

# Assessment Report on an MMI Survey, Nicolet and Norberg Townships

Sault Ste. Marie Mining Division  
District of Algoma  
NTS: 41N/01



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## REVISION HISTORY

Version/ Release	Date	Description of Revisions
1.0	March 22, 2009	Final



## Executive Summary

The East Breccia Property, held by Amador Gold Corp, is situated approximately 65 km north-northwest of Sault Ste. Marie, Ontario. It was, at the time of the work described herein, comprised of 32 contiguous unpatented mining claims (287 units) located in the Sault Ste. Marie Mining Division.

The field sampling was carried out between May 28<sup>th</sup>, 2008 and July 14<sup>th</sup>, 2008.

The purpose of the survey was to test the area of known mineralization over the east breccia zone itself and to see if the zone extended under the area of thick overburden east of the east breccia. An orientation survey was first carried out on selected lines, followed by a detailed survey.

The survey identified a number of very strong anomalous zones over the area of known mineralization (west of Line 2W). This area has seen extensive historical (shallow) diamond drilling and an adit was started in the 1970's to try and access this zone.

The results for the area east of the East Breccia Zone were significantly less pronounced. There does appear to be a number of very low anomalous areas but they are indecisive and require confirmation by some other exploration technique. Of particular interest is the Cu anomaly at the north end of line L0 and L1E.

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## Introduction

Amador Gold Corp's East Breccia property is comprised of (as of March 1<sup>st</sup>, 2009) a total of 26 discontinuous, unpatented mining claims totaling 307 units. Amador Gold Corp owns or has the right to own through property agreements a 100% interest in the claims.

From May to July, 2008, Amador Gold Corp conducted an MMI sampling program to test for an extension of the mineralization comprising the East Breccia zone originally defined by Tribag Minerals during the operation of the Tribag copper mine. The area surveyed is an area that, due to deep overburden, has seen little exploration except for a few unsuccessful drill holes attempted in the early 1980's.

This report, along with the attached report from the survey operators describes the methods and results of the program.

## Location and Access

The claim group is located straddling the east boundary of Nicolet Township and the west boundary of Norberg Township approximately 65 km north-northwest of Sault Ste. Marie, Ontario. It is within the Sault Ste. Marie Mining Division in the District of Algoma, NTS 41N/1 and 41N/2. Figure 1 illustrates the location of the property.

Access to the property is good with a two (2) wheel drive vehicle through the spring to fall, winter access is dependent on logging in the area. Highway 17 (black road in Figure 1) is followed north from Sault Ste. Marie for approximately 60 km to the Carp River road (red road in Figure 1) on the north side of the highway (just west of the road to Batchawana Village and approx. 1 km west of Batchawana Bay). The Carp River road is followed north for approximately 20 km to the Mile 67 road which is then followed east for approximately five (5) km to the Tribag Mine road and the property.

Access is also possible via the Mile 67 road directly which joins Highway 17 further north than the Carp River road.

## Property Description

At the time of the work, the East Breccia property was comprised of 32 discontinuous, unpatented mining claims in Norber and Nicolet Townships, Sault Ste. Marie Mining Division, District of Algoma. The claims are only discontinuous **because of a 200m buffer along a waterpark on the Batchawana River**. The 32 claims total 287 units. Amador owns or has a right to acquire through various option agreements 100% interest in the property.

A schedule of claims and property map can be found in Appendix A.

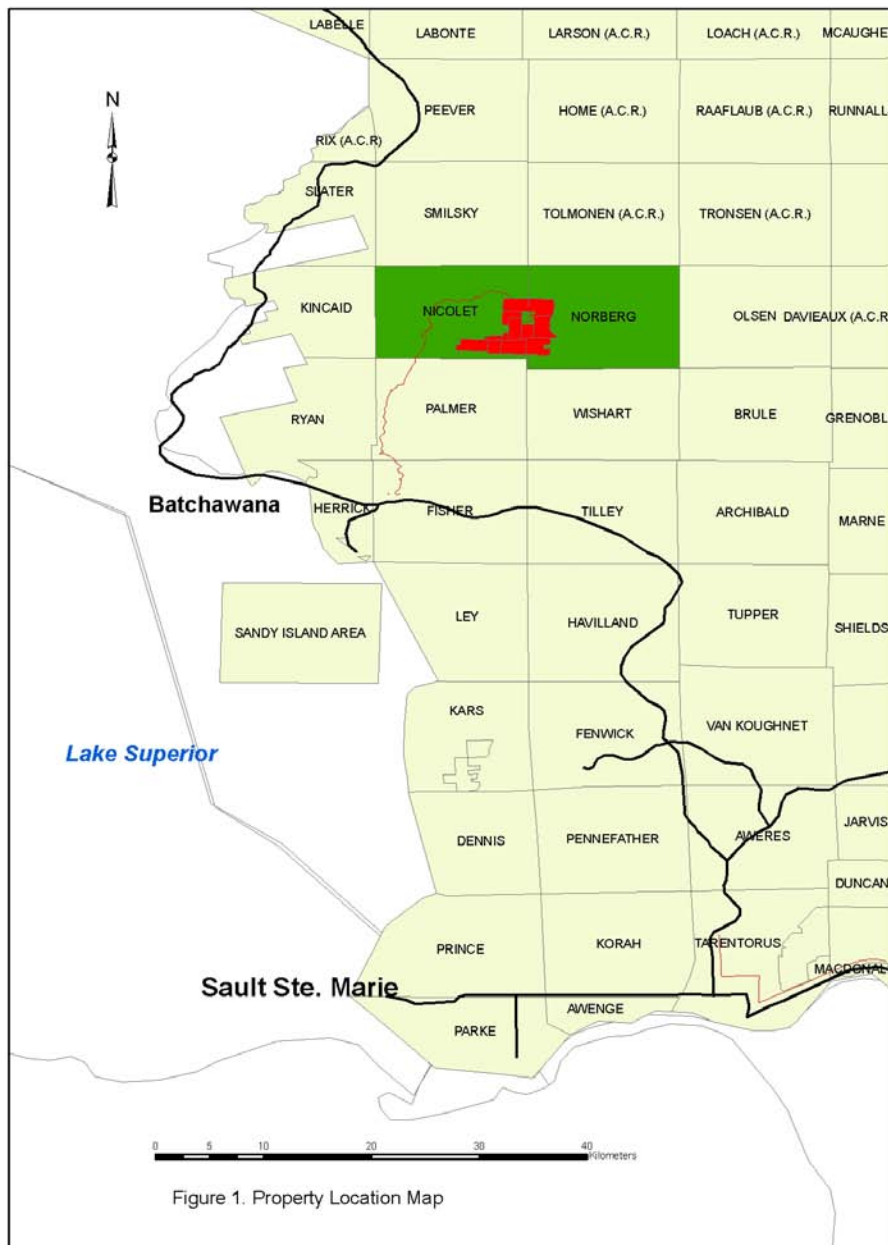


Figure 1. Property Location Map

Figure 1. Property Location, Ontario

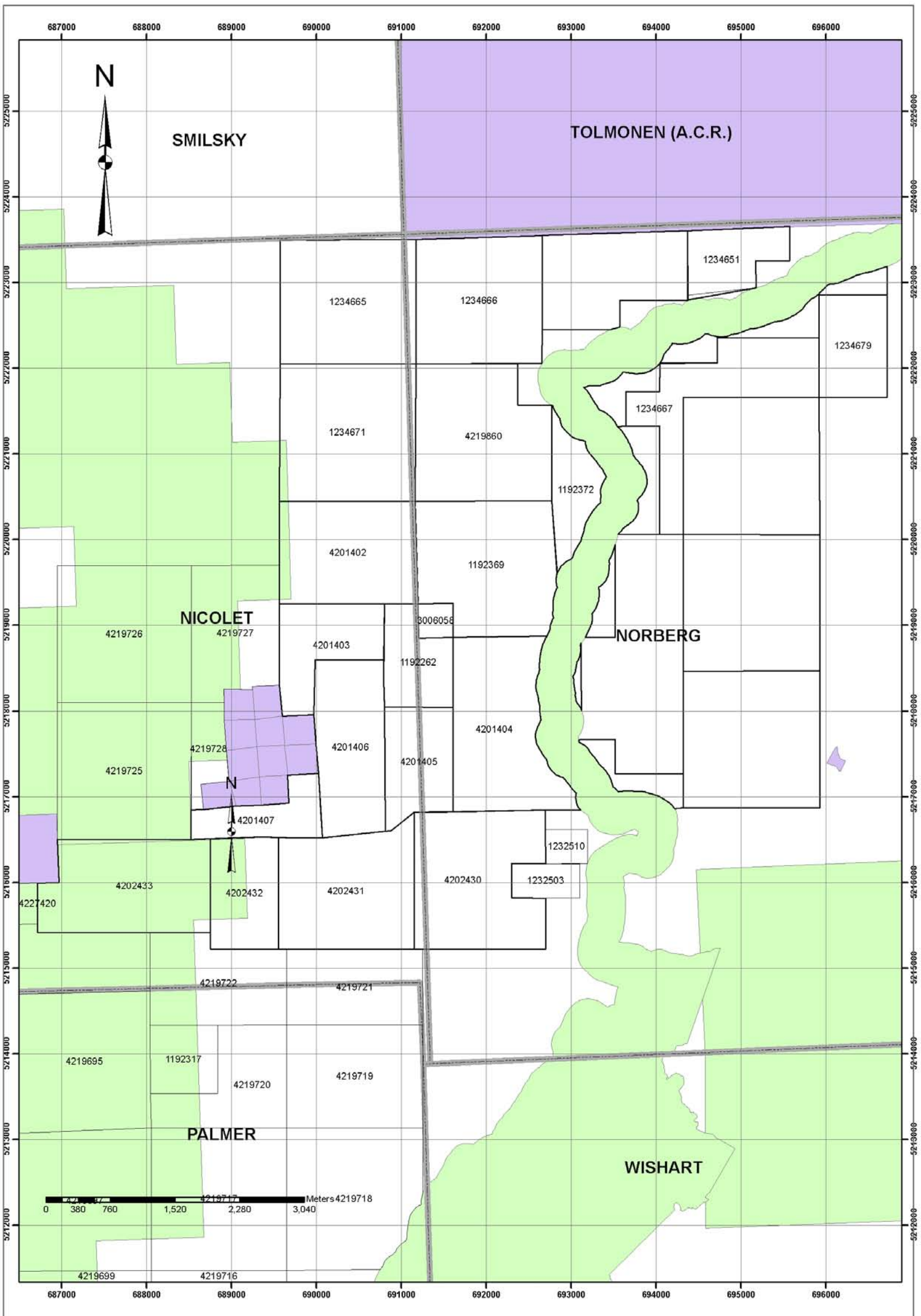


Figure 2. Property Map

## Topography and Climate

Overall the topography of the property is fairly rugged with dramatic relief of 100 or more metres. Areas around lakes are generally flatter and the ground becomes gently rolling sand plains towards the Batchawana River which borders the property to the east. There is a 200 metre conservation reserve on either side of the Batchawana River.

Outcrop across the property is localized mainly to those areas with higher relief, low lying areas are generally swamp or sand covered. Trees are predominantly mature mixed deciduous with some cedar in the swamplier areas and around lakes. Other conifers are scattered throughout. The property has been logged in areas over an extended period of time, with little underbrush in the mature forest but significant underbrush in the logged areas.

**Figure 3. Amador Cold Crop Claims Status March, 2009.**

## Previous Work

Areas of the property adjacent to the old Tribag Mine have seen considerable amount of work, beginning in 1954 when copper was first discovered. The original claim holder, Aime Breton first staked the ground in 1954 and optioned it to Sylvanite Gold Mines. Sylvanite completed diamond drilling on the Tribag deposit and dropped the ground in 1956. Tribag Mining Company acquired the ground in 1961 and began exploration work including geological mapping, an IP survey, diamond drilling, and shaft sinking, mainly on and around the main breccia zone (Breton Breccia) though drilling and mapping did cover the East Breccia area.

Between 1967 and 1975, the mine was developed to the 1200 foot level with 6 mine levels and fed a 400 ton/day mill located on site. Production was carried out until 1974.

Work specifically carried out on the East Breccia Zone includes:

Year	Company	Work Description
1961-1965	Tribag Mining Co	East Breccia Adit (300 ft), AX diamond drilling, geological mapping, SP survey, Cu assaying
1969-1971	Tribag Mining Co	AQ diamond drilling, magnetic surveys, assaying (Cu, Mo, Ag), surface geochemistry
1980-1982	Dekalb Mining	Diamond drilling, percussion drilling, Cu assaying
1984-1986	Jonpol Exploration	Airborne and ground EM/mag, diamond drilling, Cu assaying
1998	Falconbridge Ltd	Ground mag

**Table 1. Summary of Previous Work**

Also in 1998, Aurogin Resources completed one diamond drill hole as part of a regional exploration program to the southwest of the East Breccia.

In general, exploration work carried out on the East Breccia Zone found localized, anomalous copper mineralization along with some minor molybdenum, and silver values. Surface mapping defined the extents of the East Breccia along with smaller breccia pipes to the west. There is some suggestion that Cu assaying completed by Tribag, especially at the Tribag Mine itself was inaccurate and Cu values given are higher than actual.

There is also some discrepancy in ground geophysics. Whereas mag surveys completed by Tribag associated mineralized breccias pipes with mag lows, the survey completed by Jonpol found the East breccia associated with mag highs.

No assays for Au were found in any of the work recorded.

## Recent Work History

Amador Gold Corp completed a detailed geological mapping/sample program in 2007 over the East Breccia Zone to try and identify alteration zones consistent with porphyry copper type mineralization.



In 2008, Amador also completed a magnetometer and VLF survey over the cut grid described herein.

## Regional Geology

The district geology is shown in Figure 3. The area, which lies in the south-central part of the Superior geological province, contains the following five main rock sub-divisions:

1. A folded, greenschist facies Archean greenstone belt that is approximately 8-10 km wide and is traceable for over 75 km in an ENE directions – the Batchawana Greenstone Belt
2. Archean granitic and felsic gneissic rocks form large bodies within, or to the south, north and east of the greenstone belt.
3. Felsitic and felsophyric intrusions of Keweenaw age (c. 1055 Ma) occurring as dikes, sills and small irregular bodies. These largely intrude the Archean greenstones, although some of the Tribag cluster cut Archean granitic rocks (Figure 2). These rocks are economically important as they are locally associated with explosive and collapse breccia pipes, some of which contain Cu mineralization, as seen in the Tribag breccia cluster (Figure 2).
4. The Keweenaw series which unconformably overlie the Archean. This includes rift-related amygdaloidal basalt flows and clastic, conglomeratic sediments.
5. Minor remnants of flat-lying Paleozoic sediments.

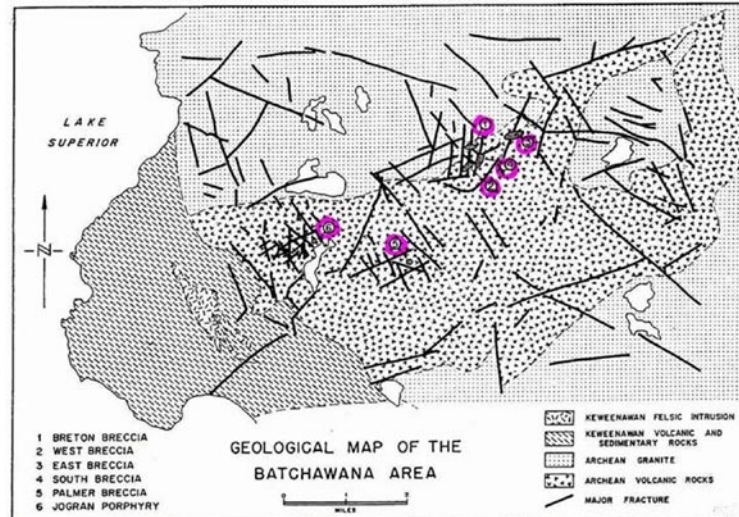


Figure 4. Geology of the Batchawana area (after Blecha, 1974)

Blecha (1974) notes that the Batchawana area lies close to the north margin of abundant faulting probably represents an old rift structure. There are three predominant sets of faults that strike either north, NE or NW (Figure 4).



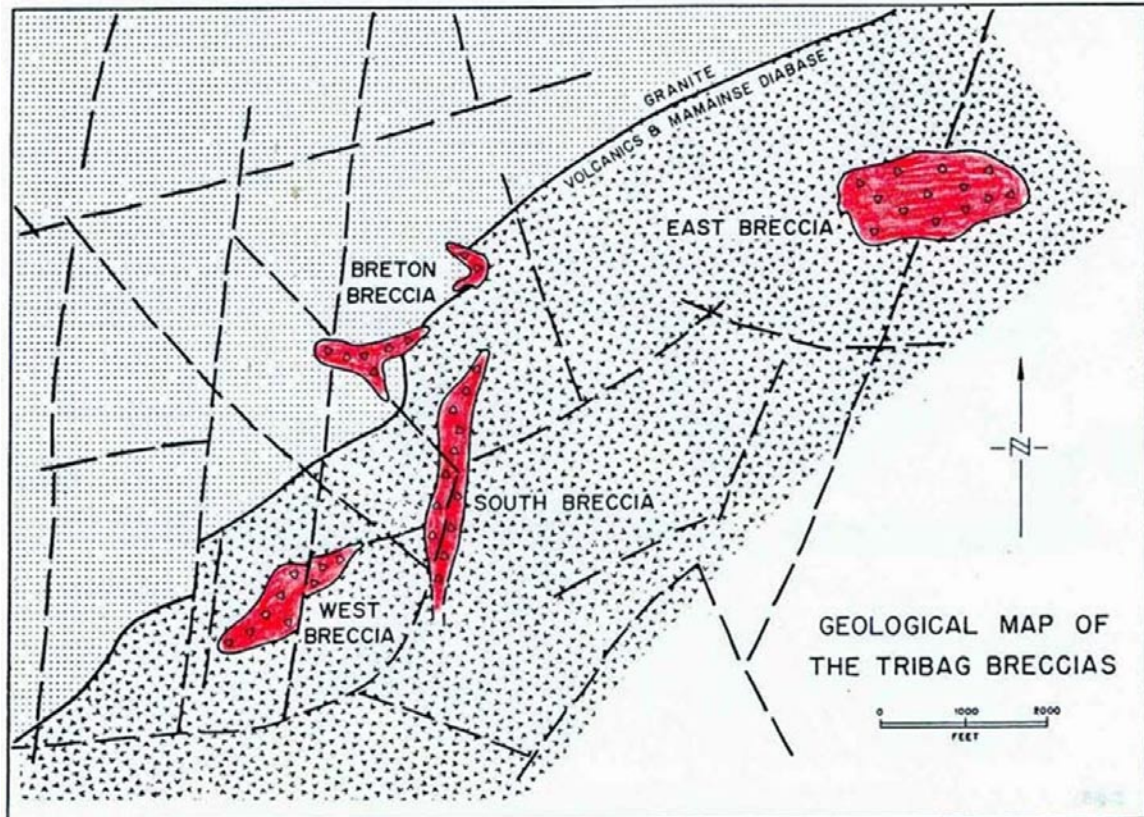


Figure 5. Simplified geology of the Tribag Breccia cluster (after Blecha, 1974).

## Property Geology

The property geology of the East Breccia Zone is summarized below (after Ray, G, 2007):

The results of the detailed mapping of the East breccia Zone can be summarized as follows:

- The previous mapping completed by the Tribag geologists in the 1960's and early 70's is very accurate regarding the location of outcrops and identification of most rock lithologies. The only problem is that they mapped "breccia" as a single unit, and made no attempt to differentiate between outcrops with weak and strong brecciation, or those that were mineralized or unmineralized. For mapping the East Breccia body I divided the brecciated rocks into three sub-units, namely:
  - i. **B1** = weak and "dry" brecciation that involved very little clast movement and no hydrothermal activity (i.e. no quartz veining, sericite and/or sulphides). This type is generally clast-supported and monomictic comprising virtually 100% volcanic and microgabbro clasts.

- ii. **B2** = moderate to strong “dry” brecciation that probably involved substantial clast movement but was not accompanied by any significant hydrothermal alteration or mineralization. Clasts movement resulted in the development of large amounts of rock flour that commonly forms the matrix. This type is largely monomictic (volcanic-microgabbro) although very rare scattered clasts of pink felsite occur sporadically.
  - iii. **B3** = strong to very intense polymictic brecciation, accompanied by the injection of a crystalline quartz matrix and quartz veining that may be associated with pyrite and lesser chalcopyrite. The clasts include mafic volcanics and microgabbros, as well as a substantial proportion of felsite, granite and rare quartz fragments.
- The previous mapping by Tribag geologists outlined the East Breccia body as being 700 meters long and some 300 meters wide. However, my recent mapping (using the B1, B2 and B3 subunits) shows that the *mineralized and hydrothermally parts* of the overall breccia are much smaller. These comprise two separate zones of B3 mineralized breccia which are separated from one another by a 100 to 150 meter wide central zone of dry, unmineralized B1 and B2 breccia. On surface the best mineralized zone lies on the western side of the body, where it has been extensively drilled; it is approximately 250 meters N-S and 150 meters E-W. The other zone lies on the SE side of the body where it was partially explored via the East Breccia adit. It too is approximately 250 meters long N-S, by 100 meters wide. On surface it is less strongly Cu mineralized than the western zone but is distinct in including some quartz-magnetite veining.
  - There is a strong spatial relationship between B3 breccias, Cu mineralization and the presence of abundant felsite clasts. At the East Breccia the intrusion of the felsites was coeval with the multiphase breccia formation. Some felsite dikes and veins are seen to intricately intrude the fine grained breccia matrix and locally surround certain clasts. But in most cases the dikes have been intensely broken up and no remnant intrusive features are recognizable. However, the felsites (and the granite at the Breton) are believed to be related to the magmatic phase responsible for the mineralization and brecciation. The granite at the Breton is pre-or syn-mineralization since it is cut by chalcopyrite veins and heavily mineralized. However, no mineralized felsites were seen.
  - At East Breccia, 3 types of felsite clast or dike are recognized, namely (1) fine grained, siliceous equigranular rocks, (2) feldspar-porphyritic felsites and, (3) felsite containing rounded glassy quartz phenocrysts

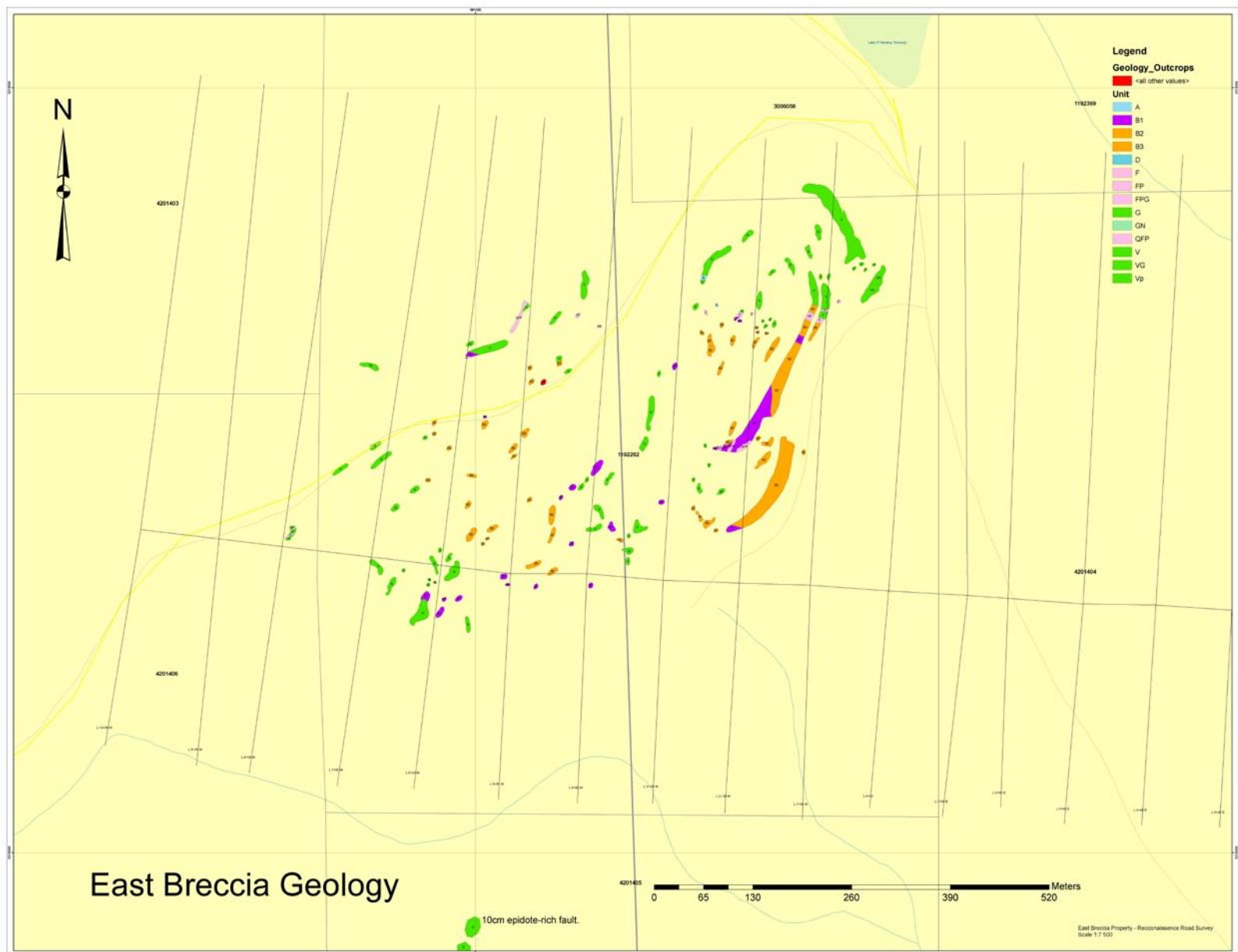


Figure 6. Property Geology of the East Breccia Property (after Ray, 2007)

## Discussion of Result

For a discussion of result, methodologies and maps of the survey please see the attached contractors report in Appendix B

## **Conclusions and Recommendations**

The survey defined an anomalous area on several of the response ratio maps over the existing known mineralized zone of the East Breccia. The mineralization causing these zones can be seen in historical drill core.

A number of low anomalies were also defined east of the East Breccia and require additional exploration methods (geophysical) to further delineate possible drill targets.

## Certificate of Qualifications

I, Peter Caldbick, P.Geo, residing at 143 Lakeshore Road, Timmins, Ontario, do certify that:

1. I am a consulting geologist of Caldbick Geological Services currently consulting for SEDEX Mining Corp.
2. I graduated with a Bachelor of Science in Geology from the University of Toronto in 1983. In addition, I have obtained an Environmental Assessment Certificate from Lakehead University in 1994.
3. I am a member in good standing of the Association of Professional Geoscientists of Ontario, Membership # 0985 and a member of the Prospectors and Developers Association of Canada.
4. I have been employed continuously as a geologist for the past 23 years since my graduation from University
5. The nature of my involvement on this project was the supervision of the drill program.
6. 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.

Dated this 20<sup>th</sup> day of March, 2009.

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P.M.Caldick P.Geo

I, John R. Walmsley, B.SC., residing at RR #1, Richards Landing, Ontario, do certify that:

7. I am a consulting geologist of PensInk Information Technologies Ltd. currently consulting for SEDEX Mining Corp.
8. I graduated with a Bachelor of Science in Geology from the University of Western Ontario in 1984.
9. I am a member of the Prospectors and Developers Association of Canada.
10. I have been employed continuously as a geologist for the past 24 years since my graduation from University
11. I have not had prior involvement with the property that is the subject of the Assessment Report.
12. 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.

Dated this 20<sup>th</sup> day of March, 2009..

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John R. Walmsley, B.Sc.



## Appendix A – Schedule of Claims



## Schedule of Claims

### East Breccia Property As of July 15<sup>th</sup>, 2008

Claim Number	Due Date	Date Recorded	Work Required	Township/ Area	GPlan	Units
1192369	7-May-09	07-May-07	6000	NORBERG	G-3120	15
4201404	30-May-09	30-May-06	6000	NORBERG	G-3120	15
4201406	30-May-09	30-May-06	4000	NICOLET	G-3119	10
4201403	30-May-09	30-May-06	2800	NICOLET	G-3119	7
4201405	30-May-09	30-May-06	2309	NORBERG	G-3120	7
4201402	30-May-09	30-May-06	4800	NICOLET	G-3119	12
4201407	30-May-09	30-May-06	2000	NICOLET	G-3119	5
4202430	8-Jun-09	08-Jun-06	6000	NORBERG	G-3120	15
1192372	8-Jun-09	08-Jun-06	2400	NORBERG	G-3120	6
4202432	8-Jun-09	08-Jun-06	2800	NICOLET	G-3119	7
4202433	8-Jun-09	08-Jun-06	5200	NICOLET	G-3119	13
4202431	8-Jun-09	08-Jun-06	5600	NICOLET	G-3119	14
1234679	20-Nov-09	20-Nov-07	2400	NORBERG	G-3120	6
1234667	28-Nov-09	28-Nov-07	5200	NORBERG	G-3120	13
1234666	28-Nov-09	28-Nov-07	6400	NORBERG	G-3120	16
1234651	28-Nov-09	28-Nov-07	2000	NORBERG	G-3120	5
1234663	28-Nov-09	28-Nov-07	4000	NORBERG	G-3120	10
1234671	28-Nov-09	28-Nov-07	6400	NORBERG	G-3120	16
4219860	28-Nov-09	28-Nov-07	6000	NORBERG	G-3120	15
1234665	28-Nov-09	28-Nov-07	6400	NORBERG	G-3120	16
1192262	3-Feb-10	03-Feb-06	2000	NORBERG	G-3120	5
1234668	22-Feb-10	22-Feb-08	6400	NORBERG	G-3120	16
1234672	22-Feb-10	22-Feb-08	6400	NORBERG	G-3120	16
1234661	22-Feb-10	22-Feb-08	6400	NORBERG	G-3120	16



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1234676	6-Mar-10	06-Mar-08	800	NORBERG	G-3120	2
1234686	6-Mar-10	06-Mar-08	800	NORBERG	G-3120	2
1234653	6-Mar-10	06-Mar-08	800	NORBERG	G-3120	2
1234657	6-Mar-10	06-Mar-08	400	NORBERG	G-3120	1
1234662	6-Mar-10	06-Mar-08	400	NORBERG	G-3120	1
1234687	6-Mar-10	06-Mar-08	400	NORBERG	G-3120	1
1234862	25-Mar-10	25-Mar-08	400	NORBERG	G-3120	1
1234863	25-Mar-10	25-Mar-08	400	NORBERG	G-3120	1
Total Units						287



## Appendix B – Contractors Report

**Amador Gold Corp  
MMI Geochemical Soil Survey  
Claims 1192262, 1192369 and 4201404  
Norberg and Nicolet Townships  
N.T.S. 41N/01**

By: Jim Laidaw  
Madoc, ON  
February 10, 2009



**Introduction**

A MMI geochemical soil survey was conducted over 3 claim blocks, (claims 1192262, 1192369 and 4201404) covering areas in Norberg and Nicolet Townships in June and July 2008. The reason for the soil survey was to explore for and delineate soil anomaly targets. These survey results, combined with additional results from a geophysical survey(s), are to be used to prioritize drill targets for follow-up evaluation of the properties mineral potential.

The commodity sought for, for this survey area is copper mineralization, in a breccia pipe deposit. Locally, the Tribag Mine, and a past producer of copper and minor gold and silver, that milled 400 to 500 tons per day of ore grading approximately 2% Cu from 1967 to 1974, is the best example of a breccia pipe. On Claim 119262 there is located the Tribag East Breccia Zone.

This report covers the logistics, survey and results of the MMI geochemical soil survey performed on claims 1192262, 1192369 and 4201404, over a period from May 28, 2008 to February 10, 2009.

### **Property Access**

Access to the property from Sault Ste. Marie ON is gained by driving about 97 km north on Highway 17 to a Forest Access Road on the east side of the roadway at U.T.M. coordinates 16, 674573E, 5220912N.

Travel about 23 km east on Forest Access Road, heading for a point on the road at U.T.M. coordinates 16, 691584E, 5218858N; about 25m west of Post 4 of claim 4201404. See Appendix A - Maps: Map 1 Property Access

### **Claims Worked and Claim Ownership**

The soil survey was conducted on claims 1192262, 1192369 and 4201404. The claim holders are: Amador Gold Corp which owns a 100% interest in claim 4201404, a 15 unit block in Norberg Township and; claim 1192262, a 5 unit block, held 100% by Daniel Ian Shelly and; claim 1192369, a 15 unit block, held 100% by Ralph James Gorden, situated in Norberg Township, in which Amador Gold Corp has a demonstratable beneficial interest in both these separately held claims.

This group of claims comprises 3 claims with a total of 35 units covering an area of 560 ha in parts of Norberg and Nicolet Townships, on map sheet N.T.S. 41N/01.

### **Personnel, Dates Worked and Type of Work**

This report covers a period from June 1, 2008 to February 10, 2009.

A total of 23 field days were required to collect the soil samples.

See Appendix B - Tables; Table 1 - Personnel, Dates Worked and Type of Work

### **Work Performed**

#### **Laboratory Work**

A Mobile Metal Ion (MMI) Geochemical Soil Survey was conducted on this property. SGS Mineral Services laboratory, located at 1885 Leslie Street, Toronto, Ontario, M3B 2M3, performed the Mobile Metal Ion Process using their MMI-M, Multi-Element Package. The following elements were analysed by this process: Cu, Cd, Pb, Zn, Au, Ag, Pd, Co, Ni, U, Rb, Y, Ba, La, Ta, Ce, Pr, Nb, Sm, Gd, Tb, Er, Yb, Ti, Zr, Ca, Mg, Al, Sc, Th, Li, Fe, As, Sb, Bi, Tl, W, Sn, Mo, Te, Cr, Nd and Sr. A total of 558 soil samples were submitted for analysis.

#### **Field Work**

The MMI geochemical soil survey utilized a control grid that was cut and chained and picketed. The line intervals are about 100m apart, with 25m chained picketed stations. The Base Line is orientated East-West and the control lines are in a North-South aspect. A total of 17 lines were covered by this survey and are numbered; L7+00W, L5+00W, L4+00W, L3+00W, L2+00W, L1+00W, L0+00, L1+00E to L10+00E; totalling ~ 14.125 line-km and; additionally L3+00E and L10+00E each had an extra 100m extension added to the north ends of these lines during the orientation phase of the survey work, making a total of 14.225 line-km covered.

The MMI geochemical soil survey was conducted in two parts; 1) an initial orientation survey using 25m 50m and 100m station intervals (L7+00W, L5+00W, L3+00E and L10+00E) and 2) a subsequent follow-up 25 metre survey station sampling interval (L4+00W, L3+00W, L2+00W, L1+00W, L0+00 and, L1+00E to L2+00E and L4+00E to L9+00E). See Appendix A - Maps: Map 2 Property Map.



Strict adherence to the sampling protocol is essential in order to obtain useable analytical results for the MMI geochemical soil survey method. The field crews employed in this soil sample survey were drilled to sample properly and consistently. A tree planters shovel was used to open a hole in the overburden cover, to about 30 cm in depth, exposing the soil horizon profiles. A plastic garden trowel (with a 10 cm hasher mark) was used to measured a point 10 cm below the contact of the organic and the B-horizon layer contact and then an additional 15 cm channel sample of B-horizon soil material, weighing about 300 to 500 grams of material was taken. The soil was subsequently stored in pre-numbered 15 x 17 cm plastic zip-lock bags and securely stowed away for transport. It is essential that no metal contamination is introduced to the sample by way of gold rings or watches worn by the sampler, therefore these kinds of articles were not worn by the field personnel during this survey.

A total of 558 B-horizon soil samples were collected from this field work.

Concurrent with the soil sampling; a soil sample log description composed of systematic sample site observations were made in the following format: Sample (number); Line; Station; UTME; UTMN; Terrain; Soil Type; Slope Inclination (°); Slope Azimuth (°); Drainage; Vegetation; State; Material Thickness; Colour; Remarks. Additionally, Datum, Zone Township, Claim Location, Date, Time and Samplers were also noted in the Header/Footer sections of the field notes. See Appendix B - Tables; Table 2 - Sample Numbers and Locations, Sample Description and Comments.

The U.T.M. Co-ordinates of the sample site locations were obtained using Garmin GPS hand-held units. The following settings for the GPS units were used: position format set to UTM, obtaining Easting and Northing positions and; Map Datum set to NAD 83. The survey area falls in Zone 16.

### **Office Work**

Office work performed consisted of double checking samples collected and correlating field notes, sample shipping to the laboratory, tabulating field note data, determining geochemical response ratios, drafting maps with Geochem Response Ratio Plots and a final report of work performed.

### **Discussion**

#### **Geochemistry - MMI**

The following discussion highlights salient points regarding the MMI Process:

SGS Minerals Services is licensed to perform MMI analyses. We have 10 years experience in this technology, which is now accepted worldwide as an excellent geochemical tool for finding buried mineral deposits.

The MMI Technology is an innovative analytical process that uses a unique approach to the analysis of metals in soils and weathered materials. It involves sample extraction using weak solutions of organic and inorganic compounds rather than conventional aggressive acid or cyanide-based digest solutions. MMI solutions contain strong ligands, which detach and hold the metal ions in solution that were loosely bound to soil particles by weak atomic forces. The digests are formulated to avoid dissolving the bound forms of the metals. The metal ions held in solution are therefore the chemically active or 'mobile' component of the sample. These mobile forms occur in very low concentrations that are measurable by ICP-MS. The MMI process includes a simple, yet critical, soil sample collection procedure. There is no sample preparation or drying. The analysis is

done on a 50g sample and the extracted solution is analysed via ICP-MS for specific elements in the parts per billion range. As in all soil geochemistry techniques, the most critical aspect of an MMI program is the sampling of the soils. It is critical to contact SGS lab personnel for detailed instructions on the sampling protocols. These sampling protocols are detailed on the MMI page of [www.sgs.com/geochem](http://www.sgs.com/geochem). There are many benefits to using MMI Technology for soil geochemistry programs. These include:

- Few false anomalies
- High repeatability
- Minimal nugget effects
- Focused anomalies

Samples can be delivered to your local SGS laboratory and forwarded for analysis. For further details please contact a SGS laboratory or visit the MMI website at:

[www.mmigeochem.com](http://www.mmigeochem.com)

See Appendix C - SGS Geochem Analysis Guide and MMI Manuel: SGS Geochem ANalysis Guide, page 26 and 27, for Mobile Metal Ion Geochemistry - MMI Process Packages and; MMI Manuel for detailed MMI Technology Process information and examples.

SGS Mineral Services MMI web address can be accessed by going to - [http://www.sgs.com/geochem/met\\_mobile\\_metal\\_ions\\_geochem.htm](http://www.sgs.com/geochem/met_mobile_metal_ions_geochem.htm)

## **Results**

### **SGS Laboratory**

A total of 558 soil samples were submitted for MMI-M Multi-Element Package analysis to SGS Mineral Services laboratory, located in Toronto, Ontario. The following elements were analysed by this process are: Cu, Cd, Pb, Zn, Au, Ag, Pd, Co, Ni, U, Rb, Y, Ba, La, Ta, Ce, Pr, Nb, Sm, Gd, Tb, Er, Yb, Ti, Zr, Ca, Mg, Al, Sc, Th, Li, Fe, As, Sb, Bi, Tl, W, Sn, Mo, Te, Cr, Nd and Sr. All elemnts reported analysis except Pt, Pd and Te, which all fall below analytical detection limit.

Certificates of Analysis received from SGS and are:

TO100977

TO100978

TO101897

TO101898

TO101899

TO101900

TO101901

TO101902

TO101903

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Therein the certificate tabulations show: Analyte (element analyzed); Method - MMI-M5; Detection Limits per element and; Units - either PPM or PPB; Sample Numbers and Duplicate samples; Standard Analysis and; Blank Analysis results.



The Certificates of Analysis in Adobe PDF format and Analytical Results in Microsoft Office 2003 EXCEL are found in Appendix D - Analytical Results and Certificates.

Of the 558 soil samples submitted for analysis, duplicates of 33 samples sites were taken during the field sampling, to test laboratory reproducibility. The duplicate samples are noted in Appendix B - Tables: Table 2 - Sample Numbers and Locations, Sample Description and Comments.

Additionally, SGS duplicated 50 samples from the soil survey, in order to test their analytical precision and reproducibility. They duplicated 50 samples overall, but only report 48 results, as two sample duplicates were returned as Insufficient Sample (I.S.). The results for the SGS sample duplicates are seen in Appendix D - Analytical Results and Certificates.

### **Data Treatment**

A background value for analytical results was determined by ranking the data, per element, in ascending order of values. Thus ranked, the mean value in PPB or PPM, of the lowest quartile (25%) of the data was estimated. This background value was then utilized for determining a response ratio, which is obtained by dividing the analytical results by the background value. The response ratios are the signal (analytical results) to background (which are low), and are greater with MMI anomalism and, that defines more strongly the anomaly locations over mineral deposits or mineralization, than does conventional geochemical analysis.

In order to determine the Background and Response Ratios values, the entire data set: i.e. 558 field samples plus 48 SGS duplicate readings, for a total of 606 determinations were used to calculate Background and Response Ratios values for subsequent contouring of data plots. For contouring purposes, all the internal duplicate sample results (33 samples) were removed from the data set, with the final tally of 525 samples used to produce the contour plots.

### **Data Plotting - Response Ratio Contouring**

Subsequent to ascertaining Background and Response Ratios values, data for the Response Ratio values were contoured and plotted using the Geostatistical Analyst, an extension tool for ArcView GIS desktop software. The contours were produced using an inverse distance weighted method, (a deterministic interpolation techniques used to create contoured surfaces from measured points based on the extent of similarity, (i.e. similar Response Ratio values). The software produces the data set for each element contoured into 10 classes, and renders the contour plots as filled contours and line contours. The plots are saved as Adobe PDF files. Included in these plots... This data is presented in Appendix B - Tables: Table 3 - Sample Numbers and Locations, and Elements with Analytical Results in PPM and PPB and Response Ratio.

### **Geochemical Response Ratio Contour Plots**

The following Geochemical Response Ratio Contour Plots are found in Appendix A - Maps: Maps\_Geochem Response Ratio Plots

---

EBX\_AgRR SILVER RESPONSE RATIO CONTOURS  
EBX\_AIRR ALUMINUM RESPONSE RATIO CONTOURS  
EBX\_AsRR ARSENIC RESPONSE RATIO CONTOURS  
EBX\_AuRR GOLD RESPONSE RATIO CONTOURS  
EBX\_BaRR BARIUM RESPONSE RATIO CONTOURS



EBX\_BiRR BISMUTH RESPONSE RATIO CONTOURS  
 EBX\_CaRR CALCIUM RESPONSE RATIO CONTOURS  
 EBX\_CdRR CADMIUM RESPONSE RATIO CONTOURS  
 EBX\_CeRR CERIUM RESPONSE RATIO CONTOURS  
 EBX\_CoRR COBALT RESPONSE RATIO CONTOURS  
 EBX\_CrRR CHROMIUM RESPONSE RATIO CONTOURS  
 EBX\_CuRR COPPER RESPONSE RATIO CONTOURS  
 EBX\_DyRR DYSPROSIUM RESPONSE RATIO CONTOURS  
 EBX\_ErRR ERBIUM RESPONSE RATIO CONTOURS  
 EBX\_EuRR EUROPIUM RESPONSE RATIO CONTOURS  
 EBX\_FeRR IRON RESPONSE RATIO CONTOURS  
 EBX\_GdRR GADOLINIUM RESPONSE RATIO CONTOURS  
 EBX\_LaRR LANTHANUM RESPONSE RATIO CONTOURS  
 EBX\_LiRR LITHIUM RESPONSE RATIO CONTOURS  
 EBX\_MgRR MAGNESIUM RESPONSE RATIO CONTOURS  
 EBX\_MoRR MOLYBDENUM RESPONSE RATIO CONTOURS  
 EBX\_NbRR NIOBIUM RESPONSE RATIO CONTOURS  
 EBX\_NdRR NEODYMIUM RESPONSE RATIO CONTOURS  
 EBX\_NiRR NICKEL RESPONSE RATIO CONTOURS  
 EBX\_PbRR LEAD RESPONSE RATIO CONTOURS  
 EBX\_PrRR PRASEODYMIUM RESPONSE RATIO CONTOURS  
 EBX\_RbRR RUBIDIUM RESPONSE RATIO CONTOURS  
 EBX\_SbRR ANTIMONY RESPONSE RATIO CONTOURS  
 EBX\_ScRR SCANDIUM RESPONSE RATIO CONTOURS  
 EBX\_SmRR SAMARIUM RESPONSE RATIO CONTOURS  
 EBX\_SnRR TIN RESPONSE RATIO CONTOURS  
 EBX\_SrRR STRONTIUM RESPONSE RATIO CONTOURS  
 EBX-TaRR TANTALUM RESPONSE RATIO CONTOURS  
 EBX\_TbRR TERBIUM RESPONSE RATIO CONTOURS  
 EBX\_ThRR THORIUM RESPONSE RATIO CONTOURS  
 EBX\_TiRR TITANIUM RESPONSE RATIO CONTOURS  
 EBX\_TlRR THALLIUM RESPONSE RATIO CONTOURS  
 EBX\_URR URANIUM RESPONSE RATIO CONTOURS  
 EBX\_WRR TUNGSTEN RESPONSE RATIO CONTOURS  
 EBX\_YbRR YTTERBIUM RESPONSE RATIO CONTOURS  
 EBX\_YRR YITTRIUM RESPONSE RATIO CONTOURS  
 EBX\_ZnRR ZINC RESPONSE RATIO CONTOURS  
 EBX\_ZrRR ZIRCONIUM RESPONSE RATIO CONTOURS  
 EBX\_ZrRR ZIRCONIUM RESPONSE RATIO CONTOURS

### Sample Distribution

Sample Distribution over the survey area is apportioned as indicated below:

Area	Number of Samples per Area
------	----------------------------

Off-Property	9
Claim 1192262	176
Claim 1192369	20
Claim 4201404	320



### **References**

Morris T.F. , Kaszycki C.A. 1995.

A Prospector's guide for drift prospecting for diamonds, northern Ontario; Ontario Geological Survey, Open File Report 5933, 110p.

Ontario Ministry of Northern Development and Mines, Mining Lands Section: Ontario Mining Land Tenure Spatial Data. CLAIMap Polygon Data to 13JAN2009 in; ESRI® ArcView® shape file format; Geographic co-ordinates North American Datum 1983 (NAD83).

SGS Minerals Services: Geochem Analysis 2008 - Analysis Guide 2093-07 Edits

ArcGIS® Geostatistical Analyst, see web page -

<http://www.esri.com/library/brochures/pdfs/geostatbro-poster.pdf>

### **APPENDIX FOLDERS**

#### **Appendix A - Maps**

Map 1 Property Access

Map 2 Property Map

Maps - Geochem Response Ratio Plots

#### Appendix B - Tables

Table 1 - Personnel, Dates Worked, Type of Work

Table 2 - Sample Numbers and Locations, Sample Description and Comments.

Table 3 - Sample Numbers and Locations, and Elements with Analytical Results in PPM and PPB and Response Ratio

#### **Appendix C - SGS Geochem Analysis Guide and MMI Manuel**

SGS\_MMI\_web address

SGS Geochem Analysis Guide

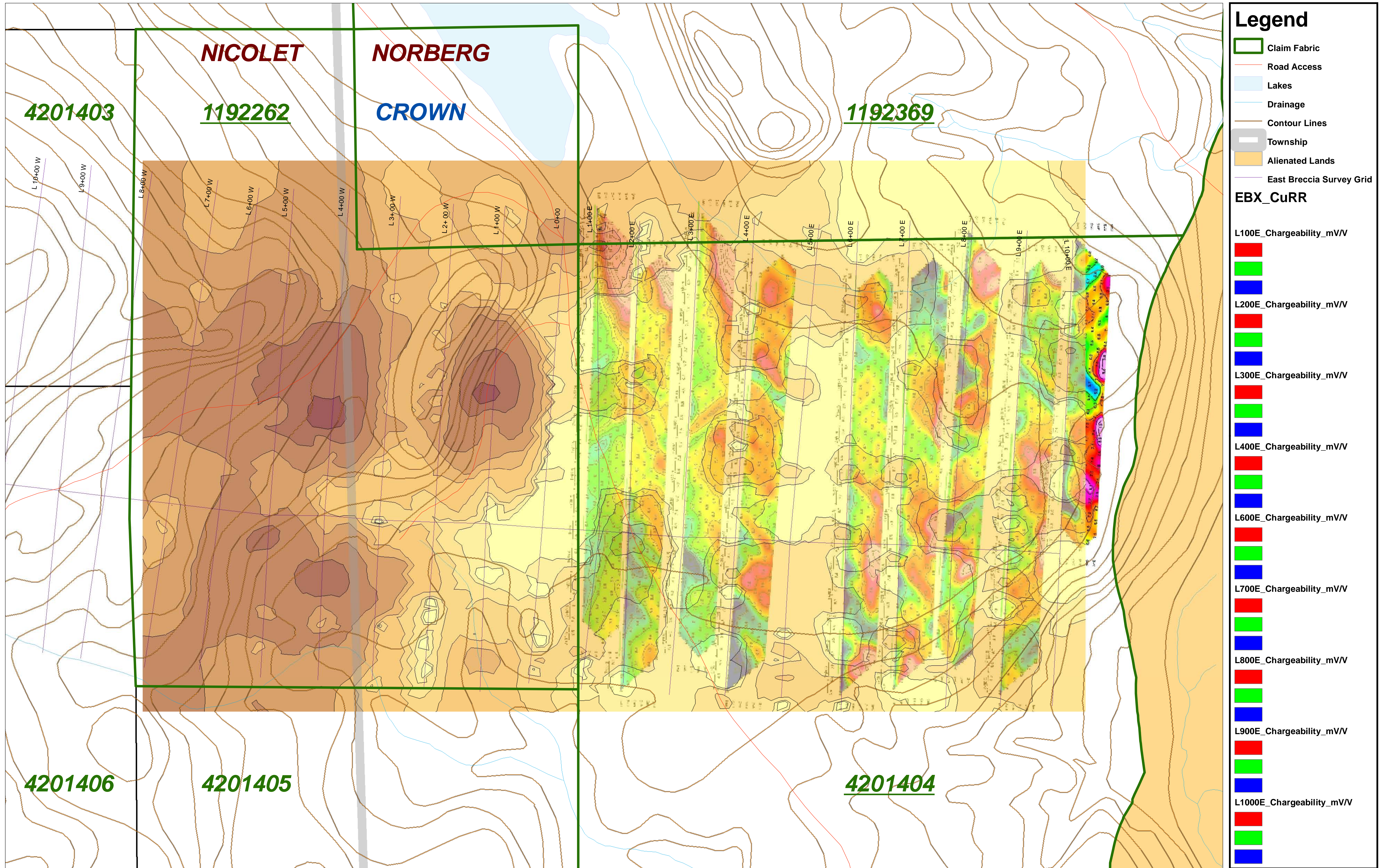
MMI Manuel

#### Appendix D - Analytical Results and Certificates

### **CERTIFICATES\_PDF**

ANAYTICAL\_RESULTS\_EXCEL





AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**CuRR OVER CHARGEABILITY**

**NICOLET and NORBERG TOWNSHIP**

SCALE 1:2 500 or 1cm = 25 metres

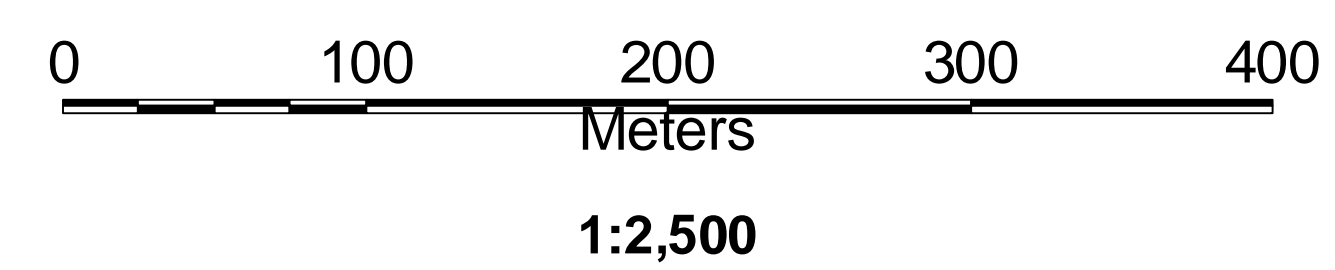
Drawn by: Jim Laidlaw

Date: February 2009

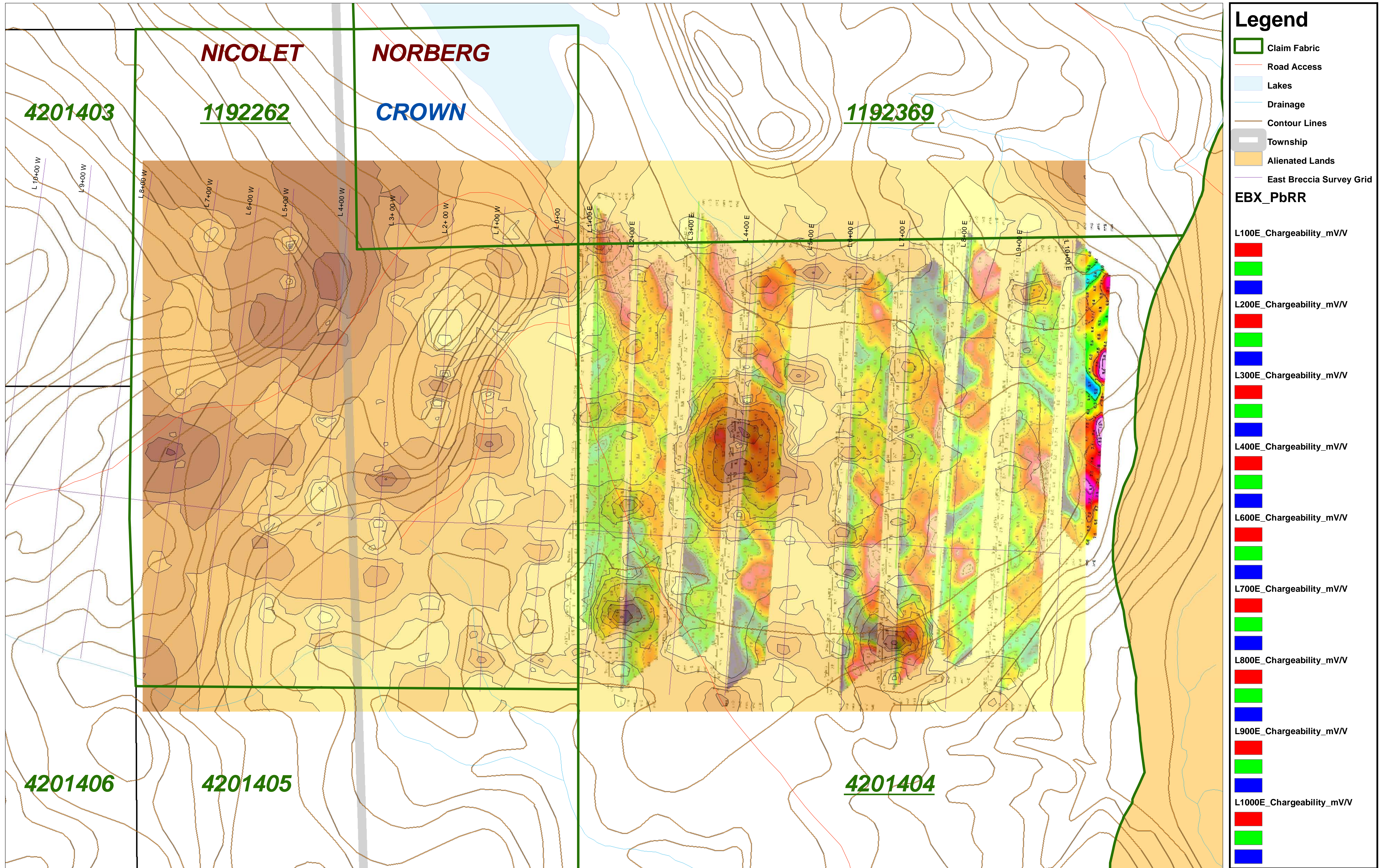
Map - CuRR/IP

N.T.S. 41N/01

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates







AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

PbRR OVER CHARGEABILITY

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres

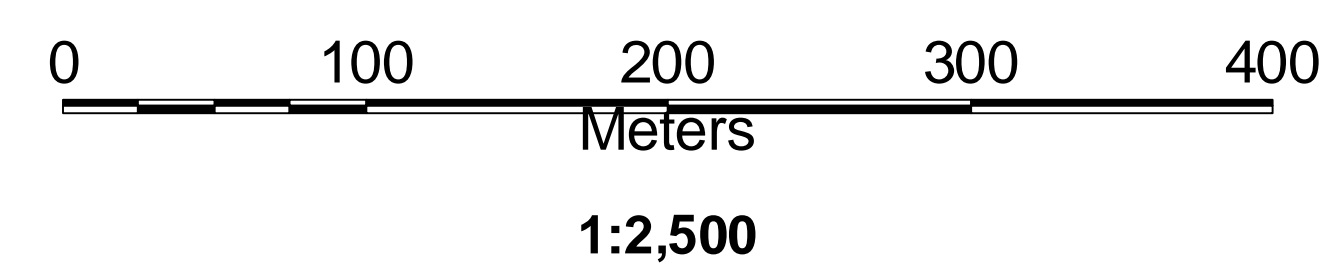
Drawn by: Jim Laidlaw

Date: February 2009

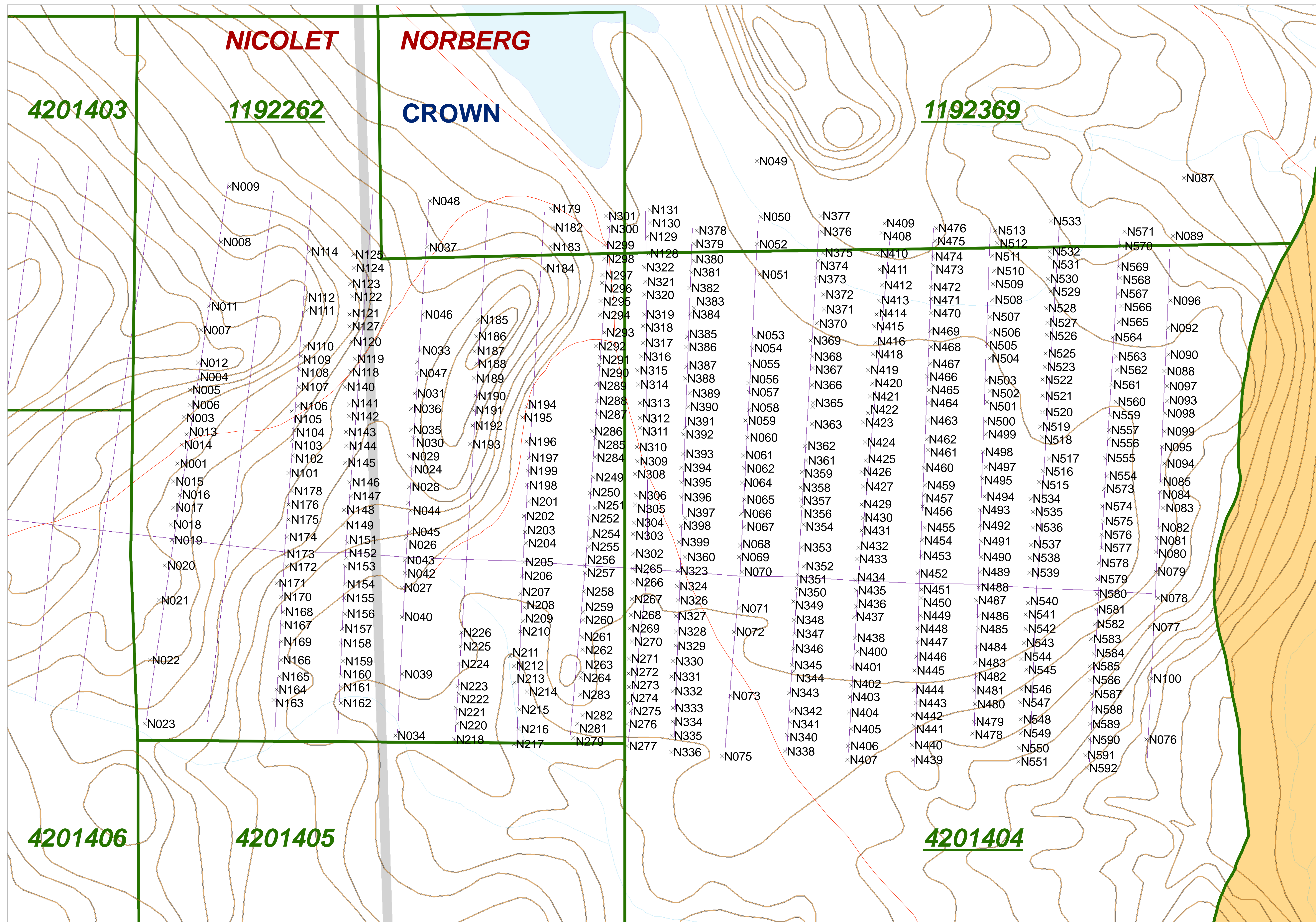
Map - PbRR/IP

N.T.S. 41N/01

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates







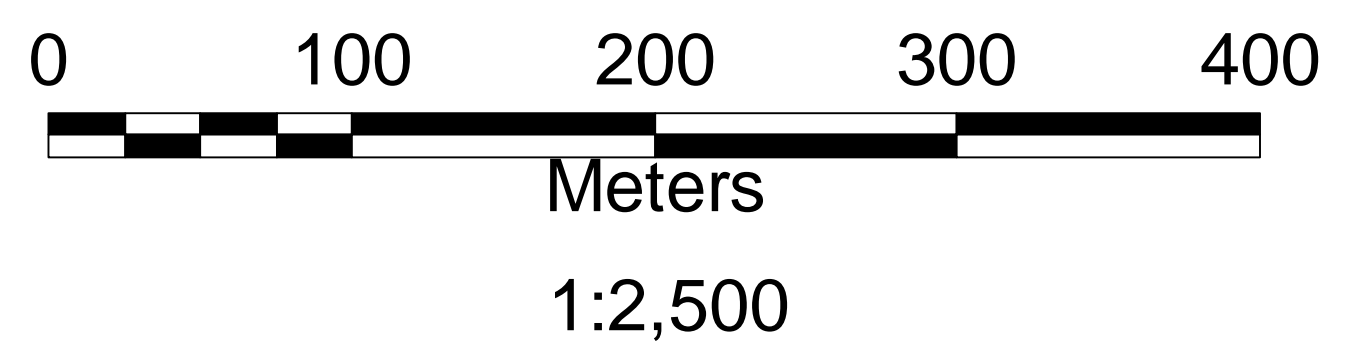
### Legend

- × Sample Number Location
- East Breccia Survey Grid
- Claim Fabric
- Alienated Lands
- Township
- Road Access
- Contour Lines
- Lakes
- Drainage

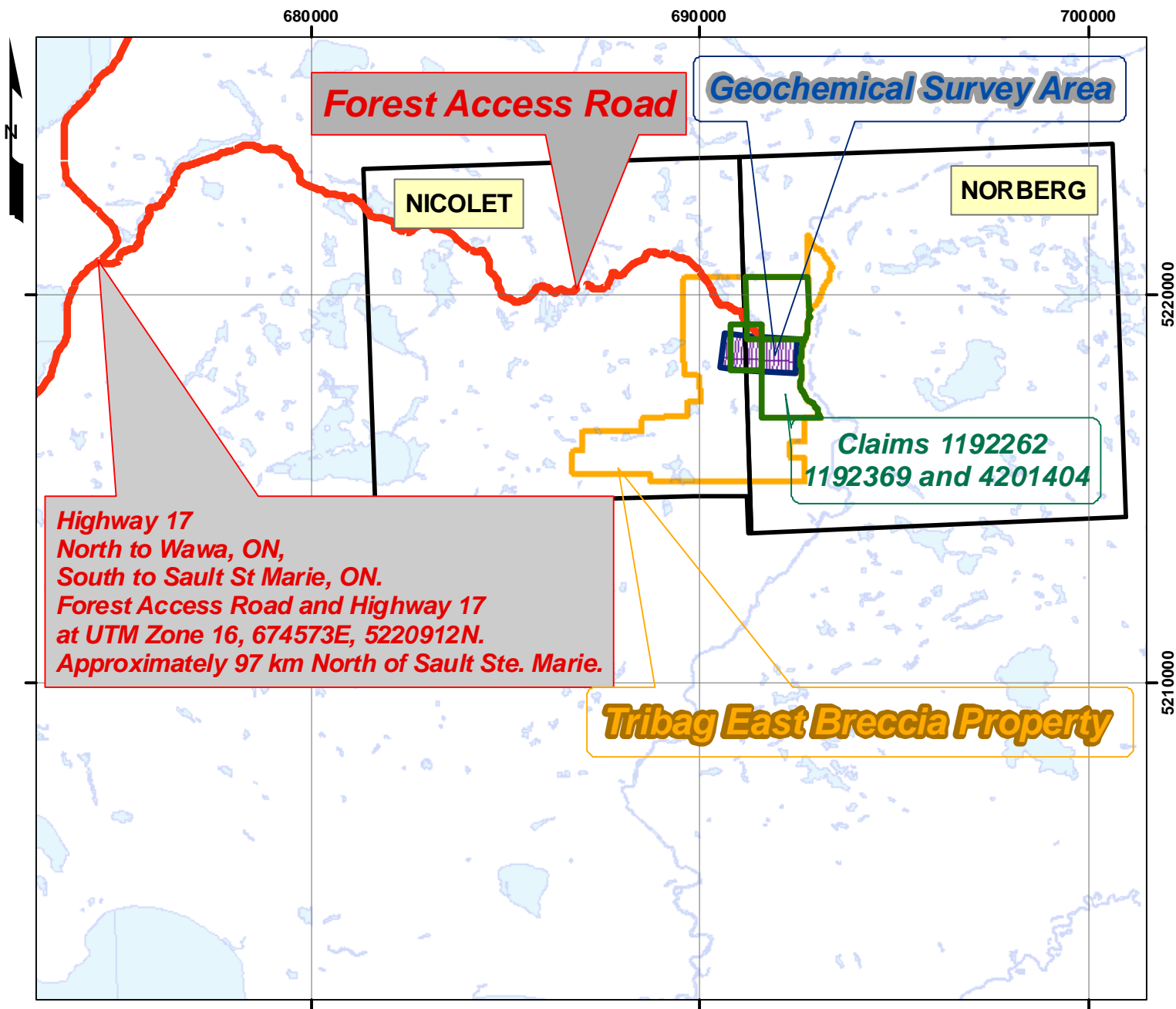
**AMADOR GOLD CORP**  
**Tribag East Breccia Property**  
**Claims 1192262, 1192369 and 4201404**

**Sample Number Location and East Breccia  
 Survey Grid, Claim Fabric, Alienated Lands,  
 Township, Road Access and Topography  
 NICOLET and NORBERG TOWNSHIP  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 SCALE 1:2 500 or 1cm = 25 metres  
 Map 2: Property Map N.T.S. 41N/01**

**DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates**







*Highway 17  
North to Wawa, ON,  
South to Sault St Marie, ON.  
Forest Access Road and Highway 17  
at UTM Zone 16, 674573E, 5220912N.  
Approximately 97 km North of Sault Ste. Marie.*

**Forest Access Road**

**Geochemical Survey Area**

**NICOLET**

**NORBERG**

**Claims 1192262  
1192369 and 4201404**

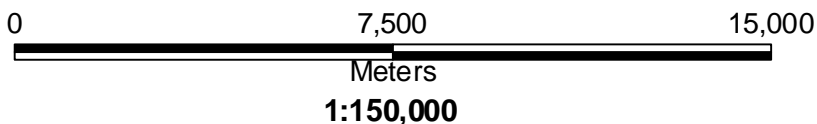
**Tribag East Breccia Property**

DATUM: NAD 83  
ZONE 16  
U.T.M. Grid Coordinates

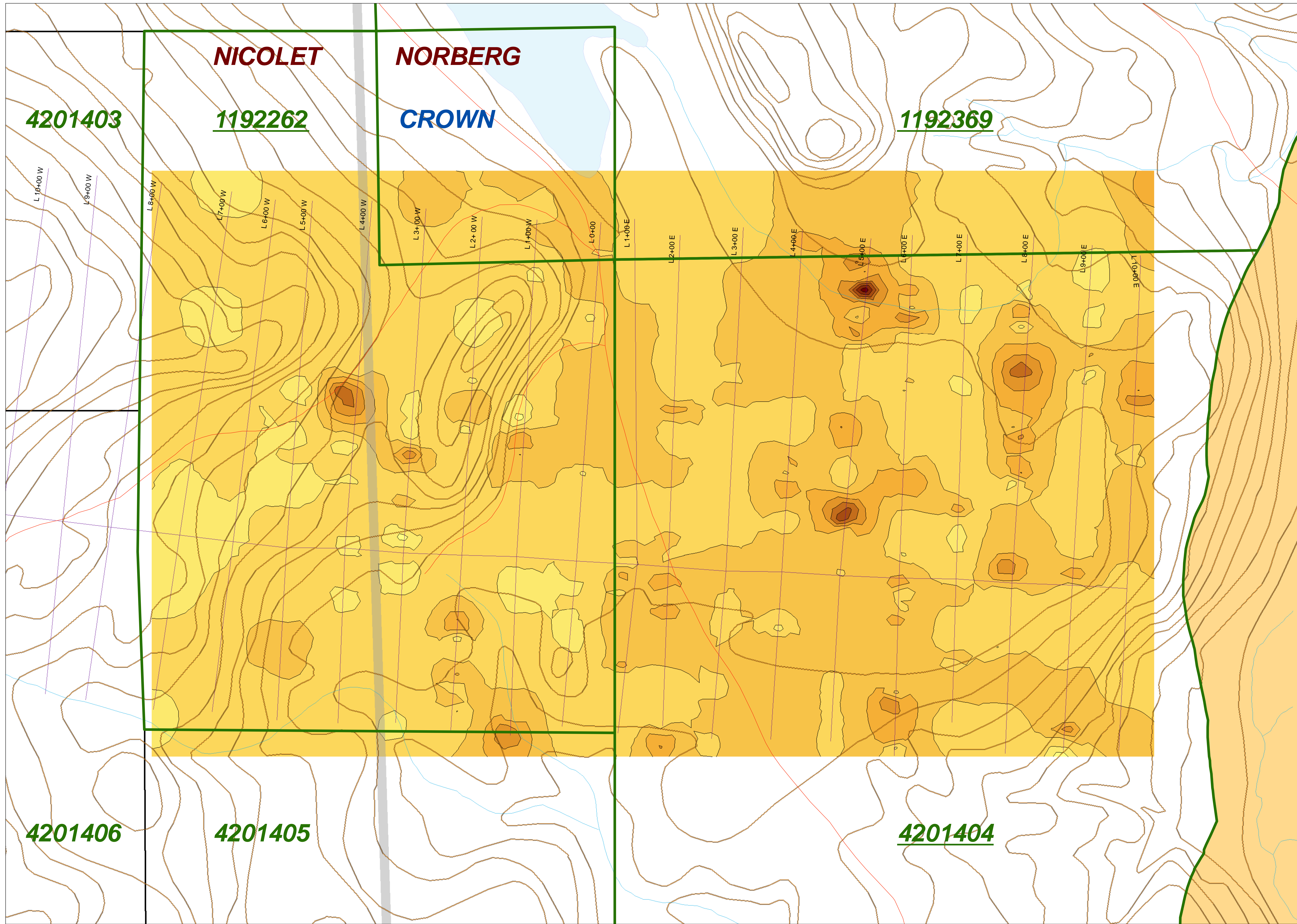
**AMADOR GOLD CORP  
Tribag East Breccia Property**

**Property Access to Geochemical  
Survey Area  
Claims 1192262, 1192369 and 4201404  
NICOLET and NORBERG TOWNSHIP**

**Drawn by: Jim Laidlaw  
Date: January 2009  
SCALE 1:150 000  
Map 1: Property Access  
N.T.S. 41N/01, 41N/02, 41K/15 and 41K/16**







# Legend

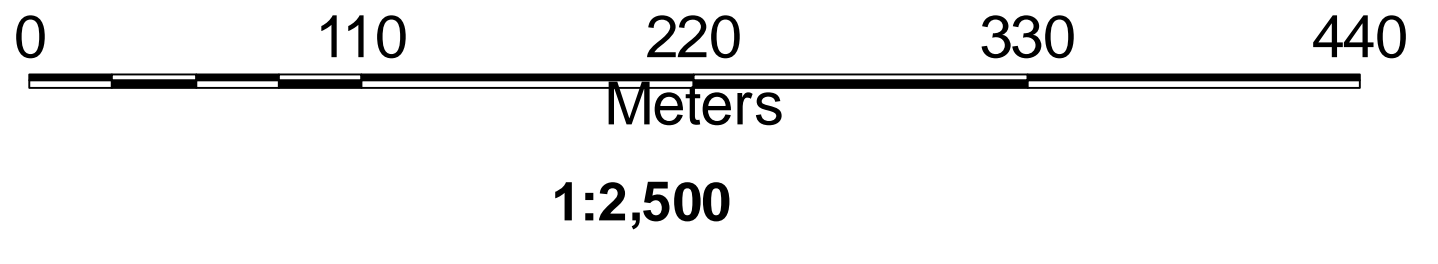
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_ZrRR

### Response Ratios Contours

- 0.0 - 0.7
- 0.7 - 1.4
- 1.4 - 2.2
- 2.2 - 3.2
- 3.2 - 4.3
- 4.3 - 5.5
- 5.5 - 6.8
- 6.8 - 8.3
- 8.3 - 10.1
- 10.1 - 12.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



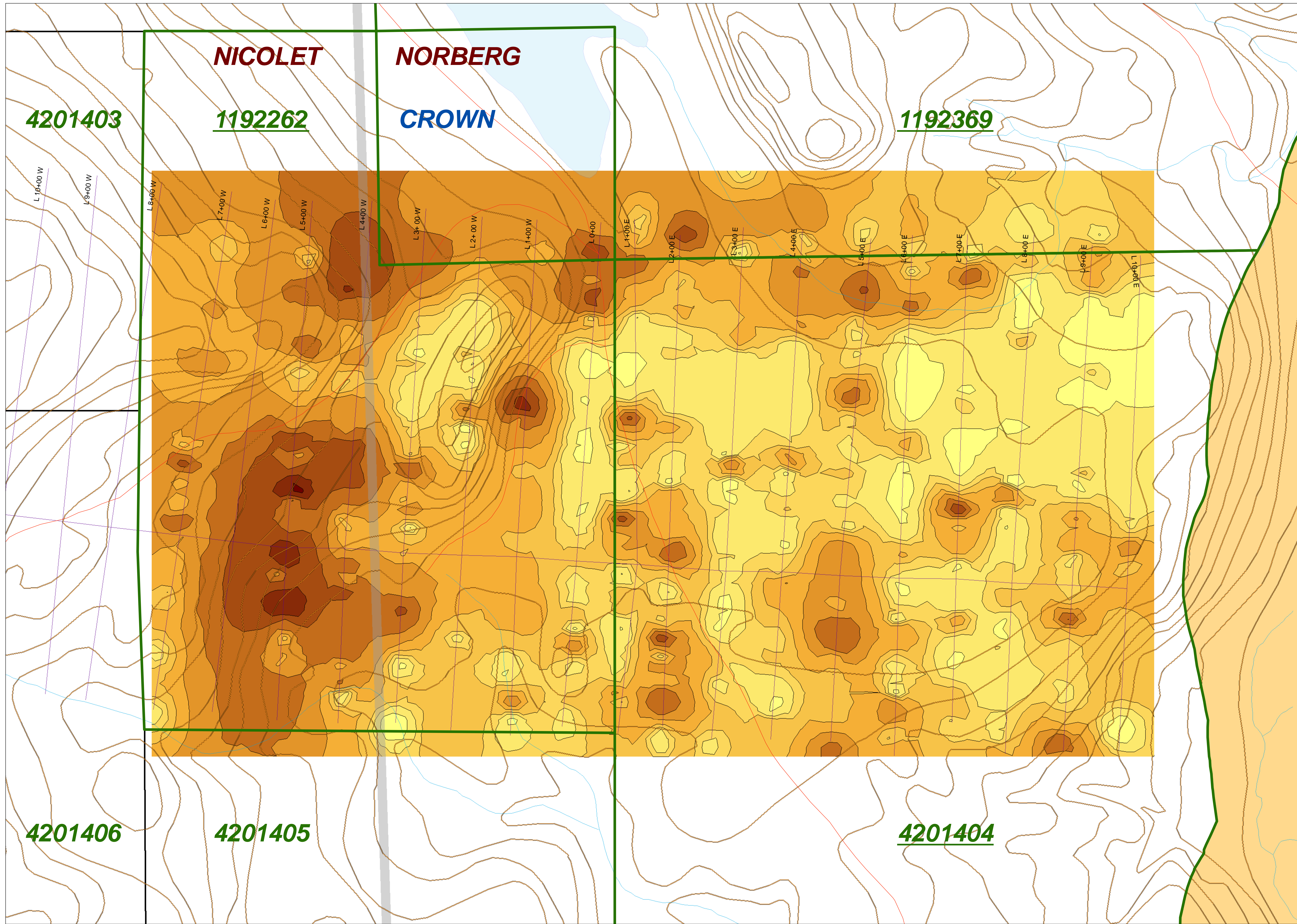
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

### ZIRCONIUM RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_ZrRR N.T.S. 41N/01





# Legend

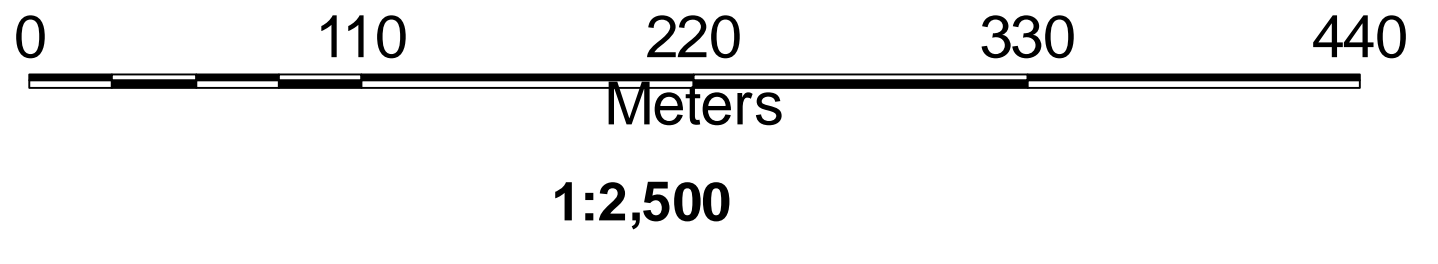
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_ZnRR

### Response Ratios Contours

- 0.0 - 1.6
- 1.6 - 2.6
- 2.6 - 3.2
- 3.2 - 4.1
- 4.1 - 5.7
- 5.7 - 8.2
- 8.2 - 12.3
- 12.3 - 19.0
- 19.0 - 29.7
- 29.7 - 47.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



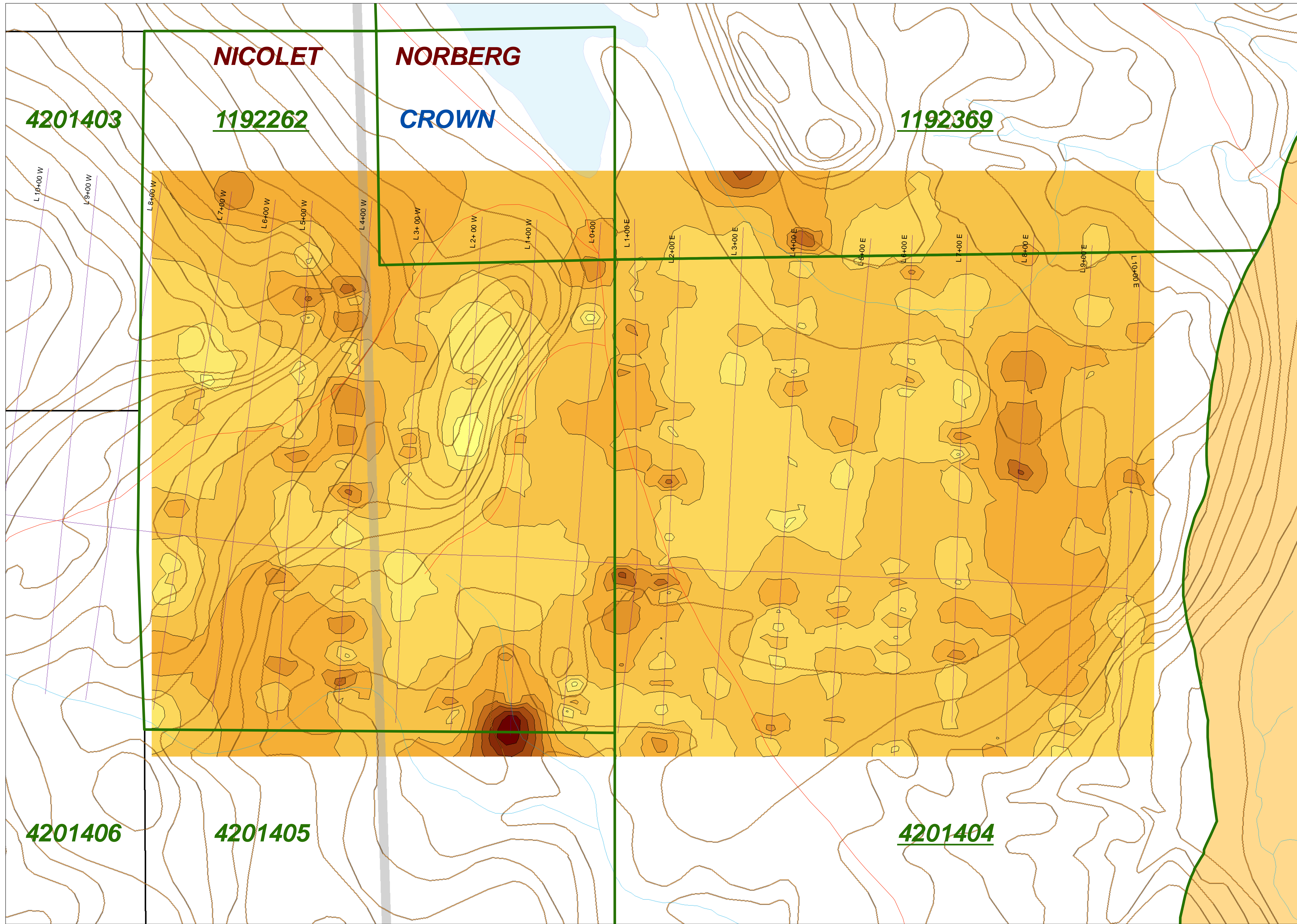
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

ZINC RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_ZnRR N.T.S. 41N/01





### Legend

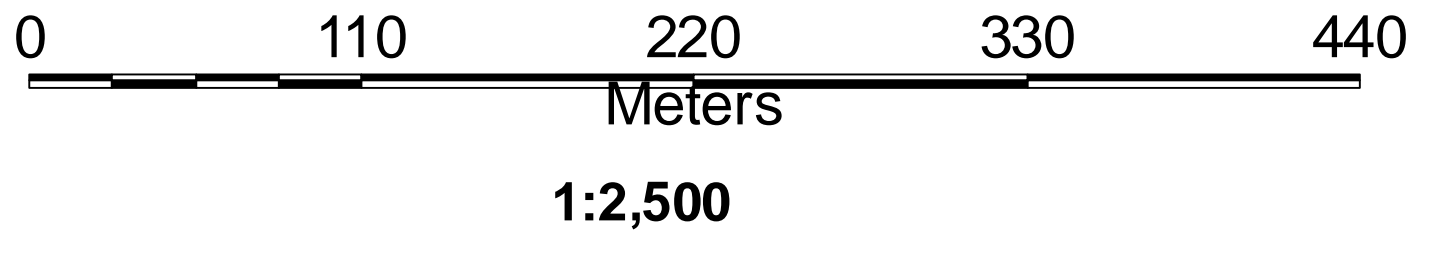
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_YRR

#### Response Ratios Contours

	0.0 - 0.8
	0.8 - 1.4
	1.4 - 2.2
	2.2 - 3.1
	3.1 - 4.4
	4.4 - 6.0
	6.0 - 8.0
	8.0 - 10.6
	10.65 - 13.9
	13.9 - 18.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



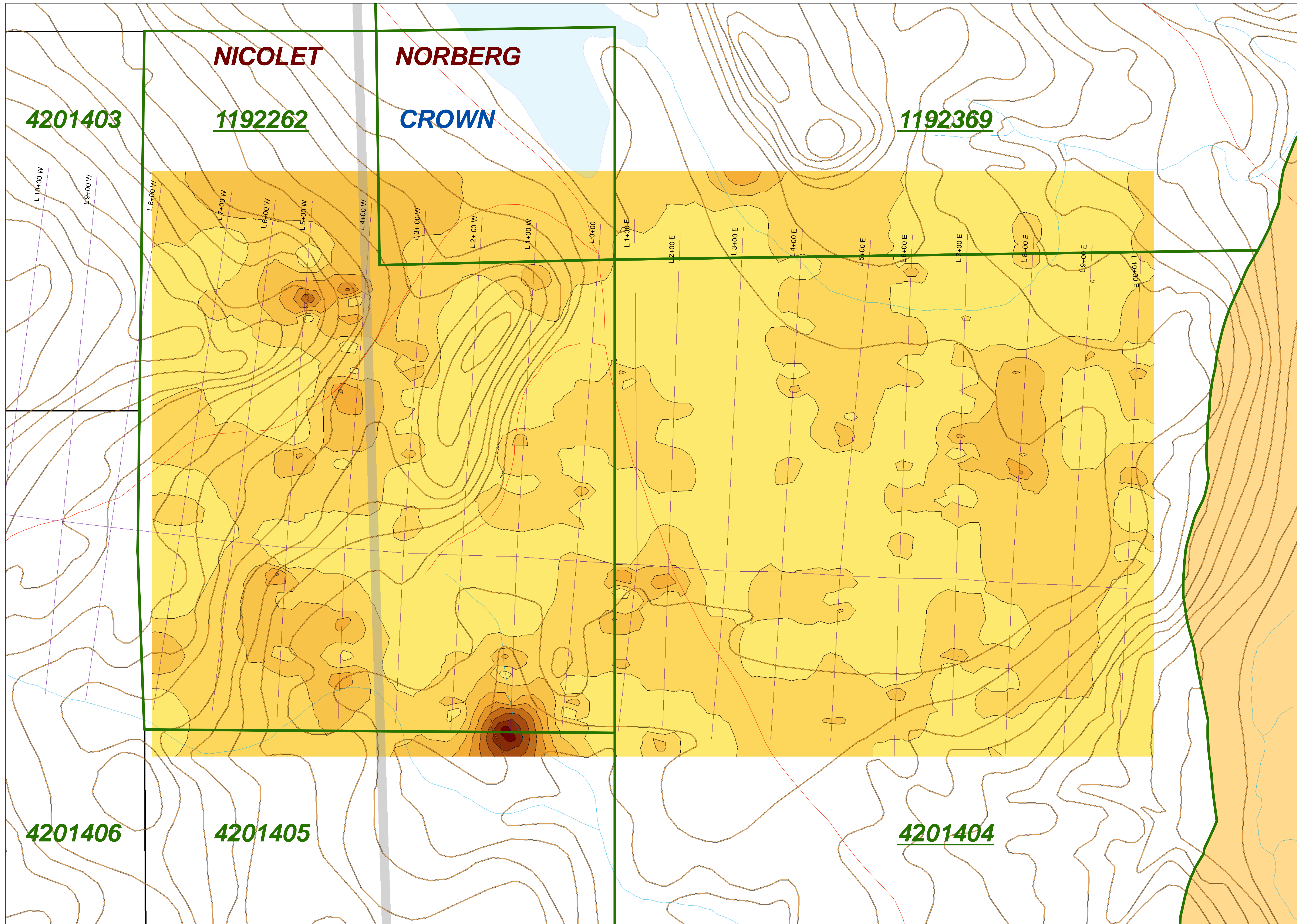
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**YITTRIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_YRR N.T.S. 41N/01





### Legend

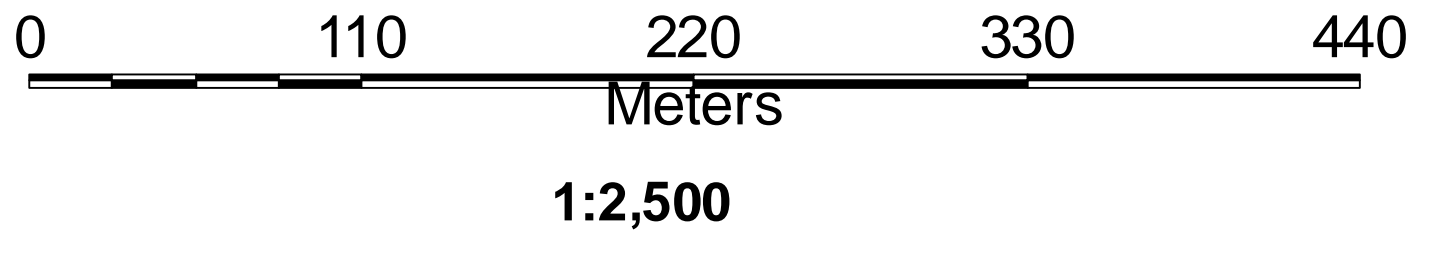
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_YbRR

#### Response Ratios Contours

	0.0 - 1.0
	1.0 - 1.8
	1.8 - 2.4
	2.4 - 3.2
	3.2 - 4.1
	4.1 - 5.3
	5.3 - 6.9
	6.9 - 8.7
	8.7 - 11.1
	11.1 - 14.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

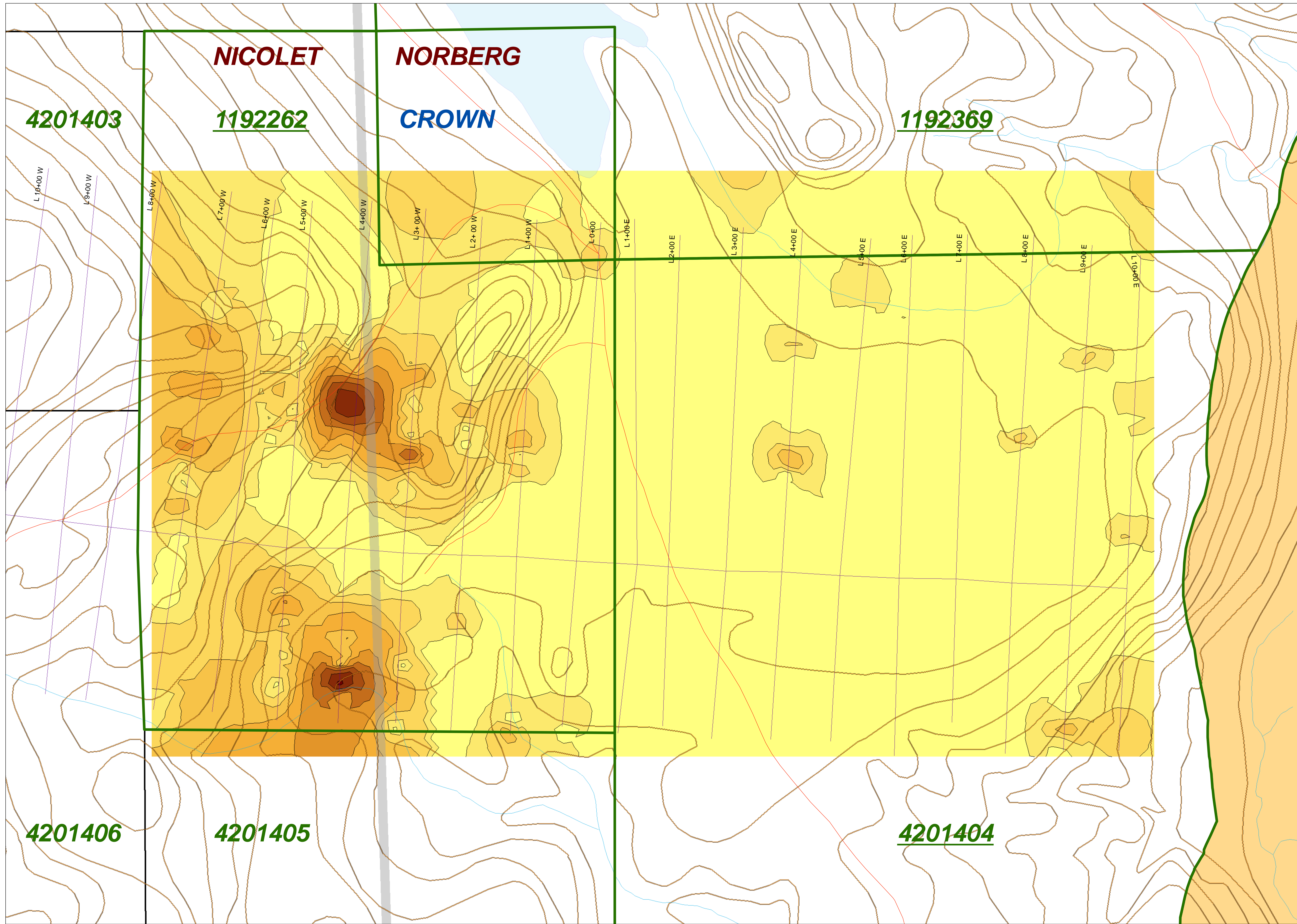


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404



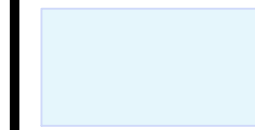





**YTTERBIUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_YbRR N.T.S. 41N/01















# Legend

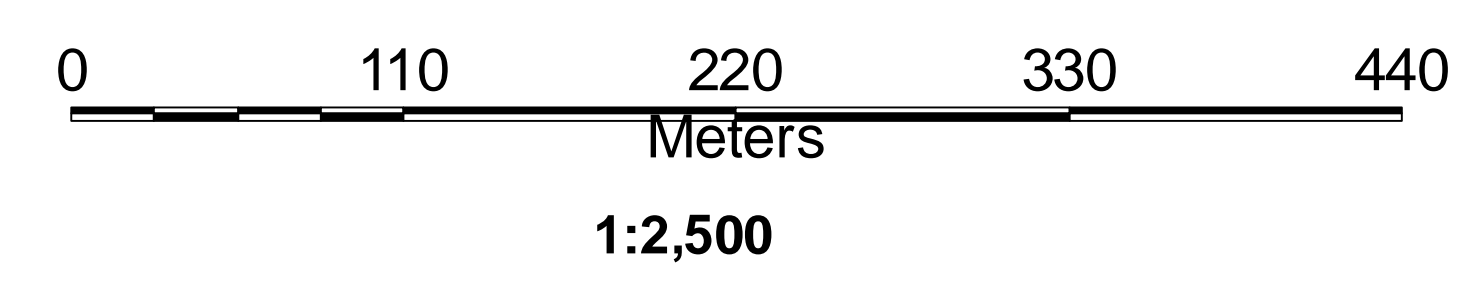
-  Claim Fabric
-  Road Access
-  Lakes
-  Drainage
-  Contour Lines
-  Township
-  Alienated Lands
-  East Breccia Survey Grid

## EBX\_WRR

### Response Ratios Contours

-  1.0 - 1.7
-  1.7 - 2.7
-  2.7 - 4.4
-  4.4 - 7.1
-  7.1 - 11.3
-  11.3 - 18.0
-  18.0 - 28.6
-  28.6 - 45.4
-  45.4 - 71.9
-  71.9 - 114.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



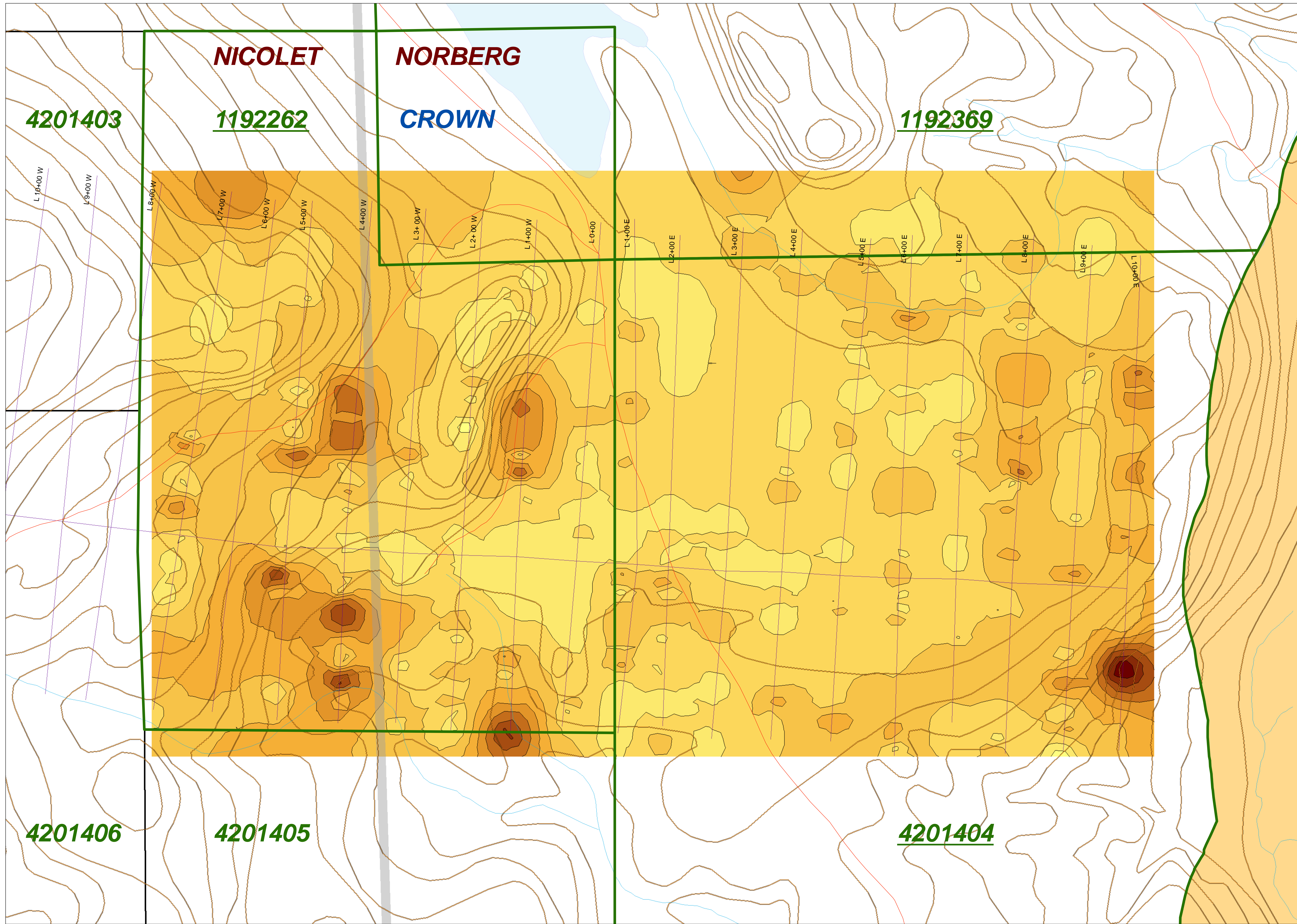
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

## TUNGSTEN RESPONSE RATIO CONTOURS

### NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_WRR N.T.S. 41N/01





### Legend

- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

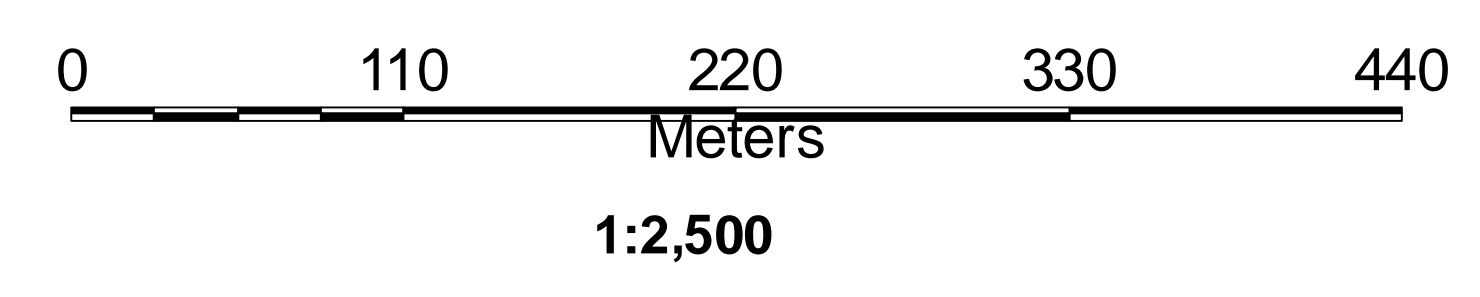
### EBX\_URR

#### Response Ratios Contours

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	0.8 - 1.4
	1.4 - 2.2
	2.2 - 3.2
	3.2 - 4.5
	4.5 - 6.0
	6.0 - 7.9
	7.9 - 10.3
	10.3 - 13.3
	13.3 - 17.0



DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



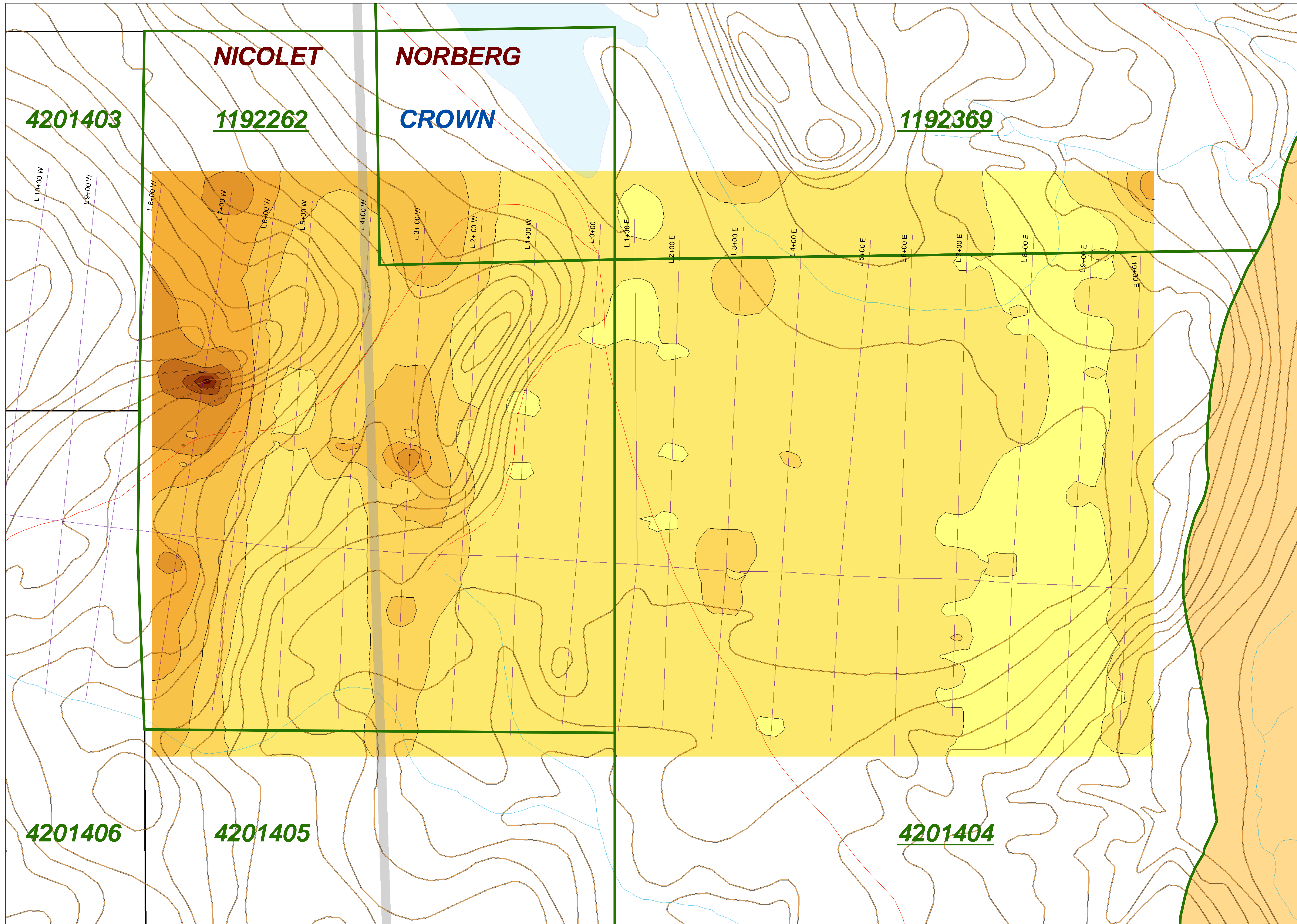
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**URANIUM RESPONSE RATIO CONTOURS**



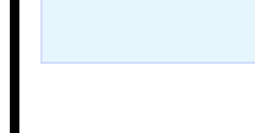





**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_URR N.T.S. 41N/01















# Legend

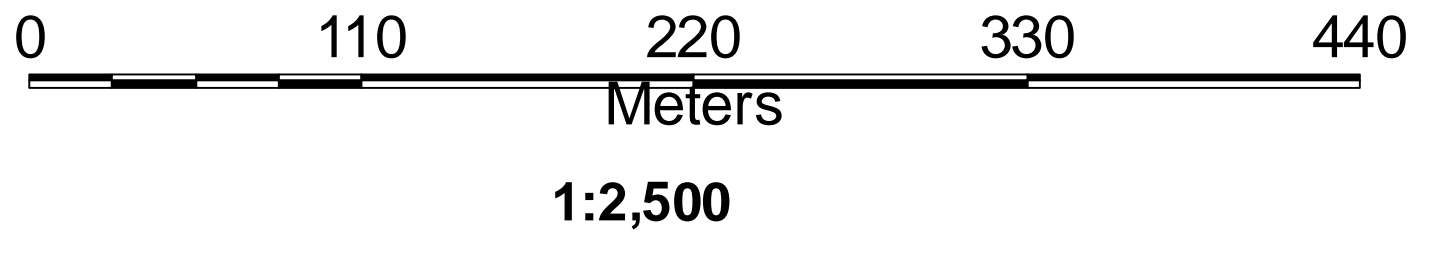
-  Claim Fabric
-  Road Access
-  Lakes
-  Drainage
-  Contour Lines
-  Township
-  Alienated Lands
-  East Breccia Survey Grid

## EBX\_TIRR

### Response Ratios Contours

-  0.0 - 0.7
-  0.72 - 1.4
-  1.4 - 2.2
-  2.2 - 3.2
-  3.2 - 4.3
-  4.3 - 5.5
-  5.5 - 6.8
-  6.8 - 8.3
-  8.3 - 10.1
-  10.1 - 12.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



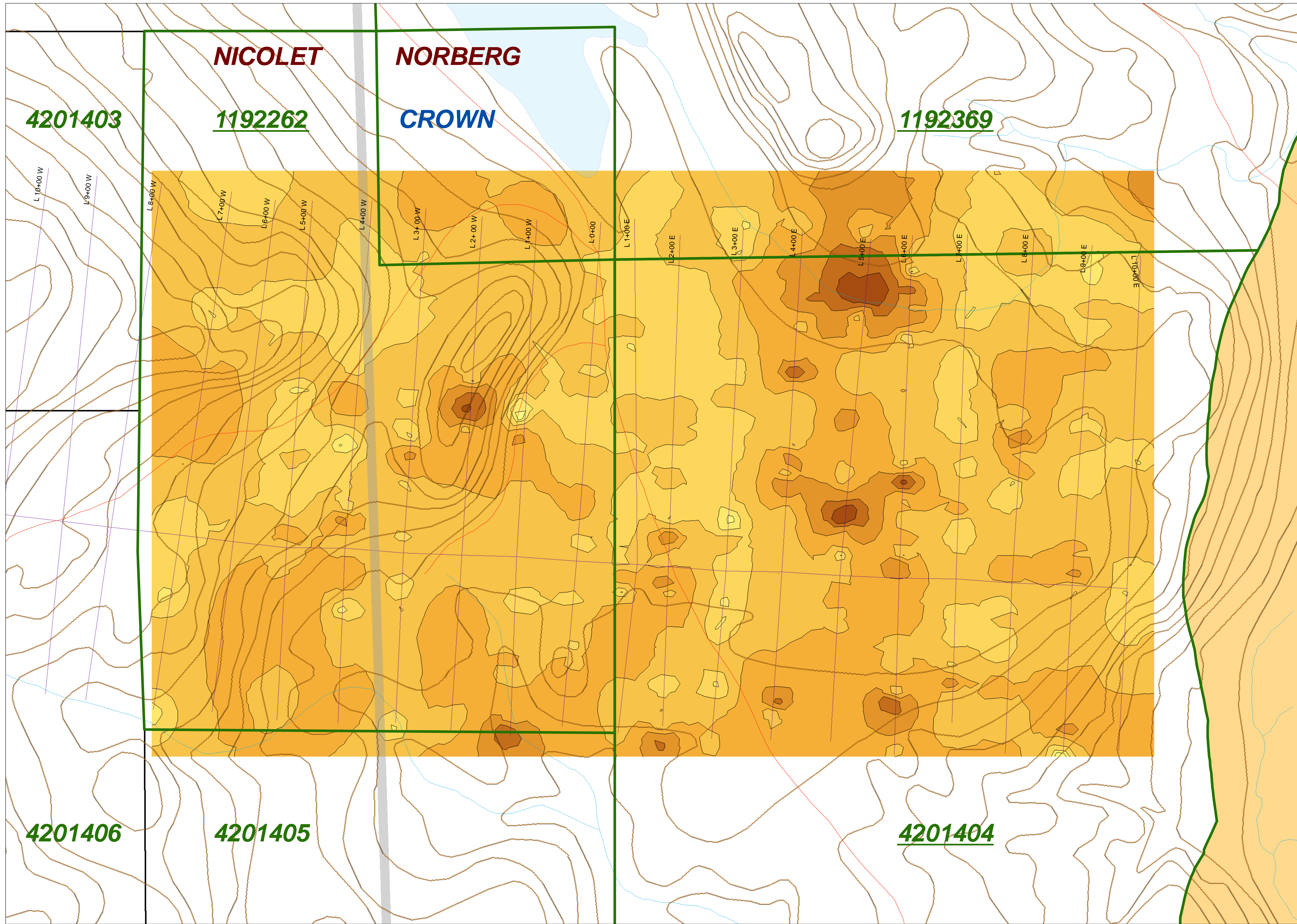
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

THALLIUM RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_TIRR N.T.S. 41N/01





# Legend

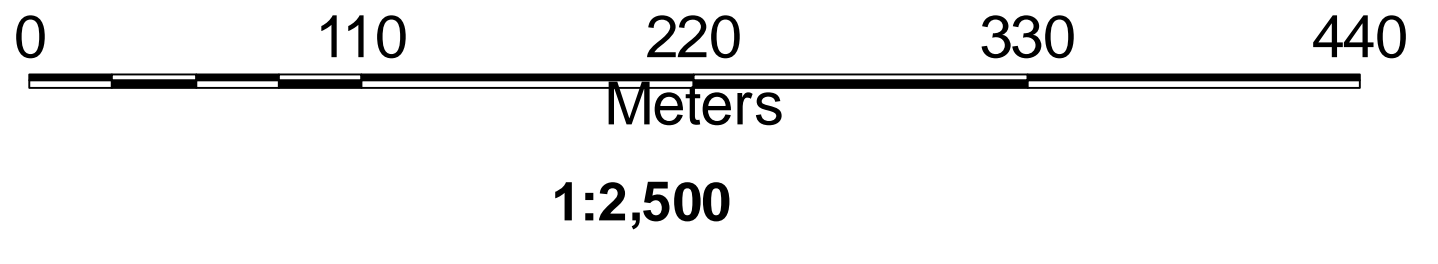
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_TiRR

### Response Ratios Contours

- 0.0 - 0.8
- 0.8 - 1.3
- 1.3 - 2.1
- 2.1 - 3.3
- 3.3 - 5.5
- 5.5 - 9.0
- 9.0 - 14.8
- 14.8 - 24.3
- 24.3 - 40.1
- 40.1 - 66.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



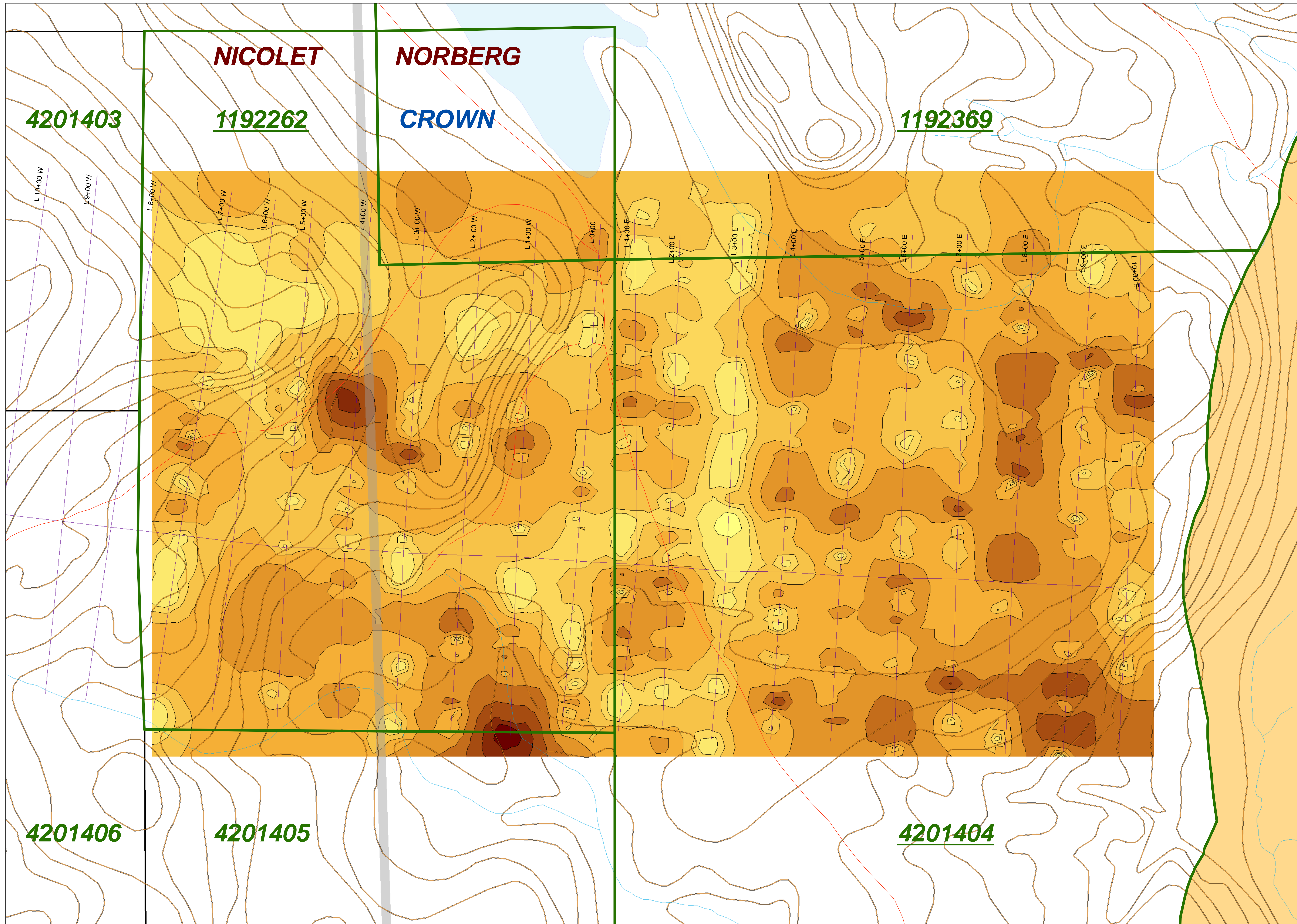
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**TITANIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_TiRR N.T.S. 41N/01





# Legend

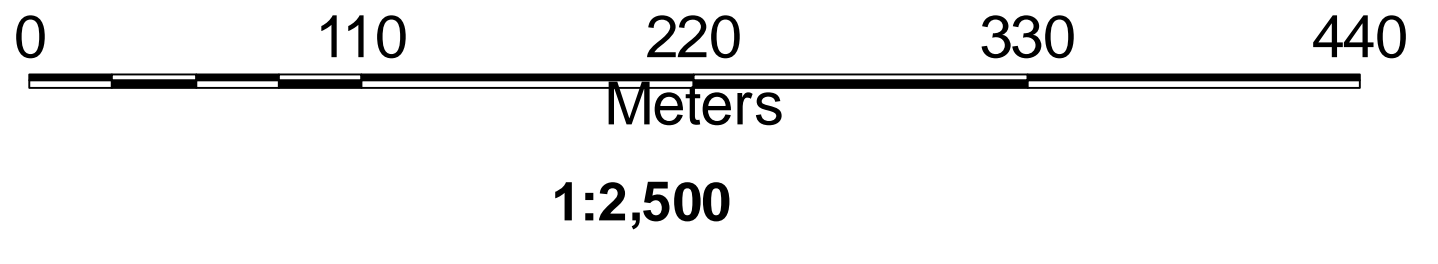
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_ThRR

### Response Ratios Contours

- 0.0 - 0.9
- 0.9 - 1.4
- 1.4 - 1.7
- 1.7 - 2.2
- 2.2 - 3.1
- 3.1 - 4.7
- 4.7 - 7.7
- 7.7 - 13.1
- 13.1 - 23.0
- 23.0 - 41.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



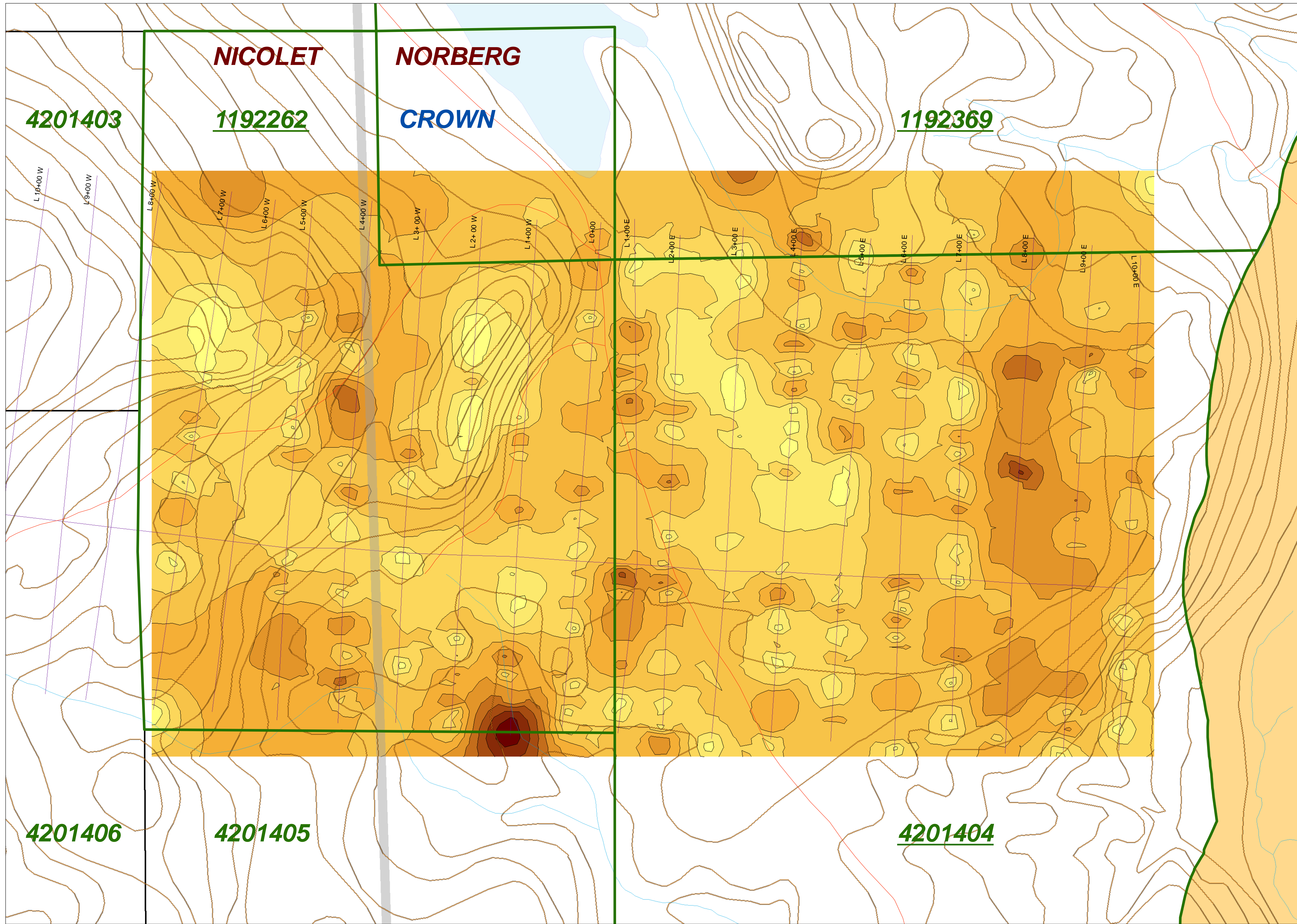
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

### THORIUM RESPONSE RATIO CONTOURS

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_ThRR N.T.S. 41N/01





### Legend

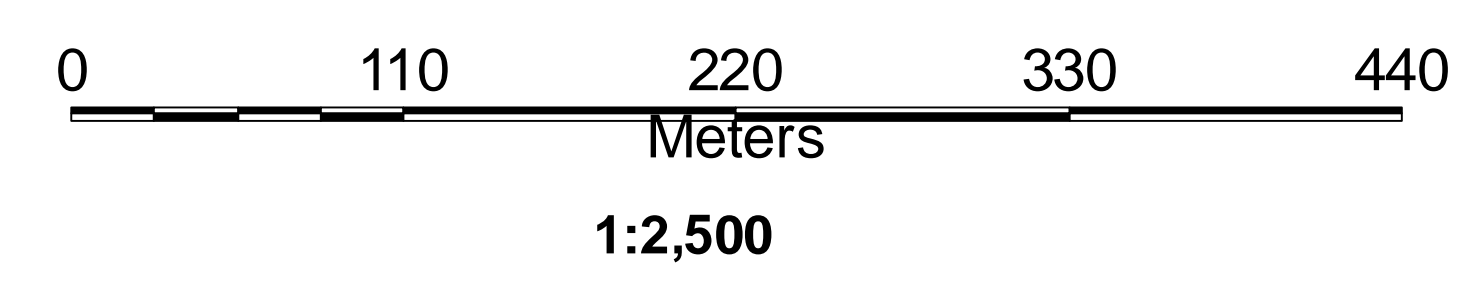
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_TbRR

#### Response Ratios Contours

	1.0 - 1.5
	1.5 - 2.1
	2.1 - 3.0
	3.0 - 4.4
	4.4 - 6.3
	6.3 - 9.0
	9.0 - 12.9
	12.9 - 18.5
	18.5 - 26.5
	26.5 - 38.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



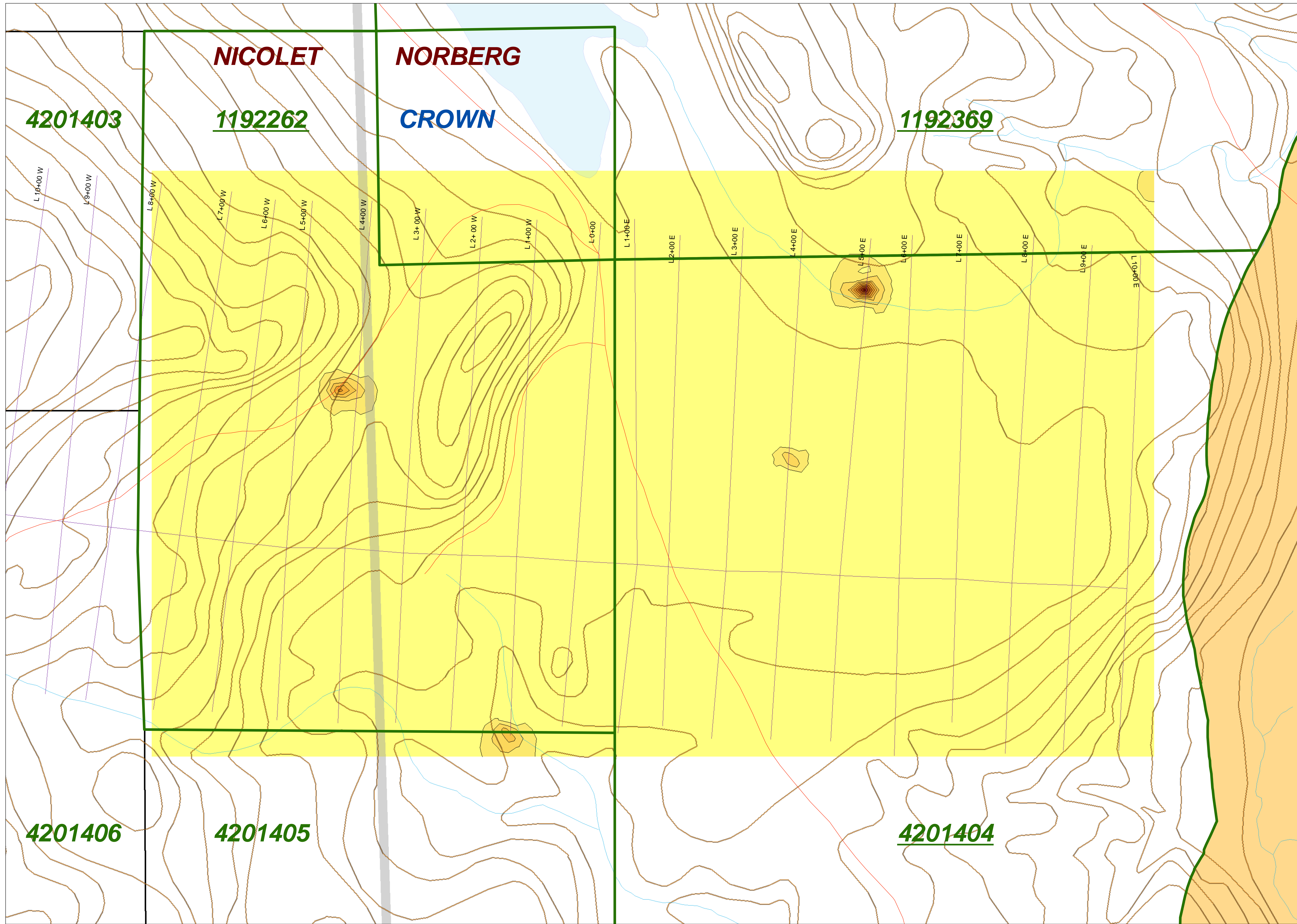
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**TERBIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_TbRR N.T.S. 41N/01





### Legend

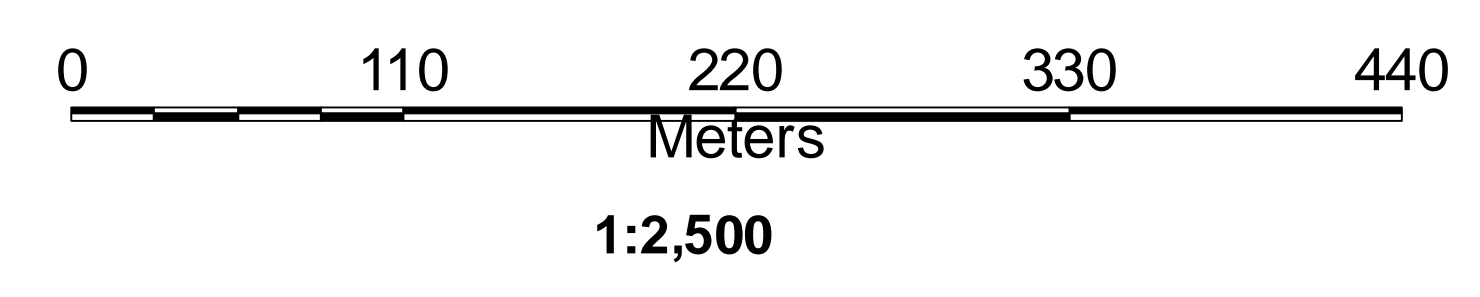
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_TaRR

#### Response Ratios Contours

	1.0 - 1.7
	1.7 - 2.4
	2.4 - 3.1
	3.1 - 3.8
	3.8 - 4.5
	4.5 - 5.2
	5.2 - 5.9
	5.9 - 6.6
	6.6 - 7.3
	7.3 - 8.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



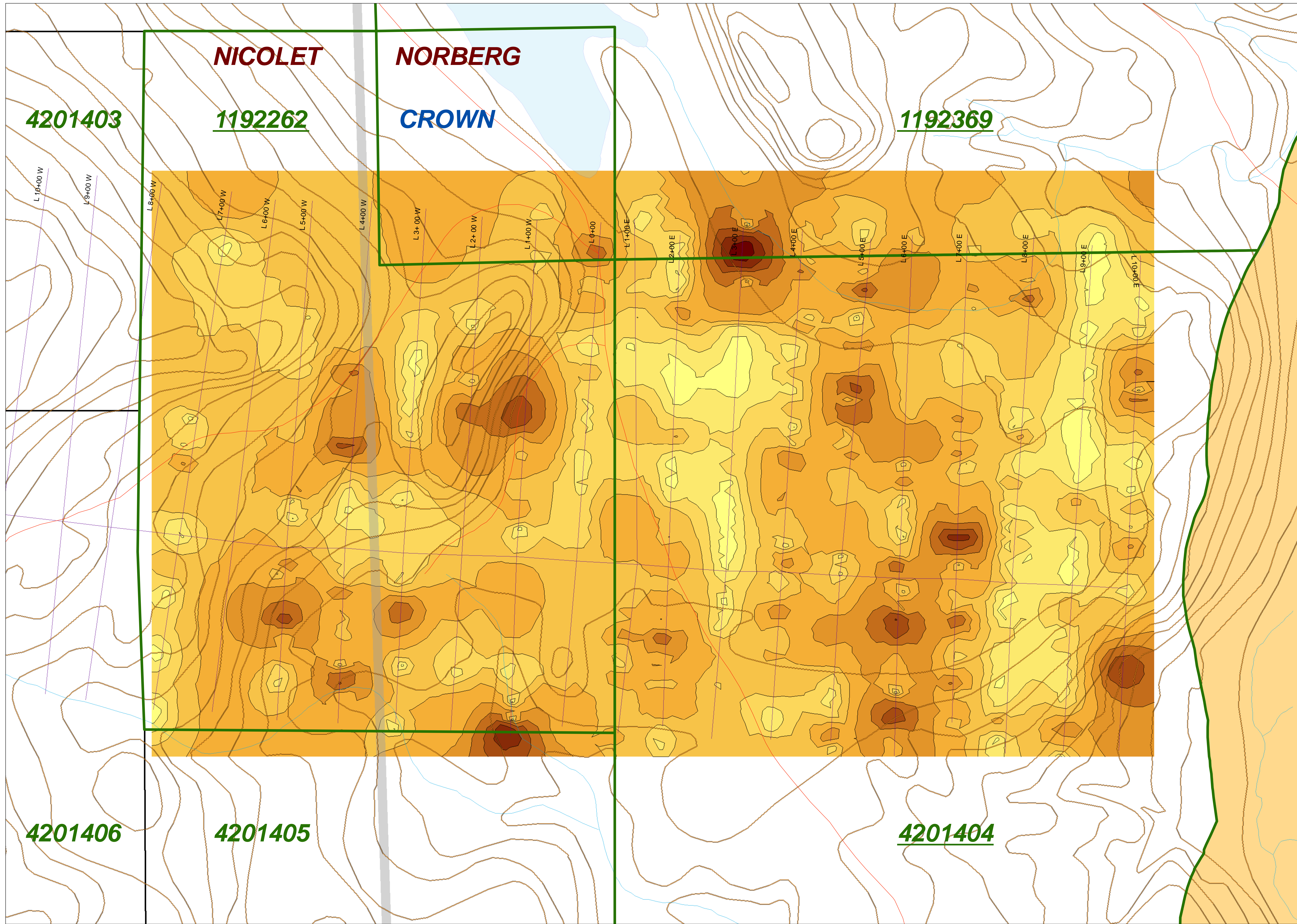
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

TANTALUM RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_TaRR N.T.S. 41N/01





### Legend

- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_SrRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 4
	4 - 8
	8 - 13
	13 - 22
	22 - 39
	39 - 68
	68 - 119
	119 - 208

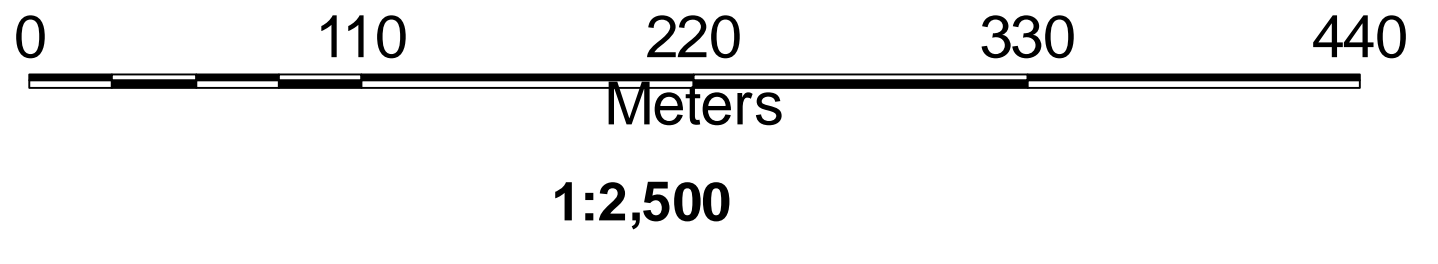
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**STRONTIUM RESPONSE RATIO CONTOURS**

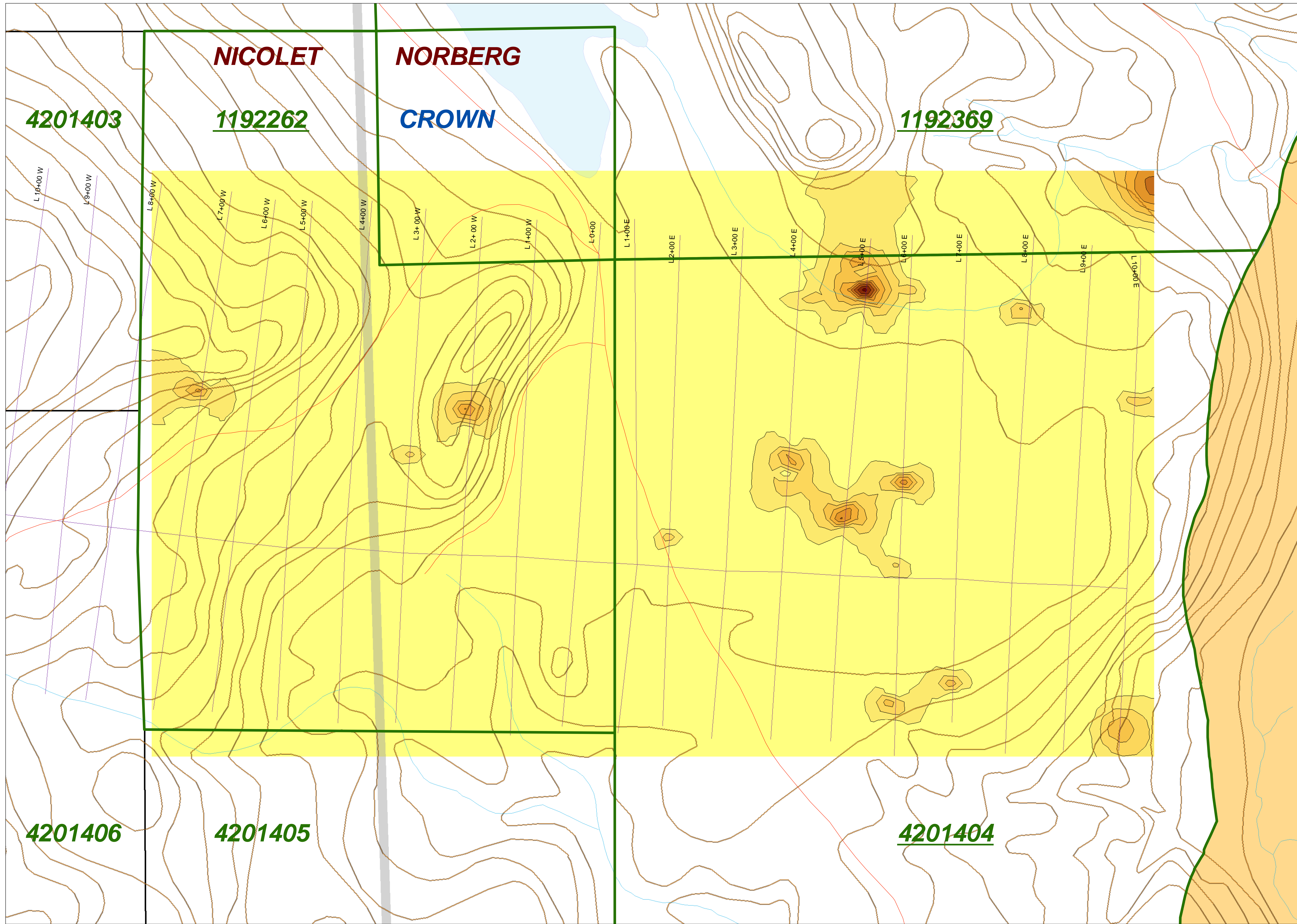
**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_SrRR N.T.S. 41N/01

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates







### Legend

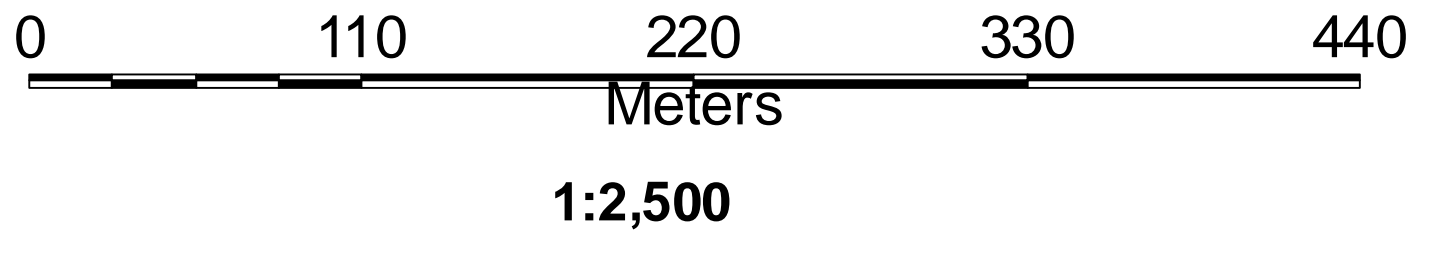
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_SnRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 5
	5 - 6
	6 - 8
	8 - 10
	10 - 13
	13 - 17
	17 - 21
	21 - 24

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



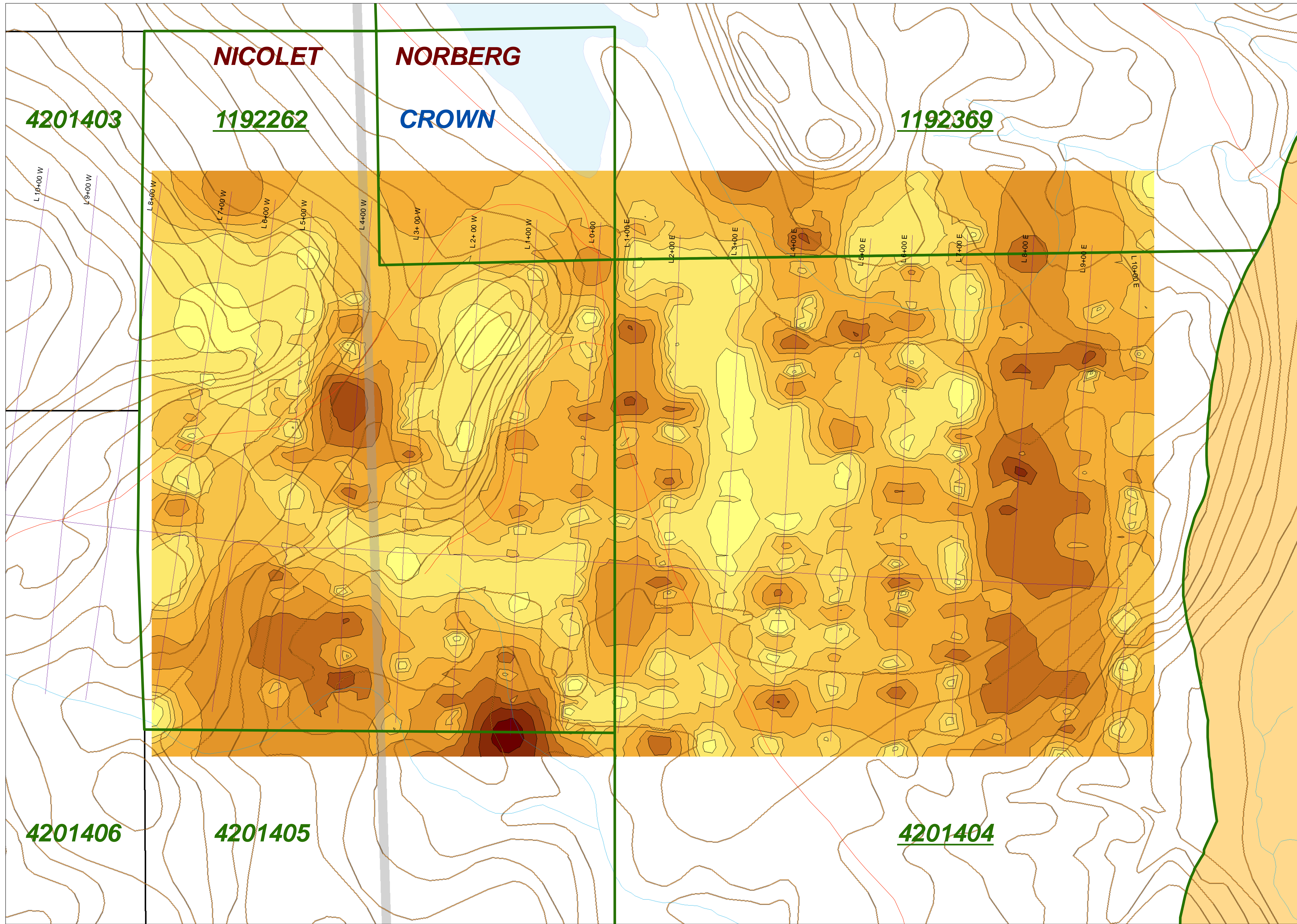
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**TIN RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_SnRR N.T.S. 41N/01





**Legend**

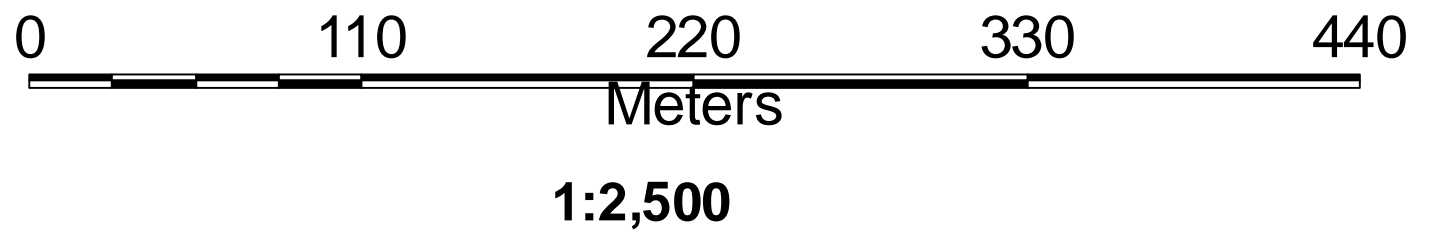
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

**EBX\_SmRR**

**Response Ratios Contours**

- 0.0 - 1.8
- 1.8 - 2.8
- 2.8 - 3.3
- 3.3 - 4.3
- 4.3 - 6.1
- 6.1 - 9.4
- 9.4 - 15.3
- 15.34 - 26.2
- 26.2 - 46.0
- 46.0 - 82.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



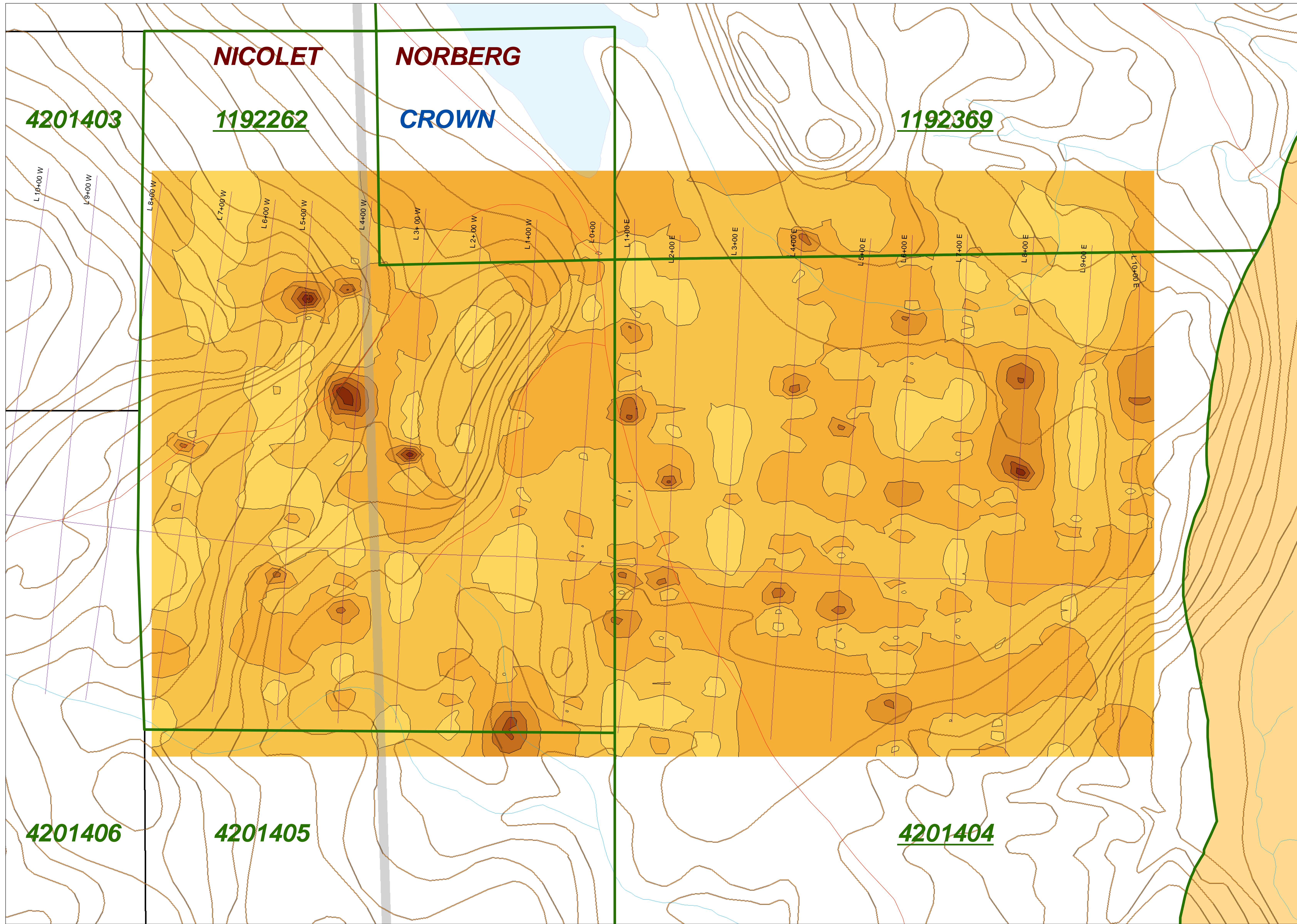
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**SAMARIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_SmRR N.T.S. 41N/01





# Legend

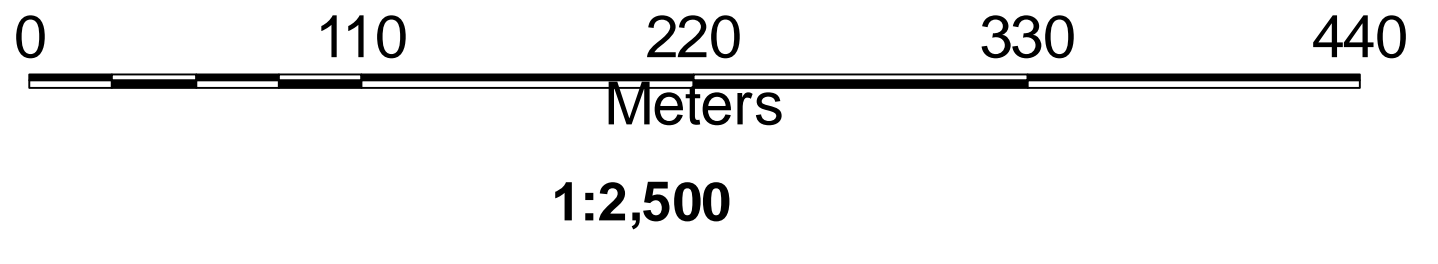
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_ScRR

### Response Ratios Contours

- 0.0 - 0.4
- 0.4 - 0.8
- 0.8 - 1.2
- 1.2 - 1.6
- 1.6 - 2.0
- 2.0 - 2.4
- 2.4 - 2.8
- 2.8 - 3.2
- 3.2 - 3.6
- 3.6 - 4.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



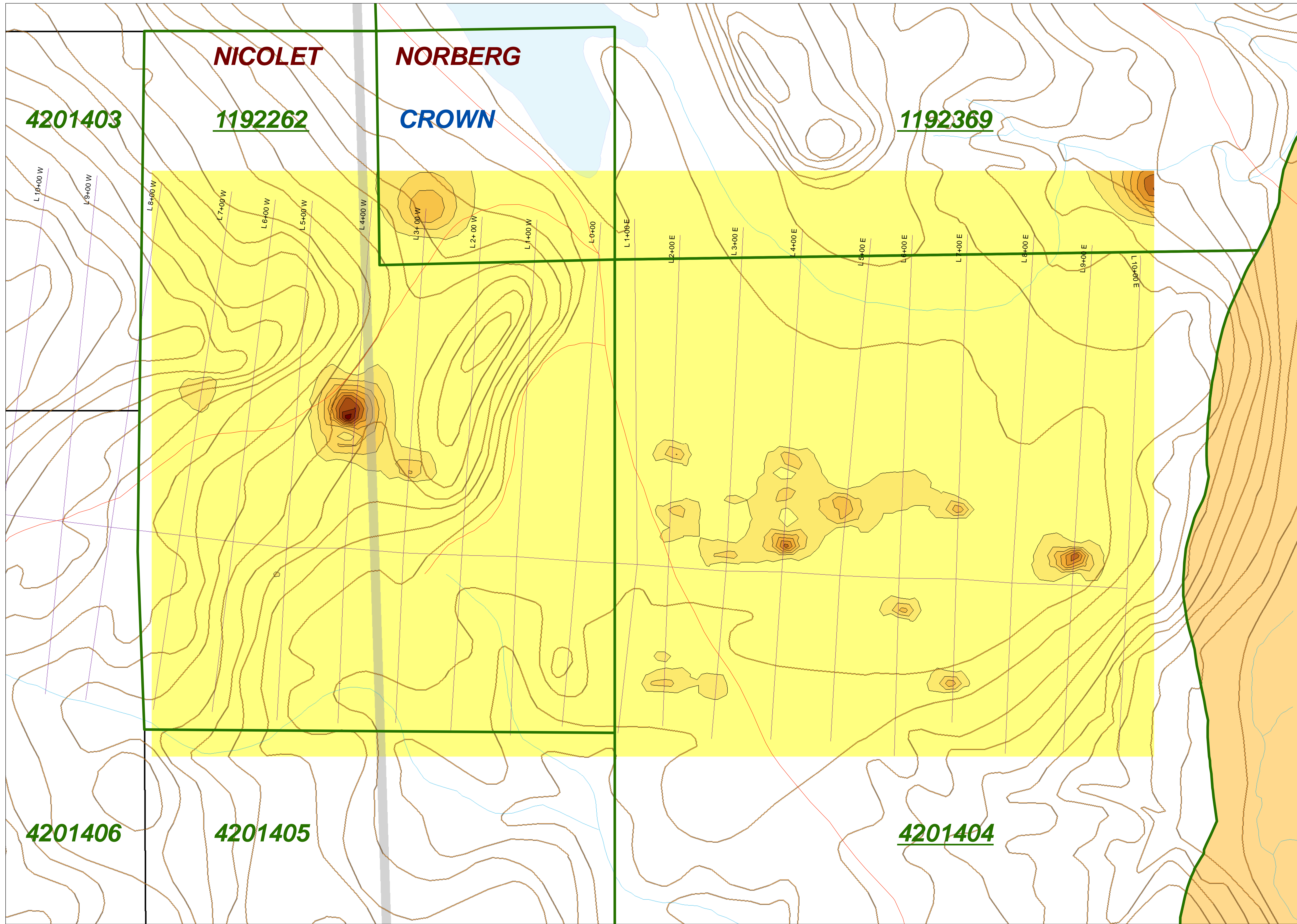
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

### SCANDIUM RESPONSE RATIO CONTOURS

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_ScRR      N.T.S. 41N/01





### Legend

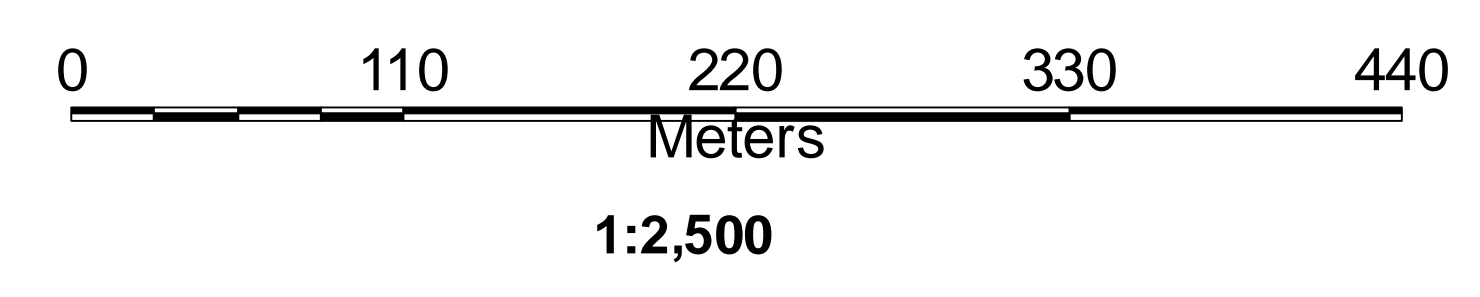
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_SbRR

#### Response Ratios Contours

	1.0 - 1.7
	1.7 - 2.4
	2.4 - 3.1
	3.1 - 3.8
	3.8 - 4.5
	4.5 - 5.2
	5.2 - 5.9
	5.9 - 6.6
	6.6 - 7.3
	7.3 - 8.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



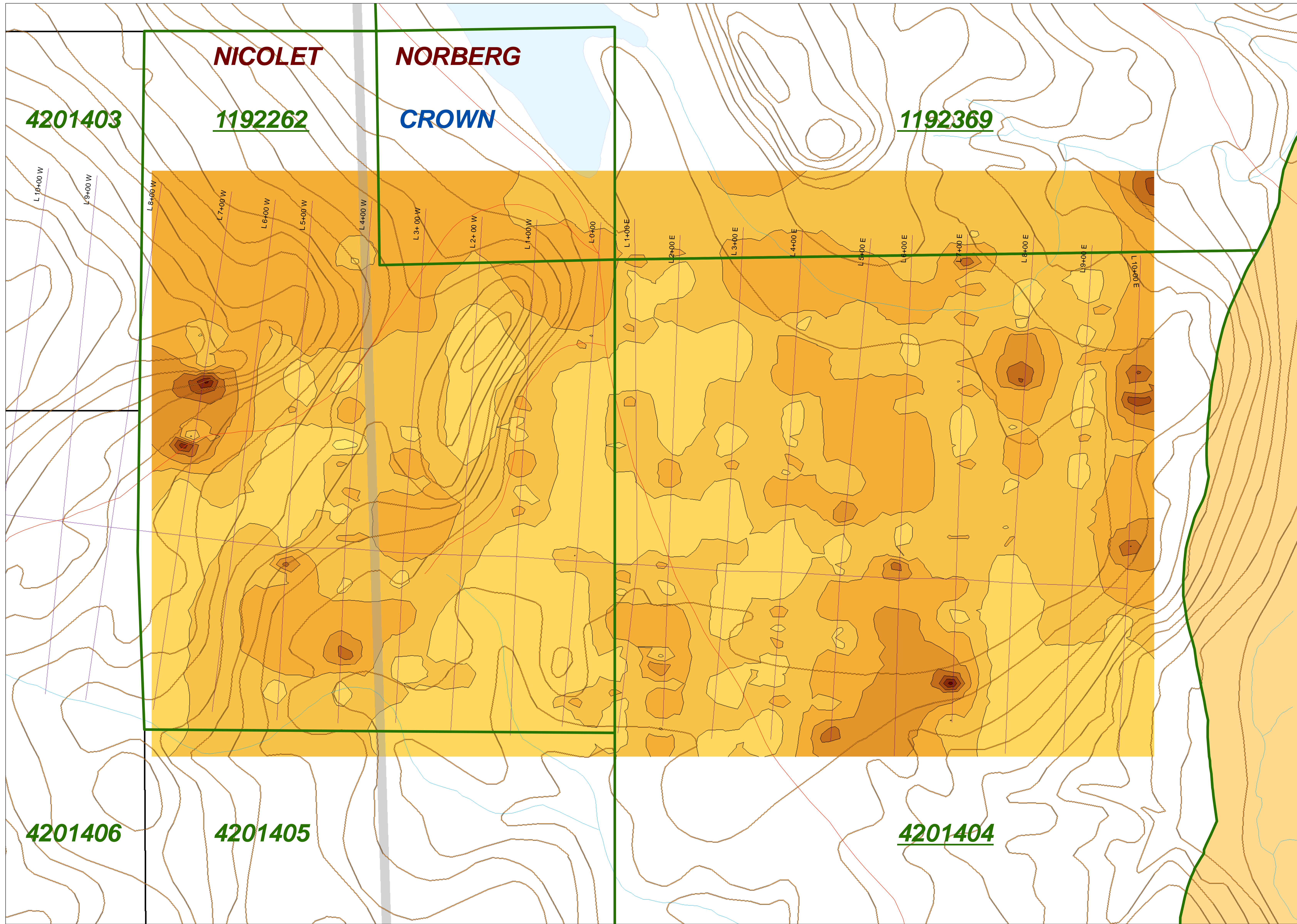
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**ANTIMONY RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_SbRR      N.T.S. 41N/01





### Legend

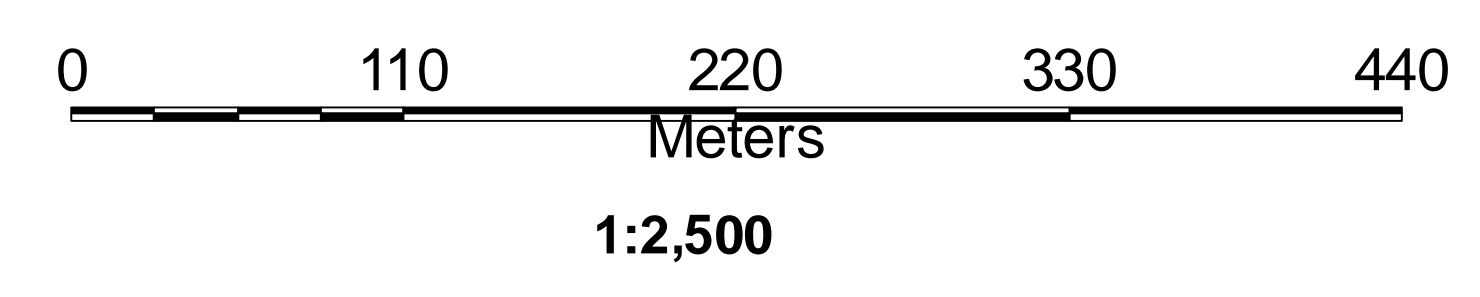
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_RbRR

#### Response Ratios Contours

	0.0 - 0.4
	0.4 - 0.8
	0.8 - 1.2
	1.2 - 1.6
	1.6 - 2.0
	2.0 - 2.4
	2.4 - 2.8
	2.8 - 3.2
	3.2 - 3.6
	3.6 - 4.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



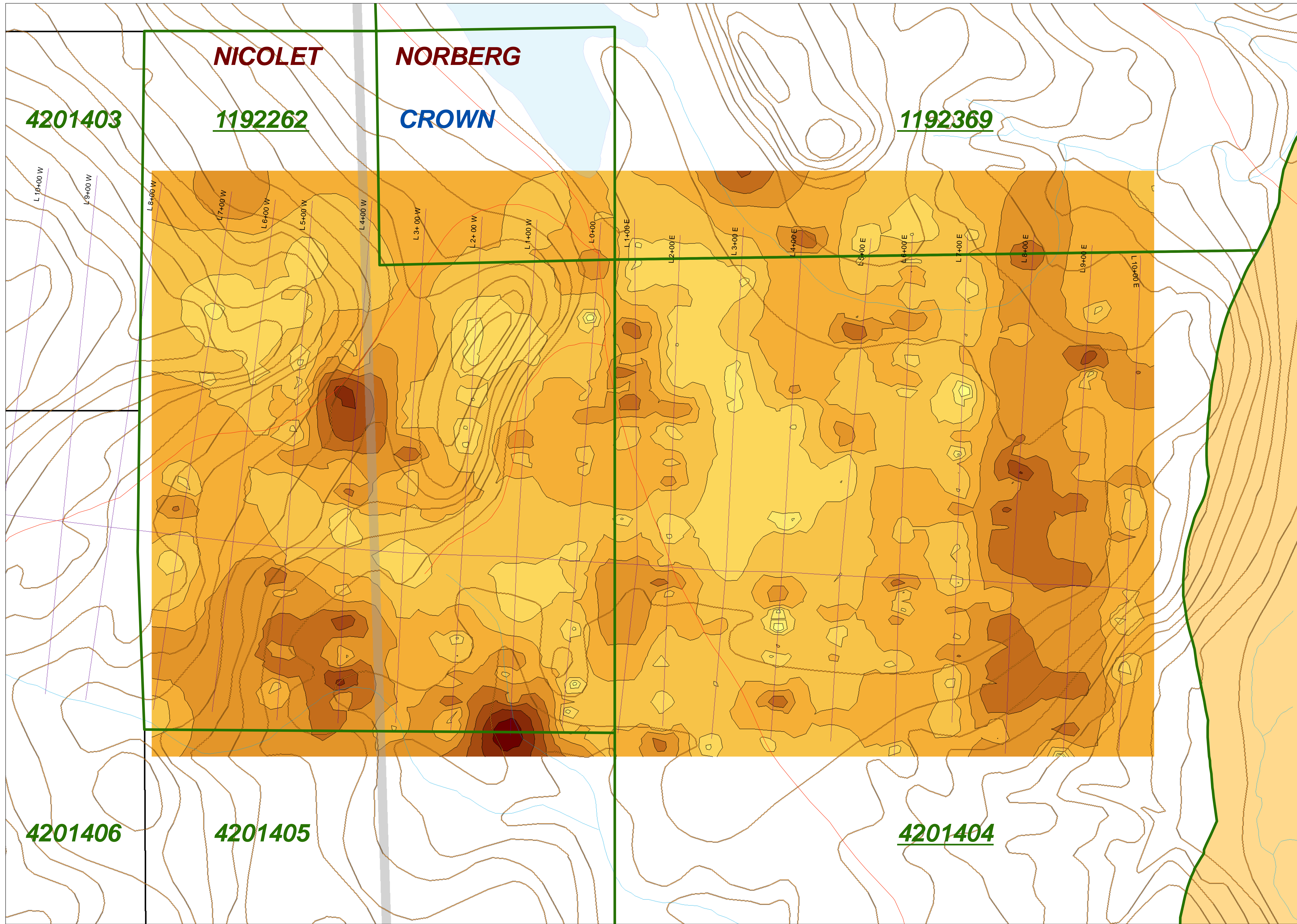
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

RUBIDIUM RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_RbRR N.T.S. 41N/01





**Legend**

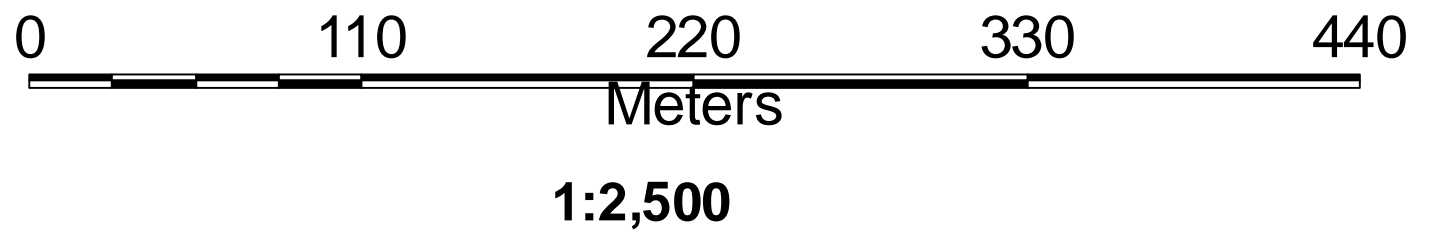
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

**EBX\_PrRR**

**Response Ratios Contours**

- 0.0 - 0.8
- 0.8 - 1.3
- 1.3 - 2.1
- 2.1 - 3.56
- 3.5 - 5.8
- 5.8 - 9.7
- 9.7 - 16.3
- 16.3 - 27.3
- 27.3 - 45.8
- 45.8 - 77.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

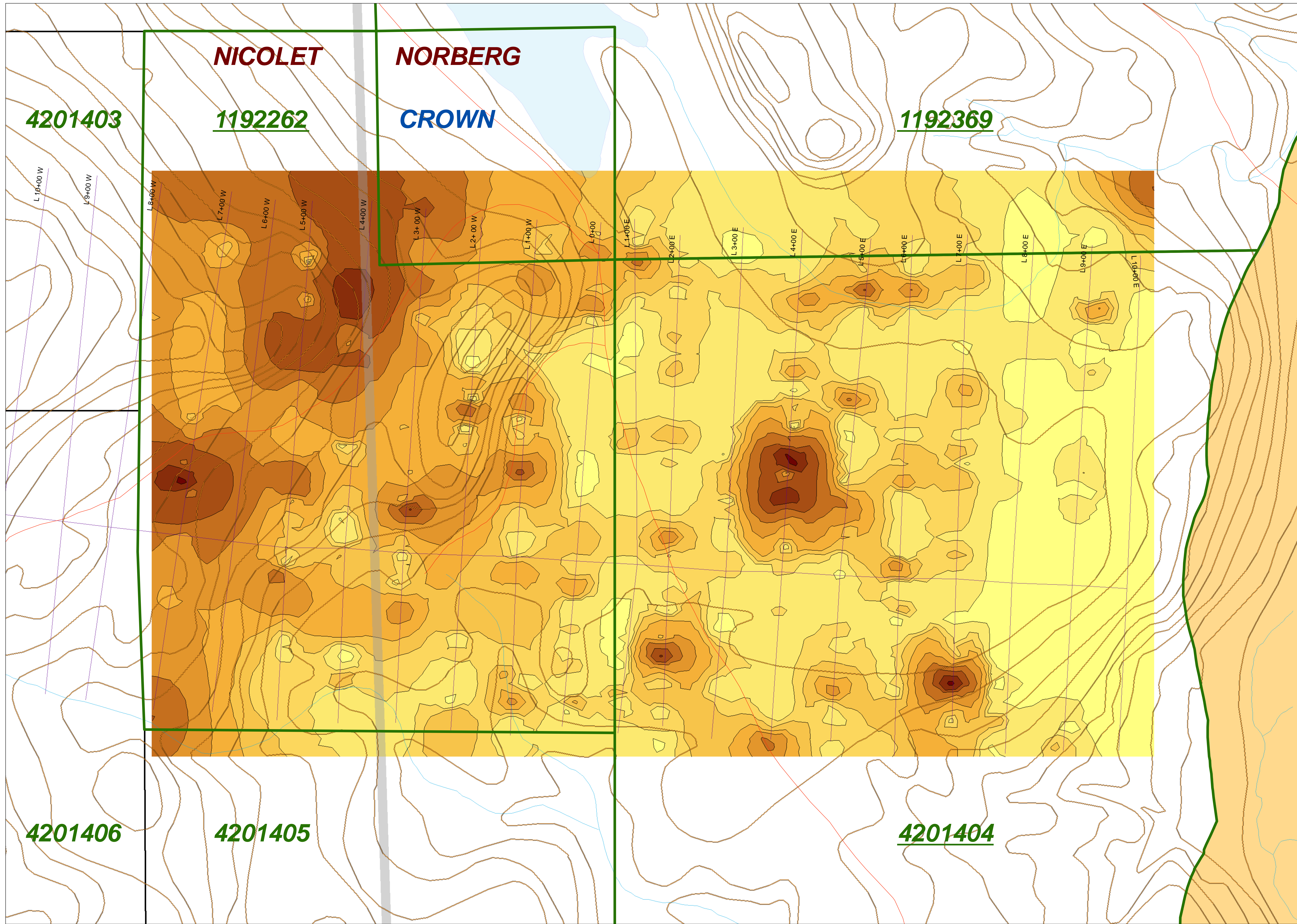


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**PRASEODYMIUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_PrRR N.T.S. 41N/01





# Legend

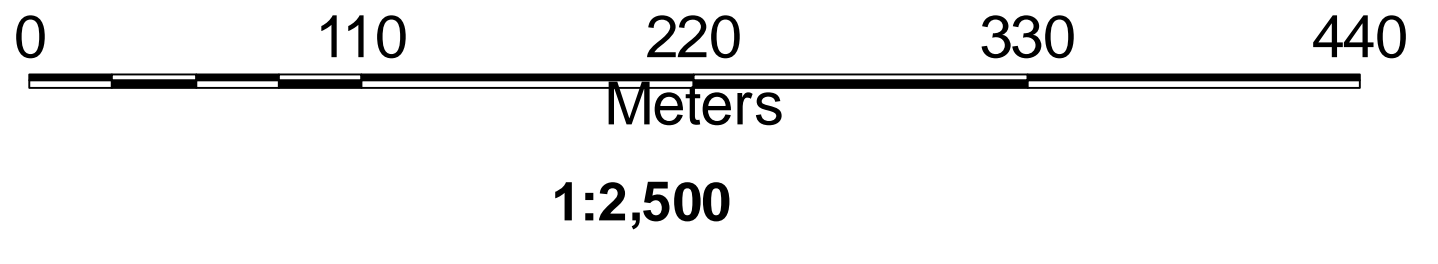
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_PbRR

### Response Ratios Contours

- 0.0 - 1.7
- 1.7 - 2.7
- 2.7 - 3.2
- 3.2 - 4.1
- 4.1 - 5.8
- 5.8 - 8.9
- 8.9 - 14.6
- 14.6 - 24.9
- 24.9 - 43.7
- 43.7 - 78.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



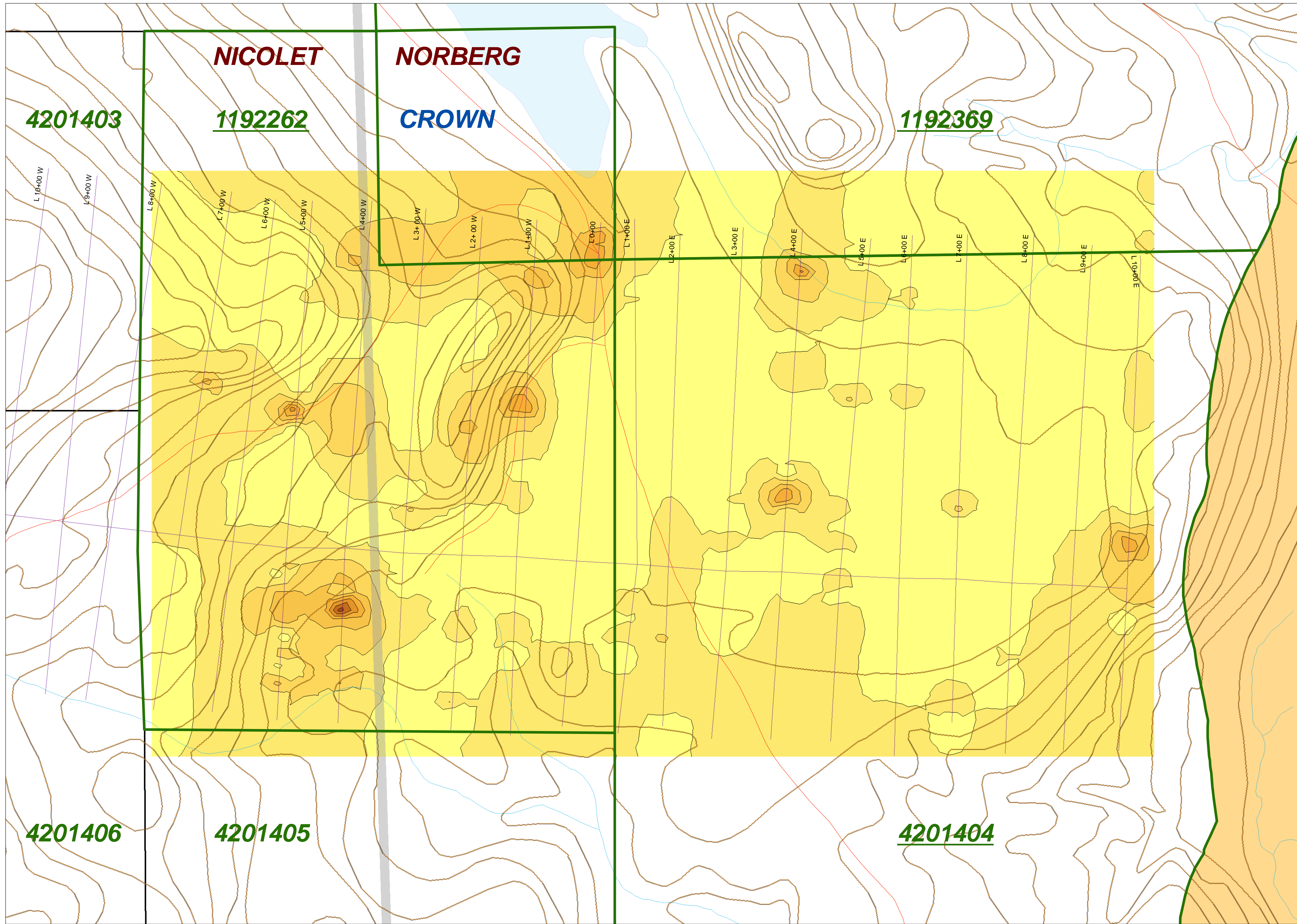
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404



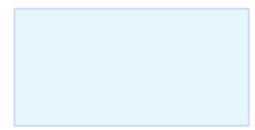





**LEAD RESPONSE RATIO CONTOURS**

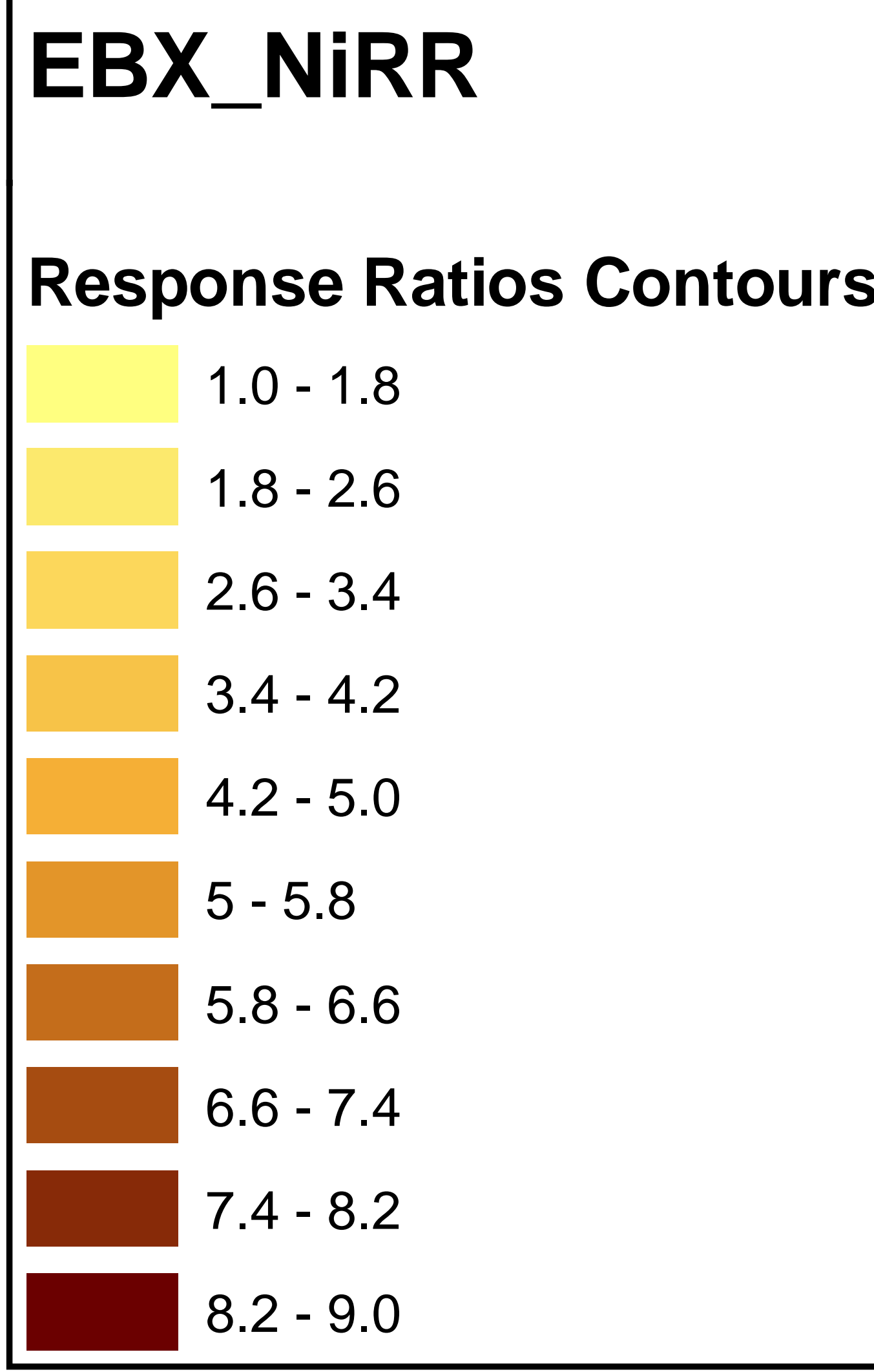
**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_PbRR N.T.S. 41N/01

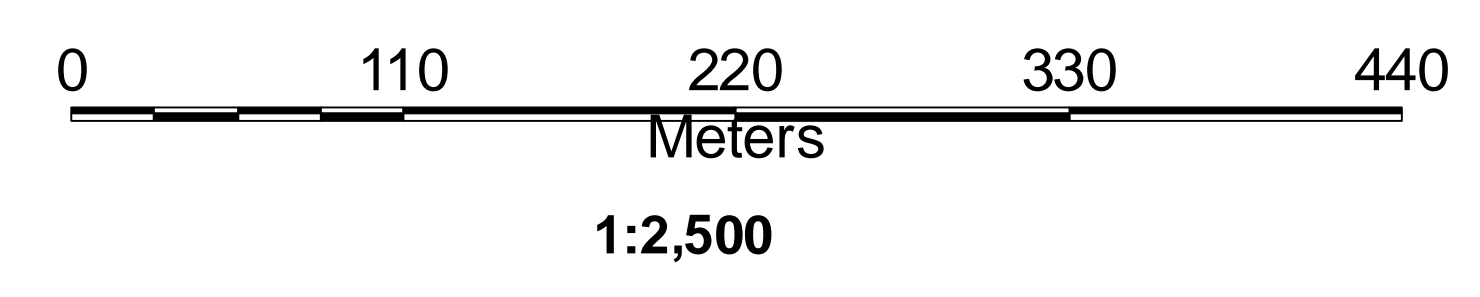




- ### Legend
-  Claim Fabric
  -  Road Access
  -  Lakes
  -  Drainage
  -  Contour Lines
  -  Township
  -  Alienated Lands
  -  East Breccia Survey Grid



DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



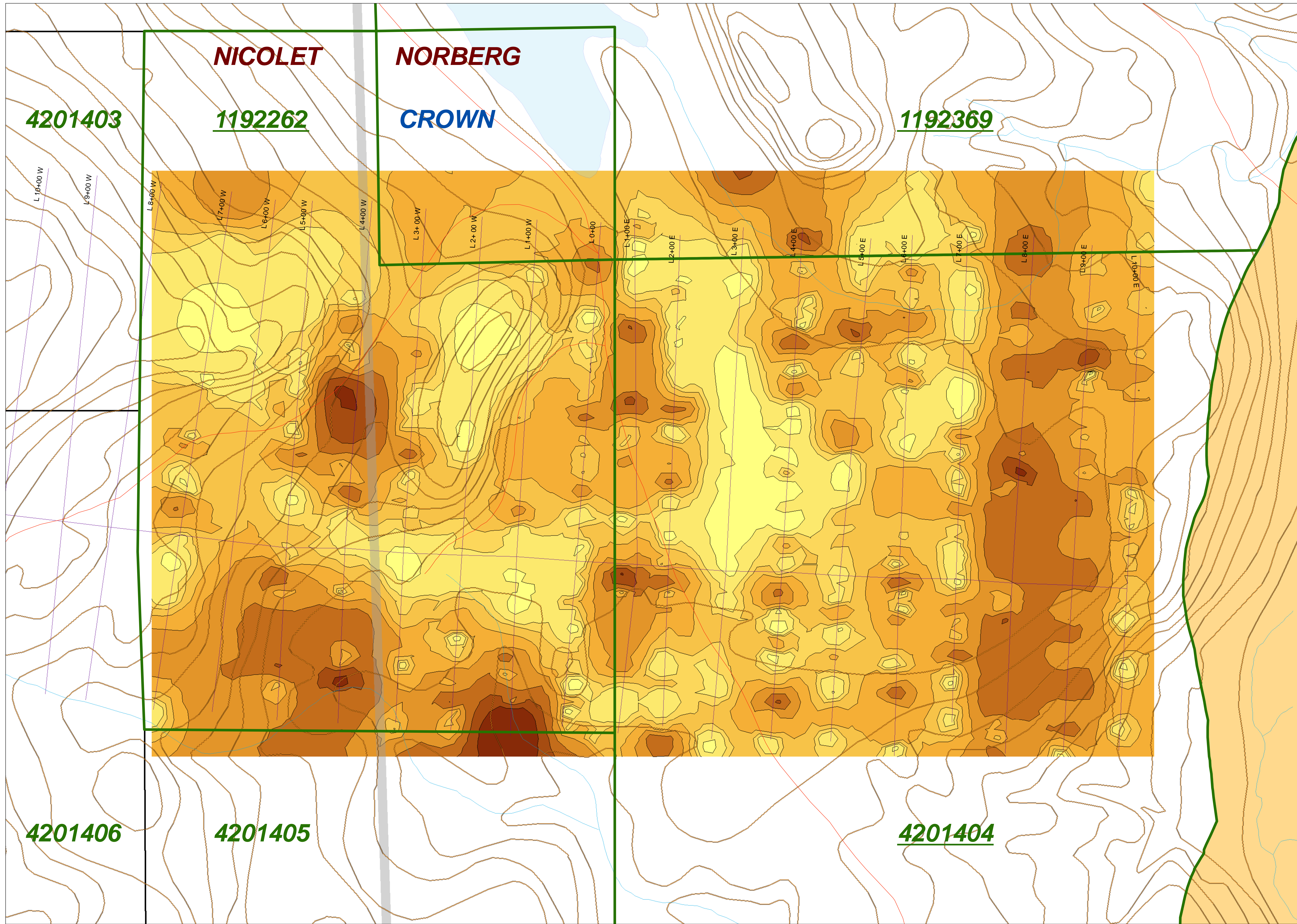
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

NICKEL RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_NiRR N.T.S. 41N/01





# Legend

- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_NdRR

### Response Ratios Contours

- 0.0 - 1.9
- 1.9 - 2.9
- 2.9 - 3.4
- 3.4 - 4.4
- 4.4 - 6.4
- 6.4 - 10.0
- 10.0 - 16.8
- 16.8 - 29.8
- 29.8 - 54.4
- 54.4 - 101.0

**NICOLET**

**NORBERG**

**CROWN**

**4201403**

**1192262**

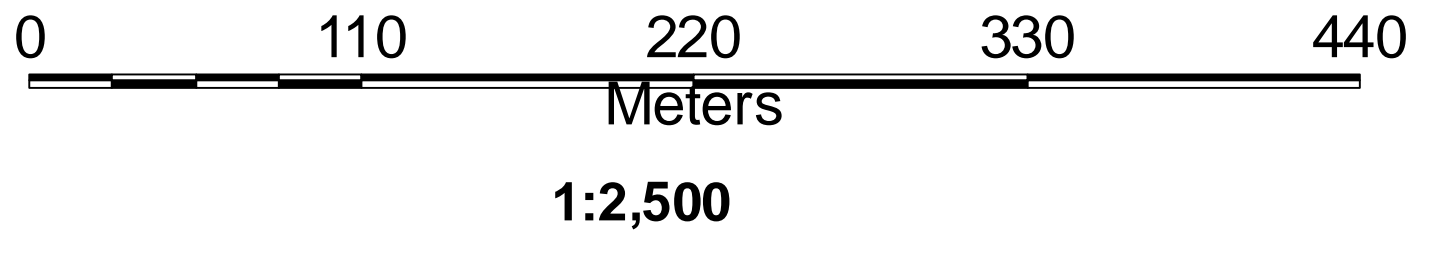
**1192369**

**4201406**

**4201405**

**4201404**

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

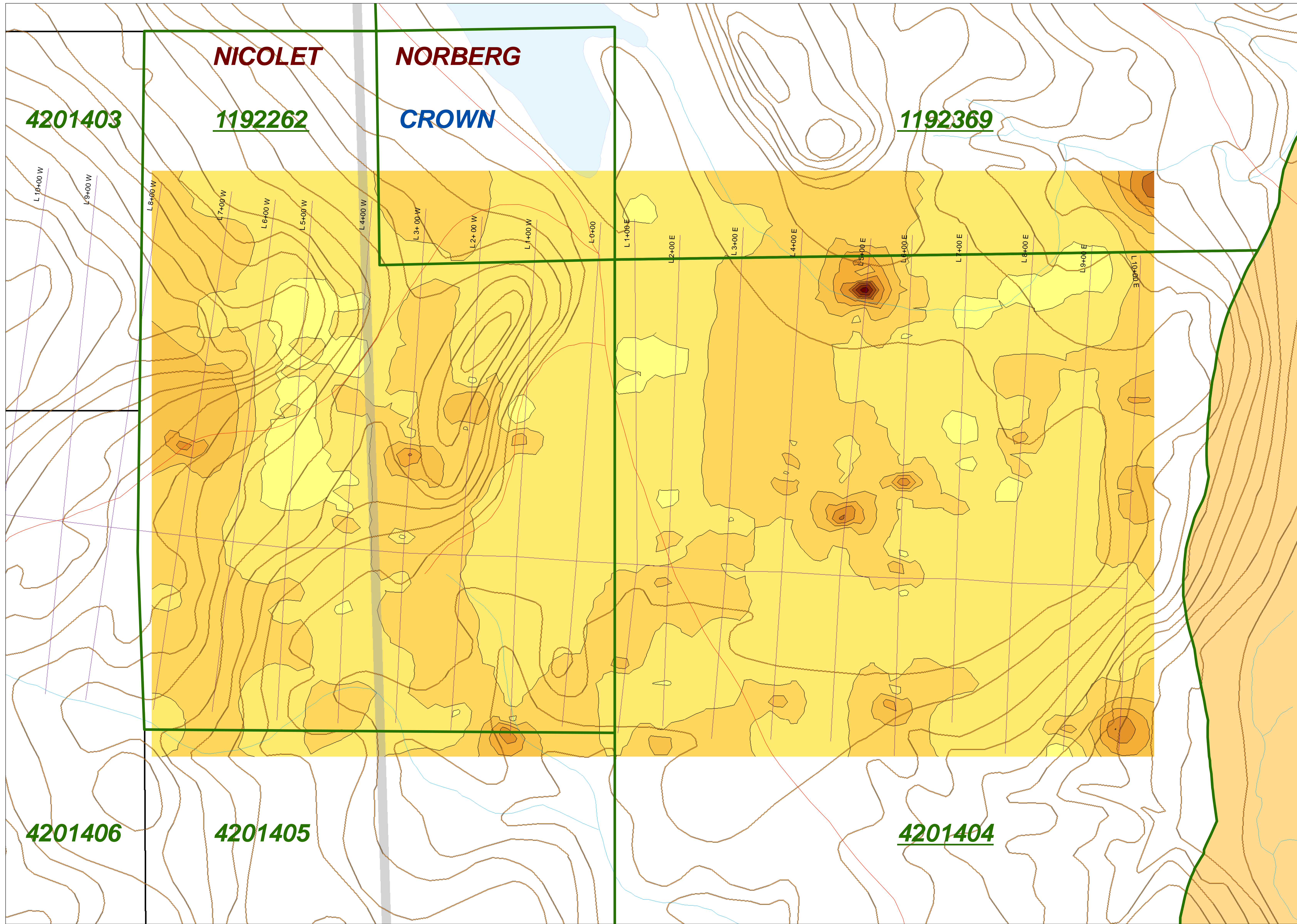


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**NEODYMIUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_NdRR N.T.S. 41N/01





### Legend

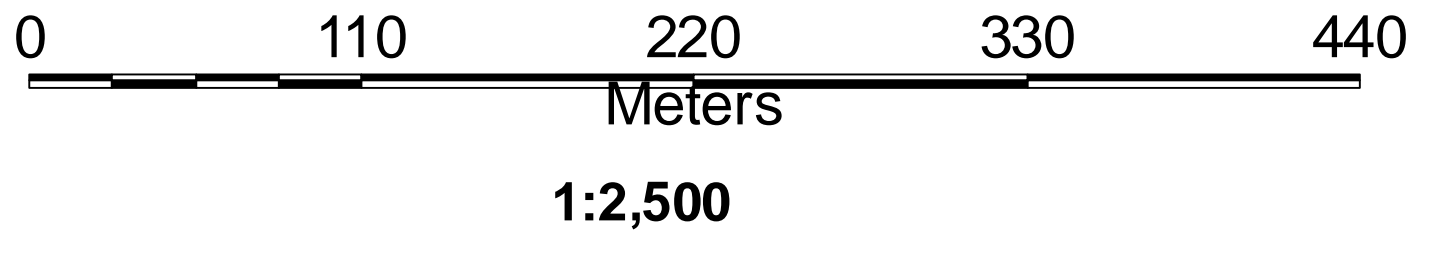
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_NbRR

#### Response Ratios Contours

	0.0 - 0.6
	0.6 - 1.2
	1.2 - 2.1
	2.1 - 3.1
	3.1 - 4.3
	4.3 - 5.8
	5.8 - 7.7
	7.7 - 9.9
	9.9 - 12.6
	12.6 - 16.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



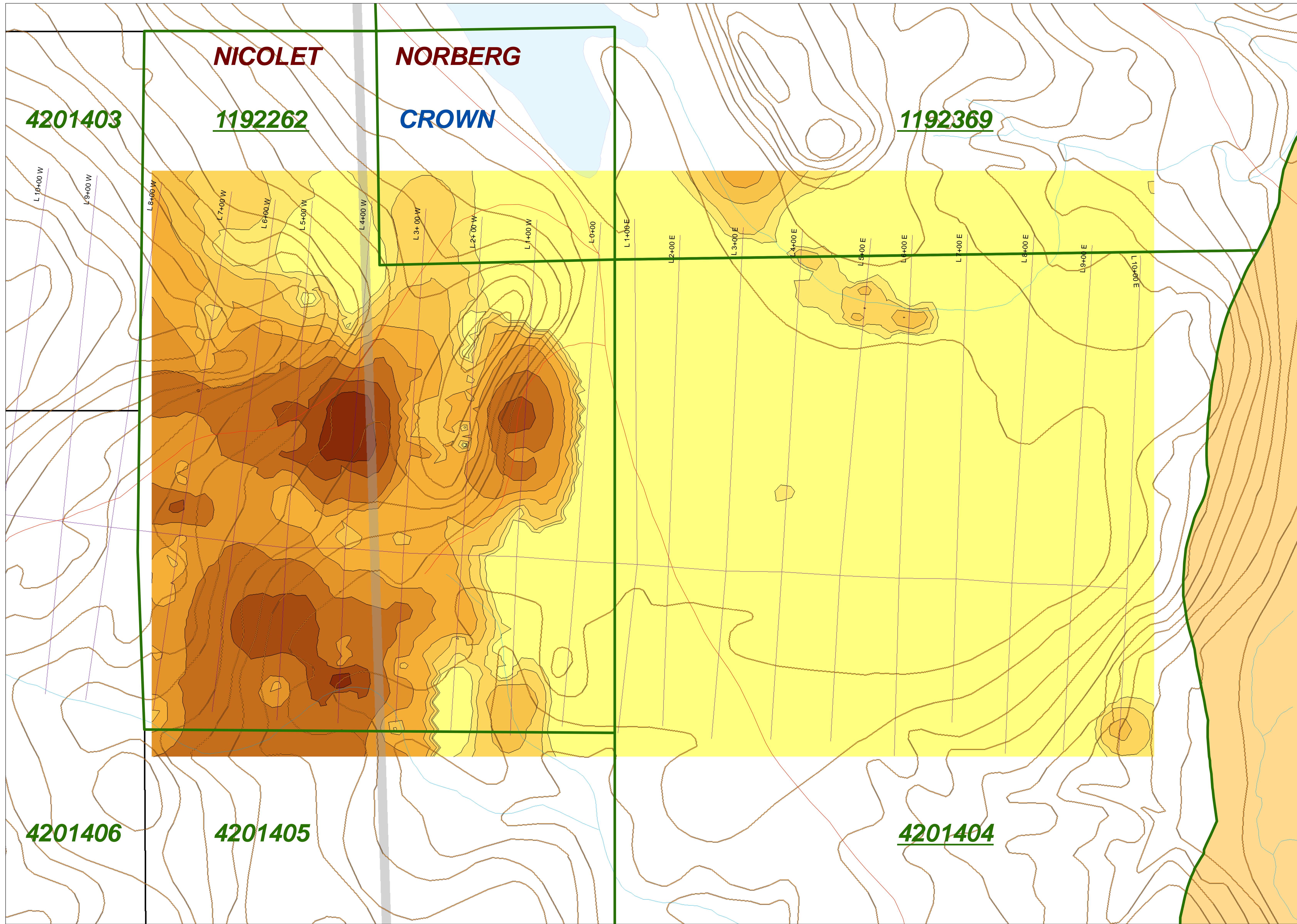
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**NIObIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_NbRR N.T.S. 41N/01





### Legend

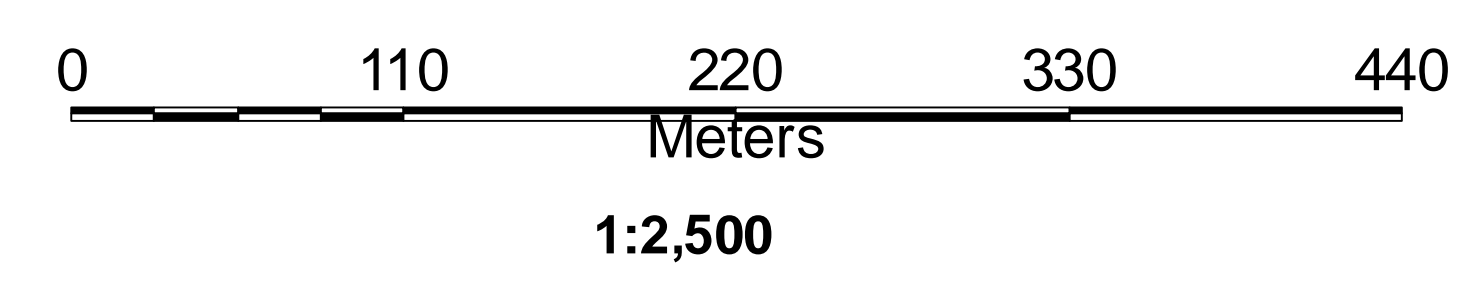
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_MoRR

#### Response Ratios Contours

	1.0 - 1.9
	1.9 - 2.3
	2.3 - 3.3
	3.3 - 5.4
	5.4 - 10.4
	10.4 - 21.9
	21.9 - 48.5
	48.5 - 110.0
	110.0 - 252.7
	252.7 - 583.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

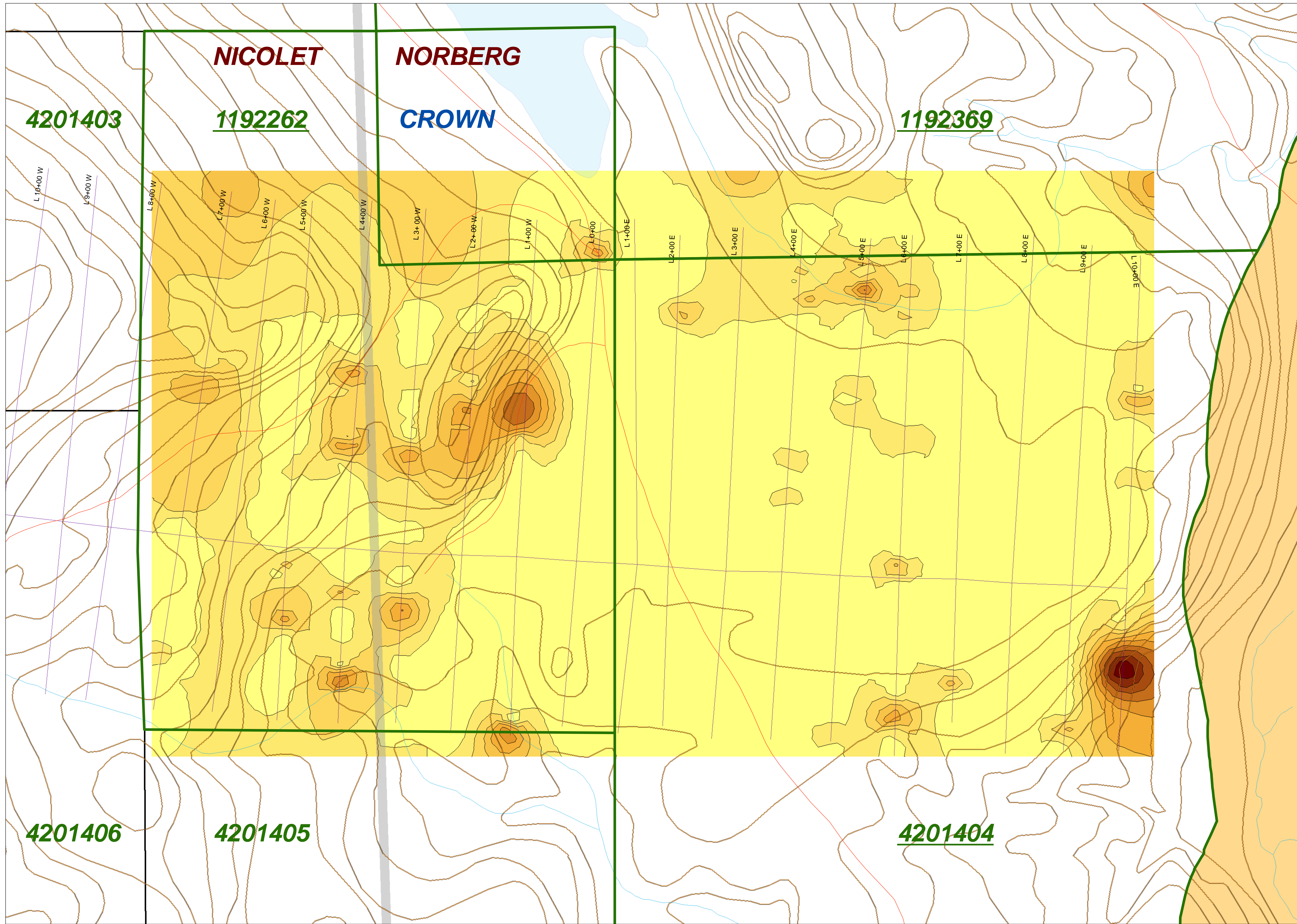


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**MOLYBDENUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_MoRR N.T.S. 41N/01





### Legend

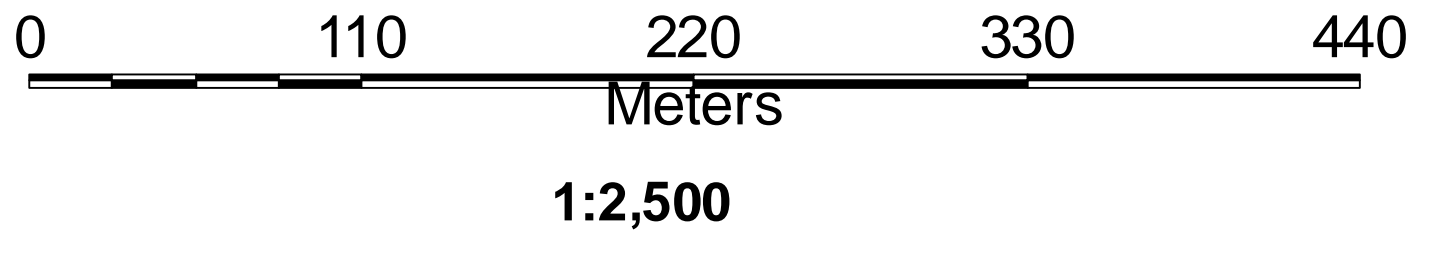
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_MgRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 5
	5 - 7
	7 - 10
	10 - 13
	13 - 18
	18 - 24
	24 - 33
	33 - 44

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

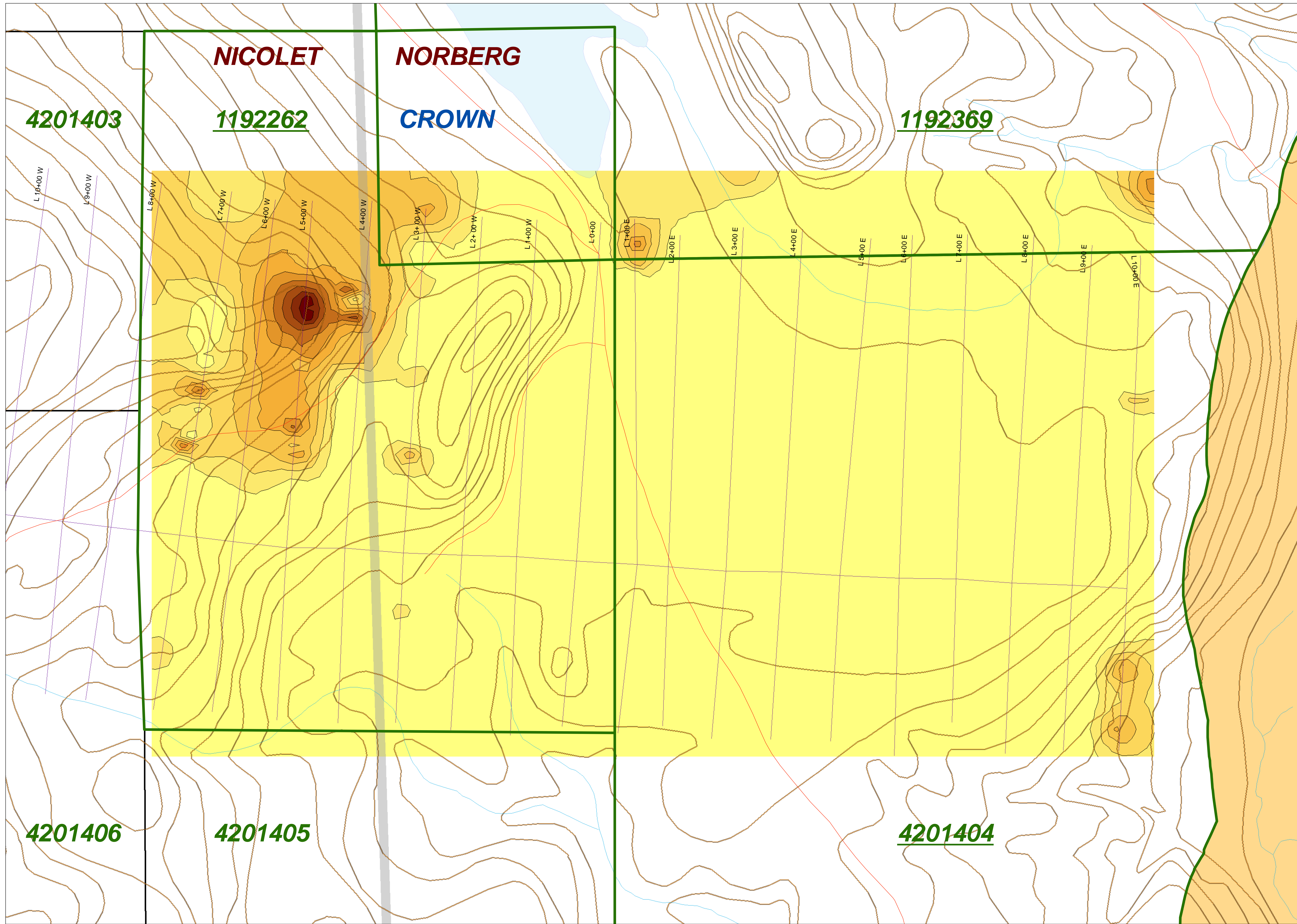


AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

MAGNESIUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_MgRR N.T.S. 41N/01





### Legend

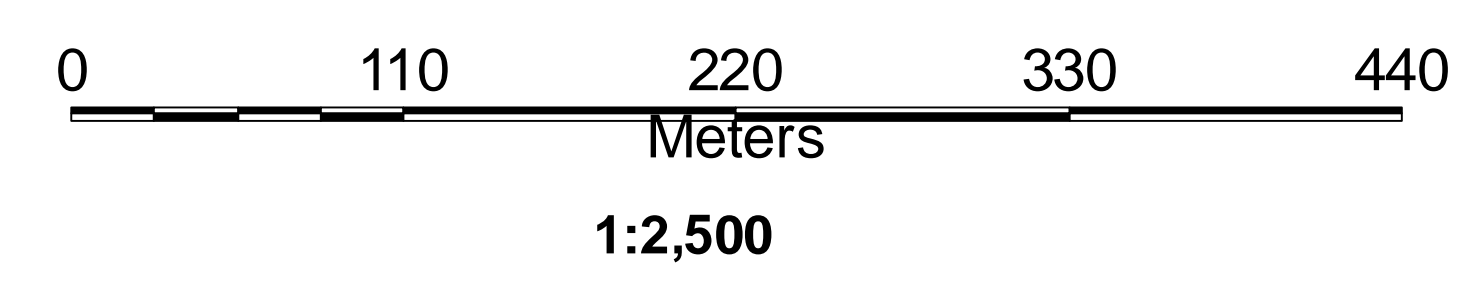
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_LiRR

#### Response Ratios Contours

	1 - 1.7
	1.7 - 2.4
	2.4 - 3.1
	3.1 - 3.8
	3.8 - 4.5
	4.5 - 5.2
	5.2 - 5.9
	5.9 - 6.6
	6.6 - 7.3
	7.3 - 8

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



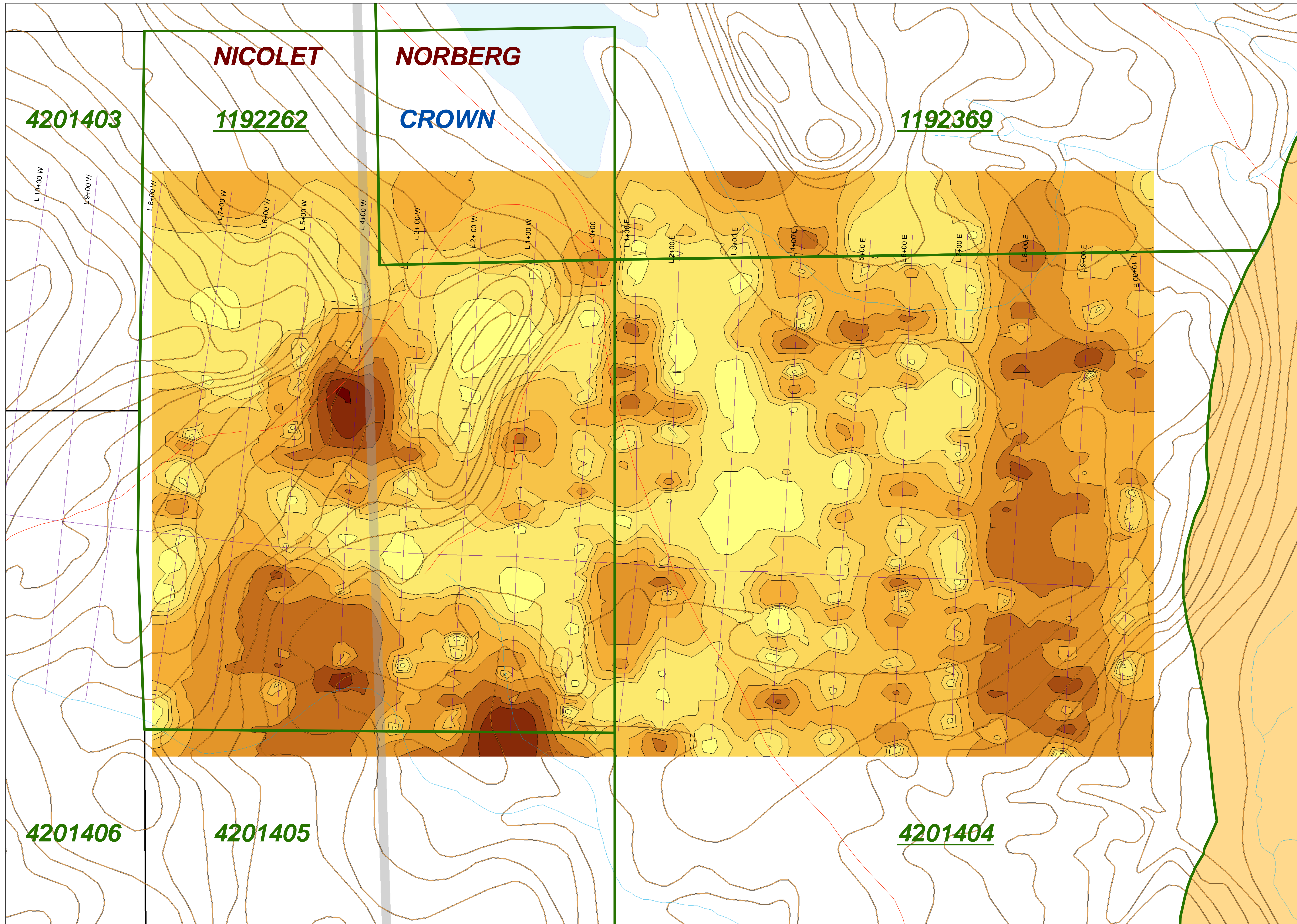
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**LITHIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_LiRR N.T.S. 41N/01





### Legend

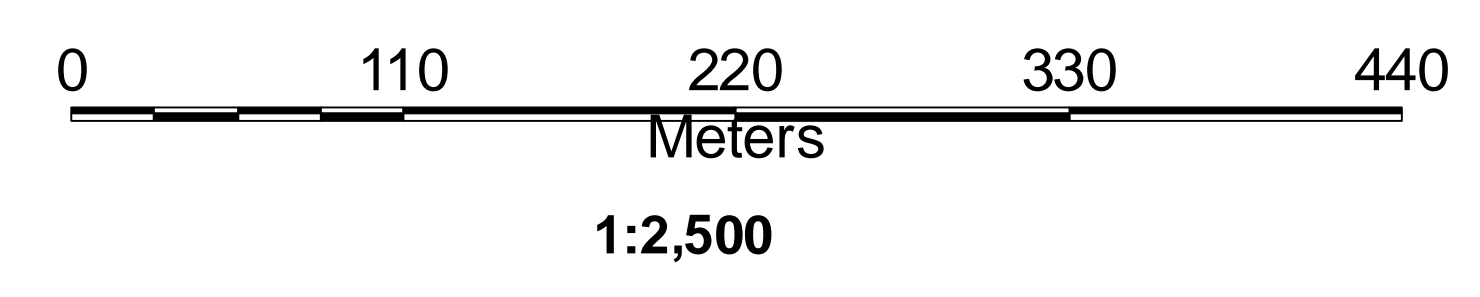
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_LaRR

#### Response Ratios Contours

	0.0 - 1.7
	1.7 - 2.6
	2.6 - 3.1
	3.1 - 4.0
	4.0 - 5.8
	5.8 - 8.9
	8.9 - 14.8
	14.8 - 25.8
	25.8 - 46.2
	46.2 - 84.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

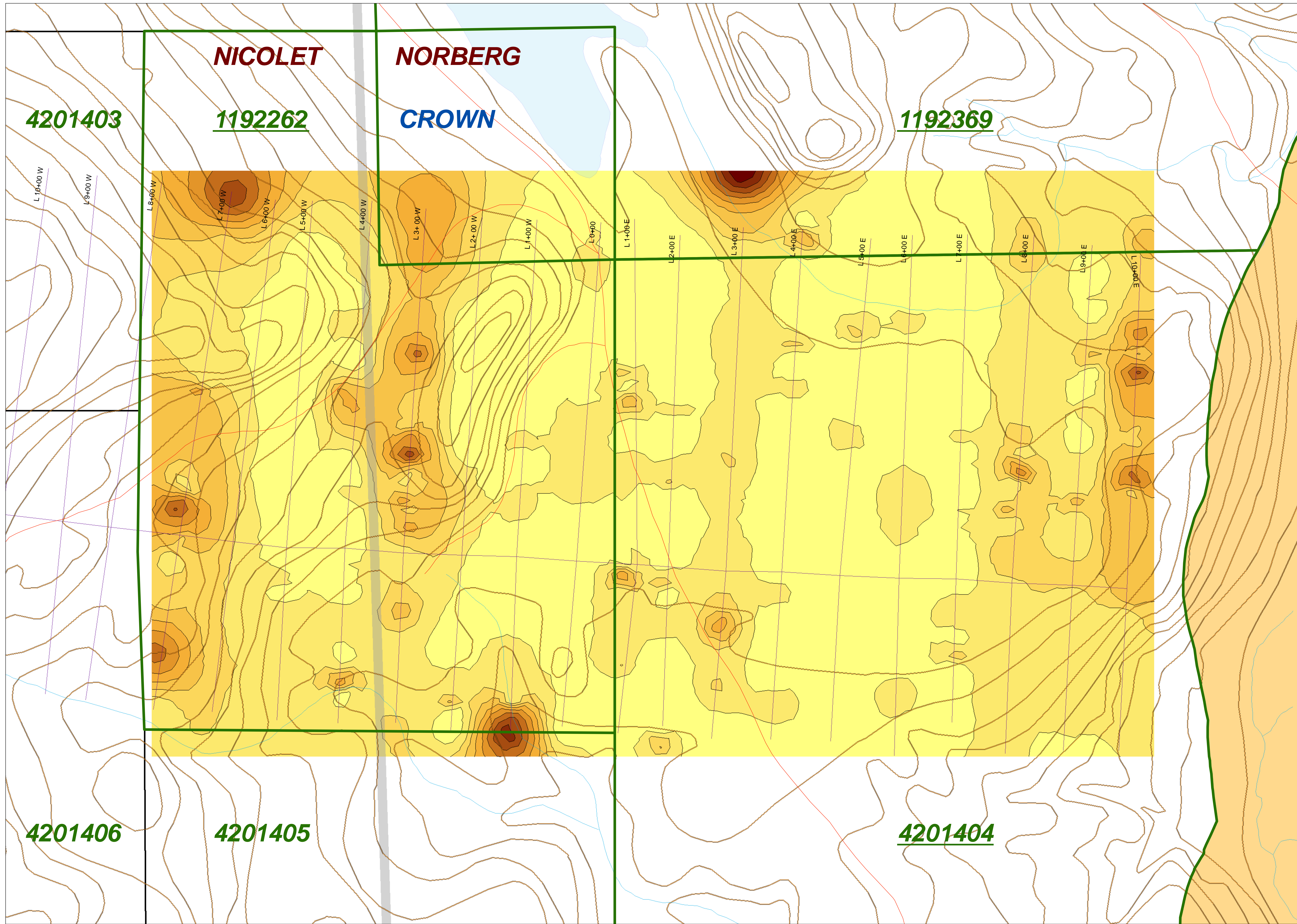


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**LANTHANUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_LaRR N.T.S. 41N/01





### Legend

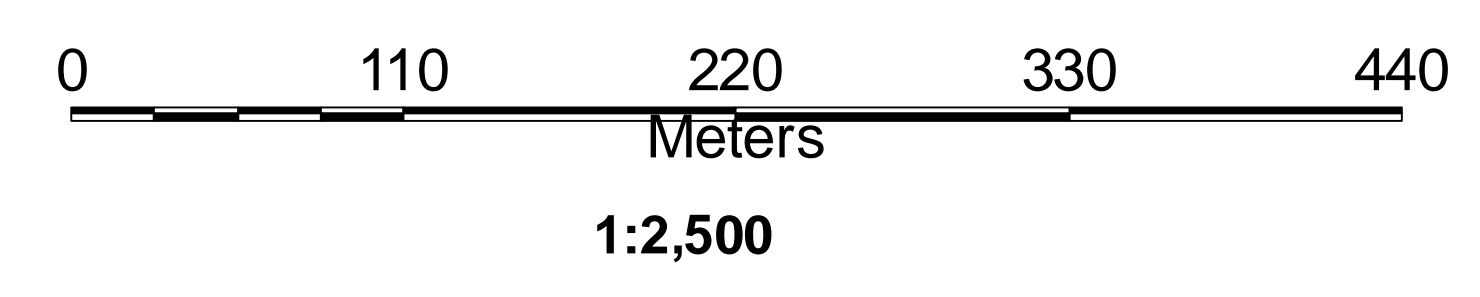
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_GdRR

#### Response Ratios Contours

	0 - 1.0
	1.0 - 1.8
	1.8 - 2.4
	2.4 - 3.2
	3.2 - 4.1
	4.1 - 5.4
	5.4 - 6.9
	6.9 - 8.7
	8.7 - 11.1
	11.1 - 14.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates

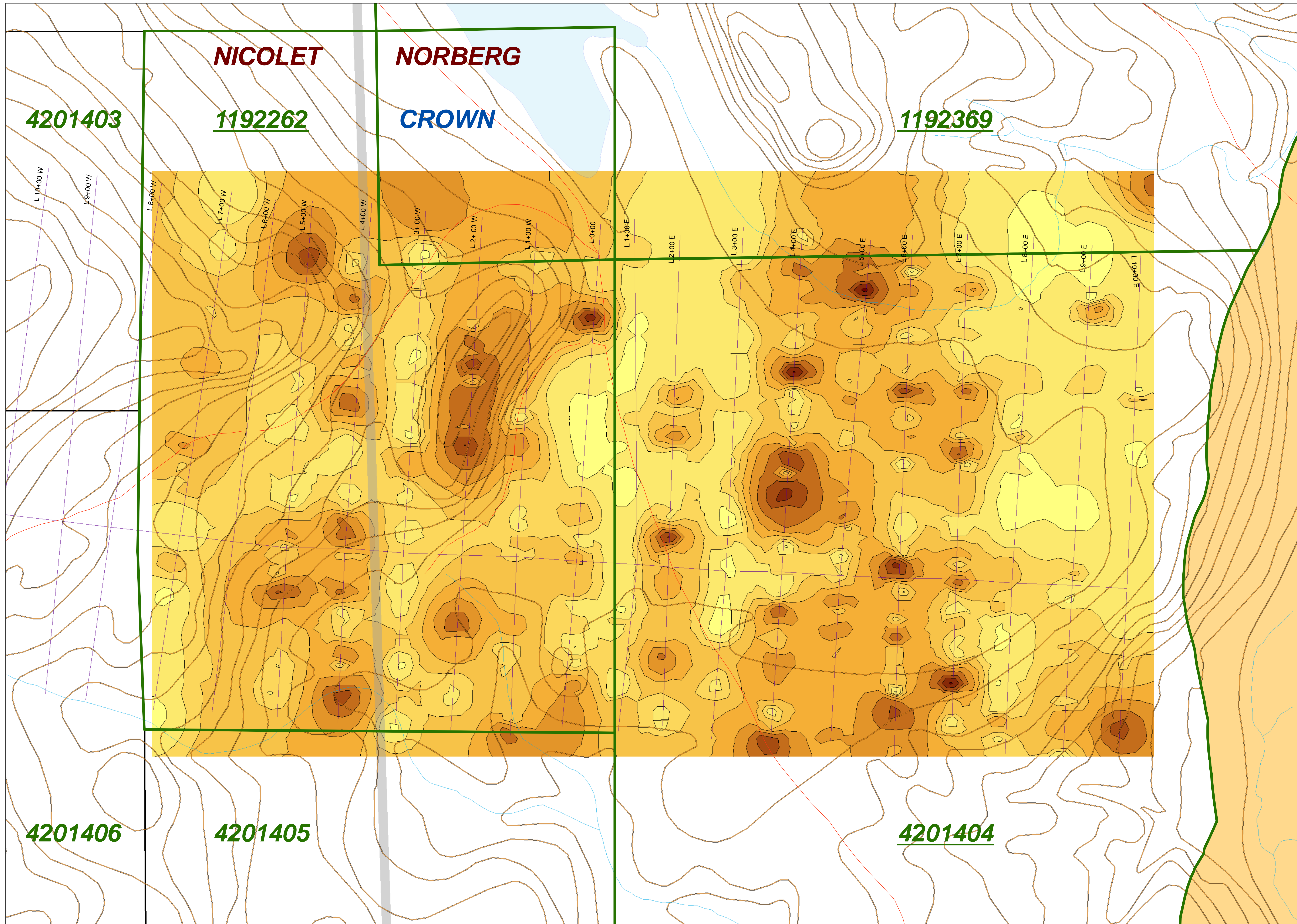


**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**GADOLLINIUM RESPONSE RATIO  
 CONTOURS  
 NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_GdRR N.T.S. 41N/01





### Legend

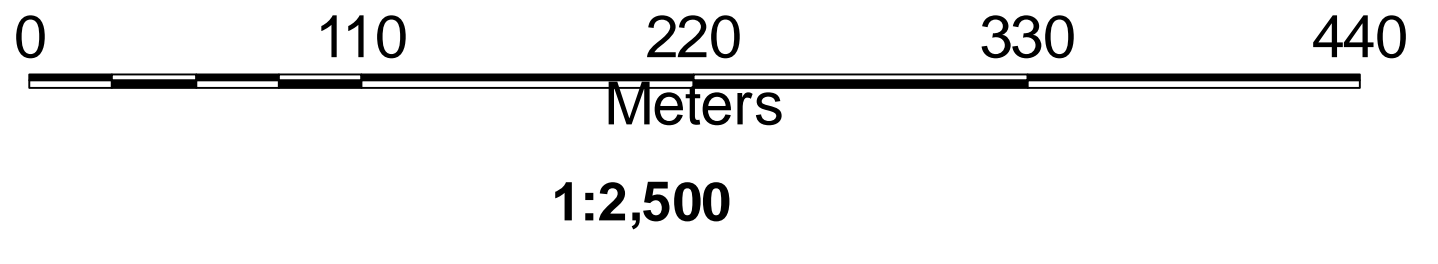
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_FeRR

#### Response Ratios Contours

	0.0 - 1.5
	1.5 - 2.5
	2.5 - 3.1
	3.1 - 4.2
	4.2 - 5.6
	5.6 - 7.8
	7.8 - 10.9
	10.9 - 15.5
	15.5 - 22.2
	22.2 - 32.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



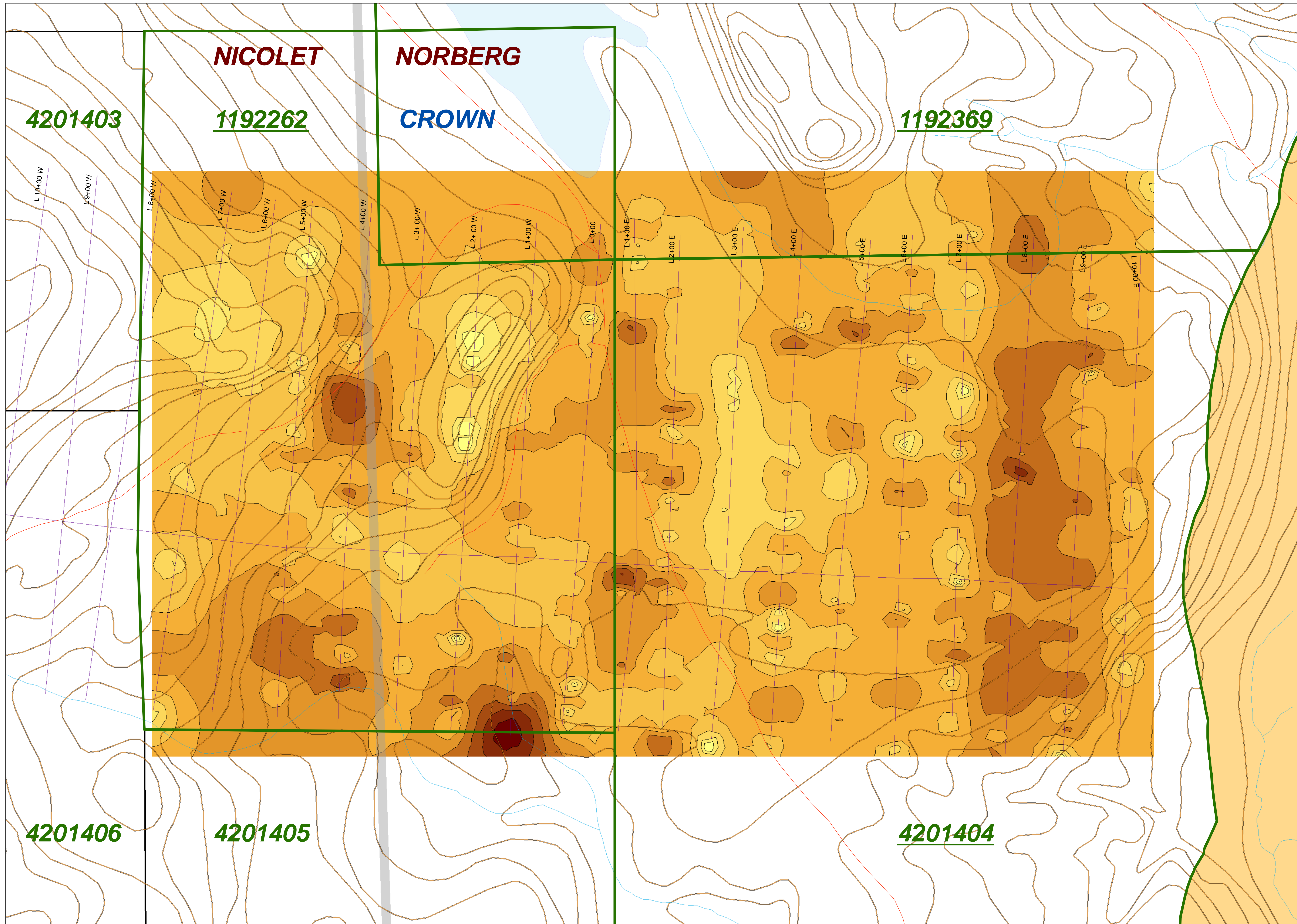
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

IRON RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_FeRR N.T.S. 41N/01





### Legend

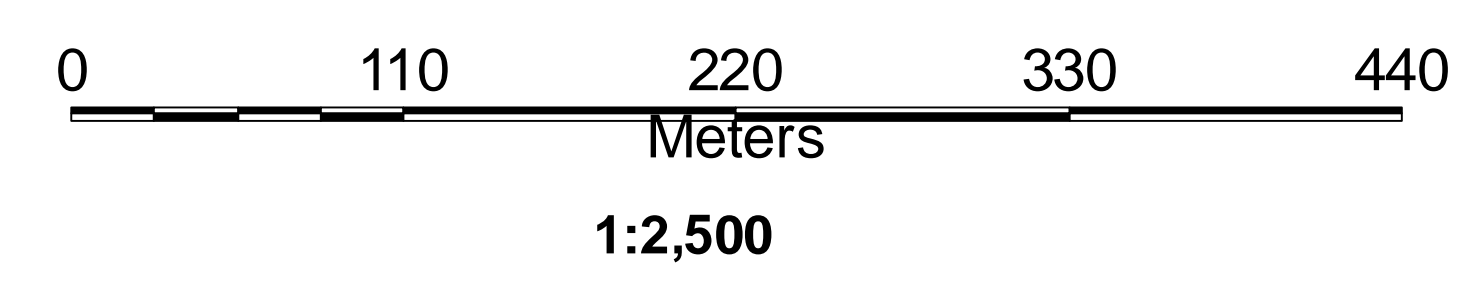
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_EuRR

#### Response Ratios Contours

	0.0 - 0.8
	0.8 - 1.3
	1.3 - 2.1
	2.1 - 3.4
	3.4 - 5.5
	5.5 - 9.0
	9.0 - 14.5
	14.5- 23.4
	23.4 - 37.8
	37.8 - 61.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



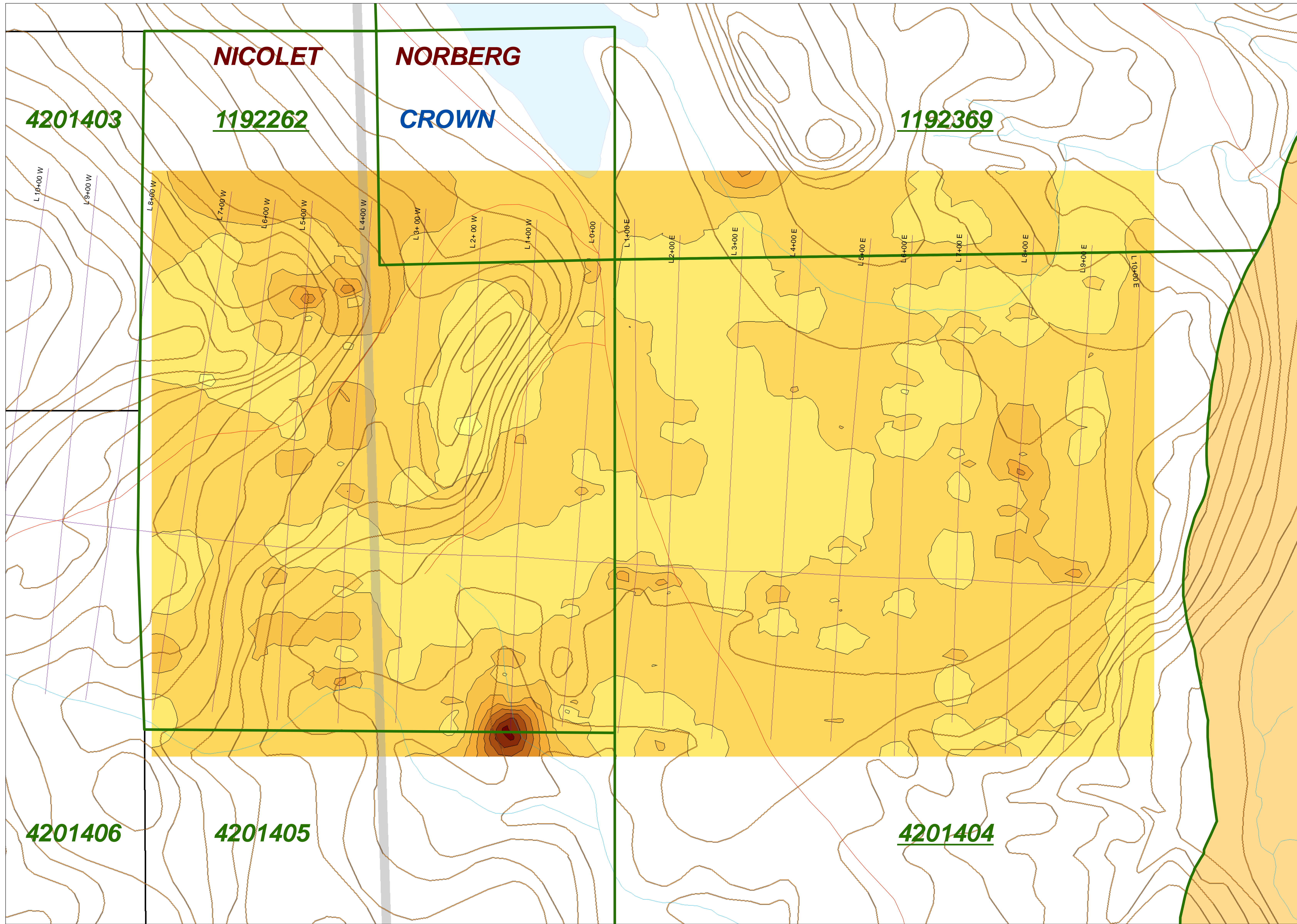
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**EUROPIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_EuRR N.T.S. 41N/01





### Legend

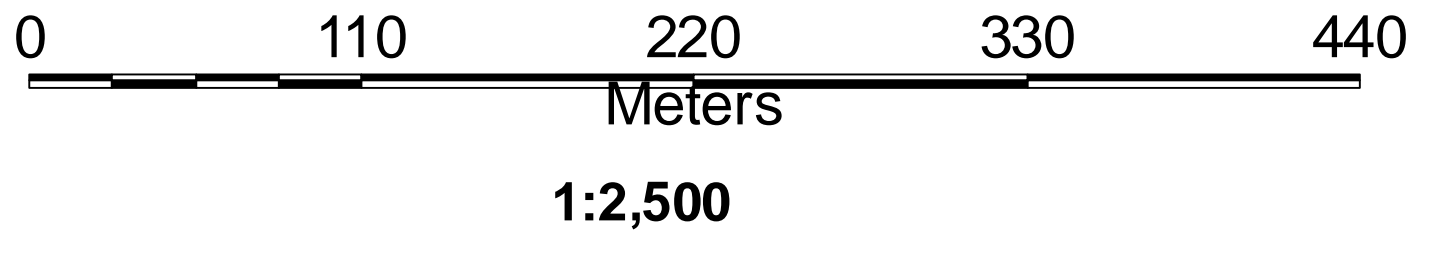
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_ErRR

#### Response Ratios Contours

	0 - 0.7
	0.7 - 1.5
	1.5 - 2.4
	2.4 - 3.5
	3.5 - 4.6
	4.6 - 5.9
	5.9 - 7.4
	7.4 - 9.0
	9.01 - 10.9
	10.9 - 13.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



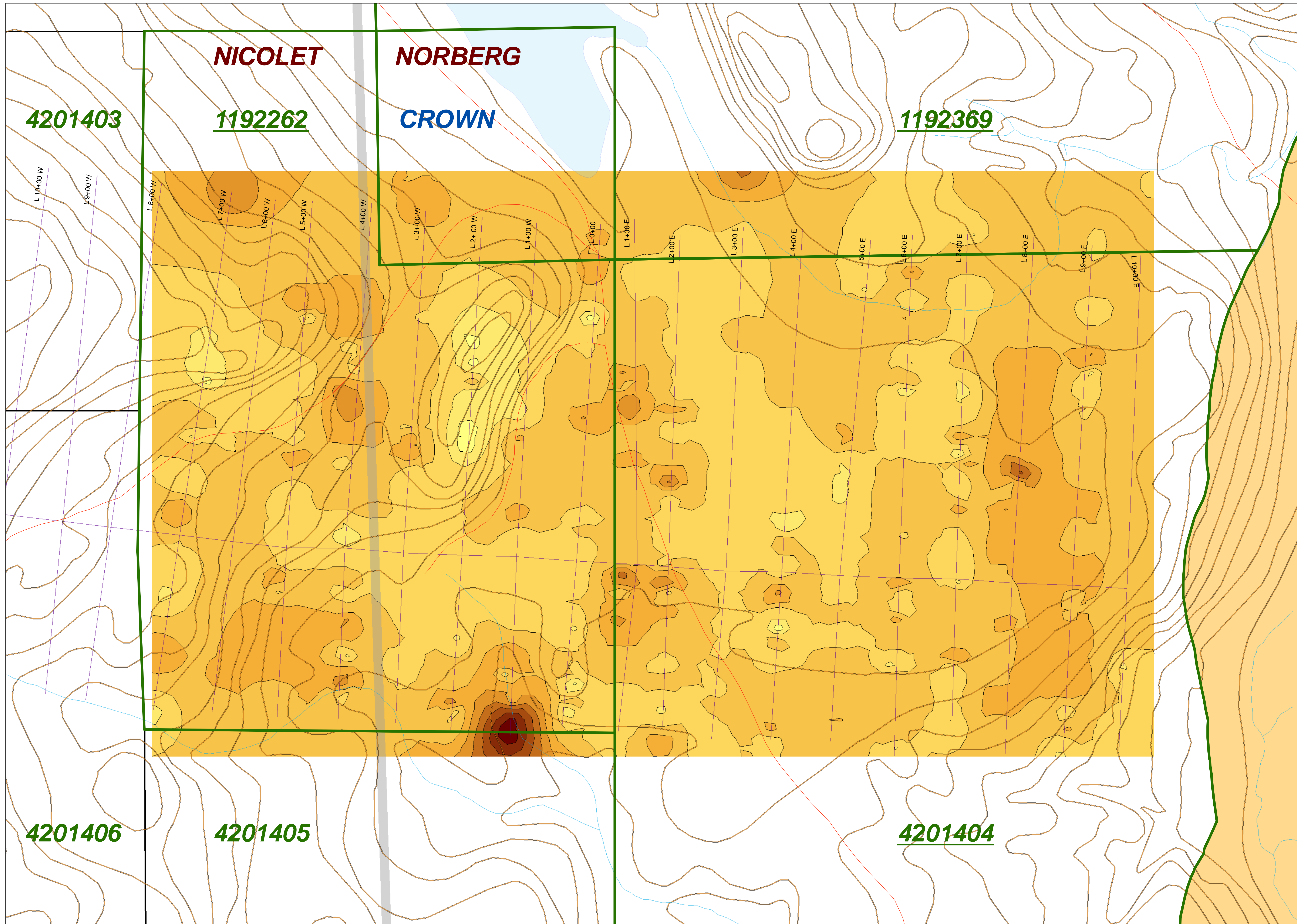
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**ERBIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_ErRR N.T.S. 41N/01





### Legend

- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_DyRR

#### Response Ratios Contours

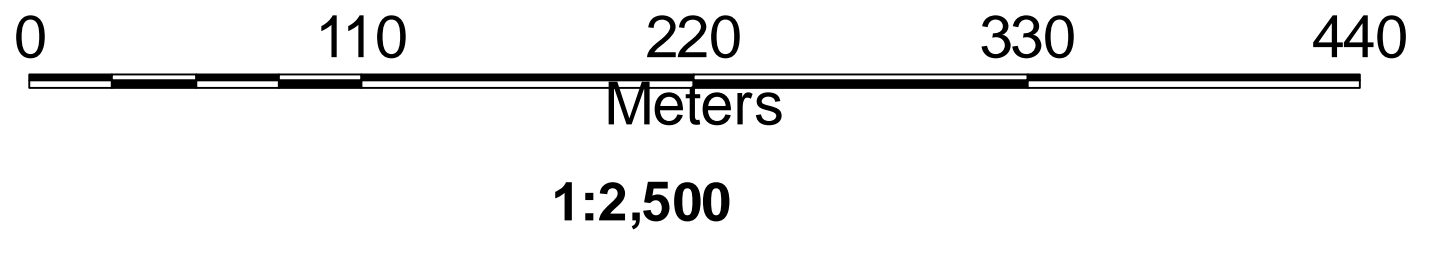
	0.0 - 0.5
	0.5 - 1.2
	1.2 - 2.1
	2.1 - 3.2
	3.2 - 4.6
	4.6 - 6.4
	6.4 - 8.7
	8.7 - 11.6
	11.6 - 15.3
	15.3 - 20.0

**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

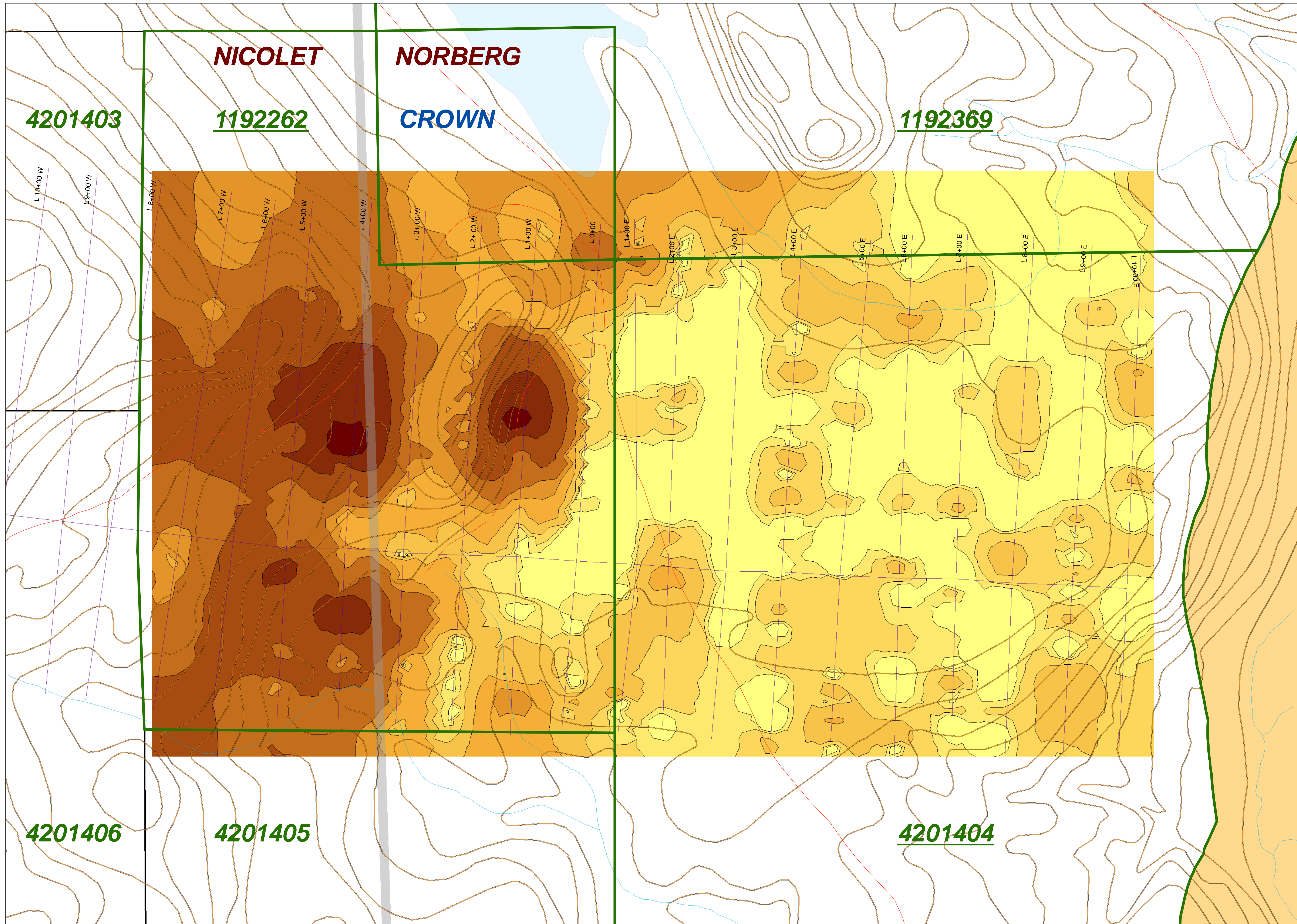
**DYSPROSIUM RESPONSE RATIO CONTOURS**  
**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500** or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_DyRR N.T.S. 41N/01

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates







# Legend

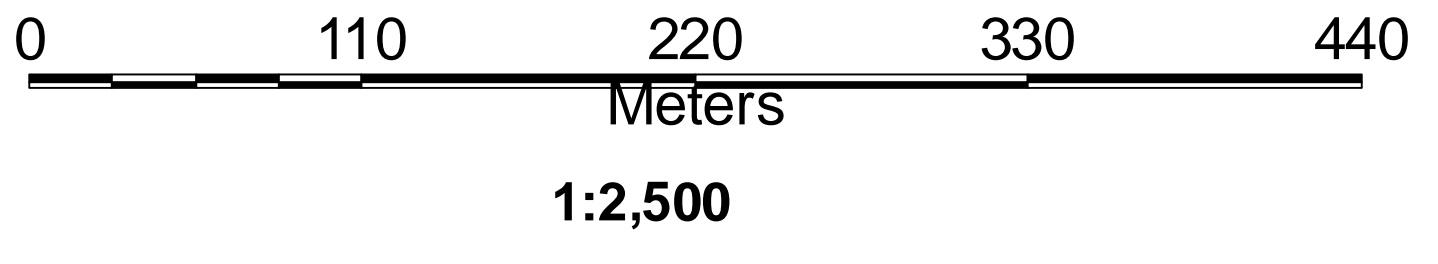
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

## EBX\_CuRR

### Response Ratios Contours

- 1.0 - 2.0
- 2.0 - 2.3
- 2.3 - 3.2
- 3.2 - 6.1
- 6.1 - 14.6
- 14.67 - 40.2
- 40.2 - 117.1
- 117.1 - 348.1
- 348.1 - 1,041.5
- 1,041.5 - 3,123.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



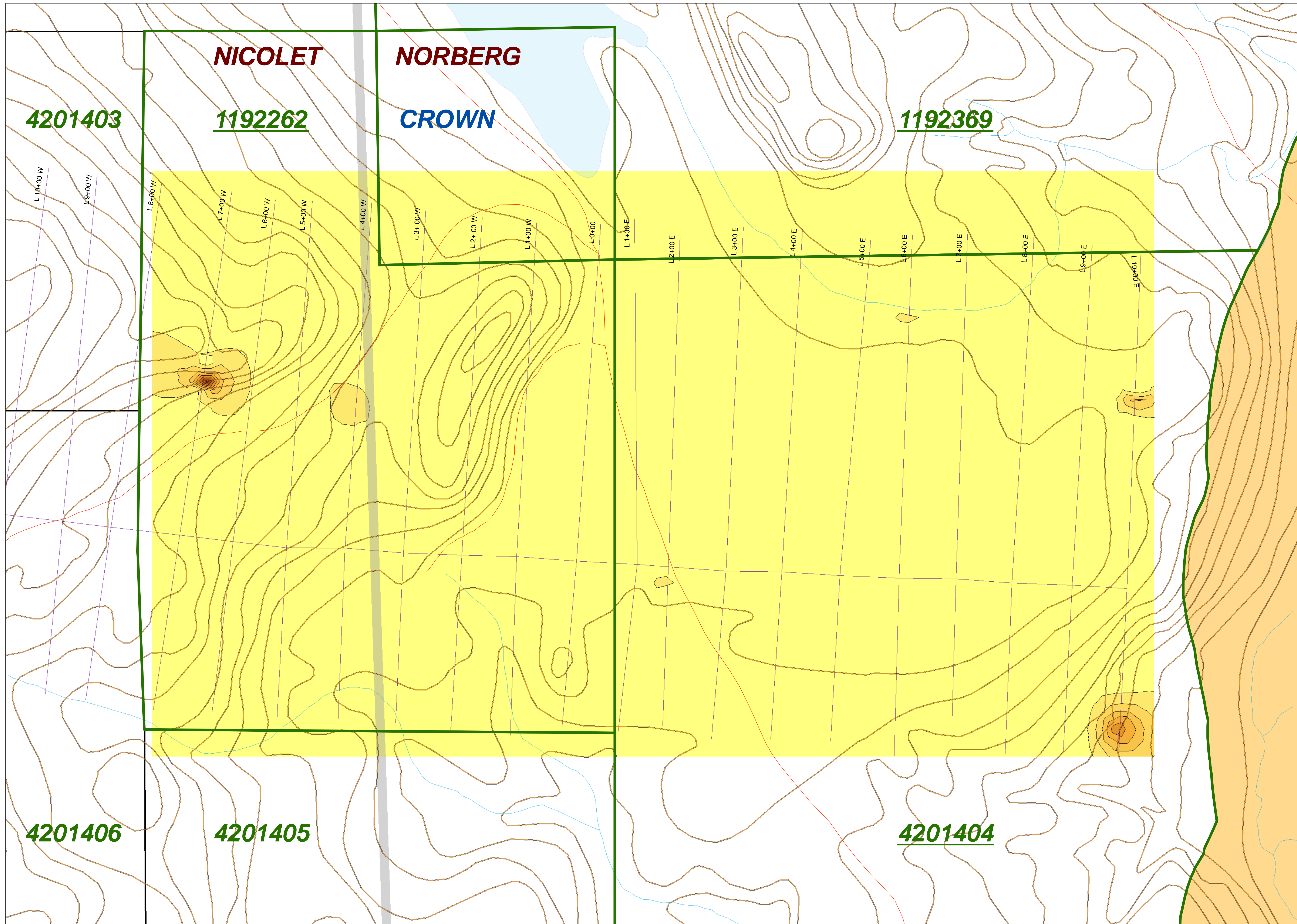
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**COPPER RESPONSE RATIO CONTOURS**



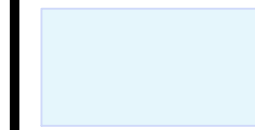





**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CuRR N.T.S. 41N/01















# Legend

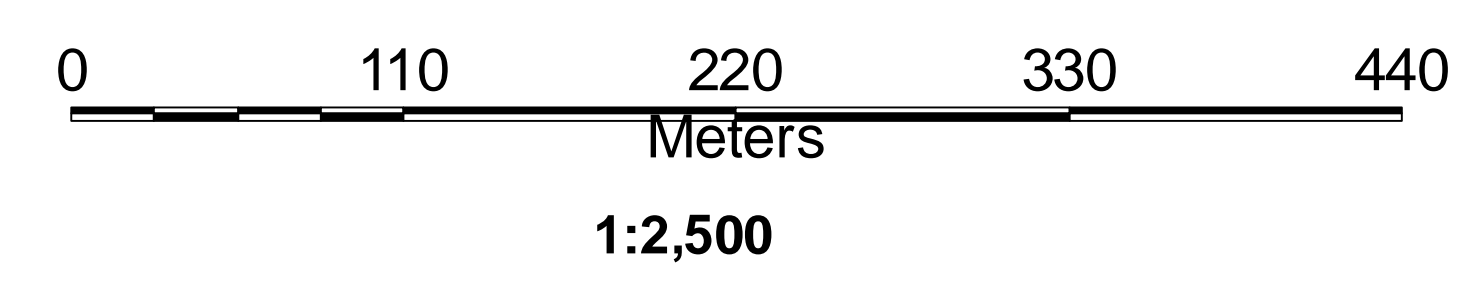
-  Claim Fabric
-  Road Access
-  Lakes
-  Drainage
-  Contour Lines
-  Township
-  Alienated Lands
-  East Breccia Survey Grid

## EBX\_CrRR

### Response Ratios Contours

-  1 - 1.5
-  1.5 - 2
-  2 - 2.5
-  2.5 - 3
-  3 - 3.5
-  3.5 - 4
-  4 - 4.5
-  4.5 - 5
-  5 - 5.5
-  5.5 - 6

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



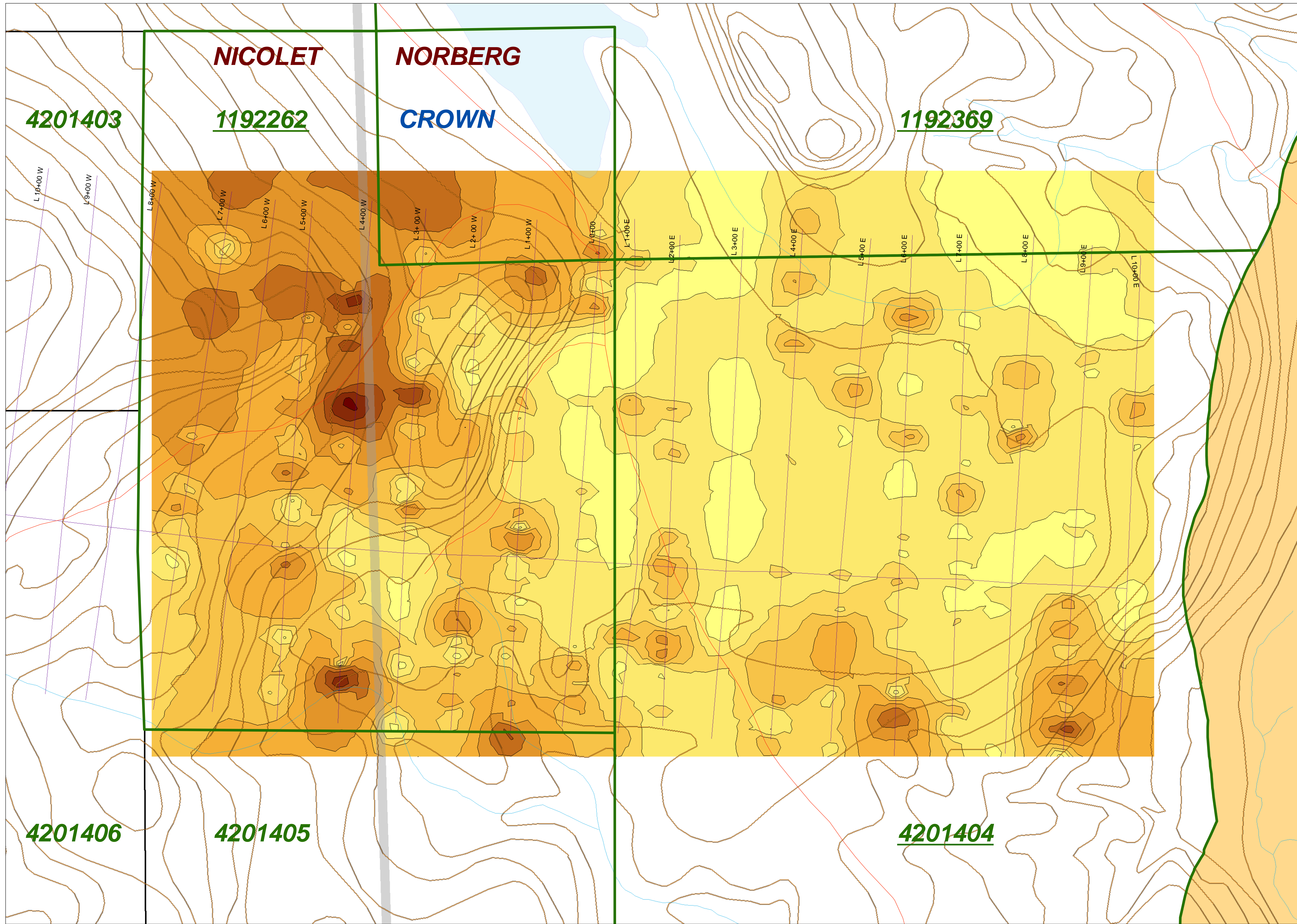
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

### CHROMIUM RESPONSE RATIO CONTOURS

### NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CrRR N.T.S. 41N/01





### Legend

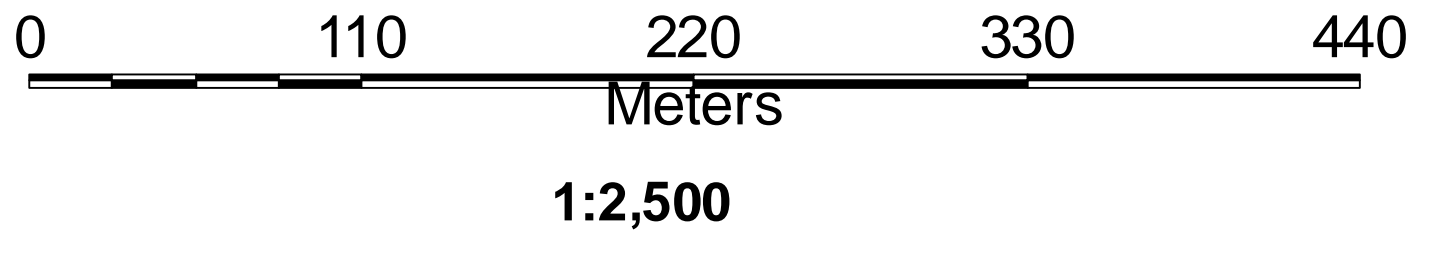
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_CoRR

#### Response Ratios Contours

	0 - 1.6
	1.6 - 2.6
	2.6 - 3.2
	3.2 - 4.1
	4.1 - 5.7
	5.7 - 8.2
	8.2 - 12.3
	12.3 - 19.0
	19.0 - 29.7
	29.7 - 47.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



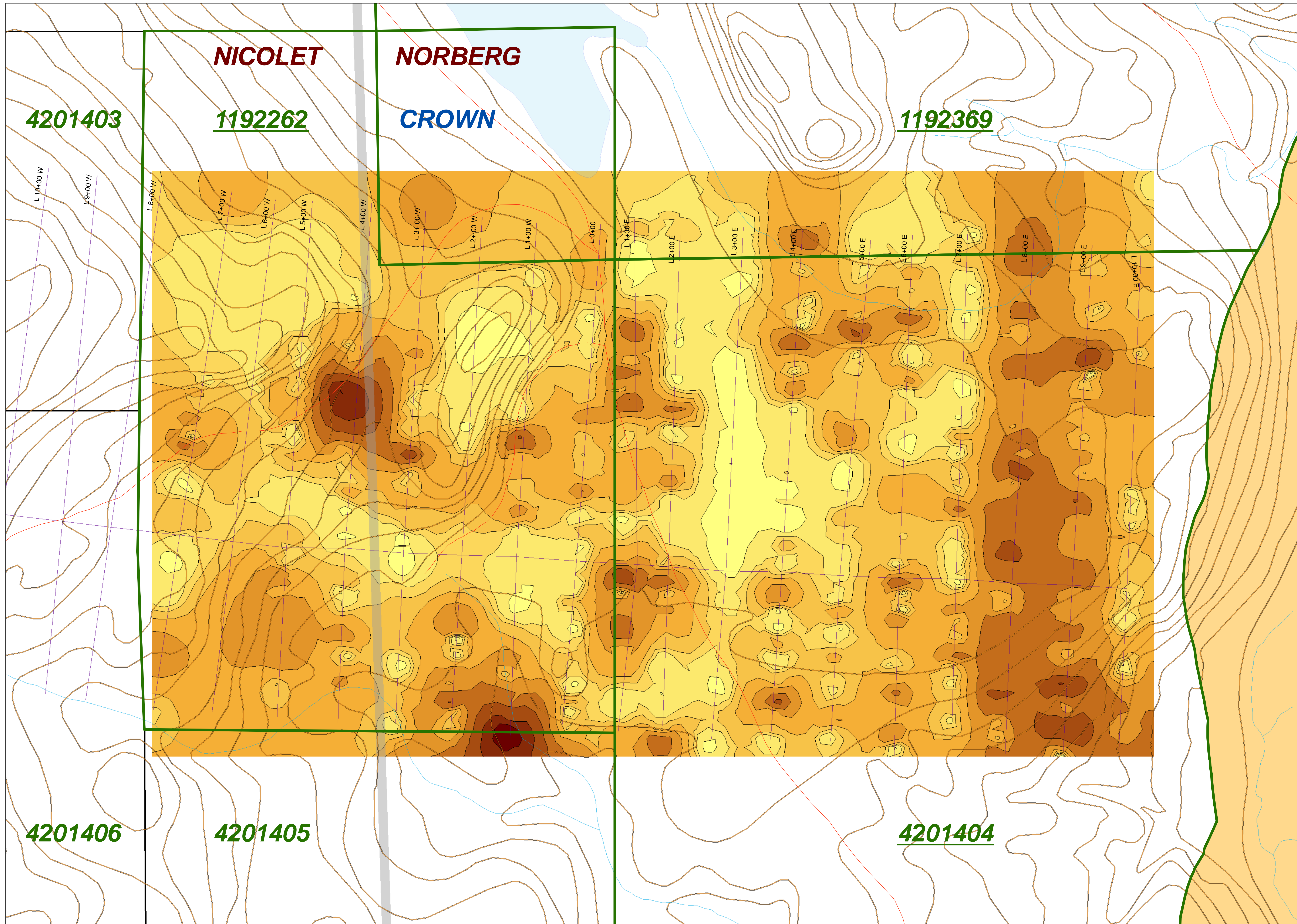
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**COBALT RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CoRR N.T.S. 41N/01





**Legend**

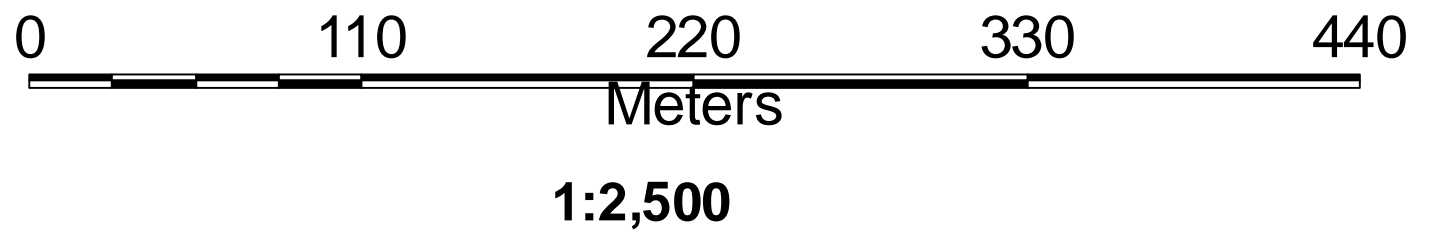
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

**EBX\_CeRR**

**Response Ratios Contours**

- 0.0 - 1.8
- 1.8 - 2.8
- 2.8 - 3.3
- 3.3 - 4.2
- 4.2 - 6.0
- 6.0 - 9.5
- 9.5 - 16.0
- 16.0 - 28.3
- 28.3 - 51.7
- 51.7 - 96.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



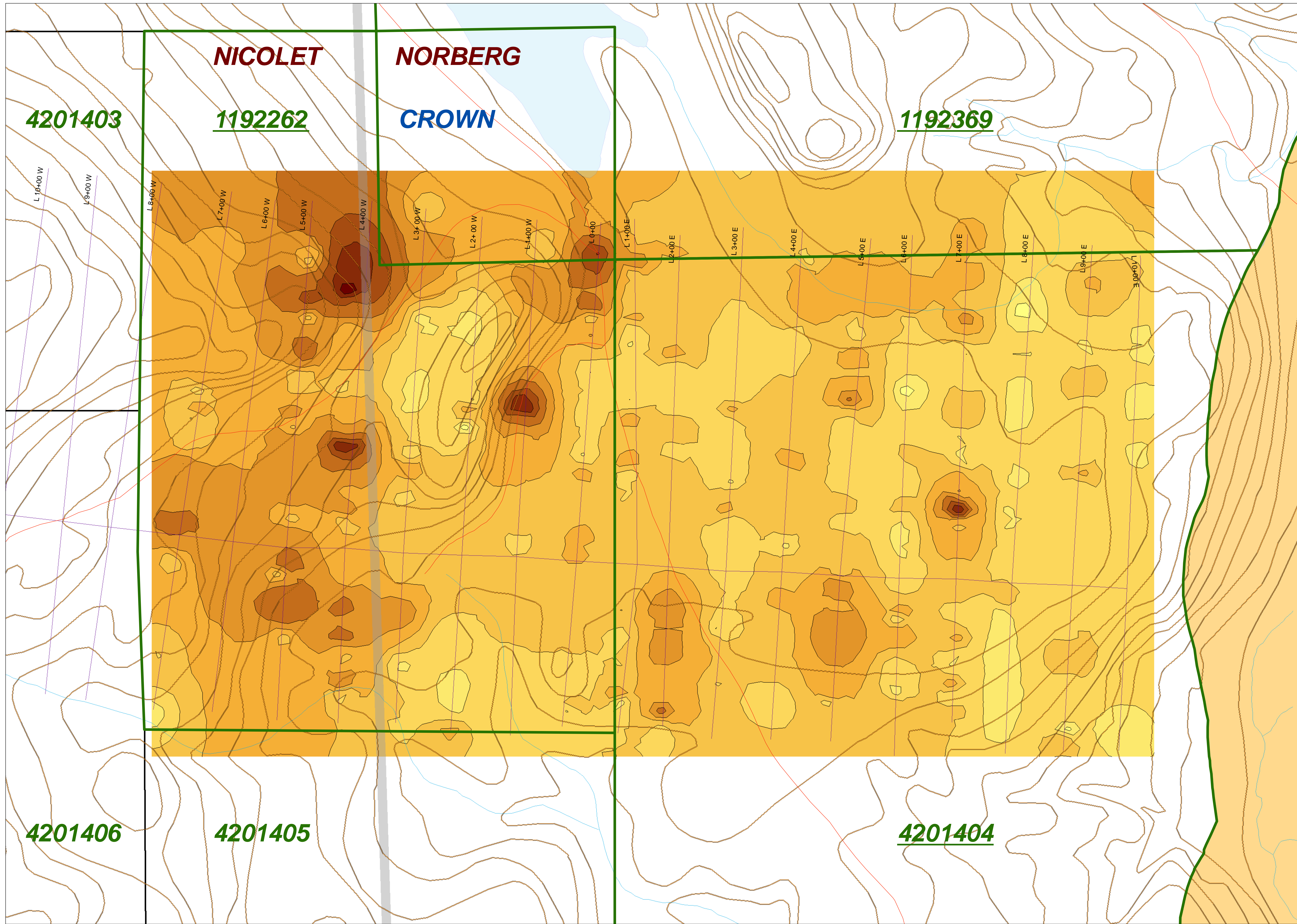
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**CERIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CeRR N.T.S. 41N/01





### Legend

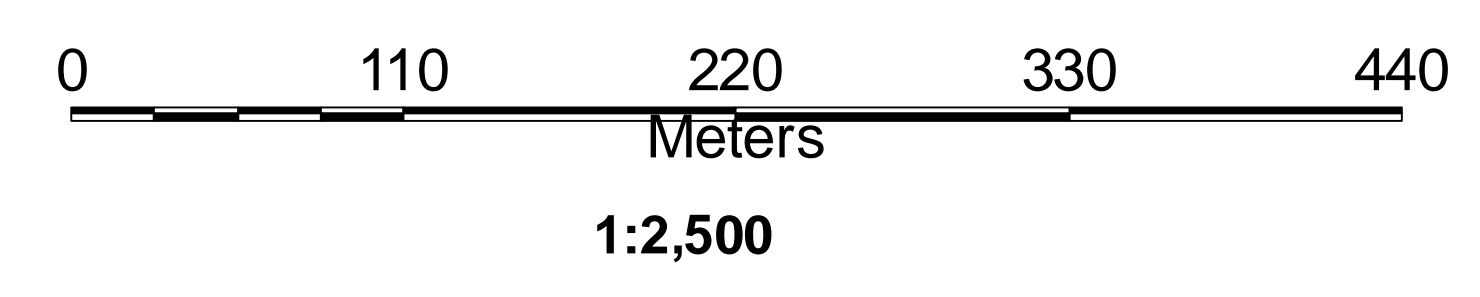
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_CdRR

#### Response Ratios Contours

	0.0 - 0.8
	0.8 - 1.3
	1.3 - 2.1
	2.1 - 3.1
	3.1 - 4.3
	4.3 - 6.0
	6.0 - 8.1
	8.1 - 10.8
	10.8 - 14.4
	14.4 - 19.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



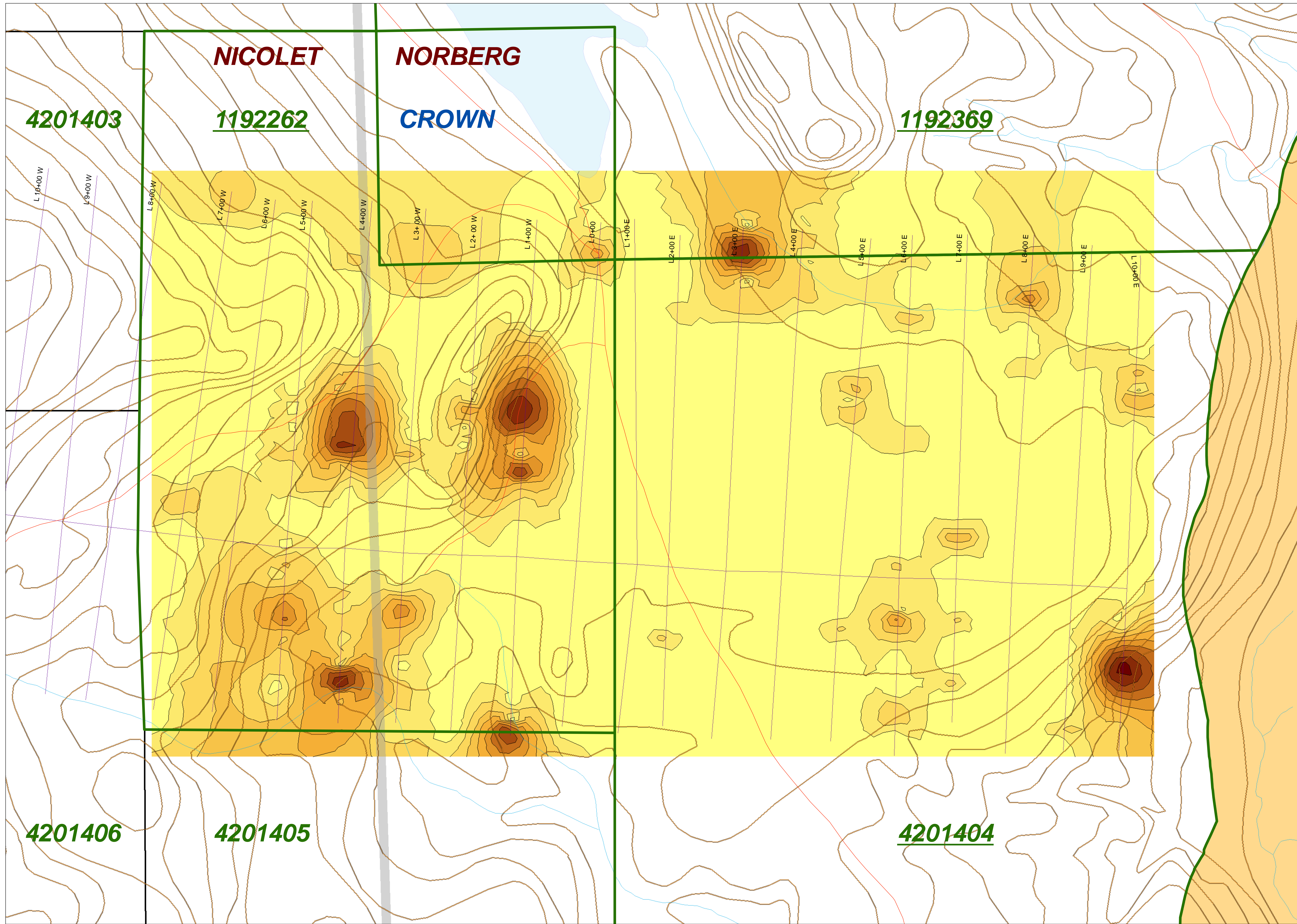
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**CADMIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CdRR N.T.S. 41N/01





### Legend

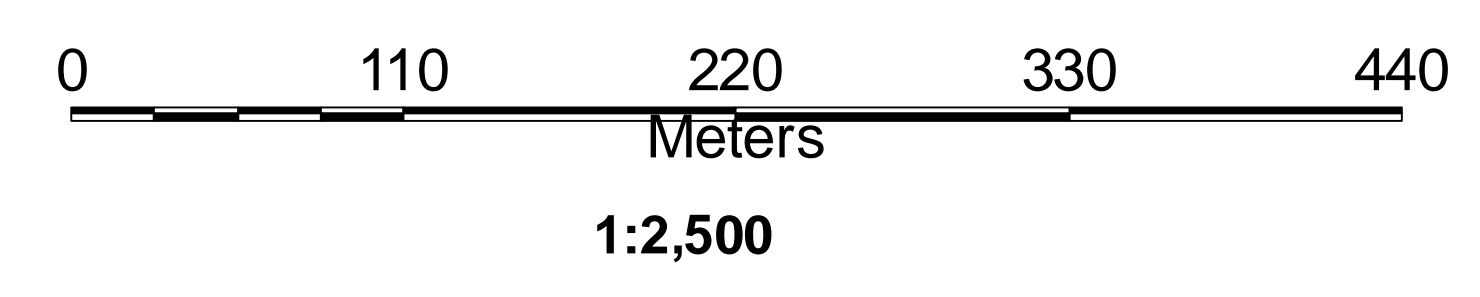
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_CaRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 5
	5 - 7
	7 - 10
	10 - 15
	15 - 21
	21 - 29
	29 - 40
	40 - 56

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



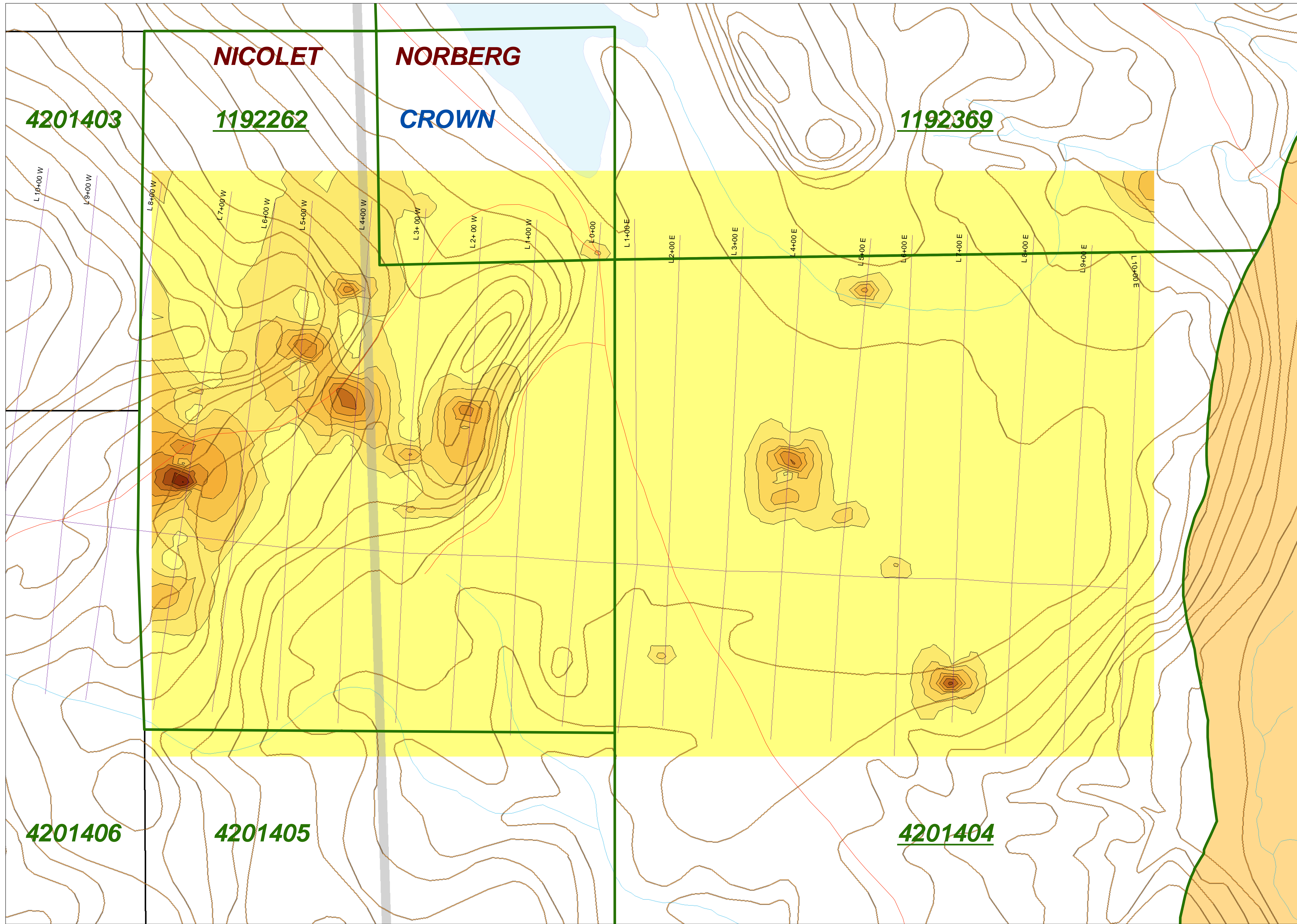
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**CALCIUM RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_CaRR N.T.S. 41N/01





### Legend

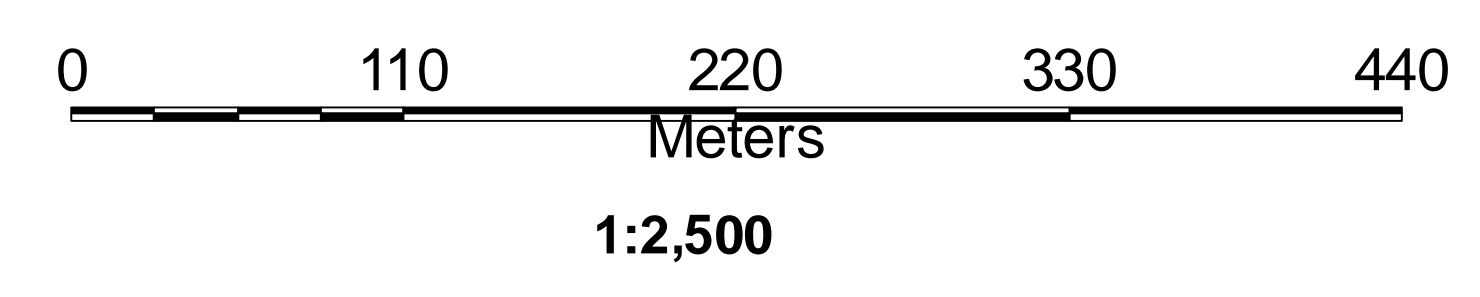
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_BiRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 4
	4 - 7
	7 - 9
	9 - 12
	12 - 16
	16 - 21
	21 - 28
	28 - 36

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



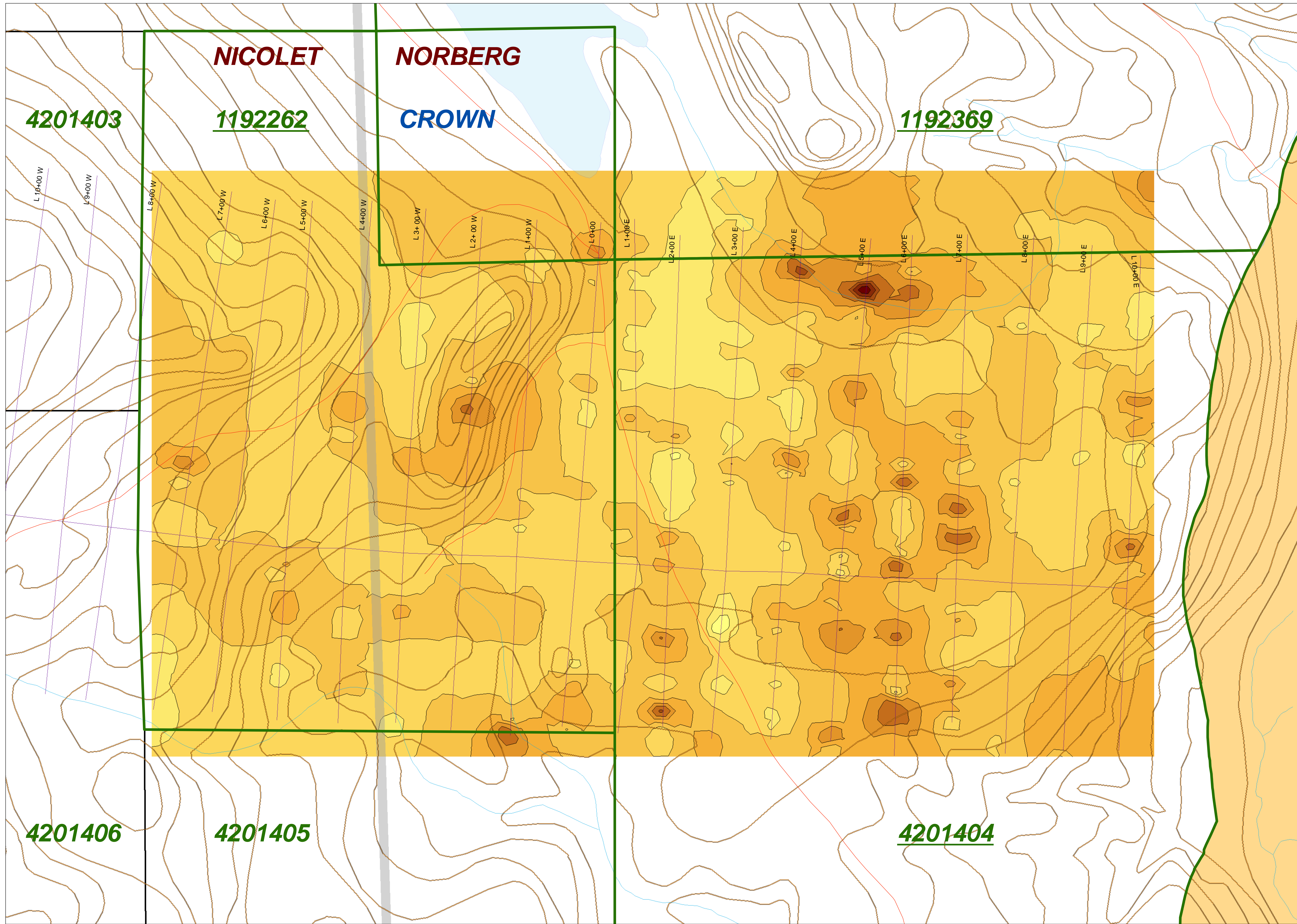
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**BISMUTH RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 SCALE 1:2 500 or 1cm = 25 metres

Map - EBX\_BiRR      N.T.S. 41N/01





### Legend

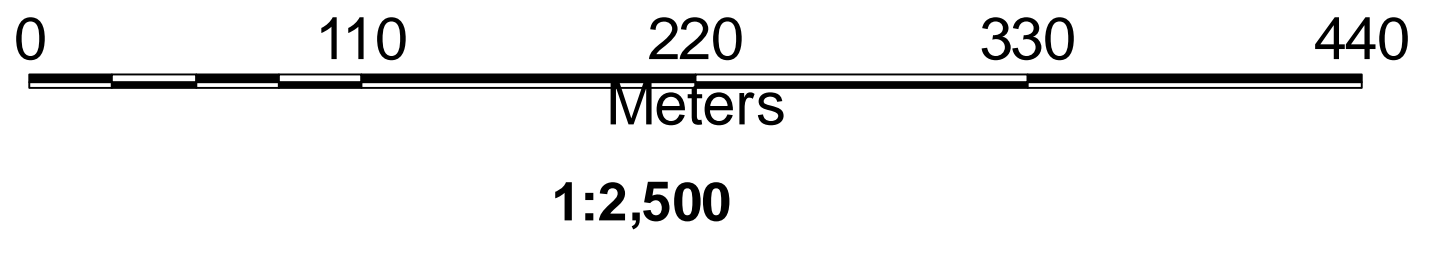
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_BaRR

#### Response Ratios Contours

	0.0 - 0.8
	0.8 - 1.4
	1.4 - 2.2
	2.2 - 3.3
	3.3 - 4.9
	4.9 - 7.0
	7.0 - 9.9
	9.9 - 13.9
	13.9 - 19.4
	19.4 - 27

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



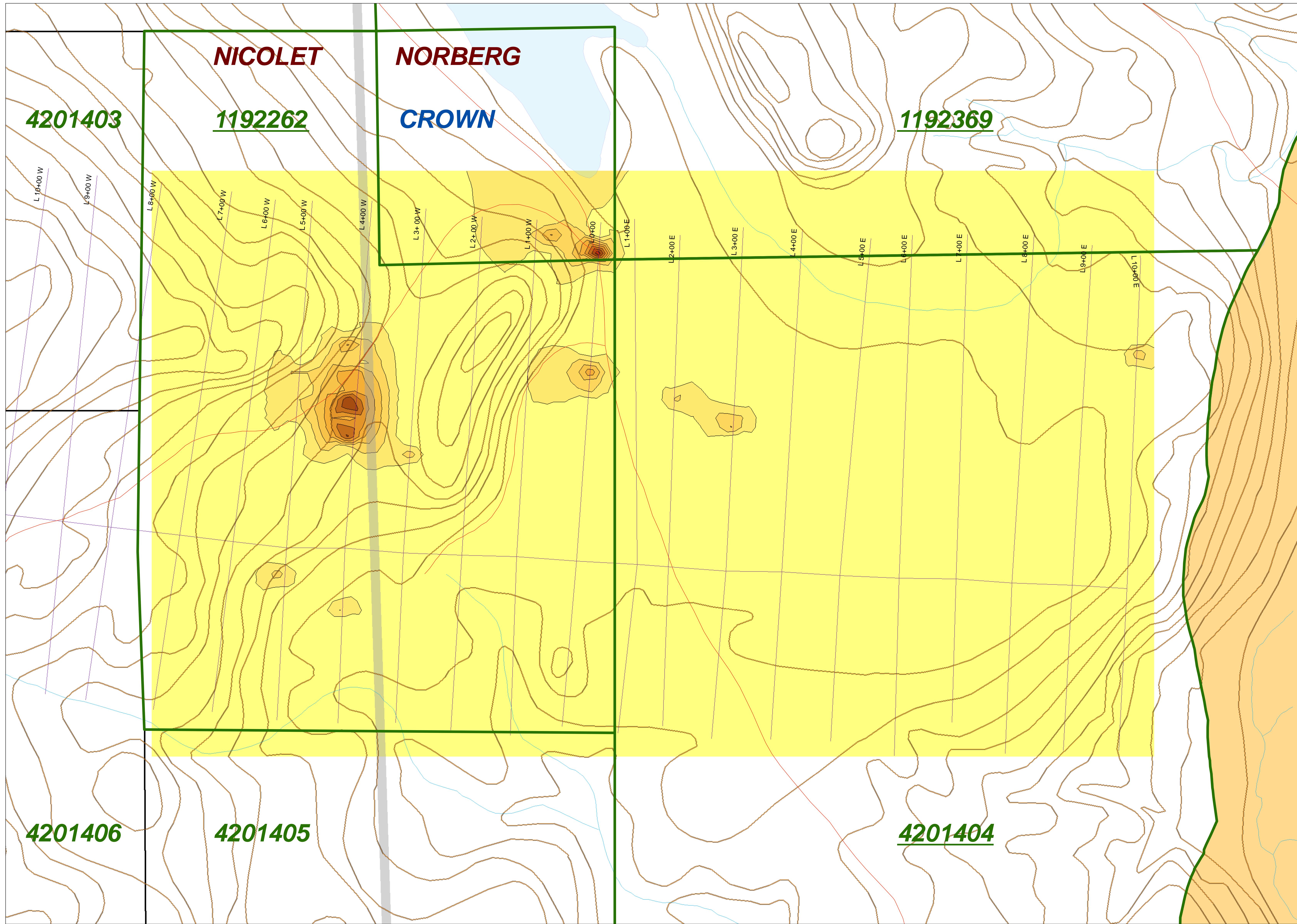
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**BARIUM RESPONSE RATIO CONTOURS**



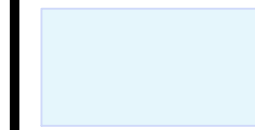





**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_BaRR N.T.S. 41N/01















# Legend

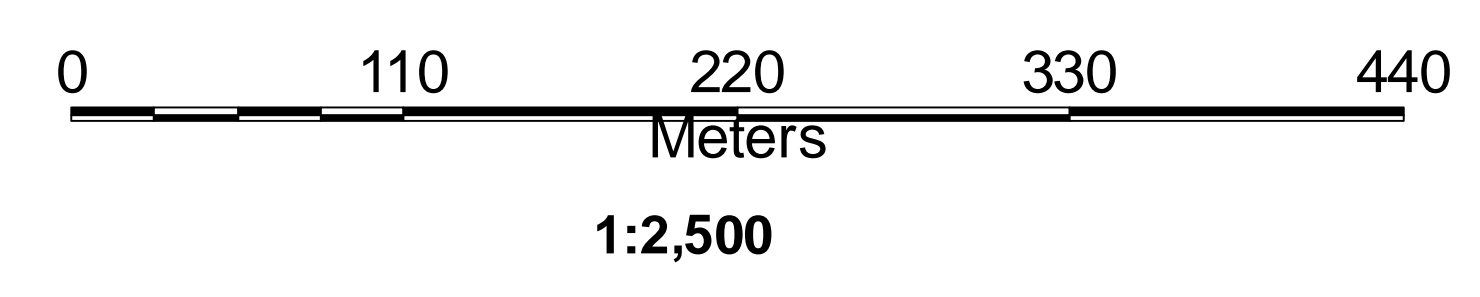
-  Claim Fabric
-  Road Access
-  Lakes
-  Drainage
-  Contour Lines
-  Township
-  Alienated Lands
-  East Breccia Survey Grid

# EBX\_AuRR

## Response Ratios Contours

-  1 - 2
-  2 - 3
-  3 - 4
-  4 - 5
-  5 - 7
-  7 - 8
-  8 - 9
-  9 - 11
-  11 - 12
-  12 - 14

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



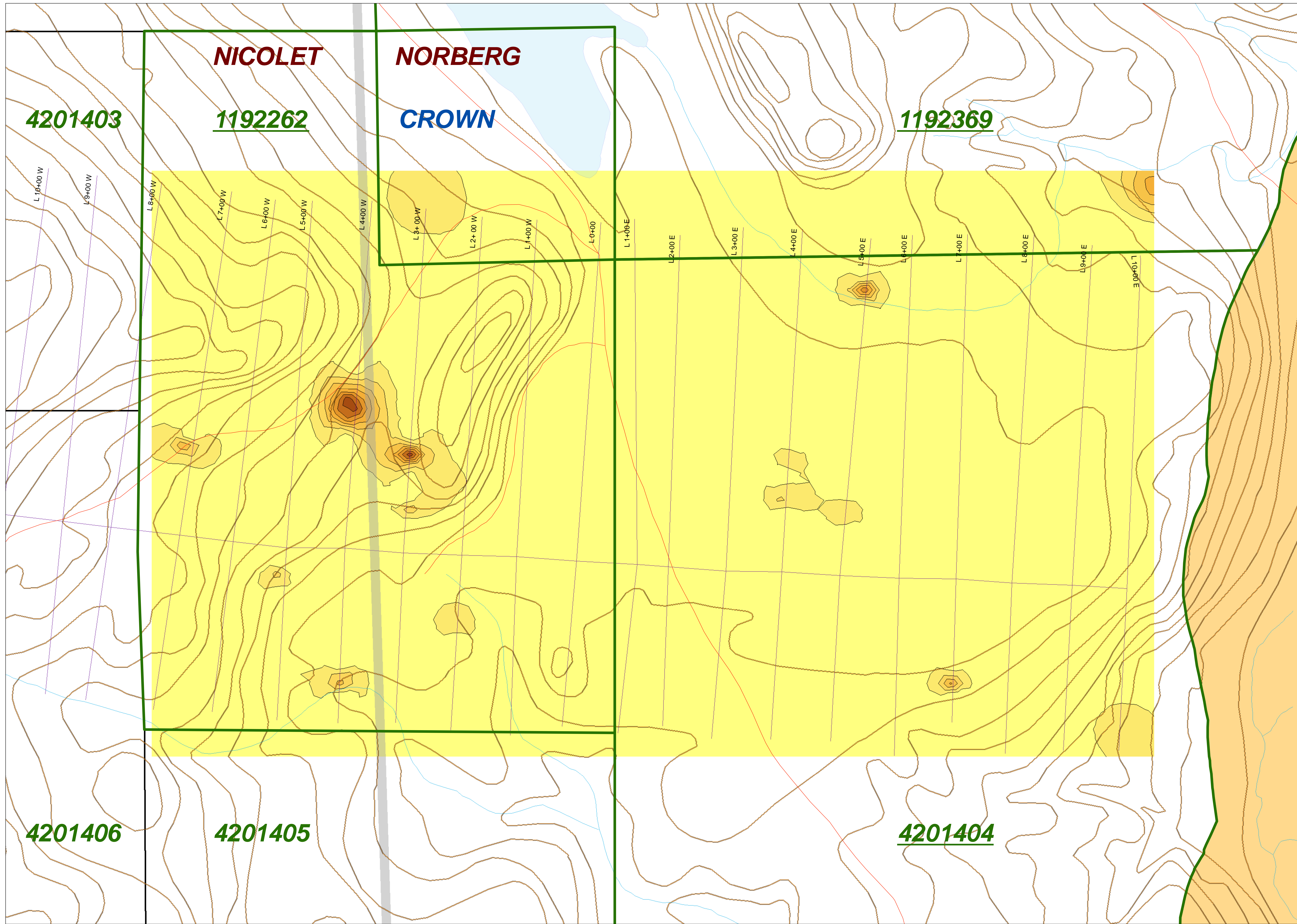
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

GOLD RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_AuRR N.T.S. 41N/01





### Legend

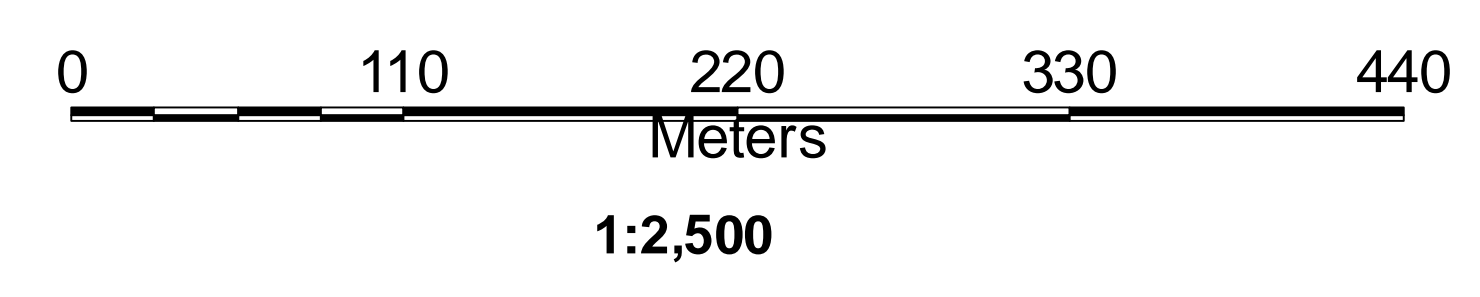
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

### EBX\_AsRR

#### Response Ratios Contours

	1 - 2
	2 - 3
	3 - 4
	4 - 5
	5 - 6
	6 - 7
	8 - 9
	9 - 11
	11 - 12
	12 - 14

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



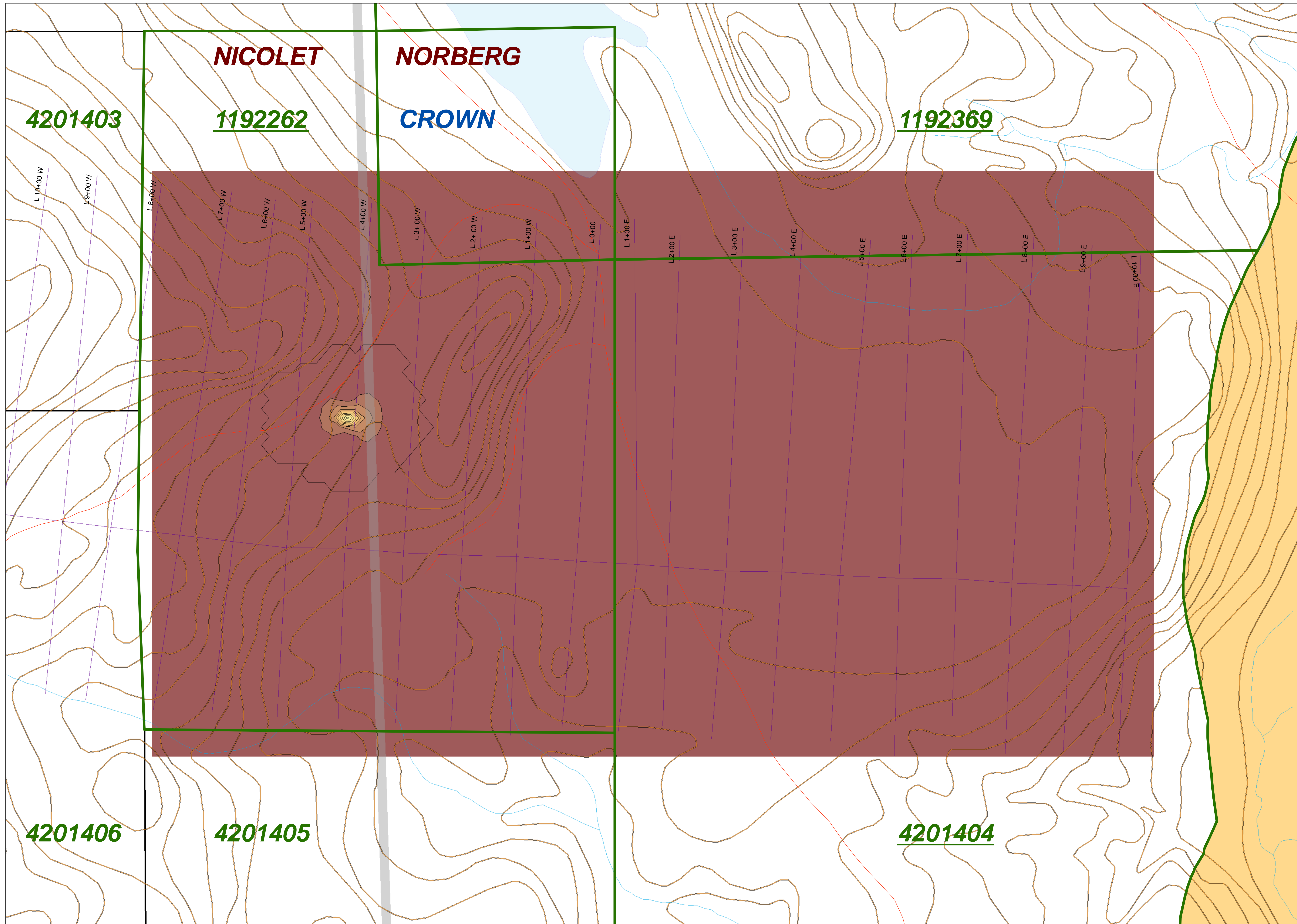
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

ARSENIC RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_AsRR N.T.S. 41N/01





### Legend

- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

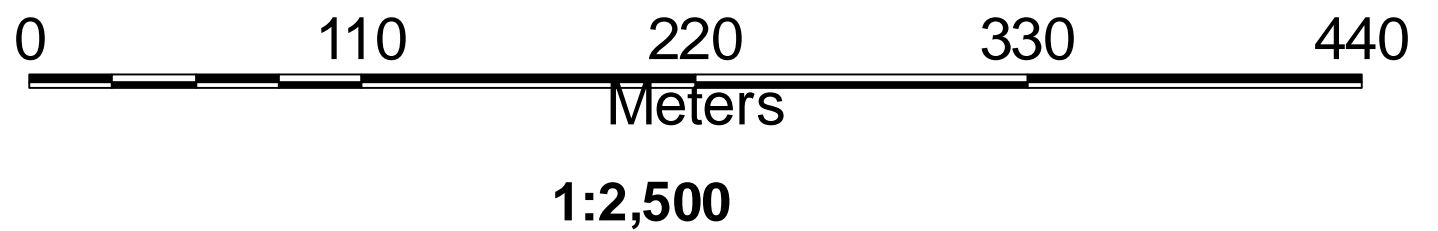
### EBX\_AIRR Prediction Map

[EastBrecciaMMI].[AI\_RR]

#### Filled Contours

	0 - 0.1
	0.1 - 0.2
	0.2 - 0.3
	0.3 - 0.4
	0.4 - 0.5
	0.5 - 0.6
	0.6 - 0.7
	0.7 - 0.8
	0.8 - 0.9
	0.9 - 1

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



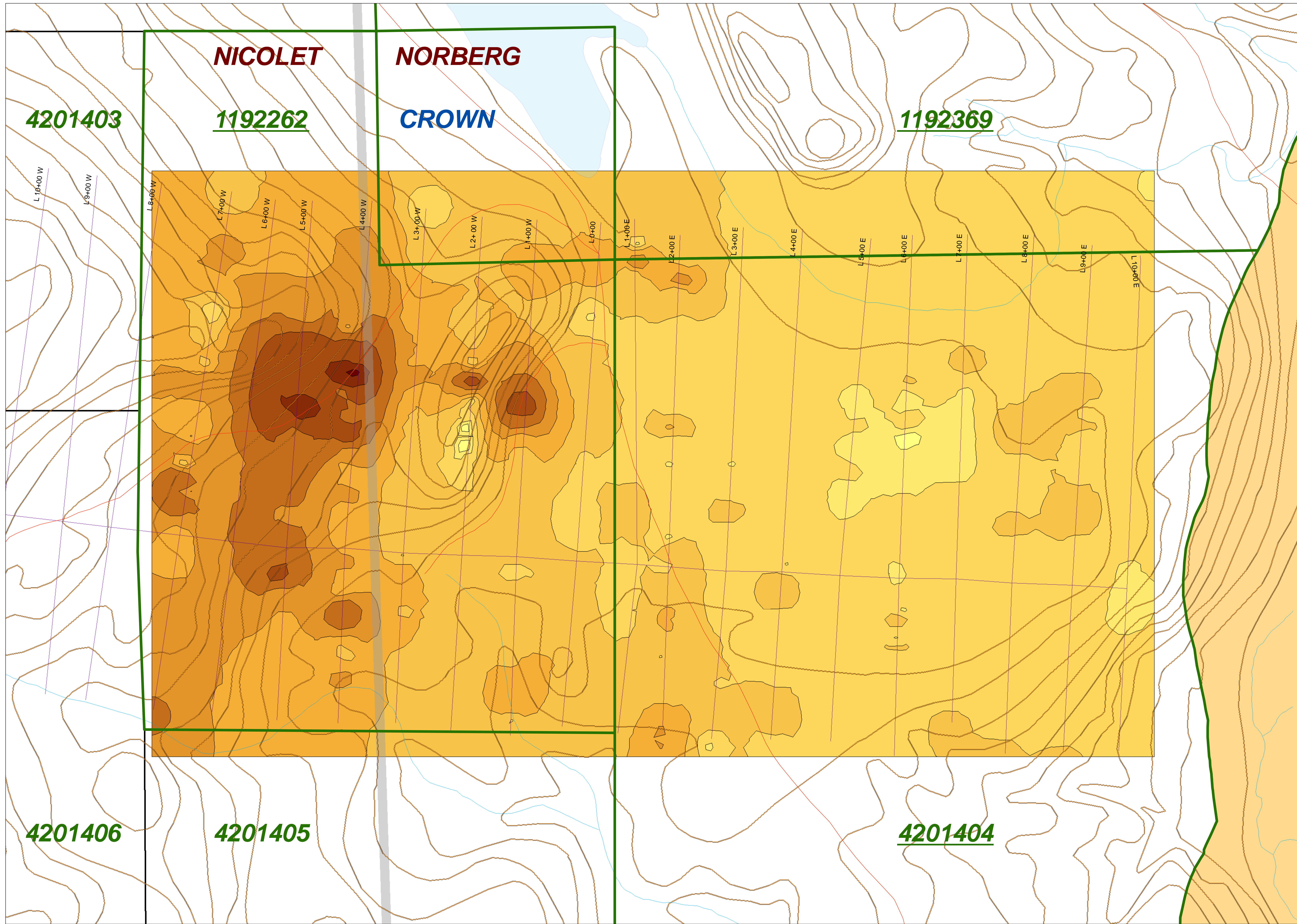
AMADOR GOLD CORP  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

ALUMINUM RESPONSE RATIO CONTOURS

NICOLET and NORBERG TOWNSHIP

SCALE 1:2 500 or 1cm = 25 metres  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_AIRR N.T.S. 41N/0





**Legend**

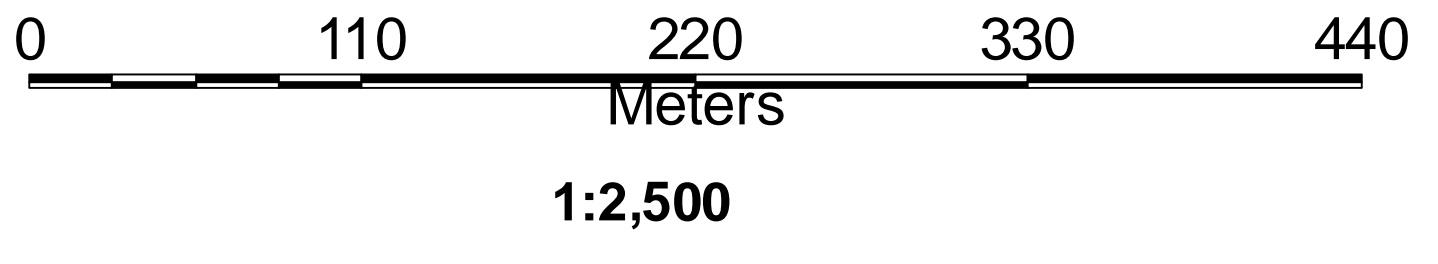
- Claim Fabric
- Road Access
- Lakes
- Drainage
- Contour Lines
- Township
- Alienated Lands
- East Breccia Survey Grid

**EBX\_AgRR**

**Response Ratios Contours**

- 0 - 0.8
- 0.8 - 1.3
- 1.3 - 2.1
- 2.1 - 3.4
- 3.4 - 5.5
- 5.5 - 8.8
- 8.8 - 14.2
- 14.2 - 23.0
- 23.0 - 37.1
- 37.1 - 60.0

DATUM: NAD 83  
 ZONE 16  
 U.T.M. Grid Coordinates



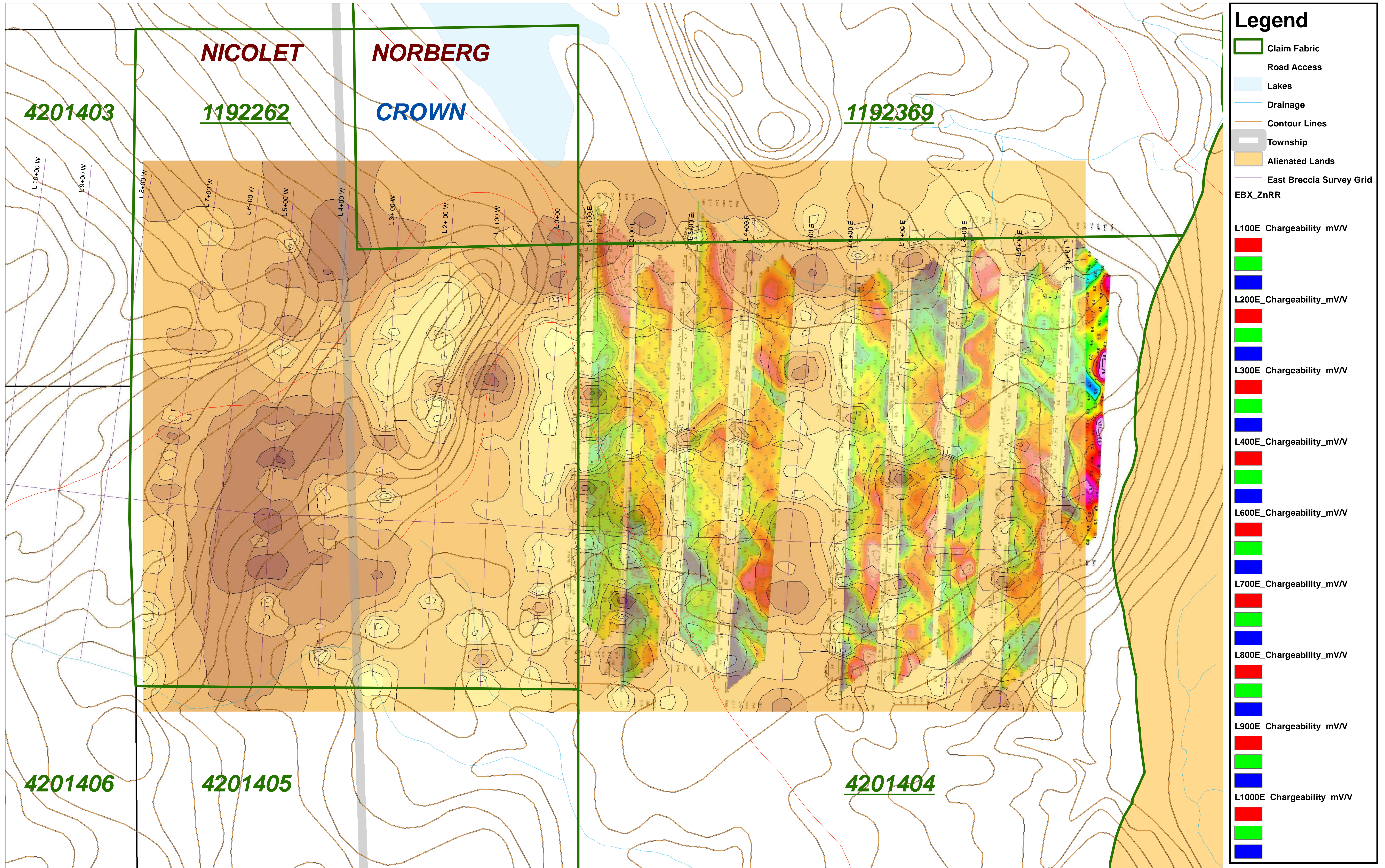
**AMADOR GOLD CORP**  
 Tribag East Breccia Property  
 Claims 1192262, 1192369 and 4201404

**SILVER RESPONSE RATIO CONTOURS**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**  
 Drawn by: Jim Laidlaw  
 Date: January 2009  
 Map - EBX\_AgRR N.T.S. 41N/01





**AMADOR GOLD CORP**  
**Tribag East Breccia Property**  
**Claims 1192262, 1192369 and 4201404**

**ZnRR OVER CHARGEABILITY**

**NICOLET and NORBERG TOWNSHIP**

**SCALE 1:2 500 or 1cm = 25 metres**

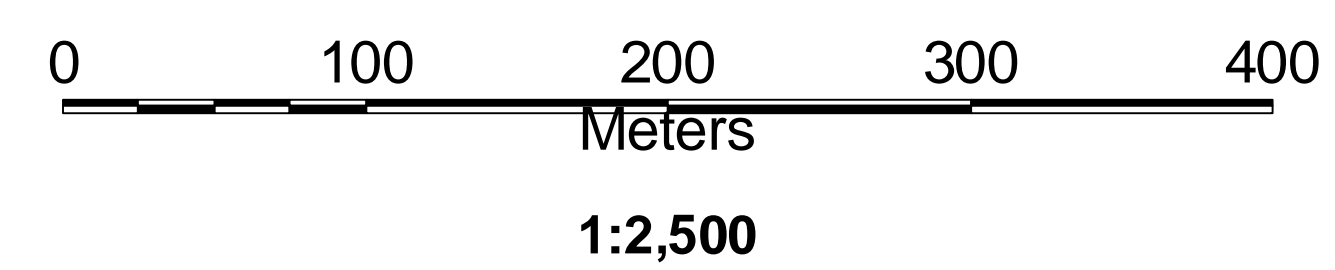
**Drawn by: Jim Laidlaw**

**Date: February 2009**

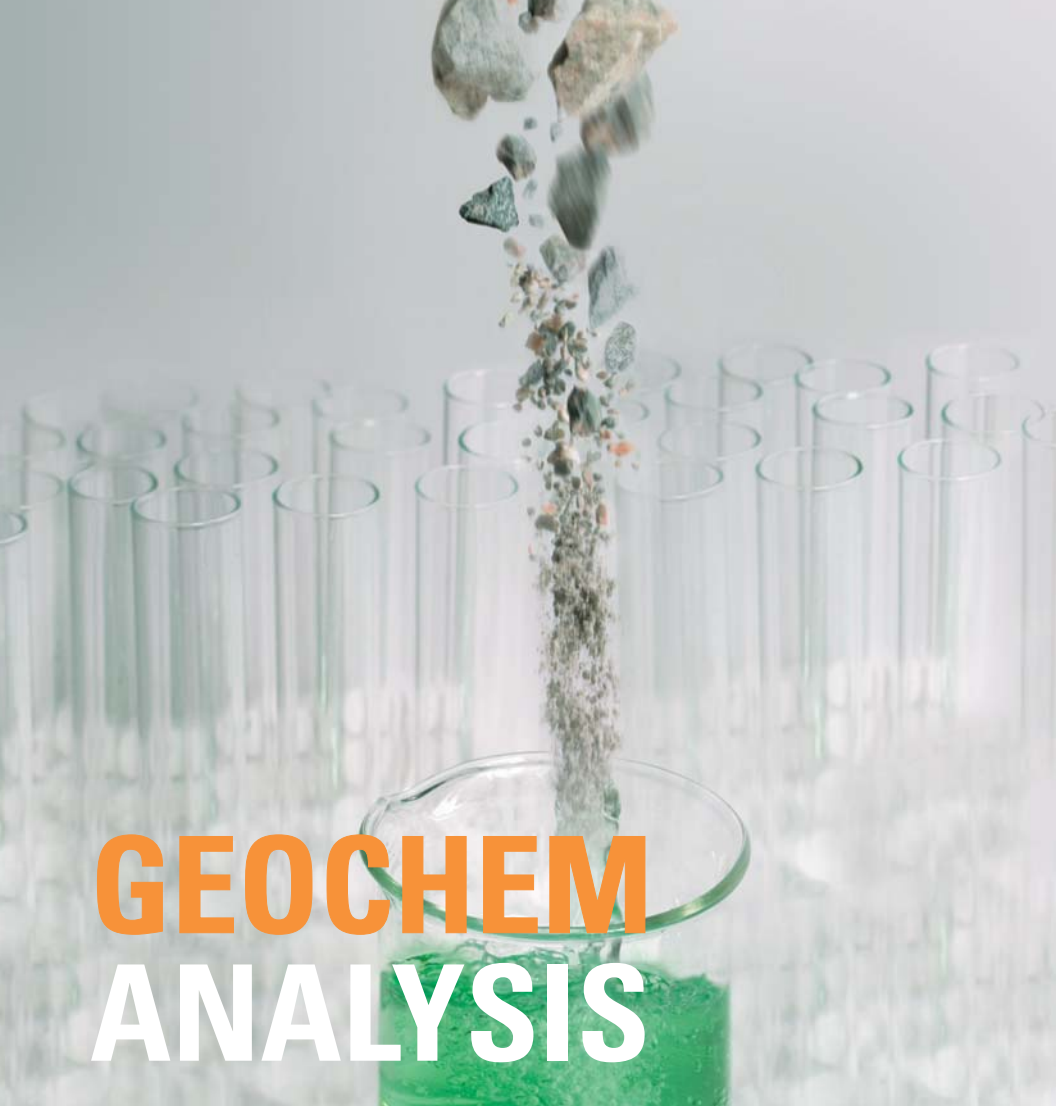
**Map - ZnRR/IP**

**N.T.S. 41N/01**

**DATUM: NAD 83**  
**ZONE 16**  
**U.T.M. Grid Coordinates**







# **GEOCHEM** **ANALYSIS**

**2008**

**MINERALS SERVICES**





When you need:

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# WELCOME TO SGS

SGS was founded in 1878 and is recognized as the global leader in inspection, testing, verification and monitoring services for international trade in the mineral, agricultural, petroleum and consumer products sectors.

With over 48,000 employees, SGS operates a network of over 1,000 offices and laboratories around the world.

SGS provides support to its clients both as a strategic partner and technical advisor. Through our global network of operations and laboratories, we deliver a broad spectrum of independent quality and quantification services for minerals, geochemical, metallurgical materials as well as coal and coke, bio-fuels, non-ferrous metals, steel and steel-making raw materials, fertilizers, cement and industrial minerals.

The SGS Group has an unique depth and breath of expertise and experience which is available from our global network.

## USING THIS GUIDE

This guide details SGS' core competencies in geochemical analysis and is designed to assist you to choose the analytical methodology that most appropriately fits your needs. It will direct you to the right methodology for the type of sample, element, and species of that element you need. It also helps you select the smallest number of methods that you need so you can maximize your analytical dollar.

The Guide to Mineral Analysis book, also published by SGS, provides geoscientists with an introduction to geoanalysis.

- The guide is divided into a number of sections based on the type of analysis required. Your choice of methods should be driven by the digestion process which supports these measurement techniques. The routine multi-element methods of AAS, ICP-AES, ICP-MS, are included in the 'geochemical analysis' section.
- The middle of the guide depicts a Periodic Table of elements with determinative procedures highlighted. This Table groups elements into analytical schemes which you can use to pick the best analytical method for your needs.

The guide outlines the most common procedures required by the geological community. These are available through SGS globally. It is accompanied by a fee schedule detailing costs and capabilities in each particular region. While samples may be submitted into any geochem laboratory in the SGS network, certain elements and packages are only available in specific labs. In these cases, clients are notified of any interlab sample transfers by a strict chain-of-custody procedure.

This guide represents only a selection of the methods available at SGS. Please contact SGS to obtain a quote for your particular program. We can help you and supply you with an individual quotation tailored to your needs.





# QUALITY POLICY STATEMENT

SGS is committed to customer satisfaction by providing a consistent level of quality service that sets the industry benchmark. Our quality objectives, which we measure and assess, are:

- The delivery of high quality chemical and mineralogical analysis of rocks, minerals, ores, and other materials in a timely manner.
- The use of methods which are suitably validated, fit-for-purpose and based on internationally recognized methods when possible.
- The use of a Quality Management System that strives to provide customer satisfaction by ensuring, through its documented policies and procedures, that all quality-related activity is clearly demonstrated, assessable and followed.

We will achieve this by:

- Being innovative and providing added-value to your product or service.
- Giving a committed team effort.
- Standardizing of our processes.
- Using a Quality Management System that meets, as a minimum requirement, ISO 9001 and ISO 17025.
- Employing a detailed quality audit program that ensures corporate and customer feedback.
- Utilizing a continuous improvement system.
- The clever and extensive use of quality control and quality assurance to ensure delivery of a service level that exceeds the industry benchmark.
- Providing appropriate staff training.
- Reviewing our Quality System annually.

SGS management and staff are appropriately empowered to ensure these requirements are met. All employees and contractors are familiar with the requirements of the Quality Management System, the above objectives and process outcomes. We welcome feedback on this program.

## QUALITY AND RESPONSIVENESS

SGS has an intensive quality program to monitor quality. Supervised by dedicated quality management personnel, the program is proactive and continuously monitored, enabling us to react promptly to fluctuations in performance.

This proactiveness extends to SGS' market attitude. SGS recognises that not all analytical problems can be solved with routine methodology. A close association with our clients is important, not only to address individual sample batches, but also to address issues that confront the minerals industry as a whole.

The backbone of the "local" service you receive at SGS laboratories is a global quality protocol used by over 100 geochem laboratories. It controls procedures and methodology, data management and reporting, quality control and governing activities, service attitudes and response. Thus you are assured of a uniform, standardized response from any SGS laboratory worldwide. You can trust and rely upon us.

## CODE OF ETHICS

Integrity is the core of SGS; it is the common thread through all our activities. Our ethical compliance program is based on our Code of Integrity and Professional Conduct, and ensures that highest standards of integrity are applied to all of our activities worldwide in accordance with international best practice. It has been approved by the SGS Board of Directors and our Operations Council and all SGS employees have been trained in it.

The purpose of this Code is to document rules of behavior and to provide guidance in our day-to-day business. These rules apply to all employees of SGS. Our joint venture partners, agents, intermediaries, consultants and subcontractors are also required to comply with them. It is the responsibility of all of us at SGS, at all levels of our organization, to live by our Code.

Our Code is explained in detail at [www.sgs.com/about\\_sgs/code\\_english.htm](http://www.sgs.com/about_sgs/code_english.htm) and can be summarized by the following common sense principles:

- Do not do anything which you know or believe to be illegal or unethical.
- Do not use any Company property for your own benefit.
- Do not engage in any transaction which does not have a genuine, legitimate business purpose.
- Ask yourself whether any contemplated transaction or business practice would withstand the scrutiny of the public eye if exposed.
- Do not do anything which could require you to be untruthful.
- Seek advice when in doubt.



# YOUR PARTNERSHIP WITH SGS

SGS provides analytical services to all aspects of the minerals industry. SGS' Centres of Excellence are ISO/IEC 17025 accredited and most major regional facilities ISO 9001 certified.

## EXPLORATION CLIENTS

Exploration clients are provided with dedicated sample preparation areas in most laboratories. Centres of Excellence dedicated to geochemical analysis are located strategically around the globe in Johannesburg, Lima, Perth, Toronto, Lakefield, Belo Horizonte and Townsville.

The geochemist performs quality, trace, multi-element analysis to target specific support matrices within a particular sample type. We support this by SGS' commitment to advanced technology such as ICP-AES and ICP-MS instrumentation. In acknowledging that every client's needs are unique, SGS aims to support tailored analytical packages with a high-level standardised service offering.

## MINING CLIENTS

Mining clients need quality, rapid-turnaround grade control analysis for pit and underground grade control. Mill control analysis can also be SGS' responsibility with routine process sample done with rapid turnaround times.

## OTHER SERVICES

SGS also offers services in the area of design, construction and management of on-site laboratories. No matter how remote a project, the services of SGS can be brought to your site. We have over fifty labs operational to attest to this.

## SELECTION OF ANALYTICAL METHODS

There are several distinct stages in the evaluation of a resource that range from a grassroots exploration (early stage), to the final stages of process / grade control at mine development and operation. At each stage, the analytical technique should be carefully considered against the needs of the program. For example, grassroots exploration generally requires a geochemical method based on a partial or weak extraction

followed multi-element. In contrast, analysis in support of a feasibility stage program generally involves a complete digestion followed by the analysis of a specific elemental suite focused on pay and penalty elements.

In the early stages of exploration, precision, sensitivity and cost are usually key when defining a geochemical program. Accuracy might not be as important as the ability of the method to reproduce and detect subtle anomalies above background or threshold levels. A partial or weak extraction method that is followed by multi-element scans may be acceptable at this stage.

In process or grade control situations, accuracy becomes critical as well as precision. A total dissolution of the sample followed by the analysis of specific elements will be more appropriate.

There are many different analytical methods available in the industry. More detailed descriptions of the digestion procedures and methods follow in the section entitled Geochemical Analysis to help you with method selection. An SGS Chemist is also always available to assist you with analytical technique selection.

# ELECTRONIC DATA AVAILABILITY

Many clients use our web-based data access tool "Q-Mine" (<https://qmine.sgs.com>) for immediate and secure retrieval of their analytical data over the internet. Q-Mine™ allows you to track the progress of your laboratory order and view information such as job status, turn-around-time, scheme / method, client-specific quality control data and the results of your analyses. To maintain the integrity of our sophisticated LIMS (Laboratory Information Management System), Q-Mine™ does not access the LIMS directly, but instead receives data transmissions on a regular basis.



# SAMPLE PREPARATION

Sample preparation is the process by which a sample is readied for analysis. This will almost always involve sub-sampling. The right sampling method will produce a sub-sample that is representative of the total sample. Good sample preparation practice is essential to obtaining meaningful and reliable analytical data.

SGS is committed to providing preparation procedures dedicated to exploration or mining at each of our locations. This involves technologically advanced equipment and, in most cases, physically separated sample processing areas for different sample types.

Your and crushing options available are varied. Your choice can depend on the sample type, size and / or form of the element of interest within the sample matrix. Please consult with our staff for the best possible option for your samples before starting analysis.

During sample preparation, there are many critical points where sample contamination can occur. One such area arises from the type of equipment used. Unfortunately, during sample preparation, contamination can never be avoided, but the levels are dependent on sample hardness, crushing and pulverizing time as well as crushing / grinding media used. Contamination levels can be measured and the table below indicates the type of levels of possible contamination from a variety of grinding media.

CODE	BOWL TYPE	SAMPLE CAPACITY	MAIN CONTAMINANT	MINOR CONTAMINANT
	Standard Mild Steel Bowl	to 3.5kg	Fe, Cr	Mo
PUL51	Cr-free Steel	500g to 1.5kg	Fe	Mn
PUL55	Zirconia	100g	Zr, Hf	Al
PUL56	Tungsten Carbide	150g	W, Co	Ta
PUL58	Agate	100g	Si	

## SAMPLE PREPARATION

### SAMPLE PICK UP AND HANDLING

PKP01	Sample collection / pick up
LOG02	Pre-preparation processing, sorting, logging, boxing etc.
WGH79	Weighing of samples and reporting of weights

### SAMPLE PREPARATION PACKAGES

PRP85	Dry, fine pulverise using bowl and puck equipment to a nominal 75µm (<1.2kg)
PRP86	Dry, fine pulverise using bowl and puck equipment to a nominal 75µm (<3.0kg)
PRP88	Dry, jaw crush (-6mm), fine pulverise using bowl and puck equipment to a nominal 75µm (<3.0kg)
PRP89	Dry<3kg, crush to 75% passing 2mm, split to 250g and pulverise to 85% passing 75µm
PRP90	Dry<3kg, crush to 90% passing 2mm, split to 250g and pulverise to 85% passing 75µm

### DRYING

DRY10	Dry samples <3.0kg, 105°C
DRY11	Dry samples >3.0kg, 105°C, per kg rate
DRY12	Dry samples <3.0kg, 60°C
DRY13	Dry samples >3.0kg, 60°C, per kg rate
DRY15	Dry excessively wet samples
DRY16	Dry and macerate vegetation

### SPLITTING

SPL25	Sample volume reduction - cone and quarter
SPL26	Sample volume reduction - riffle split
SPL27	Sample volume reduction - rotary device

### CRUSHING

CRU20	Jaw crush to nominal -6mm
CRU21	Crush <3.0kg to 75% passing 2mm
CRU22	Jaw crush to nominal -2mm using Boyd, Rhino, Nugget Crusher or Terminator Crushers
CRU23	Jaw crush <3.0kg, variable mesh size
CRU24	Jaw crush >3.0kg, variable mesh size
CRU25	Crush to 90% passing 2mm

### SCREENING

SCR30	Screen soils or stream sediments to -80 mesh, <2kg
SCR32	Screen soils or stream sediments to another mesh size, <2kg



# PRECIOUS METALS ANALYSIS

## PULVERIZING

PUL45	Pulverise 250g in Cr steel to 85% passing 75µm
PUL46	Pulverise 500g in Cr steel to 85% passing 75µm
PUL47	Pulverise 1.2kg in Cr steel to 85% passing 75µm
PUL48	Pulverise 3.0kg in Cr steel to 85% passing 75µm
PUL57	Pulverise 100g in agate to 85% passing 75µm
PUL60	Disc pulverisation to nominal 100µm, 500g to 1.2kg
PUL61	Disc pulverisation to nominal 100µm, 1.0kg to 4kg

## SAMPLE RETURN AND RETENTION

RTN95	Return of residue samples, per/kg
RTN96	Return of pulp sample to client
STO97	Handling / retrieval per hour rate
STO98	Storage pulps
STO99	Storage rejects 30 days

## MISCELLANEOUS PROCEDURES

COM77	Composite samples
WSH78	Barren flush or wash (used to clean pulverisers)

Precious metals can be analysed by many techniques.

Procedures for gold determinations must account for the type of sample submitted, the purpose of the analysis, sample mineralogy and form of the gold (if known). Lead collection fire assay is considered the most definitive technique although acid digest, accelerated cyanide leaches, BLEG or NAA can be effective for specific purposes.

Similarly, silver can be determined by acid digest or fire assay techniques. Please discuss your particular circumstance with an SGS chemist so you can choose the most appropriate method.

Some platinum group elements can also be determined by lead collection fire assay but this six element suite is best determined by nickel sulfide collection fire assay.

## PRECIOUS METALS ANALYSIS

### GOLD BY LEAD COLLECTION FIRE ASSAY/ INSTRUMENT FINISH

#### TRACE LEVELS

CODE	DESCRIPTION	WEIGHT	LIMITS
FAA313	Gold by fire assay, AAS finish	30g	5 - 10000ppb
FAA333	Gold by fire assay, AAS finish	30g	1 - 100ppb
FAE303	Gold by fire assay, Solvent extraction, AAS finish	30g	1 - 10000ppb
FAE505	Gold by fire assay, Solvent extraction, AAS finish	50g	0.001ppm
FAI303	Gold by fire assay, ICP-AES finish	30g	1 - 10000ppb
FAI313	Au Pt Pd by fire assay, ICP-AES finish	30g/5ml	1 - 10000ppb
FAI505	Gold by fire assay, ICP-AES finish	50g	1 - 10000ppb
FAI515	Au Pt Pd by fire assay, ICP-AES finish	50g/5ml	1 - 10000ppb
FAL303	Gold by fire assay, Graphite furnace AAS finish	30g	0.001ppm
FAL505	Gold by fire assay, Graphite furnace AAS finish	50g	0.001ppm
FAM303	Gold by fire assay, ICP-MS finish	30g	1 - 10000ppb
FAM505	Gold by fire assay, ICP-MS finish	50g	1 - 10000ppb

#### ORE GRADE

FAA303	Gold by fire assay, AAS finish	30g	0.01 - 100ppm
FAA505	Gold by fire assay, AAS finish	50g	0.01 - 100ppm
FAA515	Gold by fire assay, AAS finish	50g	0.005 - 10ppm
FAA535	Gold by fire assay, AAS finish	50g	0.005 - 100ppm
FAG303	Gold by fire assay, Gravimetric finish	30g	>0.03g/t
FAG323	Silver and gold by lead collection, fire assay, Gravimetric finish	30g	Au >0.03g/t Ag >3g/t
FAG505	Gold by fire assay, Gravimetric finish	50g	>0.03g/t





**SCREENED METALLICS**

Gold by screened metallics fire assay, consists of:

- 500g screened at 106 µm, (or otherwise specified)
- assay of entire plus fraction (>0.03g/t)
- duplicate assay of minus fraction
- calculation and reporting of size fraction weights, coarse and fine fraction gold content and total gold content

FAS30K Screen fire assay at 75µm

FAS31K Screen fire assay at 106µm

**GOLD BY ACID DIGESTION (AQUA REGIA)****TRACE LEVELS**

		WEIGHT	LIMITS
ARL133	Gold by acid digest, Graphite furnace AAS finish	25g	0.001ppm
ARL155	Gold by acid digest, Graphite furnace AAS finish	50g	0.001ppm

**ORE GRADE**

ARE133	Gold by acid digest, AAS finish	25g	0.01ppm
ARE145	Gold by acid digest, AAS finish	25g	1 - 200 ppb
ARE155	Gold by acid digest, AAS finish	50g	0.01ppm

**CYANIDE EXTRACTABLE GOLD**

BLE61K	Active cyanide leach, 24hrs, Solvent extraction, AAS finish	500g	0.01ppm
BLE61N	Active cyanide leach, 24hrs, Solvent extraction, AAS finish	2kg	1ppb
BLE643	Hot cyanide leach, AAS finish	30g	Au 0.1 - 100ppm
BLL61K	Active cyanide leach, 24hrs, Solvent extraction, graphite furnace finish	500g	0.05ppb
BLL61N	Active cyanide leach, 24hrs, Solvent extraction, graphite furnace finish	2kg	0.05ppb
BLL62N	Static cyanide leach, 24hrs, Solvent extraction, graphite furnace finish	2kg	0.05ppb

**ACCELERATED CYANIDE LEACH**

LWL69J	Accelerated cyanide leach determination for gold	200g	0.01ppm
LWL69K	Accelerated cyanide leach determination for gold	500g	0.01ppm
LWL69L	Accelerated cyanide leach determination for gold, AAS	800g	0.01 - 1000ppm
LWL69M	Accelerated cyanide leach determination for gold	1000g	0.01ppm

**PLATINUM GROUP ELEMENTS**

CODE	DESCRIPTION	WEIGHT	LIMITS
FAA303	Gold, Platinum, Palladium by fire assay, AAS finish	30g	Au 0.01 - 100ppm Pt 0.05 - 100ppm Pd 0.01 - 100ppm
FAA505	Gold, Platinum, Palladium by fire assay, AAS finish	50g	Au 0.01 - 100ppm Pt 0.05 - 100ppm Pd 0.01 - 100ppm
FAI313	Gold, Platinum and Palladium by fire assay lead collection, ICP-AES finish	30g	Au 1 - 10000ppb Pt 10 - 10000ppb Pd 1 - 10000ppb
FAI515	Gold, Platinum and Palladium by fire assay lead collection, ICP-AES finish	50g	Au 1 - 10000ppb Pt 10 - 10000ppb Pd 1 - 10000ppb
FAI353	Rhodium by fire assay palladium inquant, ICP-AES finish	30g	10 - 500ppb
FAM363	Platinum, Palladium, Rhodium, Ruthenium, Iridium, Osmium by nickel sulphide collection, ICP-MS finish	30g	Pt 1 - 1000ppb Pd 1 - 1000ppb Rh 1 - 1000ppb Ru 1 - 1000ppb Ir 0.5 - 1000ppb Os 3 - 1000ppb

**SILVER****SILVER - TRACE LEVELS**

AAS12E	Silver by aqua regia digest, AAS	>2g	0.3 - 300g/t
AAS21E	Silver by three acid digest, AAS	>2g	0.3 - 300g/t

**SILVER - ORE GRADE**

FAG313	Silver by lead collection fire assay, gravimetric	>30g	3g/t
FAG323	Silver and gold by lead collection, fire assay, gravimetric finish	30g	Au >0.03g/t Ag >3g/t



# GEOCHEMICAL ANALYSIS

## GOLD - ORE BENEFICIATION SUPPORT ANALYSIS

GOLD CYANIDE LIQUOR ANALYSIS		LIMITS
SOL81T	Au in liquor, AAS	0.001ppm
SOL86V	Fire Assay, Denver Precipitation	0.02ppm
SOL85V	Free cyanide by titration	5 - 10000mg/l
SOL81X	Solvent extraction, AAS	0.001ppm

## GOLD CARBON ANALYSIS

FAA01V	Fire assay 1g, AAS	5 - 50000ppm
ARS12D	Ash, Acid digestion, 1g extraction, AAS finish	2 - 200ppm
FAG01V	Fire assay, Gravimetric finish	5 - 100000ppm

## GOLD BULLION ANALYSIS

BUL16A	Aqua regia digestion, Base metals in Bullion	0.1 - 5%
BUL36V	Gold in bullion fire assay, gravimetric finish, weight 100mg	30.00 - 99.5%
BUL37V	Silver in bullion fire assay, gravimetric finish, weight 100mg	0.1 - 30.0%
BUL38C	Bullion fire assay, gravimetric finish, weight 500mg	30.00 - 99.5%

## MULTI-ELEMENT TRACE , TRACE ICP-AES AND ICP-MS PACKAGES

A variety of approaches can be used for geochemical analysis depending on your needs. Each approach consists of a digestion technique and a instrumentation technique or "finish". This provides a unique suite of elements as well as specific upper and lower reporting limits.

## SAMPLE DECOMPOSITION / DIGESTION

This is the most important criteria to consider when making the final decision on the choice of package so this section of the analysis guide is structured by types of digestion. There are several types of digestion available. Please refer to the following packages for a description of each.

1. Aqua regia digestion
2. Multi-acid (two, three or four acid) digestion
3. Sodium peroxide fusion
4. Lithium metaborate fusion

Typically, reconnaissance samples (or regional soil samples) are analyzed by aqua regia digestion followed by a multi-element ICP-OES or ICP-MS scan for base metals, trace and lithological elements using an aqua regia digestion.

Core from follow-up drilling, and rock samples are generally analyzed a multi-acid or fusion digestion followed by a multi-element scan to ensure the refractory minerals are digested. Where metal contents are high (or ore grade), samples may require further testing.

## INSTRUMENTATION

ICP-AES and ICP-MS are the most widely used instrumentation techniques because they yield many elements concurrently. These instruments are widely accepted in the mining and mineral exploration industry as rapid and cost-effective means of analysis. Other instruments that can be used are AAS (Atomic Absorption Spectrophotometer) and Hydride AAS.



# TWO ACID DIGESTS

The following packages are based a two acid digest (a combination of HNO<sub>3</sub> and HCL). After this digestion, the solutions are analyzed by either ICP-AES, ICP-MS, or both, as well as the hydride elements by Hydride AAS. The digest's oxidizing properties make it suitable for dissolution of sulfide minerals and iron oxides. It is the weakest of the digestions and will not attack silicate minerals. As such, the leach provides partial results for most elements.

## ICP12B

### 34 ELEMENTS BY 2:1 HNO<sub>3</sub>:HCL / ICP-AES FINISH

LIMITS		LIMITS		LIMITS	
Ag	2ppm - 10ppm	*Hg	1ppm - 1%	Sb	5ppm - 1%
Al	0.01% - 15%	K	0.01% - 15%	Sc	0.5ppm - 1%
As	3ppm - 1%	La	0.5ppm - 1%	Sn	10ppm - 1%
Ba	1ppm - 1%	Li	1ppm - 1%	Sr	0.5ppm - 5%
Be	0.5ppm - 0.25%	Mg	0.01% - 15%	Ti	0.01% - 15%
Bi	5ppm - 1%	Mn	2ppm - 1%	V	2ppm - 1%
Ca	0.01% - 15%	Mo	1ppm - 1%	W	10ppm - 1%
Cd	1ppm - 1%	Na	0.01% - 15%	Y	0.5ppm - 1%
Cr	1ppm - 1%	Ni	1ppm - 1%	Zn	0.5ppm - 1%
Co	1ppm - 1%	P	0.01% - 15%	Zr	0.5ppm - 1%
Cu	0.5ppm - 1%	Pb	2ppm - 1%		
Fe	0.01% - 15%	S	0.01% - 5%		

\*Can be added to this package

## IMS12B

### 36 ELEMENTS BY 2:1 HNO<sub>3</sub>:HCL / ICP-MS FINISH

Ag	0.1ppm - 10ppm	Ga	0.1ppm - 1%	Sb	0.05ppm - 1%
Al	0.01% - 10%	Hg	0.01ppm - 100ppm	Sc	0.1ppm - 1%
As	1ppm - 1%	K	0.01% - 10%	Sn	0.3ppm - 0.1%
Ba	5ppm - 1%	La	0.1ppm - 1%	Sr	0.05ppm - 1%
Bi	0.02ppm - 1%	Mg	0.01% - 15%	Th	0.1ppm - 1%
Ca	0.01% - 15%	Mn	5ppm - 1%	Ti	0.01% - 10%
Cd	0.01ppm - 1%	Mo	0.05ppm - 1%	Tl	0.02ppm - 1%
Ce	0.05ppm - 0.1%	Na	0.01% - 10%	U	0.05ppm - 1%
Co	0.1ppm - 1%	Ni	0.5ppm - 1%	V	1ppm - 1%
Cr	1ppm - 1%	P	50ppm - 1%	W	0.1ppm - 1%
Cu	0.5ppm - 1%	Pb	0.2ppm - 1%	Y	0.05ppm - 1%
Fe	0.01% - 15%	Rb	0.2ppm - 1%	Zn	1ppm - 1%

Detection limits may vary slightly between SGS laboratories because each laboratory has a different instrument complement.

## ICM12B

### 52 ELEMENTS BY 2:1 HNO<sub>3</sub>:HCL / ICP-AES AND ICP-MS

LIMITS		LIMITS		LIMITS	
Ag	0.01ppm - 10ppm	Hg	0.01ppm - 1%	Se	1ppm - 0.1%
Al	0.01% - 15%	In	0.02ppm - 0.05%	Sn	0.3ppm - 0.1%
As	1ppm - 1%	K	0.01% - 25%	Sr	0.5ppm - 1%
B	10ppm - 1%	La	0.1ppm - 1%	Ta	0.05ppm - 1%
Ba	5ppm - 1%	Li	1ppm - 5%	Tb	0.02ppm - 1%
Be	0.1ppm - 0.01%	Lu	0.01ppm - 0.1%	Te	0.05ppm - 0.1%
Bi	0.02ppm - 1%	Mg	0.01% - 15%	Th	0.1ppm - 1%
Ca	0.01% - 15%	Mn	5ppm - 1%	Ti	0.01% - 15%
Cd	0.01ppm - 1%	Mo	0.05ppm - 1%	Tl	0.02ppm - 1%
Ce	0.05ppm - 0.1%	Na	0.01% - 15%	U	0.05ppm - 1%
Co	0.1ppm - 1%	Nb	0.05ppm - 0.1%	V	1ppm - 1%
Cr	1ppm - 1%	Ni	0.5ppm - 1%	W	0.1ppm - 1%
Cs	0.05ppm - 0.1%	P	50ppm - 1%	Y	0.05ppm - 1%
Cu	0.5ppm - 1%	Pb	0.2ppm - 1%	Yb	0.1ppm - 0.01%
Fe	0.01% - 15%	Rb	0.2ppm - 1%	Zn	1ppm - 1%
Ga	0.1ppm - 1%	S	0.01% - 5%	Zr	0.5ppm - 1%
Ge	0.1ppm - 1%	Sb	0.05ppm - 1%		
Hf	0.05ppm - 0.05%	Sc	0.1ppm - 1%		

## HAS12B

### HYDRIDE ELEMENTS 2:1 HNO<sub>3</sub>:HCL / HYDRIDE AAS

LIMITS		
Antimony	Sb	0.1ppm - 500ppm
Arsenic	As	0.1ppm - 500ppm
Bismuth	Bi	0.1ppm - 500ppm
Selenium	Se	0.1ppm - 500ppm
Tellurium	Te	0.1ppm - 500ppm



# AQUA REGIA DIGESTION

The following packages are based on an aqua regia digestion. After this digestion, the solutions are analyzed by either ICP-AES, ICP-MS, or both, as well as the hydride elements by Hydride AAS. Aqua Regias oxidizing properties make it suitable for dissolution of sulfide minerals and iron oxides. It is the weakest of the digestions and will not attack silicate minerals. As such, the leach provides partial results for most elements.

## ICP14B

### 34 ELEMENTS BY AQUA REGIA DIGESTION 3:1 HCL:HNO<sub>3</sub> / ICP-AES FINISH

LIMITS		LIMITS		LIMITS	
Ag	2ppm - 10ppm	*Hg	1ppm - 1%	Sb	5ppm - 1%
Al	0.01% - 15%	K	0.01% - 15%	Sc	0.5ppm - 1%
As	3ppm - 1%	La	0.5ppm - 1%	Sn	10ppm - 1%
Ba	1ppm - 1%	Li	1ppm - 1%	Sr	0.5ppm - 5%
Be	0.5ppm - 0.25%	Mg	0.01% - 15%	Ti	0.01% - 15%
Bi	5ppm - 1%	Mn	2ppm - 1%	V	2ppm - 1%
Ca	0.01% - 15%	Mo	1ppm - 1%	W	10ppm - 1%
Cd	1ppm - 1%	Na	0.01% - 15%	Y	0.5ppm - 1%
Cr	1ppm - 1%	Ni	1ppm - 1%	Zn	0.5ppm - 1%
Co	1ppm - 1%	P	0.01% - 15%	Zr	0.5ppm - 1%
Cu	0.5ppm - 1%	Pb	2ppm - 1%		
Fe	0.01% - 15%	S	0.01% - 5%		

\*Can be added to this package

## IMS14B

### 36 ELEMENTS BY AQUA REGIA DIGESTION 3:1 HCL:HNO<sub>3</sub> / ICP-AES FINISH

Ag	0.1ppm - 10ppm	Ga	0.1ppm - 1%	Sb	0.05ppm - 1%
Al	0.01% - 10%	Hg	0.01ppm - 100ppm	Sc	0.1ppm - 1%
As	1ppm - 1%	K	0.01% - 10%	Sn	0.3ppm - 0.1%
Ba	5ppm - 1%	La	0.1ppm - 1%	Sr	0.05ppm - 1%
Bi	0.02ppm - 1%	Mg	0.01% - 15%	Th	0.1ppm - 1%
Ca	0.01% - 15%	Mn	5ppm - 1%	Ti	0.01% - 10%
Cd	0.01ppm - 1%	Mo	0.05ppm - 1%	Tl	0.02ppm - 1%
Ce	0.05ppm - 0.1%	Na	0.01% - 10%	U	0.05ppm - 1%
Co	0.1ppm - 1%	Ni	0.5ppm - 1%	V	1ppm - 1%
Cr	1ppm - 1%	P	50ppm - 1%	W	0.1ppm - 1%
Cu	0.5ppm - 1%	Pb	0.2ppm - 1%	Y	0.05ppm - 1%
Fe	0.01% - 15%	Rb	0.2ppm - 1%	Zn	1ppm - 1%

Detection limits may vary slightly between SGS laboratories because each laboratory has a different instrument complement.

## ICM14B

### 52 ELEMENTS BY AQUA REGIA DIGESTION 3:1 HCL:HNO<sub>3</sub> / ICP-AES FINISH

LIMITS		LIMITS		LIMITS	
Ag	0.01ppm - 10ppm	Hg	0.01ppm - 1%	Se	1ppm - 0.1%
Al	0.01% - 15%	In	0.02ppm - 0.05%	Sn	0.3ppm - 0.1%
As	1ppm - 1%	K	0.01% - 25%	Sr	0.5ppm - 1%
B	10ppm - 1%	La	0.1ppm - 1%	Ta	0.05ppm - 1%
Ba	5ppm - 1%	Li	1ppm - 5%	Tb	0.02ppm - 1%
Be	0.1ppm - 0.01%	Lu	0.01ppm - 0.1%	Te	0.05ppm - 0.1%
Bi	0.02ppm - 1%	Mg	0.01% - 15%	Th	0.1ppm - 1%
Ca	0.01% - 15%	Mn	5ppm - 1%	Ti	0.01% - 15%
Cd	0.01ppm - 1%	Mo	0.05ppm - 1%	Tl	0.02ppm - 1%
Ce	0.05ppm - 0.1%	Na	0.01% - 15%	U	0.05ppm - 1%
Co	0.1ppm - 1%	Nb	0.05ppm - 0.1%	V	1ppm - 1%
Cr	1ppm - 1%	Ni	0.5ppm - 1%	W	0.1ppm - 1%
Cs	0.05ppm - 0.1%	P	50ppm - 1%	Y	0.05ppm - 1%
Cu	0.5ppm - 1%	Pb	0.2ppm - 1%	Yb	0.1ppm - 0.01%
Fe	0.01% - 15%	Rb	0.2ppm - 1%	Zn	1ppm - 1%
Ga	0.1ppm - 1%	S	0.01% - 5%	Zr	0.5ppm - 1%
Ge	0.1ppm - 1%	Sb	0.05ppm - 1%		
Hf	0.05ppm - 0.05%	Sc	0.1ppm - 1%		

## HAS14B

### HYDRIDE ELEMENTS AQUA REGIA DIGESTION 3:1 HCL:HNO<sub>3</sub> / HYDRIDE AAS

LIMITS		
Antimony	Sb	0.1ppm - 500ppm
Arsenic	As	0.1ppm - 500ppm
Bismuth	Bi	0.1ppm - 500ppm
Selenium	Se	0.1ppm - 500ppm
Tellurium	Te	0.1ppm - 500ppm



# MULTI-ACID (3 ACID) DIGESTIONS

## PERCHLORIC, HYDROCHLORIC AND NITRIC ACID

This is a high temperature acid attack suitable for the analysis of base metals. The technique is suited to low-sulphide, moderate iron content matrices but it is not quantitative in the presence of spinels, oxides and other refractory minerals.

### AAS21R AAS ANALYSIS

LIMITS		LIMITS		LIMITS	
Ag	1ppm - 100ppm	Cr	5ppm - 1%	Ni	3ppm - 1%
As	50ppm - 5000ppm	Cu	2ppm - 1%	Pb	3ppm - 5000ppm
Bi	10ppm - 1000ppm	Fe	5ppm - 25%	V	10ppm - 1%
Cd	1ppm - 1000ppm	Mn	3ppm - 1%	Zn	2ppm - 1%
Co	3ppm - 5000ppm	Mo	5ppm - 1%		

### ICP21R ICP-AES ANALYSIS

Ag	1ppm - 100ppm	Cu	2ppm - 1%	P	50ppm - 5000ppm
As	2ppm - 1%	Fe	50ppm - 40%	Pb	5ppm - 5000ppm
Bi	10ppm - 5000ppm	Mn	2ppm - 1%	Sb	2ppm - 5000ppm
Cd	0.5ppm - 5000ppm	Mo	2ppm - 1%	V	1ppm - 5000ppm
Co	2ppm - 1%	Ni	2ppm - 1%	Zn	2ppm - 1%
Cr	2ppm - 1%				

# MULTI-ACID (4 ACID) DIGESTIONS

## HYDROFLUORIC, PERCHLORIC, HYDROCHLORIC AND NITRIC ACID DIGEST

Multi-acid digestion is a combination of HCl (hydrochloric acid), HNO<sub>3</sub> (nitric acid), HF (hydrofluoric acid) and HClO<sub>4</sub> (perchloric acid). Because hydrofluoric acid dissolves silicate minerals, these digestions are often referred to as "near- total digestions". However, there can be a loss of volatiles (e.g. B, As, Pb, Ge, Sb) during digestion.

Multi-acid (4 acid) digestion is a very effective dissolution procedure for a large number of mineral species and is suitable for a wide range of elements.

### ICP40B

#### 32 ELEMENTS BY FOUR ACID DIGESTION / ICP-AES

LIMITS		LIMITS		LIMITS	
Ag	2ppm - 10ppm	Fe	0.01% - 15%	Sb	5ppm - 1%
Al	0.01% - 15%	K	0.01% - 15%	Sc	0.5ppm - 1%
As	3ppm - 1%	La	0.5ppm - 1%	Sn	10ppm - 1%
Ba	1ppm - 1%	Li	1ppm - 1%	Sr	0.5ppm - 0.5%
Be	0.5ppm - 0.25%	Mg	0.01% - 15%	Ti	0.01% - 15%
Bi	5ppm - 1%	Mn	2ppm - 1%	V	2ppm - 1%
Ca	0.01% - 15%	Mo	1ppm - 1%	W	10ppm - 1%
Cd	1ppm - 1%	Na	0.01% - 15%	Y	0.5ppm - 1%
Cr	1ppm - 1%	Ni	1ppm - 1%	Zn	0.5ppm - 1%
Co	1ppm - 1%	P	0.01% - 15%	Zr	0.5ppm - 1%
Cu	0.5ppm - 1%	Pb	2ppm - 1%		



**ICM40B****50 ELEMENTS BY FOUR ACID DIGESTION / ICP-AES AND ICP-MS**

LIMITS		LIMITS		LIMITS	
Ag	0.02ppm - 10ppm	In	0.02ppm - 0.05%	Se	2ppm - 0.1%
Al	0.01% - 15%	K	0.01% - 15%	Sn	0.3ppm - 0.1%
As	1ppm - 1%	La	0.1ppm - 1%	Sr	0.5ppm - 1%
Ba	5ppm - 1%	Li	1ppm - 5%	Ta	0.05ppm - 1%
Be	0.1ppm - 0.01%	Lu	0.01ppm - 0.1%	Tb	0.05ppm - 1%
Bi	0.04ppm - 1%	Mg	0.01% - 15%	Te	0.05ppm - 0.05%
Ca	0.01% - 15%	Mn	5ppm - 1%	Th	0.2ppm - 1%
Cd	0.02ppm - 1%	Mo	0.05ppm - 1%	Ti	0.01% - 15%
Ce	0.05ppm - 0.1%	Na	0.01% - 15%	Tl	0.02ppm - 1%
Cs	5ppm - 0.1%	Nb	0.1ppm - 0.1%	U	0.1ppm - 1%
Cr	1ppm - 1%	Ni	0.5ppm - 1%	V	1ppm - 1%
Co	0.1ppm - 1%	P	50ppm - 1%	W	0.1ppm - 1%
Cu	0.5ppm - 1%	Pb	0.5ppm - 1%	Y	0.1ppm - 1%
Fe	0.01% - 15%	Rb	0.2ppm - 1%	Yb	0.1ppm - 0.1%
Ga	0.1ppm - 0.05%	S	0.01% - 5%	Zn	1ppm - 1%
Ge	0.1ppm - 1%	Sb	0.05ppm - 1%	Zr	0.5ppm - 1%
Hf	0.02ppm - 0.05%	Sc	0.5ppm - 1%		

**HAS40B****HYDRIDE ELEMENTS BY FOUR ACID DIGESTION / HYDRIDE AAS**

Selenium	Se	0.2ppm - 1000ppm
Tellurium	Te	0.5ppm - 1000ppm

# FUSION PACKAGES

Fusion involves the complete dissolution of the sample in molten flux. Fusions are generally more aggressive than acid dissolution methods and are suitable for many refractory, difficult-to-dissolve minerals (such as chromite, ilmenite, spinel, cassiterite and Ta W minerals). Fusions are presumed to be "total" by the industry.

**SODIUM PEROXIDE FUSION**

Sodium peroxide fusion is a lower temperature fusion compared to lithium metaborate fusion. Hydride elements are not volatilized.

**ICP90A****SODIUM PEROXIDE FUSION / ICP-AES**

LIMITS		LIMITS		LIMITS	
Al	0.01% - 25%	K	0.01% - 25%	Sc	5 ppm - 5%
As	30 ppm - 10%	La	10 ppm - 10%	Sn	50 ppm - 5%
Ba	10 ppm - 10%	Li	10 ppm - 10%	Sr	10 ppm - 1%
Be	5 ppm - 2.5%	Mg	0.01% - 30%	Ti	0.01% - 25%
Ca	0.01% - 35%	Mn	10 ppm - 10%	V	10 ppm - 5%
Cd	10 ppm - 5%	Mo	10 ppm - 10%	W	50 ppm - 5%
Cr	10 ppm - 10%	Ni	10 ppm - 10%	Y	5 ppm - 5%
Co	10 ppm - 10%	P	0.01% - 25%	Zn	10 ppm - 10%
Cu	10 ppm - 10%	Pb	20 ppm - 10%		
Fe	0.01% - 30%	Sb	50 ppm - 10%		

**ICP90B****SODIUM PEROXIDE FUSION / ICP-AES - NICKEL LATERITE PACKAGE (INCLUDES DRYING AT 105°C FOR 8 HRS.)**

Al <sub>2</sub> O <sub>3</sub>	0.01% - 25%	Fe <sub>2</sub> O <sub>3</sub>	0.01% - 30%	P <sub>2</sub> O <sub>5</sub>	0.01% - 25%
CaO	0.01% - 35%	K <sub>2</sub> O	0.01% - 25%	SiO <sub>2</sub>	0.01% - 25%
Cr	0.01% - 10%	MgO	0.01% - 30%	TiO <sub>2</sub>	0.01% - 25%
Co	0.01% - 10%	MnO	0.01% - 10%		
Cu	0.01% - 10%	Ni	0.01% - 10%		



**ICM90A****55 ELEMENTS BY SODIUM PEROXIDE FUSION / ICP-AES AND ICP-MS**

LIMITS			LIMITS			LIMITS		
Ag	1ppm	- 0.1%	Ge	1ppm	- 0.1%	Sb	0.5ppm	- 10%
Al	0.01%	- 25%	Hf	1ppm	- 1%	Sm	0.1ppm	- 0.1%
As	5ppm	- 10%	Ho	0.05ppm	- 0.1%	Sn	1ppm	- 1%
Ba	0.5ppm	- 1%	In	0.2ppm	- 0.1%	Sr	0.1ppm	- 1%
Be	5ppm	- 0.25%	K	0.01%	- 25%	Ta	0.5ppm	- 1%
Bi	0.1ppm	- 0.1%	La	0.1ppm	- 1%	Tb	0.05ppm	- 0.1%
Cd	0.01%	- 35%	Li	10ppm	- 5%	Th	0.1ppm	- 0.1%
Ce	0.2ppm	- 1%	Lu	0.05ppm	- 0.1%	Ti	0.01%	- 25%
Ce	0.1ppm	- 1%	Mg	0.01%	- 30%	Tl	0.5ppm	- 0.1%
Co	0.5ppm	- 1%	Mn	10ppm	- 10%	Tm	0.05ppm	- 0.1%
Cr	10ppm	- 10%	Mo	2ppm	- 1%	U	0.05ppm	- 0.1%
Cs	0.1ppm	- 1%	Nb	1ppm	- 1%	V	5ppm	- 1%
Cu	5ppm	- 1%	Nd	0.1ppm	- 1%	W	1ppm	- 1%
Dy	0.05ppm	- 0.1%	Ni	5ppm	- 1%	Y	0.5ppm	- 0.1%
Er	0.05ppm	- 0.1%	P	0.01%	- 25%	Yb	0.1ppm	- 0.1%
Eu	0.05ppm	- 0.1%	Pb	5ppm	- 1%	Zn	5ppm	- 1%
Fe	0.01%	- 30%	Pr	0.05ppm	- 0.1%	Zr	0.5ppm	- 1%
Ga	1ppm	- 0.1%	Rb	0.2ppm	- 1%			
Gd	0.05ppm	- 0.1%	Sc	5ppm	- 5%			

**HAS90A****HYDRIDE ELEMENTS BY SODIUM PEROXIDE FUSION / HYDRIDE AAS**

As	0.5ppm	- 1000ppm	Bi	0.5ppm	- 1000ppm	Sb	0.5ppm	- 1000ppm
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**LITHIUM METABORATE FUSION**

Lithium metaborate fusion dissolves the major rock forming minerals of a sample as well as many trace minerals. ICP95A is a lithologic package which includes trace elements analyzed via ICP-AES. For trace elements, the same solution can be analyzed via ICP-MS. See below: IMS95A

**ICP95A****18 ELEMENTS BY LITHIUM METABORATE FUSION / ICP-AES (LITHOLOGIC PACKAGE)**

LIMITS			LIMITS			LIMITS		
Al <sub>2</sub> O <sub>3</sub>	0.01%	- 75%	MgO	0.01%	- 30%	Sr	10ppm	- 10%
Ba	10ppm	- 10%	MnO	0.01%	- 10%	TiO <sub>2</sub>	0.01%	- 25%
CaO	0.01%	- 60%	Na <sub>2</sub> O	0.01%	- 30%	Y	10ppm	- 10%
Cr <sub>2</sub> O <sub>3</sub>	0.01%	- 10%	Nb	10ppm	- 10%	Zn	5ppm	- 1%
Fe <sub>2</sub> O <sub>3</sub>	0.01%	- 75%	P <sub>2</sub> O <sub>5</sub>	0.01%	- 25%	Zr	10ppm	- 10%
K <sub>2</sub> O	0.01%	- 25%	SiO <sub>2</sub>	0.01%	- 90%	LOI	0.01%	- 50%

**IMS95A****TRACE ELEMENTS BY LITHIUM METABORATE FUSION / ICP-MS**

Ag	1ppm	- 0.1%	Ho	0.05ppm	- 0.1%	Ta	0.5ppm	- 1%
Ce	0.1ppm	- 1%	La	0.1ppm	- 1%	Tb	0.05ppm	- 0.1%
Co	0.5ppm	- 1%	Lu	0.05ppm	- 0.1%	Th	0.1ppm	- 0.1%
Cs	0.1ppm	- 1%	Mo	2ppm	- 1%	Tl	0.5ppm	- 0.1%
Cu	5ppm	- 1%	Nb	1ppm	- 1%	Tm	0.05ppm	- 0.1%
Dy	0.05ppm	- 0.1%	Nd	0.1ppm	- 1%	U	0.05ppm	- 1%
Er	0.05ppm	- 0.1%	Ni	5ppm	- 1%	V	5ppm	- 1%
Eu	0.05ppm	- 0.1%	Pr	0.05ppm	- 0.1%	W	1ppm	- 1%
Ga	1ppm	- 0.1%	Rb	0.2ppm	- 1%	Yb	0.1ppm	- 0.1%
Gd	0.05ppm	- 0.1%	Sm	0.1ppm	- 0.1%			
Hf	1ppm	- 1%	Sn	1ppm	- 1%			

**IMS95R****RARE EARTH ELEMENTS BY LITHIUM METABORATE FUSION / ICP-MS**

Ce	0.1ppm	- 1%	La	0.1ppm	- 1%	Th	0.1ppm	- 0.1%
Dy	0.05ppm	- 0.1%	Lu	0.05ppm	- 0.1%	Tm	0.05ppm	- 0.1%
Er	0.05ppm	- 0.1%	Nd	0.1ppm	- 1%	U	0.05ppm	- 0.1%
Eu	0.05ppm	- 0.1%	Pr	0.05ppm	- 0.1%	Y	0.5ppm	- 0.1%
Gd	0.05ppm	- 0.1%	Sm	0.1ppm	- 0.1%	Yb	0.1ppm	- 0.1%
Ho	0.05ppm	- 0.1%	Tb	0.05ppm	- 0.1%			



# MOBILE METAL ION GEOCHEMISTRY - MMI

SGS is licensed to perform MMI analyses. We have 10 years experience in this technology, which is now accepted worldwide as an excellent geochemical tool for finding buried mineral deposits.

The MMI Technology is an innovative analytical process that uses a unique approach to the analysis of metals in soils and weathered materials. Elements are extracted using weak solutions of organic and inorganic compounds rather than conventional aggressive acid or cyanide-based digests. MMI solutions contain strong ligands, which detach and keep in solution the metal ions that were loosely bound to soil particles by weak atomic forces. The digests are formulated to avoid dissolving the bound forms of the metals. Thus metal ions in solution are the chemically active or 'mobile' component of the sample. These mobile, loosely bound complexes are in very low concentrations so measurement is by ICP-MS.

The MMI process includes a simple, yet critical, soil sample collection procedure. There is no sample preparation or drying. The analysis is done on a 50g sample and the extracted solution is analysed via ICP-MS for specific elements in the parts per billion range.

As in all soil geochemistry techniques, the most critical aspect of an MMI program is the sampling collection. It is critical to contact SGS lab personnel for detailed instructions on the sampling protocols. These sampling protocols are detailed on the MMI page of [www.sgs.com/geochem](http://www.sgs.com/geochem).

There are many benefits to using MMI Technology for soil geochemistry programs. These include:

- Few false anomalies
- High repeatability
- Minimal nugget effects
- Focused anomalies

Samples can be delivered to your local SGS laboratory and forwarded for analysis.

For further details please contact a SGS laboratory or visit the MMI website at: [www.sgs.com/geochem/mmi](http://www.sgs.com/geochem/mmi)

## MOBILE METAL ION PROCESS

### PACKAGES

MMI-A	Base Metal Suite Cu, Cd, Pb, Zn
MMI-B	Gold Exploration Suite Au, Ag, Pd, Co, Ni
MMI-M,	Multi-Element Package Cu, Cd, Pb, Zn, Au, Ag, Pd, Co, Ni, U, Rb, Y, Ba, La, Ta, Ce, Pr, Nb, Sm, Gd, Tb, Er, Yb, Ti, Zr, Ca, Mg, Al, Sc, Th, Li, Fe, As, Sb, Bi, Tl, W, Sn, Mo, Te, Cr, Nd and Sr



# PERIODIC TABLE OF ELEMENTS

1 HYDROGEN <b>H</b> 1.008																	2 HELIUM <b>He</b> 4.003						
3 LITHIUM <b>Li</b> 6.939	4 BERYLLIUM <b>Be</b> 9.012																	5 BORON <b>B</b> 10.811	6 CARBON <b>C</b> 12.011	7 NITROGEN <b>N</b> 14.007	8 OXYGEN <b>O</b> 15.999	9 FLUORINE <b>F</b> 18.998	10 NEON <b>Ne</b> 20.183
11 SODIUM <b>Na</b> 22.989	12 MAGNESIUM <b>Mg</b> 24.312	<b>TRANSITION ELEMENTS</b>																13 ALUMINIUM <b>Al</b> 26.982	14 SILICON <b>Si</b> 28.086	15 PHOSPHORUS <b>P</b> 30.974	16 SULPHUR <b>S</b> 32.064	17 CHLORINE <b>Cl</b> 35.453	18 ARGON <b>Ar</b> 39.948
19 POTASSIUM <b>K</b> 39.102	20 CALCIUM <b>Ca</b> 40.08	21 SCANDIUM <b>Sc</b> 44.956	22 TITANIUM <b>Ti</b> 47.90	23 VANADIUM <b>V</b> 50.942	24 CHROMIUM <b>Cr</b> 51.996	25 MANGANESE <b>Mn</b> 54.938	26 IRON <b>Fe</b> 55.847	27 COBALT <b>Co</b> 58.933	28 NICKEL <b>Ni</b> 58.71	29 COPPER <b>Cu</b> 63.54	30 ZINC <b>Zn</b> 65.37	31 GALLIUM <b>Ga</b> 69.72	32 GERMANIUM <b>Ge</b> 72.59	33 ARSENIC <b>As</b> 74.922	34 SELENIUM <b>Se</b> 78.96	35 BROMINE <b>Br</b> 79.909	36 KRYPTON <b>Kr</b> 83.80						
37 RUBIDIUM <b>Rb</b> 85.47	38 STRONTIUM <b>Sr</b> 87.62	39 YTRIUM <b>Y</b> 88.905	40 ZIRCONIUM <b>Zr</b> 91.22	41 NIOBIUM <b>Nb</b> 92.906	42 MOLYBDENUM <b>Mo</b> 95.94	43 TECHNETIUM <b>Tc</b> 99	44 RUTHENIUM <b>Ru</b> 101.07	45 RHODIUM <b>Rh</b> 102.905	46 PALLADIUM <b>Pd</b> 106.4	47 SILVER <b>Ag</b> 107.870	48 CADMIUM <b>Cd</b> 112.40	49 INDIUM <b>In</b> 114.82	50 TIN <b>Sn</b> 118.69	51 ANTIMONY <b>Sb</b> 121.75	52 TELLURIUM <b>Te</b> 127.60	53 IODINE <b>I</b> 126.904	54 XENON <b>Xe</b> 131.30						
55 CAESIUM <b>Cs</b> 132.905	56 BARIUM <b>Ba</b> 137.34	57 LANTHANUM <b>La</b> 138.91	72 HAFNIUM <b>Hf</b> 178.49	73 TANTALUM <b>Ta</b> 180.948	74 TUNGSTEN <b>W</b> 183.85	75 RHENIUM <b>Re</b> 186.2	76 OSMIUM <b>Os</b> 190.2	77 IRIDIUM <b>Ir</b> 192.2	78 PLATINUM <b>Pt</b> 195.09	79 GOLD <b>Au</b> 196.967	80 MERCURY <b>Hg</b> 200.59	81 THALLIUM <b>Tl</b> 204.37	82 LEAD <b>Pb</b> 207.19	83 BISMUTH <b>Bi</b> 208.980	84 POLONIUM <b>Po</b> 209	85 ASTATINE <b>At</b> 210	86 RADON <b>Rn</b> 222						
87 FRANCIUM <b>Fr</b> 223	88 RADIUM <b>Ra</b> 226	89 ACTINIUM <b>Ac</b> 227																					

## METHOD CODING

- AAS
- ICP AES
- ▲ XRF
- ◆ ICP MS
- MISCELLANEOUS TECHNIQUES
- PRECIOUS METALS ANALYSIS
- ▲ NAA

## LANTHANIDE SERIES

58 CERIUM <b>Ce</b> 140.12	59 PRASEODYMIUM <b>Pr</b> 140.907	60 NEODYMIUM <b>Nd</b> 144.24	61 PROMETHIUM <b>Pm</b> 147	62 SAMARIUM <b>Sm</b> 150.35	63 EUROPIUM <b>Eu</b> 151.96	64 GADOLINIUM <b>Gd</b> 157.25	65 TERBIUM <b>Tb</b> 158.924	66 DYSPROSIUM <b>Dy</b> 162.50
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67 HOLIUM <b>Ho</b> 164.93	68 ERBIUM <b>Er</b> 167.26	69 THULIUM <b>Tm</b> 168.934	70 YTERBIUM <b>Yb</b> 173.04	71 LUTETIUM <b>Lu</b> 174.97
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## ACTINIDE SERIES

90 THORIUM <b>Th</b> 232.038	91 PROCTATINIUM <b>Pa</b> 231	92 URANIUM <b>U</b> 238.03	93 NEPTUNIUM <b>Np</b> 237	94 PLUTONIUM <b>Pu</b> 244	95 AMERICIUM <b>Am</b> 243	96 CURIUM <b>Cm</b> 247	97 BERKELIUM <b>Bk</b> 247	98 CALIFORNIUM <b>Cf</b> 251
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99 EINSTEINIUM <b>Es</b> 254	100 FERMIUM <b>Fm</b> 257	101 MENDELEVIUM <b>Md</b> 256	102 NOBELIUM <b>No</b> 256	103 LAWRENCIUM <b>Lr</b> 257
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# X-RAY FLUORESCENCE ANALYSIS

X-ray fluorescence spectroscopy has been available to the geochemical industry for over 50 years. It is the classical method for the determination of the major oxides as well as some trace elements. The advantages of using XRF are its precision, rapid analytical time and its multi-element nature. The technique is available in each of our Centres of Excellence. Our calibrations are based on the analysis of international standard reference materials. They accommodate a wide range of sample materials including silicates, raw materials for the steel industry and barite-rich materials and provide accurate and high quality data for a wide range of sample types.

Fusion and pressed pellet are the two industry-standard sample preparation techniques for X-ray fluorescence analysis. Fusion involves melting the sample with flux and casting it into a glass disc. Trace element and sulfidic ore samples require specialized fusions or the pressed pellet technique. Please talk to us the right method for your samples.

## WHOLE ROCK ANALYSIS

Whole Rock Analysis is the determination of major elements (reported as "oxides") that make up a sample. This will approximate 100% in non-mineralised samples. SGS offers whole rock analysis using both ICP-AES and XRF techniques below.

### METHOD CODE

FUSION	ITEM
XRF76Z	Majors by Borate Fused Disc / XRF Al <sub>2</sub> O <sub>3</sub> , CaO, Cr <sub>2</sub> O <sub>3</sub> , K <sub>2</sub> O, MgO, MnO, Na <sub>2</sub> O, P <sub>2</sub> O <sub>5</sub> , Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , TiO <sub>2</sub> , LOI Lower reporting limit: 0.01%

Additional elements can be added to fused disk analysis, please inquire.

### PRESSED PELLET

XRF75V		PRESSES PELLET, XRF	
LIMITS	LIMITS	LIMITS	LIMITS
Ba 20ppm - 4000ppm	Rb 2ppm - 4000ppm	Y 2ppm - 4000ppm	
Nb 2ppm - 4000ppm	Sr 2ppm - 4000ppm	Zr 3ppm - 4000ppm	

Additional elements can be added to pressed pellet analysis, please inquire.

# ORE-GRADE ANALYSIS

Ore-grade analysis is the high precision analysis of mineralized geological samples containing percent levels of elements. If ICP geochemical multi-element analysis is chosen for such samples, the upper detection limits for some elements can be exceeded. In such cases, results are reported as ">". At this point, to achieve suitable precision and accuracy, these elements must be analyzed using a different technique. This ore-grade analysis is typically performed using a sodium peroxide fusion - ICP-AES analyses. Then, the precision is better than 5%.

The techniques used in these methods are quantitative and intended for use in delineation drilling programs. Please consult with us to ensure that the proper method is chosen. Some determinations may require methods not listed here.

### ICP90Q

ELEMENTS		LIMITS
Cobalt	Co	0.01%
Copper	Cu	0.01%
Lead	Pb	0.01%
Molybdenum	Mo	0.01%
Nickel	Ni	0.01%
Zinc	Zn	0.01%

### AAS22S

#### PERCHLORIC, HYDROCHLORIC AND NITRIC ACID DIGESTION TO QUANTIFY MAJOR ELEMENT CONCENTRATIONS. AAS FINISH

LIMITS		LIMITS		LIMITS	
Ag 5ppm - 500ppm	Cr 50ppm - 5%	Pb 10ppm - 2%			
As 0.01% - 2.5%	Cu 10ppm - 5%	Sb 10ppm - 2%			
Bi 50ppm - 5000ppm	Fe 0.01 - 40%	V 50ppm - 5%			
Ca 0.01% - 40%	Mn 10ppm - 5%	Zn 10ppm - 2%			
Cd 5ppm - 5000ppm	Mo 20ppm - 5%				
Co 10ppm - 2.5%	Ni 10ppm - 5%				



**ICP22S**

**PERCHLORIC, HYDROCHLORIC AND NITRIC ACID DIGESTION TO QUANTIFY MAJOR ELEMENT CONCENTRATIONS. ICP-AES FINISH**

LIMITS		LIMITS		LIMITS	
Ag	5ppm - 250ppm	Cu	10ppm - 5%	Ni	10ppm - 5%
Al	250ppm - 40%	Fe	0.05% - 30%	P	0.1% - 10%
As	10ppm - 2.5%	K	0.1% - 40%	Pb	50ppm - 2%
Bi	50ppm - 2.5%	Li	5ppm - 2500ppm	Sb	0.01% - 5%
Ca	100ppm - 40%	Mg	50ppm - 40%	Ti	20ppm - 5%
Cd	5ppm - 2%	Mn	10ppm - 2.5%	V	0.01% - 10%
Co	10ppm - 5%	Mo	10ppm - 2.5%	Zn	10ppm - 5%
Cr	10ppm - 5%	Na	100ppm - 40%	Zr	10ppm - 5%

**AAS42S**

**FOUR ACID, (HYDROFLUORIC, PERCHLORIC, HYDROCHLORIC AND NITRIC ACID) DISSOLUTION TO QUANTIFY MAJOR ELEMENT CONCENTRATIONS. AAS FINISH**

Ag	5ppm - 500ppm	Cr	50ppm - 5%	Pb	10ppm - 2%
As	0.01% - 5%	Cu	10ppm - 5%	Sb	10ppm - 2%
Bi	50ppm - 5000ppm	Fe	0.01% - 40%	V	50ppm - 5%
Ca	0.01% - 40%	Mn	10ppm - 5%	Zn	10ppm - 2%
Cd	5ppm - 5000ppm	Mo	20ppm - 5%		
Co	10ppm - 2.5%	Ni	10ppm - 5%		

**ICP42S**

**FOUR ACID, (HYDROFLUORIC, PERCHLORIC, HYDROCHLORIC AND NITRIC ACID) DISSOLUTION TO QUANTIFY MAJOR ELEMENT CONCENTRATIONS. ICP-AES FINISH**

LIMITS		LIMITS		LIMITS	
Ag	5ppm - 250ppm	Fe	500ppm - 30%	Pb	50ppm - 2%
Al	250ppm - 40%	K	0.1% - 40%	Sb	20ppm - 10%
As	10ppm - 2.5%	Li	5ppm - 2500ppm	Sb	20ppm - 2%
Bi	50ppm - 2.5%	Mg	50ppm - 40%	Ta	50ppm - 2.5%
Ca	0.01% - 40%	Mn	10ppm - 2.5%	Ti	20ppm - 5%
Cd	5ppm - 2%	Mo	10ppm - 2.5%	V	5ppm - 2.5%
Co	10ppm - 5%	Na	100ppm - 40%	Zn	10ppm - 5%
Cr	10ppm - 5%	Ni	10ppm - 5%	Zr	10ppm - 5%
Cu	10ppm - 5%	P	0.01% - 10%		

**AAS43B**

**FOUR ACID DIGEST AS PER 42S DIGEST BUT FOR SAMPLES WITH HIGHER ELEMENTAL CONCENTRATIONS. AAS FINISH**

Ag	500ppm - 2%	Cr	0.01% - 40%	Mo	0.02% - 40%
As	0.02% - 40%	Fe	0.02% - 50%	Na	0.01% - 50%
Bi	0.05% - 5%	K	0.01% - 50%	Ni	0.01% - 50%
Ca	0.01% - 50%	Mg	0.01% - 50%	Pb	0.01% - 20%
Co	0.01% - 5%	Mn	0.01% - 40%	Zn	0.01% - 40%
Cr	0.03% - 40%				



# INDIVIDUAL METHODS

SGS offers a variety of other methods that cannot be directly combined into multi-element packages. These methods include a variety of classical wet chemistry techniques such as titration or instruments specifically manufactured to measure the element of interest. This list is only part of the classical method inventory, please contact us for more details.

METHOD CODE	ELEMENT	METHOD	LIMITS
CLA01A	FeO	Titration	0.10%
CSA01V	C (total)	Furnace / IR	0.01%
CSA02V	CO <sub>2</sub> (carbonate)	Leach / Furnace / IR	0.01%
CSB02V	CO <sub>2</sub> (carbonate)	Coulometry	0.05%
CSA03V	C (organic)	Leach / Furnace / IR	0.01%
CSB03V	C (organic)	Coulometry	0.05%
CSA04V	C (inorganic)	Leach / Furnace / IR	0.01%
CSA05V	C (graphitic)	Leach / Furnace / IR	0.01%
CSA06V	S (total)	Furnace / IR	0.05%-30%
CSD06V	S (total)	Furnace / IR	30-75%
CSA07V	SO <sub>4</sub> <sup>2-</sup>	Leach / Furnace / IR	0.01%
CSA08V	S <sup>2-</sup>	Leach / Furnace / IR	0.01%
CSA09V	S (elemental)	Leach / Furnace / IR	0.01%
CLA13V	SO <sub>4</sub> <sup>2-</sup>	Gravimetric	10-1%
ISE07A	F <sup>-</sup>	Specific Ion Electrode	20-10%
CLA04E	Cl <sup>-</sup>	Titrimetric	0.005%-1%
ISE08B	Cl <sup>-</sup>	Specific Ion	50ppm
PHY08D	H <sub>2</sub> O <sup>-</sup>	Gravimetric	0.1%
PHY09V	H <sub>2</sub> O <sup>+</sup>	Penfield	0.1%
CVA14C	Hg	Cold Vapour	5ppb
ISE06T	pH	1-1 ratio	0.01
PHY03V	Specific Gravity	Air Pycnometer	0.01-13
PHY04V	Bulk Density	Immersion	1-10
PHY01K	LOI	Gravimetric @ 1000°C	0.01-100%
PHY02V	LOI	TGA	0.01-100%
CLA10E	Insolubles (acid)	Gravimetric	0.1%
CLA07C	Available lime as CaO		0.01%
CSE04V	Non-sulphide Ni		0.01%
CON08V	Total acid soluble Fe	Titrimetric	0.50%
CON13V	Cu	Short Iodide	2.00%
CON07V	Ni	Dimethylglyoxime	0.05%
CON11V	Pb	EDTA titrimetric	1.00%
CON12V	Zn	EDTA titrimetric	1.00%
ICP05	Bayer extractable SiO <sub>2</sub> Al <sub>2</sub> O <sub>3</sub> and reactive Si and Al	Caustic bomb	

# HYDROGEOCHEMISTRY

The analyses offered in this section are suitable for ground water samples used in mineral exploration, **but NOT for salt water, brines effluent solutions, metal carrying solutions generated in processing circuits or environmental applications.** Samples such as salt water, effluents or metal-carrying solutions will incur an extra charge and element detection limits may increase. Requests for environmental services will be forwarded to a SGS Environmental Laboratory.

## ICP80T

### WATER ANALYSIS BY ICP-AES

		LIMITS			LIMITS			LIMITS
Aluminium	Al	50ppb	Iron	Fe	50ppb	Sodium	Na	50ppb
Antimony	Sb	50ppb	Lanthanum	La	10ppb	Strontium	Sr	1ppb
Arsenic	As	30ppb	Lead	Pb	30ppb	Tin	Sn	50ppb
Barium	Ba	10ppb	Magnesium	Mg	50ppb	Titanium	Ti	10ppb
Beryllium	Be	5ppb	Manganese	Mn	5ppb	Tungsten	W	50ppb
Bismuth	Bi	50ppb	Molybdenum	Mo	10ppb	Vanadium	V	10ppb
Cadmium	Cd	10ppb	Nickel	Ni	10ppb	Yttrium	Y	5ppb
Calcium	Ca	50ppb	Phosphorus	P	50ppb	Zirconium	Zr	10ppb
Chromium	Cr	10ppb	Potassium	K	100ppb	Zinc	Zn	5ppb
Cobalt	Co	10ppb	Scandium	Sc	1ppb			
Copper	Cu	5ppb	Silver	Ag	1ppb			

## IMS80T

### WATER ANALYSIS BY ICP-MS

Antimony	Sb	0.1ppb	Holmium	Ho	0.01ppb	Strontium	Sr	0.01ppb
Arsenic	As	1ppb	Indium	In	0.01ppb	Tantalum	Ta	0.01ppb
Barium	Ba	0.01ppb	Lanthanum	La	0.01ppb	Tin	Sn	0.01ppb
Beryllium	Be	0.1ppb	Lead	Pb	0.01ppb	Tellurium	Te	0.1ppb
Bismuth	Bi	0.01ppb	Lutetium	Lu	0.05ppb	Terbium	Tb	0.01ppb
Cadmium	Cd	0.01ppb	Manganese	Mn	0.1ppb	Thallium	Tl	0.01ppb
Cerium	Ce	0.01ppb	Mercury	Hg	0.2ppb	Thorium	Th	0.01ppb
Cesium	Cs	0.01ppb	Molybdenum	Mo	1ppb	Thulium	Tm	0.01ppb
Chromium	Cr	1ppb	Neodymium	Nd	0.01ppb	Tungsten	W	0.01ppb
Cobalt	Co	0.1ppb	Nickel	Ni	0.1ppb	Uranium	U	0.01ppb
Copper	Cu	0.1ppb	Niobium	Nb	0.01ppb	Vanadium	V	1ppb
Dysprosium	Dy	0.1ppb	Praseodymium	Pr	0.01ppb	Ytterbium	Yb	0.01ppb
Erbium	Er	0.01ppb	Rubidium	Rb	0.1ppb	Yttrium	Y	0.01ppb
Europium	Eu	0.01ppb	Samarium	Sm	0.01ppb	Zinc	Zn	1ppb
Gadolinium	Gd	0.01ppb	Scandium	Sc	0.1ppb	Zirconium	Zr	0.1ppb
Gallium	Ga	0.01ppb	Selenium	Se	1ppb			
Hafnium	Hf	0.01ppb	Silver	Ag	0.01ppb			



# CONTROL ANALYSIS

**IMP80T**

**PRECIOUS METALS ADD-ON PACKAGE**

LIMITS		
Gold	Au	0.1ppb
Iridium	Ir	0.1ppb
Palladium	Pd	0.1ppb
Platinum	Pt	0.1ppb
Rhenium	Re	0.1ppb
Rhodium	Rh	0.1ppb
Ruthenium	Ru	1ppb

**OPTIONAL WATER DETERMINATIONS**

METHOD CODE	ELEMENTS
PHY22V	Total Dissolved Solids (TDS)
ISE06T	pH
ISE07T	Fluoride F <sup>-</sup>
ISE08T	Chloride Cl <sup>-</sup>

Metallurgical processes are monitored and controlled by the analysis of samples collected at each stage of processing. Thus determining the grade of samples taken from feeds and heads, middlings, concentrates, metals, tails, slags, residues and pregnant solutions. A wide range of analytical techniques are needed to accommodate the varying matrices and the complex nature of the samples. Several of the techniques are listed here but this list is certainly not comprehensive. We have extensive experience supportive metallurgical facilities and would be happy to speak with you regarding your specific project requirements.

**CUSTOMIZED SPECTROSCOPIC ANALYSIS**

The analytical approach for control analysis differs from the standard geochemistry “package” methodology. Instead, we provide customized spectroscopic determinations that can include multiple dilutions and spectral analysis on an element-by-element basis to ensure that the interferences common in complex samples are identified and resolved. A variety of programs are available (see below for a selection), encompassing a wide range of elements including base metals and rare earth elements. Please contact us for more information.

**DIGESTIONS**

A variety of digestions are used to dissolve the control samples for analysis.

**DIGESTIONS**

- Aqua regia digest, finish by ICP-OES, ICP-MS or AAS
- Sodium peroxide, potassium hydroxide fusion or lithium metaborate fusion, finish by ICP-OES, ICP-MS or AAS
- Strong acid digest, finish by ICP-OES, ICP-MS or AAS
- Strong acid digest with fusion of residue, finish by ICP-OES, ICP-MS or AAS
- Microwave digest, finish by ICP-OES, ICP-MS or AAS
- Selective leaches for speciation



### STANDARD STRONG ACID DIGEST ICP-OES SCAN

Ag	Co	Mo	Sr
Al*	Cr*	Na	Ti*
As*	Cu	Ni	Tl
Ba*	Fe	P	V
Be	K*	Pb	Y
Bi	Li	Sb*	Zn
Ca*	Mg*	Se	
Cd	Mn	Sn*	

\*Recovery may not be complete

### XRF ANALYSIS

X-Ray fluorescence spectroscopy is a powerful tool for the analysis of solid sample types for control quality assays. Assays are rapid, precise and accurate for a wide range of concentrations and analytes. Several sample preparation techniques are available, including borate fusion, pyrosulfate fusion and pressed powder. In some time-critical applications, direct reading of samples is also feasible.

### BORATE FUSION XRF

#### ELEMENT

Si*	Al*	Fe*	P*	Na*	Ti*
Cr*	V*	Ca*	Mg*	K*	Mn*
Ta	Zr	Hf	Nb	Th	Y
W	U	Ba	Ce	La	Nd
Sm	Pr	Sr	Ni	Co	

Elements marked with asterisks (\*) are those in the standard Whole Rock Analysis package

### PYROSULFATE FUSION XRF

#### ELEMENT

Cu	Fe	Ni	Pb	Zn
Cr	Co	Mn	W	Mo

### PRESSED POWDER XRF

#### ELEMENT

As	Sb	Th	Sn	W
U	Ta	Nb	Ba	Ni
Zn	Pb	Mo	Br	Cl

### OTHER ANALYSIS

These control assay methods are only a small example of the methods and capabilities available at SGS. A wide variety of other methods are available including fire assay, manual and automated titrations, CVAA mercury analysis, AAS, carbon, sulfur, and chromatography. Fire assay methods often require customized fluxes and finishes. Please contact us if you have any needs in this area – we have lots of expertise to share.



# COMMERCIAL ANALYSIS

SGS laboratories have been performing analytical determinations of pay and penalty metals for decades. SGS' international network of inspection offices offers witnessing, inspection and sampling services at all critical supervision points during transport of your shipment. We employ uniform analytical and operational methodologies, follow industry-leading quality assurance and quality control practices, and use standardized templates for data reporting. The following analyses determine the value of a commodity or product shipment for various purposes:

- 'Load port' or 'pre-shipment' assay data are used by underwriters to insure the approximate dollar value of the shipment. These assays can also be used to calculate partial payment while the parcel or cargo is en-route to the customer. Assay techniques are chosen based on turn-around time and quality.
- Party analyses (also known as commercial settlement assays) determine the quality of a commodity or cargo and thus its value and the payment due. The major or payable elements and all minor or impurity parameters are measured. Party assays use commodity specific methodology and require rigorous quality control steps. Some examples of these methodologies are classical gravimetric (including electroplating), volumetric titration and modern instrumental techniques.
- Umpire assays are used to resolve a dispute between a buyer and seller. Samples of the parcel or cargo are analyzed in triplicate using established methods and quality control protocols to provide the highest level of accuracy and precision.

SGS works for you to protect your interests and reduce your risk. Please contact us for services and pricing specific to your commodity, cargo or product shipment.

# GENERAL INFORMATION

## SAMPLE DISPATCH

Samples can be submitted to the nearest SGS laboratory or sample preparation facility. Where samples are transported to SGS by a third party, please send notice of shipment dispatch directly to the SGS receiving laboratory. This should include the name of the freight company and date of dispatch. Waybill numbers, number of pieces and number of samples will ensure that we can help track overdue or missing shipments.

We recommend that all sample submissions be clearly labelled. Sample submissions that are poorly labelled or packaged may incur additional sorting charges. Please ensure that you provide documents with full details of the analytical package(s) requested and reporting details.

All sample shipments require a chain of custody form or letter with clear instructions to avoid delays. Samples will not be analyzed until we have complete instructions. The minimum information required to proceed is:

- Company name and complete address
- Contact name
- Details for distribution of reports and invoices
- Method codes
- Instructions on sample preparation
- List or range of sample numbers
- Sample disposal / return requirements
- Unusual sample characteristics or warning if any samples are potentially hazardous

To eliminate customs delays, use the following information:

- Description of goods, such as "Sample of rock for testing purposes only."
- The receiving SGS laboratory will have the needed customs or quarantine certification to receive your submission promptly. Please contact the laboratory so we can provide permit details that must be included with the transport documents prior to dispatch.
- Some national authorities require prior notification before samples can be received by certified laboratories. SGS will facilitate this to avoid unnecessary delays in sample receipt.

Together, we can eliminate unnecessary delays and costs using these sample submission protocols.



## **SAMPLE STORAGE**

Sample pulps will be stored for three months free of charge. Samples will be discarded after three months unless you specifically request their return. Disposal or storage costs may apply.

While SGS will take all reasonable care to protect samples during analysis and storage, the samples shall at all times be at your risk.

## **REPORTING**

All results are reported electronically immediately upon completion. Fax copies can be sent - a fee may apply. Copies of all certificates and invoices are sent via mail to the address you specify. Our Q-Mine data portal is internet-accessible globally. Use of Q-Mine is free.

## **LIMS - LABORATORY INFORMATION MANAGEMENT SYSTEM**

All SGS laboratories run sophisticated LIMS that facilitate complete tracking of analysis throughout the laboratory. CCLAS EL is our standard. This directly tracks all samples from the time they are received at the preparation facility until they are sent to an SGS Centre of Excellence, analyzed and reported.

## **RESULT TURNAROUND**

Samples are processed at each SGS laboratory as promptly as possible. Sample batches requiring turnaround commitments outside contracted arrangements should be discussed with the Laboratory Manager.

## **FEES AND PAYMENT METHODS**

This List of Services outlines the methods SGS offers for geochemical samples. The companion piece, available on CD or paper copy, lists the current year price for specific geographic regions. These are available at [www.sgs.com/geochem](http://www.sgs.com/geochem) and can also be requested from [ca.min@sgs.com](mailto:ca.min@sgs.com). Geochemical methods are not suitable for the analyses of highly mineralized samples, industrial products or waste. In these cases, separate fees and / or surcharges will apply.

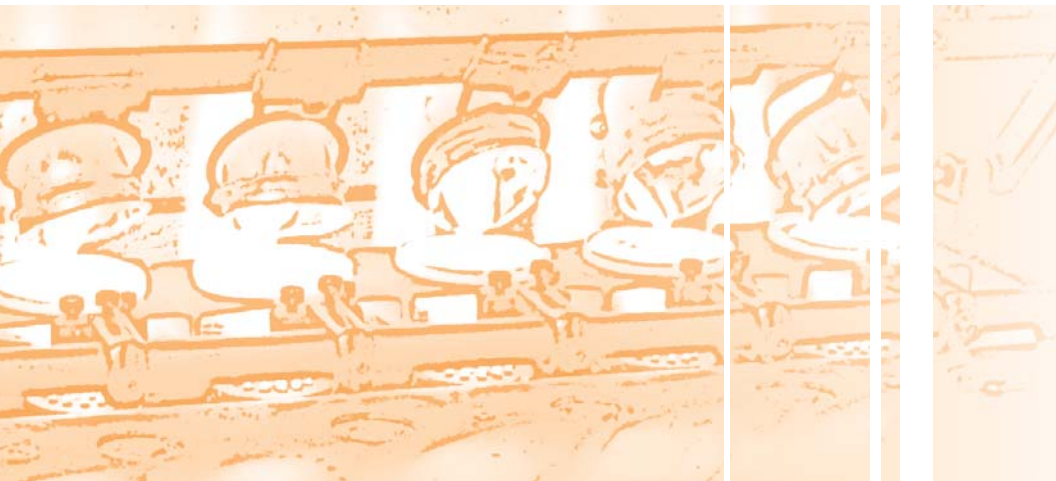
Payment terms are strictly 30 days for approved clients. Interest at 1.5% per month will be levied on overdue accounts. If credit has not been established, advance payment will be required.

SGS accepts payment by Visa or MasterCard in many locations. Please inquire at your local laboratory.

SGS reserves the right to change specifications and prices without notice.

Prices are exclusive of consumer taxes and related surcharges. A surcharge of 100% will apply to rush orders needing 24 - 48 hour turn-around given prior notification and acceptability.

A minimum fee is applied to all submissions.





# TERMS AND CONDITIONS

SGS Standard General Conditions of Service apply to all services provided, copies of which can be obtained at:  
[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

## AUDIT POLICY

SGS welcomes client inspection of our analytical processes at ANY time. We appreciate the opportunity to work with you to enhance the analytical service we provide. SGS does however request, if you wish to send an agent to inspect our operations, that the following policy be observed. SGS anticipates that the audit process will be constructive and that it will enhance your confidence in our service.

### 2ND PARTY AUDIT POLICY

#### POLICY SCOPE

This policy specifically applies to 2nd party audits, including reviews or inspections of SGS laboratories that “are conducted by parties having an interest in the organization, such as customers, or by other persons on their behalf” (ISO 19011).

This policy has been written for the express purpose of clients, their authorized representatives and SGS laboratory management. SGS advocates transparency and accountability, and so encourages client review, in accordance with ISO 19011. SGS Minerals Services endorses and will follow the policies of ISO 19011 with respect to second party audits. This provides the standard laboratory access protocols that SGS follows with respect to our premises and our staff to facilitate client review.

#### CONFIDENTIALITY

SGS requires clients and their representatives to sign a confidentiality agreement prior to any review. This document must be signed by the SGS representative on-site.

### AUDITOR IDENTIFICATION

Client representatives must provide documentation to support their identity and the client that they represent. A copy will be retained by SGS. ISO 19011 outlines in detail auditor competence, but SGS is prepared to forsake this if client representatives are able to show an affiliation with a professional (geotechnical / scientific) body as an indication of their competence and qualification to conduct the review. Affiliations will be recorded by SGS.

### PHOTOGRAPHS AND ACCESS

SGS allows photographs as long as no proprietary equipment, plant systems, improvements and / or instructions are included. Rulings will be made where necessary by the SGS Minerals Services representative. Photographs, as with all other documentation, must comply with ISO 19011 requirements for “fair representation.” SGS will allow unimpeded access to processes and records as they relate to a specific client only. Auditors will be escorted throughout the laboratory by a representative of SGS Minerals Services. The auditor / client representative will be required to comply with all SGS OH&S requirements during the visit.

### ADVANCE NOTICE

Advance notice must be given of a review so that a qualified representative of SGS Minerals Services may accompany the auditor.

### AUDIT OBJECTIVES, SCOPE AND CRITERIA

As per ISO 19011, an audit program / plan that specifies the objectives, scope and criteria of the audit is to be presented to SGS and discussed during an opening meeting. ISO 19011 also requires a closing meeting and a timely copy of the report, that reflects the advice and content provided to the client. This will ensure that SGS can understand any issues and, most importantly, make appropriate corrective action. Upon receipt of an audit report, SGS will respond within 14 days.



# CONVERSION FACTORS

## AUDIT CONDUCT

ISO 19011 requires ethical conduct, fair presentation, due professional care, independence and an evidence-based approach during all audits.

## REFERENCE

ISO 19011: 2002 – Guidelines for quality and / or environmental management encompasses audit and inspection.

## US STANDARD TEST SIEVE SERIES

AMERICAN ASTM	TYLER STANDARD SCREEN	INTERNATIONAL
INCH OR SIEVE	INCH OR SIEVE	MILLIMETERS OR MICRONS
1.06 inch	1.05 inch	26.50mm
1	-	25.00
7/8	0.883	22.40
3/4	0.742	19.00
5/8	0.624	16.00
0.53	0.525	13.20
1/2	-	12.50
7/16	0.441	11.20
3/8	0.371	9.50
5/16	2 1/2 mesh	8.00
0.265	3	6.70
1/4	-	6.30
3 1/2 sieve	3.5	5.60
4	4	4.75
5	5	4.00
6	6	3.35
7	7	2.80
8	8	2.36
10	9	2.00
12	10	1.70
14	12	1.40
16	14	1.18
18	16	1.00
20	20	850µm
25	24	710
30	28	600
35	32	500
40	35	425
45	42	355
50	48	300
60	60	250
70	65	212
80	80	180
100	100	150
120	115	125
140	150	106
170	170	90
200	200	75
230	250	63
270	270	53
325	325	45
400	400	38
450	-	32
500	-	25
635	-	20



## FREQUENTLY REQUESTED EQUIVALENTS

%	PPM	PPB	GRAMS / METRIC TONNE
1	10000	10000000	10000
0.1	1000	1000000	1000
0.01	100	100000	100
0.001	10	10000	10
0.0001	1	1000	1

## CHEMICAL CONVERSION FACTORS

FORMULA	RESULT	FORMULA	RESULT
Al x 1.889	Al <sub>2</sub> O <sub>3</sub>	Mn x 1.291	MnO
Ba x 1.699	BaSO <sub>4</sub>	MnO x 1.2255	MnO <sub>2</sub>
Ba x 1.116	BaO	Mo x 1.668	MoS <sub>2</sub>
Be x 2.775	BeO	Na x 1.348	Na <sub>2</sub> O
Ca x 1.399	CaO	Nb x 1.431	Nb <sub>2</sub> O <sub>5</sub>
Ca x 2.497	CaCO <sub>3</sub>	P x 2.291	P <sub>2</sub> O <sub>5</sub>
CaO x 2.42706	CaCO <sub>3</sub>	Pb x 1.15474	PbS
Cr x 1.461	Cr <sub>2</sub> O <sub>3</sub>	Rb x 1.094	Rb <sub>2</sub> O
Cu x 1.25228	Cu <sub>2</sub> S	Si x 2.139	SiO <sub>2</sub>
F x 2.055	CaF <sub>2</sub>	Sn x 1.27	SnO <sub>2</sub>
Fe x 1.286	FeO	Sr x 1.185	SrO
Fe x 1.43	Fe <sub>2</sub> O <sub>3</sub>	Ta x 1.221	Ta <sub>2</sub> O <sub>5</sub>
Fe x 1.57414	FeS	Th x 1.138	ThO <sub>2</sub>
Fe <sub>2</sub> O <sub>3</sub> x 0.69943	Fe	Ti x 1.668	TiO <sub>2</sub>
Fe <sub>2</sub> O <sub>3</sub> x 0.89981	FeO	U x 1.179	U <sub>3</sub> O <sub>8</sub>
Fe <sub>2</sub> O <sub>3</sub> x 1.10101	FeS	V x 1.785	V <sub>2</sub> O <sub>5</sub>
K x 1.205	K <sub>2</sub> O	W x 1.261	WO <sub>3</sub>
Mg x 1.658	MgO	Y x 1.27	Y <sub>2</sub> O <sub>3</sub>
Mg x 3.648	MgCO <sub>3</sub>	Zr x 1.351	ZrO <sub>2</sub>
MgO x 2.09176	MgCO <sub>3</sub>	Zn x 1.49044	ZnS

## DRILL CORE SPECIFICATION

	DIAMETER		VOLUME LENGTH	
	(MM)	(INCH)	M <sup>3</sup> X10 <sup>-3</sup> / M	INCH <sup>3</sup> / FOOT
AQ	270	1.062	0.57	10.6
TT	35.0	1.378	0.96	17.8
BQ	36.4	1.433	1.04	19.3
NQ	47.6	1.875	1.78	33.1
HQ	63.5	2.500	3.17	58.9
BQ3	33.5	1.320	0.88	16.4
NQ3	45.1	1.775	1.60	29.7
HQ3	61.1	2.406	2.93	54.6
PQ3	83.1	3.270	5.43	100.8

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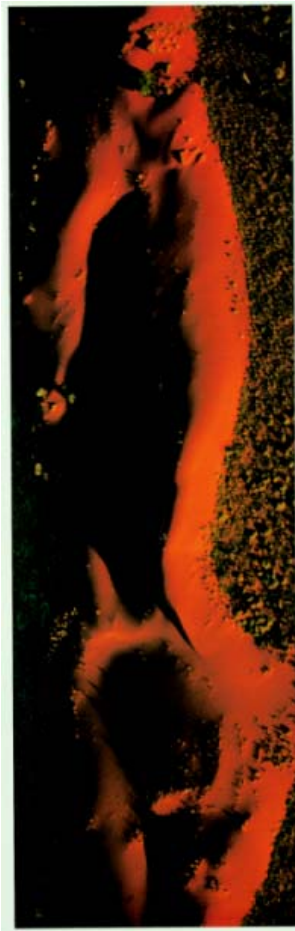
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# MMI Manual

For

## Mobile Metal Ion Geochemical Soil Surveys

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Version 5.04





## Important Information

This **MMI Manual** has been prepared to assist exploration personnel with more effective application of Mobile Metal Ion geochemical surveys. This is the fifth edition of the MMI Process Information Manual, containing the feedback MMI TECHNOLOGY has received and any additional information that it feels is relevant.

To date, the main application for MMI geochemistry has been directed at defining more precise drill targets following directly on from the surface soil sampling phase of exploration. The technique has demonstrated an ability to reduce costs by reducing drilling in the early phase of exploration.

An ongoing program of development is continuing to systematically expand the applicability of the technique to other aspects of mineral exploration. It is the intention to upgrade this manual as further relevant applications pass through the various stages of research and testing that MMI TECHNOLOGY undertakes as part of its ongoing internal research and development program.

The MMI Process is an innovative, robust, and cost effective integrated geochemical exploration package. However, it does require careful application to maximize the value from interpretation. Applied diligently, the MMI Process can deliver significant benefits from the soil sampling phase of exploration.

Should you have any queries regarding the analytical aspects of MMI Geochemistry, or require assistance with orientation surveys and interpretation, please do not hesitate to contact the members of our staff:

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Dr Alan Mann	Director
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And

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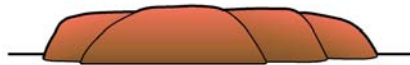
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## 1.0 INTRODUCTION

'**Mobile Metal Ions**' is a term used to describe ions which have moved in the weathering zone and that are only weakly or loosely attached to surface soil particles. It is a widely held belief that these Mobile Metal Ions are transported from deeply-buried ore bodies to the surface. Studies from Australia and overseas have shown that such Mobile Metal Ions are useful in locating buried mineralization. Mobile Metal Ions are generally at very low concentrations in the soil. To successfully interpret these weak signals, a series of very carefully quality-controlled steps have been developed that, when put together, constitute an integrated package '**The MMI Process**'.

The steps, which are necessary to ensure the successful application of Mobile Metal Ion geochemistry for mineral exploration, include:

- A field, commodity and exploration situation appropriate for application of MMI geochemistry;
- An understanding of landform and regolith relationships;
- Application of appropriate specialized digestions;
- Access to advanced ICP-MS analytical equipment/techniques; and
- Correct interpretation of the partial extraction analytical data.

Orientation surveys are recommended, where possible, to develop a level of confidence for any particular prospect or project area.

Currently, the optimum application for MMI geochemistry is to define specific mineralization targets for detailed drilling, making broad reconnaissance RAB programmes less important. In this scenario, the assumption is that a number of target areas have been defined and MMI is used to prioritize and more accurately define targets for RC drill programmes.

Developmental work has allowed extension of the technique to a regional application, and also a target definition role.



## 2.0 BACKGROUND INFORMATION

The key attributes of Mobile Metal Ion surface soil geochemical anomalies include:

- Constrained, precise anomalies, vertically above oxidizing mineralization and occasionally at up-dip projection positions on the surface;
- Commodity elements respond reducing the need for pathfinders;
- The anomalies can precisely target mineralization at significant depths;
- The incidence of false anomalies is very low in comparison to conventional geochemistry;
- Surface soil anomalies are repeatable and persist over time; and
- Anomalies have a better signal to noise ratio related to mineralization in a much wider range of regolith units when compared with conventional techniques.

The Mobile Metal Ion geochemical technique has been developed since 1990 and resulted from an initial series of 13 case studies where the attributes summarized above were first observed. After this initial field testing in Australia and off-shore, a larger scale research and development initiative was instigated culminating in the establishment of The Geochemistry Research Centre at Technology Park in Perth. In an effort to understand and effectively apply MMI geochemistry to mineral exploration, its first project, The Mechanism of Formation of Mobile Metal Ion Anomalies, was supported by 11 mining companies, WAMTECH and the Western Australian State Government. As a result of the success of the first project a second project titled, Geochemical Anomalies – Their Dynamic Nature and Interpretation, began in late 1995 and ran for a period of two years. Wamtech is still actively involved with the Geochemistry Research Centre today.

It is important to realize that the MMI approach to geochemical exploration is significantly different to that used in conventional surveys. The principal aim of the process is to remove the smallest amount of metal ions from the exterior of soil particles whilst leaving the substrate unaffected. This is the essential difference between MMI and other partial digestion techniques that specifically attack substrates, such as iron oxides and manganese oxides. This approach optimizes the use of improved analytical instrumentation with lower detection limits now available. While absolute metal concentration levels are significantly less than those from 'total digestions', the signal to noise ratios are significantly enhanced using MMI procedures.

Early case studies clearly suggested that, on an empirical basis, better contrast was achieved over a number of different styles of mineralization using MMI when compared to conventional (total) techniques. It was postulated that the very loosely-attached ions were sourced from mineralization and that input from other sources of metals, for example lateritic or lithological contributions would be minimized.

The concept of the **MMI Process** has been introduced to reinforce the requirement that the method is not simply an analytical technique. It is a series of integrated steps that, when combined correctly and intelligently, is proving to be a powerful addition to the existing exploration geochemistry techniques.



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### 3.0 APPROPRIATE LANDFORM AND REGOLITH SITUATIONS

Mobile Metal Ion geochemistry has proved successful in a broad range of landform situations including relict, erosional, and depositional regimes. It is also proving effective in lateritic terrains by identifying primary sources of mineralization from the surface within broader conventional anomalies influenced by specific regolith units.

Surface Mobile Metal Ion geochemistry essentially responds to sources of mineralization, so that weakly-mineralized structures, like subsurface supergene mineralization blankets, are defined at a lower contrast level than the primary zones from which they are derived.

#### 3.1 Relict and Erosional Regimes

Surface regolith units developed on relict and erosional landforms respond well to MMI geochemistry. The key advantage is a superior signal to noise ratio over mineralization. Compared to conventional geochemistry, it allows better focusing on follow-up exploration, either further surface sampling or more precise target drilling. Conventional responses are usually broader and maxima are often not directly over mineralization, particularly in deeply-weathered terrains. MMI responses are more constrained; commodity element anomalies are usually closely related to primary mineralization.

This does not automatically ensure that a commercially viable deposit is identified beneath each MMI anomaly. However, the success rate for ore-grade drill intercepts early within an exploration programme can be significantly improved.

At an operational level, MMI samples can easily be collected from the surface of these regimes in a straightforward manner as discussed in the sampling procedure section.

#### 3.2 Depositional Regimes

Surface soils on depositional regimes need to be addressed with extra care. Case studies have shown that the MMI technique extends the range of effective surface soil geochemistry further into more complex transported regolith units, when compared to conventional geochemical techniques. Again it is the superior *signal to noise* or *anomaly to background* responses provided by MMI geochemistry that allow the technique to identify and highlight anomalous responses from mineralization while reducing the effects of spurious background levels.

Terrain with colluvial soils, where coarser components are obvious, usually respond well to the MMI technique. In terrain with extensive alluvium, particularly within larger tracts of sheetwash with intermittent flood activity, care is required with any geochemical technique. MMI anomalies in this terrain type can be of the order of 1 ppb or less. At these analytical levels, great care must be taken to ensure quality of data, and correct interpretation. No geochemistry, including MMI, is successful where very active ingress of depositional material occurs, such as aeolian dunes and active alluvial channels.

An effective *orientation study* is strongly recommended if possible to provide data before embarking on a survey.



## 4.0 ORIENTATION STUDIES

Although MMI geochemistry is a powerful technique, it should not be regarded as a panacea for exploration. Field inspection can be important to establish whether any major landform or regolith changes are likely to influence the MMI results. Other relevant background material that can contribute to a successful MMI survey programme and interpretation includes: geological maps, aerial photographs, geophysical data including aeromagnetic maps and any interpretation thereof, conventional geochemistry results showing broader anomalies or corridors, and styles of any known mineralization.

As with any geochemical survey, an orientation programme can provide valuable information if a suitable target can be accessed and soils collected at the surface. Prior to any orientation, it is also important for the exploration professional to define the parameters for minimum target size, especially when considering sample spacing for future exploration surveys. An important feature of MMI geochemistry is that it essentially responds to oxidizing primary mineralization. Weakly-mineralized structures may not respond clearly or distinctly to an MMI programme so an orientation should preferably test a target considered significant.

A sampling interval appropriate to the dimensions of the target and host geology is recommended for orientation surveys. Generally, a 25 – 50 metre interval sample spacing along lines is sufficient. However, in the final stages of NiS exploration, 10 metre spacing is used.

To obtain the further benefit from the analytical data generated using commercial MMI analyses, response ratios (discussed below) can be calculated. Background samples provide the necessary data to allow meaningful response ratios to be calculated and therefore orientation sampling **must** include soils collected off the known mineralization.

## 5.0 SAMPLE DENSITY AND GRID ORIENTATION

Density of sampling is largely influenced by the type and style of mineralization being sought. Narrow, higher grade styles require a maximum of 50-m sample intervals along lines spaced according to the required strike length of mineralization considered as an economic target within the specific project area. If the minimum strike length is 200 m, then the maximum line spacing should be 200 m. This is assuming that the target mineralization is likely to produce a geochemical halo, giving rise to an anomaly that may extend further than 200 m (for example along strike of a mineralized structure). However, it is recommended that the line spacing be equal or less than the target mineralization length. Generally for gold targets a sample spacing of 100 m x 50 m will allow a focused drill programme to commence, eliminating blanket RAB drilling.

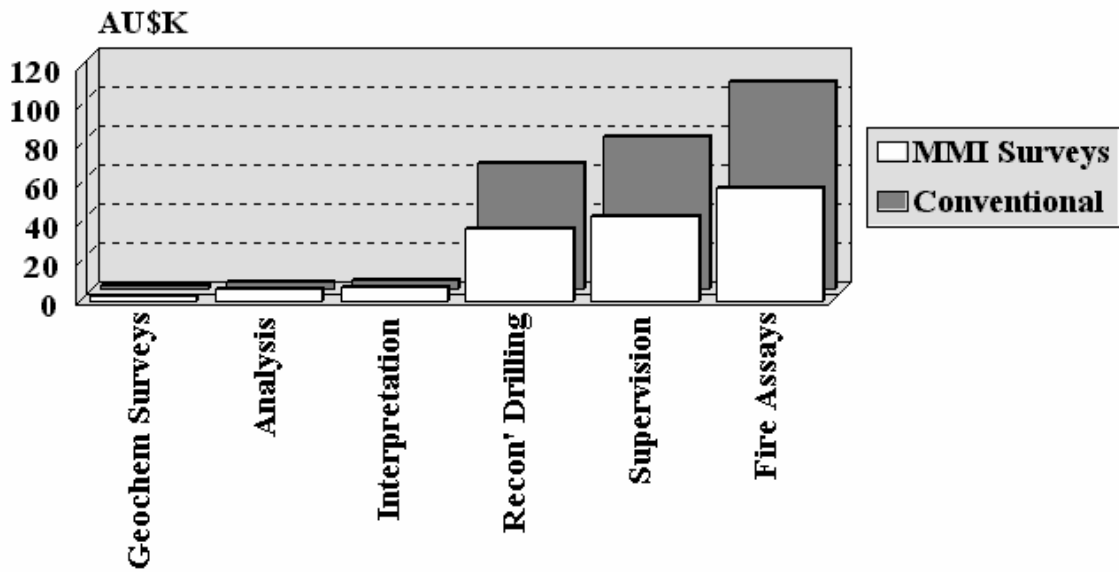
Larger sedimentary styles (for example Mississippi Valley style) can have expanded sample patterns. However, in these cases it is vital that background is also sampled. Very specific targets, for example massive nickel sulphides along basal contacts, have in the past required 25 m x 25 m, or even 20 m x 10m spacing to allow detailed anomaly definition prior to the first phase of drilling. This pattern density may represent the second or third infill phase of MMI sampling after an initial broader-spaced programme to identify contacts, or complementary with geophysical targets.

One important aspect of incorporating MMI geochemistry into an exploration programme is that it can substantially reduce drilling costs (see Figure 1). If anomalies remain strong along significant strike lengths and more precise targets are desired, it is still more cost effective to undertake infill surface sampling within the anomalous trend rather than to blanket drill.



## COST COMPARISON: CONVENTIONAL vs MMI

**Case Study: Discovery of the Golden Web Gold Deposit, St Francis Mining  
 Exploration Phase 1 - Grassroots to Pre-definition drilling**



**Cumulative Costs**

Figure 1

### 5.1 Sampling Grids

Pre-designated sample grids and numbers should be established prior to sampling to avoid irregular sample spacing/numbering which disrupts later data interpretation and any subsequent follow-up work. Sampling should be conducted in a methodical way, preferably starting from the lowest easting and northing and working upwards. Avoid allocating negative eastings and northings for sample coordinates.

For orientation, survey traverses across known targets are ideal. These traverses can be assessed independently; however, it is imperative that background samples are collected for the general area, even at the expense of maintaining a consistent spacing along the line once the mineralized zone has been covered.



## 6.0 SAMPLE COLLECTION

### 6.1 Sampling Position

**Do not vary depth beneath the true soil interface, or target a specific layer/feature of a soil profile when sampling.** - Extensive research has shown that element concentrations can vary markedly with a change in sampling depth. Any significant variation in sampling depth and technique can cause severe problems for interpretation. It is imperative that all samples are collected in a consistent manner. In tropical terrains, the true soil interface is the ground surface. In terrains with deep organic overburden, the true soil interface is the position where living plant matter ceases and inorganic soil material becomes evident.

**In undisturbed environments samples should be collected approximately 10 to 25 cm below the true soil interface at a consistent depth.** - The initial step in taking an MMI soil sample requires the surface soil layer to be scraped away eliminating loose organic matter, debris, and any possible contamination. In cases where there is an extensive organic horizon (O or Ao) at the surface, (e.g. Canada), the sample should be taken 10 to 25cm below the lower interface, i.e. into the A horizon. Before actually taking the soil sample material, equipment should be brushed to eliminate residue from previous samples and preferably flushed with the soil from the new sample site. During sample collection and handling, **no jewellery** (watches, rings, bracelets, and chains) should be worn, as this can be a major source of contamination.

**Moist Samples.** - Damp samples should be collected in a similar manner to soils in dry environments. Samples should not be dried in ovens or pulverised in crushers or mills. In the case of dry plastic clays, sample material can be desegregated by crushing with a mallet between disposable plastic sheets. Sieving should be avoided if there is any possibility of serious cross-contamination during sample collection via the sieve. In this case, larger rocks and twigs/leaves etc can be removed by hand.

**Organic Material.** - Organic material in the form of fine roots and hairs, decomposing leaf material and other fine organic debris **WILL NOT** adversely affect MMI analyses. Experimental work has shown that variability in sampling depth has a more significant impact on element responses.

**Contaminated Sites.** - Where there is a potential contamination problem, samples should be collected at a depth so as to avoid any contaminated material and the sampler's judgment must be relied upon. Another option available to the sampler if there is possible site contamination is to sample in the lee of a tree and/or under a thick layer of organic litter.

### 6.2 Equipment

- A 30-cm diameter **plastic** garden sieve or kitchen colander with minus 5-mm apertures, available from hardware and supermarkets, is ideal for sample collection;
- **Plastic** collection dish with similar diameter and a kitchen floor brush used for cleaning the sieve and dish between samples;
- A bare steel (no paint) garden spade; and
- **Plastic** snap seal bags, **do not use calico.**

### 6.3 Sample Specification

A 250 gram sample is collected and stored in a plastic bag (a 90 x 150-mm plastic snap seal sample bag is recommended). Once sealed in the snap seal plastic bags, samples should be placed in polyweave sample dispatch bags. Stored in this manner, samples can be carried on tray-back vehicles during summer without problems and be stored for long periods.



## 6.4 Sample Site

Sample sites should be undisturbed and preferably away from any major contamination: creek beds, drainage, drilling lines, pads, roads, etc. Wind borne contamination should also be eliminated during sample collection by sampling just below the surface.

### MMI SOIL SAMPLING - IN SUMMARY

- Use one laboratory wherever possible.
- For a particular survey, avoid submitting samples in small batches (if possible). If this cannot be avoided, calculate Response Ratios for each batch, BEFORE combining the data.
- Always sample consistently 10 – 25cm below the true soil interface.

## 6.5 Other Assistance

MMI TECHNOLOGY has assembled a number of technical bulletins to assist users with their sampling programs. This information can be accessed via the MMI Web Page or copies can be obtained from MMI Technology or its licensed laboratories worldwide. MMI staff can be made available to visit survey sites, discuss sampling procedures, train personnel, and perform sample collection.

### **Relevant MMI Technical Bulletins available**

1. TB01 Sampling Procedures in Active Desert Terrain
2. TB02 Size Fraction Analysis
3. TB03 Improving Anomaly Resolution
4. TB04 Repeat Sampling Study
5. TB05 The Application of MMI Geochemistry in Tropical Environments
6. TB06 MMI Geochemistry in Deeply Weathered Lateritic Environments
7. TB07 Gold Exploration in Carbonate Terrains
8. TB08 The Application of MMI Geochemistry in Carbonate Environments
9. TB09 Low Level Gold Analysis After MMI Extraction
10. TB10 Analysis for Pathfinders
11. TB11 WAMRD8: Reproducibility of Data in the MMI Process
12. TB12 MMI Analysis for Gold and Silver in Carbonate Environments
13. TB13 WAMRD9: Solubilities of Cu, Pb, Zn & Cd in MMI-A Leachants Applied to Carbonate Samples
14. TB14 Sampling in Boreal Climatic Zones



## 7.0 STANDARD REFERENCE MATERIAL CHECKS AND DUPLICATE SAMPLES

Standard Reference Material (SRM) and duplicate samples are a very important part of quality assurance and control, by identifying any human or equipment error. They also provide the required measure of confidence in the data reported by the laboratory.

One check and one duplicate sample should be inserted for every batch of 50 samples. Preferably these should be inserted within the normal sample number sequence submitted to the laboratory. MMI TECHNOLOGY can supply standard reference material at a nominal cost. Companies can also collect their own check material once values from a specific sample site are known.

Mobile Metal Ion responses in soils are consistent, repeatable, and there is no nugget effect. The ions are distributed homogeneously throughout the soil and it is possible to engineer a desired standard reference sample value by mixing samples with known responses (see Figure 2). As can be seen from this case study, the mean of the two samples that were combined in equal proportions and thoroughly mixed gave an accurate indication of the results of four sub samples.

### Mobile Metal Ion Distribution

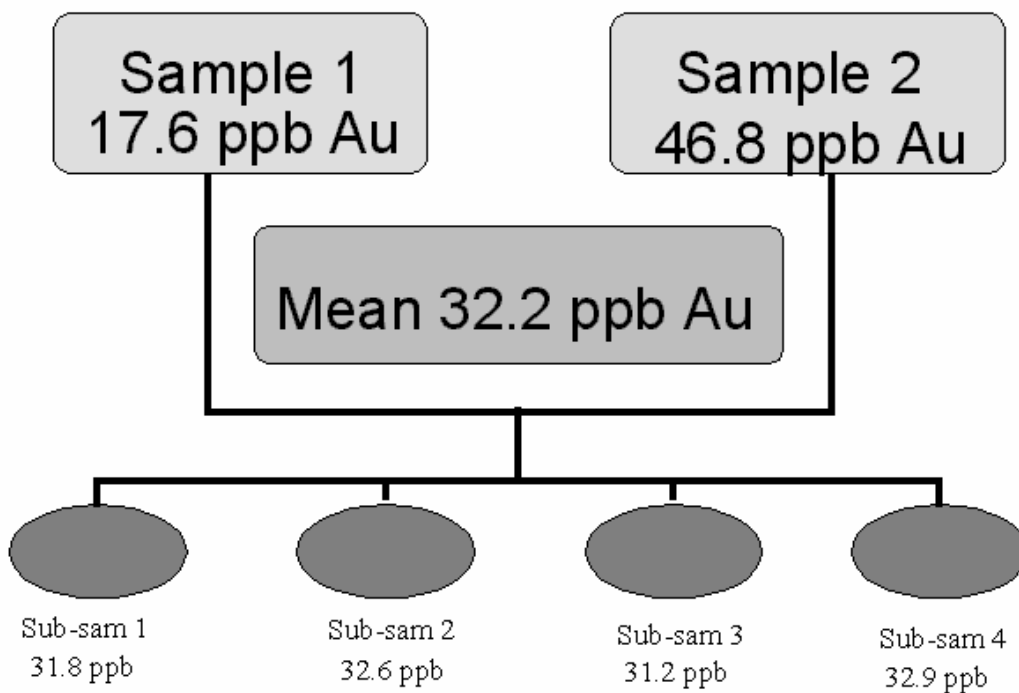


Figure 2



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## 8.0 SAMPLE SUBMISSION

Before submitting the samples to the laboratory, samples for the survey should be collected and stored until the whole job has been completed. Only then should the samples be submitted as a single batch to a laboratory licensed by WAMTECH to undertake Mobile Metal Ion Analyses. A **Sample Submission Form** is included in Appendix II at the rear of the manual. By submitting the samples as a single batch, the samples are less prone to any slight degree of variation that may occur due to different laboratory conditions. This also allows the data to be received as a single batch reducing the chance of database corruption.

### 8.1 Overseas Sample Submission

Samples dispatched to laboratories overseas, depending upon local legislation, must go through various custom and quarantine procedures. Generally, laboratories must be registered as a quarantine laboratory to accept deliveries of samples from overseas for chemical analysis. This registration usually requires that the laboratory render the samples and packaging biologically sterile prior to disposal by heat treating samples and packaging. To allow efficient and quick release by Customs and Quarantine services, it is imperative that all documentation is clearly and concisely filled out. For the correct documentation and procedures contact your local Customs services and the analysing laboratory or MMI Technology, Perth, Australia. Samples arriving from overseas are usually subject to various government charges on each consignment. The laboratories will also most likely have an additional charge to cover their cost of handling and disposal of quarantine samples. For this reason the larger the sample batches or consignments, the more cost effective the analyses.

## 9.0 ANALYSES

Currently two commercial laboratories, ALS-CHEMEX, in Perth, Australia, and SGS in Toronto, Canada are licensed to undertake **Mobile Metal Ion Analysis**. Prior to this agreement, a detailed development programme was undertaken to ensure that the required analytical standards were being met and could be delivered on a routine, commercial basis. MMI Technology has a rigorous quality control check programme to ensure that the required laboratory standards are being maintained and the digest liquors provided to the laboratory meet the required stringent extraction criteria. Each digest liquor supplied to the laboratories is provided with an individual warranty form for that specific liquor, and to which it must conform.

The MMI Process uses leachant solutions which have been specially developed to selectively 'release' the adsorbed ions from the soil material. The aim of the selective leaching is to remove metals which are loosely bound on the surface of particles within existing soil profiles, without attacking or influencing the natural mineralization of the soil or specific substrates. Using sensitive ICPMS instrumentation, the MMI Process is able to detect Mobile Metal Ions in digest solutions at sub-parts per billion level.



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Eight MMI leachants are currently available:

<b>MMI-A:</b>	Cu, Pb, Zn, Cd (Base Metals)
<b>MMI-B:</b>	Au, Ag, Ni, Co, Pd (Precious Metals)
<b>MMI-C:</b>	Cu, Pb, Zn, Cd (Base Metals in Carbonate Environments)
<b>MMI-D:</b>	Ni, Co, Pd, Nb, Cr, Mg, Rb, Y (Diamond Host Rocks)
<b>MMI-F:</b>	As, Sb, Hg, Mo, Se, Fe (Pathfinders)
<b>MMI-G:</b>	U, Th, Pb, Ta, W, Sn (Pegmatites)
<b>MMI-L:</b>	Au, Ag, Ni, Co, Pd (Precious Metals in Super Absorbent or Highly Saline Environments)
<b>MMI-M:</b>	All of the above elements + rare earths (Multi Element Extraction)

[Detection limits for each element and leach and costs are available from the MMI licensed laboratory]

## 9.1 Quality Control

As with any geochemical survey, it is important to maintain a check sample programme independent from that undertaken by the laboratory. One standard reference material and one duplicate sample should be inserted within each sequence of 50 samples to monitor precision and accuracy. It is preferred that the QC samples be inserted as part of the numbering sequence but not essential. If MMI TECHNOLOGY is to be actively involved in the programme as consultants, standard reference material and duplicate sample will be monitored and reported upon. The precision and accuracy of MMI analyses is typically very high.

## 10.0 DATA HANDLING

Each individual laboratory has its own method of data reporting, most will usually supply the results via email. The dispatch and retrieval of results is the responsibility of the laboratory and client. Once the results have been received, care should be taken not to corrupt the original data and to safeguard against its loss. As the samples should have been submitted as a single batch, the results should also be available as a single database. This helps avoid possible data corruption by reducing data transfer and manipulation.

### 10.1 MMI Response Ratios

MMI interpretation of individual elements can be done on raw (ppb) data. To facilitate multi-element interpretation of MMI analytical data, it is recommended that for each element, a background for the data is calculated, using (say) the lowest quartile of the data. Then a peak to background ratio (**response ratio**) is calculated for each element for each sample. A simple work sheet on MMI Response Ratios is included in Appendix I.

Response ratios provide a number of benefits for interpretation:

- Reduce the effects of dissolution variables during extraction, for example time and temperature;
- Allow the splicing of different data batches or data from varying regolith situations;
- Reduce the effects of sampling in different regolith units; and
- Facilitate multi-element data presentations for interpretation.



Before presenting MMI data in any graphical form, individual element response ratios are calculated for each sample. The concept of response ratios is simple: it involves determining a background value for each element in a survey area and ratioing all the data to that background. In more detail:

#### *Determining the Background*

- Select an element, for example Au, and determine the lowest 25% of the data for all the samples analysed in the survey area.
- Any values less than the detection limit need to be included and a value half of the detection limit should be substituted as an estimate value (based on scientific reports). For example, if Au has a detection limit of 0.01 ppb, any sample that analysed below this should be given a substituted value of 0.005 ppb.
- After determining the lowest quartile (25%) of the data, the average of these values is then calculated. This is the BACKGROUND value for that element within the specific dataset of a survey area.

#### *Calculating MMI Response Ratios*

- Response ratios are calculated by dividing each sample value by the predetermined background value for that element. The numbers are then rounded to give whole numbers greater than or equal to one (1).
- A sample with a response ratio of 2, or less, is considered low and is a background sample. Samples with response ratios greater than 5 could be considered significant depending upon the regolith/landform characteristics of the area and the sample spacing used for the survey. *Note however, that due to the greater contrast inherent in the MMI technique, response ratios in general need to be greater than 2-5 times background before being considered "anomalous"*. If composite sampling has been employed then response ratios greater than 5 may be highly significant. Obviously, this may change depending upon the overall distribution and magnitude of response ratios in an area. For example, some areas may have anomalous Au values at 10 (RR) whereas for another area the anomalous Au values may be those samples with a response ratio greater than 20.

Additional advantages of using response ratios are:

1. The effective application of MMI Response ratios relies upon correct determination of the background for the survey area. It is important that the survey area covers sufficient ground and has not just been conducted over a mineralized sequence. Correct determination of the background and ratioing of all the data to that value helps distinguish between those samples which are anomalous and those which are not. With MMI we are not looking at the absolute value of an element (for example Au) in a sample as it is a partial extraction technique. Instead, we are interested in the relative difference between background samples and those which are anomalous and which may overlie mineralization.
2. Response Ratio data is in a uniform format, allowing individual elements to be compared directly for coincident or zoned anomalies that can be easily identified using stacked bar charts.



3. Response ratios are also valuable for dealing with multiple batch analysis where slight batch variations can occur during extraction. In some cases response ratios have been useful where highly-transported soils exist in conjunction with relict and erosional regimes by enabling the samples to be treated in separate datasets according to their regolith type.

The method of calculating response ratios for MMI data is certainly not a new one in geochemistry, although many people will argue it is an attempt to enhance the data. This is not the case as response ratios are merely a relative comparison of signal to background. It is also important to remember that all data from a laboratory are going to be relative; that is, relative to the standard used in the laboratory.

After response ratios have been calculated, the data can easily be presented in various ways to show required features and indicate trends. There is no set formula for defining the significance of any particular set of response ratio data. A number of factors will influence the final results. Orientation sampling can provide some assistance; however, like most exploration techniques experience with the technique is invaluable.



**11.0 MMI IMAGING and INTERPRETATION SERVICES**

As noted earlier, MMI provides sharp, high contrast anomalies compared to conventional or total digestion geochemistry. This can pose problems for the unwary, or the geologist trained only in interpretation of conventional geochemistry. To assist MMI users with interpretation and presentation of MMI data, MMI Technology provides a range of Imaging and Interpretation services to suit specific client needs. The services available range from database management and calculation of response ratios, through to in-depth imaging and interpretation reports, and also a consulting service. A table of available services is shown in the table below.

MMI Technology  
 Schedule of Services and Prices - May, 2004

<b>SERVICE 1</b> <b><u>Data Base Management</u></b> Data base construction incorporating analytical QA/QC, analyses, coordinates and response ratios.													
<b><u>Stacked Bar Charts</u></b>  Stacked bar charts showing specific element associations at sample sites along a line or traverse.		<b><u>Coloured Images/Maps</u></b>  Coloured contour images of element responses.											
<b><i>Price Schedule</i></b>		<b><i>Price Schedule</i></b>											
1 Line	US\$ 230	<100 Samples	US\$ 540										
2-10 lines	US\$ 450	100-300 Samples	US\$ 660										
>10 lines	US\$ 690	>300 Samples	US\$ 770										
<table border="1" style="margin: auto;"> <tr> <td colspan="2" style="text-align: center;"><b><u>Stacked Bars + Coloured Images</u></b></td> </tr> <tr> <td colspan="2" style="text-align: center;"><b><i>Price Schedule</i></b></td> </tr> <tr> <td style="text-align: center;">&lt;100 Samples</td> <td style="text-align: center;">US\$ 720</td> </tr> <tr> <td style="text-align: center;">100-300 Samples</td> <td style="text-align: center;">US\$ 1050</td> </tr> <tr> <td style="text-align: center;">&gt;300 Samples</td> <td style="text-align: center;">US\$ 1400</td> </tr> </table>				<b><u>Stacked Bars + Coloured Images</u></b>		<b><i>Price Schedule</i></b>		<100 Samples	US\$ 720	100-300 Samples	US\$ 1050	>300 Samples	US\$ 1400
<b><u>Stacked Bars + Coloured Images</u></b>													
<b><i>Price Schedule</i></b>													
<100 Samples	US\$ 720												
100-300 Samples	US\$ 1050												
>300 Samples	US\$ 1400												



<b>SERVICE 2</b>			
<b><u>Data Interpretation</u></b>			
Includes database construction incorporating analytical QA/QC, analyses, coordinates and response ratios, stacked bars and coloured images.			
<b><u>Quick Look</u></b>		<b><u>Detailed Review</u></b>	
Brief review and comment on element responses as shown on stacked bar charts and coloured maps.		A full report including database, images, interpretation and recommendations.	
<b><i>Price Schedule</i></b>		<b><i>Price Schedule</i></b>	
<100 Samples	US\$ 1000	<100 Samples	US\$ 2880
100-300 Samples	US\$ 1150	100-300 Samples	US\$ 3080
>300 Samples	US\$ 1250	>300 Samples	US\$ 3500

<b>SERVICE 3</b>	
<b><u>Consulting</u></b>	
Consulting service including workshops, seminars, sample programme design, sampling instruction etc.	
Principal Consultant	- US\$ 80/hr
Senior Technical Officer	- US\$ 50/hr

MMI Technology is also able to provide a soil sampling service. For this, and all of the above services, please contact MMI Technology for a quote to clarify any costs involved.

Services 1 and 2 are available by email, enabling a very quick turn around time for interpretation. For more information and to obtain a quote on any of the service packages, please contact MMI TECHNOLOGY at [info@mmigeochem.com](mailto:info@mmigeochem.com) or visit our web site at <http://www.mmigeochem.com>.

By drawing on its extensive experience, MMI Technology is able to provide clients with precise, in-depth interpretations and recommendations from MMI data. MMI Technology can generate stunning and accurate images from MMI data. Images such as Stack Bar Charts and Coloured Contour Images (see examples in Figures 3 and 4 below) allow quick, easy and accurate interpretation so you know exactly what your MMI data is telling you.



### Stacked Bar Chart of MMI Response Ratios For Base Metals

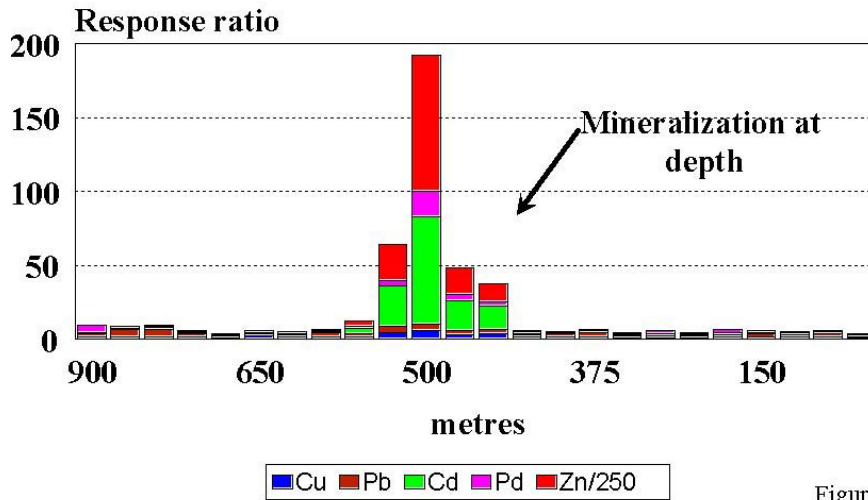


Figure 3

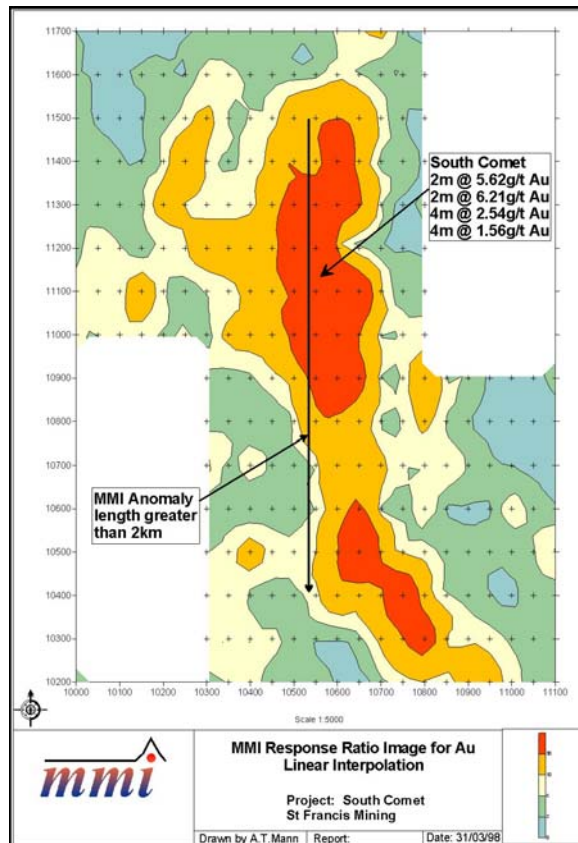


Figure 4



**12.0 CASE STUDIES**

MMI geochemistry has been used extensively world wide for over 10 years, generating a multitude of case studies. A selection of these case studies has been made available for publication by the participating companies. The case studies have been presented on our MMI Web Site: <http://www.mmigeochem.com> and can be downloaded and printed from the web site.

**13.0 APPLICATIONS**

To date, the MMI technique has been successfully applied in a number of different situations with varying commodities (including gold, base metals, nickel, and diamonds), mineralization styles, geological settings, depth of burial, and climatic regimes ranging from arid/semi-arid through to wet and both tropical and temperate. It has been successfully tested and applied on all continents in the world (barring Antarctica).

**13.1 Target Drilling**

The initial development of the MMI Process primarily focused on more accurate target drilling for a range of commodities in the widest possible spread of landform and regolith situations, mineralization styles, and settings. Consequently, sample spacing has been kept tight to provide the necessary data density over target areas for interpretation, thereby allowing resolution of the anomaly to define specific targets for RC drilling.

If applied in an integrated and systematic manner, MMI geochemistry can significantly improve the cost effectiveness of exploration programmes. Currently it has been used to eliminate first pass reconnaissance drilling phases and allows the programme to proceed directly to a target drilling phase. A cost comparison exercise is included in Appendix I, and a case study presenting actual exploration costs for St. Francis Mining to discover the Golden Web deposit is summarized in Figure 5.

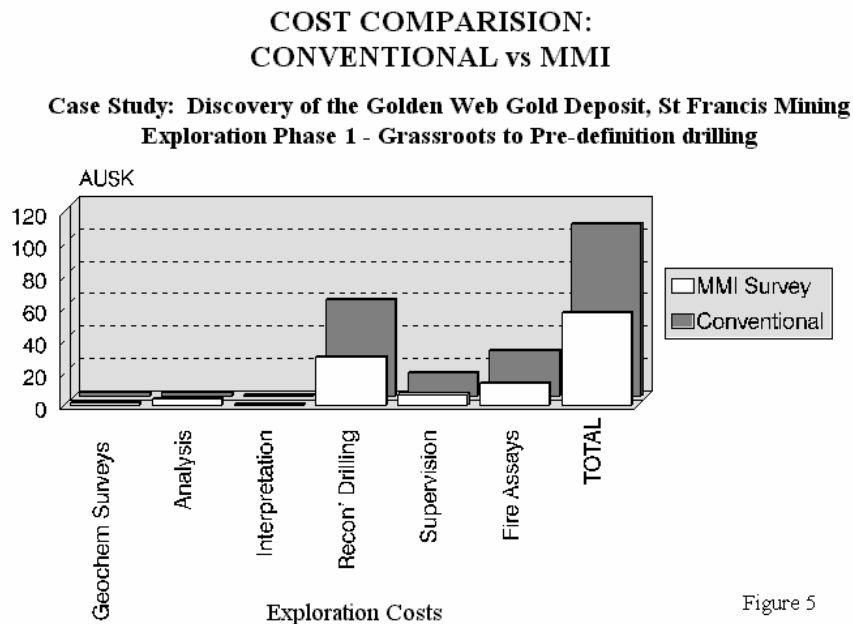


Figure 5



For target drilling the maximum sample density should be 50 m x 50 m. In situations where the target is steeply dipping, narrow, possibly with a restricted strike but significant depth extension, for example nickel sulphide lenses, then 25 m x 25 m sampling density, or even 20 m x 10 m, may need to be employed.

### 13.2 Definition of Mineralization Trends

In many economic ore deposits, mineralization is zoned. This is often as a consequence of the temperature and pressure variations during ore emplacement. High resolution geochemistry such as MMI can often provide sufficient spatial resolution for zoning to be seen from surface. Two examples are shown below.

The San Jorge copper-gold deposit is at the southern end of a north-south trend of various hydrothermal deposits that outcrop for over 300 km in the Uspallata Valley and its environs (Argentina). The MMI geochemistry for section 8650E, superimposed upon the known geology and sub-surface mineralisation, Figure 3, shows a number of interesting features. Firstly, there is a zonation pattern across the deposit, with outlying anomalies of Zn and Cd giving way to anomalous Cu, Au, and Ag over the primary and enriched zones of the deposit. Secondly, whilst Cu is present in considerable concentrations and reports very strongly in the MMI geochemistry, Au and Ag also report with very strong MMI response ratios over the mineralisation, considering the tenor of the Au mineralisation (average 0.2ppm). Thirdly, given the varying depth of the gravel cover, the MMI geochemistry has provided a sharp and accurate surface outline of the sub-surface mineralisation, with response ratios for Cu of over 100 times background, and Au and Ag response ratios of over 50 times background. The full case study can be viewed at <http://www.mmigeochem.com>.

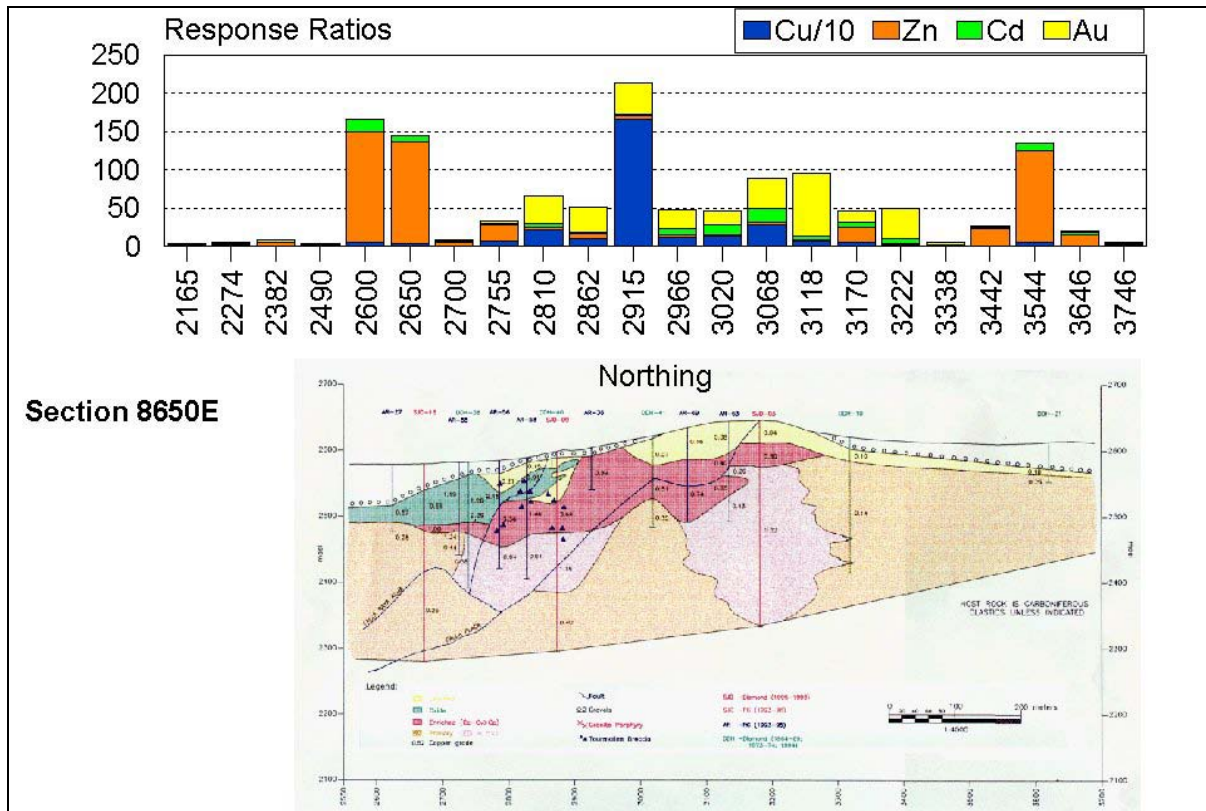


Figure 6. MMI response ratios plotted above cross sectional geology of San Jorge project, Mendoza.



The rare earth elements at Nepean, Coolgardie, Western Australia, show an interesting pattern, with a central “low” where the NiS expresses itself with very high Ni and Pd in the sample at 1000E, flanked by sharp and very high values in immediately adjacent samples. Samples more than 100m from the deposit show close to background values for these light rare earths. A possible reason can be explained by reference to the cross section below in Figure 7.

Hill (2001) has pointed out that fresh substrate rock samples commonly show high values for the light rare earth elements whereas primitive komatiites do not. The nickel sulphide bodies (after thermal erosion and mixing) commonly also have a rare earth signature. It is therefore possible to discriminate barren and potentially fertile (and therefore prospective) komatiites. It is believed that the soil samples in the traverse at 4550N (at 25m spacings) are accurately reflecting the geochemical signature of the mine sequence.

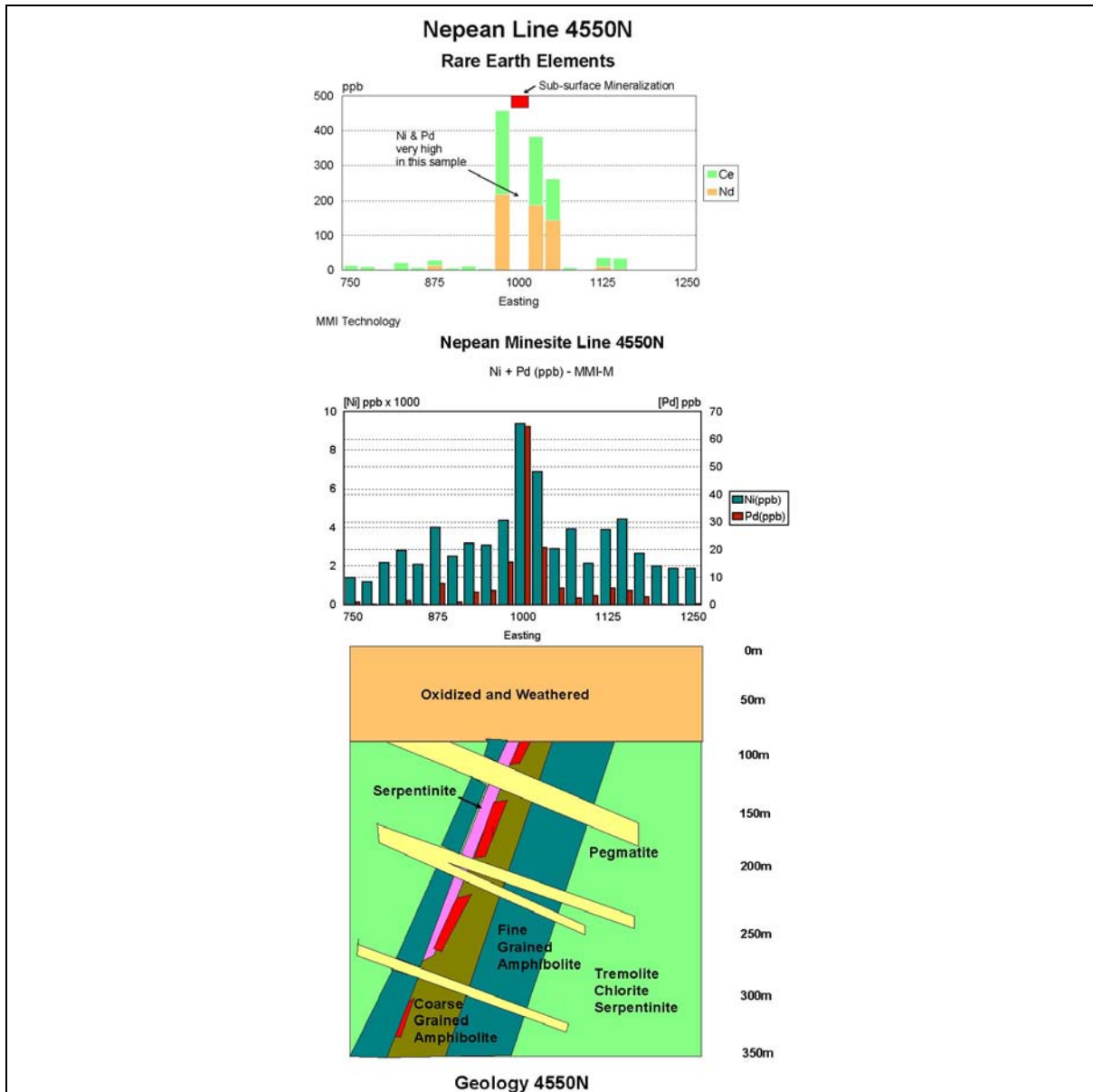


Figure 7. Rare earth elements Ce and Nd enveloping high Ni and Pd, with underlying geology, at Nepean nickel deposit, Coolgardie.



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### 13.3 Future Developments

MMI Technology is continuing its own research and field testing to determine the practicalities and cost effectiveness for the application of MMI techniques to:

- a) Further develop the technique for definition of distinct mineralization trends within chalcophile corridors at a regional scale;
- b) Identify geochemical target zones, anomalies and trends at a prospect scale;
- c) Extend the effectiveness into those regolith terrains that are still problematical;
- d) Interpret subtle down-hole geochemical responses within deeply-weathered profiles to target deeper primary mineralization; and
- e) Identify buried, broad scale alteration haloes around large mineralization settings.

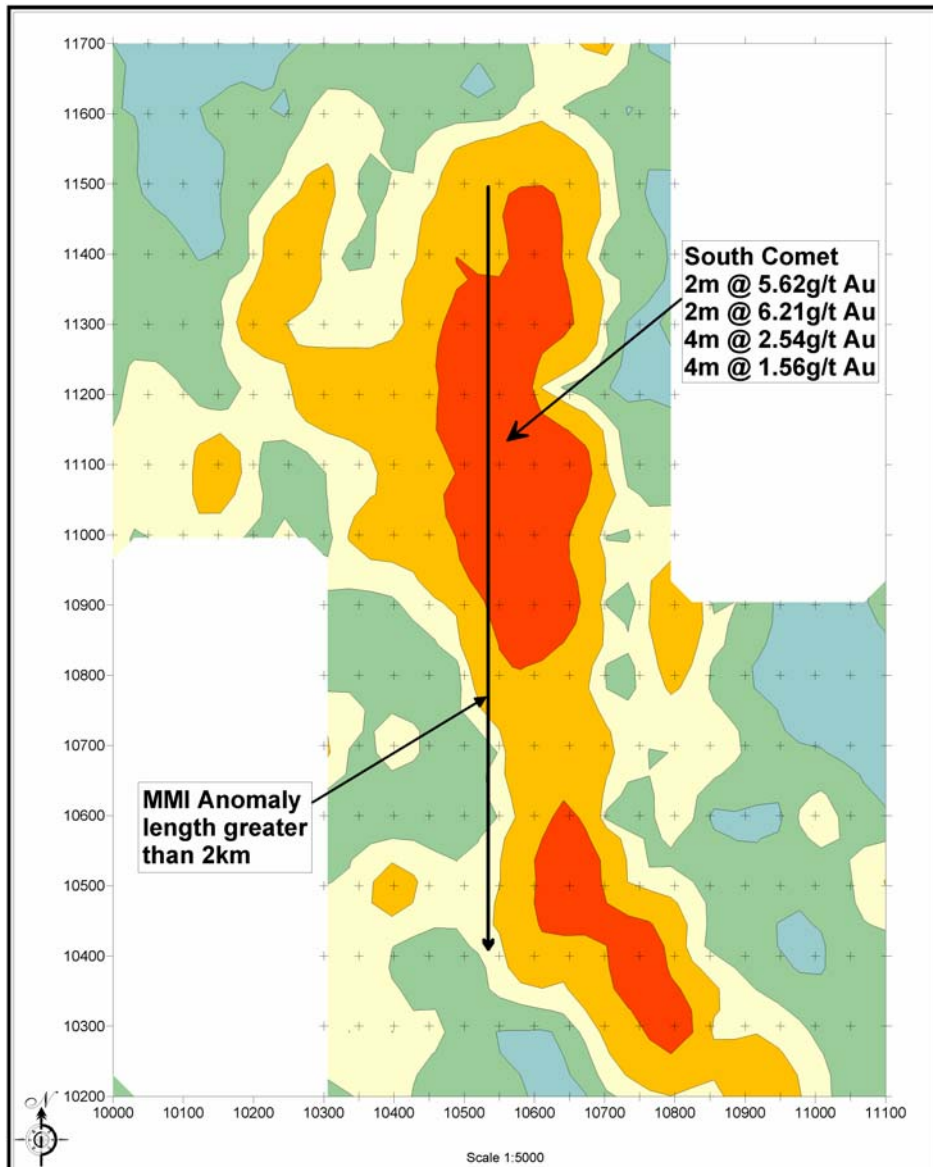
### 13.4 Specific Applications

Following is a list of specific MMI applications. Discrete diagrams are included for each of the applications.

1. To provide sharp geochemistry for accurate target drilling of Au, Ni, and base metal deposits.
2. To identify primary Au feeder zones within lateritic 'supergene' blankets.
3. To accurately trace on surface, the strike extensions of known mineralized ore zones.
4. To identify genuine surface anomalies from displaced (false) anomalies in residual and erosional laterite profiles.
5. To identify ultramafic units, channel flow rocks, and mineralized basal contacts in Ni exploration.
6. To identify the surface projection position of deeply-buried base metal deposits.
7. To provide enhanced signal to noise geochemistry capabilities in depositional regimes.
8. To identify metal zonation, for example in porphyry systems.
9. Delineating mineralization in areas of strong anomalism.
10. To provide multi-element geochemistry in regional and semi regional exploration programmes.



**MMI Application 1. To Provide Sharp Geochemistry for Accurate Target Drilling of Au, Ni, and Base Metals Deposits.**

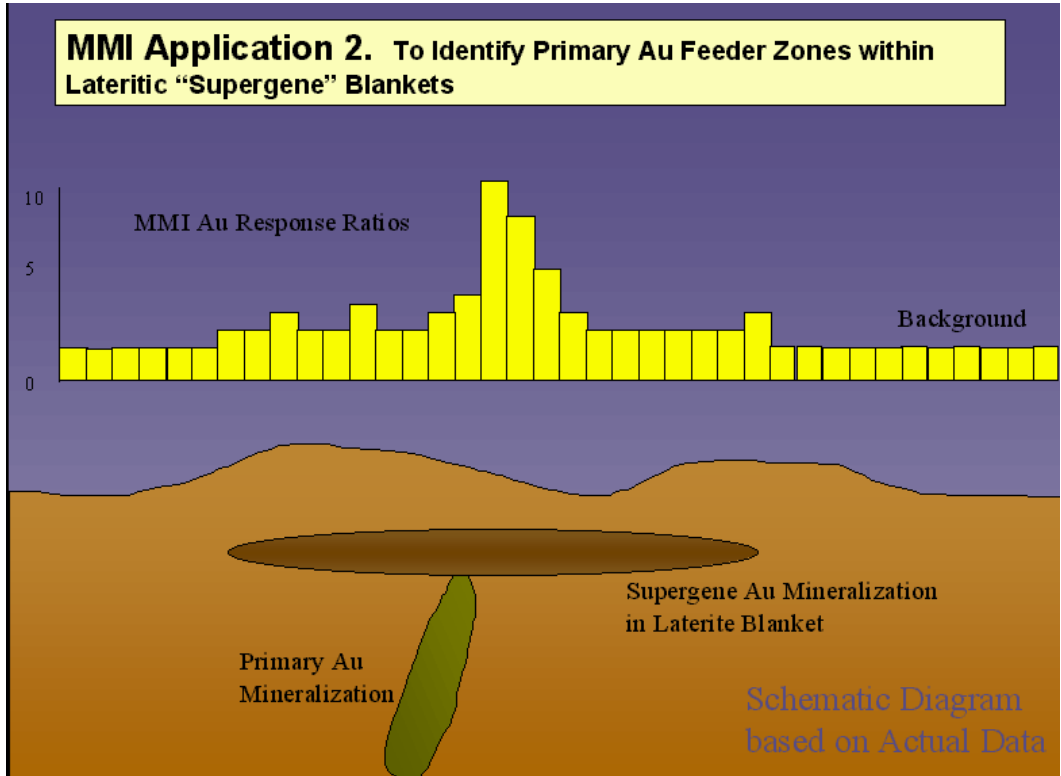


**South Comet**  
 2m @ 5.62g/t Au  
 2m @ 6.21g/t Au  
 4m @ 2.54g/t Au  
 4m @ 1.56g/t Au

**MMI Anomaly  
 length greater  
 than 2km**

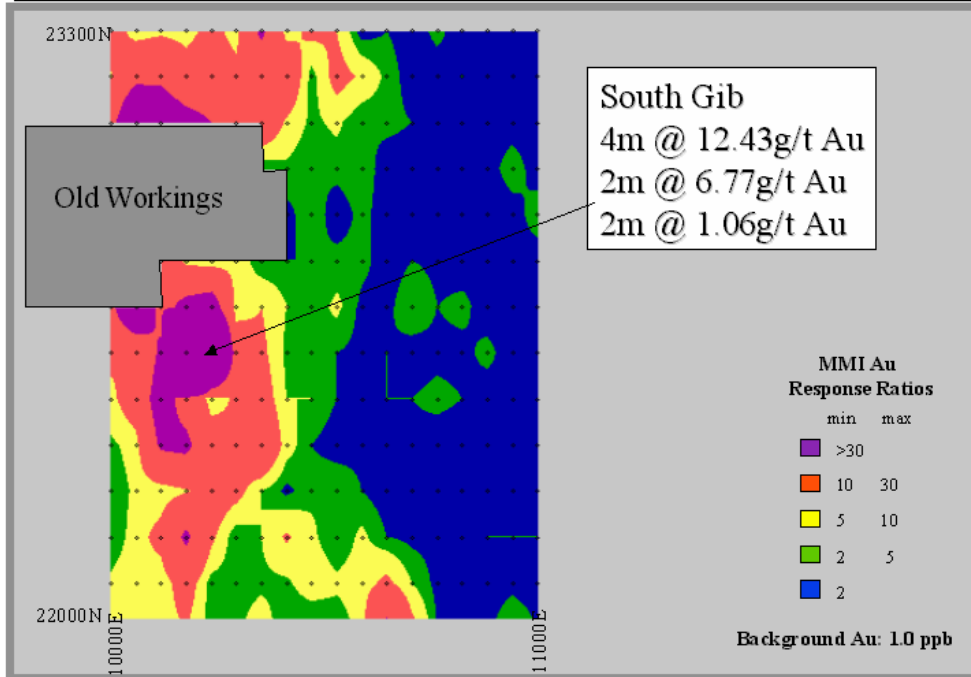




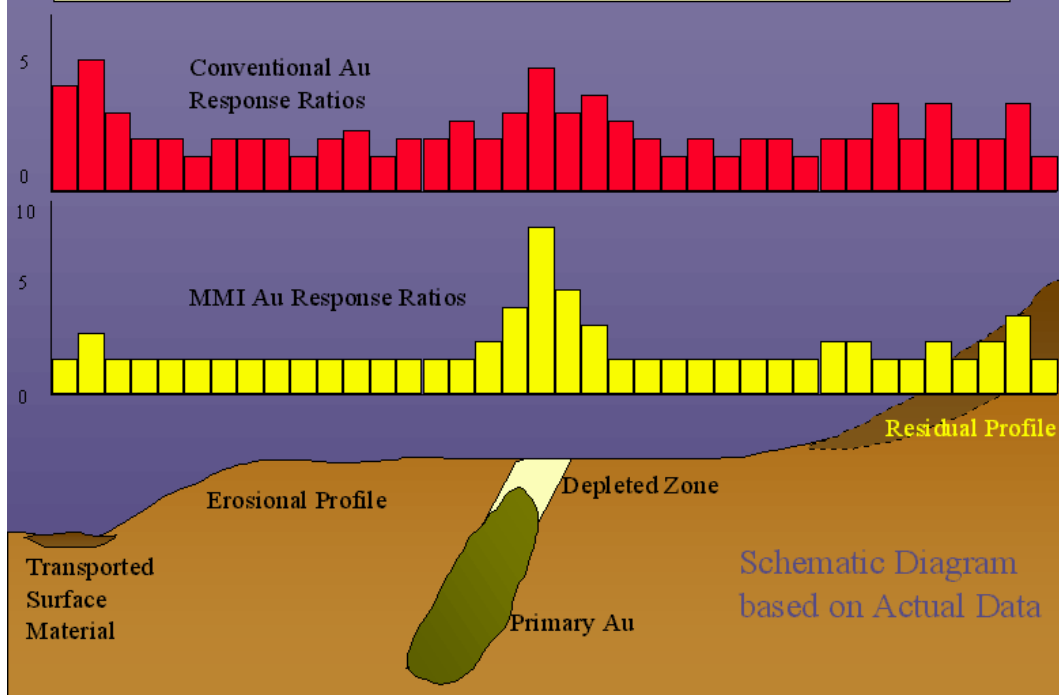




**MMI Application 3. To Accurately Trace on Surface, the Strike Extensions of Known Mineralized Ore Zones**

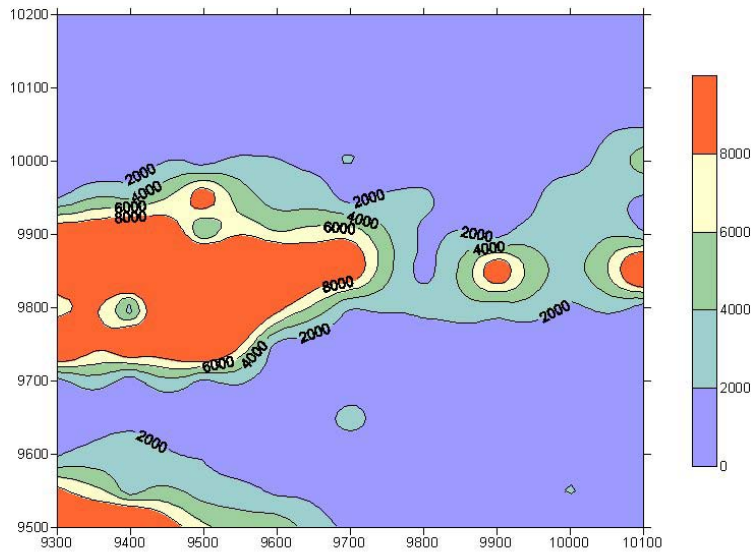


**MMI Application 4. To Identify Genuine Surface Anomalies from Displaced (false) Anomalies in Residual and Erosional Lateritic Profiles.**



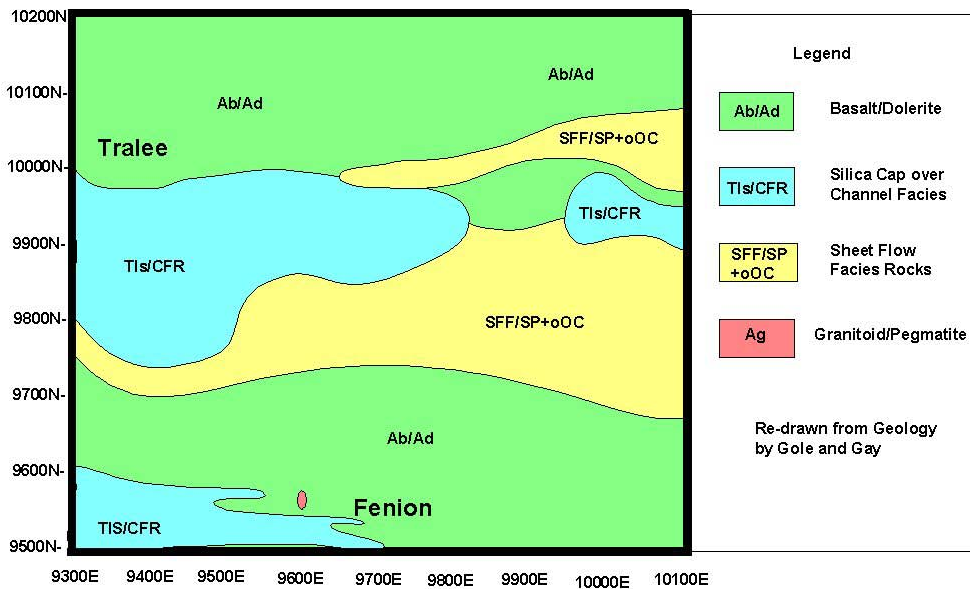


**MMI Application 5. To Identify Ultramafic Units, Channel Flow Rocks, and Mineralized Basal Contacts in Ni Exploration**



**Kangaroo Valley MMI-Ni(ppb)**

MMI-B analysis of Ni in soils from Kangaroo Valley, Coolgardie, W.A.



**Solid Geology of Tralee-Fenion Area, Coolgardie**

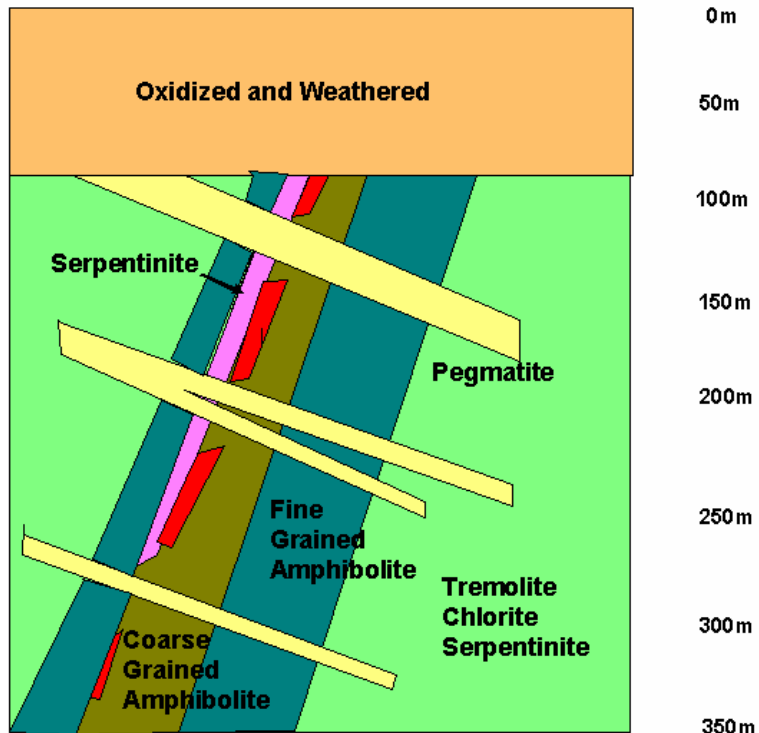
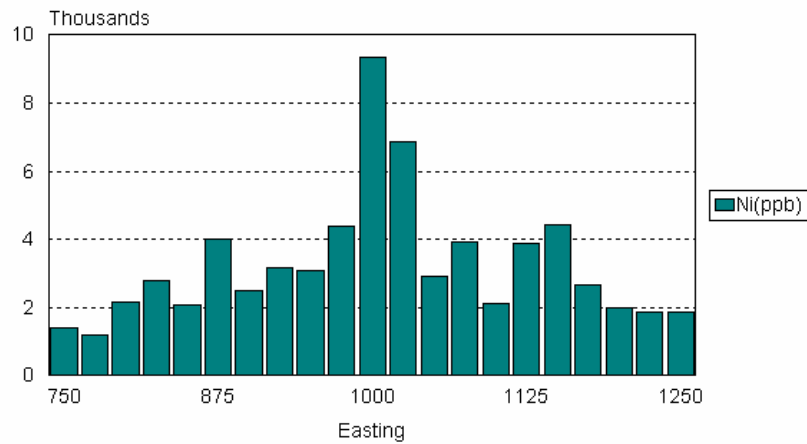
Geology of the Kangaroo Valley area, after Gole and Gay, 1995.



**MMI Application 6. To Identify the Surface Projection Position of Deeply-Buried Base Metal Deposits.**

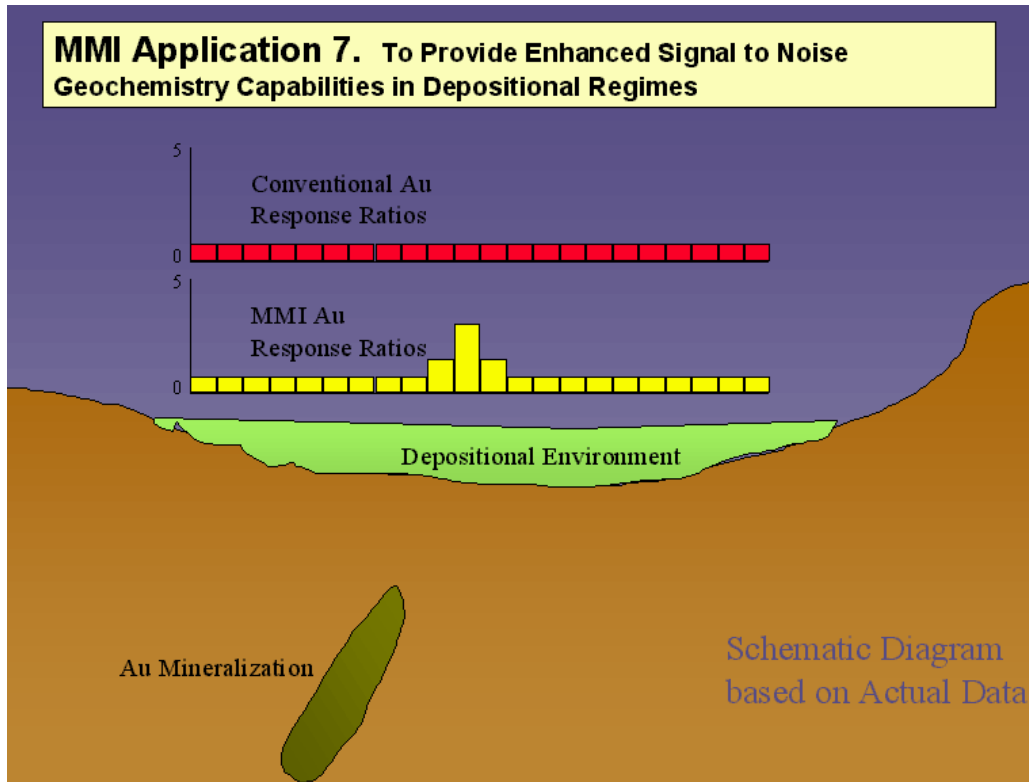
**Nepean Minesite Line 4550N**

Ni(ppb) - MMI-M

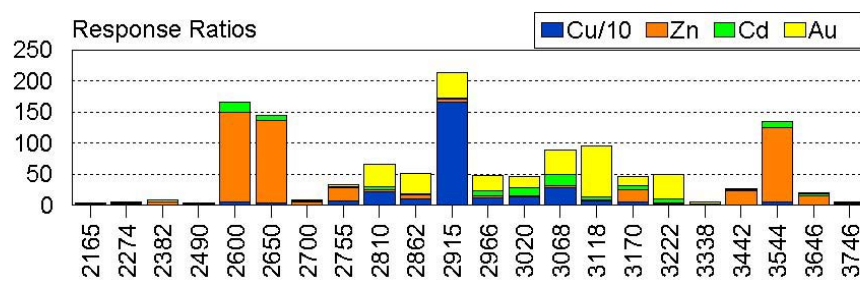


**Geology 4550N**

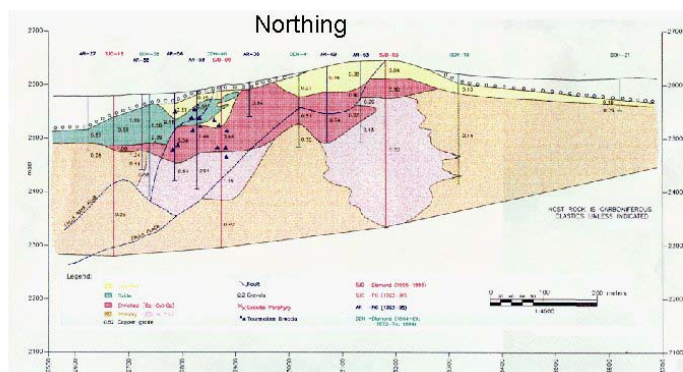




**MMI Application 8. To Identify Metal Zonation, for example in Porphyry Systems.**



Section 8650E

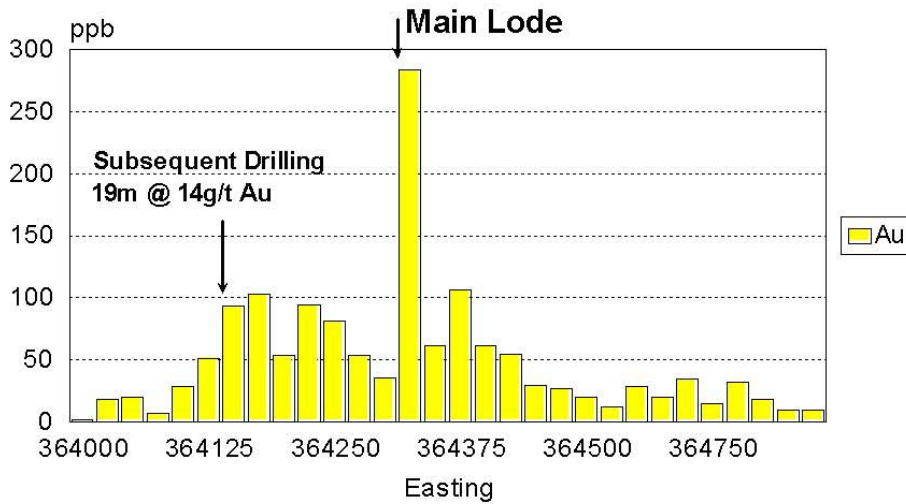




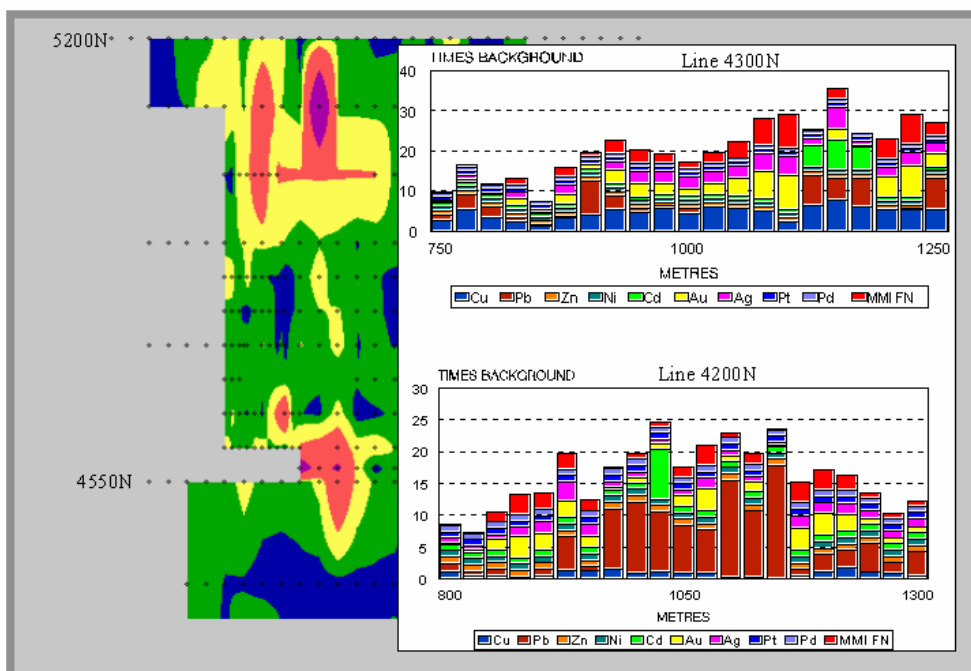
**MMI Application 9. To delineate mineralization in areas of strong anomalism.**

**The Mount**

MMI Orientation Line 6510800N



**MMI Application 10. To Provide Multi-Element Geochemistry in Regional and Semi Regional Exploration Programmes**





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## 14.0 REFERENCES

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## APPENDIX I

### MMI RESPONSE RATIO AND COST COMPARISON WORKSHEET



## MMI RESPONSE RATIO AND COST COMPARISON WORKSHEET

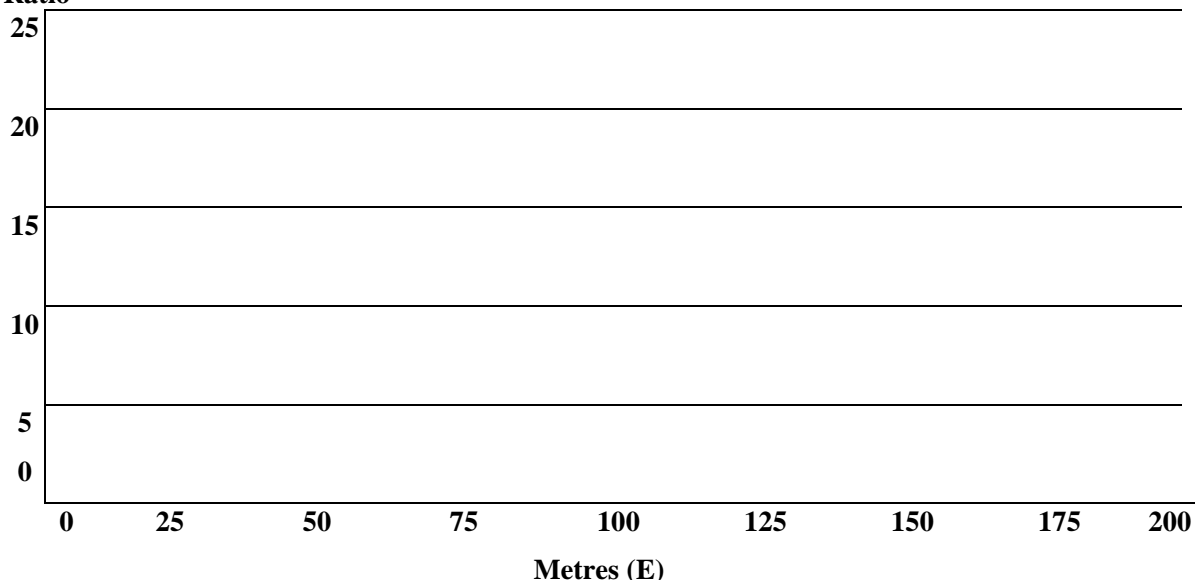
### Why Use Partial Digestion involving Mobil Metal Ions?

To illustrate the use of partial digestions and Mobile Metal Ions we shall examine real data from a case from Central Queensland. This data came from an area where both conventional and partial digestion chemistry work, and both can provide us with figures which we can compare.

Sample	Metres (E)	Cu (Total) ppb	RR (Total)	Cu (Partial) ppb	RR (Partial)
CQ1	0	4200		100	
CQ2	25	3800		120	
CQ3	50	7000		100	
CQ4	75	17000		2500	
CQ5	100	9000		200	
CQ6	125	6000		150	
CQ7	150	5100		100	
CQ8	175	5000		150	

1. Calculate for both the conventional and the partial data sets for Cu, a background based on the lowest quartile (25%), i.e. average the lowest two values from each set.  
Conventional B/G = ..... Partial B/G = .....
2. Now calculate the MMI Response Ratio (RR) for each sample, by dividing each value by the background, for both data sets. Fill in the response ration data in the table above.
3. Now plot on the graph below, the signal to background (i.e. response ratio) for each sample, from each of the techniques.

### Response Ratio



**Figure 1.** MMI Response Ratios for Total and Partial Digestion from a case study.

Using the MMI partial digestion, we have extracted less than 2 % of the total metal from most of the samples (note a higher percentage from the anomalous sample). By so doing we have increased the signal to noise ratio considerably. We have preferentially used unbound metal in doing this.



There are a number of possible situations where the increased signal to noise ratio of the partial geochemical anomaly may be of advantage:

1. Where the amount of transported material in take (colluvial) soil would swamp a conventional geochemical signal, but not one from partial digestion.
2. Where the depth of the mineralization is so great that the bleed signal of metal is very weak.
3. Where the amount of weathering in the profile has led to a very low metal signal in the surface soil.

There is another situation, where the increased width resolution 'the sharpness' of the partial geochemistry signal can be of great value. It relates to being able to directly target-drill from a geochemical anomaly. The present example gives some kind of illustration of this. The conventional geochemical signal has shoulders which give the anomaly a width of approximately 100 m (four samples > or = 1.5 times RR). As a second exercise we can approximately cost compare the Total Exploration Cost to the end of first round drilling of this target by these two scenarios. Use your own estimates of costs to complete the following table, assuming first round drilling would be at 25 m spacings to 50 m:

Item	MMI Geochemistry	Cost	Conventional Geochemistry	Cost
Geochemical Sampling	0.1 day @ \$	\$	0.1 day @ \$	\$
Analysis (assume a total of 80 samples)	80 samples @ \$	\$	80 samples @ \$	\$
Geochemical Interpretation	1 day @ \$	\$	0.5 day @ \$	\$
Gridding Costs	0.2 day @ \$	\$	0.2 day @ \$	\$
Drilling	100 metres @ \$	\$	200 metres @ \$	\$
Drill Supervision by Geologist	1 day @ \$	\$	2 days @ \$	\$
Downhole Samples	100 samples @ \$	\$	200 samples @ \$	\$
Other	\$	\$	\$	\$
Total	\$	\$	\$	\$



SAMPLE	LINE	STATION	EASTING	NORTHING	TERRAIN	SOILTYPE	SLOPEINCL	SLOPEAZM	DRAINAGE	VEGETATION	STATE	MATTHICK	COLOUR	COMMENTS	DATUM	ZONE	TOWNSHIP	CLAIM	DATE	TIME	SAMPLER	ABBREVIATIONS	PERSONNEL	COLOUR_CODE
N001	700W	127N	690869	5218511	Outcrop	Till	-20°	140°	Well	Deciduous	Scarified	till pocket <1m	Black, Brown	South side of access highly disturbed organic litter	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:07:00AM	JL KS BT		JA Jules Anglehart III	Original sample - plotted on Geochem Response Ratio Plots
N002	700W	127N	690869	5218511	Outcrop	Till	-20°	140°	Well	Deciduous	Scarified	till pocket <1m	Black, Brown	Duplicate N001	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:07:00AM	JL KS BT	DC Dan Cyr	BT Brendan Troy	
N015	700W	100N	690862	5218481	Moraine	Till	-40°	175°	Well	Deciduous	Scarified	till pocket <1m	Black, Brown	Upslope from east-flowing creek	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:21:03AM	JL KS BT		MK Micheal Keating	
N016	700W	075N	690873	5218459	Moraine	Till	-20°	96°	Moderate	Deciduous	Logged	till pocket <1m	Black, Brown		NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:26:51AM	JL KS BT		SK Scotty Keating	
N017	700W	050N	690862	5218438	Moraine	Till	-20°	66°	Moderate	Deciduous	Logged	till pocket <1m	Brown	Old skidder road	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:32:54AM	JL KS BT		JL Jim Laidlaw	
N018	700W	027N	690858	5218410	Moraine	Till	-20°	90°	Moderate	Deciduous	Logged	till pocket <1m	Brown		NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:41:03AM	JL KS BT		RL Rebecca Laidlaw	
N019	699W	025S	690860	5218384	Moraine	Till	-20°	53°	Moderate	Deciduous	Logged	till pocket <1m	Brown, Orange	Disturbed surface	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:44:22AM	JL KS BT		FL Frank Longpre	
N020	702W	052S	690848	5218342	Moraine	Till	-20°	52°	Moderate	Deciduous	Logged	till pocket <1m	Brown	Disturbed surface	NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:50:12AM	JL KS BT		KS Kyle Smith	
N021	700W	100S	690838	5218284	Moraine	Till	-20°	120°	Moderate	Deciduous	Logged	till pocket <1m	Brown, Yellow		NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:55:47AM	JL KS BT		PS Peter Smith	
N022	697W	197S	690823	5218185	Moraine	Till	-5°	134°	Moderate	Deciduous	Logged	till pocket <1m	Brown, Yellow		NAD 83	16 T	Nicolet	1192262	1-Jun-08	12:04:44PM	JL KS BT			
N023	701W	300S	690815	5218080	Moraine	Till	-20°	162°	Moderate	Deciduous	Logged	till pocket <1m	Brown	Upslope from east-flowing creek	NAD 83	16 T	Nicolet	1192262	1-Jun-08	12:13:43PM	JL KS BT			
N075	300E	300S	691771	5218026	Glaciofluvial	Sand	-5°	111°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:02:03PM	JL KS BT			
N073	300E	200S	691785	5218126	Glaciofluvial	Sand	-5°	58°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:07:41PM	JL KS BT			
N074	300E	200S	691785	5218126	Glaciofluvial	Sand	-5°	58°	Moderate	Deciduous	Logged	till >1m	Brown	Duplicate N073	NAD 83	16 T	Norberg	4201404	1-Jun-08	2:07:41PM	JL KS BT			
N072	302E	096S	691791	5218232	Glaciofluvial	Sand	-5°	330°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow	Skidder trail, disturbed surface	NAD 83	16 T	Norberg	4201404	1-Jun-08	2:16:32PM	JL KS BT			
N071	300E	051S	691799	5218271	Glaciofluvial	Sand	-20°	191°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:21:58PM	JL KS BT			
N070	300E	BL00	691804	5218332	Glaciofluvial	Sand	-20°	322°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:25:59PM	JL KS BT			
N069	300E	26N	691799	5218356	Glaciofluvial	Sand	-5°	282°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:30:09PM	JL KS BT			
N068	300E	051N	691801	5218375	Glaciofluvial	Sand	-5°	90°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:33:39PM	JL KS BT			
N067	303E	072N	691808	5218406	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:37:20PM	JL KS BT			
N066	300E	100N	691803	5218428	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:41:01PM	JL KS BT			
N065	300E	128N	691808	5218451	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:44:41PM	JL KS BT			
N064	297E	150N	691804	5218479	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:48:27PM	JL KS BT			
N062	304E	177N	691808	5218503	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow		NAD 83	16 T	Norberg	4201404	1-Jun-08	2:52:28PM	JL KS BT			
N063	304E	177N	691808	5218503	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow	Duplicate 062	NAD 83	16 T	Norberg	4201404	1-Jun-08	2:52:28PM	JL KS BT			
N061	301E	202N	691806	5218524	Glaciofluvial	Sand	-5°	132°	Moderate	Deciduous	Logged	till >1m	Brown	Occasional boulders	NAD 83	16 T	Norberg	4201404	1-Jun-08	2:57:37PM	JL KS BT			
N060	300E	227N	691813	5218554	Glaciofluvial	Sand	-5°	93°	Moderate	Deciduous	Logged	till >1m	Brown	Occasional boulders	NAD 83	16 T	Norberg	4201404	1-Jun-08	3:01:32PM	JL KS BT			
N059	297E	250N	691810	5218582	Glaciofluvial	Sand	-5°	76°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:05:27PM	JL KS BT			
N058	300E	275N	691816	5218600	Glaciofluvial	Sand	-5°	56°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:08:41PM	JL KS BT			
N057	300E	300N	691816	5218629	Glaciofluvial	Sand	-5°	16°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:14:43PM	JL KS BT			
N056	300E	325N	691815	5218644	Glaciofluvial	Sand	-5°	354°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:18:10PM	JL KS BT			
N055	300E	351N	691817	5218676	Glaciofluvial	Sand	-5°	42°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:21:35PM	JL KS BT			
N054	300E	376N	691821	5218702	Glaciofluvial	Sand	-5°	360°	Moderate	Deciduous	Logged	till pocket <1m	Brown	Bedrock?	NAD 83	16 T	Norberg	4201404	1-Jun-08	3:24:56PM	JL KS BT			
N053	300E	401N	691825	5218721	Glaciofluvial	Sand	-20°	71°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow	Well rounded boulders on surface	NAD 83	16 T	Norberg	4201404	1-Jun-08	3:28:08PM	JL KS BT			
N052	300E	449N	691833	5218823	Glaciofluvial	Sand	-20°	9°	Moderate	Deciduous	Logged	till >1m	Brown, Yellow		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:34:57PM	JL KS BT			
N051	302E	499N	691833	5218823	Glaciofluvial	Sand	-5°	40°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:34:57PM	JL KS BT			
N050	300E	600N	691835	5218920	Glaciofluvial	Sand	-20°	62°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	3:39:12PM	JL KS BT			
N049	300E	700N	691829	5219012	Glaciofluvial	Sand	-20°	164°	Moderate	Deciduous	Logged	till >1m	Brown	Dried drainage west of highland	NAD 83	16 T	Norberg	4201404	1-Jun-08	3:45:59PM	JL KS BT			
N085	1000E	200N	692498	5218481	Outcrop	Till	-20°	92°	Well	Deciduous	Logged	till >1m	Brown	Box channel, top of a riff, boulders	NAD 83	16 T	Norberg	4201404	1-Jun-08	4:48:20PM	JL KS BT			
N086	1000E	200N	692498	5218481	Outcrop	Till	-20°	92°	Well	Deciduous	Logged	till >1m	Brown	Duplicate 085	NAD 83	16 T	Norberg	4201404	1-Jun-08	4:48:20PM	JL KS BT			
N084	1000E	175N	692497	5218464	Outcrop	Till	-20°	77°	Well	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	4:54:55PM	JL KS BT			
N083	1000E	150N	692502	5218437	Moraine	Till	-20°	102°	Moderate	Deciduous	Logged	till >1m	Brown	Boulders	NAD 83	16 T	Norberg	4201404	1-Jun-08	4:58:21PM	JL KS BT			
N082	1000E	125N	692495	5218405	Moraine	Till	-20°	92°	Moderate	Deciduous	Logged	till >1m	Brown, Orange		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:00:49PM	JL KS BT			
N081	1000E	100N	692492	5218387	Moraine	Till	-40°	94°	Moderate	Deciduous	Logged	till >1m	Brown, Orange		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:03:09PM	JL KS BT			
N080	1000E	075N	692490	5218365	Moraine	Till	-20°	93°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:06:08PM	JL KS BT			
N079	1000E	050N	692489	5218332	Moraine	Till	-20°	101°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:10:00PM	JL KS BT			
N078	1000E	004S	692483	5218288	Moraine	Till	-20°	130°	Moderate	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:13:14PM	JL KS BT			
N077	1000E	050S	692480	5218240	Moraine	Till	-40°	134°	Well	Deciduous	Logged	till >1m	Brown		NAD 83	16 T	Norberg	4201404	1-Jun-08	5:18:02PM	JL KS BT			
N100	1000E	150S	692482	5218155	Moraine	Till	-40°	125°	Poor	Deciduous	Logged	till >1m	Brown	Sample is wet, natural spring	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:23:15PM	JL KS BT			
N075	1000E	246S	692474	5218054	Moraine	Till	-40°	145°	Poor	Mix	Logged	till >1m	Brown	Wet	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:32:19PM	JL KS BT			
N014	699W	154N	690876	5218542	Outcrop	Till	-30°	63°	Well	Deciduous	Scarified	till pocket <1m	Brown		NAD 83	16 T	Nicolet	1192262	1-Jun-08	11:19:44AM	DC AS MK			



N092	1000E	450N	692510	5218736	Outcrop	Till	-14°	6°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:19:35PM	DC AS MK
N090	1000E	400N	692510	5218691	Outcrop	Till	-12°	360°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:24:12PM	DC AS MK
N088	1000E	375N	692504	5218664	Outcrop	Till	-8°	17°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:28:12PM	DC AS MK
N097	1000E	350N	692508	5218639	Outcrop	Till	0°	360°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:32:53PM	DC AS MK
N093	1000E	325N	692508	5218615	Outcrop	Till	0°	360°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:37:08PM	DC AS MK
N098	1000E	301N	692505	5218594	Outcrop	Till	0°	360°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:43:27PM	DC AS MK
N099	1000E	275N	692504	5218564	Outcrop	Till	0°	360°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:47:47PM	DC AS MK
N095	1000E	249N	692500	5218538	Outcrop	Till	-30°	100°	Well	Deciduous	Scarified	till pocket <1m	Brown	NAD 83	16 T	Norberg	4201404	1-Jun-08	5:53:43PM	DC AS MK
N101	0500W	0125N	691053	5218495	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:42:31PM	DC SK
N102	0500W	0150N	691060	5218524	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:50:47PM	DC SK
N103	0500W	0175N	691059	5218550	Glaciofluvial	Sand	24°	102°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:55:45PM	DC SK
N104	0500W	0200N	691062	5218567	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:00:02PM	DC SK
N105	0500W	0225N	691058	5218597	Glaciofluvial	Sand	46°	164°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:20:27PM	DC SK
N106	0500W	0250N	691068	5218606	Glaciofluvial	Sand	22°	172°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:24:51PM	DC SK
N107	0500W	0275N	691070	5218638	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:36:03PM	DC SK
N108	0500W	0300N	691070	5218668	Glaciofluvial	Sand	26°	152°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:40:11PM	DC SK
N109	0500W	0325N	691073	5218689	Glaciofluvial	Sand	8°	190°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:44:31PM	DC SK
N110	0500W	0350N	691080	5218705	Glaciofluvial	Sand	34°	136°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:49:10PM	DC SK
N111	0500W	0400N	691083	5218765	Glaciofluvial	Sand	22°	116°	Moderate	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:02:38PM	DC SK
N112	0500W	0425N	691082	5218786	Outcrop	Till	24°	122°	Well	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:07:07PM	DC SK
N114	0500W	0500N	691087	5218862	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:30:27PM	DC SK
N115	0500W	0500N	691087	5218862	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:30:27PM	DC SK
N118	0400W	0300N	691155	5218663	Outcrop	Till	22°	311°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:38:04PM	PS KS BT
N119	0400W	0325N	691163	5218684	Outcrop	Till	39°	309°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:47:11PM	PS KS BT
N120	0400W	0350N	691157	5218713	Outcrop	Till	39°	311°	Moderate	Deciduous	Logged	Till pocket-1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:50:17PM	PS KS BT
N121	0400W	0400N	691154	5218758	Outcrop	Till	26°	269°	Moderate	Deciduous	Logged	Till pocket-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:04:53PM	PS KS BT
N122	0400W	0425N	691158	5218788	Outcrop	Till	20°	270°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:10:13PM	PS KS BT
N123	0400W	0450N	691155	5218809	Outcrop	Till	19°	239°	Moderate	Deciduous	Logged	Till pocket-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:15:13PM	PS KS BT
N124	0400W	0475N	691161	5218835	Outcrop	Till	19°	220°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:21:15PM	PS KS BT
N125	0400W	0500N	691160	5218857	Outcrop	Till	20°	210°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:30:25PM	PS KS BT
N126	0400W	0500N	691160	5218857	Outcrop	Till	20°	210°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:30:25PM	PS KS BT
N127	0400W	0375N	691154	5218738	Outcrop	Till	41°	289°	Moderate	Deciduous	Logged	Till pocket-1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:00:25PM	PS KS BT
N128	0100E	0525N	691649	5218859	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:56:20PM	PS KS BT
N129	0100E	0550N	691647	5218887	Moraine	Till	-10°	56°	Moderate	Deciduous	Logged	Till pocket-1m	Brown, Orange	NAD 83	16 T	Norberg	1192369	14-Jul-08	3:02:45PM	PS KS BT
N130	0100E	0575N	691652	5218910	Moraine	Till	-17°	56°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Norberg	1192369	14-Jul-08	3:07:50PM	PS KS BT
N131	0100E	0600N	691651	5218931	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket-1m	Brown	NAD 83	16 T	Norberg	1192369	14-Jul-08	3:11:05PM	PS KS BT
N140	0400W	0275N	691146	5218638	Glaciofluvial	Sand	4°	180°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	10:46:19AM	DC SK
N141	0400W	0250N	691153	5218609	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	10:52:56AM	DC SK
N142	0400W	0225N	691153	5218589	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	10:59:30AM	DC SK
N143	0400W	0200N	691148	5218563	Glaciofluvial	Clay	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:03:34AM	DC SK
N144	0400W	0175N	691149	5218540	Glaciofluvial	Peat	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:12:54AM	DC SK
N145	0400W	0150N	691147	5218512	Glaciofluvial	Silt	-10°	192°	Moderate	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262		No record	DC SK
N146	0400W	0125N	691154	5218480	Glaciofluvial	Sand	-22°	180°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:26:28AM	DC SK
N147	0400W	0100N	691156	5218457	Glaciofluvial	Sand	-25°	148°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:30:24AM	DC SK
N148	0400W	0075N	691145	5218434	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:36:39AM	DC SK
N149	0400W	0050N	691144	5218409	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:43:41AM	DC SK
N150	0400W	0050N	691144	5218409	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:43:41AM	DC SK
N151	0400W	0025N	691150	5218380	Glaciofluvial	Sand	20°	146°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:49:44AM	DC SK
N152	0400W	00BL	691149	5218355	Glaciofluvial	Sand	18°	126°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	11:54:25AM	DC SK
N153	0400W	0025S	691147	5218341	Glaciofluvial	Sand	18°	106°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:00:21PM	DC SK
N154	0400W	0050S	691146	5218311	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:04:41PM	DC SK
N155	0400W	0075S	691145	5218288	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:09:12PM	DC SK
N156	0400W	0100S	691146	5218262	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:23:15PM	DC SK
N157	0400W	0125S	691142	5218237	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:30:44PM	DC SK
N158	0400W	0150S	691140	5218213	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:37:08PM	DC SK
N159	0400W	0175S	691143	5218183	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:42:01PM	DC SK
N160	0400W	0200S	691140	5218160	Glaciofluvial	Sand	4°	190°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:47:03PM	DC SK
N161	0400W	0225S	691140	5218140	Glaciofluvial	Sand	0°	360°	Moderate	Deciduous	Logged	Tills-1m	Brown, Black	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:53:07PM	DC SK
N162	0400W	0250S	691140	5218114	Glaciofluvial	Sand	30°	48°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	12:59:26PM	DC SK
N163	0500W	0250S	691028	5218119	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	14-Jul-08	1:12:46PM	DC SK
N164	0500W	0225S	691033	5218136	Glaciofluvial	Sand	24°	112°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	1:16:17PM	DC SK
N165	0500W	0200S	691038	5218158	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	1:21:31PM	DC SK
N166	0500W	0175S	691040	5218185	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	1:24:21PM	DC SK
N167	0500W	0125S	691042	5218243	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Tills-1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	1:29:02PM	DC SK
N168	0500W	0100S	691044	5218265	Glaciofluvial	Sand	0°	360°	Well	Dec										



N197	0100W	0175N	691451	5218520	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:34:43PM	FL MK
N198	0100W	0125N	691448	5218475	Glaciofluvial	Till	0°	360°	Moderate	Scrub	Logged	Till>1m	Brown, Grey	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:46:27PM	FL MK
N199	0100W	0150N	691449	5218499	Glaciofluvial	Till	0°	360°	Well	Scrub	Logged	Till>1m	Brown, Grey	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:58:03PM	FL MK
N200	0100W	0150N	691449	5218499	Glaciofluvial	Till	0°	360°	Well	Scrub	Logged	Till>1m	Brown, Grey	NAD 83	16 T	Nicolet	1192262	14-Jul-08	2:58:03PM	FL MK
N201	0100W	0100N	691451	5218448	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:03:59PM	FL MK
N202	0100W	0075N	691443	5218424	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:09:26PM	FL MK
N203	0100W	0050N	691445	5218397	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:13:56PM	FL MK
N204	0100W	0025N	691446	5218379	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:19:37PM	FL MK
N205	0100W	00BL	691442	5218348	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:25:40PM	FL MK
N206	0100W	0025S	691440	5218325	Glaciofluvial	Sand	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:37:16PM	FL MK
N207	0100W	0050S	691437	5218295	Glaciofluvial	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:42:13PM	FL MK
N208	0100W	0075S	691444	5218272	Glaciofluvial	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:46:41PM	FL MK
N209	0100W	0100S	691441	5218250	Glaciofluvial	Till	6°	360°	Well	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:51:08PM	FL MK
N210	0100W	0125S	691437	5218233	Glaciofluvial	Till	-38°	260°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	3:59:07PM	FL MK
N211	0100W	0150S	691420	5218192	Moraine	Till	24°	260°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:03:50PM	FL MK
N212	0100W	0175S	691426	5218175	Glaciofluvial	Till	40°	52°	Poor	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:08:24PM	FL MK
N213	0100W	0200S	691427	5218148	Glaciofluvial	Till	23°	90°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:13:02PM	FL MK
N214	0100W	0225S	691448	5218133	Glaciofluvial	Till	28°	90°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:25:04PM	FL MK
N215	0100W	0250S	691435	5218103	Glaciofluvial	Till	80°	270°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:30:35PM	FL MK
N216	0100W	0275S	691434	5218071	Glaciofluvial	Silt	20°	270°	Moderate	Deciduous	Natural	Till>1m	Yellow	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:34:45PM	FL MK
N217	0100W	0300S	691426	5218046	Glaciofluvial	Silt	38°	270°	Poor	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:39:35PM	FL MK
N218	0200W	0300S	691327	5218054	Glaciofluvial	Till	3°	270°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:47:18PM	FL MK
N219	0200W	0300S	691327	5218054	Glaciofluvial	Till	3°	270°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:47:18PM	FL MK
N220	0200W	0275S	691332	5218080	Glaciofluvial	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:52:35PM	FL MK
N221	0200W	0250S	691330	5218106	Glaciofluvial	Till	-2°	360°	Well	Deciduous	Logged	Till>1m	Yellow	NAD 83	16 T	Nicolet	1192262	14-Jul-08	4:56:20PM	FL MK
N222	0200W	0225S	691335	5218129	Glaciofluvial	Till	4°	270°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	5:00:06PM	FL MK
N223	0200W	0200S	691333	5218142	Glaciofluvial	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	5:03:57PM	FL MK
N224	0200W	0175S	691336	5218179	Glaciofluvial	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	14-Jul-08	5:07:16PM	FL MK
N225	0200W	0150S	691338	5218208	Glaciofluvial	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	5:10:40PM	FL MK
N226	0200W	0125S	691339	5218231	Glaciofluvial	Till	40°	180°	Moderate	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Nicolet	1192262	14-Jul-08	5:17:54PM	FL MK
N249	0000E	0150N	691558	5218488	Glaciofluvial	Silt	-2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:41:13 PM	JL RL
N250	0000E	0125N	691552	5218462	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:35:31 PM	JL RL
N251	0000E	0100N	691561	5218437	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:27:25 PM	JL RL
N252	0000E	0075N	691551	5218420	Glaciofluvial	Silt	-2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:22:15 PM	JL RL
N253	0000E	0075N	691551	5218420	Glaciofluvial	Silt	-2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:22:15 PM	JL RL
N254	0000E	0050N	691553	5218387	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:17:43 PM	JL RL
N255	0000E	0025N	691551	5218373	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	13-Jul-08	3:01:23 PM	JL RL
N256	0000E	00BL	691544	5218342	Glaciofluvial	Silt	-2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:35:00 PM	JL RL
N257	0000E	0025S	691544	5218330	Glaciofluvial	Silt	-2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:30:44 PM	JL RL
N258	0000E	0050S	691542	5218299	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:26:12 PM	JL RL
N259	0000E	0075S	691541	5218265	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:22:41 PM	JL RL
N260	0000E	0100S	691541	5218252	Glaciofluvial	Silt	-8°	360°	Well	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:18:16 PM	JL RL
N261	0000E	0125S	691539	5218223	Glaciofluvial	Silt	-10°	20°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:14:10 PM	JL RL
N262	0000E	0150S	691540	5218202	Glaciofluvial	Silt	-10°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:09:39 PM	JL RL
N263	0000E	0175S	691540	5218164	Glaciofluvial	Silt	-18°	100°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	2:00:24 PM	JL RL
N264	0000E	0200S	691537	5218156	Glaciofluvial	Silt	-5°	90°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Nicolet	1192262	13-Jul-08	1:52:50 PM	JL RL
N265	0100E	00BL	691623	5218337	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:55:52 AM	JL RL
N266	0100E	0025S	691624	5218314	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Yellow	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:07:08 PM	JL RL
N267	0100E	0050S	691622	5218286	Glaciofluvial	Silt	0°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:13:35 PM	JL RL
N268	0100E	0075S	691620	5218260	Glaciofluvial	Silt	2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:21:23 PM	JL RL
N269	0100E	0100S	691618	5218238	Glaciofluvial	Silt	2°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:25:31 PM	JL RL
N270	0100E	0125S	691622	5218216	Glaciofluvial	Silt	5°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:30:28 PM	JL RL
N271	0100E	0150S	691617	5218188	Glaciofluvial	Silt	-4°	135°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:34:15 PM	JL RL
N272	0100E	0175S	691616	5218163	Glaciofluvial	Silt	-4°	86°	Well	Deciduous	Natural	Till>1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:38:31 PM	JL RL
N273	0100E	0200S	691617	5218141	Glaciofluvial	Silt	-8°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:44:28 PM	JL RL
N274	0100E	0225S	691615	5218114	Glaciofluvial	Silt	-6°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:49:04 PM	JL RL
N275	0100E	0250S	691620	5218100	Glaciofluvial	Silt	4°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:00:25 PM	JL RL
N276	0100E	0275S	691613	5218079	Glaciofluvial	Silt	10°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:05:08 PM	JL RL
N277	0100E	0300S	691613	5218043	Glaciofluvial	Silt	22°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:12:12 PM	JL RL
N278	0100E	0300S	691613	5218043	Glaciofluvial	Silt	22°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:12:12 PM	JL RL
N279	0000E	0300S	691525	5218056	Glaciofluvial	Silt	16°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	1:24:55 PM	JL RL
N280	0000E	0300S	691525	5218056	Glaciofluvial	Silt	16°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	1:24:55 PM	JL RL
N281	0000E	0275S	691531	5218080	Glaciofluvial	Silt	16°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	1:32:20 PM	JL RL
N282	0000E	0250S	691540	5218094	Glaciofluvial	Silt	10°	360°	Well	Deciduous	Natural	Till>1m	Brown, Orange	NAD 83	16 T	Nicolet	1192262	13-Jul-08	1:41:15 PM	JL RL
N283																				



N312	0100E	0250N	691635	5218586	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:08:00PM	PS KS BT
N313	0100E	0275N	691635	5218611	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:16:21PM	PS KS BT
N314	0100E	0300N	691632	5218642	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Red	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:18:51PM	PS KS BT
N315	0100E	0325N	691631	5218665	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:21:38PM	PS KS BT
N316	0100E	0350N	691637	5218688	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Red	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:23:54PM	PS KS BT
N317	0100E	0375N	691640	5218711	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:39:57PM	PS KS BT
N318	0100E	0400N	691640	5218739	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:42:15PM	PS KS BT
N319	0100E	0425N	691642	5218758	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:44:11PM	PS KS BT
N320	0100E	0450N	691642	5218791	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:47:34PM	PS KS BT
N321	0100E	0475N	691644	5218812	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:50:53PM	PS KS BT
N322	0100E	0500N	691642	5218836	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	14-Jul-08	2:54:05PM	PS KS BT
N323	0200E	00BL	691698	5218333	Till	Till	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:50:48AM	FL PS
N324	0200E	0025S	691697	5218308	Till	Till	0°	360°	Well	Scrub	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:00:04PM	FL PS
N325	0200E	0025S	691697	5218308	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:00:04PM	FL PS
N326	0200E	0050S	691698	5218284	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:10:46PM	FL PS
N327	0200E	0075S	691695	5218258	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:16:45PM	FL PS
N328	0200E	0100S	691695	5218233	Till	Till	18°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:21:53PM	FL PS
N329	0200E	0125S	691694	5218209	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:28:20PM	FL PS
N330	0200E	0150S	691690	5218183	Till	Till	80°	90°	Well	Mix	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:34:55PM	FL PS
N331	0200E	0175S	691687	5218158	Till	Till	14°	200°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:40:56PM	FL PS
N332	0200E	0200S	691689	5218134	Till	Till	3°	270°	Well	Deciduous	Natural	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:46:37PM	FL PS
N333	0200E	0225S	691690	5218106	Till	Till	0°	360°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:53:40PM	FL PS
N334	0200E	0250S	691689	5218083	Till	Till	0°	360°	Well	Deciduous	Natural	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:59:46PM	FL PS
N335	0200E	0275S	691688	5218060	Till	Till	3°	270°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:05:46PM	FL PS
N336	0200E	0300S	691687	5218033	Till	Till	14°	360°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:11:54PM	FL PS
N337	0200E	0300S	691687	5218033	Till	Till	14°	360°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:11:54PM	FL PS
N338	0400E	0300S	691875	5218034	Till	Till	0°	360°	Moderate	Scrub	Scarified, Fire	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:32:08PM	FL PS
N339	0400E	0300S	691875	5218034	Till	Till	0°	360°	Moderate	Scrub	Scarified, Fire	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:32:08PM	FL PS
N340	0400E	0275S	691879	5218061	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:50:45PM	FL PS
N341	0400E	0250S	691884	5218082	Till	Till	0°	360°	Well	Scrub	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:58:05PM	FL PS
N342	0400E	0225S	691887	5218101	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:04:16PM	FL PS
N343	0400E	0200S	691882	5218131	Till	Till	0°	360°	Well	Deciduous	Natural	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:11:28PM	FL PS
N344	0400E	0175S	691890	5218167	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:18:25PM	FL PS
N345	0400E	0150S	691887	5218177	Till	Till	40°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:25:25PM	FL PS
N346	0400E	0125S	691889	5218204	Till	Till	8°	260°	Well	Deciduous	Logged	Tills>1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:32:14PM	FL PS
N347	0400E	0100S	691891	5218229	Till	Till	6°	240°	Well	Scrub	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:39:53PM	FL PS
N348	0400E	0075S	691890	5218252	Till	Till	10°	182°	Well	Deciduous	Logged	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:49:02PM	FL PS
N349	0400E	0050S	691889	5218282	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:55:52PM	FL PS
N350	0400E	0025S	691894	5218304	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:01:18PM	FL PS
N351	0400E	00BL	691896	5218327	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:08:22PM	FL PS
N352	0400E	0025N	691906	5218341	Till	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:15:28PM	FL PS
N353	0400E	0050N	691903	5218372	Till	Till	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:22:04PM	FL PS
N354	0400E	0075N	691906	5218410	Till	Till	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:27:06PM	FL PS
N355	0400E	0075N	691906	5218410	Till	Till	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:27:06PM	FL PS
N356	0400E	0100N	691903	5218440	Till	Till	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:37:04PM	FL PS
N357	0400E	0125N	691902	5218451	Till	Till	0°	360°	Well	Deciduous	Natural	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:42:52PM	FL PS
N358	0400E	0150N	691901	5218471	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:48:29PM	FL PS
N359	0400E	0175N	691904	5218497	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	3:54:26PM	FL PS
N360	0200E	0025N	691710	5218356	Till	Silt	0°	360°	Well	Mix	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:37:42AM	FL PS
N361	0400E	0200N	691910	5218516	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:01:31PM	FL PS
N362	0400E	0225N	691909	5218540	Moraine	Till	0°	360°	Well	Deciduous	Natural	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:08:07PM	FL PS
N363	0400E	0250N	691920	5218576	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:13:26PM	FL PS
N364	0400E	0275N	691921	5218605	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:18:49PM	FL PS
N365	0400E	0300N	691922	5218611	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:25:42PM	FL PS
N366	0400E	0325N	691920	5218641	Moraine	Till	-6°	280°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:31:36PM	FL PS
N367	0400E	0350N	691921	5218669	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:36:37PM	FL PS
N368	0400E	0375N	691920	5218688	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:42:09PM	FL PS
N369	0400E	0400N	691918	5218715	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:46:54PM	FL PS
N370	0400E	0425N	691928	5218743	Moraine	Till	0°	360°	Well	Deciduous	Logged	Tills>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	4:53:33PM	FL PS
N371	0400E	0450N	691940	5218766	Moraine	Till	-9°	70°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Black	NAD 83	16 T	Norberg	4201404	14-Jul-08	11:08:45AM	PS KS BT
N372	0400E	0475N	691939	5218791	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Black	NAD 83	16 T	Norberg	4201404	14-Jul-08	11:13:40AM	PS KS BT
N373	0400E	0500N	691927	5218818	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	14-Jul-08	11:16:02AM	PS KS BT
N374	0400E	0525N	691930	5218846	Moraine	Till	-3°	357°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Black	NAD 83	16 T	Norberg	4201404	14-Jul-08	11:19:22AM	PS KS BT
N375	0400E	0550N	691938	5218860	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown	NAD 83	16 T	Norberg	4201404	14-Jul-08	11:23:37AM	PS KS BT
N376	0400E	0575N	691936	5218895	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till pocket<1m	Brown, Yellow	NAD 83	16 T	Norberg	1192369	14-Jul-08	11:26:13AM	PS KS BT
N377	0400E	0600N	691934	5																



N405	0500E	0250S	691985	5218071	Moraine	Till	-5°	178°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	9:47:20AM	BT MK SK	
N406	0500E	0275S	691980	5218043	Moraine	Till	-4°	164°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	9:50:59AM	BT MK SK	
N407	0500E	0300S	691979	5218020	Moraine	Till	-5°	133°	Moderate	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	9:55:04AM	BT MK SK	
N408	0500E	0575N	692035	5218893	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	1192369	13-Jul-08	12:58:33PM	BT MK SK	
N409	0500E	0600N	692040	5218909	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	1192369	13-Jul-08	12:55:20PM	BT MK SK	
N410	0500E	0550N	692029	5218859	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:02:48PM	BT MK SK	
N411	0500E	0525N	692032	5218832	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:07:43PM	BT MK SK	
N412	0500E	0500N	692036	5218806	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:10:57PM	BT MK SK	
N413	0500E	0475N	692031	5218781	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:14:24PM	BT MK SK	
N414	0500E	0450N	692027	5218758	Moraine	Till	-3°	31°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:17:12PM	BT MK SK	
N415	0500E	0425N	692023	5218738	Moraine	Till	-5°	33°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:19:15PM	BT MK SK	
N416	0500E	0400N	692025	5218711	Moraine	Till	-2°	24°	Poor	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:22:18PM	BT MK SK	
N417	0500E	0400N	692025	5218711	Moraine	Till	-2°	24°	Poor	Deciduous	Logged	Till>1m	Brown, Black	Duplicate of N416	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:22:18PM	BT MK SK
N418	0500E	0375N	692021	5218692	Moraine	Till	-3°	4°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:27:49PM	BT MK SK	
N419	0500E	0350N	692013	5218665	Moraine	Till	-5°	9°	Poor	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:31:15PM	BT MK SK	
N420	0500E	0325N	692020	5218643	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:34:26PM	BT MK SK	
N421	0500E	0300N	692016	5218622	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:39:39PM	BT MK SK	
N422	0500E	0275N	692013	5218594	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:43:25PM	BT MK SK	
N423	0500E	0250N	692005	5218579	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:53:05PM	BT MK SK	
N424	0500E	0225N	692008	5218546	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:55:50PM	BT MK SK	
N425	0500E	0200N	692009	5218516	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	1:59:39PM	BT MK SK	
N426	0500E	0175N	692002	5218497	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:02:32PM	BT MK SK	
N427	0500E	0150N	692005	5218473	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:06:29PM	BT MK SK	
N428	0500E	0150N	692005	5218473	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	Duplicate of N427	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:06:29PM	BT MK SK
N429	0500E	0125N	692002	5218443	Moraine	Till	0°	360°	Poor	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:09:46PM	BT MK SK	
N430	0500E	0100N	692004	5218421	Moraine	Till	0°	360°	Poor	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:13:00PM	BT MK SK	
N431	0500E	0075N	692002	5218400	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:16:40PM	BT MK SK	
N432	0500E	0050N	691997	5218371	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:19:07PM	BT MK SK	
N433	0500E	0025N	691995	5218353	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:21:35PM	BT MK SK	
N434	0500E	00BL	691992	5218318	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:26:03PM	BT MK SK	
N435	0500E	0025S	691993	5218301	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:27:18PM	BT MK SK	
N436	0500E	0050S	691993	5218274	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:30:20PM	BT MK SK	
N437	0500E	0075S	691990	5218257	Moraine	Till	-8°	14°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:33:44PM	BT MK SK	
N438	0500E	0100S	691991	5218222	Moraine	Till	-10°	322°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	2:35:21PM	BT MK SK	
N439	0600E	0300S	692087	5218020	Moraine	Till	-5°	120°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:01:47AM	BT MK SK	
N440	0600E	0275S	692086	5218044	Moraine	Till	-19°	99°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:06:45AM	BT MK SK	
N441	0600E	0250S	692089	5218075	Moraine	Till	-9°	149°	Poor	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:09:27AM	BT MK SK	
N442	0600E	0225S	692087	5218094	Moraine	Till	-7°	134°	Well	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:13:27AM	BT MK SK	
N443	0600E	0200S	692093	5218114	Moraine	Till	-8°	156°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:19:25AM	BT MK SK	
N444	0600E	0175S	692089	5218136	Moraine	Till	-13°	162°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:22:51AM	BT MK SK	
N445	0600E	0150S	692090	5218168	Moraine	Till	-6°	171°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:26:20AM	BT MK SK	
N446	0600E	0125S	692093	5218191	Moraine	Till	-8°	182°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:29:38AM	BT MK SK	
N447	0600E	0100S	692095	5218215	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	10:34:11AM	BT MK SK	
N448	0600E	0075S	692095	5218238	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:06:42AM	BT MK SK	
N449	0600E	0050S	692100	5218259	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:09:10AM	BT MK SK	
N450	0600E	0025S	692101	5218288	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:11:38AM	BT MK SK	
N451	0600E	00BL	692101	5218302	Moraine	Sand	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:15:00AM	BT MK SK	
N452	0600E	0025N	692095	5218329	Moraine	Till	0°	360°	Poor	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:17:39AM	BT MK SK	
N453	0600E	0050N	692101	5218358	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:20:42AM	BT MK SK	
N454	0600E	0075N	692102	5218384	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:24:07AM	BT MK SK	
N455	0600E	0100N	692107	5218405	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:26:51AM	BT MK SK	
N456	0600E	0125N	692103	5218440	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:29:45AM	BT MK SK	
N457	0600E	0150N	692105	5218458	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:32:57AM	BT MK SK	
N458	0600E	0150N	692105	5218458	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	Duplicate of N457	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:32:57AM	BT MK SK
N459	0600E	0175N	692107	5218475	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:37:40AM	BT MK SK	
N460	0600E	0200N	692105	5218504	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:39:40AM	BT MK SK	
N461	0600E	0225N	692112	5218534	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:42:14AM	BT MK SK	
N462	0600E	0250N	692110	5218551	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:45:19AM	BT MK SK	
N463	0600E	0275N	692112	5218582	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:49:12AM	BT MK SK	
N464	0600E	0300N	692113	5218611	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:52:45AM	BT MK SK	
N465	0600E	0325N	692114	5218633	Moraine	Till	-4°	348°	Moderate	Deciduous	Logged	Till>1m	Brown, Orange	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:55:38AM	BT MK SK	
N466	0600E	0350N	692111	5218655	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	11:58:46AM	BT MK SK	
N467	0600E	0375N	692116	5218676	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:02:25PM	BT MK SK	
N468	0600E	0400N	692117	5218704	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	13-Jul-08	12:05:11PM	BT MK SK	
N469	0600E	0425N	692115	5218730	Moraine	Till	0°	360°	Well	Deciduous	Logged										



N498	0700E	0225N	692203	5218530	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:22:23PM	BT MK SK	
N499	0700E	0250N	692208	5218559	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:26:39PM	BT MK SK	
N500	0700E	0275N	692207	5218581	Moraine	Till	-3°	9°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:29:58PM	BT MK SK	
N501	0700E	0300N	692210	5218613	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:35:32PM	BT MK SK	
N502	0700E	0325N	692214	5218631	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:40:10PM	BT MK SK	
N503	0700E	0350N	692209	5218649	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:46:17PM	BT MK SK	
N504	0700E	0375N	692214	5218685	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:51:59PM	BT MK SK	
N505	0700E	0400N	692210	5218709	Moraine	Till	-8°	349°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:57:31PM	BT MK SK	
N506	0700E	0425N	692216	5218728	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:02:31PM	BT MK SK	
N507	0700E	0450N	692215	5218754	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:08:47PM	BT MK SK	
N508	0700E	0475N	692219	5218782	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown, Black	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:14:14PM	BT MK SK	
N509	0700E	0500N	692220	5218808	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:18:25PM	BT MK SK	
N510	0700E	0525N	692222	5218830	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:23:08PM	BT MK SK	
N511	0700E	0550N	692219	5218855	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:27:28PM	BT MK SK	
N512	0700E	0575N	692227	5218876	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	1192369	12-Jul-08	2:30:46PM	BT MK SK	
N513	0700E	0600N	692224	5218897	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	1192369	12-Jul-08	2:36:45PM	BT MK SK	
N514	0700E	0600N	692224	5218897	Moraine	Till	0°	360°	Moderate	Deciduous	Logged	Till>1m	Brown	Duplicate N513	NAD 83	16 T	Norberg	1192369	12-Jul-08	2:36:45PM	BT MK SK
N515	0800E	0175N	692296	5218480	Moraine	Till	-4°	352°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	11:43:08AM	FL JA	
N516	0800E	0200N	692303	5218498	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	11:50:43AM	FL JA	
N517	0800E	0225N	692313	5218519	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	11:55:36AM	FL JA	
N518	0800E	0250N	692301	5218554	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:01:03PM	FL JA	
N519	0800E	0275N	692298	5218572	Moraine	Till	2°	100°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:05:32PM	FL JA	
N520	0800E	0300N	692302	5218596	Moraine	Till	6°	260°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:10:55PM	FL JA	
N521	0800E	0325N	692302	5218623	Moraine	Till	-12°	60°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:16:18PM	FL JA	
N522	0800E	0350N	692302	5218650	Moraine	Till	3°	176°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:21:03PM	FL JA	
N523	0800E	0375N	692306	5218671	Moraine	Till	-12°	270°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:28:27PM	FL JA	
N524	0800E	0375N	692306	5218671	Moraine	Till	-12°	270°	Well	Deciduous	Logged	Till>1m	Brown, Red	Duplicate of N523	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:28:27PM	FL JA
N525	0800E	0400N	692307	5218693	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:35:17PM	FL JA	
N526	0800E	0425N	692309	5218724	Moraine	Till	-3°	238°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:41:00PM	FL JA	
N527	0800E	0450N	692310	5218744	Moraine	Till	20°	180°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:46:50PM	FL JA	
N528	0800E	0475N	692308	5218768	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:52:39PM	FL JA	
N529	0800E	0500N	692315	5218796	Moraine	Till	-12°	45°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:57:36PM	FL JA	
N530	0800E	0525N	692311	5218817	Moraine	Till	-12°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:04:38PM	FL JA	
N531	0800E	0550N	692314	5218852	Moraine	Till	18°	230°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:06:20PM	FL JA	
N532	0800E	0575N	692314	5218862	Moraine	Till	8°	230°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:10:45PM	FL JA	
N533	0800E	0600N	692316	5218912	Moraine	Till	5°	240°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	1192369	12-Jul-08	1:19:22PM	FL JA	
N534	0800E	0150N	692282	5218452	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:55:01PM	FL JA	
N535	0800E	0125N	692286	5218431	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	1:59:26PM	FL JA	
N536	0800E	0100N	692286	5218405	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:03:44PM	FL JA	
N537	0800E	0075N	692283	5218376	Moraine	Till	7°	163°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:09:11PM	FL JA	
N538	0800E	0050N	692281	5218355	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:13:29PM	FL JA	
N539	0800E	0025N	692280	5218330	Moraine	Till	0°	360°	Moderate	Deciduous	Natural	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:18:56PM	FL JA	
N540	0800E	0025S	692278	5218280	Moraine	Till	-12°	118°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:27:34PM	FL JA	
N541	0800E	0050S	692274	5218261	Moraine	Till	-7°	84°	Well	Scrub, Mx	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:36:44PM	FL JA	
N542	0800E	0075S	692274	5218237	Moraine	Till	0°	360°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:42:19PM	FL JA	
N543	0800E	0100S	692271	5218214	Moraine	Till	-5°	133°	Moderate	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:47:21PM	FL JA	
N544	0800E	0125S	692267	5218187	Moraine	Till	24°	360°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	2:57:27PM	FL JA	
N545	0800E	0150S	692275	5218169	Moraine	Till	19°	364°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:02:43PM	FL JA	
N546	0800E	0175S	692267	5218137	Moraine	Till	18°	360°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:18:59PM	FL JA	
N547	0800E	0200S	692265	5218115	Moraine	Till	10°	340°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:23:03PM	FL JA	
N548	0800E	0225S	692266	5218087	Moraine	Till	8°	350°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:26:49PM	FL JA	
N549	0800E	0250S	692266	5218064	Moraine	Till	16°	320°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:32:18PM	FL JA	
N550	0800E	0275S	692263	5218039	Moraine	Till	-20°	180°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:38:54PM	FL JA	
N551	0800E	0275S	692262	5218017	Moraine	Till	-20°	180°	Well	Deciduous	Natural	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:43:31PM	FL JA	
N552	0800E	0275S	692262	5218017	Moraine	Till	-20°	180°	Well	Deciduous	Natural	Till>1m	Brown, Red	duplicate of N551	NAD 83	16 T	Norberg	4201404	12-Jul-08	3:43:31PM	FL JA
N554	0900E	0200N	692408	5218490	Glaciofluvial	Sand	-8°	70°	Well	Deciduous	Logged	Till>1m	Brown, Red	NAD 83	16 T	Norberg	4201404	12-Jul-08	11:24:10 AM	JL RL	
N555	0900E	0225N	692406	5218520	Glaciofluvial	Sand	-4°	96°	Well	Deciduous	Logged	Till>1m	Brown, Yellow	NAD 83	16 T	Norberg	4201404	12-Jul-08	11:54:19 AM	JL RL	
N556	0900E	0250N	692412	5218551	Glaciofluvial	Sand	-4°	102°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:03:38 PM	JL RL	
N557	0900E	0275N	692412	5218566	Glaciofluvial	Sand	-4°	126°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:10:03 PM	JL RL	
N558	0900E	0275N	692412	5218566	Glaciofluvial	Sand	-4°	126°	Well	Deciduous	Logged	Till>1m	Brown	duplicate of N557	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:10:03 PM	JL RL
N559	0900E	0300N	692414	5218591	Glaciofluvial	Sand	-10°	350°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:19:58 PM	JL RL	
N560	0900E	0325N	692423	5218613	Glaciofluvial	Sand	-8°	354°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:25:27 PM	JL RL	
N561	0900E	0350N	692416	5218641	Glaciofluvial	Sand	-4°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:30:40 PM	JL RL	
N562	0900E	0375N	692426	5218666	Glaciofluvial	Sand	-10°	360°	Well	Deciduous	Logged	Till>1m	Brown	NAD 83	16 T	Norberg	4201404	12-Jul-08	12:36:47 PM	JL RL	
N563	0900E	0400N	692424	5218688	Glaciofluvial	Sand	-6°	314°	Well												



N592 0900E 0300S 692376 5218006 Glaciofluvial Sand -60° 90° Well Deciduous Logged Till>1m Brown

NAD 83 16 T Norberg 4201404 12-Jul-08 4:29:32 PM JL RL

9  
176  
20  
320



**Table 1 - Personnel, Dates Worked and Type of**

<b>Personel</b>	<b>Date Worked</b>	<b>Days-Field</b>	<b>Days-Office</b>
Jules Anglehart III	July 12, 2008	1	
Dan Cyr	June 1, 2008	1	
Dan Cyr	14-Jul-08	1	
Michael Keating	June 1, 2008	1	
Michael Keating	July 12, 2008	1	
Michael Keating	July 13, 2008	1	
Michael Keating	July 14, 2008	1	
Jim Laidlaw	June 1, 2008	1	
Jim Laidlaw	July 12, 2008	1	
Rebecca Laidlaw	July 12, 2008	1	
Rebecca Laidlaw	July 13, 2008	1	
Frank Longpre	July 13, 2008	1	
Frank Longpre	July 14, 2008	1	
Frank Longpre	July 15, 2008	1	
Kyle Smith	June 1, 2008	1	
Kyle Smith	June 14, 2008	1	
Peter Smith	July 13, 2008	1	
Peter Smith	July 14, 2008	1	
Ana Sniderhan	June 1, 2008	1	
Brendan Troy	June 1, 2008	1	
Brendan Troy	July 12,2008	1	
Brendan Troy	July 13,2008	1	
Brendan Troy	July 14,2008	1	
Jules Anglehart III	July 17, 2008		1
Jim Laidlaw	May 28, 2008		1
Jim Laidlaw	May 29, 2008		1
Jim Laidlaw	June 3, 2008		1
Jim Laidlaw	June 18, 2008		1
Jim Laidlaw	June 20, 2008		1
Jim Laidlaw	19-Jul-08		1
Jim Laidlaw	20-Jul-08		1
Jim Laidlaw	19-Oct-08		1
Jim Laidlaw	20-Oct-08		1
Jim Laidlaw	21-Oct-08		1
Jim Laidlaw	16-Jan-09		1
Jim Laidlaw	22-Jan-09		1
Jim Laidlaw	25-Jan-09		1
Jim Laidlaw	26-Jan-09		1
Jim Laidlaw	27-Jan-09		1
Jim Laidlaw	28-Jan-09		1
Jim Laidlaw	29-Jan-09		1



Jim Laidlaw	30-Jan-09		1
Jim Laidlaw	31-Jan-09		1
Jim Laidlaw	02-Feb-09		1
Jim Laidlaw	04-Feb-09		1
Jim Laidlaw	05-Feb-09		1
Jim Laidlaw	06-Feb-09		1
Jim Laidlaw	09-Feb-09		1
Jim Laidlaw	10-Feb-09		1
Rebecca Laidlaw	July 8, 2008		1
Rebecca Laidlaw	July 15, 2008		1
Rebecca Laidlaw	July 17, 2008		1
Rebecca Laidlaw	July 18, 2008		1
Rebecca Laidlaw	July 19, 2008		1
Rebecca Laidlaw	July 20, 2008		1
Rebecca Laidlaw	July 21, 2008		1
Rebecca Laidlaw	July 22, 2008		1
Rebecca Laidlaw	July 23, 2008		1
Rebecca Laidlaw	July 24, 2008		1
Rebecca Laidlaw	July 26, 2008		1
Rebecca Laidlaw	July 27, 2008		1
Peter Smith	July 15, 2008		1
Ana Sniderhan	May 31, 2008		1
Ana Sniderhan	June 2, 2008		1
Ana Sniderhan	June 3, 2008		1
	<b>TOTAL DAYS</b>	23	37



## Work

Type of Work
Geochem: MMI soil sampling; L8E; Norberg Tp; Claim; 4201404
Geochem; Orientation MMI Soil Sampling Survey; EBX zone tribag area; L300W and L300E; 50 samples
Geochem: MMI soil sampling; L4W & L5W; Nicolet Tp; Claim; 1192262
Geochem; Orientation MMI Soil Sampling Survey; EBX zone tribag area; L300W and L300E; 50 samples
Geochem: MMI soil sampling; L7E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L5E & L6E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L1W & L2W; Norberg Tp; Claim; 1192262
Geochem: EBX MMI Orientation Survey Tribag Grid: L700W and L1000E; 50 samples
Geochem: MMI soil sampling; L9E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L9E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L0E; Norberg Tp; Claim; 1192262 & L1E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L8E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L2E & L4E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L1W & L2W; Norberg Tp; Claim; 1192262
Geochem; Orientation MMI Soil Sampling Survey; EBX zone Tribag area; L700W and L1000E; 50 samples
Geochem: MMI soil sampling; L1E, L2E & 4E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L2E & L4E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L1E, L2E & 4E; Norberg Tp; Claim; 4201404
Geochem; Orientation MMI Soil Sampling Survey; EBX zone tribag area; L300W and L300E; 50 samples
Geochem; Orientation MMI Soil Sampling Survey; EBX zone Tribag area; L700W and L1000E; 50 samples
Geochem: MMI soil sampling; L7E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L5E & L6E; Norberg Tp; Claim; 4201404
Geochem: MMI soil sampling; L1E, L2E & 4E; Norberg Tp; Claim; 4201404
Project Logistics; sample bags and rock sample inventory and preparation for shipping to the lab
Sample Databases - MMI data reduction of Bird Tp geochemical survey
Project Logistics: EBX MMI Orientation Survey Tribag Grid: survey plan and tabulation of proposed survey
Sample database update:MMI sample data input table
Project Logistics: MMI sample planing 25%
ArcView map making and spreadsheet data for Amador - East Breccia MMI survey Area
Sample inventory (MMI soil) and shipping preparation; Half day
Sample Database; MMI sample inventory and shipping completed and input data to excel files set-up
Sample Database MMI data reduction
Sample Database MMI data reduction
Sample Database MMI data reduction
Sample Databases - MMI data reduction of East Breccia Property geochemical survey
Sample Databases - MMI data reduction of East Breccia Property geochemical survey
Sample Databases - MMI data reduction of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey



Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
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Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Sample Databases - MMI data map plots and report of East Breccia Property geochemical survey
Project Logistics; MMI sample bags labeled and organized
MMI-M Sample Inventory and shipping preparation
Sample Database and Inventory of MMI soil sample
Sample Database; MMI sample inventory and input data to excel files
Sample Database; MMI sample inventory and input data to excel files
Sample Database; MMI sample inventory and input data to excel files, half day
Sample Database; MMI soil survey data input
Sample Database; MMI soil survey data input, half day
Sample Database; MMI soil survey data input, half day
Sample Database; MMI soil survey data input, half day
Sample Database; MMI survey data input, half day
Sample Database; MMI notes inputed to database
MMI-M Sample Inventory and shipping preparation
Prepare maps sample bags tools for MMI survey
Sample database: start up MMI data input table for 100 samples collected
Sample database: start up MMI data input table for 100 samples collected





## Certificate of Analysis

Work Order: TO101901

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Aug 27, 2008

P.O. No. : Ref:WFO#006  
Project No. : DEFAULT  
No. Of Samples 86  
Date Submitted Jul 23, 2008  
Report Comprises Pages 1 to 16  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 86 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N441	5	>300	<10	<0.1	700	<1	30	50	42	180
*Rep N441	7	>300	10	<0.1	570	<1	30	48	72	128
N442	4	281	20	<0.1	570	1	20	39	57	35
N443	5	205	<10	<0.1	80	<1	<10	13	132	8
N444	4	279	<10	<0.1	100	<1	<10	19	58	33
N445	2	273	<10	<0.1	160	<1	<10	11	7	37
N446	9	293	<10	<0.1	160	<1	<10	40	65	20
N447	4	277	<10	<0.1	490	<1	20	79	34	17
N448	8	281	<10	<0.1	270	<1	60	19	123	30
N449	4	279	<10	<0.1	190	<1	<10	49	15	21
N450	7	217	<10	<0.1	80	<1	<10	21	<5	19
N451	4	226	<10	<0.1	120	<1	10	13	253	39
N452	3	244	10	<0.1	620	2	20	28	16	30
N453	5	210	<10	<0.1	70	<1	<10	18	42	12
*Rep N453	5	216	<10	<0.1	70	<1	<10	19	42	10
N454	6	272	<10	<0.1	130	<1	<10	15	34	28
N455	4	272	<10	<0.1	50	<1	<10	9	31	9
N456	6	>300	<10	<0.1	80	<1	<10	44	46	20
N457	3	192	<10	<0.1	40	<1	<10	10	137	10
N458	3	207	<10	<0.1	60	<1	<10	9	178	13
N459	3	279	20	<0.1	580	1	10	14	65	8
N460	3	254	<10	<0.1	80	<1	<10	27	36	7
N461	2	>300	<10	<0.1	300	<1	<10	40	13	24
N462	1	278	<10	<0.1	490	<1	30	13	10	60
N463	7	265	<10	<0.1	90	<1	<10	20	31	18
N464	4	290	<10	<0.1	90	<1	<10	12	35	16
N465	2	193	<10	<0.1	80	<1	<10	5	9	14
*Rep N465	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N466	10	252	<10	<0.1	100	<1	<10	11	114	11
N467	4	272	<10	<0.1	100	<1	<10	22	14	18
N468	4	240	<10	<0.1	70	<1	<10	19	10	15
N469	9	206	<10	<0.1	80	<1	<10	32	39	6
N470	5	>300	10	<0.1	280	<1	30	14	223	86
N471	3	>300	<10	<0.1	420	<1	<10	61	11	37
N472	3	>300	<10	<0.1	510	1	<10	40	35	16
N473	5	247	<10	<0.1	110	<1	<10	38	75	12
N474	2	268	<10	<0.1	340	<1	20	35	7	18
N475	5	298	<10	<0.1	100	<1	<10	23	32	13
N476	3	299	<10	<0.1	170	<1	<10	27	11	21
N477	2	252	<10	<0.1	160	<1	<10	35	9	27
*Rep N477	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N478	8	277	<10	<0.1	80	<1	<10	21	19	14
N479	5	>300	<10	<0.1	200	<1	<10	38	32	52
N480	6	280	<10	<0.1	160	<1	<10	9	41	15
N481	2	215	30	<0.1	360	10	20	48	22	23
N482	4	299	<10	<0.1	80	<1	<10	17	16	14

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N483	7	247	<10	<0.1	80	<1	<10	14	169	11
N484	6	278	<10	<0.1	100	<1	<10	49	21	29
Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N485	5	266	<10	<0.1	210	<1	20	28	37	30
N486	7	234	<10	<0.1	60	<1	<10	10	108	12
N487	7	>300	<10	<0.1	160	<1	<10	39	42	13
N488	2	258	<10	<0.1	190	<1	<10	23	9	19
N489	10	>300	<10	<0.1	110	<1	<10	30	28	13
*Rep N489	11	>300	<10	<0.1	120	<1	<10	30	30	15
N490	2	262	<10	<0.1	250	<1	<10	47	10	26
N491	5	262	<10	<0.1	760	<1	50	60	28	14
N492	7	212	<10	<0.1	60	<1	<10	14	20	5
N493	5	>300	10	<0.1	560	<1	<10	198	147	35
N494	5	293	<10	<0.1	210	<1	<10	24	18	54
N495	4	274	<10	<0.1	90	<1	<10	47	21	28
N496	5	262	<10	<0.1	80	<1	<10	71	24	25
N497	4	245	<10	<0.1	70	<1	<10	8	60	8
N498	2	260	<10	<0.1	280	<1	<10	18	8	18
N499	4	227	<10	<0.1	50	<1	<10	11	69	7
N500	3	263	<10	<0.1	270	<1	<10	38	12	24
N501	4	294	<10	<0.1	170	<1	<10	47	19	38
*Rep N501	3	278	<10	<0.1	160	<1	<10	48	17	36
N502	4	217	<10	<0.1	100	<1	<10	23	8	16
N503	6	276	<10	<0.1	80	<1	<10	23	10	14
N504	9	294	<10	<0.1	100	<1	<10	19	56	21
N505	6	>300	<10	<0.1	80	<1	<10	10	50	13
N506	6	293	<10	<0.1	100	<1	<10	37	27	18
N507	6	229	<10	<0.1	120	<1	<10	78	17	14
N508	7	264	<10	<0.1	90	<1	<10	30	25	19
N509	3	267	<10	<0.1	260	<1	<10	33	12	18
N510	5	279	<10	<0.1	170	<1	<10	57	21	22
N511	6	>300	<10	<0.1	200	<1	<10	41	43	13
N512	6	260	<10	<0.1	100	<1	<10	35	46	14
N513	4	266	<10	<0.1	100	<1	<10	55	10	14
*Rep N513	3	257	<10	<0.1	120	<1	<10	53	11	13
N514	4	250	<10	<0.1	70	<1	<10	43	12	19
N515	4	266	<10	<0.1	80	<1	<10	15	64	16
N516	5	209	<10	<0.1	110	<1	<10	8	387	31
N517	6	289	<10	<0.1	90	<1	<10	23	58	9
N518	8	>300	<10	<0.1	440	<1	10	23	188	77
N519	12	225	<10	<0.1	70	<1	<10	15	55	6
N520	7	>300	<10	<0.1	100	<1	<10	19	81	25
N521	5	253	<10	<0.1	110	<1	<10	17	85	18

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N522	6	>300	<10	<0.1	170	<1	<10	16	65	37
N523	7	293	<10	<0.1	220	<1	20	23	296	51
N524	7	>300	<10	<0.1	210	<1	20	23	240	38
N525	4	>300	<10	<0.1	150	<1	<10	8	100	17
*Rep N525	4	>300	<10	<0.1	150	<1	<10	8	97	18
N526	6	>300	<10	<0.1	160	<1	<10	30	44	23
*Std MMISRM16	15	45	20	26.4	80	<1	210	4	27	54
*Std MMISRM16	15	49	20	26.3	80	<1	210	4	25	57
<b>Element</b>	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	1	1	10	0.1	10	1	10	1	5	5
<b>Units</b>	PPB	PPM	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB
*Std MMISRM16	16	50	10	27.3	80	<1	210	4	29	58
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	3	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N441	<100	110	11	8.3	1.9	102	7	20	5	6
*Rep N441	<100	120	16	9.5	3.8	107	13	30	<5	4
N442	<100	70	10	6.2	2.7	115	10	22	<5	2
N443	<100	50	26	12.9	8.9	11	31	50	<5	<1
N444	<100	50	13	6.0	3.2	12	12	23	<5	<1
N445	<100	20	2	2.8	<0.5	29	1	4	<5	<1
N446	<100	100	15	7.2	3.7	13	13	25	<5	<1
N447	<100	120	6	4.0	1.2	86	4	13	<5	1
N448	<100	90	19	7.8	5.8	18	21	45	<5	2
N449	<100	60	5	4.1	0.8	47	3	8	<5	<1
N450	<100	30	3	3.7	<0.5	12	<1	2	<5	<1
N451	<100	70	29	12.4	11.2	12	39	91	<5	<1
N452	<100	170	3	2.7	<0.5	173	2	7	<5	3
N453	<100	20	14	8.1	3.2	4	11	14	<5	<1
*Rep N453	<100	20	14	8.0	3.0	4	11	13	<5	<1
N454	<100	30	12	7.8	1.8	19	7	12	<5	<1
N455	<100	20	10	5.7	1.9	5	7	12	<5	<1
N456	<100	100	11	6.4	2.1	22	8	17	<5	<1
N457	<100	60	28	14.1	9.1	5	36	49	<5	<1
N458	<100	70	27	13.1	10.0	6	38	62	<5	<1
N459	100	70	9	5.0	3.0	61	10	31	<5	2
N460	<100	60	13	7.4	2.7	7	10	13	<5	<1
N461	<100	60	3	3.6	<0.5	33	2	6	<5	<1
N462	<100	50	2	2.2	<0.5	56	1	5	<5	3
N463	<100	50	12	6.4	2.1	17	8	12	<5	<1
N464	<100	20	11	5.8	2.1	13	8	13	<5	<1
N465	<100	80	<1	1.0	<0.5	141	<1	3	<5	<1
*Rep N465	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N466	<100	40	22	11.1	6.3	8	22	34	<5	<1
N467	<100	40	5	4.0	0.7	24	2	7	<5	<1
N468	<100	40	6	5.7	0.6	35	2	5	<5	<1
N469	<100	180	13	7.6	2.8	6	11	14	<5	<1
N470	100	410	18	8.4	6.4	38	24	73	<5	2
N471	<100	50	3	3.4	<0.5	29	2	5	<5	1
N472	<100	100	10	5.6	2.1	56	8	14	<5	2
N473	<100	50	23	11.3	4.4	9	17	24	<5	<1
N474	<100	90	3	3.2	<0.5	62	1	4	<5	2
N475	<100	30	10	6.0	1.8	13	7	12	<5	<1
N476	<100	40	6	5.1	0.7	29	3	6	<5	<1
N477	<100	30	3	3.6	<0.5	43	2	4	<5	<1
*Rep N477	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N478	<100	40	7	5.0	1.0	10	4	8	<5	<1
N479	<100	110	10	6.9	1.5	35	6	13	<5	<1
N480	<100	40	10	5.4	2.4	7	8	16	<5	<1
N481	<100	210	6	4.3	0.8	210	4	10	<5	3
N482	<100	30	5	3.9	0.7	23	3	7	<5	<1

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N483	<100	60	30	14.9	9.7	11	35	53	<5	<1
N484	<100	80	7	4.7	1.2	17	4	9	<5	<1
Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N485	<100	90	11	7.0	2.3	28	8	14	<5	<1
N486	<100	40	22	11.9	6.1	6	23	38	<5	<1
N487	<100	100	14	7.3	2.7	16	10	17	<5	<1
N488	<100	50	3	2.8	<0.5	81	1	5	<5	1
N489	<100	50	7	4.7	1.4	16	5	11	<5	<1
*Rep N489	<100	50	8	4.9	1.5	17	5	13	<5	<1
N490	<100	70	3	3.1	<0.5	50	1	5	<5	<1
N491	<100	60	9	4.2	2.0	19	7	12	<5	1
N492	<100	50	12	8.3	1.8	6	7	8	<5	<1
N493	<100	130	19	8.9	5.0	28	19	49	<5	<1
N494	<100	100	4	3.6	0.7	35	3	8	<5	<1
N495	<100	40	7	5.7	0.9	31	3	8	<5	<1
N496	<100	70	9	7.0	1.2	26	4	9	<5	<1
N497	<100	20	19	10.5	4.3	4	15	20	<5	<1
N498	<100	30	2	2.0	<0.5	103	1	4	<5	1
N499	<100	30	24	13.8	5.8	7	22	23	<5	<1
N500	<100	60	6	5.4	0.7	41	3	5	<5	1
N501	<100	60	5	4.0	0.8	35	3	9	<5	<1
*Rep N501	<100	60	5	3.8	0.7	33	3	8	<5	<1
N502	<100	120	3	3.7	<0.5	81	<1	3	<5	<1
N503	<100	30	5	4.4	0.5	16	2	5	<5	<1
N504	<100	50	15	7.6	3.3	12	12	19	<5	<1
N505	<100	60	12	6.9	2.8	8	9	20	<5	<1
N506	<100	60	8	5.0	1.4	23	5	11	<5	<1
N507	<100	120	11	6.9	1.2	17	5	8	<5	<1
N508	<100	80	8	5.4	1.3	16	5	9	<5	<1
N509	<100	100	4	3.6	0.5	56	2	6	<5	1
N510	<100	100	9	5.5	1.2	25	5	9	<5	<1
N511	<100	90	14	6.6	2.8	14	11	16	<5	<1
N512	<100	90	17	9.5	3.5	10	13	15	<5	<1
N513	<100	30	6	4.6	0.6	12	2	5	<5	<1
*Rep N513	<100	30	6	4.6	0.6	12	2	5	<5	<1
N514	<100	50	7	5.0	0.7	8	3	5	<5	<1
N515	<100	30	16	8.3	4.0	3	14	22	<5	<1
N516	<100	110	55	22.7	21.3	14	79	146	<5	<1
N517	<100	60	17	9.0	3.8	7	14	21	<5	<1
N518	100	160	22	10.4	6.8	35	25	57	<5	<1
N519	<100	80	21	13.3	5.2	11	20	24	<5	<1
N520	<100	100	19	10.7	5.4	10	17	31	<5	<1
N521	<100	60	19	9.4	5.9	18	22	30	<5	<1

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	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	100	10	1	0.5	0.5	1	1	1	5	1
	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N522	<100	100	16	9.5	4.0	35	12	26	<5	<1
N523	<100	100	39	16.3	18.9	23	56	126	<5	<1
N524	<100	90	31	12.3	14.7	21	44	101	<5	<1
N525	<100	50	19	9.4	6.1	19	18	40	<5	<1
*Rep N525	<100	50	19	9.3	6.0	22	18	40	<5	<1
N526	<100	60	11	5.2	2.8	9	9	18	<5	<1
*Std MMISRM16	<100	520	3	1.0	1.3	3	6	7	<5	38
*Std MMISRM16	<100	530	3	1.1	1.4	3	6	6	<5	38
<b>Element</b>	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	100	10	1	0.5	0.5	1	1	1	5	1
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
*Std MMISRM16	<100	540	3	1.2	1.4	3	6	7	<5	38
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N441	<5	5.6	23	137	540	<1	5	<1	116	<1
*Rep N441	<5	7.1	43	147	660	<1	10	<1	90	<1
N442	<5	14.4	32	102	620	<1	7	<1	137	2
N443	<5	1.8	104	35	280	<1	22	<1	87	<1
N444	<5	3.3	35	62	230	<1	8	<1	83	<1
N445	<5	1.8	3	42	250	<1	<1	<1	75	<1
N446	<5	3.0	41	60	430	<1	9	<1	114	<1
N447	<5	3.0	14	50	330	<1	4	<1	76	<1
N448	5	5.3	65	63	120	<1	15	<1	136	<1
N449	<5	3.8	8	47	530	<1	2	<1	81	2
N450	<5	1.0	3	51	280	<1	<1	<1	47	<1
N451	<5	5.9	155	37	110	<1	36	<1	94	<1
N452	<5	7.7	6	61	1290	<1	2	<1	139	1
N453	<5	0.9	33	40	190	<1	7	<1	54	<1
*Rep N453	<5	0.9	34	39	200	<1	7	<1	51	<1
N454	<5	4.1	20	48	230	<1	5	<1	70	<1
N455	<5	2.0	20	36	250	<1	5	<1	49	<1
N456	<5	3.1	24	39	280	<1	6	<1	92	1
N457	<5	1.3	117	45	170	<1	24	<1	93	<1
N458	<5	2.1	136	36	140	<1	29	<1	86	<1
N459	8	17.2	39	75	830	<1	9	<1	107	2
N460	<5	1.6	26	37	410	<1	6	<1	88	<1
N461	<5	3.0	6	55	670	<1	2	<1	85	<1
N462	<5	1.9	4	61	110	<1	1	<1	106	<1
N463	<5	2.3	22	34	350	<1	5	<1	76	<1
N464	<5	2.1	22	70	290	<1	5	<1	72	<1
N465	<5	2.2	3	116	280	<1	<1	<1	78	<1
*Rep N465	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N466	<5	2.2	70	40	140	<1	16	<1	75	<1
N467	<5	1.5	7	43	410	<1	2	<1	62	<1
N468	<5	1.9	6	44	480	<1	2	<1	56	<1
N469	<5	<0.5	33	71	140	<1	7	<1	56	<1
N470	24	7.3	101	60	270	<1	25	<1	98	1
N471	<5	2.1	5	77	310	<1	1	<1	89	<1
N472	<5	7.4	23	87	1360	<1	5	<1	99	<1
N473	<5	1.6	53	41	250	<1	12	<1	72	<1
N474	<5	2.5	4	60	290	<1	<1	<1	85	<1
N475	<5	1.9	20	43	300	<1	5	<1	70	<1
N476	<5	2.7	7	59	450	<1	2	<1	73	<1
N477	<5	1.7	4	62	290	<1	1	<1	84	<1
*Rep N477	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N478	<5	1.4	11	55	300	<1	3	<1	72	<1
N479	<5	2.0	17	78	290	<1	4	<1	99	<1
N480	<5	1.5	27	123	210	<1	6	<1	83	<1
N481	7	8.6	10	73	7910	<1	2	<1	198	2
N482	<5	1.7	8	46	530	<1	2	<1	78	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N483	<5	3.1	122	40	180	<1	25	<1	99	<1
N484	<5	1.3	12	42	280	<1	3	<1	82	1
Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N485	<5	1.9	23	77	200	<1	5	<1	70	<1
N486	<5	1.6	73	47	280	<1	16	<1	65	<1
N487	<5	3.2	28	53	250	<1	6	<1	76	<1
N488	<5	2.3	5	42	330	<1	1	<1	105	<1
N489	<5	2.1	15	39	440	<1	4	<1	72	1
*Rep N489	<5	2.3	17	42	440	<1	4	<1	75	1
N490	<5	1.7	5	59	510	<1	1	<1	73	<1
N491	<5	1.6	19	75	320	<1	4	<1	83	<1
N492	<5	1.1	16	52	410	<1	3	<1	51	<1
N493	<5	6.1	67	123	430	<1	17	<1	105	2
N494	<5	2.4	9	80	450	<1	2	<1	52	<1
N495	<5	1.9	9	52	640	<1	2	<1	68	<1
N496	<5	1.9	13	50	650	<1	3	<1	55	<1
N497	<5	1.3	43	48	160	<1	9	<1	84	<1
N498	<5	2.4	4	60	610	<1	<1	<1	58	<1
N499	<5	1.4	61	51	300	<1	12	<1	59	<1
N500	<5	1.4	7	55	410	<1	2	<1	58	<1
N501	<5	2.0	9	67	470	<1	2	<1	72	<1
*Rep N501	<5	2.0	8	62	470	<1	2	<1	71	<1
N502	<5	1.6	3	62	640	<1	<1	<1	79	<1
N503	<5	1.3	6	48	530	<1	1	<1	59	<1
N504	<5	1.9	38	50	340	<1	8	<1	82	<1
N505	<5	2.7	30	35	200	<1	7	<1	72	<1
N506	<5	2.6	15	53	300	<1	4	<1	72	<1
N507	<5	0.9	12	60	250	<1	3	<1	80	<1
N508	<5	1.1	12	71	270	<1	3	<1	73	<1
N509	<5	1.5	6	58	360	<1	1	<1	75	<1
N510	<5	1.6	12	62	630	<1	3	<1	66	<1
N511	<5	1.6	29	102	480	<1	6	<1	127	<1
N512	<5	1.9	34	74	320	<1	7	<1	84	<1
N513	<5	1.1	6	59	350	<1	1	<1	59	<1
*Rep N513	<5	1.1	6	58	330	<1	2	<1	58	<1
N514	<5	0.9	7	42	310	<1	2	<1	55	<1
N515	<5	1.2	47	67	210	<1	10	<1	55	<1
N516	<5	5.4	318	38	120	<1	70	<1	103	<1
N517	<5	2.9	39	46	160	<1	9	<1	95	<1
N518	<5	9.2	89	148	170	<1	21	<1	106	<1
N519	<5	1.6	62	32	260	<1	11	<1	74	<1
N520	<5	3.8	50	49	270	<1	12	<1	112	<1
N521	<5	3.8	66	52	150	<1	14	<1	74	<1

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	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	0.5	1	5	10	1	1	1	5	1
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N522	<5	5.8	33	73	200	<1	9	<1	128	<1
N523	<5	7.5	194	52	130	<1	50	<1	150	<1
N524	<5	6.5	151	51	120	<1	40	<1	151	<1
N525	<5	4.1	55	50	250	<1	15	<1	113	<1
*Rep N525	<5	4.5	55	52	290	<1	14	<1	117	<1
N526	<5	2.6	24	65	350	<1	6	<1	134	<1
*Std MMISRM16	43	<0.5	20	207	130	25	4	<1	293	<1
*Std MMISRM16	43	<0.5	22	225	140	24	4	<1	291	<1
<b>Element</b>	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	5	0.5	1	5	10	1	1	1	5	1
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	46	<0.5	23	231	150	25	4	<1	301	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N441	42	6	<1	380	<1	2	<10	15.5	1500	1.5
*Rep N441	43	11	<1	280	<1	3	<10	21.0	1820	1.2
N442	43	9	4	150	1	2	<10	33.7	5300	1.3
N443	37	28	<1	<10	<1	5	<10	10.7	591	<0.5
N444	24	10	<1	20	<1	2	<10	13.6	713	0.5
N445	22	<1	<1	40	<1	<1	<10	4.0	535	1.1
N446	26	11	<1	40	<1	3	<10	13.5	798	0.8
N447	18	4	<1	220	<1	<1	<10	9.9	891	0.9
N448	27	19	<1	390	<1	4	<10	25.5	1430	0.8
N449	26	2	<1	40	<1	<1	<10	7.8	1410	1.2
N450	19	<1	<1	10	<1	<1	<10	2.0	296	0.6
N451	41	39	<1	20	<1	6	<10	34.2	1370	0.5
N452	25	2	2	180	<1	<1	<10	16.2	2730	1.1
N453	25	9	<1	<10	<1	2	<10	4.5	152	0.5
*Rep N453	24	9	<1	<10	<1	2	<10	4.2	144	<0.5
N454	27	6	<1	<10	<1	2	<10	7.4	1390	0.7
N455	22	6	<1	<10	<1	2	<10	5.3	344	0.6
N456	28	7	<1	<10	<1	2	<10	12.3	702	1.4
N457	43	32	<1	<10	<1	5	<10	18.7	224	<0.5
N458	40	37	<1	<10	<1	6	<10	22.7	444	<0.5
N459	40	10	5	90	2	2	<10	35.2	4940	1.3
N460	31	8	<1	<10	<1	2	<10	6.8	286	0.9
N461	19	1	<1	60	<1	<1	<10	4.7	938	0.9
N462	13	1	<1	360	<1	<1	<10	5.1	532	0.6
N463	22	6	<1	10	<1	2	<10	7.1	774	1.2
N464	25	6	<1	10	<1	2	<10	7.8	429	0.7
N465	20	<1	<1	30	<1	<1	<10	6.9	992	0.6
*Rep N465	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N466	39	20	<1	<10	<1	4	<10	13.8	586	<0.5
N467	18	2	<1	50	<1	<1	<10	4.9	429	1.2
N468	30	2	<1	10	<1	<1	<10	5.9	614	1.0
N469	27	9	<1	20	<1	2	<10	4.9	110	0.6
N470	44	24	<1	40	<1	4	<10	71.8	3060	0.8
N471	17	1	<1	90	<1	<1	<10	3.5	695	0.8
N472	36	7	2	80	<1	2	<10	23.3	2920	1.1
N473	29	14	<1	30	<1	4	<10	7.0	392	0.6
N474	16	<1	<1	240	<1	<1	<10	4.5	953	0.7
N475	27	6	<1	10	<1	1	<10	6.2	482	0.5
N476	28	2	<1	30	<1	<1	<10	5.1	1070	0.8
N477	26	1	<1	30	<1	<1	<10	5.0	669	1.1
*Rep N477	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N478	19	3	<1	20	<1	<1	<10	3.9	256	0.8
N479	28	5	<1	80	<1	1	<10	8.7	684	0.9
N480	25	7	<1	10	<1	2	<10	6.9	307	<0.5
N481	59	3	3	130	<1	<1	<10	58.2	2060	0.8
N482	21	2	<1	20	<1	<1	<10	4.7	375	0.8

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	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N483	45	33	<1	<10	<1	6	<10	15.5	839	<0.5
N484	21	3	<1	30	<1	1	<10	6.4	268	1.7
Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N485	23	7	<1	200	<1	2	<10	8.0	465	0.7
N486	40	20	<1	<10	<1	4	<10	10.5	316	<0.5
N487	29	8	<1	20	<1	2	<10	10.4	713	0.7
N488	22	1	<1	60	<1	<1	<10	7.1	752	1.3
N489	23	4	<1	<10	<1	1	<10	8.0	505	1.0
*Rep N489	25	5	<1	10	<1	1	<10	8.6	555	1.0
N490	18	1	<1	50	<1	<1	<10	5.7	506	1.0
N491	14	6	<1	710	<1	1	<10	6.1	347	<0.5
N492	30	5	<1	<10	<1	2	<10	3.8	227	<0.5
N493	34	18	<1	50	<1	4	<10	39.8	1410	1.4
N494	21	2	<1	40	<1	<1	<10	7.4	638	0.9
N495	26	3	<1	20	<1	<1	<10	7.4	524	1.5
N496	26	4	<1	20	<1	1	<10	6.5	558	1.1
N497	36	12	<1	<10	<1	3	<10	7.9	221	0.6
N498	18	<1	<1	80	<1	<1	<10	7.4	777	1.0
N499	42	18	<1	<10	<1	4	<10	8.6	294	<0.5
N500	22	2	<1	90	<1	<1	<10	5.4	394	0.8
N501	20	2	<1	30	<1	<1	<10	8.3	525	1.1
*Rep N501	20	2	<1	30	<1	<1	<10	7.2	522	1.0
N502	24	<1	<1	30	<1	<1	<10	7.1	664	0.8
N503	19	2	<1	10	<1	<1	<10	3.3	399	0.7
N504	30	11	<1	20	<1	3	<10	12.1	320	1.0
N505	30	8	<1	<10	<1	2	<10	9.4	497	1.0
N506	24	4	<1	20	<1	1	<10	8.8	766	0.7
N507	23	3	<1	30	<1	1	<10	6.1	264	0.6
N508	26	4	<1	10	<1	1	<10	10.3	321	0.7
N509	17	2	<1	80	<1	<1	<10	5.4	462	1.0
N510	20	4	<1	60	<1	1	<10	5.8	461	0.8
N511	25	9	<1	40	<1	2	<10	10.3	443	<0.5
N512	32	10	<1	10	<1	3	<10	8.5	491	0.6
N513	17	2	<1	20	<1	<1	<10	2.6	298	0.5
*Rep N513	16	2	<1	20	<1	<1	<10	2.8	301	0.5
N514	19	2	<1	10	<1	<1	<10	2.8	162	0.6
N515	28	12	<1	30	<1	3	<10	4.3	160	<0.5
N516	64	81	<1	<10	<1	12	<10	50.0	1680	0.6
N517	32	11	<1	<10	<1	3	<10	14.1	645	<0.5
N518	44	24	<1	50	<1	4	<10	40.3	2780	0.9
N519	39	16	<1	<10	<1	4	<10	6.6	525	0.6
N520	39	14	<1	<10	<1	3	<10	14.1	507	0.6
N521	37	19	<1	20	<1	4	<10	22.2	1120	0.5

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	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	1	1	10	1	1	10	0.5	3	0.5
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N522	49	9	<1	20	<1	3	<10	18.9	1870	1.1
N523	54	52	<1	30	<1	10	<10	55.7	2340	0.7
N524	43	41	<1	30	<1	8	<10	49.6	1940	0.8
N525	35	15	<1	20	<1	4	<10	15.9	917	0.8
*Rep N525	37	15	<1	20	<1	4	<10	16.2	972	0.8
N526	25	7	<1	40	<1	2	<10	9.9	503	1.1
*Std MMISRM16	10	6	<1	490	<1	<1	<10	26.7	<3	<0.5
*Std MMISRM16	11	7	<1	490	<1	<1	<10	27.2	<3	<0.5
<b>Element</b>	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	5	1	1	10	1	1	10	0.5	3	0.5
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	11	7	<1	510	<1	<1	<10	27.8	6	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N441	8	<1	60	8	2520	26
*Rep N441	10	<1	80	8	2440	33
N442	11	<1	56	5	2900	54
N443	8	<1	140	10	330	19
N444	7	<1	55	4	500	22
N445	5	<1	13	3	280	12
N446	6	<1	68	5	1250	21
N447	3	<1	30	3	3490	17
N448	10	1	68	5	310	30
N449	4	<1	26	4	970	18
N450	2	<1	19	4	320	5
N451	10	1	122	9	320	41
N452	8	<1	17	3	910	23
N453	4	<1	78	6	1430	9
*Rep N453	4	<1	81	6	1290	9
N454	6	<1	65	6	670	16
N455	3	<1	51	4	180	11
N456	8	<1	50	5	420	15
N457	11	<1	149	10	370	19
N458	11	<1	141	9	260	24
N459	11	1	49	4	270	73
N460	6	<1	73	6	280	16
N461	3	<1	19	4	1560	13
N462	2	<1	11	3	1500	10
N463	4	<1	56	4	180	13
N464	5	<1	53	4	330	13
N465	4	<1	<5	2	120	9
*Rep N465	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N466	7	<1	105	8	410	21
N467	3	<1	26	3	270	11
N468	6	<1	34	6	250	13
N469	7	<1	77	6	440	8
N470	22	1	78	7	1040	58
N471	2	<1	19	3	4110	10
N472	7	<1	50	4	1340	30
N473	5	<1	115	8	680	14
N474	3	<1	17	4	1620	10
N475	4	<1	51	5	350	13
N476	4	<1	36	4	1560	12
N477	3	<1	18	5	1510	10
*Rep N477	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
N478	2	<1	39	4	660	9
N479	6	<1	51	6	1450	15
N480	6	<1	54	4	1240	12
N481	19	1	30	5	980	38
N482	3	<1	25	4	270	9

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	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N483	11	<1	157	11	310	27
N484	2	<1	36	4	650	11
Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N485	5	<1	62	5	1970	14
N486	7	<1	124	9	630	17
N487	5	<1	65	5	440	21
N488	5	<1	12	4	330	14
N489	4	<1	36	4	380	16
*Rep N489	4	<1	36	4	390	17
N490	3	<1	15	3	1520	9
N491	3	<1	40	3	1860	10
N492	7	<1	75	7	500	9
N493	10	1	72	6	5890	34
N494	3	<1	22	3	640	13
N495	4	<1	34	5	380	11
N496	4	<1	51	6	330	11
N497	8	<1	100	8	350	12
N498	3	<1	10	3	90	11
N499	9	<1	150	11	390	14
N500	3	<1	33	5	490	9
N501	3	<1	24	4	1290	13
*Rep N501	3	<1	23	4	1280	11
N502	4	<1	15	5	180	7
N503	2	<1	29	4	770	8
N504	7	<1	74	6	700	18
N505	5	<1	61	5	340	19
N506	6	<1	40	4	590	17
N507	6	<1	55	5	890	11
N508	8	<1	44	4	930	11
N509	3	<1	20	3	1220	11
N510	4	<1	43	4	4860	12
N511	7	<1	63	4	1060	15
N512	8	<1	96	7	340	15
N513	2	<1	34	4	870	7
*Rep N513	2	<1	35	4	830	8
N514	2	<1	38	4	440	7
N515	4	<1	97	6	130	10
N516	23	<1	229	16	660	42
N517	9	<1	81	7	550	21
N518	15	2	96	8	580	41
N519	10	<1	152	11	340	13
N520	7	<1	113	9	480	26
N521	11	<1	89	7	260	28

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	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N522	14	<1	102	8	1030	38
N523	22	2	187	13	290	63
N524	17	2	145	9	260	57
N525	8	<1	112	7	340	30
*Rep N525	9	<1	115	7	350	32
N526	6	<1	61	4	1540	26
*Std MMISRM16	49	<1	12	<1	190	14
*Std MMISRM16	50	<1	13	<1	190	13
<b>Element</b>	U	W	Y	Yb	Zn	Zr
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	1	1	5	1	20	5
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	51	<1	13	<1	270	14
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101900

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Sep 04, 2008

P.O. No. : Ref:WFO#006  
Project No. : DEFAULT  
No. Of Samples 80  
Date Submitted Jul 23, 2008  
Report Comprises Pages 1 to 16  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 80 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N361	2	218	20	<0.1	520	10	10	68	18	33
*Rep N361	2	222	20	<0.1	530	9	10	67	20	31
N362	6	278	<10	<0.1	30	<1	<10	22	20	17
N363	10	248	<10	<0.1	40	<1	<10	46	22	31
N364	4	243	<10	<0.1	30	<1	<10	41	14	24
N365	5	289	<10	<0.1	40	<1	<10	36	32	22
N366	6	281	<10	0.1	60	<1	<10	27	121	21
N367	3	257	10	<0.1	260	1	<10	31	26	28
N368	5	255	<10	<0.1	10	<1	<10	30	23	16
N369	3	205	<10	0.1	70	<1	<10	17	256	57
N370	4	265	<10	<0.1	90	<1	<10	29	9	16
N371	10	261	<10	<0.1	50	<1	<10	54	21	11
N372	5	280	<10	<0.1	230	<1	20	51	18	18
N373	6	>300	<10	0.1	150	<1	20	38	78	45
*Rep N373	5	>300	<10	0.1	140	<1	20	27	83	39
N374	6	282	<10	<0.1	840	<1	20	56	20	27
N375	6	>300	<10	<0.1	110	<1	<10	18	61	34
N376	6	243	<10	0.1	60	<1	20	29	228	25
N377	7	>300	<10	<0.1	160	<1	<10	36	30	39
N378	6	283	<10	<0.1	40	<1	<10	28	48	16
N379	5	240	<10	<0.1	50	<1	<10	50	14	11
N380	6	273	<10	<0.1	80	<1	<10	21	32	23
N381	31	221	<10	<0.1	20	<1	<10	27	13	11
N382	7	256	<10	<0.1	30	<1	<10	18	36	13
N383	5	271	<10	<0.1	160	<1	20	47	21	25
N384	6	227	<10	0.1	<10	<1	<10	23	14	11
N385	3	258	<10	<0.1	70	<1	<10	25	14	25
*Rep N385	3	258	<10	<0.1	60	<1	<10	22	14	26
N386	4	231	<10	<0.1	140	<1	<10	61	19	17
N387	5	229	<10	0.1	10	<1	<10	19	16	9
N388	5	249	<10	<0.1	30	<1	<10	29	16	15
N389	5	239	<10	0.2	90	<1	<10	31	11	18
N390	3	197	<10	0.1	40	<1	<10	7	200	42
N391	15	246	<10	<0.1	140	<1	<10	54	9	20
N392	2	273	<10	<0.1	300	<1	<10	22	10	18
N393	5	229	<10	0.1	10	<1	<10	10	53	38
N394	4	260	<10	0.1	60	<1	<10	39	45	15
N395	7	249	<10	0.1	60	<1	<10	21	111	26
N396	3	228	<10	<0.1	50	<1	<10	45	8	17
N397	5	244	<10	<0.1	40	<1	<10	22	34	22
*Rep N397	5	245	<10	0.1	40	<1	<10	24	36	22
N398	5	231	<10	<0.1	50	<1	<10	30	16	17
N399	3	265	<10	<0.1	290	1	<10	31	18	41
N400	6	299	<10	<0.1	330	<1	<10	72	31	48
N401	6	296	<10	<0.1	220	<1	<10	61	55	49
N402	5	297	<10	<0.1	150	<1	<10	43	41	47

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N403	4	267	<10	<0.1	140	<1	<10	64	20	15
N404	4	289	<10	<0.1	100	<1	<10	16	33	24
Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N405	6	266	<10	<0.1	90	<1	<10	42	97	26
N406	3	271	<10	<0.1	440	<1	10	67	15	26
N407	7	249	<10	<0.1	110	<1	<10	31	39	20
N408	7	257	<10	<0.1	80	<1	<10	26	16	38
N409	6	235	<10	<0.1	30	<1	<10	40	29	10
*Rep N409	5	228	<10	0.1	20	<1	<10	42	26	11
N410	4	>300	10	<0.1	290	<1	<10	33	34	14
N411	5	227	<10	<0.1	110	<1	<10	51	23	10
N412	1	289	40	<0.1	1560	4	30	122	47	25
N413	7	263	<10	0.1	80	<1	<10	49	44	16
N414	9	275	<10	<0.1	90	<1	<10	32	31	24
N415	6	175	<10	0.1	90	<1	<10	8	323	33
N416	4	266	<10	<0.1	250	<1	<10	23	11	34
N417	4	281	20	<0.1	1210	1	80	21	32	19
N418	6	286	<10	<0.1	110	<1	<10	63	29	26
N419	5	263	<10	<0.1	40	<1	<10	27	23	11
N420	3	>300	<10	<0.1	460	<1	40	56	54	63
N421	2	268	<10	<0.1	260	<1	<10	89	22	37
*Rep N421	2	273	<10	<0.1	280	<1	<10	89	30	39
N422	3	>300	<10	<0.1	360	<1	30	24	23	27
N423	5	268	<10	<0.1	110	<1	<10	17	113	11
N424	4	222	<10	<0.1	80	<1	<10	17	102	13
N425	3	250	<10	<0.1	140	<1	<10	20	9	29
N426	7	247	<10	<0.1	40	<1	<10	25	14	11
N427	4	233	<10	<0.1	120	<1	<10	19	8	15
N428	6	232	<10	<0.1	70	<1	<10	24	16	21
N429	4	>300	10	<0.1	140	<1	<10	39	24	15
N430	2	276	20	<0.1	670	3	20	26	60	17
N431	5	260	<10	<0.1	30	<1	<10	13	32	13
N432	3	269	<10	<0.1	350	<1	<10	46	40	31
N433	6	273	<10	<0.1	80	<1	<10	31	27	10
*Rep N433	7	273	<10	<0.1	70	<1	<10	33	27	10
N434	7	223	<10	<0.1	20	<1	<10	28	20	28
N435	3	288	<10	<0.1	320	<1	<10	91	35	23
N436	3	238	<10	<0.1	160	<1	<10	49	10	30
N437	7	290	<10	<0.1	160	<1	<10	49	88	19
N438	4	263	<10	<0.1	440	<1	20	98	16	55
N439	6	246	<10	<0.1	170	<1	<10	38	12	39
N440	5	>300	<10	0.3	220	<1	<10	32	119	58
*Std MMISRM16	24	49	10	33.2	50	<1	220	4	21	62

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Order: Ref:WFO#006

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
*Std MMISRM16	24	48	10	33.6	60	<1	220	4	21	61
*Std MMISRM16	24	48	10	33.2	60	<1	220	4	21	63
*Bik BLANK	1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N361	<100	250	6	5.1	0.8	179	4	9	6	2
*Rep N361	<100	270	7	5.6	1.1	175	4	9	<5	2
N362	<100	30	7	4.4	1.3	12	4	9	<5	<1
N363	<100	60	8	5.7	1.1	12	4	8	<5	<1
N364	<100	40	8	5.3	1.0	13	4	6	<5	1
N365	<100	50	10	5.6	1.9	10	7	13	<5	<1
N366	<100	70	27	13.0	6.1	10	22	38	<5	<1
N367	<100	350	4	3.3	0.7	209	2	7	<5	1
N368	<100	30	10	6.0	1.5	14	5	9	<5	<1
N369	<100	70	26	10.5	10.4	11	36	90	<5	<1
N370	<100	30	4	4.1	0.6	23	2	4	<5	<1
N371	<100	200	9	5.5	1.5	23	6	11	<5	<1
N372	<100	180	9	5.8	1.5	53	5	9	<5	3
N373	<100	110	16	7.0	4.4	20	16	29	<5	<1
*Rep N373	<100	100	17	6.6	4.5	19	17	31	<5	<1
N374	<100	140	7	4.0	1.2	96	4	8	<5	2
N375	<100	100	11	5.5	2.6	33	9	23	<5	<1
N376	<100	70	42	22.8	12.8	10	48	84	<5	<1
N377	<100	60	8	4.8	1.7	28	6	12	<5	<1
N378	<100	50	11	6.3	2.1	15	8	20	<5	<1
N379	<100	40	8	5.5	1.1	19	4	6	<5	<1
N380	<100	50	10	5.9	1.9	15	7	13	<5	<1
N381	<100	60	9	5.9	1.3	16	4	6	<5	<1
N382	<100	40	12	7.3	2.3	8	9	13	<5	<1
N383	<100	110	9	5.0	1.4	27	6	9	<5	4
N384	<100	30	8	5.1	1.0	7	4	6	<5	<1
N385	<100	60	7	5.5	0.9	43	3	7	<5	<1
*Rep N385	<100	50	6	5.2	0.8	45	3	6	<5	<1
N386	<100	40	10	5.5	1.4	7	5	7	<5	<1
N387	<100	60	8	5.3	1.2	16	4	7	<5	<1
N388	<100	50	8	4.7	1.1	17	4	7	<5	<1
N389	<100	180	3	2.8	0.5	61	2	5	<5	<1
N390	<100	50	23	10.3	9.4	8	32	69	<5	<1
N391	<100	100	4	4.0	0.5	26	2	5	<5	<1
N392	<100	80	4	3.6	<0.5	82	2	5	<5	<1
N393	<100	30	15	8.2	3.5	5	13	18	<5	<1
N394	<100	70	13	6.6	3.0	17	11	17	<5	<1
N395	<100	70	35	17.3	7.4	18	29	35	<5	<1
N396	<100	30	3	3.1	<0.5	18	2	4	<5	<1
N397	<100	80	11	5.6	2.1	16	8	12	<5	<1
*Rep N397	<100	80	12	5.8	2.3	16	9	12	<5	<1
N398	<100	50	9	5.9	1.4	12	5	6	<5	<1
N399	<100	180	5	4.9	0.7	137	2	9	<5	<1
N400	<100	110	8	4.9	1.6	30	6	12	<5	<1
N401	<100	110	14	7.6	2.9	34	11	21	<5	<1
N402	<100	40	10	6.3	2.0	42	7	16	<5	<1

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N403	<100	170	9	6.7	0.9	54	4	8	<5	<1
N404	<100	30	8	4.7	1.7	15	6	14	<5	<1
Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N405	<100	340	20	11.1	3.9	28	16	33	<5	<1
N406	<100	170	9	6.2	0.9	57	4	7	<5	2
N407	<100	50	12	7.4	2.1	30	8	15	<5	<1
N408	<100	80	6	4.9	0.8	40	3	7	<5	<1
N409	<100	100	11	6.3	1.9	12	7	11	<5	<1
*Rep N409	<100	90	11	6.4	1.7	12	7	10	<5	<1
N410	<100	90	7	4.4	1.6	90	5	14	5	2
N411	<100	90	11	8.6	1.5	36	6	10	<5	<1
N412	200	180	7	4.8	1.8	211	6	22	12	7
N413	<100	150	15	7.6	2.8	13	11	19	<5	<1
N414	<100	160	12	6.9	2.3	20	9	18	<5	<1
N415	<100	60	34	15.2	13.6	13	45	109	<5	<1
N416	<100	60	5	4.2	0.6	63	2	4	<5	1
N417	200	60	5	2.8	1.3	102	4	15	<5	3
N418	<100	60	9	5.3	1.6	17	6	12	<5	<1
N419	<100	30	10	6.2	1.6	20	6	9	<5	<1
N420	<100	70	15	7.5	3.2	16	12	19	<5	2
N421	<100	90	8	8.3	1.0	59	4	10	<5	<1
*Rep N421	<100	90	9	8.2	1.3	72	5	13	<5	<1
N422	<100	140	8	4.6	1.3	36	5	10	<5	2
N423	<100	40	22	12.2	6.4	20	23	40	<5	<1
N424	<100	70	22	9.8	6.6	12	22	34	<5	<1
N425	<100	30	4	3.9	0.5	44	2	5	<5	<1
N426	<100	60	6	4.5	0.7	15	3	7	<5	<1
N427	<100	40	3	2.8	<0.5	51	1	4	<5	<1
N428	<100	60	8	5.6	1.0	16	4	7	<5	<1
N429	<100	120	7	5.1	1.4	36	5	11	<5	<1
N430	200	90	9	4.6	2.6	86	10	30	5	2
N431	<100	20	11	5.6	2.1	9	7	13	<5	<1
N432	<100	80	12	6.6	2.4	41	9	14	<5	<1
N433	<100	50	9	4.9	1.7	8	6	11	<5	<1
*Rep N433	<100	50	9	5.2	1.7	7	6	11	<5	<1
N434	<100	40	11	7.7	1.6	14	6	8	<5	<1
N435	<100	140	11	7.8	1.8	24	7	15	<5	<1
N436	<100	150	3	3.5	<0.5	81	2	5	<5	1
N437	<100	90	20	11.4	4.5	14	17	37	<5	<1
N438	<100	120	6	4.5	0.9	67	3	8	<5	1
N439	<100	40	4	3.9	0.6	43	2	5	<5	<1
N440	<100	250	15	8.0	3.7	59	14	56	<5	<1
*Std MMISRM16	<100	580	3	1.0	1.3	2	5	5	<5	35

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
*Std MMISRM16	<100	580	3	1.0	1.4	2	5	5	<5	35
*Std MMISRM16	<100	580	3	1.2	1.2	2	5	5	<5	35
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N361	7	8.9	10	85	10700	<1	2	<1	108	2
*Rep N361	7	8.7	12	84	10400	<1	3	<1	106	2
N362	<5	2.1	12	59	320	<1	3	<1	61	<1
N363	<5	2.2	10	67	180	<1	2	<1	44	<1
N364	<5	1.6	9	53	460	<1	2	<1	36	<1
N365	<5	2.6	21	57	400	<1	5	<1	51	<1
N366	<5	3.8	70	64	120	<1	15	<1	90	<1
N367	7	11.2	7	179	760	<1	2	<1	145	1
N368	<5	1.8	14	66	360	<1	3	<1	55	1
N369	<5	5.7	148	39	80	<1	33	<1	102	<1
N370	<5	1.9	6	70	370	<1	1	<1	51	<1
N371	7	2.8	17	60	400	<1	4	<1	69	1
N372	7	7.1	15	108	1190	<1	3	<1	143	<1
N373	7	4.2	51	108	250	<1	11	<1	109	<1
*Rep N373	6	4.4	53	101	180	<1	11	<1	104	1
N374	<5	5.5	11	234	280	<1	2	<1	138	<1
N375	11	3.7	31	82	250	<1	7	<1	68	<1
N376	<5	3.0	176	63	150	<1	35	<1	113	<1
N377	<5	2.4	19	80	300	<1	4	<1	50	<1
N378	<5	2.3	26	75	200	<1	6	<1	62	<1
N379	<5	3.2	10	57	370	<1	2	<1	85	<1
N380	<5	2.2	20	73	340	<1	4	<1	65	<1
N381	<5	1.2	10	59	610	<1	2	<1	71	<1
N382	<5	2.0	26	49	300	<1	5	<1	59	<1
N383	<5	2.0	15	82	480	<1	3	<1	123	<1
N384	<5	0.9	9	39	380	<1	2	<1	56	<1
N385	<5	2.4	9	65	520	<1	2	<1	50	<1
*Rep N385	<5	2.3	8	68	380	<1	2	<1	47	<1
N386	<5	1.0	12	47	330	<1	2	<1	50	<1
N387	<5	1.4	11	49	510	<1	2	<1	60	1
N388	<5	1.6	11	56	430	<1	2	<1	48	<1
N389	<5	1.8	5	52	320	<1	1	<1	62	<1
N390	<5	3.1	129	29	80	<1	28	<1	68	<1
N391	<5	1.1	5	48	440	<1	1	<1	46	<1
N392	<5	2.9	5	91	690	<1	1	<1	44	<1
N393	<5	1.5	42	47	250	<1	8	<1	52	2
N394	<5	2.4	31	49	380	<1	6	<1	79	<1
N395	<5	2.8	83	57	200	<1	16	<1	90	<1
N396	<5	1.0	5	68	250	<1	1	<1	56	<1
N397	<5	1.6	22	73	250	<1	5	<1	49	2
*Rep N397	<5	1.6	24	67	260	<1	5	<1	48	<1
N398	<5	1.4	12	66	440	<1	2	<1	39	<1
N399	<5	7.0	9	78	1250	<1	2	<1	51	1
N400	<5	3.0	18	88	340	<1	4	<1	63	<1
N401	<5	4.2	34	91	380	<1	7	<1	99	<1
N402	<5	4.2	23	83	350	<1	5	<1	108	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N403	<5	3.1	9	63	1280	<1	2	<1	111	<1
N404	<5	2.5	20	81	270	<1	4	<1	62	<1
Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N405	<5	2.0	55	86	220	<1	12	<1	75	1
N406	<5	3.0	9	92	440	<1	2	<1	143	<1
N407	<5	2.8	22	79	300	<1	5	<1	104	<1
N408	<5	2.4	8	72	430	<1	2	<1	58	<1
N409	<5	1.6	19	36	340	<1	4	<1	67	<1
*Rep N409	<5	1.4	18	36	410	<1	4	<1	71	1
N410	7	16.4	17	56	360	<1	4	<1	101	1
N411	<5	3.2	16	70	310	<1	3	<1	96	<1
N412	13	47.2	24	122	2250	<1	6	<1	160	2
N413	7	1.5	39	72	180	<1	8	<1	63	<1
N414	11	1.9	30	73	320	<1	6	<1	69	<1
N415	<5	3.9	195	31	80	<1	43	<1	117	<1
N416	<5	3.2	5	98	250	<1	1	<1	71	<1
N417	7	15.6	15	139	400	<1	4	<1	123	1
N418	<5	2.2	17	60	190	<1	4	<1	89	<1
N419	<5	2.5	17	39	260	<1	4	<1	53	<1
N420	<5	3.0	33	76	290	<1	7	<1	92	<1
N421	<5	3.1	12	106	1540	<1	3	<1	80	<1
*Rep N421	<5	4.7	16	81	1560	<1	4	<1	82	<1
N422	<5	5.6	13	46	320	<1	3	<1	89	<1
N423	<5	5.9	80	49	170	<1	17	<1	97	<1
N424	<5	2.8	72	52	160	<1	15	<1	99	<1
N425	<5	2.9	5	62	310	<1	1	<1	77	<1
N426	<5	1.5	8	52	300	<1	2	<1	50	<1
N427	<5	1.9	4	52	190	<1	1	<1	63	<1
N428	<5	1.5	10	64	290	<1	2	<1	55	<1
N429	<5	6.8	15	77	1340	<1	3	<1	75	2
N430	9	27.4	35	63	1520	<1	8	<1	131	2
N431	<5	2.5	22	47	230	<1	5	<1	40	<1
N432	<5	3.0	25	133	670	<1	5	<1	65	<1
N433	<5	1.7	18	61	230	<1	4	<1	52	<1
*Rep N433	<5	1.6	19	64	240	<1	4	<1	54	<1
N434	<5	1.8	14	73	170	<1	3	<1	49	<1
N435	<5	3.5	20	89	210	<1	4	<1	104	<1
N436	<5	2.7	5	59	570	<1	1	<1	94	<1
N437	6	3.4	59	127	240	<1	13	<1	88	<1
N438	<5	2.5	9	108	370	<1	2	<1	73	<1
N439	<5	1.9	7	80	380	<1	2	<1	79	<1
N440	5	5.2	55	86	470	<1	13	<1	92	1
*Std MMISRM16	47	<0.5	18	246	120	27	3	<1	303	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
*Std MMISRM16	48	<0.5	18	246	120	27	3	<1	299	<1
*Std MMISRM16	46	<0.5	18	250	130	27	3	<1	298	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N361	39	3	5	140	2	<1	<10	24.1	2410	1.5
*Rep N361	44	4	5	130	2	<1	<10	25.7	2770	1.4
N362	22	3	<1	<10	<1	<1	<10	4.9	397	0.8
N363	27	3	<1	<10	<1	<1	<10	7.7	548	0.7
N364	21	3	<1	40	<1	<1	<10	3.2	365	0.7
N365	24	6	<1	<10	<1	1	<10	6.5	507	0.7
N366	46	19	<1	<10	<1	4	<10	21.8	889	0.6
N367	30	2	2	30	1	<1	<10	22.4	4230	1.1
N368	23	4	<1	<10	<1	1	<10	5.6	446	0.8
N369	42	37	<1	<10	<1	5	<10	44.1	1640	0.6
N370	18	1	<1	50	<1	<1	<10	3.0	643	0.7
N371	21	4	<1	<10	<1	1	<10	5.6	1060	1.0
N372	27	4	2	80	<1	1	<10	9.0	2690	0.9
N373	25	14	<1	40	<1	3	<10	18.5	1360	0.7
*Rep N373	25	15	<1	30	<1	3	<10	18.6	1440	0.7
N374	20	3	1	140	<1	<1	<10	12.3	2060	0.6
N375	28	8	<1	<10	<1	2	<10	16.2	1280	0.9
N376	58	44	<1	10	<1	7	<10	17.2	816	<0.5
N377	23	5	<1	30	<1	1	<10	6.5	573	0.6
N378	27	7	<1	<10	<1	2	<10	11.2	626	0.6
N379	23	3	<1	<10	<1	<1	<10	5.1	1250	0.6
N380	27	6	<1	<10	<1	1	<10	8.9	422	0.6
N381	24	3	<1	<10	<1	1	<10	4.7	316	0.7
N382	25	7	<1	<10	<1	2	<10	6.2	312	0.7
N383	21	4	<1	130	<1	1	<10	6.9	470	0.7
N384	24	3	<1	<10	<1	<1	<10	4.0	217	0.6
N385	33	2	<1	10	<1	<1	<10	6.9	795	0.7
*Rep N385	33	2	<1	<10	<1	<1	<10	6.6	722	0.7
N386	23	3	<1	<10	<1	1	<10	4.1	188	<0.5
N387	21	3	<1	<10	<1	<1	<10	4.6	309	0.7
N388	20	3	<1	<10	<1	<1	<10	5.1	377	0.6
N389	18	1	<1	<10	<1	<1	<10	4.9	497	1.3
N390	40	31	<1	<10	<1	4	<10	27.3	825	0.7
N391	19	1	<1	<10	<1	<1	<10	3.5	256	0.7
N392	24	1	<1	60	<1	<1	<10	7.8	967	0.7
N393	33	11	<1	<10	<1	2	<10	6.2	230	<0.5
N394	28	9	<1	<10	<1	2	<10	11.9	456	0.6
N395	43	24	<1	<10	<1	5	<10	12.2	932	0.6
N396	15	1	<1	<10	<1	<1	<10	2.9	182	0.6
N397	24	6	<1	20	<1	2	<10	6.0	323	0.6
*Rep N397	24	7	<1	30	<1	2	<10	5.7	380	0.6
N398	24	4	<1	40	<1	1	<10	3.2	332	<0.5
N399	26	2	2	20	<1	<1	<10	12.2	2590	0.9
N400	22	5	<1	30	<1	1	<10	10.3	962	0.8
N401	36	10	<1	50	<1	2	<10	16.8	1170	0.8
N402	28	6	<1	20	<1	1	<10	8.8	1660	1.2

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	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N403	30	3	<1	<10	<1	<1	<10	13.5	1080	1.0
N404	27	5	<1	<10	<1	1	<10	8.8	535	0.6
<b>Element Method Det.Lim. Units</b>	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N405	35	14	<1	<10	<1	3	<10	22.1	761	0.7
N406	30	3	<1	110	<1	1	<10	14.6	1160	0.8
N407	29	6	<1	<10	<1	2	<10	12.9	1080	0.6
N408	25	2	<1	<10	<1	<1	<10	8.2	863	0.8
N409	25	5	<1	<10	<1	2	<10	5.4	343	0.8
*Rep N409	25	5	<1	<10	<1	1	<10	5.2	318	0.8
N410	38	4	4	60	1	<1	<10	19.7	6060	1.0
N411	41	4	<1	<10	<1	1	<10	6.7	1240	1.4
N412	51	6	12	230	4	1	<10	33.1	18000	1.6
N413	23	10	<1	20	<1	2	<10	8.5	475	0.6
N414	24	7	<1	<10	<1	2	<10	6.0	658	0.8
N415	49	47	<1	<10	<1	6	<10	29.3	1320	0.6
N416	27	1	<1	120	<1	<1	<10	6.0	1360	0.7
N417	29	4	3	590	1	<1	<10	25.0	4710	0.8
N418	24	5	<1	20	<1	1	<10	7.2	556	0.8
N419	24	5	<1	<10	<1	1	<10	7.3	661	<0.5
N420	26	9	<1	360	<1	2	<10	12.5	645	1.0
N421	32	3	<1	20	<1	<1	<10	10.9	1020	0.9
*Rep N421	35	4	<1	20	<1	<1	<10	13.1	1630	0.9
N422	21	4	<1	280	<1	1	<10	7.6	1910	1.2
N423	47	22	<1	<10	<1	4	<10	15.8	2030	0.8
N424	37	20	<1	<10	<1	4	<10	13.8	1030	0.6
N425	27	1	<1	90	<1	<1	<10	5.5	1120	0.7
N426	21	2	<1	<10	<1	<1	<10	4.3	335	0.7
N427	18	1	<1	30	<1	<1	<10	4.2	593	0.8
N428	21	3	<1	10	<1	<1	<10	4.1	416	0.7
N429	27	4	1	20	<1	<1	<10	13.4	2130	1.0
N430	42	9	8	90	2	1	<10	40.3	9300	1.1
N431	23	6	<1	<10	<1	1	<10	7.7	455	<0.5
N432	27	7	<1	110	<1	2	<10	13.2	815	0.7
N433	20	5	<1	<10	<1	1	<10	5.7	329	0.6
*Rep N433	19	5	<1	<10	<1	1	<10	5.5	303	0.6
N434	37	4	<1	<10	<1	1	<10	7.0	486	0.5
N435	34	5	<1	20	<1	1	<10	13.2	1110	0.9
N436	26	2	<1	30	<1	<1	<10	8.1	994	1.1
N437	44	15	<1	40	<1	3	<10	15.1	897	0.6
N438	23	2	<1	200	<1	<1	<10	7.5	765	1.1
N439	22	2	<1	50	<1	<1	<10	5.4	625	0.8
N440	35	13	<1	40	<1	2	<10	40.8	1770	0.8
*Std MMISRM16	11	6	<1	500	<1	<1	<10	26.2	<3	<0.5

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	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	1	1	10	1	1	10	0.5	3	0.5
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	11	6	<1	500	<1	<1	<10	26.5	<3	<0.5
*Std MMISRM16	11	5	<1	500	<1	<1	<10	26.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Order: Ref:WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N361	7	5	31	5	2690	34
*Rep N361	7	3	35	6	2290	36
N362	2	1	35	4	620	13
N363	4	<1	40	5	680	10
N364	2	<1	41	4	630	9
N365	3	<1	46	4	330	14
N366	11	1	115	10	700	25
N367	10	1	20	3	490	36
N368	3	<1	44	5	490	11
N369	9	2	95	8	380	48
N370	2	<1	25	4	1940	8
N371	4	<1	46	5	1470	13
N372	5	<1	47	5	3240	22
N373	8	1	59	5	2210	25
*Rep N373	9	1	59	5	1710	26
N374	6	<1	30	3	3380	19
N375	7	<1	46	4	650	24
N376	9	<1	236	17	440	30
N377	3	<1	36	4	3210	15
N378	5	<1	50	5	6010	17
N379	6	<1	44	4	1520	13
N380	5	<1	46	5	1580	17
N381	3	<1	46	5	580	9
N382	3	<1	61	5	1020	13
N383	3	<1	38	4	1980	13
N384	4	<1	40	4	510	9
N385	4	<1	32	5	440	13
*Rep N385	4	<1	29	5	330	13
N386	3	<1	45	4	1390	9
N387	3	<1	39	4	630	10
N388	3	<1	33	4	660	12
N389	3	<1	13	3	460	11
N390	9	<1	93	8	350	37
N391	2	<1	19	4	1990	8
N392	3	<1	21	4	790	13
N393	5	<1	79	7	660	14
N394	6	<1	57	5	770	20
N395	9	<1	158	13	330	20
N396	2	<1	15	3	2110	7
N397	4	<1	49	4	1100	11
*Rep N397	4	<1	53	4	1140	11
N398	2	<1	49	5	830	9
N399	5	<1	26	6	1600	25
N400	5	<1	37	4	3660	22
N401	7	<1	60	6	1390	23
N402	5	<1	48	5	990	16

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Order: Ref:WFO#006

	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N403	5	<1	41	6	840	18
N404	4	<1	38	4	950	16
Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N405	15	<1	89	8	930	16
N406	8	<1	44	6	1990	16
N407	9	<1	55	5	3420	17
N408	4	<1	27	5	580	13
N409	4	<1	53	5	500	12
*Rep N409	4	<1	49	5	580	11
N410	8	1	33	4	1170	48
N411	7	<1	65	8	3140	16
N412	11	3	38	5	4410	96
N413	5	<1	72	6	3460	13
N414	5	<1	61	5	950	13
N415	10	1	138	12	430	45
N416	4	<1	23	4	840	11
N417	8	1	24	2	1750	56
N418	3	<1	40	5	710	13
N419	5	<1	47	5	610	16
N420	3	<1	62	5	3100	17
N421	4	<1	45	9	3700	18
*Rep N421	5	<1	47	9	3520	22
N422	3	<1	35	4	580	20
N423	9	<1	109	10	830	40
N424	8	<1	86	8	570	32
N425	4	<1	20	4	580	14
N426	2	<1	27	4	1100	10
N427	2	<1	13	3	1010	10
N428	2	<1	37	4	1050	10
N429	6	<1	38	4	640	36
N430	10	2	42	4	850	91
N431	5	<1	44	4	320	15
N432	4	<1	50	5	2090	15
N433	2	<1	41	4	2830	14
*Rep N433	2	<1	42	4	2940	13
N434	6	<1	59	7	2600	15
N435	5	<1	51	7	2450	23
N436	3	<1	16	4	1140	15
N437	10	<1	105	9	1600	27
N438	2	<1	29	4	5740	15
N439	3	<1	21	4	1510	9
N440	13	<1	59	6	630	36
*Std MMISRM16	44	<1	11	<1	230	14

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Order: Ref:WFO#006

	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
*Std MMISRM16	45	<1	11	<1	250	13
*Std MMISRM16	45	<1	11	<1	250	13
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101899

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Aug 28, 2008

P.O. No. : Ref:WFO#006  
Project No. : DEFAULT  
No. Of Samples 80  
Date Submitted Jul 23, 2008  
Report Comprises Pages 1 to 16  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 80 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N281	4	249	<10	<0.1	330	<1	<10	11	6	26
*Rep N281	4	252	<10	<0.1	310	<1	<10	14	7	28
N282	16	>300	<10	<0.1	240	<1	<10	39	65	60
N283	6	254	<10	<0.1	200	<1	<10	13	6	25
N284	7	279	<10	<0.1	100	<1	<10	17	34	11
N285	7	288	<10	<0.1	120	<1	<10	29	45	11
N286	8	250	<10	<0.1	70	<1	<10	27	38	9
N287	8	219	<10	<0.1	70	<1	<10	19	126	7
N288	8	240	<10	<0.1	70	<1	<10	24	20	16
N289	5	280	<10	0.2	170	<1	<10	32	33	8
N290	5	280	<10	0.4	120	<1	<10	18	30	17
N291	5	262	<10	<0.1	160	<1	<10	31	28	8
N292	10	220	<10	<0.1	80	<1	<10	44	19	<5
N293	7	275	<10	<0.1	90	<1	<10	64	26	8
*Rep N293	6	278	<10	<0.1	90	<1	<10	64	25	8
N294	3	183	<10	<0.1	150	<1	<10	25	7	26
N295	3	>300	<10	<0.1	270	<1	<10	120	33	89
N296	8	284	<10	<0.1	130	<1	<10	53	42	8
N297	12	262	<10	<0.1	130	<1	<10	105	72	21
N298	15	273	<10	<0.1	180	<1	30	128	65	28
N299	16	265	<10	0.7	420	2	50	158	65	96
N300	9	291	<10	<0.1	200	<1	10	73	58	17
N301	8	>300	<10	<0.1	130	<1	<10	40	33	28
N302	7	>300	<10	<0.1	160	<1	10	38	43	14
N303	6	239	<10	<0.1	60	<1	<10	19	25	14
N304	9	244	<10	<0.1	270	<1	10	44	11	10
N305	10	256	<10	<0.1	120	<1	<10	23	65	20
*Rep N305	9	260	<10	<0.1	120	<1	<10	24	61	17
N306	9	272	<10	<0.1	110	<1	<10	27	57	13
N307	6	285	<10	<0.1	110	<1	<10	17	74	12
N308	4	282	<10	<0.1	70	<1	<10	19	52	7
N309	7	258	<10	<0.1	90	<1	<10	60	78	10
N310	7	234	<10	<0.1	40	<1	<10	22	18	15
N311	7	278	<10	<0.1	140	<1	<10	35	12	30
N312	5	264	<10	<0.1	200	<1	<10	49	65	27
N313	6	274	<10	<0.1	90	<1	<10	16	234	46
N314	6	260	<10	<0.1	50	<1	<10	20	17	10
N315	5	205	<10	0.1	30	<1	<10	5	247	11
N316	7	285	<10	<0.1	110	<1	<10	41	22	13
N317	5	231	<10	<0.1	40	<1	<10	15	91	5
*Rep N317	5	244	<10	<0.1	50	<1	<10	19	82	6
N318	6	230	<10	<0.1	40	<1	20	16	249	10
N319	7	>300	<10	<0.1	110	<1	<10	53	32	13
N320	9	>300	<10	<0.1	110	<1	<10	18	36	14
N321	5	248	<10	<0.1	40	<1	<10	30	16	7
N322	6	276	<10	<0.1	80	<1	<10	23	16	17

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N323	4	>300	<10	<0.1	310	<1	<10	45	11	69
N324	10	>300	<10	<0.1	100	<1	<10	34	220	31
Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N325	10	283	<10	<0.1	80	<1	<10	36	118	33
N326	6	293	<10	<0.1	90	<1	<10	60	11	38
N327	11	>300	<10	<0.1	170	<1	<10	96	85	13
N328	11	>300	<10	<0.1	90	<1	<10	49	42	16
N329	9	>300	<10	<0.1	430	<1	20	65	44	70
*Rep N329	10	>300	<10	<0.1	340	<1	20	59	43	69
N330	6	>300	<10	<0.1	210	2	<10	80	24	68
N331	6	286	<10	<0.1	180	<1	<10	49	10	11
N332	9	184	<10	<0.1	20	<1	<10	38	34	5
N333	5	252	<10	<0.1	130	<1	<10	51	11	17
N334	15	>300	<10	<0.1	610	<1	<10	96	26	34
N335	18	269	<10	<0.1	70	<1	<10	19	19	19
N336	19	285	<10	<0.1	70	<1	<10	8	201	20
N337	22	295	<10	<0.1	90	<1	<10	6	187	18
N338	3	238	<10	<0.1	180	<1	<10	36	12	43
N339	3	241	<10	<0.1	180	<1	<10	36	7	54
N340	8	219	<10	<0.1	50	<1	<10	30	48	9
N341	11	268	<10	<0.1	50	<1	<10	14	39	12
*Rep N341	9	250	<10	<0.1	50	<1	<10	19	32	15
N342	6	>300	<10	<0.1	140	<1	10	10	245	49
N343	6	268	<10	<0.1	80	<1	<10	22	30	40
N344	7	297	<10	<0.1	130	<1	<10	35	26	37
N345	5	269	<10	<0.1	160	<1	<10	37	7	45
N346	7	>300	<10	<0.1	100	<1	<10	30	72	32
N347	3	265	<10	<0.1	120	<1	<10	25	6	22
N348	7	215	<10	<0.1	300	<1	<10	37	6	28
N349	8	283	<10	<0.1	160	<1	<10	49	131	19
N350	9	286	<10	<0.1	90	<1	<10	23	70	11
N351	5	275	<10	<0.1	80	<1	<10	38	22	36
N352	4	293	<10	<0.1	120	<1	<10	27	21	15
N353	7	262	<10	<0.1	40	<1	<10	15	51	16
*Rep N353	8	258	<10	<0.1	40	<1	<10	16	45	16
N354	3	252	<10	<0.1	190	<1	<10	37	5	23
N355	6	266	<10	<0.1	130	<1	<10	87	11	26
N356	10	242	<10	<0.1	50	<1	<10	35	25	14
N357	3	197	30	<0.1	290	6	10	34	22	23
N358	4	283	<10	<0.1	190	<1	<10	28	16	16
N359	6	281	<10	<0.1	80	<1	<10	24	38	24
N360	13	291	<10	<0.1	130	<1	<10	42	41	24
*Std MMISRM16	23	60	20	39.4	120	<1	250	5	22	67

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Order: Ref:WFO#006

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
*Std MMISRM16	27	58	20	46.8	90	<1	270	4	24	77
*Std MMISRM16	22	49	20	36.3	60	<1	230	4	20	67
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N281	<100	40	1	1.8	<0.5	55	<1	2	<5	<1
*Rep N281	<100	40	2	2.3	<0.5	51	<1	2	<5	<1
N282	<100	290	15	10.9	2.7	51	10	23	<5	<1
N283	<100	20	2	2.2	<0.5	56	<1	3	<5	<1
N284	<100	30	10	5.4	2.1	11	7	12	<5	<1
N285	<100	110	13	6.2	2.7	11	10	15	<5	<1
N286	<100	100	15	7.2	2.7	5	10	11	<5	<1
N287	<100	80	29	14.2	9.0	8	33	38	<5	<1
N288	<100	70	10	5.8	1.6	10	5	6	<5	<1
N289	<100	100	12	6.7	2.0	19	8	12	<5	<1
N290	<100	100	11	5.1	2.0	11	7	10	<5	<1
N291	<100	90	10	5.1	1.6	18	6	10	<5	<1
N292	<100	190	11	7.9	1.5	20	6	7	<5	<1
N293	<100	90	12	7.5	1.9	14	7	8	<5	<1
*Rep N293	<100	100	12	7.5	1.8	15	7	8	<5	<1
N294	<100	170	2	2.5	<0.5	166	<1	2	<5	<1
N295	<100	240	11	6.4	1.8	38	7	11	<5	1
N296	<100	420	10	5.0	2.5	16	8	13	<5	<1
N297	<100	360	20	10.1	4.4	21	19	25	<5	<1
N298	<100	1710	26	12.4	7.3	12	29	58	<5	<1
N299	<100	6270	15	7.6	3.5	35	14	30	<5	5
N300	<100	1830	18	8.7	3.8	28	14	21	<5	1
N301	<100	120	11	6.5	2.0	23	7	13	<5	<1
N302	<100	50	12	5.8	3.2	12	10	15	<5	1
N303	<100	40	11	5.8	2.2	7	7	7	<5	<1
N304	<100	70	8	4.3	1.2	13	4	3	<5	<1
N305	<100	90	14	6.2	3.8	6	13	21	<5	<1
*Rep N305	<100	90	14	5.9	3.8	7	13	20	<5	<1
N306	<100	60	12	5.8	3.6	10	11	19	<5	<1
N307	<100	50	13	5.9	4.6	11	15	25	<5	<1
N308	<100	40	12	5.3	3.1	5	10	18	<5	<1
N309	<100	80	25	12.2	5.4	18	22	24	<5	<1
N310	<100	50	10	5.4	1.4	11	5	7	<5	<1
N311	<100	120	7	5.4	0.9	18	3	4	<5	<1
N312	<100	120	25	14.3	4.7	21	17	20	<5	<1
N313	<100	120	35	16.0	13.4	12	46	80	<5	<1
N314	<100	40	9	5.3	1.1	9	4	7	<5	<1
N315	<100	60	28	13.0	11.4	4	39	89	<5	<1
N316	<100	50	9	4.5	1.6	7	6	7	<5	<1
N317	<100	40	18	8.3	5.5	7	18	25	<5	<1
*Rep N317	<100	50	17	8.6	5.3	9	17	24	<5	<1
N318	<100	80	32	12.8	12.5	9	44	82	<5	<1
N319	<100	50	10	5.2	2.0	5	7	12	<5	<1
N320	<100	70	10	4.8	2.2	12	7	13	<5	<1
N321	<100	40	10	5.7	1.3	10	5	6	<5	<1
N322	<100	40	7	4.8	1.0	16	3	6	<5	<1

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N323	<100	240	5	5.2	<0.5	31	2	5	<5	<1
N324	100	610	39	20.0	8.5	38	36	77	<5	<1
Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N325	<100	550	36	21.4	5.9	33	26	40	<5	<1
N326	<100	60	4	4.6	0.5	42	2	4	<5	<1
N327	100	110	20	9.6	4.0	27	16	26	<5	<1
N328	<100	150	15	8.4	2.8	21	10	14	<5	<1
N329	<100	110	10	6.0	2.2	26	8	17	<5	1
*Rep N329	<100	100	11	6.4	2.4	28	8	16	<5	<1
N330	<100	110	10	6.4	1.3	70	5	9	<5	<1
N331	<100	80	6	5.4	0.7	61	3	4	<5	<1
N332	<100	100	20	12.6	3.5	27	14	10	<5	<1
N333	<100	100	6	4.3	0.7	22	3	4	<5	<1
N334	<100	90	7	4.1	1.7	18	5	10	<5	<1
N335	<100	20	8	4.7	1.2	19	4	6	<5	<1
N336	<100	60	25	12.8	9.7	35	33	64	<5	<1
N337	<100	60	22	11.5	9.1	36	30	63	<5	<1
N338	<100	140	6	6.2	0.6	134	3	5	<5	<1
N339	<100	100	5	5.0	<0.5	122	1	2	<5	<1
N340	<100	40	19	11.9	3.8	14	14	15	<5	<1
N341	<100	40	10	5.0	2.5	8	9	14	<5	<1
*Rep N341	<100	60	11	5.3	2.2	12	8	10	<5	<1
N342	<100	80	28	11.3	10.5	29	35	88	<5	<1
N343	<100	50	9	6.0	1.6	48	6	10	<5	<1
N344	<100	110	8	5.0	1.3	54	4	11	<5	<1
N345	<100	110	3	3.7	<0.5	56	1	2	<5	<1
N346	<100	60	15	7.8	3.6	18	13	26	<5	<1
N347	<100	20	2	2.8	<0.5	30	<1	2	<5	<1
N348	<100	150	6	5.4	<0.5	98	2	2	<5	<1
N349	<100	100	30	15.0	8.5	10	31	44	<5	<1
N350	<100	120	17	8.7	3.8	8	13	25	<5	<1
N351	<100	50	7	5.5	1.2	24	4	8	<5	<1
N352	<100	60	8	5.0	1.4	18	5	8	<5	1
N353	<100	60	15	6.5	3.3	9	12	18	<5	<1
*Rep N353	<100	50	14	6.9	3.1	9	11	15	<5	<1
N354	<100	50	1	1.9	<0.5	68	<1	2	<5	<1
N355	<100	50	5	4.0	0.6	25	2	5	<5	<1
N356	<100	90	11	6.4	1.9	20	7	8	<5	<1
N357	<100	270	7	4.8	0.9	252	4	7	<5	2
N358	<100	80	6	5.1	1.0	99	4	6	<5	<1
N359	<100	40	12	6.1	2.6	16	9	13	<5	<1
N360	<100	40	11	5.9	2.4	12	8	13	<5	<1
*Std MMISRM16	<100	680	3	1.2	1.3	3	5	5	<5	38

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
*Std MMISRM16	100	740	3	1.2	1.3	2	6	5	<5	42
*Std MMISRM16	<100	640	3	1.1	1.2	2	5	3	<5	35
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N281	<5	2.7	3	89	120	<1	<1	<1	61	<1
*Rep N281	<5	2.5	3	87	160	<1	<1	<1	65	<1
N282	<5	5.8	33	90	650	<1	7	<1	78	<1
N283	<5	1.9	3	90	160	<1	<1	<1	42	<1
N284	<5	2.4	21	34	130	<1	5	<1	67	<1
N285	<5	2.6	29	32	510	<1	6	<1	67	1
N286	<5	1.6	27	41	190	<1	5	<1	58	<1
N287	<5	1.6	110	55	130	<1	21	<1	67	<1
N288	<5	1.5	14	47	230	<1	3	<1	56	<1
N289	6	3.3	22	55	230	<1	5	<1	72	<1
N290	<5	1.8	21	44	330	<1	4	<1	45	<1
N291	6	2.8	17	67	200	<1	4	<1	45	<1
N292	<5	2.3	14	47	280	<1	3	<1	75	<1
N293	<5	2.4	18	75	330	<1	4	<1	56	<1
*Rep N293	<5	2.4	18	78	370	<1	4	<1	59	<1
N294	<5	1.6	3	123	310	<1	<1	<1	75	<1
N295	<5	2.6	18	132	1560	<1	4	<1	91	<1
N296	<5	2.0	27	141	210	<1	5	<1	98	<1
N297	6	2.1	57	122	630	<1	12	<1	111	<1
N298	5	1.4	107	226	490	<1	23	<1	122	<1
N299	6	1.6	49	207	1410	<1	11	<1	119	<1
N300	6	2.8	42	204	470	<1	9	<1	83	<1
N301	6	2.9	21	99	450	<1	5	<1	73	<1
N302	<5	2.5	31	65	410	<1	7	<1	64	<1
N303	<5	1.0	21	51	430	<1	4	<1	55	<1
N304	<5	1.3	9	69	460	<1	2	<1	54	<1
N305	<5	1.6	43	88	180	<1	9	<1	53	<1
*Rep N305	<5	1.7	42	83	200	<1	9	<1	49	<1
N306	<5	2.3	41	49	210	<1	9	<1	52	<1
N307	<5	3.5	51	35	130	<1	11	<1	59	<1
N308	<5	2.7	34	38	220	<1	7	<1	39	<1
N309	<5	2.8	62	74	290	<1	12	<1	83	<1
N310	<5	1.7	12	37	520	<1	3	<1	44	<1
N311	<5	1.9	8	82	570	<1	2	<1	76	<1
N312	<5	2.7	45	109	310	<1	9	<1	70	<1
N313	<5	3.9	176	78	200	<1	36	<1	120	<1
N314	<5	1.4	11	31	380	<1	2	<1	50	<1
N315	<5	2.3	176	29	90	<1	37	<1	68	<1
N316	<5	1.2	16	58	250	<1	3	<1	61	<1
N317	<5	1.3	66	26	70	<1	13	<1	74	<1
*Rep N317	<5	1.3	62	34	140	<1	12	<1	71	<1
N318	<5	3.3	171	49	190	<1	36	<1	83	<1
N319	<5	2.6	20	56	240	<1	5	<1	68	<1
N320	<5	2.5	23	69	230	<1	5	<1	48	<1
N321	<5	1.3	12	56	500	<1	2	<1	67	<1
N322	<5	1.9	10	65	460	<1	2	<1	41	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N323	<5	2.2	6	80	420	<1	1	<1	88	<1
N324	6	7.5	133	76	280	<1	30	<1	72	<1
Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N325	<5	4.9	79	84	350	<1	17	<1	70	<1
N326	<5	2.1	6	68	370	<1	1	<1	66	<1
N327	<5	6.9	46	78	190	<1	10	<1	82	<1
N328	5	3.9	28	96	740	<1	6	<1	103	<1
N329	<5	2.7	27	111	370	<1	6	<1	116	<1
*Rep N329	<5	2.8	26	113	350	<1	6	<1	110	<1
N330	7	3.5	13	76	4030	<1	3	<1	61	1
N331	<5	2.3	6	89	440	<1	1	<1	131	<1
N332	<5	<0.5	35	70	170	<1	7	<1	55	2
N333	<5	1.6	7	77	500	<1	1	<1	84	<1
N334	<5	2.6	17	77	260	<1	4	<1	107	<1
N335	<5	2.0	12	41	350	<1	2	<1	47	<1
N336	<5	8.4	134	31	170	<1	28	<1	76	<1
N337	5	9.6	127	30	160	<1	26	<1	63	<1
N338	<5	4.0	7	78	1610	<1	1	<1	70	<1
N339	<5	3.5	4	90	970	<1	<1	<1	65	<1
N340	<5	2.0	44	81	300	<1	8	<1	74	<1
N341	<5	1.5	28	63	270	<1	6	<1	40	<1
*Rep N341	<5	1.3	23	64	410	<1	5	<1	51	<1
N342	6	8.9	137	68	120	<1	31	<1	100	<1
N343	<5	3.6	19	78	220	<1	4	<1	53	<1
N344	<5	3.9	15	88	350	<1	3	<1	40	<1
N345	<5	1.9	3	84	320	<1	<1	<1	64	<1
N346	<5	3.7	48	82	340	<1	10	<1	78	<1
N347	<5	1.7	3	70	260	<1	<1	<1	49	<1
N348	<5	2.0	4	103	400	<1	<1	<1	110	<1
N349	<5	4.1	101	81	210	<1	20	<1	74	<1
N350	<5	2.5	48	50	240	<1	10	<1	69	<1
N351	<5	3.1	12	53	420	<1	3	<1	60	<1
N352	<5	1.9	14	45	410	<1	3	<1	54	<1
N353	<5	2.1	38	45	300	<1	8	<1	55	3
*Rep N353	<5	1.9	34	43	320	<1	7	<1	56	<1
N354	<5	1.7	3	79	270	<1	<1	<1	52	<1
N355	<5	1.8	7	58	590	<1	1	<1	53	<1
N356	<5	1.5	19	59	470	<1	4	<1	50	<1
N357	9	6.3	10	391	10300	<1	2	<1	139	2
N358	6	7.9	10	134	680	<1	2	<1	92	1
N359	<5	2.3	28	58	350	<1	6	<1	55	<1
N360	<5	2.0	26	71	250	<1	6	<1	53	<1
*Std MMISRM16	58	<0.5	18	269	120	31	3	<1	356	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
*Std MMISRM16	70	<0.5	19	299	130	36	3	<1	406	<1
*Std MMISRM16	59	<0.5	16	262	110	31	3	<1	341	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N281	17	<1	1	60	1	<1	<10	3.7	824	1.1
*Rep N281	18	<1	<1	60	<1	<1	<10	3.7	874	1.0
N282	35	8	<1	50	<1	2	<10	15.0	1300	0.9
N283	19	<1	<1	40	<1	<1	<10	2.9	578	1.0
N284	23	6	<1	10	<1	1	<10	6.7	781	0.7
N285	26	8	<1	20	<1	2	<10	8.4	528	0.6
N286	30	8	<1	<10	<1	2	<10	7.2	266	0.6
N287	42	29	<1	10	<1	5	<10	13.9	353	0.6
N288	26	4	<1	10	<1	1	<10	5.1	397	0.8
N289	29	6	<1	20	<1	2	<10	9.9	962	0.8
N290	21	6	<1	40	<1	2	<10	6.0	385	0.6
N291	26	4	<1	10	<1	1	<10	9.4	698	0.5
N292	31	4	<1	<10	<1	1	<10	4.2	906	0.7
N293	26	5	<1	10	<1	2	<10	5.4	541	<0.5
*Rep N293	26	5	<1	10	<1	2	<10	5.4	549	<0.5
N294	16	<1	<1	30	<1	<1	<10	5.0	572	0.8
N295	23	5	<1	60	<1	2	<10	8.4	500	1.1
N296	19	7	<1	30	<1	2	<10	7.4	612	0.8
N297	27	15	<1	20	<1	3	<10	7.4	690	1.1
N298	28	26	<1	60	<1	4	<10	15.8	367	1.2
N299	23	12	<1	190	<1	2	<10	15.9	411	0.9
N300	31	11	<1	60	<1	3	<10	15.0	757	0.8
N301	29	6	<1	50	<1	1	<10	6.5	767	0.7
N302	26	9	<1	100	<1	2	<10	5.6	512	0.7
N303	23	6	<1	30	<1	2	<10	3.6	208	<0.5
N304	17	3	<1	150	<1	1	<10	2.9	411	0.5
N305	26	11	<1	50	<1	2	<10	7.5	256	<0.5
*Rep N305	25	11	<1	40	<1	2	<10	8.1	273	<0.5
N306	23	11	<1	30	<1	2	<10	7.1	472	0.5
N307	25	14	<1	10	<1	2	<10	11.6	808	<0.5
N308	26	9	<1	10	<1	2	<10	8.9	438	0.5
N309	39	17	<1	20	<1	4	<10	13.5	765	0.6
N310	23	4	<1	20	<1	1	<10	4.4	409	0.8
N311	25	2	<1	20	<1	<1	<10	5.5	425	1.2
N312	46	14	<1	60	<1	3	<10	12.0	883	0.6
N313	53	46	<1	30	<1	6	<10	27.2	944	0.6
N314	20	3	<1	10	<1	<1	<10	3.5	346	0.7
N315	42	41	<1	<10	<1	5	<10	22.7	499	0.5
N316	21	5	<1	10	<1	1	<10	4.3	300	0.7
N317	36	17	<1	<10	<1	3	<10	8.8	387	0.6
*Rep N317	34	15	<1	10	<1	3	<10	8.8	399	0.6
N318	45	44	<1	20	<1	6	<10	23.4	860	<0.5
N319	24	6	<1	10	<1	1	<10	6.2	440	<0.5
N320	22	6	<1	30	<1	1	<10	7.0	500	<0.5
N321	24	3	<1	10	<1	1	<10	4.0	238	<0.5
N322	21	3	<1	30	<1	<1	<10	4.7	406	0.5

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	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N323	26	1	<1	70	<1	<1	<10	5.8	623	1.2
N324	55	31	1	20	<1	6	<10	31.7	2550	0.7
Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N325	49	20	<1	40	<1	5	<10	16.6	1670	0.7
N326	24	1	<1	40	<1	<1	<10	5.0	604	0.8
N327	34	13	1	40	<1	3	<10	20.2	1670	0.9
N328	33	8	<1	20	<1	2	<10	12.2	886	0.9
N329	24	7	<1	180	<1	2	<10	7.6	689	0.8
*Rep N329	25	7	<1	160	<1	2	<10	7.6	669	0.7
N330	28	4	1	50	<1	1	<10	17.3	919	1.0
N331	25	2	<1	80	<1	<1	<10	6.1	832	0.7
N332	39	10	<1	<10	<1	3	<10	5.4	76	0.5
N333	17	2	<1	60	<1	<1	<10	3.5	460	0.8
N334	22	5	<1	60	<1	1	<10	6.3	532	1.1
N335	24	3	<1	10	<1	<1	<10	6.4	435	0.8
N336	41	32	1	<10	<1	5	<10	17.2	3220	0.7
N337	42	29	2	<10	<1	4	<10	15.6	3960	0.7
N338	30	2	<1	30	<1	<1	<10	11.5	1280	0.7
N339	28	1	<1	30	<1	<1	<10	8.9	1200	0.7
N340	40	11	<1	<10	<1	3	<10	4.5	727	<0.5
N341	25	7	<1	<10	<1	2	<10	5.2	327	0.5
*Rep N341	24	6	<1	<10	<1	2	<10	4.9	294	0.5
N342	49	34	<1	20	<1	5	<10	45.5	2870	0.8
N343	26	4	<1	30	<1	1	<10	6.6	1440	0.7
N344	26	4	<1	30	<1	<1	<10	9.2	1290	0.7
N345	21	<1	<1	50	<1	<1	<10	4.4	726	0.8
N346	34	11	<1	20	<1	2	<10	14.1	848	0.6
N347	23	<1	<1	30	<1	<1	<10	3.0	655	0.7
N348	21	1	<1	110	<1	<1	<10	5.3	790	1.0
N349	49	26	<1	20	<1	5	<10	16.5	890	<0.5
N350	30	11	<1	10	<1	2	<10	7.2	508	0.7
N351	28	3	<1	10	<1	<1	<10	6.6	960	0.8
N352	22	4	<1	100	<1	1	<10	4.2	450	0.6
N353	30	10	<1	<10	<1	2	<10	7.3	418	0.7
*Rep N353	29	9	<1	<10	<1	2	<10	6.9	366	0.8
N354	17	<1	<1	30	<1	<1	<10	3.7	608	0.8
N355	23	2	<1	20	<1	<1	<10	4.3	517	0.7
N356	25	6	<1	10	<1	1	<10	6.2	286	0.7
N357	33	3	2	130	<1	<1	<10	35.3	1880	0.7
N358	45	3	2	30	<1	<1	<10	14.6	2510	1.2
N359	27	7	<1	40	<1	2	<10	6.5	507	0.5
N360	24	7	<1	60	<1	2	<10	5.1	501	0.6
*Std MMISRM16	12	5	<1	530	<1	<1	<10	27.2	<3	<0.5

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	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	1	1	10	1	1	10	0.5	3	0.5
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	12	6	<1	590	<1	<1	<10	32.5	12	<0.5
*Std MMISRM16	10	5	<1	480	<1	<1	<10	26.9	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	5	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Order: Ref:WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N281	2	2	7	3	540	10
*Rep N281	2	1	8	3	660	10
N282	8	1	97	9	1150	25
N283	2	<1	9	4	1070	11
N284	3	<1	48	4	250	20
N285	3	<1	61	5	380	18
N286	6	<1	68	6	300	17
N287	11	<1	154	10	520	22
N288	4	<1	50	4	210	16
N289	6	<1	56	5	580	26
N290	3	<1	47	3	190	16
N291	6	<1	42	4	460	23
N292	5	<1	65	7	310	18
N293	5	<1	66	6	1240	18
*Rep N293	5	<1	68	6	1300	18
N294	3	<1	9	4	590	11
N295	3	<1	48	5	5420	17
N296	6	<1	49	4	5410	20
N297	7	<1	111	7	1220	20
N298	13	2	150	9	3550	20
N299	7	2	79	5	6070	16
N300	7	1	82	7	2540	23
N301	5	<1	61	5	1990	21
N302	3	<1	69	4	2300	23
N303	3	<1	58	4	1280	13
N304	3	<1	37	3	5040	11
N305	5	<1	61	4	710	18
*Rep N305	5	<1	58	4	810	18
N306	3	<1	63	4	420	19
N307	5	<1	57	4	320	29
N308	6	<1	53	4	210	22
N309	10	<1	129	9	1600	26
N310	3	<1	48	4	310	14
N311	4	<1	38	5	1840	18
N312	8	<1	124	11	4320	26
N313	12	<1	208	12	490	45
N314	2	<1	41	4	250	14
N315	12	<1	134	10	180	27
N316	2	<1	43	3	330	13
N317	5	<1	97	7	510	24
*Rep N317	5	<1	91	7	630	23
N318	11	<1	138	10	540	38
N319	3	<1	47	4	340	20
N320	3	<1	45	3	1630	19
N321	3	<1	51	4	900	13
N322	4	<1	35	4	3110	16

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Order: Ref:WFO#006

	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N323	3	<1	27	5	1240	17
N324	14	<1	216	15	680	40
Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N325	10	<1	218	16	870	24
N326	3	<1	25	5	330	15
N327	11	<1	88	7	1380	33
N328	7	<1	73	6	210	27
N329	4	<1	53	5	5550	20
*Rep N329	5	<1	52	5	5070	20
N330	6	<1	46	6	590	26
N331	3	<1	34	6	2620	17
N332	5	<1	121	10	330	13
N333	2	<1	30	3	5150	11
N334	3	<1	33	3	3210	16
N335	5	<1	35	4	610	15
N336	9	<1	129	9	340	39
N337	9	<1	123	9	300	44
N338	5	<1	34	6	840	21
N339	5	<1	25	5	870	17
N340	5	<1	130	9	1780	14
N341	5	<1	49	4	460	15
*Rep N341	4	<1	52	4	590	13
N342	13	2	103	9	350	64
N343	5	<1	47	5	690	18
N344	5	<1	34	4	840	19
N345	3	<1	17	4	1320	12
N346	7	<1	73	6	470	26
N347	2	<1	13	4	970	11
N348	4	<1	28	5	1150	12
N349	7	1	145	12	1580	33
N350	3	<1	84	7	2150	21
N351	3	<1	41	5	610	20
N352	2	<1	36	4	910	15
N353	6	<1	66	5	210	20
*Rep N353	6	<1	64	5	210	19
N354	2	<1	7	3	480	11
N355	2	<1	24	4	870	14
N356	4	<1	52	5	1130	14
N357	12	<1	30	4	630	30
N358	9	<1	32	5	730	35
N359	4	<1	56	5	420	18
N360	3	<1	57	5	5020	15
*Std MMISRM16	49	<1	13	<1	250	18

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Order: Ref:WFO#006

	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
*Std MMISRM16	60	<1	13	<1	230	20
*Std MMISRM16	47	<1	11	<1	200	17
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101898

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Aug 26, 2008

P.O. No. : WFO#006  
Project No. : DEFAULT  
No. Of Samples : 87  
Date Submitted : Jul 23, 2008  
Report Comprises : Pages 1 to 16  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 87 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Order: WFO#006

Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N140	22	204	30	0.2	160	8	10	11	761	114
*Rep N140	24	211	30	0.3	150	8	10	11	778	120
N141	38	148	70	0.7	330	9	100	51	714	472
N142	34	101	40	0.3	240	4	130	38	369	219
N143	74	167	<10	0.6	60	<1	110	53	184	50
N144	21	120	<10	<0.1	150	<1	230	250	11	14
N145	13	290	<10	<0.1	110	<1	<10	75	24	57
N146	9	227	<10	<0.1	90	<1	<10	63	22	42
N147	20	280	<10	<0.1	80	<1	<10	39	71	71
N148	14	216	<10	<0.1	50	<1	<10	77	17	18
N149	12	300	<10	<0.1	210	<1	<10	25	21	20
N150	17	283	<10	<0.1	90	<1	<10	34	29	12
N151	6	261	<10	<0.1	120	<1	<10	36	12	20
N152	19	271	<10	<0.1	50	<1	<10	51	34	14
*Rep N152	18	259	<10	<0.1	50	<1	<10	52	29	17
N153	17	>300	<10	<0.1	120	<1	<10	35	39	9
N154	11	>300	<10	<0.1	120	<1	<10	44	64	39
N155	5	243	<10	<0.1	190	<1	20	77	9	39
N156	46	200	<10	0.2	100	<1	10	91	26	20
N157	45	241	<10	<0.1	90	<1	20	67	68	23
N158	8	>300	<10	<0.1	110	<1	<10	104	106	39
N159	3	276	<10	<0.1	180	<1	<10	29	9	20
N160	15	281	<10	<0.1	70	<1	<10	44	51	11
N161	22	136	30	<0.1	210	<1	280	89	95	357
N162	11	258	<10	<0.1	120	<1	<10	18	51	29
N163	6	262	<10	<0.1	90	<1	<10	53	32	22
N164	19	252	<10	<0.1	80	<1	<10	34	32	29
*Rep N164	17	254	<10	<0.1	80	<1	<10	33	29	28
N165	15	222	20	0.2	60	<1	20	28	82	31
N166	8	282	<10	<0.1	120	<1	20	42	98	26
N167	12	217	<10	<0.1	240	<1	80	85	90	42
N168	17	215	<10	<0.1	250	<1	60	134	115	69
N169	11	256	<10	<0.1	100	<1	20	25	117	14
N170	8	226	<10	<0.1	230	<1	30	119	29	43
N171	64	226	20	0.2	60	1	<10	19	130	55
N172	48	214	<10	0.1	210	<1	30	108	23	114
N173	17	294	<10	<0.1	110	<1	<10	75	33	22
N174	36	263	<10	<0.1	140	<1	10	62	44	41
N175	18	266	<10	<0.1	90	<1	<10	30	41	19
N176	31	218	<10	<0.1	40	<1	<10	63	15	9
*Rep N176	34	212	<10	0.1	40	<1	<10	67	14	10
N177	32	220	<10	<0.1	40	<1	<10	65	15	11
N178	31	251	<10	<0.1	160	<1	20	70	23	40
N179	7	251	<10	<0.1	100	<1	<10	46	33	49
N180	7	253	<10	<0.1	100	<1	<10	44	37	42
N181	7	279	<10	0.4	110	<1	<10	44	85	58

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N182	3	260	<10	<0.1	260	<1	<10	25	17	48
N183	21	246	<10	<0.1	60	<1	<10	18	57	28
Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N184	13	242	<10	<0.1	100	<1	<10	76	22	107
N185	5	237	<10	<0.1	70	<1	<10	19	13	24
N186	5	237	<10	<0.1	130	<1	<10	10	13	25
N187	11	281	<10	<0.1	180	<1	<10	21	15	20
N188	2	233	<10	<0.1	230	<1	<10	7	16	10
*Rep N188	3	241	<10	<0.1	170	<1	<10	5	16	13
N189	70	206	<10	0.1	60	<1	<10	25	41	14
N190	4	279	<10	<0.1	330	2	<10	9	12	15
N191	2	142	20	<0.1	530	7	50	55	41	20
N192	<1	270	<10	<0.1	230	2	<10	5	15	61
N193	1	212	<10	<0.1	260	4	<10	21	18	50
N194	77	151	<10	0.1	250	<1	200	235	20	44
N195	34	145	<10	0.1	260	<1	190	63	12	9
N196	9	>300	10	0.1	220	<1	30	37	247	28
N197	5	256	<10	<0.1	160	<1	<10	59	32	31
N198	9	271	<10	<0.1	120	<1	10	42	41	6
N199	9	169	10	0.1	150	<1	170	38	63	15
N200	6	169	<10	0.1	130	<1	160	26	61	7
*Rep N200	8	165	<10	<0.1	130	<1	160	31	59	8
N201	7	250	<10	<0.1	130	<1	10	36	31	15
N202	6	289	<10	<0.1	150	<1	10	26	104	46
N203	8	223	<10	<0.1	70	<1	<10	34	19	7
N204	6	235	<10	<0.1	100	<1	<10	11	29	126
N205	8	276	<10	<0.1	110	<1	<10	24	41	11
N206	4	260	<10	<0.1	140	<1	<10	39	14	18
N207	9	252	<10	<0.1	140	<1	<10	30	23	32
N208	6	265	<10	<0.1	170	<1	<10	41	11	14
N209	7	238	<10	<0.1	90	<1	<10	28	16	23
N210	6	292	<10	<0.1	220	<1	<10	50	53	49
N211	14	239	<10	<0.1	90	<1	<10	28	46	30
N212	7	287	<10	<0.1	110	<1	<10	7	120	18
*Rep N212	8	281	<10	<0.1	110	<1	<10	8	103	25
N213	13	244	<10	<0.1	70	<1	<10	23	23	35
N214	15	257	<10	<0.1	80	<1	<10	13	62	17
N215	22	>300	<10	0.1	120	<1	<10	55	104	60
N216	7	252	<10	<0.1	110	<1	<10	8	300	42
N217	6	144	<10	<0.1	580	1	160	15	1150	149
N218	7	268	<10	<0.1	150	<1	<10	47	28	25
N219	7	286	<10	<0.1	150	<1	<10	55	33	26
N220	4	249	<10	<0.1	110	<1	<10	16	10	20

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N221	14	>300	<10	<0.1	160	<1	<10	19	236	60
N222	7	243	<10	<0.1	70	<1	<10	13	12	15
N223	6	285	<10	<0.1	110	<1	<10	16	131	53
N224	9	237	<10	<0.1	80	<1	<10	25	26	14
*Rep N224	8	241	<10	<0.1	100	<1	<10	28	24	15
N225	5	222	<10	<0.1	90	<1	<10	16	9	20
N226	7	>300	20	<0.1	200	1	<10	24	163	99
*Std MMISRM16	17	51	20	38.2	70	<1	200	3	23	66
<b>Element</b>	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	1	1	10	0.1	10	1	10	1	5	5
<b>Units</b>	PPB	PPM	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB
*Std MMISRM16	18	42	20	35.1	80	<1	210	3	18	58
*Std MMISRM16	18	42	10	35.3	80	<1	210	3	19	58
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N140	100	33700	36	16.8	16.5	59	54	337	<5	<1
*Rep N140	100	35600	36	16.8	16.8	59	56	343	<5	<1
N141	100	49000	32	14.8	14.1	104	48	274	<5	2
N142	100	29500	23	9.8	9.8	39	34	156	<5	4
N143	<100	47500	21	10.7	8.5	14	31	165	<5	<1
N144	<100	115567	14	10.6	4.5	7	18	71	<5	6
N145	<100	440	5	4.3	0.9	19	3	9	<5	<1
N146	<100	470	10	7.2	1.2	27	5	6	<5	<1
N147	<100	3620	33	16.8	8.3	7	32	60	<5	<1
N148	<100	320	9	5.3	1.3	12	5	5	<5	<1
N149	<100	50	5	3.4	0.8	83	3	10	<5	<1
N150	<100	50	12	7.7	2.4	44	8	10	<5	<1
N151	<100	160	2	2.0	<0.5	85	1	4	<5	<1
N152	<100	110	11	5.6	2.3	9	8	10	<5	<1
*Rep N152	<100	110	9	5.6	1.7	17	6	9	<5	<1
N153	<100	600	10	5.1	2.0	38	7	10	<5	<1
N154	<100	250	14	8.7	2.7	42	10	22	<5	<1
N155	<100	1150	6	5.6	0.6	83	3	4	<5	3
N156	<100	42500	9	6.6	2.3	5	9	38	<5	<1
N157	<100	40200	28	15.9	10.1	14	40	207	<5	<1
N158	<100	350	21	10.8	4.9	16	18	33	<5	<1
N159	<100	90	1	1.1	<0.5	68	<1	3	<5	1
N160	<100	150	13	7.3	3.3	13	11	17	<5	<1
N161	<100	8820	35	19.2	15.3	47	63	282	<5	9
N162	<100	160	6	4.4	1.5	116	5	18	<5	<1
N163	<100	120	12	6.0	2.0	14	7	9	<5	<1
N164	<100	300	13	7.8	1.9	27	7	9	<5	<1
*Rep N164	<100	290	13	7.7	1.8	24	7	9	<5	<1
N165	<100	15300	27	13.7	9.5	12	37	101	<5	<1
N166	<100	360	19	8.9	5.2	22	19	32	<5	<1
N167	<100	4190	24	13.0	6.6	28	27	71	<5	4
N168	<100	7470	14	8.9	2.9	41	11	46	<5	2
N169	<100	5370	23	12.0	7.5	22	29	64	<5	<1
N170	<100	560	7	5.4	1.0	124	4	6	<5	2
N171	<100	25700	23	16.3	6.4	17	26	110	<5	<1
N172	<100	20000	4	2.5	0.9	30	4	16	<5	2
N173	<100	570	9	4.7	2.2	19	7	11	<5	<1
N174	<100	3100	11	5.8	2.3	58	8	13	<5	<1
N175	<100	220	10	6.5	2.1	32	7	13	<5	<1
N176	<100	5750	10	6.2	1.1	4	4	4	<5	<1
*Rep N176	<100	5770	10	6.4	1.1	5	4	4	<5	<1
N177	<100	5680	10	6.1	1.1	4	4	5	<5	<1
N178	<100	770	6	3.2	0.9	10	4	8	<5	1
N179	<100	150	11	7.5	1.8	33	7	13	<5	<1
N180	<100	160	12	8.1	1.9	34	7	14	<5	<1
N181	<100	100	19	9.6	3.9	30	15	24	<5	<1

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N182	<100	110	3	2.8	0.5	87	2	6	<5	1
N183	<100	180	16	8.2	3.0	8	12	18	<5	<1
Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N184	<100	570	11	8.6	1.3	27	5	7	<5	1
N185	<100	50	4	4.0	0.5	25	2	5	<5	<1
N186	<100	1010	2	1.7	<0.5	78	1	5	<5	1
N187	<100	190	3	2.4	0.6	43	2	6	<5	2
N188	<100	110	2	0.8	<0.5	126	1	5	<5	2
*Rep N188	<100	140	2	1.1	<0.5	115	2	5	<5	1
N189	<100	1140	14	7.5	2.4	17	10	11	<5	<1
N190	<100	60	2	1.3	<0.5	130	1	4	<5	2
N191	<100	130	5	2.3	1.3	79	5	14	<5	6
N192	<100	100	2	1.6	<0.5	53	1	6	<5	3
N193	<100	600	2	2.6	<0.5	131	2	8	<5	5
N194	<100	29000	6	4.2	1.5	23	6	21	<5	10
N195	<100	81500	3	2.3	0.9	8	3	16	<5	9
N196	<100	4590	21	10.7	5.8	58	21	66	<5	<1
N197	<100	580	10	6.5	1.8	44	6	13	<5	<1
N198	<100	940	12	5.6	3.0	14	11	16	<5	<1
N199	<100	4240	11	6.2	2.8	31	11	21	<5	<1
N200	<100	3220	13	7.2	3.4	23	13	23	<5	<1
*Rep N200	<100	3880	13	6.9	3.2	24	12	22	<5	<1
N201	<100	260	12	6.7	2.2	25	8	10	<5	<1
N202	<100	90	23	11.3	5.5	15	20	33	<5	<1
N203	<100	70	10	5.8	1.4	12	6	7	<5	<1
N204	<100	40	7	4.9	1.5	29	5	11	<5	<1
N205	<100	70	13	6.2	2.8	13	10	14	<5	<1
N206	<100	90	5	4.2	0.9	36	3	5	<5	<1
N207	<100	90	9	5.4	1.5	22	5	7	<5	<1
N208	<100	60	5	3.6	0.8	26	3	4	<5	<1
N209	<100	30	5	4.8	0.7	28	3	6	<5	<1
N210	<100	110	9	5.0	2.2	48	8	19	<5	1
N211	<100	60	14	7.1	2.4	16	10	13	<5	<1
N212	<100	220	37	16.9	8.4	25	33	57	<5	<1
*Rep N212	<100	240	34	16.0	7.1	26	28	48	<5	<1
N213	<100	60	7	4.6	1.1	20	4	7	<5	<1
N214	<100	70	15	7.9	2.7	33	11	18	<5	<1
N215	<100	1600	21	10.3	4.3	24	17	33	<5	<1
N216	<100	300	85	39.2	24.6	23	102	276	<5	<1
N217	100	700	98	50.3	36.4	80	146	420	<5	7
N218	<100	60	9	5.9	1.5	28	5	9	<5	<1
N219	<100	80	10	6.1	1.9	24	7	11	<5	<1
N220	<100	30	5	4.0	0.8	21	3	4	<5	<1

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	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	100	10	1	0.5	0.5	1	1	1	5	1
	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N221	<100	60	30	13.8	8.4	15	33	73	<5	1
N222	<100	20	4	3.6	0.7	16	2	5	<5	<1
N223	<100	60	22	10.2	5.9	22	21	38	<5	<1
N224	<100	40	10	7.0	1.7	38	6	9	<5	<1
*Rep N224	<100	50	9	6.4	1.6	34	5	8	<5	<1
N225	<100	20	3	3.1	<0.5	37	2	4	<5	<1
N226	100	340	12	5.6	3.5	95	12	41	<5	<1
*Std MMISRM16	<100	560	4	1.4	1.5	2	7	5	<5	28
<b>Element</b>	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	100	10	1	0.5	0.5	1	1	1	5	1
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
*Std MMISRM16	<100	520	3	1.0	1.1	2	5	3	<5	30
*Std MMISRM16	<100	580	3	1.0	1.1	2	5	4	<5	30
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N140	179	7.0	324	139	1690	<1	83	<1	72	2
*Rep N140	178	6.0	332	145	1760	<1	86	<1	71	2
N141	905	5.5	272	206	1180	<1	69	<1	89	4
N142	255	3.4	174	178	820	<1	42	<1	88	4
N143	209	2.0	179	87	1060	<1	46	<1	49	<1
N144	1750	<0.5	95	168	<10	<1	22	<1	17	2
N145	24	1.8	11	68	590	<1	3	<1	78	<1
N146	34	1.1	12	101	640	<1	3	<1	56	<1
N147	82	1.9	132	80	390	<1	28	<1	95	<1
N148	29	0.9	12	54	380	<1	2	<1	50	<1
N149	13	6.5	11	67	90	<1	2	<1	48	<1
N150	12	3.9	24	52	250	<1	5	<1	42	<1
N151	6	2.0	5	49	190	<1	1	<1	77	<1
N152	15	1.4	23	71	660	<1	5	<1	64	<1
*Rep N152	15	1.7	18	71	710	<1	4	<1	67	<1
N153	25	4.5	20	126	600	<1	4	<1	94	<1
N154	38	4.0	33	151	390	<1	7	<1	71	<1
N155	17	2.5	6	103	710	<1	1	<1	63	<1
N156	128	<0.5	46	361	700	<1	12	<1	88	<1
N157	132	1.9	236	122	1120	<1	60	<1	98	<1
N158	26	4.4	62	133	500	<1	13	<1	81	<1
N159	11	2.1	4	80	50	<1	<1	<1	125	<1
N160	28	2.5	35	63	270	<1	7	<1	80	<1
N161	714	2.4	371	149	710	<1	86	<1	62	1
N162	11	5.3	21	86	90	<1	5	<1	72	<1
N163	15	1.9	19	87	340	<1	4	<1	73	<1
N164	12	2.7	18	155	390	<1	4	<1	68	<1
*Rep N164	11	2.4	16	153	380	<1	3	<1	63	<1
N165	104	2.3	156	48	410	<1	35	<1	76	<1
N166	112	4.7	63	125	260	<1	13	<1	95	<1
N167	229	4.1	104	175	590	<1	23	<1	113	<1
N168	338	3.7	51	153	1570	<1	13	<1	89	<1
N169	464	5.5	112	60	220	<1	23	<1	59	<1
N170	55	4.5	10	154	820	<1	2	<1	78	<1
N171	81	1.7	142	44	1740	<1	36	<1	70	1
N172	91	1.8	17	138	170	<1	4	<1	128	<1
N173	13	1.9	22	55	410	<1	5	<1	68	<1
N174	43	4.3	25	108	520	<1	5	<1	43	<1
N175	20	2.4	24	60	390	<1	5	<1	57	<1
N176	15	0.9	9	28	470	<1	2	<1	41	<1
*Rep N176	16	0.8	9	29	490	<1	2	<1	40	<1
N177	16	0.9	9	29	470	<1	2	<1	37	<1
N178	8	1.2	12	57	2200	<1	3	<1	58	<1
N179	<5	3.3	21	94	850	<1	4	<1	68	<1
N180	<5	3.2	24	101	900	<1	5	<1	68	<1
N181	<5	3.5	44	102	430	<1	10	<1	85	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N182	<5	3.2	7	117	410	<1	2	<1	78	<1
N183	<5	2.4	35	79	300	<1	7	<1	54	<1
Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N184	<5	1.5	14	150	1230	<1	3	<1	87	<1
N185	<5	1.6	7	42	350	<1	2	<1	41	<1
N186	<5	2.0	6	96	70	<1	1	<1	37	<1
N187	<5	2.5	8	56	260	<1	2	<1	58	<1
N188	6	3.4	6	100	40	<1	1	<1	64	<1
*Rep N188	6	3.0	7	146	60	<1	2	<1	57	<1
N189	6	0.6	28	72	850	<1	5	<1	67	<1
N190	11	9.2	5	113	170	<1	1	<1	52	<1
N191	27	13.6	20	137	2170	<1	5	<1	59	<1
N192	<5	1.5	7	157	120	<1	2	<1	61	<1
N193	<5	1.6	8	129	380	<1	2	<1	25	<1
N194	156	<0.5	26	258	1190	<1	6	<1	122	<1
N195	343	<0.5	18	116	90	<1	5	<1	52	<1
N196	80	7.8	88	85	280	<1	20	<1	55	<1
N197	17	3.4	19	67	740	<1	4	<1	122	<1
N198	39	2.8	31	99	550	<1	6	<1	64	<1
N199	145	3.0	36	52	2770	<1	8	<1	92	<1
N200	96	2.8	41	44	2320	<1	9	<1	88	<1
*Rep N200	105	2.9	41	46	2560	<1	8	<1	92	<1
N201	9	2.3	21	73	730	<1	4	<1	61	<1
N202	<5	4.2	66	72	220	<1	14	<1	75	<1
N203	<5	1.8	15	57	400	<1	3	<1	57	<1
N204	<5	2.5	16	57	190	<1	4	<1	55	<1
N205	<5	2.7	30	63	280	<1	6	<1	58	<1
N206	<5	2.1	8	69	1110	<1	2	<1	70	<1
N207	<5	1.7	15	63	400	<1	3	<1	44	<1
N208	<5	1.6	7	62	730	<1	2	<1	46	<1
N209	<5	1.4	9	88	460	<1	2	<1	52	<1
N210	7	2.8	27	99	690	<1	6	<1	89	<1
N211	<5	1.3	28	97	390	<1	6	<1	58	<1
N212	6	4.6	107	60	230	<1	23	<1	45	<1
*Rep N212	6	4.6	88	69	250	<1	19	<1	47	<1
N213	<5	2.0	12	74	670	<1	2	<1	46	<1
N214	9	3.1	33	69	130	<1	7	<1	44	<1
N215	29	3.8	55	138	910	<1	12	<1	52	<1
N216	8	3.7	455	70	300	<1	100	<1	44	<1
N217	12	17.0	708	89	240	<1	154	<1	62	<1
N218	<5	2.9	17	81	640	<1	4	<1	53	<1
N219	<5	3.0	20	77	640	<1	4	<1	56	<1
N220	<5	1.3	7	57	550	<1	2	<1	42	<1

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	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	0.5	1	5	10	1	1	1	5	1
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N221	<5	5.5	137	130	140	<1	30	<1	54	<1
N222	<5	1.5	7	48	240	<1	2	<1	38	<1
N223	<5	6.1	70	45	200	<1	15	<1	77	<1
N224	5	5.4	18	36	380	<1	3	<1	47	<1
*Rep N224	<5	4.4	16	39	420	<1	3	<1	45	<1
N225	5	1.8	5	65	300	<1	1	<1	33	<1
N226	42	5.4	49	87	490	<1	12	<1	72	1
*Std MMISRM16	47	<0.5	21	293	140	26	4	<1	268	<1
<b>Element</b>	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	5	0.5	1	5	10	1	1	1	5	1
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	46	<0.5	15	221	100	24	3	<1	270	<1
*Std MMISRM16	46	<0.5	16	219	100	23	3	<1	279	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N140	71	61	1	20	3	7	<10	71.3	1760	2.0
*Rep N140	71	63	1	10	2	7	<10	69.1	1660	2.4
N141	71	52	2	110	1	6	<10	83.6	1740	2.2
N142	41	36	<1	110	<1	4	<10	42.9	929	1.6
N143	36	33	<1	40	1	4	<10	23.2	254	1.3
N144	11	17	<1	340	<1	2	<10	3.0	3	4.5
N145	24	3	<1	20	<1	<1	<10	7.3	456	1.7
N146	31	3	<1	10	<1	1	<10	3.9	574	1.1
N147	32	30	<1	<10	<1	5	<10	12.1	427	1.1
N148	24	4	<1	<10	<1	1	<10	4.2	231	1.0
N149	22	3	<1	10	<1	<1	<10	11.3	2200	1.0
N150	31	7	<1	<10	<1	2	<10	11.2	1390	0.8
N151	14	1	<1	20	<1	<1	<10	5.6	646	1.2
N152	24	6	<1	<10	<1	2	<10	5.1	322	0.8
*Rep N152	24	5	<1	<10	<1	1	<10	5.4	511	0.8
N153	18	6	<1	20	<1	1	<10	10.0	1720	1.2
N154	37	8	<1	<10	<1	2	<10	15.0	1280	0.9
N155	19	2	<1	110	<1	<1	<10	6.0	811	0.5
N156	45	9	<1	30	<1	1	<10	15.6	89	0.9
N157	37	43	<1	30	<1	5	<10	15.8	625	0.6
N158	32	17	<1	20	<1	3	<10	18.3	812	0.9
N159	13	<1	<1	50	<1	<1	<10	2.7	686	0.9
N160	24	9	<1	<10	<1	2	<10	6.9	719	0.6
N161	21	67	<1	280	<1	7	<10	12.5	1230	0.6
N162	27	5	<1	20	<1	<1	<10	17.4	1560	0.8
N163	20	5	<1	20	<1	2	<10	4.8	571	0.7
N164	24	6	<1	<10	<1	2	<10	6.6	924	0.6
*Rep N164	22	5	<1	<10	<1	2	<10	6.6	800	0.6
N165	34	36	<1	<10	<1	5	<10	15.3	798	<0.5
N166	30	16	<1	70	<1	3	<10	15.2	1270	0.6
N167	30	24	<1	270	<1	4	<10	16.7	1490	0.6
N168	24	11	<1	120	<1	2	<10	16.4	1590	0.5
N169	39	27	<1	30	<1	4	<10	24.1	1740	0.6
N170	22	3	<1	90	<1	<1	<10	9.5	2200	0.7
N171	58	28	<1	<10	<1	4	<10	20.8	591	0.6
N172	15	3	<1	90	<1	<1	<10	10.1	721	0.9
N173	19	6	<1	30	<1	1	<10	5.2	438	0.9
N174	23	7	<1	30	<1	2	<10	8.4	1480	0.7
N175	28	6	<1	<10	<1	1	<10	8.5	599	0.8
N176	15	3	<1	<10	<1	1	<10	2.7	240	0.6
*Rep N176	16	3	<1	<10	<1	1	<10	2.5	235	0.6
N177	16	3	<1	<10	<1	1	<10	2.8	238	0.6
N178	8	3	<1	90	<1	<1	<10	6.0	328	0.8
N179	28	5	<1	<10	<1	1	<10	7.6	1130	0.6
N180	29	6	<1	10	<1	2	<10	8.0	1050	0.7
N181	34	12	<1	20	<1	3	<10	15.8	1250	0.7

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	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N182	21	2	<1	70	<1	<1	<10	7.2	1130	0.8
N183	27	9	<1	<10	<1	2	<10	8.8	635	0.7
Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N184	29	4	<1	20	<1	1	<10	6.8	439	0.9
N185	18	2	<1	<10	<1	<1	<10	3.6	484	0.9
N186	16	1	<1	20	<1	<1	<10	4.1	581	1.3
N187	21	2	<1	60	<1	<1	<10	5.2	612	1.2
N188	14	1	<1	50	<1	<1	<10	7.7	865	1.1
*Rep N188	15	2	<1	30	<1	<1	<10	7.7	797	1.0
N189	26	7	<1	<10	<1	2	<10	6.3	163	0.8
N190	25	1	2	60	<1	<1	<10	11.9	3490	1.1
N191	30	5	5	190	1	<1	<10	21.1	5420	1.6
N192	16	1	<1	90	<1	<1	<10	3.0	412	1.3
N193	20	2	<1	80	<1	<1	<10	5.7	491	0.6
N194	28	6	<1	240	<1	1	<10	8.0	78	<0.5
N195	13	3	<1	320	<1	<1	<10	4.6	18	0.7
N196	37	21	<1	40	<1	3	<10	34.6	2040	0.9
N197	26	5	<1	20	<1	1	<10	8.5	1200	0.8
N198	19	9	<1	10	<1	2	<10	7.3	697	0.9
N199	31	10	<1	60	<1	2	<10	15.8	1130	<0.5
N200	32	11	<1	60	<1	2	<10	15.9	980	0.5
*Rep N200	32	10	<1	60	<1	2	<10	14.9	1020	<0.5
N201	24	6	<1	40	<1	2	<10	6.7	825	0.8
N202	37	17	<1	60	<1	4	<10	15.6	965	0.9
N203	22	4	<1	<10	<1	1	<10	4.9	541	0.6
N204	21	5	<1	<10	<1	1	<10	6.8	698	0.9
N205	21	8	<1	20	<1	2	<10	8.7	597	0.7
N206	21	2	<1	60	<1	<1	<10	4.5	812	1.0
N207	21	4	<1	60	<1	1	<10	5.5	437	0.7
N208	17	2	<1	70	<1	<1	<10	4.2	380	0.7
N209	18	2	<1	20	<1	<1	<10	4.0	495	0.8
N210	26	7	<1	60	<1	1	<10	15.4	796	0.8
N211	24	8	<1	40	<1	2	<10	7.4	356	0.8
N212	39	29	<1	10	<1	6	<10	24.1	1350	0.7
*Rep N212	37	24	<1	10	<1	5	<10	22.9	1390	0.7
N213	19	3	<1	<10	<1	<1	<10	6.2	659	0.6
N214	26	9	<1	<10	<1	2	<10	17.0	922	0.7
N215	35	15	<1	<10	<1	3	<10	29.7	1010	0.9
N216	44	99	<1	10	<1	15	<10	31.6	987	0.6
N217	49	164	1	650	2	19	<10	165	3720	1.0
N218	24	5	<1	40	<1	1	<10	8.0	840	0.8
N219	25	6	<1	20	<1	1	<10	10.0	747	0.8
N220	20	2	<1	40	<1	<1	<10	3.6	422	0.8

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	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	5	1	1	10	1	1	10	0.5	3	0.5
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N221	32	31	<1	60	<1	5	<10	23.0	1100	0.8
N222	17	2	<1	20	<1	<1	<10	2.4	462	0.7
N223	36	18	<1	<10	<1	4	<10	27.0	1640	0.7
N224	29	5	<1	<10	<1	1	<10	7.1	2280	0.6
*Rep N224	27	4	2	<10	<1	1	<10	6.9	1770	0.6
N225	18	1	<1	20	<1	<1	<10	3.5	633	0.7
N226	37	12	<1	40	<1	2	<10	37.0	2080	1.0
*Std MMISRM16	11	7	<1	430	<1	<1	<10	29.2	<3	<0.5
<b>Element</b>	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	5	1	1	10	1	1	10	0.5	3	0.5
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	9	5	<1	440	<1	<1	<10	24.8	3	<0.5
*Std MMISRM16	9	5	<1	460	<1	<1	<10	25.1	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Order: WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N140	23	28	171	14	540	63
*Rep N140	22	22	176	14	540	59
N141	23	47	147	13	2890	57
N142	14	22	102	8	2120	32
N143	26	3	112	9	1680	15
N144	28	2	121	10	7410	<5
N145	4	<1	24	4	3860	14
N146	3	<1	56	6	5560	8
N147	13	<1	177	13	2980	13
N148	4	<1	45	5	2310	8
N149	5	<1	21	3	580	23
N150	5	<1	62	6	690	22
N151	3	<1	10	3	1220	10
N152	4	<1	52	4	800	11
*Rep N152	4	<1	47	4	760	12
N153	6	<1	40	4	4160	18
N154	6	<1	65	7	1400	18
N155	3	<1	32	5	5540	9
N156	37	3	56	6	2820	9
N157	32	6	162	13	1970	16
N158	8	<1	93	8	3710	21
N159	2	<1	5	2	3550	7
N160	5	<1	67	5	1130	14
N161	41	57	205	15	3300	14
N162	8	<1	26	5	150	22
N163	3	<1	48	4	3240	9
N164	5	<1	60	6	3940	12
*Rep N164	5	<1	60	6	3690	12
N165	19	2	145	10	1130	21
N166	7	<1	87	7	1470	19
N167	12	2	125	9	3840	19
N168	17	8	65	7	13200	12
N169	14	2	111	9	770	30
N170	4	<1	36	5	6710	11
N171	35	4	152	15	1070	16
N172	9	1	20	2	6790	9
N173	3	<1	40	3	8590	11
N174	5	1	50	4	3410	17
N175	5	<1	46	6	2290	17
N176	3	<1	52	5	1550	5
*Rep N176	3	<1	53	5	1660	<5
N177	3	<1	49	5	1540	5
N178	6	<1	18	2	14700	7
N179	5	<1	55	6	2510	15
N180	5	<1	59	7	2470	15
N181	10	2	78	7	1780	22

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	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N182	3	<1	14	4	1920	12
N183	5	<1	70	6	920	14
Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N184	3	<1	59	8	2220	11
N185	3	<1	22	4	260	9
N186	2	<1	7	2	230	7
N187	2	<1	13	3	1220	13
N188	4	<1	5	<1	230	14
*Rep N188	4	<1	6	2	230	14
N189	8	<1	63	6	400	7
N190	4	1	9	2	600	22
N191	5	4	20	2	3370	40
N192	1	<1	8	2	110	6
N193	3	<1	11	3	360	9
N194	20	2	42	4	9300	6
N195	19	<1	22	2	1660	<5
N196	23	4	88	9	2090	39
N197	4	<1	46	5	1150	19
N198	4	<1	49	4	1450	16
N199	26	2	50	5	1080	26
N200	24	2	63	6	670	26
*Rep N200	23	2	60	5	750	24
N201	3	<1	53	5	1820	12
N202	7	<1	96	8	1730	24
N203	2	<1	43	5	1530	10
N204	3	<1	32	4	530	16
N205	4	<1	51	4	1490	15
N206	2	<1	27	4	1450	11
N207	3	<1	36	4	1000	9
N208	2	<1	22	3	2240	9
N209	2	<1	27	5	2160	8
N210	5	<1	37	4	1380	20
N211	4	<1	60	5	1200	8
N212	19	1	147	12	190	22
*Rep N212	17	1	134	12	240	22
N213	4	<1	34	4	370	9
N214	8	<1	60	6	970	18
N215	13	1	78	8	2600	22
N216	24	<1	410	27	230	20
N217	37	3	411	41	560	44
N218	3	<1	40	5	1990	13
N219	4	<1	44	5	1940	15
N220	2	<1	24	3	900	8

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	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N221	8	<1	134	10	1090	21
N222	1	<1	22	3	1230	7
N223	11	<1	88	7	510	29
N224	6	<1	55	6	1280	15
*Rep N224	5	<1	46	6	1370	14
N225	3	<1	15	4	570	7
N226	9	2	41	4	1250	42
*Std MMISRM16	53	<1	14	1	240	14
<b>Element</b>	U	W	Y	Yb	Zn	Zr
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	1	1	5	1	20	5
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM16	46	<1	10	<1	220	12
*Std MMISRM16	46	<1	9	<1	260	12
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	30	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101897

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Sep 02, 2008

P.O. No. : WFO#006  
Project No. : DEFAULT  
No. Of Samples : 28  
Date Submitted : Jul 23, 2008  
Report Comprises : Pages 1 to 6  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 28 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result

\*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted

Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N101	20	240	<10	<0.1	80	1	<10	67	40	112
*Rep N101	20	251	<10	0.1	100	2	10	76	60	152
N102	49	292	<10	0.1	90	<1	20	37	74	15
N103	26	285	<10	<0.1	70	<1	<10	96	9	31
N104	38	270	<10	<0.1	50	<1	<10	23	14	31
N105	52	>300	<10	0.1	150	<1	<10	61	59	55
N106	154	275	<10	0.2	50	4	<10	46	32	55
N107	21	234	<10	<0.1	60	1	<10	26	5	32
N108	110	>300	<10	0.2	70	<1	<10	12	36	28
N109	31	249	<10	<0.1	160	<1	<10	89	8	34
N110	70	258	<10	<0.1	110	9	<10	98	28	35
N111	19	275	<10	<0.1	70	<1	<10	31	24	26
N112	11	>300	<10	<0.1	150	<1	<10	134	25	195
N114	2	187	<10	<0.1	180	<1	<10	30	13	62
*Rep N114	2	240	10	<0.1	210	1	<10	52	15	78
N115	2	189	<10	<0.1	200	<1	<10	27	9	64
N118	181	197	<10	0.4	130	<1	30	22	53	53
N119	44	281	<10	<0.1	100	<1	<10	66	18	81
N120	61	280	<10	0.3	110	<1	<10	31	27	177
N121	24	>300	<10	0.1	130	<1	<10	83	82	80
N122	16	218	<10	<0.1	80	<1	<10	85	13	308
N123	37	296	<10	<0.1	140	6	10	252	29	46
N124	19	>300	<10	<0.1	60	1	<10	152	38	74
N125	18	254	<10	<0.1	130	<1	20	182	36	15
N126	21	235	<10	<0.1	190	<1	30	273	26	12
N127	5	>300	<10	<0.1	120	<1	<10	30	82	22
N128	28	>300	<10	<0.1	100	<1	<10	84	10	35
*Rep N128	26	>300	<10	<0.1	150	<1	10	91	8	40
N129	4	287	<10	<0.1	150	<1	<10	40	16	22
N130	5	>300	<10	<0.1	90	<1	<10	21	56	16
N131	6	258	<10	<0.1	80	<1	<10	32	19	6
*Std MMISRM16	18	46	10	22.7	60	<1	200	3	20	52
*BIK BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N101	<100	4340	14	11.3	1.3	26	6	14	7	1
*Rep N101	<100	5970	15	12.8	1.7	34	7	21	8	1
N102	<100	19600	26	16.9	6.4	25	26	75	15	1
N103	<100	420	3	3.4	<0.5	22	1	4	7	<1
N104	<100	6360	8	5.4	0.8	11	3	6	18	<1
N105	<100	28900	6	3.4	1.5	16	6	24	16	<1
N106	<100	2450	13	7.9	1.4	24	7	11	13	<1
N107	<100	2620	3	2.8	<0.5	19	<1	2	11	<1
N108	<100	23800	5	3.7	1.0	18	4	16	11	<1
N109	<100	4160	4	4.1	<0.5	26	2	4	8	<1
N110	<100	1840	14	8.9	1.8	29	8	10	18	<1
N111	<100	14300	5	4.4	0.7	17	3	9	24	<1
N112	<100	2120	29	25.3	1.5	28	8	8	24	2
N114	<100	200	2	2.6	<0.5	112	2	7	8	1
*Rep N114	<100	270	4	3.9	<0.5	117	2	7	20	2
N115	<100	210	2	2.8	<0.5	126	1	5	5	1
N118	<100	70000	6	3.6	1.7	16	7	23	<5	6
N119	<100	8650	9	7.5	0.7	48	3	8	13	<1
N120	<100	16000	3	2.2	0.5	12	2	13	10	<1
N121	<100	3100	31	16.5	5.2	15	24	34	25	<1
N122	<100	2250	5	3.6	0.5	77	2	6	<5	2
N123	<100	1900	32	23.2	2.8	56	14	10	19	2
N124	<100	670	16	10.7	2.3	19	10	14	10	<1
N125	<100	900	12	7.5	2.2	13	9	14	10	1
N126	<100	730	8	5.4	1.3	12	6	10	<5	2
N127	<100	50	25	12.4	5.2	17	20	25	10	<1
N128	<100	2470	8	5.3	0.8	25	3	4	13	<1
*Rep N128	<100	2450	8	5.5	0.6	25	3	3	26	2
N129	<100	50	8	5.6	1.0	21	4	7	15	<1
N130	<100	50	16	8.0	3.6	15	13	20	13	<1
N131	<100	110	13	9.0	1.4	12	6	8	7	<1
*Std MMISRM16	<100	450	2	0.9	1.0	3	5	5	<5	34
*BIK BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N101	17	1.2	20	48	2460	<1	5	<1	63	<1
*Rep N101	26	1.7	28	54	2480	<1	7	<1	74	<1
N102	247	2.5	99	40	500	<1	24	<1	60	<1
N103	11	0.9	4	60	520	<1	<1	<1	64	<1
N104	49	0.8	8	53	360	<1	2	<1	47	<1
N105	278	1.8	25	280	440	<1	7	<1	95	<1
N106	48	1.4	16	70	1530	<1	3	<1	68	<1
N107	22	<0.5	3	38	320	<1	<1	<1	46	<1
N108	102	2.6	16	39	1840	<1	4	<1	68	<1
N109	14	0.8	4	34	2230	<1	<1	<1	70	<1
N110	33	2.7	18	67	7300	<1	4	<1	91	<1
N111	10	1.3	11	32	1860	<1	3	<1	84	<1
N112	<5	1.0	13	100	230	<1	3	<1	85	<1
N114	<5	3.4	6	50	190	<1	1	<1	84	<1
*Rep N114	5	4.6	6	59	230	<1	2	<1	96	<1
N115	<5	2.5	4	50	120	<1	1	<1	90	<1
N118	71	<0.5	26	104	520	<1	7	<1	71	<1
N119	11	1.3	8	72	3280	<1	2	<1	58	<1
N120	10	0.5	11	53	920	<1	3	<1	90	<1
N121	5	1.6	64	88	4690	<1	14	<1	88	<1
N122	<5	0.7	7	83	4430	<1	2	<1	40	<1
N123	<5	2.1	22	124	5510	<1	4	<1	96	<1
N124	<5	2.0	24	78	3780	<1	5	<1	106	<1
N125	<5	1.2	24	147	2990	<1	5	<1	54	<1
N126	<5	0.9	15	196	2410	<1	3	<1	78	<1
N127	<5	1.9	57	62	290	<1	12	<1	105	<1
N128	<5	0.7	6	87	1670	<1	1	<1	89	<1
*Rep N128	<5	0.5	5	85	1810	<1	<1	<1	105	<1
N129	<5	1.9	9	69	310	<1	2	<1	59	<1
N130	<5	2.3	39	119	250	<1	8	<1	91	<1
N131	<5	1.3	13	50	250	<1	3	<1	65	<1
*Std MMISRM16	38	<0.5	16	199	90	22	3	<1	260	<1
*BIK BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N101	14	5	<1	40	<1	1	<10	7.1	422	1.3
*Rep N101	14	6	<1	50	<1	2	<10	9.4	592	1.4
N102	35	21	<1	60	<1	4	<10	13.4	903	1.4
N103	13	1	<1	30	<1	<1	<10	2.2	330	2.0
N104	14	2	<1	20	<1	<1	<10	2.4	241	1.1
N105	18	6	<1	40	<1	<1	<10	9.7	526	0.9
N106	21	5	<1	<10	<1	2	<10	5.3	436	1.4
N107	14	<1	<1	30	<1	<1	<10	1.4	132	1.4
N108	15	4	<1	<10	<1	<1	<10	7.4	985	1.3
N109	13	1	<1	20	<1	<1	<10	2.2	304	2.0
N110	18	5	<1	10	<1	2	<10	6.6	1200	1.8
N111	14	2	<1	10	<1	<1	<10	5.5	353	1.2
N112	64	4	<1	30	<1	3	<10	4.1	341	3.3
N114	25	1	<1	20	<1	<1	<10	6.7	1100	1.6
*Rep N114	35	1	<1	20	<1	<1	<10	8.9	1570	1.7
N115	22	<1	<1	20	<1	<1	<10	5.2	836	1.4
N118	29	6	<1	180	<1	1	<10	5.6	172	1.8
N119	16	2	<1	30	<1	<1	<10	4.3	448	2.2
N120	9	2	<1	30	<1	<1	<10	6.2	130	1.1
N121	25	17	<1	20	<1	5	<10	7.7	492	1.7
N122	9	2	<1	40	<1	<1	<10	3.1	236	1.4
N123	51	8	<1	50	<1	4	<10	9.0	590	1.5
N124	32	7	<1	10	<1	2	<10	5.6	597	1.0
N125	18	7	<1	40	<1	2	<10	5.8	380	0.7
N126	16	4	<1	80	<1	1	<10	5.2	257	0.8
N127	35	16	<1	20	<1	4	<10	8.0	557	0.9
N128	19	2	<1	30	<1	<1	<10	2.8	223	1.6
*Rep N128	18	2	<1	50	<1	<1	<10	2.3	163	1.8
N129	24	3	<1	30	<1	1	<10	4.6	530	0.6
N130	33	11	<1	<10	<1	2	<10	7.8	521	<0.5
N131	27	4	<1	<10	<1	2	<10	4.1	286	<0.5
*Std MMISRM16	8	5	<1	440	<1	<1	<10	17.4	8	<0.5
*BIK BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Order: WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N101	8	<1	69	9	3770	8
*Rep N101	10	<1	75	11	4220	9
N102	29	<1	164	12	630	18
N103	2	<1	18	3	8270	7
N104	2	<1	42	4	1530	6
N105	10	<1	29	3	1760	16
N106	3	<1	60	6	1540	11
N107	1	<1	15	3	900	<5
N108	12	<1	24	3	350	16
N109	3	<1	25	4	1080	6
N110	9	<1	78	7	4640	14
N111	13	<1	30	4	720	11
N112	2	<1	161	20	3460	13
N114	4	<1	12	3	700	22
*Rep N114	5	<1	20	5	1040	27
N115	3	<1	12	4	710	17
N118	13	<1	32	3	610	6
N119	5	<1	48	6	2620	9
N120	4	<1	13	2	1490	9
N121	11	<1	159	12	3200	12
N122	4	<1	22	3	3220	5
N123	11	<1	187	18	6970	14
N124	7	<1	90	9	4470	13
N125	10	<1	65	6	8690	11
N126	9	<1	45	4	12600	8
N127	6	<1	112	8	810	17
N128	3	<1	38	4	3470	9
*Rep N128	2	<1	36	4	3830	8
N129	2	<1	39	4	1270	11
N130	6	<1	76	6	720	20
N131	4	<1	73	7	560	9
*Std MMISRM16	31	<1	10	<1	200	12
*BIK BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO100978

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Jul 18, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 50  
Date Submitted Jun 10, 2008  
Report Comprises Pages 1 to 11  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 50 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at [www.scc.ca](http://www.scc.ca)**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Order:

Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N051	4	255	<10	<0.1	150	<1	<10	39	18	19
*Dup N051	4	259	<10	<0.1	130	<1	<10	36	18	17
N052	7	203	<10	<0.1	120	<1	210	27	54	15
N053	6	>300	<10	<0.1	80	<1	<10	12	91	20
N054	4	293	<10	<0.1	90	<1	<10	23	37	21
N055	5	292	<10	<0.1	60	<1	<10	36	28	17
N056	4	270	<10	<0.1	80	<1	<10	39	22	14
N057	6	266	<10	<0.1	80	<1	<10	14	23	9
N058	4	>300	<10	0.1	190	<1	<10	67	26	16
N059	5	290	<10	0.3	70	<1	<10	23	42	12
N060	4	281	<10	<0.1	80	<1	<10	34	21	11
N061	8	256	<10	<0.1	30	<1	<10	13	37	20
N062	5	>300	<10	<0.1	200	<1	<10	39	42	19
N063	5	>300	<10	<0.1	200	<1	<10	40	42	17
*Dup N063	5	>300	<10	<0.1	220	<1	<10	42	46	18
N064	6	232	<10	<0.1	80	<1	<10	11	20	17
N065	7	298	<10	<0.1	130	<1	<10	46	42	20
N066	10	238	<10	<0.1	60	<1	<10	62	20	8
N067	6	205	<10	<0.1	30	<1	<10	18	20	6
N068	5	245	<10	<0.1	120	<1	<10	18	20	14
N069	7	298	<10	<0.1	110	<1	<10	38	37	9
N070	8	283	<10	<0.1	90	<1	<10	20	22	23
N071	5	295	<10	<0.1	60	<1	<10	25	38	17
N072	6	241	<10	<0.1	<10	<1	<10	9	81	6
N073	7	281	<10	<0.1	80	<1	<10	33	34	28
N074	7	282	<10	<0.1	70	<1	<10	28	42	25
N075	5	261	<10	<0.1	250	<1	<10	44	14	32
*Dup N075	5	256	<10	<0.1	260	<1	<10	41	12	31
N076	2	283	20	<0.1	260	<1	20	3	187	56
N077	4	>300	<10	<0.1	170	<1	<10	21	31	16
N078	5	297	<10	<0.1	250	<1	<10	33	60	15
N079	3	271	<10	<0.1	130	<1	<10	24	76	21
N080	7	>300	<10	<0.1	490	<1	10	31	78	23
N081	4	>300	<10	<0.1	250	<1	10	26	210	42
N082	8	249	<10	<0.1	70	<1	<10	23	24	8
N083	4	>300	<10	<0.1	100	<1	<10	31	48	21
N084	5	293	<10	<0.1	80	<1	<10	25	57	30
N085	12	286	<10	<0.1	150	<1	<10	33	165	16
N086	11	296	<10	<0.1	190	<1	<10	35	155	21
N087	4	>300	30	<0.1	360	3	<10	58	41	36
*Dup N087	3	>300	30	<0.1	360	2	<10	58	43	36
N088	5	>300	<10	<0.1	110	<1	30	26	256	17
N089	6	>300	<10	<0.1	180	<1	<10	33	87	23
N090	7	>300	<10	0.2	120	<1	<10	21	53	40
N091	7	>300	<10	<0.1	150	<1	<10	29	87	21
N092	6	258	<10	<0.1	60	<1	<10	15	102	14
N093	4	>300	10	<0.1	500	<1	60	15	419	61
N094	7	264	<10	<0.1	30	<1	<10	10	114	23

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Order:

Element	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	1	10	0.1	10	1	10	1	5	5
Units	PPB	PPM	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB
N095	4	221	<10	<0.1	20	<1	<10	16	54	15
N096	6	286	<10	<0.1	70	<1	<10	28	64	26
N097	8	>300	<10	<0.1	110	<1	<10	9	101	22
N098	5	288	<10	<0.1	90	<1	<10	11	85	59
N099	7	>300	<10	<0.1	280	<1	<10	24	79	39
*Dup N099	8	>300	<10	<0.1	290	<1	<10	32	75	43
N100	8	139	<10	<0.1	160	<1	250	35	30	34
*Std MMISRM16	16	48	20	30.4	10	<1	190	4	15	56
*Std MMISRM16	16	49	20	30.6	60	<1	190	4	16	57
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Order:

Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N051	<100	60	7	5.5	0.8	71	3	12	7	2
*Dup N051	<100	60	7	5.9	0.8	61	3	11	8	2
N052	<100	80	6	2.8	1.8	17	6	21	<5	3
N053	<100	50	21	9.3	5.2	19	18	43	<5	<1
N054	<100	50	11	5.8	1.8	49	7	17	<5	1
N055	<100	30	10	5.2	1.7	24	6	14	<5	<1
N056	<100	50	9	4.8	1.4	21	5	12	<5	<1
N057	<100	40	12	8.1	1.6	51	6	13	<5	1
N058	<100	150	10	5.5	1.3	54	5	15	<5	1
N059	<100	60	13	6.7	2.4	26	9	21	<5	<1
N060	<100	40	8	4.9	1.1	30	4	12	<5	<1
N061	<100	30	14	8.0	2.2	29	8	18	<5	<1
N062	<100	80	11	5.7	2.2	36	8	21	<5	<1
N063	<100	80	11	6.0	2.4	30	8	23	<5	<1
*Dup N063	<100	80	12	6.0	2.5	35	9	24	<5	<1
N064	<100	50	9	6.4	1.0	53	4	12	<5	<1
N065	<100	90	11	6.1	2.1	44	7	20	<5	<1
N066	<100	70	11	5.5	1.7	12	6	11	<5	<1
N067	<100	30	12	6.7	2.0	5	7	8	<5	<1
N068	<100	120	6	5.2	0.8	75	3	12	<5	1
N069	<100	60	12	6.6	2.3	25	8	21	<5	<1
N070	<100	50	9	5.1	1.3	20	5	13	<5	<1
N071	<100	60	13	7.0	2.4	18	9	19	<5	<1
N072	<100	70	17	8.2	5.0	8	18	37	<5	<1
N073	<100	80	12	7.5	2.0	40	8	18	<5	<1
N074	<100	70	14	7.5	2.6	34	10	21	<5	<1
N075	<100	90	4	4.0	0.5	82	2	9	<5	1
*Dup N075	<100	80	4	3.5	<0.5	94	2	8	<5	1
N076	200	100	7	3.9	1.9	249	7	41	10	4
N077	<100	50	7	4.0	1.5	47	5	17	<5	<1
N078	<100	40	15	7.0	3.7	22	14	34	<5	<1
N079	<100	110	23	11.2	4.3	45	17	33	<5	<1
N080	<100	210	14	6.0	3.2	46	12	39	7	2
N081	<100	130	31	13.2	9.6	28	35	92	<5	<1
N082	<100	40	10	5.8	1.7	32	6	13	<5	<1
N083	<100	60	11	5.6	2.8	31	10	25	6	1
N084	<100	80	12	6.8	2.8	39	10	26	<5	<1
N085	<100	250	41	20.8	10.1	63	40	109	6	2
N086	<100	260	37	20.0	8.9	74	36	107	8	2
N087	<100	130	11	7.4	1.6	162	6	24	13	4
*Dup N087	<100	130	11	7.3	1.7	154	7	24	12	4
N088	<100	390	35	15.7	10.1	36	38	128	<5	1
N089	<100	90	19	9.3	3.9	41	14	41	<5	1
N090	<100	70	13	6.8	3.0	54	11	29	6	2
N091	<100	70	17	8.6	4.0	35	14	40	<5	<1
N092	<100	50	23	11.8	6.5	24	23	47	<5	<1
N093	200	330	23	10.0	7.3	104	27	115	10	5
N094	<100	50	21	10.6	6.4	12	22	49	<5	<1

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Order:

Element	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	100	10	1	0.5	0.5	1	1	1	5	1
Units	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N095	<100	40	16	7.9	3.5	11	12	25	<5	<1
N096	<100	80	16	7.5	3.4	36	12	28	<5	<1
N097	<100	90	18	8.3	4.9	19	17	46	<5	<1
N098	<100	140	17	7.7	4.3	15	16	41	<5	<1
N099	<100	60	13	6.4	3.6	43	12	41	<5	<1
*Dup N099	<100	70	13	5.7	3.3	45	11	39	<5	<1
N100	<100	100	4	2.0	1.0	49	4	16	10	22
*Std MMISRM16	<100	590	2	0.9	0.9	2	4	4	<5	34
*Std MMISRM16	<100	580	2	0.9	0.9	3	4	4	<5	33
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1



Order:

Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N051	7	7.9	10	80	570	<1	2	<1	89	<1
*Dup N051	6	7.9	10	74	600	<1	2	<1	76	<1
N052	<5	2.7	22	63	70	<1	5	<1	81	<1
N053	<5	5.5	58	74	200	<1	13	<1	60	<1
N054	7	8.1	20	121	320	<1	4	<1	63	1
N055	5	3.5	18	62	310	<1	4	<1	50	<1
N056	<5	3.1	14	65	420	<1	3	<1	41	<1
N057	6	8.8	17	68	390	<1	3	<1	86	<1
N058	7	6.0	13	67	310	<1	3	<1	70	<1
N059	5	4.0	27	72	410	<1	6	<1	39	<1
N060	<5	4.6	12	73	370	<1	3	<1	52	<1
N061	5	3.4	24	68	220	<1	5	<1	44	<1
N062	6	5.5	25	105	610	<1	6	<1	80	<1
N063	5	5.1	26	101	540	<1	6	<1	79	<1
*Dup N063	6	5.5	29	109	590	<1	7	<1	82	<1
N064	6	5.0	12	66	550	<1	3	<1	38	<1
N065	6	4.8	23	95	390	<1	5	<1	57	1
N066	<5	2.2	15	62	450	<1	3	<1	47	<1
N067	<5	1.1	17	75	310	<1	3	<1	55	<1
N068	8	6.7	10	167	390	<1	2	<1	68	<1
N069	7	5.0	24	52	410	<1	6	<1	69	2
N070	6	2.9	13	111	450	<1	3	<1	45	<1
N071	6	4.6	25	44	270	<1	5	<1	54	<1
N072	<5	2.7	58	55	220	<1	12	<1	65	<1
N073	<5	3.8	23	106	350	<1	5	<1	57	1
N074	<5	3.9	29	90	330	<1	6	<1	56	1
N075	<5	6.5	7	97	550	<1	2	<1	55	<1
*Dup N075	<5	6.4	6	92	600	<1	1	<1	52	<1
N076	16	17.6	31	99	70	<1	8	<1	39	<1
N077	5	3.0	17	84	380	<1	4	<1	49	<1
N078	<5	3.5	42	187	300	<1	9	<1	82	<1
N079	5	3.2	49	154	110	<1	10	<1	74	<1
N080	6	6.4	39	280	110	<1	9	<1	117	<1
N081	<5	6.0	123	302	140	<1	27	<1	84	<1
N082	<5	4.7	16	120	320	<1	3	<1	80	<1
N083	6	8.1	32	85	240	<1	7	<1	105	<1
N084	6	6.5	33	81	260	<1	7	<1	71	<1
N085	7	9.1	150	110	210	<1	32	<1	113	<1
N086	8	11.4	129	113	320	<1	28	<1	118	1
N087	9	19.5	21	92	2310	<1	5	<1	153	3
*Dup N087	9	18.9	21	91	2410	<1	5	<1	150	3
N088	6	6.8	139	121	180	<1	32	<1	121	<1
N089	6	6.9	47	97	420	<1	11	<1	107	<1
N090	8	6.6	35	95	250	<1	8	<1	85	<1
N091	6	6.6	46	94	360	<1	11	<1	94	<1
N092	<5	5.6	77	69	180	<1	16	<1	77	<1
N093	8	14.3	110	97	220	<1	27	<1	171	1
N094	5	4.8	75	74	150	<1	16	<1	84	<1

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Order:

Element	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	5	0.5	1	5	10	1	1	1	5	1
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N095	<5	2.0	39	73	230	<1	8	<1	55	<1
N096	5	5.0	40	70	220	<1	9	<1	69	<1
N097	5	4.7	60	106	100	<1	13	<1	78	<1
N098	<5	4.2	51	102	150	<1	12	<1	72	<1
N099	8	7.4	41	145	140	<1	10	<1	86	<1
*Dup N099	8	7.3	39	180	160	<1	9	<1	84	<1
N100	8	3.0	14	153	230	<1	3	<1	26	<1
*Std MMISRM16	65	<0.5	14	236	80	25	3	<1	336	<1
*Std MMISRM16	64	<0.5	14	241	90	26	2	<1	342	<1
*Bik BLANK	<5	<0.5	<1	6	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Order:

Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N051	37	2	2	20	<1	<1	<10	7.8	3280	0.9
*Dup N051	36	2	2	10	<1	<1	<10	7.1	3080	0.6
N052	28	6	<1	1040	<1	1	<10	10.0	863	<0.5
N053	45	15	<1	<10	<1	3	<10	16.0	1400	<0.5
N054	35	5	2	<10	<1	2	<10	13.4	2860	<0.5
N055	31	5	<1	<10	<1	1	<10	6.6	1020	<0.5
N056	27	4	<1	<10	<1	1	<10	6.6	828	<0.5
N057	39	4	2	<10	<1	1	<10	8.1	3250	<0.5
N058	31	4	<1	20	<1	1	<10	10.4	1950	<0.5
N059	33	7	<1	<10	<1	2	<10	10.7	1060	<0.5
N060	28	3	<1	20	<1	1	<10	6.9	1340	<0.5
N061	34	6	<1	<10	<1	2	<10	8.2	1070	<0.5
N062	32	6	<1	20	<1	2	<10	10.1	1610	<0.5
N063	32	7	<1	20	<1	2	<10	10.3	1350	<0.5
*Dup N063	34	7	<1	20	<1	2	<10	10.6	1560	<0.5
N064	33	3	<1	<10	<1	1	<10	7.9	1840	<0.5
N065	37	6	1	<10	<1	2	<10	15.3	1540	<0.5
N066	28	5	<1	<10	<1	2	<10	4.6	533	<0.5
N067	26	5	<1	<10	<1	2	<10	3.2	202	<0.5
N068	31	3	1	<10	<1	<1	<10	8.8	2360	0.5
N069	33	6	<1	<10	<1	2	<10	8.9	1530	1.1
N070	29	4	<1	<10	<1	1	<10	7.1	902	<0.5
N071	36	7	<1	<10	<1	2	<10	8.5	1200	0.5
N072	38	15	<1	<10	<1	3	<10	11.3	489	<0.5
N073	31	6	<1	20	<1	2	<10	8.0	1180	<0.5
N074	32	7	<1	10	<1	2	<10	7.1	1260	<0.5
N075	27	2	1	40	<1	<1	<10	6.6	2300	<0.5
*Dup N075	25	1	1	40	<1	<1	<10	6.6	2190	<0.5
N076	36	7	3	110	1	1	<10	27.8	6860	<0.5
N077	28	4	<1	30	<1	1	<10	9.3	770	<0.5
N078	35	10	<1	<10	<1	2	<10	9.3	1070	<0.5
N079	43	13	<1	20	<1	4	<10	16.6	1180	<0.5
N080	36	10	1	80	<1	2	<10	17.3	2250	<0.5
N081	47	32	<1	30	<1	6	<10	34.6	1740	<0.5
N082	32	4	<1	<10	<1	1	<10	6.4	1620	<0.5
N083	37	8	1	30	<1	2	<10	9.4	2410	<0.5
N084	35	8	<1	<10	<1	2	<10	11.1	2070	<0.5
N085	57	35	2	10	<1	7	<10	19.6	3720	0.5
N086	61	30	2	20	<1	6	<10	22.8	4650	0.6
N087	58	5	6	110	1	1	<10	19.7	7940	1.1
*Dup N087	57	5	6	110	1	1	<10	20.6	7600	1.0
N088	63	33	<1	140	<1	6	<10	57.5	2210	<0.5
N089	45	12	<1	30	<1	3	<10	15.5	2070	<0.5
N090	41	8	1	60	<1	2	<10	11.1	2510	0.5
N091	44	12	<1	20	<1	3	<10	14.5	2070	<0.5
N092	50	20	<1	<10	<1	4	<10	17.3	1790	<0.5
N093	74	26	3	210	1	4	<10	113	5970	0.6
N094	45	19	<1	<10	<1	4	<10	16.1	1050	<0.5

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Order:

Element	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	5	1	1	10	1	1	10	0.5	3	0.5
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N095	31	10	<1	<10	<1	2	<10	7.0	513	<0.5
N096	37	10	<1	<10	<1	2	<10	14.1	1440	<0.5
N097	43	15	<1	<10	<1	3	<10	19.4	1260	<0.5
N098	38	13	<1	<10	<1	3	<10	20.3	1010	<0.5
N099	44	11	<1	20	<1	2	<10	18.5	2270	<0.5
*Dup N099	43	10	<1	10	<1	2	<10	18.4	2270	<0.5
N100	12	3	<1	350	<1	<1	<10	9.5	1320	<0.5
*Std MMISRM16	13	4	<1	480	<1	<1	<10	22.7	3	<0.5
*Std MMISRM16	13	4	<1	510	<1	<1	<10	22.9	<3	<0.5
*Bik BLANK	5	<1	<1	50	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Order:

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N051	5	1	36	5	2000	40
*Dup N051	4	<1	40	5	1820	38
N052	9	<1	30	2	220	28
N053	7	<1	91	7	2490	49
N054	6	1	51	4	240	39
N055	3	<1	49	4	770	30
N056	3	<1	43	4	660	31
N057	9	<1	72	6	850	42
N058	5	<1	41	4	980	36
N059	6	<1	64	5	680	33
N060	4	<1	41	4	710	33
N061	6	<1	78	6	190	31
N062	5	<1	57	4	4220	36
N063	5	<1	59	4	3730	37
*Dup N063	5	<1	60	5	4190	38
N064	5	<1	47	5	70	35
N065	6	<1	56	5	580	37
N066	3	<1	55	4	1110	28
N067	3	<1	66	5	400	22
N068	7	<1	34	5	420	36
N069	4	<1	62	5	1130	40
N070	3	<1	42	4	850	31
N071	5	<1	68	5	290	33
N072	10	<1	90	6	290	35
N073	4	<1	67	6	1010	28
N074	4	<1	76	6	940	28
N075	3	<1	24	4	950	34
*Dup N075	3	<1	22	4	990	33
N076	9	2	31	3	40	48
N077	6	<1	34	3	1290	31
N078	8	<1	79	5	2400	33
N079	8	<1	107	8	1230	32
N080	10	<1	69	4	3690	43
N081	17	2	140	10	1290	46
N082	5	1	59	5	710	33
N083	6	<1	63	4	660	44
N084	8	<1	70	5	350	38
N085	17	1	254	15	960	48
N086	18	1	227	15	990	54
N087	8	2	61	6	1670	66
*Dup N087	8	2	60	6	1650	66
N088	22	<1	164	10	230	57
N089	6	1	90	7	1670	42
N090	7	<1	75	5	360	43
N091	6	1	86	6	1390	39
N092	10	1	123	9	580	45
N093	22	2	92	8	490	104
N094	14	<1	112	8	700	37

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Order:

Element	U	W	Y	Yb	Zn	Zr
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	1	5	1	20	5
Units	PPB	PPB	PPB	PPB	PPB	PPB
N095	7	<1	92	6	860	26
N096	9	<1	76	6	220	36
N097	12	1	82	6	980	38
N098	9	<1	79	6	690	36
N099	10	1	57	5	810	47
*Dup N099	9	1	56	4	930	47
N100	50	1	19	1	1590	7
*Std MMISRM16	49	<1	10	<1	250	28
*Std MMISRM16	49	<1	11	<1	250	30
*Bik BLANK	<1	<1	<5	<1	<20	15
*Bik BLANK	<1	<1	<5	<1	<20	<5





## Certificate of Analysis

Work Order: TO100977

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Jul 16, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 50  
Date Submitted Jun 10, 2008  
Report Comprises Pages 1 to 11  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 50 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at [www.scc.ca](http://www.scc.ca)**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Order:

Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N01	9	>300	10	<0.1	390	2	<10	90	78	73
*Dup N01	9	>300	10	<0.1	400	2	<10	94	80	77
N02	8	>300	<10	<0.1	300	1	<10	91	64	77
N03	12	>300	<10	<0.1	110	<1	<10	38	194	92
N04	30	272	10	0.1	240	<1	<10	63	42	136
N05	37	>300	10	<0.1	180	2	<10	22	132	41
N06	11	265	<10	<0.1	140	<1	<10	60	64	116
N07	9	288	<10	<0.1	130	<1	<10	41	45	118
N08	23	293	<10	<0.1	80	<1	<10	43	54	20
N09	7	251	<10	<0.1	120	<1	20	78	153	119
N10	8	260	10	<0.1	110	<1	20	69	171	117
N11	3	263	<10	<0.1	110	<1	<10	53	38	148
N12	9	>300	10	<0.1	190	<1	<10	79	66	42
N13	12	283	<10	<0.1	150	2	<10	37	47	38
*Dup N13	12	282	<10	<0.1	160	2	<10	36	49	38
N14	33	>300	30	0.2	180	7	<10	36	354	105
N15	66	237	<10	<0.1	50	18	<10	58	28	35
N16	11	260	<10	<0.1	150	<1	20	106	32	31
N17	69	262	<10	0.1	100	2	30	56	137	106
N18	19	258	<10	<0.1	80	1	<10	156	116	20
N19	12	245	<10	<0.1	90	<1	<10	72	48	38
N20	6	283	<10	<0.1	190	<1	<10	38	26	19
N21	30	297	<10	<0.1	90	3	<10	47	38	36
N22	22	286	<10	<0.1	80	<1	<10	30	192	38
N23	41	256	<10	<0.1	70	<1	<10	22	66	33
N24	13	>300	<10	<0.1	230	<1	<10	76	21	37
N25	12	>300	<10	<0.1	170	<1	<10	18	148	19
*Dup N25	12	>300	<10	<0.1	170	<1	<10	17	136	18
N26	9	240	<10	<0.1	110	<1	<10	44	36	43
N27	14	>300	<10	<0.1	70	<1	<10	44	67	15
N28	8	288	<10	<0.1	90	<1	<10	39	43	19
N29	8	>300	60	0.2	280	4	30	14	660	109
N30	13	300	<10	<0.1	90	<1	<10	31	109	51
N31	10	267	<10	<0.1	60	<1	<10	23	50	300
N32	14	282	<10	<0.1	60	<1	<10	34	113	18
N33	18	271	<10	<0.1	50	<1	<10	20	164	39
N34	10	270	<10	<0.1	30	<1	<10	25	58	12
N35	11	254	<10	<0.1	40	<1	<10	27	24	14
N36	12	280	<10	<0.1	80	<1	<10	21	44	55
N37	8	259	<10	<0.1	150	<1	40	76	91	44
*Dup N37	9	251	<10	<0.1	150	<1	40	85	82	53
N38	12	282	<10	<0.1	90	<1	<10	32	98	47
N39	8	>300	<10	<0.1	60	<1	<10	16	35	14
N40	10	294	10	<0.1	250	<1	70	93	90	18
N41	8	290	<10	<0.1	60	<1	<10	16	33	13
N42	16	>300	<10	<0.1	90	<1	<10	26	32	29
N43	8	>300	<10	<0.1	110	<1	<10	48	32	14
N44	6	>300	20	<0.1	190	2	<10	44	102	111





Order:

Element	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	1	10	0.1	10	1	10	1	5	5
Units	PPB	PPM	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB
N45	12	>300	<10	<0.1	90	<1	<10	24	112	32
N46	7	>300	<10	<0.1	80	<1	<10	20	101	31
N47	32	297	<10	<0.1	100	<1	<10	22	93	40
N48	5	259	20	<0.1	190	1	10	36	213	177
N49	7	233	<10	<0.1	80	<1	30	33	94	13
*Dup N49	8	236	<10	<0.1	80	<1	30	38	91	14
N50	5	290	<10	<0.1	80	<1	<10	44	48	6
*Std MMISRM16	17	60	20	30.1	50	<1	210	5	20	68
*Std MMISRM16	16	61	20	29.8	40	<1	220	5	22	73
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Order:

Element	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	100	10	1	0.5	0.5	1	1	1	5	1
Units	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N01	<100	2730	14	7.9	2.6	50	11	23	<5	2
*Dup N01	<100	2730	13	7.6	2.7	56	11	23	<5	2
N02	<100	2610	13	7.9	2.6	43	10	19	<5	2
N03	<100	5340	30	13.0	5.9	31	24	46	6	1
N04	300	22800	3	1.9	0.6	67	3	8	7	3
N05	<100	8740	17	9.2	4.6	79	18	49	16	4
N06	<100	8370	16	8.6	3.0	70	12	29	<5	2
N07	<100	3390	8	5.5	1.4	67	5	17	<5	1
N08	<100	230	12	6.2	2.7	30	10	17	7	2
N09	<100	840	40	17.8	9.7	26	42	69	<5	3
N10	<100	860	41	17.8	10.6	28	44	78	<5	3
N11	<100	310	11	7.1	1.6	53	6	14	<5	1
N12	<100	650	10	5.7	2.1	89	7	22	<5	1
N13	<100	200	9	6.5	1.7	85	6	15	<5	1
*Dup N13	<100	190	9	6.4	1.7	91	6	15	<5	1
N14	<100	28100	19	10.6	6.2	141	23	96	14	4
N15	<100	1330	9	5.7	1.3	49	5	9	<5	<1
N16	<100	260	7	5.2	1.3	80	5	9	<5	3
N17	<100	6790	34	17.0	10.9	29	45	123	<5	2
N18	<100	2000	27	11.6	5.5	20	23	32	<5	<1
N19	<100	220	12	6.8	2.2	27	8	15	<5	<1
N20	<100	160	5	3.5	1.1	80	4	11	<5	<1
N21	<100	1470	10	5.4	2.2	16	8	13	<5	<1
N22	<100	2790	28	13.5	7.8	32	29	57	5	1
N23	<100	13100	8	5.7	1.5	25	6	16	<5	<1
N24	<100	210	5	4.1	0.8	111	3	7	6	3
N25	<100	120	16	6.8	5.2	29	18	43	<5	1
*Dup N25	<100	120	15	6.5	4.8	29	16	38	<5	1
N26	<100	260	15	9.3	2.4	33	10	15	<5	<1
N27	<100	130	12	5.1	2.7	24	10	17	<5	<1
N28	<100	90	10	5.6	2.0	32	7	11	<5	<1
N29	100	2800	34	14.7	13.4	97	47	192	9	5
N30	<100	900	27	13.0	6.4	23	25	44	<5	<1
N31	<100	770	13	7.0	2.4	27	9	18	<5	<1
N32	<100	1870	21	10.3	5.2	25	20	31	<5	<1
N33	<100	4400	31	15.4	7.7	25	30	51	<5	<1
N34	<100	80	15	8.6	3.5	15	12	18	<5	<1
N35	<100	70	8	4.2	1.4	16	5	7	<5	<1
N36	<100	840	18	10.2	2.8	38	12	17	<5	<1
N37	<100	800	17	8.5	4.8	28	19	35	<5	3
*Dup N37	<100	800	16	8.3	4.3	30	17	31	<5	3
N38	<100	850	25	12.8	5.8	25	23	39	<5	1
N39	<100	40	9	5.2	2.0	26	7	13	<5	<1
N40	<100	2830	13	5.0	3.3	32	13	30	6	5
N41	<100	30	9	5.1	2.0	25	7	12	<5	<1
N42	<100	80	9	4.9	1.8	36	6	11	<5	<1
N43	<100	60	7	4.5	1.6	64	5	12	6	2
N44	<100	320	15	9.2	3.1	59	12	23	5	2

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Order:

Element	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	100	10	1	0.5	0.5	1	1	1	5	1
Units	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N45	<100	330	21	9.8	4.7	31	18	32	<5	<1
N46	<100	190	17	8.0	3.9	44	14	30	<5	<1
N47	<100	2530	23	12.4	4.5	51	17	24	8	2
N48	<100	400	29	16.6	6.1	181	25	62	10	3
N49	<100	1320	50	25.6	16.0	34	71	142	8	3
*Dup N49	<100	1330	50	27.1	15.0	36	66	136	7	3
N50	<100	460	16	7.2	4.0	13	17	34	<5	<1
*Std MMISRM16	<100	720	4	1.5	1.5	3	7	5	<5	34
*Std MMISRM16	<100	740	4	1.7	1.5	2	6	4	<5	35
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	1	<1	<1	<5	<1

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Order:

Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N01	29	5.8	35	128	2040	<1	8	<1	79	<1
*Dup N01	32	6.7	35	119	1970	<1	8	<1	82	<1
N02	26	5.1	32	128	2260	<1	7	<1	80	<1
N03	61	6.2	78	94	520	<1	18	<1	81	<1
N04	35	2.5	10	245	720	<1	3	<1	195	1
N05	237	22.9	71	129	520	<1	17	<1	141	1
N06	124	6.4	41	140	720	<1	9	<1	79	1
N07	10	4.0	19	60	660	<1	5	<1	49	<1
N08	8	6.2	29	84	480	<1	6	<1	96	<1
N09	13	2.4	147	108	1950	<1	31	<1	92	<1
N10	15	2.6	161	110	1750	<1	34	<1	87	<1
N11	6	3.6	19	65	850	<1	4	<1	75	<1
N12	15	5.4	26	101	540	<1	6	<1	65	<1
N13	29	4.5	21	132	880	<1	5	<1	55	<1
*Dup N13	29	5.1	21	133	880	<1	5	<1	55	<1
N14	146	17.4	105	212	2970	<1	27	<1	162	1
N15	17	3.6	13	68	9670	<1	3	<1	66	<1
N16	42	4.6	14	96	900	<1	3	<1	51	<1
N17	333	5.0	191	145	2770	<1	42	<1	60	<1
N18	73	3.0	70	171	2870	<1	14	<1	45	<1
N19	23	3.5	24	136	650	<1	5	<1	55	<1
N20	13	4.9	13	76	690	<1	3	<1	40	<1
N21	25	2.8	25	78	770	<1	5	<1	64	<1
N22	34	5.9	107	73	1230	<1	23	<1	60	<1
N23	16	3.3	21	48	2370	<1	5	<1	41	<1
N24	18	9.3	8	167	410	<1	2	<1	83	2
N25	30	7.1	65	78	270	<1	14	<1	89	<1
*Dup N25	30	6.9	59	77	290	<1	13	<1	91	<1
N26	12	1.2	30	85	510	<1	6	<1	73	<1
N27	30	2.8	30	87	300	<1	7	<1	66	<1
N28	18	3.0	21	74	820	<1	5	<1	50	<1
N29	40	15.3	215	130	1020	<1	53	<1	86	1
N30	19	3.5	87	83	1020	<1	18	<1	60	<1
N31	18	2.9	27	79	670	<1	6	<1	52	<1
N32	32	4.5	64	84	890	<1	13	<1	68	<1
N33	30	3.8	100	73	1320	<1	21	<1	49	<1
N34	6	3.1	36	55	350	<1	8	<1	60	<1
N35	8	1.7	15	56	540	<1	3	<1	48	<1
N36	13	4.1	32	75	840	<1	7	<1	71	<1
N37	11	3.6	63	334	690	<1	13	<1	100	<1
*Dup N37	10	3.3	59	356	660	<1	12	<1	105	<1
N38	18	3.7	77	84	1110	<1	17	<1	59	<1
N39	11	3.6	22	52	430	<1	5	<1	48	<1
N40	120	5.5	44	125	1250	<1	10	<1	74	<1
N41	11	3.4	21	50	470	<1	5	<1	47	<1
N42	17	4.4	19	93	440	<1	4	<1	45	<1
N43	20	9.7	18	46	370	<1	4	<1	69	<1
N44	26	7.8	39	169	4590	<1	9	<1	79	<1

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Order:

Element	Mo	Nb	Nd	Ni	Pb	Pd	Pr	Pt	Rb	Sb
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	5	0.5	1	5	10	1	1	1	5	1
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N45	38	6.1	60	101	1070	<1	13	<1	72	<1
N46	20	4.6	47	99	460	<1	11	<1	77	<1
N47	56	7.3	51	43	830	<1	11	<1	132	<1
N48	13	9.8	90	107	2390	<1	20	<1	86	2
N49	32	6.0	268	59	340	<1	54	<1	80	<1
*Dup N49	35	6.2	245	65	370	<1	50	<1	84	<1
N50	12	2.0	60	91	370	<1	13	<1	49	<1
*Std MMISRM16	59	<0.5	20	285	180	28	3	<1	322	<1
*Std MMISRM16	57	<0.5	19	309	190	30	3	<1	309	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

Order:

Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N01	28	9	<1	70	<1	2	<10	15.8	1930	0.7
*Dup N01	29	9	<1	70	<1	2	<10	15.8	2340	0.7
N02	27	8	<1	40	<1	2	<10	13.4	1680	0.7
N03	28	21	<1	<10	<1	5	<10	28.6	1890	1.0
N04	30	2	<1	30	<1	<1	<10	9.0	1360	3.0
N05	51	16	4	30	2	3	<10	16.0	11100	1.7
N06	26	10	<1	30	<1	2	<10	10.0	2750	1.1
N07	20	4	<1	20	<1	1	<10	9.6	1460	0.8
N08	32	8	<1	<10	<1	2	<10	9.4	2760	0.9
N09	34	37	<1	60	<1	7	<10	20.0	864	1.2
N10	37	39	<1	50	<1	7	<10	22.2	981	1.3
N11	22	5	<1	20	<1	1	<10	8.6	1150	1.1
N12	39	7	<1	50	<1	1	<10	16.4	2300	1.1
N13	32	5	<1	20	<1	1	<10	9.2	2610	0.9
*Dup N13	34	5	2	20	<1	1	<10	9.6	2940	0.9
N14	75	23	2	<10	1	3	<10	45.7	7090	1.6
N15	21	3	<1	<10	<1	1	<10	6.0	1460	0.9
N16	21	4	<1	60	<1	<1	<10	7.3	1990	0.6
N17	37	43	<1	30	<1	6	<10	35.6	1850	0.6
N18	24	20	<1	<10	<1	4	<10	16.2	1030	0.7
N19	29	6	<1	<10	<1	2	<10	8.0	1400	0.7
N20	22	3	<1	30	<1	<1	<10	10.0	1610	1.2
N21	26	7	<1	<10	<1	2	<10	6.8	843	0.9
N22	36	27	<1	<10	<1	5	<10	21.0	2390	1.0
N23	17	5	<1	<10	<1	1	<10	9.7	1180	0.7
N24	32	2	<1	50	<1	<1	<10	8.3	4460	1.2
N25	40	17	<1	<10	<1	3	<10	20.8	2510	0.6
*Dup N25	39	16	<1	<10	<1	3	<10	19.2	2490	0.6
N26	36	8	<1	20	<1	2	<10	3.7	467	0.6
N27	22	8	<1	<10	<1	2	<10	10.4	1060	0.6
N28	22	6	<1	10	<1	1	<10	6.8	1210	<0.5
N29	90	50	2	60	1	7	<10	90.5	6610	1.5
N30	32	21	<1	10	<1	4	<10	10.8	1290	0.6
N31	26	7	<1	<10	<1	2	<10	8.7	1140	0.8
N32	33	17	<1	<10	<1	4	<10	14.9	1650	0.6
N33	38	25	<1	<10	<1	5	<10	15.7	1610	0.6
N34	34	10	<1	<10	<1	2	<10	8.6	1040	0.6
N35	18	4	<1	<10	<1	1	<10	4.4	564	0.6
N36	27	9	<1	<10	<1	2	<10	9.4	1690	0.8
N37	27	16	<1	70	<1	3	<10	15.7	1410	0.9
*Dup N37	26	15	<1	80	<1	3	<10	16.1	1310	0.7
N38	30	19	<1	20	<1	4	<10	10.1	1370	0.6
N39	26	6	<1	<10	<1	1	<10	7.4	1170	0.7
N40	24	11	<1	180	<1	2	<10	29.3	1880	0.8
N41	24	6	<1	<10	<1	1	<10	6.9	1140	0.6
N42	26	5	<1	10	<1	1	<10	6.5	1660	0.6
N43	28	5	<1	20	<1	1	<10	8.8	4230	0.7
N44	39	11	<1	20	<1	2	<10	19.0	2990	0.8

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Order:

Element	Sc	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	5	1	1	10	1	1	10	0.5	3	0.5
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
N45	36	16	<1	<10	<1	3	<10	17.9	2250	0.6
N46	39	12	<1	20	<1	3	<10	15.1	2080	0.6
N47	46	14	<1	<10	<1	3	<10	19.3	3690	0.7
N48	46	22	1	50	<1	4	<10	36.0	4530	1.1
N49	48	60	<1	30	<1	9	<10	10.8	2660	0.8
*Dup N49	48	56	<1	30	<1	9	<10	10.4	2680	0.9
N50	21	14	<1	10	<1	3	<10	6.0	709	<0.5
*Std MMISRM16	14	6	<1	500	<1	<1	<10	31.3	11	<0.5
*Std MMISRM16	13	6	<1	470	<1	<1	<10	33.1	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	5	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	7	<0.5

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Order:

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N01	5	1	64	6	6050	22
*Dup N01	5	1	60	6	6310	24
N02	4	<1	62	6	5940	20
N03	13	3	122	9	2420	36
N04	5	5	14	2	2160	16
N05	6	5	91	7	1350	60
N06	8	2	77	6	2830	22
N07	4	5	40	4	1830	16
N08	5	1	59	5	1050	24
N09	20	1	184	12	2670	18
N10	21	1	184	12	2200	21
N11	3	<1	54	6	2370	14
N12	5	2	40	5	3140	24
N13	4	2	48	5	2390	18
*Dup N13	4	2	47	5	2520	19
N14	17	9	85	10	990	60
N15	3	<1	44	5	1640	14
N16	3	<1	36	4	2880	13
N17	21	4	174	13	1330	25
N18	8	1	111	8	5360	13
N19	3	<1	57	5	1950	16
N20	3	<1	23	3	1470	21
N21	3	<1	46	4	1050	15
N22	11	2	135	10	740	27
N23	5	1	39	5	660	15
N24	3	1	24	4	6040	24
N25	7	1	61	5	1150	39
*Dup N25	7	1	59	5	1010	36
N26	2	<1	85	7	1810	7
N27	4	<1	45	3	1860	16
N28	3	<1	48	4	1650	13
N29	15	16	130	11	670	83
N30	6	1	132	9	1030	17
N31	5	<1	61	5	760	15
N32	6	<1	97	7	1500	21
N33	11	2	153	11	590	18
N34	5	<1	74	7	170	14
N35	2	<1	38	3	1350	10
N36	5	<1	85	8	450	17
N37	6	1	88	7	4720	18
*Dup N37	5	1	84	6	5350	17
N38	6	1	127	9	1220	16
N39	3	<1	43	4	420	16
N40	11	2	45	3	5930	28
N41	3	<1	43	4	420	14
N42	3	<1	39	4	3040	15
N43	3	<1	35	4	1480	27
N44	5	2	68	8	3240	29

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Order:

Element	U	W	Y	Yb	Zn	Zr
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	1	5	1	20	5
Units	PPB	PPB	PPB	PPB	PPB	PPB
N45	7	1	93	8	520	24
N46	5	1	72	6	1220	25
N47	9	7	106	10	650	40
N48	12	3	140	13	1490	39
N49	16	2	329	17	900	26
*Dup N49	15	1	340	18	1200	27
N50	5	1	79	5	3410	10
*Std MMISRM16	49	<1	15	1	300	22
*Std MMISRM16	50	<1	15	1	350	21
*Bik BLANK	<1	<1	<5	<1	<20	<5
*Bik BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101903

To: **Amador Gold Corp.**  
Attn: John Walmsley  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Aug 26, 2008

P.O. No. : WFO#006  
Project No. : DEFAULT  
No. Of Samples : 65  
Date Submitted : Jul 23, 2008  
Report Comprises : Pages 1 to 11  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Discard after 90 days: 65 Soils

Certified By : \_\_\_\_\_

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Order: WFO#006

Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N527	7	203	<10	<0.1	80	<1	<10	14	46	19
*Rep N527	7	210	<10	<0.1	90	<1	<10	13	56	17
N528	6	249	<10	<0.1	110	<1	10	6	196	19
N529	4	157	<10	<0.1	150	<1	80	8	83	<5
N530	7	240	<10	<0.1	100	<1	<10	9	61	11
N531	6	245	<10	<0.1	180	<1	40	20	152	16
N532	7	247	<10	<0.1	120	<1	10	9	237	8
N533	6	255	<10	<0.1	110	<1	<10	13	114	12
N534	4	257	<10	<0.1	130	<1	<10	28	45	12
N535	7	183	<10	<0.1	140	<1	<10	18	276	17
N536	8	264	<10	<0.1	130	<1	<10	11	112	23
N537	7	273	<10	<0.1	130	<1	<10	25	206	9
N538	4	268	<10	<0.1	100	<1	<10	15	272	11
N539	5	287	<10	<0.1	210	<1	10	30	163	8
*Rep N539	5	287	<10	<0.1	200	<1	10	31	148	8
N540	7	221	<10	<0.1	100	<1	<10	38	34	16
N541	4	245	<10	<0.1	100	<1	<10	18	32	9
N542	5	220	<10	<0.1	70	<1	<10	8	229	15
N543	5	257	<10	<0.1	110	<1	10	8	175	10
N544	6	243	<10	<0.1	100	<1	<10	14	109	12
N545	3	208	<10	<0.1	140	<1	10	12	204	25
N546	4	254	<10	<0.1	160	<1	<10	8	130	19
N547	4	247	<10	<0.1	120	<1	<10	11	274	24
N548	9	252	<10	<0.1	100	<1	<10	19	172	12
N549	4	269	<10	<0.1	190	<1	<10	19	50	17
N550	6	275	<10	<0.1	100	<1	<10	14	35	19
N551	8	232	<10	<0.1	120	<1	<10	21	138	13
*Rep N551	8	226	<10	<0.1	120	<1	<10	24	114	16
N552	9	244	<10	<0.1	120	<1	<10	31	106	16
N554	7	241	<10	<0.1	110	<1	<10	46	36	19
N555	5	262	<10	<0.1	80	<1	<10	13	94	17
N556	4	273	<10	<0.1	130	<1	<10	52	22	19
N557	8	241	<10	<0.1	80	<1	<10	13	99	12
N558	8	261	<10	<0.1	110	<1	<10	15	107	14
N559	7	266	<10	<0.1	130	<1	<10	21	50	17
N560	7	280	<10	<0.1	90	<1	<10	18	83	24
N561	8	225	<10	<0.1	80	<1	<10	51	16	15
N562	5	238	<10	<0.1	90	<1	<10	45	12	13
N563	3	160	<10	<0.1	150	<1	20	8	399	36
N564	8	217	<10	<0.1	70	<1	<10	16	114	7
*Rep N564	8	212	<10	<0.1	80	<1	<10	18	108	7
N565	6	257	<10	<0.1	80	<1	<10	28	42	13
N566	6	214	<10	<0.1	120	<1	<10	26	7	12
N567	5	284	<10	<0.1	110	<1	<10	33	69	9
N568	7	236	<10	<0.1	100	<1	<10	52	69	8
N569	5	269	<10	<0.1	140	<1	<10	30	22	15

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	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N570	7	278	<10	<0.1	110	<1	<10	20	46	17
N571	7	280	<10	<0.1	140	<1	<10	11	70	14
<b>Element Method Det.Lim. Units</b>	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N572	7	270	<10	<0.1	130	<1	<10	12	68	14
N573	5	244	<10	<0.1	60	<1	<10	14	91	7
N574	8	259	<10	<0.1	120	<1	20	30	225	16
N575	10	221	<10	<0.1	100	<1	<10	26	85	7
N576	6	287	<10	<0.1	140	<1	<10	19	104	24
*Rep N576	7	>300	<10	<0.1	150	<1	<10	21	98	30
N577	7	256	<10	<0.1	120	<1	<10	27	32	14
N578	5	273	<10	<0.1	70	<1	<10	8	84	9
N579	6	>300	<10	<0.1	170	<1	<10	19	360	21
N580	4	239	<10	<0.1	70	<1	<10	21	46	6
N581	4	>300	<10	<0.1	150	<1	<10	25	111	49
N582	7	288	<10	<0.1	210	<1	<10	33	66	43
N583	4	271	<10	<0.1	200	<1	10	14	213	58
N584	7	232	<10	<0.1	150	<1	<10	39	48	15
N585	5	234	<10	<0.1	120	<1	<10	33	28	18
N586	6	>300	<10	<0.1	170	<1	<10	27	115	54
N587	5	>300	<10	<0.1	270	<1	<10	22	477	113
N588	7	209	<10	<0.1	110	<1	<10	26	57	25
*Rep N588	7	220	<10	<0.1	100	<1	<10	29	63	28
N589	3	249	<10	<0.1	130	<1	<10	25	10	18
N590	4	190	10	<0.1	770	1	20	5	787	186
N591	7	259	<10	<0.1	180	<1	<10	50	21	22
N592	9	215	<10	<0.1	100	<1	<10	22	5	10
*Std MMISRM16	13	24	10	21.1	90	<1	180	3	17	33
*Std MMISRM16	15	40	10	25.8	80	<1	170	3	20	47
*BIK BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*BIK BLANK	<1	2	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N527	<100	40	10	4.9	2.7	6	9	15	<5	<1
*Rep N527	<100	40	11	5.4	3.2	5	11	19	<5	<1
N528	100	70	16	6.8	7.0	25	25	77	<5	<1
N529	<100	30	8	3.1	3.6	4	12	36	<5	<1
N530	<100	30	11	5.1	3.4	4	12	21	<5	<1
N531	<100	50	17	7.0	6.0	8	22	46	<5	<1
N532	<100	40	22	9.2	9.6	8	34	86	<5	<1
N533	<100	50	16	6.7	5.7	7	20	37	<5	<1
N534	<100	50	12	5.1	2.8	4	10	15	<5	<1
N535	<100	40	27	10.4	12.1	6	40	92	<5	<1
N536	<100	40	14	6.3	5.4	10	19	41	<5	<1
N537	<100	120	23	10.2	8.9	13	32	70	<5	<1
N538	<100	210	26	11.1	9.9	26	35	88	<5	<1
N539	<100	130	16	6.5	6.1	33	21	58	<5	<1
*Rep N539	<100	130	15	6.4	5.6	30	20	54	<5	<1
N540	<100	30	13	6.8	2.6	23	10	11	<5	<1
N541	<100	40	9	5.3	1.9	29	7	12	<5	<1
N542	<100	40	21	9.3	9.5	9	33	85	<5	<1
N543	<100	90	16	6.3	6.5	6	23	60	<5	<1
N544	<100	40	15	7.2	4.4	8	17	35	<5	<1
N545	<100	70	17	7.0	7.7	16	25	76	<5	<1
N546	<100	50	13	5.1	5.7	10	18	51	<5	<1
N547	<100	40	20	7.7	8.7	12	31	104	<5	<1
N548	<100	120	26	12.0	7.9	5	30	60	<5	<1
N549	<100	60	10	4.8	2.9	44	10	18	<5	<1
N550	<100	20	8	4.2	2.0	12	7	13	<5	<1
N551	<100	70	16	8.6	6.3	21	22	46	<5	<1
*Rep N551	<100	80	15	7.9	5.4	22	18	37	<5	<1
N552	<100	80	15	8.0	5.0	24	17	34	<5	<1
N554	<100	60	11	6.1	2.2	20	8	14	<5	<1
N555	<100	40	13	5.6	4.6	8	16	33	<5	<1
N556	<100	50	8	4.4	1.3	32	5	9	<5	<1
N557	<100	40	14	6.2	4.6	8	16	34	<5	<1
N558	<100	40	15	6.7	4.7	10	17	37	<5	<1
N559	<100	40	10	5.1	2.6	14	9	19	<5	<1
N560	<100	40	12	4.9	3.6	15	13	28	<5	<1
N561	<100	60	7	4.4	1.0	20	4	6	<5	<1
N562	<100	50	7	4.4	0.8	25	4	5	<5	<1
N563	<100	90	28	11.3	11.9	16	45	168	<5	<1
N564	<100	70	17	7.7	6.0	6	21	40	<5	<1
*Rep N564	<100	70	16	7.4	5.8	6	20	37	<5	<1
N565	<100	70	11	4.9	2.5	11	9	15	<5	<1
N566	<100	140	6	5.7	<0.5	74	2	3	<5	<1
N567	<100	80	10	4.1	3.7	7	12	25	<5	<1
N568	<100	50	15	6.8	3.7	6	14	23	<5	<1
N569	<100	70	8	4.1	1.5	7	6	8	<5	<1

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	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N570	<100	50	10	4.6	2.5	8	9	16	<5	<1
N571	<100	40	12	5.1	3.9	7	13	24	<5	<1
<b>Element</b>	Cr	Cu	Dy	Er	Eu	Fe	Gd	La	Li	Mg
<b>Method</b>	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
<b>Det.Lim.</b>	100	10	1	0.5	0.5	1	1	1	5	1
<b>Units</b>	PPB	PPB	PPB	PPB	PPB	PPM	PPB	PPB	PPB	PPM
N572	<100	30	11	5.1	3.8	6	13	24	<5	<1
N573	<100	50	16	6.4	4.8	9	18	32	<5	<1
N574	<100	70	28	11.5	10.0	9	37	82	<5	<1
N575	<100	140	13	6.3	4.4	3	15	33	<5	<1
N576	<100	50	16	6.8	5.1	10	18	37	<5	<1
*Rep N576	<100	60	17	7.6	4.8	14	17	35	<5	<1
N577	<100	100	10	6.4	1.9	35	7	12	<5	<1
N578	<100	50	17	7.7	4.5	14	16	26	<5	<1
N579	<100	130	43	19.8	15.6	28	60	141	<5	<1
N580	<100	20	12	5.5	3.0	5	11	15	<5	<1
N581	<100	80	15	6.7	3.9	11	15	37	<5	<1
N582	<100	160	14	7.0	2.8	42	12	23	<5	<1
N583	<100	80	23	9.2	8.8	12	31	81	<5	<1
N584	<100	20	19	11.3	3.8	28	15	17	<5	<1
N585	<100	50	8	4.6	1.6	13	6	10	<5	<1
N586	<100	180	18	8.4	4.8	34	18	40	<5	<1
N587	100	360	37	15.3	13.5	46	49	170	<5	<1
N588	<100	90	12	5.5	3.0	8	11	19	<5	<1
*Rep N588	<100	90	13	5.9	3.3	9	13	21	<5	<1
N589	<100	30	3	3.1	<0.5	39	2	5	<5	<1
N590	<100	330	21	8.3	7.3	51	27	127	<5	3
N591	<100	70	7	4.3	1.2	30	5	9	<5	<1
N592	<100	70	5	3.2	<0.5	10	2	2	<5	<1
*Std MMISRM16	<100	380	1	<0.5	0.7	2	3	4	<5	32
*Std MMISRM16	<100	460	2	0.8	1.1	2	4	5	<5	33
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	1	<5	<1
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N527	<5	0.7	33	76	220	<1	7	<1	35	<1
*Rep N527	<5	0.6	40	73	240	<1	9	<1	38	<1
N528	<5	3.7	111	51	80	<1	27	<1	50	<1
N529	<5	0.9	50	66	90	<1	11	<1	58	<1
N530	<5	1.0	41	62	110	<1	9	<1	53	<1
N531	<5	2.8	79	85	60	<1	18	<1	84	<1
N532	<5	3.6	158	61	80	<1	35	<1	74	<1
N533	<5	2.6	72	52	90	<1	16	<1	65	<1
N534	<5	1.3	32	69	280	<1	7	<1	68	<1
N535	<5	2.4	168	79	80	<1	39	<1	94	<1
N536	<5	2.6	75	57	140	<1	16	<1	62	<1
N537	<5	3.4	134	62	130	<1	29	<1	93	<1
N538	<5	2.8	146	46	110	<1	34	<1	57	<1
N539	<5	5.3	87	53	140	<1	20	<1	48	1
*Rep N539	<5	5.0	81	48	160	<1	19	<1	46	1
N540	<5	1.6	26	93	190	<1	5	<1	61	<1
N541	<5	0.8	22	48	290	<1	5	<1	31	<1
N542	<5	2.9	151	32	100	<1	34	<1	68	<1
N543	<5	1.6	98	49	90	<1	23	<1	59	<1
N544	<5	0.6	64	65	60	<1	14	<1	64	<1
N545	<5	2.0	121	87	170	<1	29	<1	58	<1
N546	<5	3.5	75	49	80	<1	17	<1	50	<1
N547	<5	5.2	145	46	70	<1	35	<1	63	<1
N548	<5	1.2	113	83	110	<1	26	<1	58	<1
N549	<5	2.2	35	91	580	<1	7	<1	56	<1
N550	<5	1.7	21	66	270	<1	5	<1	44	<1
N551	<5	4.1	90	81	140	<1	19	<1	64	<1
*Rep N551	<5	3.6	76	85	150	<1	16	<1	75	<1
N552	<5	3.5	70	80	190	<1	15	<1	79	<1
N554	<5	1.6	23	60	400	<1	5	<1	52	<1
N555	<5	2.4	61	46	210	<1	13	<1	69	<1
N556	<5	2.4	15	78	330	<1	3	<1	78	<1
N557	<5	1.2	64	39	110	<1	14	<1	57	<1
N558	<5	1.5	67	46	120	<1	15	<1	60	<1
N559	<5	2.0	33	90	190	<1	7	<1	61	<1
N560	<5	2.9	48	51	150	<1	11	<1	53	<1
N561	<5	1.8	10	51	250	<1	2	<1	71	<1
N562	<5	2.3	9	50	450	<1	2	<1	50	<1
N563	<5	5.0	215	53	70	<1	54	<1	81	<1
N564	<5	1.7	77	55	120	<1	17	<1	54	<1
*Rep N564	<5	1.5	73	47	130	<1	16	<1	54	<1
N565	<5	1.1	28	63	140	<1	6	<1	46	<1
N566	<5	1.8	4	64	1050	<1	<1	<1	89	<1
N567	<5	2.6	41	45	240	<1	9	<1	70	<1
N568	<5	1.2	46	58	330	<1	10	<1	53	<1
N569	<5	0.9	15	61	350	<1	3	<1	47	<1

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	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N570	<5	1.1	29	52	230	<1	7	<1	76	<1
N571	<5	2.4	47	55	130	<1	10	<1	58	<1
<b>Element Method Det.Lim. Units</b>	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N572	<5	2.4	45	98	120	<1	10	<1	60	<1
N573	<5	1.1	62	32	180	<1	13	<1	58	1
N574	<5	3.1	136	59	210	<1	31	<1	80	<1
N575	<5	0.9	60	57	250	<1	13	<1	62	<1
N576	<5	4.0	64	73	140	<1	14	<1	79	<1
*Rep N576	<5	4.4	59	71	170	<1	13	<1	83	<1
N577	<5	2.8	21	71	240	<1	4	<1	54	<1
N578	<5	2.6	52	63	160	<1	12	<1	51	4
N579	<5	5.3	252	70	190	<1	57	<1	67	<1
N580	<5	1.2	35	49	210	<1	7	<1	84	<1
N581	<5	1.6	58	71	120	<1	14	<1	54	<1
N582	<5	2.1	39	198	290	<1	9	<1	55	<1
N583	<5	3.7	127	84	100	<1	30	<1	80	<1
N584	<5	1.8	43	78	230	<1	9	<1	65	<1
N585	<5	0.9	19	85	260	<1	4	<1	52	<1
N586	<5	2.3	66	135	170	<1	15	<1	56	<1
N587	<5	6.9	226	112	120	<1	56	<1	57	<1
N588	<5	0.7	39	78	210	<1	9	<1	42	<1
*Rep N588	<5	0.7	42	80	270	<1	9	<1	45	<1
N589	<5	1.6	5	66	250	<1	1	<1	55	<1
N590	<5	9.6	130	99	80	<1	36	<1	80	1
N591	<5	1.4	14	77	520	<1	3	<1	57	<1
N592	<5	<0.5	4	82	440	<1	<1	<1	30	<1
*Std MMISRM16	38	<0.5	13	141	40	16	2	<1	265	<1
*Std MMISRM16	40	<0.5	18	175	80	21	3	<1	272	<1
*BIK BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1
*BIK BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Order: WFO#006

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N527	21	8	<1	10	<1	2	<10	3.2	172	<0.5
*Rep N527	22	9	<1	10	<1	2	<10	3.3	149	<0.5
N528	36	25	3	20	<1	3	<10	25.7	1170	0.5
N529	17	12	<1	170	<1	2	<10	8.2	187	<0.5
N530	19	10	<1	<10	<1	2	<10	4.3	221	<0.5
N531	24	20	<1	80	<1	3	<10	18.2	713	0.6
N532	27	35	<1	<10	<1	5	<10	19.5	748	<0.5
N533	22	18	<1	10	<1	3	<10	10.9	552	<0.5
N534	18	8	<1	20	<1	2	<10	5.3	223	<0.5
N535	34	41	<1	<10	<1	6	<10	22.6	633	<0.5
N536	24	18	<1	<10	<1	3	<10	14.8	653	<0.5
N537	38	31	<1	<10	<1	4	<10	21.1	901	<0.5
N538	38	33	<1	<10	<1	5	<10	28.1	735	0.5
N539	32	21	<1	10	<1	3	<10	34.0	1620	0.5
*Rep N539	30	19	<1	10	<1	3	<10	33.0	1480	0.5
N540	27	7	<1	<10	<1	2	<10	6.7	607	<0.5
N541	23	6	<1	<10	<1	1	<10	4.8	200	<0.5
N542	34	33	<1	<10	<1	4	<10	16.8	788	<0.5
N543	20	22	<1	20	<1	3	<10	15.3	376	<0.5
N544	25	14	<1	<10	<1	3	<10	9.0	238	<0.5
N545	31	26	<1	<10	<1	4	<10	16.1	633	<0.5
N546	27	18	<1	<10	<1	3	<10	19.7	1080	<0.5
N547	31	31	<1	<10	<1	4	<10	26.5	1470	<0.5
N548	29	26	<1	<10	<1	5	<10	8.5	270	<0.5
N549	23	8	<1	50	<1	2	<10	9.9	881	<0.5
N550	17	5	<1	<10	<1	1	<10	3.6	451	<0.5
N551	29	19	<1	<10	<1	3	<10	8.8	1560	<0.5
*Rep N551	29	16	<1	<10	<1	3	<10	8.0	1470	<0.5
N552	29	15	<1	<10	<1	3	<10	7.9	1450	<0.5
N554	22	6	<1	<10	<1	2	<10	5.6	381	<0.5
N555	22	15	<1	<10	<1	2	<10	10.2	456	<0.5
N556	17	4	<1	<10	<1	1	<10	7.0	823	0.6
N557	20	14	<1	<10	<1	3	<10	7.7	358	<0.5
N558	23	15	<1	<10	<1	3	<10	8.6	437	<0.5
N559	22	8	<1	<10	<1	2	<10	6.9	514	<0.5
N560	20	11	<1	<10	<1	2	<10	13.5	645	<0.5
N561	17	3	<1	<10	<1	<1	<10	4.8	633	<0.5
N562	17	2	<1	<10	<1	<1	<10	3.7	881	0.6
N563	33	47	<1	10	<1	6	<10	43.4	1780	<0.5
N564	25	19	<1	<10	<1	3	<10	9.1	365	<0.5
*Rep N564	24	18	<1	<10	<1	3	<10	8.7	324	<0.5
N565	19	7	<1	<10	<1	2	<10	8.1	294	<0.5
N566	20	1	<1	10	<1	<1	<10	8.3	772	0.8
N567	16	11	<1	<10	<1	2	<10	10.2	631	0.5
N568	20	11	<1	<10	<1	2	<10	4.7	281	0.5
N569	15	4	<1	<10	<1	1	<10	3.2	252	<0.5

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	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N570	15	7	<1	<10	<1	2	<10	4.1	308	0.8
N571	19	12	<1	<10	<1	2	<10	6.7	520	<0.5
<b>Element Method Det.Lim. Units</b>	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N572	19	11	<1	<10	<1	2	<10	6.0	486	<0.5
N573	22	15	<1	<10	<1	3	<10	6.3	234	0.7
N574	31	34	<1	50	<1	5	<10	14.2	776	0.5
N575	19	13	<1	30	<1	2	<10	4.9	153	<0.5
N576	28	16	<1	<10	<1	3	<10	17.7	838	<0.5
*Rep N576	32	15	<1	<10	<1	3	<10	18.9	996	<0.5
N577	25	5	<1	<10	<1	1	<10	7.4	1090	<0.5
N578	27	13	<1	<10	<1	3	<10	8.6	798	<0.5
N579	58	55	<1	<10	<1	8	<10	40.3	2120	<0.5
N580	20	9	<1	<10	<1	2	<10	4.2	268	<0.5
N581	22	14	<1	30	<1	3	<10	14.2	429	<0.5
N582	21	9	<1	30	<1	2	<10	10.3	896	<0.5
N583	33	31	<1	<10	<1	5	<10	20.6	1310	<0.5
N584	30	11	<1	20	<1	3	<10	5.9	683	0.6
N585	17	4	<1	<10	<1	1	<10	4.3	174	<0.5
N586	29	17	<1	<10	<1	3	<10	29.4	843	<0.5
N587	56	50	<1	<10	<1	7	<10	84.6	2630	<0.5
N588	15	9	<1	<10	<1	2	<10	5.3	150	<0.5
*Rep N588	17	10	<1	<10	<1	2	<10	5.1	151	<0.5
N589	10	1	<1	20	<1	<1	<10	3.1	512	<0.5
N590	27	28	<1	130	<1	4	<10	135	2460	0.9
N591	16	4	<1	30	<1	<1	<10	6.7	320	0.5
N592	10	1	<1	<10	<1	<1	<10	1.5	131	<0.5
*Std MMISRM16	6	3	<1	450	<1	<1	<10	13.8	<3	<0.5
*Std MMISRM16	6	5	<1	400	<1	<1	<10	24.0	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	6	<0.5

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Order: WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N527	4	<1	59	4	310	7
*Rep N527	4	<1	61	4	300	7
N528	9	<1	68	5	220	36
N529	5	<1	35	2	320	11
N530	4	<1	54	4	90	9
N531	8	<1	69	5	1180	19
N532	8	1	103	7	840	24
N533	7	<1	69	5	280	15
N534	2	<1	49	4	3360	11
N535	11	<1	105	8	460	21
N536	5	<1	61	4	440	18
N537	10	<1	111	8	530	25
N538	13	<1	117	9	290	25
N539	10	1	60	5	1030	44
*Rep N539	10	<1	61	5	1000	43
N540	7	<1	63	6	1110	9
N541	3	<1	45	4	850	7
N542	8	<1	97	7	360	22
N543	9	<1	66	4	270	15
N544	8	<1	77	5	810	10
N545	7	<1	75	6	640	20
N546	8	<1	52	4	370	26
N547	9	1	79	6	260	32
N548	4	<1	128	9	1030	11
N549	6	<1	49	4	730	15
N550	3	<1	43	3	500	8
N551	8	<1	95	7	1580	14
*Rep N551	8	<1	93	7	2250	12
N552	8	<1	92	7	1810	12
N554	5	<1	54	5	1350	11
N555	4	<1	62	4	380	14
N556	4	<1	35	3	850	12
N557	8	<1	68	5	420	10
N558	9	<1	73	5	530	12
N559	5	<1	50	4	590	12
N560	6	<1	51	4	450	17
N561	4	<1	35	4	350	8
N562	3	<1	37	4	1030	9
N563	12	2	112	9	280	31
N564	7	<1	80	6	460	15
*Rep N564	7	<1	80	6	500	14
N565	5	<1	48	4	300	10
N566	4	<1	33	6	410	8
N567	4	<1	40	3	430	17
N568	5	<1	67	5	1720	10
N569	2	<1	37	3	1140	7

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Order: WFO#006

	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N570	2	<1	49	3	2030	9
N571	4	<1	50	4	300	13
Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N572	3	<1	52	4	230	13
N573	4	<1	69	5	150	10
N574	7	<1	127	8	780	22
N575	4	<1	70	5	1770	9
N576	9	<1	66	5	940	23
*Rep N576	10	<1	71	6	890	25
N577	8	<1	55	6	2350	11
N578	7	<1	79	6	180	15
N579	19	1	202	15	830	38
N580	5	<1	60	4	470	10
N581	7	<1	70	5	940	13
N582	6	<1	67	5	4010	11
N583	9	<1	96	7	950	26
N584	7	<1	111	9	670	9
N585	4	<1	40	4	870	8
N586	13	<1	77	6	810	18
N587	22	1	141	13	670	56
N588	5	<1	57	4	690	9
*Rep N588	5	<1	65	5	760	9
N589	2	<1	16	3	820	6
N590	13	4	75	7	1110	47
N591	4	<1	33	4	4730	10
N592	1	<1	23	3	1830	<5
*Std MMISRM16	31	<1	6	<1	170	9
*Std MMISRM16	45	<1	9	<1	230	13
*BIK BLANK	<1	<1	<5	<1	<20	<5
*BIK BLANK	<1	<1	<5	<1	<20	<5

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## Certificate of Analysis

Work Order: TO101902

To: **Amador Gold Corp.**  
Attn: CFO Alan Campbell  
c/o Golden Chalice Resources  
P.O. Box 1124, 571 Moneta Ave.  
TIMMINS  
ON P4N 7J3

Date: Oct 22, 2008

P.O. No. : WFO#006  
Project No. : DEFAULT  
No. Of Samples 32  
Date Submitted Jul 23, 2008  
Report Comprises Pages 1 to 6  
(Inclusive of Cover Sheet)

### Distribution of unused material:

Discard after 90 days: 32 Soils

Certified By :

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 PPB	Al MMI-M5 1 PPM	As MMI-M5 10 PPB	Au MMI-M5 0.1 PPB	Ba MMI-M5 10 PPB	Bi MMI-M5 1 PPB	Ca MMI-M5 10 PPM	Cd MMI-M5 1 PPB	Ce MMI-M5 5 PPB	Co MMI-M5 5 PPB
N249	5	>300	<10	<0.1	140	<1	<10	50	36	12
*Rep N249	6	>300	<10	<0.1	160	<1	<10	57	35	14
N250	6	>300	<10	<0.1	160	<1	<10	23	121	25
N251	6	>300	<10	<0.1	120	<1	<10	38	32	10
N252	4	214	<10	<0.1	40	<1	<10	26	8	23
N253	6	>300	<10	<0.1	50	<1	<10	33	23	25
N254	6	>300	<10	<0.1	110	<1	<10	47	56	18
N255	6	>300	<10	<0.1	80	<1	<10	36	14	13
N256	5	221	<10	<0.1	120	<1	<10	48	13	23
N257	8	>300	<10	<0.1	130	<1	<10	32	40	30
N258	5	246	<10	<0.1	80	<1	<10	49	11	18
N259	8	>300	<10	<0.1	90	<1	<10	26	68	10
N260	6	>300	<10	<0.1	180	<1	<10	45	13	19
N261	10	244	<10	<0.1	80	<1	<10	22	15	26
*Rep N261	9	<1	<10	<0.1	80	<1	<10	22	14	28
N262	9	264	<10	<0.1	80	<1	<10	43	30	13
N263	11	>300	<10	<0.1	60	<1	<10	17	34	50
N264	8	>300	<10	<0.1	100	<1	<10	24	51	27
N265	6	270	<10	<0.1	60	<1	<10	30	23	11
N266	5	>300	<10	<0.1	50	<1	<10	10	409	17
N267	3	>300	<10	<0.1	90	<1	<10	44	28	15
N268	5	>300	<10	<0.1	240	<1	<10	21	105	21
N269	3	>300	<10	<0.1	110	<1	<10	42	135	13
N270	6	>300	<10	<0.1	150	<1	10	15	172	71
N271	5	>300	<10	<0.1	80	<1	<10	28	50	22
N272	11	>300	<10	<0.1	110	<1	<10	24	117	10
N273	6	265	<10	<0.1	130	<1	<10	26	35	14
*Rep N273	7	270	<10	<0.1	130	<1	<10	27	39	13
N274	5	>300	<10	<0.1	120	<1	<10	66	26	15
N275	4	>300	<10	<0.1	160	<1	<10	18	9	32
N276	6	285	<10	<0.1	140	<1	<10	11	20	25
N277	10	>300	<10	<0.1	150	<1	<10	28	71	41
N278	10	>300	<10	<0.1	140	<1	<10	27	75	40
N279	7	>300	<10	<0.1	110	<1	<10	23	41	43
N280	8	>300	<10	<0.1	100	<1	<10	22	43	45
*Std MMISRM16	14	43	20	21.5	80	<1	210	3	26	49
*Bik BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5 100 PPB	Cu MMI-M5 10 PPB	Dy MMI-M5 1 PPB	Er MMI-M5 0.5 PPB	Eu MMI-M5 0.5 PPB	Fe MMI-M5 1 PPM	Gd MMI-M5 1 PPB	La MMI-M5 1 PPB	Li MMI-M5 5 PPB	Mg MMI-M5 1 PPM
N249	<100	30	10	4.9	2.5	7	8	11	<5	<1
*Rep N249	<100	40	10	5.1	2.3	8	8	12	<5	<1
N250	<100	50	26	11.2	6.1	21	21	34	<5	<1
N251	<100	120	11	5.6	2.1	23	8	11	<5	<1
N252	<100	30	5	5.6	<0.5	39	2	4	<5	<1
N253	<100	140	10	6.7	1.5	24	6	9	<5	<1
N254	<100	80	14	7.5	3.4	19	12	18	<5	<1
N255	<100	70	7	4.7	1.0	15	4	6	<5	<1
N256	<100	50	5	4.7	0.6	53	2	5	<5	<1
N257	<100	50	10	5.9	2.3	16	8	13	<5	<1
N258	<100	70	7	5.6	0.7	38	3	5	<5	<1
N259	<100	60	16	7.9	3.9	6	14	22	<5	<1
N260	<100	70	7	5.3	0.9	26	3	6	<5	<1
N261	<100	50	7	6.1	0.9	25	3	6	<5	<1
*Rep N261	<100	30	7	5.9	0.8	28	3	6	<5	<1
N262	<100	160	12	6.5	2.0	6	7	10	<5	<1
N263	<100	60	12	6.7	2.3	16	8	11	<5	<1
N264	<100	40	16	7.9	3.6	31	13	17	<5	<1
N265	<100	50	10	5.0	1.8	6	6	8	<5	<1
N266	<100	70	43	21.0	18.7	14	65	147	<5	<1
N267	<100	40	11	6.0	1.9	16	7	10	<5	<1
N268	<100	110	20	9.7	6.1	11	21	35	<5	<1
N269	<100	150	28	14.7	8.0	22	29	44	<5	<1
N270	<100	110	21	7.9	6.8	15	24	53	<5	<1
N271	<100	170	13	6.9	3.0	23	10	18	<5	<1
N272	<100	110	22	10.3	6.3	25	22	42	<5	<1
N273	<100	90	11	5.3	2.3	10	8	12	<5	<1
*Rep N273	<100	70	11	5.2	2.4	9	8	13	<5	<1
N274	<100	390	9	4.9	1.6	11	6	10	<5	<1
N275	<100	40	4	3.8	<0.5	31	2	4	<5	<1
N276	<100	20	6	4.6	1.2	30	4	8	<5	<1
N277	<100	90	10	5.5	2.6	24	8	18	<5	<1
N278	<100	90	11	5.6	2.8	20	10	20	<5	<1
N279	<100	110	8	6.7	1.6	61	6	14	<5	<1
N280	<100	30	9	7.0	1.8	60	6	15	<5	<1
*Std MMISRM16	100	500	2	0.8	1.2	3	5	6	<5	35
*Bik BLANK	<100	<10	<1	<0.5	<0.5	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Mo MMI-M5 5 PPB	Nb MMI-M5 0.5 PPB	Nd MMI-M5 1 PPB	Ni MMI-M5 5 PPB	Pb MMI-M5 10 PPB	Pd MMI-M5 1 PPB	Pr MMI-M5 1 PPB	Pt MMI-M5 1 PPB	Rb MMI-M5 5 PPB	Sb MMI-M5 1 PPB
N249	<5	1.4	24	66	190	<1	5	<1	51	<1
*Rep N249	<5	1.5	23	78	200	<1	5	<1	56	<1
N250	<5	4.3	66	54	140	<1	15	<1	73	<1
N251	<5	3.1	21	47	380	<1	5	<1	65	<1
N252	<5	2.5	5	41	450	<1	1	<1	72	<1
N253	<5	2.7	14	34	560	<1	3	<1	63	<1
N254	<5	2.7	36	66	590	<1	8	<1	67	<1
N255	<5	1.4	9	58	540	<1	2	<1	54	<1
N256	<5	2.6	7	58	390	<1	2	<1	84	<1
N257	<5	2.3	23	72	290	<1	6	<1	50	<1
N258	<5	1.6	6	60	920	<1	1	<1	64	1
N259	<5	1.6	44	43	200	<1	10	<1	69	<1
N260	<5	2.0	8	102	320	<1	2	<1	51	<1
N261	<5	2.1	9	53	450	<1	2	<1	37	<1
*Rep N261	<5	2.3	8	57	440	<1	2	<1	38	<1
N262	<5	1.6	19	84	310	<1	4	<1	65	<1
N263	<5	1.5	22	142	370	<1	5	<1	44	<1
N264	<5	5.6	37	78	400	<1	8	<1	65	<1
N265	<5	1.3	16	45	290	<1	4	<1	45	<1
N266	<5	5.3	279	36	110	<1	66	<1	79	<1
N267	<5	1.7	19	65	290	<1	4	<1	65	<1
N268	<5	4.5	67	81	130	<1	15	<1	80	<1
N269	<5	5.0	92	60	140	<1	20	<1	90	<1
N270	<5	5.1	83	112	80	<1	20	<1	98	<1
N271	<5	4.6	32	39	200	<1	8	<1	60	<1
N272	<5	8.7	76	57	130	<1	18	<1	74	<1
N273	<5	1.4	22	80	320	<1	5	<1	55	<1
*Rep N273	<5	1.5	25	77	300	<1	5	<1	53	<1
N274	<5	2.2	16	63	610	<1	4	<1	77	<1
N275	<5	2.3	4	108	270	<1	1	<1	45	<1
N276	<5	1.6	12	105	420	<1	3	<1	56	<1
N277	<5	2.9	27	75	330	<1	7	<1	38	<1
N278	<5	2.8	31	72	310	<1	7	<1	37	<1
N279	<5	4.5	18	129	280	<1	4	<1	57	<1
N280	<5	4.6	20	115	290	<1	5	<1	58	<1
*Std MMISRM16	37	<0.5	19	180	90	20	4	<1	324	<1
*Bik BLANK	<5	<0.5	<1	<5	<10	<1	<1	<1	<5	<1

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Element Method Det.Lim. Units	Sc MMI-M5 5 PPB	Sm MMI-M5 1 PPB	Sn MMI-M5 1 PPB	Sr MMI-M5 10 PPB	Ta MMI-M5 1 PPB	Tb MMI-M5 1 PPB	Te MMI-M5 10 PPB	Th MMI-M5 0.5 PPB	Ti MMI-M5 3 PPB	Tl MMI-M5 0.5 PPB
N249	19	6	<1	10	<1	2	<10	4.5	235	1.1
*Rep N249	21	6	<1	10	<1	2	<10	5.0	254	0.8
N250	37	18	<1	10	<1	4	<10	14.5	1460	1.0
N251	20	6	<1	20	<1	2	<10	6.0	1150	1.2
N252	30	1	<1	<10	<1	<1	<10	4.6	1170	1.7
N253	26	4	<1	10	<1	1	<10	6.5	961	1.1
N254	29	10	<1	10	<1	2	<10	9.0	642	0.8
N255	19	3	<1	20	<1	<1	<10	4.1	362	1.0
N256	29	2	<1	30	<1	<1	<10	5.9	1020	1.9
N257	24	6	<1	20	<1	2	<10	7.2	546	0.8
N258	26	2	<1	30	<1	<1	<10	6.4	514	1.2
N259	26	11	<1	30	<1	3	<10	7.1	366	0.7
N260	19	2	<1	10	<1	<1	<10	3.0	750	0.6
N261	23	3	<1	20	<1	<1	<10	4.5	745	0.7
*Rep N261	24	2	<1	20	<1	<1	<10	4.2	854	0.7
N262	22	5	<1	20	<1	2	<10	3.5	338	0.6
N263	22	6	<1	20	<1	2	<10	4.2	418	0.9
N264	30	10	<1	20	<1	3	<10	10.9	1880	1.3
N265	19	4	<1	10	<1	1	<10	3.2	243	0.8
N266	58	62	<1	<10	<1	9	<10	23.1	1430	0.7
N267	24	5	<1	20	<1	2	<10	5.0	320	1.0
N268	34	17	<1	40	<1	4	<10	15.3	999	0.7
N269	44	23	<1	10	<1	5	<10	12.1	1690	0.8
N270	27	22	<1	110	<1	4	<10	26.1	1110	0.9
N271	26	8	<1	10	<1	2	<10	8.7	1510	1.0
N272	33	19	<1	10	<1	4	<10	19.4	3390	0.6
N273	17	6	<1	60	<1	2	<10	3.3	405	0.7
*Rep N273	17	7	<1	70	<1	2	<10	3.6	386	0.6
N274	18	4	<1	20	<1	1	<10	4.3	421	0.8
N275	19	1	<1	40	<1	<1	<10	2.7	833	0.7
N276	21	3	<1	30	<1	<1	<10	4.1	559	0.7
N277	22	7	<1	40	<1	2	<10	10.0	824	0.7
N278	20	8	<1	40	<1	2	<10	10.4	778	0.6
N279	30	5	<1	30	<1	1	<10	8.8	1720	0.9
N280	32	5	<1	20	<1	1	<10	9.1	1720	0.8
*Std MMISRM16	10	5	<1	490	<1	<1	<10	24.6	<3	<0.5
*Bik BLANK	<5	<1	<1	<10	<1	<1	<10	<0.5	<3	<0.5

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Final : TO101902 Order: WFO#006

Element Method Det.Lim. Units	U MMI-M5 1 PPB	W MMI-M5 1 PPB	Y MMI-M5 5 PPB	Yb MMI-M5 1 PPB	Zn MMI-M5 20 PPB	Zr MMI-M5 5 PPB
N249	4	<1	53	4	720	10
*Rep N249	5	<1	54	4	820	11
N250	7	<1	111	8	620	20
N251	4	<1	55	4	210	13
N252	4	<1	31	6	190	9
N253	4	<1	55	5	230	13
N254	5	<1	73	6	750	14
N255	3	<1	37	4	840	9
N256	3	<1	28	5	1610	9
N257	4	<1	55	5	640	12
N258	3	<1	34	5	600	10
N259	4	<1	82	6	280	13
N260	3	<1	41	5	1420	7
N261	3	<1	44	5	320	9
*Rep N261	4	<1	39	5	310	9
N262	4	<1	65	5	2640	7
N263	3	<1	72	5	620	7
N264	9	<1	76	6	760	20
N265	3	<1	50	4	770	8
N266	11	<1	259	16	390	29
N267	3	<1	60	4	1360	12
N268	8	<1	106	7	1110	22
N269	9	<1	171	11	370	21
N270	8	<1	81	5	310	21
N271	7	<1	68	5	540	17
N272	11	1	105	8	730	29
N273	3	<1	57	4	620	8
*Rep N273	3	<1	58	3	510	8
N274	2	<1	44	4	2140	11
N275	2	<1	23	4	850	7
N276	4	<1	34	4	1680	9
N277	4	<1	48	4	1280	12
N278	4	<1	51	4	1170	12
N279	6	<1	46	7	550	13
N280	7	<1	49	7	480	13
*Std MMISRM16	41	<1	10	<1	190	13
*Bik BLANK	<1	<1	<5	<1	<20	<5

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