# TECHNICAL REPORT UPDATE ON EXPLORATION ACTIVITIES (November 2008 to April 2009) OF THE PHOENIX GOLD PROJECT (NTS 52N/04), RED LAKE, ONTARIO FOR RUBICON MINERALS CORPORATION

prepared by

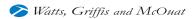
Robert Thomas, M.A., CPG Independent Consultant

and

Michael W. Kociumbas, B.Sc., P.Geo. Senior Geologist and Vice-President **Watt, Griffis and McOuat Limited** 



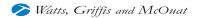
October 8, 2009 Toronto, Canada



# TABLE OF CONTENTS

# Page

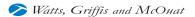
1.	SUN	IMARY	1
2.	INT	RODUCTION AND TERMS OF REFERENCE	6
	2.1	INTRODUCTION	6
	2.2	TERMS OF REFERENCE	6
	2.3	SOURCES OF INFORMATION	7
	2.4	UNITS AND CURRENCY	
3.	REL	JANCE ON OTHER EXPERTS	9
4.	PRC	PERTY DESCRIPTION AND LOCATION	10
	4.1	LOCATION AND OWNERSHIP	10
	4.2	RUBICON OBLIGATIONS ON LICENSES OF OCCUPATION AND	
		MINING LEASE	
	4.3	RUBICON OBLIGATIONS ON PATENTED CLAIMS	14
5.		CESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND YSIOGRAPHY ACCESS	
	5.2	CLIMATE	
		LOCAL RESOURCES AND INFRASTRUCTURE	
		PHYSIOGRAPHY	
	211		
6.	HIS	ГОRУ	
0.	6.1	HISTORICAL GOLD RESOURCE ESTIMATES	
7	GE(	DLOGICAL SETTING	23
	7.1	REGIONAL GEOLOGY	
	7.2	PROPERTY GEOLOGY	
8.	DEP	OSIT TYPES	
	8.1	GROUP 1 DEPOSITS (MAFIC VOLCANIC HOSTED)	
	8.2	GROUP 2 DEPOSITS (FELSIC INTRUSIVE HOSTED)	
	8.3	GROUP 3 DEPOSITS (STRATABOUND)	
	8.4		
9.	MIN	ERALIZATION	36
	9.1	BANDED IRON FORMATION - CHERT	36



# TABLE OF CONTENTS (continued)

# Page

	9.2	SULPHIDE BRECCIA VEINS	37
	9.3	C-ZONE TYPE	37
	9.4	SHEARED BIOTITE-ARSENOPYRITE ZONES	38
	9.5	DISSEMINATED ARSENOPYRITE REPLACEMENT ZONES	38
	9.6	CARBONATE ALTERED ZONES (CARZ)	38
		F2 ZONE TYPES	
10.	EX	PLORATION	41
	10.1	2002 EXPLORATION PROGRAM	41
	10.2	2003 EXPLORATION PROGRAM	43
	10.3	2004 EXPLORATION PROGRAM	43
	10.4	2005 EXPLORATION PROGRAM	44
	10.5	2006 EXPLORATION PROGRAM	44
	10.6	2007 EXPLORATION PROGRAM	47
	10.7	2008 EXPLORATION PROGRAM	47
	10.8	2009 EXPLORATION PROGRAM	48
11.	DR	ILLING	51
	11.1	2002 TO 2005 DIAMOND DRILLING PROGRAMS	52
	11.2	2006 DIAMOND DRILLING PROGRAM	53
	11.3	2007 DIAMOND DRILLING PROGRAM	55
	11.4	2008 DIAMOND DRILLING PROGRAM	60
	11.5	2009 DIAMOND DRILLING PROGRAM (F2 ZONE)	64
12.	SAI	MPLING METHOD AND APPROACH	69
13.	SAN	MPLE PREPARATION, ANALYSIS AND SECURITY	71
	13.1	SAMPLE PREPARATION	73
	13.2	ASSAY PROCEDURES	74
14.	DA	TA VERIFICATION	76
15.	AD.	JACENT PROPERTIES	80
16.	MI	NERAL PROCESSING AND METALLURGICAL TESTING	82



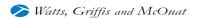
# TABLE OF CONTENTS (continued)

17. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES	83
18. OTHER RELEVANT DATA AND INFORMATION	84
19. INTERPRETATION AND CONCLUSIONS	85
20. RECOMMENDATIONS	87
20.1 SURFACE DRILLING PROGRAM	
20.2 UNDERGROUND PROGRAM	
20.3 RECOMMENDED PROGRAM AND BUDGET	
CERTIFICATES	94
REFERENCES	98
APPENDICES	102

# APPENDIX 1:PHOTOGRAPHS OF DRILL CORE (PLATES 1-6)APPENDIX 2:F2 ZONE SIGNIFICANT ASSAYS (AS OF APRIL 27, 2009)

#### LIST OF TABLES

Mining leases – Phoenix Gold Property	13
Licenses of occupation – Phoenix Gold Property	13
Patented claims – Phoenix Gold Property	13
Exploration history of the Phoenix Gold Project	19
Expenditures 1982-1989, Mcfinley Red Lake Mines Ltd	19
Historic "inferred resources" Phoenix Gold Project	20
Summary of stratigraphy on the Phoenix Gold Project	29
2006 CARZ trenching program significant gold assays	44
2006 diamond drilling collar locations	54
2006 diamond drilling program significant gold assays	56
2007 diamond drilling collar locations	59
2007 diamond drilling program significant assays	60
2008 diamond drilling collar locations (excluding the F2 Zone)	62
2008 F2 Zone diamond drilling collar locations	63
	Licenses of occupation – Phoenix Gold Property Patented claims – Phoenix Gold Property Exploration history of the Phoenix Gold Project Expenditures 1982-1989, Mcfinley Red Lake Mines Ltd Historic "inferred resources" Phoenix Gold Project Summary of stratigraphy on the Phoenix Gold Project 2006 CARZ trenching program significant gold assays 2006 diamond drilling collar locations 2007 diamond drilling program significant assays 2007 diamond drilling program significant assays 2008 diamond drilling collar locations (excluding the F2 Zone)



# TABLE OF CONTENTS (continued)

# Page

15.	2009 F2 Zone diamond drilling collar locations	64
16.	Independent verification analysis	77
	Phoenix 2009-10 program and budget, Phases 1 & 2	

# LIST OF FIGURES

1.	Location map	1
2.	Claim Map of Patented Mining Claims, Leases and Licenses of Occupation	12
3.	Mine Infrastructure, McFinley Peninsula	16
4.	3D Perspective view of 150 and 400 Levels with mineralized zones	21
5.	Geology of the Red Lake Greenstone Belt	24
6.	D1 and D2 Regional Fabrics of Red Lake Greenstone Belt	26
7.	Gold producers in the Red Lake gold camp	27
8.	General geology of the Phoenix Gold Project	
9.	Rubicon Drillhole Plan	42
10.	2006 and 2007 diamond drill plan with 2006 trenching (CARZ)	45
11.	CARZ trench geology and gold distribution in ppm from trench samples	46
12.	CARZ trench geology and structural measurements	47
13.	Airborne magnetic survey with Quantec Titan 24 Survey Lines	49
14.	F2 Zone on Titan 24 Survey Line 5 and 2009 Target Drill Area on Line 50	50
15.	Key Target Drill Areas on the Phoenix Gold Property	57
16.	2008 diamond drillhole plan	61
17.	2009 diamond drillhole plan (as of April 27, 2009)	65
18.	F2 Zone composite cross section (as of March 23, 2009)	67
19.	F2 Zone composite long section (as of April 27, 2009)	68
20.	Location of proposed exploration drift to F2 gold system (as of April 27, 2009)	

#### 1. SUMMARY

This National Instrument 43-101 ("NI 43-101") Technical Report on the Phoenix Gold Project (the "Phoenix Property", "Phoenix Gold Property", "Project" or "Property"), formerly referred to as the McFinley Gold Property of Rubicon Minerals Corporation ("**Rubicon**", or "the **Company**"), has been prepared Watts, Griffis and McOuat Limited ("**WGM**") and Mr. Robert Thomas, M.A., CPG., with the assistance of Rubicon geological staff. The report has also been prepared to meet Rubicon's Annual Information Form and Form 40-F disclosure requirements. Rubicon has already raised \$49,700,930 (Refer to News Releases November 2008 and March 2009) to fund the proposed 2009-2010 exploration program, with most exploration work focusing on exploration and definition diamond drilling of the "F2 Zone", a new gold-bearing zone that was recently discovered during the 2008 winter diamond drill program, located 420 m southeast of the existing McFinley Gold Deposit non NI 43-101 compliant inferred resource. This Technical Report summarizes all the Company's exploration of the last NI 43-101 compliant report issued in January 2009.

The Phoenix Gold Property is located in Bateman Township in the Red Lake District of Northwestern Ontario, approximately six kilometres north of the operating Red Lake Gold Mine. It is accessible by an eight kilometre all-weather, gravel road from the town of Cochenour.

Rubicon has earned a 100% interest in the Phoenix Gold Project through two separate option agreements made during 2002. The water covered areas of the Property, held as 25 "Licenses of Occupation" and one "Mining Lease", were optioned from Dominion Goldfields Corporation ("**DGC**") in January 2002. The land portions of the Property, held as 16 Patented Claims, were optioned by agreement in July 2002 which include mining rights and any surface rights held by DGC subsidiary company called 1519369 Ontario Ltd. Collectively, all of these titles are referred to as the "Phoenix Gold Project" and cover an area of approximately 746 ha. The properties are contiguous, have been previously surveyed and are currently in good standing. Rubicon has also secured additional surface rights for the property through a public auction by the Municipality of Red Lake. All titles to the Phoenix Gold Project (Licenses of Occupation, Mining Lease, Mining Patents and Surface Patents) have subsequently been transferred to Rubicon.

The Property is underlain by a north-northeast trending, westerly-dipping belt of deformed and intermixed metasediments, mafic volcanics and ultramafic rocks which define the "East Bay Trend". The rocks are Archean in Age and part of the Balmer Sequence. A strong northnortheast trending structural fabric through the area is considered part of the East Bay Deformation Zone ("EBDZ") which extends south into the Cochenour-Willans mine area where it intersects the northwest "Mine Trend" of the Red Lake Gold Mine.

Extensive gold mineralization within the Red Lake camp has led to the total production of more than 24 million ounces of gold (as of December 31, 2007). The Red Lake Gold Mine, which now includes both the former Red Lake Mine and the Campbell Mine, has a historical production of 17 million ounces of gold. The past-producing Cochenour Mine (1.2 million ounces Au) is located at the intersection of the "Mine Trend" with the EBDZ. Mineralization is well developed in several areas along the EBDZ and includes such gold deposits as McMarmac, Chevron, Abino, McFinley and more recently, Gold Corp-Premier's GAZ Zone. The McKenzie Island Mine also lies adjacent to the EBDZ near Cochenour. Mineralization within these areas occurs in a variety of stratigraphic, structural and intrusive environments.

Surface exploration on the Phoenix Gold Property commenced in the 1920s and continued intermittently up to 1980. Initial underground exploration was conducted in 1956 on the McFinley Peninsula and this area was the focus of continued underground development work during the period 1982-1989 by McFinley Mines Limited. According to available records, the 1982-1989 exploration programs (by McFinley Red Lake Mines Limited) included over 61,000 m (200,000 ft) of diamond drilling, the refurbishment of a 128 m (419 ft) vertical shaft and underground development on the 150-, 275- and 400-foot levels (46, 84 and 122 m levels, respectively). Test stoping was initiated and a test milling facility capable of processing 150 tons per day was constructed. A bulk sampling operation was in progress at the time of closure of the operation in early 1989. Limited tonnage was milled. Surface stockpiles from underground mining development and test stoping remain on site. When operations ceased, the underground mine workings were allowed to flood.

The 1982-1989 exploration program (by McFinley Red Lake Mines Limited) resulted in the estimation of an "inferred mineral resource" of the McFinley Gold Deposit of 334,007 tons at a grade of 0.20 Au oz/ton as reported by Hogg in May 2002 to a vertical depth of 122 m (400 ft). *This 1989 resource estimate is not NI 43-101 compliant and should not be relied on*. Although a shaft and underground workings were developed on this deposit, there has been no commercial gold production. Deeper drilling encountered similar mineralization with locally significant gold grades to depths of at least 518 m (1,700 ft) below surface. Additional auriferous mineralization was encountered at the contact of, and within, the talc-chlorite schist in water-covered areas underlying the East Bay Trend in the vicinity of the workings.

Significant gold mineralization on the Phoenix Gold Property is found in the following types of veins and structures:

- Sulphidized and quartz-veined Banded Iron Formation ("BIF");
- Base metal-rich, breccias and quartz veins along D<sub>2</sub>-aged discrete shear zones (D-Vein Type);
- Arsenopyrite-quartz veins in C-Zone type mineralization at ultramafic contacts where D<sub>2</sub> shears intersect the contact and develop apparent folds or shear duplex structures in areas of strong, lithologically-defined, competency contrasts;
- Disseminated arsenopyrite and/or silica replacement zones cross-cutting stratigraphy;
- D<sub>2</sub> conjugate shear structures which crosscut the trend of the EBDZ;
- Sheared biotite-altered veined arsenopyrite-rich zones near the mafic/ultramafic contact with local native gold and trace base metals (Phoenix Zone, now called Island Zone);
- Gold-bearing veins in felsic intrusive and feldspar porphyry intrusive rocks and within ultramafic rocks of the East Bay Serpentinite (MAC3 and F2 Zone); and,
- Significant, silicified and biotite-altered ± sulphide mineralized zones in basalt (host to the newly discovered F2 Zone).

Rubicon is continuing an aggressive exploration program. The property has been re-evaluated within the context of current knowledge of ore control models at the producing mines in Red Lake and the majority of the Company's diamond drilling programs has targeted areas outside the confines of the historic mine site in areas considered to have high exploration potential for gold and limited historical exploration work.

Since 2002, exploration work has included geological mapping, approximately 22,000 m<sup>2</sup> (72,000 ft<sup>2</sup>) of trenching and stripping, 60,000 m (197,000 ft) of re-logging of drill core for selected historic holes, a high resolution airborne magnetic survey, a ground magnetic survey, a seismic lake bottom topographic survey and a Titan 24 geophysical survey. Rubicon has also completed a total of 118,358 m (388,333 feet) of surface diamond drilling in 311 drillholes through an 11-phase program with the drill set-ups collared from ice, land and barge. Drilling has focused on testing property-wide targets over water, in and on the Peninsula, on the Phoenix Zone (Island Zone), the Carbonate Altered Zone ("CARZ"), North Peninsula Zone (Upper and Lower Zones), West Mine Target, KZ and Deep Footwall areas, and along the newly discovered F2 Zone.

Permitting for the dewatering and rehabilitating of the Mine began in 2008. The dewatering has now been completed to facilitate underground exploration of the F2 Zone. Rehabilitation of the head frame, hoist and remaining mine infrastructure is also completed. The focus for

the remainder of 2009 will be on drilling the F2 Zone from both surface and underground, with further drilling planned from deeper levels following completion of a shaft extension and underground development. This program commenced from the 122 m (400 ft) level in May 2009 (subsequent to the date of this report). Rubicon will also continue to drill test targets by surface diamond drilling programs.

Exploration by Rubicon has steadily advanced the Phoenix Gold Project with the discovery of two significant gold deposits on the property, the "Phoenix Zone" (Island Zone) discovered in 2004, and "F2 Zone", intersected by diamond drilling in 2008. These deposits are separate and unrelated to the McFinley Gold Deposit historical gold resource estimate. The Phoenix Zone (Island Zone) is of the classic Red Lake-style gold mineralization, currently has a strike length of 500 m (1,640 ft) and a depth extent of 200 m (656 ft) from surface. The zone is situated at the north end of McFinley Island, two kilometres north of the existing mine site, and is hosted within intensely biotized and quartz-carbonate veined basalt near a "roll", or deflection in the ultramafic contact.

The F2 Zone is composed of high grade gold mineralization and a lower grade sulphide-rich zone, which currently has a strike length of approximately 700 m (2,300 ft) and a depth extent of 1,101 m (3,612 ft) below surface and remains open along strike and at depth. The zone appears to at least partly correlate with a large Titan 24 chargeability anomaly. The anomaly extends laterally from the F2 Zone for over 1,500 m (approximately 5,000 ft), and to depths up to 750 m (approximately 2,500 ft) – the current depth limit of the survey. As for the setting and style of this zone, it is similar in many respects to the high-grade zones present at the nearby Red Lake Gold Mine. The F2 Zone is 420 m southeast of the existing shaft and is entirely independent from the previous gold resource of the McFinley Gold Deposit. Additional diamond drilling from both surface and underground are planned to expand the system laterally and to depth, infill drilling to determine the continuity of grade and to further the understanding of the geology, geometry and extents of this mineralized system.

Significantly more drilling is required to gain a better understanding of gold distribution, geometry and controls on mineralization within the F2 Zone and the authors conclude that the Property is one of merit. Rubicon is currently executing a combined surface and underground exploration program to systematically test the limits and expand the size of the F2 gold system over a 1,000 m strike length to a depth of 1,500 m below surface. This program will also provide additional information to better understand the distribution of the mineralization within individual zones.

The authors concur with Rubicon management's conclusion that this is best accomplished by drilling from underground, utilizing the existing 142 m (466 ft) deep exploration shaft and

workings, located only 450 m (1,476 ft) to the northwest of the F2 Zone. Executing the underground program is anticipated to provide significant cost savings related to the underground drilling vs. surface drilling, will provide better core angles through the mineralized zones to for interpretation purposes and will provide additional information required to select the location of future access drifts, bulk samples and delineation drill planning purposes.

In collaboration with Rubicon, the authors have prepared and recommend the following twophase work plan. A total budget of C\$79.7 million is estimated to execute the multi-phased, multi-year exploration program commencing 2009. An initial C\$25.3 million is planned under Phase 1 and an additional C\$54.4 million (Phase 2) will be modified accordingly dependent on the results of Phase 1. The program consists of the following:

Phase 1

- 20,000 m of surface drilling with two to three drills to continue to test the system with large step out holes (+200 m step outs);
- a total of 60,000 m of underground drilling broken down as follows:
  - 20,000 m scheduled to be drilled from the current underground workings on the 400 ft level (122 m) with two to three drills; and
  - deepening of the existing exploration shaft by an additional 250 m to a planned depth of 350 m below surface (current depth of 122 m) and the excavation of up to 500 m of access drifts from the shaft bottom, parallel to the zone with up to four drill stations; 40,000 m to be drilled from drill stations to be excavated from the bottom of the shaft with two to four drills.

Phase 2

- includes 40,000 m of surface drilling 20,000 m on the F2 Zone and 20,000 m outside the F2 Zone for exploration purposes;
- includes 80,000 m of underground drilling 55,000 m on the F2 system (infill drilling) and 25,000 m delineation drilling; and
- additional development will be required for the F2 Zone delineation drilling and to extract a bulk sample. This includes the 500 m of lateral development, four drill stations, sumps, and the cost of taking the bulk sample.

It is estimated that the Phase 2 program will be initiated upon successful completion of Phase 1. Phase 2 excavation is estimated to be completed in six (6) months, or approximately the end of 2010: the diamond drilling would extend into 2011. All aspects of the Phase 1 program will be carried out in parallel to minimize the time required and allow shaft deepening to take place at the same time as the surface drilling and the underground drilling from the 400 ft level. The entire Phase 1 program is anticipated to be completed near the end of March 2010.

## 2. INTRODUCTION AND TERMS OF REFERENCE

#### 2.1 INTRODUCTION

Robert Thomas, CPG and Watts, Griffis and McOuat Limited ("**WGM**") have prepared this Technical Report for Rubicon Minerals Corporation ("**Rubicon**", or "the **Company**") to summarize all exploration work completed on the Phoenix Gold Project (the "Phoenix Property", "Phoenix Gold Property", "Project" or "Property") from January 2006 to April 2009. This report is an update to the previous Canadian National Instrument 43-101 ("NI 43-101") report prepared by Robert Thomas, M.A., CPG., dated January 9, 2009, and titled "*Exploration Activities of Rubicon Minerals Corporation on the Phoenix Gold Project, Red Lake, Ontario – For the Period January 2006 to October 2008* ".

This report also refers to the "inferred mineral resource" reported by Glenn Hogg in a NI 43-101 report dated May 12, 2003 entitled "*Exploration Activities of Rubicon Minerals Corporation on the McFinley Property, Red Lake, Ontario*". Both of these Technical Reports are available for review on the SEDAR website at www.sedar.com under Rubicon's Corporate Company profile.

The opinions and conclusions presented in this report are based on information received from Rubicon. The authors received full cooperation and assistance from Rubicon personnel during the site visit and subsequent exchanges, and during the preparation of this report.

#### 2.2 TERMS OF REFERENCE

The report was commissioned by Mr. David Adamson, President and CEO of Rubicon, to comply with disclosure and reporting requirements set forth in NI 43-101, Companion Policy 43-101CP, and Form 43-101F1. Both Robert Thomas and WGM are considered as Qualified Persons under NI 43-101 rules and regulations for the purpose of this report.

The purpose of this report is to describe the basic data available and the exploration work conducted to date on the Phoenix Gold Project, particularly those activities from November 2008 to the April 2009. For clarity, this report also includes information previously disclosed by Rubicon in a NI 43-101 technical update report authored by Robert Thomas, CPG, covering work performed by Rubicon from 2006 through October 2008 and filed on SEDAR in January 2009. It is understood by the authors that Rubicon may use this report, as a reporting issuer, in any filings it deems necessary to comply with NI 43-101, or any other jurisdictional or financial requirement for disclosure of material mineral exploration

information. This report also contains recommendations of a work program and budget for further exploration and development of the Property.

This report is prepared using the industry accepted Canadian Institute of Mining Metallurgy and Petroleum ("**CIM**") "*Best Practices and Reporting Guidelines*" for disclosing mineral exploration information and the Canadian Securities Administration revised regulations (2005) in NI 43-101 (*Standards of Disclosure For Mineral Projects*), and Companion Policy 43-101CP.

The authors did not review legal, environmental, political, surface rights, water rights or other non-technical issues which might indirectly relate to this report, as Rubicon has retained legal counsel for these purposes.

This technical report is copyright protected, the copyright is vested in WGM, and this report or any part thereof may not be reproduced in any form or by any means whatsoever without the written permission of WGM. Notwithstanding the foregoing, WGM hereby permits Rubicon to file this report with securities regulators to support public disclosure compliant with the definitions and standards of NI 43-101 and CIM, and for ongoing project financing.

# 2.3 SOURCES OF INFORMATION

Robert Thomas, CPG, conducted a site visit of the Phoenix Gold Property and visited the Rubicon exploration office on November 18 and 19, 2008 to review the data and reports covering exploration and development work conducted on the Property to date. During this period, Mr. Thomas visited the project site and examined selective drill core from the Rubicon drilling programs and collected samples to independently verify the nature and grade of the gold mineralization. In addition, the authors have relied on information provided by Ian Russell, Terry Bursey, Crystal Hoffe and Amy Newport who have previous knowledge of the exploration activities on the project.

Rubicon provided copies of all its data and assessment reports for review, updated claim status information and hard copies of various company/government correspondences. A complete list of the material reviewed is provided under References at the end of this report.

The geological data and documentation covering the property is incomplete due to a fire at the site office in 2001, prior to the acquisition of the project by Rubicon. A substantial amount of detailed information was lost. Since then, Rubicon has recovered a large volume of this information and continues to make a concerted effort to secure additional information which may be held privately. Therefore, the authors may not be held liable for any errors or

omissions related to this missing information (data and report documentation) lost during the fire.

Rubicon has reviewed a previous draft of this report and confirms that all information disclosed herein, to the best of its knowledge, is accurate. Nevertheless, this report is the responsibility of Mr. Robert Thomas and WGM, who were in charge of its overall presentation and production.

#### 2.4 UNITS AND CURRENCY

Throughout this report, measurements are in metric units, unless the historic context dictates that the use of Imperial units is appropriate. Tonnages are shown as tonnes ("t") (1,000 kg), linear measurements are metres ("m"), kilometres ("km"), millimetres ("mm"). Gold values for work performed by Rubicon are reported as either ounce per ton ("oz/ton") or grams per metric tonne ("g/t" or "g Au/t"). Historic gold values are presented as originally reported and converted to g/t if required. A conversion factor of 34.28 is used to convert ounces per short ton ("oz/ton") to "g/t". Distances are provided in both metres ("m") and feet ("ft"). All map coordinates are given as Universal Transverse Mercator (UTM) Projection, North American Datum (NAD) 83, Zone 15N coordinates.

Currency amounts are quoted in Canadian dollars ("\$") unless otherwise noted.

#### **3. RELIANCE ON OTHER EXPERTS**

The authors have relied on the available historical and current data and reports to prepare this NI 43-101 report. The author's have not validated / verified any of the drillhole analyses or computer database nor have the authors validated / verified the locations of the Rubicon drillholes or historical drillholes. However, it is Mr. Thomas's opinion, based on a field review conducted in November 2008 and review of the available historical drillhole results and reporting that the exploration data for the Phoenix Gold Project is credible and verifiable.

The "mineral resources" quoted in this report were previously reported and discussed in Hogg (May, 2002) and also in the NI 43-101 Technical Report dated May 12, 2003, prepared by Mr. David M. Rigg, P.Geo., and Mr. Glen Hogg, P.Eng. These historic resource estimates of the McFinley Gold Deposit were completed by the McFinley staff during 1986, and are not NI 43-101 compliant and should not be relied on. Since then, there has been no further attempt to update or expand the resource for the McFinley Gold Deposit.

Mr. Thomas has taken excerpts of Sections 5.0 to 6.0 from the NI 43-101 report dated May 12, 2003, prepared by Mr. David M. Rigg, P.Geo and Mr. Glen Hogg, P.Eng. This information has been reproduced in this report for the sake of completeness and the author wishes to acknowledge Mr. Rigg and Mr. Hogg for their diligence in collating this information. Excerpts from the NI 43-101 report dated December 9, 2005, prepared by Mr. Marc Prefontaine, have also been reproduced in this report.

All of the 2006-2009 exploration work on the Phoenix Gold Project was carried out under the supervision of Terry Bursey (P.Geo.), a Qualified Person under NI 43-101. The authors have also relied on others who have contributed to the exploration work described in this report. These persons include David Adamson (President, CEO, Director), Matthew Wunder (Vice President - Exploration), Terry Bursey (Regional Red Lake Manager), Ian Russell (Exploration Manager), Crystal Hoffe (Project Geologist), Amy Newport (Project Geologist), Keegan Harris (Geologist), Jean-Michel Dube (Geologist) and John Dadds (Technician).

The authors have not examined or verified the legal title or status of the claims that comprise the Phoenix Gold Project. We are relying on public documents and information provided by Rubicon for our descriptions of title and status of the Property agreements, as well as the status of the environmental permitting.

#### 4. PROPERTY DESCRIPTION AND LOCATION

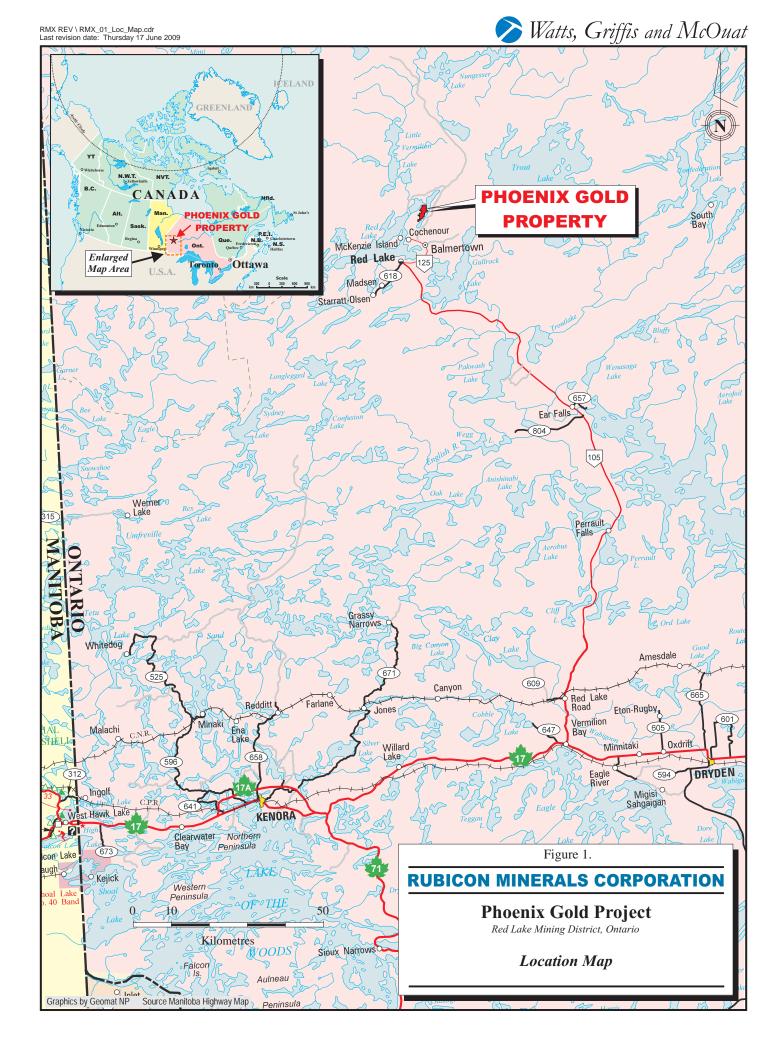
#### 4.1 LOCATION AND OWNERSHIP

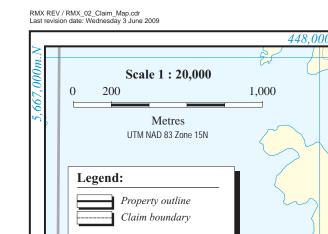
The Phoenix Gold Project is located in the southwestern part of Bateman Township within the Red Lake Mining Division of northwestern Ontario, Canada (Figure 1). It is comprised of 31 contiguous blocks that are comprised of 42 patented mining claims, leases and licenses of occupation covering an area 509 ha (Figure 2). The titles are listed separately in Tables 1, 2 and 3. A single KRL or K numbered block can consist of a patented land portion and associated water portion (license of occupation containing a separate LO number) when it covers land and water within its boundaries. A single KRL or K number can also consist of solely land or solely water. The Mining Lease 108126 consists of four separate KRL numbered blocks, one of which is not contiguous to the other three.

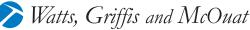
The Phoenix Gold Project is subject to option agreements that Rubicon has vested to earn a 100% interest in the Property. The Project was acquired in two separate agreements during 2002. The water covered areas, held as 25 Licenses of Occupation and one Mining Lease, were optioned from Dominion Goldfields Corporation ("**DGC**") in January 2002. Land portions of the Project, held as 16 Patented Claims, were later optioned by agreement in June 2002. Details regarding the license and claim acquisitions are discussed below in Sections 4.2 and 4.3. The mining rights of Patented Claims were optioned from DGC and the surface rights of the same Patented Claims were optioned from DGC subsidiary 1519369 Ontario Ltd. Collectively, all of these titles are now referred to as the Project.

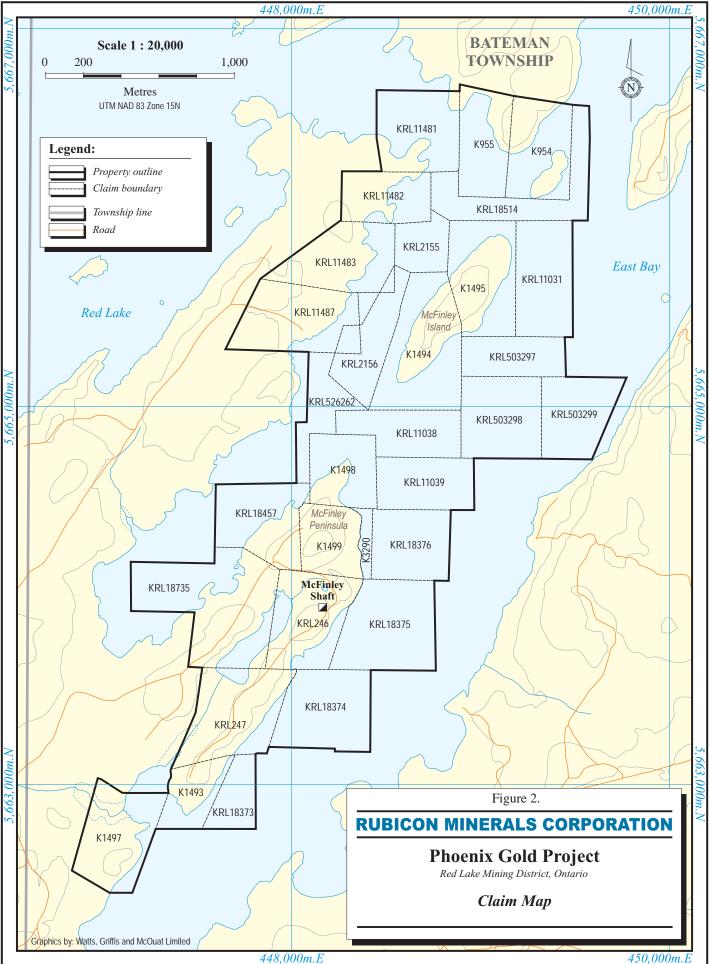
Rubicon confirms that the various Licenses of Occupation, Mining Lease and Patents have been legally surveyed and are in good standing, and that the property taxes are paid to date.

Titles to the Licenses of Occupation (within which the F2 Zone is situated) are held by Rubicon and subsequent to the date of this report, the titles of the Mining Lease and 16 Patented Claims were transferred to Rubicon by DGC and its subsidiary with government approval. Surface rights covering most of the McFinley Peninsula, including those where mine buildings are situated, are owned by 691403 BC Ltd., a 100% owned subsidiary of Rubicon. Historical details of each agreement are described in Hogg (May 2002), Property taxes related to the surface parcels of some patented claims were written off by the Red Lake Municipality in early 2002 and Rubicon proceeded to purchase these surface parcels by way of public auction and all taxes are currently up to date. Rubicon has full right of access to all areas of the Phoenix Gold Project either as title holders or under contractual agreements according to the Mining Law of Ontario.









License	Descript	ion	Township	Anniv. Date	Hectares	
04721 (renewed as 108126) Fotal	KRL503297, KRL503298,	503299, and 526262	Bateman	1986-Nov-01	<u>56.03</u> <b>56.03</b>	
TABLE 2. LICENSES OF OCCUPATION – PHOENIX GOLD PROPERTY						
License	Description	Township		v. Date	Hectares	
3186	KRL2155	Bateman	1945-	Aug-01	9.9153	
3187	KRL2156	Bateman		Aug-01	13.678	
3289	K1498	Bateman		-Oct-01	11.048	
3290	K1499	Bateman	1945-	-Oct-01	2.428	
3370	K1493	Bateman	1946-	Mar-01	5.018	
3371	K1494	Bateman	1946-	Mar-01	18.737	
3372	K1495	Bateman	1946-	Mar-01	10.117	
3380	K1497	Bateman	1946-	Mar-01	6.111	
3381	KRL246	Bateman	1946-	Mar-01	4.330	
3382	KRL247	Bateman	1946-	Mar-01	4.532	
10830	KRL11038-39	Bateman	1947-	-Jan-01	28.672	
10499	K11487	Bateman	1941-	Nov-01	5.738	
10834	KRL11031	Bateman	1947-	-Jan-01	17.887	
10835	K954 (rec. as KRL18152)	Bateman	1947-	-Jan-01	9.267	
10836	K955 (rec. as KRL18515)	Bateman	1947-	-Jan-01	9.955	
10952	KRL18514	Bateman	1947-	Oct-01	17.478	
11111	KRL18735	Bateman	1950-	-Jan-01	12.226	
11112	KRL18457	Bateman	1950-	-Jan-01	10.967	
11114	KRL18373	Bateman	1950-	-Jan-01	7.734	
11115	KRL18374	Bateman	1950-	-Jan-01	19.688	
11116	KRL18375	Bateman	1950-	-Jan-01	22.869	
11117	KRL18376	Bateman	1950-	-Jan-01	15.018	
10495	KRL11483	Bateman	1941-	Nov-01	6.718	
10496	K11482	Bateman	1948-	Nov-01	5.637	
10497	K11481	Bateman	1941-	Nov-01	14.148	
Total					289.916	

TABLE 1.MINING LEASES – PHOENIX GOLD PROPERTY

 TABLE 3.

 PATENTED CLAIMS – PHOENIX GOLD PROPERTY

Claim No.	Parcel	Township	Anniv. Date	Hectares
K1498	992	Bateman	-	3.04
K1499	993	Bateman	-	11.45
K1493	994	Bateman	-	5.1
K1494	995	Bateman	-	8.38
K1495	996	Bateman	-	10.4
KRL246	997	Bateman	-	15.01
KRL247	998	Bateman	-	17.93
K1497	999	Bateman	-	13.48
KRL11481	1446	Bateman	-	4.24
KRL11482	1447	Bateman	-	6.94
KRL11483	1448	Bateman	-	12.18
KRL11487	1452	Bateman	-	15.31
K954 (recorded as KRL 18152)	1977	Bateman	-	6.92
K955 (recorded as KRL 18515)	1978	Bateman	-	4.29
KRL18457	2449	Bateman	-	7.86
KRL18735	2450	Bateman	-	20.93
Total				163.46

The McFinley Shaft is located at UTM coordinates 448073E, 5663813N.

# 4.2 RUBICON OBLIGATIONS ON LICENSES OF OCCUPATION AND MINING LEASE

Rubicon optioned 25 licenses of occupation and one mineral lease (Water Portion) in January 2002 from DGC by agreeing to pay \$800,000, issue 260,000 shares and complete US\$1,300,000 of exploration prior to March 31, 2006. During 2004, Rubicon completed its acquisition of these Water Claims after meeting all the required payments and expenditures. The licences of occupation have been subsequently transferred to Rubicon.

The Water Portion claims are subject to a NSR royalty (to DGC) of 2%, for which advance royalties of US\$50,000 are due annually (to a maximum of US\$1,000,000 prior to commercial production) of which US\$300,000 have been paid to date. Rubicon has the option to acquire a 0.5% NSR royalty for US\$675,000 at any time. Upon a positive production decision the Company would be required to make an additional advance royalty payment of US\$675,000, which would be deductible from commercial production royalties as well as certain of the maximum US\$1,000,000 in advance royalty payments described above. Rubicon has confirmed that the annual payments are up to date and it retains a right of first refusal on any sale of the remaining royalty interest.

#### 4.3 RUBICON OBLIGATIONS ON PATENTED CLAIMS

Rubicon purchased the mining rights to 16 patented claims (Land Portion) from DGC in July 2002 for \$500,000 (\$425,000 paid as of December 31, 2002 and \$75,000 paid prior to June 2003) and issued 500,000 shares (completed). The Company is also to issue to the vendor 100,000 stock options (issued). The Land Claims are subject to a sliding scale NSR royalty ranging between 2-3% subject to the price of gold, for which advance royalties of \$75,000 are due annually (to a maximum of \$1,500,000 prior to commercial production), of which \$525,000 has been paid. Rubicon has the option to acquire a 0.5% NSR royalty for \$1,000,000 at any time. Upon a positive production decision Rubicon would be required to make an additional advance royalty payment of \$1,000,000, which would be deductible from commercial production royalties. Rubicon retains a right of first refusal on any sale of the remaining royalty interest.

# 5. ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

# 5.1 ACCESS

The Phoenix Gold Project is accessible via an eight-kilometre gravel road from paved roads servicing the village of Cochenour and the surrounding communities of Balmertown and Red Lake (see Figure 1). Situated on East Bay, the Phoenix Gold Project is also easily accessible via the waters of Red Lake. The region is serviced by Highway 105 which connects with TransCanada Highway #17 in Vermillion Bay. The area has daily scheduled bus services and daily scheduled flights from Winnipeg, Manitoba and Kenora and Thunder Bay in Ontario.

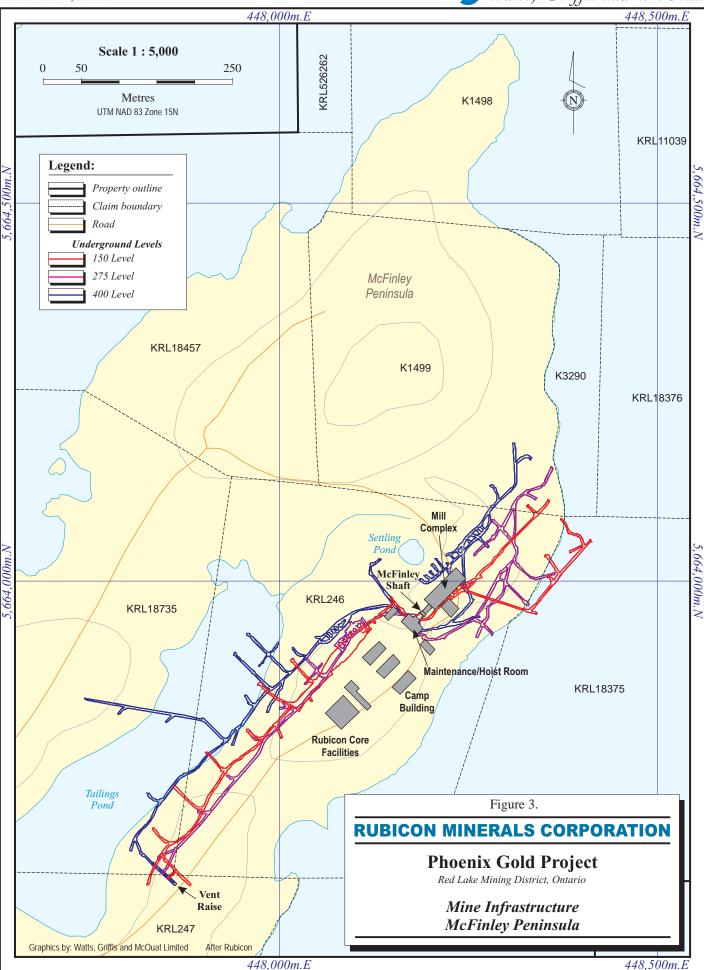
# 5.2 CLIMATE

Annual mean precipitation for the region is 640 mm which includes mean average snowfall of 378 mm. Mean average temperature is  $0.9^{\circ}$ C with mean winter temperatures (October to April) of  $-9^{\circ}$ C and mean summer temperatures of  $+14^{\circ}$ C. Temperatures can reach summer highs of 35°C and winter lows of  $-40^{\circ}$ C. Weather conditions allow drilling from the ice of Red Lake during January to early April. Municipal winter snow clearance extends to the end of paved roads near Cochenour and the site access road can be easily maintained by local road contractors.

#### 5.3 LOCAL RESOURCES AND INFRASTRUCTURE

Electrical power on the McFinley Peninsula is currently supplied by diesel generators. An electric power transmission line extends to the Abino Property of Goldcorp which adjoins the Property to the south, a distance of about two kilometres from the McFinley Shaft, which is located on the property. Water is pumped from the nearby East Bay of Red Lake and potable water is trucked to site.

The McFinley Shaft, a three-compartment exploration shaft, was developed on the McFinley Peninsula in 1955 to a depth of 428 feet but abandoned in 1956. New facilities including head frame, hoisting facilities, 150-tpd mill complex and camp infrastructure were developed during a later program of underground development and exploration during 1983 to 1988 (Figure 3). Underground development was focused on the 150-, 275- and 400-foot elevations.



≽ Watts, Griffis and McOuat

The workings were allowed to flood in 1989 after the onset of legal disputes. Infrastructure was not placed on care and maintenance and buildings suffered systematic vandalism during the period 1990 -2001, culminating in the total destruction of the site office by fire in 2001. The mill, hoist and head frame are intact and vandalism largely focused on breakable items in the camp accommodation buildings. A new core shack and secure core storage building have been constructed and access to the site has been restricted. Infrastructure and facilities are now being rehabilitated to facilitate the proposed underground and surface programs for 2009.

A tailings disposal area consistent with regulatory requirements was constructed on McFinley Peninsula in 1988 in preparation for the bulk-sampling program. The site chosen was an extensive topographic depression lying immediately west of the shaft site on the McFinley Peninsula, and retaining dams were constructed to pond effluents prior to their drainage south into the waters of East Bay. The disposal area received a Certificate of Approval in 1988. The termination of activities on the project in 1989, after test-milling of an estimated 2,500 tons of the bulk sample, resulted in minimal use of this area.

The Red Lake municipal area comprises three small towns (Red Lake, Balmertown and Cochenour) and surrounding communities (Madsen and McKenzie Island) making up a population of approximately 6,500. The next largest towns in the general area are Dryden (2.5 hrs by road) and Kenora (3 hrs by road); both located on the TransCanada Hwy via 172 km connection to the south on Hwy 105. The closest railway and hydro-electric power lines are approximately 160 km south on Hwy 105.

The Phoenix Project is in close proximity to the Goldcorp mining operation at Red Lake and Campbell mines and accessibility to skilled mining trained personnel. The project location is in an active mining district and affords access to skilled mining personnel.

#### 5.4 PHYSIOGRAPHY

The Phoenix Gold Project is an area of subdued topography of less than 15 m elevation above lake elevation. Land areas are largely covered with spruce, poplar and birch trees with minor swamp. A portion of the Project is covered by the East Bay of Red Lake with McFinley Island, directly to the north of McFinley Peninsula, representing the largest island on the property. The property is covered by 2 to 10 m of glacial overburden with bedrock outcrop mostly restricted to shoreline exposures. Lakes are relatively shallow with water depths rarely greater than 5 to 15 m. Recent seismic surveys of lake areas indicate average accumulations of 10 to 20 m of lake sediments and overburden beneath lake bottom with troughs up to 80 to 100 m deep along the structural trend underlying East Bay.

#### 6. HISTORY

The extensive history of exploration activities on the Project has been described in detail in two previous reports prepared by G.M. Hogg in 2002 (Hogg, 2002a, 2002b). One report covered the Patented Claims with the second document discussing historical work completed on the water titles, the "Licenses of Occupation" and "Mining Lease", which comprise the Phoenix Gold Project. All historical information regarding property ownership, previous exploration work, expenditures and mineral resources, prepared prior to the implementation of NI 43-101, have been summarized below. The details regarding the exploration work activity completed by previous companies are presented in Table 4.

The Property was initially staked and owned by McCallum Red Lake Mines Ltd. in 1922. Ownership was registered in the name of McFinley Red Lake Gold Mines Ltd. during the period 1944 to 1974. In 1974, Sabina Industries Ltd. earned a 60% interest in the property. McFinley Red Lake Gold Mines changed its name to McFinley Red Lake Mines Limited in 1975 and a plan of arrangement between McFinley Red Lake Mines Limited and Sabina in 1983 transferred title to McFinley Red Lake Mines Ltd. In 1984, the Project was joint ventured with Phoenix Gold Mines Ltd. (42.9%) and Coniagas Mines Ltd. (7.1%). The 50% joint venture interest was subsequently repurchased in 1986 with financial backing from Alexandra Mining Company (Bermuda) Ltd and McFinley Red Lake Mines Limited continued underground exploration and development.

Estimates of early expenditures on the Project have not been determined. However, expenditures covering the periods between 1982 to 1989 by McFinley Red Lake Mines Ltd. totalled approximately **\$18,675,150** (Hogg, May 2002). The bulk of these expenditures was focused on the area of the McFinley Peninsula and is itemized in Table 5.

Financial difficulties experienced by McFinley Red Lake Mines in 1989 led to a long period of dispute with creditors and ownership issues existed between 1990 and 2001. DGC was awarded title to the Licenses of Occupation and Mining Lease of the Phoenix Gold Project in 2001 through a vesting order from the Superior Court of Ontario. DGC and a wholly owned subsidiary 1519369 Ontario Ltd. were subsequently granted ownership of the mining rights and surface rights respectively, to the McFinley Patents by a vesting order by the Superior Court of Ontario in 2002. Rubicon Minerals optioned the property from DGC (water title), and DGC and 1519369 Ontario Ltd. (land title), respectively, in two agreements in 2002 (see Sections 4.2 and 4.3 of this report for details).

	EXPLORATION HISTORY OF THE PHOENIX GOLD PROJECT	
Year	Description of Work	
1922	Original staking in 1922 undertaken to cover a high-grade silver occurrence on the McFinley peninsula, the first mineral prospect of record in the Red Lake area. Trenching, sampling and shallow drilling was undertaken by McCallum Red Lake Mines Ltd. Wide-spread but erratic gold mineralization was noted in cherty metasediments on both McFinley Peninsula and McFinley Island.	
1941-42	Mineral occurrences were drilled as part of the Wartime Minerals Evaluation program.	
1944-46	McFinley Red Lake Gold Mines Ltd. carried out ground magnetic surveys, a 48 hole drill program consisting of 548 feet of drilling over the McFinley Peninsula, and a 4,877 foot drilling program from the ice of Red Lake.	
1946-55	Fourteen holes (M Series) were completed for a total of approximately 5,200 feet of diamond drilling.	
1955-56	Little Long Lac Gold Mines sank a 428ft vertical shaft on claim KRL 246 and completed 1,358 feet of exploratory underground development on two levels. Work terminated in 1956.	
1974-75	Sabina Industries completed 25 diamond drillholes for approximately 10,000 feet of drilling on the Project; ground magnetic and electromagnetic surveys and ten holes in approximately 2,410 feet of diamond drilling over a portion of the lake properties.	
1981-83	Sabina Industries and McFinley Red Lake Mines completed a magnetic/electromagnetic geophysical survey over the McFinley peninsula area, surface bulk sampling and 12,046 feet of surface diamond drilling in 33 holes.	
1983-84	4 McFinley Red Lake Mines Ltd. and Sabina Industries completed seven holes for a total of approximately 2,120 feet of diamond drilling.	
1984-85	5 An agreement with Phoenix Gold Mines Ltd. allowed the reopening of the McFinley shaft and completion of a total 1,570 feet of drifting and crosscutting on the 150' and 400' levels. Metallurgical work and mineral processing we carried out. Eighty underground drillholes totaling 6,000 feet and sixty-nine surface holes totaling 34,870 feet diamond drilling were completed. Funding difficulties resulted in the project being placed on temporary standby February 1985.	
1985-87	A total of 3,775 feet of drifting and crosscutting were carried out on the 150' and 400' levels. 23,333 feet of underground drilling, 30 feet of raising and an extensive chip-sampling program were completed. A program of 41,874 feet of diamond drilling was also completed in 61 surface holes.	
1987-89	In recognition of a 'Nugget Effect' in sampling results, a decision was made to proceed with a minimum 15,000 ton bulk sample. A 150-tpd mill and tailings area was constructed. Underground development (9,482 ft) continued on 150' and 400' levels, a new 275' level and on a ventilation raise from the 400' level to surface. Additional sampling, diamond drilling (28,642 ft), and metallurgical testing were completed. Bulk sampling operations commenced in July 1988 with sampling indicating head grades in the range of 0.25 oz Au/ton from prepared stope areas. Mill design problems, lack of income from bulk sampling and lack of exploration funding forced the closure of the operation after an estimated 2,500 tons milled. Total historical development in drifting, crosscutting and raising is estimated to be over 19,000 feet. Total historical diamond drilling focused on the Peninsula area is estimated to be 148,000 feet from surface and 117,500 feet from underground. An estimated 180,000 feet of core is stored on the property.	
2001-02		
2002- Present	Rubicon Minerals Corporation (see Section 10.0, Exploration and Section 11.0, Drilling for details)	

TABLE 4.			
EXPLORATION HISTORY OF THE PHOENIX GOLD PROJECT			

TABLE 5. EXPENDITURES 1982-1989, MCFINLEY RED LAKE MINES LTD.		
Expenditures	Cost (C\$)	
Mining Equipment & Camp At Cost	C\$1,518,000	
Bulk Sample Plant	3,372,450	
Road Construction	300,000	
Tailing Disposal Area	250,000	
Power Line Preparation	76,000	
Effective Exploration & Development costs	13,158,700	
TOTAL	C\$18,675,150	
	(modified from Hogg May 200	

(modified from Hogg, May 2002)

#### 6.1 HISTORICAL GOLD RESOURCE ESTIMATES

<u>Note:</u> This Section of the report contains descriptions of several historic "mineral resource" estimates. All of these historic estimates were prepared prior to the implementation of NI 43-101. The authors have neither audited these estimates nor made any attempt to classify them according to NI 43-101 standards or the Council of Canadian Institute of Mining, Metallurgy and Petroleum definitions ("CIM Standards"). They are presented because Rubicon and the authors consider them to be relevant and of historic significance. These estimates should not be relied on.

All resource estimates refer to the shaft area on McFinley Peninsula where underground exploration and development and extensive sampling were carried out. The most reliable "resource estimate" was completed by the McFinley staff in 1986 and has been reported and discussed in Hogg (May, 2002, 2003). The 1986 resource estimate was developed using underground sampling results augmented with closely spaced drillhole data where openings for sampling were not available. Standard methods of resource block development were employed to a depth of 122 m (400 feet), and an in-place grade calculated on the basis of sampling information. The location of mineralized zones is shown in Figure 4. The 1986 "resource estimate" is presented in Table 6.

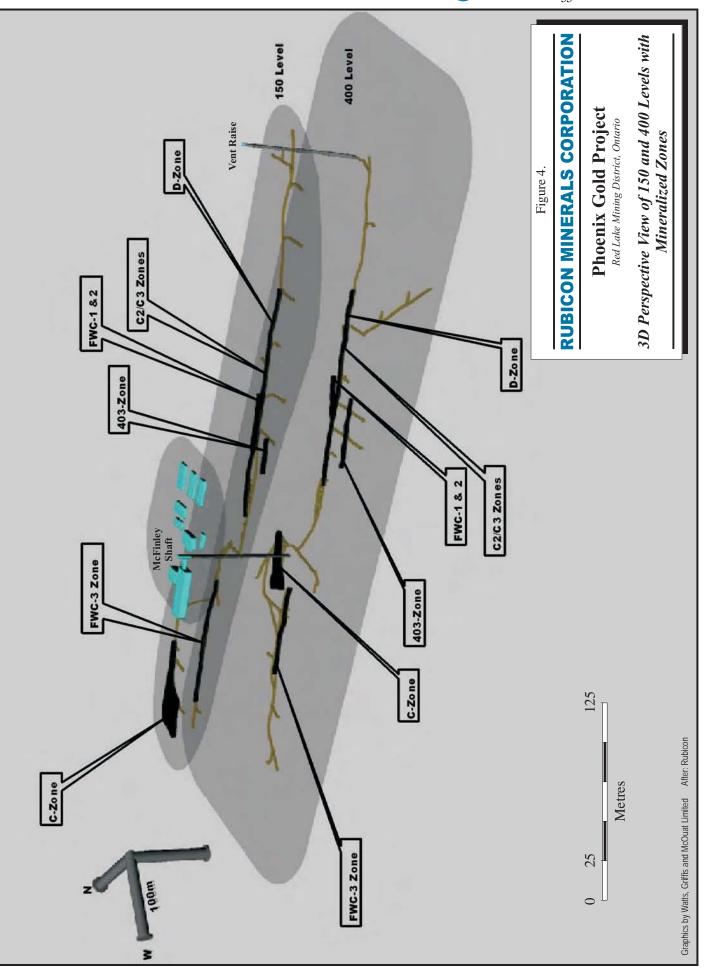
HISTORIC "INFERRED RESOURCES" PHOENIX GOLD PROJECT					
Zone	Tons	Grade (Oz/ton Au)			
FWC-3	3,875	0.50			
C Zone	10,520	0.87			
FWC-1 & 2	30,600	0.24			
C-2	128,700	0.11			
C-3	36,562	0.19			
WL Zone	10,500	0.49			
403 Zone	5,000	0.80			
BX Zone	2,000	0.84			
D Zone	106,250	<u>0.15</u>			
<b>Total Estimated Undiluted Resource</b>	334,007	0.20			

TABLE 6. TODIC "INFERDED DESOURCES" PHOENIX COLD PROJECT

(modified from Hogg May 2002)

The erratic nature of the gold mineralization in the various mineralized zones exposed in the underground workings clearly indicates a strong "nugget effect" on sampling and assaying results. Following its 1986 "resource estimate", McFinley Red Lake Mines planned a program of bulk sampling designed and implemented in order to better assess the economic viability of the mineralized system.

🔗 Watts, Griffis and McOuat



Diamond drilling below 122 m (400 feet) in 1986 led to encouraging results at depth across the Peninsula. On the basis of results from these holes, the resource estimate at McFinley, as estimated by the McFinley staff in 1986, was increased to 890,000 tons at an in-situ grade of 0.19 oz/ton gold (6.51g/t gold). Continued drilling in 1987-1988 ultimately tested the mineralized system to a depth of about 520 m (1,700 ft) below surface in the shaft area. Deeper holes of these programs were widely spaced and the zonal dimensions and continuity below the 400-level were not established to the degree necessary to be considered in a resource category to meet the standards set forth in NI 43-101. The deeper area should be considered an area of geological and exploration interest (see Figure 4).

#### 7. GEOLOGICAL SETTING

#### 7.1 REGIONAL GEOLOGY

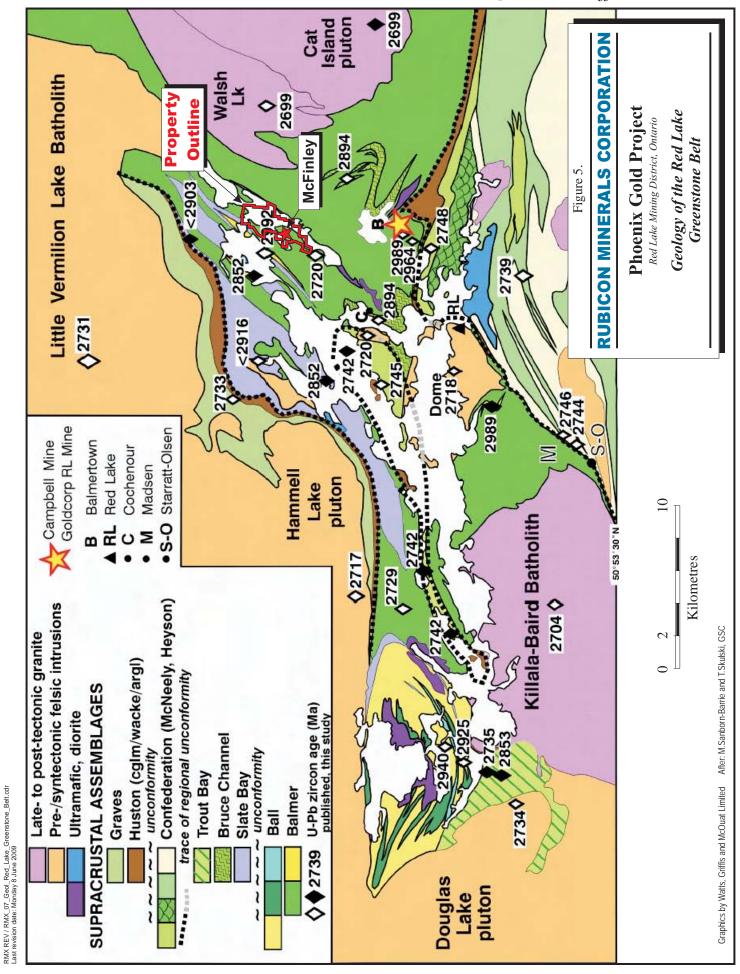
The Phoenix Gold Project is underlain by rocks of the Archean Red Lake greenstone belt, part of the Uchi Subprovince, Superior Province of the Canadian Shield. Many previous workers including Horwood (1945), Pirie (1981), Andrews and Wallace (1983), Hugon et al (1986) and Sanborne-Barrie et al (2001) have described the geology of the region.

The Red Lake Greenstone Belt ("RLGB") is an accumulation of Archean-age metavolcanic, meta-sedimentary and intrusive rocks that record a volcanic history that spans 300 Ma, and is represented by seven volcano-sedimentary assemblages (Figure 5, Sanborn-Barrie et al, 2001). The Phoenix Gold Project lies in the lowermost Balmer assemblage. The Balmer assemblage consists of tholeiitic and komatiitic flows and ultramafic intrusive rocks intercalated with 2.98-2.96 billion year old ("Ga") felsic volcanic, clastic, and chemical sedimentary rocks. It is host to the largest of the Red Lake District current and past-producing gold mines. Six successive, younger stratigraphic assemblages have been documented above the Balmer assemblage as follows:

- The Ball assemblage (2.94–2.92 Ga) consisting of crustal contaminated komatiite, tholeiitic basalt, calc-alkaline felsic volcanic rocks, and stromatolitic carbonate rocks;
- The Slate Bay assemblage (less than 2.91 Ga), composed of quartz-rich wacke and conglomerate meta-sedimentary rocks;
- The Bruce Channel assemblage (2.89 Ga), composed of intermediate pyroclastic volcanic and sedimentary rocks;
- The Trout Bay assemblage (2.85 Ga, Sanborn-Barrie et al., 2001) consisting of basalt overlain by clastic rocks, intermediate tuff and chert-magnetite iron-formation;
- The Huston assemblage (<2.89 Ga and >2.74 Ga) consisting of a regionally extensive unit of polymictic conglomerate, locally associated with wacke and argillite rocks that marks an angular unconformity between Mesoarchean and Neoarchean strata; and
- The uppermost stratigraphic package, the Confederation assemblage (2.75–2.73 Ga), consisting of calk-alkaline and tholeiitic felsic, intermediate, and mafic volcanic rocks, which locally exhibit volcanogenic-massive-sulphide-style alteration and mineralization.

Felsic plutons that are synvolcanic with Confederation volcanic rocks intrude all the major assemblages. The weakly to moderately foliated Dome stock (2.72 Ga), which occupies the core of RLGB, provides a maximum age for timing of the last penetrative deformation event (Corfu and Andrews, 1987; Sanborn-Barrie et al., 2000). The felsic intrusion on the Abino

# Watts, Griffis and McOuat



property to the south of the Phoenix Gold Project also records a date of 2.72 Ga. Post-tectonic batholiths were intruded along the margins of the RLGB ca 2.70 Ga.

Regional metamorphism varies from greenschist grade in the core of the RLGB to amphibolite grade near batholith margins. Polyphase deformation of the RLGB involved an early (pre-2.748 Ga) non-penetrative deformation (D0), which uplifted pre-Confederation and Huston age rocks, and at least two episodes of post-Confederation deformation; D1 and D2 (Figure 6). These two phases of penetrative deformation are reflected in folds and fabrics of low to moderate finite strain (Sanborn-Barrie et al., 2000). The F1 folds are recognized mainly in clastic-dominated assemblages such as the Bruce Channel, Slate Bay and Huston, where as D1 fabrics are best identified in the volcanic rocks of the Balmer, Ball and Trout Bay assemblages (Sanborn-Barrie et al., 2001). The main penetrative structures throughout the RLGB are a result of D2 deformation that manifests itself as northeast and northwest-striking, moderately to steeply plunging F2 folds with a weakly- to moderately-developed east to northeasterly and northwest trending fabric.

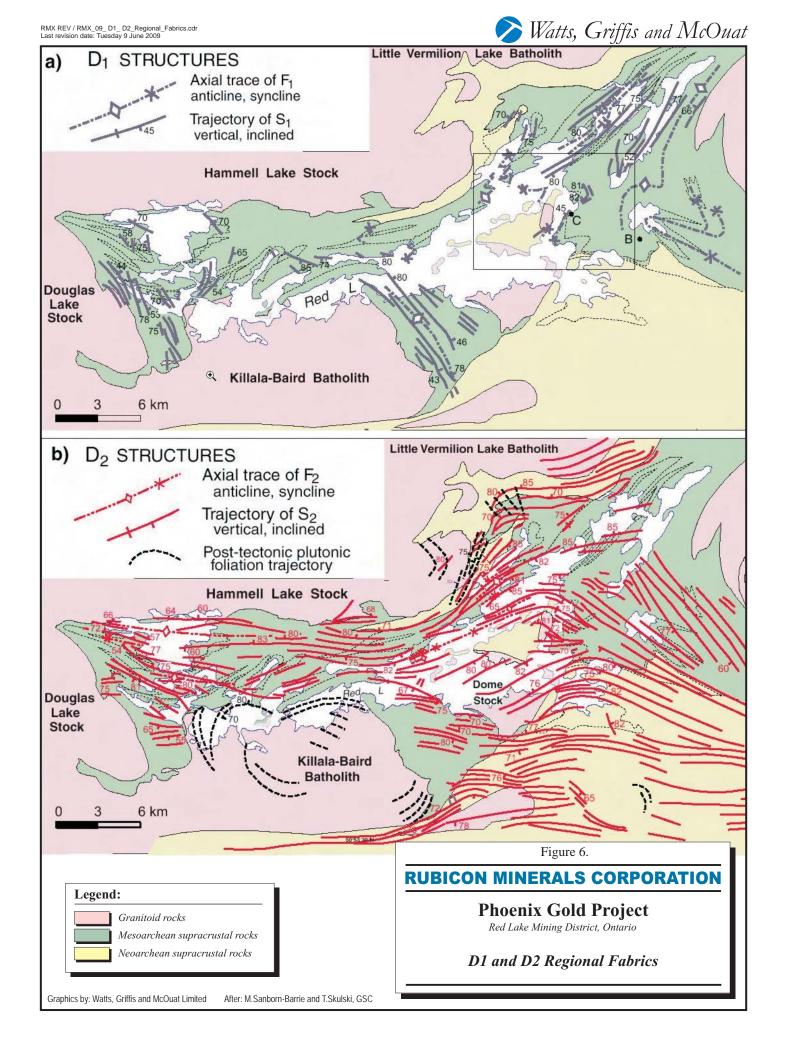
Overall, strain in the RLGB is low, but local high strain zones do occur, typically in areas of strong alteration with locally associated gold mineralization. Previous workers identified five major shear or deformation zones within which major gold deposits of the camp occur (Figure 7), however recent work (Sanborn-Barrie et al., 2000) has questioned the validity and usefulness of the deformation zone concept in the camp.

The dominant deformation zone on the Project is the "East Bay Trend" that can be traced from the top of East Bay to the southwest to the Cochenour-Willans mine area where it meets the north-northwest trending "Mine Trend" of Goldcorp's Red Lake Gold Mine. The EBDZ (see Figure 7), constitutes a continuous and highly disturbed structural domain. Very significant changes occur in structural fabrics across the EBDZ while within the EBDZ fabrics are dominantly north-northeast trending and representative of fabric development during both D<sub>1</sub> and D<sub>2</sub>. The EBDZ trend may have also influenced early basin development (D0) in the RLGB.

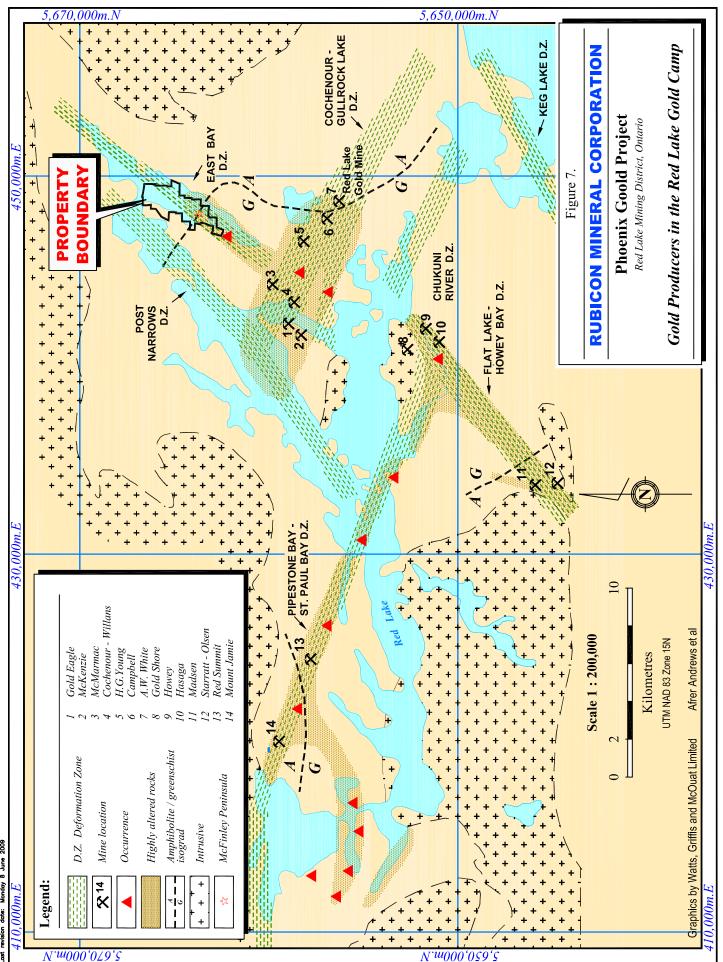
#### 7.2 PROPERTY GEOLOGY

#### 7.2.1 INTRODUCTION

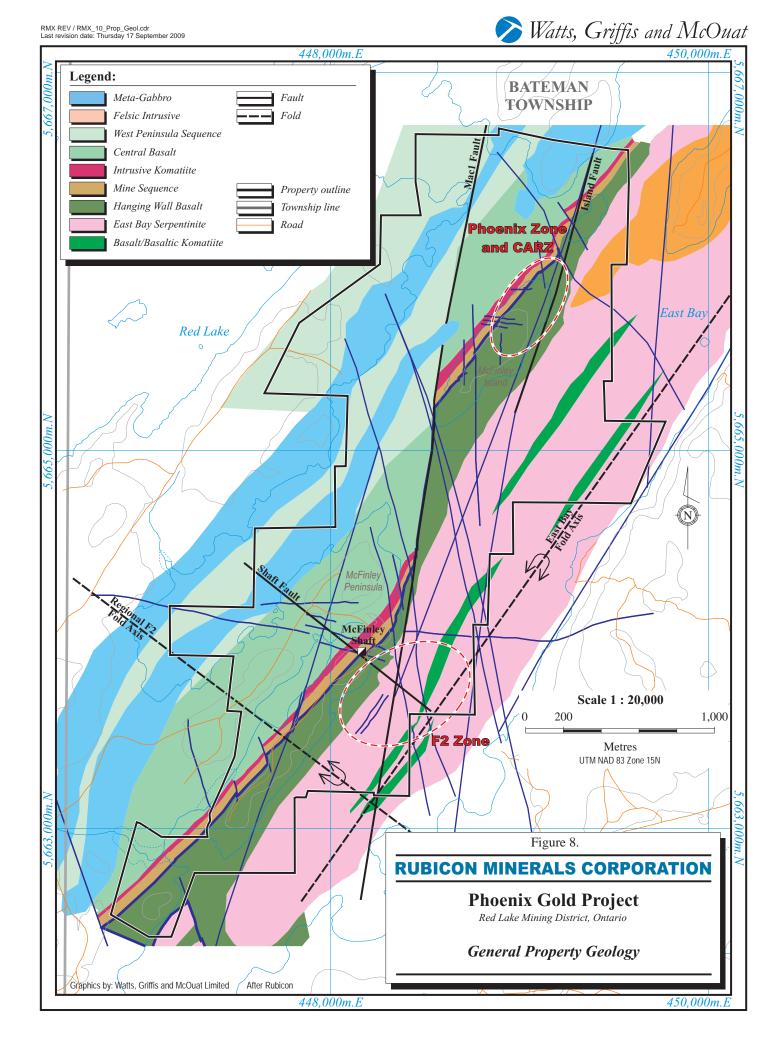
The Phoenix Gold Project lies along a north-northeast trending belt of highly disturbed intermixed mafic volcanics and ultramafic rocks with minor metasediments of the Balmer assemblage (Figure 8). Details of the geological stratigraphy within this 'East Bay Trend' are summarized below.



# Watts, Griffis and McOuat



RMX REV / RMX\_08\_Cold\_Producers.dwg (Layout: 200K) Last revision date: Monday B June 2009



#### F2 Zone Area

The stratigraphy through the area of the McFinley Peninsula consists of several defined stratigraphic units. The extensive 2008 drilling of the F2 Zone has allowed for a more detailed description of units within the F2 Zone and McFinley Peninsula area than the original descriptions by Rigg & Hogg in 2003. Notwithstanding these updates, however, descriptions of the units are generally the same as provided in the prior reports. A new, updated stratigraphic column is provided in Table 7. The Internal Basalt Sequence is the main host for mineralization in the F2 Zone, however, high grade intercepts have also been encountered in the ultramafic and felsic intrusive rocks. A strikingly similar stratigraphic package of rocks hosts the mineralization at the Red Lake Gold Mine.

SUMMARY OF STRATIGRAPHY ON THE PHOENIX GOLD PROJECT	
Sequence	Stratigraphy
West Peninsula Sequence (WPS)	• Pillowed to massive Basalts with BIF, graphitic BIF and Chert, banded silty to arenaceous sediment/epi-sediments and significant (syngentic?) py/po
Central Basalt Sequence (CBS)	<ul> <li>Pillowed and massive tholeiitic basalts with flow top breccia</li> <li>occasional BIF and (graphitic) argillite</li> </ul>
Intrusive Komatiite Sequence (KS)	<ul> <li>Massive, spinifex and columnar jointed Basaltic Komatiite</li> <li>Bounded by 'HW BIF' to the east and by 'Main BIF' to the west</li> <li>BIF possible in central part of Sequence</li> </ul>
McFinley Sequence (MS)	<ul> <li>Bounded to the west by 'HW BIF' and to the east by the FW BIF</li> <li>At least 5 horizons of silica/oxide (carb.) facies BIF within pillowed and amygdaloidal basalt</li> </ul>
Hanging Wall Basalt Sequence (HBS)	<ul><li>Pillowed to massive, amygdaloidal basalts</li><li>Variably carbonate altered, variable foliation</li></ul>
East Bay Serpentinite (PK)	<ul><li>Extrusive and intrusive ultramafics</li><li>Variable talcose alteration</li></ul>
Footwall Basalt Sequence (FBS)	<ul> <li>Main host to F2 Mineralization</li> <li>Variable biotite alteration, sulphides (py, po)</li> <li>Silica flooding, quartz breccia and quartz veining throughout</li> <li>Located within the package of Basalt/Basaltic Komatiite on Figure 8</li> </ul>
Basaltic Komatiite (BK)	<ul><li>Variable amphibole alteration, sulphides (1-3%)</li><li>Variably foliated basalts</li></ul>

TABLE 7. SUMMARY OF STRATIGRAPHY ON THE PHOENIX GOLD PROJECT

#### **McFinley Peninsula Area**

The McFinley Sequence ("MS") has been the major focus of prior underground exploration and development on McFinley Peninsula and hosts at least five distinct horizons of chertmagnetite (silica-oxide facies) banded iron formation ("BIF"), termed C1 to C5, from footwall to hanging wall, in the MS. The Hanging-Wall BIF, to the northwest, and the Footwall BIF ('C1-Chert') to the southeast, define the limits of the MS. Stratigraphy on the McFinley Peninsula area strikes approximately N 45°E and dips 50° to 70°NW and faces towards the northwest.

The MS is underlain by the more massive and extensive Hanging Wall Basalt Sequence ("HBS") which extends eastward to the talc-carbonate altered ultramafic rocks of the East Bay Serpentinite ("PK"). The PK-HBS contact dips shallowly 45° to 55° to the northwest. This contact is transgressive to the trend of the FBS and lies in very close proximity to the MS along the northern part of the McFinley Peninsula.

The MS is overlain to the northwest by three distinctive sequences of metavolcanics and metasedimentary rocks, the Intrusive Komatiite Sequence ("KS"), the Central Basalt Sequence ("CBS") and the West Peninsula Sequence ("WPS").

The MS hosts several diorite, feldspar porphyry ("FP") and quartz-feldspar porphyry ("QFP") dykes which trend sub-parallel to the overall trend of the sequence. The MS is interpreted to be a strain corridor through the area, and is consequently a favorable unit for auriferous mineralization on the property.

#### **McFinley Island Area**

McFinley Island is largely underlain by a thick, 2,625 metre (800 ft) wide, sequence of pillowed to massive amygdaloidal basalts, which are correlated with the HBS on McFinley Peninsula described above and as illustrated in Figure 8. The HBS lies to the west of the East Bay Serpentinite, which is outboard of the Island under the waters of East Bay. The overlying McFinley Island Sequence ("MIS"), which occurs along the western side of the island, is correlated with the MS on McFinley Peninsula, and similarly consists of a distinctive sequence of up to five banded iron formation units lying within pillowed and amygdaloidal basalts. As at McFinley Peninsula, the MIS/MS is intruded by several diorite and quartz-feldspar porphyry dykes. The stratigraphy of the MIS/MS strikes approximately N40° E and dips 50° to 65° northwest. Pillowed mafic volcanic and ultramafic rocks lie stratigraphically above the MIS/MS to the west.

There are very strong similarities between stratigraphy across McFinley Island and the stratigraphy of the McFinley Peninsula. Regionally, banded iron formations are also known to outcrop on the Abino and McMarmac properties along the trend of the EBDZ to the south and in several areas in prior work by other workers to the north. It is unclear if these units are intermittent within the stratigraphy in the area, or structurally attenuated within the EBDZ.

#### East Bay Area

The ultramafic rocks of the East Bay Sequence ("EBS") form a magnetically distinctive belt from approximately 450 to 600 m (1,500 to 2,000 ft) in width along the length of the Project. The EBS strikes in a north-northeast direction and dips 45° to 70° to the northwest. Watercovered and known previously only on the basis of a few drillholes and geophysical data; it consists of ultramafic horizons separated by a dominantly volcanic belt which contains variable amounts of felsic and granodioritic intrusive rocks. Ultramafic rocks are variably altered (carbonate, talc, serpentine, fuchsite) and locally strongly sheared and deformed. Original spinifex and flow top breccia textures are often preserved and there is convincing evidence that extrusive as well as intrusive ultramafic rocks are present. The EBDZ is wider than the EBS and contains many discrete, trend-parallel faults and shear zones.

#### 7.2.3 STRUCTURE

Multiple deformation events occur throughout the camp and at least three stages of deformation have been recognized on the Project, termed D<sub>1</sub>, D<sub>2</sub> and D<sub>3</sub>. D<sub>1</sub> and D<sub>2</sub> are associated with penetrative cleavages (S<sub>1</sub> and S<sub>2</sub>) whereas D<sub>3</sub> is associated with late brittle faulting, best characterized by the Shaft Fault and associated faulting in the area of the mine shaft (Rigg and Hogg, 2003; Hogg, 2002).

 $D_1$  deformation is dominated by a moderate to strong foliation trending sub-parallel to bedding (S<sub>0</sub>). S<sub>1</sub> foliation is defined by chlorite and biotite within the pillowed to amygdaloidal basalts as a penetrative to spaced cleavage. Ankerite-quartz veining is relatively widespread and forms a common background network of transposed veins possibly parallel to S<sub>1</sub> foliation.

 $D_2$  deformation is dominated by shearing along the EBDZ. Shears are most visibly represented as discrete quartz-arsenopyrite-sphalerite-galena breccia veins in mafic volcanic rocks and cutting banded iron formations or, as faults within the ultramafic rocks of the EBS. On the McFinley Peninsula, the main D Vein and its lateral extension to the north of the Shaft Fault (termed the B Vein) demonstrate excellent lateral and vertical continuity. D<sub>2</sub> shears trend to the northeast at a low angle to stratigraphy (10 to 15°) and dip more steeply than stratigraphy. The movement along D<sub>2</sub> shears is dominantly reverse/sinistral.

A well developed  $S_2$  shear fabric commonly overprints the  $S_1$  cleavage and generates anastamosing cleavage structural fabrics in the rocks.  $S_2$  trends to the northeast, sub-parallel to  $S_1$ , but dips sub-vertically to very steeply to the west, more steeply than the D Zone-type shear/breccia veins. The fabric is axial planar to several apparent 'roll' structures in the peninsula area and quartz-arsenopyrite veining (C Zone) is locally developed along this fabric.

D<sub>3</sub> deformation is associated with a conjugate set of late brittle faults that transect the Project. These are commonly developed as relatively inconsequential minor faults, seams and fractures. Intense D<sub>3</sub> fault corridors are developed, however, with some corridors up to 60 m (200 feet) wide, best typified by the east-southeast to west-northwest trending Shaft Fault.

A regional F2 series of structures, observed to the southeast of the Phoenix Project, are inferred to act as one of the key controls of gold mineralization at the recently discovered F2 Zone. Mineralization within the F2 Zone occurs proximally to the regional unconformity in the Red Lake camp within the Archean Balmer Assemblage mafic-ultramafic rocks is analogous in this respect to major deposits in the Red Lake gold district. The zone is in a structurally complex setting in the East Bay Deformation Zone. This area is subject to at least two phases of deformation represented by early northeast-trending foliation and fold axis (F1) with a later northwest-trending fold axis and cross-cutting faults (F2). This series of structures is interpreted to trend in a northwesterly direction, with steep to vertical dips. These F2 structures are critical gold bearing fluid conduits at the Campbell and Red Lake complex.

# 7.2.4 ALTERATION

Hydrothermal alteration is accompanied by the deposition of iron carbonate, magnetite destruction and formation of talc, as well as the introduction of potassium and silica (silicification) secondary mineral phases. Iron carbonate replacement and veining, predominantly within mafic and ultramafic rocks, is the most widespread and pervasive alteration and is commonly associated with elevated to highly anomalous arsenic and antimony. Potassium addition is manifest as fuchsite (Chrome-rich muscovite) and as sericite (very fine grained muscovite) in felsic rocks, and as biotite in mafic volcanic rocks. Silicification consists of quartz veining, and as pervasive quartz replacements. Magnetite destruction is most evident in banded iron formations and is commonly associated with iron carbonate alteration and sulphidization.

Iron carbonate, potassium addition, and silicification are all indicative of hydrothermal fluid transport, and are important indicators of possible gold mineralization. Zones of magnetite destruction are identified from both airborne and detailed ground magnetic surveys and identified in drill core, and are important indicators of potential gold-bearing structures. These features occur throughout the Property and the F2 Zone is no exception.

### 8. DEPOSIT TYPES

The Red Lake greenstone belt is one of the most prolific and highest-grade gold camps in Canada. Historical production (to December 31, 2007) has been more than 24 million ounces of gold. The majority of production has come from four mines, Campbell (>11 million ounces), Red Lake (>6 million ounces), both of which are now collectively called the Red Lake Gold Mine, Cochenour-Willans (1.2 million ounces) and Madsen (2.4 million ounces). A number of smaller mines have contributed a combined production of 3.4 million ounces (Lichtblau et al., 2008).

The Red Lake gold camp has received renewed interest from exploration, investment and scientific research communities due to the discovery in 1995 by Goldcorp Inc. of the High Grade Zone at the Red Lake Gold Mine. In 2002, this mine had Proven and Probable gold reserves of 1.7 m tonnes of 69.3 g Au/t (Dube, B., Williamson, K, and Malo, M., 2002). This deposit is one the largest and richest grade deposits in the world (Dube, B., Williamson, K., and Malo, M., 2001).

The majority of gold occurrences, and all of the four major gold deposits, are located in the central and eastern half of the RLGB and are hosted by Balmer assemblage rocks at or near to the angular unconformity with overlying Huston and Confederation assemblage rocks. Intrabelt felsic plutons and quartz porphyry dykes are also important hosts for gold mineralization, and account for production at the McKenzie, Gold Eagle, Gold Shore, Howey, and Hasaga mines (see Figure 7).

The gold deposits of the RLGB are somewhat atypical of Archean, greenstone, shear-zonehosted vein-type deposits (Sanborn-Barrie et al., 2000), and are classified into three groups by Pirie (1982) according to their stratigraphic or lithologic associations which are described below.

### 8.1 GROUP 1 DEPOSITS (MAFIC VOLCANIC HOSTED)

These occur within zones of alteration several square kilometres in extent, typified by  $CO_2$  addition (forming Fe-carbonates) and Na<sub>2</sub>O, CaO, and MgO depletion (Pirie, 1982; Andrews et al., 1986). On a more local scale, SiO<sub>2</sub> and K<sub>2</sub>O addition forms alteration assemblages consisting of quartz, biotite, fuchsite (Chrome-rich muscovite), and sericite. Group 1 deposits are commonly associated with elevated arsenic and antimony. Gold mineralization in Group 1 deposits occurs in quartz-carbonate veins, quartz veins, sulphide lenses, stringers and disseminations, and in impregnations in vein wall rock. Most of the high-grade

mineralization comes from quartz  $\pm$  arsenopyrite replacement of early (barren), banded carbonate veins (Horwood, 1945; Dube et al. 2002), which typically are very small targets in plan, but are remarkably continuous down plunge. The High Grade Zone at the Red Lake Gold Mine, for example, occurs as several discrete ore bodies a few m wide by a few tens of metres long that all occur within a small area (100 m x 150 m), but are known to have a vertical extent of at least 1,400 m (Dube et al., 2001). Tholeiitic basalt, basaltic-komatiite, and iron-formation are the dominant host rocks.

A spatial relationship exists between ultramafic rocks and gold mineralization, with the majority of gold mineralization at Cochenour-Willans, and the Red Lake Gold Mine occurring within a few hundred metres of ultramafic bodies. Dube and others (2001) suggest that competency contrast between basalt and ultramafic units is important in the formation of extensional carbonate veins in fold hinge zones during deformation, which are then later replaced by gold-rich siliceous fluids.

# 8.2 GROUP 2 DEPOSITS (FELSIC INTRUSIVE HOSTED)

The majority of Group 2 deposits occur as shallow to steeply dipping, sulphide-poor, quartz veins and lenses hosted in sheared diorite and granodiorite of the Dome and McKenzie stocks, and as quartz vein stockwork in quartz porphyry dykes and small felsic plugs. The largest of this type of deposit, the McKenzie mine, produced over 650,000 ounces of gold (Andrews et al., 1986).

# 8.3 GROUP 3 DEPOSITS (STRATABOUND)

Group 3 deposits are only known to occur in the southern part of the RLGB and include the ore zones at the Madsen and Starratt-Olsen mines. Ore is of disseminated replacement style, located at the deformed unconformity between Balmer and Confederation assemblages. Gold mineralization is hosted by mafic volcaniclastic rocks and basalt flows, and consists of heavily disseminated sulphide within a potassic alteration zone, which grades outward into an aluminous, sodium depleted zone (Dube et al., 2000).

# 8.4 TARGET GOLD DEPOSIT GROUPS

The Phoenix Gold Property has the potential to host Group 1 and Group 2 type gold deposits described above. Group 1 type deposits are of particular interest because of their high-grade and large size. Potential for Group 1 deposits is supported by the property location along the East Bay Deformation Zone, within favourable Balmer Assemblage mafic and ultramafic rocks. Further support is provided by the encouraging exploration results to date.

Two granodiorite-hosted auriferous zones (Group 2) occur on the Abino Property, located one kilometre southwest of the F2 Zone. The northernmost of these auriferous zones extends to within a few hundred feet of the Phoenix Gold Project. The Abino deposit is described as a stockwork of veining within granodiorite which contains erratic concentrations of native gold. Historical estimates from work reports in the 1980s suggest mineralization extends to at least 305 m (1,000 feet) below surface. More recent drilling has confirmed its extension to the north, within a hundred metres of the Phoenix Gold Project property boundary, and has reported values as high as 18.11 oz/ton gold (620.91g/t gold) over a core length of 2.0 feet (0.61 m) from this zone.

The Phoenix (now called the Island Zone) and F2 Zones are considered Group 1 type mineralization and are shown previously on Figure 8. Additional potential also exists to host Group 2 deposits within the F2 Zone, as gold mineralization is documented in felsic intrusive rocks, and in other intrusive rocks elsewhere on the property.

### 9. MINERALIZATION

Numerous types of auriferous mineralization have been the focus of exploration and mining development on McFinley Peninsula. Gold mineralization occurs in a variety of rock types and configurations, and in general can be observed to commonly lie within nearby ultramafic contacts, within D<sub>2</sub> structures, and in association with contacts between rocks exhibiting a strong contrast in competency. Drilling by Rubicon has expanded the number and type of potential targets, the most important being the recently discovered F2 Zone.

### 9.1 BANDED IRON FORMATION - CHERT

The banded iron formation ("BIF") and chert horizons within the current Phoenix Gold Mine site and McFinley Island Sequence have received significant attention since the 1940s. They provide potential for narrow, sheet-like auriferous zones. The detailed underground investigation of the McFinley Peninsula demonstrates that within these sheets, higher grade zones occur. These plunge shallowly at  $30^{\circ}$  to  $45^{\circ}$  to the southwest.

In the vicinity of the underground workings and on McFinley Island, mineralized BIFs contain variable amounts of pyrite and lesser amounts of chalcopyrite, sphalerite and arsenopyrite. Native gold occurs in association with sulphides and in fractures and veins and is highly erratic in distribution. Higher grade areas within the BIFs form lenticular bodies which exhibit good vertical continuity and may extend over lengths of 60 m (180 ft) or more. Normal zonal widths are in the range of 1.5 to 3 m (5 to 10 ft).

Auriferous mineralization accompanies sulphidization of BIF and brittle fracturing of the BIF during the D<sub>2</sub> shearing event. Two sets of northwest and east-west trending, subvertical brittle fractures have been found to contain spectacular visible gold developed in veins and fractures within competent units.

Mineralization is best developed within the lowermost stratigraphic BIF horizon, termed the 'Footwall BIF' within the MS and MIS. Within the MS, this has been termed the C1-Chert Zone in historical plans. Mineralization also occurs within the C2 and C3 units and has been intersected within all five chert horizons. There is a strong association between well mineralised BIF and sulphide breccia veins.

### 9.2 SULPHIDE BRECCIA VEINS

The D Vein in the underground workings on McFinley Peninsula is the best single example of a mineralized D<sub>2</sub> Shear currently known on the Property. This vein has a strike length of approximately 1,000 m (3,000 ft) and is drilled from surface to a vertical depth of over 518 m (1,700 ft). The vein varies in width from 0.15 m to approximately 1.5 m and is characterized by several stages of sulphide deposition. This vein typically contains cataclastic, rounded fragments of quartz and quartz-arsenopyrite-vein material cemented by various sphalerite-arsenopyrite-galena-pyrite-pyrrhotite mineral phases. Faults or shear zone can displace the D Vein by more than 100 m in places

Additional sulphide breccia veins, D<sub>2</sub> sulphide-quartz veins, and sulphide-rich D<sub>2</sub> shears occur throughout the stratigraphy of the Phoenix Gold Property. The major shears in the McFinley Peninsula area have been identified as the A Shear, C Shear and D Shear and are spaced approximately 60 to 100 m (200 to 300 ft) apart. These shears are parallel, trend northeast and dip northwest.

# 9.3 C-ZONE TYPE

'C Zone' mineralization occurs on the northern part of McFinley Peninsula and is located in a 'roll' of the East Bay Serpentinite (PK) contact beneath the Mine Sequence. Mineralization plunges 25° to 35° to the southwest from the 150 level to the 400 foot level where it is displaced by the Shaft Fault. High grade auriferous mineralization is located:

- Within quartz-arsenopyrite veins developed along the D<sub>2</sub> fabric within mafic volcanics (Hanging Wall Sequence). Multiple veins attain widths of about 1.5 m (5 ft), and may extend over horizontal lengths of 30 to 60 m (100 to 200 ft); and,
- In carbonate and sericite altered zones within quartz veins and disseminated sulphides, within a 'root' zone beneath the talc-carbonate altered ultramafic rock contact. The 'root' zone trends along the C Shear as the shear crosses and extends at depth within the East Bay Serpentinite.

The 'roll' structure is developed in response to the intersection of a major D<sub>2</sub> shear with the ultramafic rock contact. Competency differences between the underlying ultramafic and overlying mafic volcanic rocks controls the character and environment of mineralization. 'C Zone' type mineralization may be developed extensively along the Peninsula at all intersections between the A, C and D shears and the nearby ultramafic rock contact.

There is very good potential for similar-type gold mineralization in areas across the Property where numerous D<sub>2</sub> Shear structures associated with the EBDZ and D<sub>2</sub> deformation cross stratigraphic or intrusive rock contacts and where rocks of varying competency contrasts are juxtaposed. 'Roll– type" structures with axial planar S<sub>2</sub>-shear fabrics are developed in at least four zones in the area of the underground workings and at several stratigraphic contacts within the Komatiite Sequence, McFinley Sequence and Hanging Wall Sequence stratigraphy.

### 9.4 SHEARED BIOTITE-ARSENOPYRITE ZONES

This style is characterized by broad zones of shearing and intense biotite alteration up to 40 m (120 ft) wide accompanied by complex quartz-carbonate-chlorite-amphibole veins up to 1.5 m (4.6 ft) wide, 2-10% fine needle arsenopyrite, local pyrrhotite, galena, sphalerite, and chalcopyrite and trace visible gold within the veins. The zones are found within the Hanging Wall Basalt immediately above the contact with the East Bay Serpentinite (Phoenix Zone, now called Island Zone) and form west dipping lenses up to 5 m (15 ft) thick with a dip length up to 75 m (229 ft) and a flat to shallow southwest plunge of 200 m (610 ft). This type of mineralization is considered analogous to certain ore environments at the producing mines in the region, and was the main focus of exploration during 2004.

### 9.5 DISSEMINATED ARSENOPYRITE REPLACEMENT ZONES

Within the McFinley Peninsula, a distinct zone of intense arsenopyrite replacement and silicification has been identified. The zone is 6 to 12 m (20 to 40 ft) thick and to date returns only low grade gold values. The similarity between this style of mineralization and mineralization at the Red Lake Gold Mine is very strong. On Phoenix Mine drill sections the zone is sub-horizontal to shallowly dipping to the southeast, plunges at a low angle to the southwest, and cross cuts stratigraphy of the McFinley Sequence at a high angle. This type of mineralization has been reported from south of McFinley Island to McFinley Peninsula, and below the 400-foot level south of the Shaft Fault.

### 9.6 CARBONATE ALTERED ZONES (CARZ)

During the 2005 winter drilling program, a new style of mineralization was discovered at the northern end of McFinley Island, in the vicinity of the Phoenix Zone (Island Zone). The Carbonate Altered Zone ("CARZ") is situated 75 m (229 ft) into the hanging-wall, above the main Phoenix Zone (Island Zone). The zone is a 20 to 30 m (60 to 90 ft) wide (true width) zone of ankerite replacement, containing numerous colloform banded 'snow bank' veins up to 5 m (15 ft) thick. These veins are variably silicified and mineralized over widths up to 14 m

(43 ft) in association with fine-grained needles of arsenopyrite. The structural control on the CARZ is not currently understood.

# 9.7 F2 ZONE TYPES

To date, the most significant gold mineralization is found within the F2 Zone. Mineralization occurs in the following different styles:

- Quartz-veined, flooded and brecciated spotty biotite-altered mafic volcanics with 2-5% pyrite, 1-2% pyrrhotite, trace-1% arsenopyrite. This setting has potential for high grade mineralization up to 353.76 g/t over 0.9 m (Plate 1, Appendix 2);
- Sulphidized and silicified spotty biotite-altered mafic volcanics with chaotic quartz veinlets and up to 20% combined sulphides (5-15% pyrite, 2-5% pyrrhotite, trace-1% arsenopyrite). This setting contains generally lower grade gold mineralization up to 25 g Au/t.(Plate 2, Appendix 2);
- Large (<20 cm) quartz-chlorite-tremolite veins dominantly within biotite-altered mafic volcanic rocks with visible gold (Plate 3, Appendix 2);
- Siliceous felsic intrusive with spotty biotite alteration and crosscutting quartz veinlets with visible gold (Plate 4, Appendix 2);
- Ultramafic host with siliceous appearance and chlorite-amphibole-biotite-talcose alteration and chaotic quartz veins rimmed with chlorite-amphibole (Plate 5, Appendix 2); and
- Ultramafics with chlorite-amphibole alteration and only minor quartz-carbonate. This setting can host significant visible gold mineralization (Plate 6, Appendix 2).

The most important of these F2 Zone types of mineralization are those that occur within the biotite-altered Internal Basalt Sequence since there is a distinct correlation between strong biotite alteration and gold mineralization. This unit consists of variable (spotty to strong) biotite alteration, a variable amount of sulphides (trace to 3% combined pyrite and pyrrhotite) and silica flooding, brecciation and quartz veining. This alteration can vary in thickness but consistently runs anomalous for gold (for example, 24.4 g Au/t over 17.0 m in hole F2-07 and 42.4 g Au/t over 11.0 m in hole F2-08).

There is potential to intersect very high grade mineralization within the East Bay Serpentinite (peridotitic komatiite) with little to no quartz±carbonate veining, as seen in Rubicon drillholes F2-29 and F2-35.

Generally, within few metres of either contact of the ultramafic rocks with the Internal Basalt Sequence, it is possible to observe shear zones of siliceous, quartz veined, variably biotitechlorite-talcose altered ultramafic that also contain anomalous gold. Pervasively siliceous felsic intrusives with spotty biotite-alteration, variable sulphides (pyrite, pyrrhotite) and less than 5 cm wide cross-cutting quartz veins also host low grade gold mineralization. These intrusive rocks generally occur within the upper East Bay Serpentinite.

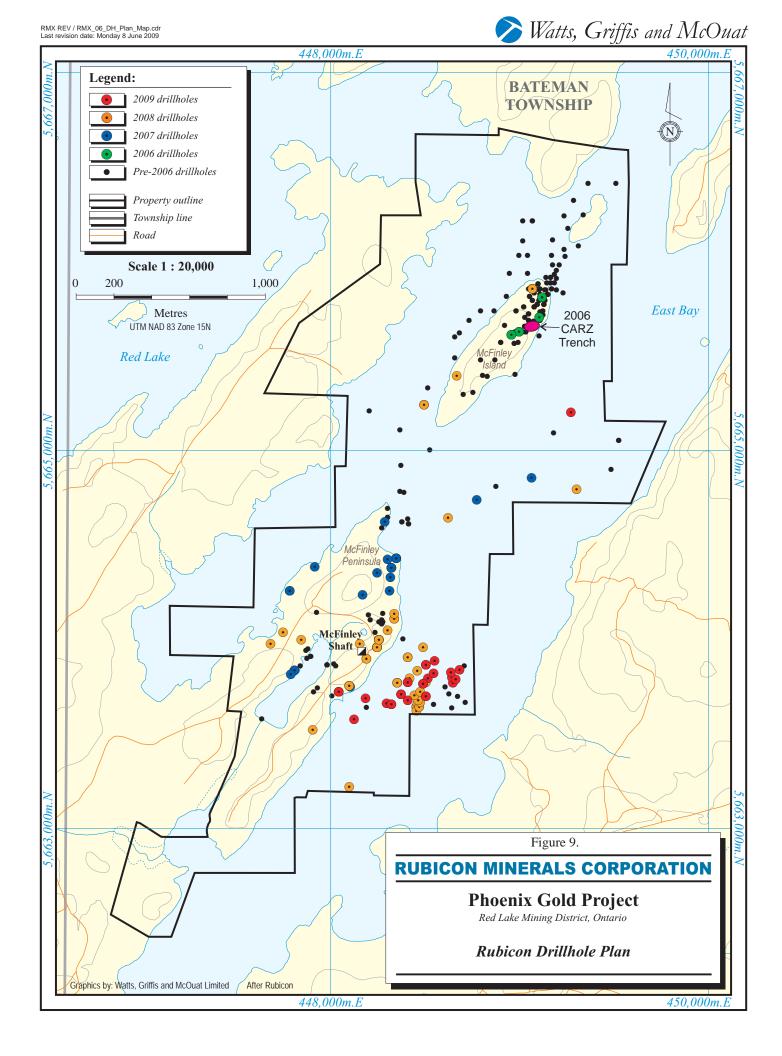
### **10. EXPLORATION**

Rubicon has conducted an aggressive and ongoing exploration program on the Phoenix Gold Property since acquiring the property in 2002. Exploration work has included geological mapping, approximately 22,000 square m (72,000 ft) of trenching and stripping, 60,000 m (197,000 ft) of re-logging selected historic drill core, a high resolution airborne magnetic survey, a ground magnetic survey, a seismic lake bottom topographic survey, Titan 24 geophysical survey and over 118,000 m (388,000 ft) of surface diamond drilling. Figure 9 illustrates the Rubicon drillhole locations over this time frame. Following the discovery of the F2 Zone in 2008, dewatering is complete and rehabilitation of the old McFinley workings is in progress to facilitate the underground drilling program recommended in this report.

The Property has been re-evaluated within the context of current knowledge of ore controls systems and models at the producing mines in the Red Lake region. The majority of diamond drilling by Rubicon has targeted areas outside the confines of the historic mine site on the McFinley Gold Deposit in environments perceived to have high exploration potential and limited historic work. A summary of Rubicon's exploration history and highlights over the last eight years is provided below from M. Prefontaine (2005), Darwin Green (2005), I.R. Cunningham-Dunlop (2004) and D.M. Rigg and G. Hogg (2003). Exploration work completed between November 2008 and April 2009, the topic of this report, is also covered in this section with references sited.

### 10.1 2002 EXPLORATION PROGRAM

In 2002, Rubicon commenced a large-scale re-logging and re-sampling program concurrent with major compilation and digitization of all existing geological data on the Property. The compilation effort was somewhat hampered by a fire in the historic exploration office at the mine site in 2001, which destroyed a considerable amount of original data. Over 60,000 m (196,850 ft) of the original surface and underground drill core from the McFinley Red Lake Mines' era of exploration and development was discovered cross piled on the Property. Initial work involved cataloguing, numbering and re-boxing a significant volume of this core.



Rubicon also completed detailed ground and helicopter borne magnetic surveys (50 m line spacing), grid and shoreline geological mapping (1:1,000 scale), excavation and mapping/sampling of several large trenches (1:20 scale), as well as seismic surveys over East Bay to determine lake-bottom and bedrock topography (1:5,000 scale). The culmination of this work by Rubicon was the integration of their understanding of the stratigraphy, structure and mineralization into a credible geological model for the Property. A fourteen hole (MF-02-01 to MF-02-14) drill program totalling 1,909.1 m (6,263 ft) was carried out in the immediate area of the McFinley Peninsula from November to December 2002 (see Drilling, Section 11.0 for details).

### 10.2 2003 EXPLORATION PROGRAM

The 2003 exploration program included two phases of diamond drilling (see Drilling, Section 11.0 for details). Phase I consisted of 9,585.4 m (31,448 ft) of winter drilling including 33 holes to test property-wide targets from the ice on the McFinley Peninsula from January to March 2003. Phase II consisted of 3,061 m (10,042 ft) in 10 holes for follow-up drilling on McFinley Peninsula from July to September 2003. Overall, drilling identified several new high-grade gold occurrences in widely separated areas with little or no previous exploration. The most promising of these new gold occurrences, the MAC-1 target area, located off the end of the Peninsula, included multiple >0.5 oz/ton intercepts associated with a moderately northwest striking, southwest dipping fault structure.

In addition to drilling, a total of 76 historic surface and underground drillholes were re-logged in an effort to refine geological understanding of key areas of interest on the Property.

### 10.3 2004 EXPLORATION PROGRAM

A winter drill program of 7,285.4 m (23,902 ft) was completed between February and March, 2004. The highlights of this drill program are discussed in Section 11, Drilling, and includes the discovery of the near-surface high grade gold-bearing "Phoenix Zone" (Island Zone) at the northern tip of McFinley Island.

Exploration between April and December consisted of excavating three trenches on the north end of McFinley Island.

#### 10.4 2005 EXPLORATION PROGRAM

An extensive diamond drilling program was focused on the Phoenix Zone (Island Zone) from January to April 2005 at the north end of McFinley Island. A total of 61 holes totalling 13,600.9 m (44,622 ft) were completed (see Drilling, Section 11.0 for details). This program was designed to test for the continuity of gold mineralization, both along strike and down dip/down plunge and to test for possible new, sub-parallel gold zones.

#### 10.5 2006 EXPLORATION PROGRAM

The Company spent approximately \$830,000 (\$572,000 on direct exploration) on its 100% owned Phoenix Gold Project during the fiscal year, ending December 31, 2006. During the third quarter of 2006, the Company completed a surface trenching and geological mapping and sampling program. The purpose of the work was to follow up on the Phoenix Zone (Island Zone) and CARZ gold mineralization intersected during the 2005 drill program. The trenching program successfully exposed the surface extension of the CARZ mineralization determining that the zone is structurally complex with numerous folds and faults controlling the distribution of the gold.

In late 2006, the Company completed an 11 hole, 1,614 m (5,295 ft) diamond drill program (Figure 10). The program was designed to further test the Phoenix Zone (Island Zone) and CARZ, both along strike and at depth (see Section 11.0, Drilling for details).

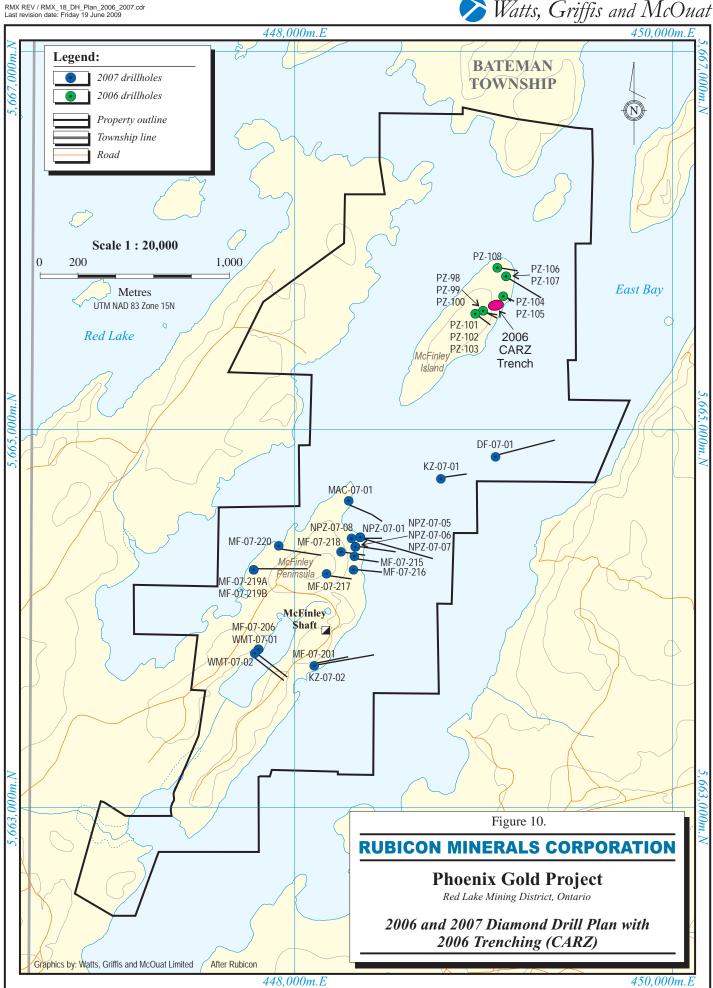
#### TRENCHING AND MAPPING PROGRAM (CARZ) 10.5.1

A trenching, mapping and sampling program was completed during the third quarter on the CARZ at the north end of McFinley Island (Figure 11). A total of 89 channel samples averaging 1m wide were collected from the main trench. Assay highlights from this program are presented in Table 8.

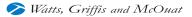
TADIEQ

2006 CARZ TRENCHING PROGRAM SIGNIFICANT GOLD ASSAYS							
Trenching	Gold (g/t)	Length (m)					
Interval	7.08	3.90					
Interval	5.04	4.30					
Interval	2.62	5.80					
Interval	4.24	2.20					
Interval	5.82	4.90					
Including	12.32	1.80					

IADLE 0.						
CHING	PROGE	RAM S	<b>IGN</b>	<b>IFIC</b>	ANT	GOI



≽ Watts, Griffis and McOuat



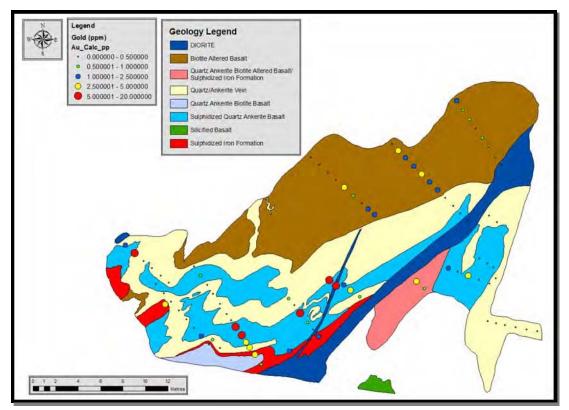
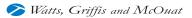


Figure 11. CARZ trench geology and gold distribution in ppm from trench samples

Mapping defined a folded package of massive quartz-ankerite veins inter-layered with variably sulphidized quartz-ankerite and biotite basalt rocks (Figure 12). The quartz-ankerite veins show classic colloform, cockade textures and are locally brecciated. Trace amounts of pyrite and arsenopyrite are observed throughout this veined unit. Quartz-ankerite veins hosted within the biotite basalt rocks contain 2-8% arsenopyrite and generally return the highest gold assay values. This observation is consistent with drill intercepts from five holes drilled directly to the south of the trench. There is a distinct penetrative cleavage throughout the units with an average foliation trend measurement of  $227^{\circ}$  dipping 61° northwest. A number of lineation and fold-hinge measurements were also collected with a mean plunge and trend of  $49^{\circ}$  towards  $242^{\circ}$ .

Following the success of the initial CARZ trenching, a second round of trenching was completed on McFinley Island in September, 2006. The main trench was extended to the northwest and two additional trenches were completed to the northwest and southwest of the main CARZ trench. The CARZ does not extend to the south on surface. A number of faults have been observed in the trench in the southwest and may be surface expressions of the Phoenix Fault and/or footwall fault observed in drill core.



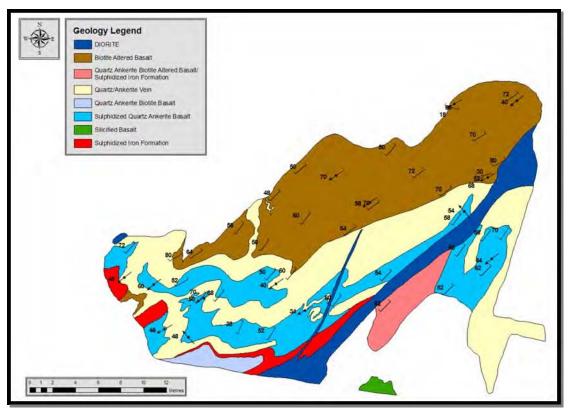


Figure 12. CARZ trench geology and structural measurements

A 3D model was created of the CARZ using all of the structural and geological data gathered from the trenching, also utilizing outcrop geology in relation to the diamond drillhole core information. This model was used to design a proposed Fall 2006 diamond drilling program.

# 10.6 2007 EXPLORATION PROGRAM

The Company incurred approximately \$2 million in exploration expenditures on the Phoenix Gold Project in 2007; completing 13,446.1 m (44,114 ft) of drilling in two phases focusing on the North Peninsula Zone, West Mine Target, KZ and Deep Footwall areas (see Section 11.0, Drilling for details).

# 10.7 2008 EXPLORATION PROGRAM

The initial diamond drilling program for 2008 was designed to follow-up on various target areas. The F2 Zone was discovered early in the first quarter of 2008 and with the continued drilling success, a decision was made to concentrate the remaining drilling program to further explore and define the F2 Zone. In 2008, the Company drilled a total of 46,665.5 m (153,110 ft) predominantly on the F2 Zone (see Section 11.0, Drilling for details).

### 10.7.1 TITAN 24 GEOPHYSICAL SURVEY

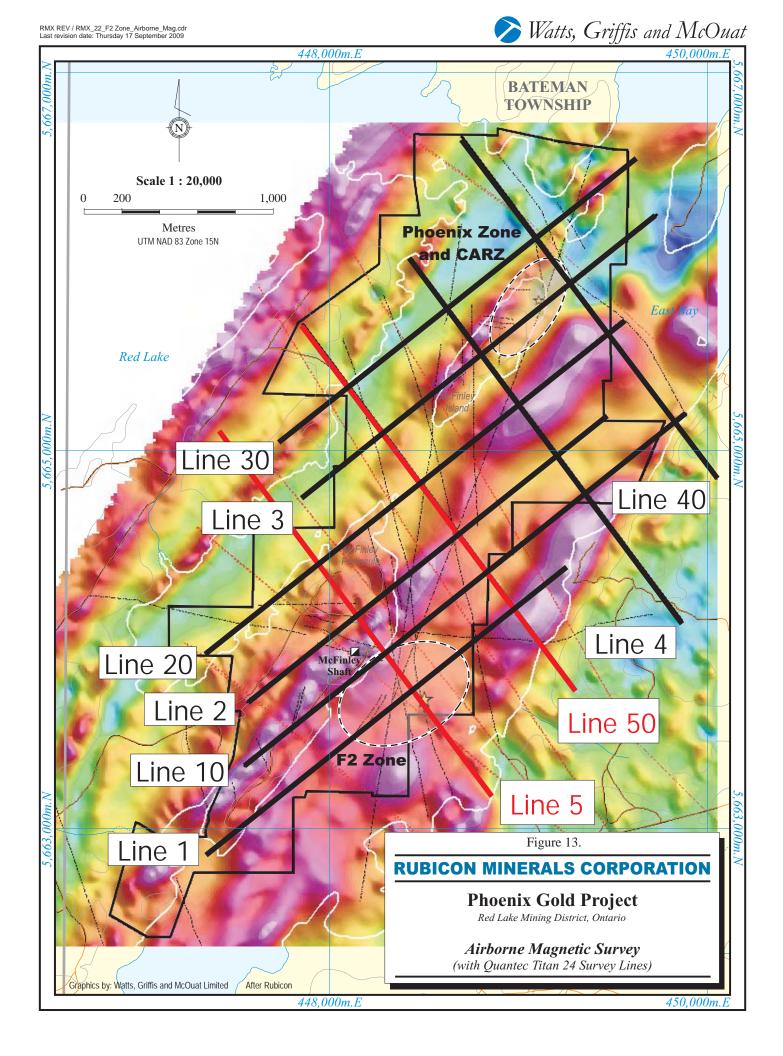
Subsequent to the initial F2 discovery, during the first quarter of 2008, Quantec Geoscience (**Quantec**) of Toronto, Canada, was contracted to complete 25 line-km of Titan 24 geophysical surveys covering the F2 Zone and remaining gold zones on the Property. The survey was completed in two phases: the first Phase was initiated in February with a line spacing of approximately 500 m (1,640 ft) (Lines 1 to 5), and then the survey spacing was infilled to approximately 250 m (820 ft) (Lines 10 to 50) in March (Figure 13).

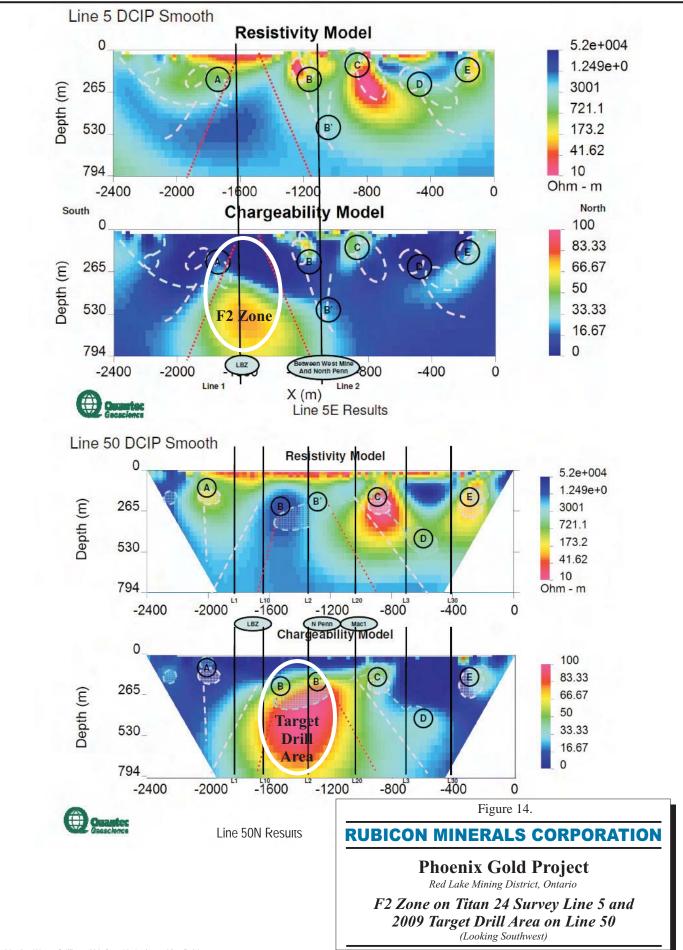
Information on Quantec's Titan 24 Deep Earth Imaging system is contained on Quantec's website and is also included in Quantec's reports to Rubicon (see References). Titan 24 measures the parameters of DC (*resistivity*), IP (*chargeability*) and MT (*magnetotelluric resistivity*). The system measures to depths of 750 m (about 2,500 ft) with induced polarization ("IP") and can explore beyond 1,500 m (about 5,000 ft) depth with MT data. By measuring 24 or more stations simultaneously, Titan 24 is able to efficiently record and process a large amount of data. The method also employs a larger array (generally a 2,400 m spread), which, according to Quantec, delivers much deeper capability than traditional ground and airborne methods.

The survey has detected several known near surface gold zones and appears to have detected the new F2 Zone (Figure 14), or at least the alteration zone that contains the F2 Zone. The extensive chargeability anomaly is over 1,500 m (5,000 feet) long and appears to correlate with strongly altered hosts rocks and sulphide bearing gold mineralization, stretching from the southern extents of the Property at the F2 Zone to the North Peninsula Zone. The F2 anomaly is one of a number of similar anomalies developed along the 3 km of prospective stratigraphy extending to the northeast on the Property ranging from vertical depths of 200 to over 800 m (650 to over 2,600 ft) and constitute high priority regional targets recommended for 2009.

### **10.8 2009 EXPLORATION PROGRAM**

Dewatering is now complete and rehabilitation of the Mine infrastructure is underway (completed subsequent to this report). After a short hiatus during December, drilling began again on the expansion of the F2 Zone. As of April 27, 2009, the Company had drilled a total of 15,071.2 m (49,449 ft) in 27 drillholes, all focused on extending and infilling the F2 Zone (see Section 11.0, Drilling for details). An additional 80,000 m of diamond drilling is planned for the remainder of 2009, with 60,000 m planned from underground of which 1,222 m has been drilled since June 10, 2009. There is also 20,000 m to test targets from surface. This drilling program is currently ongoing.





Watts, Griffis and McOuat

Graphics by: Watts, Griffis and McOuat Limited After Rubicon

### **11. DRILLING**

Since 2002, Rubicon has completed 311 surface diamond drillholes totalling 118,358 m (388,333 ft) on the Phoenix Gold Property. The majority of diamond drilling by Rubicon has targeted areas outside the confines of the historic mine site in environments perceived to have high exploration potential and limited historic work. The Drill Section portion of this report has been divided into two Sections, the drilling completed by Rubicon from November 2002 to 2005 which is covered by previous NI 43-101 Technical Reports prepared by Prefontaine (2005) and Hogg (2003) and have been summarized below for completeness and Section 11.2., the focus of this report, summarizes the diamond drilling programs completed by the Company from January 2006 to April 27, 2009.

The majority of diamond drilling was performed by Hy-Tech Drilling of Smithers, British Columbia using two skid-mounted Tech-4000 diamond core drills. These drills were used on the ice in East Bay during the winter, on the land during spring thaw and also drilled from two barges during the summer and fall months. Layne Christensen Canada Limited of Sudbury, Ontario was also contracted to complete deep holes using their skid-mounted CS 4002 having a depth capacity of 2,500 m (8,200 ft). Each drill program was supervised by a Rubicon drill geologist.

All proposed land and ice drill collars were surveyed with a hand held Global Positioning Survey (GPS) instrument with an accuracy of  $\pm 3$  m. Two foresight pickets were also surveyed and drills were set up under the direct supervision of the Rubicon geologist (or technician). Collars for barge holes were also surveyed with a hand held GPS and then marked with a buoy; the same foresight procedure was carried out. Changes in actual drill location from planned locations, due to local ice conditions or other technical reasons, were noted with the true easting and northing coordinates. Final collar locations are surveyed with a differential GPS unit (sub-meter accuracy) and recorded in the database.

NQ2 (50 mm diameter) or NQ (46 mm diameter) core was drilled. Core was placed in wooden boxes with depth markers every 3 m. Core recovery during these programs was generally excellent and RQD measurements were completed on holes MF-SHFT-1, MF-02-03, MF-02-04, MF-02-06 and MF-02-08, however, RQD was not currently part of Rubicon's routine logging process, However, subsequent to this report, RQD, SG and magnetic susceptibility readings are now taken and recorded as standard procedure for core logging). Boxes were securely sealed and delivered to the core logging facility located onsite once a day. A Reflex or Ranger electronic single shot survey instrument was used to take

down-hole surveys recording azimuth, inclination, magnetic tool face angle, gravity roll angle, magnetic field strength and temperature at 60 m (197 ft) intervals down-hole.

Casing for holes collared on land were left in place and covered with aluminum caps with the drillhole number etched or stamped into the cap. Previously, the collars were located using hand held GPS, however, since the date of this report, a Differential GPS is used to locate all collars.

# 11.1 2002 TO 2005 DIAMOND DRILLING PROGRAMS

A total of 41,480.5 m of diamond drilling in 188 drillholes has been completed on the Property by Rubicon from 2002 to 2005.

A 14 hole (MF-02-01 to MF-02-14) drill program totalling 1,909.1 m (6,263 ft) was carried out in the immediate area of McFinley Peninsula from November to December 2002.

In 2003, exploration activities included two drill programs. A total of 9,585.4 m (31,448 ft) of winter drilling including 33 holes to test property-wide targets from the ice on the Peninsula was completed from January to March 2003. From July to September 2003, a total of 3,061 m (10,042 ft) in 10 holes of follow-up drilling was completed on McFinley Peninsula. The 2003 winter drill program identified several new high-grade gold occurrences in widely separated areas with little or no previous exploration confirming that the area previously explored on the Property, confined to McFinley Peninsula, is a small part of a much larger mineral system that spans the property. The most promising of these new gold occurrences, the MAC-1 target area, located off the end of the Peninsula, included multiple >0.5 oz/ton intercepts associated with a moderately northwest striking, southwest dipping fault structure.

The 2004 winter drilling program consisted of 35 holes totalling 7,285.4 m (23,902 ft) of drilling from the ice form the northern tip of McFinley Island completed between February to March 2004. The primary targets areas for the program were the intersection of the property-scale, north to north-northwest-trending D2 faults with the more competent felsic and basaltic bodies within the East Bay Serpentinite/East Bay Deformation Zone (MAC-3 and MAC-3 South Areas). Of secondary importance, was the intersection of these faults with the main McFinley Island sediment-basalt sequences to the west (MAC-1, MAC-5, and MAC-4). Magnetic lows were strongly considered in the selection of the drill targets and were considered indicative of enclaves of basaltic or felsic material within the ultramafics, fault structures or possibly sulphidized zones within the iron formations. Some of the drillholes were follow-ups to encouraging results from the 2003 winter program

(MAC-3/LBZ & MAC-1 Vein) while others were venturing into relatively unexplored ground at the northern end of the Project and along the eastern margin of McFinley Island. The main target areas were the MAC-1 Fault/MAC-1 Vein, the MAC-3/LBZ area, and the MAC-4 area (with the newly discovered Phoenix Zone or Island Zone).

The 2004 winter drill program resulted in the discovery of a near surface zone of high-grade gold mineralization at the northern tip of McFinley Island – the Phoenix Zone (Island Zone). With mineralization remaining open along strike to the north and south and down-plunge to the southwest, a follow-up, island-based drill program was scheduled for the summer months, after the lake cleared of ice.

A second Phase of drilling was completed to further explore the Phoenix Zone (Island Zone) between July and September 2004. A total of 6,038.7 m (19,812 ft) was drilled in 35 holes resulting in the northeast trending zone being well defined over a strike length of 250 m to a vertical depth of approximately 150 m.

From January to April 2005, 13,600.9 m (44,622 ft) were drilled on the Phoenix Zone (Island Zone) at the northern end of McFinley Island. This program was designed to test for the continuity of gold mineralization, both along strike, down dip and down plunge and test for possible new, sub-parallel gold zones. This program was successful in expanding the extent of the Phoenix Zone (Island Zone) as well as discovering the gold-bearing CARZ. Drilling extended the dimensions of the Phoenix Zone (Island Zone) to a strike length of 500 m (1,640 ft) and 200 m (656 ft) down dip. It was determined that the zone is composed of at least three discrete lenses or shoots of concentrated gold mineralization (PZ-1, PZ-2 and PZ-3). The high grade shoot 'PZ-1' which the largest and most coherent lens is currently drilled on 15 to 30 m centres (50 to 100 ft) over a strike length of 250 m (820 ft) and over a depth extent of 150 m (492 ft). The CARZ is currently defined over a strike length of 120 m (393 ft) and 60 m (197 ft) down dip. The CARZ mineralization is located 75 m (246 ft) structurally above the main Phoenix Zone (Island Zone). It is a complex, 20 to 30 m thick zone of carbonate, ankerite replacement, containing numerous colloform banded 'snow bank' veins up to 5 m (16 ft) thick. These veins are variably silicified and mineralized over thicknesses up to 14 m (46 ft), with fine grained needles of arsenopyrite. The structural control on the CARZ is not clear. Both the Phoenix and CARZ zones remain open at depth.

### 11.2 2006 DIAMOND DRILLING PROGRAM

During the fourth quarter of 2006, the Company completed an 11 hole, 1,614 m (5,295 ft) diamond drill program. The program was designed to further test the Phoenix and CARZ zones, both along strike and at depth. The Company reported that, based on 67 significant

drill intercepts (greater than 5 g Au/t over a minimum core length of 0.3 m), the weighted average gold grade for the zone is 10.66 g Au/t over a core length of 2.0 m (estimated to be approximately 80% of true width). This diamond drilling program focusing on the CARZ and Phoenix Zone (Island Zone) began November 24, 2006. Six holes were designed to test the down plunge and down dip extension of the CARZ altered and mineralized zones, as well as the continuity of the carbonate veining at depth, and another five holes specifically tested the Phoenix Zone (Island Zone) (see Figure 10, and Table 9).

TABLE 9.

. . . . . . . . . .

2006 DIAMOND DRILLING COLLAR LOCATIONS									
Hole ID	Area	Northing	Easting	Elevation (m)	Azimuth°	Dip°	Length (m)		
PZ-98	CARZ Zone	5665638	448990	369.13	105	-45	129		
PZ-99	CARZ Zone	5665638	448990	369.13	115	-55	138		
PZ-100	CARZ Zone	5665638	448990	369.13	120	-65	141		
PZ-101	CARZ Zone	5665621	448953	372.00	120	-46	150		
PZ-102	CARZ Zone	5665621	448953	372.00	120	-52	153		
PZ-103	CARZ Zone	5665621	448953	372.00	120	-58	114		
PZ-104	Phoenix Zone	5665715	449100	366.00	090	-65	120		
PZ-105	Phoenix Zone	5665715	449100	366.00	090	-75	138		
PZ-106	Phoenix Zone	5665822	449114	361.16	120	-60	120		
PZ-107	Phoenix Zone	5665822	449114	361.16	090	-70	111		
PZ-108	Phoenix Zone	5665866	449061	362.96	090	-77	300		

Drilling at both the CARZ and Phoenix zone (Island Zone) intersected similar stratigraphy. At the CARZ, all the holes collared within well foliated moderately chloritized basalt with associated sub-parallel minor quartz-carbonate veining. The progression towards the CARZ is marked by a noticeable increase in intensity of biotite alteration. Within this transitional zone, the carbonate veins appear to be slightly to moderately silicified and an increase in the sulphide content of arsenopyrite, pyrite and chalcopyrite) is observed in both the host basalt and the veins. The CARZ itself is a 15 to 25 m (49 to 82 ft) wide alteration corridor in which the biotite-arsenopyrite alteration is very intense. The deformation (foliation) appears to be more intense within the CARZ, but is likely a consequence of the greater proportion of phyllosilicates (biotite) within the host basalt. The proportion of carbonate veins within the CARZ is significantly higher than within the chloritized basalts of the hanging wall. The veining is typically sub-parallel to the foliation, but can also be seen as a complex and deformed vein stockwork. The edges of the CARZ are defined by diminished intensity of the biotite alteration in host chloritized basalt rock, or contact with the adjacent peridotitic komatiite unit (East Bay Serpentinite or EBS).

The EBS is characterized by high talc content and numerous sheeted carbonate veinlets. These veinlets are sub-parallel to the strong foliation, but in some cases, the veinlets and penetrative fabric are moderately folded suggesting that the "East Bay Trend" (northeastsouthwest deformation corridor) has been deformed by a later generation of structures, which are likely to be the "Mine Trend" related northwest-southeast deformation corridor which contains the major mines. The presence of these Mine Trend structures in the CARZ area is a positive indicator for the gold exploration potential in this area.

Numerous metre wide lamprophyre dykes were observed in the 2006 holes. These dykes are virtually undeformed and are cutting through all rock units, veins and mineralized alteration zones. Such a crosscutting relationship is compatible with the geochronology work done at the Red Lake Gold Mine. This observation, along with other similarities noted by Rubicon geologists, suggest that mineralization on the Phoenix Gold Property may be contemporaneous with the main gold mineralizing event at the Red Lake Gold Mine. Visible gold was observed in hole PZ-98 and PZ-100 at downhole depths of 72 m and 28 m, respectively. The visible gold grains are small, and in both cases have been observed in quartz within a strongly silicified carbonate vein. In hole PZ-100, a significant percentage of arsenopyrite (5-10%) is present in the intensely biotite altered and silicified basalt. Rubicon geologists consider that the style of mineralization observed in this hole is very similar to the "High Grade Zone" currently exploited at the Red Lake Gold Mine. This was the first time that visible gold had been documented in the CARZ. Significant intercepts from the program are provided in Table 10.

# 11.3 2007 DIAMOND DRILLING PROGRAM

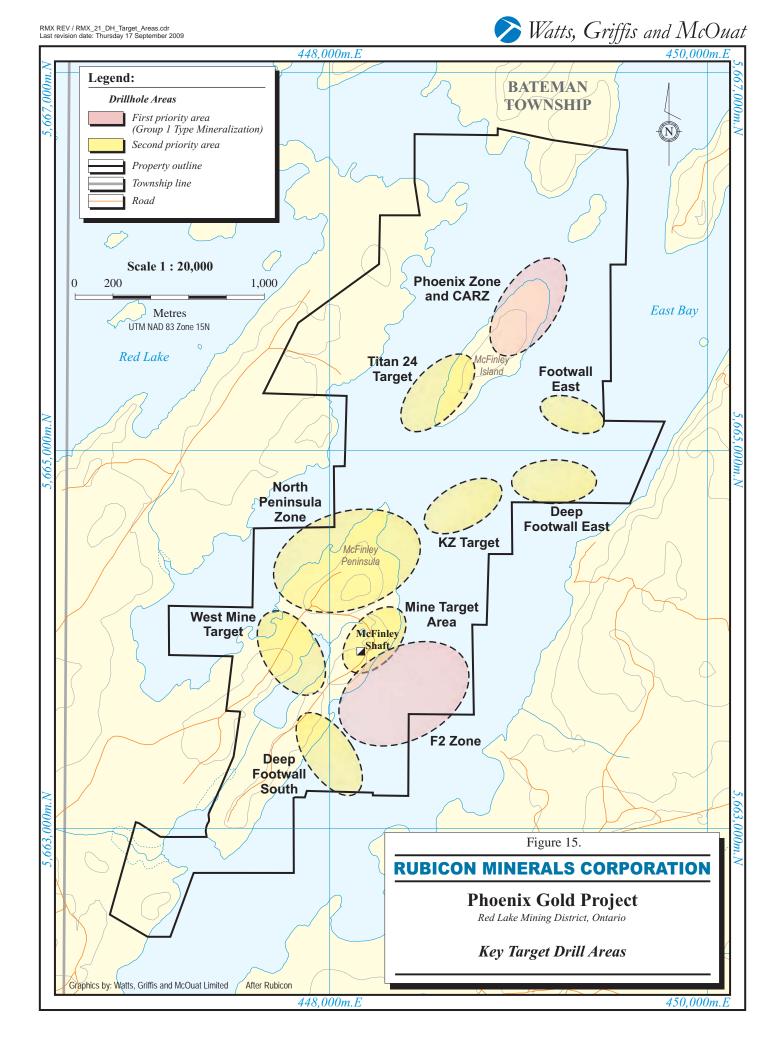
The Company incurred approximately \$2 million in exploration expenditures on the Phoenix Gold Project in 2007; completing 13,446.1 m (44,114 ft) of drilling in two phases: 9,930.1 m (32,579 ft) in 17 holes focusing on new target areas including the North Peninsula Zone, (Upper and Lower Zones), West Mine Target, KZ and Deep Footwall areas, and an additional 3,516 m (11,535 ft) in seven holes targeting the North Peninsula Zone area. Each of the new target areas drilled in the program (Figure 15) intersected gold-bearing zones that were open for follow-up drilling. All significant drillhole intersection lengths discussed below and shown in the following tables represent core lengths and not true widths.

# North Peninsula Target

Eight holes tested the North Peninsula Target, on two east south-easterly oriented sections, spaced approximately 50 m apart. Results continue to indicate the overall robust nature and continuation of the gold mineralization at depth and along strike. The North Peninsula Target is characterized by two distinct gold zones designated the Lower Zone and Upper Zone.

2006 I	DIAMOND DRILLING PR	ROGRAM SIGN	NIFICANT GOLD	ASSAYS
Hole ID	From	То	Length (m)	Gold (g/t)
PZ-98	35.00	47.73	12.73	1.99
incl	35.00	38.81	3.81	2.59
and	40.35	42.58	2.23	3.15
and	42.99	45.71	2.72	2.35
	64.26	73.00	8.74	3.19
incl	64.26	67.31	3.05	2.15
and	72.00	73.00	1	17.6
	81.35	83.31	1.96	2.07
PZ-99	28.48	33.47	4.99	2.54
incl	28.48	29.49	1.01	6.48
	47.29	49.44	2.15	1.15
	54.33	60.18	5.85	1.07
PZ-100	28.18	47.40	18.57	1.6
incl	28.18	32.23	4.05	1.66
and	35.52	39.47	3.95	2.4
and	41.02	47.40	6.38	1.96
PZ-101	no significant values			
PZ-102	74.87	76.16	1.29	10.98
	78.98	81.00	2.02	2.16
	109.6	110.80	1.2	3.83
PZ-103	26.91	28.10	1.19	1.76
	64.09	67.73	3.64	3.38
incl	64.63	66.42	1.79	6.13
	75.50	76.68	1.18	1.27
	86.00	95.02	9.02	2.48
incl	86.00	87.60	1.6	3.92
and	91.68	95.02	3.34	3.61
PZ-104	52.58	61.48	8.9	0.71
incl	52.58	53.58	1	1.18
and	56.54	57.69	1.15	1.46
and	60.08	61.48	1.4	1.03
PZ-105	25.81	26.65	0.84	3.71
PZ-106	81.00	82.72	1.72	3.07
incl	81.00	82.30	1.3	3.72
PZ-107	104.66	108.35	3.69	1.98
incl	104.66	106.21	1.55	2.62
and	106.70	107.47	0.77	4.83
PZ-108	97.48	99.00	1.52	11.15

 TABLE 10.
 2006 DIAMOND DRILLING PROGRAM SIGNIFICANT GOLD ASSAYS



The Lower Zone has returned gold assays that include 34.14 g Au/t over 1.00 m (hole NPZ-07-05), 28.07 g Au/t over 0.90 m (NPZ-07-01), 10.59 g Au/t over 1.57 m (NPZ-07-05), 10.46 g Au/t over 1.50 m (NPZ-07-01), and 9.49 g Au/t over 1.00 m (NPZ-07-08). The Lower Zone was intersected between 230 and 380 m (755 and 1247 ft) vertically below surface. It occurs within a package of intensely altered mafic rocks, capped by ultramafic units. Alteration is characterized by intense silicification, biotite alteration and arsenopyrite replacement (locally up to 50%) of carbonate veins over widths ranging from 4 to 9 m (13 to 30 ft). The overall thickness of the Lower Zone varies from 50 to 80 m (164 to 262 ft). This zone is capped by ultramafic rocks that appear to act as a barrier to trap the gold-bearing hydrothermal fluids which is very prospective target area for gold deposition. Rubicon geologists have noted that the intensity of alteration, the structural relationship of the ultramafic and mafic rocks, and the gold mineralization show a number of striking similarities to documented zones at Goldcorp's Red Lake Gold Mine.

The Upper Zone has returned gold assays which include 14.65 g Au/t over 0.80 m (hole NPZ-07-07), 9.90 g Au/t over 1.30 m (NPZ-07-02), 5.94 g Au/t over 2.15 m (NPZ-07-06) and 4.44 g Au/t over 1.30 m (NPZ-07-05). The Upper Zone is situated less than 120 m below surface, is developed within variably altered mafic volcanic rocks, characterized by the presence of intense biotite alteration, colloform/crustiform quartz-carbonate veining and varying amounts of sulphides including 5-10% arsenopyrite. A westerly dipping fault zone associated with the gold bearing zone has been observed in all of the North Peninsula Target drillholes. This fault may have represented a conduit for hydrothermal gold-bearing fluids. This style of the gold mineralization, alteration and their association with a prominent fault structure is very similar to the geological setting for the gold mineralization discovered at the Phoenix Zone (Island Zone) located just 1,500 m (4,921 ft) to the northeast.

# West Mine Target

This target is located west of the historical underground workings on the Property. Drillhole WMT-07-01 returned 42.99 g Au/t over a core length of 1.55 m from a fault zone containing visible gold. WMT-07-02, drilled 30 m (98 ft) to the south, intersected the same structure. However, it did not return any significant gold grades. Based on the gold mineralization observed to date and the moderate to strong alteration associated with this fault zone, this area continues to be a prospective target for follow up drilling.

# **KZ** Target

This target has been intersected by two drillholes numbered KZ-07-01 and KZ-07-02. The first hole returned 4.02 g/t over 3.90 m and K2-07-02 assayed 2.18 g Au/t over 12.89 m (including 9.60 g Au/t over 1.00 m). The gold mineralization within this zone is hosted by a package of intensely silicified and fuchsite altered ultramafic rocks. The KZ Target is located

in the vicinity of a north-trending regional-scale interpreted fault zone which is located around 800 m (2,625 ft) northeast and parallel to the North Peninsula Zone fault. The presence of a prominent fault zone in close proximity to gold mineralization, as observed at the North Peninsula Target and Phoenix Gold Zone, is considered significant.

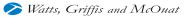
### **Deep Footwall Target**

Drillhole DF-07-01 returned 23.55 g Au/t over 1.00 m at a downhole depth of 1,322 m (4,337 ft) representing a vertical depth of 1,250 m (4,101 ft). This is the deepest gold intersection by any drillhole on the Phoenix Gold Property to date. Mineralization is hosted in a 15 m (49 ft) thick package of altered mafic volcanic rocks which occur within a sequence of highly deformed ultramafic rocks. The Deep Footwall Target was intersected at the eastern side of the property and is interpreted to dip westwards. The geological environment of the Deep Footwall contact is analogous to the Red Lake Gold Mine High Grade Zone, where ultramafic rocks overlie mafic volcanic rocks and act as a 'trap' for gold bearing fluids. The gold potential of this target area remains unexplored.

Tables 11 and 12 summarize the diamond drillhole locations and significant results.

2007 DIAMOND DRILLING COLLAR LOCATIONS										
Hole ID	Area	Northing	Easting	Elevation (m)	$Azimuth^{\circ}$	Dip°	Length (m)			
MF-07-197	Phoenix Zone	5665866	449061	363	090	-75	285			
KZ-07-01	KZ Target	5664745	448768	351	080	-80	551			
DF-07-01	Deep Footwall Target	5664860	449060	351	080	-77	1,443			
KZ-07-02	KZ Target	5663751	448088	351	080	-80	195			
MF-07-201	East Bay	5663746	448092	357	080	-75	1,415			
NPZ-07-01	North Peninsula Zone	5664433	448335	363	080	-70	984			
NPZ-07-02	North Peninsula Zone	5664433	448335	363	080	-62	528			
NPZ-07-03	North Peninsula Zone	5664433	448335	363	081	-53	372			
NPZ-07-04	North Peninsula Zone	5664433	448335	363	088	-77	588			
MF-07-206	East Bay	5663835	447793	369	135	-70	28			
WMT-07-01	East Bay	5663835	447793	369	130	-68	576			
WMT-07-02	East Bay	5663814	447772	366	132	-70	612			
NPZ-07-05	North Peninsula Zone	5664383	448312	360	082	-64	474			
NPZ-07-06	North Peninsula Zone	5664383	448312	360	081	-71	463			
NPZ-07-07	North Peninsula Zone	5664383	448312	360	087	-55	486			
MAC-07-01	MAC Target	5664625	448275	353	110	-70	566			
NPZ-07-08	North Peninsula Zone	5664429	448291	363	76.1	-78	362			
MF-07-215	East Bay	5664332	448304	365	090	-75	474			
MF-07-216	East Bay	5664257	448299	355	090	-67	396			
MF-07-217	East Bay	5664237	448156	360	090	-64	561			
MF-07-218	North Peninsula Zone	5664356	448232	360	080	-75	534			
MF-07-219A	North Peninsula Zone	5664256	447771	360	080	-72	12			
MF-07-219B	North Peninsula Zone	5664256	447771	360	080	-72	828			
MF-07-220	North Peninsula Zone	5664384	447900	410	080	-75	711			

TABLE 11.2007 DIAMOND DRILLING COLLAR LOCATIONS



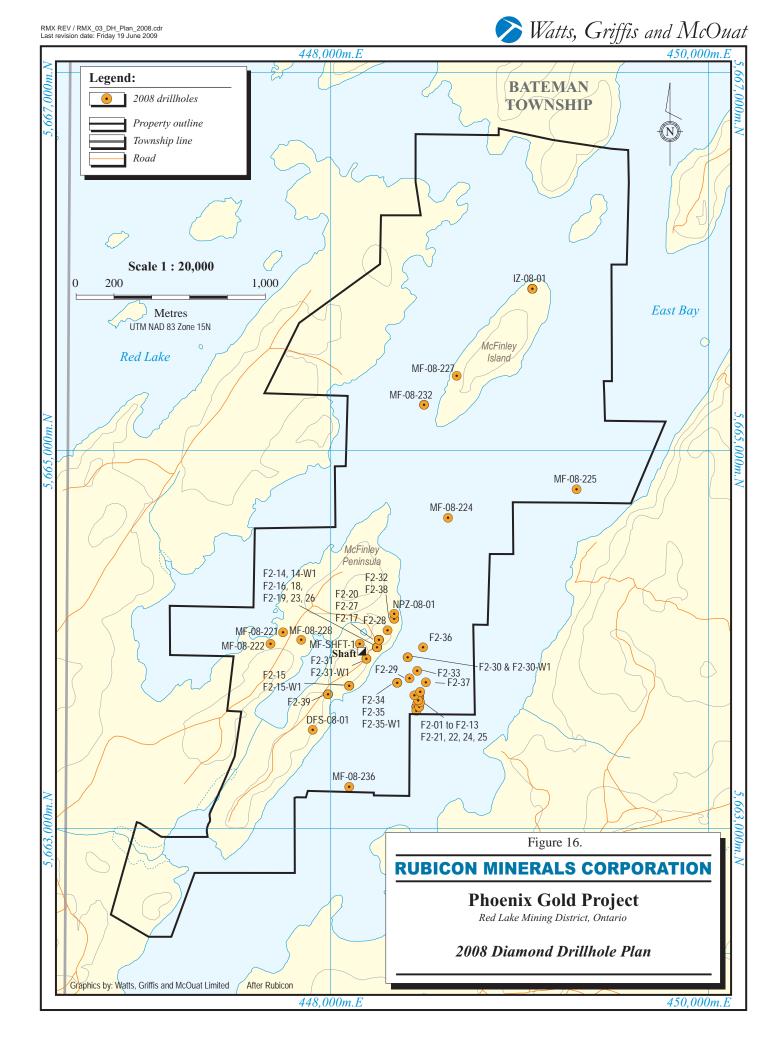
2007 DIAMOND DRILLING PROGRAM SIGNIFICANT ASSAYS									
Hole Number		From (m)	To (m)	Core Length (m)	Gold (g/t)				
NPZ-07-01		180.20	181.20	1.00	9.93				
		253.60	254.50	0.90	28.07				
		320.15	321.65	1.50	10.46				
	incl	320.15	320.65	0.50	25.60				
NPZ-07-02		97.70	99.00	1.30	9.90				
		309.33	310.62	1.29	5.40				
	incl	309.96	310.62	0.66	8.30				
NPZ-07-04		326.24	327.33	1.09	6.85				
NPZ-07-05		95.40	96.70	1.30	4.44				
		293.70	295.27	1.57	10.59				
	incl	294.35	295.27	0.92	16.90				
		340.35	341.35	1.00	34.14				
NPZ-07-06		97.70	99.85	2.15	5.94				
	incl	98.70	99.85	1.15	9.42				
		326.60	334.25	7.65	1.25				
NPZ-07-07		8.20	9.00	0.80	14.65				
		325.50	327.50	2.00	2.64				
NPZ-07-08		308.90	309.90	1.00	9.49				
WMT-07-01		87.90	89.45	1.55	42.99				
		121.00	122.00	1.00	8.70				
		455.70	459.70	4.00	1.58				
WMT-07-02		178.35	179.50	1.15	2.20				
		205.50	207.50	2.00	2.41				
KZ-07-01		80.9	84.8	3.90	4.02				
	incl	80.9	82.3	1.40	9.53				
		110.35	111.35	1.00	3.63				
KZ-07-02		126.61	139.5	12.89	2.18				
	incl	130.5	139.5	9.00	2.89				
	incl	130.5	131.5	1.00	9.60				
	and	136.5	139.5	3.00	4.40				
	incl	138.5	139.5	1.00	7.29				
DF-07-01		1322.4	1323.4	1.00	23.55				

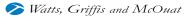
TABLE 12. 2007 DIAMOND DBH I INC PROCRAM SIGNIFICANT ASSAVS

### 11.4 2008 DIAMOND DRILLING PROGRAM

The initial diamond drilling program for 2008 was designed to follow-up on various target areas. The F2 Zone was discovered early in the first quarter of 2008, and with the continued success of multiple drillholes in the F2 Zone, a decision was made to focus the remaining meterage and funds on this new target area. The Company drilled a total of 46,665.5 m (153,110 ft) on the Phoenix Gold Project in 2008, most of which was focused on the F2 Zone.

The additional holes drilled during the 2008 program were located to test new target areas and to further explore the gold potential of the Phoenix Zone, NPZ targets, KZ Zone, West Mine target and Deep Footwall (South and East) targets (Figure 16). The drillhole locations are summarized on Table 13. Although the program did have some minor success, no significant results were returned in the other zones.





2008 DIAMOND DRILLING COLLAR LOCATIONS (Excluding the F2 Zone)									
Hole ID	Area	Northing	Easting	Elevation	Azimuth°	Dip°	Length (m)		
		-	_	(m)		-			
MF-08-221	West Mine Target	5664038	447734	395	135	-75	714		
MF-08-222	West Mine Target	5663980	447669	393	110	-65	666		
MF-08-224	Phoenix Zone	5664649	448615	351	80	-70	513		
MF-08-225	Deep Footwall East	5664800	449300	351	80	-75	1,020		
MF-08-227	Titan Target	5665402	448657	394	236	-55	825		
MF-08-228	McFinley Target	5663996	447832	387	137	-85	513		
MF-08-232	Titan Target	5665249	448483	356	237	-58	87		
MF-08-233	Titan Target	5665249	448483	356	237	-58	773		
MF-08-236	Deep Footwall South	5663215	448085	359	80	-75	867		
DFS-08-01	Deep Footwall South	5663516	447890	368	110	-65	1,275		
IZ-08-01	McFinley Island	5665866	449061	355	120	-65	717		
MF-SHFT-1	Mine Shaft	5663979	448142	372	136	-85	593		
NPZ-08-01	North Peninsula Zone	5664138	448329	373	96	-59	950		

TABLE 13. 08 DIAMOND DRILLING COLLAR LOCATIONS (Excluding the F2 Zond

### F2 Zone Discovery

The initial drilling was targeted to follow-up on the MAC-3 area of previous drilling that returned best gold intersections of 17.75 g Au/t over a core length of 0.62 m and 65.8 g Au/t over a core length of 0.67 m (drillhole MF-03-25), as well as to test for northwest-trending structures that may be gold bearing (Rigg & Hogg, 2003). After the initial encouraging assay results from the first several holes, the Company decided to focus the remaining program (Table 14) on the new discovery, named the 'F2 Zone' due to its spatial relationship with a major second generation fold structure called the F2.

Drilling continued with two diamond drills on the ice in East Bay until April 2008. However, the choice of drill collar locations were limited due to the ice conditions During breakup, drilling continued on land to further explore the northwest plunging extension of the F2 Zone. In the summer, a barge with hydraulic legs was contracted allowing the drill to be moved anywhere in East Bay for drillhole set-ups. This method has been the most favourable method to explore the zone to date. A second machine continued to drill step-out holes from land and to test other regional targets on the Property. A second barge was secured late in the third quarter and both drills remained on-site until the freeze-up when they were re-located back on land. By the end of 2008, the F2 Zone had been defined to a vertical depth of over 1,101 m 3,600 ft) for a strike length of 360 m (1,181 ft). The significant assay results for the F2 drilling program are tabulated in Appendix 2.

		<b>ZONE DIAMO</b>					
Hole ID	Area	Northing	Easting	Elevation (m)	Azimuth°	Dip°	Length (m)
F2-01	F2 Zone	5663642	448446	351	070	-75	1,182
F2-02	F2 Zone	5663642	448446	351	080	-81	492
F2-03	F2 Zone	5663642	448446	351	070	-85	484
F2-04	F2 Zone	5663621	448443	351	075	-84	645
F2-05	F2 Zone	5663662	448449	351	070	-85	723
F2-06	F2 Zone	5663638	448462	351	110	-86	588
F2-07	F2 Zone	5663689	448459	351	142	-81	437
F2-08	F2 Zone	5663689	448459	351	130	-80	480
F2-09	F2 Zone	5663638	448462	351	109	-82	540
F2-10	F2 Zone	5663689	448459	351	133	-75	540
F2-11	F2 Zone	5663712	448459	351	133	-80	589.
F2-12	F2 Zone	5663689	448459	351	133	-68	380
F2-13	F2 Zone	5663712	448459	351	130	-70	444
F2-14	F2 Zone	5663960	448233	369	139	-52	730
F2-14-W1	F2 Zone	5663960	448233	369	139	-52	792
F2-15	F2 Zone	5663755	448088	365	105	-52	710
F2-15-W1	F2 Zone	5663755	448088	365	105	-52	889
F2-16	F2 Zone	5663960	448233	369	127	-50	849
F2-17	F2 Zone	5664000	448245	374	135	-45	690
F2-17-W1	F2 Zone	5664000	448245	374	135	-45	526.5
F2-17-W2	F2 Zone	5664000	448245	374	135	-45	486
F2-17-W3	F2 Zone	5664000	448245	374	145	-45	658
F2-18	F2 Zone	5663960	448233	369	127	-56	746
F2-19	F2 Zone	5663960	448233	369	130	-45	726
F2-20	F2 Zone	5664000	448245	374	128	-65	939
F2-21	F2 Zone	5663664	448466	351	140	-83	732
F2-22	F2 Zone	5663674	448455	351	135	-82	747
F2-23	F2 Zone	5663960	448233	369	130	-65	1,150
F2-24	F2 Zone	5663699	448433	351	135	-82	771
F2-25	F2 Zone	5663724	448465	351	135	-83	816
F2-26	F2 Zone	5663960	448233	369	145	-45	667
F2-27	F2 Zone	5664000	448245	374	124	-65	564
F2-27-W1	F2 Zone	5664000	448245	374	124	-65	537
F2-28	F2 Zone	5664049	448289	369	135	-65	1,200
F2-29	F2 Zone	5663792	448406	351	137	-82	900
F2-30	F2 Zone	5663905	448397	351	135	-82	1,251
F2-30-W1	F2 Zone	5663905	448397	351	135	-82	1,155
F2-31	F2 Zone	5663894	448180	374	135	-70	666
F2-31-W1	F2 Zone	5663894	448180	374	135	-70	1,117
F2-32	F2 Zone	5664109	448325	364	125	-65	895
F2-33	F2 Zone	5663837	448450	351	135	-82	1,107
F2-34	F2 Zone	5663769	448340	351	130	-82	204
F2-35	F2 Zone	5663769	448340	351	122	-83	1,212
F2-35-W1	F2 Zone	5663769	448340	351	135	-82	1,095
F2-36	F2 Zone	5663960	448479	351	135	-80	1,107
F2-37	F2 Zone	5663775	448494	351	130	-80	864
F2-38	F2 Zone	5664109	448325	361	125	-70	1,041
F2-39	F2 Zone	5663720	448029	372	130	-65	1,086
1 4 37		5005120	++0027	512	150	05	1,000

TABLE 14.2008 F2 ZONE DIAMOND DRILLING COLLAR LOCATIONS

Drilling in 2008 intersected both bonanza-style high grade gold zones as well as wide gold zones. Examples of high-grade gold intercepts include 891.1 g/t over a core length of 2.0 m (F2-29), 361.7 g/t over a core length of 1.8 m (F2-19) and 353.8 g/t over a core length of 0.9 m (F2-09). Broad zones of gold mineralization include 24.4 g/t over a core intersection length of 17.0 m (F2-07), 42.4 g/t over a core length of 11.0 m (F2-08), and 28.7 g/t over a core length of 15.5 m (F2-09).

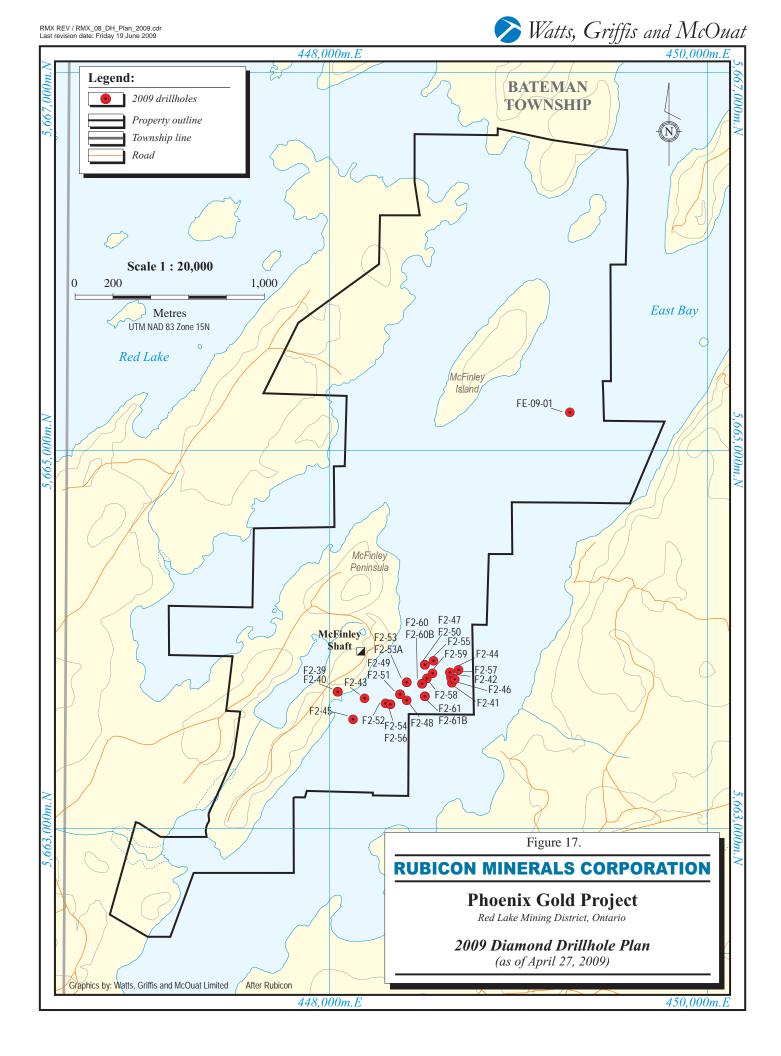
The last hole drilled in 2008 (F2-39), also intersected a bonanza high-grade gold intercept of 3151.1 g/t over a core length of 0.5 m in a new target area approximately 310 m (1,020 ft) west-southwest of the core of the F2 Zone. The success of step-out drilling confirms the presence of high-grade gold mineralization over a wide area which may well extend beyond the current area of focused drilling. Further drilling by Rubicon to test these target areas is currently ongoing.

# 11.5 2009 DIAMOND DRILLING PROGRAM (F2 ZONE)

In early January, drilling on the F2 Zone resumed. As of April 27, 2009, the Company had drilled a total of 15,071.2 m (49,449 ft) in 27 drillholes; all focused on extending and infilling the F2 Zone (Figure 17 and Table 15).

2009 F2 ZONE DIAMOND DRILLING COLLAR LOCATIONS									
Hole ID	Area	Northing	Easting	Elevation	Azimuth	Dip	Length		
F2-39	F2- Zone	5663719	448028	361	130	-65	144		
F2-40	F2- Zone	5663719	448028	361	130	-65	1,083		
F2-41	F2- Zone	5663770	448640	350	225	-66	585		
F2-42	F2- Zone	5663799	448632	350	225	-65	772		
F2-43	F2- Zone	5663688	448172	351	130	-75	1,164		
F2-44	F2- Zone	5663841	448674	350	215	-65	793		
F2-45	F2- Zone	5663573	448114	350	135	-65	936		
F2-46	F2- Zone	5663786	448655	350	13	-65	630		
F2-47	F2- Zone	5663863	448493	350	135	-65	519		
F2-48	F2- Zone	5663675	448400	350	135	-65	198		
F2-49	F2- Zone	5663708	448363	350	135	-65	330		
F2-50	F2- Zone	5663863	448493	350	135	-75	675		
F2-51	F2- Zone	5663708	448363	351	133	-63	530		
F2-52	F2- Zone	5663663	448285	351	135	-79	1,059		
F2-53	F2- Zone	5663773	448400	351	135	-65	302		
F2-53a	F2- Zone	5663773	448400	351	135	-65	179		
F2-54	F2- Zone	5663655	448311	351	135	-65	426		
F2-55	F2- Zone	5663885	448543	351	127	-63.2	605		
F2-56	F2- Zone	5663655	448311	351	135	-75	564		
F2-57	F2- Zone	5663822	448626	350	230	-65	744		
F2-58	F2- Zone	5663821	448535	350	135	-65	273		
F2-59	F2- Zone	5663793	448507	351	135	-65	270		
F2-60	F2- Zone	5663765	448478	350	135	-65	276		
F2-60B	F2- Zone	5663765	448478	350	135	-75	360		
F2-61	F2- Zone	5663694	448493	350	135	-65	264		
F2-61B	F2- Zone	5663694	448493	350	135	-80	324		
FE-09-01	Footwall East	5665209	449267	351	135	-75	1,065		

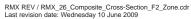
TABLE 15. 2009 F2 ZONE DIAMOND DRILLING COLLAR LOCATIONS



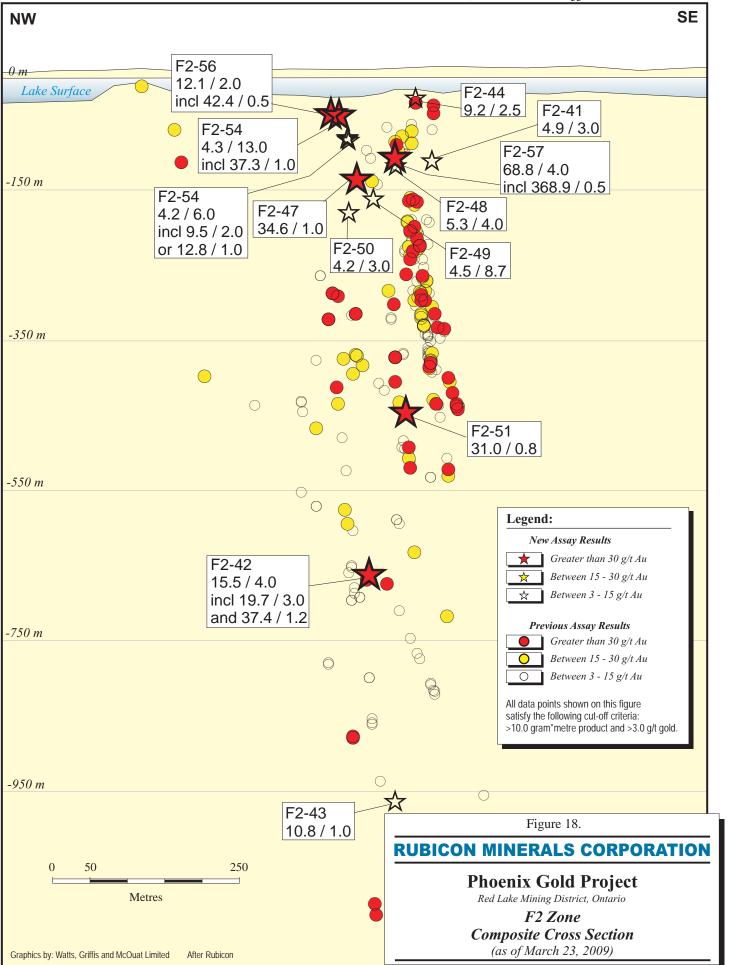
Significant results received to date are summarized in Appendix 2. Drilling is on-going and complete assays are still pending. All reported intercepts are core lengths and true widths are currently unknown. Reported gold values are uncut. Vein orientations are generally observed to be at moderate to high angle to the core axis, but further drilling will be required to determine true thicknesses.

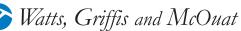
High-grade and bonanza-grade gold intercepts have been continually intercepted and this zone has now been defined to strike northeast for a length of approximately 700 m (2,300 ft) to a vertical depth of 1,101 m (3,600 ft). The zone remains open along strike and at depth (Figures 18 and 19). The 2009 assay results to date continue to show the trend of high-grade intercepts and broader gold zones. Examples of high-grade gold intersections include 173.7 g/t over a core length of 2.5 m (F2-44), 322.3 g/t over a core length of 1.0 m (F2-52) and 368.9 g/t over a core length of 0.5 m (F2-57); broader intercepts includes 5.1 g/t over a core length of 48.0 m (F2-41), 4.1 g/t over core length of 25.6 m (F2-56) and 3.6 g/t over a core length of 49.0 m (F2-61B). One reconnaissance drillhole (FE-09-01), located approximately 1.4 kilometres to the northeast of the F2 Zone, was drilled to test the Footwall East target (see Figure 17). This hole intersected 12.8 g/t over a core length of 1.0 m and 3.6 g/t over a core length of 3.0 m demonstrating the potential for discovery of new zones well beyond the currently defined limits of the F2 gold system.

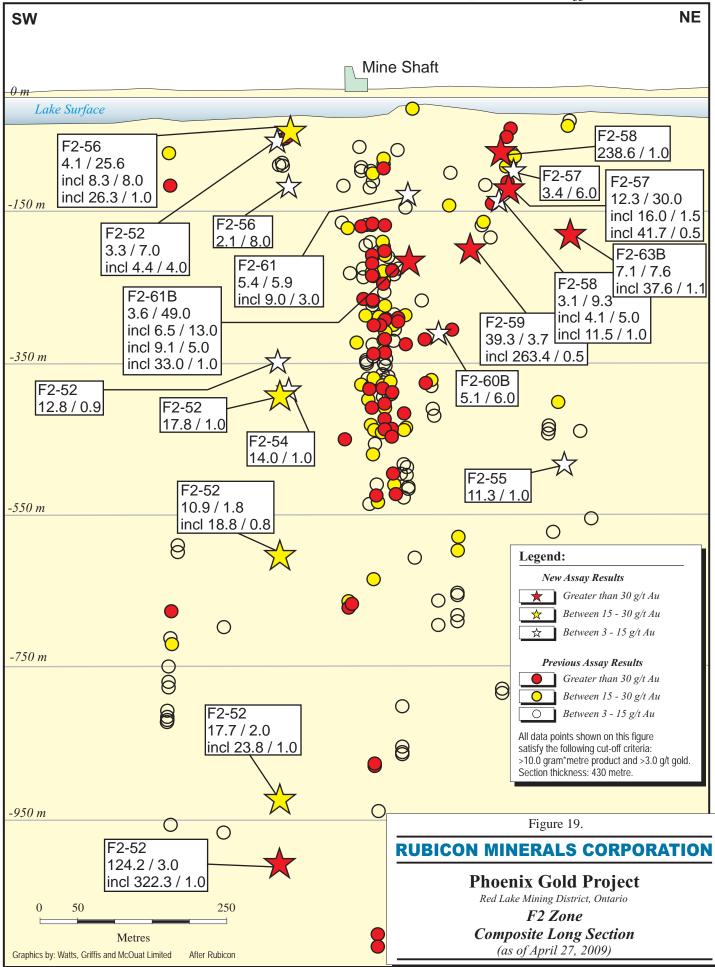
Mineralization within the F2 Zone occurs proximally to the regional unconformity in the Red Lake camp within the Archean Balmer Assemblage mafic-ultramafic rocks. Gold in the F2 Zone is best developed within these mafic volcanics as multiple and complex quartz veins, breccias and silica replacement zones that typically contain visible gold and trace to 3% sulphides. Results to date indicate that high-grade gold lenses or shoots are developed within brittle structure within thicker zones of mineralization. The overall mineralized package appears to plunge steeply to the northwest. The F2 Zone is an early stage exploration drilling project with significantly more drilling required to obtain a better understanding of gold distribution, geometry and controls on mineralization. The current interpretations are preliminary in nature and relationships between the various styles of mineralization are complex. It is Rubicon's opinion that the best way to further explore the zone is from underground utilizing the existing 130 m (428 ft) exploration shaft and workings at the former mine located just 450 m (1,476 ft) northwest of the F2 Zone. Rubicon has currently finished dewatering the shaft and is now completing the rehabilitation Phase of the shaft. This will enable year-round access for diamond drilling without some of the difficulties of targeting the F2 Zone from surface, especially from the water.











## 12. SAMPLING METHOD AND APPROACH

Information regarding the sampling methodology and approach was obtained by Mr. Thomas through discussions with Rubicon geological staff and from previous geological reports and papers provided by the Company.

All assay results reported in this document have been obtained from previous reports and from reports from previous operators that have worked on the Property. The practice of reporting exploration results to the public has changed dramatically over the last decade. In the past, it was largely up to the company as to what results they wished to report to the public. For example, an acceptable practice was to only report the best assay results. Many did not choose to disclose their sampling techniques, the name of the laboratory to which samples were dispatched or include copies of the original assay report certificates in their final report. That being said, Mr. Thomas has no reason or evidence to question the validity of the data presented in the historical reports. It is the authors' opinion that all sampling methods disclosed conform to generally accepted Canadian mining industry practice.

All samples (including trench and surface samples) collected by Rubicon during drill programs on the Phoenix Gold Project were subjected to a quality control procedure that ensured a best practice in the handling, sampling, analysis and storage of the drill core. Sample intervals were selected on a geological basis and most typically varied between 0.5 and 1.0 m (1.6 to 3.2 ft) in length and very rarely were less than or greater than these values. Wide areas of geological interest were commonly sampled at standard intervals of either 0.5 or 1.0 m (1.6 to 3.2 ft) depending on the length of the interval and the particular geological feature of interest.

The following protocol outlines the procedures applied to the sampling of all drill core on the Phoenix Gold Project.

#### General:

- Standardized sample booklets are utilized at all times. All booklets are marked up, prior to use, with the Standards, Blanks and Duplicates clearly defined;
- Standards are entered every 25<sup>th</sup> sample. Blanks will be entered into the sample flow, following directly after the Standards;
- Duplicate samples (1/4 core), are entered into the sample flow, at the discretion of the geologist;

- Samples are entered into the digital logging database with the "From-To" and geochemical analysis that will be applied. Unless otherwise stated, all samples are assayed for gold by fire assay, and those with visible gold and their bracketing samples are analyzed for gold by fire assay with a gravimetric finish;
- The saw blade is routinely cleaned between samples when visible gold is noted during logging and sampling of the drill core; and
- Verification samples (check samples, one in every 20 samples) to be sent to an independent ISO qualified laboratory has been initiated and implemented as a standard procedure by Rubicon.

# **Marking Core:**

- The beginning of a sample is clearly marked with a grease pencil, by a line perpendicular to the core, with an arrow clearly showing the direction in which the sample is to be taken. This format is reproduced for the finishing line of the sample. A line is traced along the long axis of the core, defining the 'Cutting Line' that the core cutter will follow; and
- The sample tag is then placed (stapled to the box) at the beginning of the sample.

## **Double-Check:**

• It is the geologists' responsibility to double-check on the samples once they are cut and verify that all of the samples collected are properly labelled, with the sample tags inside of the sample bags.

Trench and field rock sampling, as well as the historical surface and underground core, when sampled, were processed according to the protocol described in the "General" portion of this section above.

## 13. SAMPLE PREPARATION, ANALYSIS AND SECURITY

Information regarding sample preparation, analyses and security was obtained through discussions held with Rubicon geological staff and information provided from geological reports provided by the company. Information was not readily available regarding the sample preparation, analyses and security of samples by previous operators on the property. It is, however, Mr. Thomas' opinion that the sample preparation, security and analytical procedures used conformed to generally accepted Canadian mining industry practice.

The core shack and mine site have 24 hour on-site security including personnel and video surveillance. Samples are moved directly from the core shack to the cutting shack, are cut and shipped with individual Zip tied sample bags within a large tag locked rice bag. Samples are delivered directly from the mine site to the lab in Red Lake by Rubicon staff.

Blank and Standards assay protocols were developed with the input from Dr. Barry Smee, Ph.D., P.Geo., Independent Geochemist, in consultation with Rubicon personnel and J.J. Watkins (Q.P. 2000-February 2003). Blank samples (consisting of commercially available broken tile and/or locally quarried quartz) were inserted into the sample stream once every 25 samples to provide a check on assay lab data quality in drill core sampling. Random gold Standards were inserted into the sample stream once every 25 samples to provide a check on assay lab data quality in drill core sampling. Random gold Standards were inserted into the sample stream once every 25 samples to provide a check on assay lab data quality. Gold Standards were prepared and certified by CDN Resources Laboratories Ltd., Delta, B.C. Rubicon uses 13 different Certified Standards, ranging in grade from 0.123 g/t to 5.085 g Au/t.

Samples were reanalyzed if any aberrations in the data were observed. A more detailed description of the Standards, Blanks and Duplicates follows in Section 14 of this report.

Rubicon has initiated an assay check sample program where 5% of the sample pulps are currently being collected and sent to an independent ISO certified laboratory for assay recheck. This re-sampling program will involve 5% of the all 2008 and 2009 samples taken and this protocol will be incorporated to the QA/QC program on an ongoing basis. Standards and Blanks are inserted to provide quality control on the re-assays samples. Results from this sample check assay program will be reviewed for accuracy and tracked in an action log as part of the standard QA/QC procedures. Failures will be addressed and re-assayed as required.

The logged and sampled drill core is stored at McFinley Minesite in a secured area (building) near the core shack. There is only one road into the mine site that has a gate and there is

24-hour security on site. All site visitors are asked to sign in at the office building near the mine. The pulps and rejects from the previous 314 drillholes are stored on the mine site for long term storage and for future auditing purposes. A total of 48,154 samples have been collected; 34,169 samples collected since 2005.

Samples of drill core were cut by a diamond blade rock saw, with half of the cut core placed in individual sealed polyurethane bags (with non-tamper ties) and half placed back in the original core box. Samples were prepared by outside contract labourers trained and supervised by Rubicon personnel, at a secure building with locked doors on the Phoenix Gold Project site.

All samples were shipped by licensed independent transport companies in sealed woven plastic bags (with individually numbered, non-tamper ties) to the laboratory in Thunder Bay, Ontario, or personally dropped off at the laboratory in Red Lake by Rubicon personnel. Notification of receipt of sample shipments by the laboratory is confirmed by electronic mail. No problems were encountered in transport during the Rubicon exploration programs.

Samples collected before 2008 were sent to either ALS Chemex Laboratories, Vancouver, B.C or AccurAssay, Thunder Bay, ON. ALS Chemex laboratories operate according to the guidelines set out in ISO/IEC Guide 25 – "General requirements for the competence of calibration and testing laboratories". In addition, Dr. Barry Smee, Consultant, audited the sample preparation facilities of ALS-Chemex laboratories in Thunder Bay, Ontario on behalf of Rubicon. Recommendations from his audit were implemented. At AccurAssays, many of the analyses are accredited by the Standards Council of Canada rigorous ISO 17025 Standard. In 2008, all samples were sent to SGS Mineral in Red Lake, ON. SGS also operate according to the guidelines set out in ISO/IEC Guide 25.

In both ALS Chemex and AccurAssay laboratories, gold was determined by FA fusion with AAS or, by metallic FA on samples that returned elevated gold values by standard FA, contained visible gold, or on visual inspection were considered likely to be well mineralized. In cases where multiple standard Au FA analyses were completed on an individual sample, gold values produced by metallic FA are deemed to supersede FA gold values.

During 2008, assays were conducted by SGS Minerals Services ("**SGS Minerals**") Red Lake, Ontario. If visible gold was noted, the sample and the bracketing samples were analyzed using standard FA on a 30 g (1 assay ton) sample with a gravimetric finish. Standards, Blanks and check assays were included at regular intervals in each sample batch.

Any samples that returned values greater than 10 g Au/t have a second check FA assay with a gravimetric finish. This is done by re-homogenizing the reject and splitting, pulverizing and assaying this representative of the sample. All check assays are recorded by Rubicon for internal statistical analysis for potential variance above the acceptable 30% range. The same procedure applies for samples containing visible gold that are returned without a significant gold value (<1 g/t).

Gold values produced by metallic FA are deemed to supersede gold values produced by standard FA owing to the larger size of sample analyzed and better reproducibility in samples with coarse gold. Rubicon has recently initiated Fire Assay and Metallic Screening on selected samples as a standard procedure. Rubicon has also initiated metallurgical testing utilizing sample rejects from the mineralised zone. Results from the metallurgical testing will be compared to the FA and Fire Assay with Metallic Screen results to determine which method is most suited to the mineralization present on the project.

## **13.1 SAMPLE PREPARATION**

Individual samples typically ranged from 0.5 kg to 2 kg in weight. The samples are dried prior to any sample preparation at the laboratory. For ALS Chemex, AccurAssay, and SGS Minerals, the entire sample is crushed to 2 mm in an oscillating steel jaw crusher. In the case of ALS Chemex, either an approximate 250g split, or, in the case of 'metallics' FA, the whole sample is pulverized in a chrome steel ring mill. The coarse reject is bagged and stored. Pulps were shipped to ALS Chemex in North Vancouver, BC for analysis. At AccurAssay (Thunder Bay, Ontario) the samples are crushed to 90% -8 mesh, split into 250 to 450 g subsamples using a Jones Riffle Splitter and then pulverized to 90% -150 mesh using a ring and pulverized in a shatter box using a steel puck. Prior to analysis, samples are homogenized. Silica cleaning between each sample is also performed to prevent any cross-contamination. A similar process occurs at SGS Minerals. However, all samples are sent for fire assay and pulps remain on-site. The SGS sample preparation and analytical laboratory facility in Red Lake was visited by Mr. Thomas and found to be clean, well organized and professionally managed.

#### **13.2** ASSAY PROCEDURES

#### 13.2.1 ALS CHEMEX LABORATORIES

Gold was determined by FA fusion of a 50 g sub-sample with an AAS finish. The 'Au - Metallics' assay, also known as screen fire assaying, required 100% pulverization of the sample and screening of the sample through a 150 mesh (100 micron). Material remaining on the screen is retained and analyzed in its entirety by FA fusion followed by cupellation and a gravimetric finish. The -150 mesh (pass) fraction is homogenized and two 50 g sub-samples are analyzed by standard FA procedures. The gold values for both +150 and -150 mesh fractions are reported together with the weight of each fraction as well as the calculated total gold content of the sample. In this way one can evaluate the magnitude of the coarse gold effect as demonstrated by the levels of the +150 mesh material.

Representative samples for each geological rock unit and generally at least one sample every 20 m was selected for ICP analysis. The elements Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Tl, Ti, U, V, W, and Zn were analyzed by Inductively-Coupled Plasma ("ICP") Atomic Emission Spectroscopy, following multi-acid digestion in nitric aqua regia. The elements Cu, Pb, and Zn were determined by ore grade assay for samples that returned values greater than 10,000 ppm by ICP analysis. Only a select few samples were sent for whole rock analysis where major elements (reported as oxides) and Ba, Rb, Sr, Nb, Zr, and Y were determined by X-Ray Fluorescence Spectrometry (XRF).

Results were reported electronically to the project site in Red Lake with Assay Certificates filed and catalogued at Rubicon's Head Office in Vancouver. These results are currently being entered by a database manager into an Access database, which is then used by the Rubicon geologists for various geological software packages.

#### 13.2.2 ACCURASSAY LABORATORIES

Gold was determined by FA using a 30 g fire assay charge. This procedure uses lead collection with a silver inquart. The beads are then digested and an AA or ICP finish is used. All gold assays that are greater than 10 g/t are automatically re-assayed by FA with a gravimetric finish for better accuracy and reproducibility. A Sartorius micro-balance with a sensitivity of 1 microgram (six decimal places) giving a 5 g/t (5 ppb) detection limit is used.

Screen metallics analysis includes the crushing of the entire sample to 90% -10 mesh and using a Jones Riffle Splitter to split the sample to a 1 kg sub-sample. The entire sub-sample is

then pulverized and subsequently sieved through a series of meshes (80, 150, 200, 230, 400 mesh). Each fraction is then assayed for gold (maximum 50 g). Results are reported as a calculated weighted average of gold in the entire sample.

The elements Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Tl, Ti, U, V, W, and Zn are analyzed by ICP following multi-acid digestion in nitric aqua regia.

As with the ALS Chemex results, they were reported electronically to the project site in Red Lake with Assay Certificates filed and catalogued at Rubicon's Head Office in Vancouver. These results are currently being entered by a database manager into an Access database, which is then used by the Rubicon geologists for various geological software packages.

## 13.2.3 SGS MINERAL SERVICES

Samples are analyzed for gold using the FA process on 30 g of sample. Typically the samples are mixed with fluxing agents including lead oxide, and fused at high temperature. The lead oxide is reduced to lead, which collects the precious metals. When the fused mixture is cooled, the lead remains at the bottom, while a glass-like slag remains at the top. The precious metals are separated from the lead in a secondary procedure called cupellation. The final technique used to determine the gold and other precious metals contents of the residue is AAS. If the sample contains greater than 10 g Au/t, it is sent for a gravimetric finish.

Select sample pulps that require multi-element analysis are sent to the SGS Laboratory in Toronto, Ontario. Here, they undergo a multi-acid digestion. This is a combination of HCl (hydrochloric acid), HNO<sub>3</sub> (nitric acid), HF (hydrofluoric acid), HClO<sub>4</sub> (perchloric acid). Because hydrofluoric acid dissolves silicate minerals, these digestions are often referred to as "near-total digestions". However, there can be a loss of volatiles (e.g. B, As, Pb, Ge, Sb) during the digestion process. Multi-acid (four acid) digestion is a very effective dissolution procedure for a large number of mineral species and is suitable for a wide range of elements.

Results were reported electronically to the project site in Red Lake with Assay Certificates filed and catalogued at Rubicon's Head Office in Vancouver and added to the master database in Access stored on the Vancouver and Red Lake servers.

Assay results from the historical core, when sampled, are taken as indicative since the drilling of these holes was not conducted under Rubicon supervision.

## **14. DATA VERIFICATION**

Rubicon's QA/QC program that is being used for the Phoenix Project is in keeping with industry Best Practices. Standards, Blanks and Duplicates are plotted and reviewed internally regarding a pass-fail analysis. Any failures are identified and addressed prior to data entry to the master database.

The 2006 trenching program and 2006-2009 diamond drill programs discussed in this report were undertaken by experienced and competent Rubicon geologists under the supervision of Ian Russell, Exploration Manager for the Phoenix Gold Project and Terry Bursey, P.Geo., Regional Manager for Rubicon's Red Lake Projects. Mr. Thomas completed a site visit on November 18-19, 2008 to review drill core from this period. As this visit was carried out in the winter of 2008, historic drill collars could not be verified due to snow cover. Samples were collected from the F2 drilling for verification assaying by Mr. Thomas and there is every reason to believe that work completed by Rubicon was done in a professional manner and met, or exceeded, generally accepted industry standards for quality assurance ("QA") and quality control ("QC").

Mr. Thomas inspected core from approximately 25 drillholes and collected 23 independent core samples to verify the presence of gold mineralization in previously assayed drill core sections from Rubicon's drill programs. Each core sample was quarter split using a rock saw. The assay results are presented on Table 16. Variability (positive and negative) exists in the gold assay results between the Rubicon samples and check sampling. However, this is considered normal and expected given the documented nugget-like nature of the gold mineralization and the reduced sample size (1/4 core versus 1/2 core) of the check core samples. The nugget-like nature of mineralization in the samples is most notable in check sample CRL12620 that originally assayed 811,405 ppb Au (81.14 g Au/t) but only returned 8,460 ppb Au (0.85 g Au/t). There is both positive and negative variation which is not uncommon in most gold deposits. Visible gold was observed in the quarter core sampled for the assay re-check. A second sample showing a coarse gold problem is sample CRL12610 that returned a gold assay of 16,457 ppb Au by AAS analysis, but only returned 7,530 ppb Au by gravimetric analysis for the re-check assaying.

INDEPENDENT VERIFICATION ANALYSIS								
Check	Original	Description	Hole ID	From	То	Original Assay	Check	
Sample ID	Sample ID	_		(m)	(m)	(Au ppb)	(Au ppb)	
CRL12605	CRL14736	Quartered Core	F2-01	237.0	238.0	61509	7550	
CRL12606	CRL14618	Quartered Core	F2-01	74.5	75.5	1410	346	
CRL12607	CRL15498	Quartered Core	F2-02	374.0	375.0	5080	2060	
CRL12608	CRL16045	Quartered Core	F2-03	267.9	268.9	283200	124500	
CRL12609	CRL16647	Quartered Core	F2-06	172.0	172.8	48960	31300	
CRL12610	CRL19089	Quartered Core	F2-07	340.0	341.0	16457	7530	
CRL12611	CRL19142	Quartered Core	F2-07	387.0	387.5	52389	24800	
CRL12612	CRL19320	Quartered Core	F2-08	295.0	296.0	9100	12350	
CRL12613	CRL20336	Quartered Core	F2-09	446.6	447.1	44571	74600	
CRL12614	CRL20354	Quartered Core	F2-09	455.0	455.5	5220	18250	
CRL12615	CRL19662	Quartered Core	F2-10	328.0	328.5	48240	1395	
CRL12616	CRL21329	Quartered Core	F2-13	240.4	241.4	3920	1435	
CRL12617	CRL22279	Quartered Core	F2-15	506.0	507.0	1250	637	
CRL12618	CRL36130	Quartered Core	F2-15-W1	532.0	533.0	19063	11350	
CRL12619	CRL21422	Quartered Core	F2-17-W3	451.5	452.0	70354	1290	
CRL12620	CRL37267	Quartered Core	F2-19	464.2	465.0	811405	8460	
CRL12621	CRL34977	Quartered Core	F2-21	539.1	540.0	28320	35900	
CRL12622	CRL34554	Quartered Core	F2-21	171.5	172.0	7886	6710	
CRL12623	CRL34558	Quartered Core	F2-21	174.0	175.0	3840	4480	
CRL12624	CRL39407	Quartered Core	F2-29	421.5	422.0	109749	8280	
CRL12625	Standard	Acceptable				n/a	1760	
CRL12626	Blank	Acceptable				n/a	33	
CRL12627	CRL32224	Quartered Core	F2-30-W1	795.9	797.0	11486	57800	
CRL12628	CRL30131	Quartered Core	F2-33	689.0	689.5	9051	9540	
CRL12629	CRL19327	Quartered Core	F2-08	300.0	301.0	34766	26100	

TABLE 16. INDEPENDENT VERIFICATION ANALYSIS

Considering the high grades that have been encountered in the 2008-2009 drilling of the F2 Zone, along with the fact that significant visible gold has been noted, the author recommends further investigation of this variability. The objective would be to establish a protocol that reduces the variability as much as possible. This work will help in addressing grade cutting procedures in any future resource estimates.

The following is a description of the various verification samples that Rubicon incorporates into its QA/QC program:

#### **Standard Samples**

Rubicon uses 13 different Certified Standards, ranging in grade from 0.123 g/t to 5.085 g Au/t for a total of 781 insertions. Each Standard has been compiled in spreadsheets and plotted along with the round-robin data and the failure limits clearly shown on the Shewhart charts. Standards are failed if they fall more than three Standard Deviations (3SD) from the certified Mean. Of the 781 Standards, 50 failed on the low side and 3 failed on the high side, of which 15 sample intervals were flagged for re-assay. Of these, only 2 intervals were high side failures and it is anticipated that these failures will not return significantly different results than that originally provided by the lab.

It appears that SGS in Red Lake has an average 6% low bias for most of the Standards. There could be several reasons for this bias, which is not uncommon. Some changes to the laboratory protocol are being implemented by the laboratory manager which should address this bias.

Rubicon has initiated inserting higher grade Standards to assist verifying the labs performance on higher grade samples. Also, a program of check assaying of 5% of the drill core samples at a second laboratory is in progress, and will include the insertion of a full complement of QC material.

## **Blank Samples**

A total of 806 coarse Blank samples were submitted to monitor contamination and were given a Warning Limit of 55 ppb Au, based upon all the data. Field Blanks have been compiled in a chart along with the established Warning Limit, above which results are examined to determine the impact of the Blanks on the surrounding samples. Of the 806 Blanks, only 17 returned values greater than 55 ppb Au, with one returning a gold content above 200 ppb (236 ppb). Although Rubicon does not consider this variation to be significant, a new Blank has been sourced and verification analysis will be carried out prior to implementing the new Blank (analysis will be run on 50 samples, with 25 samples sent to 2 separate labs).

#### **Duplicate Samples**

The 894 pulp Duplicate pairs have been collected and reviewed and merged with the gravimetric Duplicates to form a complete pulp Duplicate database. Several pairs that were listed at 10,000 ppb were removed, as this is the limit of the instrument system and the samples were probably completed by gravimetric analysis. A quick relative absolute difference calculation indicates that the lab's pulp precision to be at between 10 and 20%. This is fairly high for pulps, but may be a reflection on the style of mineralization. The preparation Duplicates have also been compiled and have a combined precision of approximately 30%. The pulp percent precision should be reduced somewhat by performing a 50 g Fire Assay, rather than a 30 g Fire Assay, and the precision for the preparation Duplicate (splitter error) can be reduced by crushing to 85% -2 mm and performing a homogenization step before taking the final split for pulverizing. Rubicon has implemented these changes for all future analyses.

# Data Entry Errors

Data entry errors were recognized regarding Standard sample inputs to the database and in the Blank sample database inputs. Of the combined total 1,587 Standard and Blank database entries, 15 entry errors were present. These errors have been resolved and are monitored on an ongoing basis as part of the QA/QC procedures.

Sample batches were reanalyzed if any aberrations in the data were observed.

The Phoenix Gold Project currently forms an important part of the Red Lake Projects of Rubicon, and management of the project at all levels is being carried out by a fully qualified and experienced staff.

#### **15. ADJACENT PROPERTIES**

The Phoenix Gold Project lies within the Red Lake Mining District, a major gold camp with more than 24 million ounces of gold produced from a number of mines in the region (Lichtblau, et al., 2008). Exploration activity in the district is currently very strong. Gold mineralization in the district can be broken into several types that share common features.

Currently, Goldcorp Inc. operates the Red Lake Gold Mine situated in Balmertown. The Red Lake Gold Mine is composed of two operating complexes: the Red Lake Complex and the Campbell Complex. Red Lake Gold Mine is Canada's largest gold mine, and since the merger in 2006 produced over 1.2 million ounces, for a combined historical total of over 17 million ounces (Lichtblau, et al., 2008). It is also one of the world's richest gold mines and lowest cost producers.

The GAZ Gold Zone is located approximately seven kilometres to the northeast of the F2 Zone at the top of East Bay. The project is a joint venture between Goldcorp and Premier Gold Mines Ltd., a junior exploration company. The GAZ Gold Zone has a strong resemblance to mineralization encountered on the Phoenix Gold Project, and in particular, the F2 Zone. They are both located within the EBDZ, within a similar stratigraphy, including mafic metavolcanic rocks, ultramafic rocks, diorite to granodiorite intrusives and minor iron formations. "GAZ" stands for "Green Altered Zone", a portion of ultramafic and associated cross-cutting faults that contains gold. The Green Altered Zone is so named because of the presence of chlorite and fuchsite. A similar ultramafic has been encountered at the F2 Zone, and although it is not the main host for mineralization, it also carries anomalous gold. Goldcorp and Premier have conducted metallurgical tests to assess gold recoverability and are studying the potential to develop an underground ramp for underground drilling and sampling.

On September 25, 2008 Goldcorp acquired Gold Eagle Mines Ltd. Gold Eagle's principal asset is the Bruce Channel Discovery (BCD), located approximately 800 m (2,625 ft) below surface under the Bruce Channel. This new gold occurrence is located southwest of the past-producing Cochenour-Willans Mine (produced 1.24 million ounces at 0.53 oz/t). The BCD is reported as being geologically similar to the Cochenour-Willans and the Red Lake Gold Mine. Similarities with the F2 Zone include Balmer Assemblage host rocks, pervasive biotite alteration, and local carbonate alteration and silicification. Sulphides associated with gold mineralization consist of pyrrhotite and pyrite, and lesser arsenopyrite, with minor chalcopyrite, galena and sphalerite. BCD gold mineralization is similar to the F2 Zone in that it is structurally controlled and occurs within a variety of rock types. Goldcorp is currently in the process of drilling with two deep rigs on surface, but is determining the best method to

access the zone underground, either by utilizing the existing workings at the Cochenour-Willans Mine, or sinking a shaft on McKenzie Island.

The past and current production, as well as the recent new discoveries, demonstrate that the district can support year-round mineral exploration and mining operations. The new discoveries in particular indicate that the district is still at a relatively immature stage of development.

The descriptions of mineralization types in the Red Lake District have similarities to the mineralization observed by Rubicon on the Phoenix Gold Project. While these similarities are viewed positively, they do not necessarily indicate that mineralization on the Property will have similar overall grade and tonnage characteristics to other mineralization in the district or that the Phoenix Gold Property will host a significant economic gold deposit.

## 16. MINERAL PROCESSING AND METALLURGICAL TESTING

There has been no commercial production of gold, base metals or other minerals recorded on the Phoenix Gold Property. An estimated 6,000+ tons of the previously mined bulk-sample collected from the McFinley Gold deposit in 1989 remains stockpiled on the Property.

Prior to 1988, Lakefield Research performed two bulk sampling test metallurgical programs on mineralized material from the McFinley Gold resource (Hogg, October 2002). Both tests indicated that gold occurred in native form and in combination with pyrite. The Lakefield Research reports showed that recovery levels in excess of 90% of contained gold could be anticipated using a combination of jig and flotation treatment. Hogg also states that "in 1988 it was decided to proceed with a 15,000 bulk sample test and construction of a 150 ton per day milling facility. Dominion Bridge Corporation was selected to design and construct the plant. Milling commenced in 1989 on an intermittent basis from the underground mineralized zones which had been prepared for the bulk sampling program, and the few records available to the writer indicate that a head grade of approximately 0.25 oz Au/ton was being maintained from the mine. However, the bulk sampling program was not completed because of financial difficulties and the property became inactive the following year." Operations of McFinley Red Lake Mines were guided by a reputable and experienced consulting engineer, C. Lendrum, P.Eng.

It should be noted that the metallurgical testing summarized above is mostly irrelevant to the current style of mineralization being currently explored for and is included in this report for completeness for historical metallurgical work.

No new processing or metallurgical programs have been undertaken to the date of this report, however, Rubicon is initiating metallurgical test work under the directions of Soutex Inc., *Mineral and Metallurgical Processing Consultants*, located at 357 Jackson, Bureau 7, Québec, QC, G1N 4C4.

In September of 2008, Vancouver Petrographics performed petrographic analysis on 10 thin sections derived from representative mineralized core samples through the F2 Zone. The report estimates that 90-95% of the native gold occurs in quartz veins as equant grains, mainly 20-100 micron in size.

# 17. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

There are no known NI 43-101 compliant Mineral Resource or Mineral Reserve estimates on the Phoenix Gold Property, F2 Zone.

# **18. OTHER RELEVANT DATA AND INFORMATION**

Rubicon engaged URS Norecol Dames & Moore, an environmental consulting firm based in Vancouver, to prepare a preliminary report on the environmental aspects of the Phoenix Gold Project in 2002. No serious conditions or difficulties were noted in the course of this study (internal report, 2002). Their recommendations included water sampling and monitoring procedures. Rubicon initiated a water monitoring program in 2003 under the direction of AMEC and a subsequent baseline environmental study in 2007 by BZ Environmental, an environmental consulting firm based in Timmins.

No permits are required for the on-going and proposed surface drilling. The permits that have been obtained to approve the shaft dewatering and Advanced Exploration Project that is in progress, as defined in Ontario Regulation 240/00 promulgated under the *Mining Act*, at the McFinley Mine are listed in the bullets below:

- Permit to Take Water 2342-7LWRQU (dewater shaft);
- Permit to Take Water 6020-7LHPX6 (withdrawal of water from Red Lake for use as process water);
- Certificate of Approval Sewage 4192-7JRJ3L (approve sewage works to manage waste water);
- Certificate of Approval Air 9500-7NGTTC (approve air emissions from site);
- Lakes and Rivers Improvement Act Approval No. RL-2009-01 (approve containment dam); and
- Phoenix Advanced Exploration Project Closure Plan (including supporting technical studies, background environmental studies, financial assurance, public and First Nation consultation documentation).

Currently, Rubicon has identified and initiated long-lead technical and environmental studies to expedite future permitting for further development and commercial production.

## **19. INTERPRETATION AND CONCLUSIONS**

Based on our review of the available information for the Phoenix Gold Project, the authors conclude the following:

- Since acquiring the Phoenix Gold Project in the highly productive Red Lake mining district of northwestern Ontario in 2002, Rubicon has undertaken a multi-disciplinary exploration program that has resulted in a thorough understanding of the geology and setting of mineralization on the Project and in the area of historic operations. The program has also been successful in expanding exploration across the Property and has led to the discovery of the F2 Zone gold deposit;
- Most of the historic evaluation work on the Phoenix Property is concentrated at shallow depths in the vicinity of the McFinley Shaft in the northern part of the McFinley Peninsula. In this area, gold mineralization has been identified in several structural and stratigraphic locations within an intense zone of deformation that cuts the McFinley Sequence. Rubicon's exploration work to date has allowed for the recognition and characterization of these environments on the property and resulted in the discovery of additional auriferous shear-vein structures in the peninsula area. Subsequent property-wide exploration diamond drilling successfully identified new environments of auriferous mineralization;
- Drilling in 2004 resulted in discovery of the Phoenix Zone (now called Island Zone) at the north end of McFinley Island, two kilometres north of the existing mine site. Subsequent drilling of this target in 2005 resulted in a further extension of the Phoenix Zone and the discovery of the Carbonate Altered Zone (CARZ). Further drilling in 2006 defined the Phoenix Zone (Island Zone) encompassing the overall mineralized system, with a strike length of 500 m (1,640 ft) and a depth extent of 200 m (656 ft) below surface;
- The 2007 exploration program included surface drilling of deep footwall targets and an evaluation of exploration from underground. Each of the new target areas drilled were successful in intersecting gold-bearing zones and are all open along strike and down-dip for follow-up drilling. These areas included the North Peninsula (Upper and Lower zones), the Deep Footwall Target, the KZ Target and the West Mine Target.

- In 2008, Rubicon used a combination of techniques to explore the Property. Following up on previous drilling was key to the discovery of the F2 Zone. The F2 Zone is currently defined as having a strike length of approximately 700 m (2,300 ft) which has been traced to a vertical depth of 1,101 m (3,600 ft) and remains open along strike and at depth. The setting and style of this mineralization has a number of distinct similarities with the high grade zones present at the nearby Red Lake Gold Mine.
- Significantly more drilling is required to gain a better understanding of gold distribution, geometry and controls on mineralization within the F2 Zone. The authors concur with Rubicon management's conclusions regarding the exploration approach for the F2 Zone, which includes drilling from underground, utilizing the existing 142 m (466 ft) deep exploration shaft and workings, located only 450 m (1,476 ft) to the northwest of the F2 Zone and extending the shaft to a total depth of 350 m where additional exploration drilling is required. Rubicon has recently completed the process of dewatering the shaft and the rehabilitation of the underground workings is underway. It is anticipated that drilling from the 400 foot level and the start of the shaft deepening will commence before the end of May, 2009.

## **20. RECOMMENDATIONS**

The authors offer the following recommendations for the Phoenix Gold Project:

- It is the authors' opinion that the Project has strong economic merit and requires significant additional diamond drilling to determine the extent of the mineralization and controls on the mineralization. Rubicon's primary objective is to define the limits of the F2 system gold mineralization. As the recommended "infill" drilling takes place (assuming it is successful), this information will form the basis for completing an initial Mineral Resource estimate at some time in the future. It should be noted that significant additional infill drilling, beyond that envisioned in the current program, will likely be required to allow a Mineral Resource estimate covering the area of the current exploration program. It may be possible to carry out estimates in areas of more detailed drilling;
- The recommended exploration drill program is proposed as a two-phase advanced exploration program to define the lateral and vertical extents of mineralization that currently remain open along strike and down-dip. Rubicon is of the opinion that there are ultimate technical advantages and cost savings of drilling from underground, and the authors agree with this assessment;
- Phase 1 is a C\$25 million program that will incorporate the following:
  - a) 20,000 m of surface exploration drilling to test for additional F2-type discoveries along the northeast and southwest extension of the mafic volcanic stratigraphy that hosts the gold mineralization in areas with analogous structural and geophysical setting; and
  - b) shaft deepening and drifting to accommodate 60,000 m of underground drilling to expand and infill the F2 Zone gold mineralization. Shaft deepening will be concurrent with drilling from the current base of the existing shaft. The proposed two-phase budget is shown in Table 17 at the end of this section.
- Previously, a detailed RQD program was not in place and this data was not entered in the logs. The authors suggest that taking RQD measurements are good practice and Rubicon has now implemented doing this additional work for all future drilling programs; and
- The authors also recommended that for all future programs, outside check assaying at a secondary lab be included as part of the overall Project QA/QC. Rubicon has now

initiated a program of check assaying of 5% of the drill core samples at an ISO certified second laboratory.

#### 20.1 SURFACE DRILLING PROGRAM

A 20,000 m surface diamond drilling program is recommended, independent of the underground program presented below, which is currently in progress. The goal of this program will be to continue to expand lateral and vertical extents of the gold mineralization of the F2 Zone in conjunction with drill-testing of a series of property wide targets. Numerous targets have been identified in the context of the recent knowledge of the F2 Zone mineralization environment. These targets are supported by gold occurrences encountered by Rubicon's drilling and by a large chargeability anomaly identified in the 2008 Titan 24 geophysical surveys conducted. This work will be completed using one to two surface rigs.

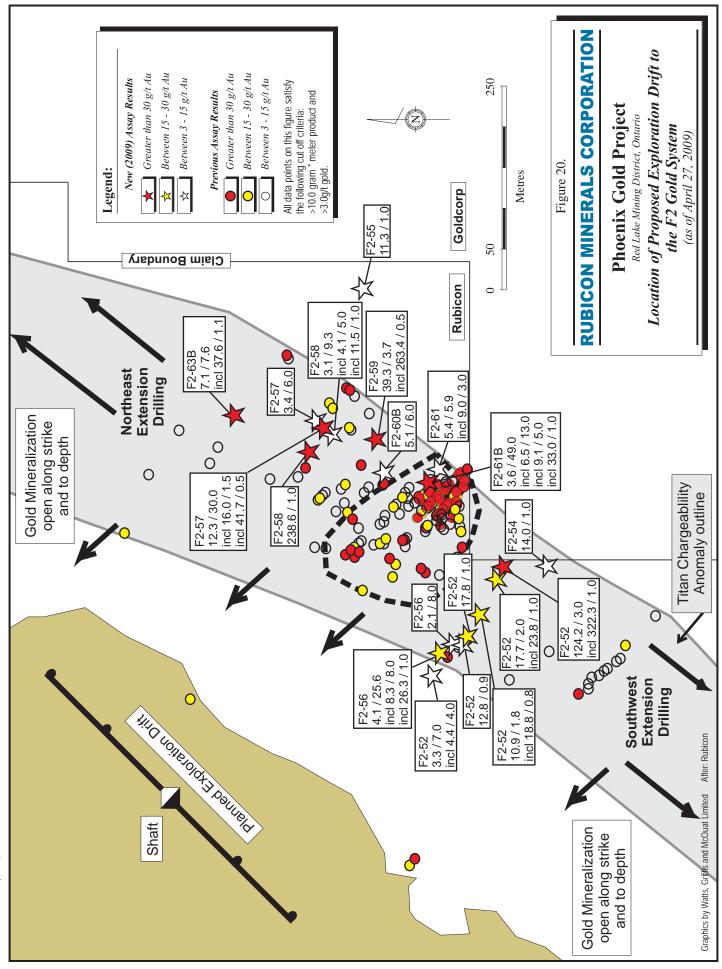
## 20.2 UNDERGROUND PROGRAM

The close proximity to existing underground infrastructure and surface facilities provide an opportunity to more efficiently explore the F2 discovery, because drilling from the existing workings provides better access to the F2 Zone than drilling from surface. The proposed program involves deepening the existing shaft another 230 m (755 ft) vertically to a depth of 350 m (1,150 ft) below surface and from this elevation drifting 500 m (Figure 20). Drill stations will be constructed along this drift.

The Company will also test shallow to moderate portions of the F2 system by drilling from the deepest level of the existing underground workings located 120 m (400 ft) below surface. It is planned to start with two drill rigs and increase to four rigs as access becomes available, to enable a total of 60,000 m of underground delineation drilling as proposed in Phase 1. Completion of this program will result in a better understanding of the geometries and controls of the F2 Zone and could justify a subsequent Phase 2 program as indicated. Underground drilling commenced June 10, 2009.

#### 20.3 RECOMMENDED PROGRAM AND BUDGET

A total budget of C\$79.7 million is estimated to execute the recommended multi-phased, multi-year exploration program commencing 2009. An initial C\$25.3 million is planned under Phase 1 and an additional C\$54.4 million (Phase 2) will be modified accordingly dependent on the results of Phase 1.



RMX REV / RMX\_28\_Loc\_Proposed\_Explor\_Drift.cdr Last revision date: Thursday 17 September 2009 ≽ Watts, Griffis and McOuat

Rubicon is currently executing a combined surface and underground exploration program to systematically test the limits and expand the size of the F2 gold system over a 1,000 m strike length to a depth of 1,500 m below surface. This program will also provide additional information to better understand the distribution of the mineralization within individual zones.

The program consists of the following:

## Phase 1

- 20,000 m of surface drilling with two to three drills to continue to test the system with large step out holes (+200 m step outs);
- a total of 60,000 m of underground drilling broken down as follows:
  - 20,000 m scheduled to be drilled from the current underground workings on the 400 ft level (122 m) with two to three drills; and
  - deepening of the existing exploration shaft by an additional 250 m to a planned depth of 350 m below surface (current depth of 122 m) and the excavation of up to 500 m of access drifts from the shaft bottom, parallel to the zone with up to four drill stations; 40,000 m to be drilled from drill stations to be excavated from the bottom of the shaft with two to four drills.

Phase 2

- includes 40,000 m of surface drilling 20,000 m on the F2 Zone and 20,000 m outside the F2 Zone for exploration purposes;
- includes 80,000 m of underground drilling 55,000 m on the F2 system (infill drilling) and 25,000 m delineation drilling; and
- additional development will be required for the F2 Zone delineation drilling and to extract a bulk sample. This includes the 500 m of lateral development, four drill stations, sumps, and the cost of taking the bulk sample.

It is estimated that the Phase 2 program will be initiated upon successful completion of Phase 1. Phase 2 excavation is estimated to be completed in six (6) months, or approximately the end of 2010: the diamond drilling would extend into 2011.

Projected costs are largely developed from contractor and consultant quotations and estimates for the proposed work programs. A summary of the Phase 1 and 2 cost elements is presented in Table 17.

All aspects of the Phase 1 program will be carried out in parallel to minimize the time required and allow shaft deepening to take place at the same time as the surface drilling and the underground drilling from the 400 ft level. The entire Phase 1 program is anticipated to be completed near the end of March 2010.

ActivityItemUnit CostUnitsAmount (\$)TPHASE 1Surface ExplorationDirect Drilling\$200metres\$4,000,00020,000 m DrillingAssay Analysis\$25samples\$375,000Geo-contractors\$110,000monthly\$800,000	Total (\$)
Surface ExplorationDirect Drilling\$200 metres\$4,000,00020,000 m DrillingAssay Analysis\$25 samples\$375,000	
20,000 m DrillingAssay Analysis\$25 samples\$375,000	
Geo-contractors \$110,000 monthly \$800,000	
Travel \$10,000 monthly \$50,000	
Room & Board \$65 daily \$100,000	
Vehicles, Equipment & Fuel \$85,000 monthly \$200,000	
Field Supplies \$45,000 monthly \$300,000	
	\$6,575,000
Underground Access Operations: Salaries, Design, Permitting \$2,500,000	
Shaft Sinking \$2,000,000	
Stations \$1,280,000	
8' x 8" Track Drift \$600,000	
Shaft Maintenance \$210,000	
Room & Board \$450,000	
Fuel \$500,000	
	\$8,015,000
Underground Drilling Direct Drilling \$6,400,000	
60,000 m Assay Analysis \$25 samples \$875,000	
Geo-contractors \$110,000 monthly \$1,300,000	
Travel \$10,000 monthly \$205,000	
Room & Board \$65 daily \$235,000	
Vehicles, Equipment & Fuel \$85,000 monthly \$1,010,000	
	10,700,000
	25,290,000
PHASE 2	
Surface ExplorationDirect Drilling\$200 meters\$8,000,000	
40,000 m Drilling Assay Analysis \$25 samples \$750,000	
Geo-contractors, Travel, etc. \$1,000,000	
Room & Board \$250,000	
Holding Costs, Technical Studies, Misc. \$1,500,000	
Subtotal Studies, 191500,000	
	12,650,000
Underground ExplorationDirect Drilling\$150meters\$12,000,000	
80,000 m DrillingAssay Analysis\$25 samples\$1,500,000	
Geo-contractors, Travel, etc. \$2,000,000	
Room & Board, etc. <u>\$500,000</u>	
Subtotal \$16,000,000	
10% Contingency <u>\$1,600,000</u> <b>\$1</b>	17,600,000
Underground - Operations Staff \$1,100,000	
Surface Infrastructure \$4,800,000	
Contractor / Mining \$9,400,000	
Materials \$3,600,000	
Studies & Reg. Compliance \$2,100,000	
Subtotal \$21,000,000	
15% Contingency <u>\$3,150,000</u> <u>\$2</u>	24,150,000
	54,400,000

<b>TABLE 17.</b>
PHOENIX 2009-10 PROGRAM AND BUDGET, PHASES 1 & 2

Executing the underground program is anticipated to provide significant cost savings related to the underground drilling vs. surface drilling, will provide better core angles through the mineralized zones to for interpretation purposes and will provide additional information required to select the location of future access drifts, bulk samples and delineation drill planning purposes.

## Additional Comments

The F2 Zone is an exploration drilling project with significantly more drilling required to obtain a better understanding of gold distribution, geometry and controls on mineralization. Given the complex nature of the Red Lake gold systems, Rubicon has decided to first explore the system and understand the potential size, prior to committing to drift on the known mineralization, as there may be a more suitable location to locate the drift. Phase 2 of the program will include drifting on the mineralization and the extraction of a bulk sample and some local delineation drilling.

It should be noted that the area being explored by Rubicon is larger than that hosting the nearby Campbell Gold deposit. It is unlikely that the current programs can lead to an estimate of Mineral Resources in such a large area without considerable additional drilling, which would require additional funds. Experience and published reports suggest that the required drillhole spacing to qualify a compliant Mineral Resource estimate may be significantly less than the typical spacing of the current program (50 m or more).

While Rubicon may carry out internal or interim Mineral Resource estimates in the future, which may assist in targeting future drilling programs better, these may not be NI 43-101 compliant and thus no commitment to publish these possible Mineral Resource estimates can be made at this time. The decision whether or not to carry out and publish industry compliant Mineral Resource estimates rests with the board and management of Rubicon.

# **21. SIGNATURE PAGE**

This report titled "*Technical Report Update on Exploration Activities (November 2008 to April 2009) of the Phoenix Gold Project (NTS 52N/04), Red Lake, Ontario for Rubicon Minerals Corporation*" and dated October 8, 2009, was prepared and signed by the following authors:

Dated effective as of October 8, 2009.

signed by " *Robert Thomas* " signed by " Michael W. Kociumbas "

Robert Thomas, M.A., CPG Independent Consultant Michael W. Kociumbas, B.Sc., P.Geo. Senior Geologist and Vice-President

## CERTIFICATE

## To accompany the Report entitled "Technical Report Update on Exploration Activities (November 2008 to April 2009) of the Phoenix Gold Project (NTS 52N/04), Red Lake, Ontario for Rubicon Minerals Corporation" dated October 8, 2009

#### I, Robert D. Thomas, Jr., do hereby certify that:

- 1. I am an independent consulting geologist to the mining and mineral exploration industry with a residence and business address of 5040 Pleasant View Drive, Sparks, Nevada, USA 89434
- 2. I am a graduate of Wesleyan University, Middletown, Connecticut, with an M.A. degree in Geology (1974)
- 3. I am a Certified Professional Geologist with the American Institute of Professional Geologists (AIPG), License #10314
- 4. I have been practicing as a professional geologist continuously for 34 years since my graduation from university.
- 5. I do not own any interest in the properties that comprise the Phoenix Gold Project nor do I own any interest in any company or entity that owns or controls an interest in the properties that comprise the Phoenix Gold Project, and I am therefore independent of Rubicon Minerals Corporation and Dominion Goldfield Corporation.
- 6. I hold membership in the following professional organizations:
  -AIME (30 year member)
  -Society of Economic Geologists (Fellow)
  -Geological Society of Nevada (past President)
- 7. I am a Qualified Person for the purposes of National Instrument 43-101. I have read and understand the terms of NI 43-101 and its companion documents and have submitted this report with the intention of complying with NI 43-101 and generally accepted Canadian industry practice.
- 8. I visited the property on November 18-19, 2009.
- 9. I am responsible for all sections of this report, but jointly responsible with co-author Michael Kociumbas for Sections 1 to 4, 12, 13, 19 and 20.
- 10. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in this report and that whose omission would make this report misleading.

- 11. This report, as well as its conclusions and recommendations, are based on the examination of the available data and discussions with geologists involved with the Phoenix Gold Project. It is based almost exclusively on data that were provided to the authors by Rubicon Minerals Corporation
- 12. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Rubicon Minerals Corporation, or any associated or affiliated entities.
- 13. Neither I, nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Rubicon Minerals Corporation, or any associated or affiliated companies.
- 14. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Rubicon Minerals Corporation, or any associated or affiliated companies.
- 15. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 16. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public, of the Technical Report.

Dated in Sparks, Nevada on this 8th day of October, 2009.

signed by " Robert Thomas "

Robert D. Thomas, Jr., CPG 10314

# CERTIFICATE

## To accompany the Report entitled "Technical Report Update on Exploration Activities (November 2008 to April 2009) of the Phoenix Gold Project (NTS 52N/04), Red Lake, Ontario for Rubicon Minerals Corporation" dated October 8, 2009

I, Michael W. Kociumbas, do hereby certify that:

- 1. I reside at 420 Searles Court, Mississauga, Ontario, Canada, L5R 2C6.
- 2. I am a graduate from the University of Waterloo, Waterloo, Ontario with an Honours B.Sc. Degree in Applied Earth Sciences, Geology Option (1985), and I have practised my profession continuously since that time.
- 3. I am a member of the Association of Professional Geoscientists of Ontario (Membership Number 0417).
- 4. I am a Senior Geologist and Vice-President with Watts, Griffis and McOuat Limited, a firm of consulting geologists and engineers, which has been authorized to practice professional engineering by Professional Engineers Ontario since 1969, and professional geoscience by the Association of Professional Geoscientists of Ontario.
- 5. I am an independent Qualified Person for the purposes of NI 43-101 and have experience with base metal deposits, Mineral Resource estimation techniques and the preparation of technical reports.
- 6. I am jointly responsible for Sections 1 to 4, 12, 13, 19 and 20 of the report with co-author Robert Thomas.
- 7. I did not visit the Property.
- 8. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report.
- 9. This report was prepared for Rubicon Minerals Corporation in part by Michael Kociumbas and WGM. It is based almost exclusively on data that were provided to the authors by Rubicon Mineral Corporation. Michael Kociumbas and WGM disclaim all liability for the underlying data and do not accept responsibility for the interpretations and representation made in this report where they were a result of erroneous, false, or misrepresented data. Michael Kociumbas and WGM disclaim any and all liability for representations or warranties, expressed or implied, contained in, or for omissions from, this report or any other written or oral communications transmitted or made available to any interested party when done without written permission or when they are inconsistent with the conclusions and statements of this report.

- 10. This report or portions of this report are not to be reproduced or used for any purpose other than to fulfil Rubicon Minerals Corporation's obligations pursuant to Canadian provincial securities legislation, and where required, to comply with Rubicon's United States reporting obligations as an SEC filer, including disclosure on SEDAR and EDGAR, and if Rubicon Minerals Corporation chooses to do so, to support a public financing, without Robert Thomas' and WGM's prior written permission in each specific instance. The authors do not assume any responsibility or liability for losses occasioned by any party as a result of the circulation, publication or reproduction or use of this report contrary to the provisions of this paragraph.
- 11. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Rubicon Minerals Corporation, or any associated or affiliated entities.
- 12. Neither I, nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Rubicon Minerals Corporation, or any associated or affiliated companies.
- 13. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Rubicon Minerals Corporation, or any associated or affiliated companies.
- 14. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

signed by " Michael W. Kociumbas "

Michael W. Kociumbas, B.Sc., P.Geo. October 8, 2009

#### REFERENCES

Andrews, A.J., Hugon, H., Durocher, M., Corfu, F., and Lavigne, M.,

1986 The anatomy of a gold-bearing greenstone belt: Red Lake, northwestern Ontario; *in* Proceedings of GOLD '86, an International Symposium on the Geology of Gold Deposits, (ed.) A.J. MacDonald; Konsult International Inc., Toronto, Ontario, pp. 3-22.

## Ashford, G.

1986 Study on Gold Recovery from Sample Submitted by McFinley Red Lake Mines Ltd.; Lakefield Research.

# Betz, J.E.

1982Report on the Electromagnetic and Magnetic Surveys, McFinley Red Lake<br/>Property, Township of Bateman, District of Kenora, Ontario.

Corfu, F., Davis, D.W., Stone, D., and Moore, M.,

1998 Chronostratigraphic constraints on the genesis of Archean greenstone belts, northwestern Superior Province, Ontario, Canada; Precambrian Research, v. 92, pp. 277-295.

- Corfu, F., and Andrews, A.J.,
  - 1987 Geochronological constraints on the timing of magmatism, deformation and gold mineralization in the Red Lake greenstone belt, northwestern Ontario; Canadian Journal of Earth Sciences, v. 24, pp. 1301-1320.

Dube, B., Williamson, K, and Malo, M.,

- 2002 Geology of the Goldcorp Inc. High grade zone, Red Lake mine, Ontario: an update; Geological Survey of Canada, Current Research 2002-C26, 13 p.
- 2001 Preliminary report on the geology and controlling parameters of the Goldcorp Inc. High Grade zone, Red Lake mine, Ontario; Geological Survey of Canada, Current Research 2001-C18, 33 p.

Dube, B., Balmer, W., Sanborn-Barrie, M., Skulski, T., and Parker, J.,

2000 A preliminary report on amphibolite-facies, disseminated-replacementstyle mineralization at the Madsen gold mine, Red Lake, Ontario; Geological Survey of Canada, Current Research 2000-C17, 12 p.

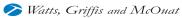
Durocher, M.E., Burchell, P., and Andrews, A.J.,

1987 Gold occurrences, prospects, and deposits of the Red Lake area; Ontario Geological Survey, Open File Report 5558, v. 1 & 2, 704 p.

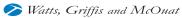
Ferguson, S.A. 1962	Geological Report on the South Half of Bateman Township; O.D.M. Geological Report No. 6.
Ferguson, S.A. et 1971	al Gold Deposits of Ontario; O.D.M. Mineral Resources Circular No. 13.
Green, D. May 2002	Technical Report on the RLJV Property, Red Lake Mining Division, NW Ontario; Internal Report (43-101), Rubicon Minerals Corporation.
Mar. 2005	An Update on Exploration Activities of Rubicon Minerals Corporation on the McFinley Property, Red Lake, Ontario; Form 43-101F1 Technical Report.
Hogg, G.M. 2002	NI 43-101 Report "Exploration Activities of Rubicon Minerals Corporation on the McFinley Property, Red Lake, Ontario".
May 1989	Appraisal of Value, McFinley Red Lake Property; Internal Report.
Apr. 1988	A Report on 1986-87 Operations on the McFinley Red Lake Property, Bateman Township, Ontario.
Jun. 1986	A Report on the Evaluation of the McFinley Red Lake Shaft Area, Bateman Township, Ontario, during 1985-86.
Mar. 1985	Summary Report on the Evaluation of the McFinley Red Lake Property, Bateman Twp., Ontario to February 28, 1985.
Aug. 1983	A Report on the McFinley Red Lake Gold Property of Sabina Industries Ltd. and McFinley Mines Ltd., Bateman Twp., Ontario; (Addendum, September 29, 1983).
Horwood, H.C. 1940	Geology and Mineral Deposits of the Red Lake Area; O.D.M. Annual Report, v. 49, Part 2.
Lichtblau, A.F., R 2008	Ravnaas, C., Storey, C.C., Hinz, P. and Bongfeldt, J., Report of Activities 2007, Resident Geologist Program, Red Lake Regional Geologist Report, Red Lake and Kenora Districts, Ontario Geological Survey, Open File Report 6216, 89 p.
MacLean, P.C. 1976	The 1976 Exploration Program, Abino Gold Mines Ltd.

Mongeau, R.J. 1974	An Assessment of the Mineral Economic Potential of the McFinley Gold Property, Bateman Township, Red Lake Area, Kenora Mining Division, Ontario.
Newman, W.R. 1946	Geological Report on the McFinley Red Lake Gold Mines Limited.
Pirie, J., 1982	Regional geological setting of gold deposits, eastern Red Lake area, northwestern Ontario; <i>in</i> Proceedings of the CIM Gold Symposium, September 1980, The Canadian Institute of Mining and Metallurgy, Special Volume 24, pp. 171-18342
Postle, J.T. 1988	Review of Mining Aspects of the McFinley Red Lake Project; Communication prepared for A.C.A. Howe International Inc. by Roscoe Postle Associates Inc.
Prefontaine, Marc 2005	Exploration Activities of Rubicon Minerals Corporation on the McFinley Property, Red Lake, Ontario; Form 43-101F1 Technical Report.
Questor Surveys I 1978	Ltd. Airborne Electromagnetic and Total Intensity Magnetic Survey, Red Lake Area, District of Kenora; O.G.S. Preliminary Map 1574 (Bateman Twp.).
Rigg, D.M. and H 2003	ogg, G. Exploration Activities of Rubicon Minerals corporation on the McFinley Property, Red Lake, Ontario. Form 43-101F1 Technical Report.
Sanborn-Barrie, N 2001	A., Skulski, T., and Parker, J., Three hundred million years of tectonic history recorded by the Red Lake greenstone belt, Ontario; Geological Survey of Canada, Current Research 2001-C19, 30 p.
Sanborn-Barrie, M 2000	A., Skulski, T., Parker, J., and Dube, B., Integrated regional analysis of the Red Lake greenstone belt and its mineral deposits, western Superior Province, Ontario; Geological Survey of Canada, Current Research 2000-C18, 16 p.
Smee & Associate 2009	es Consulting Ltd. Letter to Rubicon Minerals Corporation Re: Phoenix Gold Project Quality Control Data.

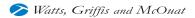
Watkins, J.J, 1998	Gold mine potential of the Dorion-McCuaig corridor, Red Lake property; internal company report prepared for Rubicon Minerals Corp., 28 p.
Wetmore, D. 1981	Trenching & Initial Bulk Sampling, McFinley Property, Red Lake, Ontario; James Wade Engineering Ltd. 1981.
Wilson, G.C. 1986	Petrographic Examination of McFinley Samples; Rept. Prepared by Turnstone Geol. Services Ltd.
Wyslozil, D.M. 1981	Investigation of the Recovery of Gold and Silver from Samples Submitted by Wade Engineering Ltd., Progress Report No. 1; Lakefield Research of Canada Limited.



**APPENDICES** 



APPENDIX 1: PHOTOGRAPHS OF DRILL CORE (PLATES 1-6)



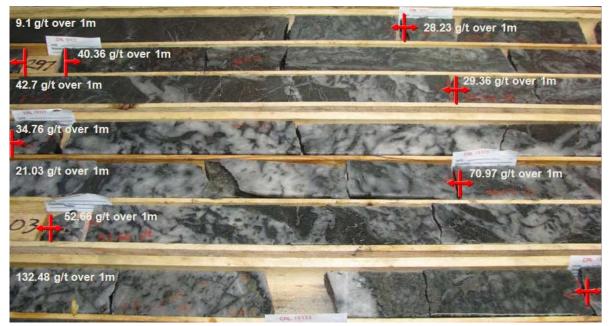


Plate 1. Example of quartz veined/flooded/brecciated biotized mafic volcanic with gold grades (F2-07)



Plate 2.Example of sulphidized and silicified biotized mafic volcanic with VG (F2-07)

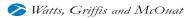
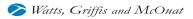




Plate 3.Example of large quartz-chlorite-tremolite vein with visible gold (F2-07)



Plate 4.Visible gold (circled) within quartz vein in siliceous, biotite-altered felsic intrusive (F2-01)



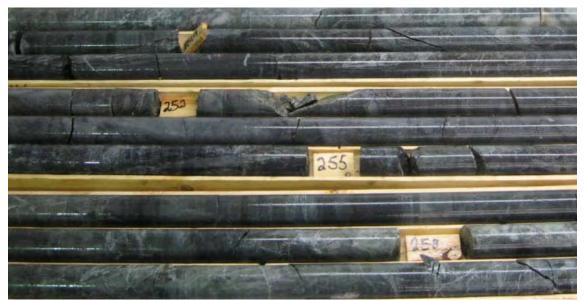


Plate 5.Example of siliceous ultramafic with quartz and chlorite-amphibole±biotite±talcose alteration (F2-22)

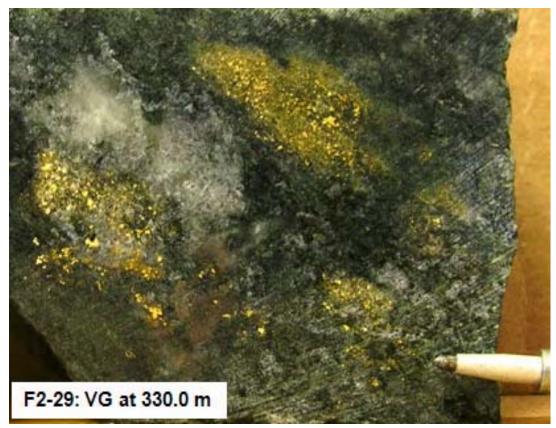
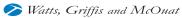
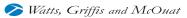


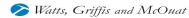
Plate 6.Ultramafic with chlorite-amphibole alteration and minor quartz-carbonate with VG (F2-29)



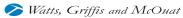
APPENDIX 2: F2 ZONE SIGNIFICANT ASSAYS (AS OF APRIL 27, 2009)



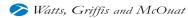
Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-01	94	6.3	6.5	0.18	21.3
Incl.	93	8.4	4.5	0.25	14.8
Incl.	94	11.6	2.9	0.34	9.5
F2-01	212	4.1	7.0	0.12	23.0
Incl.	212	9.1	3.0	0.27	9.8
F2-01	232	6.8	11.0	0.20	36.1
Incl.	229	23.2	3.0	0.68	9.8
Incl.	228	34.6	2.0	1.01	6.6
Incl.	229	61.5	1.0	1.79	3.3
F2-02	96	5.4	10.3	0.16	33.8
Incl.	99	12.1	3.3	0.35	10.8
F2-02	171	9.7	1.1	0.28	3.6
F2-02	194	3.0	25.3	0.09	83.0
F2-02	237	12.3	2.0	0.36	6.6
Incl.	236	22.9	1.0	0.67	3.3
F2-02	291	16.8	1.0	0.49	3.3
F2-02	301	36.0	1.0	1.05	3.3
F2-02	346	5.2	2.0	0.15	6.6
F2-02	375	3.3	28.0	0.10	91.9
Incl.	368	5.1	9.0	0.15	29.5
Incl.	372	10.1	2.0	0.29	6.6
F2-03	238	8.2	1.5	0.24	4.9
F2-03	267	283.2	1.0	8.26	3.3
F2-04	174	21.5	0.5	0.63	1.6
F2-04	232	3.7	5.3	0.11	17.4
F2-04	325	13.9	2.0	0.41	6.6
Incl.	325	22.4	1.0	0.65	3.3
F2-04	536	6.3	4.0	0.18	13.1
Incl.	536	7.3	3.0	0.21	9.8
F2-05	122	4.9	2.5	0.14	8.2
F2-05	372	7.6	2.0	0.22	6.6
Incl.	372	14.2	1.0	0.41	3.3
F2-05	505	6.0	17.0	0.18	55.8
Incl.	497	42.6	0.5	1.24	1.6
Incl.	510	15.8	1.0	0.46	3.3
F2-05	524	12.1	2.0	0.35	6.6
Incl.	524	36.1	0.5	1.05	1.6
F2-06	68	6.0	2.0	0.17	6.6
F2-06	171	49.0	0.8	1.43	2.5
F2-06	226	3.1	17.5	0.09	57.4
F2-06	289	20.0	0.5	0.58	1.6
F2-06	348	3.8	13.0	0.11	42.7
Incl.	349	4.9	8.5	0.14	27.9
Incl.	347	8.7	2.5	0.25	8.2
Incl.	346	10.7	1.0	0.31	3.3
F2-06	369	3.1	9.0	0.09	29.5
F2-06	381	12.6	7.5	0.37	24.6
Incl.	383	19.4	4.5	0.57	14.8
Incl.	384	119.8	0.5	3.49	1.6
F2-06	433	15.4	1.0	0.45	3.3



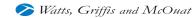
Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-07	228	6.3	5.0	0.18	16.4
Incl.	230	19.8	1.0	0.58	3.3
F2-07	239	12.6	2.0	0.37	6.6
Incl.	240	19.6	1.0	0.57	3.3
F2-07	246	73.2	3.0	2.14	9.8
F2-07	297	15.1	1.0	0.44	3.3
F2-07	319	3.5	16.0	0.10	52.5
Incl.	320	15.8	1.0	0.46	3.3
Incl.	320	23.0	0.5	0.67	1.6
F2-07	335	16.0	7.0	0.47	23.0
Incl.	335	21.0	5.0	0.61	16.4
Incl.	333	25.6	1.5	0.75	4.9
Incl.	335	22.2	3.0	0.65	9.8
F2-07	365	3.0	22.0	0.09	72.2
F2-07	380	24.4	17.0	0.71	55.8
Incl.	384	36.5	8.0	1.06	26.2
F2-07	396	3.1	17.0	0.09	55.8
F2-08	206	3.5	26.0	0.10	85.3
Incl.	205	4.2	24.0	0.12	78.7
Incl.	197	15.8	2.0	0.46	6.6
Incl.	197	24.8	1.0	0.72	3.3
F2-08	292	26.7	18.0	0.78	59.1
Incl.	294	42.4	11.0	1.24	36.1
F2-08	355	3.8	4.7	0.11	15.4
F2-08	393	3.1	5.0	0.09	16.4
F2-09	198	3.3	3.3	0.10	10.7
F2-09	341	3.3	15.0	0.09	49.2
Incl.	338	10.0	3.5	0.29	11.5
Incl.	338	53.1	0.5	1.55	1.6
F2-09	442	23.1	17.1	0.67	56.1
Incl.	442	28.7	15.5	0.84	50.9
Incl.	438	52.6	7.4	1.53	24.3
Incl.	439	353.8	0.9	10.32	3.0
Incl.	446	77.6	0.5	2.26	1.6
F2-10	90	19.5	1.0	0.57	3.3
F2-10	95	68.4	0.6	2.00	2.0
F2-10	169	43.0	1.0	1.25	3.3
F2-10	202	35.9	1.0	1.05	3.3
F2-10	208	19.4	1.0	0.57	3.3
F2-10	247	3.5	11.0	0.10	36.1
F2-10	257	13.9	3.0	0.41	9.8
F2-10	275	17.7	2.0	0.52	6.6
Incl.	276	29.4	1.0	0.86	3.3
F2-10	291	14.5	1.0	0.42	3.3
F2-10	323	8.3	30.0	0.24	98.4
F2-10	310	16.2	4.0	0.47	13.1
Incl.	319	48.2	0.5	1.41	1.6
Incl.	337	216.1	0.5	6.30	1.6
F2-10	352	3.9	3.0	0.11	9.8
F2-10	404	56.5	0.5	1.65	1.6
F2-10	409	20.2	0.5	0.59	1.6



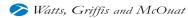
Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-10	424	77.8	0.5	2.27	1.6
F2-11	235	3.0	9.0	0.09	29.5
F2-11	288	4.4	3.0	0.13	9.8
F2-11	301	8.2	1.5	0.24	4.9
F2-11	300	20.2	0.5	0.59	1.6
F2-11	308	3.3	3.5	0.10	11.5
F2-11	376	3.0	12.1	0.09	39.7
F2-11	390	25.7	1.6	0.75	5.2
Incl.	390	40.3	1.0	1.18	3.3
F2-12	84	20.8	0.5	0.61	1.6
F2-12	193	4.3	4.0	0.13	13.1
F2-13	226	4.7	5.0	0.14	16.4
F2-13	70	5.2	2.2	0.15	7.2
F2-14	384	6.9	7.0	0.20	23.0
Incl.	382	15.2	2.0	0.44	6.6
F2-14	394	26.4	0.9	0.77	2.8
F2-14-W1	451	5.7	4.0	0.17	13.1
F2-15	534	3.1	11.0	0.09	36.1
F2-15-W1	379	7.5	3.7	0.22	12.1
Incl.	378	17.6	1.3	0.51	4.3
F2-15-W1	393	19.1	1.0	0.56	3.3
F2-15-W1	497	5.5	2.0	0.16	6.6
F2-15-W1	514	4.0	7.0	0.12	23.0
Incl.	514	11.4	1.0	0.33	3.3
F2-16	380	17.2	1.0	0.50	3.3
F2-16	419	3.7	3.2	0.11	10.5
F2-16	428	3.0	16.1	0.09	52.8
F2-17	297	62.0	1.0	1.81	3.3
Incl.	297	117.7	0.5	3.43	1.6
F2-17	326	8.6	2.0	0.25	6.6
F2-17	450	3.8	4.4	0.11	14.4
F2-17-W1	anomalous				
F2-17-W2	anomalous				
F2-17-W3	302	70.4	0.5	2.05	1.6
F2-18	381	4.2	2.6	0.12	8.4
F2-19	17	22.8	1.0	0.67	3.3
F2-19	267	5.2	5.0	0.15	16.4
Incl.	267	7.0	3.0	0.20	9.8
F2-19	327	361.7	1.8	10.55	5.9
Incl.	326	811.4	0.8	23.67	2.6
F2-19	377	58.8	2.1	1.72	6.9
Incl.	377	121.7	1.0	3.55	3.3
Incl.	377	240.4	0.5	7.01	1.6
F2-20	662	12.6	1.0	0.37	3.3
F2-20	695	7.4	4.0	0.21	13.1
Incl.	694	12.0	2.0	0.35	6.6
F2-21	170	9.1	8.6	0.27	28.2
Incl.	168	97.9	0.5	2.85	1.6
F2-21	<b>219</b> 232	<u>64.2</u>	0.5	1.87	1.6
F2-21	232	11.7	2.0	0.34	<u>6.6</u> 3.3
Incl.	232	18.9	1.0	0.55	3.3



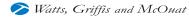
Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-21	269	17.0	2.5	0.50	8.2
Incl.	268	41.4	1.0	1.21	3.3
F2-21	273	10.3	1.0	0.30	3.3
F2-21	303	5.2	6.0	0.15	19.7
Incl.	300	35.8	0.5	1.04	1.6
F2-21	372	14.2	1.5	0.41	4.9
Incl.	372	19.6	1.0	0.57	3.3
F2-21	440	6.1	5.0	0.18	16.4
F2-21	456	6.0	2.7	0.17	8.9
F2-21	525	10.2	2.6	0.30	8.5
Incl.	526	33.7	0.6	0.98	2.0
F2-21	535	13.8	2.7	0.40	8.7
Incl.	534	28.3	1.0	0.83	3.3
F2-21	511	5.7	2.0	0.17	6.6
F2-22	102	29.6	0.5	0.86	1.6
F2-22	222	5.6	50.7	0.16	166.3
Incl.	207	6.8	20.3	0.20	66.6
Incl.	209	13.6	6.0	0.40	19.7
Incl.	209	106.4	0.5	3.10	1.6
Incl.	210	20.4	3.5	0.60	11.5
Incl.	221	13.4	1.0	0.39	3.3
Incl.	238	8.0	6.0	0.23	19.7
Incl.	236	18.5	2.0	0.54	6.6
Incl.	236	32.9	1.0	0.96	3.3
Incl.	236	12.2	2.0	0.36	6.6
F2-22	227	4.9	5.0	0.14	16.4
F2-22	438	21.6	3.0	0.63	9.8
Incl.	438	53.3	1.0	1.55	3.3
Incl.	439	11.3	1.0	0.33	3.3
F2-22	276	4.4	2.7	0.13	8.7
F2-22	606	4.3	3.0	0.13	9.8
F2-23 F2-24	113	5.1	2.0	0.15	9.8 6.6
F2-24 F2-24	411	9.2	7.4	0.13	
	411 410		1.0		24.3
Incl.		31.6		0.92	3.3
F2-24	635	4.4	7.0	0.13	23.0
Incl.	635	22.9	1.0	0.67	3.3
F2-25	147	5.2	2.6	0.15	8.5
F2-25	289	21.4	1.0	0.62	3.3
F2-25	325	6.4	5.0	0.19	16.4
Incl.	326	13.5	2.0	0.39	6.6
F2-25	437	5.6	4.0	0.16	13.1
Incl.	436	17.1	1.0	0.50	3.3
F2-25	487	3.3	24.0	0.10	78.7
F2-25	498	13.8	2.0	0.40	6.6
F2-26	anomalous				
F2-27	anomalous				
F2-28	anomalous				
F2-29	326	477.1	3.8	13.91	12.3
Incl.	326	891.1	2.0	25.99	6.6
F2-29	417	109.8	0.5	3.20	1.6
F2-29	438	3.7	8.0	0.11	26.2



Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
Incl.	438	22.6	1.0	0.66	3.3
F2-29	483	8.1	2.0	0.24	6.6
F2-29	527	13.9	1.2	0.40	3.9
F2-29	801	5.1	5.3	0.15	17.4
Incl.	802	10.5	1.0	0.31	3.3
F2-29	856	4.1	16.2	0.12	53.0
Incl.	861	8.0	6.1	0.23	20.0
Incl.	863	10.4	2.2	0.30	7.2
F2-30	anomalous				
F2-30-W1	783	7.2	3.0	0.21	9.8
Incl.	783	8.0	2.6	0.23	8.5
F2-31	anomalous				
F2-32	439	13.8	1.0	0.40	3.3
F2-32	556	4.4	2.6	0.13	8.5
F2-33	579	21.7	1.0	0.63	3.3
F2-33	598	19.0	1.0	0.55	3.3
F2-33	653	5.2	9.0	0.15	29.5
Incl.	655	8.4	3.0	0.24	9.8
F2-33	690	3.7	16.0	0.11	52.5
Incl.	683	7.0	3.0	0.20	9.8
F2-34	Lost hole	1.0	5.0	0.20	2.0
F2-35	471	16.8	1.8	0.49	5.9
F2-35	881	41.9	2.2	1.22	7.1
Incl.	880	69.8	1.0	2.04	3.3
F2-35	1101	391.3	0.5	11.41	1.6
F2-35	1115	6.9	5.7	0.20	18.7
Incl.	1115	34.6	0.5	1.01	1.6
Incl.	1117	14.2	1.3	0.41	4.3
F2-35-W1	939	5.6	3.0	0.16	9.8
F2-36	436	4.8	3.0	0.10	9.8
Incl.	435	10.6	1.0	0.31	3.3
F2-36	449	3.0	3.5	0.09	11.5
F2-36	574	3.7	4.7	0.11	11.5
Incl.	574	3.8	2.9	0.11	9.5
F2-37	101	13.8	1.0	0.40	3.3
F2-37	143	13.3	1.5	0.39	4.9
Incl.	143	22.1	0.5	0.64	1.6
F2-37	305	13.1	3.0	0.38	9.8
Incl.	306	33.2	1.0	0.38	3.3
F2-38	403	22.7			3.3
		3151.1	1.0	0.66	
F2-39	119		0.5	91.91	1.6
F2-39	678	35.3	1.0	1.03	3.3
F2-39	715	3.5	4.9	0.10	16.1
F2-39	751	3.9	11.0	0.11	36.1
F2-39	772	3.5	4.0	0.10	13.1
F2-39	777	3.3	4.0	0.10	13.1
F2-39	812	6.8	3.0	0.20	9.8
Incl.	812	9.1	2.0	0.27	6.6
F2-39	822	6.5	6.0	0.19	19.7
Incl.	821	8.0	3.0	0.23	9.8
And	824	13.1	1.0	0.38	3.3



Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-39	959	5.2	2.0	0.15	6.6
F2-40	74	26.9	1.0	0.79	3.3
F2-40	592	7.0	3.5	0.20	11.5
Incl.	592	8.0	3.0	0.23	9.8
F2-40	598	3.7	6.0	0.11	19.7
F2-40	721	16.7	1.0	0.49	3.3
F2-41	43	43.0	0.5	1.25	1.6
F2-41	74	5.1	48.0	0.15	157.5
Incl.	53	260.5	0.5	7.60	1.6
F2-41	114	4.9	3.0	0.14	9.8
F2-42	74	5.7	7.8	0.17	25.8
Incl.	75	6.2	7.0	0.18	23.0
Incl.	76	15.7	1.1	0.46	3.6
F2-42	91	6.1	6.0	0.18	19.7
Incl.	93	18.5	1.0	0.54	3.3
F2-42	170	4.8	14.7	0.14	48.2
Incl.	164	20.1	0.7	0.59	2.3
F2-42	663	15.5	4.0	0.45	13.1
Incl.	663	19.7	3.0	0.13	9.8
Incl.	663	37.4	1.2	1.09	3.9
F2-42	672	119.6	0.5	3.49	1.6
F2-43	699	6.8	3.5	0.20	11.5
F2-43	698	8.7	2.5	0.25	8.2
F2-43	965	10.8	1.0	0.32	3.3
F2-44	32	9.2	2.5	0.32	8.2
F2-44	32	173.7	2.5	5.07	8.2
Incl.	38	854.1	0.5	24.91	1.6
F2-45	anomalous	00 111	012	- 11/ 1	110
F2-46	anomalous				
F2-47	137	34.6	1.0	1.01	3.3
F2-48	114	5.3	4.0	0.16	13.1
F2-49	164	4.5	8.7	0.13	28.4
F2-50	185	4.2	3.0	0.12	9.8
F2-51	447	31.0	0.8	0.91	2.5
F2-52	56	3.3	7.0	0.09	23.0
Incl.	58	4.4	4.0	0.13	13.1
F2-52	348	12.8	0.9	0.37	3.0
F2-52	391	17.8	1.0	0.52	3.3
F2-52	600	10.9	1.8	0.32	5.9
Incl.	599	18.8	0.8	0.55	2.6
F2-52	920	17.7	2.0	0.51	6.6
Incl.	919	23.8	1.0	0.69	3.3
F2-52	1006	124.2	3.0	3.62	<u>9.8</u>
Incl.	1006	322.3	1.0	9.40	3.3
F2-53a	No Significant Assays	J = 21.J	1.0	2010	0.0
F2-53	anomalous				
F2-54	56	4.3	13.0	0.13	42.7
Incl.	53	37.3	1.0	1.09	3.3
	84	4.2	6.0	0.12	19.7
F7-54	07	7.4	0.0	0.12	17.1
F2-54 Incl.	86	9.5	2.0	0.28	6.6



Hole	Depth to Centre of	Gold	Metres	Gold	Feet
	Intercept (m)	(g/t)		(oz/t)	
F2-54	383	14.0	1.0	0.41	3.3
F2-55	485	11.3	1.0	0.33	3.3
F2-56	45	4.1	25.6	0.12	84.0
Incl.	48	8.3	8.0	0.24	26.2
Incl.	46	26.3	1.0	0.77	3.3
F2-56	118	2.1	8.0	0.06	26.2
F2-57	96	3.4	6.0	0.10	19.7
F2-57	120	12.3	30.0	0.36	98.4
F2-56	51	12.1	2.0	0.35	6.6
Incl.	51	42.4	0.5	1.24	1.6
F2-57	109	68.8	4.0	2.01	13.1
Incl.	109	368.9	0.5	10.76	1.6
Incl.	121	16.0	1.5	0.47	4.9
Incl.	121	41.7	0.5	1.22	1.6
F2-58	68	238.6	1.0	6.96	3.3
F2-58	136	3.1	9.3	0.09	30.7
Incl.	135	4.1	5.0	0.12	16.4
Incl.	136	11.5	1.0	0.34	3.3
F2-59	200	39.3	3.7	1.15	12.1
Incl.	199	263.4	0.5	7.68	1.6
F2-60	anomalous				
F2-60B	309	5.1	6.0	0.15	19.7
F2-61	127	5.4	5.9	0.16	19.4
Incl.	126	9.0	3.0	0.26	9.8
F2-61B	218	3.6	49.0	0.11	160.7
Incl.	209	6.5	13.0	0.19	42.6
Incl.	217	9.1	5.0	0.26	16.4
Incl.	218	14.1	3.0	0.41	9.8
Incl.	221	33.0	1.0	0.96	3.3
F2-62	anomalous				
F2-63	anomalous				
F2-63B*	181	7.1	7.6	0.21	24.8
Incl.*	178	37.6	1.0	1.10	3.3
FE-09-01	237	3.6	3.0	0.10	9.8
FE-09-01	243	12.8	1.0	0.37	3.3

\*Assays pending for portions of the hole

†Significant Gold Results satisfies the following cut-off criteria:

gram gold x metre product = > 10, and containing a value > 3 g Au/t

Anomalous Holes satisfy the following criteria:

Gram gold x metre product = > 2.5, containing a value > 2 g Au/t

All assays are uncut