BACTECH ENVIRONMENTAL CORPORATION

GOLD RESIDUE STOCKPILE, SNOW LAKE, MANITOBA

MINERAL RESOURCE ESTIMATION

Technical Report

by

N. Ralph Newson, M.Sc., P.Eng., P.Geo.

Brockville, Ontario

Effective Date: July 20, 2011

TABLE OF CONTENTS

List of Figures

List of Tables

1.0: SUMMARY

BacTech Environmental Corporation ("BacTech") was granted the rights on April 25, 2011 by Manitoba Innovation, Energy and Mines to remediate a gold-bearing arsenical stockpile using a commercial bioleaching technology to which BacTech has an exclusive perpetual licence. The terms under which BacTech will remediate the gold residue stockpile are that BacTech will render inert the arsenic contained therein, and will retain the gold as payment. This report is a discussion of the estimation of a Mineral Resource to the standards of NI 43-101.

The gold residue stockpile ("GRS") occupies an area of approximately 180 metres by 105 metres, centred at 54°53'16" north latitude and 100°01'20" west longitude, within the community of Snow Lake, Manitoba. The town of Snow Lake is situated approximately 685 km north of Winnipeg, Manitoba. The GRS is on the Snow Lake Mine site, formerly the New Britannia Mine site, now owned by Alexis Minerals Corporation ("Alexis Minerals"). In 2004 the ownership of the residue was transferred to the Province of Manitoba. Alexis Minerals currently holds the surface rights and the mineral rights underlying the GRS.

In May 2011, BacTech carried out a 33-hole drill program on the stockpile at a 20 m grid spacing. One half of the recovered core has been shipped to Inspectorate Exploration & Mining Services Ltd., Metallurgical Division ("Inspectorate") in Vancouver for bioleach test work, which is now underway. Samples were split off from the remaining half and sent to the Saskatchewan Research Council in Saskatoon ("SRC") for analysis for gold and silver, the results of which have been used to estimate a Mineral Resource for the property.

A Measured Mineral Resource of 265,000 tonnes grading 9.7 grams per tonne ("g/t") gold and 2.17 g/t silver is estimated for the deposit. In addition, an Indicated Mineral Resource of 9300 tonnes grading 9.2 g/t gold and 2.15 g/t silver is estimated, as is an Inferred Mineral Resource of 28,000 tonnes grading 7.0 g/t gold and 2.4 g/t silver.

It is recommended that a feasibility study be undertaken using the tonnage and grade estimations reported herein to determine whether or not the Measured Mineral Resource can be raised to a Measured Mineral Reserve.

2.0: INTRODUCTION

This technical report was prepared for BacTech Environmental Corporation of Toronto, Ontario. BacTech is a publicly-traded Canadian company launched in December 2010 as part of the BacTech Mining Corporation Plan of Arrangement. BacTech Mining Corporation changed its name to REBgold Corporation ("REBgold"), then spun off BacTech Environmental Corporation to the shareholders of REBgold, and REBgold holds no equity interest in BacTech after this event. BacTech Environmental Corporation, was granted rights and interests in REBgold's existing and proposed tailings remediation projects and an exclusive, perpetual, royalty-free licence to use REBgold's proprietary bioleaching technology for reclamation of historic mine tailings and waste rock.

The terms of reference for this report were to study the assays of samples obtained in a drilling project carried out in May 2011 by BacTech on the GRS and to determine whether or not it contains a Mineral Resource.

The data used to estimate a Mineral Resource were all from the analytical results of the samples obtained in the drilling by BacTech. Sources of information on the history of the deposit and previous work on it by both BacTech and others are referred to in the text, and listed in the References in the normal manner.

The writer visited the property from May 11 to 13 inclusive, 2011. While there, he independently sampled core, stored the samples in his sole possession, and submitted them to the analytical laboratory separately from the other samples.

3.0: RELIANCE ON OTHER EXPERTS

N/A

4.0: PROPERTY DESCRIPTION AND LOCATION

The subject property consists of refractory mill tailings with a high residual gold content which were impounded in a special enclosure separate from other tailings (the GRS), with the hope that technological advances would eventually permit the residual gold to be recovered. The area of the GRS is about 180 metres by 105 metres.

The property is in west-central Manitoba at 54°53'16” north latitude and 100°01'20” west longitude within the community of Snow Lake, on the Snow Lake Mine site (Figures 4.1 and 4.2).

An agreement to have access over the Snow Lake Mine property of Alexis Minerals is required to exploit the property.

BacTech has been given the right by the Manitoba Government, the owner of the tailings, to remediate the tailings by converting the arsenic in the stockpile to an inert, and therefore environmentally safe, form, and to keep any gold they can recover in payment for doing this. The contract is subject to negotiating a suitable agreement between BacTech and the Manitoba government. The stockpile is situated on a mining lease controlled by Alexis and any subsequent deal must be accompanied by their permission to access the site.

The writer is not aware of any royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject.

Due to its high arsenic content, the property is presently an environmental liability to its owner, the Manitoba Government. This liability is not transferred to BacTech. All environmental liability is the responsibility of the Province of Manitoba.

Permits required include those under the Manitoba Mine Closure regulation 67/99, the Contaminated Sites Remediation Act C205, The Workplace Safety and Health Act W210, the Federal Fisheries Act, the Metal Mining Effluent Regulations, The Dangerous Goods Handling and Transportation Act, and regulations of Manitoba Conservation. To date none of the permits have been obtained.

The writer is not aware of any other significant factors and risks that may affect access, or the right or ability to perform work on the property.

5.0: ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

The topography of the region is typical of the Canadian Shield, with low rounded outcrops surrounded by swamps and boreal forest, and generally low topographic relief. The property sits on fairly flat, level, prepared ground in the Snow Lake Mine site.

The centre of the GRS is about 350 metres from a paved street of the Town of Snow Lake. From that street it is accessed over the Snow Lake Mine property of Alexis Minerals. The entire periphery of the GRS is accessible by car or light truck, and the top is accessible by light truck. The streets of the Town of

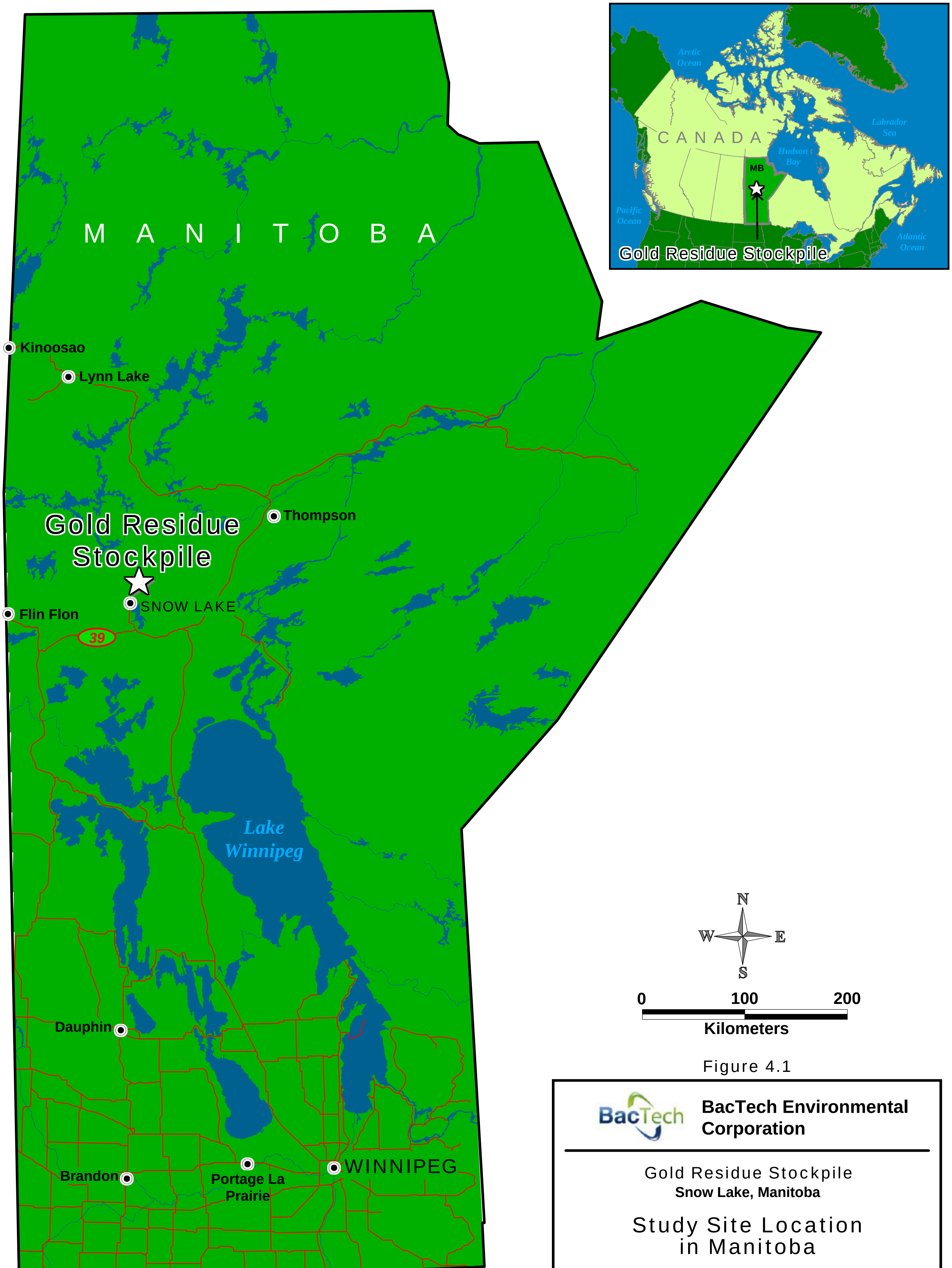

Figure 4.1

BacTech Environmental Corporation

Gold Residue Stockpile
Snow Lake, Manitoba

Study Site Location
in Manitoba

Datum: NAD 83, Zone 14 **Date: September 2011**

Graphics By: Zone 14 GeoInfo Solutions Inc.
Manitoba Location.wor

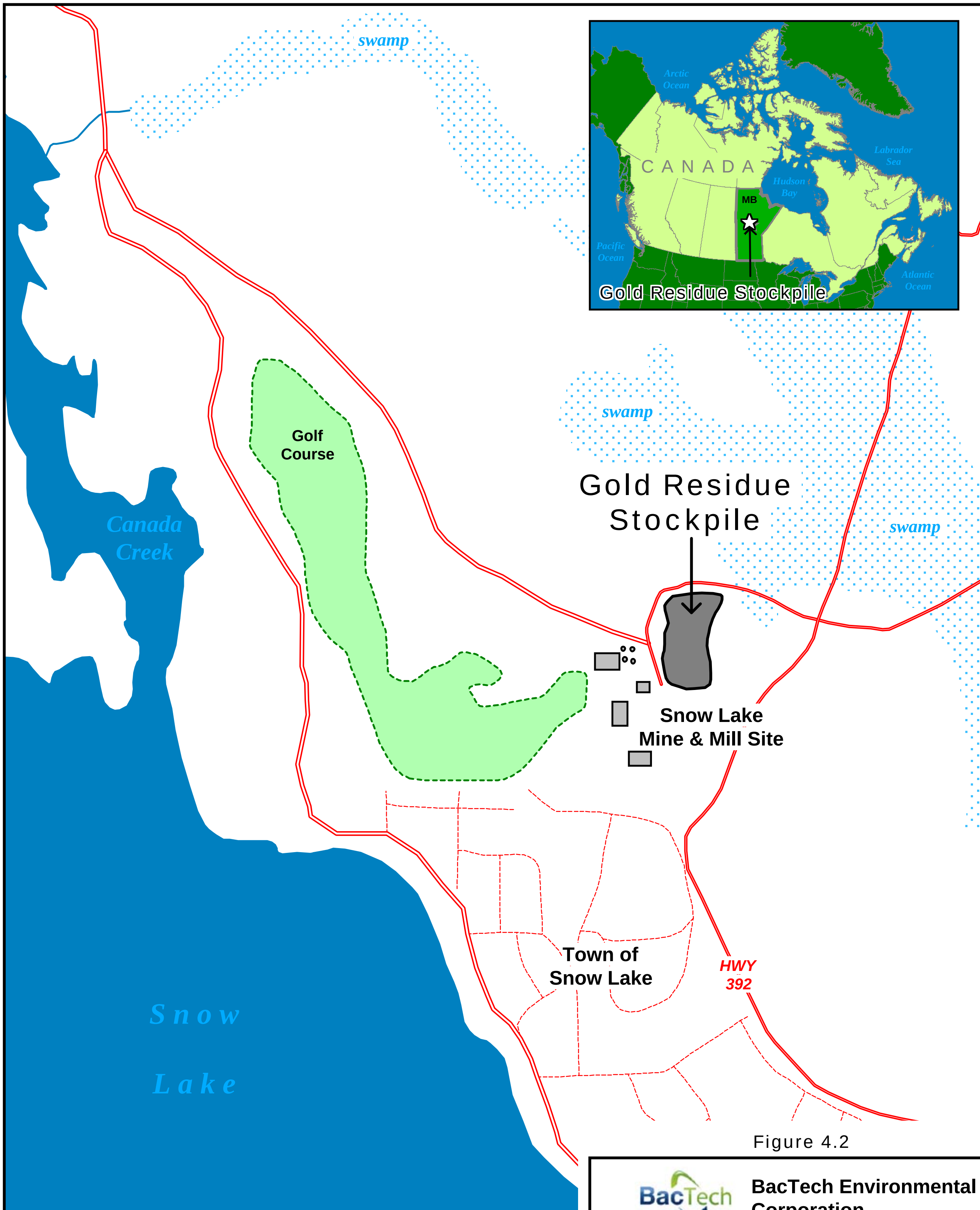

Figure 4.2

BacTech Environmental Corporation

Gold Residue Stockpile

Snow Lake, Manitoba

Study Site Location - Detail

Datum: Non-Earth, meters **Date: September 2011**

Modified from: Saulzauler et all 2005

Graphics By: Zone 14 GeoInfo Solutions Inc.
Study Area Location_Detail.wor

N
W E
S

0 200 400

Meters

Snow Lake connect to paved Provincial highway number 392, which is part of the provincial road system.

The Town of Snow Lake is situated approximately 685 kilometres north of Winnipeg, Manitoba's provincial capital. Snow Lake lies at the geographical centre of Manitoba's three northern cities of Flin Flon (about 180 km), The Pas (about 200 km) and Thompson (about 240 km), and is easily accessible by paved highways.

Snow Lake has an airstrip, but scheduled service is infrequent. The writer flew to Flin Flon and drove from there to carry out his site visit.

The climate in Snow Lake is classified as "continental subarctic" with short warm summers, and long cold winters. Historical extreme temperatures recorded at nearby weather stations are as low as -46ºC in the winter and up to +40ºC in the short summer (Sikamen Resources, 1988). The average date for late spring frost in the region was reported to be May 31 in the late 1980's, and the average date of the first fall frost was September 20. In general, the average frost-free period was 119 days (Sikamen Resources, 1988). Annual precipitation varies from 300 to 500 millimetres. With the infrastructure present, any operation that might be established on the property should be able to continue year round.

Subject to an agreement with Alexis Minerals, surface access for mining operations are adequate. The property and the likely locations for a processing plant are all on the provincial power grid. Water is abundant in the area, but specific arrangements for a supply have not been made yet.

With a rich history in mining the Town of Snow Lake is home to a vibrant business community catering to the many needs of mineral related projects. Mining has been the mainstay of the community. Currently the Chisel North Mine and Concentrator are operating and HudBay Minerals is in the construction stages of developing a new zinc gold mine at Lalor. Alexis Minerals is in the process of reopening the Snow Lake Mine. Experienced mining personnel should be readily available.

Snow Lake's estimated population is 915 according to the town's website, www.snowlake.com. There are two high speed Internet providers in town.

Once the GRS has been processed, there are two alternatives for storing the benign and stabilized ferric arsenate precipitate. The first alternative would be to deposit the precipitate back to the existing site. The existing site would only be used as a containment site once it is brought up to the current regulatory standards for containment sites in Manitoba.

The second alternative would include the use of an existing tailings site in the province of Manitoba which is already compliant with provincial regulations and allowed to store the precipitate. The Company is currently in discussions with a third party in the Snow Lake/Flin Flon area to potentially dispose of the ferric arsenate precipitate in the third party's existing tailings impoundment facility. A search for an existing brown field site is underway in the vicinity of Snow Lake.

6.0: HISTORY

The Gold Residue Stockpile consists of cyanide-treated, refractory arsenopyrite gold concentrate generated from 1949 to 1958 by the Nor-Acme Mine, in Snow Lake, Manitoba. The material was piped into a waste rock impoundment, measuring 185 meters long and 105 meters wide, constructed north of the original mill. The principle commodity extracted at Nor-Acme Mine was gold, which existed as free gold and refractory "invisible" gold bound in arsenopyrite grains. (Salzsauler et al. 2005)

The site was operated from 1949 to 1958 as the Nor-Acme Mine under the supervision of Howe Sound Exploration Company, and its subsidiary, the Britannia Mining and Smelting Company Limited. Following closure, further exploration activities were conducted by various companies from 1959 to 1987. The Nor-Acme mine reopened as the New Britannia Mine ("NBM") in 1995 as a joint venture between High River Gold Mines Limited and TVX Gold Limited (now Kinross Gold Corporation), and closed in late 2004. Upon the re-opening of NBM, the stockpile was declared to be an orphaned site, and to be the responsibility of the Crown. Surface drainage from the pile seeped to the north, towards Snow Lake, which is the main recreational and drinking water source for the Town of Snow Lake. NBM financed the emplacement of a multilayer cap of waste rock and silt on the pile in the late 1990's as an attempt to reduce surface runoff ((DNE Knight Piesold, 1999; Salzsauler et al., 2005). Alexis Minerals Corporation currently holds the mineral and surface rights underlying the property

In 2008, the Province retained AECOM Canada Ltd. to provide project management services and to oversee the detailed design and implementation of remedial solutions that would address environmental and human health concerns associated with the site.

In April 2010, BacTech approached the provincial government with a proposal to test the concentrate, at no cost to the government, using bioleaching for neutralizing the arsenic and keeping the contained gold for BacTech's account.

7.0: GEOLOGICAL SETTING AND MINERALIZATION

The GRS is located in the Paleoproterozoic Flin Flon – Snow Lake volcano-sedimentary greenstone belt, which is part the Churchill province of the southern Reindeer Terrane of the Trans Hudson Orogen (Richardson and Ostry, 1996; Fulton, 1999). The rocks of the belt are well documented because of the mineralization potential for copper, zinc and gold.

The Nor–Acme mine process resulted in total gold recovery by flotation and cyanidation of 83%. (Convey et al, 1957). The filtered cake of refractory processed material contained up to10 grams of gold per tonne. Refractory gold was not recoverable by conventional techniques at that time.

The refractory "cake" was impounded in a waste rock berm for possible future re-treatment. The base of the GRS is sitting partly on bedrock and partly on clay.

The GRS consists of high sulfide mine waste containing up to 55% arsenopyrite. The refractory wastes in the stockpile consist of up to 60% sulfides including arsenopyrite with minor pyrite and pyrrhotite.

8.0: DEPOSIT TYPES

The writer is not aware of a systematic classification for tailings. The type of deposit might be described as "refractory" or "arsenical gold-bearing refractory sulphide".

9.0: EXPLORATION

In April 2010, BacTech obtained samples of the GRS from Dr. Barbara Sherriff of the University of Manitoba. The samples were from four drill cores taken from the GRS in March 2002 as part of a study to investigate the mobility and migration of arsenic in the GRS (Salzsauler et al., 2005). The drill holes were approximately evenly spaced along the long axis of the GRS.

Half of the core from each drill hole was taken to generate four composite samples. The samples were then transferred to the mineral processing laboratory in the Mining Engineering Department of Queen's University, Kingston, Ontario, for sample preparation and preliminary analysis under the supervision of Dr. Wan Tai Yen. These samples were then sent to Inspectorate's IPL Analytical Division in Vancouver for further analytical work to investigate the possibility of commercial production of the GRS using BacTech's BACOX bioleaching process. Inspectorate's IPL Analytical Division in Vancouver is an ISO 9001 accredited laboratory.

Results of this work were described by BacTech as “encouraging” in a press release dated Feb. 15, 2010. This led management to take the next step of determining a Mineral Resource for the deposit.

In September, 2010 BacTech presented the positive results of its test to the Government of Manitoba and has followed up with a proposal to conduct a larger metallurgical/bioleach study. The remediation and processing was awarded to BacTech by the Province of Manitoba, and BacTech was granted permission to test the stockpile in April 2011 by the Government of Manitoba.

10.0: DRILLING

Thirty-three vertical holes were drilled into the GRS by BacTech in May 2011 (Figs 14.1, 14.2). Since the gold residue was deposited in a slurry, the primary stratification is horizontal. The sample intervals therefore represent the true thicknesses of any layering that may be present. The drill used a vibrating drill stem designed for the recovery of unconsolidated material. The inside diameter of the core tube was 3.5" (8.9 cm). The recovered core was placed in plastic bags with a diameter greater than the diameter of the core.

The tailings are not only unconsolidated, but have a significant water content, and the cores deform plastically after being recovered. The plastic material slumped in the bags, and a 10-foot (3.05 m) run of core usually ended up occupying less than 10 feet (3.05 m) in the bag.

The oxidized material at the top of gold residue did not deform plastically. The iron oxide appeared to have grown into a crust that made the oxidized material act somewhat like a solid, especially with respect to the plastic material below it. The effect of this was that the oxidized material stuck in the bottom of the core tube and prevented the plastic tailings below from entering the core tube, so that few samples of the unoxidized material in the upper ten feet (3.05 m) of tailings were recovered. Since there appears to be no grade bias as a function of depth, and since the grade is shown to have a low variability (see discussion under Item 14.0), this is not believed to cause a significant uncertainty in the overall grade of the deposit.

The driller could "feel" the difference when going from the broken rock cap into the oxidized material, and from that to the unoxidized material. He noted those depths, and they were entered in the drill logs. The end of each ten-foot run, and the bottom of the hole are also hard numbers. The clay, where present at the bottom of the holes, is more competent than the unoxidized tailings, so the top of the clay (picked by the geologist in charge) defined the bottom of the unoxidized material for those holes that intersected clay. Those holes that did not end in clay ended at the bedrock surface, the depth of which is accurately known. Thus, although the unoxidized tailings deformed in their bags, the total interval occupied by them is known with sufficient accuracy for the purposes of this report.

11.0: SAMPLE PREPARATION, ANALYSES AND SECURITY

The long bags containing the core were laid out on tables, the bags were slit open, and the total length of the core was measured. The hole depths at each end of each 10-foot run were converted to metres, and the core was marked at intervals representing 50 cm of hole depth. In most cases the length of core was less than 3.05 m, so the physical intervals were shortened in the ratio of the shortening of the run from which the samples were taken.

The core was split in two halves longitudinally with a knife or spatula. Half of the core was taken for metallurgical testing, and part of the other half was sampled for the purpose of estimating the concentration of gold and silver in the tailings to use in the resource estimation. The remaining part has been retained for later examination and/or re-sampling as required.

Each sample taken for resource estimation represented a 50 cm interval of the residue marked as described above. Each sample was put in a plastic sample bag, and numbered in sequence by a four-digit number from a set of sample books provided by the writer for this purpose. The sample books contained tags in two parts, one part of which was put in the sample bag with the sample, and the other part of which was retained for a record. On the retained parts were recorded the name of the company, hole number and interval in the hole, and the geology of the material sampled. These data were also recorded on a sample log, for a redundancy of information. The sample tag in the bag contained no information other than the sample number, and, by itself, could not be used by unauthorized persons to learn anything about the samples. The sample number was also written twice on the outside of each bag with a black marker.

Each metallurgical sample consisted of three intervals of 50 cm, and was identified by the three corresponding resource sample numbers. Each sample was put in a small plastic pail, and the samples were put on a pallet and sent to the metallurgical consultants.

The resource samples were sent to the Saskatchewan Research Council ("SRC") laboratories in Saskatoon. Only about half of the samples were sent in order to have a quicker turn-around. Alternate samples plus duplicate samples were selected.

SRC's quality management system operates in accordance with ISO/IEC 17025:2005 (CAN-P-4E), General Requirements for the Competence of Mineral Testing and Calibration Laboratories. It is also compliant with CAN-P-1579, Guidelines for Mineral Analysis Testing Laboratories. SRC's management system and selected methods are accredited by the Standards Council of Canada (Scope of accreditation # 537). All electronic information and results sent out by SRC are protected by password, and are backed-up daily. Access to the laboratory buildings is restricted by an electronic security system, and the buildings are patrolled by security guards 24 hours per day.

The samples were sent in two batches. The first batch consisted of samples taken by the writer or taken by others under his direct supervision. The writer stored these samples in the trunk of a rented car to which only he had a key. They were taken by him to the bus terminal in Snow Lake and shipped to the SRC laboratory. The rest of the samples were taken by or under the supervision of a director of BacTech.

Gold was determined by fire-assay. Since the material sampled did not require crushing, the first step was to split out a sub-sample using a riffler. The sub-sample was pulverized using a puck and ring-grinding mill. The mill was cleaned between each sample using steel wool and compressed air, or silica sand. The pulp was transferred to a labeled snap-top vial. An aliquot of the pulp was mixed with SRC's standard fire assay flux in a clay crucible, a silver in-quart was added, and the mixture fused. The fusion melt was poured into a form and cooled. The lead bead was recovered and cupelled until only the gold bead remained. The bead was then parted in a test tube with a solution heated in boiling water until the silver dissolved. The solution containing the silver was decanted, leaving the gold in the test tube. Aqua regia was added to the gold in the test tube and heated until the gold dissolved. The sample was then diluted to volume and analyzed by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectroscopy). Eight replicate samples were also added to the fire assay stream and reported.

Silver and a suite of other metals were determined by direct analysis of the pulp by ICP-OES (SRC's Method ICP3). An aliquot of pulp was dissolved in a mixture of concentrated hydrochloric acid and nitric acid in a bath of boiling water then topped up with de-ionized water. The sample solution was introduced into an argon plasma which is at a temperature of 8000°C. At this temperature all elements become thermally excited and emit light at their characteristic wavelengths. The light produced was passed through a diffraction grating which separates it into its constituent wavelengths. The intensity of the various wavelengths is a function of the concentration of the element, and by comparing the intensity spectrum of a sample to known standards the concentration of the element in the sample was determined. Samples from a standard were added at fourteen points in the sample stream, and the same eight replicate samples as above were analyzed for silver.

12.0: DATA VERIFICATION

There are no data from previous work that can be verified by the writer by, for example, re-analyzing old samples or re-sampling material previously collected. The entire program discussed herein was designed to verify the quantity of tailings available for exploitation and the concentration of gold and silver contained therein.

During the current program, duplicate samples were taken at more or less regular intervals and sent to the laboratory along with the regular samples as a check of the laboratory by us. SRC also analysed replicate samples for gold and silver, repeatedly reanalyzed a standard for silver, and reported them as noted in Item 11.0. Their purpose in analyzing replicate samples was to check the accuracy of their work, and the purpose of re-analyzing the same standard repeatedly was to check the precision of their work. Our purpose in sending in duplicate samples was to verify the accuracy of the SRC laboratory.

Thirteen duplicate samples were taken by us as part of the sampling program. The average gold grade of the duplicate samples differed from that of the primary samples by 2.6%. The averages of the silver analyses were identical. The duplicate samples represented the same intervals as the original samples, but were different splits from the core, so a difference on 2.6% in thirteen samples is acceptably close agreement.

Eight replicate samples were re-assayed for gold by SRC. These replicate samples came from the same pulp as the original, so they should exhibit less variability than the duplicates taken by us, and they do. At 1.86%, this is a quite acceptable result. The 14 repeat analyses of the silver standard averaged 69.5 grams per tonne (“g/t”), with a standard deviation of 0.86, which is acceptable precision on the part of the laboratory. The accepted mean for the silver standard is 69.7 g/t, and SRC considers a range of 67.5 to 71.9 g/t to be acceptable. No individual analysis fell outside this range.

The average grade of the samples under the complete control of the writer was somewhat higher than the average grade of the samples submitted by the director of BacTech (10.2 g/t gold vs 9.6 g/t gold).

During the time the writer spent on site, he kept his own log of the drill holes and sample intervals. There are no significant discrepancies in the logs provided to him by BacTech.

13.0: MINERAL PROCESSING AND METALLURGICAL TESTING

N/A

14.0: MINERAL RESOURCE ESTIMATES

14.1: MEASURED MINERAL RESOURCE ESTIMATES

14.1.1: Grade Estimations, Unoxidized Residue

The variability in gold content of the samples of unoxidized concentrate is low. The standard deviation of all samples, unweighted, is 2.73, in a distribution with an unweighted mean of 9.79 g/t gold. As a further check on the variability of the assays, the standard deviation of the average grades of individual holes (weighted by the intercept length of each assay) was calculated to be 1.36.

In a further test of variability of the gold assays, the statistics for the individual samples were recalculated excluding the two highest assays (25.7 g/t and 19.5 g/t) and the two lowest (1.25 g/t and 1.92 g/t) of the

202 samples used in the resource estimation. The standard deviation of the reduced sample is 2.262, a reduction of 17%, which is a large change for the elimination of so few values, and also indicates a strong central tendency in the distribution of assay values. (The mean was reduced by 0.47%.)

Another observation is of interest in the discussion of the variability of the gold assays. The mean of all of the assays, without weighting of any kind, is 9.79 g/t gold. The mean of the mean assay values for all of the holes, which values are weighted by the interval length of the assays, is 9.71 g/t gold. Adding a further weighting of the tonnes estimated for each hole yields a mean value of 9.76 g/t gold. This is a difference of 0.33% between a simple, unweighted, arithmetic mean of the values of all samples and a mean weighted both by interval length of the samples and by the tonnage indicated by each hole.. The grade of this deposit is thus almost independent of any weighting.

Using the statistical parameters in Table 14.1, the gold grade of the unoxidized concentrate is estimated to be 9.76 g/t. The confidence interval of the grade, at the 95% confidence level, is 9.28g/t to 10.24 g/t. At the 99% confidence level, it is 9.12 g/t to 10.41 g/t.

Given the above, it is the opinion of the writer that no significant gain in accuracy of the mean, or increase in confidence, would be achieved by assaying the rest of the samples.

The silver concentration in the unoxidized concentrate, weighted by core length of the samples to get the average content for each hole, then using that value to calculate an average for the deposit weighted by the tonnage indicated by each hole, is 2.17 g/t silver.

14.1.2: Tonnage Estimation, Unoxidized Residue

The deposit has a quite regular shape, (Figs 14.1, 14.2), and it was deemed by the writer to be appropriate to use a simple block method of estimating the volume of the deposit. By this method the deposit is divided into blocks, each of which is centered on a drill hole. The measured dimensions of each block define its volume. The tonnage is determined by multiplying the volume by the specific gravity of the material. The overall average grade of the deposit is determined by estimating the mean grade of each hole, assigning those values to the blocks surrounding the corresponding holes, then calculating the mean grade of the entire deposit weighted by the tonnages of the blocks.

Blocks were constructed using plan view, which shows the two greater dimensions. A hole spacing of 20 metres had been chosen for the drill holes, and, in the light of the relative insensitivity of the grade to weighting by the area of influence of the drill hole as discussed above, this spacing appears to have been adequate. Thus, all material between holes is considered to be Measured.

On the outer edge of the pile, the Measured area of influence of a hole was extended to a maximum of 12 metres, which the writer believes to be appropriate. This leaves some parts of the pile out of the Measured category, and the writer believes those parts to be Indicated.

One uncertainty arises from the fact that the pile was covered with a cap of waste rock in an attempt to prevent the arsenic in the pile from escaping into the environment. The thickness of the cap at each drill collar was easily determined by the driller, but the thickness was not determined at the edge of the pile and on the outside slope of the pile. To compensate for this, the edge of the concentrate was estimated to be a distance inward from the physical edge of the pile equal to the thickness of the cap at the nearest hole. The outer edge of the deposit as shown in Fig. 14.1 is the estimated edge of the concentrate, not the physical edge of the pile.

Simply multiplying the surface area by the vertical thickness of tailings intersected in the hole to calculate the volume of the block works well for the blocks in the interior of the pile, but a significant uncertainty exists for almost all of those blocks which are on the edge of the pile. That uncertainty results from not

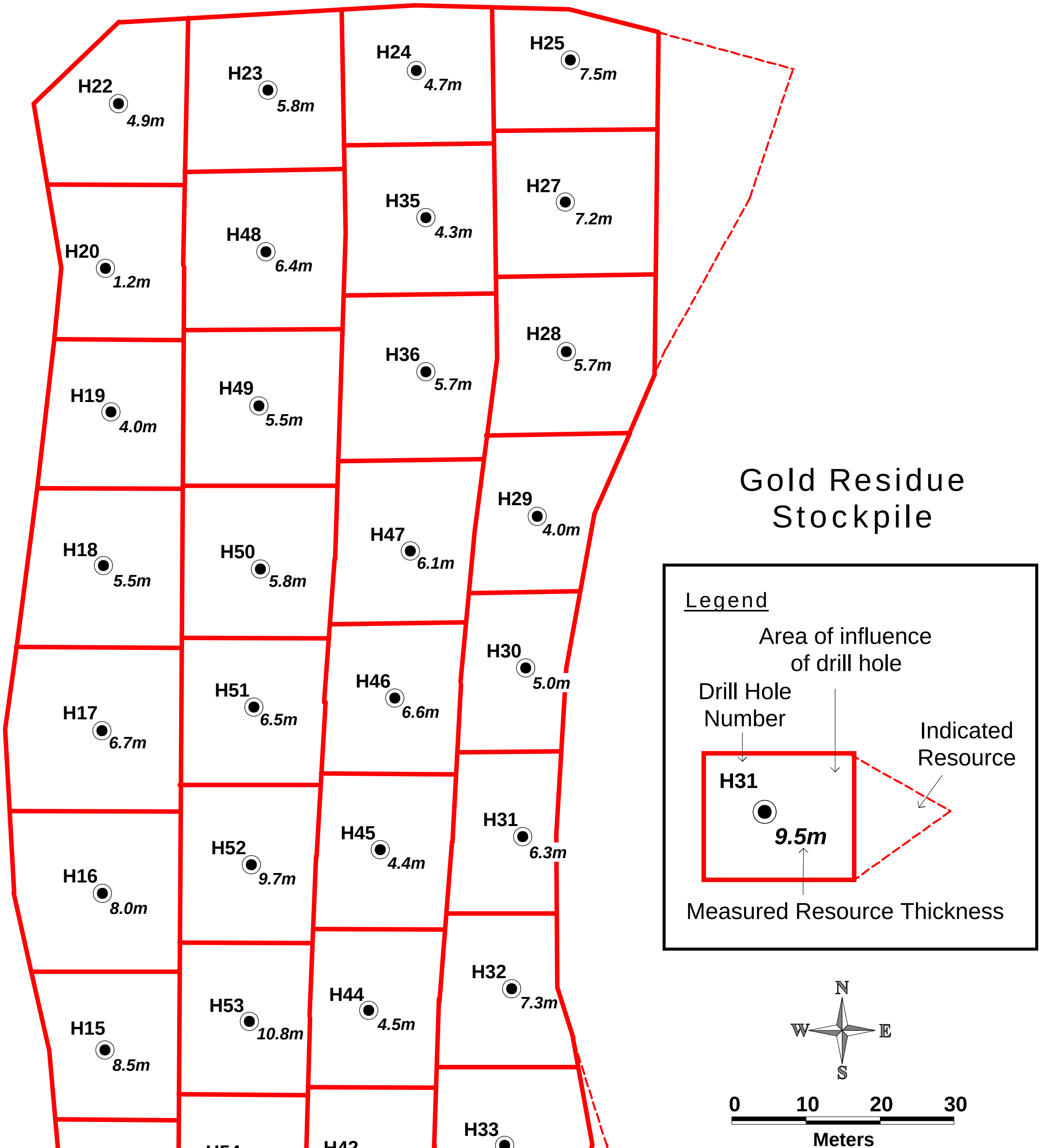

Figure 14.1

BacTech Environmental Corporation

Gold Residue Stockpile
Snow Lake, Manitoba

Measured Resource Thickness

Data: N. R. Newson, P.Eng., P.Geo.
Date: September 2011

Graphics By: Zone 14 GeoInfo Solutions Inc.
Measured Resource Thickness.wor

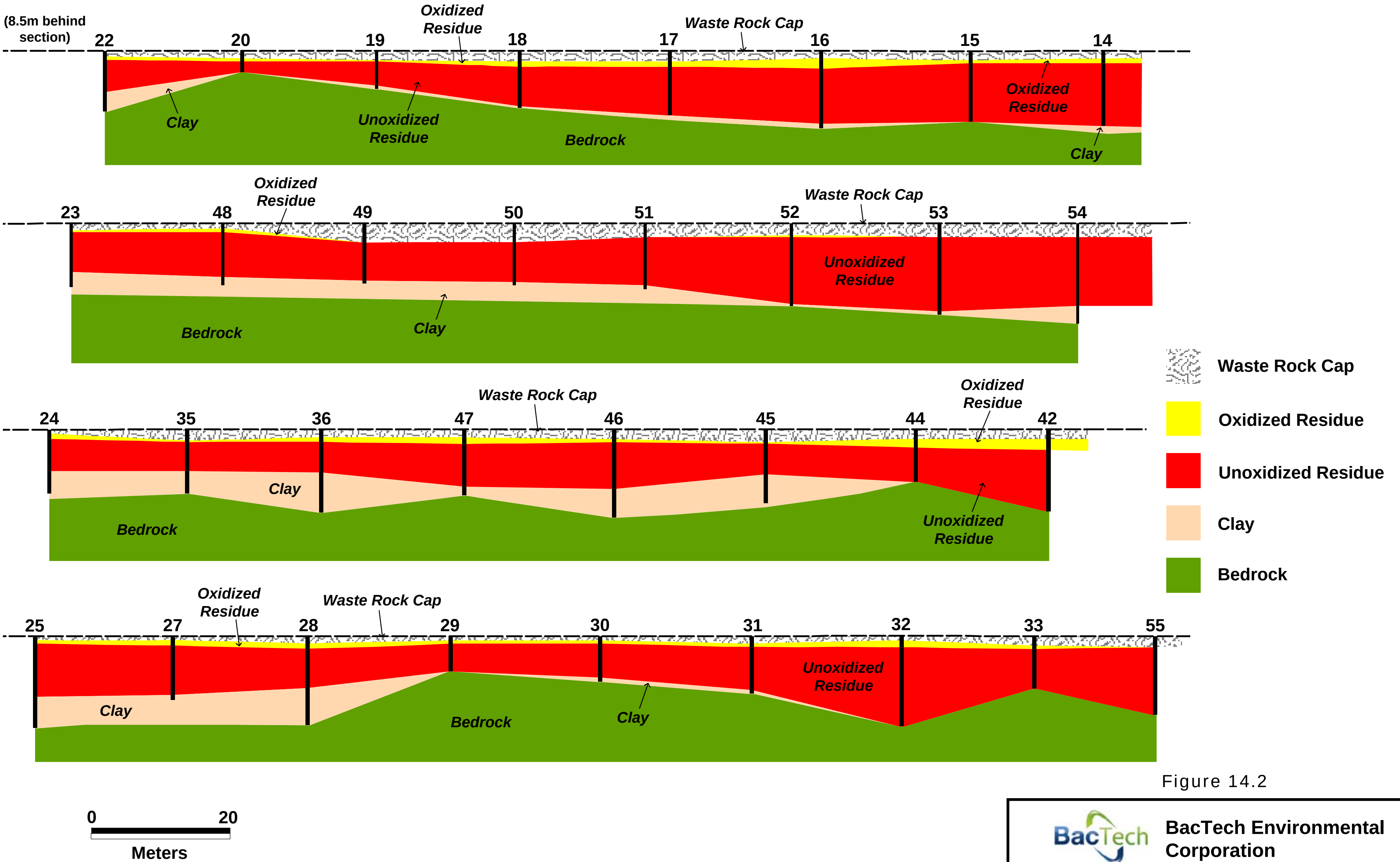

Figure 14.2

BacTech Environmental Corporation

Gold Residue Stockpile
Snow Lake, Manitoba

Vertical Cross Sections Looking East

Data: N. R. Newson, P.Eng., P.Geo.
Date: September 2011

Graphics By: Zone 14 GeoInfo Solutions Inc.
Cross Section.wor

Table 14.1
BacTech Environmental Corporation, Snow Lake Gold Residue Deposit
Reserve estimate data.

Hole number	Surface Area of influence (m^2)	Total residue thickness (metres)	thickness less oxidized layer (metres)	Volume without oxidized layer (m^3)	Volume reduction for berm (m^3)	Net volume (m^3)	SG	Tonnes	Gold Grade (ppb)	Gold Tonnes X Grade	Silver grade (ppm)	Silver tons x grade	oxide thickness (metres)	oxide volume (m^3)	oxide tonnes (assumes SG = 4)	
14	212	9.8	8.9	1887	534	1353	4	5411	11226	60746131	2.71	14664	0.9	191	763	
15	360	9.1	8.5	3060	683	2377	4	9508	10124	96258992	2.16	20537	0.6	216	864	
16	475	9.5	8	3800	1231	2569	4	10276	11509	118266484	2.39	24560	1	475	1900	
17	516	7.5	6.7	3457	995	2462	4	9849	9064	89269523	2.01	19796	0.8	413	1651	
18	450	6.3	5.5	2475	914	1561	4	6244	8250	51513000	2.1	13112	0.8	360	1440	
19	371	4.3	4	1484	366	1118	4	4472	10550	47179600	1.99	8899	0.3	111	445	
20	361	1.3	1.2	433	92	341	4	1365	9300	12692640	1.7	2320	0.3	108	433	
22	361	5.3	4.9	1769	708	1061	4	4244	8225	34903610	2.15	9124	0.4	144	578	
23	437	6.1	5.8	2535	641	1894	4	7574	8336	63140198	2.47	18709	0.3	131	524	
24	375	5.4	4.7	1763	436	1327	4	5306	8100	42978600	1.63	8649	0.7	263	1050	
25	347	8.0	7.5	2603	972	1631	4	6522	8839	57647958	2.22	14479	0.5	174	694	
27	421	8.0	7.2	3031	105	2926	4	11705	9082	106302994	2.23	26102	0.8	337	1347	
28	299	6.3	5.7	1704	590	1114	4	4457	8542	38073402	2.03	9048	0.6	179	718	
29	352	4.3	4	1408	361	1047	4	4188	10457	43793916	1.80	7538	0.3	106	422	
30	316	5.5	5	1580	353	1227	4	4908	8198	40235784	2.28	11190	0.5	158	632	
31	318	6.9	6.3	2003	361	1642	4	6570	9399	61747670	2.09	13730	0.6	191	763	
32	345	7.9	7.3	2519	472	2047	4	8186	8745	71586570	1.70	13916	0.9	311	1242	
33	408	6.4	5.8	2366	721	1645	4	6582	8855	58280068	1.98	13032	0.6	245	979	
35	414	4.7	4.3	1780	0	1780	4	7121	8776	62492141	2.00	14242	0.4	166	662	
36	458	6.6	5.7	2611		2611	4	10442	9337	97500689	2.35	24540	0.9	412	1649	
42	323	10.4	8.6	2778		2778	4	11111	10103	112256454	1.97	21889	1.8	581	2326	
44	357	5.8	4.5	1607		1607	4	6426	10407	66875382	1.74	11181	1.3	464	1856	
45	375	4.7	4.4	1650		1650	4	6600	7634	50384400	1.83	12078	0.3	113	450	
46	372	7.2	6.6	2455		2455	4	9821	9474	93042259	2.39	23472	0.6	223	893	
47	415	7.1	6.1	2530		2530	4	10120	7838	79320560	2.26	22871	1	415	1660	
48	464	7.0	6.4	2970		2970	4	11878	8729	103686554	2.81	33378	0.6	278	1114	
49	452	5.5	5.5	2486		2486	4	9944	8643	85945992	2.40	23866	0	0	0	
50	419	5.8	5.8	2430		2430	4	9721	9356	90947805	1.66	16137	0	0	0	
51	389	7.1	6.5	2529		2529	4	10114	12566	127092524	2.28	23060	0.5	195	778	
52	394	10.0	9.7	3822		3822	4	15287	11485	175573492	2.59	39594	0.3	118	473	
53	318	10.8	10.8	3434		3434	4	13738	12446	170978170	2.14	29398	0	0	0	
54	326	10.1	10.1	3293	793	2500	4	9998	11851	118491038	1.76	17597	0	0	0	
55	313	9.7	9.7	3036	1809	1227	4	4908	10864	53324858	2.41	11829	0	0	0	
										2582529458	SD=0.30	574538				0

Measured tonnes: 264596 grading: 9.76 g/t gold **Inferred tonnes** 28307

2.17 g/t silver

knowing the internal shape of the basin into which the concentrate was placed. The Request for Proposal issued by the Manitoba government with respect to this project referred to the pile as a "large waste rock impoundment..." An oblique air photo dated circa 1950 shows a berm of material which may be waste rock, although the size of the rock fragments is not determinable on the photo (seen in Salzsauler et al, 2005). However, the photo clearly shows the outer slope standing at what must be the critical angle of repose for whatever material it is, and one would normally assume that it has the same slope on the inside. It is not possible to measure the angle on the photo, but it is likely to be between 35° and 45°, measured from the horizontal.

A contradiction arises when projecting either of these angles from the edge of the pile inward. The contradiction is that most of the holes near the edge of the pile should have intersected the waste rock of the berm, but only one, hole 30, shows even a hint of such material. (Hole 47, an interior hole, also shows angular rock fragments, but that must be from another source.) In particular, hole 14, less than 5 metres from the edge of the residue, should have intersected the berm over much of its 11.2 metre length, but it did not intersect the berm at all.

For the purposes of the tonnage estimations presented in this report, the bottom of the concentrate was assumed to slope upwards from its lowest point in the nearest hole to the estimated edge shown on Fig. 14.1. Since no hole, except possibly number 30, intersected any material that could be from a rock berm, this in a conservative approach, and there may be more tonnes of residue than are included in the estimates.

The mass of the material in the block is estimated by using a specific gravity determination by the metallurgical consultants. Their estimation was 4.00, based on 20 determinations. Note that this is based on a dry weight, not the in-situ weight of the material, which includes water. The analyses also were done on a dry basis, so both components of the resource estimates are on the same dry basis.

The writer believes that 265,000 dry tonnes of the deposit, grading 9.76g/t gold and 2.17 g/t silver, qualify as a Measured Mineral Resource. This is based on his belief that the quantity, grade, density, shape and physical characteristics of the deposit are so well established that they can be used with sufficient confidence to support production planning and to evaluate the economic viability of the deposit.

Note that no recovery factor or dilution factor is included in this estimate, being beyond the scope of this report. These factors will have to be estimated in a preliminary feasibility study using metallurgical test results which are not available at the time of writing.

14.2: INDICATED MINERAL RESOURCE ESTIMATES

14.2.1: Tonnage and Grade Estimations, DIstal Unoxidized Residue

The distal material is defined as that material more than 12 metres from a drill hole. All such material is at the edge of the pile. Three areas of Indicated Resource are shown on Fig. 14.1, i.e. in the northeastern corner of the pile, in the southeastern corner, and in the south-central area. The writer believes that this material belongs in the Indicated Mineral Resource category because the quantity, grade, density, shape and physical characteristic can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters to support mine planning and the economic viability of the deposit. The relative insensitivity of the grade to weighting by tonnage demonstrated above gives a high level of confidence in the continuity of grade in these areas, and, since most of this Resource is above the level of the surrounding area, the shape of it can be seen and therefore inferred with a high level of confidence.

To estimate this category the nearest blocks were extended to the edge of the pile and the volume of the extension was measured, less the assumed berm. The grade of the Indicated material was assumed to be the grade of the hole. By this method, the northeastern area is indicated to contain 7600 tonnes with a grade weighted by tonnage of 8.95 g/t gold, and 2.2 g/t silver. The southeastern area is estimated to contain 460 tonnes grading 8.86 g/t gold and 1.98 g/t silver. The south-central area is estimated to contain 1200 tonnes grading 11.0 g/t gold and 2.09 g/t silver. The grade assigned to the south-central area is the average grade of the three nearest holes.

The total Indicated Mineral Resource is 9200 tonnes grading 9.2 g/t gold and 2.15 g/t silver.

14.3: INFERRED MINERAL RESOURCE

14.3.1: Tonnage and Grade Estimations, Oxidized Residue

Core recovery of the oxidized crust on the top layer of concentrate was poor, and samples of it are under-represented in the data. Eight samples of oxidized material were assayed, and the mean gold content is 7.00 g/t, with a standard deviation of 1.03.

Notwithstanding the poor recovery, the thickness is known from the driller's report with a degree of confidence that puts it in the Inferred category. A mass of 28,000 tonnes is estimated for the oxidized zone. The best estimate of its grade is the mean grade of the samples analysed, i.e. 7.0 g/t gold and 2.4 g/t silver.

This material is an Inferred Mineral Resource because the quality and grade can be reasonably assumed, but with a lower level of confidence than is the case for the Indicated and Measured Mineral Resources. Sampling is limited, and the density has not been measured. However, since the oxidized material is derived from the underlying unoxidized material, its continuity can be reasonably inferred. In any case, since it overlies the Measured Resource, it would have to be handled at least once if the property is ever mined, regardless of whether it is taken for mill feed or waste, so it will have to be part of any feasibility study. Such a study would have to determine if the incremental cost of processing it is worthwhile at the lower gold grade indicated.

15.0: MINERAL RESERVE ESTIMATES

N/A

16.0: MINING METHODS

N/A

17.0: RECOVERY METHODS

N/A

18.0: PROJECT INFRASTRUCTURE

N/A

19.0: MARKET STUDIES AND CONTRACTS

N/A

20.0: Environmental Studies, Permitting and Social or Community Impact

At the time of writing, no work has been initiated on permitting as this is contingent on acquiring a site location for the bioleach plant.

Two options are being considered by BacTech for storing the benign and stabilized ferric arsenate precipitate once the gold residue stockpile has been processed. The first alternative would be to deposit the precipitate back to the existing site. The existing site would only be used as a containment site once it is brought up to the current regulatory standards for containment sites in Manitoba. The second alternative would include the use of an existing tailings site in the province of Manitoba which is already compliant with provincial regulations and allowed to store the precipitate. The Company is currently in discussions with a third party in the Snow Lake/Flin Flon area to potentially dispose of the ferric arsenate precipitate in the third party's existing tailings impoundment facility.

Permits required include those under the Manitoba Mine Closure regulation 67/99, the Contaminated sites Remediation Act C205, The Workplace Safety and Health Act W210, the Federal Fisheries Act, the Metal Mining Effluent Regulations, The Dangerous Goods Handling and Transportation Act, and regulations of Manitoba Conservation.

BacTech will initiate the process to secure a financial bond to post with the Mines Branch in the value of the remediation work of the Gold Residue Stockpile.

BacTech has met with the town council on three occasions to outline the project and is working to maximize the long-lasting social, educational and capacity-building benefits for the Province of Manitoba, with particular emphasis on nearby, or affected, communities.

The company plans to establish an advisory committee for the purpose of improving public participation and receiving public comments regarding the Project, environmental matters, and other community opportunities and concerns. The advisory committee should include residents and businesses located near the Project area.

Whenever practicable, BacTech will seek to maximize local benefits, including employment opportunities and related training of selected personnel. BacTech plans to undertake applicable Project-related technical and research work in Manitoba, preferably onsite or near the Project's facilities, and to establish co-op, scholarship or similar programs with local educational institutions. BacTech will seek to formally establish a Bioleaching Centre of Excellence in Manitoba, perhaps co-sponsoring the facility with an existing Manitoba educational institution, which is envisaged by BacTech as a world-class centre of excellence in this field.

21.0: CAPITAL AND OPERATING COSTS

N/A

22.0: ECONOMIC ANALYSIS

N/A

23.0: ADJACENT PROPERTIES

N/A

24.0: OTHER RELEVANT DATA AND INFORMATION

Various unattributed resource estimates are present in the literature about this deposit. These are not valid Resources or Reserves as per NI 43-101. Salzsauler et al, (2005) refer to 250,000 tons. Richardson and Ostry (1996) write of a 227,000 tonne stockpile grading 9.6 g/t gold. The Request for Proposal document issued with respect to the deposit speaks of approximately 250,000 tonnes. The writer was not able to trace these back to a source that claimed to have estimated the tonnage from actual evidence.

The concern of the writer is that because it is possible to continuously weigh bulk commodities in industrial situations, it is possible that the mine directly weighed the tailings. They almost certainly weighed the mill feed, and may have been able to estimate fairly accurately the weight of the material sent to the GRS if they did not measure it directly. They would have weighed in short tons when the concentrate was put in place. If the figure of 250,000 short tons (227,000 metric tonnes) originated in such a measurement, the writer's estimate of 265,000 tonnes is 17% high.

However, since it is not known that the mine weighed the tailings, or was able to indirectly estimate their weight accurately, the writer must accept the evidence at hand, which is that the tonnages stated in Item 14 are the best estimates.

25.0: INTERPRETATION AND CONCLUSIONS

1. Preliminary work by BacTech on previously collected samples of the material in the deposit has shown that it may be amenable to processing that could be economic.
2. More recent drilling and analytical work by BacTech has enabled the writer to estimate a Measured Mineral Resource of 265,000 tonnes grading 9.76 g/t gold and 2.17 g/t silver, with a confidence interval at the 95% level of 9.28 g/t to 10.24 g/t gold, and 2.06 g/t to 2.28 g/t silver. The writer also estimates an Indicated Mineral Resource of 9200 tonnes grading 9.2 g/t gold and 2.15 g/t silver, and an Inferred Mineral Resource of 28,000 tonnes grading 7.0 g/t gold and 2.4 g/t silver/

26.0: RECOMMENDATIONS

1. It is recommended that a feasibility study be undertaken using the tonnage and grade estimations reported herein to investigate whether or not the Measured Mineral Resource can be raised to a Measured Mineral Reserve.

27.0: REFERENCES

Convey et al:1957 Convey, J., McLachlan, G., Carter, J., Wright, H., Banks, H., and Airey, H. 1957. The Milling of Canadian Ores. 6th Commonwealth, Mining and Metallurgical Congress. 447p.

DNE Knight Piesold. 1999. TVX Gold Inc. New Britannia Mine, Snow Lake, Manitoba. Report on environmental baseline study, February 1995. Ref. No. D2206/4.

Fulton, P.J. 1999: Distribution of gold mineralization at the New Britannia Mine in Snow Lake, Manitoba; M.Sc. thesis, University of Manitoba, Winnipeg, Manitoba, 209 p.

Richardson, D.J., and Ostry, G., 1996: Gold deposits of Manitoba. Manitoba Energy and Mines Economic Geology Report ER86-1. (revised by W. Weber and D. Fogwill.)

Salzsauler, K.A., 2004: A mineralogical and geochemical study of arsenic in alteration products of sulfide-rich, arsenopyrite bearing mine waste, Snow Lake, Manitoba, M.Sc. Thesis, Univ. Manitoba, 155 p.

Saulzsauler, Kristin A., Sidenko, Nikolay, V., and Sherriff, Barbara L., 2005: Arsenic mobility in alteration products of sulfide-rich, arsenopyrite-bearing mine wastes, Snow Lake, Manitoba, Canada. Applied Geochemistry 20, pp, 2303-2314. Science Direct: www.sciencedirect

Sikamen Resources. 1988. Snow Lake Gold Project – Project description and environmental impact assessment, December 1988. Toronto, Ontario.

CERTIFICATE

I, Norman Ralph Newson, of 205- 3 Apple Street, Brockville, Ontario, do hereby certify as follows:

1. That his certificate applies to a report titled *BacTech Environmental Corporation, gold residue stockpile, Snow Lake, Manitoba, mineral resource estimation*., dated effective July 20, 2011.
2. That I am a graduate geologist, with B.Sc. and M.Sc. degrees from Queen's University at Kingston, Ontario, received in 1964 and 1970 respectively. I have practised my profession continuously since receiving my undergraduate degree, except for the time spent on course and thesis work for my graduate degree.
3. That my qualifications to write a report of this nature derive not only from my academic qualifications, but from increasingly responsible positions in the mining industry, including senior management. I have used the resource estimation methods described herein to estimate reserves in producing mines. My consulting career includes giving advice on metal content of a tailings pond.
4. That I am a Member of the Association of Professional Engineers & Geoscientists of Saskatchewan (with Permission to Consult), a Licensee of the Association of Professional Engineers & Geoscientists of New Brunswick, and a Member of the Association of Professional Engineers & Geoscientists of Manitoba.
5. That I visited the property from May 11 to 13 inclusive, 2011.
6. That I am responsible for the entire report.
7. That I am independent of BacTech Environmental Corporation as described in section 1.5 of the Instrument.
8. That I have had no prior involvement with the subject property of this report.
9. That I believe I am a “qualified person” as defined in the Instrument. I have read the Instrument, and believe that the report has been prepared in compliance with it and with Form 43-101F1.
10. That, as of the effective date of this report, to the best of my knowledge, information and belief, this report contains all scientific and technical information that is required to be disclosed to make the report not misleading.

The effective date of this report is July 20, 2011. Signed at Brockville, Ontario, October 17, 2011.

“Signed and sealed”

N. Ralph Newson, M.Sc., P.Eng., P.Geo.