

**RETENTION LICENCE RL10/1988**

**MOINA, TASMANIA**

**ANNUAL REPORT TO 21 SEPTEMBER 2010**



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## **1. INTRODUCTION**

The Moina prospect is located in north-western Tasmania approximately 40 kilometres south-west of Devonport (Figure 1).

RL10/1988 is the location of a partially outcropping, multi-commodity element skarn. The Ordovician Gordon Limestone has undergone metasomatic alteration by fluids derived from the Devonian Dolcoath Granite to produce a complex set of skarn mineral assemblages. The mineralisation contains:

- Fluorite
- Magnetite
- Tungsten as scheelite
- Tin
- Various sulphides, but particularly those of Zn, Bi and Mo
- Minor gold
- Garnet

Metallurgical test work carried out in the late 1970's encountered significant difficulties in producing a marketable product and work on fluorite metallurgy ceased.

Increases in most of the commodity element prices have caused a renewal of interest in Moina by Minemakers Limited. Minemakers has adopted a holistic approach to evaluation of Moina. That is, it aims to assess it as a potential multi-commodity producer. It aims to maximise the net return from mining and processing the deposit, allowing for optimisation of capital requirements and operating costs.

RL10/1988 was granted on 24 October 1988 to Geotech International Pty Ltd and is renewable annually. As it is a Retention Licence there is no formal minimum expenditure requirement, however an Expenditure Statement is presented in Section 8.

The tenement is managed by Minemakers Ltd, through an option agreement between Geotech International Pty Ltd and Minemakers' wholly owned subsidiary, Minemakers Australia NL.



MOINA, RL10/1988



Savage River

Stanley

Smithton

Wynyard

Somerset

Burnie

Penguin

Ulverstone

Devonport

Latrobe

Railton

Sheffield

## **2. REVIEW OF PREVIOUS WORK**

### **2.1. PRIOR TO CURRENT TENEMENT**

Work carried out prior to the current tenement is summarised and/or referenced in Minemakers Limited 2007 Annual Report for RL10/1988.

### **2.2. DURING CURRENT TENEMENT**

Work carried out during the current tenure includes:

- Review of literature
- Fatal flaw review to determine potential project viability
- Metallurgical test work carried out in Austria by tungsten producer Wolfram Bergbau Material was collected on-site (tailings dump) or from diamond drill core held at the MRT core store in Mornington
- Infill assaying using diamond drill core obtained from the MRT core store
- Davis Tube Recovery work on selected intervals of wriggelite from diamond drill core held at the MRT core store in Mornington
- Drilling of four PQ- (HQ-) sized cored holes to recover mineralisation for further metallurgy
- Analysis of 274 half-PQ core sized samples for F, Al, Bi, Ca, Cd, Cu, Fe, Mg, Mo, Pb, S, Sb, Si, Sn, W and Zn.

### 3. WORK COMPLETED DURING THE REPORT PERIOD

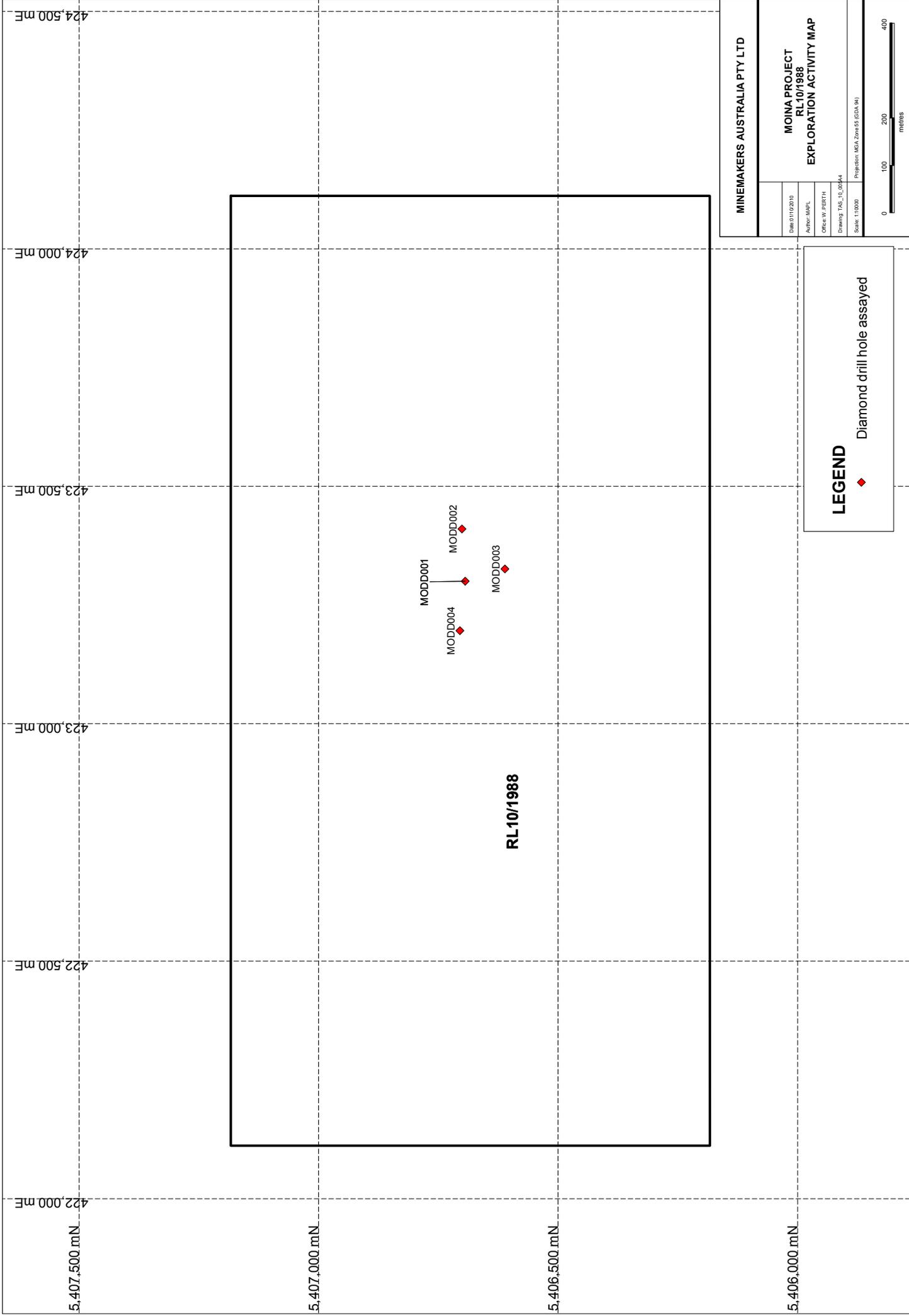
#### 3.1. DIAMOND CORE ANALYSIS

During the previous reporting period, four diamond core holes were drilled at Moina between December 2008 and January 2009. A total of 370.5 metres of PQ and HQ sized core was recovered. The holes were vertical holes varying in depths between 65.4 and 120.5 metres and were drilled by Gerald Spaulding Drillers using a G & K 850 drill rig.

The primary purpose of the drilling program was to recover core for metallurgical purposes. The core was logged and held in cold storage to preserve sulphides from oxidation until metallurgical work could commence. In September-October 2009, the core from these four holes was split (Figure 2) and half core was sent to Optimet Laboratories in Adelaide.

During the current reporting period, density measurements were carried out on 40 samples of core using the immersion method (Appendix 1) and then 274 predominantly one metre lengths core were crushed to 12mm and a portion was split and sent for a series of analyses as follows:

- 1<sup>st</sup> Analysis – All 274 sample splits were sent to SGS Perth for analysis of F, Al, Bi, Ca, Cd, Cu, Fe, Mg, Mo, Pb, S, Sb, Si, Sn, W and Zn. SGS sub-contracted the work to Ammtec Perth. F was measured by selective ion electrode method. Results presented in Appendix 1a.
  - Analytical methods and detection limits:
    - Na2O2 Fusion/ICP Finish
      - Fe (200 ppm)
      - Mg (400 ppm)
      - Al (400 ppm)
      - Ca (1000 ppm)
      - Mo (5 ppm)
      - Si (1000 ppm)
      - Sn (0 ppm)
      - W (10 ppm)
    - Mixed Acid Digest including HF/ICP Finish
      - Cu (2 ppm)
      - Bi (10 ppm)
      - Cd (5 ppm)
      - Mo (5 ppm)
      - Pb (5 ppm)
      - Zn (2 ppm)
    - Low Temperature Mixed Acid Digest/ICP Finish
      - Sb (5 ppm)
    - CS 2000
      - S (0.02 %)
    - Selective Ion Electrode (SIE)
      - F (25 ppm)
- 2<sup>nd</sup> Analysis - A sub-set of 44 samples were sent to Amdel Adelaide and ALS Brisbane for check assaying of F only. Both laboratories used the selective ion electrode method. Results presented in Appendix 1b.



MINEMAKERS AUSTRALIA PTY LTD

**MOINA PROJECT  
RL10/1988  
EXPLORATION ACTIVITY MAP**

Date: 01/10/2010  
 Author: MABL  
 Office: W. PERTH  
 Drawing: TAC\_10\_0014  
 Scale: 1:10,000  
 Projection: MGA Zone 55 (GDA 94)



**LEGEND**

◆ Diamond drill hole assayed

**RL10/1988**

MODD001  
 MODD002  
 MODD003  
 MODD004

422,000 mE 422,500 mE 423,000 mE 423,500 mE 424,000 mE 424,500 mE

5,407,500 mN 5,407,000 mN 5,406,500 mN 5,406,000 mN

- 3<sup>rd</sup> Analysis – A set of eight certified F reference materials were sent to Amdel Adelaide, Ammtec Perth, SGS Perth and Standard and Reference Laboratory, Perth. All F analyses were made using the selective ion electrode method. Results presented in Appendix 1c.
- 4<sup>th</sup> Analysis - 230 samples that had not been analysed for F by Amdel Adelaide during the 2<sup>nd</sup> analysis were submitted to Amdel Adelaide for F analysis only. Analysis was made using the selective ion electrode method. Results presented in 1d.

## 4. DISCUSSION OF RESULTS

### 4.1. DIAMOND CORE ANALYSIS

Note: In the fluorspar industry, F levels are reported as CaF<sub>2</sub>, using the conversion factor of F\*2.055.

When the results from the 1<sup>st</sup> Analysis of F were obtained and converted to CaF<sub>2</sub> it was apparent that the CaF<sub>2</sub> levels in “good” wiggilite rarely exceeded 20% whereas those reported by Comalco and Shell were typically in the range 10-25+%, with a significant number of analyses >20%. In light of this, and the advice of Minemakers fluorspar consultant, Malcolm Crawford, that analysis of fluorine at levels of >2-5% was potentially very difficult, Minemakers decide to have some check assays carried out at alternate laboratories.

A sub-set of 44 samples was submitted to Amdel Adelaide and ALS Brisbane for analysis of F only. Both laboratories used the selective ion electrode method. Comparison of these analyses with the original Ammtec analyses revealed three disparate sets of results.

In order to determine whether any of the commercial Australian laboratories used were able to accurately analyse CaF<sub>2</sub>, Minemakers was able to locate a range of certified reference materials (CRMs) that spanned the range from 1.98-47.24% F or 4.1-97.1% CaF<sub>2</sub>, see Table 1. These were submitted to four laboratories for F analysis only: Amdel Adelaide, Ammtec Perth, SGS Perth and Standard and Reference Laboratories, Perth. This exercise demonstrated that only Amdel Adelaide was able to accurately analyse F within the range of interest for the Moina project.

CRM	Material	F (%)	CaF <sub>2</sub> (%)
VS 5133.89	Fluorspar	2.03	4.17
USZ HJ-5	Fluorspar	2.40	4.93
USZ HJ-10	Fluorspar	5.37	11.03
USZ HJ-20	Fluorspar	9.76	20.06
VS 2666-83	Fluorspar	15.58	32.02
JK S9	ESR-slag	17.3	35.5
JK C	Fluorspar	37.43	76.91
JK D	Fluorspar	47.24	97.07

Results of the CRM analyses are show graphically in Figure 3.

Finalised results for all assays are shown in Table 2.

The remaining 230 core intercepts that had not been submitted to Amdel Adelaide were sent for F analysis only.

**Figure 3 Fluorine analysis of CRMs by commercial laboratories**

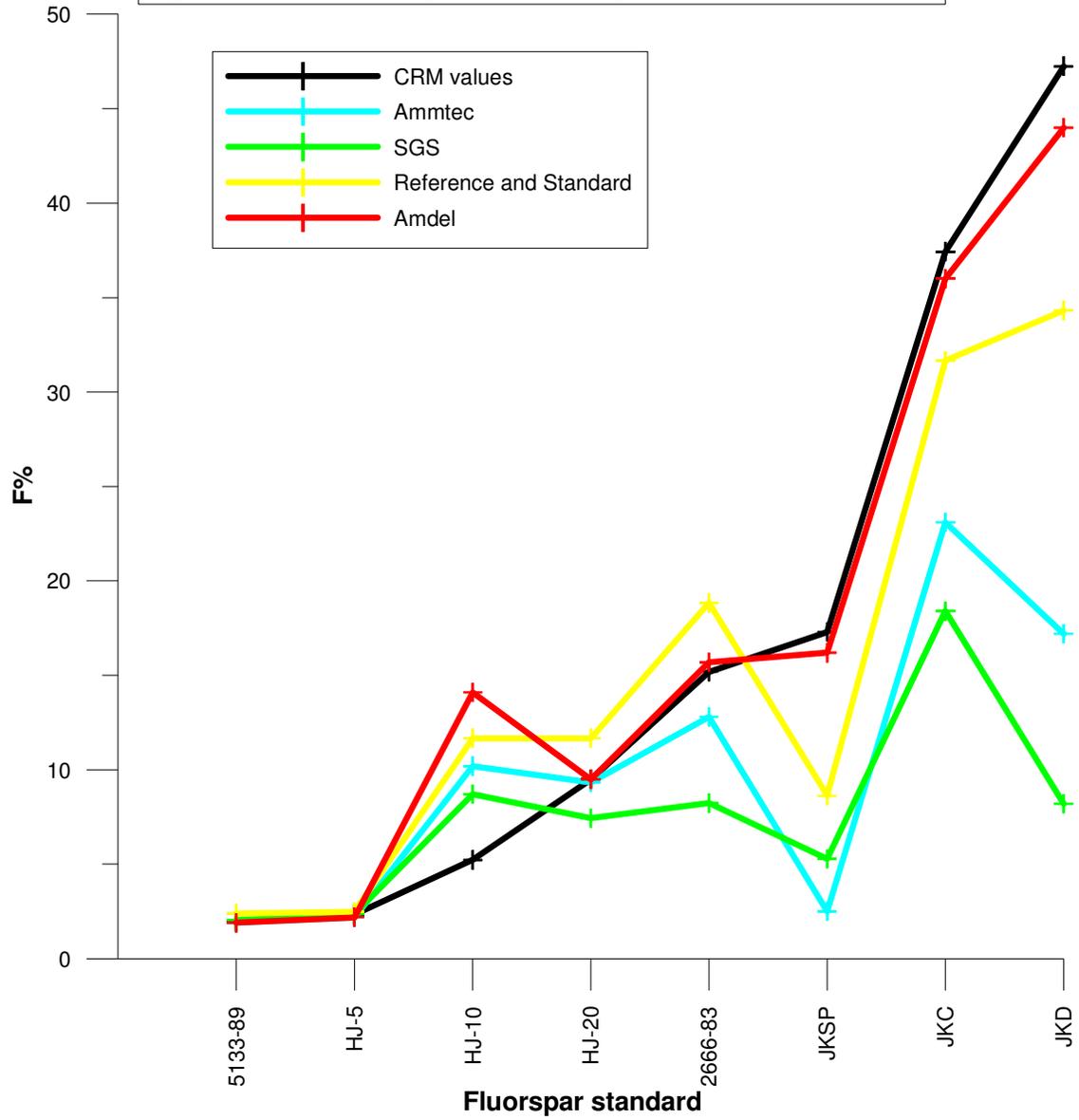


Table 2. Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F (%)	CaF2 (%)	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD001	20.9	22.0	8.5	17.47	wrigglite skarn	4.62	589	16.0	10	14	17.2	1.94	<5
MODD001	22.0	23.0	8	16.44	wrigglite skarn	4.02	461	13.2	12	<2	17.5	2.28	<5
MODD001	23.0	24.0	8.8	18.08	wrigglite skarn	4.12	435	12.8	11	27	17.4	3.00	<5
MODD001	24.0	25.0	11.4	23.43	wrigglite skarn	4.21	454	13.6	11	75	17.5	2.20	<5
MODD001	25.0	26.0	10.6	21.78	wrigglite skarn	3.94	781	15.4	10	119	16.4	1.46	<5
MODD001	26.0	27.0	7.82	16.07	wrigglite skarn	4.37	486	14.2	9	51	15.0	4.97	<5
MODD001	27.0	28.0	6.96	14.30	wrigglite skarn	3.68	536	12.7	9	58	13.7	5.25	15
MODD001	28.0	29.0	11.09	22.79	wrigglite skarn	4.16	689	10.9	11	103	17.2	4.48	9
MODD001	29.0	30.0	11.48	23.59	wrigglite skarn	5.02	515	13.5	11	184	19.9	2.71	<5
MODD001	30.0	31.0	10.85	22.30	wrigglite skarn	4.83	415	14.9	12	87	21.5	1.25	<5
MODD001	31.0	32.0	7.55	15.52	wrigglite skarn	4.70	601	17.6	9	23	15.3	1.08	<5
MODD001	32.0	33.0	5.90	12.12	wrigglite skarn	4.83	370	14.3	11	<2	19.7	1.66	<5
MODD001	33.0	34.0	9.86	20.26	wrigglite skarn	4.83	670	17.2	10	<2	17.8	1.35	<5
MODD001	34.0	35.0	10.83	22.26	wrigglite skarn	4.82	747	15.4	12	<2	22.1	0.99	<5
MODD001	35.0	36.0	14.59	29.98	wrigglite skarn	4.53	711	14.8	12	3	20.1	0.71	5
MODD001	36.0	37.0	13.02	26.76	wrigglite skarn	4.46	390	18.8	8	<2	14.7	0.81	<5
MODD001	37.0	38.0	11.92	24.50	wrigglite skarn	4.56	418	15.7	10	2	16.4	1.09	<5
MODD001	38.0	39.0	11.35	23.32	wrigglite skarn	4.27	452	16.7	11	4	18.6	1.50	<5
MODD001	39.0	40.0	7.21	14.82	wrigglite skarn	4.23	259	14.0	10	<2	17.8	2.31	<5
MODD001	40.0	41.0	11.46	23.55	wrigglite skarn	4.87	224	18.1	8	<2	13.5	1.36	10
MODD001	41.0	42.0	9.67	19.87	wrigglite skarn	4.60	201	19.8	8	<2	14.0	1.06	<5
MODD001	42.0	43.0	7.08	14.55	wrigglite skarn	4.59	146	18.7	15	7	12.8	1.95	<5
MODD001	43.0	44.0	3.10	6.37	wrigglite skarn	4.64	175	19.0	8	<2	13.0	1.98	<5
MODD001	44.0	45.0	1.78	3.66	wrigglite skarn	4.10	376	16.0	7	7	10.7	4.10	<5
MODD001	45.0	46.0	3.22	6.62	wrigglite skarn	4.20	240	14.2	11	<2	19.1	2.65	<5
MODD001	46.0	47.0	10.38	21.33	wrigglite skarn	4.26	510	15.8	9	<2	16.3	1.36	17
MODD001	47.0	48.0	10.72	22.03	wrigglite skarn	4.78	484	14.8	9	<2	16.7	1.54	29
MODD001	48.0	49.0	8.59	17.65	wrigglite skarn	5.27	48	11.7	13	<2	23.6	1.54	62
MODD001	49.0	50.0	8.64	17.76	wrigglite skarn	5.37	355	14.6	10	<2	15.0	1.32	8
MODD001	50.0	51.0	8.14	16.73	wrigglite/garnet skarn	5.58	1531	13.6	9	<2	14.9	1.66	6
MODD001	51.0	52.0	4.47	9.19	garnet skarn	4.81	131	15.0	9	<2	12.4	2.19	<5
MODD001	52.0	53.0	3.71	7.62	garnet skarn	4.29	127	14.3	9	<2	16.0	3.02	<5
MODD001	53.0	54.0	3.33	6.84	garnet skarn	4.47	792	18.0	8	3	11.3	2.41	<5
MODD001	54.0	55.0	1.52	3.12	garnet skarn	3.01	22	20.5	8	<2	12.9	1.13	<5
MODD001	55.0	56.0	1.55	3.19	garnet skarn	3.00	11	19.4	7	<2	11.7	1.93	<5
MODD001	56.0	57.0	0.88	1.81	garnet skarn	3.20	<10	19.7	8	<2	12.3	1.56	<5
MODD001	57.0	58.0	1.91	3.93	garnet skarn	4.34	161	21.0	7	<2	10.4	1.11	<5
MODD001	58.0	59.0	1.42	2.92	garnet skarn	3.96	73	20.0	7	<2	11.0	0.82	57
MODD001	59.0	60.0	1.83	3.76	garnet skarn	3.46	289	15.7	6	<2	7.3	0.66	14
MODD001	60.0	61.0	0.98	2.01	garnet skarn	3.65	578	19.2	6	<2	10.0	1.22	<5
MODD001	61.0	62.0	4.49	9.23	garnet skarn	5.61	811	16.6	<5	<2	6.4	1.57	39
MODD001	62.0	63.0	9.1	18.70	wrigglite/garnet skarn	4.26	536	12.5	13	<2	22.8	1.65	36
MODD001	63.0	64.0	7.07	14.53	wrigglite/garnet skarn	3.79	586	17.0	10	<2	15.6	1.48	<5
MODD001	64.0	65.0	4.97	10.21	wrigglite/garnet skarn	3.84	250	18.1	7	<2	11.4	1.81	<5
MODD001	65.0	66.0	8.29	17.04	wrigglite/garnet skarn	4.37	479	11.7	11	<2	18.4	1.10	24
MODD001	66.0	67.0	13.75	28.26	wrigglite/garnet skarn	4.50	577	18.2	9	87	12.9	0.55	26
MODD001	67.0	68.0	8.36	17.18	wrigglite/garnet skarn	5.40	451	22.3	7	3	8.0	0.69	<5
MODD001	68.0	69.0	4.37	8.98	wrigglite/garnet skarn	4.63	108	17.2	5	<2	6.3	0.68	<5
MODD001	69.0	70.0	8.89	18.27	wrigglite/garnet skarn	4.91	442	18.3	10	3	16.6	1.13	236

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F (%)	CaF2 (%)	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD001	20.9	22.0	8.5	17.47	wrigglite skarn	9	<0.02	57	9.92	1659	569	312
MODD001	22.0	23.0	8	16.44	wrigglite skarn	14	<0.02	58	9.62	1324	385	280
MODD001	23.0	24.0	8.8	18.08	wrigglite skarn	9	0.02	62	10.1	1245	265	277
MODD001	24.0	25.0	11.4	23.43	wrigglite skarn	9	0.39	34	9.19	1213	242	179
MODD001	25.0	26.0	10.6	21.78	wrigglite skarn	12	0.50	54	9.30	1522	382	175
MODD001	26.0	27.0	7.82	16.07	wrigglite skarn	<5	0.17	36	10.4	1116	1750	211
MODD001	27.0	28.0	6.96	14.30	wrigglite skarn	6	0.16	41	10.3	1059	631	272
MODD001	28.0	29.0	11.09	22.79	wrigglite skarn	<5	0.47	32	9.74	1560	876	203
MODD001	29.0	30.0	11.48	23.59	wrigglite skarn	6	1.13	17	10.4	1743	540	141
MODD001	30.0	31.0	10.85	22.30	wrigglite skarn	10	0.57	30	10.8	1629	424	138
MODD001	31.0	32.0	7.55	15.52	wrigglite skarn	14	0.15	53	12.3	1987	752	121
MODD001	32.0	33.0	5.90	12.12	wrigglite skarn	18	<0.02	35	12.2	2112	580	189
MODD001	33.0	34.0	9.86	20.26	wrigglite skarn	12	<0.02	45	12.2	1225	509	152
MODD001	34.0	35.0	10.83	22.26	wrigglite skarn	9	<0.02	24	10.1	1576	544	167
MODD001	35.0	36.0	14.59	29.98	wrigglite skarn	12	0.08	23	9.58	1202	617	168
MODD001	36.0	37.0	13.02	26.76	wrigglite skarn	11	0.03	44	10.0	1130	403	124
MODD001	37.0	38.0	11.92	24.50	wrigglite skarn	11	0.06	30	10.8	1029	405	229
MODD001	38.0	39.0	11.35	23.32	wrigglite skarn	19	0.04	33	11.3	1277	518	194
MODD001	39.0	40.0	7.21	14.82	wrigglite skarn	14	<0.02	31	13.4	1510	318	219
MODD001	40.0	41.0	11.46	23.55	wrigglite skarn	7	<0.02	21	13.3	1441	1122	159
MODD001	41.0	42.0	9.67	19.87	wrigglite skarn	10	<0.02	36	12.6	1618	792	277
MODD001	42.0	43.0	7.08	14.55	wrigglite skarn	16	0.11	73	13.1	1093	280	1863
MODD001	43.0	44.0	3.10	6.37	wrigglite skarn	11	0.03	40	13.3	1093	264	333
MODD001	44.0	45.0	1.78	3.66	wrigglite skarn	12	<0.02	56	16.0	844	85	219
MODD001	45.0	46.0	3.22	6.62	wrigglite skarn	15	<0.02	45	13.2	1129	160	223
MODD001	46.0	47.0	10.38	21.33	wrigglite skarn	10	0.08	21	11.3	1108	719	225
MODD001	47.0	48.0	10.72	22.03	wrigglite skarn	<5	0.95	12	11.3	1095	1127	140
MODD001	48.0	49.0	8.59	17.65	wrigglite skarn	6	0.07	<5	9.45	626	1227	132
MODD001	49.0	50.0	8.64	17.76	wrigglite skarn	6	0.06	23	13.1	681	434	124
MODD001	50.0	51.0	8.14	16.73	wrigglite/garnet skarn	15	0.05	30	13.5	1068	243	144
MODD001	51.0	52.0	4.47	9.19	garnet skarn	18	<0.02	47	13.1	857	259	180
MODD001	52.0	53.0	3.71	7.62	garnet skarn	10	<0.02	34	14.4	1110	227	181
MODD001	53.0	54.0	3.33	6.84	garnet skarn	24	<0.02	49	15.9	1411	269	143
MODD001	54.0	55.0	1.52	3.12	garnet skarn	26	<0.02	7	16.7	894	108	57
MODD001	55.0	56.0	1.55	3.19	garnet skarn	43	0.05	<5	17.4	810	157	124
MODD001	56.0	57.0	0.88	1.81	garnet skarn	35	0.06	<5	16.9	1093	77	95
MODD001	57.0	58.0	1.91	3.93	garnet skarn	26	<0.02	38	16.4	521	597	87
MODD001	58.0	59.0	1.42	2.92	garnet skarn	28	0.06	12	16.4	572	1010	71
MODD001	59.0	60.0	1.83	3.76	garnet skarn	26	<0.02	78	12.4	316	455	67
MODD001	60.0	61.0	0.98	2.01	garnet skarn	36	0.14	44	15.5	566	39	71
MODD001	61.0	62.0	4.49	9.23	garnet skarn	14	0.03	78	18.0	489	647	84
MODD001	62.0	63.0	9.1	18.70	wrigglite/garnet skarn	<5	0.05	10	9.97	2569	3718	327
MODD001	63.0	64.0	7.07	14.53	wrigglite/garnet skarn	18	<0.02	38	11.4	1595	346	244
MODD001	64.0	65.0	4.97	10.21	wrigglite/garnet skarn	16	<0.02	35	13.1	1480	213	231
MODD001	65.0	66.0	8.29	17.04	wrigglite/garnet skarn	15	<0.02	5	12.0	1629	942	306
MODD001	66.0	67.0	13.75	28.26	wrigglite/garnet skarn	15	0.57	36	9.91	577	644	398
MODD001	67.0	68.0	8.36	17.18	wrigglite/garnet skarn	11	0.07	121	12.8	516	264	175
MODD001	68.0	69.0	4.37	8.98	wrigglite/garnet skarn	14	<0.02	133	12.0	448	83	224
MODD001	69.0	70.0	8.89	18.27	wrigglite/garnet skarn	5	0.05	50	11.4	978	1750	514

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD001	70.0	71.0	7.46	15.33	wrigglite/garnet skarn	3.45	403	14.2	9	9	15.2	1.01	186
MODD001	71.0	72.0	7.50	15.41	garnet skarn	4.11	326	11.3	11	<2	19.3	1.65	18
MODD001	72.0	73.0	3.07	6.31	garnet skarn	4.90	83	15.9	7	10	10.0	3.03	10
MODD001	73.0	74.0	3.00	6.17	garnet skarn	3.67	50	17.3	12	31	8.1	4.22	17
MODD001	74.0	75.0	3.11	6.39	garnet skarn	4.70	41	19.9	7	20	11.4	1.74	23
MODD001	75.0	76.0	3.20	6.58	garnet skarn	4.09	53	17.7	6	<2	9.3	1.65	192
MODD001	76.0	77.0	4.20	8.63	garnet skarn	3.11	41	19.0	7	<2	11.9	2.07	32
MODD001	77.0	78.0	2.98	6.12	garnet skarn	3.22	104	16.4	8	<2	11.8	1.48	42
MODD001	78.0	79.0	1.62	3.33	garnet skarn	3.14	125	19.1	7	<2	12.7	1.34	69
MODD001	79.0	80.0	1.15	2.36	garnet skarn	2.87	45	20.0	7	<2	11.3	1.55	<5
MODD001	80.0	81.0	0.75	1.54	garnet skarn	3.31	19	19.5	6	<2	10.6	1.18	<5
MODD001	81.0	82.0	0.98	2.01	garnet skarn	3.67	26	21.2	7	<2	12.3	0.80	<5
MODD001	82.0	83.4	2.13	4.38	garnet skarn	3.80	164	22.3	7	<2	12.5	0.65	<5
MODD002	7.2	8.0	8.33	17.12	wrigglite skarn	5.56	406	19.0	<5	15	13.8	1.22	<5
MODD002	8.0	9.0	9.15	18.80	wrigglite skarn	4.60	410	16.7	<5	8	21.2	1.24	<5
MODD002	9.0	10.0	11.1	22.81	wrigglite skarn	4.64	882	12.7	<5	9	24.3	1.04	<5
MODD002	10.0	11.0	10.8	22.19	wrigglite skarn	4.89	632	16.8	<5	<2	21.1	0.84	<5
MODD002	11.0	12.0	10.6	21.78	wrigglite skarn	4.68	452	18.6	<5	24	18.8	1.27	<5
MODD002	12.0	13.0	10.5	21.58	wrigglite skarn	5.09	318	17.4	<5	32	18.4	1.24	38
MODD002	13.0	14.0	7.41	15.23	wrigglite skarn	4.98	351	15.0	<5	239	15.2	2.59	48
MODD002	14.0	15.0	9.95	20.45	wrigglite skarn	4.87	363	13.2	<5	169	18.8	1.72	45
MODD002	15.0	16.0	7.86	16.15	wrigglite skarn	4.91	280	14.4	<5	114	15.2	1.96	65
MODD002	16.0	17.4	9.33	19.17	wrigglite skarn	4.37	411	14.0	<5	237	18.9	1.47	96
MODD002	17.4	18.0	5.07	10.42	wrigglite skarn	4.22	282	18.7	<5	7	15.4	1.71	21
MODD002	18.0	19.0	1.26	2.59	garnet skarn	3.33	2160	20.9	<5	7	11.8	1.09	9
MODD002	19.0	20.0	1.31	2.69	garnet skarn	3.30	563	19.9	<5	7	8.6	2.97	<5
MODD002	20.0	21.0	1.66	3.41	garnet skarn	3.29	1780	19.3	<5	10	9.6	2.42	<5
MODD002	21.0	22.0	1.14	2.34	garnet skarn	3.32	853	20.8	<5	4	12.1	1.20	<5
MODD002	22.0	23.0	1.17	2.40	garnet skarn	3.12	20	22.2	<5	<2	12.4	1.38	<5
MODD002	23.0	24.0	1.44	2.96	garnet skarn	3.86	21	21.4	<5	<2	11.7	0.84	<5
MODD002	24.0	25.0	0.52	1.07	garnet skarn	3.15	<10	21.2	<5	<2	11.8	0.78	<5
MODD002	25.0	26.0	0.88	1.81	garnet skarn	3.73	35	20.0	<5	<2	11.2	0.67	<5
MODD002	26.0	27.0	1.08	2.22	garnet skarn	4.95	59	21.4	<5	<2	9.4	0.62	<5
MODD002	27.0	28.2	1.20	2.47	garnet skarn	5.24	62	21.0	<5	<2	8.7	0.63	<5
MODD002	28.2	29.0	2.32	4.77	garnet skarn	4.79	59	20.4	<5	<2	10.1	0.93	33
MODD002	29.0	30.0	4.66	9.58	garnet skarn	4.85	36	18.6	<5	<2	7.8	0.97	186
MODD002	30.0	30.7	1.73	3.56	garnet skarn	4.44	36	19.1	<5	<2	9.7	0.90	10
MODD002	30.7	32.0	1.25	2.57	garnet skarn	4.86	38	20.4	<5	<2	9.8	0.65	<5
MODD002	32.0	33.0	0.91	1.87	garnet skarn	4.37	25	20.3	<5	<2	10.7	0.49	<5
MODD002	33.0	34.0	0.59	1.21	garnet skarn	3.99	20	19.2	<5	<2	10.4	0.41	<5
MODD002	34.0	35.0	0.58	1.19	garnet skarn	4.32	18	20.1	<5	<2	10.3	0.62	<5
MODD002	35.0	36.0	1.32	2.71	garnet skarn	4.74	58	18.9	<5	<2	8.6	1.04	399
MODD002	36.0	37.0	0.75	1.54	garnet skarn	5.06	32	19.3	<5	<2	8.3	0.76	<5
MODD002	37.0	38.0	0.58	1.19	garnet skarn	4.57	24	18.8	<5	<2	9.2	0.56	<5
MODD002	38.0	39.0	0.92	1.89	garnet skarn	5.31	22	18.4	<5	<2	9.0	0.77	<5
MODD002	39.0	40.0	0.57	1.17	garnet skarn	4.83	18	19.6	<5	<2	10.0	0.28	<5
MODD002	40.0	41.0	0.62	1.27	garnet skarn	3.54	92	17.4	<5	<2	11.8	0.26	<5
MODD002	41.0	42.0	0.54	1.11	garnet skarn	3.82	33	16.9	<5	<2	11.5	0.26	<5
MODD002	42.0	43.0	1.23	2.53	garnet skarn	4.10	31	15.8	<5	<2	10.0	0.69	<5

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD001	70.0	71.0	7.46	15.33	wrigglite/garnet skarn	8	0.08	21	9.51	1538	835	358
MODD001	71.0	72.0	7.50	15.41	garnet skarn	11	<0.02	<5	12.0	1661	1021	356
MODD001	72.0	73.0	3.07	6.31	garnet skarn	6	<0.02	45	16.9	646	725	461
MODD001	73.0	74.0	3.00	6.17	garnet skarn	7	0.21	54	18.1	614	288	1843
MODD001	74.0	75.0	3.11	6.39	garnet skarn	16	<0.02	64	15.8	750	136	134
MODD001	75.0	76.0	3.20	6.58	garnet skarn	<5	0.13	27	18.3	652	2330	131
MODD001	76.0	77.0	4.20	8.63	garnet skarn	13	<0.02	5	16.1	980	1069	194
MODD001	77.0	78.0	2.98	6.12	garnet skarn	23	<0.02	<5	15.4	1231	262	233
MODD001	78.0	79.0	1.62	3.33	garnet skarn	18	<0.02	<5	16.4	1640	1215	189
MODD001	79.0	80.0	1.15	2.36	garnet skarn	24	<0.02	<5	16.0	795	38	183
MODD001	80.0	81.0	0.75	1.54	garnet skarn	21	<0.02	<5	15.6	539	60	147
MODD001	81.0	82.0	0.98	2.01	garnet skarn	30	<0.02	<5	15.8	678	49	143
MODD001	82.0	83.4	2.13	4.38	garnet skarn	29	<0.02	15	15.3	815	36	190
MODD002	7.2	8.0	8.33	17.12	wrigglite skarn	14	0.06	54	13.3	1572	509	168
MODD002	8.0	9.0	9.15	18.80	wrigglite skarn	20	0.04	34	11.2	2246	762	214
MODD002	9.0	10.0	11.1	22.81	wrigglite skarn	14	0.10	8	10.4	1576	734	201
MODD002	10.0	11.0	10.8	22.19	wrigglite skarn	19	0.09	22	11.1	1697	756	222
MODD002	11.0	12.0	10.6	21.78	wrigglite skarn	16	0.18	44	10.8	1387	821	237
MODD002	12.0	13.0	10.5	21.58	wrigglite skarn	7	0.12	22	12.4	1546	1570	167
MODD002	13.0	14.0	7.41	15.23	wrigglite skarn	12	1.00	16	14.5	1365	847	184
MODD002	14.0	15.0	9.95	20.45	wrigglite skarn	7	0.72	5	13.3	1513	1189	125
MODD002	15.0	16.0	7.86	16.15	wrigglite skarn	8	0.78	9	15.0	1666	1290	101
MODD002	16.0	17.4	9.33	19.17	wrigglite skarn	7	1.89	7	13.6	1876	1452	85
MODD002	17.4	18.0	5.07	10.42	wrigglite skarn	10	0.09	27	14.2	1259	640	123
MODD002	18.0	19.0	1.26	2.59	garnet skarn	35	0.09	14	16.7	573	281	87
MODD002	19.0	20.0	1.31	2.69	garnet skarn	24	0.04	51	18.7	763	192	142
MODD002	20.0	21.0	1.66	3.41	garnet skarn	27	0.04	34	17.3	597	748	238
MODD002	21.0	22.0	1.14	2.34	garnet skarn	38	0.02	17	17.4	658	103	266
MODD002	22.0	23.0	1.17	2.40	garnet skarn	31	<0.02	<5	18.6	554	204	70
MODD002	23.0	24.0	1.44	2.96	garnet skarn	32	<0.02	<5	17.9	520	283	106
MODD002	24.0	25.0	0.52	1.07	garnet skarn	24	<0.02	<5	17.1	545	117	69
MODD002	25.0	26.0	0.88	1.81	garnet skarn	19	<0.02	20	16.3	634	201	126
MODD002	26.0	27.0	1.08	2.22	garnet skarn	13	0.02	60	16.0	384	27	83
MODD002	27.0	28.2	1.20	2.47	garnet skarn	16	<0.02	77	14.9	357	72	76
MODD002	28.2	29.0	2.32	4.77	garnet skarn	5	0.02	43	17.5	562	1238	99
MODD002	29.0	30.0	4.66	9.58	garnet skarn	11	<0.02	42	14.8	396	836	93
MODD002	30.0	30.7	1.73	3.56	garnet skarn	10	0.10	36	16.6	547	390	101
MODD002	30.7	32.0	1.25	2.57	garnet skarn	15	<0.02	39	16.4	427	67	98
MODD002	32.0	33.0	0.91	1.87	garnet skarn	22	0.04	33	16.4	514	67	78
MODD002	33.0	34.0	0.59	1.21	garnet skarn	18	<0.02	19	16.2	487	47	49
MODD002	34.0	35.0	0.58	1.19	garnet skarn	22	<0.02	28	17.0	403	28	75
MODD002	35.0	36.0	1.32	2.71	garnet skarn	9	0.04	46	16.1	297	1358	98
MODD002	36.0	37.0	0.75	1.54	garnet skarn	18	<0.02	70	17.1	278	38	94
MODD002	37.0	38.0	0.58	1.19	garnet skarn	23	<0.02	39	16.4	303	36	82
MODD002	38.0	39.0	0.92	1.89	garnet skarn	22	0.06	21	16.9	269	27	904
MODD002	39.0	40.0	0.57	1.17	garnet skarn	32	0.02	11	16.0	292	40	145
MODD002	40.0	41.0	0.62	1.27	garnet skarn	31	0.09	7	15.7	548	115	250
MODD002	41.0	42.0	0.54	1.11	garnet skarn	39	<0.02	<5	16.4	561	77	238
MODD002	42.0	43.0	1.23	2.53	garnet skarn	28	0.02	<5	15.7	403	141	246

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD002	43.0	44.0	4.11	8.45	garnet skarn	5.50	<10	13.3	<5	<2	6.8	0.94	16
MODD002	44.0	45.0	1.67	3.43	garnet skarn	5.69	<10	15.6	<5	<2	6.5	0.78	<5
MODD002	45.0	46.0	0.59	1.21	garnet/pyroxene skarn	4.60	<10	13.9	<5	<2	8.4	1.89	<5
MODD002	46.0	47.0	1.86	3.82	pyroxene skarn	5.36	<10	14.1	<5	<2	8.8	1.21	<5
MODD002	47.0	48.0	2.20	4.52	pyroxene skarn	5.50	<10	11.2	<5	<2	10.0	1.35	<5
MODD002	48.0	49.0	3.44	7.07	pyroxene skarn	4.69	<10	12.1	<5	<2	9.1	1.45	<5
MODD002	49.0	50.0	5.94	12.21	pyroxene skarn	3.06	<10	5.58	<5	<2	4.4	1.58	40
MODD002	50.0	51.0	3.73	7.67	pyroxene skarn	2.22	11	2.78	<5	<2	2.0	0.66	37
MODD002	51.0	52.0	2.97	6.10	pyroxene skarn	3.19	<10	2.34	<5	<2	3.2	0.79	165
MODD002	52.0	53.0	2.89	5.94	pyroxene skarn	2.55	<10	2.04	<5	<2	3.1	0.53	2308
MODD002	53.0	54.0	1.14	2.34	pyroxene skarn	3.94	17	1.39	<5	<2	6.1	0.84	374
MODD002	54.0	55.0	2.92	6.00	pyroxene skarn	3.83	85	6.17	<5	<2	8.9	1.09	86
MODD002	55.0	56.0	1.94	3.99	pyroxene skarn	3.15	54	12.4	<5	<2	12.8	0.92	46
MODD002	56.0	57.0	1.48	3.04	pyroxene skarn	3.83	11	14.3	<5	<2	13.8	1.01	15
MODD002	57.0	58.0	2.97	6.10	pyroxene skarn	2.47	93	7.21	<5	<2	8.0	0.73	251
MODD002	58.0	59.0	1.45	2.98	pyroxene skarn	2.66	61	5.99	<5	<2	9.0	0.61	1277
MODD002	59.0	60.0	2.79	5.73	pyroxene skarn	4.41	47	12.1	<5	<2	11.0	0.82	538
MODD002	60.0	61.0	4.66	9.58	pyroxene skarn	3.43	137	8.66	<5	<2	6.6	0.70	1381
MODD002	61.0	62.0	2.14	4.40	pyroxene skarn	4.44	16	9.91	<5	<2	8.2	0.98	158
MODD002	62.0	63.0	4.60	9.45	pyroxene skarn	4.82	25	12.4	<5	<2	8.0	0.76	895
MODD002	63.0	64.0	5.37	11.04	pyroxene skarn	4.53	<10	15.0	<5	<2	8.2	0.70	25
MODD002	64.0	65.4	6.05	12.43	pyroxene skarn	5.15	22	15.3	<5	<2	8.5	0.70	474
MODD003	29.5	30.0	3.98	8.18	wrigglite skarn	3.03	457	15.6	<5	5	11.5	2.30	<5
MODD003	30.0	31.0	7.51	15.43	wrigglite skarn	4.83	574	14.6	6	<2	17.4	2.43	<5
MODD003	31.0	32.0	9.56	19.65	wrigglite skarn	5.05	709	12.0	8	27	22.7	1.62	<5
MODD003	32.0	33.0	9.98	20.51	wrigglite skarn	4.08	1236	11.2	9	10	30.0	0.88	<5
MODD003	33.0	34.0	5.59	11.49	wrigglite skarn	3.90	628	7.45	13	<2	40.4	0.65	<5
MODD003	34.0	34.6	7.67	15.76	wrigglite skarn	4.57	603	12.9	8	8	24.3	0.72	<5
MODD003	34.6	36.1	4.48	9.21	pyroxene skarn	3.70	501	13.3	<5	8	7.8	1.89	<5
MODD003	36.1	37.0	10.95	22.50	wrigglite skarn	4.36	506	11.5	9	<2	28.3	0.58	<5
MODD003	37.0	38.0	9.91	20.37	wrigglite skarn	4.28	725	14.5	7	104	20.6	0.72	<5
MODD003	38.0	39.0	6.08	12.49	wrigglite skarn	3.33	645	15.4	<5	23	11.6	1.07	<5
MODD003	39.0	40.0	11.37	23.37	wrigglite skarn	4.63	681	15.2	7	26	22.5	0.86	<5
MODD003	40.0	41.0	13.18	27.08	wrigglite skarn	5.10	864	15.7	7	203	19.7	0.79	9
MODD003	41.0	42.0	12.40	25.48	wrigglite skarn	4.96	873	13.8	6	89	18.1	1.73	<5
MODD003	42.0	43.0	12.37	25.42	wrigglite skarn	4.67	938	13.1	9	34	26.9	0.74	<5
MODD003	43.0	44.0	10.80	22.19	wrigglite skarn	5.08	705	17.8	6	54	16.7	1.09	7
MODD003	44.0	45.0	11.37	23.37	wrigglite skarn	4.98	448	15.8	6	55	18.4	1.18	15
MODD003	45.0	46.0	12.92	26.55	wrigglite skarn	4.29	839	14.8	6	17	18.8	0.61	15
MODD003	46.0	47.0	10.89	22.38	wrigglite skarn	4.93	636	14.4	7	61	19.7	0.98	12
MODD003	47.0	48.0	11.08	22.77	wrigglite skarn	4.73	867	15.8	6	104	17.5	1.00	7
MODD003	48.0	49.0	10.49	21.56	wrigglite skarn	4.53	855	16.3	6	71	19.6	2.04	8
MODD003	49.0	50.0	8.89	18.27	wrigglite skarn	3.86	713	12.7	7	8	22.1	3.38	<5
MODD003	50.0	51.0	6.45	13.25	wrigglite skarn	3.90	641	13.5	8	<2	23.2	1.67	<5
MODD003	51.0	52.0	10.64	21.87	wrigglite skarn	4.76	686	14.4	6	7	17.6	2.19	34
MODD003	52.0	53.0	9.85	20.24	wrigglite skarn	4.77	658	16.2	6	<2	17.2	2.31	16
MODD003	53.0	54.0	8.60	17.67	wrigglite skarn	5.04	659	13.4	6	15	19.0	4.02	7
MODD003	54.0	55.0	12.02	24.70	wrigglite skarn	5.10	668	20.0	5	28	15.9	2.10	15
MODD003	55.0	56.0	10.32	21.21	wrigglite skarn	5.28	799	22.0	<5	7	13.2	2.44	13

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD002	43.0	44.0	4.11	8.45	garnet skarn	15	0.03	<5	15.4	205	105	239
MODD002	44.0	45.0	1.67	3.43	garnet skarn	22	<0.02	<5	15.0	303	74	173
MODD002	45.0	46.0	0.59	1.21	garnet/pyroxene skarn	18	<0.02	<5	17.2	237	69	319
MODD002	46.0	47.0	1.86	3.82	pyroxene skarn	22	0.03	<5	15.6	247	53	278
MODD002	47.0	48.0	2.20	4.52	pyroxene skarn	11	0.05	<5	15.0	335	115	355
MODD002	48.0	49.0	3.44	7.07	pyroxene skarn	23	0.03	<5	14.3	262	137	222
MODD002	49.0	50.0	5.94	12.21	pyroxene skarn	<5	0.10	<5	28.0	133	3038	117
MODD002	50.0	51.0	3.73	7.67	pyroxene skarn	<5	0.06	<5	28.8	53	411	41
MODD002	51.0	52.0	2.97	6.10	pyroxene skarn	<5	0.07	<5	33.6	74	109	64
MODD002	52.0	53.0	2.89	5.94	pyroxene skarn	<5	0.24	<5	35.5	71	325	39
MODD002	53.0	54.0	1.14	2.34	pyroxene skarn	<5	0.17	<5	31.6	147	121	104
MODD002	54.0	55.0	2.92	6.00	pyroxene skarn	9	0.14	<5	27.6	306	454	113
MODD002	55.0	56.0	1.94	3.99	pyroxene skarn	19	0.04	<5	18.2	622	321	145
MODD002	56.0	57.0	1.48	3.04	pyroxene skarn	21	0.15	<5	16.4	571	185	129
MODD002	57.0	58.0	2.97	6.10	pyroxene skarn	<5	0.18	<5	23.9	220	6070	103
MODD002	58.0	59.0	1.45	2.98	pyroxene skarn	<5	0.26	<5	26.1	184	2173	121
MODD002	59.0	60.0	2.79	5.73	pyroxene skarn	16	0.09	<5	18.7	416	834	121
MODD002	60.0	61.0	4.66	9.58	pyroxene skarn	<5	0.20	<5	23.4	229	6550	73
MODD002	61.0	62.0	2.14	4.40	pyroxene skarn	10	0.04	<5	19.3	383	647	117
MODD002	62.0	63.0	4.60	9.45	pyroxene skarn	<5	0.10	<5	20.6	242	1407	87
MODD002	63.0	64.0	5.37	11.04	pyroxene skarn	14	0.02	<5	14.9	214	270	74
MODD002	64.0	65.4	6.05	12.43	pyroxene skarn	22	0.07	<5	16.3	3	18	76
MODD003	29.5	30.0	3.98	8.18	wrigglite skarn	15	0.07	9	17.7	1514	248	112
MODD003	30.0	31.0	7.51	15.43	wrigglite skarn	19	0.17	44	12.3	1543	119	110
MODD003	31.0	32.0	9.56	19.65	wrigglite skarn	17	0.14	<5	10.4	2124	109	130
MODD003	32.0	33.0	9.98	20.51	wrigglite skarn	21	0.11	6	9.01	2789	677	128
MODD003	33.0	34.0	5.59	11.49	wrigglite skarn	33	0.02	<5	7.33	2254	812	137
MODD003	34.0	34.6	7.67	15.76	wrigglite skarn	18	0.11	17	11.7	2519	1000	103
MODD003	34.6	36.1	4.48	9.21	pyroxene skarn	10	0.06	8	22.8	1031	363	61
MODD003	36.1	37.0	10.95	22.50	wrigglite skarn	20	0.20	<5	10.5	3422	633	134
MODD003	37.0	38.0	9.91	20.37	wrigglite skarn	17	0.65	14	12.9	1894	803	104
MODD003	38.0	39.0	6.08	12.49	wrigglite skarn	12	0.11	7	19.4	1558	785	102
MODD003	39.0	40.0	11.37	23.37	wrigglite skarn	17	0.19	9	10.6	1994	1504	90
MODD003	40.0	41.0	13.18	27.08	wrigglite skarn	11	1.31	12	11.3	1840	1211	89
MODD003	41.0	42.0	12.40	25.48	wrigglite skarn	15	0.54	11	10.9	1644	1043	107
MODD003	42.0	43.0	12.37	25.42	wrigglite skarn	17	0.21	9	9.36	2100	861	124
MODD003	43.0	44.0	10.80	22.19	wrigglite skarn	10	0.31	38	12.9	1829	1336	104
MODD003	44.0	45.0	11.37	23.37	wrigglite skarn	13	0.36	8	13.4	2717	1432	97
MODD003	45.0	46.0	12.92	26.55	wrigglite skarn	10	0.08	14	14.5	1731	1347	103
MODD003	46.0	47.0	10.89	22.38	wrigglite skarn	10	0.38	10	13.1	1819	1399	105
MODD003	47.0	48.0	11.08	22.77	wrigglite skarn	19	0.57	18	13.7	1545	774	94
MODD003	48.0	49.0	10.49	21.56	wrigglite skarn	12	0.37	26	11.1	1679	1239	118
MODD003	49.0	50.0	8.89	18.27	wrigglite skarn	17	0.06	12	11.8	1936	988	119
MODD003	50.0	51.0	6.45	13.25	wrigglite skarn	19	0.08	37	9.76	1456	429	158
MODD003	51.0	52.0	10.64	21.87	wrigglite skarn	5	0.16	19	11.4	1359	2328	133
MODD003	52.0	53.0	9.85	20.24	wrigglite skarn	6	0.02	37	11.4	1204	1365	117
MODD003	53.0	54.0	8.60	17.67	wrigglite skarn	12	0.12	19	12.2	1194	1183	139
MODD003	54.0	55.0	12.02	24.70	wrigglite skarn	17	0.13	39	11.4	1203	1316	149
MODD003	55.0	56.0	10.32	21.21	wrigglite skarn	12	0.04	64	12.0	872	1032	118

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD003	56.0	57.0	10.10	20.76	wrigglite skarn	4.43	711	22.4	5	9	16.0	2.24	17
MODD003	57.0	58.0	8.82	18.13	wrigglite skarn	4.50	713	12.1	6	10	19.0	6.63	9
MODD003	58.0	59.0	7.76	15.95	wrigglite skarn	3.82	518	16.6	<5	28	14.7	6.11	6
MODD003	59.0	60.0	9.37	19.26	wrigglite skarn	4.49	611	14.1	6	3	18.0	4.46	<5
MODD003	60.0	61.0	9.28	19.07	wrigglite skarn	5.10	502	16.6	6	16	17.9	2.00	7
MODD003	61.0	62.0	10.12	20.80	wrigglite skarn	4.97	935	16.4	6	13	18.0	0.90	<5
MODD003	62.0	63.0	7.13	14.65	wrigglite skarn	4.66	850	15.2	6	<2	20.4	1.21	<5
MODD003	63.0	64.0	6.56	13.48	wrigglite skarn	5.43	509	15.4	6	<2	16.5	1.59	46
MODD003	64.0	65.0	9.00	18.50	wrigglite skarn	5.67	449	15.4	6	<2	15.7	1.44	14
MODD003	65.0	66.0	10.16	20.88	wrigglite skarn	5.74	570	15.1	6	19	18.6	0.82	6
MODD003	66.0	67.0	11.38	23.39	wrigglite skarn	5.49	621	20.2	6	48	18.0	0.61	19
MODD003	67.0	68.0	12.36	25.40	wrigglite skarn	5.51	726	21.0	6	36	18.3	0.60	<5
MODD003	68.0	69.0	9.88	20.30	wrigglite skarn	5.19	661	17.0	6	65	20.4	0.80	29
MODD003	69.0	70.0	10.20	20.96	wrigglite skarn	5.16	689	17.5	7	120	19.0	1.06	15
MODD003	70.0	71.0	7.80	16.03	wrigglite skarn	5.82	382	13.1	6	<2	18.0	2.08	79
MODD003	71.0	72.0	7.52	15.45	wrigglite skarn	5.37	471	15.9	<5	57	12.0	4.16	17
MODD003	72.0	73.0	9.65	19.83	wrigglite skarn	5.13	661	17.1	5	49	14.5	1.90	97
MODD003	73.0	74.0	8.70	17.88	wrigglite skarn	5.14	580	15.8	6	89	15.2	1.60	27
MODD003	74.0	75.0	10.14	20.84	wrigglite skarn	5.37	591	17.6	6	32	17.3	2.16	11
MODD003	75.0	76.0	10.96	22.52	wrigglite skarn	4.96	665	18.1	6	20	18.4	1.30	18
MODD003	76.0	77.0	10.68	21.95	wrigglite skarn	5.57	534	17.1	6	27	17.5	1.23	36
MODD003	77.0	78.0	7.73	15.89	wrigglite skarn	4.78	769	18.5	6	53	17.2	1.44	73
MODD003	78.0	79.0	8.41	17.28	wrigglite skarn	4.91	509	19.8	5	54	14.0	1.17	131
MODD003	79.0	80.0	2.45	5.03	pyroxene skarn	2.30	360	18.6	<5	<2	9.2	1.51	188
MODD003	80.0	81.0	2.54	5.22	pyroxene/wrigglite skarn	4.42	212	18.1	<5	2	6.7	1.82	9
MODD003	81.0	82.0	6	12.33	wrigglite skarn	4.68	501	19.4	<5	<2	10.1	1.17	24
MODD003	82.0	83.0	8.66	17.80	wrigglite skarn	4.69	621	13.1	7	6	22.9	0.78	66
MODD003	83.0	84.0	9.78	20.10	wrigglite skarn	5.42	500	15.7	6	59	18.6	0.99	105
MODD003	84.0	85.0	6.45	13.25	wrigglite skarn	4.77	513	16.5	9	433	20.5	0.97	108
MODD003	85.0	86.0	5.86	12.04	wrigglite skarn	5.74	410	19.3	<5	53	13.6	1.09	148
MODD003	86.0	87.0	8.2	16.85	wrigglite skarn	5.65	364	16.8	5	37	15.6	0.97	80
MODD003	87.0	88.0	5.51	11.32	wrigglite/pyroxene skarn	5.44	316	19.9	<5	31	14.4	0.89	61
MODD003	88.0	89.0	4.84	9.95	pyroxene skarn	5.37	323	16.6	51	73	13.3	1.20	83
MODD003	89.0	90.0	2.13	4.38	pyroxene skarn	4.97	1118	20.6	10	13	10.1	0.98	27
MODD003	90.0	91.0	3.2	6.58	pyroxene skarn	5.45	538	20.6	<5	69	11.5	1.48	68
MODD003	91.0	92.0	3.84	7.89	pyroxene skarn	4.17	420	17.2	6	7	20.9	1.16	49
MODD003	92.0	93.0	2.36	4.85	pyroxene skarn	6.42	202	16.7	<5	<2	8.5	1.36	66
MODD003	93.0	94.0	1.29	2.65	pyroxene skarn	5.10	224	21.2	<5	<2	11.1	1.23	26
MODD003	94.0	95.0	1.10	2.26	pyroxene skarn	4.72	222	21.6	<5	<2	11.2	1.56	<5
MODD003	95.0	96.0	1.72	3.53	pyroxene skarn	5.21	219	21.7	<5	<2	10.8	1.55	13
MODD003	96.0	97.0	1.36	2.79	pyroxene skarn	6.86	176	12.1	<5	13	5.8	1.57	30
MODD003	97.0	98.0	0.92	1.89	pyroxene skarn	5.34	175	9.24	<5	14	4.8	1.73	22
MODD003	98.0	99.0	1.44	2.96	pyroxene skarn	3.92	186	8.83	<5	42	4.9	3.19	63
MODD003	99.0	100.0	0.92	1.89	pyroxene skarn	5.07	81	1.26	<5	12	1.5	1.07	118
MODD003	100.0	101.0	1.38	2.84	pyroxene skarn	5.83	145	5.44	<5	10	3.8	2.56	43
MODD003	101.0	102.0	1.32	2.71	pyroxene skarn	3.61	117	3.31	<5	9	2.7	1.71	19
MODD003	102.0	103.0	1.12	2.30	pyroxene skarn	5.03	86	1.34	<5	20	1.5	1.18	110
MODD003	103.0	104.0	1.01	2.08	pyroxene skarn	2.51	79	2.71	<5	10	1.6	1.32	28
MODD003	104.0	104.7	0.61	1.25	pyroxene skarn	5.54	80	1.46	<5	14	1.3	1.01	15

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD003	56.0	57.0	10.10	20.76	wrigglite skarn	6	0.06	77	9.78	765	2147	128
MODD003	57.0	58.0	8.82	18.13	wrigglite skarn	8	0.07	22	11.4	1024	1164	170
MODD003	58.0	59.0	7.76	15.95	wrigglite skarn	11	0.12	28	9.79	978	743	292
MODD003	59.0	60.0	9.37	19.26	wrigglite skarn	16	0.04	22	11.6	1179	768	191
MODD003	60.0	61.0	9.28	19.07	wrigglite skarn	12	0.09	29	13.6	1332	1138	151
MODD003	61.0	62.0	10.12	20.80	wrigglite skarn	13	0.20	21	12.0	1420	1434	182
MODD003	62.0	63.0	7.13	14.65	wrigglite skarn	12	0.07	12	14.8	2401	1389	109
MODD003	63.0	64.0	6.56	13.48	wrigglite skarn	12	0.14	21	14.8	1818	846	115
MODD003	64.0	65.0	9.00	18.50	wrigglite skarn	6	0.19	14	13.4	1122	1128	123
MODD003	65.0	66.0	10.16	20.88	wrigglite skarn	10	0.23	10	11.7	897	1647	144
MODD003	66.0	67.0	11.38	23.39	wrigglite skarn	11	0.22	27	11.7	1175	1659	134
MODD003	67.0	68.0	12.36	25.40	wrigglite skarn	6	0.17	28	11.3	1168	1472	119
MODD003	68.0	69.0	9.88	20.30	wrigglite skarn	6	0.41	21	11.7	1385	1484	140
MODD003	69.0	70.0	10.20	20.96	wrigglite skarn	13	0.60	17	11.7	1692	937	112
MODD003	70.0	71.0	7.80	16.03	wrigglite skarn	10	0.06	13	15.1	1252	771	111
MODD003	71.0	72.0	7.52	15.45	wrigglite skarn	6	0.26	28	14.9	1001	1250	136
MODD003	72.0	73.0	9.65	19.83	wrigglite skarn	<5	0.23	23	12.8	1305	3092	112
MODD003	73.0	74.0	8.70	17.88	wrigglite skarn	16	0.48	12	13.2	1338	1091	110
MODD003	74.0	75.0	10.14	20.84	wrigglite skarn	9	0.20	25	13.2	1438	1845	109
MODD003	75.0	76.0	10.96	22.52	wrigglite skarn	18	0.14	10	13.2	2215	1239	97
MODD003	76.0	77.0	10.68	21.95	wrigglite skarn	9	0.19	10	13.7	1731	1551	100
MODD003	77.0	78.0	7.73	15.89	wrigglite skarn	18	0.35	22	14.7	1613	1494	111
MODD003	78.0	79.0	8.41	17.28	wrigglite skarn	16	0.37	27	14.5	1400	1160	98
MODD003	79.0	80.0	2.45	5.03	pyroxene skarn	17	0.03	<5	24.7	578	709	189
MODD003	80.0	81.0	2.54	5.22	pyroxene/wrigglite skarn	12	0.02	9	21.7	460	266	204
MODD003	81.0	82.0	6	12.33	wrigglite skarn	10	0.03	11	19.6	1245	1085	196
MODD003	82.0	83.0	8.66	17.80	wrigglite skarn	18	0.07	<5	14.2	1695	1388	130
MODD003	83.0	84.0	9.78	20.10	wrigglite skarn	11	0.08	<5	15.1	1199	1613	97
MODD003	84.0	85.0	6.45	13.25	wrigglite skarn	18	0.84	5	15.2	1205	1275	1070
MODD003	85.0	86.0	5.86	12.04	wrigglite skarn	10	0.25	9	16.2	1059	1129	175
MODD003	86.0	87.0	8.2	16.85	wrigglite skarn	<5	0.19	8	14.6	1141	2727	113
MODD003	87.0	88.0	5.51	11.32	wrigglite/pyroxene skarn	13	0.19	13	15.7	1234	1164	222
MODD003	88.0	89.0	4.84	9.95	pyroxene skarn	10	1.28	17	16.2	996	1191	14300
MODD003	89.0	90.0	2.13	4.38	pyroxene skarn	33	0.24	9	15.9	803	870	1976
MODD003	90.0	91.0	3.2	6.58	pyroxene skarn	21	0.69	24	17.5	861	421	172
MODD003	91.0	92.0	3.84	7.89	pyroxene skarn	27	0.09	<5	16.2	1437	750	176
MODD003	92.0	93.0	2.36	4.85	pyroxene skarn	18	0.04	<5	21.7	596	825	97
MODD003	93.0	94.0	1.29	2.65	pyroxene skarn	33	<0.02	<5	19.6	494	1004	91
MODD003	94.0	95.0	1.10	2.26	pyroxene skarn	37	<0.02	<5	19.2	442	205	101
MODD003	95.0	96.0	1.72	3.53	pyroxene skarn	31	<0.02	<5	19.2	403	327	96
MODD003	96.0	97.0	1.36	2.79	pyroxene skarn	23	0.12	6	26.3	202	148	94
MODD003	97.0	98.0	0.92	1.89	pyroxene skarn	25	0.17	6	23.8	284	289	149
MODD003	98.0	99.0	1.44	2.96	pyroxene skarn	13	0.27	7	22.4	141	311	108
MODD003	99.0	100.0	0.92	1.89	pyroxene skarn	12	0.09	<5	26.7	94	1192	47
MODD003	100.0	101.0	1.38	2.84	pyroxene skarn	21	0.09	<5	25.9	142	228	158
MODD003	101.0	102.0	1.32	2.71	pyroxene skarn	25	0.11	<5	25.9	83	107	82
MODD003	102.0	103.0	1.12	2.30	pyroxene skarn	13	0.15	<5	28.1	74	27	33
MODD003	103.0	104.0	1.01	2.08	pyroxene skarn	13	0.11	<5	27.9	38	57	39
MODD003	104.0	104.7	0.61	1.25	pyroxene skarn	9	0.04	<5	31.9	72	12	35

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD003	104.7	105.0	0.77	1.58	Fault breccia	5.49	78	0.95	<5	12	1.4	1.03	25
MODD003	105.0	106.0	3.00	6.17	Moina sandstone	4.97	121	4.09	<5	10	3.4	2.89	8
MODD003	108.1	109.0	1.61	3.31	Moina sandstone	5.16	119	4.41	<5	4	2.9	1.72	<5
MODD003	109.0	110.0	1.08	2.22	Moina sandstone	4.29	85	1.74	<5	5	1.9	1.03	10
MODD003	110.0	111.0	1.00	2.06	Moina sandstone	3.06	99	2.61	<5	7	2.8	1.51	11
MODD003	111.0	112.0	2.49	5.12	Moina sandstone	1.66	133	10.7	<5	<2	5.2	1.32	5
MODD003	112.0	113.0	0.53	1.09	Moina sandstone	1.65	130	8.01	<5	<2	4.5	1.39	18
MODD003	113.0	114.0	1.15	2.36	Moina sandstone	6.31	147	1.95	<5	8	2.2	1.67	11
MODD003	114.0	115.0	0.71	1.46	Moina sandstone	3.74	81	1.38	<5	10	2.2	1.03	20
MODD003	115.0	116.0	0.98	2.01	Moina sandstone	1.71	57	2.29	<5	32	1.9	0.68	7
MODD003	116.0	117.0	0.87	1.79	Moina sandstone	2.97	78	2.26	<5	27	2.1	0.97	14
MODD003	117.0	118.0	0.68	1.40	Moina sandstone	3.89	71	1.60	<5	19	2.2	0.94	19
MODD003	118.0	119.0	0.30	0.62	Moina sandstone	5.81	58	0.72	<5	20	1.6	0.78	6
MODD003	119.0	120.5	0.71	1.46	Moina sandstone	4.60	92	2.07	<5	21	2.1	1.18	17
MODD004	36.8	38.0	10.76	22.11	wrigglite skarn	4.14	777	14.5	<5	344	23.3	0.82	<5
MODD004	38.0	39.0	11.76	24.17	wrigglite skarn	4.77	675	13.7	<5	300	21.8	1.46	<5
MODD004	39.0	40.0	11.54	23.71	wrigglite skarn	4.47	476	12.5	<5	290	22.1	2.24	<5
MODD004	40.0	41.0	10.1	20.76	wrigglite skarn	4.26	611	15.9	<5	199	21.2	1.60	<5
MODD004	41.0	42.0	10.02	20.59	wrigglite skarn	4.66	468	11.2	<5	228	21.2	2.83	<5
MODD004	42.0	43.0	10.14	20.84	wrigglite skarn	4.75	610	15.3	<5	290	15.3	3.77	<5
MODD004	43.0	44.0	8.14	16.73	pyroxene/wrigglite skarn	4.76	296	16.7	<5	52	8.5	1.32	<5
MODD004	44.0	45.0	9.76	20.06	pyroxene/wrigglite skarn	3.94	374	17.0	<5	61	19.3	1.00	<5
MODD004	45.0	46.0	5.55	11.41	pyroxene/wrigglite skarn	3.97	151	22.6	<5	463	12.1	1.22	<5
MODD004	46.0	47.0	1.86	3.82	pyroxene/wrigglite skarn	2.61	95	16.9	<5	13	7.1	1.88	<5
MODD004	47.0	48.0	7.5	15.41	pyroxene/wrigglite skarn	4.06	330	14.8	<5	89	13.6	2.94	<5
MODD004	48.0	49.0	8.92	18.33	pyroxene/wrigglite skarn	4.32	543	11.8	<5	<2	27.1	1.30	<5
MODD004	49.0	50.0	5.28	10.85	pyroxene/wrigglite skarn	3.07	202	16.7	<5	16	8.2	1.38	<5
MODD004	50.0	51.0	11.36	23.34	pyroxene/wrigglite skarn	4.53	352	23.1	<5	94	15.0	0.68	<5
MODD004	51.0	52.0	7.93	16.30	pyroxene/wrigglite skarn	4.12	519	21.6	<5	92	12.9	1.00	<5
MODD004	52.0	53.0	11.9	24.45	wrigglite skarn	5.50	506	19.3	<5	85	16.5	0.87	<5
MODD004	53.0	54.0	14.47	29.74	wrigglite skarn	5.17	998	19.1	<5	141	19.1	0.72	<5
MODD004	54.0	55.0	5.22	10.73	wrigglite skarn	4.33	258	18.6	<5	<2	19.1	1.26	<5
MODD004	55.0	56.0	8.65	17.78	wrigglite skarn	4.42	388	18.8	<5	10	18.0	1.17	<5
MODD004	56.0	57.0	10.67	21.93	wrigglite skarn	5.07	676	16.8	<5	84	18.8	1.69	<5
MODD004	57.0	58.0	11.63	23.90	wrigglite skarn	4.28	643	14.8	<5	121	19.2	2.98	6
MODD004	58.0	59.0	10.67	21.93	wrigglite skarn	4.75	423	14.9	<5	73	19.2	2.30	7
MODD004	59.0	60.0	9.18	18.86	wrigglite skarn	4.50	486	13.6	<5	80	20.2	2.62	6
MODD004	60.0	61.0	9.28	19.07	wrigglite skarn	4.51	484	14.4	<5	31	18.3	3.95	10
MODD004	61.0	62.0	12.52	25.73	wrigglite skarn	4.99	487	18.8	<5	41	14.9	2.04	35
MODD004	62.0	63.0	9.69	19.91	wrigglite skarn	4.53	326	17.4	<5	32	15.1	3.99	23
MODD004	63.0	64.0	6.42	13.19	wrigglite skarn	3.88	291	15.2	<5	72	13.5	6.00	20
MODD004	64.0	65.0	10.05	20.65	wrigglite skarn	4.84	368	15.1	<5	35	17.9	3.23	21
MODD004	65.0	66.0	11.04	22.69	wrigglite skarn	4.98	530	14.1	<5	14	22.7	1.09	23
MODD004	66.0	67.0	8.36	17.18	wrigglite skarn	5.69	160	19.4	<5	<2	13.5	1.40	8
MODD004	67.0	68.0	10.31	21.19	wrigglite skarn	5.46	289	19.1	<5	18	13.5	1.22	13
MODD004	68.0	69.0	11.91	24.48	wrigglite skarn	5.08	412	16.3	<5	22	16.5	0.58	21
MODD004	69.0	70.0	10.69	21.97	wrigglite skarn	4.43	497	18.6	<5	<2	20.7	0.89	<5
MODD004	70.0	71.0	10.61	21.80	wrigglite skarn	4.38	478	18.4	<5	<2	19.4	1.29	<5
MODD004	71.0	72.0	6.69	13.75	wrigglite skarn	4.93	171	16.6	<5	3	17.6	2.11	10

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD003	104.7	105.0	0.77	1.58	Fault breccia	10	0.03	<5	31.6	103	23	28
MODD003	105.0	106.0	3.00	6.17	Moina sandstone	18	0.04	<5	28.1	74	<10	76
MODD003	108.1	109.0	1.61	3.31	Moina sandstone	6	0.38	<5	26.3	135	12	90
MODD003	109.0	110.0	1.08	2.22	Moina sandstone	9	0.03	<5	33.4	75	29	50
MODD003	110.0	111.0	1.00	2.06	Moina sandstone	18	0.08	<5	31.8	129	31	66
MODD003	111.0	112.0	2.49	5.12	Moina sandstone	20	0.35	<5	22.5	91	18	142
MODD003	112.0	113.0	0.53	1.09	Moina sandstone	16	0.18	<5	23.3	73	<10	159
MODD003	113.0	114.0	1.15	2.36	Moina sandstone	17	0.05	<5	29.4	176	17	64
MODD003	114.0	115.0	0.71	1.46	Moina sandstone	30	0.18	<5	30.6	192	45	75
MODD003	115.0	116.0	0.98	2.01	Moina sandstone	21	0.35	<5	30.4	146	35	34
MODD003	116.0	117.0	0.87	1.79	Moina sandstone	18	0.29	<5	29.3	201	<10	92
MODD003	117.0	118.0	0.68	1.40	Moina sandstone	20	0.24	<5	36.7	130	14	126
MODD003	118.0	119.0	0.30	0.62	Moina sandstone	23	0.36	<5	31.5	127	<10	37
MODD003	119.0	120.5	0.71	1.46	Moina sandstone	16	0.21	<5	37.8	<50	29	62
MODD004	36.8	38.0	10.76	22.11	wrigglite skarn	23	1.14	52	10.1	1511	442	122
MODD004	38.0	39.0	11.76	24.17	wrigglite skarn	17	1.48	50	9.56	1350	516	129
MODD004	39.0	40.0	11.54	23.71	wrigglite skarn	13	1.22	29	9.89	1003	592	124
MODD004	40.0	41.0	10.1	20.76	wrigglite skarn	17	0.63	60	10.8	1677	678	126
MODD004	41.0	42.0	10.02	20.59	wrigglite skarn	15	1.08	30	10.5	1385	395	165
MODD004	42.0	43.0	10.14	20.84	wrigglite skarn	13	1.10	74	11.4	1007	499	191
MODD004	43.0	44.0	8.14	16.73	pyroxene/wrigglite skarn	17	0.29	39	17.1	681	173	129
MODD004	44.0	45.0	9.76	20.06	pyroxene/wrigglite skarn	21	0.14	36	12.3	2355	250	135
MODD004	45.0	46.0	5.55	11.41	pyroxene/wrigglite skarn	20	0.09	83	15.3	1627	77	118
MODD004	46.0	47.0	1.86	3.82	pyroxene/wrigglite skarn	15	<0.02	22	23.8	823	112	76
MODD004	47.0	48.0	7.5	15.41	pyroxene/wrigglite skarn	13	0.17	48	16.7	880	176	132
MODD004	48.0	49.0	8.92	18.33	pyroxene/wrigglite skarn	15	0.08	28	10.8	1357	114	138
MODD004	49.0	50.0	5.28	10.85	pyroxene/wrigglite skarn	16	0.04	26	23.1	711	134	92
MODD004	50.0	51.0	11.36	23.34	pyroxene/wrigglite skarn	21	0.23	88	11.5	946	485	136
MODD004	51.0	52.0	7.93	16.30	pyroxene/wrigglite skarn	25	0.14	51	14.2	1608	298	125
MODD004	52.0	53.0	11.9	24.45	wrigglite skarn	16	0.25	64	11.9	1685	416	204
MODD004	53.0	54.0	14.47	29.74	wrigglite skarn	13	0.77	49	10.2	1691	888	123
MODD004	54.0	55.0	5.22	10.73	wrigglite skarn	23	0.04	34	13.6	3411	334	116
MODD004	55.0	56.0	8.65	17.78	wrigglite skarn	18	0.22	35	11.4	2864	480	134
MODD004	56.0	57.0	10.67	21.93	wrigglite skarn	7	0.55	34	11.8	1509	1036	126
MODD004	57.0	58.0	11.63	23.90	wrigglite skarn	16	0.61	35	10.3	1656	774	142
MODD004	58.0	59.0	10.67	21.93	wrigglite skarn	7	0.47	22	11.7	1490	1415	145
MODD004	59.0	60.0	9.18	18.86	wrigglite skarn	9	0.49	26	11.3	1494	784	156
MODD004	60.0	61.0	9.28	19.07	wrigglite skarn	6	0.18	44	11.8	1288	966	167
MODD004	61.0	62.0	12.52	25.73	wrigglite skarn	<5	0.27	48	11.0	1188	1326	114
MODD004	62.0	63.0	9.69	19.91	wrigglite skarn	12	0.22	53	11.1	1080	998	163
MODD004	63.0	64.0	6.42	13.19	wrigglite skarn	6	0.34	28	11.0	726	758	192
MODD004	64.0	65.0	10.05	20.65	wrigglite skarn	<5	0.25	37	11.6	1165	1146	136
MODD004	65.0	66.0	11.04	22.69	wrigglite skarn	10	0.22	8	11.5	1545	940	124
MODD004	66.0	67.0	8.36	17.18	wrigglite skarn	11	0.11	45	14.2	1702	673	111
MODD004	67.0	68.0	10.31	21.19	wrigglite skarn	14	0.19	34	13.2	1182	1045	537
MODD004	68.0	69.0	11.91	24.48	wrigglite skarn	<5	0.27	25	14.0	1056	1410	303
MODD004	69.0	70.0	10.69	21.97	wrigglite skarn	11	0.11	33	11.3	1896	1060	154
MODD004	70.0	71.0	10.61	21.80	wrigglite skarn	22	0.13	44	11.3	1683	860	143
MODD004	71.0	72.0	6.69	13.75	wrigglite skarn	11	0.05	26	13.6	1610	708	144

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Al (%)	Bi (ppm)	Ca (%)	Cd (ppm)	Cu (ppm)	Fe (%)	Mg (%)	Mo (ppm)
	From	To											
MODD004	72.0	73.0	9.33	19.17	wrigglite skarn	5.01	175	14.8	<5	<2	18.0	2.29	<5
MODD004	73.0	74.0	9.07	18.64	wrigglite skarn	5.63	230	18.6	<5	<2	15.2	1.73	<5
MODD004	74.0	75.0	5.98	12.29	wrigglite/garnet skarn	4.59	213	18.7	<5	9	15.3	1.04	8
MODD004	75.0	76.0	4.15	8.53	garnet/wrigglite skarn	1.83	26	11.7	<5	8	5.4	2.54	12
MODD004	76.0	77.0	1.93	3.97	garnet/wrigglite skarn	2.45	<10	13.5	<5	7	5.3	2.09	16
MODD004	77.0	78.0	4.68	9.62	garnet/wrigglite skarn	4.92	97	14.4	<5	15	7.7	1.25	75
MODD004	78.0	79.0	4.07	8.36	garnet/wrigglite skarn	4.12	299	21.6	<5	6	11.7	0.79	10
MODD004	79.0	80.0	6.75	13.87	garnet/wrigglite skarn	4.83	205	20.4	<5	12	14.6	0.83	21
MODD004	80.0	81.0	6.25	12.84	garnet/wrigglite skarn	4.66	216	17.3	<5	71	17.1	0.82	59
MODD004	81.0	82.0	7.22	14.84	garnet/wrigglite skarn	4.91	233	17.0	<5	53	17.0	0.99	22
MODD004	82.0	83.0	6.5	13.36	garnet/wrigglite skarn	4.84	311	18.3	<5	17	15.9	1.11	<5
MODD004	83.0	84.0	1.02	2.10	garnet skarn	4.54	<10	21.6	<5	<2	11.1	1.33	<5
MODD004	84.0	85.0	0.77	1.58	garnet skarn	3.73	19	21.3	<5	<2	11.9	1.17	<5
MODD004	85.0	86.0	1.7	3.49	garnet skarn	5.06	18	21.1	<5	<2	10.5	1.33	158
MODD004	86.0	87.0	0.83	1.71	garnet skarn	4.31	<10	21.3	<5	<2	11.7	1.02	35
MODD004	87.0	88.0	2.59	5.32	garnet skarn	4.15	<10	21.5	<5	<2	10.7	1.21	15
MODD004	88.0	89.0	4.97	10.21	garnet skarn	4.90	160	18.9	<5	11	10.3	1.27	5
MODD004	89.0	90.0	5.91	12.15	garnet skarn	6.02	209	13.2	<5	30	11.6	2.09	193
MODD004	90.0	91.0	2.04	4.19	garnet skarn	3.08	<10	4.91	<5	8	3.2	2.10	29
MODD004	91.0	92.0	1.69	3.47	Moina sandstone	4.92	<10	2.26	<5	11	2.1	1.50	124
MODD004	92.0	93.0	1.23	2.53	Moina sandstone	4.79	<10	1.55	<5	8	1.6	0.89	71
MODD004	93.0	94.0	1.53	3.14	Moina sandstone	2.58	<10	1.89	<5	6	1.7	0.83	15
MODD004	94.0	95.0	1.63	3.35	Moina sandstone	1.81	<10	2.33	<5	5	2.1	0.87	53
MODD004	95.0	96.0	2.32	4.77	Moina sandstone	1.90	<10	2.74	<5	6	2.2	1.02	29
MODD004	96.0	97.0	1.97	4.05	Moina sandstone	2.16	<10	1.68	<5	6	2.2	0.86	51
MODD004	97.0	98.0	1.04	2.14	Moina sandstone	6.60	<10	0.80	<5	11	2.3	1.01	8
MODD004	98.0	99.0	0.89	1.83	Moina sandstone	2.50	<10	1.11	<5	8	1.0	0.53	31
MODD004	99.0	100.0	1.6	3.29	Moina sandstone	2.72	<10	2.45	<5	15	1.7	0.77	316
MODD004	100.0	101.2	1.16	2.38	Moina sandstone	4.07	<10	1.10	<5	13	1.3	0.85	17

Table 2 (cont). Finalised analyses including lithology unit types.

Hole ID	Intercept, m		F %	CaF2 %	Lithology	Pb (ppm)	S (%)	Sb (ppm)	Si (%)	Sn (ppm)	W (ppm)	Zn (ppm)
	From	To										
MODD004	72.0	73.0	9.33	19.17	wrigglite skarn	11	0.05	18	13.0	1193	1145	129
MODD004	73.0	74.0	9.07	18.64	wrigglite skarn	16	0.09	26	13.8	1097	661	139
MODD004	74.0	75.0	5.98	12.29	wrigglite/garnet skarn	13	0.05	26	15.4	1513	592	126
MODD004	75.0	76.0	4.15	8.53	garnet/wrigglite skarn	13	<0.02	<5	29.1	422	1141	159
MODD004	76.0	77.0	1.93	3.97	garnet/wrigglite skarn	17	0.02	<5	28.6	403	340	139
MODD004	77.0	78.0	4.68	9.62	garnet/wrigglite skarn	18	0.09	<5	22.9	716	1074	69
MODD004	78.0	79.0	4.07	8.36	garnet/wrigglite skarn	14	0.03	14	18.1	1363	592	78
MODD004	79.0	80.0	6.75	13.87	garnet/wrigglite skarn	18	0.07	21	14.7	1294	765	127
MODD004	80.0	81.0	6.25	12.84	garnet/wrigglite skarn	15	0.54	9	15.6	1476	809	109
MODD004	81.0	82.0	7.22	14.84	garnet/wrigglite skarn	11	0.36	6	15.1	1134	1088	104
MODD004	82.0	83.0	6.5	13.36	garnet/wrigglite skarn	16	0.09	9	15.1	1496	438	143
MODD004	83.0	84.0	1.02	2.10	garnet skarn	23	0.04	10	18.1	702	82	100
MODD004	84.0	85.0	0.77	1.58	garnet skarn	35	0.02	<5	17.4	583	115	81
MODD004	85.0	86.0	1.7	3.49	garnet skarn	28	0.04	44	18.4	622	169	109
MODD004	86.0	87.0	0.83	1.71	garnet skarn	37	0.03	<5	17.8	686	114	91
MODD004	87.0	88.0	2.59	5.32	garnet skarn	29	0.03	8	17.1	629	159	84
MODD004	88.0	89.0	4.97	10.21	garnet skarn	24	0.15	<5	18.1	523	341	82
MODD004	89.0	90.0	5.91	12.15	garnet skarn	10	0.40	<5	19.0	411	626	85
MODD004	90.0	91.0	2.04	4.19	garnet skarn	5	0.09	137	33.5	126	820	50
MODD004	91.0	92.0	1.69	3.47	Moina sandstone	<5	0.10	<5	34.8	86	141	29
MODD004	92.0	93.0	1.23	2.53	Moina sandstone	<5	0.07	<5	38.1	72	104	19
MODD004	93.0	94.0	1.53	3.14	Moina sandstone	7	0.08	<5	40.5	91	104	25
MODD004	94.0	95.0	1.63	3.35	Moina sandstone	<5	0.10	<5	40.4	101	208	29
MODD004	95.0	96.0	2.32	4.77	Moina sandstone	<5	0.10	<5	36.8	121	173	31
MODD004	96.0	97.0	1.97	4.05	Moina sandstone	<5	0.20	<5	37.2	175	205	27
MODD004	97.0	98.0	1.04	2.14	Moina sandstone	<5	0.28	<5	32.8	136	68	26
MODD004	98.0	99.0	0.89	1.83	Moina sandstone	<5	0.14	<5	38.8	156	38	9
MODD004	99.0	100.0	1.6	3.29	Moina sandstone	<5	0.14	<5	37.4	181	525	19
MODD004	100.0	101.2	1.16	2.38	Moina sandstone	<5	0.08	<5	36.3	95	70	14

## 5. CONCLUSIONS

The primary conclusion from the analytical work carried out this year is that analysis of fluorine in fluorspar at high concentrations is potentially very difficult. All the commercial laboratories that analysed the samples used the same measuring method, ion selective electrode, but the sample preparation and treatment differed in terms of leaching solutions, times and temperatures. Most laboratories were unwilling to discuss the finer points of the methods they employed and one laboratory was unwilling to divulge any information on the process they used to prepare the sample. The use of certified reference materials is therefore critical in maintaining confidence in commercial laboratory analysis of fluorine (and everything else).

The finalised fluorspar analytical results were of the same tenor as the historical results obtained by Comalco and Shell and the tin, tungsten and bismuth levels were also similar. Composites of wriggilite can now be made up with confidence to be used in the metallurgical test work program as outlined below.

### PROPOSED WORK FOR NEXT YEAR

Following on from the geochemical analysis work carried out through the first three quarters of 2010 commencement of metallurgical test work will commence at Optimet Laboratories in Adelaide in October 2010. The results of this test work will determine the timing and extent of future resource definition drilling at Moina.

The plan for assessment of the Moina deposit provided by Minemakers' fluorspar consultant is pasted below. The timing has been delayed by approximately six months or so due to problems with analysis of fluorine.

#### Recommended Master-plan:

1. Resolve the CaF<sub>2</sub> assay discrepancies of the drill core intervals - Russell to liaise with Kwan, plus my help where required with assay methods and experienced assay labs.
2. Decide which drill core intervals to include within the estimated resource and select the corresponding intervals to be representative of the estimated resource in a composite sample of half-core.
3. Decide if the upper weathered zone of wriggilite is to be included within the resource (and within the composite) and if the lower basement zone which is richer in sulphides should be isolated as a separate composite sample for a subsequent mineralogical/metallurgical investigation.
4. In conjunction with (3) above, decide if isolation of the upper weathered zone and the lower basement zone could justify a phased mining/processing strategy. Phase I would begin by mining and treating the central wriggilite zone (possibly upper wriggilite too) in a much-simplified lower-cost plant. After generating cashflow from several years of operation and with the benefit of established markets, Phase II would progress by mining the basement zone together with the Hugo

skarn and treat this ore in an extended plant with additional circuits for tungsten, tin, and sulphide recovery.

Schedule for (1) - (4): aim to complete by 1st April 2010

Rough budget estimate for (1) - (4): Nil - funding within existing project budget.

5. Instruct Kwan to split in half all crushed core intervals within identified resource. Composite all half-samples for a mineralogical/metallurgical sample and retain other halves as individual intervals for reference.

6. Split out representative sample for Qemscan investigation and re-work the data to maximise the metallurgical performance forecasting of the ore.

7. Request quotation for Qemscan investigation from SGS Lakefield, courier small split from representative master sample, and complete Qemscan work.

Schedule for (5) - (7): aim to complete by 31st July 2010

Rough budget estimate for (5) - (7): US\$30,000.

8. Using Qemscan guidelines:

- Prepare scope and objectives for metallurgical testwork programme;
- Prime objectives to be:
- Produce acid grade fluorspar concentrate;
- Determine CaF<sub>2</sub> recovery;
- Determine maximum particle size while achieving economic CaF<sub>2</sub> recovery.
- Design testwork programme with Kwan;
- Briefly assess tungsten, tin, bismuth, and sulphides recoveries or (depending on (4) above) decide to isolate and stockpile for Phase II.

Schedule (8): aim to complete by 31st December 2010

Rough budget estimate (8) - (7): US\$70,000 - \$80,000. (NB: there will be a need for 1 or 2 visits to Kwan during this period)

9. While conducting Met testwork, assess agglomeration options;

- Conventional agglomeration techniques, such as those used in the food industry;

- High-pressure briquetting as use for metallurgical grade fluorspar fines, followed by attrition.

10. Develop relationship with NiPlats/Speewah by assessing synergies and compatibility of the two projects to prevent Speewah becoming a threatening competitor to Moina.

Schedule (9) - (10): simultaneous with (8) aim to complete by 31st December 2010.

Rough budget estimate (9) - (10): Nil - funding within existing project budget.

#### Master-plan Summary

1. By the end of 2010:

- Reach preliminary conclusions for future of the project:

Either:

- Metallurgical success - proceed with drilling programme to verify/quantify resource and produce fully representative core sample; or
- Metallurgically uncertain - continue with additional met testwork on preliminary sample with deeper investigation into tungsten, tin, bismuth, and sulphides recoveries; or
- Metallurgical failure - abandon project.

2. Rough budget estimate required in addition to existing project budget: US\$100,000 - \$110,000. This may rise to \$120,000 including visits to Kwan.

3. Based on the above conclusions, at the start of 2011 decide whether to develop or abandon Moina. From current data available, roughly 60% chance of successfully overcoming all technical obstacles for economic development of the project.

#### PROPOSED EXPENDITURE

The budget for Moina for 2010-2011 is \$150,000. This excludes any budget for resource drilling which would be implemented following successful metallurgical trials.

## **6. ENVIRONMENT**

No environmental disturbances were created during the reporting period. Monitoring of the four drill holes from the previous year revealed no ongoing concerns.

## **7. EXPENDITURE**

Exploration and metallurgical work expenditure for the year was \$130,501.45.