350.00	
Mobilization and demobilization						
	Supervisor (Dave Lentz)	\$1,200	day	1	\$1,200.00	
	Geologist - Kristy Beal	\$375	day	1	\$375.00	
	Junior Geologist	\$250	day	1	\$250.00	
	Junior Geologist	\$200	day	1	\$200.00	
Field Staff						
	Supervisor (Dave Lentz) - Field	\$1,200	day	1.5	\$1,800.00	
	Geologist - Kristy Beal - Field	\$375	day	1.5	\$562.50	
	Junior Geologist - Field	\$250	day	1.5	\$375.00	
	Junior Geologist - Field	\$200	day	1.5	\$300.00	
Report Writing and Review						
	Supervisor (David Lentz)	\$1,200	day	0.5	\$600.00	
	Geologist - Kristy Beal - Report writing	\$375	day	2	\$750.00	
						\$7,762.50
Rentals						
1	Field Truck Rental	\$174	days	2.5	\$435.38	
1	Satellite Phone		project		\$74.20	
1	Helicopter	2-way return	day	1	\$4,534.56	
						\$5,044.14
Expenses						
	Fuel	\$58	day	2.5	\$145.00	
	Food				\$176.26	
	Accommodations				\$635.00	
	Geochemical Analysis				\$346.32	
	Used supplies (safety + equipment)				\$137.65	
						\$1,440.23
Total						\$14,247

Appendix A: Claim Information

District	Grant Number	Claim Name	Claim Nbr	ClaimOwner	Operator	Recording Date	ExpiryDate	NTS
Whitehorse	YC98933	MGK	103	Cache Minerals Inc. - 100%	Cache Exploration Inc.	19/06/2009	19/09/2011	115004
Whitehorse	YC98934	MGK	104	Cache Minerals Inc. - 100%	Cache Exploration Inc.	19/06/2009	19/09/2011	115004
Whitehorse	YC98935	MGK	105	Cache Minerals Inc. - 100%	Cache Exploration Inc.	19/06/2009	19/09/2011	115004
Whitehorse	YC98936	MGK	106	Cache Minerals Inc. - 100%	Cache Exploration Inc.	19/06/2009	19/09/2011	115004
Whitehorse	YC98937	MGK	107	Cache Minerals Inc. - 100%	Cache Exploration Inc.	19/06/2009	19/09/2011	115004

Appendix B: Sample Data

Appendix C: Certificate of Analysis and Accuracy Measurements

		11-SSYE-MM-0017	11-SSYC-MM-008	TILL-4	% difference
Au	ppb	< 2	< 2	5	
As	ppm	115	115	111	3.6
Ba	ppm	450	500	395	20.3
Br	ppm	9.2	8.7	8.6	4.1
Co	ppm	9	6	8	-6.3
Cr	ppm	45	44	53	-16.0
Cs	ppm	11	12	12	-4.2
Fe	ppm	3.78	3.62	3.97	-6.8
Hf	ppm	10	10	10	0.0
Mo	ppm	14	10	16	-25.0
Rb	ppm	140	136	161	-14.3
Sb	ppm	1.7	1.5	1	60.0
Sc	ppm	10.4	10.1	10	2.5
Th	ppm	20.4	19.2	17.4	13.8
U	ppm	5.5	4.8	5	3.0
W	ppm	220	219	204	7.6
La	ppm	43.7	42.3	41	4.9
Ce	ppm	81	77	78	1.3
Nd	ppm	35	41	30	26.7
Eu	ppm	1	0.9	<1.0	
Yb	ppm	3.2	2.9	3.4	-10.3
Lu	ppm	0.49	0.45	0.5	-6.0



Date Submitted: 05-Aug-11
Invoice No.: A11-8181
Invoice Date: 29-Sep-11
Your Reference: Yukon Project

Cache Exploration
350 Wellington Street West, G19
Toronto ON M5V 3W9
Canada

ATTN: President George - President and CE

CERTIFICATE OF ANALYSIS

1 Rock sample and 33 Soil samples were submitted for analysis.

The following analytical package was requested: Code 1D Enh INAA(INAAGEO)

REPORT **A11-8181**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

For values exceeding the upper limits we recommend assays.

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or
+1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



Activation Laboratories Ltd. Report: A11-8181

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5	0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
11-SSYE-MM-001	12	< 5	8.2	2550	1.8	3	13	155	4	3.92	15	< 1	< 5	< 1	1.26	< 20	56	1.4	16.9	< 3	< 0.02	< 0.05	3.7	12.6
11-SSYE-MM-002	< 2	< 5	5.2	5530	< 0.5	2	36	179	5	6.88	5	< 1	< 5	< 1	1.24	< 20	65	1.7	18.3	< 3	< 0.02	< 0.05	2.9	7.8
11-SSYE-MM-003	< 2	< 5	8.7	1870	< 0.5	2	16	110	3	4.49	5	< 1	< 5	< 1	1.45	< 20	51	1.4	14.2	< 3	< 0.02	< 0.05	2.6	7.7
11-SSYE-MM-004	4	< 5	7.1	2040	< 0.5	< 1	17	92	3	3.77	5	< 1	< 5	< 1	1.46	< 20	71	1.3	12.9	< 3	< 0.02	< 0.05	< 0.5	6.6
11-SSYE-MM-005	9	< 5	15.3	1530	< 0.5	< 1	16	125	4	3.74	5	< 1	< 5	< 1	1.51	< 20	64	2.5	15.7	< 3	< 0.02	< 0.05	2.2	8.0
11-SSYE-MM-006	< 2	< 5	12.1	1450	< 0.5	3	21	204	3	4.04	3	< 1	< 5	< 1	1.60	< 20	50	2.8	18.6	< 3	< 0.02	< 0.05	2.0	6.8
11-SSYE-MM-007	< 2	< 5	9.2	1700	< 0.5	< 1	17	126	7	4.25	6	< 1	< 5	< 1	1.46	< 20	126	1.1	16.5	< 3	< 0.02	< 0.05	< 0.5	10.9
11-SSYE-MM-008	11	< 5	11.6	2210	< 0.5	< 1	22	106	9	4.93	4	< 1	< 5	< 1	1.10	< 20	76	2.2	15.1	< 3	< 0.02	< 0.05	1.9	8.1
11-SSYE-MM-009	30	< 5	24.8	2720	2.9	3	38	204	12	5.58	5	< 1	< 5	7	0.96	< 20	96	6.2	16.9	< 3	< 0.02	< 0.05	2.7	13.0
11-SSYE-MM-0010	39	< 5	8.7	2550	3.0	< 1	17	124	8	4.64	4	< 1	< 5	6	1.22	< 20	113	1.8	13.8	< 3	< 0.02	< 0.05	< 0.5	7.5
11-SSYE-MM-0011	50	< 5	24.4	1870	< 0.5	< 1	19	119	10	4.01	5	< 1	< 5	< 1	1.18	< 20	53	3.7	14.2	< 3	< 0.02	< 0.05	1.4	12.3
11-SSYE-MM-0012	< 2	< 5	9.1	2210	< 0.5	2	13	98	5	3.43	4	< 1	< 5	3	1.18	< 20	85	2.3	11.9	< 3	< 0.02	< 0.05	< 0.5	8.8
11-SSYE-MM-0013	< 2	< 5	12.2	850	1.5	3	16	97	3	3.99	5	< 1	< 5	< 1	1.65	< 20	< 15	1.2	15.0	< 3	< 0.02	< 0.05	3.3	10.2
11-SSYE-MM-0014	< 2	< 5	12.5	800	< 0.5	2	9	93	4	3.47	5	< 1	< 5	< 1	1.58	< 20	95	1.0	11.8	< 3	< 0.02	< 0.05	< 0.5	10.0
11-SSYE-MM-0015	< 2	< 5	8.8	940	< 0.5	< 1	11	88	3	3.36	5	< 1	< 5	< 1	1.46	< 20	71	0.7	11.8	< 3	< 0.02	< 0.05	2.1	10.5
11-SSYE-MM-0016	< 2	< 5	8.1	1110	< 0.5	< 1	17	90	10	5.65	9	< 1	< 5	3	0.79	< 20	186	0.6	16.2	< 3	< 0.02	< 0.05	< 0.5	8.8
11-SSYE-MM-0017	< 2	< 5	115	450	9.2	< 1	9	45	11	3.78	10	< 1	< 5	14	1.90	< 20	140	1.7	10.4	< 3	< 0.02	< 0.05	< 0.5	20.4
11-SSYC-MM-001	< 2	< 5	22.8	1110	< 0.5	< 1	9	89	7	2.81	6	< 1	< 5	8	1.25	< 20	115	1.5	11.2	< 3	< 0.02	< 0.05	2.6	24.1
11-SSYC-MM-002	< 2	< 5	110	1280	4.1	< 1	14	87	5	2.93	4	< 1	< 5	6	1.33	< 20	70	2.1	11.6	< 3	< 0.02	< 0.05	< 0.5	11.3
11-SSYC-MM-003	< 2	< 5	6.4	1620	1.9	3	19	166	3	4.39	3	< 1	< 5	< 1	1.30	< 20	79	0.7	24.4	< 3	< 0.02	< 0.05	< 0.5	5.9
11-SSYC-MM-004	< 2	< 5	28.5	1110	3.9	3	23	171	< 1	4.66	3	< 1	< 5	< 1	1.26	< 20	57	0.8	21.3	< 3	< 0.02	< 0.05	< 0.5	5.5
11-SSYC-MM-005	< 2	< 5	7.3	540	4.6	4	28	322	2	4.61	3	< 1	< 5	< 1	0.93	< 20	< 15	0.6	27.3	< 3	< 0.02	< 0.05	< 0.5	2.3
11-SSYC-MM-006	< 2	< 5	5.5	700	< 0.5	5	24	402	2	4.58	3	< 1	< 5	< 1	1.15	< 20	< 15	0.2	27.7	< 3	< 0.02	< 0.05	< 0.5	2.9
11-SSYC-MM-007	< 2	< 5	3.9	610	< 0.5	5	25	314	2	4.85	3	< 1	< 5	< 1	1.49	< 20	51	0.5	24.2	< 3	< 0.02	< 0.05	< 0.5	3.4
11-SSYC-MM-008	< 2	< 5	115	500	8.7	< 1	6	44	12	3.62	10	< 1	< 5	10	1.89	< 20	136	1.5	10.1	< 3	< 0.02	< 0.05	< 0.5	19.2
11-SSYC-AF-001	< 2	< 5	41.5	2070	< 0.5	< 1	8	110	5	2.27	4	< 1	< 5	< 1	0.35	< 20	89	1.2	13.7	< 3	< 0.02	< 0.05	< 0.5	8.0
11-SSYC-AF-002	< 2	< 5	20.7	1170	2.3	< 1	12	110	4	3.19	5	< 1	< 5	2	1.65	< 20	61	1.2	14.7	< 3	< 0.02	< 0.05	1.6	9.2
11-SSYC-AF-003	< 2	< 5	5.8	1350	< 0.5	4	14	87	< 1	3.71	7	< 1	< 5	< 1	1.54	< 20	70	0.4	23.5	< 3	< 0.02	< 0.05	< 0.5	6.4
11-SSYC-AF-004	< 2	< 5	5.1	670	3.1	5	24	307	< 1	4.02	3	< 1	< 5	< 1	1.24	< 20	< 15	0.5	24.2	< 3	< 0.02	0.07	< 0.5	3.8
11-SSYC-AF-005	< 2	< 5	5.6	590	< 0.5	4	25	344	< 1	4.41	3	< 1	< 5	< 1	1.35	< 20	45	< 0.1	27.6	< 3	< 0.02	< 0.05	< 0.5	2.8
11-SSYC-AF-006	< 2	< 5	6.6	480	< 0.5	5	32	453	< 1	4.94	3	< 1	< 5	< 1	1.27	210	< 15	0.5	26.1	< 3	< 0.02	< 0.05	< 0.5	2.9
11-SSYC-AF-007	< 2	< 5	15.5	1260	< 0.5	4	20	173	3	4.08	3	< 1	< 5	3	1.50	160	47	0.9	21.4	< 3	< 0.02	< 0.05	< 0.5	4.4
11-SSYC-AF-008	10	< 5	19.7	1440	< 0.5	3	19	122	2	3.72	4	< 1	< 5	< 1	1.50	< 20	40	0.4	18.9	< 3	< 0.02	< 0.05	< 0.5	5.6
11-YE-KB-002	< 2	< 5	1.4	150	< 0.5	< 1	2	33	< 1	0.34	< 1	< 1	< 5	< 1	0.14	< 20	< 15	< 0.1	0.4	< 3	< 0.02	< 0.05	< 0.5	< 0.2

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Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
11-SSYE-MM-001	4.6	< 1	160	41.8	75	27	7.4	1.7	< 0.5	4.1	0.70	36.6
11-SSYE-MM-002	1.9	< 1	290	35.8	58	28	6.3	1.6	1.7	2.4	0.37	32.9
11-SSYE-MM-003	3.3	< 1	160	28.4	50	19	5.0	1.3	< 0.5	2.0	0.27	29.6
11-SSYE-MM-004	4.5	< 1	< 50	31.1	53	23	5.7	1.4	0.7	2.0	0.31	27.0
11-SSYE-MM-005	2.6	< 1	220	27.6	47	41	6.2	1.3	0.9	3.3	0.49	30.2
11-SSYE-MM-006	2.9	< 1	160	19.9	36	22	3.9	1.0	< 0.5	2.3	0.20	34.1
11-SSYE-MM-007	2.6	< 1	130	27.1	47	17	5.0	1.0	< 0.5	2.5	0.50	21.0
11-SSYE-MM-008	2.8	< 1	200	30.2	51	28	5.3	1.5	< 0.5	2.1	0.35	31.5
11-SSYE-MM-009	3.0	< 1	150	44.0	78	45	7.5	1.6	< 0.5	2.5	0.30	25.8
11-SSYE-MM-0010	2.0	< 1	220	30.3	52	21	5.2	1.2	< 0.5	1.8	0.30	25.4
11-SSYE-MM-0011	4.2	< 1	90	34.8	64	21	5.8	1.2	1.0	2.1	0.42	25.7
11-SSYE-MM-0012	2.9	< 1	180	22.8	38	18	3.9	1.0	< 0.5	2.1	0.31	31.5
11-SSYE-MM-0013	2.4	< 1	< 50	21.8	38	22	3.6	0.9	< 0.5	2.2	0.29	29.9
11-SSYE-MM-0014	2.1	< 1	< 50	23.1	41	24	4.0	1.0	< 0.5	1.8	0.24	28.3
11-SSYE-MM-0015	3.0	< 1	< 50	23.1	40	17	3.8	0.9	< 0.5	1.8	0.21	30.6
11-SSYE-MM-0016	5.0	< 1	130	15.7	34	11	2.9	1.0	< 0.5	3.2	0.38	28.0
11-SSYE-MM-0017	5.5	220	< 50	43.7	81	35	6.8	1.0	< 0.5	3.2	0.49	30.0
11-SSYC-MM-001	15.5	< 1	< 50	56.3	92	52	12.2	< 0.2	1.6	5.0	0.82	30.0
11-SSYC-MM-002	2.8	< 1	140	35.7	61	26	6.0	0.7	1.0	2.2	0.34	25.8
11-SSYC-MM-003	2.3	< 1	190	19.1	37	18	4.5	1.1	< 0.5	2.4	0.36	31.3
11-SSYC-MM-004	2.9	< 1	390	22.4	41	24	5.2	1.3	< 0.5	2.6	0.47	21.6
11-SSYC-MM-005	< 0.5	< 1	120	12.2	18	19	3.7	0.9	< 0.5	2.3	0.41	21.6
11-SSYC-MM-006	< 0.5	< 1	< 50	13.7	30	14	3.6	1.0	< 0.5	1.9	0.21	30.3
11-SSYC-MM-007	< 0.5	< 1	150	14.1	30	14	3.8	0.7	< 0.5	2.1	0.30	27.3
11-SSYC-MM-008	4.8	219	< 50	42.3	77	41	6.8	0.9	0.9	2.9	0.45	28.1
11-SSYC-AF-001	3.2	6	200	26.9	46	23	5.3	0.9	< 0.5	2.5	0.46	26.5
11-SSYC-AF-002	2.4	4	< 50	24.4	45	21	4.4	0.8	< 0.5	2.2	0.39	29.7
11-SSYC-AF-003	1.8	< 1	130	20.1	39	23	4.6	0.9	< 0.5	3.2	0.44	33.2
11-SSYC-AF-004	2.1	< 1	120	13.5	28	14	3.5	0.9	< 0.5	2.2	0.41	30.5
11-SSYC-AF-005	< 0.5	< 1	< 50	10.4	23	13	3.2	0.8	< 0.5	2.2	0.18	36.8
11-SSYC-AF-006	< 0.5	< 1	140	11.4	21	6	3.2	0.8	< 0.5	1.4	0.17	34.9
11-SSYC-AF-007	2.6	< 1	210	16.0	32	20	3.7	0.9	< 0.5	2.1	0.21	32.5
11-SSYC-AF-008	2.0	< 1	< 50	17.8	32	< 5	4.0	0.7	< 0.5	1.9	0.34	30.5
11-YE-KB-002	< 0.5	< 1	< 50	0.6	< 3	< 5	< 0.1	< 0.2	< 0.5	< 0.2	< 0.05	35.4

Quality Control															
Analyte Symbol	Au	As	Ba	Ca	Co	Cr	Fe	Mo	Na	Sb	Sc	U	La	Ce	Sm
Unit Symbol	ppb	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.5	50	1	1	5	0.01	1	0.01	0.1	0.1	0.5	0.5	3	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
DMMAS 114 Meas	2100	1760	1530	6	40	87	3.41	106	1.93	12.0	7.2	18.4	16.7	23	2.5
DMMAS 114 Cert	2199	1624	1561	6	42	84	3.31	103	1.78	11.2	6.5	17.4	15.1	23.7	2.4

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1D - (1D Enh) INAA

Instrumental Neutron Activation Analysis (INAA) is an analytical technique, which is dependent on measuring gamma radiation induced in the sample by irradiation with neutrons. The primary source of neutrons for irradiation is usually a nuclear reactor. Each element which is activated emits a "fingerprint" of gamma radiation which can be measured and quantified. Multi-element analyses of practically any material from the smallest sample which can be weighed accurately to very large samples have been analyzed routinely by INAA.

Determining rock types, alteration patterns and levels of pathfinder elements are key for the geologist to assess exploration potential. Actlabs' "Au+34" (Code 1D) is a cost effective multi-element approach to Au, PGE and base metal exploration. Code 1D enhanced with enhanced detection limits is also available.

A 30 g aliquot, if available, is encapsulated in a polyethylene vial and irradiated with flux wires and an internal standard (1 for 11 samples) at a thermal neutron flux of $7 \times 10^{12} \text{ n cm}^{-2} \text{ s}^{-1}$. After a 7-day decay to allow Na-24 to decay the samples are counted on a high purity Ge detector with resolution of better than 1.7 KeV for the 1332 KeV Co-60 photopeak. Using the flux wires, the decay-corrected activities are compared to a calibration developed from multiple certified international reference materials. The standard present is only a check on accuracy and is not used for calibration purposes. From 10-30% of the samples are rechecked by re-measurement. For values exceeding the upper limits, assays are recommended. One standard is run for every 11 samples. One blank is analyzed per work order. Duplicates are analyzed when samples are provided.

Further details are available on isotopes and gamma-ray energies used in: Hoffman, E.L., 1992. Instrumental Neutron Activation in Geoanalysis. Journal of Geochemical Exploration, volume 44, pp. 297-319.

Code 1D (Au+34) Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit
Au	5 ppb	30,000 ppb
Ag	5	100,000
As	2	-
Ba	100	-
Br	1	-
Ca	1%	-
Ce	3	10,000
Co	5	5,000
Cr	10	100,000
Cs	2	-
Eu	0.2	-
Fe	0.02%	-

Element	Detection Limit	Upper Limit
Hf	1	-
Hg	1	-
Ir	5 ppb	-
La	1	10,000
Lu	0.05	-
Mo	5	10,000
Na	0.05%	10%
Nd	5	10,000
Ni	50	10,000
Rb	30	-
Sb	0.2	10,000
Sc	0.1	-

Element	Detection Limit	Upper Limit
Se	5	-
Sr	0.1%	-
Sm	0.1	10,000
Sn	0.05%	10%
Ta	1	10,000
Th	0.5	10,000
Tb	0.5	-
U	0.5	10,000
W	4	10,000
Yb	0.2	-
Zn	50	100,000

Code 1D Enhanced (Au+34) Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit
Au	2 ppb	30,000 ppb
Ag	5	100,000
As	0.5	-
Ba	50	-
Br	0.5	-
Ca	1%	-
Ce	3	10,000
Co	1	5,000
Cr	5	100,000
Cs	2	-
Eu	0.2	-

Element	Detection Limit	Upper Limit
Hf	1	-
Hg	1	-
Ir	5 ppb	-
La	0.5	10,000
Lu	0.05	-
Mo	1	10,000
Na	0.01%	10%
Nd	5	10,000
Ni	20	10,000
Rb	15	-
Sb	0.1	10,000

Element	Detection Limit	Upper Limit
Se	3	-
Sr	0.05%	-
Sm	0.1	10,000
Sn	0.02%	10%
Ta	0.5	10,000
Th	0.2	10,000
Tb	0.5	-
U	0.5	10,000
W	1	10,000
Yb	0.2	-
Zn	50	100,000