RED MOUNTAIN PROPERTY

2009 FIELD INVESTIGATIONS

Assessment Report

Prepared for:

SEABRIDGE GOLD INC.
106 Front Street, Suite 400
Toronto, Ontario M5A 1E1

Report Submitted by:

SRK Consulting

June 2010

TABLE OF CONTENTS

APPENDIX

SUMMARY

In January 2003, Seabridge Gold Inc. (“Seabridge”) commissioned SRK Consulting (“SRK”) to complete monitoring activities and filed investigations related to developing a final reclamation plan on Seabridge’s Red Mountain underground gold project located 18km east of the town of Stewart, British Columbia. The objectives of the study are to build on previous work and included collection and analysis of seep and crib drainage samples, monitoring of dump weathering and documenting general site conditions.

The field program was carried out in August 2009.

LOCATION and ACCESS

The Red Mountain property is located within the Boundary Range of the northwestern British Columbia Coast Mountains, approximately 18km east of the town of Stewart. The property lies between the Cambria Icefield and the Bromley Glacier and the project center is located at Latitude 55^{o} 57’N and Longitude 129^{o} 42’W.

The Red Mountain property is only accessible by helicopter. A staging area 10km north of Stewart, next to Highway 37A, at the entrance to Bitter Creek valley was the main transportation site.

DESCRIPTION and OWNERSHIP

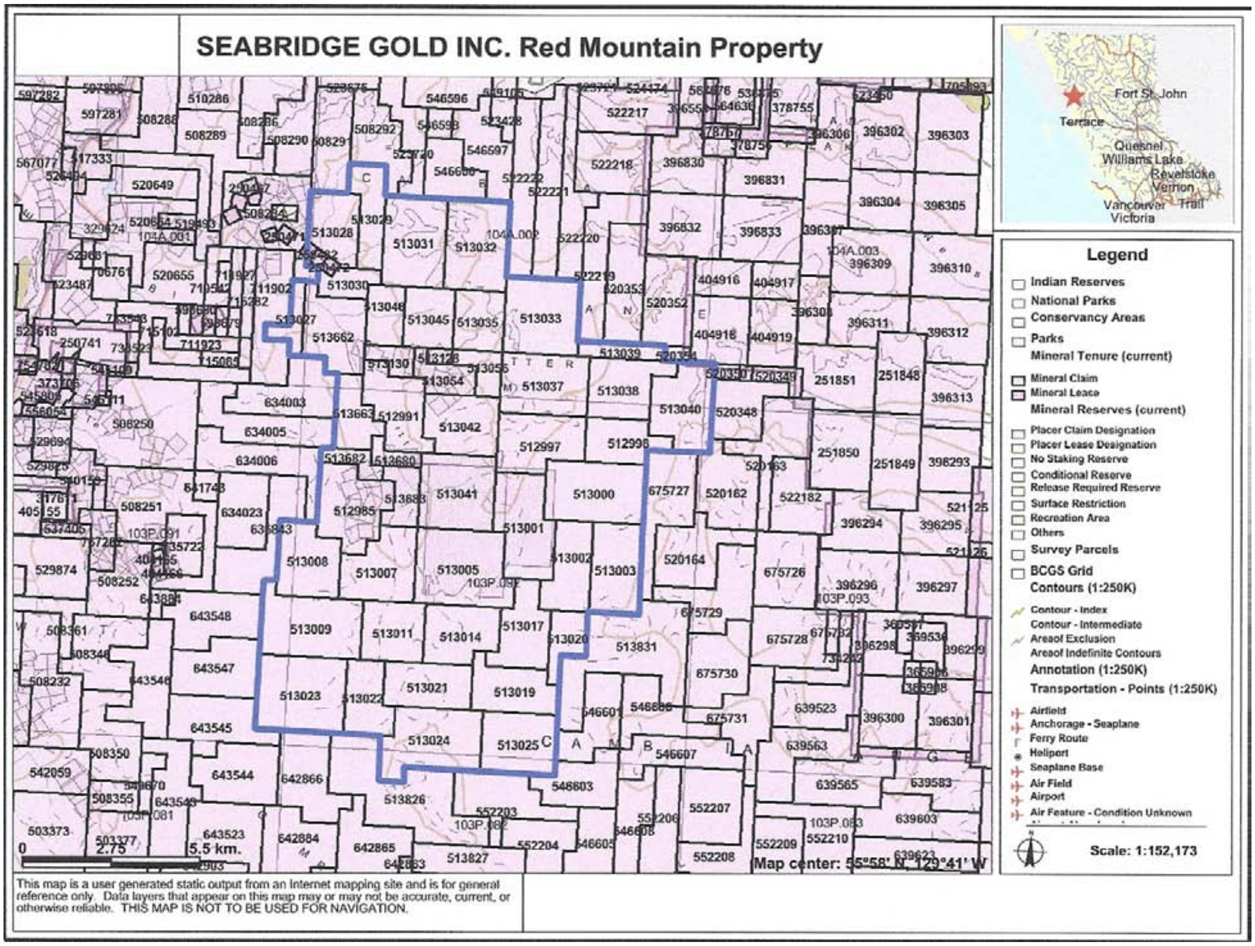
The Red Mountain property consists of 47 cell mineral claims, converted in 2005 from 2- and 4-post legacy claims, covering an area of approximately 17,125 hectares. A list and map of the claims follow.

The Red Mountain property is wholly owned by Seabridge. Underlying option and transfer agreements, and royalties, have been discussed in previous assessment reports and are not covered here.

Current RED MOUNTAIN CELL MINERAL CLAIMS, June 2010.

Claim #	*Hectares*	*Expiry Date*	*NTS Map*	*# of Cells*
512985	488.797	2011/Jul/15	103P092	27
512991	416.154	2010/Sep/26	103P092	23
512997	452.432	2011/Aug/12	103P092	25
512998	307.647	2011/Aug/12	103P092	17
513000	**579.305**	**2011/Jul/15**	**103P092**	**32**
513001	525.127	2011/Sep/16	103P092	29
513002	**362.257**	**2011/Jul/15**	**103P092**	**20**
513003	**434.699**	**2011/Jul/15**	**103P092**	**24**
513005	670.206	2011/Jul/11	103P092	37
513007	452.776	2010/Sep/23	103P092	25
513008	416.515	2010/Sep/16	103P092	23
513009	597.805	2010/Sep/08	103P092	33
513011	362.383	2010/Sep/08	103P092	20
513014	398.677	2010/Sep/02	103P092	22
513017	380.539	2010/Sep/16	103P092	21
513019	380.734	2011/Aug/12	103P092	20
513020	199.338	2011/Jul/15	103P092	11
513021	380.738	2011/Aug/12	103P092	21
513022	308.159	2010/Sep/08	103P092	17
513023	634.389	2010/Sep/08	103P092	35
513024	580.530	2011/Aug/12	103P092	32
513025	435.383	2011/Aug/12	103P092	24
513027	126.577	2010/Sep/26	104A002	7
513028	361.393	2010/Sep/15	104A002	16
513029	289.073	2010/Sep/15	104A002	14
513030	162.691	2010/Sep/15	104A002	11
513031	542.145	2010/Sep/15	104A002	30
513032	542.161	2010/Sep/15	104A002	30
513033	542.426	2010/Sep/24	104A002	30
513035	**289.308**	**2011/Jul/15**	**104A002**	**16**
513037	506.513	2011/Aug/12	103P092	28
513038	397.977	2011/Aug/12	103P092	22
513039	126.596	2010/Sep/14	104A002	7
513040	470.395	2010/Sep/21	103P092	26
513041	543.126	2011/Sep/23	103P092	30
513042	416.200	2011/Sep/26	103P092	23
513045	**289.307**	**2011/Jul/15**	**104A002**	**16**
513046	**216.972**	**2011/Jul/15**	**104A002**	**12**
513054	180.890	2011/Jan/19	104A002	10
513056	**144.704**	**2011/Jul/15**	**104A002**	**8**
513128	36.173	2011/Jan/19	104A002	2
513130	108.522	2011/Jan/19	104A002	6
513662	434.001	2010/Sep/26	104A002	24
513663	253.327	2010/Sep/16	103P092	14
513680	181.046	2011/Sep/06	103P092	5
513682	108.596	2010/Sep/02	103P092	6
513683	90.495	2010/Sep/23	103P092	10
47 claims	**17125.204**			
Work done and filed on 'bold' claims				

Map of RED MOUNTAIN CELL MINERAL CLAIMS, June 2010



PHYSIOGRAPHY and CLIMATE

The Red Mountain property covers an area of mountainous terrain with steep to precipitous slopes and elevations ranging between 599 and 2100 metres above sea level. The tree line occurs at approximately 1300m elevation. Areas below the tree line are forested while higher elevations are characterized by bare rock, talus slopes and intermittent alpine vegetation. Alpine glaciers and icefields are abundant and cover approximately one-third of the project area. On-site infrastructure is located above the tree line.

The area is characterized by a coastal climate and vegetation, and receives very heavy snowfall. Temperatures at Red Mountain are moderated by the coastal influence varying between -25°C in winter and +25°C in summer. Wind conditions add a significant wind chill factor throughout the year.

PROPERTY HISTORY and PREVIOUS WORK

The area surrounding the Red Mountain property was subject to sporadic mineral exploration in the 1960’s and 1970’s, primarily for porphyry molybdenum deposits.

The original property legacy claims (the Oro I-VI and Hrothgar) were acquired through agreement from Wotan Resources Corporation, by Bond Gold Canada Inc. in 1988. Bond Gold carried out extensive field surveys from 1989-1991, and between 1991-1994 Lac Minerals continued this work after their acquisition of Bond Gold. Mine development and environmental baseline studies were initiated in 1993 through 1994 at which point the project was put on hold by Barrick Gold Corporation, following its acquisition of Lac Minerals. The project was sold to Royal Oak Mines in 1995, and this company expanded the underground development, as well as conducting surface target drilling. North American Metals Corporation acquired the property in 2000.

Seabridge acquired the Red Mountain property from North American in 2002.

APPENDIX

STATEMENT OF EXPENDITURES

SRK CONSULTING………………………………	$ 9,641.98
PRISM HELICOPTERS…………………………..	$ 809.90
SEABRIDGE SALARY ALLOCATIONS……..	$ 3,075.00
	$13,526.88
Administration Fee (10%)………………………..	$ 1,352.69
	$14,879.57

STATEMENT OF QUALIFICATIONS

Dylan MacGregor is a Senior Geochemist based in SRK's Vancouver office. Dylan MacGregor has a B.Sc. in Geography from Simon Fraser University (1998) and a Master of Applied Science in Geoenvironmental Engineering from the University of British Columbia (2002). He has worked for eight years as part of SRK's Vancouver GeoEnvironmental group specializing in mine waste geochemistry, with project work spanning the range of mine life stages from permitting through operations, care and maintenance, and closure. His project experience includes carrying out geochemical field investigations and laboratory testing programs at existing waste rock and tailings facilities, geochemical assessments for planned waste rock and tailings facilities (including characterization and water quality predictions), mine waste management planning, and development and evaluation of closure options for waste rock and tailings facilities and other mine components.

SEABRIDGE GOLD

Results of 2009 Field Investigations
Red Mountain Project
British Columbia

Prepared for:

Seabridge Gold Inc.
106 Front Street East, Suite 400
Toronto, ON   M5A 1E1
Canada

Prepared by:

SRK Consulting
Engineers and Scientists

Project Reference No:
1CS026.001

March 2010

Table of Contents

List of Tables

List of Figures

List of Attachments

1 Introduction

Seabridge Gold Inc. (SEA) is the current owner of the Red Mountain Project near Stewart, B.C. As a condition of Mineral and Coal Exploration Activities & Reclamation Permit No. Mx-1-422 (BC MEM, 2002), SEA is required to complete annual monitoring activities to document conditions at the Red Mountain site, including:

- collection and analysis of seep and crib drainage samples;
- monitoring of dump weathering; and
- documenting general site conditions.

The 2009 field visit was completed on August 11. Access to the site was by helicopter. Dylan MacGregor, a geochemist from SRK Consulting, completed the water sampling, monitoring of dump weathering, and site inspection work during this trip. Weather conditions at the site on August 11 consisted of rain, snow fog, sunny breaks and periods of high cloud. The dumps and exposed rock on the ridge were generally free of the previous winter's snow, except where a remnant drift covered the eastern slope of the main dump. A skiff of fresh snow covered roughly 50% of the dump surface.

2 Water Quality Monitoring

2.1 Objectives

Bitter Creek was sampled to record receiving environment water quality (Figure 1). Samples were also collected from drainage from the field weathering test cribs and from the main waste dump seepage to monitor changes in chemistry resulting from oxidation and weathering of mine walls and waste rock (Figure 2). Goldslide Creek was sampled between the mechanics' shop and the former camp site to monitor water quality downgradient of the Marc Zone waste dump (Figure 2). The monitoring was intended to fulfil Items 4c, 9, 10 and 16 of Permit Mx-1-422.

2.2 Methods

A seep survey was conducted by walking the exposed toe of the waste dump and looking for surface water draining from the pile (Figure 2). Seep sampling conditions during the August 2009 site visit were adequate for identifying any seeps along the west and south sides of the pile. The surface, slopes, and toe of the waste dump were free of drifted snow; however a skiff of fresh snow covered roughly 50% of the surface. A remnant snow drift covered the eastern slope of the waste pile and prevented seep survey coverage in this area. Four waste dump seeps were identified and sampled.

The drains of the field weathering cribs were inspected. Water was draining from the south crib only, and a sample was collected from the south crib drain (Figure 2). Samples were also collected from both Goldslide Creek (Figure 2) and Bitter Creek (Figure 1) at locations that have been monitored several times in recent years.

Samples were collected for analyses of routine parameters (pH, conductivity, total dissolved solids, hardness, acidity, alkalinity and sulphate), nutrients (ammonia, nitrate- and nitrite-nitrogen), and dissolved metals (BC Aquatic Life Suite). The dissolved metals samples were filtered and preserved in the field according to standard methods for collection of environmental samples. A single sample was collected from the Goldslide Creek station for Total Petroleum Hydrocarbon analysis. Laboratory analyses were carried out by ALS Environmental of Burnaby, BC.

2.3 Results and Discussion

2.3.1 Goldslide Creek and Bitter Creek Water Quality

Table 2.1 presents a summary of Goldslide Creek and Bitter Creek water quality results for the samples collected in 2009, along with historical results. Complete results are provided in Attachment A.

Table 2.1: Water Quality Summary for Goldslide Creek and Bitter Creek

	Goldslide Creek						**Bitter Creek**						
Date	2003	2004	2006	2007	2008	2009	2000	2004	2005	2006	2007	2008	2009
Total Dissolved Solids	62	99	90	81	91	87	69	82	56	67	62	90	43
Laboratory pH (s.u.)	7.03	6.50	7.35	7.64	7.75	7.47	8.08	7.63	7.85	7.99	7.92	8.01	7.38
Field pH (s.u.)	5.71	-	7.55	-	7.49	7.23	-	6.78	8.04	8.6	-	-	7.61
Acidity (to pH 8.3) $CaCO_3$	1	4.6	1.9	1.5	3.9	2.5	-	-	1.9	1.3	1.3	3.3	2.9
Alkalinity-Total $CaCO_3$	4	8.2	9.4	8.1	9.6	8.7	-	34	28.1	30	29.4	41	28.5
Sulphate SO_4	40	62	48	45.4	48	42.5	8	23	11	11	13	23	11
Aluminum D-Al	0.037	0.0045	0.0097	0.0094	0.0079	0.0077	0.058	0.023	0.040	0.092	0.077	0.086	0.035
Cadmium D-Cd	0.00032	0.00031	0.00050	0.00032	0.00043	0.00040	<0.00005	<0.000050	0.000022	0.00003	0.00002	0.00011	0.000025
Calcium D-Ca	14	24	19	18	20	16.1	12	18	13	13	14	19	12.4
Cobalt D-Co	0.0009	0.00010	<0.0003	<0.0003	<0.0003	<0.0003	<0.0001	0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Copper D-Cu	0.024	0.00746	0.0056	0.0014	0.0031	0.0037	0.0003	0.00012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Iron D-Fe	<0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.03	<0.030	<0.030	0.087	0.053	0.091	<0.030
Magnesium D-Mg	1.8	2.8	2.7	2.8	2.8	2.1	1	1.9	1.4	1.4	1.8	2.3	1.4
Manganese D-Mn	0.017	0.0012	0.0064	0.0045	0.0032	0.0034	<0.005	0.030	0.021	0.019	0.018	0.017	0.017
Mercury D-Hg	<0.00005	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum D-Mo	0.002	0.0029	0.0028	0.0025	0.0021	0.0020	<0.03	0.00221	0.0013	0.0012	0.0014	0.0024	0.0012
Nickel D-Ni	0.002	0.0011	0.0016	0.0011	0.0014	0.0012	<0.001	0.00068	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc D-Zn	0.023	0.018	0.030	0.023	0.0275	0.0252	<0.005	<0.0010	<0.005	<0.005	<0.005	<0.0050	<0.0050

Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.
- = not measured.

Source: V:\1CS026.001_2009_Field_Studies\Report\Tables\Table2-1_2009.Dump_pH+conductivity.

The 2009 Goldslide Creek sample (Figure 2) had circum-neutral pH and generally low concentrations of metals, with values for all parameters similar to values observed during the 2003 through 2008 period. The Total Petroleum Hydrocarbon analysis indicated that TPH concentrations were below the method detection level of 1 mg/L.

The 2009 Bitter Creek sample (Figure 1) had circum-neutral pH and low concentrations of metals. Concentrations of most parameters in 2009 were typically similar to concentrations previously observed in Bitter Creek. Sulphate concentrations were at the lower end of the previously observed range (at 11 mg/L).

In summary, the results of limited 2009 water sampling generally indicate that the water quality of Goldslide Creek and Bitter Creek have not changed significantly since the 2000 monitoring program.

2.3.2 Marc Zone Waste Dump Seepage Water Quality

The 2009 site inspection encountered flowing seepage at four locations on the west and south sides of the Marc Zone waste dump. The sample locations are shown in Figure 2. Table 2.2 contains a summary of 2009 dump seep water quality, along with a summary of seep quality from 2003 through 2008. Complete water quality analysis results for 2009 dump seep samples are included in Attachment A.

Water at 09RM01 was collected from a small depression in the original ground immediately below the waste dump toe at approximately the midpoint of the western flank of the dump. Trace flow was observed to exit the depression as seepage through weathered bedrock and infiltrate within 3 m of the dump toe. Field pH was 5.88 and conductivity values and sulphate concentrations were intermediate to the ranges measured between 2005 and 2008 for seeps draining the western portion of the rock pile. Dissolved metal concentrations were generally similar to or lower than previously observed values (Table 2.2).

Water at 09RM02 was collected from a freshly-excavated small depression in the original ground near the southwest corner of the waste rock dump. Seepage at this location flowed as diffuse fingers through the oxidized talus and infiltrated within a meter of the dump toe. Water from this location was previously sampled in 2007 (as RM07 Seep 4). Field pH was 6.67 and conductivity (1271 uS/cm) and sulphate (480 mg/L) were higher than have been observed previously from seeps draining the southwest portion of the waste dump. Trace metal concentrations in 09RM02 were near or above previously observed maxima for seeps in this area.

Water at 09RM03 was collected from a previously-established 'sump' (a small depression excavated in talus adjacent to the waste dump toe) at the northwest corner of the waste dump. Seepage at this location exits the toe along a narrow flowpath, then infiltrates into the down-gradient talus within 2 to 3 m of the dump toe. Water from this location was sampled on five previous occasions, spanning the period of 2003 through 2007. A summary of results from the earlier monitoring is provided for comparative purposes in Table 2.2, along with the 2009 results, under the heading 'NW Seep'. During 2009 sampling, water at 09RM03 had field pH of 7.05 (intermediate to range of previous results) and field conductivity of 1263 µS/cm. Conductivity, sulphate, calcium, and magnesium values were near or above previously observed maxima, however this pattern was not reflected in trace metal concentrations which were similar to previously observed concentrations.

2.3.3 Field Weathering Crib Leachate Quality

Field weathering crib monitoring results from 2009 are included as Attachment B, along with historical records of leachate quality from each weathering crib (locations as shown in Figure 2). The 2009 results show that the south crib continues to have neutral pH drainage; no water was draining from the north crib at the time of sample collection. Conductivity, sulphate concentrations, and concentrations of most major and trace elements in south crib drainage were near or below previously observed minima.

Table 2.2: Water Quality Summary for Marc Zone Waste Dump Seeps

	E Seep	S Seep		SW Area Seeps					NW Seep						W Seep				
Sample ID	RM-Seep-01	05RM04	RM07-SEEP05	RM-SEEP-02	05RM01	RM 06 Seep 2	RM07-SEEP04	09RM02	RM-SEEP-03	05RM02	RM Seep 3	RM03	RM07-SEEP01	09RM03	05RM03	RM 06 Seep 1	RM07-SEEP02	08RM01	09RM01
Date Sampled	8/19/2003	7/28/2005	8/8/2007	8/19/2003	7/26/2005	7/26/2006	8/8/2007	8/11/2009	8/19/2003	7/28/2005	7/26/2006	8/8/2007	8/8/2007	8/11/2009	7/28/2005	7/26/2006	8/8/2007	8/31/2008	8/11/2009
Field Parameters																			
pH	4.89	6.93	7.63*	7.31	7.29	7.51	7.20*	6.67	6.52	7.11	6.63	6.90*	7.88*	7.05	5.91	5.26	5.07*	5.58	5.88
Conductivity (µS/cm)	504	547	467*	964	510	631	934*	1271	1223	730	436	786*	153*	1263	520	713	1050*	621	591
Flow volume (L/min)	1	0.3	0.5	1	Trace	5	Trace	trace	Trace	0.25	Trace	Trace	Trace	trace	0.15	1	Trace	Trace	trace
Dissolved Anions																			
Acidity (to pH 8.3) $CaCO_3$	11	4.6	2.2	2	6.3	3.0	7.3	7.1	2	5.2	2.3	3.0	1.7	2.5	6.5	6.3	12.5	5	6.9
Alkalinity-Total $CaCO_3$	2	21	19	56	73	36	28	22.2	12	10	4.4	7.9	39	16.2	3.5	4.4	3.6	4.2	3.3
Sulphate SO_4	368	271	208	472	188	282	480	739	700	358	196	409	34	791	240	355	582	292	291
Dissolved Metals																			
Aluminum D-Al	1.97	<0.0050	<0.0050	<0.01	0.0066	0.012	<0.010	<0.010	0.03	0.023	0.023	0.012	0.0055	0.01	0.45	0.83	1.23	0.3	0.29
Cadmium D-Cd	0.0037	0.000083	0.000024	0.0002	0.000071	0.011	0.017	0.0158	0.0005	0.00023	0.00049	0.00016	0.000060	0.000166	0.00063	0.00032	0.00182	0.0005	0.000487
Calcium D-Ca	132	100	83	175	89	117	197	266	266	146	77	178	31	303	97	142	255	125	118
Cobalt D-Co	0.0468	0.00033	<0.00030	<0.0006	<0.00030	0.019	0.03810	0.0451	0.012	0.0037	0.0048	<0.00060	<0.00030	<0.00060	0.0091	0.0055	0.0145	0.006	0.00633
Copper D-Cu	0.315	0.002	0.0015	<0.002	<0.0010	<0.0010	<0.0020	<0.0020	0.032	0.014	0.016	0.0034	<0.0010	0.0034	0.12	0.11	0.14	0.08	0.0525
Iron D-Fe	0.04	<0.030	<0.030	<0.03	<0.030	0.42	0.28	<0.030	<0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.045	<0.030	<0.030	<0.030
Magnesium D-Mg	5.6	16	12	21	12	7	17	21	9.8	5.3	3.8	6.9	1.3	9.11	3.6	4.4	8.0	3.7	4.19
Manganese D-Mn	2.29	0.025	0.0025	0.046	<0.00030	1.3	2.4	3.49	0.42	0.072	0.077	0.0059	0.0014	0.0425	0.19	0.095	0.799	0.18	0.216
Mercury D-Hg	<0.00005	<0.000020	<0.000020	<0.00005	<0.000020	<0.000020	<0.000020	<0.000020	<0.00005	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum D-Mo	<0.002	0.0085	0.016	0.0060	0.0077	<0.0010	<0.0020	<0.0020	0.003	0.0018	<0.0010	0.0031	<0.0010	0.0053	<0.0010	<0.0010	<0.0050	<0.0020	<0.0010
Nickel D-Ni	0.024	0.0024	0.0015	0.012	0.0016	0.21	0.37	0.419	0.012	0.0031	0.0040	<0.0020	<0.0010	0.0034	0.019	0.010	0.112	0.02	0.028
Zinc D-Zn	0.25	0.23	0.084	<0.01	<0.0050	1.8	2.8	2.69	0.02	0.0091	0.027	<0.010	0.0054	<0.0050	0.040	0.018	0.182	0.04	0.034

Notes:
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.
* indicates lab measurements substituted for field parameters.

Source: X:\01_SITES\Red Mountain_BC\1CS026.001_2009_Field_Studies\Report\Tables\[Table2-2_SeepWQ_Results.xlsx]Table 2.2 WR Seeps.

3 Monitoring of Dump Weathering

3.1 Objectives

Geological observations, contact tests (rinse pH and conductivity), and acid base accounting (ABA) analyses were used to monitor the progress of waste rock weathering at representative locations on the waste dump. The results were compared to data from earlier programs to assess whether there have been any significant changes in the amount of soluble weathering products and neutralization potential in the waste rock. The monitoring is intended to fulfil Item 8 of Permit MX-1-422, and conforms to the three-year cycle of ABA monitoring stipulated in a 2006 letter to SGI from the BC Ministry of Energy and Mines (BC MEMPR, 2005).

3.2 Methods

Shallow test pits were excavated 0.3 to 0.5 m into the waste material and 2-3 kg samples were collected from the base of the pit. Samples were sieved through a 1 cm screen to remove the oversize material prior to bagging the sample. 20 samples were collected in total from 10 pits in the upper (1994) and 10 pits in the lower (1996) waste rock lifts, at locations sampled in 2003 through 2007. In addition, two test pits in the crushed ore stockpile and three test pits in the small waste dump adjacent to the Marc Zone portal were excavated and sampled. Sample locations are shown in Figure 3.

Samples were shipped to SRK's Vancouver office for contact testing. Samples were air dried, and contact tests (rinse pH and conductivity) were carried out on all 25 samples. The method involved sieving the dry samples through a #10 mesh screen (<2 mm), then thoroughly mixing 100 g of sieved sample with 100 mL distilled water and letting the mixture stand for 15-30 minutes to allow settling of solids. The pH and conductivity of the supernatant were then measured and reported as rinse pH and conductivity.

ABA analyses were carried out at SGS CEMI in Burnaby, including Modified NP, total and sulphate sulphur, and total inorganic carbon (TIC) (MEND 1991).

3.3 Results and Discussion

3.3.1 General Observations

Little visual evidence of sulphide oxidation (i.e. staining or oxidized particles) was observed during collection of waste rock samples. Calcite occurred as veinlets in larger rock particles, or as discrete calcite fragments, in most of the samples collected. Dark grey to black metasedimentary rock was the dominant lithology, with a lesser component of pale to dark green porphyry. Approximately 30% of the crushed ore particles were observed to be weathered a pale orange to light rusty brown colour.

3.3.2 Contact Test Results

Results of rinse pH and conductivity measurements for 2009 samples are shown in Table 3.1. All 2009 samples returned moderate conductivities ranging from 140 to 1576 (median 420) μS/cm and slightly acidic to slightly alkaline pH values ranging from 6.5 to 7.8 (median 7.4).

Table 3.1 also includes the results of previous rinse pH/ conductivity surveys undertaken in 2000, and 2003 through 2009. Sixteen samples were randomly selected in the 2000 survey using a grid and were considered representative of overall waste dump conditions at the time of collection. Sampling conditions were very similar at the time of the 2000, 2003, 2004, and 2008 surveys, with the waste rock being covered by snow. In contrast, the areas of the waste dump that were sampled during 2005, 2006, 2007 and 2009 were relatively free of snow.

As indicated in Table 3.1, rinse pHs for 2009 samples were generally similar to those measured in 2006, but somewhat lower than rinse pH values measured in both 2007 and 2008. Similar, rinse conductivities for 2009 samples were higher than those measured in 2007 and 2008, but were similar to rinse conductivities measured in 2005 and 2006. The variability appears to be a function of weathering and flushing conditions in the waste rock in the period prior to collection of annual samples, rather than a consistent trend over time.

3.3.3 Acid-Base Accounting Results

Review of Previous ABA Monitoring

During both 2003 and 2006, samples were collected and analysed for ABA parameters to evaluate the progress of weathering over the period of exposure. Earlier neutralization potential (NP) data was reviewed to show the potential magnitude of NP loss since deposition; the following points were noted in the 2006 monitoring report (SRK 2007) and are included here for comparison with results from 2009 monitoring.

- The drill hole data presented in the MDAG report (MDAG, 1996) shows that Marc Zone waste rock has an average carbonate NP content of 18 kg $CaCO_3$ eq/tonne and an average NP of 46 kg $CaCO_3$ eq/tonne.
- The underground muck samples (1993/94) had an average Sobek NP of 31 kg $CaCO_3$ eq/tonne.
- Bulk samples tested in Frostad, 1999 had carbonate NP's ranging from 9.4 to 32 kg $CaCO_3$ eq/tonne, and NP's ranging from 11 to 45 kg $CaCO_3$ eq/tonne.
- 1996 testing of two 1993/94 samples collected from a test pit on the waste pile (Golder, February 11, 1997 letter) had carbonate NPs of 24 and 36 kg $CaCO_3$ eq/tonne, and Sobek NP of 46 and 61 kg $CaCO_3$ eq/tonne. These measurements of NP were higher than average values from the earlier tests, suggesting there was little NP loss over the first two to three years of placement in the waste dumps.
- Ten samples collected and analyzed in 2003 had carbonate NP ranging from 37 to 126 kg $CaCO_3$ eq/tonne.

- Eight samples collected and analyzed in 2006 had carbonate NP ranging from 18 to 47 kg $CaCO_3$ eq/tonne.

The NPs and carbonate NPs measured on all samples collected in 2006 were within or above the range of those samples tested previously. These results indicate that there had been insufficient weathering and consumption of neutralizing material at the surface of the waste dump to lead to a measurable reduction in remaining neutralization potential.

Results of 2009 ABA Monitoring

One sample from the crushed ore stockpile (OP 02), one sample from the waste dump adjacent to the Marc Zone portal (PP 01), and six samples from the main Marc Zone waste dump (TP 03, -07, -10, -12, -16, -17) were analyzed for total and sulphate sulphur, total inorganic carbon, and modified neutralization potential. Analytical results are shown in Table 3.2, and are included as Attachment C. Sample locations are shown in Figure 3. Total inorganic carbon (TIC) ranged from 0.5% to 2.48% in the eight samples tested, with the crushed ore sample returning the lowest TIC value. Corresponding carbonate NP values ranged from 17 to 59 kg $CaCO_3$ eq/tonne. Total sulphur ranged from 0.34 to 6.15%, with the highest sulphur content measured for the ore sample. Corresponding AP values ranged from 10 to 191 kg $CaCO_3$ eq/tonne. Seven of eight samples had NP/AP and carbonate NP/AP < 1; only TP 16, which had anomalously low total sulphur, returned NP/AP > 1. Carbonate NP was less than NP for all samples by roughly 5 kg $CaCO_3$ eq/tonne.

The range of carbonate NP values measured in 2009 is within the ranges measured in previous characterization programs (as summarized above). Carbonate NP results from 2003, 2006 and 2009 monitoring showed higher average carbonate NP than was reported in MDAG (1996) for the extensive drill core testing program, and similar results to the 1993/1994 underground muck testing.

These results agree with the previous understanding of the Marc Zone mine waste, in that the bulk of the material is potentially acid generating (PAG). The neutral to alkaline paste pH values and the measured TIC contents remaining indicate that acidic conditions have not yet developed on the surface of the Marc Zone mine waste piles at this time, and that further delay of onset to acidic conditions can be expected.

Table 3.1: Results from Waste Rock and Crushed Ore pH and Conductivity Surveys

2009 Survey			2008 Survey			2007 Survey			2006 Survey			2005 Survey			2004 Survey			2003 Survey			2000 Survey		
SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)	SAMPLE ID	RINSE pH	RINSE COND. (µS/cm)
09TP01	6.9	420	08TP01	8.2	263	07TP01	8.2	80	06TP01	7.5	352	05TP01	8.1	241	04TP01	8.0	154	03TP01	7.3	104	51602	8.0	265
09TP02	6.9	343	08TP02	8.0	376	07TP02	8.1	90	06TP02	7.3	446	05TP02	8.0	342	04TP02	7.9	198	03TP02	7.8	101	51603	7.9	452
09TP03	7.2	515	08TP03	8.0	407	07TP03	8.2	90	06TP03	7.3	384	05TP03	8.1	147	04TP03	7.6	161	03TP03	7.7	156	51604	8.0	504
09TP04	7.7	437	08TP04	8.0	384	07TP04	8.2	80	06TP04	7.3	421	05TP04	8.2	252	04TP04	7.9	217	03TP04	7.2	116	51605	7.9	718
09TP05	7.7	498	08TP05	8.1	306	07TP05	8.2	70	06TP05	7.2	440	05TP05	8.0	413	04TP05	7.6	153	03TP05	7.2	129	51606	8.3	311
09TP07	7.7	394	08TP07	8.2	277	07TP07	8.3	110	06TP06	7.4	331	05TP06	8.0	368	04TP06	7.9	209	03TP06	7.1	114	51607	8.5	220
09TP07	7.5	523	08TP07	8.0	412	07TP07	8.2	70	06TP07	7.0	565	05TP07	8.0	352	04TP07	7.3	206	03TP07	7.0	132	51608	8.6	134
09TP08	7.4	391	08TP08	7.7	302	07TP08	8.1	90	06TP08	7.4	305	05TP08	8.1	396	04TP08	8.2	168	03TP08	7.8	136	51612	8.1	581
09TP09	7.3	321	08TP09	8.0	320	07TP09	8.2	120	06TP09	7.5	338	05TP09	8.1	285	04TP09	7.9	128	03TP09	7.9	156	51613	8.2	311
09TP10	7.2	573	08TP10	8.0	296	07TP10	8.2	80	06TP10	7.6	254	05TP10	8.1	268	04TP10	7.3	167	03TP10	7.2	168	51614	8.0	418
09TP11	7.5	140	08TP11	8.8	104	07TP11	8.7	60	06TP11	7.4	170	05TP11	8.4	183	04TP11	7.8	234	03TP11	7.9	190	51615	8.1	399
09TP12	7.3	483	08TP12	7.4	527	07TP12	8.3	220	06TP12	7.2	835	05TP12	7.9	228	04TP12	7.5	253	03TP12	8.1	78	51616	8.3	429
09TP13	7.3	577	08TP13	7.3	503	07TP13	7.9	130	06TP13	7.5	545	05TP13	7.9	377	04TP13	7.7	251	03TP13	7.5	181	51617	8.2	345
09TP14	7.4	363	08TP14	7.2	486	07TP14	8.1	140	06TP14	7.5	590	05TP14	7.4	589	04TP14	7.4	172	03TP14	7.6	196	51618	7.9	588
09TP15	7.2	240	08TP15	7.4	516	07TP15	8.2	150	06TP15	7.6	517	05TP15	7.9	552	04TP15	8.1	155	03TP15	7.7	180	51619	7.8	875
09TP16	7.5	195	08TP16	8.1	297	07TP16	8.2	90	06TP16	7.6	346	05TP16	8.0	490	04TP16	8.4	120	03TP16	8.1	176	51620	7.8	691
09TP17	7.5	239	08TP17	8.6	123	07TP17	8.6	40	06TP17	8.1	100	05TP17	8.4	144	04TP17	8.2	134	03TP17	8.0	256			
09TP18	7.4	299	08TP18	8.6	108	07TP18	8.6	50	06TP18	8.0	109	05TP18	8.1	181				03TP18	8.3	111			
09TP19	7.7	244	08TP19	8.3	194	07TP19	8.6	80	06TP19	8.2	198	05TP19	8.2	306	04TP19	8.3	201	03TP19	8.3	232			
09TP20	7.7	241	08TP20	8.5	146	07TP20	8.6	100	06TP20	8.5	116	05TP20	8.4	169	04TP20	8.4	148	03TP20	7.7	127			
09PP01	7.5	1576	08PP01	7.7	585	07PP01	7.9	180	06PP01	6.9	897												
09PP02	6.7	949	08PP02	7.4	513	07PP02	8.1	160	06PP02	6.9	876												
09PP03	7.1	429	08PP03	8.7	125	07PP03	8.3	90	06PP03	7.4	186												
09OP01	6.8	736	08OP01	7.9	374	07OP01	7.8	110	06OP01	6.7	434												
09OP02	6.5	632	08OP02	7.6	663	07OP02	7.7	120	06OP02	6.7	575												

*2009 sample locations are shown in Figure 3; Sample IDs consist of '09TP + location #', e.g. sample 09TP1 was collected at location 1 in Figure 3.

Source: V:\1CS026.001_2009_Field_Studies\Report\Tables\Table3-1_2009.Dump_pH+conductivity.

Table 3.2 Acid-base Accounting Results for Selected 2009 Waste Rock and Ore Samples

Sample ID	Paste pH	CO_2	Equiv. $CaCO_3$	Total S	Sulphate	Sulphur Diff.	AP	Modified NP	NP/AP	Fizz Test
	Std. Units	% CO_2	kg $CaCO_3$/t	% S	% S	% S	kg $CaCO_3$/t	kg $CaCO_3$/t	Ratio	Visual
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A
Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Modified NP	Calc.	Sobek
PP01	7.46	0.99	22.5	6.02	0.05	5.97	187	27	0.1	Moderate
OP02	7.47	0.5	11.4	6.15	0.03	6.12	191	17	0.1	Slight
TP03	8.07	1.2	27.3	2.52	<0.01	2.52	79	32	0.4	Slight
TP07	8.02	1.4	31.8	1.98	0.02	1.96	61	38	0.6	Moderate
TP10	8.04	2.48	56.4	2.87	0.03	2.84	89	59	0.7	Moderate
TP12	7.99	1.44	32.7	3.4	0.03	3.37	105	37	0.3	Moderate
TP16	8.51	1.73	39.3	0.34	0.02	0.32	10	48	4.8	Moderate
TP17	8.19	1.41	32.0	2.69	0.02	2.67	83	40	0.5	Moderate

Note:
Equivalent $CaCO_3$ is calculated from the CO_2 originating from carbonate minerals.
Sulphur Difference = Total S - Sulphate S.
AP = Acid Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.
Modified NP = Neutralization Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material.

Source: V:\1CS026.001_2009_Field_Studies\Report\Tables\Table3-2_ABA

4 Site Conditions

4.1 Objectives

One of the objectives of the 2009 site visit was to assess general site conditions and evaluate any new requirements for care and maintenance of the site. The site inspection is intended to fulfil Item 12 of Permit MX-1-422.

4.2 Methods

Inspection of the different site components was carried out by SRK through a combination of aerial reconnaissance and on-the-ground inspections. The condition of structures and facilities were recorded in field notes and digital photographs were taken of all site components. This is the seventh consecutive year that the site has been visited by the same inspector, which has allowed any changes in conditions over those observed in previous years to be identified and noted. Photographs were taken of all pertinent areas and structures, and are provided on the CD provided with this report.

4.3 Results and Discussion

Underground Workings

The underground workings were not entered during the 2008 inspection.

Marc Zone Portal Area

The plywood structure restricting access to the underground workings was exposed down to roughly 2.5 m above ground level, and was observed to be in good condition. The minor deterioration of the wooden portal structure observed in 2006, 2007 and 2008 (e.g. SRK 2009) had not worsened noticeably at the time of the 2009 inspection. There remains an area of the flat portal structure roof that is bowed inwards and a single board of rough 2x10 lumber has fallen down from the top of the wall on each of the east and west sides. Several other boards were observed to be loose on the west side. Overall, the condition of the portal structure was such that it will continue to prevent inadvertent access, and no deterioration was observed over conditions observed in 2008.

The crest of the small waste rock dump immediately east of the portal was clear of large drifts of snow, although a large drift occupied a portion of the flat surface of the dump. The condition of this waste pile was similar to that observed previously. The dump toe was not inspected in 2009 due to snow cover.

The mechanics' shop was found to be in similar condition as that observed in 2008. The plywood door coverings had been removed from the four sea containers that served as a first aid station, a lunch room, and as storage for parts and maintenance supplies. The plywood was damaged was either missing or damaged, and the doors were not replaced during the 2009 inspection.

The three horizontal fuel tanks were emptied in 2007, and checked in 2008. These tanks were not inspected during the 2009 inspection.

The crusher adjacent to the main waste dump was partially covered by drifted snow; only the plywood control room, portions of the conveyor and part of the steel structure protruded above the snow drift. Inspection of the exposed parts of the crusher revealed that significant rehabilitation would be required to put the crusher back into service.

The crushed ore stockpile adjacent to, and east of the crusher was partially exposed, with the perimeter of the stockpile covered in snow drifts. Where exposed in hand test pits, the appearance of the crushed ore pile was similar to that previously observed, with isolated rusty brown-stained clasts in a mass of fresh to slightly tarnished crushed rock with massive to disseminated sulphides.

The east toe of the main waste rock dump was completely covered with snow to an estimated height of 2 to 3 m during the 2009 inspection. The lined collection basin at the south end of the main waste rock dump appeared to contain no water. There was no evidence of recent ponding (i.e. no melting of the thin layer of recent snow) within this structure, and this lack of evidence of recent ponding has been noted during other inspections in recent years.

Cirque Camp Area

The Cirque Camp area was subject to a significant reclamation effort in August 2008. At the time of the August 2009 inspection, the former camp area was observed to consist of a uniformly-graded area of exposed mineral soil, with a gentle slope in the direction of Goldslide Creek. The previously-established snow course survey area and weather station towers remained in place, along with the black horizontal fuel tank and minor cement foundations that previously supported communication towers. Overall, the area was generally free of demolition debris. The small area of burned vegetation (roughly 3 m by 5 m) noted in 2008 adjacent to the location of the former mess hall remained as previously observed. The overall appearance of the reclaimed site was similar to that observed immediately following the reclamation works carried out in 2008.

The black horizontal fuel tank was dipped and was found to contain 82.5 cm of fuel (roughly 4210 L), which was 0.5 cm lower than was measured during the 2008 inspection. The year-over-year difference in height of fuel in the tank is considered to be a function of measurement error.

The area of the helicopter hangar was in similar condition to the former camp location, with a uniformly graded surface of exposed mineral soil sloping gently towards Goldslide Creek (roughly following the original contours). The metal quonset-style helicopter hangar was in reasonable condition at the time of inspection and remains in place. Only the metal helicopter hangar and a long section of corrugated steel culvert remained in this area.

Two mobile trucks remained at the drill laydown area, and the empty skid-mounted 500 L fuel tank that was formerly located adjacent to the helicopter hangar had been moved to the drill laydown area during the August 2008 reclamation activities. The former storage shed and related debris had been removed, burned, or buried, and the disturbed surfaces were uniformly-graded exposed mineral soil. Minor wood debris was observed scattered on the steep slope below the drill laydown area- this debris was noted during previous inspections and there did not appear to be more debris than previously observed.

5 Summary and Conclusions

SRK Consulting made a site visit to the Red Mountain exploration site on August 11, 2009. Six water samples and 25 waste rock samples were collected for environmental monitoring purposes, and limited inspections were undertaken to document site conditions.

Water samples were collected from three Marc Zone waste rock seeps, from one waste rock weathering crib, from Goldslide Creek, and from Bitter Creek. Comparison with previous results for Goldslide Creek and Bitter Creek show little to no change in water quality at these locations. Overall, downgradient water quality monitoring in Goldslide Creek and Bitter Creek has shown that dissolved metal concentrations remain within historically-observed ranges at these locations, and that there has been no measurable increase in metal loads from the Red Mountain site.

Three flowing seeps were located during the 2009 waste rock seepage survey along the west side of the waste rock dump. Seepage quality along the west side of the dump was generally similar to previously observed seepage quality in this area.

Contact testing of waste rock fines in 2009 showed that neutral to slightly alkaline conditions generally persist near the surface of the Marc Zone waste dump. Rinse conductivities indicated that similar amounts of soluble oxidation products were present as were typically observed in previous surveys, with year-over-year variability likely arising from a combination of sample heterogeneity and the degree of infiltration and flushing in the period preceding sample collection. Similarly, ABA testing carried out in 2009 returned results similar to various rounds of ABA testing conducted since the early 1990s.

Contact testing has now been carried out as part of site monitoring since 2000, and annually since 2003, with no observable trends over time and minor year-over-year variability. ABA testing has been carried out less frequently, but results show the same lack of variation with time that is observed for the contact tests. Based on lack of observable change, we recommend reducing the frequency of this monitoring activity to carrying out contact tests every three years and ABA confirmation tests every 6 years.

This report, **"1CS026.001 Results of 2009 Field Investigations, Red Mountain Project"**, has been prepared by SRK Consulting (Canada) Inc.

Prepared by

Dylan MacGregor, GIT
Senior Environmental Geochemist

Reviewed by

PROVINCE OF BRITISH COLUMBIA
K.S. Sexsmith
GEOSCIENTIST
March 29, 2010

Kelly Sexsmith, P.Geo.
Principal Environmental Geochemist

6 References

BC Ministry of Energy and Mines, 2002. Mineral and Coal Exploration Activities and Reclamation Permit Number Mx-1-422, Mine No: 0100406. Issued June 24, 1993; amended May 17, 2002.

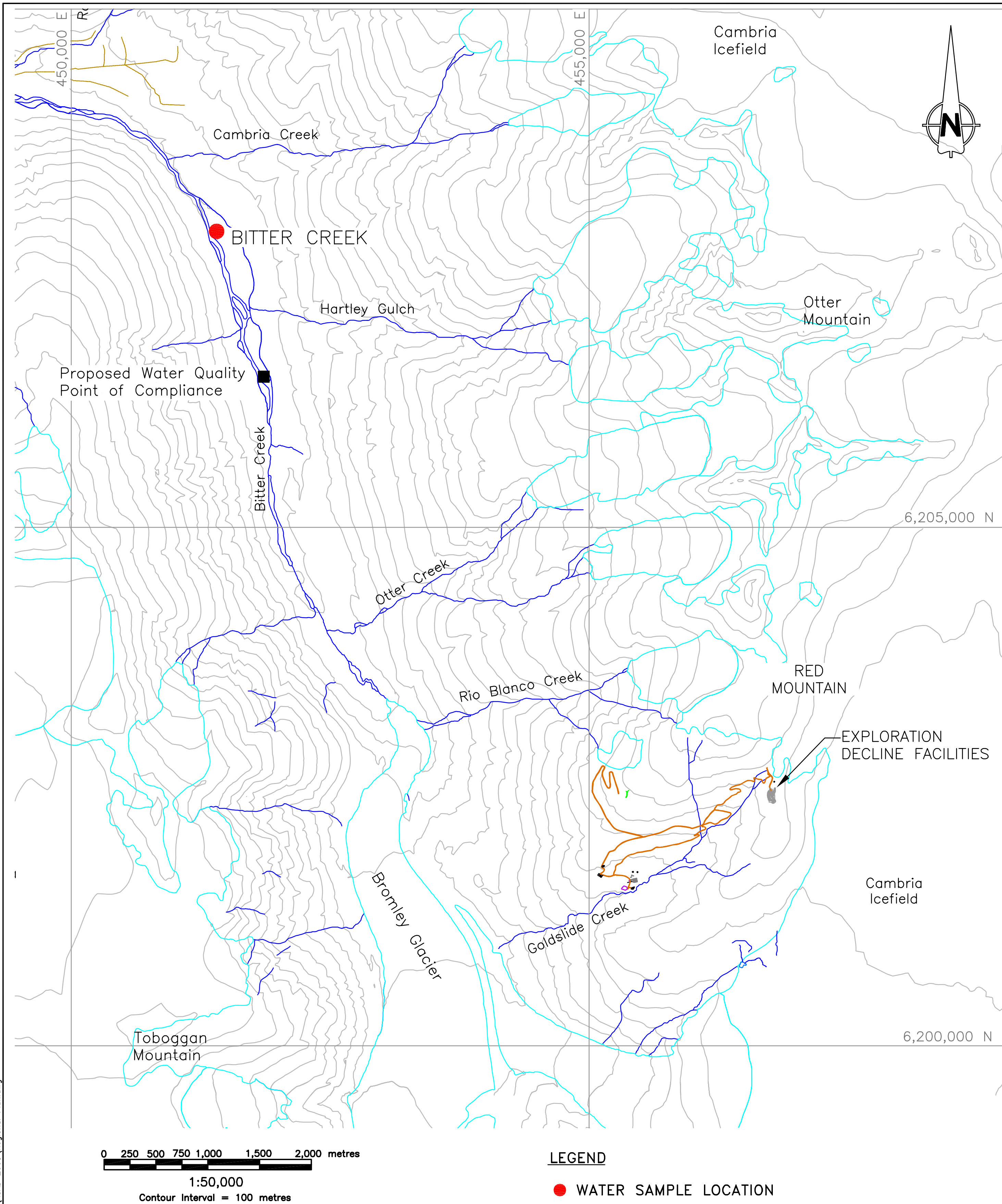
MEND (Mine Environment Neutral Drainage Program). 1991. Acid Rock Drainage Prediction Manual, MEND Project 1.16.1 (b). Prepared by Coastech Research Inc., North Vancouver, B.C. March 1991.

Mine Drainage Assessment Group, 1996. Static and Kinetic Testwork for Predictions of Acidic Drainage and Metal Leaching at the Red Mountain Project, British Columbia, Canada. A report completed for Royal Oak Mines Inc., April 1996.

SRK Consulting, 2007. Results of 2006 Field Investigations, Red Mountain Project, British Columbia. Prepared for Seabridge Gold Inc, March 2007.

SRK Consulting, 2009. Results of 2008 Field Investigations, Red Mountain Project, British Columbia. Prepared for Seabridge Gold Inc, March 2009.

Figures



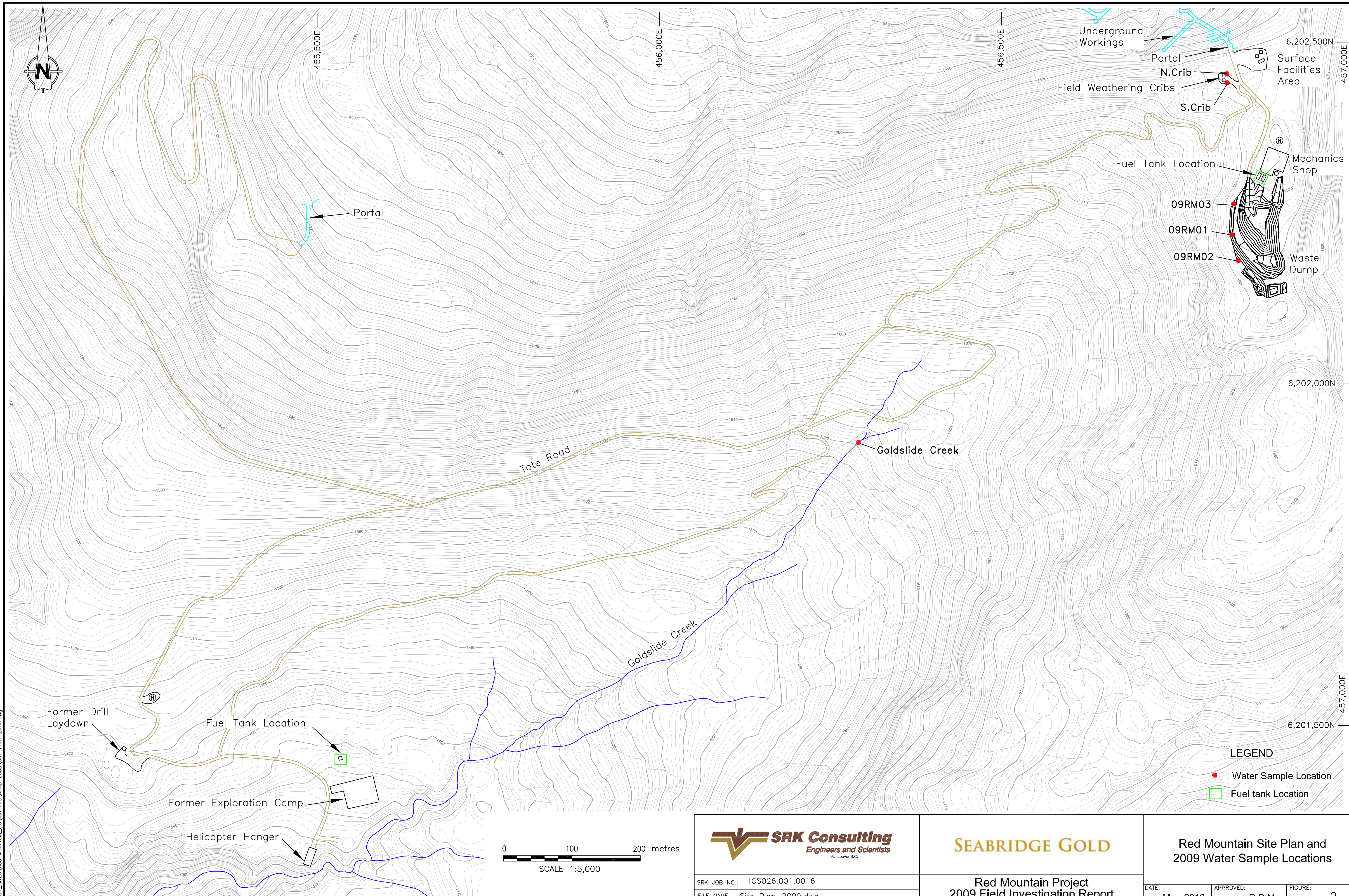
J:\01_SITES\Red Mountain_BC\Autocad\ACAD 2009\Regional Plan.dwg

SRK Consulting
Engineers and Scientists
Vancouver B.C.

SEABRIDGE GOLD

Site Plan and Water Sample Location

SRK JOB NO.: 1CS026.001.0016	Red Mountain Project 2009 Field Investigation Report	DATE: Mar. 2010	APPROVED: D.B.M.	FIGURE: 1
FILE NAME: Regional Plan.dwg				



SRK Consulting
Engineers and Scientists
Vancouver B.C.

SEABRIDGE GOLD

Red Mountain Site Plan and 2009 Water Sample Locations

SRK JOB NO.: 1CS026.001.0016

FILE NAME: Site Plan–2009.dwg

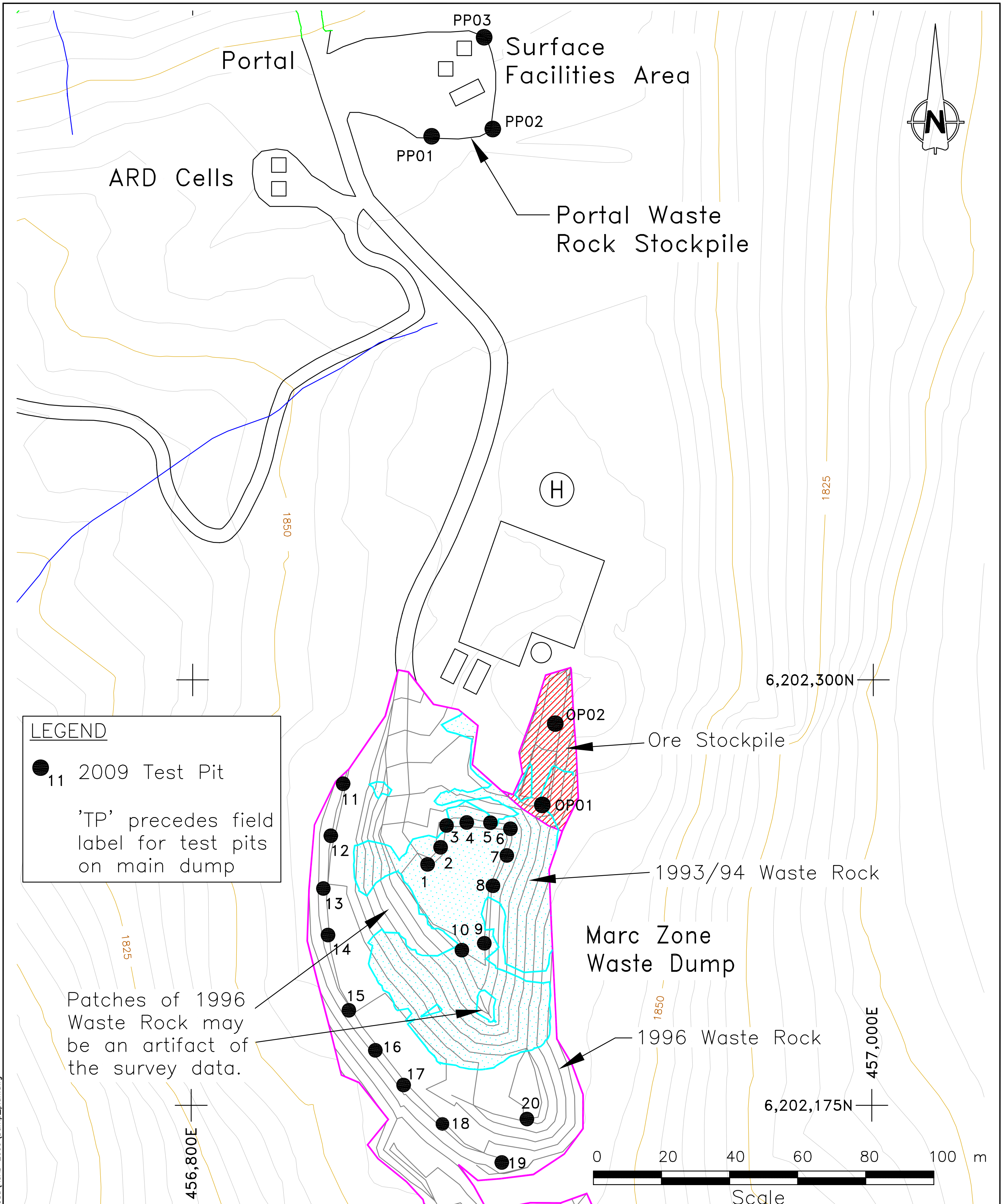
Red Mountain Project
2009 Field Investigation Report

DATE: Mar. 2010

APPROVED: D.B.M.

FIGURE: 2

J:\01_SITES\Red Mountain_BC\Autocad\ACAD 2009\Site Plan–2009.dwg



SRK Consulting
Engineers and Scientists
Vancouver B.C.

SEABRIDGE GOLD

Marc Zone Waste Dump - Plan View
2009 Test Pit Locations

SRK JOB NO.: 1CS026.001.0016	Red Mountain Project 2009 Field Investigation Report	DATE: Mar. 2010	APPROVED: D.B.M.	FIGURE: 3
FILE NAME: Dump_plan.dwg				

J:\01_SITES\Red Mountain_BC\Autocad\ACAD 2009\Dump_plan.dwg

Attachment A
2009 Water Quality Results

Project	RED MOUNTAIN 1CS026.001.0015
Report To	DYLAN MACGREGOR, SRK CONSULTING (CANADA) INC. ~VAN
ALS File No.	L805520
Date Received	13-Aug-09
Date	01-Sep-09

RESULTS OF ANALYSIS

Sample ID	BITTER CREEK	GOLDSLIDE CREEK	Field Replicate-GOLDSLIDE CREEK	09RM01	09RM02	09RM03	S CRIB
Date Sampled	11-Aug-09	11-Aug-09	11-Aug-09	11-Aug-09	11-Aug-09	11-Aug-09	11-Aug-09
Time Sampled	00:00	00:00	00:00	00:00	00:00	00:00	00:00
ALS Sample ID	L805520-1	L805520-2	L805520-6	L805520-3	L805520-4	L805520-5	L805520-7
Matrix	Water	Water	Water	Water	Water	Water	Water
Physical Tests							
Conductivity	78.2	116	119	584	1260	1320	539
Hardness (as CaCO3)	36.7	49	49.2	312	750	795	283
pH	7.38	7.47	7.86	5.1	7.16	7.88	7.79
Total Dissolved Solids	43	87	68	419	1120	1190	389
Anions and Nutrients							
Acidity (as CaCO3)	2.9	2.5	1.8	6.9	7.1	2.5	2.4
Alkalinity, Total (as CaCO3)	28.5	8.7	7.7	3.3	22.2	16.2	34
Ammonia as N	<0.0050	<0.0050	<0.0050	0.0136	0.0194	0.0068	<0.0050
Nitrate (as N)	0.0098	0.0164	0.0139	0.353	0.06	0.189	<0.0050
Nitrite (as N)	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010
Sulfate (SO4)	11	42.5	42.9	291	739	791	241
Dissolved Metals							
Aluminum (Al)-Dissolved	0.0349	0.0077	0.0086	0.29	<0.010	0.01	<0.0050
Antimony (Sb)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	0.0023	<0.0010	0.0121
Arsenic (As)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	0.00111
Barium (Ba)-Dissolved	0.022	<0.020	<0.020	<0.020	<0.020	<0.020	0.021
Beryllium (Be)-Dissolved	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010
Boron (B)-Dissolved	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Dissolved	0.000025	0.000403	0.000398	0.000487	0.0158	0.000166	0.00021
Calcium (Ca)-Dissolved	12.4	16.1	16.2	118	266	303	99.3
Chromium (Cr)-Dissolved	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010
Cobalt (Co)-Dissolved	<0.00030	<0.00030	<0.00030	0.00633	0.0451	<0.00060	<0.00030
Copper (Cu)-Dissolved	<0.0010	0.0037	0.0035	0.0525	<0.0020	0.0034	0.002
Iron (Fe)-Dissolved	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (Pb)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050
Lithium (Li)-Dissolved	<0.0050	<0.0050	<0.0050	<0.0050	0.023	<0.010	<0.0050
Magnesium (Mg)-Dissolved	1.37	2.13	2.12	4.19	21	9.11	8.49
Manganese (Mn)-Dissolved	0.017	0.00342	0.0038	0.216	3.49	0.0425	0.0153
Mercury (Hg)-Dissolved	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Dissolved	0.0012	0.002	0.002	<0.0010	<0.0020	0.0053	0.001
Nickel (Ni)-Dissolved	<0.0010	0.0012	0.0013	0.028	0.419	0.0034	0.0013
Potassium (K)-Dissolved	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium (Se)-Dissolved	<0.0010	<0.0010	<0.0010	0.0023	0.0047	0.0027	0.004
Silver (Ag)-Dissolved	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040	<0.000040	<0.000020
Sodium (Na)-Dissolved	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Thallium (Tl)-Dissolved	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040	<0.00040	<0.00020
Tin (Sn)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050
Titanium (Ti)-Dissolved	<0.010	<0.010	<0.010	0.011	0.016	0.017	<0.010
Uranium (U)-Dissolved	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040	<0.00040	<0.00020
Vanadium (V)-Dissolved	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010
Zinc (Zn)-Dissolved	<0.0050	0.0252	0.0252	0.034	2.69	<0.0050	0.0186
Hydrocarbons							
TPH10-32	-	<1.0	-	-	-	-	-

Attachment B
Field Weathering Crib Leachate Results

Parameter	HC-1 (South Crib) (Feldspar Porphyry Intrusives)								HC-2 (North Crib) (Sediments with minor Feldspar Porphyry)							
	1996 (Frostad)*	8/12/1997 (Royal Oak)	8/1/2000 (SRK)	7/28/2005 (SRK)	7/27/2006 (SRK)	8/8/2007 (SRK)	8/31/2008 (SRK)	8/11/2009 (SRK)	1996 (Frostad)*	8/12/1997 (Royal Oak)	8/1/2000 (SRK)	8/20/2003 (SRK)	7/28/2005 (SRK)	7/27/2006 (SRK)	8/8/2007 (SRK)	8/31/2008 (SRK)
pH (s.u.)	7.1-8.0	7.8	7.2	7.72	7.88	7.77	7.9	7.03	7.0-7.5	7.6	7.3	7.36	7.53	7.9	7.75	7.69
Conductivity (uS/cm)	811-1576	880	-	716	597	1160	485	539	1548-1985	1931	-	1405	1171	1112	1210	961
Alkalinity (mg/L as CaCO3)	48-66	56	-	52.1	40	39.9	4.9	34.0	46-58	47	-	40	51.9	39.5	40.8	5.8
Acidity (mg/L as CaCO3)	2.6-7.7	4	-	4.6	2.4	23.6	45.7	2.4	4.0-58	5	-	2	6.2	2.7	3.2	41.6
Hardness (mg/L as CaCO3)	280-800	460	286	-	319	752	268	283	562-1317	1134	699	853	623	632	797	530
Sulphate SO4 (mg/L)	354-852	503	294	357	276	595	195	241	854-1302	1289	738	879	537	573	639	461
Aluminum (mg/L)	0.041	-	0.01	0.0084	0.0112	<0.025	<0.0050	<0.0050	<0.0005-0.030	-	<0.02	<0.03	<0.0050	<0.010	<0.025	<0.010
Antimony (mg/L)	0.070-0.121	-	0.0454	0.0263	0.0191	0.0204	0.0139	0.0121	0.009-0.014	-	0.0071	0.005	0.00714	0.0073	0.0063	0.0039
Arsenic (mg/L)	0.004	-	0.0038	0.00161	0.00134	<0.0025	0.00113	0.00111	<0.001-0.003	-	0.0025	<0.003	0.00169	0.0017	<0.0025	0.0013
Barium (mg/L)	0.038-0.052	-	0.05	0.043	0.043	0.032	0.029	0.021	0.017-0.022	-	0.03	0.03	<0.020	0.024	<0.020	<0.020
Beryllium (mg/L)	(all)	-	<0.002	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.00005 (all)	-	<0.004	<0.005	<0.0010	<0.0020	<0.0050	<0.0020
Boron (mg/L)	0.015-0.070	-	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	0.025-0.074	-	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10
Cadmium (mg/L)	0.0007	-	0.0006	0.000547	0.00051	0.000634	0.000265	0.000210	0.0009-0.002	-	0.0005	0.001	0.00172	0.0017	0.000903	0.00161
Calcium (mg/L)	83.9-233	-	96.4	152	111	265	94.8	99.3	121-371	-	251	312	228	231	292	195
Chromium (mg/L)	0.0019	-	<0.001	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0005-0.001	-	<0.002	<0.005	<0.0010	<0.0020	<0.0050	<0.0020
Cobalt (mg/L)	0.0070	-	0.0008	0.0003	<0.00030	<0.0015	<0.00030	<0.00030	0.0020-0.0080	-	0.0005	<0.002	<0.00030	<0.00060	<0.0015	<0.00060
Copper (mg/L)	0.0050	-	0.0027	0.0018	0.0037	<0.0050	<0.0010	0.0020	<0.001-0.0036	-	0.0016	<0.005	0.0013	<0.0020	<0.0050	<0.0020
Iron (mg/L)	0.010-0.130	-	<0.03	<0.030	0.031	<0.030	<0.030	<0.030	0.050-0.16	-	<0.03	<0.03	<0.030	<0.030	<0.030	<0.030
Lead (mg/L)	0.0009	-	<0.0002	<0.00050	<0.00050	<0.0025	<0.00050	<0.00050	<0.00005-0.0004	-	<0.0004	<0.003	<0.00050	<0.0010	<0.0025	<0.0010
Magnesium (mg/L)	14.7-53.1	-	11	13.6	9.87	21.9	7.69	8.49	28.2-94.9	-	17.5	18.2	13.4	13.3	16.7	10.4
Manganese (mg/L)	0.34-0.53	-	0.296	0.118	0.0745	0.0164	0.0135	0.0153	1.14-2.18	-	0.181	0.005	0.00229	0.00162	<0.0015	0.0021
Mercury (mg/L)	<0.0002	-	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.00005-0.00009	-	<0.00002	<0.00005	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (mg/L)	0.010	-	<0.03	0.0024	0.0013	<0.0050	0.0013	0.0010	0.0011-0.0023	-	<0.03	<0.005	<0.0010	<0.0020	<0.0050	<0.0020
Nickel (mg/L)	0.0075	-	0.003	0.0021	0.0022	<0.0050	<0.0010	0.0013	0.0073-0.0084	-	0.005	<0.005	0.0029	0.004	<0.0050	0.0025
Potassium (mg/L)	2.07-15.5	-	3	<2.0	<2.0	<2.0	<2.0	<2.0	4.85-20.2	-	5	3	2.2	3.6	2.6	2.3
Selenium (mg/L)	0.001-0.016	-	0.005	0.0066	0.0061	0.0073	0.0031	0.0040	<0.001-0.006	-	<0.004	<0.005	0.0027	0.0028	<0.0050	<0.0020
Silver (mg/L)	0.00002	-	<0.00002	<0.000020	<0.000020	<0.00010	<0.000020	<0.000020	<0.00001-0.00002	-	<0.00004	<0.0001	<0.000020	<0.000040	0.00027	<0.000040
Sodium (mg/L)	9.63-41.5	-	4	<2.0	<2.0	3.1	<2.0	<2.0	15.7-58.6	-	6	5	3	3.7	4.4	2.4
Thallium (mg/L)	-	-	<0.0001	<0.00020	<0.00020	<0.0010	<0.00020	<0.00020	-	-	<0.0002	<0.001	<0.00020	<0.00040	<0.0010	<0.00040
Titanium (mg/L)	-	-	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010
Uranium (mg/L)	0.0027	-	0.0006	0.00051	0.00038	<0.0010	0.00025	<0.00020	0.0001-0.00049	-	<0.0004	<0.001	<0.00020	<0.00040	<0.0010	<0.00040
Vanadium (mg/L)	<0.001 (all)	-	<0.03	<0.030	<0.030	<0.030	<0.0010	<0.0010	<0.001 (all)	-	<0.03	<0.03	<0.030	<0.030	<0.030	<0.0020
Zinc (mg/L)	0.032-0.116	-	0.034	0.0334	0.0384	0.057	0.0285	0.0186	0.042-0.115	-	0.031	0.06	0.189	0.183	0.059	0.181

Attachment C
2009 Waste Rock ABA Results

CLIENT : **SRK Consulting**
PROJECT : **Red Mountain**
SRK Project # : **1CS026.001.0016**
CEMI Project # : **0967**
Test : **Modified Acid-Base Accounting**
Date : **September 28, 2009**

Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	Modified NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A
Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Modified NP	Calc.	Calc.	Sobek
PP01	7.46	0.99	22.5	6.02	0.05	5.97	187	27	-159.2	0.1	Moderate
OP02	7.47	0.5	11.4	6.15	0.03	6.12	191	17	-174.8	0.1	Slight
TP03	8.07	1.2	27.3	2.52	<0.01	2.52	79	32	-47.3	0.4	Slight
TP07	8.02	1.4	31.8	1.98	0.02	1.96	61	38	-23.2	0.6	Moderate
TP10	8.04	2.48	56.4	2.87	0.03	2.84	89	59	-29.5	0.7	Moderate
TP12	7.99	1.44	32.7	3.4	0.03	3.37	105	37	-68.5	0.3	Moderate
TP16	8.51	1.73	39.3	0.34	0.02	0.32	10	48	37.5	4.8	Moderate
TP17	8.19	1.41	32.0	2.69	0.02	2.67	83	40	-43.8	0.5	Moderate
Duplicates											
PP01	7.72							28.1			Moderate
OP02					0.03						

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

Modified NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = Modified NP - AP