RIVERHALL RESOURCES LTD.

REPORT ON

SEISMIC REFRACTION INVESTIGATION

OTTER CREEK

ATLIN, B.C.

by

John Woods, EIT

Cliff Candy, P.Geo.

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

27,277

May, 2003

PROJECT FGI-701

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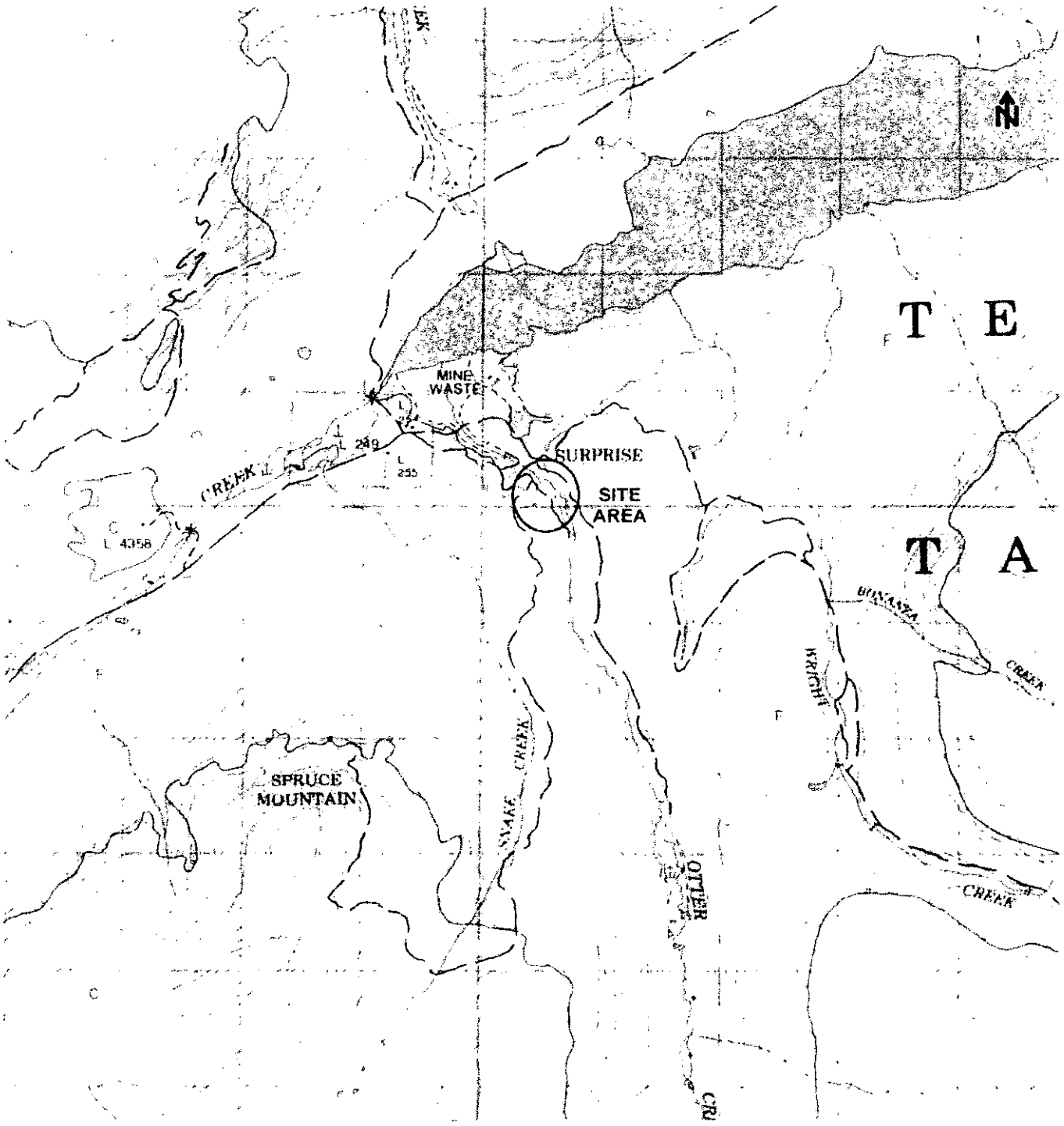
CONTENTS

ILLUSTRATIONS

1. INTRODUCTION

In the period April 29 to May 2, 2003, Frontier Geosciences Inc. carried out a seismic refraction investigation for Riverhall Resources Ltd. at the Otter Creek placer gold prospect near Atlin, B.C. A Survey Location Plan of the area of investigation is shown at 1:50,000 scale in Figure 1.

The seismic refraction survey was carried out to determine the nature and thicknesses of the overburden materials and the depths to bedrock. The specific objective was to profile the bedrock to locate any potential, infilled, placer channels in the bedrock surface. The seismic refraction survey included five separate lines totalling approximately 860 metres in length. The locations of the seismic lines are illustrated at 1:5,000 scale in the Site Sketch in Figure 2.



RIVERHALL RESOURCES LTD. OTTER CREEK, ATLIN		
SEISMIC REFRACTION SURVEY		
SURVEY LOCATION PLAN		
FRONTIER GEOSCIENCES INC.		
DATE MAY, 2003	SCALE 1:50,000	FIG 1

NTS MAPSHEET 104 N/11 'SURPRISE LAKE'

2. THE SEISMIC REFRACTION SURVEY METHOD

2.1 *Equipment*

The seismic refraction investigation was carried out using a Geometrics, Geode, 24 channel signal enhancement seismograph and Mark Products Ltd., 48 Hz geophones. Geophone intervals along the multicored seismic cables were maintained at 7.5 metres in order to profile the deep bedrock surface and produce high resolution data on subsurface layering. Small explosive charges used for energy input, were detonated electrically with a Geometrics, HVB-1, high voltage, capacitor type blaster. Communication was maintained with portable hand-held radios.

2.2 Survey Procedure

For each spread, two 12 channel seismic cables were stretched out in a straight line and 24 geophones implanted. Six separate shothole locations were then occupied; one at either end of the 24 geophone array, two at mid-points within the cables, and one off each end of the line to ensure adequate coverage of the basal layer. One shot was detonated at each location to record data for the 24 channel seismic array. In this manner, seismic spreads of 24 channels were recorded at each location.

Shots consisted of one to four sticks of 1" by 8", Extra-gel dynamite. The arrival times for each geophone were automatically recorded in the seismograph and stored digitally with backup storage provided by a notebook computer. Data recorded during field surveying operations was generally of excellent quality. Seismic line locations and geophone elevations were determined by Total Station readings provided by Osprey Ventures Ltd.

2.3 Interpretive Method

The final interpretation of the seismic data was arrived at using the method of differences technique. This method utilizes the time taken to travel to a geophone from shotpoints located to either side of the geophone. Using the total time, a small vertical time is computed which represents the time taken to travel from the refractor up to the ground surface. This time is then multiplied by the velocity of each overburden layer to obtain the thickness of each layer at that point.

3. GEOPHYSICAL RESULTS

3.1 General

A Site Plan of the area showing line locations is shown in Figure 2. The results of the interpretation are illustrated at 1:500 scale in Figures 3 to 7, in the Appendix. The topography profiles and geophone locations along the line were recorded using total station survey results provided by Osprey Ventures Ltd. The profiles show a relatively complex variation in thickness, velocity and correlated material types over the survey area.

3.2 Discussion

SL-6, the most northerly line, has been interpreted using three distinct velocity layers. The surficial layer has a consistent velocity of 630 m/s and has been correlated to surficial exposures of organics and loose sands and silts with cobbles and boulders. The intermediate layer has a velocity of 1710 m/s which is consistent with dense sands and gravels, or glacial till, or fractured, incompetent rock. The basal layer of velocity 3910 m/s relates to a competent rock. The rock elevation changes relatively little over the survey line, with the lowest elevation noted at the southwest end of the line.

Approximately 75 metres downstream of SL-6 is SL-1. This profile shows a similar surficial layer, underlain by a 1720 to 2060 m/s velocity layer. The higher velocity areas likely corresponds to a larger component of glacial till, or more dense sands and gravels. The basal layer consists of a low velocity zone of 3180 m/s from phones 10 to 18 surrounded by higher velocities on each side. A feature unique to this line, this is a typical channel characteristic, that is seen at Wingdam and elsewhere. This also coincides with the thickest section of the intermediate layer (42 metres in thickness at geophone 15).

SL-2 also shows three distinct layers, however, the basal layer has more competent velocities of 5750 m/s throughout the entire profile. The third layer increases in thickness to the west likely due to the increasing saturation of the materials towards the river.

SL-8 has similar layer characteristics, but shows generally shallower interpreted bedrock depths over the length of the line.

SL-7 is the most southerly line and contains four layers. The surficial layer has velocities of 680 m/s and is similar in velocity and thicknesses to those on other lines. Below this, is the intermediate layer of dense sands and gravels with a velocity range of 1090 m/s to 1430 m/s. This layer deepens into a bowl at the eastern side of the line (21m in thickness at geophone 21). The third layer has been determined by drilling to correlate to a weak, fractured rock with a low velocity of 1580 m/s which overlies the competent rock below. This weak rock is most evident in the central area of the profile where it reaches approximately 13 metres in thickness at geophone 10.

4. LIMITATIONS

The depths to subsurface boundaries derived from seismic refraction surveys are generally accepted as accurate to within ten percent of the true depths to the boundaries. In some cases, unusual geological conditions may produce false or misleading data points with the result that computed depths to subsurface boundaries may be less accurate. In seismic refraction surveying difficulties with a "hidden layer" or a velocity inversion may produce erroneous depths. The first condition is caused by the inability to detect the existence of layers because of insufficient velocity contrasts or layer thicknesses. A velocity inversion exists when an underlying layer has a lower velocity than the layer directly above it.

The results are interpretive in nature and are considered to be a reasonably accurate representation of existing subsurface conditions within the limitations of the seismic refraction method.

For: Frontier Geosciences Inc.

John Woods, EIT

Cliff Candy, P.Geo.

NEW ERA Engineering Corporation

Placer Mining and Small Hydro Specialists

71 Fireweed Drive, Whitehorse, Yukon, Canada Y1A 5T8, 867-668-3978 fax 668-4528

August 22, 2003

Lyle Hallman
RIVERHALL RESOURCES LTD.,
230 Gage Avenue,
Kitchener, Ontario
N2M 2C8

BY: fax 519-742-0615 PAGES TO FOLLOW: __

Dear Mr. Halllman:

RE: Otter Creek Placer Drilling Program, Atlin, B.C.

Summary and Conclusions and Recommendations

During the period May 4th through June 11th, (holes 1 through 12) and August 8th through 15th 2003 (holes 13 and 14). August 26th through October 16th, 2003, the author conducted a placer drilling program in search of economic alluvial gold at Otter Creek in the Atlin area of northern British Columbia. A total of 14 holes were drilled to bedrock and the gravels were processed with the author's test sluicebox to determine if there were economic gold grades. The results of the test work indicated a narrow (10 to 20 meter wide) channel striking at an azimuth of 338 degrees. The grades in this channel vary from $74 per loose cubic yard over 20 feet in hole 7 to $11 to $12 in holes 11 and 13 at a fairly high stripping ratio given the location and depth of the zones (see appended tables 1 and 2).

At the present price of gold (~Can$450 per fine ounce), these are deemed to be marginal to uneconomic due to the stripping required. It is recommended that further detailed seismic surveys be used to locate the location and extensions of this narrow channel and the deeper area to the west (near hole #10).

Introduction

Otter Creek is a historic placer mining creek located in the Atlin Mining District of northwestern British Columbia. Placer gold was discovered on Otter Creek in 1898 and sections of this creek have been mined since the turn of the century with both hydraulic and underground methods. Since the early 1980's, the lower (mouth) and upper reaches of Otter Creek have been extensively mined with open pit mining methods. However, the middle (elevation) section of

Otter Creek has not been mined with the exception of limited hydraulic mining on the surface and limited historic underground mining.

Otter Creek like many streams in the Atlin area has undergone extensive glaciations. Generally the richest gold deposits occur in deeply oxidized (red or yellow) gravels formed during the Tertiary period. These Tertiary gravels lie on the argillite or talc (Cache Creek Series) bedrock in discreet channels. However, economic placer gravels have been located well above bedrock due to the erosion and re-deposition by inter-glacial and post-glacial streams. The best inter-glacial and post-glacial placer gold deposits generally occur in boulder layers and often at the contact with other less permeable sedimentary horizons.

Procedure

Drill holes 1 through 14 were drilled at Otter Creek during the period May 4th through June 11th, (holes 1 through 12) and August 8th through 15th 2003 (holes 13 and 14). The first 12 holes were drilled with an Ingersol-Rand down-the-hole hammer and interlocking casing system with a drill owned by Gary Crawford. The casing was 6 inches in diameter. The ability of the drill to recover representative samples and placer gold was tested with the addition of lead pellets and by examining the sample volumes. In general, the drill did return most or all of the lead pellets dropped down the hole and the sample volume (last column of the geological log spreadsheet) was close to 100% of the theoretical.

Holes 13 and 14 were drilled with an Odex down-the-hole hammer and casing system with a drill owned by Whitewater Resources of Whitehorse, Yukon. The casing was also 6 inches in diameter and the drill generally recovered more sample than the theoretical volumes. Holes 13 and 14 were drilled to define the width, strike and grade of the high gold values discovered earlier in hole 7.

The drill samples were collected and processed in the author's testing sluice. This sluicebox has been tested thoroughly with radiotracers and has proven to be effective at recovering placer gold as fine as 37 to 74 microns in size.

Drill hole locations were chosen in consultation with Archie Wiggins and were located directly above the deepest part of the Otter Creek Channel as indicated by previous and recent seismic surveys (Frontier Geophysics). Unfortunately due to the great depths and the high variability of reflection velocities, some of the seismic interpretations were erroneous and several holes (holes 1 through 6) were much shallower and had lower gold values than anticipated.

Results

In general, the uppermost gravels were gray and of glacial origin with glacial till gravels, argillite boulder layers and sand layers. Talc (commonly called soapstone) was the bedrock in almost all of the holes. In holes 7 through 14 red/brown silty Tertiary gravels were encountered above bedrock.

Placer gold was recovered in several holes at various depths in sub-economic grades generally: in boulder layers in the glacial till; at the contact between the glacial gravels and the underlying red/brown Tertiary gravels; and on bedrock. However the only potentially economic grades occurred at a depth of 75 to 85 feet on hole 7 in the valley next to Otter Creek ($55 to $237 per cubic yard). In June, four additional holes were drilled to the east (hole 8), west (hole 9), north (hole 11), and south (hole 12) but economic grades were not recovered except possibly in hole 11 where good grades were encountered at 55 to 65 feet ($42 per cubic yard) and at 85-87 feet ($27 per cubic yard). It appeared that the high grades encountered in hole 7 were located in either a very narrow channel or in small deep pocket.

Hole 10 was drilled over another seismic indicated low to the west of hole 7 and 8 and finally encountered talc bedrock at 204 feet of depth after going through 80 feet of red Tertiary gravels. Gold was recovered at 140-145 feet ($17 per cubic yard) at 170-175 ($10 per cubic yard) and again at the bedrock contact ($19 per cubic yard). Many of these better grade estimates are due to the presence of a single small nugget or large flake and thus are not as reliable as other estimates. Due to the great depths, none of these grades are currently economical to mine.

The elevation of bedrock in holes 7, 11 and 13 were reasonably similar and ranged from 967 to 969 meters. Hole 13 although relatively close to the line between holes #7 and #11 appears to be on the east (right) limit of a very narrow channel. It had reasonable values (~$12 per cubic yard) from 15 to 18 metes depth (50 to 60 feet) but had no gold values in the Tertiary red gravels below that zone.

Table 1- Summary of Placer Drill Hole Logs

Hole	Hole Depth		Bedrock Depth		Tertiary Depth		Best Interval			Best Grade	
	ft	m	ft	m	ft	m		ft	m	g/t	$/yd3
1	100	30	87	27	N/A		47-59	12	3.7	0.23	$ 3.74
2	48	15	35	11	N/A		25-35	10	3.0	0.02	$ 0.32
3	28	9	13	4	N/A		8-20	12	3.7	0.03	$ 0.45
4	65	20	60	18	N/A		55-65	10	3.0	0.11	$ 1.77
5	55	17	50	15	40	12	40-45	5	1.5	0.22	$ 3.43
6	107	33	105	32	97	30	20-35	15	4.6	0.03	$ 0.42
7	85	26	80	24	65	20	**65-85**	**20**	**6.1**	**4.63**	**$73.94**
8	65	20	61	19	57	17	55-60	5	1.5	0.02	$ 0.33
9	47	14	42	13	37	11	Lost in Debris Flow				
10	220	67	204	62	124	38	200-205	5	1.5	1.20	$19.13
11	87	27	82	25	67	20	**45-87**	**42**	**12.8**	**0.71**	**$11.33**
12	65	20	55	17	38	12	10-30	20	6.1	0.57	$ 9.05
13	80	24	74	23	58	18	**50-60**	**10**	**3.0**	**0.73**	**$11.73**
14	60	18	56	17	54	16	35-60	25	7.6	0.04	$ 0.67

The best hole #7 had grades up to $237 per loose cubic yard. Hole #11 is located 28 meters downstream (north) and bedrock is 1 meter lower. Hole #13 is located 16 meters northeast of #7 and bedrock is 1 meter higher than at hole #7.

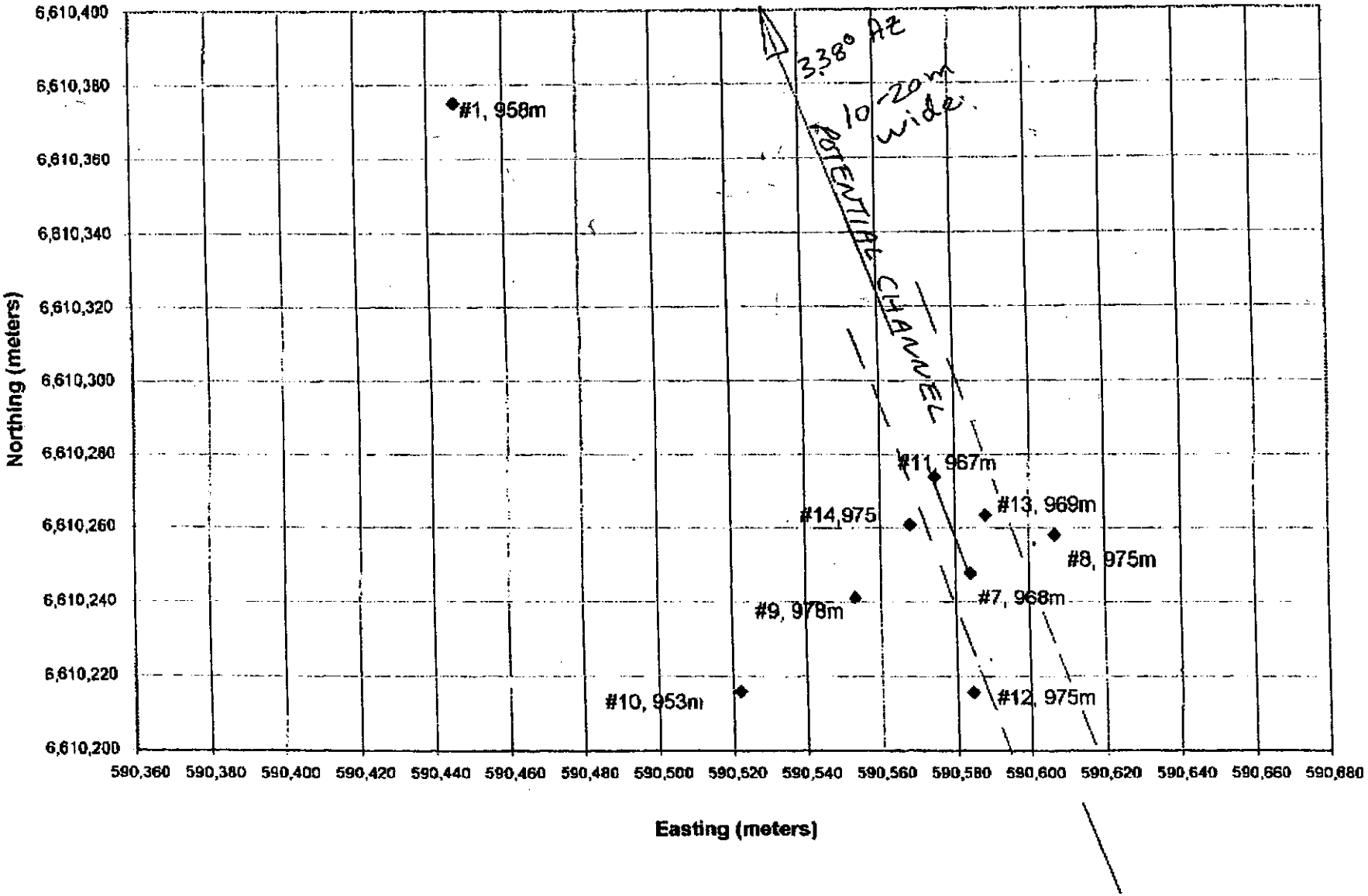
The plan of the Otter Creek Drill Holes indicates a potential very narrow (10 to 20 m wide) channel striking at an azimuth of 338 degrees. This potential narrow channel is well above (22 meters) the bedrock elevation to the west at hole 10 (953 m). The drill indicated grades in the narrow channel ranged from $74 over 20 feet in hole 7 to $11 to $12 in holes 11 and 13. Holes 7 through 14 (except hole 10) were completed in the present narrow Otter Creek valley. Further drilling to define the channel to the north and south would require much deeper holes and it may be difficult to locate such a narrow zone.

I have enjoyed working with you on Otter Creek. Please call me if you have any further questions.

Randy Clarkson P.Eng.

Encl – summary, plan of drill holes, geological logs and survey calculations.

Plan of Otter Creek Drill Holes With Bedrock Elevations (June/August, 2003)



NEW ERA Engineering Corporation
Placer Mining and Small Hydro Specialists
71 Fireweed Drive, Whitehorse, Yukon, Canada Y1A 5T8, 867-668-3978 fax 668-4528

March 29, 2004

STATEMENT OF QUALIFICATIONS

I, Randy Clarkson, of 71 Fireweed Drive, Whitehorse, Yukon do hereby certify that:

a) I am a graduate of the University of British Columbia (1979) with a Bachelor of Applied Science (Mining and Mineral Process Engineering).

b) I am a graduate of the British Columbia Institute of Technology (1974) with a diploma in Mining Technology.

c) I am a registered Professional Engineer in the Province of British Columbia and the Yukon Territory.

d) I have over 25 years of experience in mining engineering and hydraulics throughout the world;

e) From 1985 to the present I have worked as an engineering consultant, mainly in alluvial mining, where I have conducted research on gold recovery and drilling, extensive sampling, placer evaluations, property verifications, and feasibility studies.

f) I supervised the drilling program and processed the sampled from Otter Creek near Atlin B.C, .on May 4- June 11 and August 12-14, 2003.

g) I authored the report entitled "RE: Otter Creek Placer Drilling Program, Atlin, B.C.", August 22, 2003.

h) I have no financial interest and do not expect to receive any financial interest in the future with the property.

Randy Clarkson P.Eng.

Table 1 - Summary of Geological LOG OF Otter Creek SAMPLES 3.2808

Hole	Hole Depth		Bedrock Depth		Tertiary Depth		Best Interval			Best Grade		Northing	Easting	Elevation	Bedrock
	ft	m	ft	m	ft	m		ft	m	g/t	$/yd3	m	m	m	Elev m
1	100	30	87	27	N/A		47-59	12	3.7	0.23	$ 3.74	6,610,380	590,441	985	958
2	48	15	35	11	N/A		25-35	10	3.0	0.02	$ 0.32	6,609,892	590,625	1,005	994
3	28	9	13	4	N/A		8-20	12	3.7	0.03	$ 0.45	6,609,941	590,673	1,006	1,002
4	65	20	60	18	N/A		55-65	10	3.0	0.11	$ 1.77	6,608,602	591,177	1,066	1,048
5	55	17	50	15	40	12	40-45	5	1.5	0.22	$ 3.43	6,608,504	591,217	1,061	1,046
6	107	33	105	32	97	30	20-35	15	4.6	0.03	$ 0.42	6,609,345	590,704	1,048	1,016
7	85	26	80	24	65	20	**65-85**	**20**	**6.1**	**4.63**	**$73.94**	6,610,248	590,584	992	968
8	65	20	61	19	57	17	55-60	5	1.5	0.02	$ 0.33	6,610,258	590,613	994	975
9	47	14	42	13	37	11	Lost in Debris Flow					6,610,243	590,552	991	978
10	220	67	204	62	124	38	200-205	5	1.5	1.20	$19.13	6,610,216	590,522	1,015	953
11	87	27	82	25	67	20	**45-87**	**42**	**12.8**	**0.71**	**$11.33**	6,610,274	590,575	992	967
12	65	20	55	17	38	12	10-30	20	6.1	0.57	$ 9.05	6,610,216	590,584	992	975
13	80	24	74	23	58	18	**50-60**	**10**	**3.0**	**0.73**	**$11.73**	6,610,264	590,588	992	969
14	60	18	56	17	54	16	35-60	25	7.6	0.04	$ 0.67	6,610,261	590,568	992	975

Notes:
- The best hole #7 had grades up to $237 and $55 per loose cubic yard.
- Hole #11 is located 28 meters north (downstream) and at a 3% gradient below hole #7.
- Hole #13 is located 16 meters northeast (downstream) and at a +5 % gradient from hole #7.
- Hole #14 is located just west of the line between holes #7 and #11 and bedrock is much higher
- Hole #8 is located 25 meters east (right) of and bedrock is much higher than at #7 or #11.
- Hole #9 is located 32 meters west (left) of and bedrock is much higher than at #7 or #11.

LOG OF OTTER CREEK SAMPLES

Table 2 - LOG OF Otter Creek SAMPLES

Assumptions:	85% Purity	$350 US per fine oz	$419 Net price
	1.55 tonne/m3	32.7 liters/ft drilled	3.2808 ft/m

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/yd³	Thickness
		NAD 83		m	m						
		Archie	6,610,371	590,445	985						
1	0-30	OT1	6,610,380	590,441	985	N/A					
		Silty Glacial Gravel Till, angular fragments, argillite/siltstone & minor quartz									
1	30-33					N/A					
		Sandy Glacial Gravel Till, dk brown and tan angular fragments									
1	33-40					50	1.0	<2	0.01	$ 0.21	
		Boulder Glacial Gravel Till with some clay, no silt, dk brown & tan argillite/siltstone fragments									
1	40-45					65	2.0	<2	0.02	$ 0.32	
		Glacial/Fluvial Boulder/Cobble gravel with little matrix, minor clay, argillite/siltstone fragments									
1	46	Rapid Advance with no sample									
1	47-51					47		22	**0.30**	**$ 4.82**	1.2 118%
		Silty Glacial/Fluvial Boulder/Cobble gravel with lg fragments dk argillite									
1	51-59					70		18	**0.17**	**$ 2.65**	2.4 88%
		moist angular mixed gravel/cobble, brn silty matrix, sand only at 58'									
1	59-66					82		0	0.00	$ -	2.1 117%
		Fine moist red brown sand, minor clay and minor gravel fragments, rapid advance									
1	70	put 5 small lead balls in casing									
1	66	lost air, no sample									
1	66-74					12		0.1	0.01	$ 0.09	2.4 15%
		Residual material purged from drill									
1	74-77	clay				40		11	**0.18**	**$ 2.83**	0.9 134%
		recovered 3 lead balls of 5 added									
1	77-84					155	2.0	<2	0.01	$ 0.13	2.1 222%
		Mixed glacial/fluvial gravel with minor clay									
1	84-86					40	0.5	<2	0.01	$ 0.13	0.6 201%
		Sandy mixed glacial/fluvial gravel with minor silt									
1	86	Fine packed moist red brown sand									

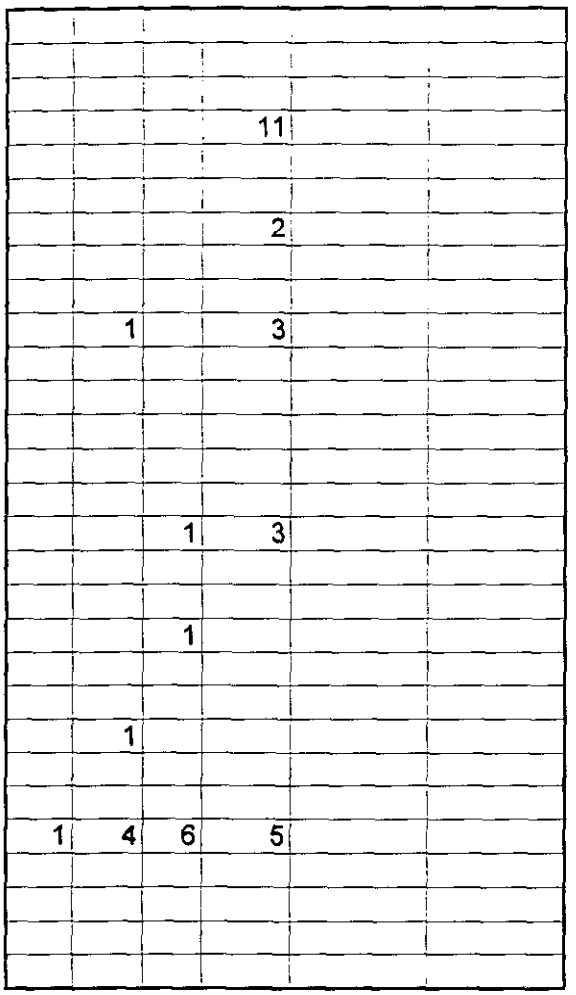
Sample						Volume	Calc	Actual			Thickness

Gold Particles				
#14	#28	#48	#100	
8	2.1	0.5	0.1	
			8	easy wash
		5	12	easy wash
1	2	6	6	easy wash
				easy wash
				diff wash/clay
1		6	4	diff wash
		4	6	med diff wash
			4	easy wash
Gold Particles				

No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
		NAD 83		m	m							
1	87-90	Bedrock Talc, consistent ragged fine blk chips and flakes, no air, no sample, water										
		Added 5 medium large balls of lead										
1	90-95					25		0	0.00	$ -	1.5	50%
		Talc Bedrock, minor clay, no gold, no lead tracers										
1	95-100					90		6	0.04	$ 0.69	1.5	180%
		Talc Bedrock, fine ground and fragments, minor hematite										
		3 large lead balls returned of 5 added										
1	Summary					676		57			20.4	101%
Drill Hole 2												
		Archie	6,609,895	590,627								
2	0-9	OT2	6,609,892	590,625	1,005	N/S						
		Silty Brown Gravel (Hydraulic Tailings)										
2	9-14	Boulders and Timber (Hydraulic Tailings)										
2	14-21	Silty coated fine gravel with minor matrix										
2	22-23	Loss of Air, Sample plugged										
2	25	Water										
2	25-30					28	0.8	<2	0.02	$ 0.28	1.5	56%
		Boulder fragments and clay coated mixed gravels (Hydraulic Tailings)										
2	30-35					26	0.9	<2	0.02	$ 0.36	1.5	52%
		Coarse Loose Cobble/Boulder gravel, good air, poor sample										
2	35-40	Talc (soapstone) bedrock				65	0.5	<2	0.01	$ 0.08	1.5	130%
2	48	Bottom of Hole										
Drill Hole 3												
3	0-8	OT3	6,609,941	590,673	1,006	No sample air bubbling up through gravels						
3	8-12					43	2	<2	0.03	$ 0.49	1.2	108%
		Wet coarse mixed gravel										
3	12-13	Bedrock contact with talc										
3	13-20	Talc Bedrock				55	2	<2	0.03	$ 0.41	2.1	79%
	28	Bottom of Hole										
Sample						Volume	Calc	Actual			Thickness	
No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
		NAD 83		m	m						3.281	

#14	#28	#48	#100		
8	2.1	0.5	0.1		
		2	4	diff wash	
		1	2		
		1	3		
		1			
		4			
	1		1		
#14	#28	#48	#100		
8	2.1	0.5	0.1		

4	0-5	OT4	6,608,602	591,177	1,066	Not Sampled					
4	5-15				94	1.4	<2	0.01	$ 0.15		
		Lt Grey Silty Boulder/Gravel (Glacial Till), with pyrite and minor magnetite									
4	15-25				98	0.3	<2	0.00	$ 0.03		
		Black silty, with argillite and Quartzite boulder fragments, abundant pyrite and min mag									
4	25-35				113	2	<2	0.01	$ 0.22		
		Lt Grey Silty Boulder/Gravel (Glacial Till), with pyrite and minor magnetite									
4	35-45				105		0	0.00	$ -		
		Lt Grey Silty Boulder/Gravel (Glacial Till), with pyrite and minor magnetite									
4	45-50				57	0.9	<2	0.01	$ 0.16		
		Dk Gray silty argillite boulder/gravel (glacial till) with pyrite and minor magnetite									
4	50-55				70	0.5	<2	0.00	$ 0.08		
		Lt Grey Silty Boulder/Gravel (Glacial Till), with pyrite and minor magnetite									
4	55-60				55	2	<2	0.02	$ 0.38	1.5	
		Lt Grey Silty Boulder/Gravel/ Black Clay, (Glacial Till), with pyrite and minor magnetite									
4	60-65				49		15	0.20	$ 3.15	1.5	98%
		Red/Brown Oxidized argillite Bedrock shards and flour									
4	Summary				640					18.3	107%


11
2
1
3
1
3
1
1
1
4
6
5

Sample						Volume	Calc	Actual			Thickness	
No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
		NAD 83		m	m							
5	0-10	OT5	6,608,504	591,217	1061	75		0	0.00	$ -	3.0	76%
		Lt Brown Gravel, minor clay, minor pyrite										
5	10-15					60		0	0.00	$ -	1.5	120%
		Dk Red Brown silty cobble/gravel, minor magnetite										
5	15-20					79	3	<2	0.02	$ 0.34	1.5	158%
		Dk Red Brown Fine sand/silt mixed cobble and pebble, argillite rich										
5	20-25					71	0.3	<2	0.00	$ 0.04	1.5	143%
		Dk Red Brown mixed Gravel, minor clay, pyrite, minor magnetite										
5	25-30					60	0.4	<2	0.00	$ 0.07	1.5	120%
		Dk Brown argillite chips and minor talc, pyrite, all 5 lead sinkers added at 27 feet came back										
5	30-35					68	0.3	<2	0.00	$ 0.04	1.5	135%
		Lt Grey Gravel with black clay coated pebble gravel, less clay, pyrite										
5	35-40					68	0.3	<2	0.00	$ 0.04	1.5	135%
		Grey Gravel & Silt, black clay and argillite rock flour, moist										
5	40-45					60		20	**0.22**	**$ 3.43**	1.5	120%
		Red-Brown Silty mixed argillite and boulder gravel with fine sand										
5	45-50					45	0.5	<2	0.01	$ 0.12	1.5	90%
		Red-Brown Coarse Gravel on hard argillite Bedrock contact										
5	50-55					45		0	0.00	$ -	1.5	90%
		Bedrock, no gold, no black sands, no pyrite										
5	Summary					630					16.7	115%

#14	#28	#48	#100		
8	2.1	0.5	0.1		
	1	1			
			2		
			3		
			2		
			2		
1	2		6		
		1			

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne		
		NAD 83		m	m							
		Archie	6,609,345	590,704	1,048							
6	0-10					23		0	0.00	$ -		
		Dk Red-Brown sand/silt with minor variegated gravel pebbles (till)										
6	10-15					34		0	0.00	$ -		
		Fine Brown Sand with minor fine oxidized cobble/gravels (till)										
6	15-20					30		0	0.00	$ -		
		Fine Brown Sand and Some Fine Gravels (till)										
6	20-25					45	2	<2	0.03	$ 0.46		
		Fine brown fine sand and well mixed cobble gravel (till)										
6	25-30					55	2	<2	0.02	$ 0.37		
		Silty Lt Brown well mixed gravel (till)m min pyrite and mag, 1 lead ball recovered of 5 a[illegible]										
6	30-35					60	2	<2	0.03	$ 0.42	[illegible]5	[illegible]20
		Silty Lt Red Brown well mixed gravel, mostly argillite cobble gravel till with boulders										
6	31-33	Boulder										
6	35	Dk Red Brown Fine Sand and Pebble/ boulder gravel										
6	37	Red brown silty and fine chips and rock flour from boulder										
6	35-40					60	1	<2	0.01	$ 0.22	1.5	120%
		Silty Lt Red Brown well mixed gravel, mostly argillite cobble gravel till with boulders										
6	40-45					45	0.4	<2	0.01	$ 0.09	1.5	90%
		Fine brown sand, large and small boulder chips and mixed gravel, massive pyrite										
6	45-50					49		0	0.00	$ -	1.5	98%
		Dark red brown fine sand/silt mixed fine chips and gravel, mostly argillite, no gold, mass pyrite, mi										
6	50-55					60	0.3	<2	0.00	$ 0.04	1.5	120%
		Fine red brown silty gravel, minor pyrite and magnetite										
6	55-60					35		0	0.00	$ -	1.5	70%
		Dark red brown pea gravel & chips with silty coated round pebbles, mixed arg & qutz alluvial										
		minor pyrite and magnetite, no gold										
6	60-65					40	0.3	<2	0.00	$ 0.07	1.5	80%
		Dark red brown pea gravel & chips with silty coated round pebbles, mixed arg & qutz alluvial										
		added 5 lead tracers										
6	65-70					32		0	0.00	$ -	1.5	64%
		Grey Brown sand and pea gravel with chips of argillite, no gold, minor ground lead tracers										

#14	#28	#48	#100		
8	2.1	0.5	0.1		
	1	1	2		
		3	22		
		3	7		
		1	6		
			3		
n mag					
			2		
			2		

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne	Thickness m	Recv
		NAD 83		m	m							
6	70-75					31		0	0.00	$ -	1.5	62%
		Grey Brown sand with minor pea gravel and chips of argillite, no gold, fine ground lead tracers										
		minor pyrite and magnetite										
6	75-80					25		0	0.00	$ -	1.5	50%
		Pea gravel mixed and chips argillite and quartz										
6	80-85					45		0	0.00	$ -	1.5	90%
		Grey-Brown Pea gravel mixed and chips argillite and quartz, minor pyrite & mag, no gold										
6	85-97					128	0.5	<2	0.00	$ 0.04	3.7	107%
		Grey fine sand and mixed gravel, decreasing gravel and browner with depth, dry										
		Only dark brown sand from 90 tto 97', minor lead tracer return.										
6	97-102					45	2	<2	0.02	$ 0.35	1.5	90%
		Dark red brown silt with minor fine pea gravel with silt/clay, minor pyrite and magnetite										
6	102-105					25		0	0.00	$ -	0.9	84%
		Wet Red Brown silt and gravel, no gold, minor pyrite, talc bedrock at 104 '										
6	105-107	Talc bedrock				20		0	0.00	$ -	0.6	100%
6	107	Bottom of hole										
6	Summary					886					33	83%

#14	#28	#48	#100		
8	2.1	0.5	0.1		
		1			
		1	8		

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne		
		NAD 83		m	m							
7	0-16	Archie	6,610,248	590,584	992	No sample						
7	16-26					98		0	0.00	$ -		
		Pure plastic clay with minor round gravel, no gold, minor pyrite and magnetite										
7	26-36					87		0	0.00	$ -		
		Grey stick clay 26-32, sand and clay 32-36										
7	36-45					79		8	0.07	$ 1.05		
		Silty dark brown gravel, mixed chips mostly argillite, fine sand at lower end, dry										
		Coarser, silty dark brown gravels, mostly argillite and minor qutz chips, much less clay moist										
		Added 5 of 2nd smallest lead tracers										
7	45-50					77		0	0.00	$ -		
		Coarse, silty dark brown gravels, mostly argillite, increasing clay and wet at 47'										
7	50-55					95		46	0.31	$ 4.99	1.5	
		Coarse, silty dark brown gravels, mostly argillite, decreasing clay and moisture with depth										
		Sand and drier at 55', dark gray brown, 865 mg of 1 only lead tracer returned										
7	55-60					80		6	0.05	$ 0.77	1.5	160%
		Pebble gravel through sand with boulders and gray brown clay balls in layers, diff wash										
		2 large lead tracer recovered weighing 1706 mg										
7	60-65					80		6	0.05	$ 0.77	1.5	160%
		Grey fine sand, fine chips of mixed boulder gravel, mostly fine sands (till)										
7	65-70					65		18	**0.18**	**$ 2.85**	1.5	130%
		Red-brown silt with coarse chips of mixed coarse gravel, bottom samples wet (Tertiary)										
7	70-75					90		6	0.04	$ 0.69	1.5	180%
		Wetter Red-brown silt/sand with coarse chips of mixed coarse gravel (Tertiary)										
		128 mg of ground up lead tracers recovered										
7	75-80					120		2760	**14.8**	**$236.91**	1.5	241%
		Bright red mixed silty gravels (Tertiary)										
		All 5 lead tracers returned										
7	80-85					65		349	**3.5**	**$ 55.30**	1.5	130%
		Talc bedrock with minor tertiary gravels										
7	Summary					935					21	136%
Sample						Volume	Calc	Actual				Thickness

#14	#28	#48	#100
8	2.1	0.5	0.1

#14 #28 #48 #100

No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
		NAD 83		m	m							
		Archie	6,610,258	590,613	994							
8	0-10					Not Sampled						
		Dark gray fine sand and cobble gravel (till)										
8	10-20					128	0.5	<2	0.0	$ 0.04	3.0	128%
		Dark gray fine sandy argillite cobble gravel (till) moist										
8	20-25					77			0.0	$ -	1.5	154%
		Lighter Dark brown fine sand/silt argillite/quartz/talc gravel (till) no gold										
8	25-30					45	0.1	<2	0.0	$ 0.03	1.5	90%
		Dark brown fine sand with minor mixed gravel, added 5 lead tracers, all came back										
8	30-40					135		0	0.0	$ -	3.0	135%
		Dark brown fine sand with more cobbles, no gold										
8	40-50					47.5	0.5	<2	0.0	$ 0.11	1.5	95%
		Fine silty black sand with minor clay (90% sand),										
8	45-50					47.5		0	0.0	$ -	1.5	95%
		Boulder 45-48', mix argillite & quartz chips, dk gray brown coarse gravel with fine sand										
		lots of ground up lead tracers, no gold										
8	50-55					68		0	0.0	$ -	1.5	135%
		Grey silty and brown clay coated medium mixed gravels, dry (Tertiary?)										
		Added 5 more lead tracers, no gold some lead recovered										
8	55-60					80	3		0.0	$ 0.33	1.5	160%
		Dk red brown clay coated med gravels, Start of red-brown silty tertiary gravels at 57'										
8	60-65					60		0	0.0	$ -	1.5	120%
		End of tertiary gravels, start of talc bedrock at 61'										
8	Summary					687					17	125%

8	2.1	0.5	0.1		
		1			
		1			
			1		
		1	0		
		4	4		

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne		
		NAD 83		m	m							
		Archie	6,610,243	590,552	991							
9	0-20					38		0	0.0	$ -		
		Dark Brown Mixed clay layers and coarse mixed argillite dominant gravels (glacial fl...										
		no gold, minor pyrite and phyrhotite? Wet										
9	20-25					50		0	0.0	$ -		
		Lt brown, silty/clay mixed argillite dominant medium gravel/boulder, no gold, 5 lead tra...										
9	25-30					77	6	6	0.1	$ 0.80		
		Lt brown Medium coarse argillite dominant mixed gravel with boulder shards (90%)										
9	30-35					73	5	4	0.0	$ 0.56		
		Lt brown clay coated gravel, abundant rocks, glacial till										
9	37-42	red brown tertiary gravels, lost samples in debris flow							????????????????			
9	42-45								????????????????		0.9	0%
		Red brown bedrock (argillite?), lost samples in debris flow										
9	45-47					30		0	0.0	$ -	0.6	150%
		Red brown bedrock (argillite?) no gold, minor magnetite										
	Summary					268					13.7	60%

#14	#28	#48	#100
8	2.1	0.5	0.1
		7	20
		4	24

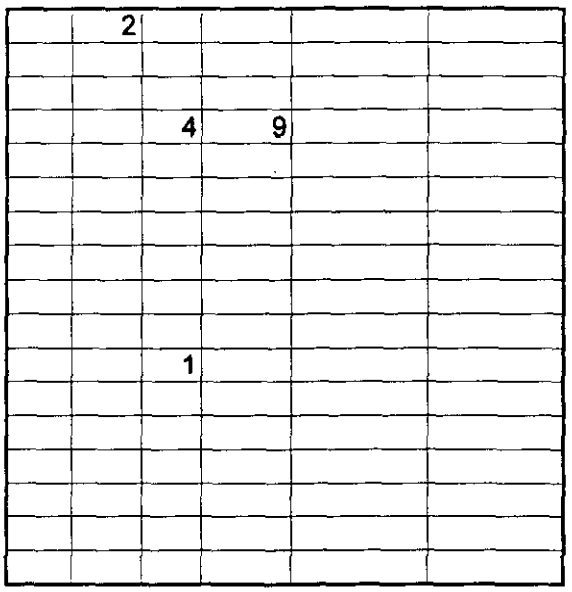
Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne	Thickness m	Recv
10	0-10	Archie	6,610,216	590,522	1015							
			Not Sampled									
10	10-20					144	8	6	0.0	$ 0.43	3.0	144%
		Lt brown silty mostly sand with argillite dominant (also quartzite & quartz) gravel (glacial till)										
10	20-25					78	0.8	<2	0.0	$ 0.10	1.5	156%
		Lt brown fine sand with less gravel (argillite dominant) (glacial till)										
10	25-30					62	2	<2	0.0	$ 0.40	1.5	124%
		Lt brown gray silty fine sand gravel till, mostly sand										
10	30-40					134	1	<2	0.0	$ 0.09	3.0	134%
		Lt brown gray silty fine sand gravel till, mostly sand										
10	40-50					130	2	<2	0.0	$ 0.16	3.0	130%
		40-48' Med brown, argillite dominant mixed gravels (70%) with occasional boulders,no clay										
		48-50' red brown silty sand and fine gravel										
10	50-60					115	0.5	<2	0.0	$ 0.05	3.0	115%
		Brown interbedded coarse gravels, silt, fine gravels and boulder layers										
		50-52 coarse gravel, 52-54 silt and fine gravels (less abundant), 55-58 silty fine sand with										
		minor gravel, 58-59 large boulder										
10	60-70					87	0.5	<2	0.0	$ 0.06	3.0	87%
		Grey brown argillite dominant gravel in fine sand/silt with boulders at 65'										
10	70-80					109	0.0	0	0.0	$ -	3.0	109%
		70-77 lt. gray-brown finer abundant gravel with fine sand, 77-79' boulder layer with sand										
		79-80 clay layer										
10	80-90					106	0.0	0	0.0	$ -	3.0	106%
		Boulder at 88', gray-brown argillite dominant mixed fine gravels with sand/silt (glacial till)										
10	90-100					90	0.1	<2	0.0	$ 0.01	3.0	90%
		Interbedded fine sand and gravel layers, glacial till/outwash gravels/sands										
		Dark gray-brown fine sand with minor fine gravel to 93', more gravel (50%) 93-97',										
		97-100 pure dark brown sand (<10% gravel), All 5 lead tracers back										
10	100-105					95	0.0	0	0.0	$ -	1.5	191%
		Brown coarse sand with argillite, no gold, minor magnetite (glacial till/outwash)										
10	105-110					60	0.3	<2	0.0	$ 0.04	1.5	120%
		Interbedded Dark brown coarse silty sand and small pebble layers (glacial till/outwash)										
Sample						Volume	Calc	Actual			Thickness	

#14	#28	#48	#100		
8	2.1	0.5	0.1		
	1	7	22		
			6		
		2	11		
		1	5		
	1	1	4		
		1			
		1			
			1		
			2		
#14	#28	#48	#100		

No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne		
10	110-120					95	0.0	0	0.0	$ -		
		Argillite dominant pea gravel (70% rock) in lt brown fine sand/silt (Glacial Till)										
10	120-125					83	1	<2	0.0	$ 0.13		
		Argillite dominant pea gravel (70% rock) in lt brown fine sand/silt (Glacial Till) to 124										
		Tertiary mixed iron stained gravels, with red brown silt at 124', still dry										
10	125-130					75	7	10	0.1	$ 1.37		
		Tertiary mixed iron stained gravels, with red brown silt, last section oxidized vesicular pebbles										
		Water at 126'										
10	130-135					20	0.0	0	0.0	$ -		
		Tertiary coarse washed sand, no gravel, wet, small sample, restart, minor magnetite										
10	135-140					53	0.3	<2	0.0	$ 0.05		
		Thixotropic tertiary mixed argillite dominant iron stained gravels, with red/brown silt, oxidized pebb										
10	140-145					60		98	**1.1**	**$ 16.82**		
		(86 of the 98 mg is a single nugget)										
		Thixotropic tertiary mixed argillite dominant iron stained gravels, with red/brown silt, oxidized pebb										
10	142-143	Seam of plastic clay										
10	145-150					30	0.0	0	0.0	$ -		
		Tertiary mixed iron stained gravels, with orange brown silt,min oxidized vesicular pebbles, minor m										
10	150-155					68	0.0	0	0.0	$ -	1.5	135%
		Thixotropic tertiary mixed argillite dominant iron stained gravels, with red/brown silt, minor magnet										
10	155-160					47	0.0	0	0.0	$ -	1.5	94%
		Tertiary mixed iron stained gravels, with orange silt, minor magnetite										
10	160-165					63	0.5	<2	0.0	$ 0.08	1.5	126%
		Tertiary mixed iron stained gravels, with orange silt, minor magnetite										
10	170-175					62	0.0	58	**0.6**	**$ 9.64**	1.5	124%
		(52 of the 58 mg is a single nugget), Tertiary mixed med gravels, orange silt (60% rock), 5 tracers added										
10	175-180					57	0.0	0	0.0	$ -	1.5	114%
		Tertiary mixed iron stained gravels, with orange silt, ~2.5 of 5 lead tracers came back										
10	180-185					45	0.0	0	0.0	$ -	1.5	90%
		Tertiary mixed iron stained gravels, with orange silt										
10	185-190					191	2	<2	0.0	$ 0.11	1.5	384%
		Tertiary mixed iron stained gravels, with orange silt										
Sample						Volume	Calc	Actual			Thickness	
No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv

8	2.1	0.5	0.1		
		2			
	2	2	12		
			2		
les					
les					
nagnetite,					
ite					
		1			
	2				
#14	#28	#48	#100		
8	2.1	0.5	0.1		

10	190-195					154	2	<2	0.0	$ 0.13	1.5	308%
		Tertiary argillite dominant mixed iron stained gravels, with red brown silt										
10	195-200					212	3	3	0.0	$ 0.15	1.5	425%
		Tertiary argillite dominant mixed iron stained gravels, with red brown silt										
10	200-205					203	0.0	376	**1.2**	**$ 19.13**	1.5	406%
		200-204 Tertiary argillite dominant mixed gravels, 203 boulder, 204 water stopped, hard drilling										
		Bedrock at 204'										
10	205-220					24	0.5	<2	0.0	$ 0.22	1.5	48%
		All talc bedrock drilled with button bit below casing at 205', minor black sands, slurry										
	Summary					2750					59.4	141%


2
4
9
1

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne	Thickness
11	0-10	Archie				45	0.1	<2	0.0	$ 0.03	
		0-5 dk gray sticky till, 5-10' sandy cobble/gravel argillite dominant and clay coated. til									
11	10-20					90	0.5	<2	0.0	$ 0.06	
		gray argillite dominant silty gravel till, lg clay coated chips, high % fine silt									
11	20-30					105	2	<2	0.0	$ 0.20	
		gray fine silt/sand, minor clay, minor gravel, easy wash									
11	30-40					113	0.4	<2	0.0	$ 0.04	
		30-37' Dark gray-brown silt/sand, minor gravel, glacial									
		37-40 lt brown fine sand and mixed gravels/cobbles, moist									
11	40-45					60	2	<2	0.0	$ 0.37	1.5 120%
		Mostly coarse argillite gravels with lt gray fine sand and minor clay balls									
11	45-55					93		26	**0.2**	**$ 2.88**	3.0 93%
		mostly gray glacial gravels and minor fine sands, color change at 48' due to iron stained gravels									
11	55-65					72		296	**2.7**	**$ 42.35**	3.0 72%
		Washed mixed gravels, minor brown silt, boulder layer? Contact with Tertiary?									
		226 mg of 296 mg total is one nugget				72		70	**0.6**	**$ 10.01**	3.0
11	65-70					57		0	0.0	$ -	1.5 114%
		Mostly argillite dominant gravel, contact between gray glacial and red/brown Tertiary gravels									
		68' start of water, no gold, minor black sands									
11	70-75					45		0	0.0	$ -	1.5 90%
		Red brown silty washed mixed argillite dominant Tertiary gravel, no gold, minor black sands									
11	75-80					45	0.4	<2	0.0	$ 0.09	1.5 90%
		Red/brown silty mixed stained Tertiary gravel, argillite dominant									
11	80-85					68		52	**0.5**	**$ 7.88**	1.5 136%
		wet red/brown tertiary gravel and minor clay, iron stained talc bedrock contact at 82'									
		gold weight is mostly from two large flakes									
11	85-87					18	19	48	**1.7**	**$ 27.47**	0.6 90%
		talc bedrock stained with iron 48 mg of pure gold and 34 mg of stained gold									
		34 mg of stained bronze from bit not included									
										$ 12.96	from 55 to 87'
	Summary					883					30 91%
Sample						Volume	Calc	Actual			Thickness

#14	#28	#48	#100		
8	2.1	0.5	0.1		
			1		
		1			
		3	4		
			3		
		3	5		
			3		
2		4	4		
#14	#28	#48	#100		

No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
12	0-10	Archie										
		fill not sampled										
12	10-20					45		32	**0.5**	**$ 7.32**	3.0	45%
		one small nugget, brown argillite dominant silty gravel / glacial till, moist										
12	20-30					109		114	**0.7**	**$ 10.77**	3.0	109%
		one small nugget, dark brown silt with sticky clay, very little rock, moist										
12	30-35					60	0.5	<2	0.0	$ 0.09	1.5	120%
		Coarse dark gray/brown clay-coated silty gravels and boulders (at 32'), moist										
12	35-40					68	2	<2	0.0	$ 0.27	1.5	135%
		Dark redder brown finer gravels and clay coated boulder (38-41') fragments in sand matrix										
		color change at 36 feet to reddish silt, probably argillite dominant Tertiary gravels at 36'										
12	40-45					70	2	<2	0.0	$ 0.29	1.5	140%
		water at 44', gray/brown argillite boulder chips and thixotropic slurry, high clay										
12	45-50					52	0.4	<2	0.0	$ 0.08	1.5	104%
		Dark brown wet argillite boulder fragments and mixed gravels, minor silt/clay, thixotropic										
12	50-55					75	6	10	0.1	$ 1.37	1.5	150%
		Red brown silty Tertiary gravels over Talc bedrock (at 55') moist with clay balls										
12	55-60					75	2	<2	0.0	$ 0.27	1.5	150%
		All reddish stained talc bedrock										
12	60-65					45	0.1	<2	0.0	$ 0.03	1.5	90%
		All talc bedrock, dry										
	Summary					599					17	109%

8	2.1	0.5	0.1		
		1			
		2	6		
	1		6		
			3		
	1	6	8		
		4	6		
			1		

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne	Thickness ft	
						27.8	liters/ft drilled					
13	0-10					63	1.0	<2			3	
		0-5' gray coarse grvl with silt and fine sand = glacial till										
		5-7 gray fine sand with minor gravels (argillite dominant mixed gravels)										
		7-10' fine sand only										
13	10-15					70	0.5	<2	0.0	$ 0.08	1.5	18
		Dark gray moist fine sand with plastic clay and very minor gravel										
13	15-20					60	0	0	0.0	$ -	1.5	144
		Dark gray clay with fine sand from 15-19', 19-20 was black fine sand and clay = glacial tills										
13	20-25					50	0	0	0.0	$ -	1.5	120%
		Dark brown fine sand/silt, no gravels, no gold										
13	25-30					55	0	0	0.0	$ -	1.5	132%
		Dark grey/black fine sand/silt, no gravel, no gold										
13	30-35					60	0	0	0.0	$ -	1.5	144%
		Black fine sand only, no gravel, no gold, no magnetite										
13	35-40					75	0	0	0.0	$ -	1.5	180%
		35-36 black fine sand, 36-40 dark brown coarse sand and coarse gravel (30%), no gold										
		minor magnetite, gravels are argillite dominant mixed gravels										
13	40-45					90	6.4	18	0.1	**$ 2.06**	1.5	216%
		40-41 coarse gravel (60%) with fine dark brown sand, 41-43' dark brown clay coated										
		gravel (50%) and coarse sand, 43-44' coarser gravel (70%), 44-45' light brown fine										
		sand and coarse gravel (70%)										
13	45-50					60	1.0	<2	0.0	**$ 0.18**	1.5	144%
		Dark brown silt/fine sand, rounded coarse clay coated gravel (40%)										
13	50-55					110		50	0.3	**$ 4.68**	1.5	264%
		Light brown silt gravel (50%) with boulder layer at 53-55' (coarse fragments)										
		Gravel is argillite dominant mixed gravels, mostly large fragments, some gold, lots of magnetite										
13	55-60					90		164	1.2	**$ 18.77**	1.5	216%
		55-57' large gray argillite boulder fragments only, 57-58 transition (Glacial Till?)										
		58-60' dark brown/red silty fine sand with rounded coated coarse gravels (Tertiary?)										
		gold and black sands										
13	60-65					52	0	0	0.0	$ -	1.5	125%
		60-61' red brown silt and fine sand with coarse gravel, water at 61',										
		62'65' red brown fine gravels and sand, no gold minor black sands										
Sample						Volume	Calc	Actual			Thickness	

#14	#28	#48	#100		
8	2.1	0.5	0.1		
		2			
		1			
0	2	4	2		
			8		
#14	#28	#48	#100		

No	Interval	GPS#	Northing	Easting	Elev	liters	mg	mg	g/tonne	$/tonne	m	Recv
13	65-70					7.5	0	0	0.0	$ -	1.5	18%
		65-66' red brown silty coarse gravels, 67-70' red brown fine sand and minor gravel										
		no gold, minor black sands, darker chips with more argillite (bedrock?)										
13	70-75					70	0	0	0.0	$ -	1.5	168%
		70-74 dark red brown silty gravels (tertiary?) 74-75 black argillite bedrock										
		no gold very minor black sands										
13	75-80					50	0	0	0.0	$ -	1.5	120%
		black and oxidized argillite bedrock chips and flour, water, no gold, very minor black sands										
	Summary					962	9	232	0.0	$ 0.10	24	144%

8	2.1	0.5	0.1		

Sample No	Interval	GPS#	Northing	Easting	Elev	Volume liters	Calc mg	Actual mg	g/tonne	$/tonne	Thickness m	Rec
14	0-10					43	0	0	0.0	$ -	3	5L
		Brown fine sand and coarse gravel till, no gold, minor black sands										
14	10-15					27	1.0	<2	0.0	$ 0.39	1.5	65%
		Grey brown coarse boulder/cobble fragments and fine sand (till)										
14	15-25					63	0.5	<2	0.0	$ 0.08	3	76%
		15-20' Dry gray coarse sand/fine pebbles, 20-25' moist dark gray silt/fine sand gravel										
		clay coated argillite dominated mixed gravels, minor gold, some black sands										
14	25-30					65	0.3	<2	0.0	$ 0.04	1.5	156%
		Grey moist clay/fine sand and clay coated argillite dominant mixed gravels (60%) till										
14	30-35					70	3.6	<2	0.0	$ 0.53	1.5	168%
		Grey brown silty/clay rich, clay coated coarse gravel, argillite dominant mix gravel, black sands										
14	35-40					95	9.0	6	0.0	$ 0.65	1.5	228%
		Grey brown clay coated coarse gravel and silt, many fine colors, black sands (till)										
14	40-45					90	4.1	<2	0.0	$ 0.47	1.5	216%
		Grey brown silty clay coated med coarse gravel (60%) till, some gold, black sands										
14	45-50					75	4.6	<2	0.0	$ 0.63	1.5	180%
		Moist gray brown silty clay coated mixed gravels (argillite dominant) till										
14	50-55					52	4.1	4	0.0	$ 0.79	1.5	125%
		50-53' gray brown round clay coated gravels and silty till, 54-55 deep brown color change										
		to thin layer of tertiary gravels? some black sands, minor gold										
14	55-60					90	6.2	7	0.1	$ 0.80	1.5	216%
		55-56 deep brown silty coarse gravels (tertiary?), 56-60 soapstone bedrock										
	Summary					670	33.3	17.0			18	134%

#14	#28	#48	#100
8	2.1	0.5	0.1
		1	4
			4
			2
	1	1	8
		15	10
		6	8
	2	1	
	1	4	
	1	7	4

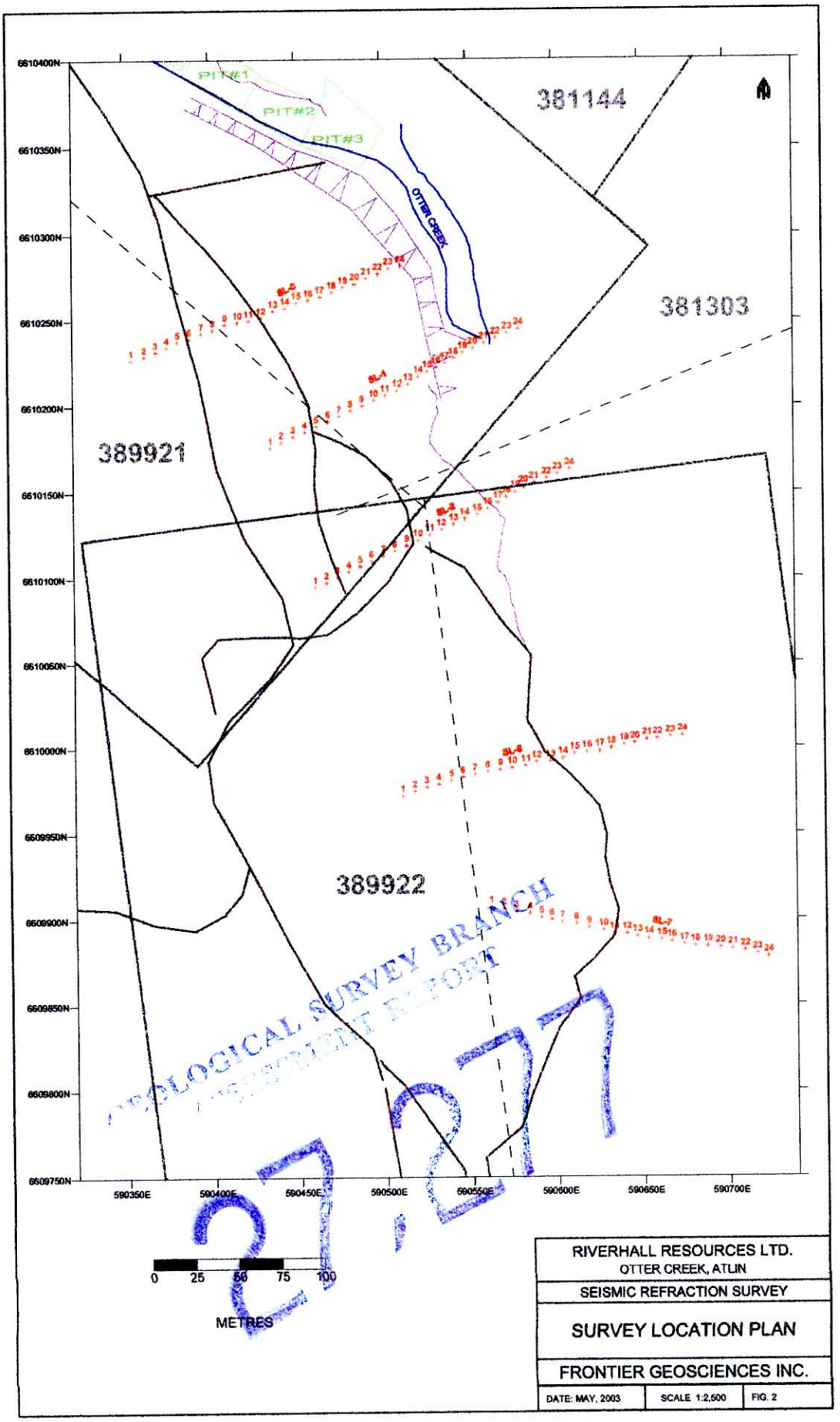
COST STATEMENT

OTTER CREEK DRILL & SEISMIC PROGRAM 2003

A seismic survey was conducted in the mid Otter Creek valley by Frontier Geosciences Inc. as shown on the accompanying site plan. The survey indicated a seismic low under the west bank of the valley and a low trending to the east in the downstream portion of the survey area. Drilling was conducted in this area and upstream based on previous seismic data. Results of the drilling are contained in a report from New Era Engineering. The breakdown of the costs are as follows:

1026 feet of 6" cased drill hole @ $40./foot plus GST		43,912.80
Engineering, Sampling, Analysis and report preparation		14,729.64
A. Wiggins management, surveying and oversight		8,600.00
Vehicle mileage for two pick ups		1,229.00
Casual labour- linecutting, sampling, survey assist		3,670.00
Seismic Survey cost plus report preparation		6,951.17
Misc. Geophysicist Accomodation	227.13	
Telephone & Fax Charges	40.00	
Postage and Courier (report)	30.00	
Fuel for D8L (supplied by Wiggins)	562.10	
966 loader for site prep. and rig moving	900.00	
misc hand tools and chainsaws	90.00	
Survey supplies	30.00	
TOTAL	1879.23	1,879.23
2 days D8L John Zogas	N/C	
20 man days sampling and assisting John Zogas	N/C	
TOTAL		80,971.84

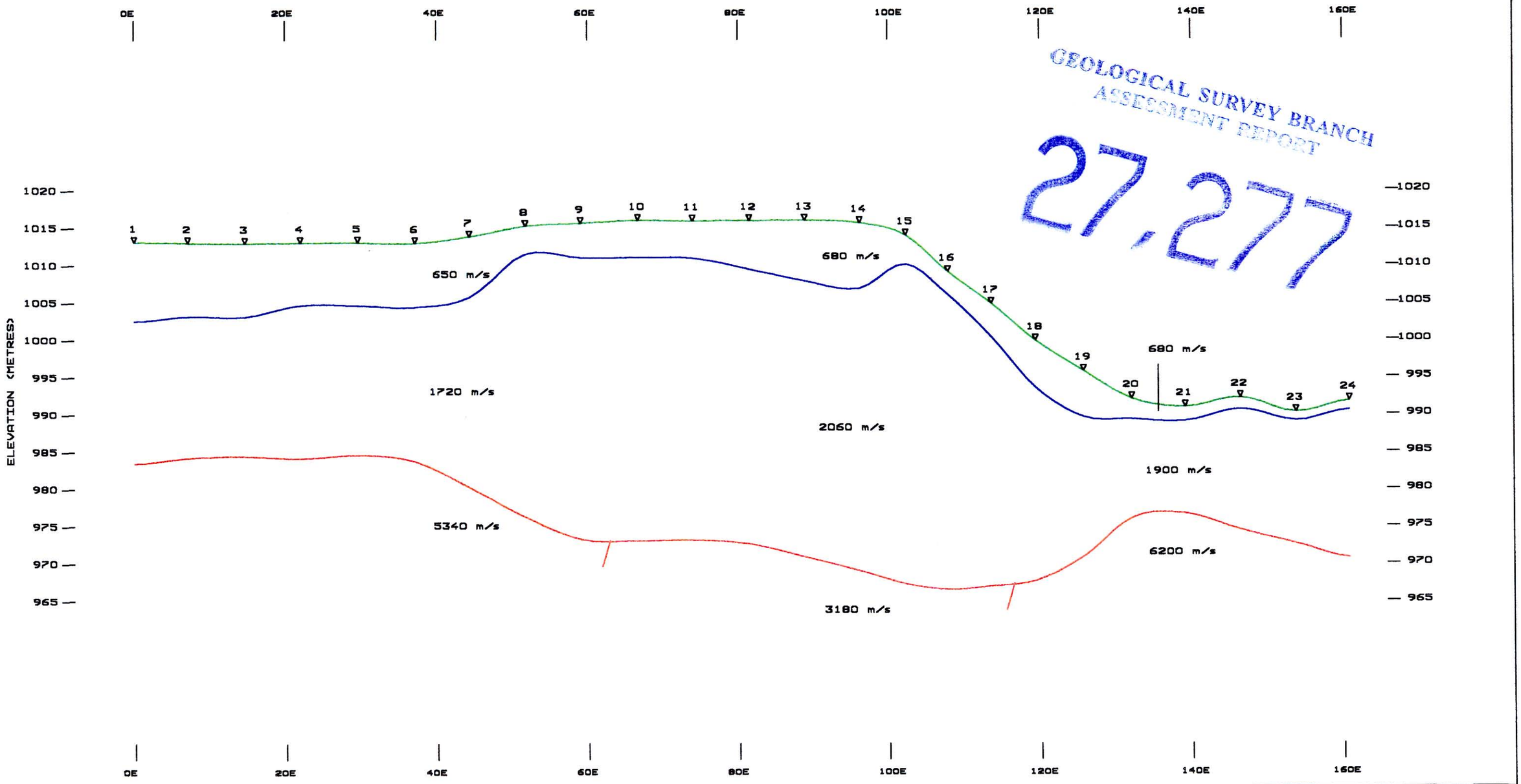
A. Wiggins, Project Coordinator, Riverhall Resources Ltd.
July 08/2003



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
27,277

RIVERHALL RESOURCES LTD. OTTER CREEK, ATLIN		
SEISMIC REFRACTION SURVEY		
SURVEY LOCATION PLAN		
FRONTIER GEOSCIENCES INC.		
DATE: MAY, 2003	SCALE 1:2,500	FIG. 2

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
27,277

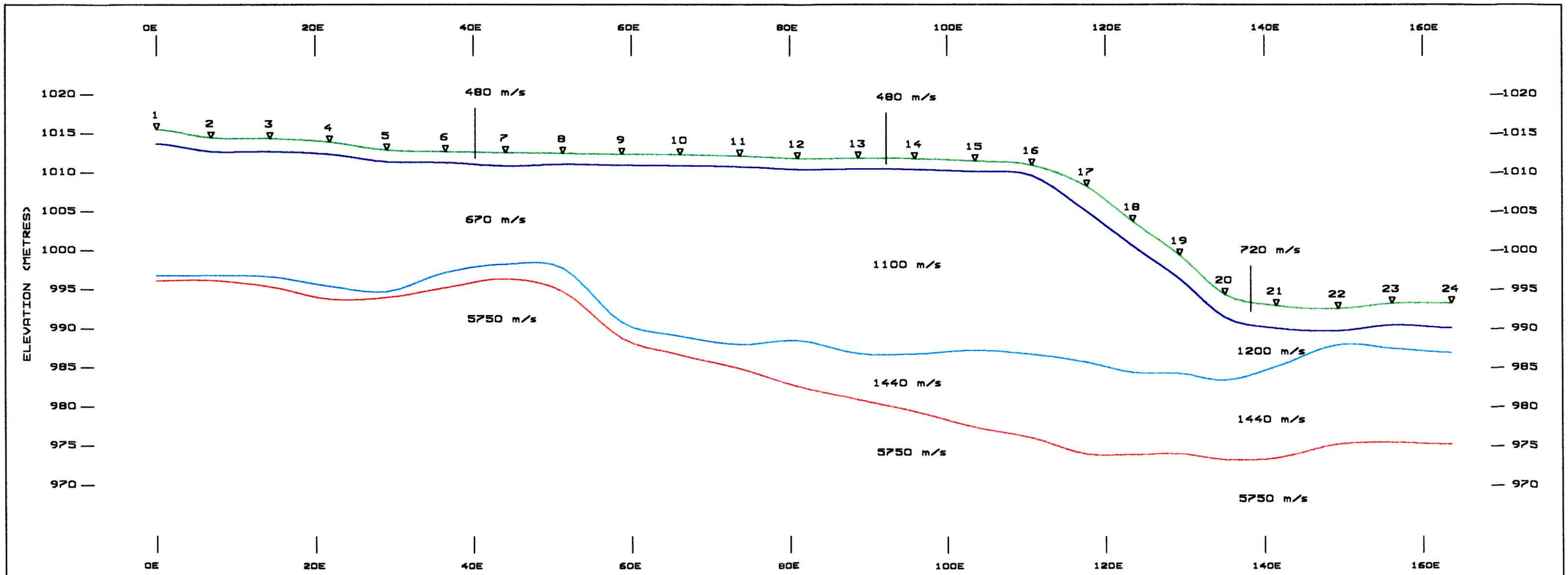


SEISMIC LINE SL-1

RIVERHALL RESOURCES LTD. OTTER CREEK ATLIN B.C.		
SEISMIC REFRACTION SURVEY		
INTERPRETED DEPTH SECTION SL-1		
FRONTIER GEOSCIENCES INC.		
DATE: MAY. 2003	SCALE 1:500	FIG.

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

27,277

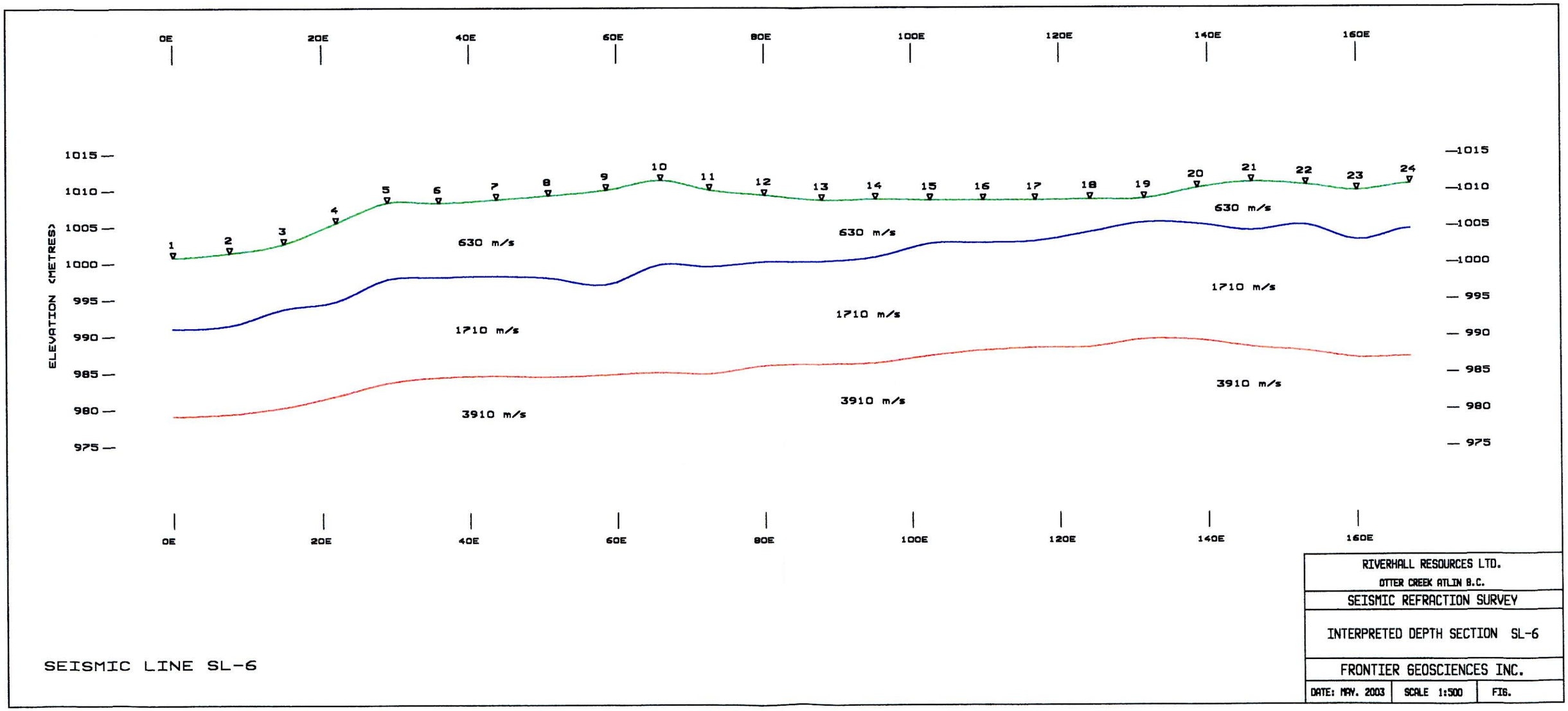


SEISMIC LINE SL-2

RIVERHALL RESOURCES LTD.		
OTTER CREEK ATLIN B.C.		
SEISMIC REFRACTION SURVEY		
INTERPRETED DEPTH SECTION SL-2		
FRONTIER GEOSCIENCES INC.		
DATE: MAY. 2003	SCALE 1:500	FIG.

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

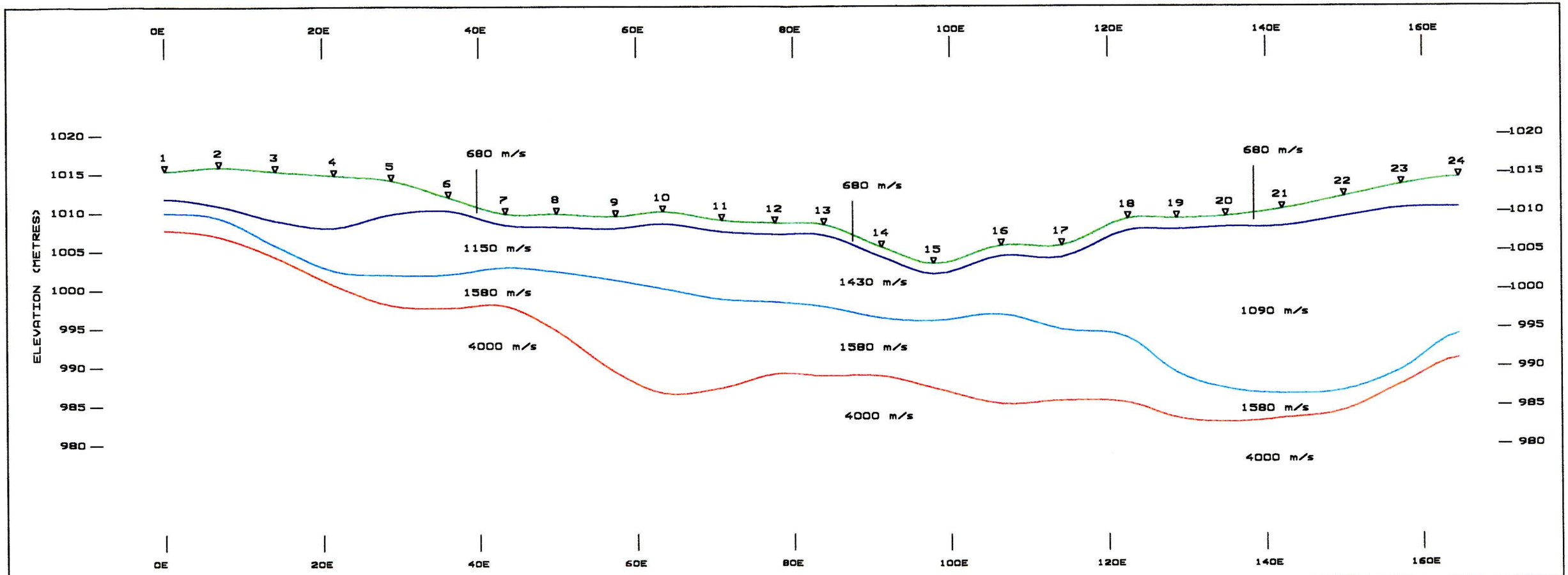
27,277



SEISMIC LINE SL-6

RIVERHALL RESOURCES LTD.		
OTTER CREEK ATLIN B.C.		
SEISMIC REFRACTION SURVEY		
INTERPRETED DEPTH SECTION SL-6		
FRONTIER GEOSCIENCES INC.		
DATE: MAY. 2003	SCALE 1:500	FIG.

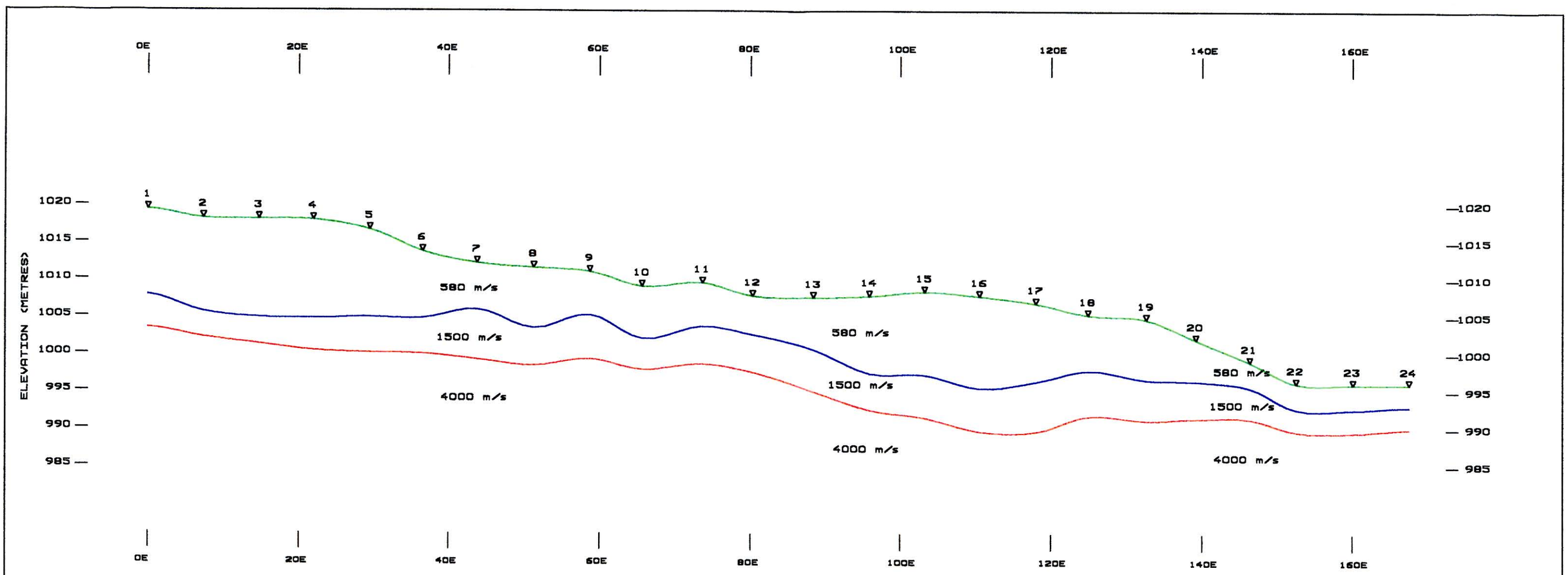
27,277



SEISMIC LINE SL-7

RIVERHALL RESOURCES LTD.		
OTTER CREEK ATLIN B.C.		
SEISMIC REFRACTION SURVEY		
INTERPRETED DEPTH SECTION SL-7		
FRONTIER GEOSCIENCES INC.		
DATE: MAY. 2003	SCALE 1:500	FIG.

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
27,277



SEISMIC LINE SL-8

RIVERHALL RESOURCES LTD.		
OTTER CREEK ATLIN B.C.		
SEISMIC REFRACTION SURVEY		
INTERPRETED DEPTH SECTION SL-8		
FRONTIER GEOSCIENCES INC.		
DATE: MAY. 2003	SCALE 1:500	FIG.