

**SPIDER RESOURCES INC. AND KWG RESOURCES INC.**

**TECHNICAL REPORT ON THE MINERAL RESOURCE ESTIMATE**

**FOR**

**THE BIG DADDY CHROMITE DEPOSIT**

**McFAULDS LAKE AREA, JAMES BAY LOWLANDS, NORTHERN ONTARIO,  
CANADA.**

**NTS 43D16S½**

**86° 14' 11" W**

**52° 45' 32" N**

**Effective Date: March 30, 2010**

**Signing Date: June 4, 2010**

**Richard Gowans, P. Eng.**

**Jane Spooner, M.Sc., P. Geo.**

**Ing. Alan J. San Martin, MAusIMM**

**Charley Murahwi, M.Sc., P. Geo., MAusIMM**

## Table of Contents

|   | Page      |
|---|-----------|
| <b>1.0 SUMMARY .....</b>  | <b>1</b>  |
| 1.1 TERMS OF REFERENCE, PROPERTY DESCRIPTION AND OWNERSHIP .....    | 1         |
| 1.1.1 Terms of Reference .....                                      | 1         |
| 1.1.2 Property Description .....                                    | 1         |
| 1.1.3 Property .....  | 1         |
| 1.1.4 Underlying Agreements and Ownership .....                     | 1         |
| 1.2 LOCATION AND TENURE .....                                       | 2         |
| 1.2.1 Location and tenure .....                                     | 2         |
| 1.2.2 Environmental and Permitting .....                            | 2         |
| 1.2.3 Accessibility, Climate, Local Resources, Infrastructure ..... | 2         |
| 1.2.4 Physiography .....  | 2         |
| 1.2.5 Relief and Drainage .....                                     | 2         |
| 1.2.6 Accessibility .....   | 3         |
| 1.2.7 Climate .....   | 3         |
| 1.2.8 Vegetation .....  | 3         |
| 1.2.9 Fauna .....   | 3         |
| 1.2.10 First Nations .....  | 3         |
| 1.3 GEOLOGICAL OUTLINE .....  | 4         |
| 1.4 DEPOSIT TYPE .....  | 5         |
| 1.4.1 Uses and Processing of Chromite .....                         | 5         |
| 1.5 MINERALIZATION .....  | 6         |
| 1.6 EXPLORATION .....   | 6         |
| 1.6.1 Exploration Concept .....                                     | 7         |
| 1.6.2 Status of Exploration .....                                   | 8         |
| 1.6.3 Exploration Results .....                                     | 8         |
| 1.7 MINERAL RESOURCES .....   | 8         |
| 1.8 INTERPRETATION AND CONCLUSIONS .....                            | 11        |
| 1.8.1 Exploration Concept .....                                     | 11        |
| 1.8.2 Geology and Mineral Resources .....                           | 11        |
| 1.8.3 Metallurgy .....  | 11        |
| 1.8.4 Market Outlook .....  | 11        |
| 1.8.5 Project Objectives .....                                      | 12        |
| 1.9 RECOMMENDATIONS .....   | 12        |
| 1.9.1 Further Assessment of Chromite Resources .....                | 12        |
| 1.9.2 Follow-up on Unexplained EM anomalies .....                   | 13        |
| <b>2.0 INTRODUCTION.....</b>  | <b>14</b> |
| 2.1 AUTHORIZATION AND PURPOSE .....                                 | 14        |
| 2.2 BACKGROUND .....  | 14        |
| 2.3 SOURCES OF INFORMATION .....                                    | 15        |
| 2.4 SCOPE OF PERSONAL INSPECTION .....                              | 16        |
| 2.5 ABBREVIATIONS .....   | 17        |

|             |   |           |
|-------------|---|-----------|
| <b>3.0</b>  | <b>RELIANCE ON OTHER EXPERTS .....</b>  | <b>19</b> |
| <b>4.0</b>  | <b>PROPERTY DESCRIPTION AND LOCATION .....</b>  | <b>20</b> |
| 4.1         | SIZE, LOCATION AND TENURE .....   | 20        |
| 4.2         | COSTS OF MAINTENANCE.....   | 21        |
| 4.3         | ROYALTIES AND PROPERTY RIGHTS.....  | 22        |
| 4.3.1       | 4.3.1 Underlying Agreements.....  | 22        |
| 4.3.2       | Royalty Interests .....   | 23        |
| 4.3.3       | Other Parties to the Agreement.....   | 23        |
| 4.4         | ENVIRONMENTAL AND PERMITTING.....   | 23        |
| 4.4.1       | Current Status.....   | 23        |
| 4.4.2       | Baseline Line Environmental Studies.....  | 24        |
| <b>5.0</b>  | <b>ACCESSIBILITY, CLIMATE, LOCAL RESOURCES,<br/>INFRASTRUCTURE AND PHYSIOGRAPHY .....</b> | <b>25</b> |
| 5.1         | PHYSIOGRAPHY.....   | 25        |
| 5.2         | RELIEF AND DRAINAGE .....   | 25        |
| 5.3         | ACCESSIBILITY AND INFRASTRUCTURE.....   | 26        |
| 5.4         | CLIMATE.....  | 27        |
| 5.5         | VEGETATION.....   | 27        |
| 5.6         | FAUNA.....  | 27        |
| 5.7         | FIRST NATIONS.....  | 28        |
| 5.8         | LOCAL RESOURCES.....  | 28        |
| <b>6.0</b>  | <b>HISTORY .....</b>  | <b>29</b> |
| 6.1         | GENERAL.....  | 29        |
| 6.2         | PROPERTY HISTORY.....   | 30        |
| 6.3         | HISTORIC PRODUCTION .....   | 30        |
| <b>7.0</b>  | <b>GEOLOGICAL SETTING.....</b>  | <b>32</b> |
| 7.1         | REGIONAL GEOLOGY.....   | 32        |
| 7.2         | LOCAL GEOLOGY.....  | 32        |
| 7.3         | PROPERTY GEOLOGY.....   | 34        |
| <b>8.0</b>  | <b>DEPOSIT TYPES.....</b>   | <b>37</b> |
| 8.1         | RELATED DEPOSITS.....   | 37        |
| 8.2         | GENETIC MODEL FOR STRATIFORM CHROMITE.....  | 38        |
| <b>9.0</b>  | <b>MINERALIZATION.....</b>  | <b>42</b> |
| 9.1         | OVERVIEW.....   | 42        |
| 9.2         | LOCALIZATION.....   | 42        |
| 9.3         | DISTRIBUTION OF CHROMITE GRADES .....   | 42        |
| 9.4         | SULPHIDES AND PGE.....  | 43        |
| <b>10.0</b> | <b>EXPLORATION.....</b>   | <b>44</b> |
| 10.1        | 2009-2010 EXPLORATION .....   | 44        |

|             |   |           |
|-------------|---|-----------|
| 10.1.1      | QA/QC .....   | 44        |
| 10.1.2      | Evaluation of PGE – Potential of Hanging Wall Pyroxenite .....  | 44        |
| 10.1.3      | Ground Geophysical Surveys .....  | 44        |
| 10.1.4      | T-2 Target .....  | 45        |
| 10.2        | DELINEATION STAGE - 2009/2010 DRILLING .....  | 45        |
| 10.3        | INTERPRETATION OF EXPLORATION INFORMATION .....   | 46        |
| <b>11.0</b> | <b>DRILLING .....</b>   | <b>48</b> |
| 11.1        | 2004, 2006 AND 2008 DRILLING CAMPAIGNS .....  | 48        |
| 11.2        | 2009/2010 DRILLING CAMPAIGN .....   | 48        |
| 11.3        | DRILLING PROTOCOLS .....  | 48        |
| 11.3.1      | Spotting and Surveying of Drill Collars .....   | 48        |
| 11.3.2      | In-hole Directional Surveys .....   | 50        |
| 11.4        | SUMMARY AND INTERPRETATION OF THE RESULTS OF THE<br>DRILLING COMPLETED ON THE BIG DADDY DEPOSIT ..... | 51        |
| <b>12.0</b> | <b>SAMPLING METHOD AND APPROACH .....</b>   | <b>55</b> |
| <b>13.0</b> | <b>SAMPLE PREPARATION, ANALYSES AND SECURITY .....</b>  | <b>57</b> |
| 13.1        | QUALITY CONTROL MEASURES BEFORE DISPATCH OF<br>SAMPLES .....  | 57        |
| 13.1.1      | Pre-2008 Drill holes and Samples .....  | 57        |
| 13.1.2      | 2008 Analyses .....   | 57        |
| 13.1.3      | 2009-2010 Analyses .....  | 57        |
| 13.2        | LABORATORY DETAILS .....  | 58        |
| 13.3        | SAMPLE PREPARATION .....  | 58        |
| 13.4        | ANALYSES .....  | 58        |
| 13.4.1      | 2006/2008 Analyses .....  | 59        |
| 13.4.2      | 2009/2010 Cr <sub>2</sub> O <sub>3</sub> Analyses .....   | 59        |
| 13.4.3      | INAA versus Fusion XRF .....  | 59        |
| 13.4.4      | Laboratory In-house QA/QC .....   | 60        |
| 13.5        | SECURITY .....  | 60        |
| <b>14.0</b> | <b>DATA VERIFICATION .....</b>  | <b>61</b> |
| 14.1        | INTRODUCTION .....  | 61        |
| 14.2        | SITE VISIT (OCTOBER, 2009) .....  | 61        |
| 14.2.1      | Overview .....  | 61        |
| 14.2.2      | SG Determinations .....   | 61        |
| 14.3        | RESOURCE DATABASE VALDATION .....   | 62        |
| 14.4        | CONCLUSIONS ON DATA VERIFICATION .....  | 63        |
| <b>15.0</b> | <b>ADJACENT PROPERTIES .....</b>  | <b>64</b> |
| 15.1        | CHROMITE .....  | 64        |
| 15.1.1      | Black Thor / Black Label .....  | 64        |
| 15.1.2      | Black Creek .....   | 64        |
| 15.1.3      | Blackbird .....   | 65        |

|             |   |           |
|-------------|---|-----------|
| 15.2        | FE-VA-TI (THUNDERBIRD) .....  | 66        |
| 15.3        | MAGMATIC MASSIVE SULPHIDES (NI-CU-PGE) – EAGLE ONE .....            | 66        |
| 15.4        | VOLCANOGENIC MASSIVE SULPHIDES (CU-ZN) –<br>MCFAULDS DEPOSITS ..... | 67        |
| <b>16.0</b> | <b>MINERAL PROCESSING AND METALLURGICAL TESTING.....</b>            | <b>68</b> |
| 16.1        | METALLURGICAL SAMPLES .....   | 68        |
| 16.2        | MINERALOGICAL AND CHEMICAL ANALYSIS .....                           | 69        |
| 16.2.1      | WIM Preliminary Test Program .....                                  | 69        |
| 16.2.2      | SGS-L Preliminary Testwork Program.....                             | 70        |
| 16.3        | METALLURGICAL TESTING.....  | 73        |
| 16.3.1      | WIM Preliminary Test Program .....                                  | 73        |
| 16.3.2      | SGS Preliminary Testwork Program .....                              | 74        |
| 16.4        | RECOMMENDATIONS.....  | 78        |
| <b>17.0</b> | <b>MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES.....</b>          | <b>79</b> |
| 17.1        | DATABASE DESCRIPTION .....  | 79        |
| 17.1.1      | Drill Holes and Assays.....   | 79        |
| 17.1.2      | Lithology and Mineralization .....                                  | 79        |
| 17.1.3      | Survey .....  | 79        |
| 17.1.4      | Specific Gravity (2,216 determinations).....                        | 79        |
| 17.1.5      | Surpac Master Database.....   | 80        |
| 17.2        | ESTIMATION DETAILS .....  | 80        |
| 17.2.1      | Overview of Estimation Methodology.....                             | 80        |
| 17.2.2      | Geological Modelling/Interpretation .....                           | 80        |
| 17.2.3      | Statistical Interpretation of Grade Domains .....                   | 83        |
| 17.2.4      | Composite Data and Grade Domains Statistics .....                   | 85        |
| 17.2.5      | Cut-off Grade and Economic Parameters .....                         | 87        |
| 17.2.6      | Geostatistics .....   | 87        |
| 17.2.7      | Interpretation and Application of Spatial Analysis Results.....     | 88        |
| 17.2.8      | Block Size, Interpolation Search Parameters and Technique.....      | 89        |
| 17.2.9      | Block Modelling Description.....                                    | 90        |
| 17.3        | CLASSIFICATION CRITERIA AND BLOCK MODELLING<br>RESULTS .....        | 90        |
| 17.3.1      | Classification Criteria .....                                       | 90        |
| 17.3.2      | Responsibility For Estimation.....                                  | 91        |
| 17.3.3      | Statement of Results .....  | 91        |
| 17.3.4      | Comments .....  | 94        |
| 17.3.5      | Validation.....   | 97        |
| 17.3.6      | Qualification of the Mineral Resources .....                        | 97        |
| 17.3.7      | Potential Upgrading of the Indicated Resource .....                 | 97        |
| <b>18.0</b> | <b>OTHER RELEVANT DATA AND INFORMATION .....</b>                    | <b>98</b> |
| 18.1        | THE MARKET FOR CHROMITE .....                                       | 98        |
| 18.2        | OVERVIEW .....  | 98        |
| 18.3        | PRODUCTION OF CHROMITE AND FERROCHROMIUM.....                       | 99        |

|             |   |            |
|-------------|---|------------|
| 18.4        | END-USE SECTORS.....                        | 100        |
| 18.4.1      | Stainless Steel .....                       | 101        |
| 18.5        | INDUSTRY STRUCTURE.....                     | 101        |
| 18.6        | PRICES.....                                 | 101        |
| 18.7        | OTHER RELEVANT DATA AND INFORMATION .....   | 102        |
| <b>19.0</b> | <b>INTERPRETATION AND CONCLUSIONS .....</b> | <b>103</b> |
| 19.1        | EXPLORATION CONCEPT .....                   | 103        |
| 19.2        | GEOLOGY AND MINERAL RESOURCES .....         | 103        |
| 19.3        | METALLURGY.....                             | 103        |
| 19.4        | MARKET OUTLOOK.....                         | 103        |
| 19.5        | PROJECT OBJECTIVES.....                     | 104        |
| <b>20.0</b> | <b>RECOMMENDATIONS.....</b>                 | <b>105</b> |
| <b>21.0</b> | <b>REFERENCES.....</b>                      | <b>107</b> |
| 21.1        | TECHNICAL REPORTS (SEDAR/IN-HOUSE) .....    | 107        |
| 21.2        | SCIENTIFIC PUBLICATIONS AND REPORTS.....    | 109        |
| <b>22.0</b> | <b>DATE AND SIGNATURE PAGE.....</b>         | <b>114</b> |
| <b>23.0</b> | <b>CERTIFICATES.....</b>                    | <b>115</b> |

### List of Appendices

|                   |  |                  |
|-------------------|--|------------------|
| <b>APPENDIX 1</b> | Claim Abstracts.....                                     | At end of Report |
| <b>APPENDIX 2</b> | Example of QC Report for the Big Daddy Deposit .....     | At end of Report |
| <b>APPENDIX 3</b> | Full Results of Variographic Analysis.....               | At end of Report |
| <b>APPENDIX 4</b> | Level Plans at 50m Intervals Starting from Surface ..... | At end of Report |
| <b>APPENDIX 5</b> | Sections at 50m Intervals.....                           | At end of Report |

## List of Tables

|            |   | <b>Page</b> |
|------------|---|-------------|
| Table 1.1  | Summary of the Big Daddy Massive Chromite Resources.....  | 9           |
| Table 1.2  | Summary of the Big Daddy Chromite Deposit Mineral Resource @<br>15% Cr <sub>2</sub> O <sub>3</sub> Cut-off..... | 10          |
| Table 1.3  | Summary of Budget Proposals for the Big Daddy Chromite Project .....  | 13          |
| Table 2.1  | Summary of Abbreviations Used.....  | 17          |
| Table 4.1  | SKF Property – Summary of Claim Abstracts as of March 19, 2010.....   | 20          |
| Table 6.1  | Summary of Exploration Completed on SKF Property between 1995<br>and 2008.....                                  | 31          |
| Table 9.1  | Distribution of Cr <sub>2</sub> O <sub>3</sub> Grades .....   | 43          |
| Table 11.1 | List of Drill Holes Drilled on SKF Property (2004 – 2010 Programs)<br>(UTM Zone 16, NAD'83).....                | 49          |
| Table 11.2 | Big Daddy : Drill Intercept Summary (>25% Cr <sub>2</sub> O <sub>3</sub> ).....                                 | 52          |
| Table 13.1 | Standards Used During 2009/2010 Drilling and Re-sampling<br>Programs .....                                      | 57          |
| Table 13.2 | Summary of Cr and Cr <sub>2</sub> O <sub>3</sub> Analyses by Method .....                                       | 58          |
| Table 13.3 | Analytical Methods for 2009-2010 Drilling and Resampling Programs .....   | 59          |
| Table 15.1 | Resource Estimate by the Sibley Basin Group Ltd. (A. Aubut, 2009) .....   | 64          |
| Table 15.2 | Black Creek intersections (Probe Mines Ltd, 2009).....  | 65          |
| Table 15.3 | Summary of Blackbird resource showing all categories (Micon, 2010).....   | 66          |
| Table 15.4 | Eagles Nest Resource Estimate (Golder Associates, 2010) Indicated<br>and Inferred.....                          | 66          |
| Table 15.5 | Summary of Resources on McFaulds 1 and 3 (reported by Lahti,<br>2008).....                                      | 67          |
| Table 16.1 | SGS-L Metallurgical Samples .....   | 68          |
| Table 16.2 | Summary of XRD Analysis Results.....  | 69          |
| Table 16.3 | Summary of XRF Analysis Results .....   | 69          |
| Table 16.4 | SGS-L Metallurgical Sample Chemical Analyses .....  | 70          |
| Table 16.5 | SGS-L EPMA Results.....   | 72          |
| Table 16.6 | Summary of Metallurgical Test Results.....  | 73          |
| Table 16.7 | Average Feed and Combined Concentrate XRF Analyses .....  | 74          |
| Table 16.8 | Gravity/Magnetic Separation Test Results - 1 .....  | 76          |
| Table 16.9 | Gravity/Magnetic Separation Test Results - 2 .....  | 76          |

|             |  |     |
|-------------|--|-----|
| Table 16.10 | Flotation Test Results.....  | 77  |
| Table 17.1  | Average Specific Gravity Determinations by Cr <sub>2</sub> O <sub>3</sub> Content.....   | 80  |
| Table 17.2  | Summary of the Major Characteristics of the Big Daddy Deposit .....  | 82  |
| Table 17.3  | Global Statistics of the Cr <sub>2</sub> O <sub>3</sub> Raw Data.....  | 84  |
| Table 17.4  | Composites Summary Statistics of the Massive Chromite Domain and<br>the 15%Cr <sub>2</sub> O <sub>3</sub> Cut-off Domain ..... | 87  |
| Table 17.5  | Summary Results of the Spatial/Variographic Analysis of the Big<br>Daddy Deposits.....   | 88  |
| Table 17.6  | Summary of Search Parameters .....   | 89  |
| Table 17.7  | Summary of the Big Daddy Massive Chromite Resources.....   | 91  |
| Table 17.8  | Summary of the Big Daddy Chromite Deposit Mineral Resource @<br>15% Cr <sub>2</sub> O <sub>3</sub> Cut-off.....                | 92  |
| Table 17.9  | Summary of Global Results of ID <sup>3</sup> Versus Ordinary Kriging (OK) .....  | 97  |
| Table 18.1  | General Specifications for Chromite Grades .....   | 98  |
| Table 18.2  | World Chromite Production.....   | 99  |
| Table 18.3  | World Production of Ferrochromium .....  | 99  |
| Table 18.4  | Principal Uses for Chromite Ores and Concentrates.....   | 100 |
| Table 18.5  | Production of Stainless Steel by Region .....  | 101 |
| Table 18.6  | Representative Prices for Chromite .....   | 102 |
| Table 20.1  | Summary of Budget Proposals for the Big Daddy Chromite Project .....   | 106 |



## List of Figures

|             |  | <b>Page</b> |
|-------------|--|-------------|
| Figure 2.1  | Location Map of the Big Daddy Chromite Deposit.....  | 17          |
| Figure 4.1  | SKF Project Claim Map. SKF Option claims are shown in green. Claim locations are “as staked” based on GPS-derived locations of claim posts .....   | 21          |
| Figure 5.1  | Annual Mean Daily Temperature and Range, January to December (month 1 to 12).....  | 27          |
| Figure 7.1  | Regional Geological Setting of the Superior Province .....   | 32          |
| Figure 7.2  | Local Geology of the McFaulds Lake Sill showing the Big Daddy Chromite Occurrence.....   | 33          |
| Figure 7.3  | Bedrock Geology of the Big Daddy Deposit Based on Drill Hole and Ground Geophysics. (UTM Zone 16;NAD’83).....  | 34          |
| Figure 8.1  | Phase Relations in the System Olivine-Silica-Chromite as determined by Irvine (1977) .....   | 39          |
| Figure 8.2  | Variation in Solubility of Fe-sulphide in Differentiating Basaltic Magma .....   | 40          |
| Figure 8.3  | Cross-section through a Hypothetical Layered Intrusion .....   | 41          |
| Figure 10.1 | Section 19+00 E (looking northeast) showing Pyroxenite cutting down into Massive Chromite Interval. Coloured bars below drill hole traces show chromite-bearing intervals with values below. Section is 400 m long ..... | 47          |
| Figure 11.1 | Plan Showing all Drill Holes Covering the Big Daddy Deposit.....   | 49          |
| Figure 12.1 | Sealed Rice Bags Being Placed into Pails .....   | 56          |
| Figure 14.1 | Technician Working the Totalcomp Strain Gauge.....   | 62          |
| Figure 15.1 | Claim Map of the McFaulds Lake Area (as of 22 April 2010).....   | 67          |
| Figure 16.1 | EPMA Samples, Cr:Fe Ratio vs Al <sub>2</sub> O <sub>3</sub> and MgO.....   | 71          |
| Figure 16.2 | EPMA Samples, Cr <sub>2</sub> O <sub>3</sub> Grade vs MgO and FeO .....  | 73          |
| Figure 16.3 | SGS Gravity and Magnetic Separation Test Flowsheet.....  | 75          |
| Figure 17.1 | Schematic Lithologic Column for McFaulds Lake Sill, Big Daddy Segment.....   | 81          |
| Figure 17.2 | Gravity Map Bandpass Filter Gravity (Upper Wavelength is 833 m) with the Massive Chrome Domain Projected to Surface from Sections.....   | 82          |
| Figure 17.3 | Histogram of the Raw Assay Data for Cr <sub>2</sub> O <sub>3</sub> (%).....  | 83          |
| Figure 17.4 | Probability Plot of the Raw Cr <sub>2</sub> O <sub>3</sub> Data.....   | 85          |
| Figure 17.5 | Histogram of the Massive Chromite Domain .....   | 86          |

|              |  |    |
|--------------|--|----|
| Figure 17.6  | Histogram of Composites at 15% Cut-off with Internal Waste .....   | 86 |
| Figure 17.7  | Block Model of the Massive Domain of the Big Daddy Chromite Deposit .....                                  | 93 |
| Figure 17.8  | Block Model of the Big Daddy Chromite Zone Constrained at 15% Cr <sub>2</sub> O <sub>3</sub> Cut-off ..... | 93 |
| Figure 17.9  | Sketch of Longitudinal Section of the Big Daddy Deposit, Looking West .....                                | 95 |
| Figure 17.10 | Distribution of Resources within the Block Model for the Massive Domain.....                               | 96 |
| Figure 17.11 | Distribution of Resources within the Block Model constrained at 15% Cut-off.....                           | 96 |

## 1.0 SUMMARY

### 1.1 TERMS OF REFERENCE, PROPERTY DESCRIPTION AND OWNERSHIP

#### 1.1.1 Terms of Reference

Spider Resources Inc (Spider) represented by Messrs. Neil Novak and James Burns, President and VP Exploration, respectively, and KWG Resources Inc. (KWG) represented by Messrs. Frank Smeenk and Maurice (Moe) Lavigne, President and VP Exploration and Development, respectively, commissioned Micon International Limited (Micon) in March, 2010 to provide an independent resource estimate of the chromite mineralization in the Big Daddy deposit and to prepare a Technical Report in accordance with the requirements set out in Canadian National Instrument 43-101 (NI 43-101). The estimate of mineral resources presented in this report conforms to the CIM Mineral Resource and Mineral Reserve definitions (December, 2005) referred to in NI 43-101.

#### 1.1.2 Property Description

The Big Daddy chromite deposit lies on mining claim P 3012253 situated in the McFaulds Lake area of the James Bay Lowlands of north-central Ontario, some 280 km due north of the town of Nakina. P 3012253 is the westernmost claim of a seven-claim, 1,241 ha property under option from Freewest Resources Canada Inc. (Freewest) by Spider and KWG (SKF option). The property is centred near 86° 14' 11" W longitude, 52° 45' 32" N latitude, in NTS map area 43D16S½.

#### 1.1.3 Property

The property comprises five staked claims (P 3012252, P 3012253, P 3008268, P 3008269 and P 3008793) and two single unit (400 m x 400 m, 16 ha) blocks excised from adjacent claims (P 3012250 and P 3012251) to the north. The two westernmost claims and both contiguous single units are subject to a 2% Net Smelter Return royalty currently held by Richard Nemis (1%) and KWG (1%). All claims are currently registered to Freewest, however, the property is to be held by KWG in trust.

#### 1.1.4 Underlying Agreements and Ownership

Spider and KWG each held a 25% interest in the property as of September 10, 2009. On that date each company acquired an option to earn an additional 5% interest in the property by making minimum annual expenditures of \$2.5 million over three years to gain an additional 1½% in each of the first two years and 2% in the final year ending on March 31, 2012. Provided a minimum of \$5 million is spent on exploration, one or both parties may also gain the balance of the 10% available for option by delivering a positive feasibility study to Freewest by March 31, 2012. Prior to March 31, 2010, Spider and KWG each spent a further \$2.5 millions, earning an additional 1½%. Spider and KWG currently each hold 26½% (Freewest 47%).

Upon fulfilling the terms of the option, the parties (Freewest, Spider and KWG) will form a joint venture the decisions of which are to be made by a simple majority. On April 1, 2010, management of the option was transferred to KWG for the period ending March 31, 2011, at which time it will revert to Spider.

Freewest is a wholly owned subsidiary of Cliffs Natural Resources Inc. (Cliffs). In addition Cliffs holds a 19.9% interest in KWG and has board representation.

## **1.2 LOCATION AND TENURE**

### **1.2.1 Location and tenure**

The SKF option encompasses 1,241 ha (78 claim units) in five staked and two single unit claim units the annual maintenance cost of which is \$31,200. The claims were staked in 2003 and are not subject to dispute after their first anniversary. The property lies near the western margin the James Bay Lowland, 258 km west of Attawapiskat and 78 km east of Webequie, both remote First Nations communities.

### **1.2.2 Environmental and Permitting**

There is no evidence of past activity on the property. The surface exploration work comprised cutting of grids, completion of geophysical and GPS surveys and helicopter-supported diamond drilling of 56 holes. The total area disturbed by drilling is about 1.35 ha. In 2009 AECOM was retained to commence baseline environmental studies comprising spring, summer and fall sampling at six sites on the three creeks that cross the property. The observations to be made will include water flow, electrophysical properties, chemistry and fish tissue sampling.

### **1.2.3 Accessibility, Climate, Local Resources, Infrastructure**

The area is currently accessible by float or ski-equipped charter aircraft from Nakina, 280 km to the south or Pickle Lake, 310 km to the southwest.

### **1.2.4 Physiography**

The property lies close to the western margin of the James Bay Lowland, an extensive, poorly drained area occupying a 400 km wide swath to the west of James Bay, and is locally underlain by unconsolidated marine clay.

### **1.2.5 Relief and Drainage**

Relief across the Big Daddy claim is about 2 m, which is about 7 m above the Attawapiskat and Muketei drainages to the east and west respectively. Average relief over the Lowland is about 0.7 m/km.

### **1.2.6 Accessibility**

The property lies 280 km north of the closest paved road at Nakina. Current access is by float and ski-equipped, charter aircraft from Nakina. Helicopters are required for local transport.

All-weather highways extend to Nakina (Highway 584) and Pickle Lake (Highway 808) where the gravel North Road extends a further 193 km to the Musselwhite mine, 290 km to the west of the property. The Ontario power grid reaches the Victor mine (De Beers), 157 km to the east and the Musselwhite mine (Goldcorp Inc.) to the west.

Canada Chrome Corporation, a subsidiary of KWG, has reported completion of geotechnical studies along a proposed rail corridor to link the area to the CN rail network near Nakina.

### **1.2.7 Climate**

Mean temperatures range from -20°C in mid-winter to 15°C in mid-summer. Annual precipitation is about 70 cm, 70% of which falls during the summer. Snowfall peaks in early winter with accumulation reaching approximately 0.6 m by spring.

### **1.2.8 Vegetation**

The area lies on the northern fringe of the boreal forest and is covered by extensive fen and bog complexes. Tree cover is highly variable, being dense along the better drained margins of major drainages where the major species are black and white spruce, and larch.

### **1.2.9 Fauna**

While a wide range of animals and birds are reported, those observed include fox, wolf, marten, moose, black bear and caribou. The latter are a species at risk due to habitat loss in their southern range.

### **1.2.10 First Nations**

The Marten Falls First Nation has asserted that the McFaulds Lake area falls within its traditional lands. Webequie, Fort Hope, and Lansdowne (like Marten Falls) are presently accessible only by air and may also benefit from potential transportation development.

The remote communities are small offering very limited employment and business opportunities. Comments by community leaders and elders indicate that the First Nations want to participate in development of the McFaulds area projects through direct employment, business opportunities and other potential revenue streams.

### 1.3 GEOLOGICAL OUTLINE

The area is underlain by the Sachigo greenstone belt of the Oxford–Stull Domain in the Sachigo Subprovince (Stott and Rainsford, 2006). Due to very limited mapping, extensive marine clay and Paleozoic platform cover, coupled with difficult access, current geological understanding of the area relies on airborne magnetic data supplemented by diamond drill holes.

The Sachigo belt comprises a narrow, 5 to 25 km wide, west-facing, arcuate belt of crescentic greenstone belts intruded to the north and west by granodiorite plutons (2727 to 2683 Ma, Rayner and Stott, 2005). The belt extends over a strike length of more than 100 km. The Sachigo belt appears to be wrapped around an older (circa 2.9 Ga) continental fragment.

Chromite, nickel-copper-PGE and iron-titanium-vanadium deposits in the McFaulds Lake are contained in phases of the large, mafic-ultramafic, magmatic complex, the Ring of Fire Intrusion. The known chromite deposits occur over a 13 km strike length of a narrow, steeply dipping, differentiated body, here termed the McFaulds Lake Sill. The principal nickel deposit (Eagle One) is reported to occur in a dyke lying a little to the west of and said to be a feeder to the sill. The Thunderbird iron-titanium-vanadium prospect is reported in ferrograbbos lying to the east of the sill and interpreted to be the more differentiated portion of the Ring of Fire intrusive complex.

The McFaulds Lake Sill is generally intruded along a northeast-trending granodiorite-volcanic contact. Evidence of the intrusive relationship comprises remnants of volcanics remaining between granodiorite and the body and the absence of blackwall alteration in the sill adjacent to the contact.

The Big Daddy segment of the sill is well-fractionated, comprising lower olivine-rich and upper olivine-poor units to the west and east respectively. Chromite occurs in the upper portion of the olivine-rich facies which culminates in the thick, massive Big Daddy chromite deposit. The upper contact between massive chromite and overlying, olivine-poor pyroxenite is sharp; Cr<sub>2</sub>O<sub>3</sub> concentrations drop from ~40% to <1% within less than 1 cm.

Silicate minerals comprising the sill units have been pervasively altered by the addition of water forming serpentine, talc and chlorite. Despite pervasive and complete destruction of primary igneous minerals, original cumulate textures are faithfully preserved.

Diamond drilling on the Big Daddy claim shows that the sill comprises, from its base (northwest) to top (southeast), dunite, locally chromite-bearing peridotite, massive chromite, pyroxenite and gabbro. The latter is in intrusive contact with hanging wall volcanics and contained sediments. Correlation of units from hole to hole and section to section and occasional igneous sedimentary structures (e.g., bedding) indicate that the sill has been rotated 90° from the original horizontal position so that the body now stands vertical or nearly so. In addition truncation geophysical features and the northward offset of the Black Creek deposit suggest that the sill is segmented and offset along a north-south trending left lateral fault

lying east of section 2100 E. A second fault may offset the west end of the deposit near section 1000 E.

The property lies near the western limit of the post-glacial Tyrrell Sea (ancestral Hudson's Bay) and just west of the flat lying Paleozoic Hudson Bay Platform intersected in holes drilled to the east of the Big Daddy deposit. Pre-Silurian saprolite (tropically weathered material) is locally preserved. Deep weathering of the upper parts of the chromitite zone is likely of Pre-Silurian age.

## **1.4 DEPOSIT TYPE**

The Big Daddy chromite deposit is a magmatic stratiform chromite deposit, similar in setting, form, mineralogy and dimensions to other chromite deposits found in layered mafic to ultramafic complexes. Examples of currently economic deposits occur in the Bushveld (South Africa), Great Dyke (Zimbabwe), Sukinda (Orissa, India), Kemi (Finland) and Ipuera (Brazil) complexes.

The most economically significant massive chromitite deposits occur as laterally extensive layers, typically a few decimetres to tens of metres thick. These deposits reflect fractional crystallization of chromite from mafic to ultramafic magmas precipitated due to either magma contamination or by mixing of magmas. Accessory disseminated chromite is also formed within the cooling magma chamber. Chrome contents range from a few percent Cr<sub>2</sub>O<sub>3</sub> (in disseminated chromite) to more than 40% Cr<sub>2</sub>O<sub>3</sub> (in massive chromite). The thicknesses of individual massive chromite bodies range from centimetres to more than 30 m (e.g., Big Daddy).

The ultramafic-mafic complex that hosts chromite deposits (Big Daddy, Black Creek, Black Thor/Black Label and Blackbird) also contains magmatic massive sulphide (Ni-Cu-PGE, e.g., Eagle One), vanadium (e.g., Thunderbird) and could host reef-type platinum-palladium deposits (not yet found in the McFaulds area).

### **1.4.1 Uses and Processing of Chromite**

Chromite is the sole economic source for the metal chromium which is used in the manufacture of stainless steel and in which it comprises about 18%. Minor amounts of chromite are used in the chemical and refractory industries.

Mines upgrade run-of-mine feed by crushing, sometimes grinding and gravity separation, to produce a range of products including lumpy chromite (+ 15 mm / -80 mm), chips and fines.

The mine product is upgraded by the reduction of pelletized material in submerged, electric arc furnaces to produce ferrochrome. Although the reduction process is energy intensive, major primary chromite producers tend to sell the ferrochrome product. The major ferrochrome producers are South Africa, Kazakhstan and India, however, Russian and Chinese production is increasing rapidly.

Both chrome ore and ferrochrome markets are sensitive to bulk composition which is reflected in both demand and price variations. The principal compositional/quality indicators of chromite ores and concentrates are their chrome to iron ratio ( $\text{Cr}_2\text{O}_3:\text{Fe}_2\text{O}_3$ ) of two or better and with  $\text{Cr}_2\text{O}_3$  at or exceeding 40%.

## 1.5 MINERALIZATION

The McFaulds Sill extends over more than 10 km from the Blackbird chromite deposit in the southwest to the Black Thor and Black Label deposits in the northeast. The Thunderbird vanadium deposits appear to occur in a separate but sub-parallel ferrogabbro sill to the east and northeast of Black Thor. Available descriptions suggest that the McFaulds Sill varies in character along its known length (Chance, P., personal communication, 2010). On the current property the sill is less than 200 m wide on sections 10+00 E and 11+00 E, where drilling has intersected both the footwall granodiorite and hanging wall volcanics. To the northeast, the sill is thicker (>400 m), and its contacts have not yet been intersected in drilling.

Chromite mineralization in the Big Daddy segment of the McFaulds Sill occurs within a 65 to 180 metre thick, peridotite interval which is stratigraphically above a dunite footwall and below a pyroxenite hanging wall. The lower contact of the main chromite layer tends to be gradational over a couple of metres while the upper is sharp.

Mineralized rock comprises sub-millimetre-diameter, idiomorphic, cumulate, chromite grains (e.g. Scoates, 2009). Mineralized intervals are a mixture of chromite and occasional olivine crystals set in a fine grained peridotitic matrix. At lower  $\text{Cr}_2\text{O}_3$  concentrations chromite grains are disseminated through the host rock. As concentration increases, bedding becomes evident but disappears at the highest grades (>35% $\text{Cr}_2\text{O}_3$ ) due to uniform crystal size and absence of lower grade incursions or perturbations. The bulk of the Big Daddy mineralization occurs as massive chromite containing about 40% $\text{Cr}_2\text{O}_3$ .

## 1.6 EXPLORATION

In the early 1990's, following discovery of the Attawapiskat kimberlites, then joint venture partners Spider and KWG used recently published airborne magnetic maps to focus on kimberlite exploration. They quickly found the five Kyle kimberlites, which lie a few kilometres east of the Attawapiskat River and of McFaulds Lake. Those successes led to financing exploration of an 300 kilometre diameter area, centred on McFaulds Lake. In 2002, De Beers in the search for diamonds and using data optioned from Spider/ KWG, discovered copper-zinc mineralization – later identified by Spider/KWG as the McFaulds #1 deposit. In the following years, Spider tested similar geophysical targets in a broad arc extending south and west of McFaulds Lake. In 2006, Howard Lahti recognized a pair of thin chromite beds in ultramafic rocks in FW-06-03, drilled on the current property. A year later, Noront discovered the Eagle One Ni-Cu-PGE occurrence. In early 2008, Noront



discovered the Blackbird chrome deposit while testing an EM target a few kilometres southeast of Eagle One.

In late 2008, Spider and KWG with the aid of multiple sets of regionally extensive airborne data, re-evaluated the SKF property, drilling holes in search of Ni-Cu-PGE, chromite and platinum-palladium deposits. That work outlined the southwest end of the Big Daddy deposit, tracing mineralization over a 400 m strike length.

In early 2009 the J grid covering the Big Daddy project area was re-cut, re-chained and surveyed using gravity and magnetic methods. The new geophysical data showed a gravity anomaly extending and widening east of the known intersections to an apparent termination along a prominent creek to the northeast near line 2100 E. A strong magnetic anomaly lies adjacent and to the north of the gravity feature. In late 2009 and early 2010, a further 33 diamond drill holes were drilled at approximately 50 m intervals on surveyed lines spaced at 100 m apart over a 1,000 m strike length.

During the 2009-2010 campaign, recommendations made in an earlier NI 43-101 compliant report (Micon, 2009) were followed with respect to assessing the potential of the sill for chromite, base and precious metals, by testing remaining EM anomalies and improved quality and precision in the collection, processing and management of technical data, including implementation of a comprehensive QA/QC program for sampling and assaying.

### **1.6.1 Exploration Concept**

Due to the paucity of outcrop and difficulty in traversing the swampy ground, exploration relies on airborne geophysical methods to generate preliminary geological maps. Ground geophysical surveys, typically carried out during the winter, provide additional detail and confirm target locations for drill testing. Since base metal sulphides conduct, EM is the preferred geophysical method. By contrast, chromite does not conduct but has a high specific gravity so gravity is effective for definition of drill targets. Finally PGE's are present in amounts too small to alter the electrophysical properties of the host rock so drilling and detailed sampling of potential host lithologies is required.

The initial McFaulds Lake chromite deposits (Big Daddy and Blackbird) were discovered while testing EM conductors with coincident magnetic anomalies as potential massive sulphide deposits.

In retrospect prospecting (including airborne surveys) and government supported mapping had outlined several large layered mafic complexes (e.g., Big Trout Lake, Highbank Lake) to the west and south of McFaulds Lake. Alluvium and till sampling carried out by Spider in the mid-1990's showed consistent ~15 km long chromium and chromite anomalies, lying parallel to the McFaulds Sill and the now known chromite deposits. In addition the sill outcrops at at least two locations; one on the current property and the other about a kilometre to the north on the Freewest property.

Serpentinization [hydration] of the dunite produces excess iron which forms magnetite, thus the altered olivine-rich, portion of the sill produces very strong total magnetic and highly variable vertical magnetic gradient anomalies. Locally, magnetite aggregates in the altered dunite to form narrow, highly conductive veinlets which produce a weak, diffuse but persistent airborne EM anomaly in the footwall of the Big Daddy, Black Creek and Black Thor/Black Label deposits.

Although the matrix of the massive chromitite is also pervasively altered to serpentine, talc and chlorite it lacks significant amounts of magnetite and is non-conductive, but, due to high density of chromite, has a high specific gravity that is measurable on the ground as a gravity anomaly.

### **1.6.2 Status of Exploration**

Exploration completed to date is sufficient to define an indicated chromite resource. Substantial widths of massive chromite mineralization extend from the sub-outcrop, 3 to 10 m below surface, to the deepest intersection 365 m below surface. The deposit has been tested on 100 m sections between 900 E and 2100 E, a distance of 1,200 m.

The deposit remains open along strike and down dip. However, both gravity and magnetic anomalies diminish to the southwest near section 900 E and appear to be terminated along the creek to the northeast beyond section 2100E. Additional drilling and extension of gravity and magnetic coverage to the south property boundary are required. Drilling northeast of section 2100 E was not possible due to swampy conditions; however, geophysical data suggest that the chromite horizon is faulted 600 m left laterally (between sections 2100E and 2200E), becoming the Black Creek deposit on the north property boundary.

### **1.6.3 Exploration Results**

Drilling results indicate that the bulk of the Big Daddy deposit consists of massive chromite averaging 40% Cr<sub>2</sub>O<sub>3</sub> with Cr:Fe ratio of approximately 2. The thickness of the deposit is variable but averages 17 m and 12 m for the southwest segment (BD 1) and northeast segment (BD 2), respectively. Both segments of the deposit are open down dip.

## **1.7 MINERAL RESOURCES**

The Big Daddy resource estimate has been conducted using geological modelling, conventional statistics, geostatistics, creation of interpolation parameters, block modelling, resource classification based on both geological, geostatistical and mineralization continuity and finally, block model validation.

The resource estimate was completed using Surpac Version 6.1.3 and is based on two scenarios.

- Scenario 1: Focuses on high grade massive material that would produce a lumpy product comparable to South African products with little or no beneficiation.
- Scenario 2: Defines a broad zone of mineralization to match the Kemi situation exploitable by open pit but requiring beneficiation to upgrade. The broad zone is constrained by a 15% Cr<sub>2</sub>O<sub>3</sub> cut-off envelope but includes internal waste up to a maximum of 3.4 m.

The results of the resource estimate for both scenarios are summarized in Tables 1.1 and 1.2, respectively.

**Table 1.1**  
**Summary of the Big Daddy Massive Chromite Resources**

| Deposit/Code       | Category         | Cr <sub>2</sub> O <sub>3</sub> % Interval | Tonnes x 10 <sup>6</sup> | Avg. Cr <sub>2</sub> O <sub>3</sub> % | Cr/Fe Ratio |
|--------------------|------------------|---|--------------------------|---------------------------------------|-------------|
| BD 1 (100)         | Indicated        | >35.0                                     | 12.934                   | 40.74                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.435                    | 33.63                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.017                    | 28.87                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 13.4                     | 40.49                                 | 2.0         |
| BD 2               | Indicated        | >35.0                                     | 9.234                    | 41.44                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.520                    | 32.83                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.090                    | 29.36                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 9.8                      | 40.88                                 | 2.0         |
| <b>Grand Total</b> | <b>Indicated</b> |   | <b>23.2</b>              | <b>40.66</b>                          | <b>2.0</b>  |
| BD 1 (100)         | Inferred         | >35.0                                     | 6.216                    | 39.34                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.014                    | 33.25                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.005                    | 27.97                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 7.2                      | 38.48                                 | 2.0         |
| BD 2               | Inferred         | >35.0                                     | 8.382                    | 40.24                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.609                    | 33.32                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.047                    | 28.35                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.021                    | 22.87                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.042                    | 16.76                                 | 1.1         |
|                    |                  | .01 – 15.0                                | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 9.1                      | 39.57                                 | 2.0         |
| <b>Grand Total</b> | <b>Inferred</b>  |   | <b>16.3</b>              | <b>39.09</b>                          | <b>2.0</b>  |

Note: The tonnages have been rounded to 3 decimals for grade intervals and to 1 decimal for sub-totals and grand totals.

**Table 1.2**  
**Summary of the Big Daddy Chromite Deposit Mineral Resource @ 15% Cr<sub>2</sub>O<sub>3</sub> Cut-off**

| Deposit/Code       | Category         | Cr <sub>2</sub> O <sub>3</sub> % Interval | Tonnes      | Avg. Cr <sub>2</sub> O <sub>3</sub> % | Cr/Fe Ratio |
|--------------------|------------------|---|-------------|---------------------------------------|-------------|
| BD 1 (100)         | Indicated        | >35.0                                     | 13.535      | 40.22                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.333       | 32.98                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.447       | 27.77                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.152       | 23.34                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.019       | 17.81                                 | 1.1         |
|                    |                  | 0.01 – 15.0                               | 0.001       | 12.09                                 | 0.7         |
| Sub-total          |                  |   | 15.5        | 39.05                                 | 2.0         |
| BD 2               | Indicated        | >35.0                                     | 9.622       | 41.11                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.031       | 32.97                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.190       | 28.04                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.007       | 22.56                                 | 1.4         |
|                    |                  | 15.0 – 20.0                               | 0.009       | 18.46                                 | 1.2         |
|                    |                  | 0.01 – 15.0                               | 0.087       | 7.74                                  | 0.6         |
| Sub-total          |                  |   | 10.9        | 39.82                                 | 1.9         |
| <b>Grand Total</b> | <b>Indicated</b> |   | <b>26.4</b> | <b>39.37</b>                          | <b>2.0</b>  |
| BD 1 (100)         | Inferred         | >35.0                                     | 7.097       | 39.14                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.877       | 32.94                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.543       | 27.93                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.349       | 22.58                                 | 1.4         |
|                    |                  | 15.0 – 20.0                               | 0.174       | 18.33                                 | 1.1         |
|                    |                  | 0.01 – 15.0                               | 0.016       | 9.17                                  | 0.6         |
| Sub-total          |                  |   | 10.1        | 36.40                                 | 1.9         |
| BD 2               | Inferred         | >35.0                                     | 8.993       | 39.80                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.986       | 32.89                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.241       | 28.06                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.123       | 23.11                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.059       | 16.90                                 | 1.0         |
|                    |                  | .01 – 15.0                                | 0.014       | 11.96                                 | 0.9         |
| Sub-total          |                  |   | 10.4        | 38.51                                 | 2.0         |
| <b>Grand Total</b> |                  |   | <b>20.5</b> | <b>37.47</b>                          | <b>1.9</b>  |

(Includes internal waste within the 15% Cr<sub>2</sub>O<sub>3</sub> envelope).

Note: The tonnages have been rounded to 3 decimals for grade intervals and to 1 decimal for sub-totals and grand totals.

Micon believes that at present there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which would adversely affect the mineral resources estimated above. However, mineral resources, which are not mineral reserves, do not have demonstrated economic viability. Micon cannot guarantee that the SKF parties will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the project. Other future setbacks may include aboriginal challenges to title or interference with ability to work on the property and lack of

efficient infrastructure. There are currently no mineral reserves on the Big Daddy property and there is no assurance that the project will be placed into production.

## **1.8 INTERPRETATION AND CONCLUSIONS**

### **1.8.1 Exploration Concept**

Since 2006, the SKF personnel have employed a combination of geophysical techniques involving magnetic, electromagnetic and gravity surveys to determine the extent and rough geometry of the Big Daddy chromite mineralization prior to evaluation by drilling. This worked well, and has reduced the amount of drilling required to delineate the Big Daddy deposit.

### **1.8.2 Geology and Mineral Resources**

The Big Daddy deposit is tabular as is typical of stratiform chromite deposits hosted by mafic-ultramafic layered intrusions. The tabular geometry and the continuity of the massive chromite intersections from hole to hole and section to section have facilitated delineation of the deposit using relatively wide hole spacing. Three to four holes were drilled along sections cut at 100 m intervals so that collars were 50 or 100 m apart. The sections extend over a 1,200 m strike length of which approximately 1,000 m is continuously mineralized. The current drill density is sufficient to estimate an Indicated resource over part of the deposit (using parameters defined for the NI 43-101 standard). The consistency and persistency of the deposit as revealed by variographic analysis implies that only very limited additional drilling will be necessary to upgrade the Indicated resource to the Measured category.

The two segments of the Big Daddy deposit (BD 1 and BD 2) remain open at depth but the lateral extents are unlikely materially to exceed the already established limits. Micon suggests that a few strategically positioned drill holes will upgrade the bulk of the Indicated resource to the Measured level.

### **1.8.3 Metallurgy**

The preliminary metallurgical investigations completed to date are inconclusive. However the Big Daddy deposit consists of remarkably uniform, massive, high grade chromite with a favourable Cr:Fe ratio from which a lumpy product may be readily produced and should satisfy a broad market. Future work should focus on quantifying the product quality.

### **1.8.4 Market Outlook**

Chromite is the source of chromium which is used in a wide range of applications in metallurgy, refractory materials and chemicals. The principal end uses are in stainless steel which accounts for approximately 94% of output of chromite, and non-ferrous alloys.

Potential new sources of supply will be evaluated in relation to the geographical location of potential markets and product quality.

### **1.8.5 Project Objectives**

Micon is satisfied that the overall project objectives as detailed in the previous Micon technical report (2009) have been met in a highly efficient and cost saving manner. The next major challenge will be to bring the property into production; prior to which additional technical and economic studies will be required.

## **1.9 RECOMMENDATIONS**

### **1.9.1 Further Assessment of Chromite Resources**

Spider and KWG have established a firm resource base upon which to proceed with prefeasibility studies. However, in order to advance the project to prefeasibility level, it is critical to complete sufficient metallurgical investigations to establish the product quality of the massive chromite and the optimum beneficiation process for the disseminated/lower grade mineralization.

Whilst additional resources may be discovered by deeper drilling, Micon believes that the optimal economic depth for mining should be determined before such drilling is undertaken. Thus in the short to medium term, additional drill programs are not a priority.

In view of the foregoing, Micon makes the following recommendations:

- i. Detailed metallurgical work needs to be completed to enable prefeasibility studies to commence. The investigations should primarily focus on the establishment of product quality/recovery relationships and the marketing potential of the Big Daddy chromite concentrates.
- ii. Detailed mineralogical work should be conducted simultaneously with metallurgical investigations so as to elucidate chromite grain liberation characteristics, chromite grain chemistry and gangue mineralogy.
- iii. A prefeasibility study should be conducted at the conclusion of metallurgical /mineralogical investigations, if warranted.

In addition to the above, a basic but detailed survey of the infrastructural requirements should be initiated taking into account the possible synergies from cooperation with third parties holding prospective mining rights in the McFaulds Lake area.

If prefeasibility studies are favourable, Micon recommends that infill drill holes as indicated on Figure 17.9 be drilled to upgrade the resource. Additional holes to increase the resource are not marked on Figure 17.9 but can be designed and drilled if warranted. In view of the

remoteness and lack of infrastructure of the SKF project area, the overall (global) size of the deposit will impact significantly in any future investment decision making process.

### 1.9.2 Follow-up on Unexplained EM anomalies

Whilst current exploration efforts are on chrome, the potential for other deposit types should not be overlooked, particularly Magmatic Massive Sulphides (MMS) deposits of Ni-Cu-PGE (which might occur in the same peridotite unit hosting the chrome mineralization) and Volcanogenic Massive Sulphides (VMS) deposits (Cu-Zn-Au) in the eastern segment of the SKF project area. Freewest's and Noront's MMS discoveries in peridotite (see Section 15) lend support for continued follow-up work on EM conductors.

In line with these recommendations, Spider/KWG have proposed the following two-phased budget (Table 1.3)

**Table 1.3  
Summary of Budget Proposals for the Big Daddy Chromite Project**

| Phase | Description of Activity/Program   | Estimated. Cost(\$) |
|-------|---|---------------------|
| 1 a   | Geometallurgical studies involving mineralogical and microprobe work                  | 50,000              |
| 1 b   | Metallurgical testing including allowance for drill holes to get metallurgical sample | 500,000             |
| 1 c   | Infrastructural study   | 50,000              |
| 1 d   | Prefeasibility/scoping study  | 100,000             |
|       | Contingency on phase 1 activities (about 10% of totals 1 a to 1 d)                    | 70,000              |
|       | Sub total Phase 1   | 770,000             |
|       |   |                     |
| 2     | Diamond drilling  | 4,000,000           |
|       | Contingency on phase 2 activities   | 400,000             |
|       | Sub-total phase 2   | 4,400,000           |
|       |   |                     |
| 1 & 2 | Grand total   | 5,170,000           |

Micon has reviewed Spider/KWG's budget proposals and recommends that Spider/KWG conduct the proposed activities subject to funding and any other matters which may cause the proposals to be altered in the normal course of their business activities or alterations which may affect the program as a result of exploration activities themselves.

## 2.0 INTRODUCTION

### 2.1 AUTHORIZATION AND PURPOSE

At the request of Messrs. Neil Novak and James Burns, President and VP Exploration of Spider Resources Inc. (Spider), respectively, and Messrs. Frank Smeenck and Maurice (Moe) Lavigne, President and VP Exploration and Development of KWG Resources Inc. (KWG), respectively, Micon International Limited (Micon) has been retained to complete a mineral resource estimate of the Big Daddy chrome deposit. Spider and KWG require an independent Technical Report to fulfill the requirements of Canadian National Instrument (NI) 43-101 for a first time disclosure of the Big Daddy mineral resources.

Micon's independent Qualified Persons responsible for the preparation of this report are Richard Gowans, P.Eng., Jane Spooner, MSc., P. Geo., Alan San Martin, MAusIMM and Charley Murahwi, M.Sc., P. Geo., MAusIMM. The report has been compiled following the format and guidelines of Form 43-101F1, Technical Report for National Instrument 43-101 (NI 43-101), Standards of Disclosure for Mineral Projects, and its Companion Policy NI 43-101CP. All members of the Micon team are independent of Spider and KWG as defined in NI 43-101.

This report is intended to be used by Spider and KWG subject to the terms and conditions of their contracts with Micon. Those contracts permit Spider and KWG to file this report on SEDAR ([www.sedar.com](http://www.sedar.com)) as an NI 43-101 Technical Report with the Canadian Securities Regulatory Authorities pursuant to provincial securities legislation. Micon understands that Spider and KWG may use the report for a variety of corporate purposes including financings. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

### 2.2 BACKGROUND

In this report Big Daddy (Figure 2.1) refers to the chromite deposit situated on claim P 3102253. SKF (Spider-KWG-Freewest) refers to the relationship between Spider, KWG and Freewest Resources Canada Inc. (Freewest) as described in the September, 2009 option agreement to which each party is a signatory.

Spider and KWG have recently completed a diamond drilling program which has outlined substantial thicknesses of high grade chromite mineralization extending over a 1,200 m strike length to a maximum depth of about 365 m below surface. Under the current option agreement, Spider and/or KWG can earn an additional 10% interest in the property through minimum annual exploration expenditures of \$5 million over three years ending March 31, 2012. The additional 10% interest may also be gained through minimum exploration expenditures of \$5 million and delivery of a positive feasibility study to Freewest (the property vendor) by March 31, 2012.



In January, 2009, Spider and KWG commissioned Micon to review exploration results obtained to that date and to make recommendations regarding the most expeditious means to advance the project and to generate a complete and reliable data set on which to base additional work. The report, dated March 31, 2009, and entitled “NI 43-101 Technical Report on the Big Daddy Chromite Deposit and Associated Ni-Cu-PGE, James Bay Lowlands, Northern Ontario” has been filed on SEDAR by both Spider and KWG. Micon recommended:

- A combination of ground gravity and magnetic surveys to guide drilling.
- A two phase drilling program designed to establish the extent and character of the deposit and then generate detailed information required to support a resource estimate.
- Thorough investigation of PGE potential.
- Geophysical definition and drill testing of unexplained conductors (VMS and Ni-Cu-PGE targets).

In addition Micon recommended adoption of a comprehensive QA/QC program with respect to sampling and analyses, implementation of more a comprehensive logging program to include collection of geotechnical observations, and improved down-hole directional surveying. Ancillary metallurgical and petrographic studies were recommended. The immediate objective of this work was to outline a significant chromite resource while completing a thorough evaluation of the potential for PGE’s in the hanging wall of the chrome deposit and massive Ni-Cu-PGE-bearing sulphides elsewhere.

Micon noted that:

*“due to remoteness and lack of infrastructure the overall (global) size of the deposit will impact significantly in any future investment decision-making process”.*

### **2.3 SOURCES OF INFORMATION**

The sources of information for this report are detailed below, and include those in the public domain as well as privately acquired data.

- Data and transcripts supplied by and at the instruction of Spider/KWG.
- Patrick Chance, P. Eng., was a project manager from early October, 2009 until March 31, 2010 and was on site during part of the 2009 and for the entire 2010 drilling campaign. He assembled the drill hole database, and implemented and supervised implementation of systematic data collection procedures.

- Review of various geological reports and maps produced by the Ontario Geological Survey (OGS), its predecessors, and the Geological Survey of Canada (GSC).
- Discussions with Spider/KWG management and Billiken Management Services (Billiken) staff, consultants and contractors familiar with the property.
- Research of technical papers produced in various journals.
- Independent analyses of quartered core samples.
- Independent repeat analyses of sample pulps (assay splits).
- Personal knowledge of Cr and Ni-Cu-PGE in layered intrusions and similar geological environments.

Micon is pleased to acknowledge the helpful cooperation of Spider/KWG's management and Billiken, the project contractor, whose staff and management made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

#### **2.4 SCOPE OF PERSONAL INSPECTION**

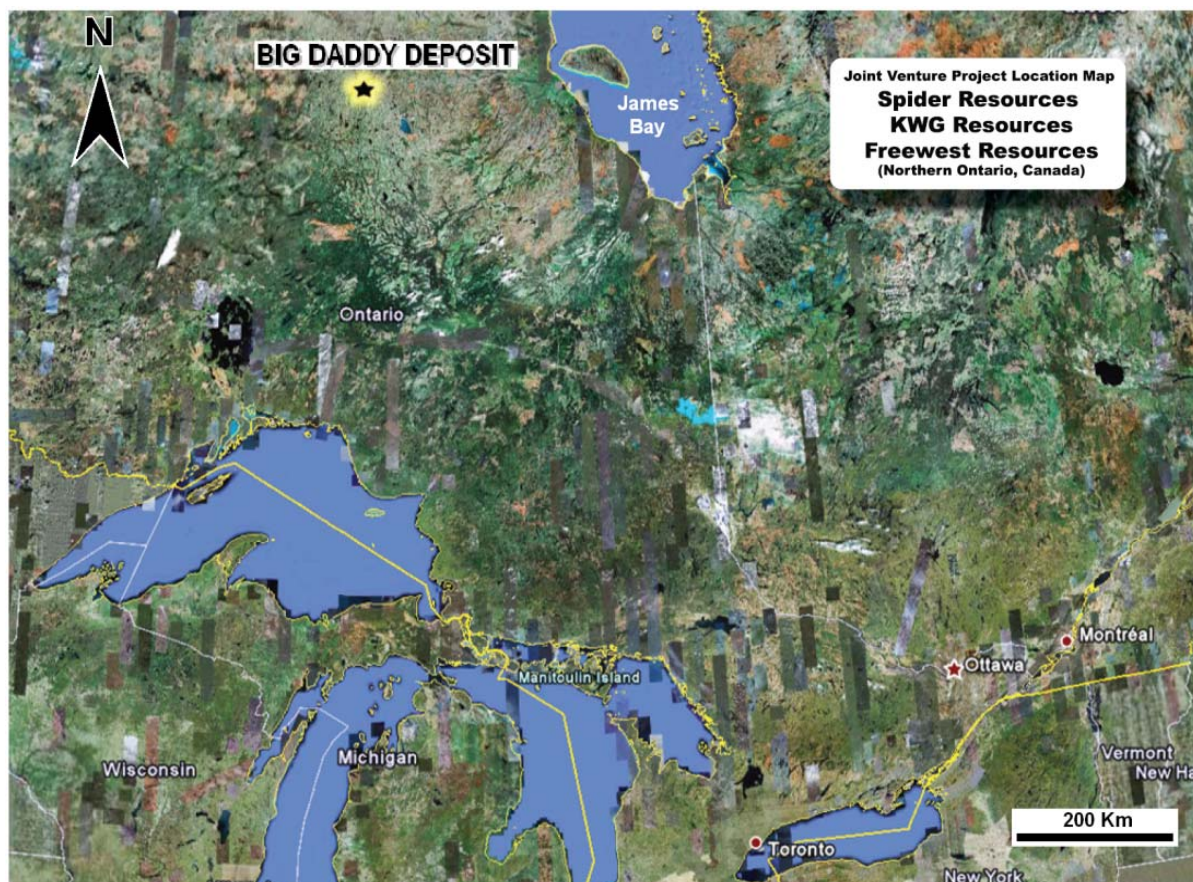
Micon (represented by Charley Murahwi) has twice inspected the property (Claim P 3102253) and the McFaulds Lake camp, where core was logged and processed and is stored; first, between January 11 and 13, 2009, and again on October 22, 2009. In addition, Murahwi visited the Activation Laboratory's sample preparation and analytical facility in Thunder Bay on January 10, 2009, selecting pulps for re-analysis.

During the initial visit the following activities were completed:

- Review of QA/QC (including sample security) procedures.
- Verification of drill hole collar positions and mineralization intercepts in drill cores.
- Selection of sample pulps (assay splits) for repeat analyses.
- Independent sampling of quarter drill core samples.

During the second visit Micon confirmed that recommendations of the earlier report had been implemented and that the data collected were of a quality, detail and form required to support resource estimation and subsequent technical studies.

**Figure 2.1**  
**Location Map of the Big Daddy Chromite Deposit**



## 2.5 ABBREVIATIONS

The abbreviations used in this report are summarized in Table 2.1

**Table 2.1**  
**Summary of Abbreviations Used**

| Unit(s) of Measurement                        | Abbreviation | Name   | Abbreviation |
|---|--------------|--|--------------|
| Average                                       | Avg          | Activation Laboratories                                | Actlabs      |
| Above sea level                               | ASL          | Billion years  | Ga           |
| Centimetre(s)                                 | cm           | Big Daddy Deposit                                      | BD           |
| Coefficient of variation                      | Coef. Var    | Big Daddy Deposit southwest segment main mass          | BD 1         |
| Degree(s)                                     | °            | Big Daddy Deposit northeast segment main mass          | BD 2         |
| Degrees Celsius                               | °C           | Big Daddy Deposit southwest segment subsidiary body    | BD 1 sub     |
| Digital elevation model/Digital Terrain Model | DEM/DTM      | Big Daddy Deposit northeast segment subsidiary body    | BD 2 sub     |
| Electro-magnetic(s)                           | EM           | Canadian Institute of Mining, Metallurgy and Petroleum | CIM          |
| Gram(s)                                       | g            | Canadian National Instrument 43-101                    | NI 43-101    |

| Unit(s) of Measurement   | Abbreviation    | Name  | Abbreviation |
|--|-----------------|---|--------------|
| Grams per metric tonne   | g/t             | Diamond drill hole                                    | DDH          |
| Greater than   | >               | End of hole   | EOH          |
| Hectare(s)   | ha              | Eurasian Natural Resources Corp                       | ENRC         |
| Inverse distance   | ID              | Geological Survey of Canada                           | GSC          |
| Inverse distance cubed   | ID <sup>3</sup> | Global Positioning System                             | GPS          |
| Kilogram(s)  | kg              | Horizontal Loop Electromagnetic survey                | HLEM         |
| Kilometre(s)   | km              | International Chromium Development Association        | ICDA         |
| High intensity magnetic separation   | HIMS            | International Stainless Steel Forum                   | ISSF         |
| Heavy liquid separation  | HLS             | Magmatic Massive Sulphide                             | MMS          |
| Induced polarization   | IP              | Marten Falls First Nation                             | MFFN         |
| Loss on ignition   | LOI             | Micon International Limited                           | Micon        |
| Low intensity magnetic separation / Laboratory Information Management System | LIMS            | Ontario Department of Mines                           | ODM          |
| Maximum  | max             | Ontario Geological Survey                             | OGS          |
| Metre(s)   | m               | Parts per billion                                     | ppb          |
| Milligram  | mg              | Parts per million                                     | ppm          |
| Millimetre   | mm              | Platinum Group Elements/Metals                        | PGE/M        |
| Million tones  | Mt              | Qualified Person                                      | QP           |
| Million / Billion years  | Ma / Ga         | Quality Assurance/Quality Control                     | QA/QC        |
| Minimum  | min             | Net Smelter Return                                    | NSR          |
| North American Datum 1983  | NAD'83          | Noront Resources Limited                              | Noront       |
| Ordinary kriging   | OK              | Not available/applicable                              | n.a.         |
| Percent(age)   | %               | Ring of Fire  | ROF          |
| Rock quality designation   | RQD             | Ring of Fire Intrusion                                | RFI          |
| Specific gravity   | SG              | Standard Reference Material                           | SRM          |
| Standard deviation   | Std             | System for Electronic Document Analysis and Retrieval | SEDAR        |
| Système International d'Unités   | SI              | Time Domain Electro Magnetic survey                   | TDEM         |
| True thickness   | T.T.            | Volcanogenic Massive Sulphide                         | VMS          |
| Universal Transverse Mercator  | UTM             | Webequie First Nation                                 | WFN          |
| Very low frequency   | VLf             | Measured Resource                                     | MR           |
| Wet high intensity magnetic separation                                       | WHIMS           | Indicated Resource                                    | IR           |
|  |                 | Inferred Resource                                     | Inf. R       |
|  |                 | Whole rock assay                                      | WRA          |

### **3.0 RELIANCE ON OTHER EXPERTS**

The authors are Qualified Persons only in respect of the areas in this report identified in their “Certificates of Qualified Persons” submitted with this report.

Micon has reviewed an executed copy of the September 10, 2009 option agreement between Spider, KWG (optionors) and Freewest (vender) but has not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties. Thus Micon offers no legal opinion as to the validity of the mineral titles claimed. The description of the property, and ownership thereof, as set out in this report, is provided for general information purposes only.

The existing environmental conditions, liabilities and remediation have been described under the relevant section as per the NI 43-101 requirements. However, the statements made are for information purposes only and Micon offers no opinion in this regard.

The general descriptions of geology and past exploration activities used in this report are taken from transcripts prepared by Spider staff/consultants and from reports prepared by various reputable companies or their contracted consultants, as well as from various government and academic publications. Micon has relied on these data, supplemented by its own observations at site.

While exercising all reasonable diligence in checking, confirming and testing it, Micon has relied upon the Spider’s presentation of the project data from previous and recently completed exploration programs.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

### 4.1 SIZE, LOCATION AND TENURE

The Big Daddy chromite deposit lies entirely on mining claim P 3012253 situated in the McFaulds Lake area of the James Bay Lowlands of north-central Ontario. P 3012253 is the westernmost of a seven-claim, 1,241 ha property under option from Freewest by Spider and KWG (SKF option).

The SKF property lies in NTS 43D16S½ near 86° 14' 11" W longitude, 52° 45' 32" N latitude. The area is situated 280 km due north of the town of Nakina and 258 km due west of the James Bay coastal community of Attawapiskat. The option property lies 13 km west-southwest of the McFaulds Lake camp which is situated on the northwest corner of the lake.

The property comprises five staked claims (P 3012252, P 3012253, P 3008268, P 3008269 and P 3008793) and two single-unit, (400 m x 400 m, 16 ha) blocks excised from adjacent staked claims (P 3012250 and P 3012251) to the north (Figure 4.1) encompassing a total of 1,241 ha (78 claim units). Claim abstracts are summarized in Table 4.1.

Claim boundaries were marked out by stakers. James Burns, VP Exploration of Spider, has walked the claim lines recording the locations of lines and posts with a hand-held, retail grade, GPS.

The property is in good standing until April and August, 2011. Annual assessment requirements are \$31,200. Claim abstracts currently report Freewest as the recorded holder; however, the property is to be held by KWG in trust.

As of September, 2009 both Spider and KWG had earned a 25% interest (Freewest 50%) in the property. Spider and KWG's exploration expenditures in late 2009 and early 2010 each exceed the \$2.5 million required to earn an additional 1½% interest. As of March 31, 2010 the property interests are Spider 26½ %, KWG 26½ % and Freewest 47%.

The two westernmost claims and both contiguous single units are subject to a 2% Net Smelter Return royalty currently held by Richard Nemis (1%) and KWG (1%).

**Table 4.1**  
**SKF Property – Summary of Claim Abstracts as of March 19, 2010**  
(Freewest is the recorded holder of these claims. Claim abstracts are available at  
[www.mci.mndm.gov.on.ca/claims](http://www.mci.mndm.gov.on.ca/claims))

| Claim No  | Units | Area (ha) <sup>1</sup> | Due Date    | Recorded    | Work Req'd | Total Work | Total Reserve | Present Work Assigned | NSR |
|-----------|-------|------------------------|-------------|-------------|------------|------------|---------------|-----------------------|-----|
| P 3012253 | 16    | 249                    | 2011-Apr-22 | 2003-Apr-22 | \$6,400    | \$38,400   | \$152,334     | \$30,786              | 2%  |
| P 3012252 | 16    | 258                    | 2011-Apr-22 | 2003-Apr-22 | \$6,400    | \$38,400   | \$0           |                       | 2%  |
| P 3008269 | 16    | 257                    | 2011-Aug-11 | 2003-Aug-11 | \$6,400    | \$38,400   | \$33,429      | \$60,945              | 0%  |
| P 3008793 | 12    | 202                    | 2011-Aug-11 | 2003-Aug-11 | \$4,800    | \$28,800   | \$0           | \$0                   | 0%  |

| Claim No               | Units | Area (ha) <sup>1</sup> | Due Date    | Recorded    | Work Req'd | Total Work | Total Reserve | Present Work Assigned | NSR |
|------------------------|-------|------------------------|-------------|-------------|------------|------------|---------------|-----------------------|-----|
| P 3008268              | 16    | 243                    | 2011-Aug-11 | 2003-Aug-11 | \$6,400    | \$38,400   | \$20,203      | \$24,000              | 0%  |
|                        | 76    | 1,209                  |             |             |            | \$182,400  | \$205,966     | \$115,731             |     |
| P 3012250 <sup>2</sup> | 1     | 16 <sup>3</sup>        | 2011-Apr-22 | 2003-Apr-22 | \$6,400    | \$38,400   | \$10,560      | \$0                   | 2%  |
| P 3012251 <sup>2</sup> | 1     | 16 <sup>3</sup>        | 2011-Apr-22 | 2003-Apr-22 | \$6,400    | \$38,400   | \$10,560      | \$0                   | 2%  |
|                        |       | 32                     |             |             |            | \$76,800   | \$21,120      |                       |     |
|                        | 78    | 1,241                  |             |             |            |            |               |                       |     |

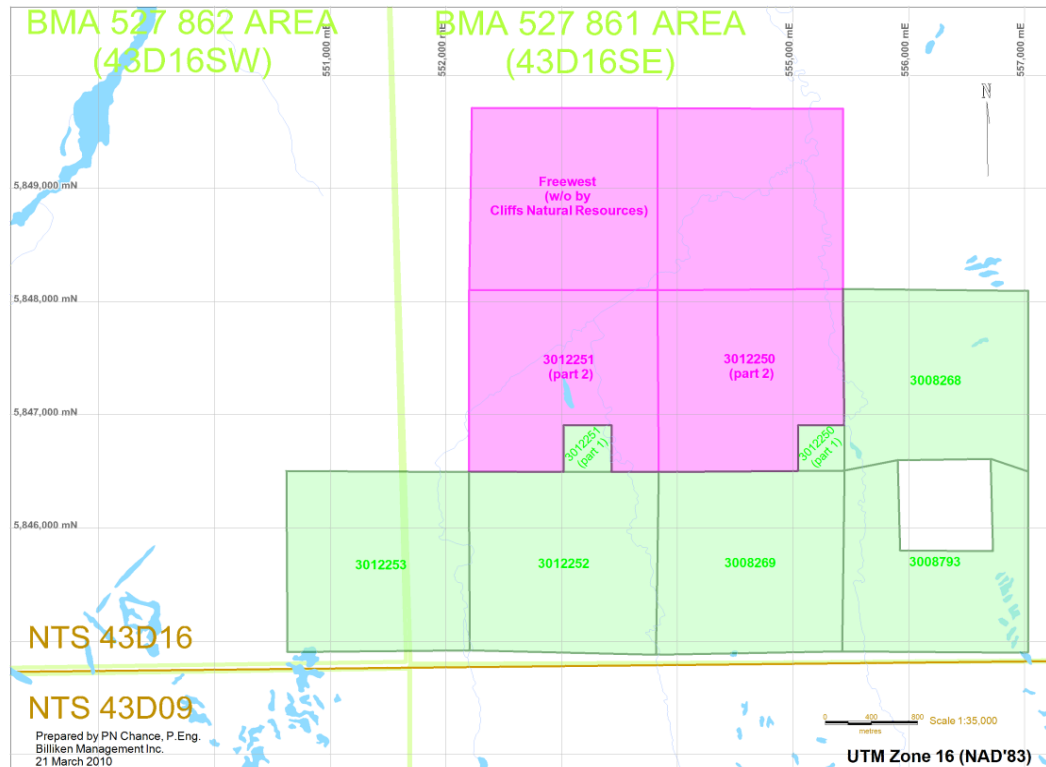
1 – Measured based on uncorrected, hand-held GPS-derived locations of claim [corner] posts.

2 - Assessment work is for entire claim which must be maintained to retain the optioned portions.

3 – Nominal areas based on descriptions of the optioned parcels and locations of relevant claim [corner] posts

**Figure 4.1**

**SKF Project Claim Map. SKF Option claims are shown in green. Claim locations are “as staked” based on GPS-derived locations of claim posts**



## 4.2 COSTS OF MAINTENANCE

In Ontario, mining rights are acquired by staking out and recording claims in a manner prescribed in the Mining Act (R.S.O. 1990, Chapter M. 14 Section 38 (1)). Claim holders are required to submit proof of permitted exploration expenditures at a rate of \$400 per claim unit annually starting prior to the second anniversary of recording until the claims are taken to lease. The annual maintenance costs for 78 units are \$31,200. Sufficient eligible work has

been completed to retain the property in good standing for many years. An assessment report of recent drilling is in preparation.

### **4.3 ROYALTIES AND PROPERTY RIGHTS**

#### **4.3.1 4.3.1 Underlying Agreements**

On 22 April, 2003, Richard Nemis became the recorded holder of six, 16-unit claims (the Nemis Claims), comprising the western two SKF Option claims (P 3012252 and P 3012253) and the four adjoining claims to the north that now comprise the Black Thor (Freewest, 100%) property (shown in pink on Figure 4.1).

On June 17, 2003, Richard Nemis agreed to sell 100% interest in the Nemis Claims to Freewest in consideration of a payment of \$10,800 and a 2% NSR royalty. The claims were transferred to Freewest on August 14, 2003.

On August 11, 2003, Freewest caused the three claims that comprise the east part of the SKF property (P 3008269, P 3008793 and P 3008268) to be recorded.

On December 5, 2005, KWG and Spider, as equal partners, agreed to earn a 50% interest in Freewest's property comprising P 3012253, P 3012252, P 3008269, P 3008793 and P 3008268 together with two single claim units (~32 ha) excised from adjoining Freewest claims 302250 and 302251 for exploration expenditures of \$1,500,000 by October 31, 2009 of which \$200,000 was to be spent by February 28, 2006. The addition of the two single units permits Spider and KWG to test two EM conductors that extend northwards onto the Black Thor property.

In March, 2009, Freewest, KWG and Spider entered into a letter agreement which forms the basis for the September 10, 2009 agreement described below.

On July 21, 2009, Nemis, Freewest and KWG entered an agreement whereby KWG purchased half of the Nemis NSR (i.e., 1% NSR royalty) which was conveyed to 7207565 Canada Inc., a subsidiary of KWG.

On September 10, 2009, Freewest, KWG and Spider amended and restated the December 5, 2005 agreement, allowing KWG and/or Spider to earn a combined additional 10% interest in the property through annual expenditures of \$2,500,000 each within three years ending March 31, earning 3% in each of the first two years and 4% in the last year ending March 31, 2012. The additional 10% may also be earned should one or both parties spend a minimum of \$5,000,000 and deliver a positive feasibility study to Freewest by March 31, 2012.

Title of the property was to be transferred to KWG to be held in trust. That has not yet occurred.



The September, 2009 agreement acknowledged that KWG and Spider had already each earned a 25% interest in the property and warranted that there were no encumbrances on the property beyond the NSR royalty.

Spider has operated the project from inception until March 31, 2010. KWG is to be operator for the year beginning April 1, 2010, with operatorship reverting to Spider during the following year, subject to conditions, after which a joint venture of the three parties is to be formed at which an operator is to be appointed by a simple majority.

#### **4.3.2 Royalty Interests**

Richard Nemis and KWG Resources each hold a 1% Net Smelter Return royalty on claims P 3012252, P 3012253 (Big Daddy deposit), and the adjoining single unit portions of P 3012250 and P 3012251.

#### **4.3.3 Other Parties to the Agreement**

Freewest Resources Canada Inc. is a wholly owned subsidiary of Cliffs Natural Resources Inc. KWG Resources Inc. is a junior exploration company in which Cliffs Natural Resources holds ~19.9% interest and has board representation.

### **4.4 ENVIRONMENTAL AND PERMITTING**

There are no known environmental liabilities associated with the SKF property. No mining or other potentially disruptive work has been carried out on the current property beyond that described in this report. Current legislation (chiefly the Mining Act) does not require permitting of the early stages of exploration (e.g. ground geophysics, prospecting and drilling).

#### **4.4.1 Current Status**

Surface exploration to date has comprised line cutting of several grids, conducting magnetic, HLEM, gravity and PEM surveys over portions of the property and the drilling of 56 diamond drill holes. The drilling was supported by helicopter resulting in minimal ground disturbance (approximately 1.35 ha in total). At the cessation of the 2010 drilling campaign all foreign materials including containers, drill parts and garbage were removed. A final walkover is required in snow-free conditions.

On about January 20, 2010, Chief Elijah Moonias of the Marten Falls First Nation reported his community's concerns regarding the use of ice strips and the protection of caribou. Studies into the impacts of ice roads on fish and mammal populations carried out to the north of Yellowknife and elsewhere were unable to detect measureable impacts (e.g. Moulton et al., 2003).

The woodland caribou and wolverine are listed as species at risk in Ontario. Caribou tracks are plentiful during the winter, although sightings are rare.

In February, 2010, representatives of relevant federal, provincial and municipal regulatory agencies inspected the camp facilities at McFaulds Lake and were invited to visit the work site. The few concerns related to the camp site and have been addressed by Billiken, the camp owner.

#### **4.4.2 Baseline Line Environmental Studies**

In 2009, Spider, as project manager, retained AECOM, formerly Gartner-Lee, to initiate baseline environmental studies. AECOM established pairs of observation stations on the three drainages that cross the property, sited up and down-drainage of the property.

During 2009, AECOM completed spring, summer and fall sampling programs, measuring water flow, quality and physiochemical parameters. Biological (tissue) sampling was also undertaken.

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **5.1 PHYSIOGRAPHY**

The Big Daddy (average elevation 173 m) property lies near the western limit of the Hudson Bay Lowlands, a vast, poorly-drained area extending along the south and west coasts of James and Hudson Bays between the Ontario-Quebec boarder and Churchill, Manitoba (e.g., Brookes, 2010). The area corresponds with the maximum extent of periglacial marine inundation (to 180 m) by the ancient Tyrrell Sea and with that of the western margin of the Hudson Bay Platform. The Platform comprises Lower Paleozoic carbonates and clastics sediments. Remnants of the Paleozoic platform cover strata were reported in drill holes FW-06-04 and FW-08-11, which are collared within 200 m of the chromite sub-outcrop, as well as in holes drilled to the east of the Big Daddy deposit.

Sjörs (1959) describes four distinct landscape features; fens, bogs, black spruce islands and riparian zones. All are evident on the Big Daddy claim.

- Fens are the basic landscape feature characterized by shallow, typically circular ponds, relatively diverse vegetation, higher pH and metal contents.
- Bogs comprise island-like, thick sphagnum accumulations (~3 m) above the local surface with irregular, 1.5 m-deep ponds that form string bogs where gradients are steeper. Plant diversity is low due to acid, nutrient-poor water.
- Ovoid, black spruce islands are elevated 2 m above the surrounding area, commonly with treeless centres. Sjörs (ibid.) encountered frozen ground a metre or so below surface.
- The riparian zone comprises river banks including the area subject to seasonal flooding. Nutrient availability and locally good drainage contribute to a diverse flora including, locally, mature spruce and aspen.

### **5.2 RELIEF AND DRAINAGE**

Big Daddy project area lies in the Attawapiskat drainage system which consist of one of the two great rivers (the other being the Albany) that drain northwestern Ontario. These provided convenient access for early explorers and traders. Drainage over the Lowlands is very poor due to the gentle slope (approximately 0.7 m / km).

Relief across the Big Daddy claim is about 4 m, and as much as 7 m above the closest points on the Muketei and Attawapiskat rivers. Water flow along creeks and rivers varies from a maximum in the spring falling gradually until the following spring. During the remainder of the year even local rainfall rapidly reaches the major drainages causing slight increases in water level.

The Big Daddy claim drains to Black Creek which straddles the east claim boundary. From there drainage is north-northwest towards the Muketei river.

### **5.3 ACCESSIBILITY AND INFRASTRUCTURE**

The area is remote lying far from the nearest paved road at Nakina, 280 km to the south. A power line and road also serve the Musselwhite mine (Goldcorp Inc.) 280 km to the west over much better drained terrain. The area is currently accessible only by float and ski-equipped aircraft which can land on larger lakes. Aircraft are available in Nakina and Pickle Lake. Helicopters are essential for local transport, although skidoos and larger tracked vehicles are useful when the ground is frozen and there is sufficient snowpack.

Nakina has a paved 3,500 foot (about 1,000 m) runway. The main transcontinental CN rail line also passes through the town. Longer runways are available at Geraldton, (5,000 feet (about 1,500 m), 337 km south) and Pickle Lake (4,500 feet (about 1,400 m), 310 km southwest).

Thunder Bay (540 km south-southwest) is the regional centre with daily air service to the remote communities, Nakina and Pickle Lake. Although the Ministry of Northern Development, Mines and Forestry's (MNDM&F's) development coordinator is based in Thunder Bay, the area lies in the Porcupine Mining Division and is administered from Timmins (about 600 km southeast).

All-weather highways extend to Nakina (Highway 584) and Pickle Lake (Highway 808) from where the gravel North Road extends 193 km to Opapimiskan Lake (Musselwhite mine) to the west.

The Ontario power grid reaches the Victor mine (DeBeers Canada Inc.), 157 km to the east, Nakina, 280 km to the south and the Musselwhite mine 290 km to the west.

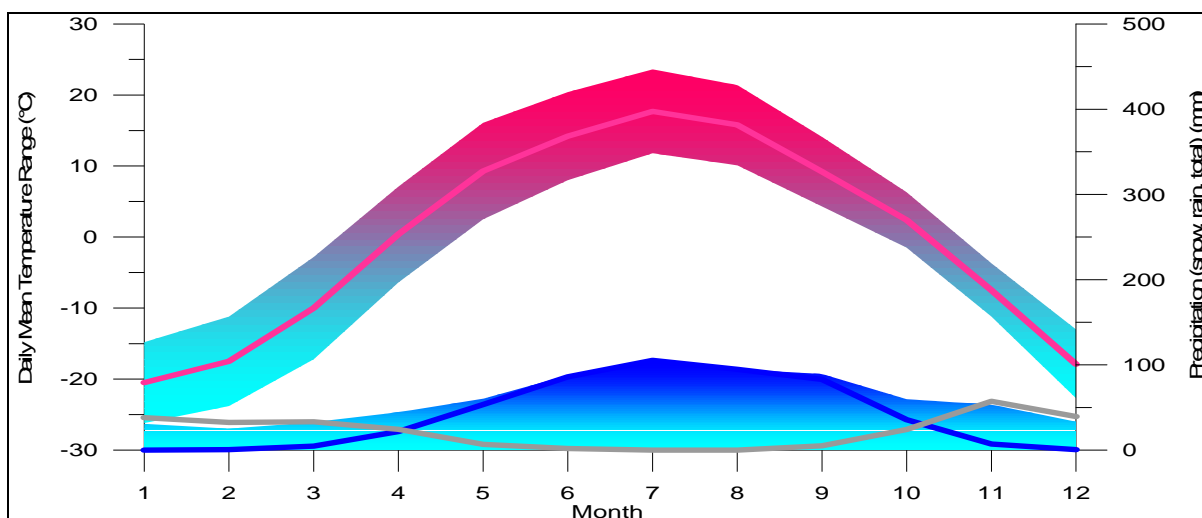
During 2009 Marten Falls Logistics began construction of an airstrip about four kilometres north of Noront's Esker camp. Work is reported as halted due in part to permitting issues.

In 2009 KWG through its subsidiary Canada Chrome Corporation, staked two "rail corridors". Subsequently Canada Chrome Corporation commenced a scoping study pertaining to costs for a rail link to the McFaulds Lake area. The company has completed a geotechnical, soil sampling program along a 340 km corridor to the area from the CN railway line at Exton near Nakina. Feasibility level engineering studies and cost estimates for a rail link are expected to be completed by the end of 2010 (M.J. Lavigne, personal communication, 2010).

## 5.4 CLIMATE

Mean temperatures range from -20°C in December and January to a peak of 15°C in July (Figure 5.1). Annual precipitation is about 70 cm, of which almost 70% falls as rain with peak amounts during July. Snowfall peaks in November gradually diminishing to March. Typical snow accumulations are about 0.6 m.

**Figure 5.1**  
**Annual Mean Daily Temperature and Range, January to December (month 1 to 12)**  
(Upper curves, left scale) and monthly precipitation (lower curves, right scale) showing rain (blue curve) and snow (grey curve for Pickle Lake (1971-2010 data; source: [www.climate.weatheroffice.gc.ca](http://www.climate.weatheroffice.gc.ca))).



## 5.5 VEGETATION

The property lies in a broad transition zone between the boreal forest and arctic tundra further north. It is covered by extensive fen and bog complexes with highly variable tree cover intermixed with vast numbers of ponds and lakes. The principal tree species include black spruce (*Picea mariana*), white spruce (*Picea glauca*) and tamarack (*Larix laricina*) (Sjörs, 1959). Caribou grazing locally alters plant community structure (Proceviat et al., 2001).

## 5.6 FAUNA

While a wide range of animals and birds are reported, those observed include fox, wolf, marten, moose, black bear and woodland caribou. The area lies in the northern range of the woodland caribou, a species at risk in its southern range due to habitat loss (removal of old-growth, boreal forest; Proceviat et al., 2001).

“Winter survival of woodland caribou in the black spruce peatlands of northeastern Ontario also appears to be dependent on the availability of ground and arboreal lichen and arboreal

lichen biomass has been shown to be an important parameter identifying late winter habitat selected by this species.” (ibid.)

Despite intermittent aerial surveys since 1950, the abundance and migration patterns of the lowland woodland caribou population are not well understood (Magoun et al, 2005).

## **5.7 FIRST NATIONS**

First Nations communities are the principal permanent settlements in the far north of Ontario. Although the mineral rights were surrendered in the James Bay Treaty No. 9 in the early 20th century, recent court rulings combined with the absence of economic opportunity in the region have encouraged First Nations to assert rights to traditional lands. The Marten Falls First Nation asserts that the McFaulds area and KWG’s currently proposed access corridor lie within its traditional lands. It is likely that other nearby communities (e.g., Webequie, Fort Hope, Lansdowne House and Summer Beaver) will seek economic advantage from developments in the area.

Prior to 2010 mineral exploration companies acted individually, reaching accommodations and in some cases agreements with First Nations. In early 2010, the Marten Falls First Nation with the support of the Webequie First Nation initiated a logistics blockade of Koper and McFaulds Lakes between January 20 and March 18. While the objectives of the blockade are unclear, the need for sustained engagement to structure development of and eventual mutually-beneficial operations in the area is clear.

The closest communities are members of the Matawa Tribal Council which represents Oji-Cree communities in an arc along the west edge of the James Bay Lowland from Constance Lake in the southeast to Neskantaga First Nation (Lansdowne House) in the northwest. The population of the remote communities is about 3,000 (2006 data; [www.matawa.on.ca](http://www.matawa.on.ca)). The remaining 5,000 Matawa members live off reserve or in road accessible communities around Nakina, Long Lac and Hearst.

During the most recent Big Daddy drill campaigns, a third of the workforce comprised First Nations members. Geotechnical logging, down-hole and GPS surveys and all sampling were carried out to a high standard by First Nations members under supervision of the site geologist.

## **5.8 LOCAL RESOURCES**

Few local resources have been identified to date. In particular there is little evidence of aggregate an essential commodity for mine and infrastructure development.

There is sufficient space on the current property to develop a mine and ancillary installations.

## 6.0 HISTORY

There is no evidence that the current property had been staked or otherwise explored prior to 2003, however, Spider/KWG and others had conducted diamond exploration in the area since the early 1990's.

Government survey agencies have carried out very limited, largely reconnaissance work in the area due to the perceived lack of outcrop and the high cost of supporting field programs. Prior to the 1990's there are few records of past exploration beyond a flurry of diamond drilling to the north and west of the current area in the early 1970's following the Kidd Creek (Timmins) VMS discovery.

### 6.1 GENERAL

Robert Bell (1886) provides the earliest account of the geology of the Attawapiskat and tributaries describing well-exposed Paleozoic stratigraphy along the river and including initial description of Archean rocks exposed in the headwaters of the river. McInnes (1910) travelled along the upper Attawapiskat and adjacent Winisk rivers a quarter century later. During the 1940's the Provincial Government investigated the lignite, gypsum and petroleum possibilities of the James Bay Lowland, drilling several drill holes to basement (e.g., Martison, 1953). The GSC completed regional mapping of the Hudson Bay Platform during the 1970's (e.g., Sandford & Norris, 1975). Although Bostock's (1968) work was of regional scope, he and colleagues reported much outcrop along drainages from the Muketui westwards.

Diamond explorers, Monopros (a subsidiary of De-Beers) and Selco, traced diamond indicator minerals from initial discoveries in the Kirkland Lake area into the Lowland in 1962 culminating in the discovery of the Jurassic-aged, Attawapiskat kimberlites in 1989. In 1971 Inco, Sherritt Gordon, Denison and Kennco drilled base metal targets to the north and west of the current area. During the mid-1990's the then Spider-KWG joint venture tested potential kimberlite targets over a 200 km square area centred on McFaulds Lake, quickly discovering the five, Proterozoic age Kyle diamondiferous kimberlites under Paleozoic cover. Elevated chromite counts were reported in drainage and overburden samples collected during this period marking the earliest report of chromite in the area (Gleason and Thomas, 1997).

The 2002 discovery of chalcopyrite by DeBeers and recognition of VMS mineralization in 2003 by Spider and KWG focused exploration attention in the McFaulds area prompting Richard Nemis and Freewest to cause the claims comprising the current property to be staked. Howard Lahti, PhD, P. Geo., was first to recognize chromite in situ noting two thin beds in drill hole FW-06-03. The Eagle One Ni-Cu-PGE discovery in 2007 precipitated intense exploration effort over the following two years during which time the Blackbird, Big Daddy, Black Thor, Black Label and Black Creek chromite and the Thunderbird vanadium deposits were discovered. Initial resource estimates have been made on all but the last three mentioned deposits (see Section 15 on Adjacent Properties).

## **6.2 PROPERTY HISTORY**

Spider has managed exploration since inception, latterly through Billiken Management Services, Inc. In mid-2007 Billiken was sold to an unrelated party, thus Spider and Billiken have operated at arms-length for almost three years.

Early exploration programs (airborne surveys and ground follow-up) were conducted over contiguous properties. Costs were apportioned according to the work done over each property. For this reason the J (Big Daddy) grid extends over the adjacent properties.

At some time prior to 2007 Probe Mines held an option on the Freewest Claims, completing three short diamond drill holes (F-1 to F-3) that narrowly missed the chromite mineralization. The claims were returned to Freewest before Probe was vested.

The past exploration history, which was reported in the previous 43-101 report, has been summarized in Table 6.1.

## **6.3 HISTORIC PRODUCTION**

The property has no historical resource or reserve estimates and there has been no prior production.



**Table 6.1**  
**Summary of Exploration Completed on SKF Property between 1995 and 2008**

| Year      | Company / Contractor       | Work completed   | Results   |
|-----------|----------------------------|--|---|
| Pre-1995  |                            | Assessment file search.  | No work filed in Spider 3 area.   |
| 1995-1996 | SPQ & KWG<br>(Burns, 2005) | Fixed wing mag over Spider #3 area.<br>Helimag over 48 targets.<br>Ground mag over selected targets.<br>Mode m alluvium sampling<br>Limited bedrock mapping<br>Aiphto interpretation.<br>Two diamond drill holes | McFaulds magnetic anomaly detected and detailed<br>[Selected datasets sold to OGS (Operation Treasure Hunt) and subsequently released as MRD ]  |
| 2001-2002 | DeBeers<br>(Burns, 2005)   | McFaulds anomaly designated SP3-0029.<br>Helicopter mag & EM (N-S on 50 m lines, 20 m elevation 1.6 km sq<br>Ground mag (N-S, 50 m lines).<br>Vertical reverse circulation drill hole (SP3-02-007R),             | Results for SP3-0029. <ul style="list-style-type: none"> <li>• Apparent resistivity correlates with mag over principal anomalies.</li> <li>• Anomaly detailed</li> <li>• Cut 1.75% Cu/6.5 m below regolith (saprolite) from 25.0 below surface.</li> </ul>  |
| 2003      | Freewest                   | AeroTEM Fugro  | Found numerous EM targets in an arc including McFaulds Lake and extending to south and west.  |
| 2003      | R Nemis & Freewest         | Claim staking  | Staked current property   |
| 2003      | Freewest                   | Line cutting (J & H); ground mag and Max-Min (Scott Hogg)  | Detailed ground targets on J and H grids  |
| 2004      | Freewest                   | FWM-04-01 (Grid H, L 37 E, 5+50 S; Az ~120°, Dip -45°; P 3008269)  | 19 m overburden, 10 m unknown, 67.5 m gabbro and 93.5 m tuff (mineralized, VMS style pyrite). The gabbro reports elevated Cr & Ni.  |
| 2006      | SPQ & KWG<br>(Novak, 2006) | FW-06-02 (Grid H)<br>FW-06-03 (353.5 m) & 04 (Grid J) to test coincident HLEM magnetic anomalies.  | Cut ~10 m sulphide mineralization in a fragmental pile.<br>Howard Lahti noted two "massive chrome beds" [1.05 & 0.6 m] in FW-06-03 marking the discovery of in-situ chromite in McFaulds area<br>FW-06-04 cut hanging wall volcanics containing locally anomalous Ni (but not Cr) concentrations. |
| 2008      | SPQ & KWG                  | FW-08-05 to 23   | Drilling defined the chromite mineralization for 400 m along strike and also tested nearby EM anomalies   |

Note: SPQ = Spider

## 7.0 GEOLOGICAL SETTING

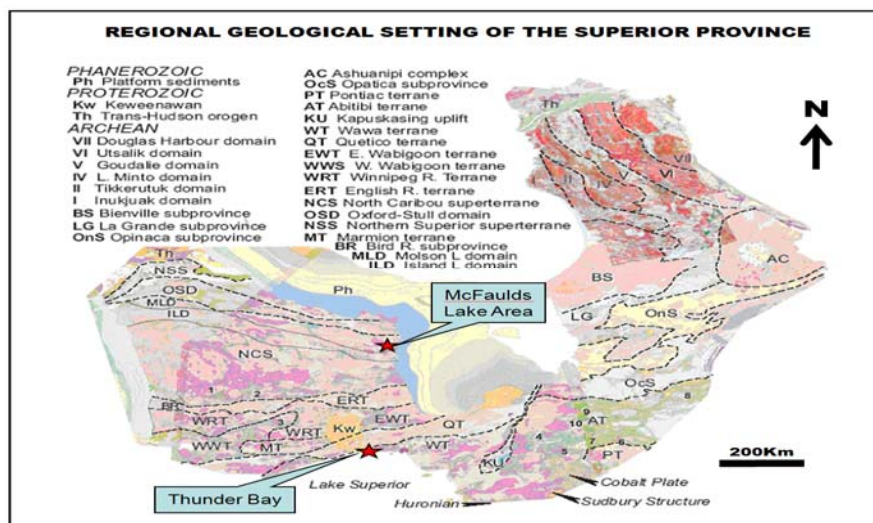
### 7.1 REGIONAL GEOLOGY

The edge of the Hudson Bay Platform also marks the maximum transgression (180 m above sea level) of the ancient Tyrrell Sea and of deposition of several metres of thixotropic, fossil-bearing mud.

The property lies at the western edge of the preserved flat-lying, Lower Paleozoic Hudson Bay Platform, remnants of which were observed on the current property. The Hudson Bay Platform comprises Ordovician to Cretaceous sedimentary strata which reach a maximum known thickness of about 2,500 m in Hudson Bay. Two holes contain saprolite, indicative of an early Paleozoic tropical weathering event (Patrick Chance, personal communication, 2010).

The property lies in the Sachigo greenstone belt of the Oxford–Stull Domain (Stott and Rainsford, 2006) of the Sachigo Subprovince (Figure 7.1). The Sachigo greenstone belt is arcuate, west-facing and 100 km long by 5 km to 25 km wide belt. It is in intrusive contact with granodiorite rocks to the north and west (Atkinson et al., 2009). The Oxford-Stull Domain also contains a series of significant mafic to ultramafic intrusions including Big Trout, Springer, Highbank and McFaulds. Those at Big Trout and Highbank exhibit magmatic layering a characteristic of fertile mafic complexes.

**Figure 7.1**  
**Regional Geological Setting of the Superior Province**



### 7.2 LOCAL GEOLOGY

Due to poor access, lack of abundant outcrop and limited mapping, local geology has been largely interpreted from airborne geophysical data and constrained by limited and selective

diamond drilling (Figure 7.2). The area is underlain by volcanics of the Sachigo belt into which the Ring of Fire mafic-ultramafic complex is intruded. The Ring of Fire complex comprises three elements; the feeder dyke within which the Eagle One Ni-Cu-PGE deposit is contained, the sill or sills containing stratiform chromite deposits, here called the McFaulds Lake Sill, and the ferrograbbo bodies that contain the Thunderbird Fe-Ti-V prospect.

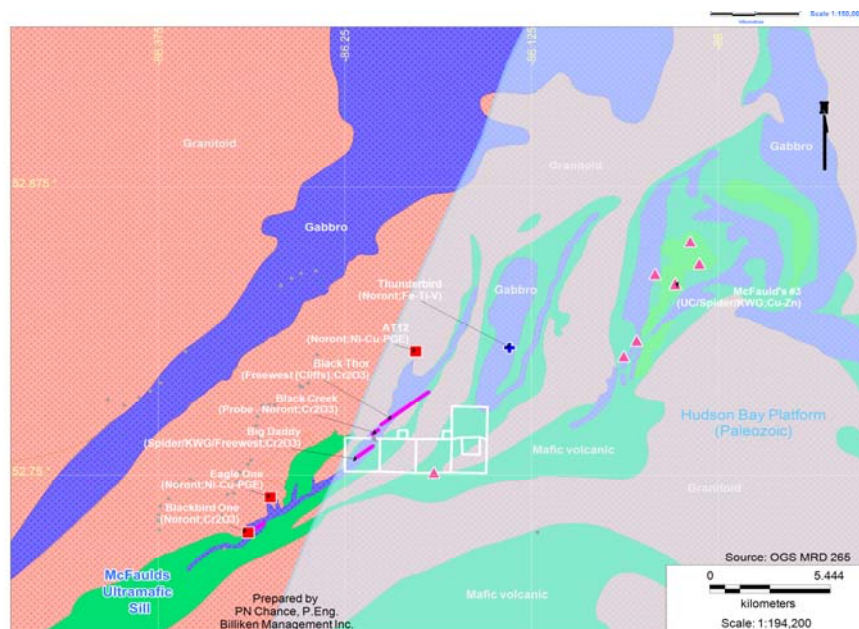
Petrographic and chemical evidence from the Big Daddy property (Scoates, 2009-03) indicate that the McFaulds Lake Sill is a well fractionated, body comprising lower (to the northwest) olivine-rich units overlain by upper olivine-poor units. The principal Big Daddy chromite bodies lie at the top of the olivine-rich unit.

The McFaulds Lake mafic-ultra-mafic sill (elsewhere termed the Ring of Fire intrusion) has been intermittently emplaced along a granodiorite-greenstone contact over a 20 km length of which 15 km between Eagle 2/Blackbird 1 (in the southwest) and Black Thor/Black Label (in the northeast) are known to be mineralized. The Thunderbird vanadium deposit occurs in ferrograbbos which form a distinct magnetic anomaly that lies parallel to and east of the main McFaulds Sill about 9 km northeast of the Big Daddy deposit.

**Figure 7.2**

**Local Geology of the McFaulds Lake Sill showing the Big Daddy Chromite Occurrence.**

(Symbols: Red - Ni-Cu-PGE, Purple lines - Cr<sub>2</sub>O<sub>3</sub>, Blue – Fe-Ti-V & Pink – VMS). Modified from OGS MRD 265

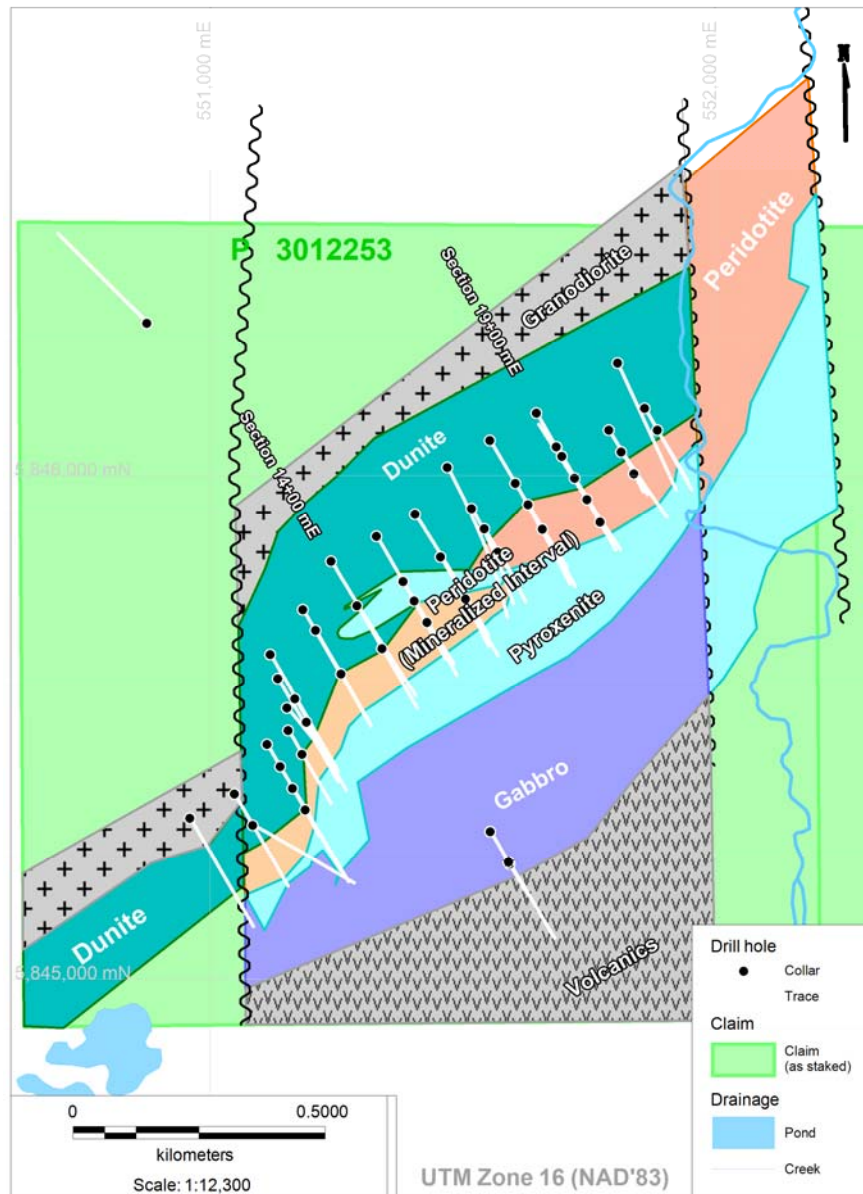


Volcanic rocks in the McFaulds Lake area have a U/Pb zircon isotopic age of 2737 ±7 Ma which is comparable with ages from other parts of the Superior Province of the Canadian Shield (Stott, 2007). It is older than most parts of the Abitibi belt, but similar in age to greenstone belts in Wabigoon and other belts.

### 7.3 PROPERTY GEOLOGY

The interpreted geology of the property is based on drill holes and ground geophysics (Figure 7.3). Bedrock is obscured by a relatively thin (approximately 10 m) layer of marine clay with the exception of two small areas of peridotite outcrop that straddle the creek near the north property boundary.

**Figure 7.3**  
**Bedrock Geology of the Big Daddy Deposit Based on Drill Hole and Ground Geophysics. (UTM Zone 16;NAD'83)**



Glacial overburden over the deposit area is typically 6 m to 10 m thick but can be as little as 1.6 m (drill hole FW-09-30). It comprises marine clay with a few pebbles and cobbles at the bedrock surface. Locally, overburden may be as much as 13.4 m thick (drill hole FW-08-05).

Saprolite was reported in two holes (FW-04-01 and FW-09-45) drilled on EM targets off the sill. Oxidation (assumed to be due to deep, early Paleozoic weathering) is commonly observed to 50 m below surface but hematite has been reported as deep as 250 m.

Drilling and geophysical data suggest that the sill segment containing the Big Daddy deposit is about 1,000 m thick. Limited information suggests that the sill thins to the southwest. Mappable geologic contacts and limited igneousedimentary structures (e.g., bedding) indicate that the sill has been rotated from an original horizontal to a nearly vertical to overturned position.

Silicate minerals within the sill have been pervasively altered to serpentinite (serpentine-talchlorite), however, original textures are well preserved in both hand specimen and thin section.

Sill stratigraphy, comprising lower (to the northwest) olivine-rich and upper (to the southeast) olivine-poor units, indicates that the sill is strongly fractionated and that the top is to the east (Scoates, 2009-03). The olivine-rich units comprise a lower marginal pyroxenite, dunite, peridotite and chromitite. Overlying olivine-poor units are relatively Cr-poor comprising pyroxenite and gabbros which were observed in intrusive contact with overlying volcanics.

The dunite is typically coarse grained and dull green. While the grain size varies there is little evidence of disruption. Magnetite occurs as rims around former olivine grains, as diffuse patches and in narrow (~1 cm wide), massive veinlets. The latter are strongly conductive. The abundance of magnetite and presence of narrow but highly conductive magnetite veinlets produce large amplitude total magnetic fields and diffuse but persistent AEM anomalies that extend from the Big Daddy claim, northwards onto the Black Creek (Probe-Noront) and Black Thor-Black Label properties.

The peridotite is chaotic in appearance, being marked by abrupt grain size changes. Scoates (2009-03) describes an extensive, magmatic breccia unit that reflects a high energy magmatic environment possibly occupying a feeder dyke. Massive chromite fragments were observed in earlier (pre-2009) holes (ibid.) but were rare in subsequent holes.

The peridotite unit also contains the economically significant chromite mineralization of which two intervals were typically observed. The stratigraphically lower unit(s) are characterized by variable (from interval to interval) chromite contents between 15% and 40% Cr<sub>2</sub>O<sub>3</sub>. The upper massive unit comprises uniform, ~40% Cr<sub>2</sub>O<sub>3</sub>, grades, often within 1% over tens of metres. The grade of the upper unit is consistent over the deposit with the exception of the southwest part where grades drop to ~38% Cr<sub>2</sub>O<sub>3</sub>.

Drilling of the Big Daddy deposit has been carried out from footwall to hanging wall so that the peridotite has been well sampled. The unit is marked by frequent faulting and fracturing reflected in poor recoveries, lower RQD's and evidence of deep weathering. While the faulting and fracturing may be important in mine design through-going faulting is not required to resolve continuity between holes or sections. It is suggested that these faults reflect mechanical discontinuities between relatively unaltered massive chromite and pervasively altered, soft, host rocks (Patrick Chance, personal communication, 2010).

The upper contact of the massive chromitite with olivine-poor pyroxenite is sharp, occurring over as little as a centimetre. The pyroxenite comprises a distinctive pale green unit in which pseudomorphs after pyroxene are distinctive. In addition the Cr<sub>2</sub>O<sub>3</sub> contents drops from ~40% to less than 1% across this contact.

Gabbros, some in contact with overlying volcanics, were reported in several holes.

Volcanic hanging wall rocks were not encountered during the recent drill campaign. Work on the McFaulds Lake volcanogenic massive sulphides suggests that they reflect a back arc environment (Jim Franklin, personal communication, 2010).

The Big Daddy appears to be contained between north-trending, left lateral faults near section 1000 E and 2100 E where geophysical anomalies appear to be truncated and along which the Black Creek deposit is shifted.

## 8.0 DEPOSIT TYPES

Primary/orthomagmatic chromite occurs in two types of deposits, stratiform and podiform. These both have comparable mineralogy but contrasting origins. Residual and transported deposits are additional but rarely significant producers (WIM, 2008). The Big Daddy chromite is a typical stratiform deposit by virtue of its setting, host rock lithologies, mineralogy and dimensions.

The current major producers are all stratiform and occur in sills typically emplaced in stable continent environments. Productive sills include the Bushveld (South Africa), Great Dyke (Zimbabwe), Sukinda (Orissa, India), Kemi (Finland) and Ipuera (Brazil).

The collectively important but individually minor podiform deposits occur as very small pods (median tonnage 20,000 t; Singer et al., 1986) in the tectonized base of obducted ophiolites. These deposits are preserved in younger mountain ranges including the Tethyan orogen from the Balkans, through Turkey to Pakistan and India. Similar deposits occur in the North American Cordillera in northern California and Oregon. In exceptional environments, larger, multimillion tonne, podiform deposits have developed (e.g., Kempirasai, Kazakhstan).

Residual secondary deposits are locally significant producers (e.g., Sukinda). Locally accumulations in beach sands may be significant (e.g., Oregon), however, these tend to have low Cr:Fe ratios making them problematic to market.

Stratiform deposits account for 45% of total world chromite production and 95% of reserves. The Bushveld alone accounts for 35% of production. Other significant producers are the Great Dyke, Kemi and Brazilian deposits, which together produce about 10% of the world's total. The many small scale podiform deposits produce the remaining 55% of chromite which enters the market as ores rather than ferrochrome.

### 8.1 RELATED DEPOSITS

The shear size, emplacement and crystallization processes associated with ultramafic sills give rise to an important group of four related deposit types, of which three have been found in the McFaulds Sill; magmatic massive sulphides (MMS: Ni-Cu-PGE's), stratiform chromite, Fe-Ti-V, and reef-type, low sulphide, PGE deposits (not yet found in the McFaulds Lake area).

MMS deposits (e.g., Eagle One, Voiseys Bay) represent the accumulation of sulphides in traps in the floors of feeder dykes below the main sill. The remaining deposits occur within the cooling sills under a set of crystallization conditions that favour the economically important minerals.

Additional details are available at several on-line sources including USGS (Cox and Singer, 1998), GSC (e.g. Eckstrand and Hulbert, 2008) and BC Department of Mines (Lefebure et al., 1995).

## 8.2 GENETIC MODEL FOR STRATIFORM CHROMITE

Stratiform chromite deposits are formed by magmatic segregation during fractional crystallization (fractionation) of mafic-ultramafic magma. Stratiform chromite deposits require that chromite be the major and ideally the sole crystallizing phase over an extended period. Irvine (1975, 1977) suggested two mechanisms whereby a chromite saturated picritic tholeiite liquid becomes more siliceous either by contamination (assimilation) with granitic and/or volcanosedimentary material or alternatively by mixing with a more siliceous differentiate of the parent magma, thereby causing chromite to precipitate in the absence of silicate minerals.

On the evidence of field relations and mineralogical data (Jackson 1961, von Gruenewaldt 1979) combined with isotopic studies (Kruger and Marsh 1982, Sharpe 1985, Lambert et al. 1989) it has been shown that large layered intrusions are not the result of single, one-event injections of magma, but are the result of repetitive inputs. Irvine (1977) demonstrated that if a new input of magma was injected into one that had reached a higher level of fractionation, the resultant mixing action could inhibit the fractional crystallization of silicate minerals such as olivine and orthopyroxene and permit the crystallization of chromite alone. This is the mechanism by which layers of massive chromitite can develop, without dilution by cumulate silicates. As illustrated in Figure 8.1 (after Irvine 1977), the mixing of liquid A which is on the olivine – chromite cotectic, with liquid D on the orthopyroxene field may, provided that points on the mixing line lie above the liquidus surface, culminate in a hybrid magma such as AD which will intersect the liquidus in the chromite field on cooling. Hence it will crystallize chromite alone while it moves to point X on the olivine – chromite cotectic, and thereafter it will continue to crystallize chromite and olivine. It has been shown that the decrease in the solubility of chromite in basaltic magma in equilibrium with chromite per degree centigrade fall in temperature is greater at high (1,300°C – 1,400°C) than at low (1,100°C – 1,200°C) temperature. Due to this concave – upward curvature of the solubility curve, the mixing of two magmas at different temperatures saturated (or nearly saturated) in chromite places the resultant mixture above the saturation curve, which suggests that point AD in Figure 8.1 is likely to lie above the liquidus.

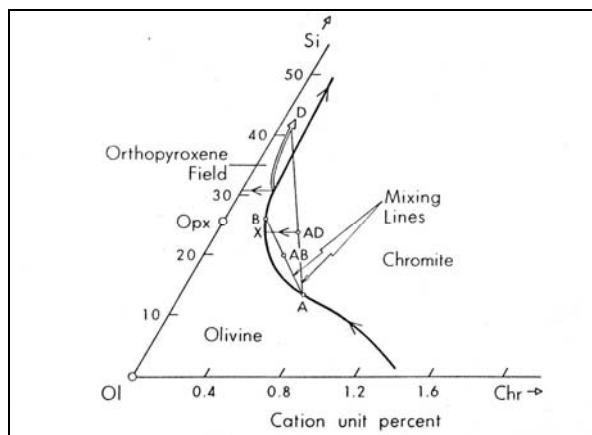
The suggestions by Irvine (1977) are consistent with observations on chromitites in layered intrusions. Most significant amongst these observations is the fact that most of these chromitite layers occur at the base of well defined cyclic units (e.g. Bushveld Complex and Great Dyke in Southern Africa) or at/near the base of similar cyclic units. Further evidence comes from the textures of the underlying rock units which indicate a common cotectic crystallization of chromite with olivine or orthopyroxene showing that the magmas previously in the chambers were saturated with respect to chromite.

More recently, the crustal contamination hypothesis has been supported by MELTS (Ghiorso and Sack, 1995; Asimow and Ghiorso, 1998) thermodynamic modelling software and textural observations of xenolithic clasts of iron-formation occurring stratigraphically below the massive chromitite layers within the RFI. Workers investigating similar deposits such as



the Ipueira-Merado Sill determined, supported by isotopic and textural observations, that crustal assimilation by a primitive and chrome enriched magma was the most likely cause for the formation of the chrome deposit (Marques et al., 2003).

**Figure 8.1**  
Phase Relations in the System Olivine-Silica-Chromite as determined by Irvine (1977)  
(Illustrating the consequence of mixing primitive magma (A) with well fractionated (D) and slightly fractionated (B) variants of the same primitive magma (Source: Naldrett et al., 1990))



Scoates (2009) speculates that both mixing of primitive magma with fractionated magma (Irvine, 1977) and crustal contamination of the parental magma (Irvine, 1975; Alapieti et al., 1989; Rollinson, 1997; Prendergast, 2008) appear to have had complementary roles in the formation of the Big Daddy chrome deposit. The hanging wall volcanics include both banded iron formation intervals and volcanogenic sulphide accumulations which, if assimilated by the sill, could alter magma chemistry sufficiently to deposit chromite.

### Association of Ni-Cu-PGE with Stratiform Chromite

Stratiform chrome deposits are commonly associated with magmatic Ni-Cu-PGE mineralization. For sulphide precipitation to occur, the silicate liquid in the magma chamber must become sulphur-over saturated and this is dependent upon the following factors:

- Melt temperature.
- Oxygen fugacity.
- Magma composition – MgO/FeO ratio, SiO<sub>2</sub> content, and S content.
- Magma recharge

As far as magma mixing is concerned, it is generally accepted (Campbell and Turner, 1986) that layered intrusions have formed through repetitive inputs of magma. These inputs are likely to have been turbulent and thus to have involved significant entrainment and mixing of resident magma within the input. The resulting hybrid would also spread out at the appropriate density level to give rise to turbulently convecting layers. If sulphides formed in the hybrid at this stage, the turbulent mixing and convection would have provided the ideal

environment in which they could have developed a high R-factor, and thus have become enriched in PGE. The R factor is defined as the ratio of silicate melt to sulphide melt during sulphide segregation.

Sulphide saturation may be achieved in one of three ways as proposed by Naldrett et al. (1990):

- Fractional segregation where sulphide saturation is attained through fractionation (Figure 8.2).
- Batch segregation where batch segregation of sulphide is achieved through mixing of a primitive magma with an evolved resident magma that is close to crystallizing plagioclase (Figure 8.2).
- Constitutional zone refining where sulphide saturation is preceded by volatile-induced partial melting and remobilization of cumulates and sulphides (Figure 8.3, example iv).

The above three processes lead to the formation of different types of deposits as illustrated in Figure 8.3. Subsolidus and deuteric processes are responsible for the modification of the original primary textures in these deposits.

It is important to note that the mixing of fresh primitive magma with that resident in an intrusion can give rise to a chromitite formation regardless of the degree of fractionation of the resident magma, whereas extensive segregation of sulphide will only occur as a consequence of this type of mixing close to or after the stage at which plagioclase saturation has been achieved by the resident magma.

**Figure 8.2**  
**Variation in Solubility of Fe-sulphide in Differentiating Basaltic Magma**  
(Modified after Naldrett & Von Gruenewaldt, 1989. (Source: Maier et al., 1998))

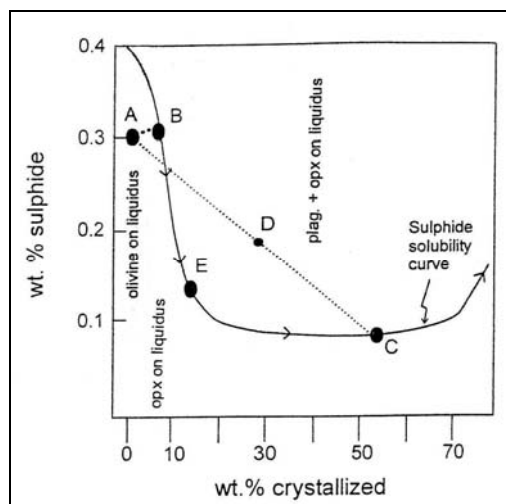


Figure 8.3  
Cross-section through a Hypothetical Layered Intrusion

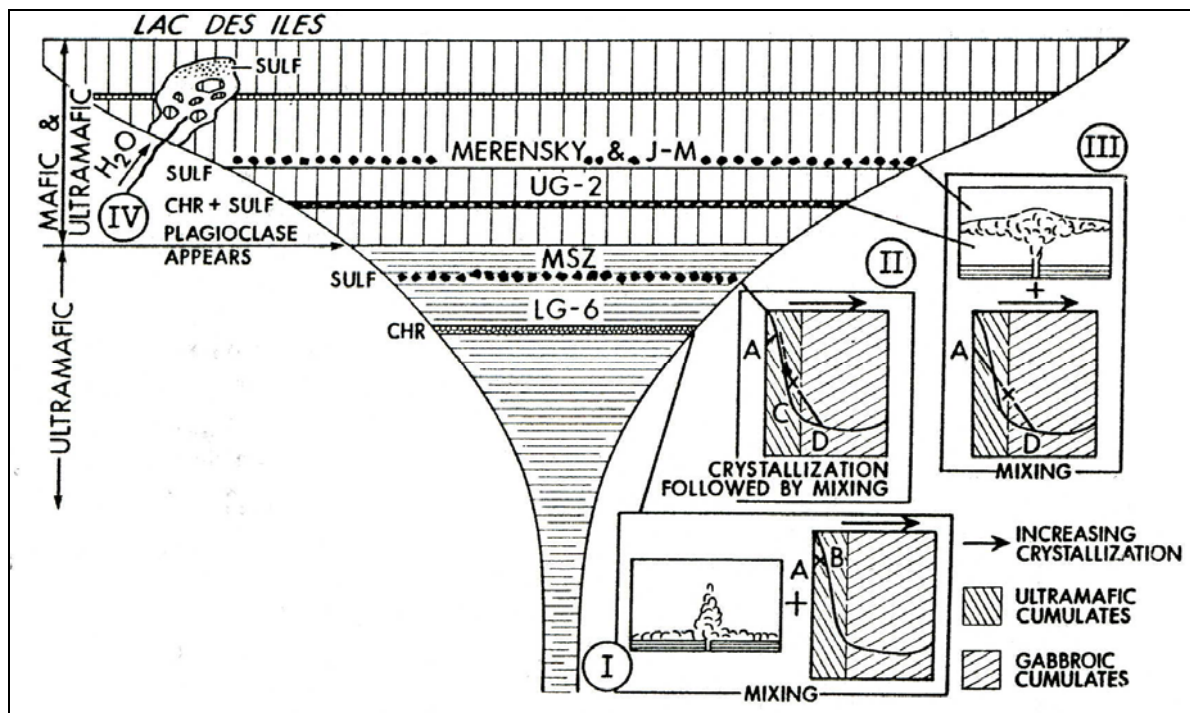


Diagram shows the types of chromitite and PGE-enriched sulphide deposits that can result from fractional crystallization, magma mixing and constitutional zone refining. Mixing of resident magma with primitive magma before plagioclase has appeared on the liquidus of the former is likely to produce sulphide- and, therefore, PGE- poor chromitite (Example I); fractional crystallization may give rise to a PGE-rich layer not associated with the base of a cyclic unit (Example II); mixing of resident magma with more primitive magma after plagioclase is crystallizing from the former may give rise to sulphide- and, therefore, PGE- enriched chromitites or PGE-rich sulphide layers (Example III). Volatile-induced partial melting of cumulates can give rise to constitutional zone refining and the concentration of PGE at the point at which the partial melt becomes saturated in sulphide (Example IV). (Re-drawn after Naldrett et al., 1990).

## 9.0 MINERALIZATION

### 9.1 OVERVIEW

The accumulation of chromite on the Big Daddy property depended on two processes. First, emplacement of the McFaulds Sill along a then near-horizontal contact between underlying granodiorite and overlying volcanic and sedimentary strata; and second, maintenance of the magma temperature and magma composition such that only chromite could crystallize over a prolonged period.

### 9.2 LOCALIZATION

The chromite mineralization of the Big Daddy deposit and similar discoveries such as the Black Thor and Black Label in the northeast and the Blackbird in the southwest (Figure 7.2) is hosted in the ultramafic unit (i.e. peridotite) of the McFaulds Lake Sill. Mineralization in the Big Daddy segment of the McFaulds Lake Sill occurs within a 65 to 180 metre thick, often brecciated peridotite interval lying stratigraphically above a dunitic footwall and below a pyroxenite hanging wall. The lower contact of mineralization tends to be gradational while the upper is sharp.

Mineralized rock comprises sub-millimetre-diameter, idiomorphic, cumulate, chromite grains. Mineralized intervals are a mixture of chromite and olivine crystals set in a fine grained peridotitic matrix. At lower  $\text{Cr}_2\text{O}_3$  contents chromite grains are disseminated through the host rock. As concentration increases, bedding becomes evident but disappears at the highest grades ( $>35\%\text{Cr}_2\text{O}_3$ ) due to uniform crystal size and absence of silicate diluents.

The bulk of the Big Daddy chromite mineralization is manifested as a persistent tabular zone of massive chromite with distinct hanging and footwall contacts and with grades typically  $>35\%\text{Cr}_2\text{O}_3$ .

### 9.3 DISTRIBUTION OF CHROMITE GRADES

Based on information derived from drill hole logs and assay data sheets, the  $\text{Cr}_2\text{O}_3$  grades are distributed as shown in Table 9.1. In a generalized section, three broad grade-texture zones are evident. The onset of mineralization is marked by intermittent accumulations of heavily disseminated material with occasional massive beds. Stratigraphically above this zone, grades tend to be lower until the massive unit is reached. Grades in the massive unit are consistent and universally high ( $>40\%\text{Cr}_2\text{O}_3$ ) but fall slightly (36 to 38%  $\text{Cr}_2\text{O}_3$ ) in the southern end of the deposit where pyroxene oikocrysts are indicative of lower grades.

**Table 9.1**  
**Distribution of Cr<sub>2</sub>O<sub>3</sub> Grades**

| Mineralization Type  | %Cr <sub>2</sub> O <sub>3</sub> | Remarks  |
|----------------------|---------------------------------|--|
| Massive              | 30 – 50                         | Dominant type  |
| Banded               | 20 – 30                         | Rare type. Individual bands may contain up to 40% Cr <sub>2</sub> O <sub>3</sub> |
| Semi-massive         | 20 – 30                         | Very minor type  |
| Heavily disseminated | 10 – 20                         | Locally common   |
| Disseminated         | 1 – 10                          | Locally common [Background values]   |

#### 9.4 SULPHIDES AND PGE

Massive sulphides have not been encountered in the chromite-rich zones. However, local sulphide disseminations have been noted within and immediately above the massive chromite layers. The identifiable sulphides are pyrrhotite, chalcopyrite, pyrite and rarely pentlandite.

A small (<10 cm diameter) sulphide-rich accumulation from hole FW-09-33 reported a massive, secondary Fe-Cu-Ni-sulphide assemblage (godevskite, Ni<sub>9</sub>S<sub>8</sub> and mackinawite, (Fe,Ni)<sub>9</sub>S<sub>8</sub> with minor chalcopyrite, chromite and trace millerite (Kjarsgaard, 2009), in a fault or shear zone. This assemblage is typical of low-temperature, hydrothermally emplaced nickel-iron sulphides.

## 10.0 EXPLORATION

The pre-2009 exploration is summarized under History (Section 6, Table 6.1) and was also described in detail in Micon's (2009) previous report. The following outlines results of the most recent exploration campaigns which follow Micon's (2009) recommendations.

### 10.1 2009-2010 EXPLORATION

Recent exploration programs reflect implementation of Micon's 2009 recommendations.

#### 10.1.1 QA/QC

In early 2009, Spider/KWG retained Tracy Armstrong to review the assay data set, make recommendations for replicate analyses, review the analytical methods used and recommend appropriate standards and control sample methodologies to ensure quality and to recommend protocols to meet Spider/KWG's objective of rapidly acquiring the high quality data required to fully value the deposit.

Ms. Armstrong concurred with the adoption of XRF as the project's standard method for chrome analyses. She identified several problematic batches which were re-analyzed, and she designed comprehensive QA/QC protocols and supervised the preparation and certification of standard materials (BD-1, DB-2 and BD-3) prepared from coarse rejects from previously submitted samples.

#### 10.1.2 Evaluation of PGE – Potential of Hanging Wall Pyroxenite

During the late summer of 2009, Howard Lahti completed a comprehensive resampling program focusing on PGE's in the hanging wall pyroxenite, taking almost 500 samples. These data show locally anomalous intervals containing up to 2 g/t Pt + Pd, however, there was no evidence of consistently mineralized interval that might reflect potential for a Merensky or Stillwater-style reef. Both these and subsequent data show a marked increase in PGE contents in the upper couple of sample intervals in the massive chromite.

#### 10.1.3 Ground Geophysical Surveys

During 2009 and 2010, gravity, magnetic and pulse EM surveys were completed over the central portion of Grid J. In addition, a Max-Min survey was completed over a small oblique grid cut over the T-11 airborne target in the southwest corner of the property. A grid was also cut over the T-2 target and a hole (FW-09-45) was spotted using existing data.

In early 2009 the J grid was re-chained. Geosig (2009) then completed precise (+/- 0.1 m) Real Time Kinematic GPS levelling, gravity and gradiometer surveys. The gravity data, which were refined by modelling (e.g. Reed, 2009), show a distinct positive anomaly gaining width and magnitude from line 900 E to 1400 E and then continuing to about 2100 E where it

is abruptly truncated. Total magnetic intensity data show broad areas lying adjacent to and immediately north of the gravity anomaly.

In late October, 2009, Crone completed pulse EM surveys based on seven loops centred on the gravity anomaly and extending to the north property boundary. Extension of the survey over the southwest corner of the property and across the creek near 2100 E was not possible due to late freeze-up. The survey detected a diffuse but persistent anomaly adjacent to and northwest of the gravity anomaly, coinciding with the total field magnetic anomaly above and earlier airborne anomalies that persist northwards across the Probe property and onto the Freewest property. Hole FW-09-46 was collared in massive chromite and drilled northwest into the sill footwall where it cut a wide interval of magnetite-bearing, serpentinized dunite containing occasional massive magnetite-filled veinlets which were found to be highly conductive.

In January, 2010 Max-Min was completed over the T-11 grid situated in the southwest corner of the property. The data collected were ambiguous. The most significant response was a broad and diffuse anomaly evident only in the higher frequencies suggesting an overburden source. No hole was completed in this area.

#### **10.1.4 T-2 Target**

The T-2 target lies on the north property boundary, extending onto the western excised claim unit. Airborne magnetic data suggested a strong, strike-parallel, magnetic feature that extends onto SKF property where it bifurcates and weakens.

A single hole, FW-09-45, tested the target, returning a broad (16 m) interval of pyritic, interflow cherts and volcanoclastics containing trace amounts of chalcopyrite in amphibolitic, fragmental volcanic strata.

### **10.2 DELINEATION STAGE - 2009/2010 DRILLING**

Drilling was completed in two campaigns; late September to mid-November, 2009 and January to early February, 2010. A total of 32 holes were collared on the Big Daddy deposit two of which did not reach the deposit hanging wall. One, FW-09-44, was abandoned due to poor drilling conditions. The second, FW-10-52, was suspended at 195 m prior to intersecting mineralization due a blockade by First Nations.

Holes were spotted and aligned relative to grid pickets. Routine down hole directional surveys with Flexit and Deviflex suggested minimal deviation (<6 m/100 m). North-seeking gyro surveys, run on several casings, generated refined initial azimuths and reported drooping of casings due to low-strength overburden. All casings were subsequently surveyed using a Timble Pro-XRT with an Omni Real-Time Correction (RTC) signal activated, providing accuracies of better than +/-0.4 m.

Logging was enhanced with the adoption of a standard project legend, adoption of GeoTic<sup>®</sup> for data capture and use of a Niton hand-held XRF to aid discrimination of chromite grade. In addition magnetic susceptibility, specific gravity, recovery, RQD and additional geotechnical parameters were collected for all holes.

Initial holes (2009) designed to confirm continuity of the deposit were drilled in pairs on sections 100 m apart. Eventually, a third deep hole was added. Intermediate (50 m spacing) holes were added where additional hanging and footwall contacts were required. Many of the in-fill holes that Micon will recommend had been planned for the 2010 campaign but were not drilled due to delays and uncertain supplies due to the blockade initiated by the communities of Marten Falls and Webequie.

Eventually 32 drill holes were completed with between two and four holes per section, spaced 50 or 100 m apart. Section lines are 100 m apart. The layout is depicted in Figures 11.1 and 17.2 and covered a total strike length of 1 km down to a maximum depth of about 365 m.

### **10.3 INTERPRETATION OF EXPLORATION INFORMATION**

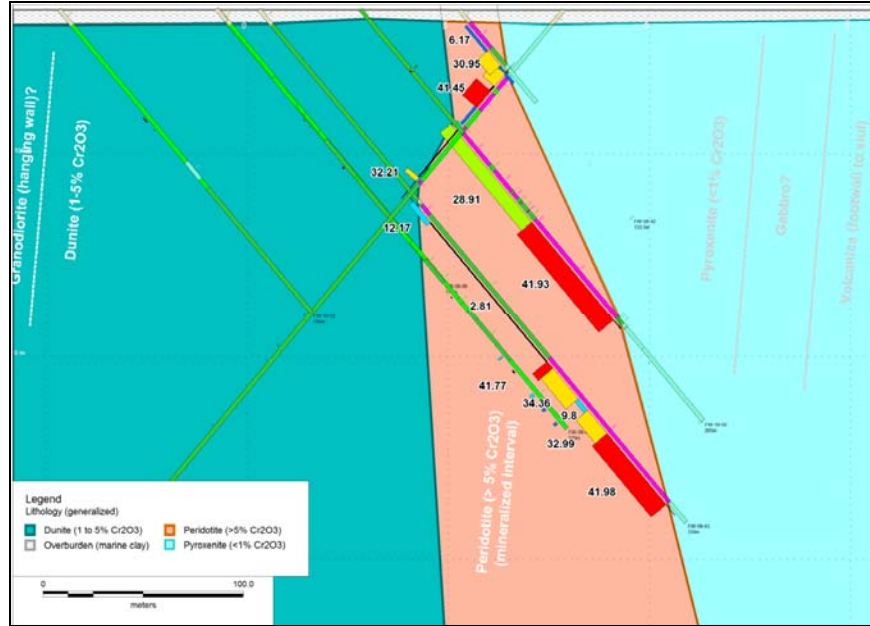
Although the geophysical techniques were initially aimed at identifying VMS and MMS targets, they were effective firstly in identifying the highly magnetic peridotitic phase of the McFaulds Lake Sill which contains the chromite mineralization, and secondly, in defining the potential chromite zone due to its high density characteristic. The strike lengths of the magnetic anomaly and gravity anomaly match the strike length of the chromite zone; furthermore, the intensity of the gravity anomaly is proportional to the thick massive chromite zone.

Drilling results indicate that the bulk of the Big Daddy deposit consists of massive chromite averaging 40% Cr<sub>2</sub>O<sub>3</sub> with Cr/Fe ratio of approximately 2. The thickness of the deposit is variable but averages 17 m and 12 m for the southwest segment (BD 1) and northeast segment (BD 2), respectively. Both segments of the deposit remain open down dip and have yet to be closed off along strike.

The interpreted geology of the Big Daddy deposit is shown in Figure 7.3. A typical section of the deposit is shown in Figure 10.1.



**Figure 10.1**  
Section 19+00 E (looking northeast) showing Pyroxenite cutting down into Massive Chromite Interval.  
Coloured bars below drill hole traces show chromite-bearing intervals with values below. Section is 400 m long



## **11.0 DRILLING**

The layout and extent of drill holes covering the Big Daddy deposit is shown in Figure 11.1. Details for each hole are given in Table 11.1.

### **11.1 2004, 2006 AND 2008 DRILLING CAMPAIGNS**

The initial diamond drilling on the SKF claims was conducted in the winter of 2004. In that year, drill hole FW-04-01 was completed in claim block 3008793 (H Grid). Drill hole FW-06-02 (H Grid) and discovery hole FW-06-03 and hole FW-06-04 in claim P 3012253 (J Grid) were drilled in 2006.

The test drilling operations were suspended during 2007 and then revived in the winter of 2008. Between January and December, 2008, nineteen NQ drill holes (6,098 m) were completed on three targets on the Big Daddy claim (J Grid). The drilling completed during this phase defined chromite mineralization over a strike length of 400 m.

### **11.2 2009/2010 DRILLING CAMPAIGN**

A total of 32 holes directed at the Big Daddy deposit (J Grid) were drilled during the 2009/2010 drill campaign. This drilling tested the chromite mineralization to a vertical depth of about 365 m and increased the known strike length of the mineralization from 400 m to about 1,200 m.

### **11.3 DRILLING PROTOCOLS**

#### **11.3.1 Spotting and Surveying of Drill Collars**

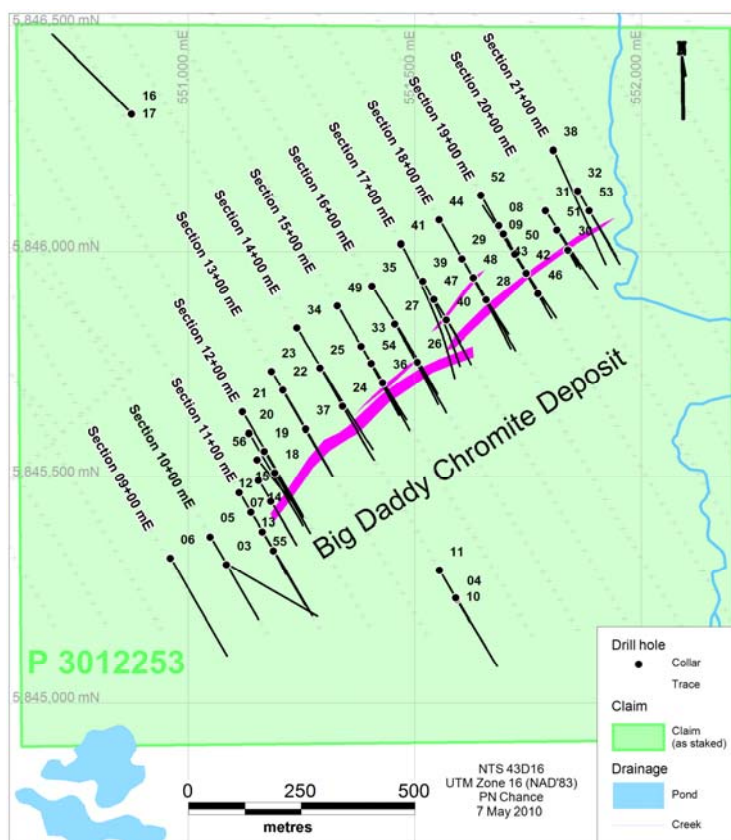
Collars were spotted relative to the 100 m cut lines. In early 2009, the J grid was re-cut and 25 metre-spaced pickets re-chained. Picket coordinates were located by GPS (Trimble GeoXH with post processing using an identical unit as a local base station (positional error is  $\pm 0.1$  m)) and Trimble ProXRT with Omnistar real time correction (error is  $\pm 0.4$  m). All coordinates are reported as metres in UTM Zone 16, NAD'83 datum. Elevations are reported as distance above sea level.

Cut lines and many pre-2009 drill pads are also visible on a Quickbird satellite image (circa summer 2008). All data points coincide within approximately 1 m.

Drill hole collars were spotted relative to the cut, J grid and azimuths were taken to be those of the cut lines. Initial collar dips were set using a builders' inclinometer. Azimuths and dips are reported in degrees.

Upon completion of drilling, all collars were surveyed using a pole-mounted, Trimble ProXRT GPS receiver. Buried casings were located using a magnetic pin finder.

**Figure 11.1**  
**Plan Showing all Drill Holes Covering the Big Daddy Deposit**



Note: The deposit is shown in purple colour

**Table 11.1**  
**List of Drill Holes Drilled on SKF Property (2004 – 2010 Programs) (UTM Zone 16, NAD'83)**

| DDH Id   | UTM_E    | UTM_N     | Elevation | Length | Grid | Line     | Station  | Azimuth | Dip |
|----------|----------|-----------|-----------|--------|------|----------|----------|---------|-----|
| FW-04-01 | 555535.0 | 5846609.0 | 170.0     | 190.5  | H    | 37+00 mS | 05+50 mE | 130.0   | -45 |
| FW-06-02 | 555368.0 | 5845849.0 | 170.0     | 197.0  | H    | 30+00 mE | 09+00 mS | 130.0   | -50 |
| FW-06-03 | 551084.5 | 5845307.3 | 174.0     | 353.5  | J    | 10+00 mE | 15+28 mN | 150.6   | -50 |
| FW-06-04 | 551592.9 | 5845230.2 | 170.8     | 254.0  | J    | 14+00 mE | 12+01 mN | 329.1   | -50 |
| FW-08-05 | 551048.2 | 5845369.3 | 174.7     | 327.0  | J    | 10+00 mE | 16+01 mN | 151.1   | -50 |
| FW-08-06 | 550960.2 | 5845321.7 | 173.8     | 384.0  | J    | 09+06 mE | 16+00 mN | 155.9   | -50 |
| FW-08-07 | 551138.6 | 5845423.6 | 172.9     | 405.7  | J    | 11+00 mE | 16+00 mN | 149.6   | -50 |
| FW-08-08 | 551685.8 | 5846058.5 | 171.3     | 270.0  | J    | 19+01 mE | 18+72 mN | 150.7   | -50 |
| FW-08-09 | 551685.4 | 5846059.1 | 171.6     | 176.0  | J    | 19+01 mE | 18+73 mN | 150.7   | -65 |
| FW-08-10 | 551590.7 | 5845233.9 | 170.9     | 312.0  | J    | 14+00 mE | 12+06 mN | 149.9   | -50 |
| FW-08-11 | 551554.3 | 5845294.9 | 170.7     | 309.0  | J    | 14+00 mE | 12+76 mN | 149.2   | -50 |
| FW-08-12 | 551112.6 | 5845468.1 | 173.1     | 354.0  | J    | 11+00 mE | 16+51 mN | 149.9   | -50 |
| FW-08-13 | 551163.3 | 5845380.4 | 172.8     | 297.0  | J    | 10+99 mE | 15+50 mN | 150.5   | -50 |
| FW-08-14 | 551181.9 | 5845448.6 | 173.6     | 189.0  | J    | 11+50 mE | 16+00 mN | 150.3   | -50 |
| FW-08-15 | 551154.8 | 5845495.5 | 172.1     | 240.0  | J    | 11+50 mE | 16+50 mN | 147.7   | -50 |
| FW-08-16 | 550875.0 | 5846305.0 | 174.0     | 372.0  | J    | 13+19 mE | 24+97 mN | 315.0   | -50 |
| FW-08-17 | 550875.0 | 5846305.0 | 174.0     | 376.0  | J    | 13+19 mE | 24+97 mN | 315.0   | -65 |

| DDH Id   | UTM_E    | UTM_N     | Elevation | Length | Grid | Line     | Station  | Azimuth | Dip |
|----------|----------|-----------|-----------|--------|------|----------|----------|---------|-----|
| FW-08-18 | 551190.7 | 5845511.9 | 171.4     | 255.0  | J    | 11+93 mE | 16+50 mN | 155.0   | -50 |
| FW-08-19 | 551167.7 | 5845558.9 | 171.8     | 273.0  | J    | 11+97 mE | 17+02 mN | 145.4   | -50 |
| FW-08-20 | 551134.0 | 5845599.0 | 174.0     | 375.0  | J    | 11+88 mE | 17+55 mN | 150.0   | -50 |
| FW-08-21 | 551119.3 | 5845646.5 | 172.3     | 447.0  | J    | 12+00 mE | 18+04 mN | 150.6   | -50 |
| FW-08-22 | 551208.6 | 5845694.5 | 172.2     | 330.0  | J    | 13+00 mE | 18+02 mN | 149.8   | -50 |
| FW-08-23 | 551183.6 | 5845735.8 | 172.4     | 424.0  | J    | 12+99 mE | 18+50 mN | 145.8   | -50 |
| FW-09-24 | 551340.5 | 5845658.8 | 171.6     | 219.0  | J    | 14+00 mE | 17+00 mN | 150.1   | -50 |
| FW-09-25 | 551290.9 | 5845743.4 | 172.0     | 339.0  | J    | 14+00 mE | 18+09 mN | 148.6   | -50 |
| FW-09-26 | 551505.6 | 5845756.7 | 171.4     | 207.0  | J    | 16+00 mE | 16+98 mN | 150.7   | -50 |
| FW-09-27 | 551455.7 | 5845840.7 | 171.5     | 321.0  | J    | 16+00 mE | 18+00 mN | 149.7   | -50 |
| FW-09-28 | 551657.6 | 5845895.6 | 171.0     | 207.0  | J    | 18+00 mE | 17+45 mN | 150.7   | -50 |
| FW-09-29 | 551603.9 | 5845986.4 | 171.3     | 368.0  | J    | 18+00 mE | 18+49 mN | 149.4   | -50 |
| FW-09-30 | 551838.4 | 5846005.7 | 170.4     | 65.0   | J    | 20+00 mE | 17+51 mN | 150.2   | -50 |
| FW-09-31 | 551788.6 | 5846092.2 | 171.1     | 339.0  | J    | 20+01 mE | 18+52 mN | 148.4   | -50 |
| FW-09-32 | 551859.5 | 5846135.2 | 169.8     | 291.5  | J    | 21+00 mE | 18+50 mN | 150.1   | -50 |
| FW-09-33 | 551381.9 | 5845791.6 | 172.7     | 267.0  | J    | 15+00 mE | 17+95 mN | 149.6   | -50 |
| FW-09-34 | 551239.8 | 5845831.8 | 171.8     | 468.0  | J    | 14+00 mE | 19+02 mN | 150.3   | -50 |
| FW-09-35 | 551405.3 | 5845925.7 | 171.7     | 429.0  | J    | 16+00 mE | 18+98 mN | 150.2   | -50 |
| FW-09-36 | 551429.4 | 5845710.4 | 172.6     | 192.0  | J    | 15+00 mE | 17+01 mN | 150.2   | -50 |
| FW-09-37 | 551259.4 | 5845608.0 | 172.2     | 175.0  | J    | 13+00 mE | 17+01 mN | 150.4   | -50 |
| FW-09-38 | 551805.9 | 5846225.5 | 171.2     | 423.0  | J    | 20+99 mE | 19+55 mN | 150.7   | -50 |
| FW-09-39 | 551517.7 | 5845936.5 | 171.9     | 328.0  | J    | 17+01 mE | 18+50 mN | 149.5   | -50 |
| FW-09-40 | 551569.6 | 5845849.9 | 171.2     | 175.5  | J    | 17+00 mE | 17+49 mN | 150.0   | -50 |
| FW-09-41 | 551469.6 | 5846018.6 | 171.8     | 490.5  | J    | 17+01 mE | 19+46 mN | 150.9   | -50 |
| FW-09-42 | 551745.9 | 5845954.4 | 171.0     | 133.5  | J    | 19+00 mE | 17+51 mN | 150.5   | -50 |
| FW-09-43 | 551696.0 | 5846040.5 | 171.1     | 330.0  | J    | 19+01 mE | 18+51 mN | 150.7   | -50 |
| FW-09-44 | 551553.8 | 5846071.9 | 171.4     | 423.0  | J    | 18+00 mE | 19+49 mN | 149.7   | -50 |
| FW-09-45 | 552792.0 | 5846549.0 | 174.0     | 228.0  | J    | 31+00 mE | 17+32 mN | 135.0   | -50 |
| FW-09-46 | 551771.9 | 5845909.5 | 171.1     | 351.0  | J    | 19+00 mE | 16+99 mN | 329.1   | -50 |
| FW-10-47 | 551542.3 | 5845896.2 | 171.2     | 177.0  | J    | 17+01 mE | 17+98 mN | 149.1   | -50 |
| FW-10-48 | 551629.1 | 5845944.3 | 171.4     | 228.0  | J    | 19+00 mE | 18+02 mN | 150.2   | -50 |
| FW-10-49 | 551329.4 | 5845881.5 | 172.1     | 456.0  | J    | 15+00 mE | 18+99 mN | 150.2   | -50 |
| FW-10-50 | 551721.2 | 5845997.0 | 171.2     | 265.0  | J    | 19+00 mE | 18+00 mN | 150.6   | -50 |
| FW-10-51 | 551813.5 | 5846048.9 | 170.3     | 156.0  | J    | 20+00 mE | 18+02 mN | 148.8   | -50 |
| FW-10-52 | 551645.8 | 5846126.2 | 171.1     | 195.0  | J    | 19+00 mE | 19+50 mN | 150.8   | -50 |
| FW-10-53 | 551884.7 | 5846091.9 | 169.5     | 182.0  | J    | 20+99 mE | 18+01 mN | 149.3   | -50 |
| FW-10-54 | 551404.3 | 5845753.3 | 172.4     | 210.0  | J    | 15+00 mE | 17+51 mN | 150.4   | -50 |
| FW-10-55 | 551188.2 | 5845338.3 | 173.7     | 95.0   | J    | 11+00 mE | 15+00 mN | 153.1   | -50 |
| FW-10-56 | 551151.9 | 5845540.2 | 173.3     | 241.0  | J    | 11+70 mE | 16+94 mN | 140.7   | -50 |

### 11.3.2 In-hole Directional Surveys

In-hole deviations were determined using one of three instruments; Flexit, Deviflex and north-seeking gyro. The Flexit employs a pendulum for inclinations and a magnetic compass to measure azimuth. Magnetic azimuth data are not usable due to the prevalence of magnetite in the sill. The Deviflex employs a pendulum for inclination and deformation of a flexible tube to estimate deflection. The instrument is deployed inside the drill string and is run through the entire hole to correctly estimate deviation. A north-seeking gyro was used to determine the down-hole deviation parameters of 12 holes. Once set, the gyro provides both

the dip and azimuth for each station down the hole. Plans to complete both Deviflex and north-seeking gyro readings on a number of holes to assess the quality of the methods were not possible due to scheduling and equipment issues.

A review of results suggests that maximum deviations are less than 6 m per 100 m in both azimuth and dip.

#### **11.4 SUMMARY AND INTERPRETATION OF THE RESULTS OF THE DRILLING COMPLETED ON THE BIG DADDY DEPOSIT**

Forty-two drill holes intersected chromite mineralization. All but three intersections (FW-06-03, FW-09-46 and FW10-56) were in holes collared at a 150° azimuth and -50° dip, thus footwall and hanging wall pierce points are evenly distributed providing good control on the mineralized envelopes.

Core recoveries were excellent particularly for the mineralized intercepts. Table 11.2 provides the composite assay results obtained from drill intersections >25% Cr<sub>2</sub>O<sub>3</sub> on the Big Daddy deposit. An interpretation of the geometry of the deposit in plan view is given in Figure 11.1

The deposit consists of two segments, BD 1 and BD 2 (Figure 17.2) and each segment comprises principal and subsidiary massive chromite bodies. The major massive chromite trends between 050 degrees and 060 degrees following the trend of the gravity anomaly. Based on the current drilling, the main mass of the Big Daddy deposit covers a strike length of 1 km and averages 17 m and 12 m in true thickness for BD 1 and BD 2, respectively. The mineralization has been tested to a vertical depth of about 365 m and remains open down dip and along strike.

**Table 11.2**  
**Big Daddy : Drill Intercept Summary (>25% Cr<sub>2</sub>O<sub>3</sub>)**

| Hole #   | Section | Station | Azimuth | Dip    | Length | Intercepts |        |            |        |        |                                  |       |                                  |       |
|----------|---------|---------|---------|--------|--------|------------|--------|------------|--------|--------|----------------------------------|-------|----------------------------------|-------|
|          |         |         |         |        |        | From (m)   | To (m) | Length (m) | Pd ppb | Pt ppb | Cr <sub>2</sub> O <sub>3</sub> % | Fe %  | Fe <sub>2</sub> O <sub>3</sub> % | Cr:Fe |
| FW-08-05 | 10+00 E | 1600 N  | 150°    | 50° SE | 327    | 251.20     | 264.00 | 12.80      | 101    | 86     | <b>25.18</b>                     |       | 16.68                            | 1.48  |
|          |         |         |         |        |        | 264.00     | 270.00 | 6.00       | 49     | 41     | <b>34.03</b>                     |       | 18.69                            | 1.78  |
|          |         |         |         |        |        | 291.40     | 298.85 | 7.45       | 31     | 90     | <b>37.00</b>                     |       | 22.68                            | 1.60  |
| FW-08-07 | 11+00 E | 1600 N  | 150°    | 50° SE | 405.7  | 194.35     | 205.90 | 11.55      | 440    | 321    | <b>28.63</b>                     | 14.74 |                                  | 1.33  |
|          |         |         |         |        |        | 209.80     | 223.20 | 13.40      | 88     | 186    | <b>33.92</b>                     | 18.67 |                                  | 1.24  |
|          |         |         |         |        |        |            |        |            |        |        |                                  |       |                                  |       |
| FW-08-12 | 11+00 E | 1650 N  | 150°    | 50° SE | 354    | 228.25     | 240.00 | 11.75      | 407    | 177    | <b>34.36</b>                     |       | 21.99                            | 1.53  |
|          |         |         |         |        |        | 252.25     | 260.70 | 8.45       | 272    | 199    | <b>33.23</b>                     |       | 25.55                            | 1.27  |
| FW-08-13 | 11+00 E | 1550 N  | 150°    | 50° SE | 297    | 74.30      | 102.00 | 27.70      | 138    | 186    | <b>33.06</b>                     |       | 17.29                            | 1.87  |
|          |         |         |         |        |        | 116.35     | 142.15 | 25.80      | 283    | 205    | <b>34.76</b>                     |       | 24.34                            | 1.40  |
| FW-08-14 | 11+50 E | 1600 N  | 150°    | 50° SE | 189    | 36.25      | 81.00  | 44.75      | 166    | 189    | <b>39.30</b>                     |       | 20.27                            | 1.90  |
|          |         |         |         |        |        | 81.00      | 103.50 | 22.50      | 201    | 154    | <b>26.64</b>                     |       | 18.54                            | 1.41  |
| FW-08-15 | 11+50 E | 1650 N  | 150°    | 50° SE | 240    | 160.15     | 171.30 | 11.15      | 171    | 146    | <b>34.41</b>                     |       | 24.14                            | 1.39  |
|          |         |         |         |        |        |            |        |            |        |        |                                  |       |                                  |       |
| FW-08-18 | 12+00 E | 1650 N  | 150°    | 50° SE | 255    | 44.90      | 46.50  | 1.60       | 291    | 177    | <b>31.77</b>                     |       | 25.08                            | 1.24  |
|          |         |         |         |        |        | 104.70     | 136.60 | 31.90      | 67     | 88     | <b>37.60</b>                     | 15.61 |                                  | 1.65  |
| FW-08-19 | 12+00 E | 1700 N  | 150°    | 50° SE | 273    | 141.50     | 144.10 | 2.60       | 222    | 199    | <b>31.32</b>                     | 13.79 |                                  | 1.55  |
|          |         |         |         |        |        | 160.85     | 161.95 | 1.10       | 54     | 59     | <b>32.16</b>                     | 20.00 |                                  | 1.10  |
|          |         |         |         |        |        | 183.00     | 229.50 | 46.50      | 189    | 212    | <b>37.18</b>                     | 15.30 |                                  | 1.66  |
| FW-08-20 | 12+00 E | 1750 N  | 150°    | 50° SE | 357    | 260.10     | 263.70 | 3.60       | 173    | 153    | <b>31.60</b>                     | 14.30 |                                  | 1.51  |
|          |         |         |         |        |        | 304.30     | 336.95 | 32.65      | 168    | 218    | <b>39.56</b>                     | 14.37 |                                  | 1.88  |
| FW-08-21 | 12+00 E | 1800 N  | 150°    | 50° SE | 447    | 376.00     | 385.80 | 9.80       | 67     | 122    | <b>37.33</b>                     |       | 23.23                            | 1.57  |
|          |         |         |         |        |        | 405.00     | 417.00 | 12.00      | 105    | 144    | <b>35.46</b>                     |       | 21.99                            | 1.58  |
| FW-08-22 | 13+00 E | 1800 N  | 150°    | 50° SE | 330    | 256.05     | 262.65 | 7.60       | 247    | 260    | <b>28.55</b>                     | 10.34 |                                  | 1.89  |
|          |         |         |         |        |        | 263.65     | 298.50 | 34.85      | 170    | 194    | <b>42.08</b>                     | 15.92 |                                  | 1.81  |
| FW-08-23 | 13+00 E | 1850 N  | 150°    | 50° SE | 424    | 332.30     | 337.50 | 5.20       | 526    | 297    | <b>37.36</b>                     | 15.04 |                                  | 1.70  |
|          |         |         |         |        |        | 337.30     | 351.50 | 14.00      | 133    | 157    | <b>24.54</b>                     | 11.41 |                                  | 1.47  |
|          |         |         |         |        |        | 351.50     | 378.00 | 26.50      | 98     | 178    | <b>38.78</b>                     | 14.92 |                                  | 1.78  |
| FW-09-24 | 14+00 E | 1700 N  | 150°    | 50° SE | 219    | 73.50      | 80.30  | 6.80       | 264    | 229    | <b>41.01</b>                     |       | 21.10                            | 1.90  |
|          |         |         |         |        |        | 100.87     | 132.20 | 31.33      | 167    | 230    | <b>40.63</b>                     |       | 23.40                            | 1.70  |
| FW-09-25 | 14+00 E | 1800 N  | 150°    | 50° SE | 339.5  | 232.10     | 270.35 | 38.25      | 167    | 231    | <b>41.63</b>                     |       | 21.04                            | 1.94  |

|          |         |        |      |        |       | Intercepts |        |       |     |     |              |       |      |
|----------|---------|--------|------|--------|-------|------------|--------|-------|-----|-----|--------------|-------|------|
| FW-09-27 | 16+00 E | 1800 N | 150° | 50° SE | 321   | 173.30     | 186.80 | 13.50 | 282 | 245 | <b>36.32</b> | 20.77 | 1.71 |
|          |         |        |      |        |       | 208.00     | 246.80 | 38.80 | 204 | 216 | <b>42.99</b> | 20.99 | 2.00 |
| FW-09-28 | 18+00 E | 1750 N | 150° | 50° SE | 207   | 38.70      | 61.10  | 22.40 | 117 | 200 | <b>41.30</b> | 22.16 | 1.82 |
| FW-09-29 | 18+00 E | 1850 N | 150° | 50° SE | 368   | 117.00     | 136.00 | 19.00 | 496 | 231 | <b>40.02</b> | 19.92 | 1.97 |
|          |         |        |      |        |       | 226.00     | 230.70 | 4.70  | 456 | 267 | <b>37.90</b> | 20.39 | 1.82 |
|          |         |        |      |        |       | 234.75     | 244.30 | 9.55  | 319 | 386 | <b>38.33</b> | 19.70 | 1.90 |
|          |         |        |      |        |       | 248.60     | 323.75 | 75.15 | 234 | 248 | <b>43.40</b> | 21.26 | 2.00 |
| FW-09-30 | 20+00 E | 1750 N | 150° | 50° SE | 77    | 24.10      | 32.75  | 8.65  | 263 | 257 | <b>40.92</b> | 22.61 | 1.77 |
| FW-09-31 | 20+00 E | 1850 N | 150° | 50° SE | 339   | 207.00     | 214.50 | 7.50  | 184 | 218 | <b>41.61</b> | 20.49 | 1.99 |
|          |         |        |      |        |       | 220.50     | 225.00 | 4.50  | 253 | 390 | <b>36.46</b> | 19.36 | 1.84 |
|          |         |        |      |        |       | 235.90     | 264.50 | 28.60 | 179 | 215 | <b>40.26</b> | 19.80 | 1.99 |
| FW-09-32 | 21+00 E | 1850 N | 150° | 50° SE | 291.5 | 180.90     | 186.00 | 5.10  | 301 | 238 | <b>40.78</b> | 22.57 | 1.77 |
|          |         |        |      |        |       | 188.00     | 196.15 | 8.15  | 270 | 280 | <b>38.50</b> | 21.45 | 1.76 |
|          |         |        |      |        |       | 200.60     | 206.60 | 6.00  | 215 | 190 | <b>37.55</b> | 21.79 | 1.69 |
| FW-09-33 | 15+00 E | 1800 N | 150° | 50° SE | 267   | 195.00     | 203.70 | 8.70  | 289 | 185 | <b>29.92</b> | 22.25 | 1.32 |
|          |         |        |      |        |       | 203.70     | 205.60 | 1.90  | 198 | 194 | <b>34.89</b> | 25.86 | 1.32 |
|          |         |        |      |        |       | 207.60     | 210.00 | 2.40  | 145 | 197 | <b>29.25</b> | 23.45 | 1.22 |
|          |         |        |      |        |       | 210.00     | 221.00 | 11.00 | 115 | 195 | <b>40.29</b> | 25.63 | 1.54 |
| FW-09-34 | 14+00 E | 1900 N | 150° | 50° SE | 468   | 343.50     | 363.00 | 19.50 | 235 | 228 | <b>33.17</b> | 18.38 | 1.76 |
|          |         |        |      |        |       | 383.50     | 415.22 | 32.72 | 247 | 252 | <b>41.25</b> | 20.93 | 1.93 |
| FW-09-35 | 16+00 E | 1900 N | 150° | 50° SE | 429   | 349.16     | 355.50 | 6.34  | 259 | 345 | <b>36.95</b> | 28.80 | 1.25 |
|          |         |        |      |        |       | 364.50     | 399.00 | 34.50 | 318 | 270 | <b>41.15</b> | 21.25 | 1.89 |
| FW-09-36 | 15+00 E | 1800 N | 150° | 50° SE | 192   | 9.80       | 21.00  | 11.20 | 122 | 179 | <b>40.14</b> | 21.12 | 1.86 |
|          |         |        |      |        |       | 24.90      | 38.00  | 13.10 | 139 | 235 | <b>31.22</b> | 20.39 | 1.50 |
|          |         |        |      |        |       | 47.65      | 96.00  | 48.35 | 162 | 231 | <b>41.35</b> | 22.03 | 1.84 |
| FW-09-37 | 13+00 E | 1700 N | 150° | 50° SE | 171   | 100.00     | 114.40 | 14.40 | 168 | 200 | <b>41.07</b> | 22.35 | 1.80 |
| FW-09-38 | 21+00 E | 1950 N | 150° | 50° SE | 423   | 263.00     | 266.00 | 3.00  | 622 | 269 | <b>34.10</b> | 22.92 | 1.46 |
|          |         |        |      |        |       | 390.50     | 398.00 | 7.50  | 240 | 201 | <b>39.38</b> | 24.58 | 1.57 |
| FW-09-39 | 17+00 E | 1850 N | 150° | 50° SE | 328   | 119.10     | 124.50 | 5.40  | 406 | 206 | <b>36.96</b> | 21.84 | 1.66 |
|          |         |        |      |        |       | 124.50     | 138.00 | 13.50 | 237 | 89  | <b>33.44</b> | 21.30 | 1.54 |
| FW-09-40 | 17+00 E | 1750 N | 150° | 50° SE | 175   | 79.50      | 83.60  | 4.10  | 240 | 291 | <b>34.62</b> | 22.76 | 1.49 |
|          |         |        |      |        |       | 87.40      | 102.20 | 14.80 | 150 | 225 | <b>43.11</b> | 20.95 | 2.01 |
| FW-09-41 | 17+00 E | 1950 N | 150° | 50° SE | 490.5 | 234.00     | 235.50 | 1.50  | 311 | 173 | <b>36.41</b> | 28.53 | 1.25 |

|          |         |        |      |        |       | Intercepts |        |       |     |     |              |  |       |             |
|----------|---------|--------|------|--------|-------|------------|--------|-------|-----|-----|--------------|--|-------|-------------|
|          |         |        |      |        |       | 262.50     | 265.50 | 3.00  | 339 | 208 | <b>33.39</b> |  | 25.52 | 1.28        |
|          |         |        |      |        |       | 319.50     | 320.60 | 1.10  | 782 | 257 | <b>31.38</b> |  | 23.23 | 1.32        |
| FW-09-42 | 19+00 E | 1750 N | 150° | 50° SE | 133.5 | 25.50      | 31.50  | 6.00  | 115 | 210 | <b>36.01</b> |  | 20.32 | 1.73        |
|          |         |        |      |        |       | 32.70      | 35.90  | 3.20  | 53  | 211 | <b>39.45</b> |  | 20.69 | 1.87        |
| FW-09-43 | 19+00 E | 1850 N | 150° | 50° SE | 330   | 225.00     | 249.00 | 24.00 | 190 | 260 | <b>35.75</b> |  | 18.99 | 1.84        |
|          |         |        |      |        |       | 260.00     | 317.00 | 57.00 | 216 | 241 | <b>40.52</b> |  | 20.73 | 1.91        |
| FW-09-44 | 18+00 E | 1950 N | 150° | 50° SE | 423   | 281.35     | 314.00 | 32.65 | 508 | 252 | <b>36.33</b> |  | 19.11 | 1.86        |
| FW-09-46 | 19+00 E | 1700 N | 330° | 50° NW | 350   | 43.00      | 51.10  | 8.10  | 117 | 211 | <b>34.28</b> |  | 20.39 | 1.64        |
|          |         |        |      |        |       | 54.10      | 64.70  | 10.60 | 162 | 203 | <b>41.45</b> |  | 19.70 | 2.06        |
|          |         |        |      |        |       | 109.50     | 112.00 | 2.50  | 525 | 220 | <b>32.21</b> |  | 19.77 | 1.59        |
| FW-09-47 | 17+00 E | 1800 N | 150° | 50° SE | 177   | 66.00      | 76.20  | 10.20 | 297 | 135 | <b>34.06</b> |  | 22.34 | <b>1.49</b> |
| FW-09-48 | 18+00E  | 1800 N | 150° | 50° SE | 228   | 8.90       | 10.75  | 1.85  | 521 | 276 | <b>40.44</b> |  | 21.13 | <b>1.87</b> |
|          |         |        |      |        |       | 13.65      | 28.50  | 14.85 | 299 | 149 | <b>39.52</b> |  | 21.41 | <b>1.81</b> |
|          |         |        |      |        |       | 126.20     | 132.00 | 5.80  | 218 | 205 | <b>37.79</b> |  | 20.84 | <b>1.77</b> |
|          |         |        |      |        |       | 136.93     | 144.10 | 7.17  | 186 | 330 | <b>36.29</b> |  | 20.61 | <b>1.72</b> |
|          |         |        |      |        |       | 148.00     | 180.40 | 32.40 | 137 | 233 | <b>42.51</b> |  | 21.52 | <b>1.93</b> |
| FW-10-49 | 19+00 E | 1900 N | 150° | 50° SE | 456   | 337.40     | 338.65 | 1.25  | 748 | 370 | <b>41.47</b> |  | 23.45 | 1.73        |
|          |         |        |      |        |       | 346.30     | 403.30 | 57.00 | 237 | 259 | <b>40.52</b> |  | 20.58 | 1.93        |
| FW-10-50 | 16+00 E | 1800 N | 150° | 50° SE | 256   | 79.50      | 100.00 | 20.50 | 241 | 243 | <b>38.00</b> |  | 19.19 | 1.94        |
|          |         |        |      |        |       | 103.75     | 124.65 | 20.90 | 285 | 329 | <b>38.13</b> |  | 19.53 | 1.91        |
|          |         |        |      |        |       | 135.00     | 198.30 | 63.30 | 211 | 237 | <b>41.93</b> |  | 20.97 | 1.96        |
| FW-10-51 | 20+00 E | 1800 N | 150° | 50° SE | 156   | 111.55     | 116.00 | 4.45  | 169 | 226 | <b>40.41</b> |  | 20.82 | 1.90        |
|          |         |        |      |        |       | 118.50     | 133.40 | 14.90 | 308 | 273 | <b>41.02</b> |  | 22.54 | 1.78        |
| FW-10-53 | 21+00 E | 1800 N | 150° | 50° SE | 182   | 99.10      | 106.75 | 7.65  | 176 | 241 | <b>40.52</b> |  | 21.95 | 1.81        |
| FW-10-54 | 19+00 E | 1750 N | 150° | 50° SE | 210   | 137.60     | 142.70 | 5.10  | 255 | 267 | <b>26.70</b> |  | 18.87 | 1.38        |
|          |         |        |      |        |       | 155.00     | 181.80 | 26.80 | 124 | 212 | <b>41.46</b> |  | 22.31 | 1.82        |
| FW-10-55 | 11+00 E | 1500 N | 150° | 50° SE | 95    | 10.70      | 44.00  | 33.30 | 239 | 209 | <b>37.18</b> |  | 21.21 | 1.72        |
| FW-10-56 | 11+50 E | 1750 N | 150° | 50° SE | 240   | 146.67     | 147.62 | 0.95  | 84  | 191 | <b>37.60</b> |  | 24.60 | 1.50        |
|          |         |        |      |        |       | 173.61     | 223.02 | 49.41 | 225 | 239 | <b>37.86</b> |  | 20.10 | 1.84        |

Notes: 1. Intercept lengths do not equal true widths. 2. Intercepts are as averaged by J. Burns of Spider. 3. Cr:Fe ratios are averages for the intercept for the elements.



## 12.0 SAMPLING METHOD AND APPROACH

The core logger marked out lithologic units including mineralized intervals. A Niton hand-held XRF was used to more precisely locate assay cut-off (<5% Cr<sub>2</sub>O<sub>3</sub>) and grade-range limits. Generally the entire mineralized interval plus a minimum of five intervals (~7.5 m) into sub-cut-off material were sampled. In a few places, wide (>20 m) sections containing <5% Cr<sub>2</sub>O<sub>3</sub> were encountered within the broadly mineralized zone and were not sampled.

The geologist then marked out end points of sample intervals. All sample intervals were selected within geologically-defined intervals of uniform lithology (including alteration and structure) and then of consistent grade, finally selecting samples of ~1.5 m length. Lower grade “shoulders” on massive intervals and rare lower grade intervals within massive material were sampled separately to ensure that true grade-thickness profiles were captured. A few sample intervals were as short as 0.3 m.

In view of the wide intervals of consistently high grade material, geologists tended to synchronize sample start or finish positions with driller’s blocks providing for great uniformity in the sampling process and allowing for consistency between geotechnical and chemical parameters. Once the sample intervals were selected, sample tags were inserted and sample descriptions recorded.

A technician then completed geotechnical observations including core photography, magnetic susceptibility, specific gravity (SG), recovery and RQD, after which samples were cut and packed. The sample cutters maintained a sample log which provided a means of verifying values entered by the logger.

Core cutting was carried out using diamond-embedded blades in a separate tent. Cutters wore face masks, gloves and glasses while the saw mist was vented from the tent. Core cuttings were accumulated and backhauled to a licensed landfill.

Samples were cut by batch, so that each batch was checked, packed and sealed before the next was started.

Samples were placed in 20 L plastic pails, in rice bags, sorted by batch position. Each rice bag (one per pail) was sealed with a numbered locking tag (Figure 12.1). The lid was then secured with locking ties inserted through drilled holes to avoid separation in transit. Samples were shipped by batch (typically three pails).

Pails were transported to Nakina, stored in a secure warehouse and then shipped by bonded carrier to Actlabs in Thunder Bay. Upon receipt Actlabs issued work orders by which the batch was tracked to completion.

The sampling process and data capture, evolved over the 2009/2010 drilling program, such that an already low error rate was reduced to near zero. In addition the grade of each interval

as, visually estimated by the logger, may be validated against the specific gravity and checked on core photos.

### **Micon comments**

Micon believes that the insertion of at least two standards in each sample batch and the monitoring of the analytical results by an independent consultant (i.e. Ms. Tracy Armstrong, P. Geo. – see Section 14) add confidence that the assays reported are reliable.

Given that down-hole surveys were conducted using appropriate methodology and equipment, and that core recoveries were good as described in Section 11, there are no factors known to Micon which might materially impact on the reliability of the results reported by Spider/KWG. The down-hole surveys and good core recoveries also ensured that samples are representative of the deposit.

A summary of the results of the composite samples is given in Table 11.2.

**Figure 12.1**  
**Sealed Rice Bags Being Placed into Pails**



### 13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

All on-site at McFaulds Lake sample handling and preparation were carried out by Billiken Management Services under the supervision of Qualified Persons (Lahti and Chance). At no time were employees, officers, directors or agents of Spider, KWG or Freewest involved in the sample selection, preparation and shipping process beyond exercising oversight to ensure that established protocols were being observed.

#### 13.1 QUALITY CONTROL MEASURES BEFORE DISPATCH OF SAMPLES

##### 13.1.1 Pre-2008 Drill holes and Samples

All pre-2008 drill holes and samples were purely of a reconnaissance nature designed to test geophysical anomalies for a variety of metals and no specific QA/QC measures were instituted for those samples.

##### 13.1.2 2008 Analyses

During the 2008 drilling and sampling campaign, Howard Lahti, PhD, P. Geo. instituted an initial QA/QC program which involved inserting split duplicates and blanks in the sample stream.

##### 13.1.3 2009-2010 Analyses

In March, 2009, Spider retained Tracy Armstrong, P. Geo., to institute a comprehensive QA/QC program which was achieved in two parts. First, samples were assigned to specific positions in batches of 35, leaving space for the laboratory to insert internal controls. Company control samples comprised two or three certified standards (Table 13.1), a project “blank”, split, coarse reject and pulp duplicates. There were typically six QA/QC samples in each batch of 35.

**Table 13.1**  
**Standards Used During 2009/2010 Drilling and Re-sampling Programs**

| Standard  | Cr <sub>2</sub> O <sub>3</sub><br>(%) | Ni<br>(%) | Pb<br>(ppb) | Pt<br>(ppb) | Au<br>(ppb) | Source                    |
|-----------|---------------------------------------|-----------|-------------|-------------|-------------|---------------------------|
| OREAS 73A | 1.69*                                 | 1.41      | 78          | 64          | 14          | Ore Research, Australia   |
| SARM 8    | 48.90                                 |           |             |             |             | Mintek, South Africa      |
| BD-1      | 21.60                                 | 0.124     | 182         | 177         |             | CDN Resource Lab (custom) |
| BD-2      | 30.23                                 | 0.001     | 232         | 261         | 10.6        | CDN Resource Lab (custom) |
| BD-3      | 40.75                                 | 0.097     | 234         | 197         |             | CDN Resource Lab (custom) |
| PGMS 16   |                                       |           | 4,660       | 1,230       | 1120        | CDN Resource Lab (custom) |

\* Cr (acid digestion)

Other than the insertion of QA/QC samples into sample batches, packing and dispatching the batches from McFaulds Lake, no other task was performed by employees of Billiken.

### 13.2 LABORATORY DETAILS

All Cr<sub>2</sub>O<sub>3</sub> analyses completed in 2009 and 2010 were carried out by Activation Laboratories Ltd. (Actlabs) the principal office of which is in Ancaster, Ontario. Since February 27, 1998 Actlabs has been certified (accredited laboratory number 266) by the Standards Council of Canada as a mineral analysis laboratory with specific ability to analyze Cr<sub>2</sub>O<sub>3</sub> by XRF fusion as follows:

“Fusion XRF using PHILIPS PW 2400 XRF Spectrometer (Quantify 15 analytes by X-ray Fluorescence which are fused with lithium and reported in the oxide form - SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MnO, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, Cr<sub>2</sub>O<sub>3</sub>, Co<sub>3</sub>O<sub>4</sub>, NiO, Zn, Sn and Cu).” (source: [www.actlabs.com](http://www.actlabs.com)).

### 13.3 SAMPLE PREPARATION

In 2009 and 2010 sample preparation, ICP and fire assays were completed at Actlabs Thunder Bay facility. The material pulps were shipped by bonded courier to ActLabs, Ancaster laboratory for XRF analysis.

The following summary on sample preparation was provided by Actlabs, Thunder Bay: The entire sample is crushed to a nominal minus 10 mesh (1.7 mm), mechanically split (riffle) to obtain a representative sample (about 500 g) and then pulverized to at least 95 % minus 150 mesh (105 microns). (source: [www.actlabs.com](http://www.actlabs.com)).

### 13.4 ANALYSES

Table 13.2 summarizes the sources of Cr/Cr<sub>2</sub>O<sub>3</sub> data in the database. However, only the INAA and XRF results are used in the resource estimate. The large number of ICP analyses reflect the effort made to find potential PGE-enriched intervals for which geochemical evidence suggests reasonable potential. The evolution of analytical methods used reflects the growth of the project from Cu-Zn, through Ni-Cu-PGE to chrome.

**Table 13.2**  
**Summary of Cr and Cr<sub>2</sub>O<sub>3</sub> Analyses by Method**

| Method      | Count |
|-------------|-------|
| ICP         | 5,662 |
| INAA (only) | 613   |
| INAA + XRF  | 377   |
| XRF (only)  | 2,359 |

Note: The ICP count includes 505 samples taken from holes that did not intersect the sill.

### 13.4.1 2006/2008 Analyses

Sample pulps were shipped to Ancaster where all were analyzed by ICP using a four acid digestion (Actlabs Method 1F2, Total Digestion – ICP; Table 13.3). Designated and ICP over-limit samples were analyzed for nickel and copper by Optical Emission Spectrometry (ICP-OES). Precious metals (Au, Pd and Pt) were determined by ICP analysis of a fire assay bead. Samples reporting >1% Cr by ICP were re-analyzed by Instrumental Neutron Activation Analysis (INAA).

### 13.4.2 2009/2010 Cr<sub>2</sub>O<sub>3</sub> Analyses

In early 2009, following a QA/QC review by Tracy Armstrong, XRF analysis of fused borate disks was adopted as the method of choice due to shorter turn-around times, greater laboratory capacity and delivery of the major element oxides and loss on ignition (LOI). A summary of the 2009/2010 analytical procedures is presented in Table 13.3.

**Table 13.3**  
**Analytical Methods for 2009-2010 Drilling and Resampling Programs**

| Code | Method                                    | Description   |
|------|---|---|
| RX1  | Sample preparation                        | Crush (<5kg > up to 75% passing 2 mm (coarse reject), split (250 g) and pulverize (hardened steel) to 95% passing 105 µ (pulp).   |
| 1F2  | Total Digestion – ICP                     | A 0.25 g sample is successively digested with hydrofluoric, nitric and perchloric and finally hydrochloric acids. <b>Chromite is partially solubilized.</b> Analysis by Varian Vista ICP.   |
| 1C   | Exploration - Fire Assay -Au,Pd,Pt-ICP/MS | A 30 g (may be 5 to 50 gram) sample is fired to 1060 °C with fluxes (borax, soda ash, silica, litharge) and an Ag collector for a hour. The lead button is cupelled at 950°C to recover the Ag (doré bead), acid digested and the solution analyzed for Au, Pt, Pd by ICP/MS. <b>Smaller sample splits are used for high chromite or sulphide samples to ensure proper fluxing and metal recoveries.</b> LDL's & UDL's are 1 ppb & 30 g/t respectively. |
| 4C   | XRF Fusion – XRF                          | The sample is roasted 1050°C for 2 hours (from which LOI is determined), a glass is formed by fluxing a portion of the roasted material with lithium borate flux. The glass is analyzed on a Panalytical Axios Advanced wavelength dispersive XRF. <b>The limit of detection is about 0.01 wt% for most of the elements including Cr<sub>2</sub>O<sub>3</sub>.</b>  |

Source: <http://www.actlabs.com/list.aspx>. (30 March 2010)

### 13.4.3 INAA versus Fusion XRF

Prior to 2009 INAA was the analytical method of choice due to perceived problems with fusions and limitations of acid digestions. XRF analysis of borate glass disks was adopted as a result of limited reactor capacity (required to irradiate samples), slow turn around time due to the delay between irradiation and counting and the importance of other major element oxides in characterizing potentially marketable products. These changes reflected the suggestions of a chromite expert (S. McQuade, personal communication, 2009).

Some cross-check analyses conducted under the supervision of independent consultant Tracy Armstrong, P. Geo., showed that the INNA and Fusion-XRF methods yielded the same result for Cr<sub>2</sub>O<sub>3</sub>. However, other than the problems associated with INAA already mentioned above, the latter was more preferable as it gave a quicker turn around.

#### **13.4.4 Laboratory In-house QA/QC**

The ActLabs in-house analytical QA/QC procedures include the following:

- Use of certified reference materials.
- Routine duplicate analyses.
- Use of blanks.
- Participation in round robin analytical exercises.

#### **13.5 SECURITY**

A chain of custody was maintained on dispatching the samples to the laboratory. Samples were shipped in complete batches (typically three pails) by backhaul flights to Nakina where they were stored in Nakina Air Services' secure warehouse before being shipped by bonded carrier to Actlabs facility in Thunder Bay.

Upon receipt of the samples in Thunder Bay, ActLabs personnel verified that seals were intact, checked the samples against the included packing slip and entered the batch into LIMS and forwarded a batch receipt, including the batch work order, to the sender, Ms. Armstrong, the client and Billiken's management and database manager. Any discrepancies were checked with the source prior to entry into LIMS. The laboratory's performance on control samples was monitored on a batch by batch basis by Tracy Armstrong, P.Geol. Ms. Armstrong "green-lighted" batches as received and compiled her analyses in reports issued approximately monthly and sent to Spider and copied to Billiken. An example of Ms. Armstrong's reports is in Appendix 2.

#### **Micon Comments**

Micon is satisfied that the sample preparation, security and analytical procedures follow the current CIM exploration best practices guide lines. This ensures credibility of the analytical results used for the resource estimate.

## 14.0 DATA VERIFICATION

### 14.1 INTRODUCTION

The data verification conducted by Micon comprised four separate phases as follows:

- Laboratory visit.
- Site visit to the Big Daddy chrome project area at the close of the initial 2008 drilling phase.
- Site visit to the Big Daddy chrome project area during the latter half of the 2009/2010 drilling campaign.
- Resource database validation prior to conducting the resource estimate.

The first two items above were completed in conjunction with the previous 43-101 report (Gowans and Murahwi, 2009). The second two items support the current report and are described below.

### 14.2 SITE VISIT (OCTOBER, 2009)

#### 14.2.1 Overview

Micon conducted a second site visit to the Big Daddy chromite project area on October 22, 2009 primarily to review QA/QC procedures, the construction of the resource database and at the same time to provide guidance in geotechnical logging of drill cores. In line with Micon's recommendations contained in the March 31, 2009 Technical Report, the SKF project personnel were found to have introduced stringent QA/QC measures under the guidance of QA/QC specialist Tracy Armstrong, P. Geo. These measures include the use of standards (certified reference materials) and blanks and monitoring of the performance of the standards and blanks on a real time basis. Ms. Armstrong also carried out a random selection of some pulps of the earlier (2008) analyses for repeat analyses.

#### 14.2.2 SG Determinations

Another important component for the second site visit was verification of the tonnage factor.

Specific gravities were determined using a Totalcomp strain gauge attached to a control unit generally following ASTM standard D5779 – 08. The strain gauge (Figure 14.1) was attached to a bracket on a length of casing driven into the overburden and thus isolated from the core shack floor. A basket allowed pieces of core to be suspended in air and then in water.

The operator selected intact pieces of core from each sample interval determined, numbering them in advance to aid correct replacement in the core tray. The apparatus was well damped such that the mass settled to  $\pm 0.001$  kg in less than a couple of seconds. The masses in air and water were entered in a customized spreadsheet into which a correction for the buoyancy of the apparatus in water was inserted, the mass in air having been tared out. Initially the specific gravities of all mineralized intervals and adjacent wallrock were determined. Over the course of the project the frequency was reduced to every third mineralized and sixth unmineralized interval with additional determinations across grade changes. A total of 2,216 observations were eventually made.

**Figure 14.1**  
**Technician Working the Totalcomp Strain Gauge**



### **14.3 RESOURCE DATABASE VALDATION**

The resource database validation conducted by Micon involved the following steps:

- Checking for any non-conforming assay information such as duplicate samples and missing sample numbers.
- Verifying collar elevations against survey information for each drill hole.



- Verifying collar coordinates against survey information for each drill hole.
- Verifying the dip and azimuth against survey information for each hole.
- Comparing the database assays and intervals against the original assay certificates and drill logs.

Some minor discrepancies were noted with duplication of sample intervals where duplicate analyses had been conducted. The necessary corrections were made.

#### **14.4 CONCLUSIONS ON DATA VERIFICATION**

Based on the foregoing data verification exercises, Micon is satisfied that the database used for the resource estimate in this Technical Report was generated in a credible manner and is representative of the main characteristics of the Big Daddy chromite deposit.

As described in its 2009 Technical Report, Micon had previously taken samples of core and of assay rejects which confirmed the presence of chromite at the grades reported for the Big Daddy deposit.

## 15.0 ADJACENT PROPERTIES

The following is a description of the properties adjacent to and within the environs of the Big Daddy deposit (Figure 15.1). The resources quoted below, with the exception of Black Thor, are taken from NI 43-101 compliant reports filed on SEDAR. The Black Thor estimate was reported in a press release (January 14, 2010) and the report, which states that it is NI 43-101 compliant, was obtained from Freewest's website in late January, 2010.

Micon has not independently verified the information contained in this section. Micon notes that the information is not necessarily indicative of the character and tenor of mineralization on the Big Daddy property.

### 15.1 CHROMITE

#### 15.1.1 Black Thor / Black Label

The Black Thor and Black Label chromite deposits (owned by Freewest) are approximately 3 km northeast of the Big Daddy deposit. In early December, 2009 Freewest announced an initial resource estimate on its Black Thor and Black Label chromite properties (Table 15.1).

**Table 15.1**  
**Resource Estimate by the Sibley Basin Group Ltd. (A. Aubut, 2009)**  
All resources are in the inferred category

| <b>Tonnes<br/>(millions)</b> | <b>Grade<br/>% Cr<sub>2</sub>O<sub>3</sub></b> | <b>Cut-Off<br/>(%Cr<sub>2</sub>O<sub>3</sub>)</b> |
|------------------------------|--|---|
| 121.9                        | 27.8   | 20  |
| 69.6                         | 31.9   | 25  |
| 36.1                         | 36.1   | 30  |
| 16.7                         | 40.5   | 35  |

#### 15.1.2 Black Creek

The Black Creek chromite deposit is adjacent to the Big Daddy deposit. During the second half of 2009, the Probe Mines/Noront Resources joint venture completed 20 holes along a 200 m long gravity anomaly situated in the southeast corner of claim P 4208219. Eleven holes (1,706 m) were drilled towards the northwest on five lines spaced 50 m apart and were completed to between 150 m and 175 m below surface (Probe, 2009; Noront, 2010).

The results of fifteen holes drilled from southeast to northwest (Table 15.2) describe a higher grade interval overlying a lower, less consistently mineralized footwall to the north. These data suggest that the deposit is comparable to the Big Daddy deposit which is the subject of this report.

**Table 15.2**  
**Black Creek intersections (Probe Mines Ltd, 2009)**

| Drill Hole     | Section | From (m) | To (m) | Width (m) | Cr <sub>2</sub> O <sub>3</sub> (%) | Cr:Fe |
|----------------|---------|----------|--------|-----------|------------------------------------|-------|
| MJV09-18       | 0E      | 37.2     | 66.4   | 29.2      | 32.0                               |       |
| including      |         | 37.2     | 54.3   | 17.1      | 41.6                               |       |
| MJV09-19       | 0E      | 102.0    | 142.5  | 40.5      | 19.5                               |       |
| including      |         | 102.0    | 116.5  | 14.5      | 30.0                               |       |
| MJV09-20       | 0E      | 122.9    | 138.2  | 15.3      | 35.6                               |       |
| including      |         | 124.0    | 131.5  | 7.5       | 40.0                               |       |
| MJV09-10       | 50E     | 52.0     | 95.0   | 43.0      | 26.3                               |       |
| including      |         | 52.0     | 67.0   | 15.0      | 36.1                               |       |
| MJV09-03       | 50E     | 148.6    | 188.7  | 40.1      | 37.4                               | 1.7   |
| including      |         | 149.0    | 174.0  | 25.0      | 41.0                               | 1.8   |
| MJV09-04       | 50E     | 173.0    | 202.3  | 29.3      | 39.2                               | 1.8   |
| including      |         | 173.5    | 199.1  | 25.6      | 42.7                               | 1.9   |
| MJV09-12       | 100E    | 131.7    | 174.3  | 42.6      | 34.6                               |       |
| including      |         | 131.7    | 153.4  | 21.7      | 43.1                               |       |
| also including |         | 166.8    | 174.3  | 7.5       | 41.2                               |       |
| MJV09-13       | 100E    | 158.7    | 222.3  | 63.6      | 33.9                               |       |
| including      |         | 158.7    | 193.4  | 34.7      | 41.4                               |       |
| MJV09-14       | 100E    | 56.2     | 95.5   | 39.3      | 36.8                               |       |
| including      |         | 56.2     | 80.4   | 24.2      | 42.8                               |       |
| MJV09-11       | 150E    | 44.0     | 78.5   | 34.5      | 33.8                               |       |
| including      |         | 44.0     | 65.0   | 21.0      | 37.4                               |       |
| also including |         | 44.0     | 59.0   | 15.0      | 43.7                               |       |
| MJV09-05       | 150E    | 123.8    | 174.4  | 50.6      | 32.2                               | 1.6   |
| including      |         | 123.8    | 146.0  | 22.2      | 43.1                               | 2.0   |
| also including |         | 164.4    | 171.4  | 7.0       | 40.3                               | 1.9   |
| MJV09-06       | 150E    | 160.0    | 224.4  | 62.4      | 34.5                               | 1.6   |
| including      |         | 160.0    | 194.0  | 34.0      | 41.4                               | 1.8   |
| also including |         | 214.0    | 222.4  | 8.4       | 43.4                               | 1.7   |
| MJV09-17       | 200E    | 51.4     | 82.0   | 30.6      | 28.2                               |       |
| including      |         | 51.4     | 63.5   | 12.1      | 40.5                               |       |
| MJV09-15       | 200E    | 107.0    | 132.0  | 25.0      | 34.8                               |       |
| including      |         | 107.0    | 119.4  | 12.4      | 43.7                               |       |
| MJV09-16       | 200E    | 164.0    | 204.0  | 40.0      | 32.0                               |       |
| including      |         | 164.0    | 173.0  | 9.0       | 42.4                               |       |

### 15.1.3 Blackbird

Noront Resources' Blackbird 1 and 2 chromite deposits are located about 6 km to the southwest of the Big Daddy deposit. The resource estimate is based on 82 diamond drill holes (out of 154 drilled) completed on a 50 m grid. The database included 13,564 samples taken over 11,700 m of core. The area drilled extended along a 1,600 m portion of the sill

over a 1,600 m width. Six mineralized zones have been outlined in an 1,100 m long by 800 m wide portion of drilled area, with estimated resources as shown in Table 15.3.

**Table 15.3**  
**Summary of Blackbird resource showing all categories (Micon, 2010)**

| Description                | Category                 | Tonnes x 10 <sup>6</sup> | Avg. %Cr <sub>2</sub> O <sub>3</sub> | Cr:Fe       |
|----------------------------|--------------------------|--------------------------|--------------------------------------|-------------|
| BB2 Massive Chromite       | Measured(M)              | 4.2                      | 36.55                                | 1.94        |
| BB1 & BB2 Massive Chromite | Indicated (I)            | 3.4                      | 36.08                                | 1.94        |
| BB1 & BB2 Massive Chromite | <b>Total M &amp; I</b>   | <b>7.6</b>               | <b>36.34</b>                         | <b>1.94</b> |
| BB2 Massive Chromite       | <b>Total Inferred</b>    | <b>3.5</b>               | <b>34.93</b>                         | <b>1.95</b> |
| BB2 Intercalated Chromite  | Measured (M)             | 1.0                      | 25.40                                | 1.6         |
| BB2 Intercalated Chromite  | Indicated (I)            | 0.3                      | 26.00                                | 1.57        |
| BB2 Intercalated Chromite  | <b>Total (M &amp; I)</b> | <b>1.3</b>               | <b>25.54</b>                         | <b>1.6</b>  |
| BB2 Intercalated Chromite  | <b>Total Inferred</b>    | <b>2.6</b>               | <b>31.39</b>                         | <b>1.77</b> |

## 15.2 Fe-Va-Ti (THUNDERBIRD)

In 2009 Noront Resources tested a prominent magnetic anomaly lying about 2 km northeast of the Freewest-Cliffs property (Figure 15.1). Three shallow holes reported about 0.5% vanadium (V<sub>2</sub>O<sub>5</sub>) in three ~30 m wide intersections over 900 metres of strike in ferrogabbro. The company suggests that the ferrogabbro is a more evolved portion of the McFaulds Sill.

## 15.3 MAGMATIC MASSIVE SULPHIDES (Ni-Cu-PGE) – EAGLE ONE

Noront Resources' (Golder Associates, 2010) current resource estimate describes mineralization as being 30 m thick, extending 125 m along strike and defined to 1,200 m below surface. Elsewhere, the company describes a series of lenses (1B, 1C, 1D, etc.) (Noront, 2009) or informally, a "string of pearls". See Table 15.4.

The deposit is reported to be contained in a narrow feeder dyke to the McFaulds sill. The discovery was made in 2007 when Noront gained access to the property and tested coincident airborne EM and magnetic anomalies thought to be similar to those at over the McFaulds VMS deposits.

**Table 15.4**  
**Eagles Nest Resource Estimate (Golder Associates, 2010) Indicated and Inferred**

|   | Indicated     |           |      |      |        |        |        |        |
|---|---------------|-----------|------|------|--------|--------|--------|--------|
|   | CUTOFF (Ni %) | TONNES    | Ni % | Cu % | Pt gpt | Pd gpt | Au gpt | Ag gpt |
|   | 0.5           | 5,943,512 | 2.31 | 1.08 | 1.45   | 3.82   | 0.18   | 3.08   |
| 1 |               | 4,841,619 | 2.67 | 1.23 | 1.64   | 4.35   | 0.20   | 3.47   |
| 2 |               | 2,299,495 | 3.98 | 1.71 | 2.28   | 6.03   | 0.24   | 4.50   |
| 3 |               | 1,250,402 | 5.31 | 2.16 | 2.80   | 7.63   | 0.28   | 5.45   |
| 4 |               | 842,337   | 6.21 | 2.52 | 2.81   | 8.90   | 0.33   | 6.31   |
| 5 |               | 600,292   | 6.91 | 2.82 | 2.90   | 9.94   | 0.38   | 6.97   |
| 6 |               | 399,372   | 7.64 | 3.17 | 2.92   | 11.09  | 0.44   | 7.79   |
| 7 |               | 259,562   | 8.24 | 3.36 | 2.80   | 11.96  | 0.50   | 8.26   |

| Inferred      |           |      |      |        |        |        |        |  |
|---------------|-----------|------|------|--------|--------|--------|--------|--|
| CUTOFF (Ni %) | TONNES    | Ni % | Cu % | Pt gpt | Pd gpt | Au gpt | Ag gpt |  |
| 0.5           | 4,050,123 | 1.50 | 0.91 | 0.83   | 3.60   | 0.25   | 3.54   |  |
| 1             | 2,650,781 | 1.88 | 1.11 | 0.90   | 4.21   | 0.28   | 4.24   |  |
| 2             | 685,490   | 3.28 | 1.25 | 0.71   | 5.39   | 0.21   | 4.80   |  |
| 3             | 280,372   | 4.60 | 1.17 | 0.56   | 6.33   | 0.14   | 4.32   |  |
| 4             | 164,931   | 5.40 | 1.19 | 0.52   | 7.14   | 0.12   | 4.43   |  |
| 5             | 91,834    | 6.12 | 1.22 | 0.47   | 7.93   | 0.10   | 4.62   |  |
| 6             | 44,672    | 6.81 | 1.21 | 0.45   | 8.81   | 0.05   | 4.90   |  |
| 7             | 15,870    | 7.52 | 1.15 | 0.42   | 9.22   | 0.05   | 4.69   |  |

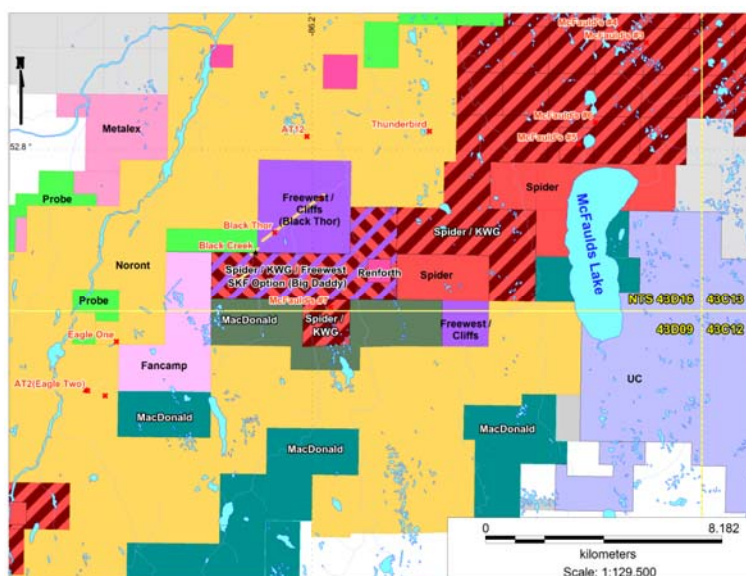
## 15.4 VOLCANOGENIC MASSIVE SULPHIDES (CU-ZN) – MCFaulds DEPOSITS

In 2002 De Beers Canada discovered sulphides in a reverse circulation hole testing an isolated magnetic anomaly immediately to the north of McFaulds Lake. Spider and KWG drilled the McFaulds #1 and #3 prospects in sufficient detail to estimate resources on each deposit (Lahti, 2008). (See Table 15.5).

**Table 15.5**  
Summary of Resources on McFaulds 1 and 3 (reported by Lahti, 2008)

| Deposit    | Class     | t       | Cu (%) | Zn (%) | Cut off      | DDH | Drilled (m) |
|------------|-----------|---------|--------|--------|--------------|-----|-------------|
| McFaulds 3 | Indicated | 802,000 | 3.75   | 1.10   | 1.5% CuEquiv | 39  | 12,114      |
| McFaulds 1 | Inferred  | 279,000 | 2.13   | 0.58.  | 1.5% CuEquiv | 15  | 4,715       |

**Figure 15.1**  
Claim Map of the McFaulds Lake Area (as of 22 April 2010)  
The SKF property is the multi-hatched area at the centre of the map



Other than the De Beers Victor diamond mine located approximately 100 km to the east, there are no producing mines in the James Bay Lowlands.

## 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Two phases of preliminary metallurgical testing have been completed using samples from the Big Daddy chromite deposit. The first phase comprised preliminary mineralogical, chemical and beneficiation testing by World Industrial Minerals, Arvada, Colorado, USA (WIM) in 2008.

The second phase consisted of a mineralogical and metallurgical test program undertaken by SGS Lakefield Research Limited, Lakefield, Ontario, Canada (SGS) in 2009. The metallurgical program completed by SGS was scoping in nature. It was designed to provide a preliminary indication of the metallurgical performance with regard to chromite recovery and upgrading potential of the Big Daddy mineralization.

### 16.1 METALLURGICAL SAMPLES

In July, 2008, quarter core samples taken from drill hole FW-08-05 were submitted to World Industrial Minerals (WIM) in Arvada, Colorado. Eight samples comprising two intervals (264.0 to 268.5 and 292 to 297 m) were tested.

Micon and Spider jointly selected the metallurgical samples in January, 2009 for the SGS test program. Eight composite metallurgical samples and twenty microprobe samples were prepared under the supervision of the Billiken's geological site team. Table 16.1 shows the sources of the metallurgical samples.

**Table 16.1**  
**SGS-L Metallurgical Samples**

| Sample ID | Drill Hole | No. of Intervals | Core Length (m) |
|-----------|------------|------------------|-----------------|
| Sample 2  | FW-08-06   | 17               | 25.80           |
| Sample 3  | FW-08-23   | 17               | 25.50           |
| Sample 4  | FW-08-15   | 17               | 25.50           |
| Sample 5  | FW-08-18   | 16               | 24.00           |
| Sample 6  | FW-08-13   | 17               | 25.15           |
| Sample 7  | FW-08-22   | 16               | 24.35           |
| Sample 8  | FW-08-14   | 17               | 25.25           |
| Sample 9  | FW-08-12   | 16               | 20.80           |

The eight metallurgical composite samples, comprising split quarter drill core, were crushed, blended, assayed and tested to investigate chromite recovery and upgrading potential.

A total of 20 samples were selected for Electron Microprobe Probe Analysis (EPMA) of chromite grains identified in thin sections prepared from drill core samples. Samples were selected from drill holes FW-08-05, FW-08-12, FW-08-13, FW-08-18 and FW-08-21.

## 16.2 MINERALOGICAL AND CHEMICAL ANALYSIS

### 16.2.1 WIM Preliminary Test Program

The eight samples were submitted to DCM Science Laboratory Inc. of Wheat Ridge Colorado (DCM) for x-ray diffraction (XRD) analysis and The Mineral Lab. Inc., of Lakewood, Colorado for x-ray fluorescence (XRF) analysis. DCM also completed a petrographic study of the samples.

A summary of the XRD analytical results is presented in Table 16.2.

**Table 16.2**  
**Summary of XRD Analysis Results**

| Phase       | 17204 | 172405 | 172406 | 172426 | 172427 | 172428 | 172429 | 172430 |
|-------------|-------|--------|--------|--------|--------|--------|--------|--------|
| Amphibole   | -     | -      | 8%     | -      | -      | -      | -      | -      |
| Chlorite    | 45%   | 45%    | 32%    | 37%    | 38%    | 36%    | 41%    | 34%    |
| Pyroxene    | 5%    | 3%     | -      | -      | -      | -      | -      | -      |
| Chromite    | 48%   | 51%    | 52%    | 61%    | 58%    | 60%    | 55%    | 50%    |
| Talc        | -     | -      | 6%     | -      | 2%     | 2%     | 1%     | 13%    |
| Unaccounted | <5%   | <5%    | <5%    | <5%    | <5%    | <5%    | <5%    | <5%    |

A summary of the XRF analytical results is presented in Table 16.3. Only elements and compounds with values above the instrument detection limit are included in the table.

**Table 16.3**  
**Summary of XRF Analysis Results**

| Element /Compound              | Units | 17204   | 172405  | 172406  | 172426  | 172427  | 172428  | 172429  | 172430  |
|--------------------------------|-------|---------|---------|---------|---------|---------|---------|---------|---------|
| MgO                            | %     | 28      | 27      | 24      | 24      | 24      | 23      | 24      | 24      |
| Al <sub>2</sub> O <sub>3</sub> | %     | 7       | 9       | 8       | 12      | 11      | 11      | 12      | 10      |
| SiO <sub>2</sub>               | %     | 25      | 22      | 23      | 16      | 18      | 16      | 18      | 23      |
| CaO                            | %     | 2.1     | 1.2     | 1.5     | <0.1    | <0.1    | <0.1    | <0.1    | <0.1    |
| TiO <sub>2</sub>               | %     | 0.3     | 0.3     | 0.4     | 0.4     | 0.3     | 0.3     | 0.4     | 0.3     |
| MnO                            | %     | 0.2     | 0.2     | 0.1     | 0.2     | 0.3     | 0.3     | 0.3     | 0.3     |
| Fe <sub>2</sub> O <sub>3</sub> | %     | 12      | 14      | 14      | 17      | 16      | 18      | 17      | 16      |
| V                              | ppm   | 635     | 690     | 744     | 785     | 791     | 864     | 804     | 842     |
| Cr                             | ppm   | 180,000 | 190,000 | 200,000 | 230,000 | 220,000 | 230,000 | 210,000 | 190,000 |
| Co                             | ppm   | 135     | 142     | 162     | 176     | 170     | 174     | 155     | 176     |
| Ni                             | ppm   | 1,320   | 825     | 1,040   | 1,120   | 1,070   | 921     | 1,130   | 819     |
| Zn                             | ppm   | 316     | 348     | 403     | 529     | 518     | 540     | 499     | 567     |

As XRF analyses indicate that the chrome contents are between 18% and 23%, which corresponds to calculated chromite (Cr<sub>2</sub>O<sub>3</sub>) values of between 26% and 34%.

It is noted that the XRF analysis did not include PGM's, such as Pd, Pt and Rh.

The petrographic analysis showed that chromite grains were generally discrete and high grade. The grains typically had subhedral to euhedral shape and measured from 50 µm to

750 µm in size. The chromite grains tended to be of very high purity and no deleterious inclusions were identified.

The matrix containing the chromite grains is composed of altered chlorite and talc and the mineralogical investigations suggest that chromite could be liberated and recovered using standard mineral processing technology.

## 16.2.2 SGS-L Preliminary Testwork Program

### Metallurgical Samples

Detailed analyses of the SGS-L metallurgical samples are included in Table 16.4.

**Table 16.4**  
SGS-L Metallurgical Sample Chemical Analyses

| Sample ID                                     | Sample 2 | Sample 3 | Sample 4 | Sample 5 | Sample 6 | Sample 7 | Sample 8 | Sample 9 |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Cr <sub>2</sub> O <sub>3</sub> % <sup>2</sup> | 3.99     | 7.85     | 10.1     | 20.2     | 35.5     | 43.3     | 40.2     | 34.1     |
| Cr %  | 2.73     | 5.37     | 6.91     | 13.8     | 24.3     | 29.6     | 27.5     | 23.3     |
| Fe %  | 8.46     | 10.0     | 9.79     | 12.4     | 17.9     | 15.2     | 14.2     | 17.0     |
| Cr:Fe Ratio                                   | 0.32     | 0.54     | 0.71     | 1.12     | 1.36     | 1.95     | 1.94     | 1.37     |
| SiO <sub>2</sub> %                            | 35.6     | 30.6     | 30.5     | 22.9     | 11.8     | 8.29     | 10.1     | 12.4     |
| Al <sub>2</sub> O <sub>3</sub> %              | 2.42     | 2.87     | 4.58     | 7.46     | 12.5     | 13.3     | 13.5     | 11.8     |
| Fe <sub>2</sub> O <sub>3</sub> %              | 12.1     | 14.3     | 14       | 17.7     | 25.6     | 21.7     | 20.3     | 24.3     |
| MgO %   | 28.6     | 32.8     | 30.2     | 23.4     | 12.3     | 13.8     | 13.8     | 14.3     |
| CaO %   | 2.54     | 0.39     | 0.23     | 0.79     | 0.23     | 0.09     | 1.23     | 0.23     |
| Na <sub>2</sub> O %                           | 0.03     | 0.03     | 0.05     | 0.07     | 0.07     | 0.07     | 0.08     | 0.085    |
| K <sub>2</sub> O %                            | < 0.01   | < 0.01   | 0.03     | 0.08     | 0.11     | 0.05     | 0.2      | 0.010    |
| TiO <sub>2</sub> %                            | 0.11     | 0.1      | 0.17     | 0.33     | 0.53     | 0.42     | 0.45     | 0.40     |
| P <sub>2</sub> O <sub>5</sub> %               | < 0.01   | < 0.01   | < 0.01   | 0.07     | < 0.01   | < 0.01   | < 0.01   | 0.010    |
| MnO %   | 0.16     | 0.07     | 0.11     | 0.16     | 0.4      | 0.21     | 0.26     | 0.31     |
| Cr <sub>2</sub> O <sub>3</sub> %              | 3.99     | 7.85     | 10.1     | ---      | ---      | ---      | ---      | ---      |
| V <sub>2</sub> O <sub>5</sub> %               | 0.03     | 0.03     | 0.05     | 0.11     | 0.18     | 0.17     | 0.16     | 0.14     |
| LOI %   | 14       | 11.4     | 9.13     | 6.34     | 1.77     | 0.64     | 0.33     | 2.35     |
| Sum %   | 99.6     | 100.4    | 99.1     | ---      | ---      | ---      | ---      | ---      |
| Ni %  | 0.14     | 0.14     | 0.14     | 0.14     | 0.093    | 0.11     | 0.11     | 0.12     |
| S %   | 0.15     | 0.06     | 0.08     | 0.22     | 0.05     | 0.04     | 0.03     | 0.075    |
| Au g/t  | 0.07     | 0.02     | < 0.02   | 0.07     | 0.03     | 0.03     | 0.03     | 0.07     |
| Pt g/t  | 0.09     | 0.06     | 0.14     | 0.25     | 0.22     | 0.19     | 0.15     | 0.215    |
| Pd g/t  | 0.16     | 0.08     | 0.23     | 0.26     | 0.32     | 0.14     | 0.1      | 0.41     |
| Cr <sub>2</sub> O <sub>3</sub> % <sup>2</sup> | ---      | ---      | ---      | 20.2     | 35.5     | 43.3     | 40.2     | 34.05    |
| Fe <sub>3</sub> O <sub>4</sub> % <sup>1</sup> | 2.2      | 5.4      | 2.9      | 0.6      | 0        | 0        | 0        | 0        |

<sup>1</sup> Magnetic iron minerals using a Satmagan analyzer.

<sup>2</sup> SGS noted that chromite minerals are often difficult to digest when submitted for chemical analyses. For this test program, SGS used fusion for the digestion of the samples. Borate fusion was used for the whole rock assay suite (WRA), followed by x-ray fluorescence (XRF) analysis. For samples with greater than 15% Cr<sub>2</sub>O<sub>3</sub> content the samples were submitted for a re-assay using a Na<sub>2</sub>O<sub>2</sub> fusion, followed by analysis by atomic absorption (AA).



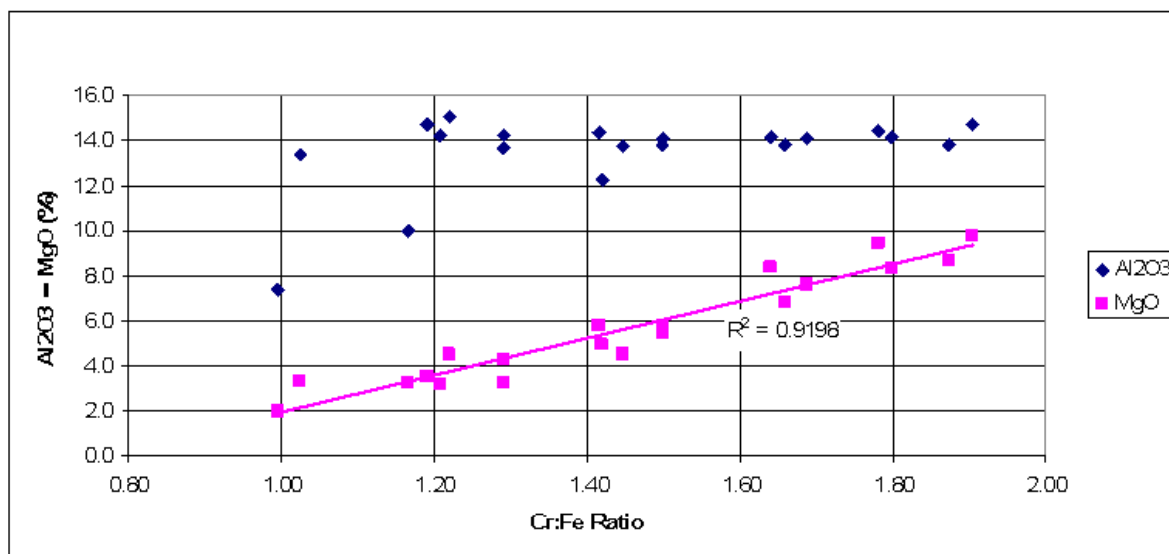
## Microprobe Analyses (EPMA)

A summary of the EPMA test results is presented in Table 16.5.

Microprobe work on 20 samples show that the Cr:Fe ratio of the chromite grains sampled ranges from 1.0 to 1.9. These ratios are lower than expected. The work also shows that the chromite grains are low in  $\text{SiO}_2$  (<0.1%), contain about 14%  $\text{Al}_2\text{O}_3$  and that there is a negative correlation between MgO and Fe. This is expected considering that the spinel structure of chromite generally has a positive correlation between Cr:Fe ratio and MgO content. This work also suggests a higher Cr:Fe ratio for the chromite grains for higher grade chromite samples.

Figure 16.1 compares the Cr:Fe ratio to the  $\text{Al}_2\text{O}_3$  and MgO analysis. Figure 16.2 plots the FeO and MgO analyses against  $\text{Cr}_2\text{O}_3$  and shows that as the MgO content of the chromite tends to increase when the Cr:Fe ratio increases. This is probably due to the spinel nature of the chromite and the substitution of Fe with Mg.

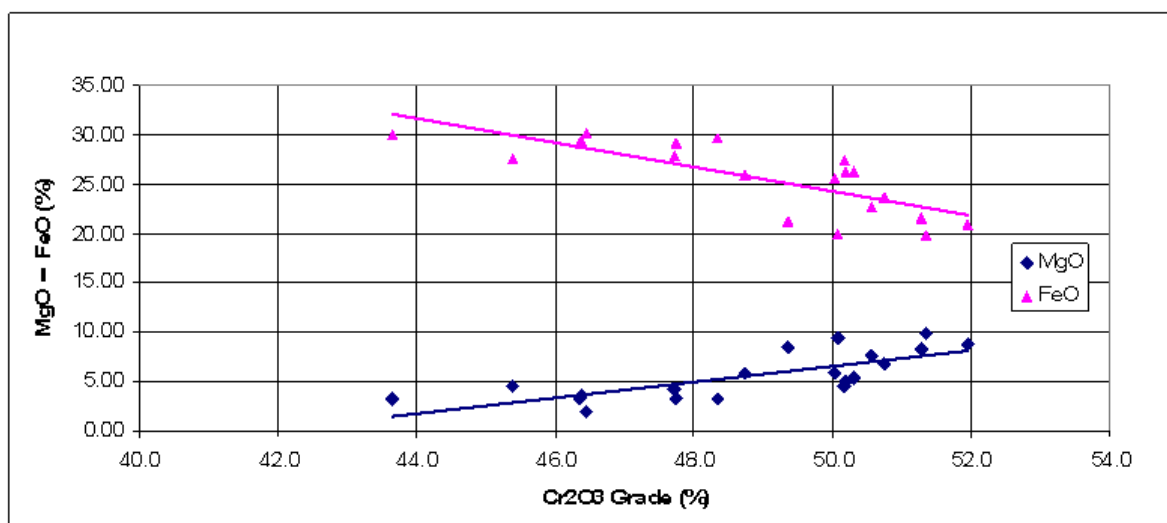
**Figure 16.1**  
EPMA Samples, Cr:Fe Ratio vs  $\text{Al}_2\text{O}_3$  and MgO



**Table 16.5**  
**SGS-L EPMA Results**  
**(All Units are Percent)**

| Sample        | Cr <sub>2</sub> O <sub>3</sub> | Fe <sub>2</sub> O <sub>3</sub> | FeO         | Cr:Fe ratio  | SiO <sub>2</sub> | TiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | MgO          | CaO           | MnO          | NiO           | Na <sub>2</sub> O | Total      |
|---------------|--------------------------------|--------------------------------|-------------|--------------|------------------|------------------|--------------------------------|--------------|---------------|--------------|---------------|-------------------|------------|
| PS 5-1        | 51.9                           | 3.95                           | 20.8        | 1.87         | 0.12             | 0.37             | 13.8                           | 8.69         | 0.005         | 0.20         | 0.061         | 0.011             | 100.0      |
| PS 5-2        | 51.3                           | 4.42                           | 19.7        | 1.90         | 0.001            | 0.45             | 14.7                           | 9.82         | 0.005         | 0.17         | 0.058         | 0.014             | 101        |
| PS 5-3        | 50.2                           | 3.41                           | 27.4        | 1.45         | 0.037            | 0.62             | 13.7                           | 4.52         | 0.009         | 0.53         | 0.033         | 0.023             | 101        |
| <b>Ave 5</b>  | <b>51.1</b>                    | <b>3.93</b>                    | <b>22.7</b> | <b>1.74</b>  | <b>0.053</b>     | <b>0.48</b>      | <b>14.1</b>                    | <b>7.68</b>  | <b>0.006</b>  | <b>0.30</b>  | <b>0.050</b>  | <b>0.016</b>      | <b>100</b> |
| PS 12-1       | 48.3                           | 7.54                           | 29.7        | 1.17         | 0.059            | 1.49             | 9.98                           | 3.26         | 0.001         | 0.41         | 0.090         | 0.005             | 101        |
| PS 12-2       | 50.6                           | 4.12                           | 22.6        | 1.69         | 0.15             | 0.42             | 14.1                           | 7.63         | 0.002         | 0.22         | 0.092         | 0.017             | 100.0      |
| PS 12-3       | 47.7                           | 5.27                           | 27.8        | 1.29         | 0.095            | 0.70             | 13.7                           | 4.28         | 0.002         | 0.36         | 0.057         | 0.010             | 100.0      |
| PS 12-4       | 47.7                           | 3.83                           | 29.1        | 1.29         | 0.051            | 0.54             | 14.3                           | 3.26         | 0.002         | 0.38         | 0.008         | 0.023             | 99.2       |
| <b>Ave 12</b> | <b>48.6</b>                    | <b>5.19</b>                    | <b>27.3</b> | <b>1.36</b>  | <b>0.089</b>     | <b>0.79</b>      | <b>13.0</b>                    | <b>4.61</b>  | <b>0.002</b>  | <b>0.34</b>  | <b>0.062</b>  | <b>0.014</b>      | <b>100</b> |
| PS 13-1       | 46.4                           | 12.1                           | 30.2        | 1.0          | 0.063            | 0.82             | 7.40                           | 1.95         | 0.005         | 0.44         | 0.020         | 0.025             | 99.5       |
| PS 13-2       | 51.3                           | 3.91                           | 21.6        | 1.80         | 0.034            | 0.45             | 14.1                           | 8.33         | 0.000         | 0.35         | 0.037         | 0.015             | 100        |
| PS 13-3       | 50.7                           | 3.62                           | 23.7        | 1.66         | 0.052            | 0.47             | 13.8                           | 6.85         | 0.000         | 0.35         | 0.009         | 0.028             | 99.6       |
| PS 13-4       | 46.4                           | 5.04                           | 29.2        | 1.21         | 0.055            | 0.61             | 14.3                           | 3.20         | 0.002         | 0.37         | 0.010         | 0.021             | 99.2       |
| <b>Ave 13</b> | <b>48.7</b>                    | <b>6.17</b>                    | <b>26.2</b> | <b>1.42</b>  | <b>0.051</b>     | <b>0.59</b>      | <b>12.4</b>                    | <b>5.08</b>  | <b>0.002</b>  | <b>0.38</b>  | <b>0.019</b>  | <b>0.022</b>      | <b>100</b> |
| PS 18-1       | 45.4                           | 5.80                           | 27.5        | 1.22         | 0.044            | 0.69             | 15.1                           | 4.54         | 0.004         | 0.35         | 0.16          | 0.008             | 99.6       |
| PS 18-2       | 50.3                           | 3.68                           | 26.2        | 1.50         | 0.061            | 0.40             | 14.1                           | 5.43         | 0.000         | 0.21         | 0.042         | 0.010             | 100        |
| PS 18-3       | 50.1                           | 5.28                           | 20.0        | 1.78         | 0.049            | 0.44             | 14.5                           | 9.43         | 0.000         | 0.21         | 0.098         | 0.001             | 100        |
| PS 18-4       | 49.4                           | 5.83                           | 21.3        | 1.64         | 0.046            | 0.44             | 14.2                           | 8.42         | 0.003         | 0.47         | 0.17          | 0.003             | 100        |
| <b>Ave 18</b> | <b>48.8</b>                    | <b>5.15</b>                    | <b>23.8</b> | <b>1.53</b>  | <b>0.050</b>     | <b>0.49</b>      | <b>14.5</b>                    | <b>6.95</b>  | <b>0.002</b>  | <b>0.31</b>  | <b>0.116</b>  | <b>0.005</b>      | <b>100</b> |
| PS 21-1       | 50.2                           | 5.37                           | 26.3        | 1.42         | 0.061            | 0.46             | 12.2                           | 4.96         | 0.005         | 0.46         | 0.17          | 0.009             | 100        |
| PS 21-2       | 43.6                           | 8.38                           | 30.0        | 1.02         | 0.042            | 1.26             | 13.4                           | 3.28         | 0.003         | 0.27         | 0.070         | 0.000             | 100        |
| PS 21-3       | 48.7                           | 4.92                           | 25.9        | 1.42         | 0.054            | 0.54             | 14.4                           | 5.75         | 0.003         | 0.24         | 0.055         | 0.025             | 101        |
| PS 21-4       | 50.0                           | 4.23                           | 25.6        | 1.50         | 0.038            | 0.47             | 13.8                           | 5.77         | 0.004         | 0.27         | 0.067         | 0.021             | 100        |
| PS 21-5       | 46.4                           | 5.45                           | 29.4        | 1.19         | 0.075            | 0.64             | 14.7                           | 3.54         | 0.000         | 0.25         | 0.037         | 0.016             | 100        |
| <b>Ave 21</b> | <b>47.8</b>                    | <b>47.79</b>                   | <b>47.8</b> | <b>47.79</b> | <b>47.792</b>    | <b>47.79</b>     | <b>47.8</b>                    | <b>47.79</b> | <b>47.792</b> | <b>47.79</b> | <b>47.792</b> | <b>47.792</b>     | <b>48</b>  |

**Figure 16.2**  
EPMA Samples, Cr<sub>2</sub>O<sub>3</sub> Grade vs MgO and FeO



### 16.3 METALLURGICAL TESTING

#### 16.3.1 WIM Preliminary Test Program

Metallurgical testing on the Big Daddy composite sample was performed by Phillips Enterprises LLC of Golden, Colorado. The scope of this preliminary testwork program included gravity separation and flotation of ground material. The work was scoping in nature and significant improvements in results would be expected from more detailed studies.

Table 16.6 provides a summary of the scoping testwork results. These results are based on chemical analyses, which are generally more accurate for chromite determination than the XRF method.

**Table 16.6**  
Summary of Metallurgical Test Results

| Product               | Chromite Grade (%) | Chromite Distribution (%) |
|-----------------------|--------------------|---------------------------|
| Gravity concentrate   | 49                 | 47                        |
| Flotation concentrate | 43                 | 28                        |
| Combined concentrate  | 47                 | 74                        |
| Total Tailings        | 10                 | 26                        |
| Feed                  | 37                 | 100                       |

An XRF analysis of the combined concentrate is compared to the average feed analysis in Table 16.7.

**Table 16.7**  
**Average Feed and Combined Concentrate XRF Analyses**

| Stream | MgO (%) | Al <sub>2</sub> O <sub>3</sub> (%) | SiO <sub>2</sub> (%) | CaO (%) | TiO <sub>2</sub> (%) | MnO (%) | Fe <sub>2</sub> O <sub>3</sub> (%) | V (ppm) | Cr (ppm) | Co (ppm) | Ni (ppm) | Zn (ppm) |
|--------|---------|------------------------------------|----------------------|---------|----------------------|---------|------------------------------------|---------|----------|----------|----------|----------|
| Feed   | 24      | 11                                 | 19                   | 1.6     | 0.3                  | 0.3     | 17                                 | 814     | 211,250  | 167      | 994      | 518      |
| Conc.  | 18      | 10                                 | 11                   | 0.2     | 0.5                  | 0.2     | 22                                 | 954     | 280,000  | 221      | 761      | 652      |

Using the XRF analyses presented in Table 16.7, the calculated Cr to Fe ratio of both the average feed and combined concentrate is 1.83. However, using wet chemical methods to analyze for Cr<sub>2</sub>O<sub>3</sub>, which is more accurate than XRF due to potential incomplete dissolution of chromium using the XRF method, the value of Cr<sub>2</sub>O<sub>3</sub> of 46.6% for the combined concentrate equates to a Cr to Fe ratio of 2.07.

Of note is the 11% SiO<sub>2</sub> assay of the combined concentrate which would preclude this product from some of the main chromite markets. However, mineralogical analyses suggest that the chromite grains are relatively pure, therefore additional liberation studies and metallurgical testing would most likely reduce this to an industry acceptable level.

### **16.3.2 SGS Preliminary Testwork Program**

Metallurgical testwork on all eight composite samples comprised gravity separation tests and magnetic separation tests on fine gravity tailings. This work was designed to investigate the upgrading potential of the Big Daddy chromite samples.

In order to ascertain the pre-concentration potential, coarse separation tests (-½ inch) using heavy liquid separation (HLS) and magnetic separation were undertaken on two selected composites. Samples 6 and 9 were selected for these tests.

A scoping sulphide flotation test was undertaken to investigate sulphide-hosted base metals and PGM recoveries.

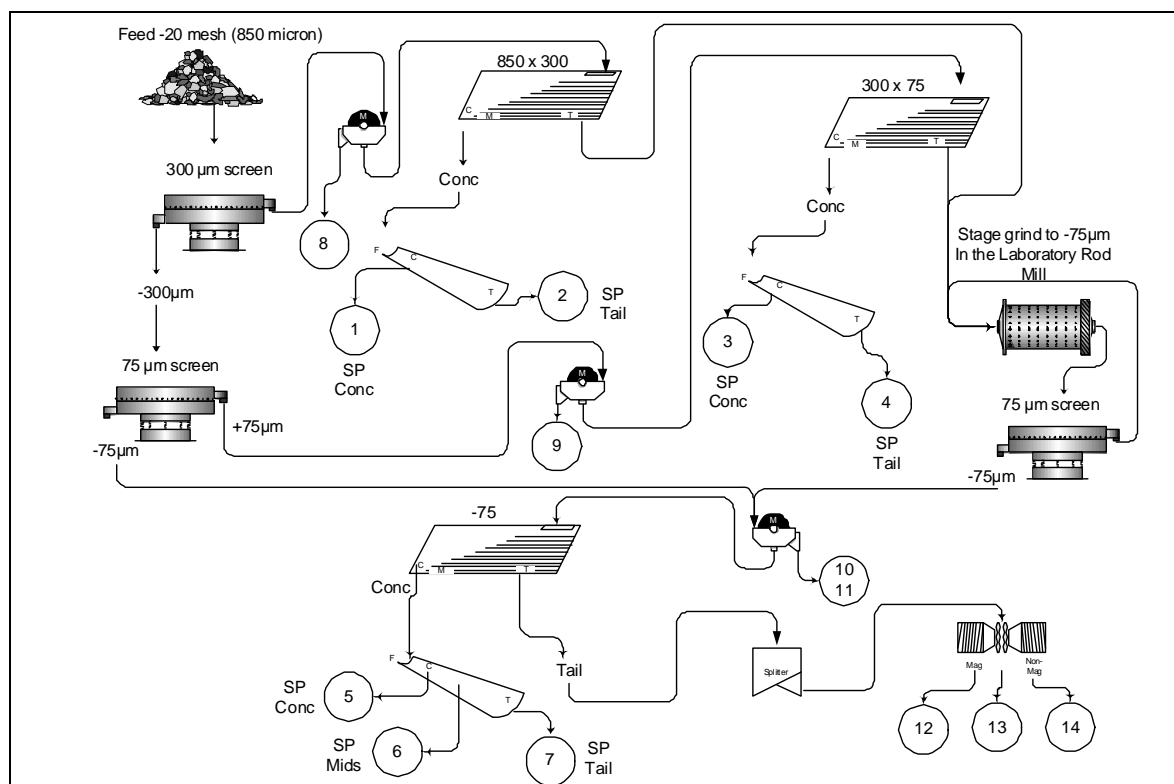
### **Gravity and Magnetic Separation**

The gravity/magnetic separation test flowsheet developed by SGS is presented in Figure 16.3. This procedure had the following steps.

- The test sample is crushed to pass 20 mesh (850 µm).
- In order to enhance recovery as well as upgrading, the crushed sample is then split into three size fractions: 850 x 300 µm, 300 x 75 µm and -75 µm.
- The two coarsest sizes were passed over a Wilfley shaking table and the concentrates were processed on a Mozley mineral separator or a superpanner to further upgrade the heavy concentrate.

- To try and recover non-liberated chromite from the coarse gravity separation tailings, they were stage-ground to pass a 75  $\mu\text{m}$  screen and combined with the original -75  $\mu\text{m}$  fraction.
- Shaking table separation followed by the Mozley mineral separator or superpanner was used to produce a gravity concentrate from the -75  $\mu\text{m}$  material.
- A sub-sample from the fine tailings was tested for chromite recovery by wet high-intensity magnetic separation [WHIMS].
- It is noted that prior to each gravity separation, the magnetic iron minerals were removed by low-intensity magnetic separation [LIMS].

**Figure 16.3**  
**SGS Gravity and Magnetic Separation Test Flowsheet**



The results from the gravity/magnetic separation tests are summarized in Table 16.8 and Table 16.9.

**Table 16.8**  
**Gravity/Magnetic Separation Test Results - 1**

| Sample | Feed                           |       | +75 μ Grav Conc                    |          |       | -75 μ Grav Conc                    |          |       | Low-Intensity Magn.                |          | High-Intensity Magnetics           |          |       |
|--------|--------------------------------|-------|------------------------------------|----------|-------|------------------------------------|----------|-------|------------------------------------|----------|------------------------------------|----------|-------|
|        | Assay, %                       | Ratio | Cr <sub>2</sub> O <sub>3</sub> , % |          | Ratio | Cr <sub>2</sub> O <sub>3</sub> , % |          | Ratio | Cr <sub>2</sub> O <sub>3</sub> , % |          | Cr <sub>2</sub> O <sub>3</sub> , % |          | Ratio |
|        | Cr <sub>2</sub> O <sub>3</sub> | Cr:Fe | Grade                              | Recovery | Cr:Fe | Grade                              | Recovery | Cr:Fe | Grade                              | Recovery | Grade                              | Recovery | Cr:Fe |
| 2      | 4.42                           | 0.35  | 37.0                               | 5.93     | 0.83  | 34.8                               | 4.34     | 0.77  | 14.0                               | 56.2     | 7.05                               | 16.8     | 0.32  |
| 3      | 7.96                           | 0.56  | 42.5                               | 1.57     | 1.28  | 41.4                               | 1.79     | 1.09  | 11.2                               | 92.2     | 1.96                               | 2.06     | 0.29  |
| 4      | 12.3                           | 0.76  | 41.2                               | 11.4     | 1.26  | 42.7                               | 7.55     | 1.19  | 16.2                               | 65.7     | 7.20                               | 8.21     | 0.67  |
| 5      | 20.4                           | 1.17  | 44.8                               | 22.4     | 1.47  | 46.8                               | 25.5     | 1.49  | 14.9                               | 7.20     | 20.5                               | 13.5     | 1.17  |
| 6      | 35.4                           | 1.35  | 44.3                               | 57.2     | 1.37  | 47.3                               | 19.5     | 1.37  | 23.0                               | 0.32     | 40.8                               | 8.87     | 1.37  |
| 7      | 42.9                           | 1.88  | 49.0                               | 51.6     | 1.89  | 50.3                               | 4.10     | 1.89  | 32.5                               | 0.53     | 47.6                               | 32.0     | 1.90  |
| 8      | 40.0                           | 1.96  | 47.3                               | 52.9     | 2.02  | 51.2                               | 16.9     | 2.10  | 28.3                               | 0.63     | 46.4                               | 23.2     | 1.88  |
| 9      | 34.8                           | 1.43  | 46.3                               | 33.2     | 1.43  | 47.5                               | 10.7     | 1.39  | 28.2                               | 0.78     | 42.0                               | 15.0     | 1.37  |

**Table 16.9**  
**Gravity/Magnetic Separation Test Results - 2**

| Sample   | Product              | Weight<br>% | Assays (%)                     |       |                  | Distribution (%)               |       |
|----------|----------------------|-------------|--------------------------------|-------|------------------|--------------------------------|-------|
|          |                      |             | Cr <sub>2</sub> O <sub>3</sub> | S     | SiO <sub>2</sub> | Cr <sub>2</sub> O <sub>3</sub> | S     |
| Sample 2 | Gravity Conc +75 μm  | 0.71        | 37.0                           | 2.96  | 2.93             | 5.93                           | 1.92  |
|          | Gravity Conc -75 μm  | 0.55        | 34.8                           | 0.29  | 1.44             | 4.34                           | 0.15  |
|          | LI Magnetic Fraction | 17.8        | 14.0                           | 0.14  | 23.6             | 56.2                           | 2.31  |
|          | HI Magnetic Conc     | 10.6        | 7.05                           | 3.18  | 19.2             | 16.8                           | 30.7  |
| Sample 3 | Gravity Conc +75 μm  | 0.29        | 42.5                           | 0.62  | 2.73             | 1.57                           | 3.24  |
|          | Gravity Conc -75 μm  | 0.34        | 41.4                           | 0.36  | 2.12             | 1.79                           | 2.19  |
|          | LI Magnetic Fraction | 65.2        | 11.2                           | 0.07  | 26.5             | 92.2                           | 84.09 |
|          | HI Magnetic Conc     | 8.4         | 1.96                           | 0.02  | 34.7             | 2.1                            | 3.0   |
| Sample 4 | Gravity Conc +75 μm  | 3.41        | 41.2                           | 0.070 | 4.28             | 11.4                           | 3.78  |
|          | Gravity Conc -75 μm  | 2.17        | 42.7                           | 0.11  | 2.17             | 7.55                           | 3.79  |
|          | LI Magnetic Fraction | 49.9        | 16.2                           | 0.074 | 24.2             | 65.7                           | 58.4  |
|          | HI Magnetic Conc     | 14.0        | 7.20                           | 0.046 | 33.7             | 8.21                           | 10.2  |
| Sample 5 | Gravity Conc +75 μm  | 10.2        | 44.8                           | 0.051 | 3.01             | 22.4                           | 2.90  |
|          | Gravity Conc -75 μm  | 11.2        | 46.8                           | 0.16  | 1.63             | 25.5                           | 9.93  |
|          | LI Magnetic Fraction | 9.90        | 14.9                           | 0.79  | 22.4             | 7.20                           | 43.6  |
|          | HI Magnetic Conc     | 13.5        | 20.5                           | 0.14  | 23.3             | 13.5                           | 10.5  |
| Sample 6 | Gravity Conc +75 μm  | 45.7        | 44.3                           | 0.032 | 3.64             | 57.2                           | 64.3  |
|          | Gravity Conc -75 μm  | 14.6        | 47.3                           | 0.022 | 1.83             | 19.5                           | 14.11 |
|          | LI Magnetic Fraction | 0.50        | 23.0                           | 0.14  | 17.8             | 0.32                           | 3.06  |
|          | HI Magnetic Conc     | 7.71        | 40.8                           | 0.015 | 6.57             | 8.87                           | 4.91  |
| Sample 7 | Gravity Conc +75 μm  | 45.2        | 49.0                           | 0.000 | 2.77             | 51.6                           | 0.0   |
|          | Gravity Conc -75 μm  | 3.50        | 50.3                           | 0.095 | 0.84             | 4.10                           | 16.8  |
|          | LI Magnetic Fraction | 0.69        | 32.5                           | 0.085 | 11.4             | 0.53                           | 2.98  |
|          | HI Magnetic Conc     | 28.9        | 47.6                           | 0.025 | 3.40             | 32.0                           | 36.4  |
| Sample 8 | Gravity Conc +75 μm  | 44.8        | 47.3                           | 0.010 | 2.49             | 52.9                           | 19.4  |
|          | Gravity Conc -75 μm  | 13.2        | 51.2                           | 0.032 | 0.80             | 16.9                           | 18.1  |
|          | LI Magnetic Fraction | 0.89        | 28.3                           | 0.073 | 15.3             | 0.63                           | 2.83  |
|          | HI Magnetic Conc     | 20.0        | 46.4                           | 0.026 | 3.24             | 23.2                           | 22.9  |
| Sample 9 | Gravity Conc +75 μm  | 24.9        | 46.3                           | 0.010 | 3.17             | 33.2                           | 3.68  |
|          | Gravity Conc -75 μm  | 7.80        | 47.5                           | 0.11  | 1.81             | 10.7                           | 12.5  |
|          | LI Magnetic Fraction | 0.96        | 28.2                           | 0.48  | 15.2             | 0.78                           | 6.82  |
|          | HI Magnetic Conc     | 12.4        | 42.0                           | 0.12  | 5.78             | 15.0                           | 21.3  |

The results from these tests suggest the following:

- Samples with Cr<sub>2</sub>O<sub>3</sub> values of 20% and over (samples 5 to 9) upgraded to potentially marketable chromite concentrates with reasonable recoveries. The two samples grading between 8.0% and 12.3% Cr<sub>2</sub>O<sub>3</sub> upgraded to over 40% Cr<sub>2</sub>O<sub>3</sub> but with low recoveries.
- There tends to be a positive recovery/feed grade relationship for samples 5 to 9. Also, the Cr:Fe ratios of the respective feed and concentrates were similar suggesting that the ratio cannot be improved with upgrading.
- It is noted that for the low grade samples (samples 2, 3 and 4) the LIMS recoveries were relatively high while for the higher grade samples (samples 5 to 9) the recoveries were low. This suggests magnetite locking, magnetite surface coatings or magnetic chromite grains due to high Fe content.
- Good chromite recoveries (>85%) were maintained for samples 6 to 9 while keeping the SiO<sub>2</sub> content in the concentrate below 5%. The SiO<sub>2</sub> content of sample 5 rose above 5% at just over 70% Cr<sub>2</sub>O<sub>3</sub> recovery. The SiO<sub>2</sub> content of the low grade sample (2 to 4) concentrates was consistently high.

### Pre-Concentration Tests

Pre-concentration at a relative coarse size, which is common in many commercial chromite beneficiation facilities, was undertaken to see if heavy media separation (HMS) or coarse particle magnetic separation would be feasible. Minus ½ inch portions of samples 6 and 9 were used. Heavy liquid separation (HLS) tests at ¼ inch, 0.85 mm and 0.3 mm resulted in very little upgrading which suggests a smaller than 0.3 mm liberation size for the chromite samples. The coarse magnetic separation results also showed negligible upgrading.

### Sulphide Flotation

One sulphide flotation test was performed to determine if a sulphide concentrate with platinum group metals (PGM) minerals can be extracted from the chromite ore. A composite of equal fractions of samples 5, 6 and 9 was used in a 10-kg flotation test. Table 16.10 summarizes the flotation test results.

**Table 16.10**  
**Flotation Test Results**

| Element   | Head Grade | Rougher Recovery | Cleaner Grade | Cleaner Recovery |
|-----------|------------|------------------|---------------|------------------|
| Sulphur:  | 0.11 %     | 71 %             | 6.4 %         | 47 %             |
| Palladium | 0.32 g/t   | 65 %             | 14 g/t        | 36 %             |
| Platinum  | 0.22 g/t   | 46 %             | 3 g/t         | 11 %             |
| Gold      | 0.05 g/t   | 43 %             | 1 g/t         | 19 %             |

The flotation test was not optimized and improved results would be expected with a more detailed testwork program.

## 16.4 RECOMMENDATIONS

Most of the various chemical correlations discussed in the report are interesting but not unexpected. These data would benefit from mineralogical or geo-met investigations. QEMSCAM was included as an option by SGS but initially declined due to budget constraints. This, or similar technology, should be included in the next phase of work undertaken on samples that will be more representative of the potential total mineral resource.

The testwork conducted so far was undertaken using either massive or disseminated material. The coarse beneficiation tests were conducted on massive material. No samples crossed the contact between the 2 types, therefore magnetic and gravity tests to upgrade material were, in effect, inconclusive. It was suggested that future tests should include samples of massive chromite and low grade contact material to ascertain coarse beneficiation waste rejection.

A more detailed metallurgical and geo-metallurgical program of work is recommended using samples representing the mineral resource in order to establish an optimum beneficiation flowsheet.



## **17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

Prior to conducting the resource estimate, the integrity of the entire database was validated as per the methodology described in Section 14 of this report.

### **17.1 DATABASE DESCRIPTION**

The mineral resources for the Big Daddy chromite deposit have been estimated from surface diamond drill holes only. The following is a concise description of the database composition and how the master database used in the resource estimate was derived.

#### **17.1.1 Drill Holes and Assays**

The Big Daddy deposit has been tested by 48 drill holes of NQ size on a grid of 100 m between lines taking 2 to 4 holes per line at between 50 m and 100 m apart. The layout is depicted in Figure 11.1. The drill holes cover a strike length of 1 km down to a maximum vertical depth of about 365 m. The assay database consists of 2,974 samples of which the principal analyses were for Cr<sub>2</sub>O<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, Cr, Fe, SiO<sub>2</sub>, and PGEs.

#### **17.1.2 Lithology and Mineralization**

All drill holes have the major rock types identified and documented in a “from – to” interval format. The major rock types that have been coded include granodiorite, peridotite, harzburgite/dunite, pyroxenite, gabbro, banded ironstone, mafic volcanic rock, intermediate volcanic rock, felsic volcanic rock, mafic/felsic dykes, dolomite and limestone. The overburden averages about 10 m. The mineralization has also been recorded for each interval as being either massive, semi-massive, intermittent beds, heavily disseminated or disseminated.

#### **17.1.3 Survey**

The survey information recorded in the files includes collar co-ordinates, dip, azimuth and down-hole survey data. Collars were laid out relative to a surveyed grid ( $\pm 0.1$  m) and verified by GPS ( $\pm 0.4$  m). Down-hole deviations were measured using Flexit, Deviflex or north-seeking gyro (12 collars).

The Big Daddy project area is monotonously flat and therefore a digital terrain model (DTM) is not critical to the estimation of resources.

#### **17.1.4 Specific Gravity (2,216 determinations)**

Specific gravity determinations were carried out broadly following ASTM standard D5779 – 08 (Standard Test Method for Field Determination of Apparent Specific Gravity of Rock and Manmade Materials for Erosion Control) using an apparatus suggested by Dr. James Franklin, a director of Spider Resources.

Specific gravities were determined after the core was logged and marked for sampling but prior to the splitting/cutting of the core samples. Core was broken to about 35 cm or shorter pieces, the pieces were sequentially numbered to facilitate replacement in the core box, then weighed first in air and then in water. Shattered and excessively broken core was not included due to the difficulty in correctly returning it to the core box.

Micon witnessed these SG determinations during its site visit on October 22, 2009 and is satisfied that the dataset generated is representative of the mineralization encountered at the Big Daddy deposit. Based on 2,216 determinations, the SG data have been evaluated by Cr<sub>2</sub>O<sub>3</sub> content and are summarized in Table 17.1

**Table 17.1**  
**Average Specific Gravity Determinations by Cr<sub>2</sub>O<sub>3</sub> Content**

| <b>%Cr<sub>2</sub>O<sub>3</sub> Range</b> | <b>Density</b> |
|---|----------------|
| 0 – 15                                    | 2.8            |
| 15 – 20                                   | 3.0            |
| 20 – 25                                   | 3.2            |
| 25 – 30                                   | 3.3            |
| 30 – 35                                   | 3.4            |
| >35                                       | 4.0            |

### **17.1.5 Surpac Master Database**

The resource estimate was completed using Surpac Version 6.1.3 Software. The Surpac Master Database was created by importing the data described in Sections 17.1.1 to 17.1.4 from Excel spreadsheet files provided by Spider.

## **17.2 ESTIMATION DETAILS**

### **17.2.1 Overview of Estimation Methodology**

The Big Daddy resource estimate has been conducted using a systematic and logical approach involving geological modelling, conventional statistics, geostatistics, creation of interpolation parameters, block modelling, classification based on both geological and mineralization continuity and finally, block model validation.

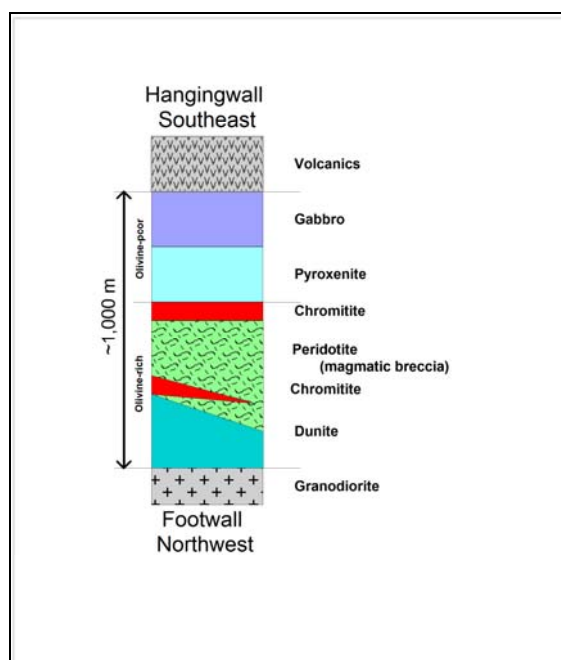
### **17.2.2 Geological Modelling/Interpretation**

Based on a detailed analysis of the drill hole logs in conjunction with the assays, the major geological domains as encountered down-hole are dunite, peridotite, massive chromite, pyroxenite and gabbro (Figure 17.1). The sequence of appearance of these domains reflects a fractionation trend in the down-hole direction (northwest to southeast) thus confirming the conclusion that the mafic-ultramafic complex (sill) has been rotated.

The bulk of the chromite mineralization is confined to the massive chromite domain. However, the peridotite unit does contain sparsely disseminated chromite grains in concentrations varying between 0 and 10% Cr<sub>2</sub>O<sub>3</sub>. Locally, the chromite mineralization may also occur as either heavily disseminated or semi-massive or intermittent beds within the peridotite. Sectional interpretation of the drilled profiles shows that the massive chromite domain forms a distinct layer with observable continuity laterally and down dip. The deepest drill hole intercept is at a vertical depth of about 365 m below surface, with a true thickness of about 13 m; this thickness suggests that at this depth, the massive chromite layer is far from tapering off or pinching.

A surface trace of the massive chromite domain (based on plots from sectional projections) shows that the Big Daddy deposit comprises two segments which the authors have designated BD 1 and BD 2. These are plotted on a gravity map (Figure 17.2) and show a strong correlation between the massive chromite and the gravity anomaly. The subsidiary smaller massive bodies in the footwall are in this report referred to as BD 1 sub and BD 2 sub for BD 1 and BD 2, respectively. A longitudinal section of the two segments is presented in Figure 17.9 which also portrays the distribution of resources. Table 17.2 summarizes the major characteristics of the segments.

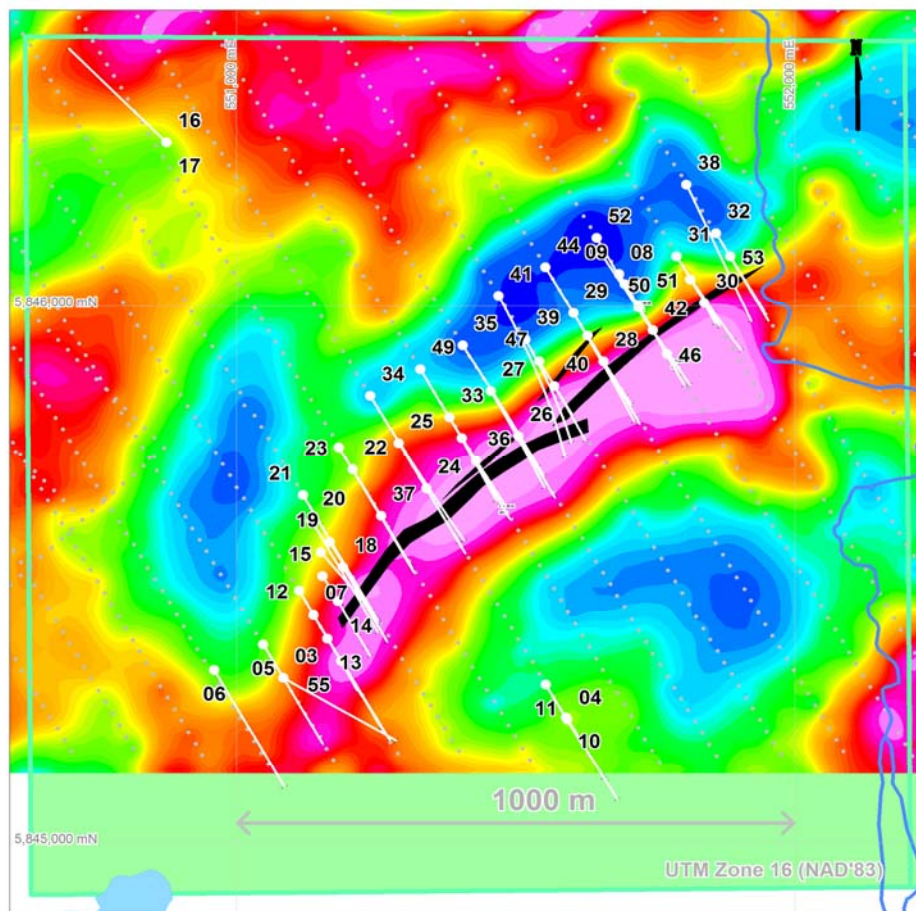
**Figure 17.1**  
**Schematic Lithologic Column for McFaulds Lake Sill, Big Daddy Segment**  
**(Main Geological Domains)**



The contact/boundary of the massive chromite (labelled as chromitite in Figure 17.1) with both the peridotite and pyroxenite is in the majority of instances very sharp. However, in rare instances the contact with peridotite is gradational from disseminated or intermittent beds or semi-massive chromite. No chromite content high enough to be considered

economically significant (>15% Cr<sub>2</sub>O<sub>3</sub>) has been observed beyond the contact between massive chromite and pyroxenite; therefore the latter boundary is considered critical for geological continuity and has been used in linking massive chromite zones from section to section demonstrating continuity for the entire 450 m to 500 m of each segment.

**Figure 17.2**  
**Gravity Map Bandpass Filter Gravity (Upper Wavelength is 833 m) with the Massive Chrome Domain Projected to Surface from Sections**



Note: The massive chromite is shown as linear black zones. White dots and numbers denote drill hole collars.

**Table 17.2**  
**Summary of the Major Characteristics of the Big Daddy Deposit**

| Segment | Approximate Strike Length (m) | Bearing (Degrees)        | Dip (Degrees)                   | Geometry & Mineralization | Avg. True Thickness (m) | Remarks   |
|---------|-------------------------------|--------------------------|---------------------------------|---------------------------|-------------------------|---|
| BD 1    | 500                           | Varies between 50 and 60 | Varies between -85 East and -90 | Tabular; Massive          | 17                      | Compact; open down dip; limited potential along strike  |
| BD 2    | 450                           | 050                      | Varies between -70 and -80 East | Tabular; Massive          | 12                      | Compact; open down dip; limited potential along strike. |

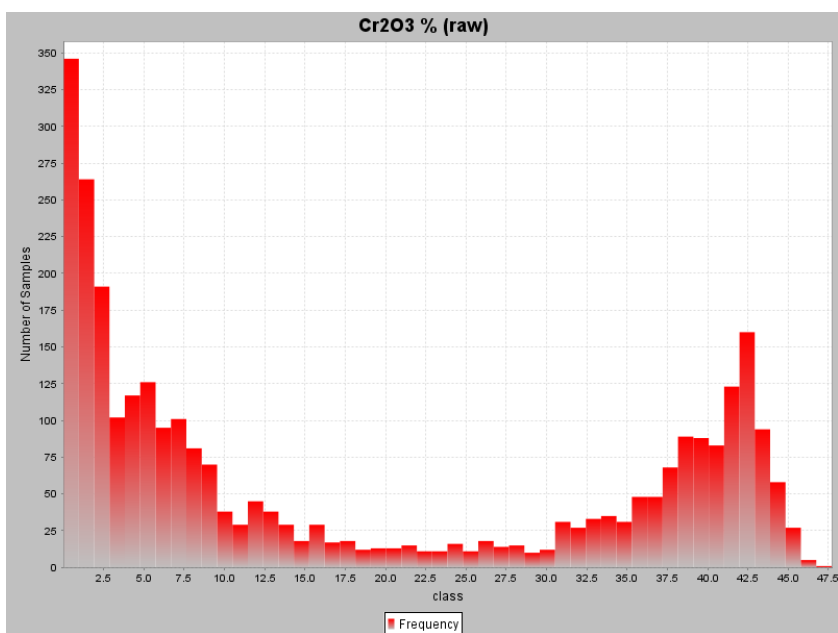
(Note: In both cases the footwall subsidiaries are excluded)

### 17.2.3 Statistical Interpretation of Grade Domains

Statistical analysis of the raw data comprising 2,974 samples (2,359 by XRF + 615 by INAA) shows a bimodal distribution (Figure 17.3) representing two extremes, i.e. low grade background mineralization disseminated in peridotite and high grade mineralization in massive chromite. The distribution clearly demonstrates that the mineralization is not fragmented or spread out, but compact. This is consistent with the geological model implying that the high grade mineralization envelope corresponds to the massive chromite geological domain. Using the same graph (Figure 17.3), the top-cut assay for Cr<sub>2</sub>O<sub>3</sub> has been set at 45.3% which correspond to the 99.5 percentile. Table 17.3 summarizes the global statistics.

In order to analyze a broader zone of mineralization, a probability plot of the raw data was constructed and a 15% cut-off was selected based on the break in the probability plot (Figure 17.4). The statistics within this zone shows a very strong negative skewness thereby confirming the compactness and high grade nature of the Big Daddy deposit. This is demonstrated in Section 17.2.4.

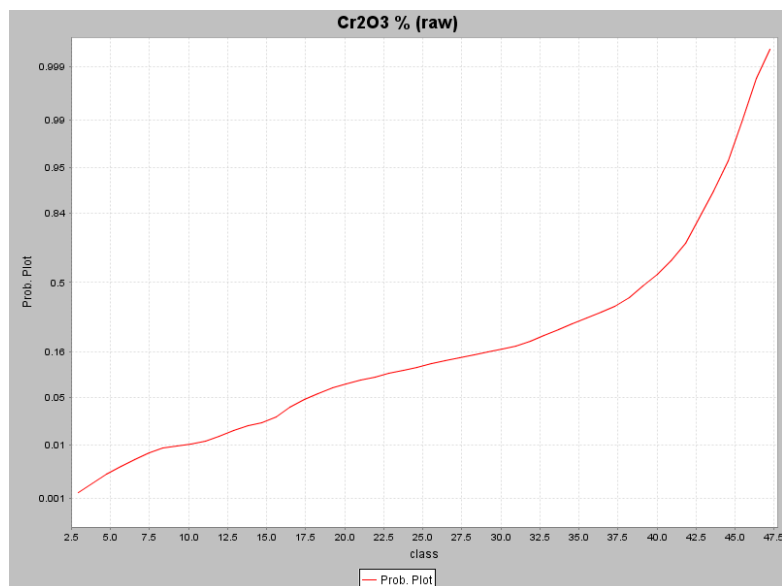
**Figure 17.3**  
**Histogram of the Raw Assay Data for Cr<sub>2</sub>O<sub>3</sub> (%)**



**Table 17.3**  
**Global Statistics of the Cr<sub>2</sub>O<sub>3</sub> Raw Data**

| Variable                 | Cr <sub>2</sub> O <sub>3</sub> % |
|--------------------------|----------------------------------|
| Lower cut                | 0.001                            |
|                          |                                  |
| Number of samples        | 2,974                            |
| Minimum value            | 0.005                            |
| Maximum value            | 47.7                             |
|                          |                                  |
|                          | Ungrouped Data                   |
| Mean                     | 18.247806                        |
| Median                   | 9.435001                         |
| Geometric Mean           | 7.969418                         |
| Variance                 | 285.284539                       |
| Standard Deviation       | 16.890368                        |
| Coefficient of variation | 0.925611                         |
|                          |                                  |
| Skewness                 | 0.405344                         |
| Kurtosis                 | 1.412646                         |
|                          |                                  |
| Natural Log Mean         | 2.075611                         |
| Log Variance             | 2.697682                         |
|                          |                                  |
| 10.0 Percentile          | 0.82                             |
| 20.0 Percentile          | 1.8805                           |
| 25.0 Percentile          | 2.49                             |
| 30.0 Percentile          | 3.69                             |
| 40.0 Percentile          | 6.1045                           |
| 50.0 Percentile (median) | 9.435001                         |
| 60.0 Percentile          | 20.475                           |
| 70.0 Percentile          | 35.275                           |
| 80.0 Percentile          | 39.575                           |
| 90.0 Percentile          | 42.245                           |
| 95.0 Percentile          | 43.27                            |
| 96.0 Percentile          | 43.535                           |
| 97.0 Percentile          | 43.9                             |
| 98.0 Percentile          | 44.345                           |
| 99.0 Percentile          | 44.905                           |
| 99.5 Percentile          | 45.29                            |
| 100.0 Percentile         | 47.7                             |
|                          |                                  |
| Sichel-t                 | 30.673167                        |

**Figure 17.4**  
**Probability Plot of the Raw Cr<sub>2</sub>O<sub>3</sub> Data**

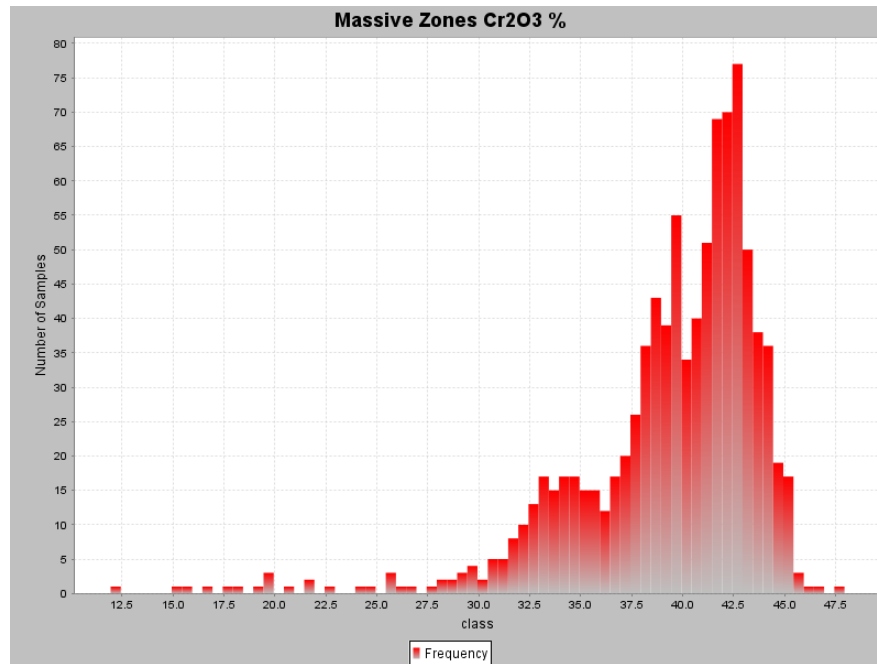


#### 17.2.4 Composite Data and Grade Domains Statistics

Inspections of drill hole sample intervals augmented by a statistical analysis show that the majority of the sample intervals are 1.5 m. Thus 1.5 m was selected as the standard length (support) and compositing was done to normalize the database to this length.

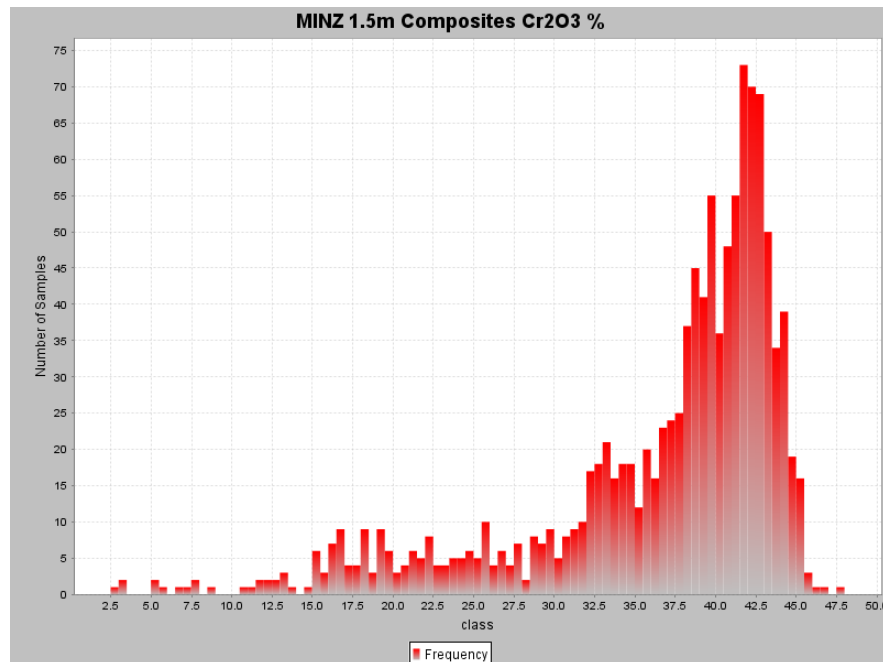
The statistical distributions of the massive chromite (mineralization domain 1) and the 15% cut-off envelope (mineralization domain 2) are presented in Figures 17.5 and 17.6. The similarity displayed by these distributions is further evidence of a compact distribution of the mineralization. A summary table comparing the statistics of the two grade domains is shown in Table 17.4.

**Figure 17.5**  
**Histogram of the Massive Chromite Domain**



(Skewness: -1.90)

**Figure 17.6**  
**Histogram of Composites at 15% Cut-off with Internal Waste**



(Skewness: -1.57)



**Table 17.4**  
**Composites Summary Statistics of the Massive Chromite Domain and the 15%Cr<sub>2</sub>O<sub>3</sub> Cut-off Domain**

| Domain           | No. of Samples | Min. Value | Max. Value | Mean  | Median | Var.  | Std  | Coef. Var | Remarks   |
|------------------|----------------|------------|------------|-------|--------|-------|------|-----------|---|
| Massive Cr Zone  | 927            | 11.94      | 47.7       | 39.39 | 40.61  | 21.42 | 4.63 | 0.12      | Includes internal waste in exceptional cases            |
| 15% Cut-off Zone | 1,149          | 2.48       | 47.7       | 36.50 | 39.323 | 66.78 | 8.17 | 0.22      | Includes internal waste within envelope (maximum 4.5 m) |

### 17.2.5 Cut-off Grade and Economic Parameters

Demand for chromite is mainly for a metallurgical grade product which is around 40% Cr<sub>2</sub>O<sub>3</sub> with a Cr:Fe ratio of generally at least 2. Metallurgical grades of this nature currently sell for US\$180.00 to US\$240.00 per tonne. Currently, the Bushveld complex (South Africa) and the Great Dyke (Zimbabwe) rank high amongst the world producers with many of their operations being underground mines.

The Kemi operations in Finland are mainly open pit with an end of 2009 reserve base of 37 Mt at 26% Cr<sub>2</sub>O<sub>3</sub> (Outokumpu, 2009 Annual Report) and a Cr:Fe ratio of about 1.8. However, a portion of the Kemi production is upgraded by means of beneficiation. Thus in the Micon's opinion, two scenarios must be evaluated for the Big Daddy deposit:

- Scenario 1: Focuses on high grade massive material that would produce a lumpy product comparable to South African products with little or no beneficiation.
- Scenario 2: Defines a broad zone of mineralization to match the Kemi situation exploitable by open pit but requiring beneficiation to upgrade.

Hence, resources have been estimated for the massive zone only, and also for the broad zone constrained by a 15% Cr<sub>2</sub>O<sub>3</sub> cut-off but including internal waste up to a maximum of 4.5 m. The 15% cut-off is based on the break in the probability plot (Figure 17.4).

### 17.2.6 Geostatistics

Fundamental geostatistical principles dictate that variography be conducted on data comprising a single population (i.e. samples from geologically homogeneous areas) and on samples representing the deposit (not barren samples). Thus only the massive chromite domain was considered suitable for spatial analysis. The variographic/spatial analysis was conducted to achieve the following:

1. To define the continuity of the mineralization in order to establish (a) the maximum range or distance over which samples and drill hole intercepts may be correlated, and (b) the adequacy of the drilling grid for a resource estimate.

2. To define the optimum parameters for the search ellipse to be used in the interpolation of block grades.

The geometry of the Big Daddy deposit is tabular (stratiform) with the major/principal direction along strike, the semi-major direction down dip and the minor axis across width. Hence, for each segment of the deposit three sets of variograms were computed to cover the three geometrical directions. The experimental variograms and their fitted models are presented in Appendix 3. The down-hole variograms are, as expected, quite stable due to the high density of sample information. The variograms for the major and semi-major axes are generally unstable due to low densities of sample information beyond the 275 m lag. Nonetheless, the variograms give a reasonable reflection of the highly continuous nature of the Big Daddy mineralization. The variogram models were fitted giving weight to the number of pairs in each lag in proportion to the drilling grid and using the variance to establish the sill. A summary of the spatial analysis is presented in Table 17.5.

**Table 17.5**  
**Summary Results of the Spatial/Variographic Analysis of the Big Daddy Deposits**

| Segment     | Axis       | Direction    | Nugget | Structure 1 | Range | Bearing | Dip |
|-------------|------------|--------------|--------|-------------|-------|---------|-----|
| <b>BD 1</b> | Major      | Along strike | 0      | 11          | 250   | 60      | -90 |
|             | Semi-major | Down dip     | 0      | 11          | 200   |         |     |
|             | Minor      | Down hole    | 0      | 21          | 40    |         |     |
| <b>BD 2</b> | Major      | Along Strike | 10     | 14          | 225   | 50      | -75 |
|             | Semi-major | Down dip     | 10     | 14          | 225   |         |     |
|             | Minor      | Down hole    | 0      | 21          | 40    |         |     |

### 17.2.7 Interpretation and Application of Spatial Analysis Results

The ranges of influence in the major and semi-major directions are in a broad sense about the same, reflecting the isotropic nature of the massive and compact Big Daddy deposit. The apparent shorter range in the down-hole direction (minor axis) is due only to the restriction imposed by the geometry, i.e. the restricted width of 30 m to 60 m of the deposit.

Taking the lower limit of the major axis reflected in BD 2, the range of influence and, therefore, the maximum distance over which drill intercepts and samples can be correlated is 225 m, indicating highly continuous mineralization. Thus, the drilling grid over the Big Daddy deposit as it stands at approximately 100 m x 50 m, is considered adequate for resource definition to the Indicated category. Similar stratiform chromite deposits in Southern Africa display even higher levels of continuity and ranges of influence.

Based on the ranges of influence, the maximum dimensions of the radii of the search ellipsoid for grade interpolation of the Big Daddy should not exceed 225 m x 225 m x 40 m for an Indicated resource.

The variogram range of influence in the major direction is often used in the categorization of resources. As a general rule, mineral resources are classified as follows:

- Measured Resource when the drill hole spacing is less than the variogram range of influence at 66% or less of the sill. This translates to approximately 110 m for the massive chromite domain.
- Indicated Resource when the drill hole spacing is less than the variogram range of influence at between 66% and 100% of the sill. (100% corresponds to the maximum range of influence beyond which there is no spatial correlation between samples). This translates to 225 m to 250 m for the massive chromite domain.
- Inferred resource when drill hole spacing is beyond the range of influence.

(Reference: PDAC Short course, 2009. “From the Core Barrel to a Resource Estimate.”)

### 17.2.8 Block Size, Interpolation Search Parameters and Technique

In an ideal situation the longest axis of a block should equal the drill spacing but in practice it is varied between half and a quarter of the spacing. On this basis the longer axis of the block was selected as 25 m. The other dimensions of 10 m and 5 m were based on ideal minimum height and width, respectively, in a selective open pit or mechanized bulk mining situation.

In deriving the search radii for the major and semi-major axes, Micon adopted a prudent approach and halved the maximum range of influence as determined by the variography to fit the current spacing between lines of 100 m. For the minor axis, Micon adopted 5 m which is the width of the envisaged mining block.

The inverse-distance-cubed (ID<sup>3</sup>) interpolation method was selected as the most ideal to bring out grade patterns inherent in the deposit at a micro-scale due to waste inclusions, particularly for the 15% cut-off domain. The search parameters are summarized in Table 17.6.

**Table 17.6**  
**Summary of Search Parameters**

| Attribute                          | Pass 1          | Pass 2          | Pass 3          |
|------------------------------------|-----------------|-----------------|-----------------|
| Major axis search radius (m)       | 100             | 200             | 400             |
| Semi-major axis search radius (m)  | 100             | 200             | 400             |
| Minor axis search radius (m)       | 5               | 10              | 20              |
| Maximum # of samples/drill hole    | 3               | 3               | 3               |
| Minimum # of samples/interpolation | 5               | 3               | 3               |
| Maximum samples/interpolation      | 10              | 20              | 30              |
| Interpolation method               | ID <sup>3</sup> | ID <sup>3</sup> | ID <sup>3</sup> |

For the three passes, the maximum number of samples per drill hole is designed to manage and control the number of drill holes in the interpolation.

For Pass 1, the minimum and maximum number of samples for each interpolation is designed to ensure that the nearest sample(s) is/are accorded the highest weighting and that a maximum of the three closest holes are used in the interpolation.

For Pass 2, the minimum number of samples for interpolation is designed to ensure a minimum of two drill holes in the interpolation while the allowable maximum samples per interpolation are increased to twenty to go beyond the limits of Pass 1.

For Pass 3, the minimum number of samples for interpolation allows the interpolation to fill all the space in the solid. The maximum number of samples per interpolation is increased to 30 to allow the bigger ellipse to find at least a second hole for interpolation.

### **17.2.9 Block Modelling Description**

Domain model solids were created to encompass the limits of the components of the deposit as defined by the geological interpretation. For scenario 1, only the massive chromite intercepts were considered with no allowance for internal dilution, except in <5% of the cases where linking sections dictated otherwise. For scenario 2, the 15% Cr<sub>2</sub>O<sub>3</sub> cut-off envelope was used allowing for a maximum of 4.5 m of internal waste. (Note: The 4.5 m allowable internal waste equates to three samples and is just under the envisaged block width of 5 m).

An inclined, rotated, partial-percentage block model (i.e. the percentage of any block that is contained within the domain model is used to weight the volume and tonnage reports), with the long axis of the blocks oriented along an azimuth varying between 065 degrees and 050 degrees (parallel to the average domain orientation) and dipping at between -70 degrees and -90 degrees.

Cr<sub>2</sub>O<sub>3</sub> grades and Cr/Fe ratios were interpolated into the individual blocks of the mineralized domains using ID<sup>3</sup>. Ordinary kriging was used to run a parallel estimate to validate the ID<sup>3</sup> results.

## **17.3 CLASSIFICATION CRITERIA AND BLOCK MODELLING RESULTS**

### **17.3.1 Classification Criteria**

The mineral resources in this report were estimated in accordance with the definitions contained in the CIM Definition Standards on Mineral Resources and Mineral Reserves that were prepared by the CIM Standing Committee on Reserves Definitions and adopted by the CIM Council on December 11, 2005.

The mineralized material was classified into either the Indicated or Inferred mineral resource category on the basis of a combination of the following factors: (a) confidence in the geological and mineralization continuity, (b) position of blocks in relation to the range of

influence as defined by the variographic analysis and (c) and the search ellipse ranges presented in Table 17.4.

### 17.3.2 Responsibility For Estimation

The Micon staff with responsibility for this resource estimate are Alan J. San Martin, and Charley Murahwi. All are Qualified Persons as defined in NI 43-101, and are independent of the SKF parties.

### 17.3.3 Statement of Results

Following the concepts and processes described above, the mineral resources for the Big Daddy deposit were estimated and include all blocks that are located within the domain models of the two scenarios. The results of the block model are summarized in Tables 17.7 and 17.8, and are exclusive of the overburden tonnages. The respective block models are presented in Figures 17.7 and 17.8.

**Table 17.7**  
**Summary of the Big Daddy Massive Chromite Resources**

| Deposit/Code       | Category         | Cr <sub>2</sub> O <sub>3</sub> % Interval | Tonnes x 10 <sup>6</sup> | Avg. Cr <sub>2</sub> O <sub>3</sub> % | Cr/Fe Ratio |
|--------------------|------------------|---|--------------------------|---------------------------------------|-------------|
| BD 1 (100)         | Indicated        | >35.0                                     | 12.934                   | 40.74                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.435                    | 33.63                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.017                    | 28.87                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 13.4                     | 40.49                                 | 2.0         |
| BD 2               | Indicated        | >35.0                                     | 9.234                    | 41.44                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.520                    | 32.83                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.090                    | 29.36                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 9.8                      | 40.88                                 | 2.0         |
| <b>Grand Total</b> | <b>Indicated</b> |   | <b>23.2</b>              | <b>40.66</b>                          | <b>2.0</b>  |
| BD 1 (100)         | Inferred         | >35.0                                     | 6.216                    | 39.34                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.014                    | 33.25                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.005                    | 27.97                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0                        | 0                                     | 0           |
|                    |                  | 15.0 – 20.0                               | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 7.2                      | 38.48                                 | 2.0         |
| BD 2               | Inferred         | >35.0                                     | 8.382                    | 40.24                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.609                    | 33.32                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.047                    | 28.35                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.021                    | 22.87                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.042                    | 16.76                                 | 1.1         |
|                    |                  | .01 – 15.0                                | 0                        | 0                                     | 0           |
| Sub-total          |                  |   | 9.1                      | 39.57                                 | 2.0         |
| <b>Grand Total</b> | <b>Inferred</b>  |   | <b>16.3</b>              | <b>39.09</b>                          | <b>2.0</b>  |

Note: The tonnages have been rounded to 3 decimals for grade intervals and to 1 decimal for sub-totals and grand totals.

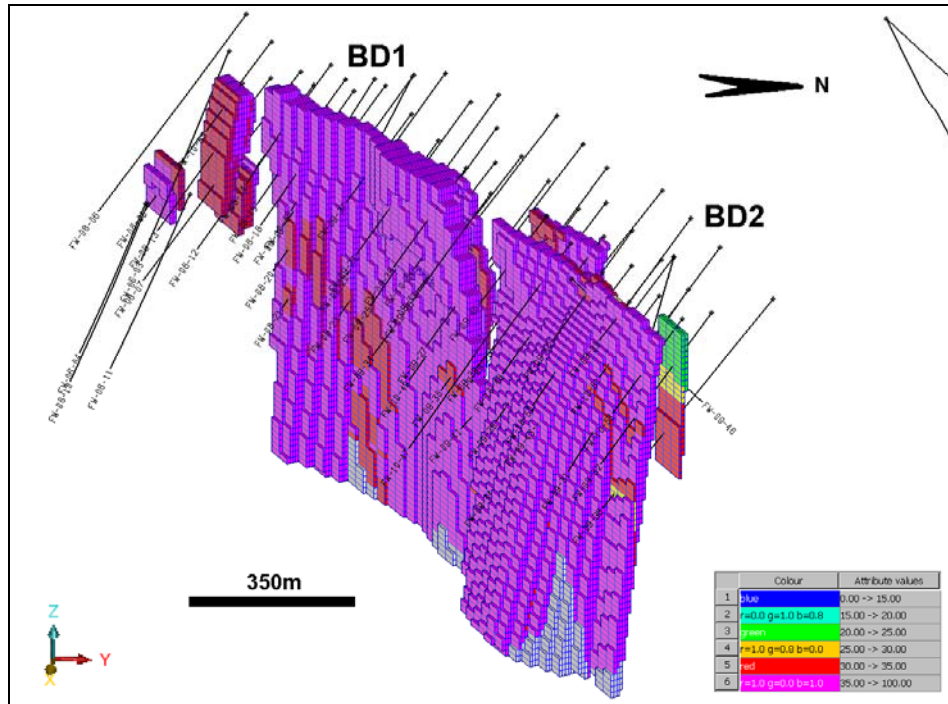
**Table 17.8**  
**Summary of the Big Daddy Chromite Deposit Mineral Resource @ 15% Cr<sub>2</sub>O<sub>3</sub> Cut-off**

| Deposit/Code       | Category         | Cr <sub>2</sub> O <sub>3</sub> % Interval | Tonnes      | Avg. Cr <sub>2</sub> O <sub>3</sub> % | Cr/Fe Ratio |
|--------------------|------------------|---|-------------|---------------------------------------|-------------|
| BD 1 (100)         | Indicated        | >35.0                                     | 13.535      | 40.22                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.333       | 32.98                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.447       | 27.77                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.152       | 23.34                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.019       | 17.81                                 | 1.1         |
|                    |                  | 0.01 – 15.0                               | 0.001       | 12.09                                 | 0.7         |
| Sub-total          |                  |   | 15.5        | 39.05                                 | 2.0         |
| BD 2               | Indicated        | >35.0                                     | 9.622       | 41.11                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.031       | 32.97                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.190       | 28.04                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.007       | 22.56                                 | 1.4         |
|                    |                  | 15.0 – 20.0                               | 0.009       | 18.46                                 | 1.2         |
|                    |                  | 0.01 – 15.0                               | 0.087       | 7.74                                  | 0.6         |
| Sub-total          |                  |   | 10.9        | 39.82                                 | 1.9         |
| <b>Grand Total</b> | <b>Indicated</b> |   | <b>26.4</b> | <b>39.37</b>                          | <b>2.0</b>  |
| BD 1 (100)         | Inferred         | >35.0                                     | 7.097       | 39.14                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 1.877       | 32.94                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.543       | 27.93                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.349       | 22.58                                 | 1.4         |
|                    |                  | 15.0 – 20.0                               | 0.174       | 18.33                                 | 1.1         |
|                    |                  | 0.01 – 15.0                               | 0.016       | 9.17                                  | 0.6         |
| Sub-total          |                  |   | 10.1        | 36.40                                 | 1.9         |
| BD 2               | Inferred         | >35.0                                     | 8.993       | 39.80                                 | 2.0         |
|                    |                  | 30.0 – 35.0                               | 0.986       | 32.89                                 | 1.8         |
|                    |                  | 25.0 – 30.0                               | 0.241       | 28.06                                 | 1.7         |
|                    |                  | 20.0 – 25.0                               | 0.123       | 23.11                                 | 1.5         |
|                    |                  | 15.0 – 20.0                               | 0.059       | 16.90                                 | 1.0         |
|                    |                  | .01 – 15.0                                | 0.014       | 11.96                                 | 0.9         |
| Sub-total          |                  |   | 10.4        | 38.51                                 | 2.0         |
| <b>Grand Total</b> |                  |   | <b>20.5</b> | <b>37.47</b>                          | <b>1.9</b>  |

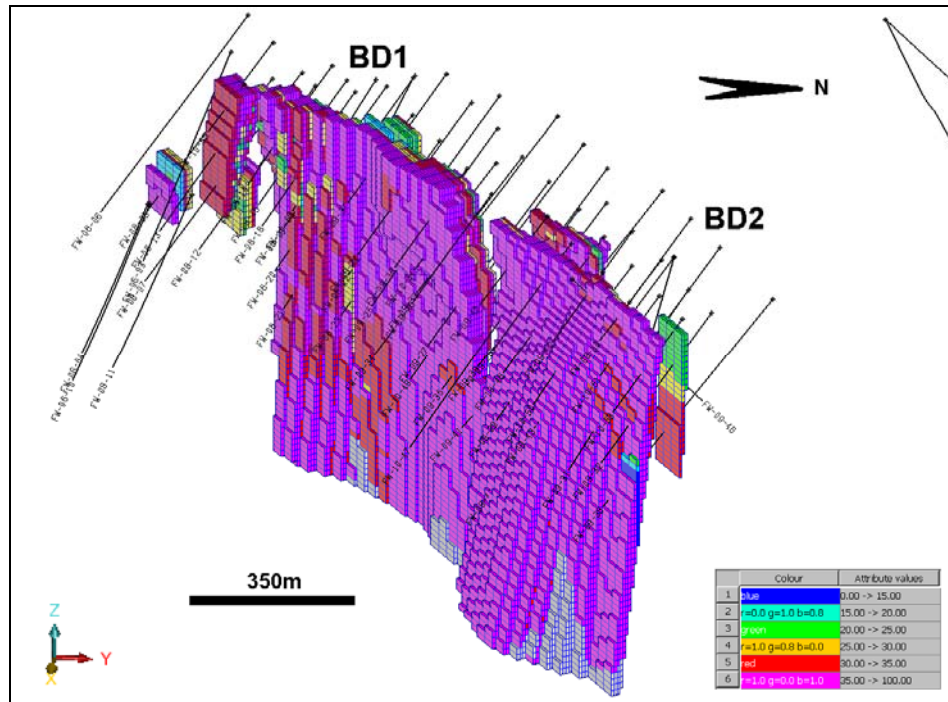
(Includes internal waste within the 15% Cr<sub>2</sub>O<sub>3</sub> envelope up to a maximum of 4.5m).

Note: The tonnages have been rounded to 3 decimals for grade intervals and to 1 decimal for sub-totals and grand totals.

**Figure 17.7**  
**Block Model of the Massive Domain of the Big Daddy Chromite Deposit**



**Figure 17.8**  
**Block Model of the Big Daddy Chromite Zone Constrained at 15% Cr<sub>2</sub>O<sub>3</sub> Cut-off**



### 17.3.4 Comments

The block model grades for the massive chromite domain as displayed in Figure 17.7 are fully supported by the distribution of drill hole intercept grades seen in Figure 17.9. The distribution of the Indicated and Inferred Resources within the block model is presented in Figures 17.10 and 17.11 for the massive and 15% cut-off domains, respectively.

#### Indicated Mineral Resource

The CIM Definition Standards for Mineral Resources and Mineral Reserves of December, 2005 state that:

*Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.*

On the evidence of the geological model/interpretation, statistical and spatial analysis, the Big Daddy deposit demonstrates a high level of continuity in the mineralization both in the lateral and vertical sense. The geological continuity is equally demonstrated, although minor displacements of the deposit, if any, may not have been revealed on the 50 x 100 m grid. Nonetheless, the broad zone of continuity along strike (Figure 17.2) and down dip (Figure 17.9) is sufficiently defined to justify the categorization of the drilled part of the deposit as an Indicated resource.

#### Inferred Mineral Resource

In accordance with the CIM definition of Inferred Resources, the portion of the Big Daddy deposit below the -220 m elevation for BD 1 and -160 m for BD 2, and all satellite bodies the geological continuity of which is questionable, have been categorized as Inferred. The bulk of the Inferred category of the major components of the deposit remains to be drill tested. Nonetheless, the lower limit of the inferred resource (at 600 m below surface) is considered appropriate. This interpretation is based on:

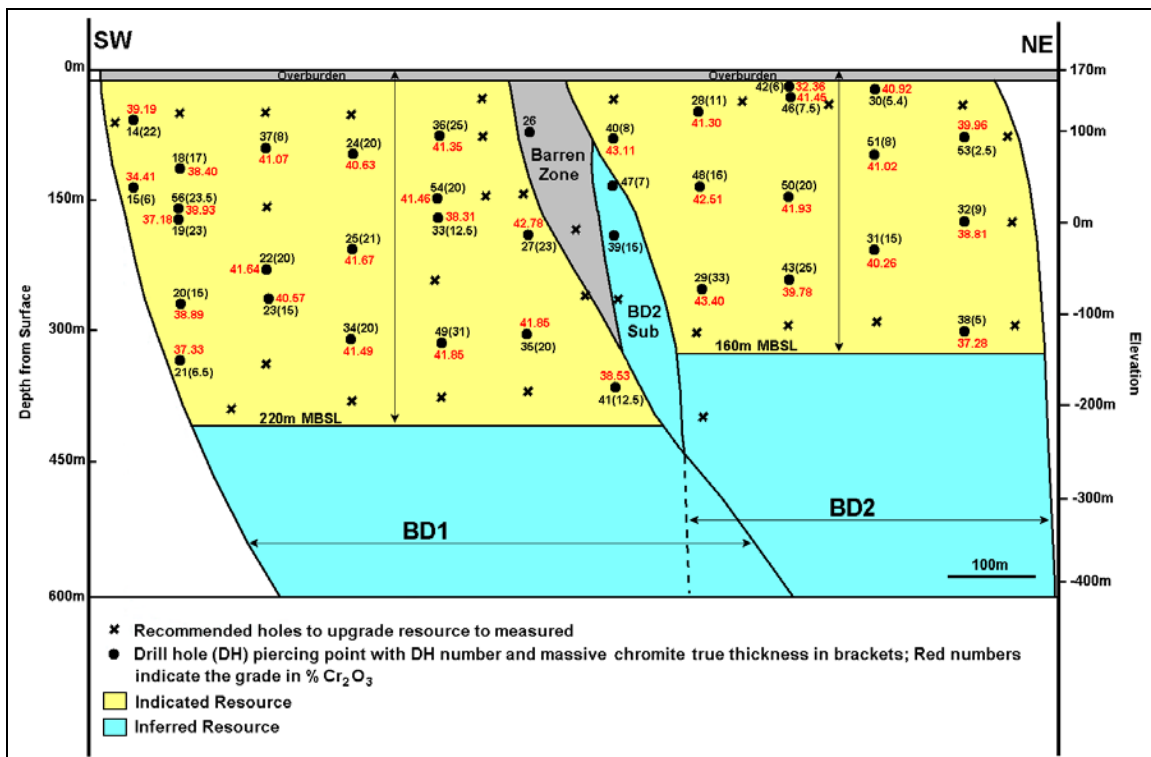
- The large thicknesses of the massive chromite encountered in the line of the deepest holes suggesting that, at between 350 m and 400 m depth, the deposit is not narrowing at depth.
- A Magnetic 3-D inversion which suggests that the ultramafic rocks hosting the chromite mineralization extend to a depth of +/- 1,700 m.
- Experience with similar type deposits: The sill hosting the chromite mineralization is known to extend for a lateral distance of over 12 km from Blackbird in the southwest



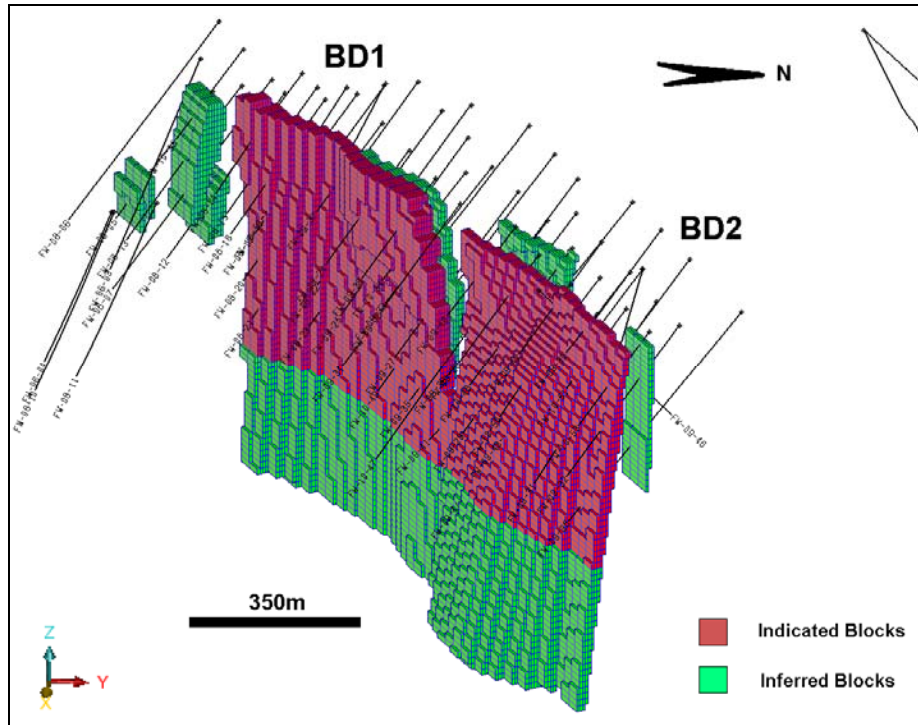
to beyond Black Thor in the northeast. Thus, a depth extension of 600 m is conceivable and considered conservative by analogy with similar intrusions like the Stillwater, Bushveld and Great Dyke Complexes. The relatively thin (<1 m) chromite layers of the Great Dyke are known to be persistent for several km down dip. Recent geophysical investigations at the Kemi deposit indicate persistent mineralization at great depth. The Big Daddy ultramafic-mafic rocks may be part of a much larger intrusion or magmatic complex, extending at least 50 km along strike (Naldrett, 2009).

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

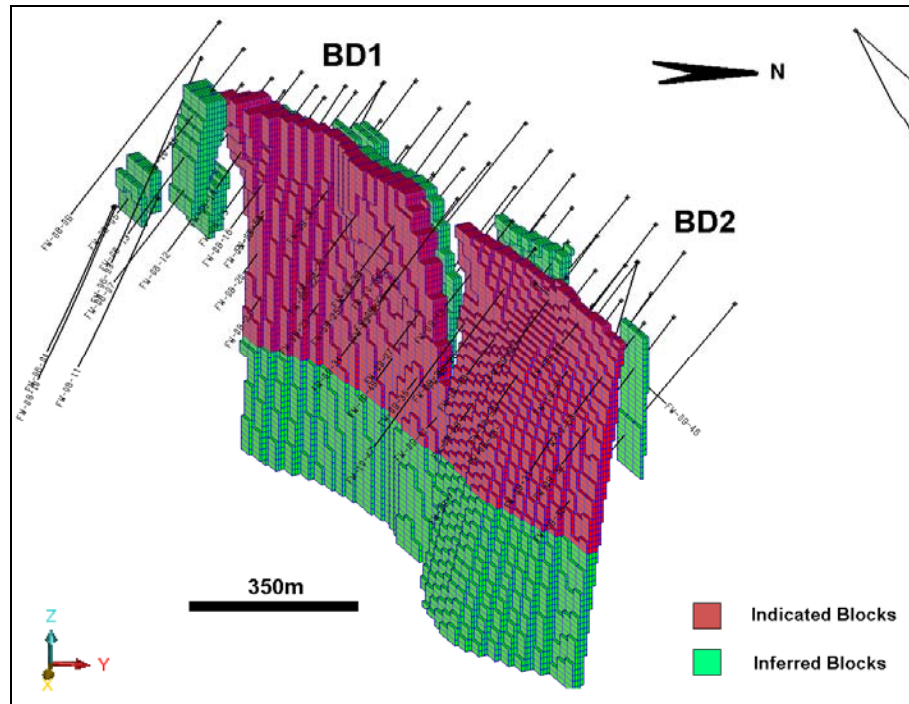
**Figure 17.9**  
**Sketch of Longitudinal Section of the Big Daddy Deposit, Looking West**



**Figure 17.10**  
Distribution of Resources within the Block Model for the Massive Domain



**Figure 17.11**  
Distribution of Resources within the Block Model constrained at 15% Cut-off



### 17.3.5 Validation

Validation of the block model and tonnages was conducted manually using sectional and polygonal techniques and by ordinary kriging. A comparison of results obtained using ordinary kriging and ID<sup>3</sup> is presented in Table 17.9.

**Table 17.9**  
**Summary of Global Results of ID<sup>3</sup> Versus Ordinary Kriging (OK)**

| Description                               | OK Blocks | ID <sup>3</sup> Blocks |
|---|-----------|------------------------|
| Count                                     | 15,645    | 15,645                 |
| Mean (%Cr <sub>2</sub> O <sub>3</sub> )   | 39.26     | 39.32                  |
| Median (%Cr <sub>2</sub> O <sub>3</sub> ) | 40.07     | 40.25                  |
| Variance                                  | 10.51     | 12.49                  |
| Standard Deviation                        | 3.24      | 3.53                   |
| Coefficient of variation                  | 0.08      | 0.09                   |

### 17.3.6 Qualification of the Mineral Resources

Micon believes that at present there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which would adversely affect the mineral resources estimated above. However, mineral resources, which are not mineral reserves, do not have demonstrated economic viability. Micon cannot guarantee that the SKF parties will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the project. Other future setbacks may include aboriginal challenges to title or interference with ability to work on the property and lack of efficient infrastructure. There are currently no mineral reserves on the Big Daddy property and there is no assurance that the project will be placed into production.

### 17.3.7 Potential Upgrading of the Indicated Resource

It is considered likely that, in order to upgrade the Indicated resource to the Measured category, a few strategically positioned drill holes will suffice. These positions are marked on the sketch long section shown in Figure 17.9. Additional holes are unlikely to improve the grade but may assist in revealing minor displacements.

## 18.0 OTHER RELEVANT DATA AND INFORMATION

### 18.1 THE MARKET FOR CHROMITE

The results of metallurgical testwork described in Section 16.0 of this report indicate that marketable chromite products may, potentially, be produced from the Big Daddy deposit.

### 18.2 OVERVIEW

Chromite is the source of the metallic element chromium which is used in a wide range of applications in metallurgy, refractory materials and chemicals. The principal end-uses are in stainless steel and non-ferrous alloys, and stainless steel accounts for approximately 94% of demand for chromite. Metallurgical grade chromite is converted to ferrochromium which is then added to steel and iron melts. The foundry sands sector accounted for approximately 3% of output in 2007, followed by chromium chemicals at 2% of output and refractories at less than 1%.

Chromite is produced in metallurgical, chemical, refractory and foundry grades for which the general specifications are shown in Table 18.1.

**Table 18.1**  
**General Specifications for Chromite Grades**

|                                    | Metallurgical Grade | Chemical Grade | Refractory Grade | Foundry Grade |
|------------------------------------|---------------------|----------------|------------------|---------------|
| Cr <sub>2</sub> O <sub>3</sub> (%) | >46                 | >44            | 30-40            | 44            |
| Cr:Fe                              | >2:1                | >1.5           | 2-2.5:1          |               |
| SiO <sub>2</sub> (%)               | <10                 | <3.5           | 6                | <4            |

Specific end-use sectors require additional physical and chemical characteristics. In metallurgical applications, phosphorus, sulphur and other minor elements should not exceed certain levels. Foundry sands require silica at less than 1%, sub-angular grains and specific grain sizes. Premium refractory grades are relatively coarse-grained.

The majority of chromite used in metallurgical applications is smelted to ferrochromium before it is added to the steel melt. The principal ferrochromium alloys are high-carbon ferrochromium (HCFeCr) for which the chromite ores should have a Cr:Fe ratio of 2.0-3.6, and charge chrome which is produced from lower grade ores with Cr:Fe ratio of 1.3-2.0. Direct shipping, or lumpy ore, has grain a size over 6 mm and is a premium product since it can be fed directly to the ferroalloy smelter. Fine grained chromite (less than 6 mm) must be pelletized before use.

Refractory chromite is further divided into magnesia-chromite (20-70% Cr<sub>2</sub>O<sub>3</sub>), chromite (>30% Cr<sub>2</sub>O<sub>3</sub>) and picrochromite (>70% Cr<sub>2</sub>O<sub>3</sub>), depending on the specific end use.

### 18.3 PRODUCTION OF CHROMITE AND FERROCHROMIUM

World production of chromite reached 22.5 Mt gross weight in 2008, having increased steadily since 2000 (International Chromium Development Association, (ICDA), 2008). Preliminary figures published by the United States Geological Survey indicate output of 23 Mt in 2009.

Table 18.2 shows the 10 largest producers in 2008 and world output for the five years from 2004 to 2008. Production in both Russia and Turkey has increased significantly since the early 2000s.

**Table 18.2**  
**World Chromite Production**  
**(Thousand t gross weight)**

|              | 2004          | 2005          | 2006          | 2007          | 2008 <sup>1</sup>  |
|--------------|---------------|---------------|---------------|---------------|--------------------|
| South Africa | 7,310         | 7,244         | 6,865         | 8,720         | 8,646              |
| Kazakhstan   | 3,290         | 3,581         | 3,366         | 3,687         | 3,940              |
| India        | 2,949         | 3,255         | 3,600         | 3,320         | 2,895              |
| Turkey       | 506           | 859           | 1,060         | 1,679         | 1,890 <sup>1</sup> |
| Russia       | 320           | 772           | 966           | 777           | 1,020              |
| Brazil       | 623           | 677           | 604           | 626           | 712                |
| Zimbabwe     | 621           | 820           | 713           | 664           | 528                |
| Finland      | 580           | 571           | 549           | 556           | 500                |
| Pakistan     | 130           | 148           | 199           | 323           | 385                |
| Oman         | 19            | 18            | 71            | 338           | 355                |
| Others       | 1,254         | 1,196         | 1,248         | 1,464         | 1,656              |
| <b>Total</b> | <b>17,602</b> | <b>19,141</b> | <b>19,241</b> | <b>22,154</b> | <b>22,527</b>      |

<sup>1</sup> Industrial Minerals, March, 2009 (reporting ICDA).

Source: ICDA, 2008 Statistical Bulletin.

There has been a general trend towards production of ferrochromium within the vicinity of chromite output, and away from the major stainless steel production centres, although China has emerged as a significant producer of both ferrochromium and stainless steel based primarily on imported feedstocks. China has the largest non-integrated ferrochromium capacity

Production of ferrochromium (high carbon charge grade) between 2004 and 2008 is given in Table 18.3 which shows the rapid increase in output in China.

**Table 18.3**  
**World Production of Ferrochromium**  
**(Thousand t gross weight)**

|              | 2004  | 2005  | 2006  | 2007  | 2008 <sup>1</sup> |
|--------------|-------|-------|-------|-------|-------------------|
| South Africa | 2,960 | 2,506 | 2,818 | 3,536 | 3,260             |
| Kazakhstan   | 820   | 908   | 928   | 1,070 | 1,040             |
| China        | 532   | 680   | 858   | 1,060 | 1,250             |
| India        | 527   | 611   | 634   | 820   | 750               |

|              | 2004         | 2005         | 2006         | 2007         | 2008 <sup>1</sup> |
|--------------|--------------|--------------|--------------|--------------|-------------------|
| Russia       | 147          | 295          | 304          | 345          | 320               |
| Finland      | 264          | 235          | 243          | 242          | 240               |
| Zimbabwe     | 218          | 257          | 214          | 201          | 210               |
| Brazil       | 185          | 170          | 141          | 164          | 175               |
| Sweden       | 128          | 127          | 136          | 124          | 115               |
| Turkey       | 25           | 16           | 56           | 59           | 60                |
| Others       | 60           | 54           | 39           | 18           | 42                |
| <b>Total</b> | <b>5,866</b> | <b>5,859</b> | <b>6,371</b> | <b>7,639</b> | <b>7,462</b>      |

<sup>1</sup> Industrial Minerals, March, 2009 (reporting ICDA).  
Source: ICDA, 2008 Statistical Bulletin.

## 18.4 END-USE SECTORS

The breakdown for the principal uses of chromite ores and concentrates is given in Table 18.4. The use of chromite in foundry sands has increased steadily since 2000 while, generally, chromium chemicals have accounted for a declining share of output. Use of chromite in refractories was strong in 2006 and 2007 compared with earlier years.

**Table 18.4**  
**Principal Uses for Chromite Ores and Concentrates**  
(Thousand t gross weight)

|               | 2004          | 2005          | 2006          | 2007          | 2008          |
|---------------|---------------|---------------|---------------|---------------|---------------|
| Metallurgical | 16,254        | 17,878        | 17,723        | 20,756        | 21,400        |
| Refractory    | 101           | 125           | 189           | 180           | 180           |
| Chemical      | 753           | 595           | 672           | 531           | 450           |
| Foundry sands | 495           | 542           | 657           | 688           | 500           |
| <b>Total</b>  | <b>17,602</b> | <b>19,141</b> | <b>19,241</b> | <b>22,154</b> | <b>22,530</b> |

Source: ICDA, 2008, Statistical Bulletin

Refractory chromite is used in products for the linings of iron and steel furnaces, flash and continuous smelters, rotary cement kilns, and glass manufacture.

Chromite is used to manufacture a wide range of chromium chemicals of which chromic acid, sodium dichromate, sodium chromate and sodium chromate tetrahydrate are the most important. The uses of chromium chemicals include metal finishing (corrosion resistance, promotion of adhesion of paint), wood preservative, dyes, oxidizing agents, pigments, leather tanning, oil well drilling and catalysts. However, a number of chromium compounds are hazardous or toxic (particularly hexavalent chromium) and the use of chromite in chromium chemicals has declined significantly with increasing control on usage and on the disposal of chromium-containing wastes.

Chromite foundry sands have good thermal conductivity, resist metal penetration and slag attack, resist thermal shock and have a low coefficient of thermal expansion. They are used in manganese-, carbon- and alloy-steel casting and non-ferrous casting.

Production of chromium metal is relatively minor at approximately 35,000 t/y. It is valued for its resistance to chemical corrosion.

#### 18.4.1 Stainless Steel

Chromium is the only element which results in steels having stainless properties. Stainless steels contain a minimum of 10.5% chromium (International Stainless Steel Forum, ISSF) and are divided into ferritic, martensitic, austenitic and duplex types. All are corrosion resistant. Ferritic steels contain 13 to 17% chromium and martensitic steels contain around 12% chromium. Austenitic steels contain the highest proportion of chromium, typically 18%. Duplex steels combine austenitic and martensitic structures and contain 18 to 28% chromium, plus nickel and molybdenum and are used in particularly stringent corrosion conditions.

The ISSF reports production of stainless and heat resisting steels, as shown in Table 18.5. World output exceeded 20 Mt in 2002.

**Table 18.5**  
**Production of Stainless Steel by Region**  
**(Thousand t ingot/slab equivalent)**

| Region                     | 2004          | 2005          | 2006          | 2007          | 2008 <sup>1</sup>   | 2009 <sup>1</sup>   |
|----------------------------|---------------|---------------|---------------|---------------|---------------------|---------------------|
| Western Europe/Africa      | 9,422         | 8,823         | 9,972         | 8,669         | 8,272               | 6,449               |
| Central and Eastern Europe | 318           | 310           | 363           | 364           | 333                 | 237                 |
| Americas                   | 2,933         | 2,688         | 2,951         | 2,604         | 2,315               | 1,958               |
| Asia                       | 11,897        | 12,498        | 15,074        | 16,200        | 15,011 <sup>2</sup> | 15,935 <sup>2</sup> |
| <b>Total</b>               | <b>24,570</b> | <b>24,319</b> | <b>28,359</b> | <b>27,836</b> | <b>25,930</b>       | <b>24,578</b>       |

<sup>1</sup> Preliminary.

<sup>2</sup> From 2008, China's output reported separately: 6,943,000 t in 2008 and 8,805 t in 2009.

#### 18.5 INDUSTRY STRUCTURE

The proportion of mined chromite production by independent, non-integrated companies has generally decreased over the past decade and the majority of mine capacity is now owned and operated by companies in the ferrochromium, chromium chemicals or chromite refractory sectors.

There remains, however, significant international trade in chromite concentrates, directly between producers and end-users or through trading houses.

#### 18.6 PRICES

There is no terminal market, such as the London Metal Exchange, for chromite and ferrochromium and prices are negotiated between buyers and sellers, either on the spot market or under contract. Representative prices are reported by industry publications. Prices for chromite are quoted monthly by Industrial Minerals journal based on data from industry participants (producers, traders and consumers). It should be noted that such prices are

indicative of market activity and do not represent actual transactions. Unit values may also be calculated from trade statistics although it should be noted that these represent value at the point of export or import and not at the mine gate. See Table 18.6.

**Table 18.6**  
**Representative Prices for Chromite**  
**(US\$/t)**

|   | 2005    | 2006    | 2007 <sup>1</sup> | 2008    | 2009    | 2010 <sup>2</sup> |
|---|---------|---------|-------------------|---------|---------|-------------------|
| <b>Metallurgical grade</b>  |         |         |                   |         |         |                   |
| South African <sup>3</sup> 40% Cr <sub>2</sub> O <sub>3</sub> , fob | 65-95   | 100-145 | 240-290           | 320-350 | 115-135 | 180-240           |
| Turkish 40-402%, 2.5:1  |         |         | 200-300           | 350     | 240-260 | 240-260           |
| Kazakh 40-41% min   |         |         | 200-300           | 350     | 220-250 | 220-250           |
| <b>46% Cr<sub>2</sub>O<sub>3</sub>, wet bulk, fob</b>               |         |         |                   |         |         |                   |
| South African chemical grade  | 105-125 | 175-183 | 270-350           | 560-570 | 190-210 | 240-280           |
| South African foundry grade   | 170-195 | 195-220 | 300-350           | 510     | 230-260 | 280-335           |
| South African refractory grade                                      | 100-120 | 215-235 | 455               | 880     | 370-390 | 370-395           |

<sup>1</sup> Turkish and Kazakh metallurgical grades quoted starting January, 2007.

<sup>2</sup> May, 2010.

<sup>3</sup> Friable lumpy grade.

Source: Industrial Minerals, December issues.

Chromite prices in 2009 reflected the sharp slowdown in industrial and economic activity due to the recession. Prices for all South African grades started to fall at the beginning of 2009. By May, 2010, some firming in prices for South African grades was apparent.

## **18.7 OTHER RELEVANT DATA AND INFORMATION**

All other relevant data and information regarding the Big Daddy chromite deposit has been disclosed under the relevant sections of this report.



## **19.0 INTERPRETATION AND CONCLUSIONS**

### **19.1 EXPLORATION CONCEPT**

Since 2006, the SKF personnel have employed a combination of geophysical techniques involving magnetic, electromagnetic and gravity surveys to determine the extent and rough geometry of the Big Daddy chromite mineralization prior to evaluation by drilling. This worked well, and has reduced the amount of drilling required to delineate the deposit.

### **19.2 GEOLOGY AND MINERAL RESOURCES**

The Big Daddy deposit is tabular, as is typical of stratiform chromite deposits hosted by layered mafic-ultramafic intrusions. The tabular form and the continuity of massive chromite intersections from hole to hole and section to section has facilitated delineation of the deposit using relatively wide hole spacing. Three to four holes were drilled along sections cut at 100 m intervals so that collars were 50 or 100 m apart. The sections extend over a 1,200 m strike length of which ~1,000 m is mineralized. The current drill density is sufficient to estimate an Indicated resource over part of the deposit. The consistency and persistency of the deposit as revealed by variographic analysis implies that only very limited additional drilling should be necessary to upgrade the Indicated resource to the Measured category.

The two segments of the Big Daddy deposit (BD 1 and BD 2) remain open at depth but the lateral extents are unlikely materially to exceed the already established limits. In Micon's opinion, therefore, infill drilling to enhance the confidence level of the resource is more important than step-out drilling to increase tonnage.

### **19.3 METALLURGY**

The preliminary metallurgical investigations completed to date are inconclusive but the initial work did indicate that marketable products were obtainable. In particular, the core of the Big Daddy deposit consists of massive mineralization which should generate a lumpy product comparable in quality to others currently offered in the marketplace. Further test-work is required.

### **19.4 MARKET OUTLOOK**

Chromite is the source of chromium which is used in a wide range of applications in metallurgy, refractory materials and chemicals. The principal end uses are in stainless steel which accounts for approximately 94% of output of chromite, and non-ferrous alloys.

Potential new sources of supply will be evaluated in relation to the geographical location of potential markets and product quality.

## **19.5 PROJECT OBJECTIVES**

Micon is satisfied that the overall project objectives as detailed in the previous Micon technical report (2009), have been met in a highly efficient and cost saving manner. The next major challenge will be to bring the property into production; prior to which additional technical and economic studies will be required.

## 20.0 RECOMMENDATIONS

Spider and KWG have established a firm resource base upon which to proceed with prefeasibility studies. However, in order to advance the project to the prefeasibility level, a critical prerequisite is to complete metallurgical investigations to establish the product quality of the massive chromite and the optimum beneficiation process for the disseminated/lower grade mineralization.

Whilst additional resources may be discovered by deeper drilling, Micon believes that the optimal economic depth for mining should be determined before such drilling is undertaken. Thus, in the short to medium term, additional drill programs are not a priority.

In view of the foregoing, Micon makes the following recommendations:

1. Detailed metallurgical work needs to be completed to enable prefeasibility studies to commence. The investigations should primarily focus on the establishment of product quality/recovery relationships and the marketing potential of the Big Daddy chromite concentrates.
2. Detailed mineralogical work should be conducted simultaneously with metallurgical investigations so as to elucidate chromite grain liberation characteristics, chromite grain chemistry and gangue mineralogy.
3. A prefeasibility study should to be conducted at the conclusion of metallurgical /mineralogical investigations, if warranted.
4. In addition to the above, a basic but detailed survey of the infrastructural requirements should be initiated, taking into account the possible synergies of cooperation with other parties holding prospective mineral resources in the McFaulds Lake area.

If prefeasibility studies are favourable, Micon recommends that infill drill holes as indicated on Figure 17.9 be drilled for the purpose of upgrading the resource from Indicated to Measured. Additional holes to increase the resource from Inferred to Indicated are not marked on Figure 17.9 but can be designed and drilled if warranted. In view of the remoteness and lack of infrastructure of the SKF project area, the overall (global) size of the deposit will impact significantly in any future investment decision making process.

Whilst current exploration/evaluation efforts are on chrome, the potential for other deposit types should not be overlooked, particularly MMS (which might occur in the same peridotite unit hosting the chrome mineralization) and VMS type deposits in the eastern segment of the SKF property area. Freewest's and Noront's MMS discoveries in peridotite (see Section 15) lend support for continued follow-up work on EM conductors

In line with these recommendations, Spider/KWG have proposed the following two-phased budget (Table 20.1)

**Table 20.1**  
**Summary of Budget Proposals for the Big Daddy Chromite Project**

| <b>Phase</b> | <b>Description of Activity/Program</b>  | <b>Estimated. Cost(\$)</b> |
|--------------|---|----------------------------|
| 1 a          | Geometallurgical studies involving mineralogical and microprobe work                  | 50,000                     |
| 1 b          | Metallurgical testing including allowance for drill holes to get metallurgical sample | 500,000                    |
| 1 c          | Infrastructural study   | 50,000                     |
| 1 d          | Prefeasibility/scoping study  | 100,000                    |
|              | Contingency on phase 1 activities (about 10% of totals 1 a to 1 d)                    | 70,000                     |
|              | <b>Sub total Phase 1</b>  | <b>770,000</b>             |
| 2            | Diamond drilling  | 4,000,000                  |
|              | Contingency on phase 2 activities   | 400,000                    |
|              | <b>Sub-total phase 2</b>  | <b>4,400,000</b>           |
| 1 & 2        | <b>Grand total</b>  | <b>5,170,000</b>           |

Micon has reviewed Spider/KWG's budget proposals and recommends that Spider/KWG conduct the proposed activities subject to funding and any other matters which may cause the proposals to be altered in the normal course of their business activities or alterations which may affect the program as a result of exploration activities themselves.

## 21.0 REFERENCES

### 21.1 TECHNICAL REPORTS (SEDAR/IN-HOUSE)

Armstrong, T., Puritch, E., Yassa, A., 2008 08 14. Technical Report and Resource Estimate on the Eagle One Deposit, Double Eagle Property, McFaulds Lake Area, James Bay Lowlands, Ontario. NI 43-101 Technical Report by P&E Mining Consultants Inc., Report No. 149, August 14, 2008.

Armstrong, T., Puritch, E., Yassa, A., Pearson, J. L., Hayden, A., Partsch, A., 2008 10 20. Technical Report and Preliminary Economic Assessment on the Eagle One Deposit, Double Eagle Property, McFaulds Lake Area, James Bay Lowlands, Ontario, NI 43-101 Technical Report by P&E Mining Consultants Inc., Report No. 156.

Aubut, A. 2010 01 10 Mineral Resource Estimation of Black Thor Chromite Deposit, McFauld's Lake, Ontario, Canada 43-101 compliant report for Freewest Resources Ltd. (Disclosed on Freewest's website; Circa 2010 01 01).

Burns, J. G. April, 2005. Report of Drilling on the McFaulds Lake Property, Porcupine Mining Division, Ontario, of Freewest Resources Canada Inc. for Freewest Resources Canada Inc. (Internal Report).

Cavén, R. J. December, 2008. Report on the Mag 3D Inversion of the Magnetic Anomalies on the Spider Property of Billiken Management, McFaulds Area, Ontario.

Gleason, C.F. and Thomas, R.D. 1997. Regional heavy mineral geochemical survey report prepared for Spider Resources Inc. 32 pp with appendices and maps.

Golder Associates 2010 04 23 Technical Report and Resource Estimate on McFaulds Lake Project, James Bay Lowlands, Ontario, Canada for Noront Resources Ltd; 183 pp and 5 appendices. Available at [www.sedar.com](http://www.sedar.com)).

Gowans, R. and Murahwi, C. 2009 03 31 Ni 43-101 Technical Report on the Big Daddy Chromite Deposit and associated Ni-Cu-Pge James Bay Lowlands, Northern Ontario for Spider Resources Inc., KWG Resources Inc. and Freewest Resources Inc.

Gowans R., Spooner, J., San Martin, AJ and Murahwi, C. 2010 01 22 Technical Report on the Mineral Resource Estimate for the Black Bird Chrome Deposits James Bay Lowlands Northern Ontario, Canada 197 pp. (Available at [www.sedar.com](http://www.sedar.com)).

JVX Geophysical Surveys and Consulting, November, 2008. Report on Magnetic/VLF and HLEM Surveys, Freewest Option Property, McFaulds Lake Area, Ontario. Private Report for SKF Option Parties.

Kjarsgaard, I. 2009 12 Petrography of a Polished Section from the McFaulds property, Northern Ontario; DDH FW-09-33 for Dr. James Franklin. 6 pp

Lahti, H. R., April, 2008. Technical Report on the McFaulds Lake Project, Porcupine Mining Division, James Bay Lowlands, Ontario, Canada, for UC Resources and Spider Resources Inc.

Lahti, H. R., April, 2008. Final Report on Drill Results Spider/KWG/Freewest [SKF] Project McFaulds Camp, Ontario. Claims 3012250, 3012252, 3012253, 3008268, 3008269 and 3008793. BMA 527861. Private Report for option parties.

Lahti, H.R. 2008 08 30 Updated Technical Report on the McFaulds Lake Project, James Bay Lowland, Ontario, Canada 43-101 report for Spider & UC Resources, 96 pp

McBride, D. E., September, 1994. Report on the geological observations and their significance, Spider Lake Project, Attawapiskat River, James Bay Lowlands. Unpublished report for KWG Resources and Spider Resources Inc.

Naldrett, A.J., 2009. Report on visit to Spider-KWG and Freewest properties, September 16-19, 2009.

Noront 2009 07 29 Noront Resources reports Thunderbird vanadium assay results; Press release.

Noront 2010 03 09 Noront announces resource increase at Eagle's Nest deposit; Press release.

Noront 2009 08 09 MD&A for year ended 30 April 2009

Novak, N., April 12, 2006. Spider Resource Inc. / KWG Resources Inc/ Freewest Resources Inc., Option Agreement, West Property, Grids "H" and "J" on claims 3012250, 3012252, 3012253, 3008268, 3008269 and 3008793 (NTS 43D/16). Private Report for option parties.

Phillips Enterprises, LLC, Metallurgical Testing and Consulting Services, October 2, 2008. Beneficiation Report.

Probe Mines 2009 08 26 Intersects High-Grade Chromite in the New Black Creek Discovery; Press Release.

Probe Mines 2009 11 24 Phase II Drilling Results Yield More High-Grade Chromite for the Black Creek Discovery; Press Release.

Reed, L.E. 2009 09 Notes on the Ground Magnetometer and Gravity Surveying, Grid J, McFaulds Lake Area, Greig Lake, 42D16, Northwest Ontario 11 pp

Scott Hogg & Associates, 2004. Ground Magnetic and Horizontal Loop Electromagnetic Survey, McFaulds Lake - Northwestern Ontario; Compilation and Interpretation Report.

Scott Hogg & Associates, 2006. Condor Diamond Corp. Compilation and Interpretation Report of a Ground Magnetic Survey in the McFaulds Lake Area, Northern Ontario.

Thomas, Roger D., 2004. Technical Report Spider #1 and #3 Projects, James Bay Joint Venture, James Bay, Ontario. Spider Resources and KWG Resources.

Naldret, A.J. 2009. Report on visit to Spider-KWG and Freewest properties, September 16-19, 2009.

World Industrial Minerals, September, 2008. "Chromite Testing Analyses Report, Big Daddy Chromite Occurrence". Prepared for the SKF Option Parties.

PDAC Short Course, 2009. From the Core Barrel to a Resource Estimate, A review of Current Best Practices

## **21.2 SCIENTIFIC PUBLICATIONS AND REPORTS**

Alpeiti, T.T., Kujanpää, J., Lahtinen, J.J. & Papunen, H., 1989. The Kemi Stratiform Deposit, Northern Finland. *Economic Geology*, 84, 1057-1077.

Atkinson, B.T., Pace, A., Woo, H., Wilson, A.C., Butorac, S. & Draper, D.M. 2009. Report of Activities 2008 Timmins Regional Resident Geologist Report: Timmins & Sault Ste. Marie Districts; Ontario Geological Survey Open File Report 6235, 109p.

Bichan, R., 1969, Chromite seams in the Hartley Complex of the Great Dyke of Rhodesia, in Wilson, H. D. B., Magmatic ore deposits: *Economic Geology Monograph 4*, p. 95-113.

Bostok, H.H., 1962. Geology Lansdowne House Ontario, Geological Survey of Canada, Map 4-1962, Scale One inch to Four miles =1:253,440.

Campbell, I.H., Naldrett, A.J., 1979. The influence of silicate:sulphide ratio on the geochemistry of magmatic sulphides. *Economic Geology*, 76, 1503 – 1506.

Campbell, I.H. and Turner, J.S., 1986. The influence of viscosity on fountains in magma chambers. *Journal of Petrology* 27 1 – 30.

Cameron, E.N., and Desborough, G.A., 1969, Occurrence and characteristics of chromite deposits--Eastern Bushveld Complex, in Wilson, H.D.B., ed., *Magmatic ore deposits: Economic Geology Monograph 4*, p. 95-113.

Coad, P.R., 1979 Nickel Sulphide Deposits Associated with Ultramafic Rocks of the Abitibi Belt and Economic Potential of Mafic-Ultramafic Intrusions; Ontario Geological Survey, Study 20, 84p.

Cox, D.P. and Singer, D.A., eds. 1998. Mineral Deposit Models, 3rd ed USGS Bull. 1693.

Dickey, J.S., Jr., 1975, A hypothesis of origin for podiform chromite deposits: *Geochimica et Cosmochimica Acta*, v. 39, p. 1061-1074.

Eckstrand, R.O. and Hulbert, L.J. 2008. Magmatic Nickel-Copper-PGE deposits in Mineral Deposits of Canada at [http://gsc.nrcan.gc.ca/mindep/synth\\_dep/ni\\_cu\\_pge/index\\_e.php](http://gsc.nrcan.gc.ca/mindep/synth_dep/ni_cu_pge/index_e.php)

Jackson, E.D., 1969. Chemical variation in coexisting chromite and olivine in chromite zones of the Stillwater Complex, in Wilson, H.D.B., ed., *Magmatic ore deposits: Economic Geology Monograph 4*, p. 41-71.

Irvine, T.N., 1975. Crystallization sequences in the Muskox Intrusion and other layered intrusions. II. Origin of chromite layers and similar deposits of other magmatic ores. *Geochim. Cosmochim. Acta*, 39, 991 – 1020.

Irvine, T.N., 1977. Origin of the chromite layers in the Muskox Intrusion and other stratiform intrusions: a new interpretation. *Geology*, 5 273 -277.

Jackson, E.D. 1961. Primary textures and mineral associations in the ultramafic zone of the Stillwater complex. U. S. Geol. Surv., Prof. Pap. 358.

Kruger, F.J. and Marsh, J.S., 1982. Significance of Sr87/Sr86 ratios in the Merensky cyclic unit of the Bushveld complex. *Nature* 298, 53 – 55.

Lago, B.L., Rabinowicz, M. and Nicolas, A. 1982 Podiform Chromite Ore Bodies: a Genetic Model; *J. Petrol.* 23:1:103-125

Lambert, D.D., Morgan, J.W, Walker, R.J., Shirey S.B. Carlson, R.W. Zientek, M.L. and Koski, M.S. 1989 Rhenium-Osmium and Samarium-Neodymium Isotopic Systematics of the Stillwater Complex. *Science*, 244(4909): 1169 - 1174.

Leblanc, Marc, and Violette, J.F., 1983, Distribution of aluminum-rich chromite pods in ophiolite peridotites: *Economic Geology*, v. 78, p. 293-301.

Lefebure, D.V., Alldrick, D.J. and Simandl, G.J. 1995. Mineral Deposit Profile Tables - Listed by Deposit Group and Lithological Affinities; B.C. Ministry of Energy, Mines and Petroleum Resources, Open File 1995-8.



Magoun, A.J., Abraham, K.F. Thompson, J.E. Ray, J.C. Gauthier, M.E. Brown, G. Woolmer, G. Chenier, C. and Dawson, N. Distribution and relative abundance of caribou in the Hudson Bay Lowland of Ontario. *Rangifer*. Special Issue No. 16, p105-1

Wolfgang D. Maier<sup>1</sup>, Nicholas T. Arndt<sup>2</sup> and Edward A. Curl.

Maier, W.D., Arndt, N.T. & Cirl, E.A. 1998. Exploration for magmatic Ni-Cu-PGE sulphide deposits: a review of recent advances in the use of geochemical tools, and their application to some South African ores. *S.Afr J. Geo.*, 1998, 101(3), 237 – 253.

Marques, J.C. , Ferreira Filho, C. F., Carlson, R. W. & Pimentel, M. M., 2003. Re-Os and Sm-Nd Isotope and Trace Element Constraints on the Origin of the Chromite Deposit of the Ipueria-Medrado Sill, Bahia, Brazil. *Journal of Petrology* 44(4), 659-678.

Martison, N.W. 1952: Petroleum Possibilities of the James Bay Lowland Area; Ontario Dept. Mines, Vol.61, Pt.6, p.1.

McDonald, J.A., 1965. Liquid Immiscibility as One Factor in Chromitite Seam Formation in the Bushveld Igenous Complex. *Economic Geology*, 60, 1674-1685.

McInnes, W. 1910 Report on part of North West Territories of Canada drained by Winisk and Upper Attawapiskat rivers Geological Survey of Canada, Separate Rpt. 1080 59 pp 5 plates.

Mondal, S.K., Ripley, E.M., Chusi, L. & Frei, R., 2006. The Genesis of Archaean Chromitites from the Nuasahi and Sukinda Massifs in the Singhbhum Craton, Indian. *Precambrian Research* 148, 45-66.

Moulton, V.D., Richardson, W.J., Williams, M.T. and Blackwell, S.B. 2003 Ringed seal densities and noise near an icebound artificial island with construction and drilling. *Acoustics Research Letters Online*, 6 pp

Mungall, J.E., 2008. Formation of massive chromitite by assimilation of iron formation: The Blackbird Deposit, Ontario, Canada. *EOS Transcripts AGU*, 89(53), Fall Meeting Supplement, Abstract 15064 V11A-2014 in Gowans R et al. 2010 01 22.

Naldrett, A.J., Brugmann, G.E. and Wilson, A.H., 1990. Models for the concentration of PGE in layered intrusions. *Can. Mineral.* 28, 389 – 408.

Page, N.J, Cassard, Daniel, and Haffty, Joseph, 1982b, Palladium, platinum, rhodium, ruthenium, and iridium in chromitites from the Massif du Sud and Tiebaghi Massif, New Caledonia, *Economic Geology*, v. 77, p. 1571-1577.

Page, N.J, Engin, Tandogan, and Haffty, Joseph, 1979, Palladium, platinum, and rhodium concentrations in mafic and ultramafic rocks from the Kizidag and Guleman areas, Turkey

and the Faryab and Esfandagheh-Abdasht areas, Iran: U.S. Geological Survey Open-File Report 79-340, 15p.

Page, N.J., Engin, Tandogan, and Singer, D.A., and Haffty, Joseph, 1984, Distribution of platinum-group elements in the Bati Kef chromite deposit, Guleman-Elagig area, eastern Turkey: *Economic Geology*, v. 79, p. 177-184.

Percival J.A., Breaks F.W., Brown J.L., Corkery M.T., Devaney J., Dubé B., McNicoll V., Parker JR., Rogers N., Sanborn-Barrie M., Sasseville C., Skulski T., Stone D., Stott G.M., Syme E.C., Thurston P.C., Tomlinson K.Y., and Whalen J.B., 1999. Project 95034. Evolution of Archean continental and oceanic domains in the Western Superior Province: 1999 NATMAP results. Ontario Geological Survey Open File Report 6000, Summary of Field Work and Other Activities 1999, 17-1 to 17-16.

Percival J.A., Sanborn-Barrie M., Skulski T., Stott, G.M., Helmstaedt, H. and White D.J., 2006. Tectonic Evolution of the Western Superior Province from NATMAP and Lithoprobe Studies. *Canadian Journal of Earth Science* 43, 1085-1117.

Proceviat S.K., Mallory F.F., & Rettie W.J. 2003 Estimation of arboreal lichen biomass available to woodland caribou in Hudson Bay lowland black spruce sites. 9th North American Caribou workshop, Kuujuaq, QC, 23-27 April 2001. *Rangifer*, Special Issue 14: 95-99.

Prendergast, M.D., 2008. Archean Komatiitic Sill-hosted Chromite Deposits in the Zimbabwe Craton. *Economic Geology* 103, 981-1004.

Rayner N. and Stott G.M. Discrimination of Archean Domains in the Sachigo Subprovince: A Progress Report on the Geochronology. Summary of Field Work and Other Activities 2005, Ontario Geological Survey, Open File Report 6172, p 10-1 to 10-21.

Rollinson, H., 1997. The Archean Komatiite-related Inyala Chromitite, Southern Zimbabwe. *Economic Geology*, 92, 98-107.

Sanford, B V & Norris, A W 1975 Devonian stratigraphy of the Hudson Platform; Geological Survey of Canada, Memoir 37 p 1-121.

Sharpe, M. R., 1985. Strontium isotope evidence for preserved density stratification in the main zone of the Bushveld Complex, South Africa. *Nature* 316, 119 – 126.

Singer, D.A., Page, N.J. and Lipin, B.R., 1986. Grade and Tonnage Model of Major Podiform Chromite. *In: Cox, D.P. and Singer, D.A. (Eds.), Mineral Deposit Models, U.S. Geological Survey, Bulletin 1693, pages 38-44.*

Sjörs, H. 1959 Bogs and fens in the Hudson Bay lowlands. *Arctic*, vol. 12, p. 10.

Stott, G. M., 2007a. Precambrian geology of the Hudson Bay and James Bay Lowlands region interpreted from aeromagnetic data – east sheet. Ontario Geological Survey, Preliminary Map p. 3597; scale 1:500,000.

Stott G. M., 2007b. Precambrian Geology of the Hudson Bay Lowland Interpreted from Aeromagnetic Data, poster, Ontario Exploration and Geoscience Symposium, Sudbury Ontario, December 11-12, 2007.

Stott, G.M. and Josey, S.D. 2009 Regional Geology and Mineral Deposits of Northern Ontario, North of Latitude 49°30'. Ontario Geological Survey, Miscellaneous Release—Data 265.

Stott G.M., 2008. Precambrian geology of the Hudson Bay and James Bay lowlands region interpreted from aeromagnetic data – east sheet; Ontario Geological Survey, Preliminary Map P.3598-Revised, scale 1:500,000.

Thurston, P.C., Sage, R.P. and Siragusa, G.M. 1979 Geology of the Winisk Lake Area, District of Kenora, Patricia Portion; OGS Report 193,169p. Appendix and maps 2287 and 2292.

Thayer, T.P., 1964, Principal features and origin of podiform chromite deposits and some observations on the Guliman-Soridag district, Turkey: *Economic Geology*, v. 59, p. 1497-1524.

Thurston P.C., Osmani I.A., and Stone D., 1991. Northwestern Superior Province: Review and terrane analysis. In *Geology of Ontario*. Edited by P.C. Thurston, H.R. Williams, R.H. Sutcliffe, and G.M. Stott. Ontario Geological Survey, Special Vol 4, Part 1, pp. 81-144.

Ulmer, G. C., 1969. Experimental Investigations of Chromite Spinels. *Economic Geology Monographs* 4, 114-131.

Von Gruenewaldt, G., 1979. A review of some recent concepts of the Bushveld complex with particular reference to the sulfide mineralisation. *Can. Mineral.* 17, 233 – 256.

Wells, F.G., Cater, F.W., Jr., and Rynearson, G.A., 1946, Chromite deposits of Del Norte County, California: *California Division of Mines and Geology Bulletin* 134

## 22.0 DATE AND SIGNATURE PAGE

### MICON INTERNATIONAL LIMITED

Effective Date: March 30, 2010

Signing Date: June 4, 2010

Richard Gowans, P.Eng.  
Micon International Limited

*“Richard Gowans” {signed and sealed}*

Jane Spooner, M.Sc., P. Geo.  
Micon International Limited

*“Jane Spooner” {signed and sealed}*

Alan J. San Martin, MAusIMM  
Micon International Limited

*“Alan San Martin” {signed}*

Charley Murahwi, M.Sc., P. Geo., Pr.Sc.Nat., MAusIMM  
Micon International Limited

*“Charley Murahwi” {signed and sealed}*

## 23.0 CERTIFICATES

**CERTIFICATE OF QUALIFIED PERSON**  
**RICHARD M. GOWANS, P.Eng.**

As a co-author of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”, dated March 30, 2010, I, Richard M. Gowans P. Eng. do hereby certify that:

1. I am employed by, and carried out this assignment for  
Micon International Limited  
Suite 900, 390 Bay Street  
Toronto, Ontario  
M5H 2Y2  
tel. (416) 362-5135 fax (416) 362-5763  
e-mail: [rgowans@micon-international.com](mailto:rgowans@micon-international.com)
2. I hold the following academic qualifications:  
B.Sc. (Hons) Minerals Engineering, The University of Birmingham, U.K. 1980
3. I am a registered Professional Engineer of Ontario (membership number 90529389); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.
4. I have worked as an extractive metallurgist in the minerals industry for over 28 years.
5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes the management of technical studies and design of numerous metallurgical test-work programs and metallurgical processing plants.
6. I have not visited the project site.
7. I am responsible for the preparation of Section 16 of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”, dated March 30, 2010.
8. I am independent of the SKF option parties involved in the Big Daddy property, as described in Section 1.4 of NI 43-101.
9. I have had no prior involvement with the mineral property in question, other than that I was a co-author of the March 31, 2009 Technical Report.
10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective Date: March 30, 2010

Signing Date: June 4, 2010

*“Richard M. Gowans” {signed and sealed}*

Richard M. Gowans, P.Eng.

**CERTIFICATE OF QUALIFIED PERSON**  
**JANE SPOONER, M.Sc., P.Geo.**

As a co-author of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”, dated March 30, 2010, I, Jane Spooner, P.Geo., do hereby certify that:

1. I am employed by, and carried out this assignment for  
Micon International Limited  
Suite 900, 390 Bay Street  
Toronto, Ontario  
M5H 2Y2  
tel. (416) 362-5135 fax (416) 362-5763  
e-mail: [jspooner@micon-international.com](mailto:jspooner@micon-international.com)
2. I hold the following academic qualifications:  
  
B.Sc. (Hons) Geology, University of Manchester, U.K. 1972  
M.Sc., Environmental Resources, University of Salford, U.K. 1973
3. I am a member of the Association of Professional Geoscientists of Ontario (membership number 0990); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.
4. I have worked as a specialist in mineral market analysis for over 30 years.
5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes the analysis of markets for base and precious metals, industrial and specialty minerals, coal and uranium.
6. I have not visited the project site.
7. I am responsible for the preparation of Section 18 of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”, dated March 30, 2010.
8. I am independent of the parties involved in the Big Daddy property, as described in Section 1.4 of NI 43-101.
9. I have had no prior involvement with the mineral property in question.
10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective Date: March 30, 2010

Signing Date: June 4, 2010

*“Jane Spooner” {signed and sealed}*

Jane Spooner, M.Sc., P.Geo.

**CERTIFICATE OF QUALIFIED PERSON  
ALAN J. SAN MARTIN**

As a co-author of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”, dated March 30, 2010, I, Alan J. San Martin do hereby certify that:

- 1) I am employed as a Mineral Resource Modeller by Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail [asanmartin@micon-international.com](mailto:asanmartin@micon-international.com);
- 2) I hold a Bachelor Degree in Mining Engineering (equivalent to B.Sc.) from the National University of Piura, Peru, 1999;
- 3) I am a registered Engineer with the Colegio de Ingenieros del Peru (CIP) Membership # 79184;
- 4) I am a member of the Australasian Institute of Mining and Metallurgy (Membership #301778)
- 5) I have worked as a mining engineer in the minerals industry for 10 years;
- 6) I am familiar with NI 43-101 and I am a Qualified Person for the purposes of NI 43-101.
- 7) I have not visited the Big Daddy property.
- 8) I have had no prior involvement with the mineral property in question.
- 9) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 10) I am independent of the parties involved in the Big Daddy project as described in Section 1.4 of NI 43-101.
- 11) I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.
- 12) I am jointly responsible for the preparation of Section 17 of this Technical Report dated March 30, 2010 entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada.”

Effective Date: March 30, 2010

Signing Date: June 4, 2010

*“Alan J. San Martin” {Signed}*

Ing. Alan J. San Martin, MAusIMM  
Micon International Limited



## CERTIFICATE OF QUALIFIED PERSON

### CHARLEY Z. MURAHWI

As a co-author of this report entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada” dated March 30, 2010, I, Charley Z. Murahwi do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, telephone 416 362 5135, fax 416 362 5763, e-mail [cmurahwi@micon-international.com](mailto:cmurahwi@micon-international.com).
- 2) I hold the following academic qualifications:  
  
B.Sc. (Geology) University of Rhodesia, Zimbabwe, 1979;  
  
Diplome d'Ingénieur Expert en Techniques Minières, Nancy, France, 1987;  
  
M.Sc. (Economic Geology), Rhodes University, South Africa, 1996.
- 3) I am a registered Professional Geoscientist of Ontario (membership number 1618) and am also a member of the Australasian Institute of Mining & Metallurgy (AusIMM) (membership number 300395).
- 4) I have worked as a mining and exploration geologist in the minerals industry for over 28 years;
- 5) I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 12 years on Cr-Ni-Cu-PGE deposits (on and off-mine), and the balance on a wide variety of other mineral commodities including gold, silver, copper, tin, and tantalite.
- 6) I visited the Activation Laboratory in Thunder Bay on 10 January, 2009 and the Big Daddy mineral property, between 11 and 13 January, 2009 and on October 22, 2009.
- 7) I have had no prior involvement with the mineral property in question, other than that I was a co-author of the March 31, 2009 Technical Report.
- 8) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 9) I am independent of the parties involved in the Big Daddy property as described in Section 1.4 of NI 43-101.
- 10) I have read NI 43-101 and the portions of this Technical Report for which I am responsible have been prepared in compliance with this Instrument.
- 11) I am responsible for the preparation of all sections except Sections 16 and 18 of this Technical Report dated March 30, 2010 and entitled “Technical Report on the Mineral Resource Estimate for the Big Daddy Chromite Deposit, McFaulds Lake Area, James Bay Lowlands, Northern Ontario, Canada”.

Effective Date: March 30, 2010

Signing Date: June 4, 2010

*“Charley Z. Murahwi” {signed and sealed}*

Charley Z. Murahwi, M.Sc., P. Geo. Pr.Sci.Nat., MAusIMM

## **APPENDIX 1**

### **Claim Abstracts**

|                                 |                   |                            |                     |                       |  |
|---------------------------------|-------------------|----------------------------|---------------------|-----------------------|--|
| <b>PORCUPINE - Division 60</b>  |                   | <b>Claim No: P 3012253</b> |                     | <b>Status: ACTIVE</b> |  |
| <b>Due Date:</b>                | 2011-Apr-22       | <b>Recorded:</b>           | 2003-Apr-22         |                       |  |
| <b>Work Required:</b>           | \$ 6,400          | <b>Staked:</b>             | 2003-Mar-26 13:15   |                       |  |
| <b>Total Work:</b>              | \$ 38,400         | <b>Township/Area:</b>      | BMA 527861 (G-4306) |                       |  |
| <b>Total Reserve:</b>           | <u>\$ 152,334</u> | <b>Lot Description:</b>    |                     |                       |  |
| <b>Present Work Assignment:</b> | \$ 30,786         | <b>Claim Units:</b>        | 16                  |                       |  |
| <b>Claim Bank:</b>              | \$ 0              |                            |                     |                       |  |

**Claim Holders**

| <b>Recorded Holder(s) Percentage</b>                                       | <b>Client Number</b> |
|--|----------------------|
| RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. ( 100.00 %) | 300786               |

**Transaction Listing**

| <b>Type</b> | <b>Date</b> | <b>Applied</b> | <b>Description</b>   | <b>Performed</b> | <b>Number</b>      |
|-------------|-------------|----------------|--|------------------|--------------------|
| STAKER      | 2003-Apr-22 |                | RECORDED BY DER WEDUWEN, JOHN (M25244)   |                  | R0360.02089        |
| STAKER      | 2003-Apr-22 |                | DER, WEDUWEN JOHN (125420) RECORDS 100.00 % IN THE NAME OF NEMIS, RICHARD (175159)   |                  | R0360.02090        |
| TRAN        | 2003-Aug-14 |                | NEMIS, RICHARD (175159) TRANSFERS 100.00 % TO RESSOURCES FREEWEST CANADA INC., FREEWEST RESOURCES CANADA INC. (300786)                 |                  | T0360.00236        |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (AMAG, AVLF) APPROVED: 2005-APR-26  | \$ 3,549         | <u>Q0560.00686</u> |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (EM, LC, MAG) APPROVED: 2005-MAY-13   | \$ 15,793        | <u>Q0560.00688</u> |
| WORK        | 2005-Apr-18 | \$ 3,549       | WORK APPLIED (AMAG, AVLF) APPROVED: 2005-APR-26  |                  | <u>W0560.00686</u> |
| WORK        | 2005-Apr-18 | \$ 15,793      | WORK APPLIED (EM, LC, MAG) APPROVED: 2005-MAY-13   |                  | <u>W0560.00688</u> |
| OTHER       | 2006-Apr-21 |                | WORK PERFORMED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   | \$ 195,778       | <u>Q0660.00790</u> |
| WORK        | 2006-Apr-21 | \$ 12,090      | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   |                  | <u>W0660.00790</u> |
| WORK        | 2009-Jan-16 | \$ 568         | WORK APPLIED   |                  | <u>W0960.00106</u> |
| TRAN        | 2009-Jul-24 |                | AGREEMENT: RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. (300786) AND NEMIS, RICHARD (175159)                         |                  | T0960.00248        |
| TRAN        | 2009-Jul-24 |                | AGREEMENT: RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. (300786) AND RESSOURCES KWG INC./KWG RESOURCES INC. (224701) |                  | T0960.00249        |
| WORK        | 2009-Dec-22 | \$ 6,400       | WORK APPLIED   |                  | <u>W0960.03071</u> |

**Claim Reservations**

|  |
|--|
| 01 400' surface rights reservation around all lakes and rivers |
| 02 Sand and gravel reserved                                    |
| 03 Peat reserved   |
| 04 Other reservations under the Mining Act may apply           |
| 05 Including land under water                                  |

|                                 |             |                            |                     |                       |  |
|---------------------------------|-------------|----------------------------|---------------------|-----------------------|--|
| <b>PORCUPINE - Division 60</b>  |             | <b>Claim No: P 3012252</b> |                     | <b>Status: ACTIVE</b> |  |
| <b>Due Date:</b>                | 2011-Apr-22 | <b>Recorded:</b>           | 2003-Apr-22         |                       |  |
| <b>Work Required:</b>           | \$ 6,400    | <b>Staked:</b>             | 2003-Mar-29 16:00   |                       |  |
| <b>Total Work:</b>              | \$ 38,400   | <b>Township/Area:</b>      | BMA 527861 (G-4306) |                       |  |
| <b>Total Reserve:</b>           | \$ 0        | <b>Lot Description:</b>    |                     |                       |  |
| <b>Present Work Assignment:</b> | \$ 0        | <b>Claim Units:</b>        | 16                  |                       |  |
| <b>Claim Bank:</b>              | \$ 0        |                            |                     |                       |  |

**Claim Holders**

| <b>Recorded Holder(s) Percentage</b>                                       | <b>Client Number</b> |
|--|----------------------|
| RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. ( 100.00 %) | 300786               |

**Transaction Listing**

| <b>Type</b> | <b>Date</b> | <b>Applied</b> | <b>Description</b>   | <b>Performed</b> | <b>Number</b> |
|-------------|-------------|----------------|--|------------------|---------------|
| STAKER      | 2003-Apr-22 |                | RECORDED BY DER WEDUWEN, JOHN (M25244)   |                  | R0360.02089   |
| STAKER      | 2003-Apr-22 |                | DER, WEDUWEN JOHN (125420) RECORDS 100.00 % IN THE NAME OF NEMIS, RICHARD (175159)   |                  | R0360.02090   |
| TRAN        | 2003-Aug-14 |                | NEMIS, RICHARD (175159) TRANSFERS 100.00 % TO RESSOURCES FREEWEST CANADA INC., FREEWEST RESOURCES CANADA INC. (300786)                 |                  | T0360.00236   |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (AMAG, AVLF) APPROVED: 2005-APR-26  | \$ 3,549         | Q0560.00686   |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (EM, LC, MAG) APPROVED: 2005-MAY-13   | \$ 3,009         | Q0560.00688   |
| WORK        | 2005-Apr-18 | \$ 3,549       | WORK APPLIED (AMAG, AVLF) APPROVED: 2005-APR-26  |                  | W0560.00686   |
| WORK        | 2005-Apr-18 | \$ 3,009       | WORK APPLIED (EM, LC, MAG) APPROVED: 2005-MAY-13   |                  | W0560.00688   |
| WORK        | 2005-Apr-18 | \$ 5,000       | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2005-MAY-13   |                  | W0560.00689   |
| WORK        | 2006-Apr-21 | \$ 7,452       | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   |                  | W0660.00790   |
| WORK        | 2007-Mar-12 | \$ 190         | WORK APPLIED   |                  | W0760.00508   |
| WORK        | 2008-Mar-10 | \$ 6,400       | WORK APPLIED   |                  | W0860.00486   |
| WORK        | 2009-Jan-16 | \$ 6,400       | WORK APPLIED   |                  | W0960.00106   |
| TRAN        | 2009-Jul-24 |                | AGREEMENT: RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. (300786) AND NEMIS, RICHARD (175159)                         |                  | T0960.00248   |
| TRAN        | 2009-Jul-24 |                | AGREEMENT: RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. (300786) AND RESSOURCES KWG INC./KWG RESOURCES INC. (224701) |                  | T0960.00249   |
| WORK        | 2009-Dec-22 | \$ 6,400       | WORK APPLIED   |                  | W0960.03071   |

**Claim Reservations**

- 01 400' surface rights reservation around all lakes and rivers
- 02 Sand and gravel reserved
- 03 Peat reserved
- 04 Other reservations under the Mining Act may apply
- 05 Including land under water

|                                 |                  |                            |                     |                       |  |
|---------------------------------|------------------|----------------------------|---------------------|-----------------------|--|
| <b>PORCUPINE - Division 60</b>  |                  | <b>Claim No: P 3008269</b> |                     | <b>Status: ACTIVE</b> |  |
| <b>Due Date:</b>                | 2011-Aug-11      | <b>Recorded:</b>           | 2003-Aug-11         |                       |  |
| <b>Work Required:</b>           | \$ 6,400         | <b>Staked:</b>             | 2003-Jul-27 15:30   |                       |  |
| <b>Total Work:</b>              | \$ 38,400        | <b>Township/Area:</b>      | BMA 527861 (G-4306) |                       |  |
| <b>Total Reserve:</b>           | \$ <u>33,429</u> | <b>Lot Description:</b>    |                     |                       |  |
| <b>Present Work Assignment:</b> | \$ 60,945        | <b>Claim Units:</b>        | 16                  |                       |  |
| <b>Claim Bank:</b>              | \$ 0             |                            |                     |                       |  |

**Claim Holders**

| <b>Recorded Holder(s) Percentage</b>                                       | <b>Client Number</b> |
|--|----------------------|
| RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. ( 100.00 %) | 300786               |

**Transaction Listing**

| <b>Type</b> | <b>Date</b> | <b>Applied</b> | <b>Description</b>   | <b>Performed</b> | <b>Number</b>      |
|-------------|-------------|----------------|--|------------------|--------------------|
| STAKER      | 2003-Aug-11 |                | RECORDED BY MORTSON, SCOTT ALEXANDER (M20734)  |                  | R0360.03487        |
| STAKER      | 2003-Aug-11 |                | MORTSON, SCOTT ALEXANDER (173106) RECORDS 100.00 % IN THE NAME OF RESSOURCES FREEWEST CANADA INC., FREEWEST RESOURCES CANADA INC. (300786) |                  | R0360.03488        |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (EM, LC, MAG) APPROVED: 2005-MAY-13   | \$ 21,057        | <u>Q0560.00688</u> |
| WORK        | 2005-Apr-18 | \$ 21,057      | WORK APPLIED (EM, LC, MAG) APPROVED: 2005-MAY-13   |                  | <u>W0560.00688</u> |
| OTHER       | 2006-Apr-21 |                | WORK PERFORMED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   | \$ 97,889        | <u>Q0660.00790</u> |
| WORK        | 2006-Apr-21 | \$ 3,515       | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   |                  | <u>W0660.00790</u> |
| WORK        | 2008-Mar-10 | \$ 1,028       | WORK APPLIED   |                  | <u>W0860.00486</u> |
| WORK        | 2009-Jan-16 | \$ 6,400       | WORK APPLIED   |                  | <u>W0960.00106</u> |
| WORK        | 2009-Dec-22 | \$ 6,400       | WORK APPLIED   |                  | <u>W0960.03071</u> |

**Claim Reservations**

- 01 400' surface rights reservation around all lakes and rivers
- 02 Sand and gravel reserved
- 03 Peat reserved
- 04 Other reservations under the Mining Act may apply
- 05 Including land under water

|                                 |             |                            |                     |                       |  |
|---------------------------------|-------------|----------------------------|---------------------|-----------------------|--|
| <b>PORCUPINE - Division 60</b>  |             | <b>Claim No: P 3008793</b> |                     | <b>Status: ACTIVE</b> |  |
| <b>Due Date:</b>                | 2011-Aug-11 | <b>Recorded:</b>           | 2003-Aug-11         |                       |  |
| <b>Work Required:</b>           | \$ 4,800    | <b>Staked:</b>             | 2003-Aug-01 14:00   |                       |  |
| <b>Total Work:</b>              | \$ 28,800   | <b>Township/Area:</b>      | BMA 527861 (G-4306) |                       |  |
| <b>Total Reserve:</b>           | \$ 0        | <b>Lot Description:</b>    |                     |                       |  |
| <b>Present Work Assignment:</b> | \$ 0        | <b>Claim Units:</b>        | 12                  |                       |  |
| <b>Claim Bank:</b>              | \$ 0        |                            |                     |                       |  |

**Claim Holders**

| <b>Recorded Holder(s) Percentage</b>                                       | <b>Client Number</b> |
|--|----------------------|
| RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. ( 100.00 %) | 300786               |

**Transaction Listing**

| <b>Type</b> | <b>Date</b> | <b>Applied</b> | <b>Description</b>   | <b>Performed</b> | <b>Number</b>      |
|-------------|-------------|----------------|--|------------------|--------------------|
| STAKER      | 2003-Aug-11 |                | RECORDED BY MORTSON, SCOTT ALEXANDER (M20734)  |                  | R0360.03487        |
| STAKER      | 2003-Aug-11 |                | MORTSON, SCOTT ALEXANDER (173106) RECORDS 100.00 % IN THE NAME OF RESSOURCES FREEWEST CANADA INC., FREEWEST RESOURCES CANADA INC. (300786) |                  | R0360.03488        |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (EM, LC, MAG) APPROVED: 2005-MAY-13   | \$ 14,853        | <u>Q0560.00688</u> |
| WORK        | 2005-Apr-18 | \$ 14,853      | WORK APPLIED (EM, LC, MAG) APPROVED: 2005-MAY-13   |                  | <u>W0560.00688</u> |
| WORK        | 2006-Apr-21 | \$ 7,335       | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   |                  | <u>W0660.00790</u> |
| WORK        | 2009-Jan-16 | \$ 1,812       | WORK APPLIED   |                  | <u>W0960.00106</u> |
| WORK        | 2009-Dec-22 | \$ 4,800       | WORK APPLIED   |                  | <u>W0960.03071</u> |

**Claim Reservations**

- 01 400' surface rights reservation around all lakes and rivers
- 02 Sand and gravel reserved
- 03 Peat reserved
- 04 Other reservations under the Mining Act may apply
- 05 Including land under water

|                                 |                  |                            |                     |                       |  |
|---------------------------------|------------------|----------------------------|---------------------|-----------------------|--|
| <b>PORCUPINE - Division 60</b>  |                  | <b>Claim No: P 3008268</b> |                     | <b>Status: ACTIVE</b> |  |
| <b>Due Date:</b>                | 2011-Aug-11      | <b>Recorded:</b>           | 2003-Aug-11         |                       |  |
| <b>Work Required:</b>           | \$ 6,400         | <b>Staked:</b>             | 2003-Jul-27 15:20   |                       |  |
| <b>Total Work:</b>              | \$ 38,400        | <b>Township/Area:</b>      | BMA 527861 (G-4306) |                       |  |
| <b>Total Reserve:</b>           | \$ <u>20,203</u> | <b>Lot Description:</b>    |                     |                       |  |
| <b>Present Work Assignment:</b> | \$ 24,000        | <b>Claim Units:</b>        | 16                  |                       |  |
| <b>Claim Bank:</b>              | \$ 0             |                            |                     |                       |  |

**Claim Holders**

| <b>Recorded Holder(s) Percentage</b>                                       | <b>Client Number</b> |
|--|----------------------|
| RESSOURCES FREEWEST CANADA INC./FREEWEST RESOURCES CANADA INC. ( 100.00 %) | 300786               |

**Transaction Listing**

| <b>Type</b> | <b>Date</b> | <b>Applied</b> | <b>Description</b>   | <b>Performed</b> | <b>Number</b>      |
|-------------|-------------|----------------|--|------------------|--------------------|
| STAKER      | 2003-Aug-11 |                | RECORDED BY MORTSON, SCOTT ALEXANDER (M20734)  |                  | R0360.03487        |
| STAKER      | 2003-Aug-11 |                | MORTSON, SCOTT ALEXANDER (173106) RECORDS 100.00 % IN THE NAME OF RESSOURCES FREEWEST CANADA INC., FREEWEST RESOURCES CANADA INC. (300786) |                  | R0360.03488        |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (EM, LC, MAG) APPROVED: 2005-MAY-13   | \$ 7,959         | <u>Q0560.00688</u> |
| OTHER       | 2005-Apr-18 |                | WORK PERFORMED (ASSAY, PDRILL) APPROVED: 2005-MAY-13   | \$ 50,598        | <u>Q0560.00689</u> |
| WORK        | 2005-Apr-18 | \$ 7,959       | WORK APPLIED (EM, LC, MAG) APPROVED: 2005-MAY-13   |                  | <u>W0560.00688</u> |
| WORK        | 2006-Apr-21 | \$ 29,046      | WORK APPLIED (ASSAY, PDRILL) APPROVED: 2006-MAY-12   |                  | <u>W0660.00790</u> |
| WORK        | 2009-Dec-22 | \$ 1,395       | WORK APPLIED   |                  | <u>W0960.03071</u> |

**Claim Reservations**

|  |
|--|
| 01 400' surface rights reservation around all lakes and rivers |
| 02 Sand and gravel reserved                                    |
| 03 Peat reserved   |
| 04 Other reservations under the Mining Act may apply           |
| 05 Including land under water                                  |

## **APPENDIX 2**

### **Example of QC Report for the Big Daddy Deposit**



**MEMORANDUM**

**TO:** Jim Burns, VP Exploration, Spider Resources

**FROM:** Tracy Armstrong, P. Geo.

**DATE:** February 1, 2010

**SUBJECT:** January 2010 Quality Control Report for SKF Big Daddy JV Project

This report describes the results for 15 batches, which were treated in January and are described in Table 1. All samples were sent to Activation Laboratories (“Actlabs”) in Thunder Bay, Ontario for sample preparation and forwarded to Actlabs in Ancaster, Ontario for analysis.

**Table 1: List of Analytical Certificates Included in January 2010 QC Report**

| Batch no.    | Laboratory | Lab Certificate # | No. of samples | Date green light |
|--------------|------------|-------------------|----------------|------------------|
| 58           | Actlabs    | A09-6712final     | 35             | January 11       |
| 59           | Actlabs    | A09-6713final     | 35             | January 13       |
| 74           | Actlabs    | A09-6921final     | 35             | January 11       |
| 75           | Actlabs    | A09-7395final     | 35             | January 11       |
| 76           | Actlabs    | A09-7396final     | 35             | January 13       |
| 77           | Actlabs    | A09-7398final     | 35             | January 11       |
| 79           | Actlabs    | A09-7403rev1final | 35             | January 19       |
| 80           | Actlabs    | A09-6923final     | 35             | January 13       |
| 81           | Actlabs    | A09-7406final     | 35             | January 13       |
| 82           | Actlabs    | A09-7407final     | 35             | January 11       |
| 83           | Actlabs    | A09-7408final     | 35             | January 13       |
| 84           | Actlabs    | A09-7410final     | 35             | January 11       |
| 85           | Actlabs    | A09-7415final     | 31             | January 11       |
| 86           | Actlabs    | A09-7420final     | 35             | January 19       |
| 87           | Actlabs    | A09-7421final     | 35             | January 13       |
| <b>TOTAL</b> |            |                   | <b>521</b>     |                  |

A total of 521 samples were analyzed at Actlabs. This number includes the QC samples inserted in each batch. Samples were assembled into batches of 35 samples which included three certified reference materials, one blank sample comprised of sterile rock, one pulp duplicate, one coarse reject duplicate and one field (1/4 core) duplicate.

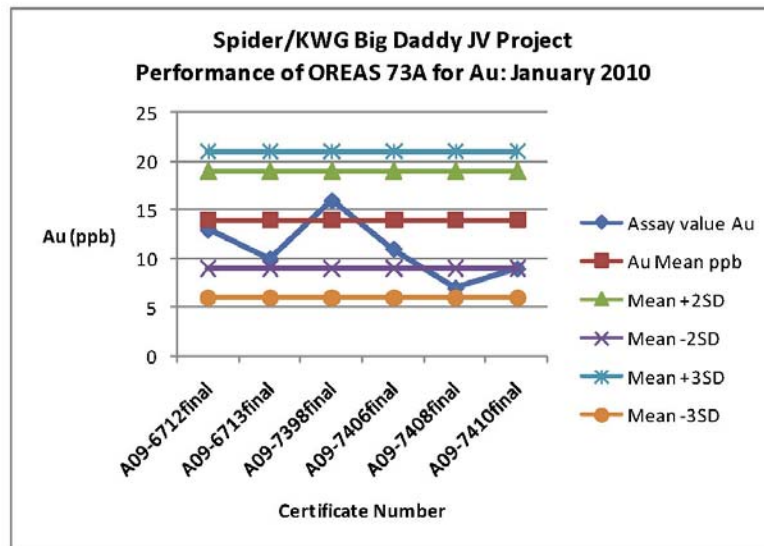
**OREAS 14P Reference Material**

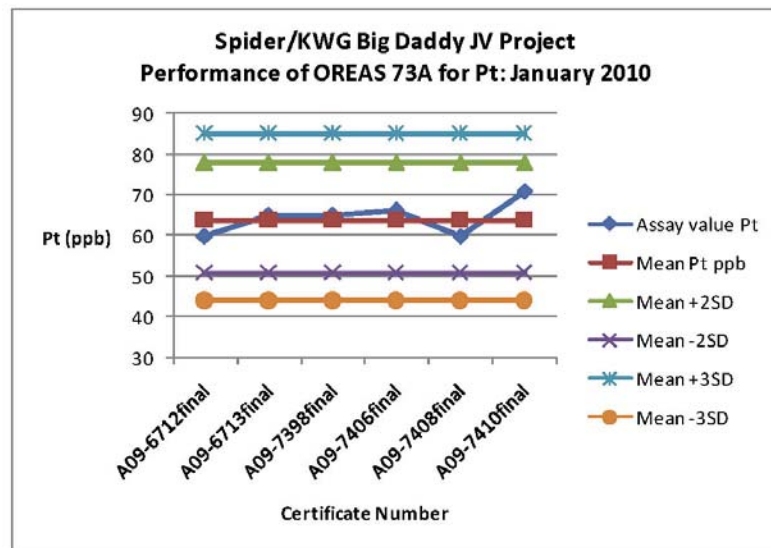
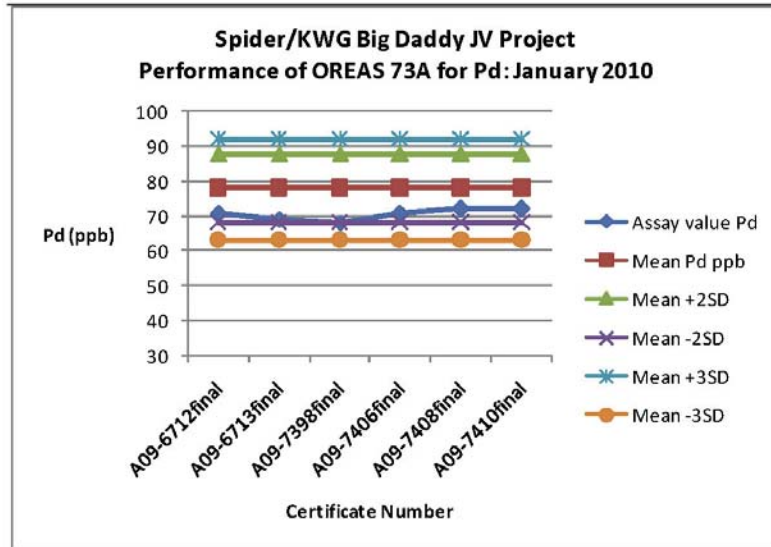
There were no batches containing OREAS 14P for the month of January.

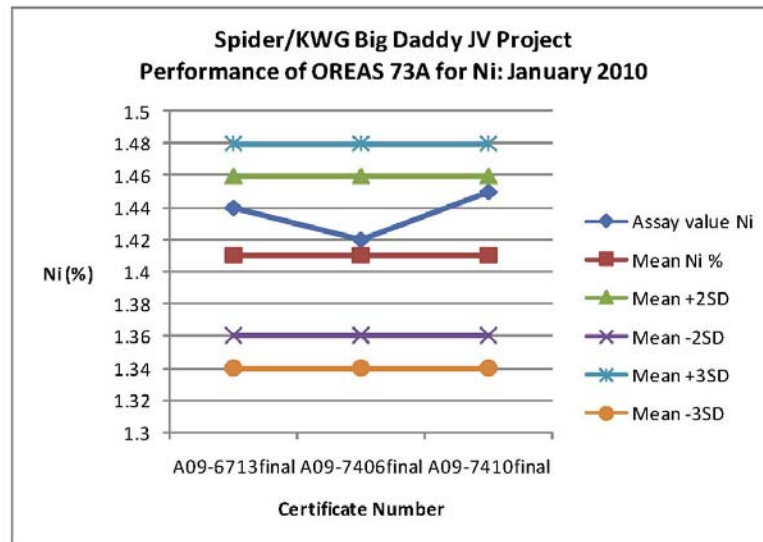
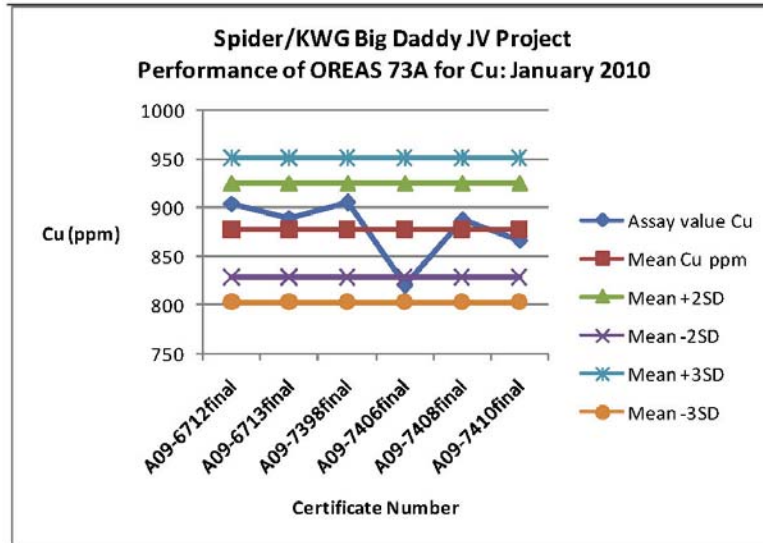
**OREAS 73A Reference Material**

The OREAS 73A certified reference material was purchased from Analytical Solutions Ltd. (“ASL”) in Toronto, Ontario. The supplier is Ore Research & Exploration Pty Ltd. in Australia. The standard is made from a blend of ore from the Cosmos Nickel Mine in Western Australia and barren ultramafic material. It is certified for Au, Pd, Pt, Cu and Ni. There were six data points for this reference material, however three samples were not analyzed for Ni, due to the standard being greater than 1% Ni and the analytical method having a maximum of 1% for the certificates in question.

There were no failures.







**SARM8 CR2O3 REFERENCE MATERIAL**

The SARM 8 reference material is made from chromium ore from the basal zone of the Bushveld Complex, South Africa and was prepared and supplied by Mintek in South Africa. This reference material is certified for Cr<sub>2</sub>O<sub>3</sub>. There was only one data point for SARM8, and it passed the QC. The graph is not presented here.

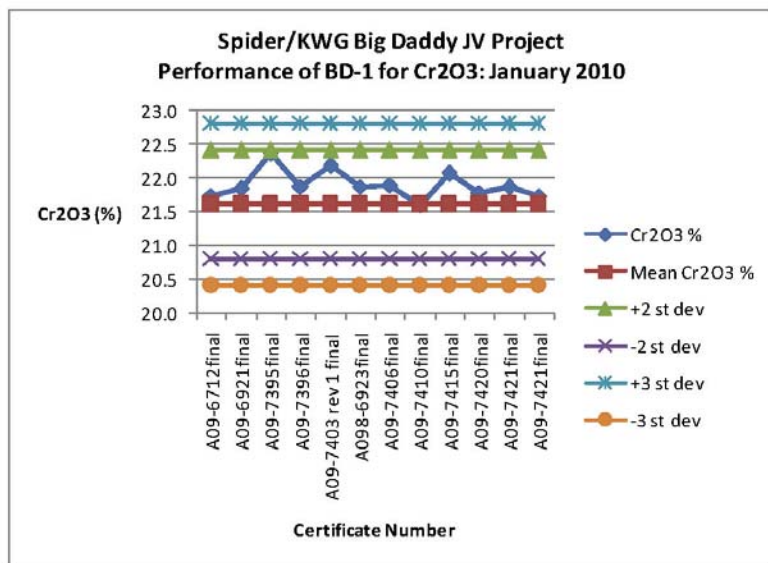
**PGMS-16 REFERENCE MATERIAL**

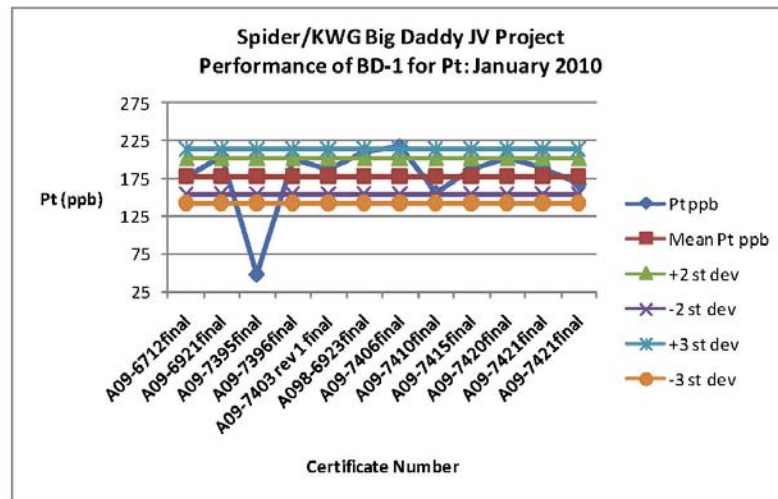
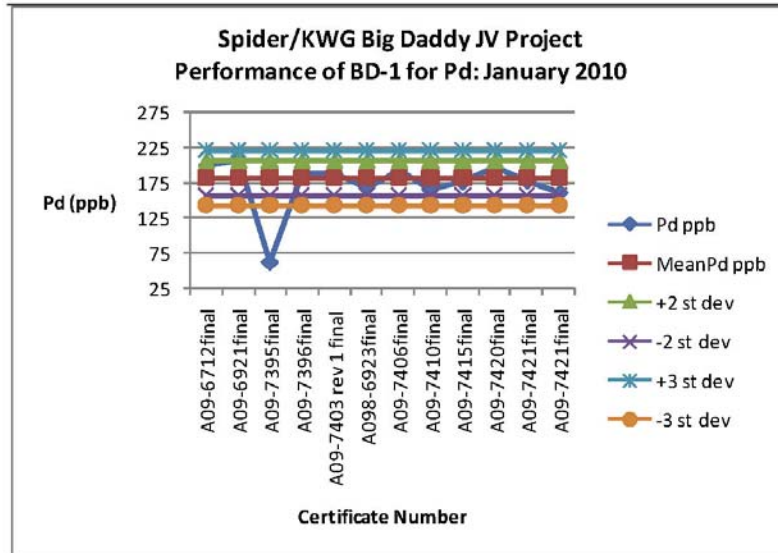
There were no batches containing PGMS-16 for the month of January.

**BD-1 REFERENCE MATERIAL**

The BD-1 reference material is a reference material certified for Cr<sub>2</sub>O<sub>3</sub>, Pd and Pt, and was made from coarse reject material from Big Daddy drill core. CDN Resource Labs in Delta, British Columbia made the standard, sent 125 samples to five different labs for round robin analyses, and the standard was certified by Dr. Barry Smee, Ph.D.

This standard performed well for Cr<sub>2</sub>O<sub>3</sub> with no failures, though Cr<sub>2</sub>O<sub>3</sub> demonstrates a high bias with 100% of the points falling above the mean. There was one failure for each of Pd and Pt. No action was taken as either BD-3 and/or OREAS73A passed in the same batch.

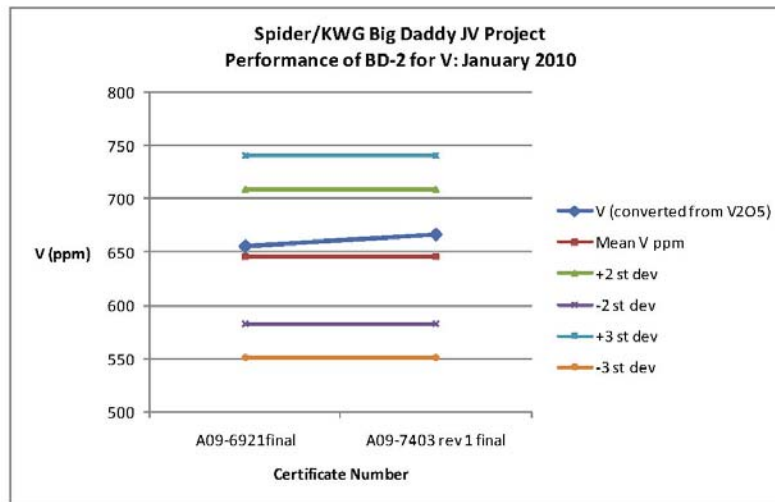
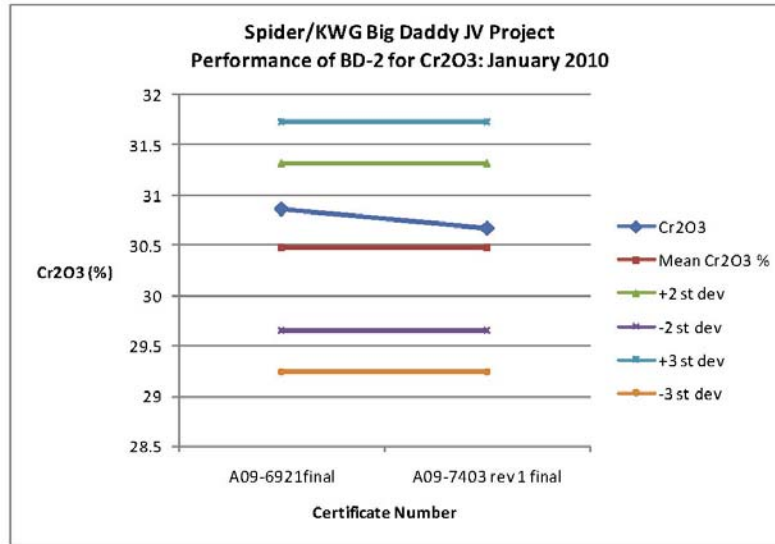




**BD-2 REFERENCE MATERIAL**

The BD-2 reference material is a reference material certified for Cr<sub>2</sub>O<sub>3</sub> and Vanadium, and was made from coarse reject material from Big Daddy drill core. CDN Resource Labs in Delta, British Columbia made the standard, sent 125 samples to five different labs for round robin analyses, and the standard was certified by Dr. Barry Smee, Ph.D.

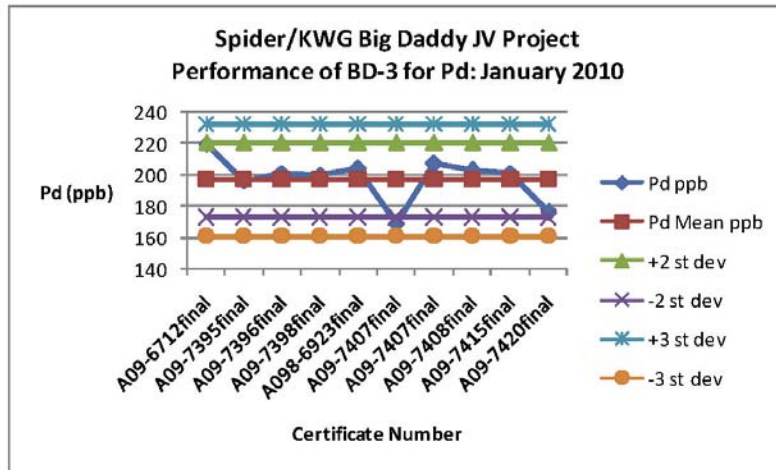
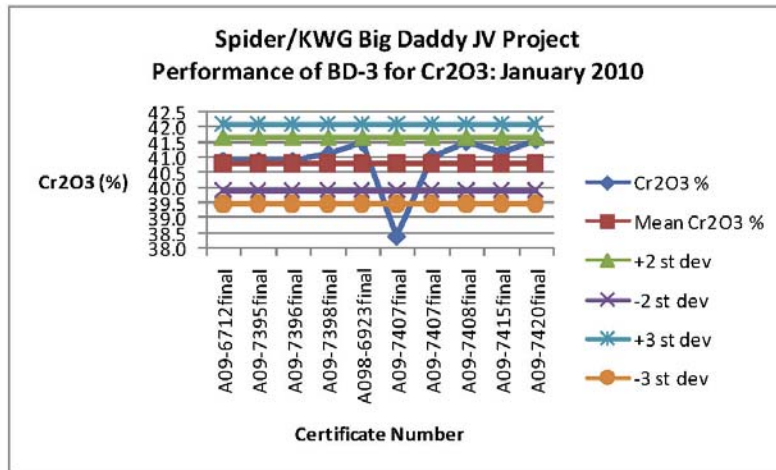
There were only two data points for this reference material and both passed the QC.



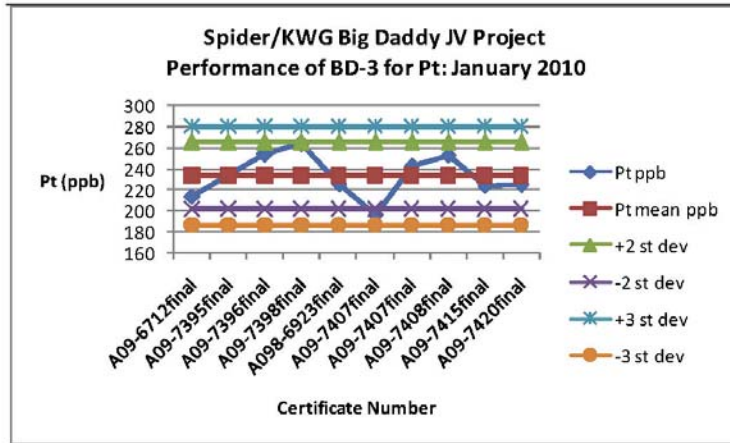
**BD-3 REFERENCE MATERIAL**

The BD-3 reference material is a reference material certified for Cr2O3, Pd and Pt, and was made from coarse reject material from Big Daddy drill core. CDN Resource Labs in Delta, British Columbia made the standard, sent 125 samples to five different labs for round robin analyses, and the standard was certified by Dr. Barry Smee, Ph.D.

There were ten data points for this standard. There was one failure for Cr2O3, however the other BD-3 in the same batch passed and no action was taken.





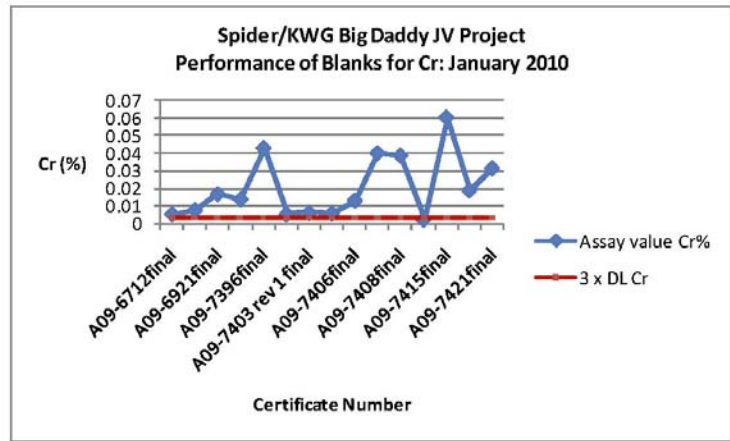


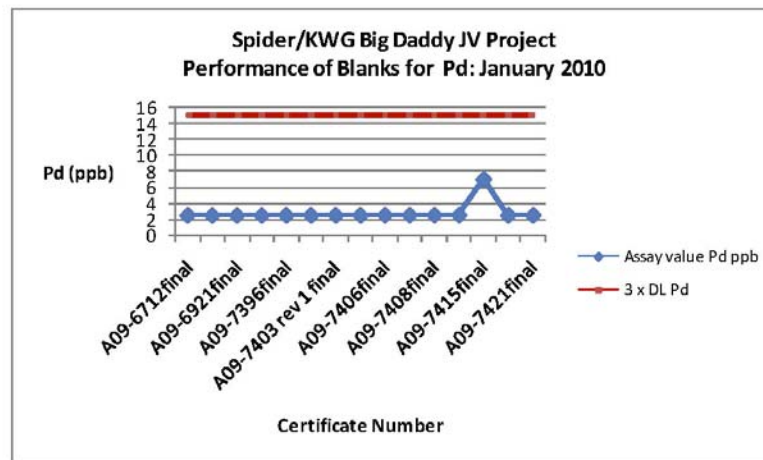
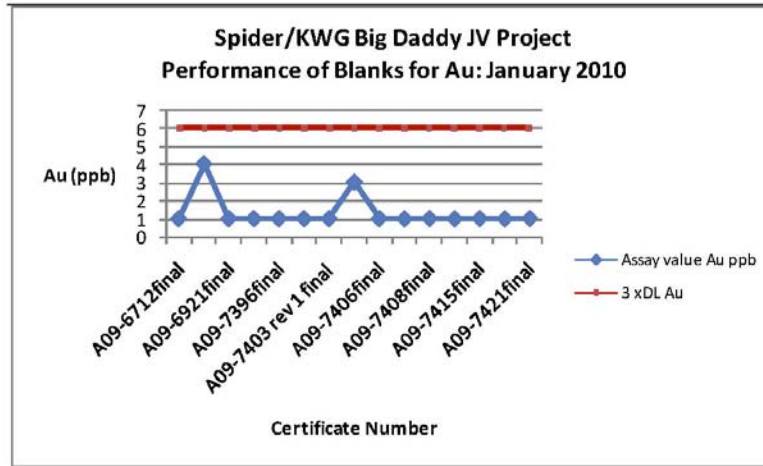
**Blanks**

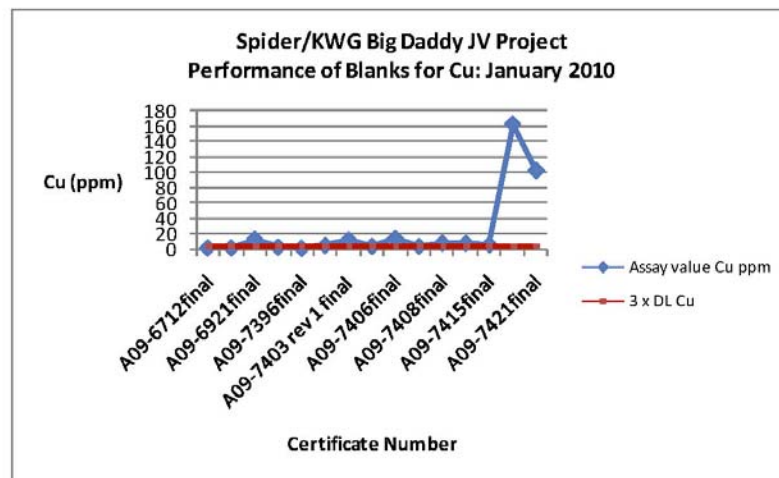
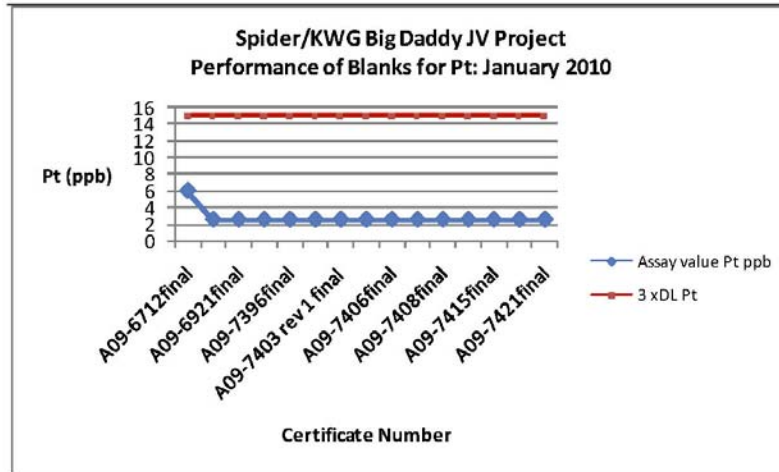
All blank data for Cr, Au, Pd, Pt, Cu and Ni were graphed. An upper tolerance limit of three times the detection limit was indicated for each element. If the assayed value in the certificate was indicated as being less than detection limit the value was assigned the value of half the detection limit for data treatment purposes.

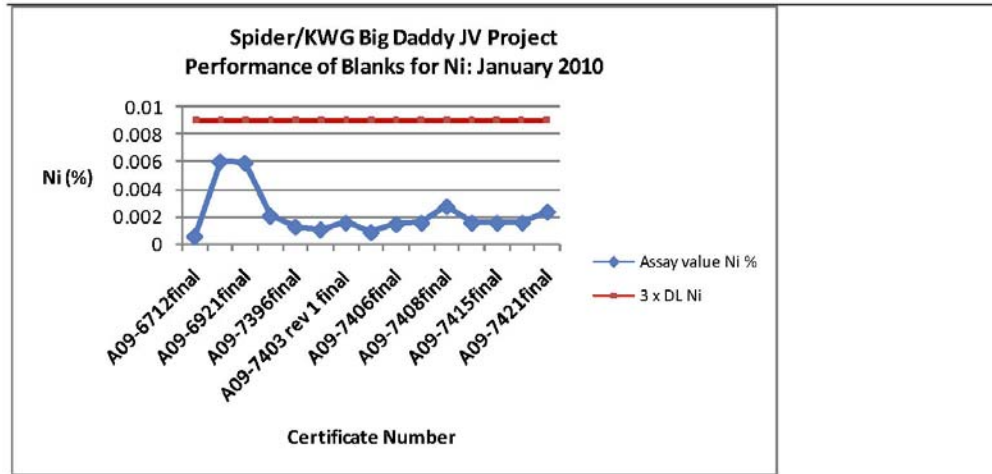
There were 15 blank samples analyzed.

The Cr content of the blank material exceeds the threshold limit 100% of the time, however the highest grade reported in a blank sample was 0.06% Cr. Copper had two failures with a high value of 161 ppm (0.0161%). No action was taken.









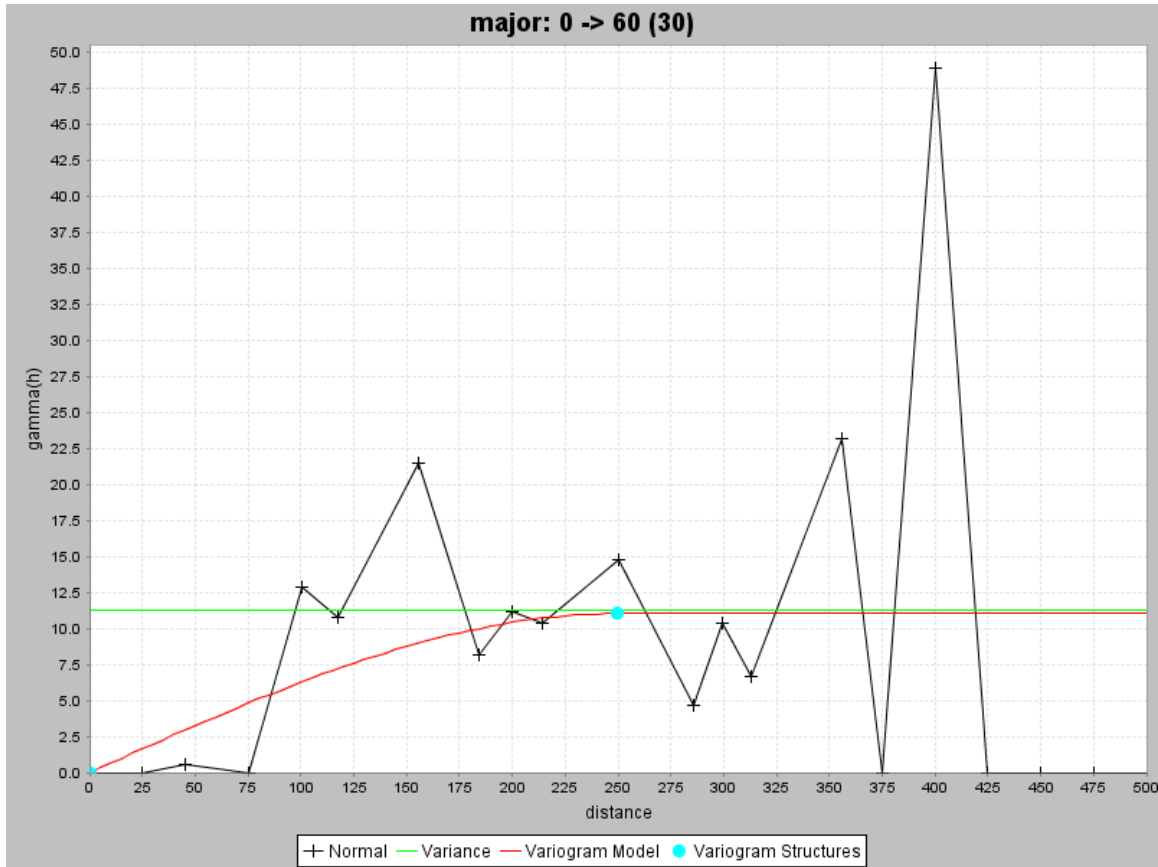
**DUPLICATES**

There were only 14 duplicate pairs analyzed in January, which is not enough to change the current statistics.

## **APPENDIX 3**

### **Full Results of Variographic Analysis**

**BD 1 PRINCIPAL DIRECTION (MAJOR AXIS)**



**VARIOGRAM MODELLING 24-Mar-2010**

**Current anisotropy parameters**

-----

Ellipsoid plunge : 0.000000  
 Ellipsoid bearing: 60.000000  
 Ellipsoid dip : -90.000000  
 major:semi-major : 1.307016  
 major:minor : 1.000000

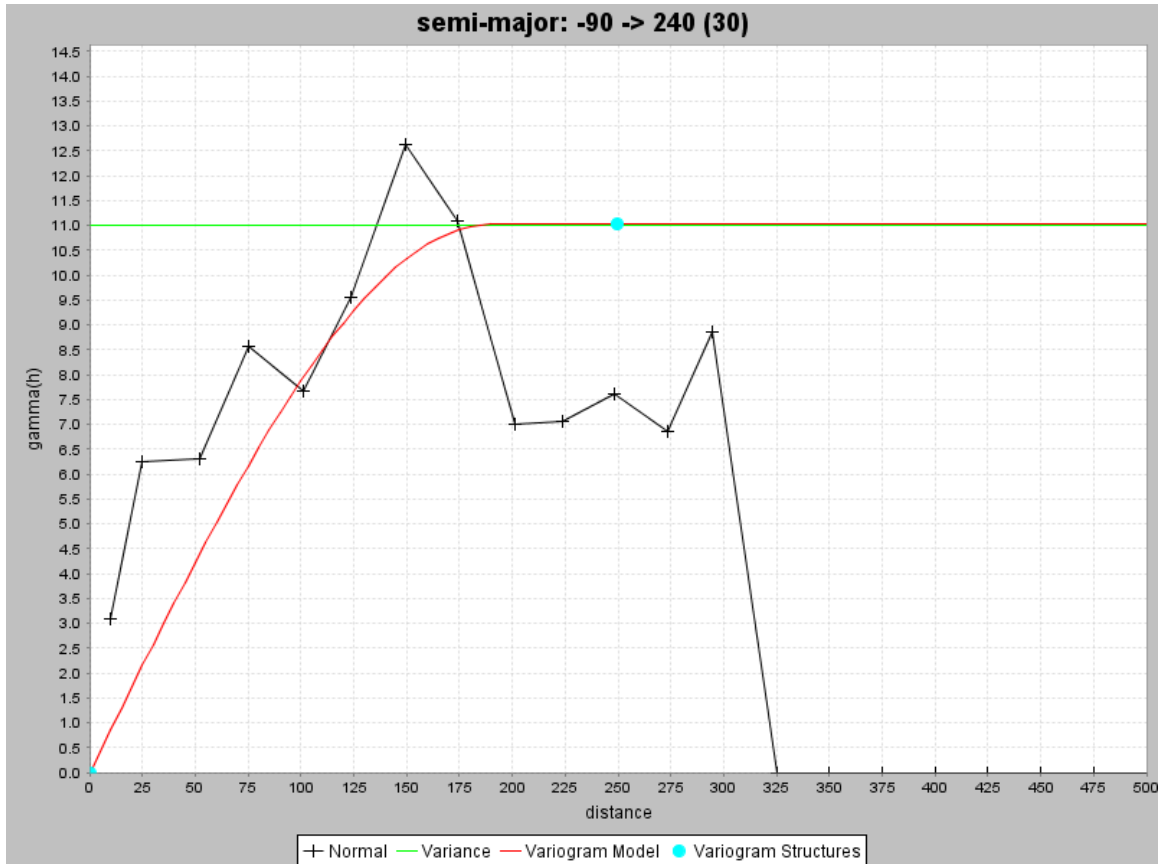
**Current variogram model parameters**

-----

Model Type : Spherical  
 Nugget : 0.000000

Structure Sill Range  
 1 11.031010 249.452

## BD 1 SEMI-MAJOR AXIS



### VARIOGRAM MODELLING      24-Mar-2010

#### Current anisotropy parameters

-----

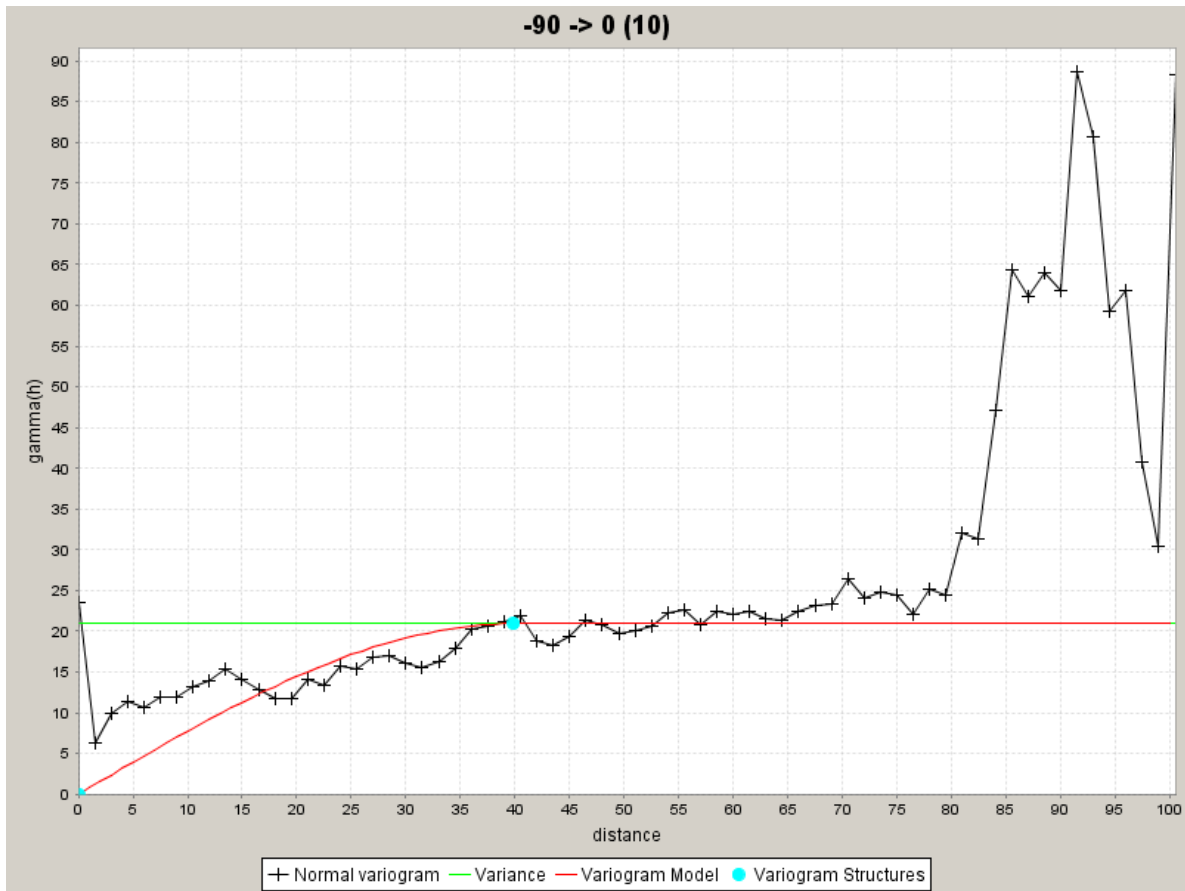
Ellipsoid plunge : 0.000000  
 Ellipsoid bearing: 60.000000  
 Ellipsoid dip : -90.000000  
 major:semi-major : 1.307016  
 major:minor : 1.000000

#### Current variogram model parameters

-----

Model Type : Spherical  
 Nugget : 0.000000

**BD 1 MINOR AXIS (DOWNHOLE)**



**VARIOGRAM MODELLING 29-Apr-2010**

**Current variogram model parameters**

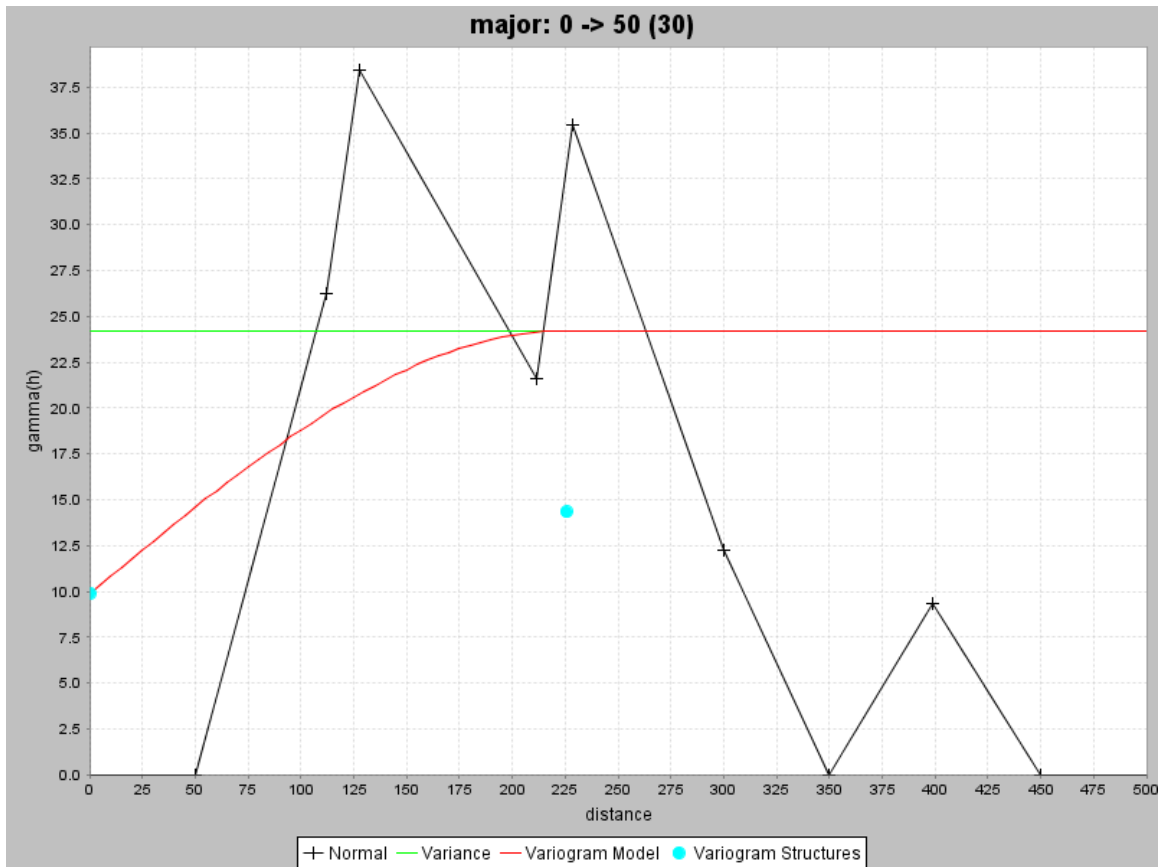
-----

**Model Type : Spherical**  
**Nugget : 0.000000**

**Structure Sill Range**  
**1 20.954050 39.877**



**BD 2 PRINCIPAL DIRECTION (MAJOR AXIS)**



**VARIOGRAM MODELLING 30-Apr-2010**

**Current anisotropy parameters**

-----

Ellipsoid plunge : 0.000000  
 Ellipsoid bearing: 50.000021  
 Ellipsoid dip : -79.999996  
 major:semi-major : 1.000000  
 major:minor : 1.000000

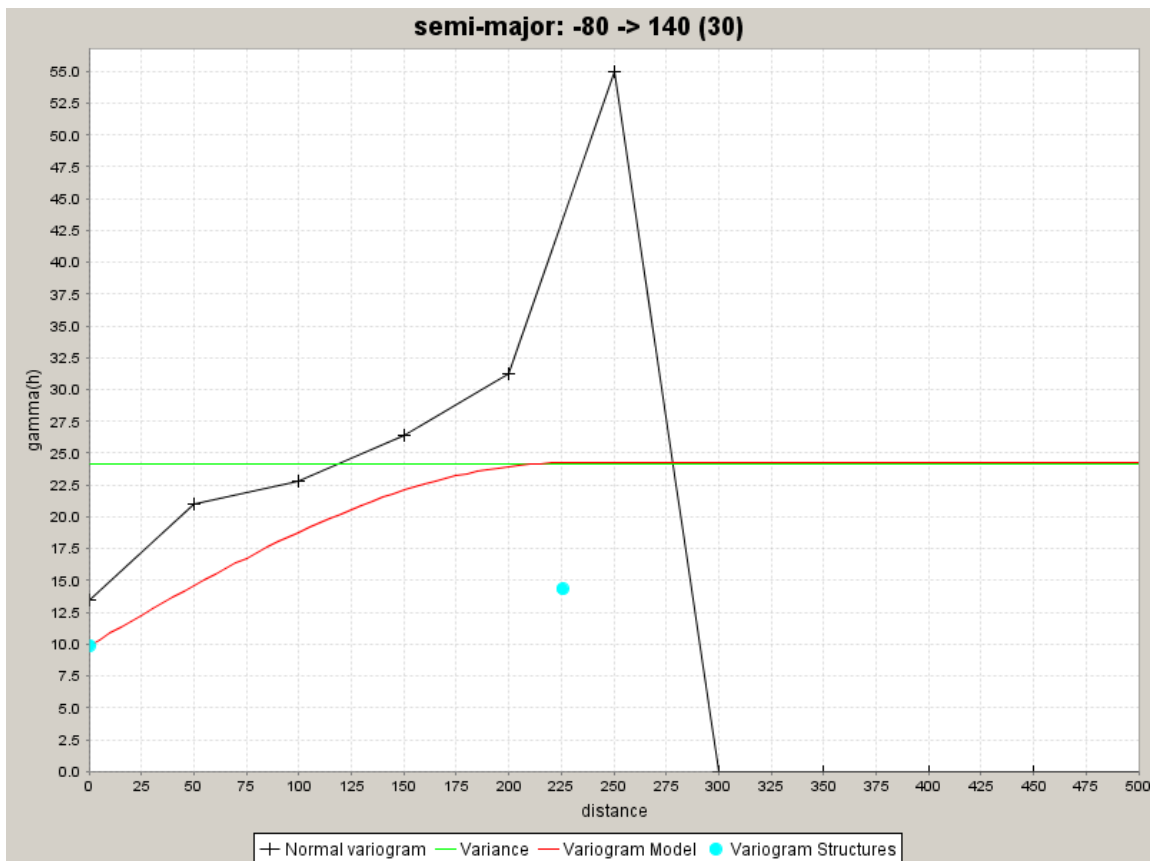
**Current variogram model parameters**

-----

Model Type : Spherical  
 Nugget : 9.898158

| Structure | Sill      | Range   |
|-----------|-----------|---------|
| 1         | 14.335420 | 225.509 |

## BD 2 SEMI-MAJOR AXIS



### VARIOGRAM MODELLING 30-Apr-2010

#### Current anisotropy parameters

-----

Ellipsoid plunge : 0.000000  
 Ellipsoid bearing: 50.000021  
 Ellipsoid dip : -79.999996  
 major:semi-major : 1.000000  
 major:minor : 1.000000

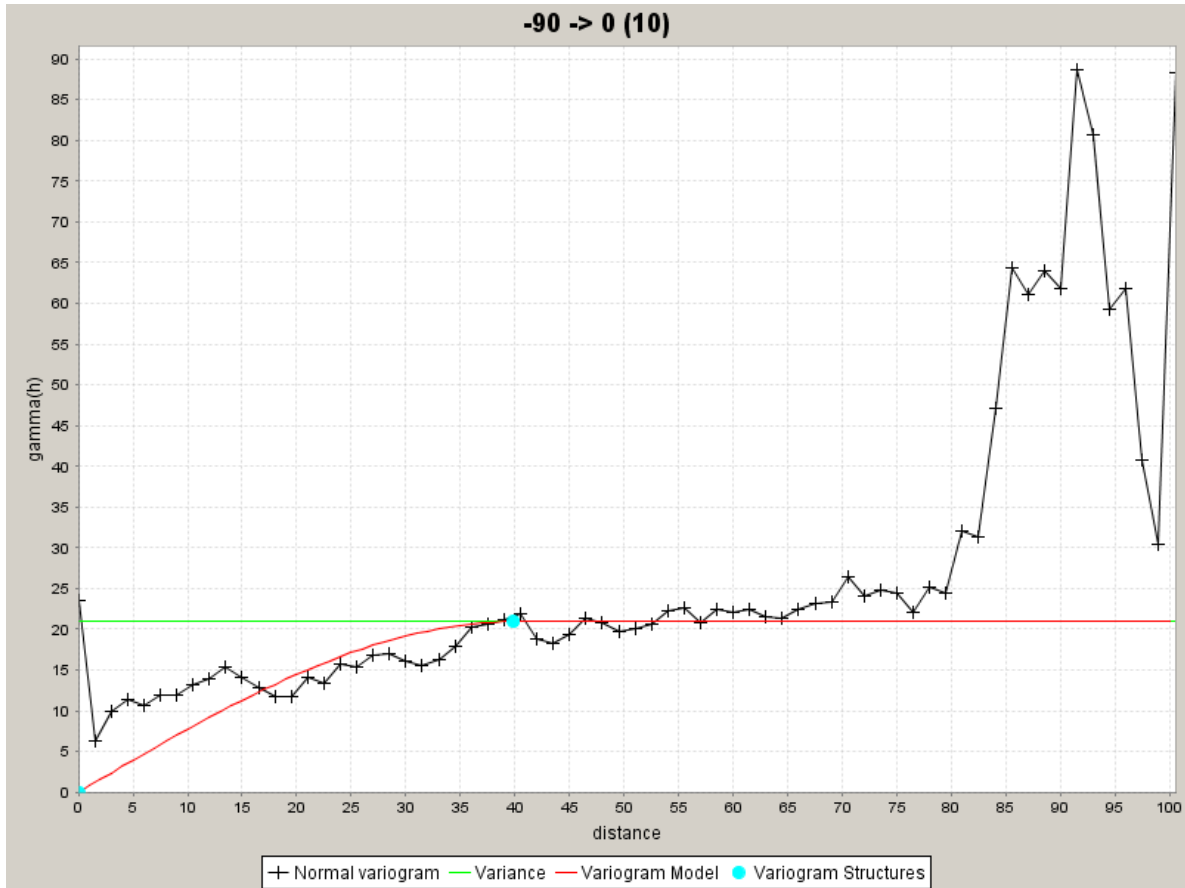
#### Current variogram model parameters

-----

Model Type : Spherical  
 Nugget : 9.898158

| Structure | Sill      | Range   |
|-----------|-----------|---------|
| 1         | 14.335420 | 225.509 |

**BD 2 MINOR AXIS (DOWNHOLE)**



**VARIOGRAM MODELLING 29-Apr-2010**

**Current variogram model parameters**

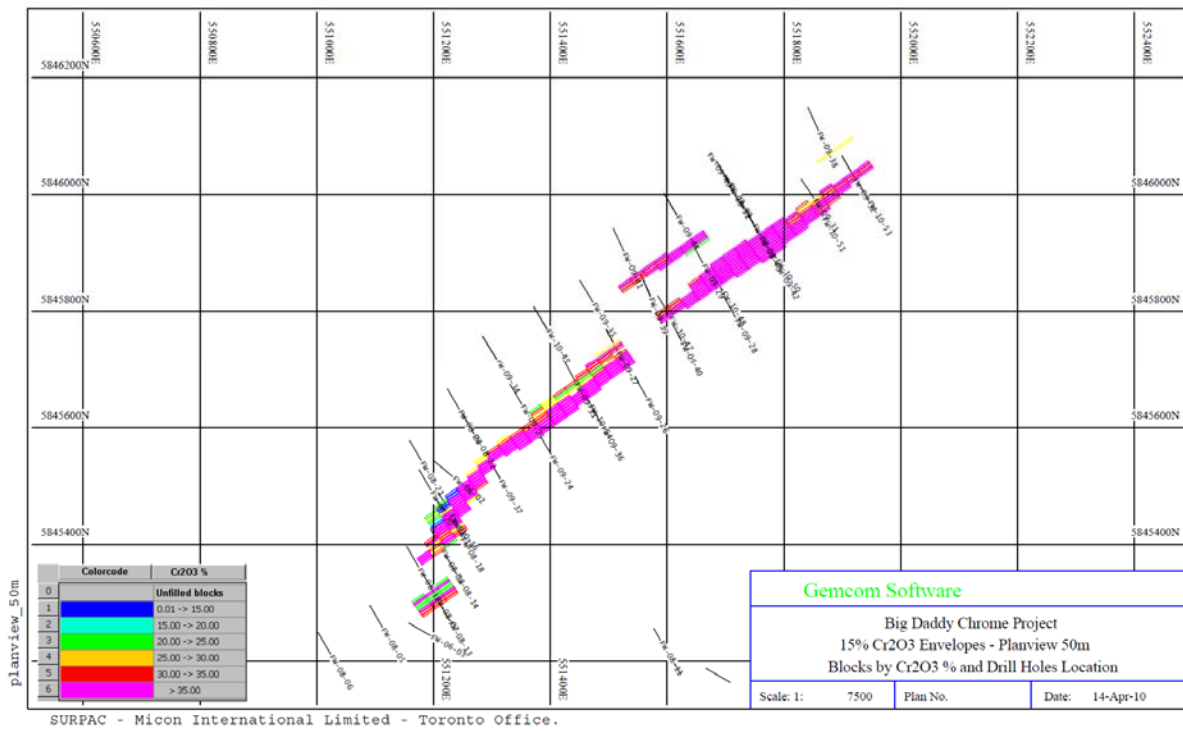
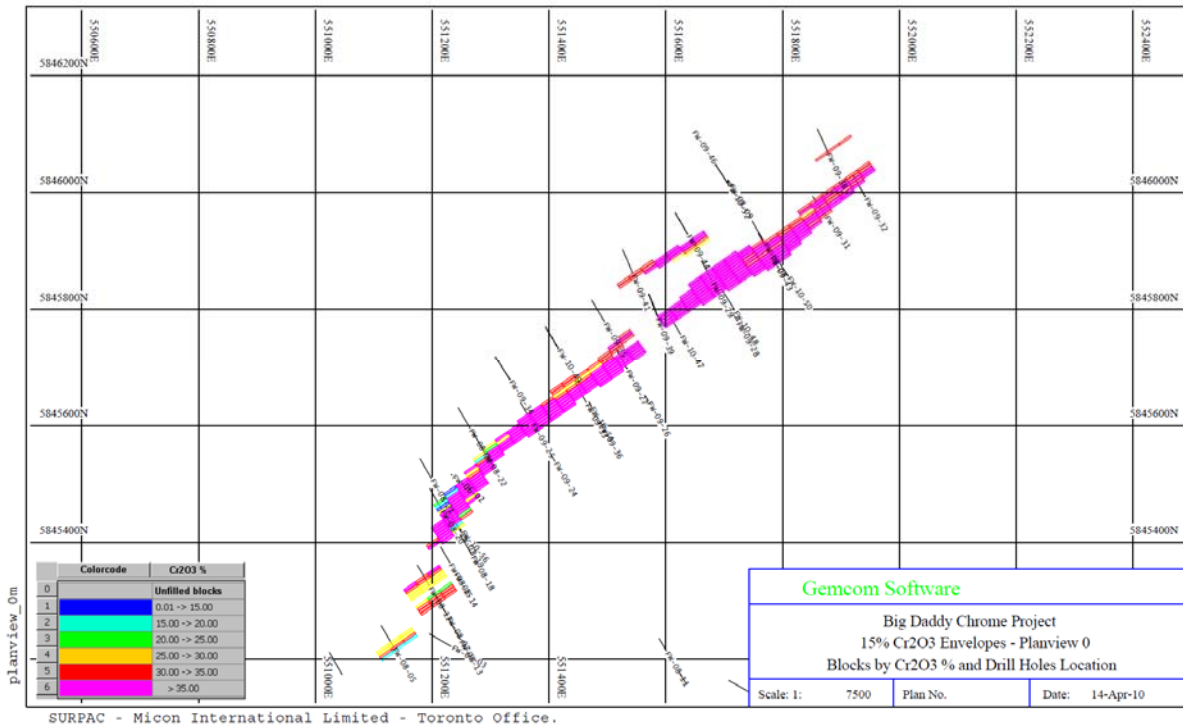
-----

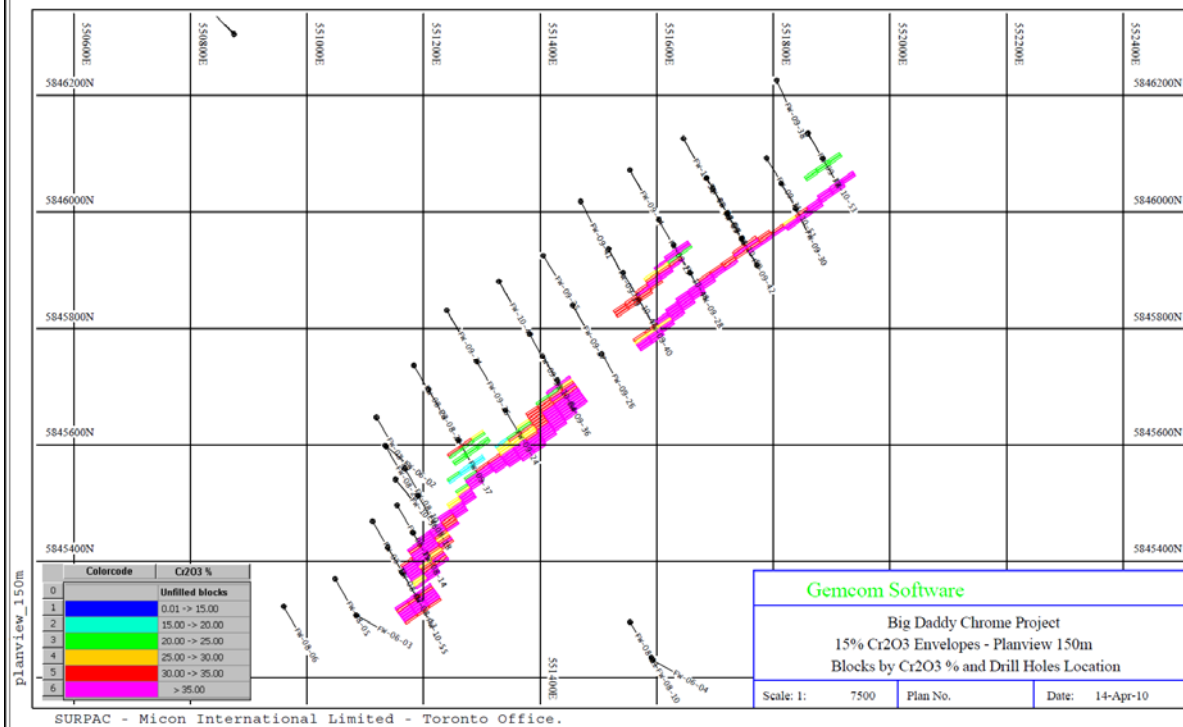
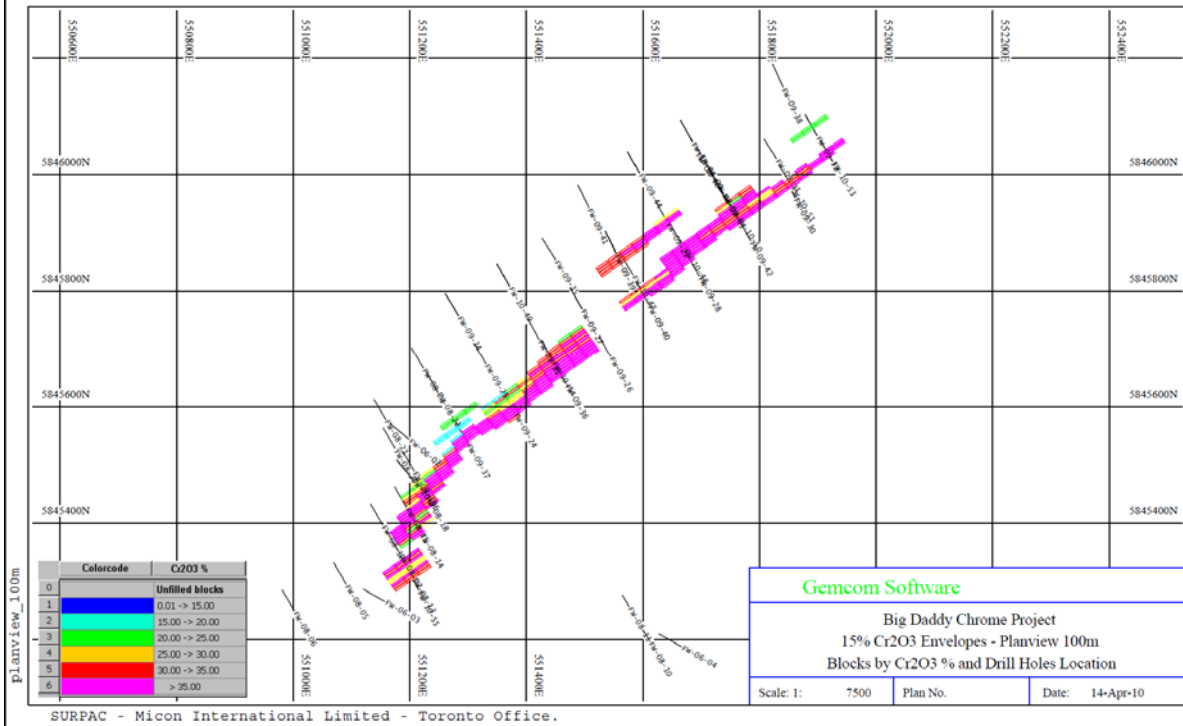
**Model Type : Spherical**  
**Nugget : 0.000000**

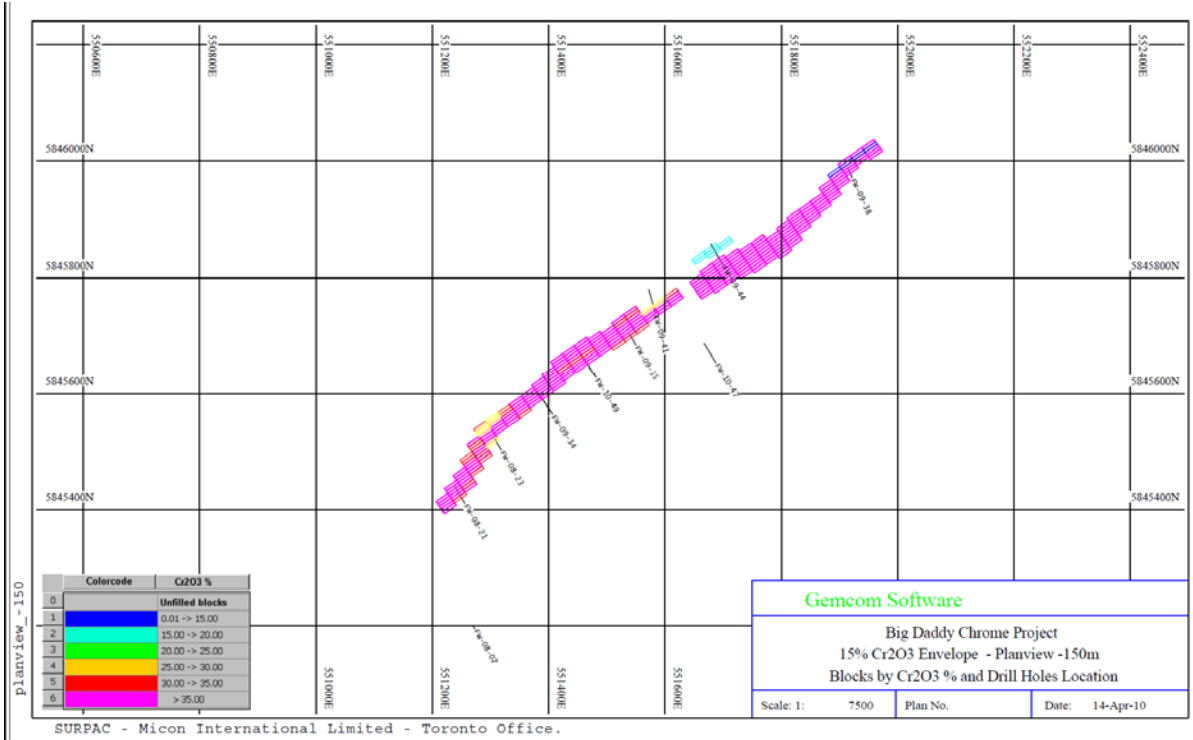
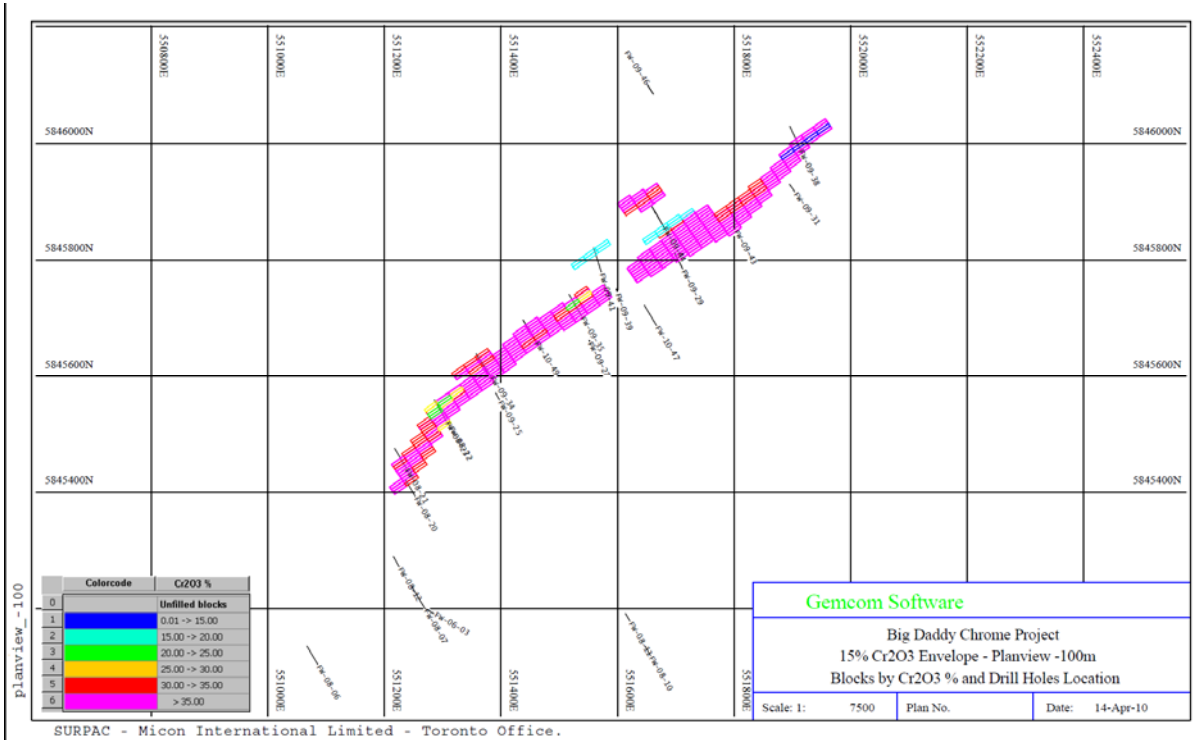
| Structure | Sill      | Range  |
|-----------|-----------|--------|
| 1         | 20.954050 | 39.877 |

## **APPENDIX 4**

### **Level Plans at 50m Intervals Starting from Surface**



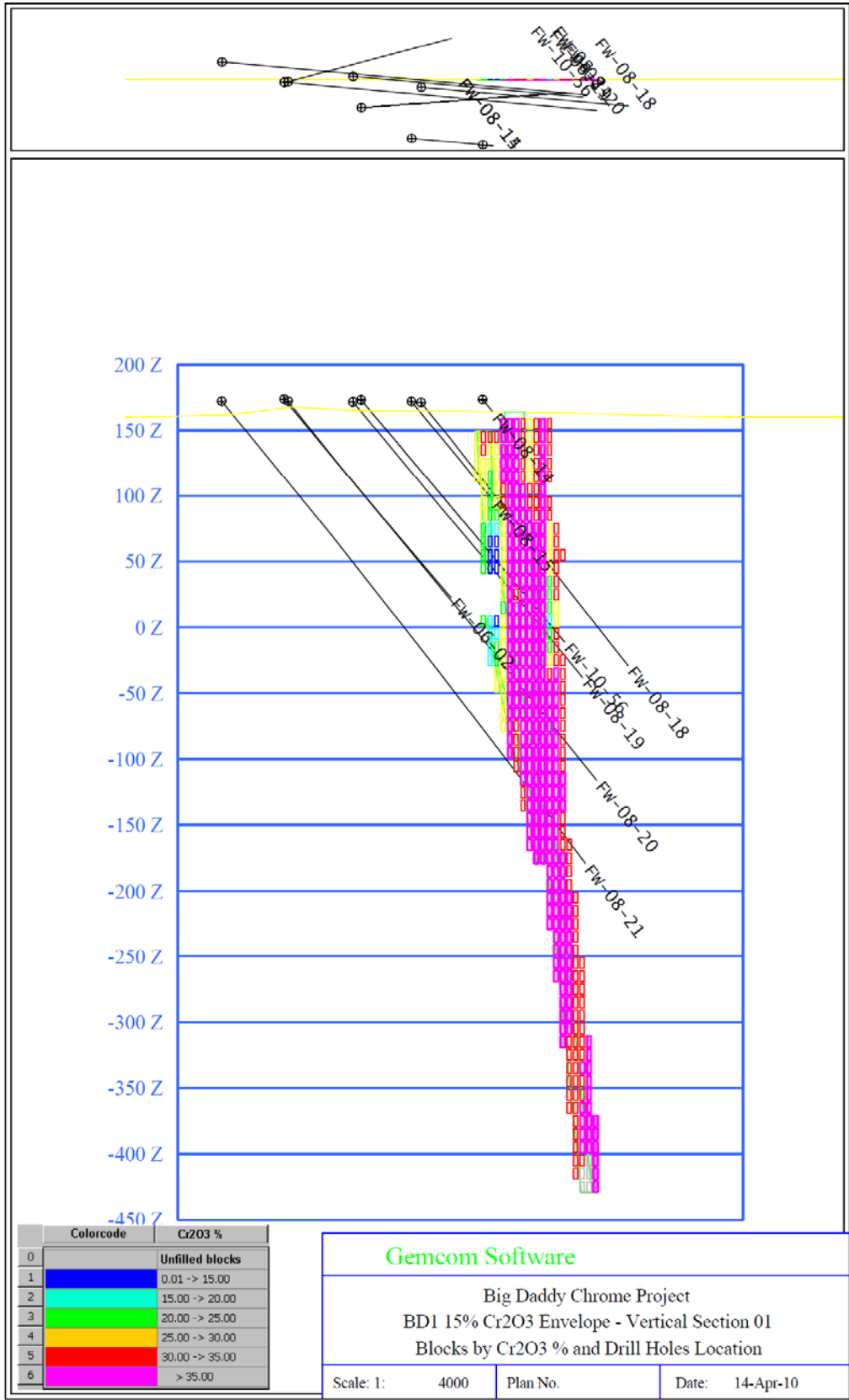




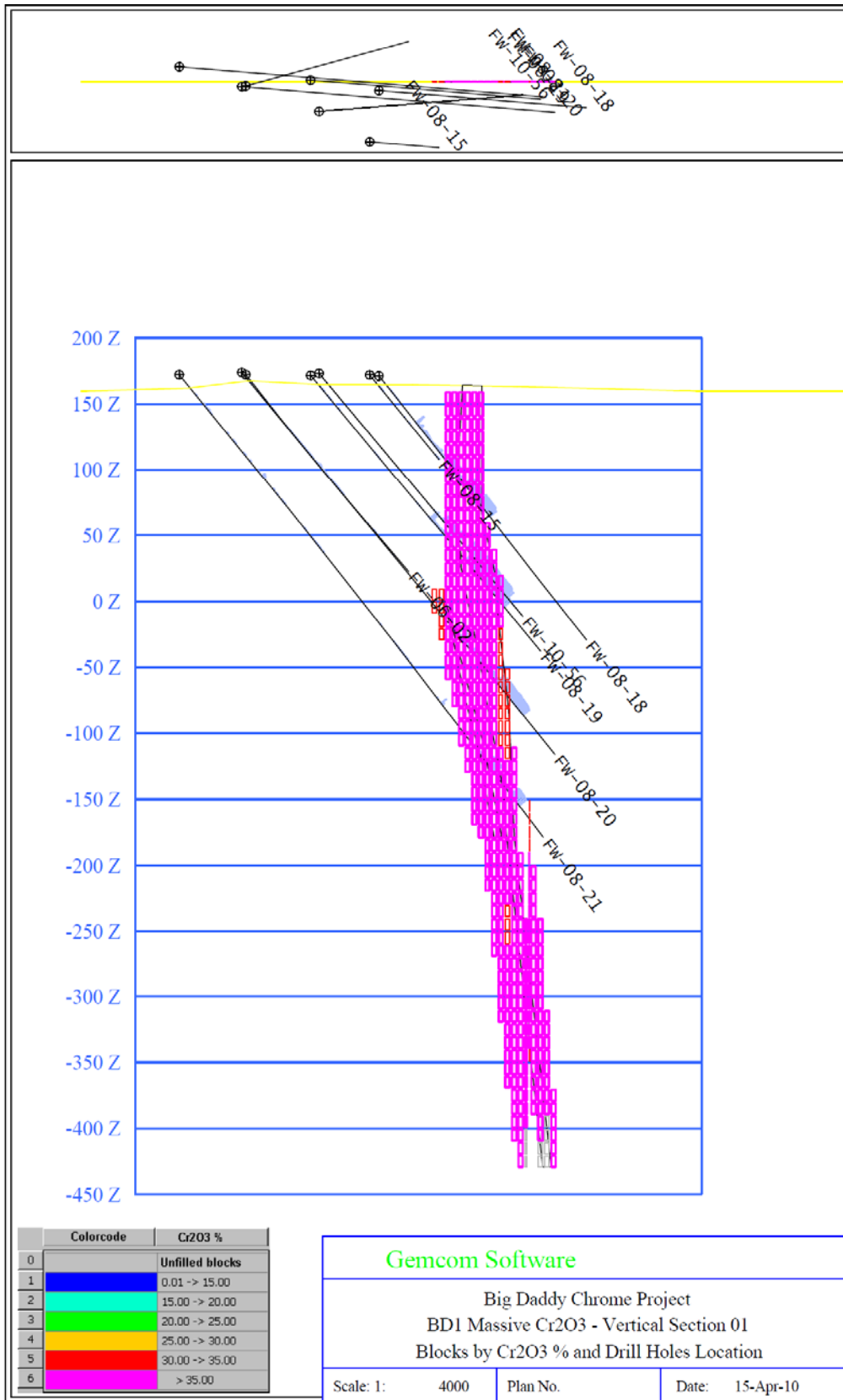
## **APPENDIX 5**

### **Sections at 50m Intervals**

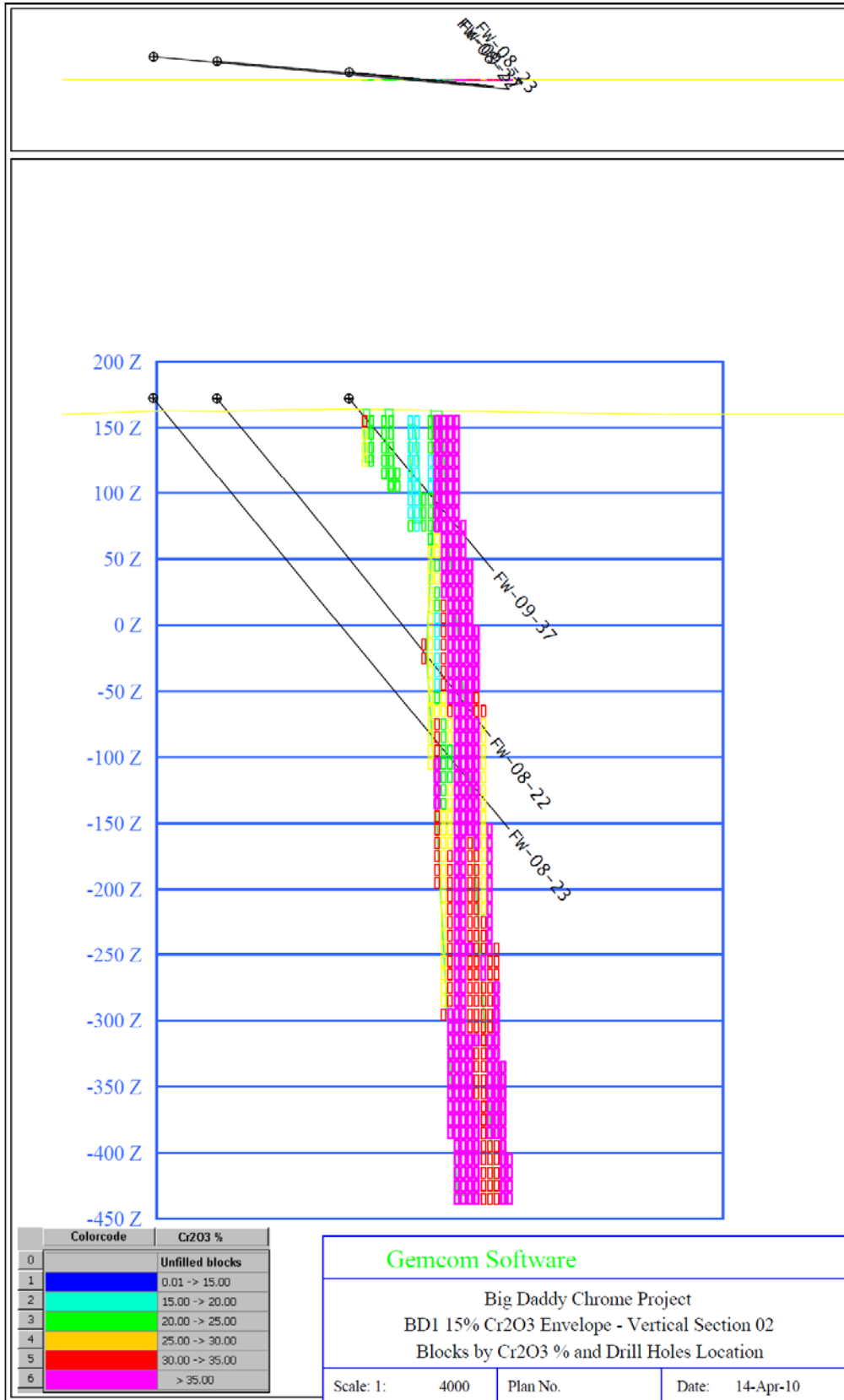




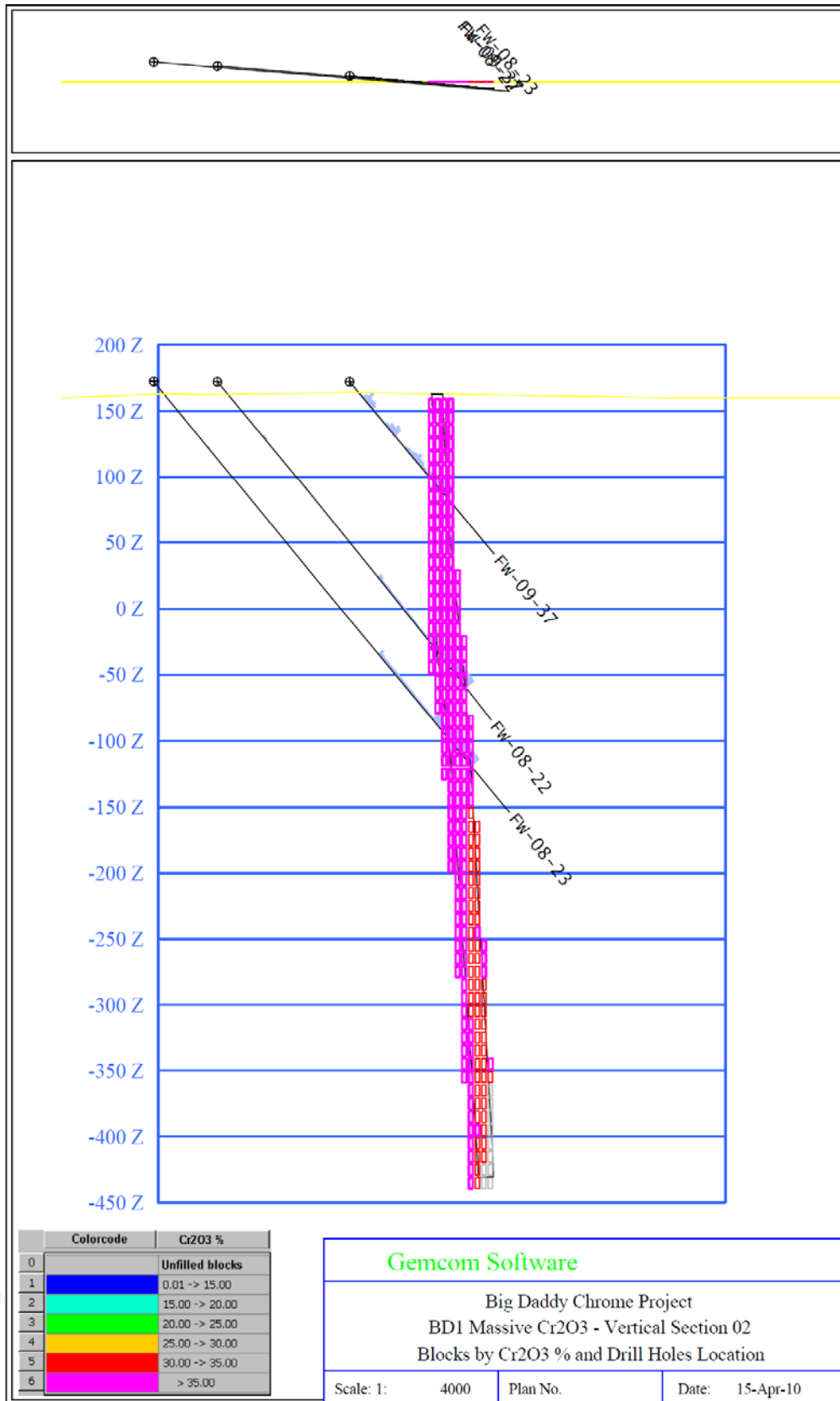
SURPAC - Micon International Limited - Toronto Office.



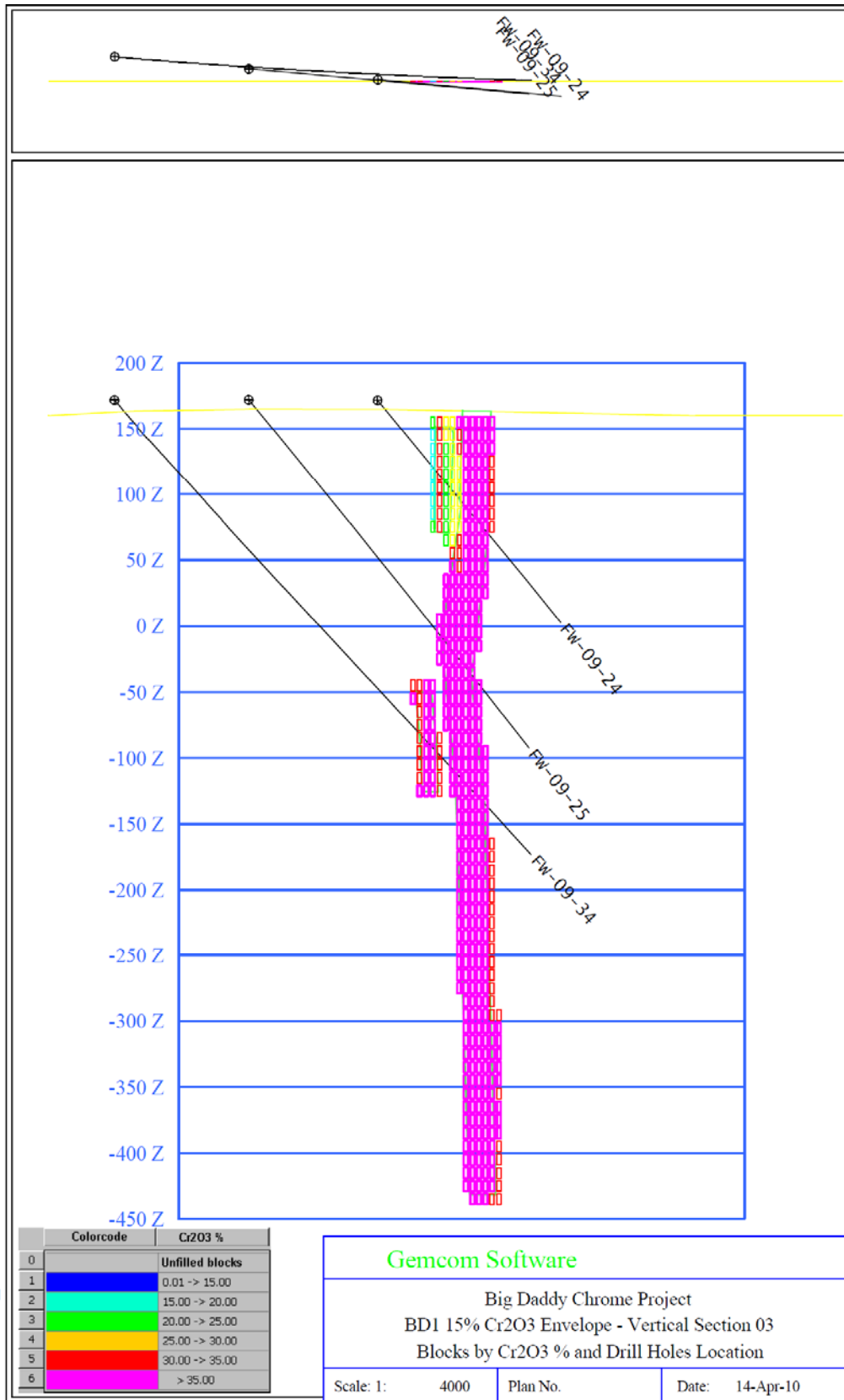
SURPAC - Micon International Limited - Toronto Office.



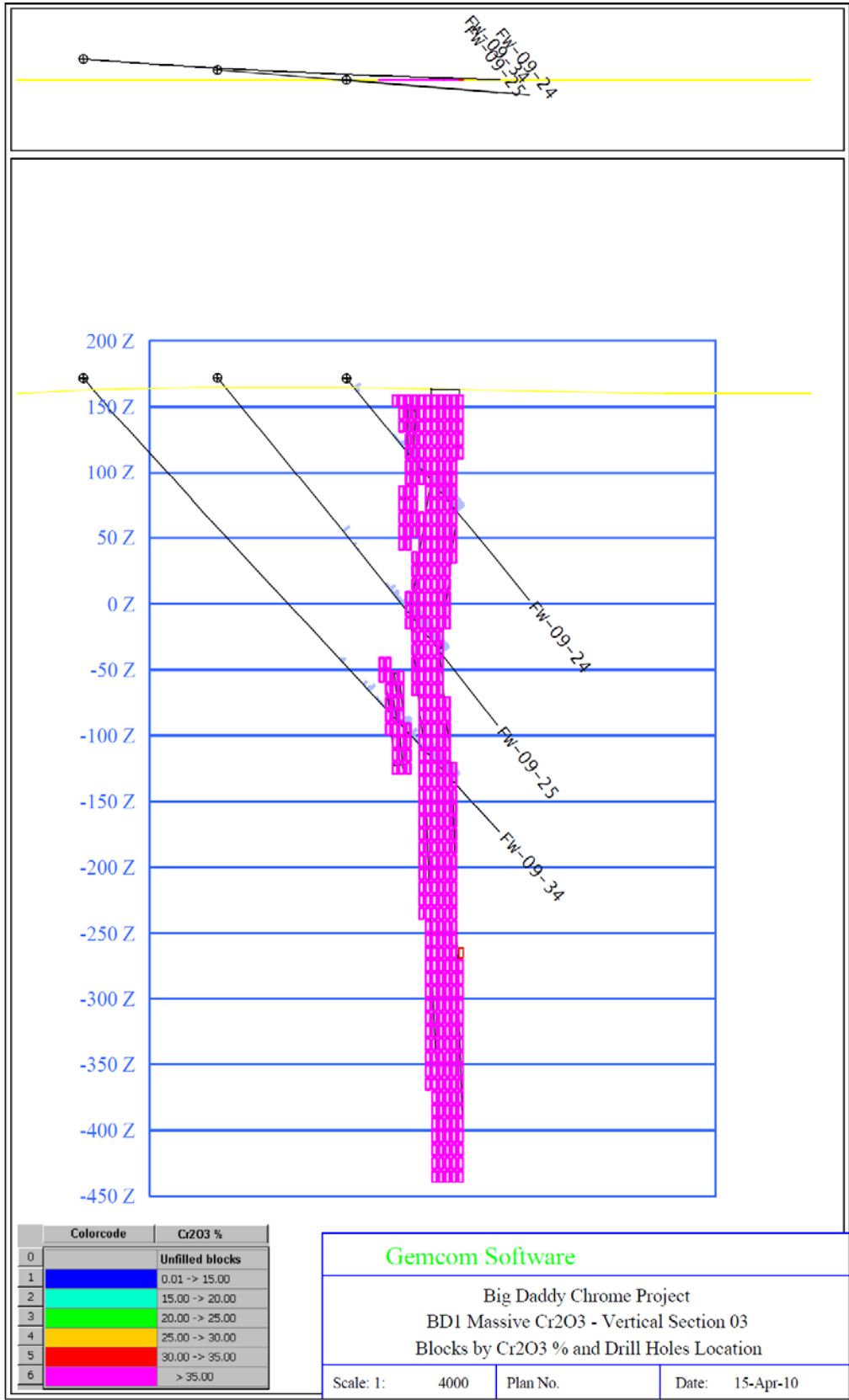
SURPAC - Micon International Limited - Toronto Office.



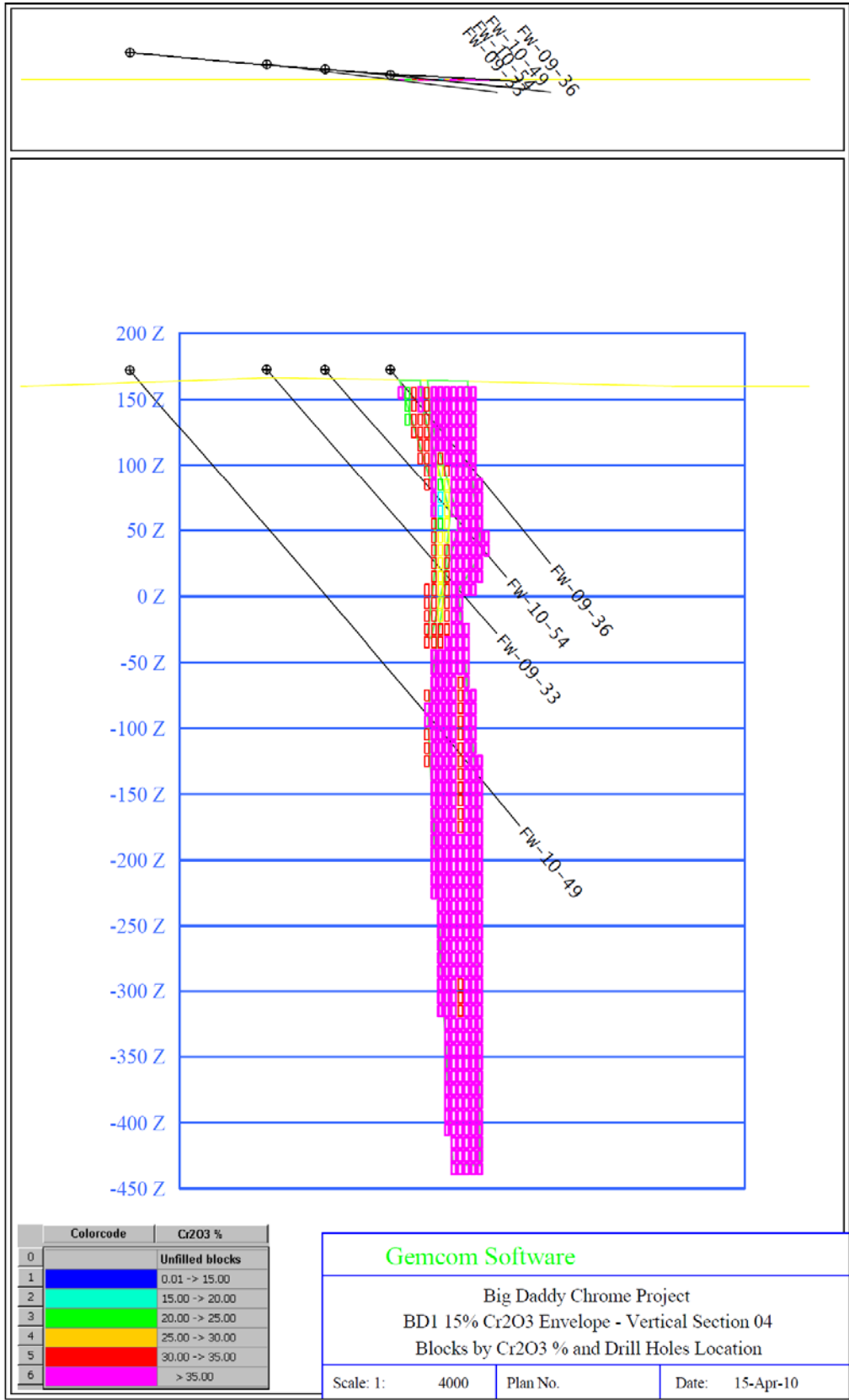
SURPAC - Micon International Limited - Toronto Office.



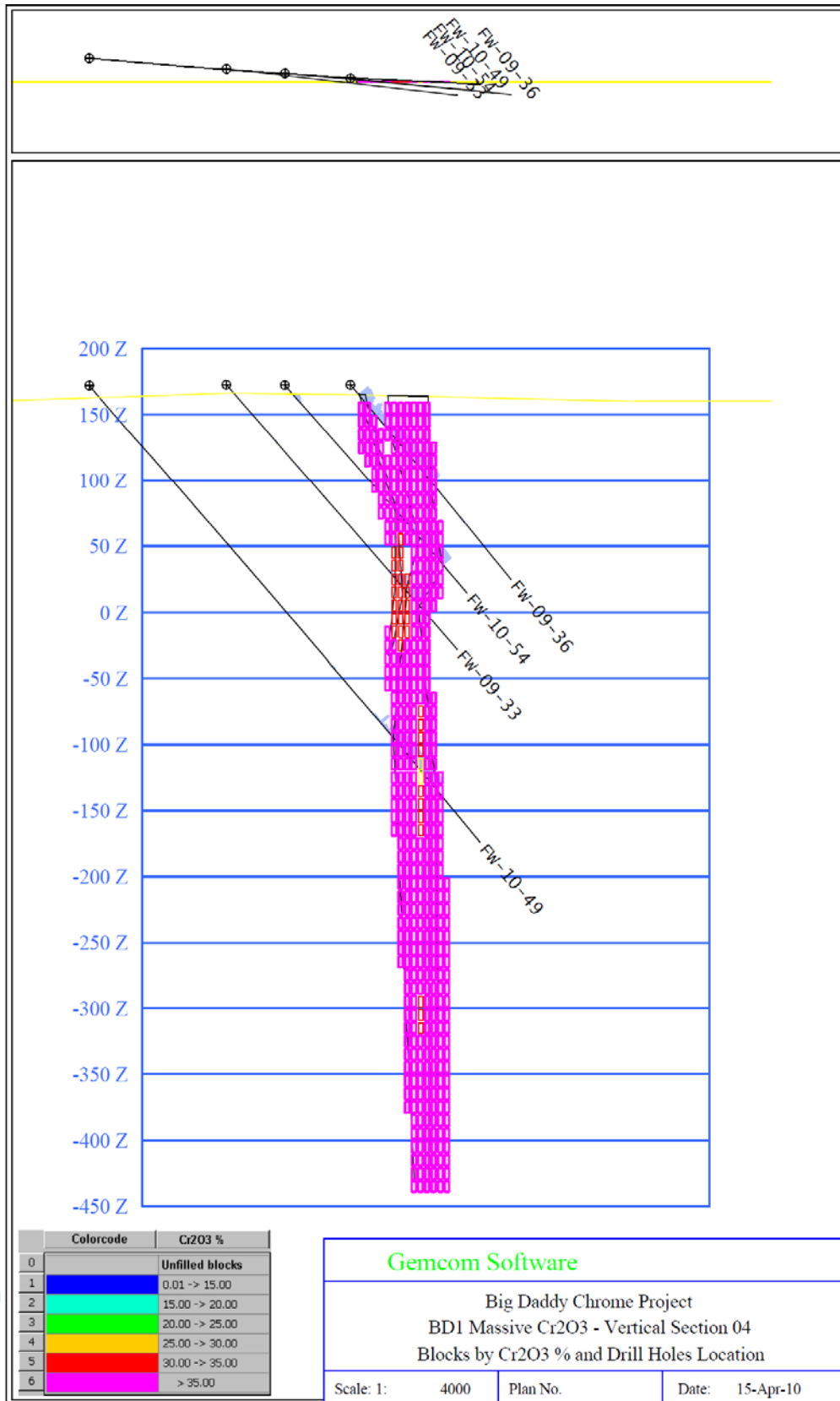
SURPAC - Micon International Limited - Toronto Office.



SURPAC - Micon International Limited - Toronto Office.

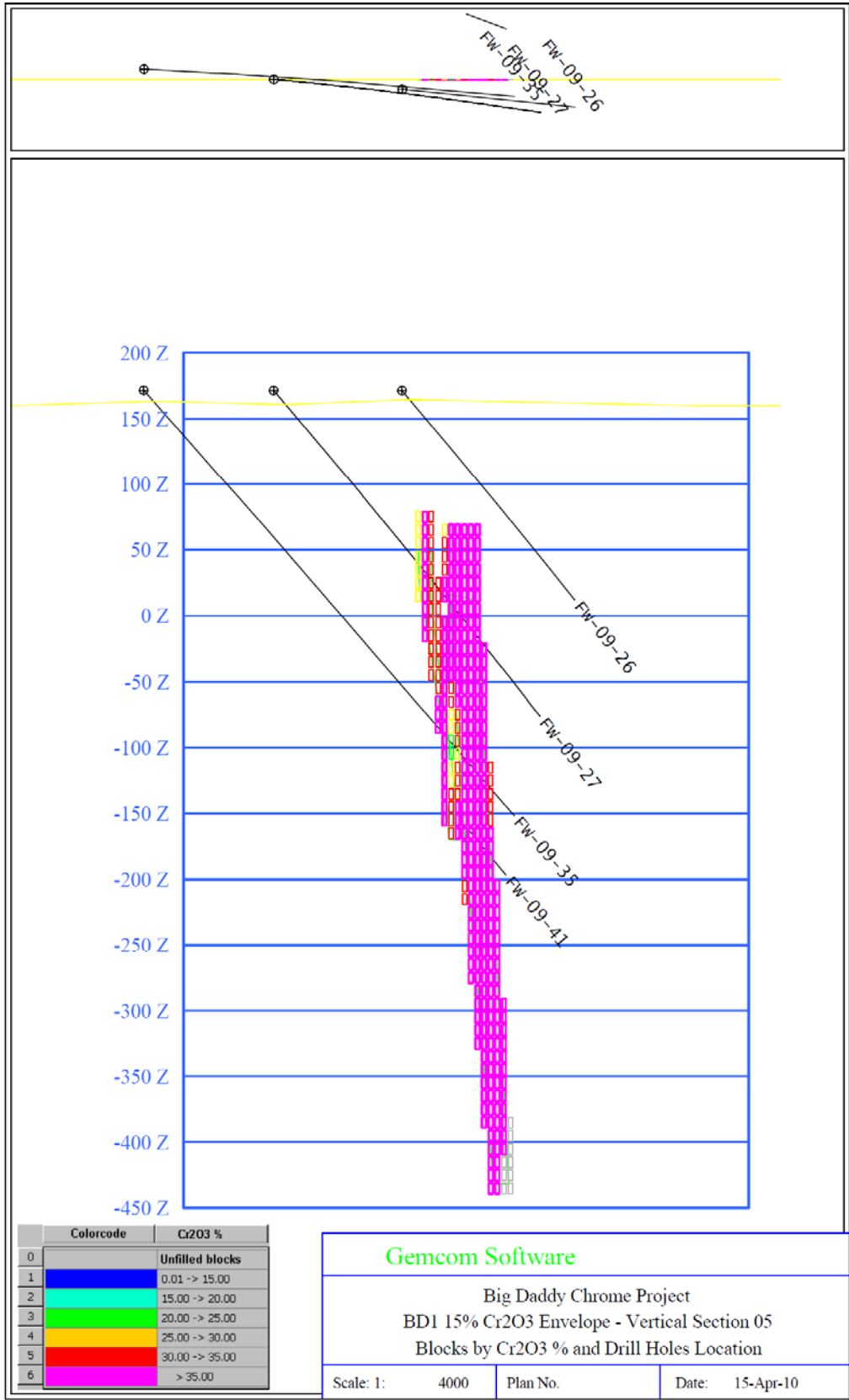


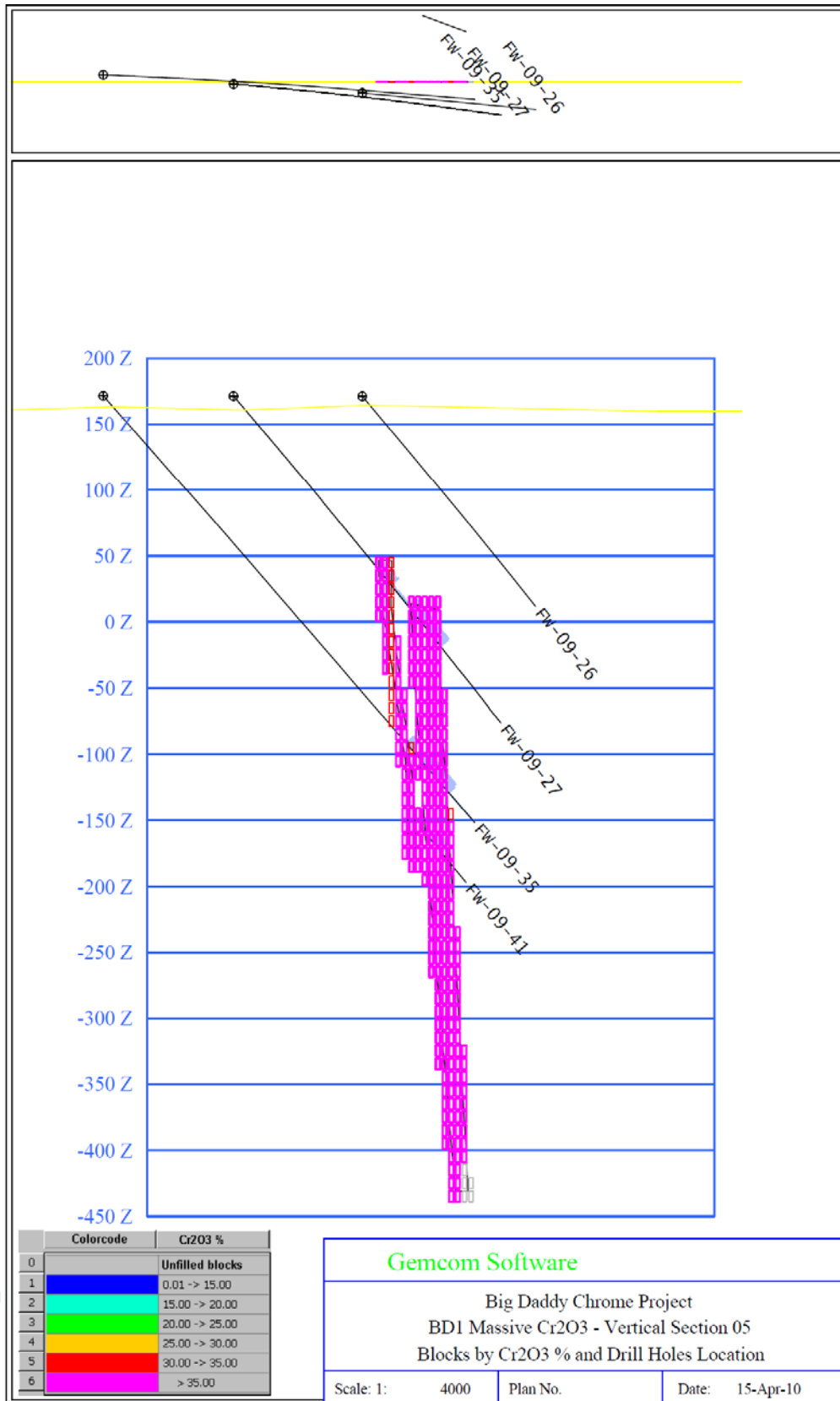
SURPAC - Micon International Limited - Toronto Office.



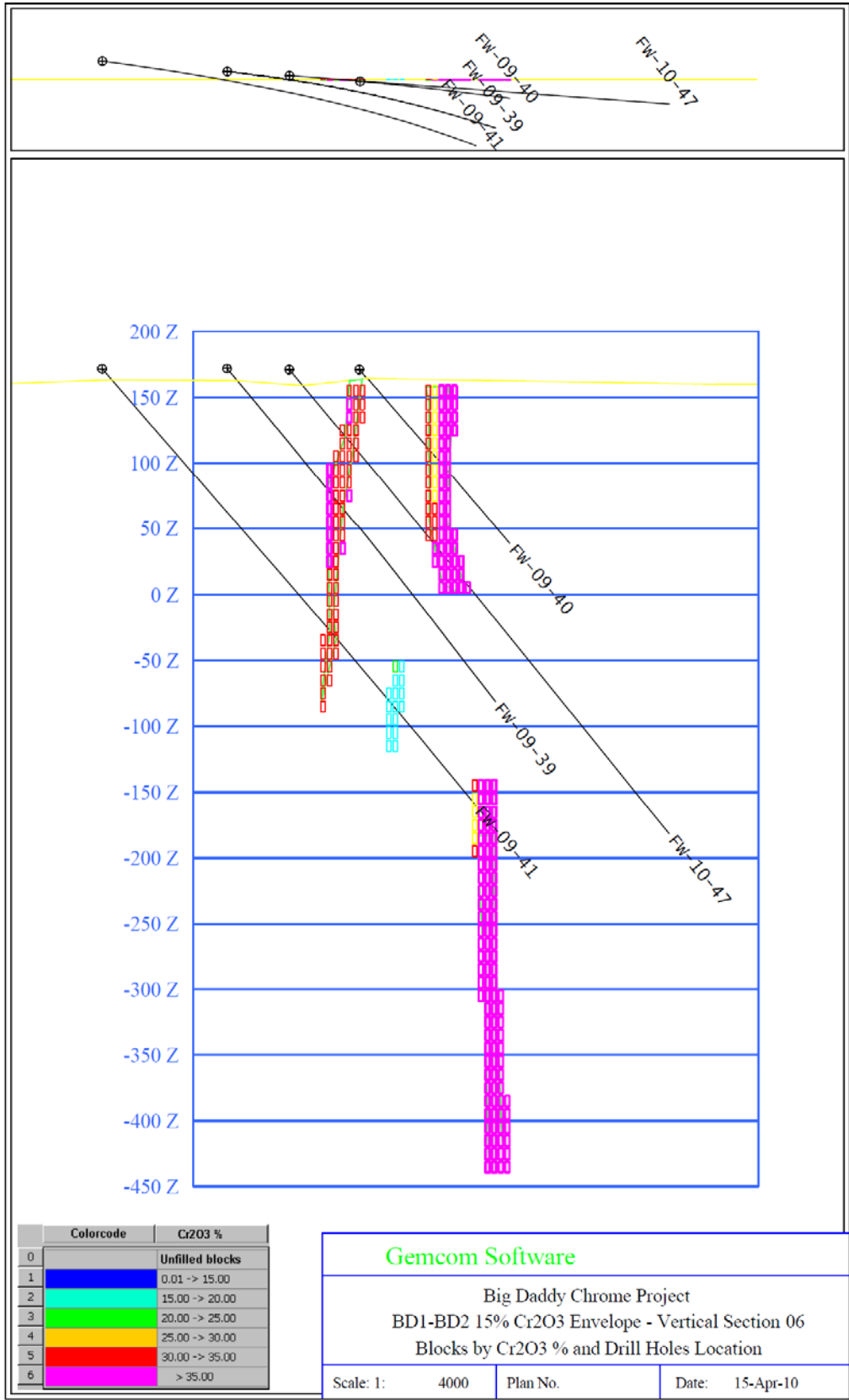
SURPAC - Micon International Limited - Toronto Office.



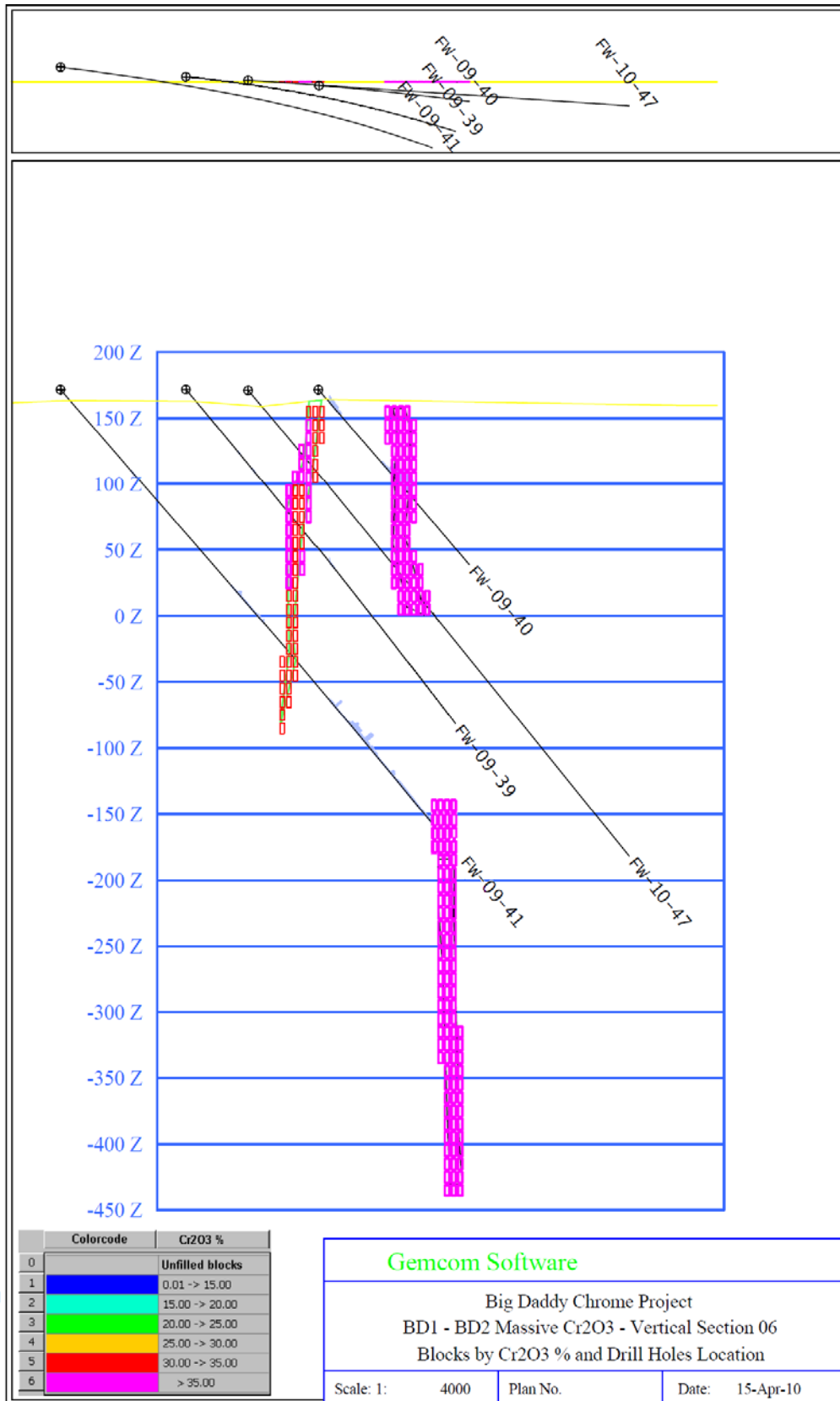




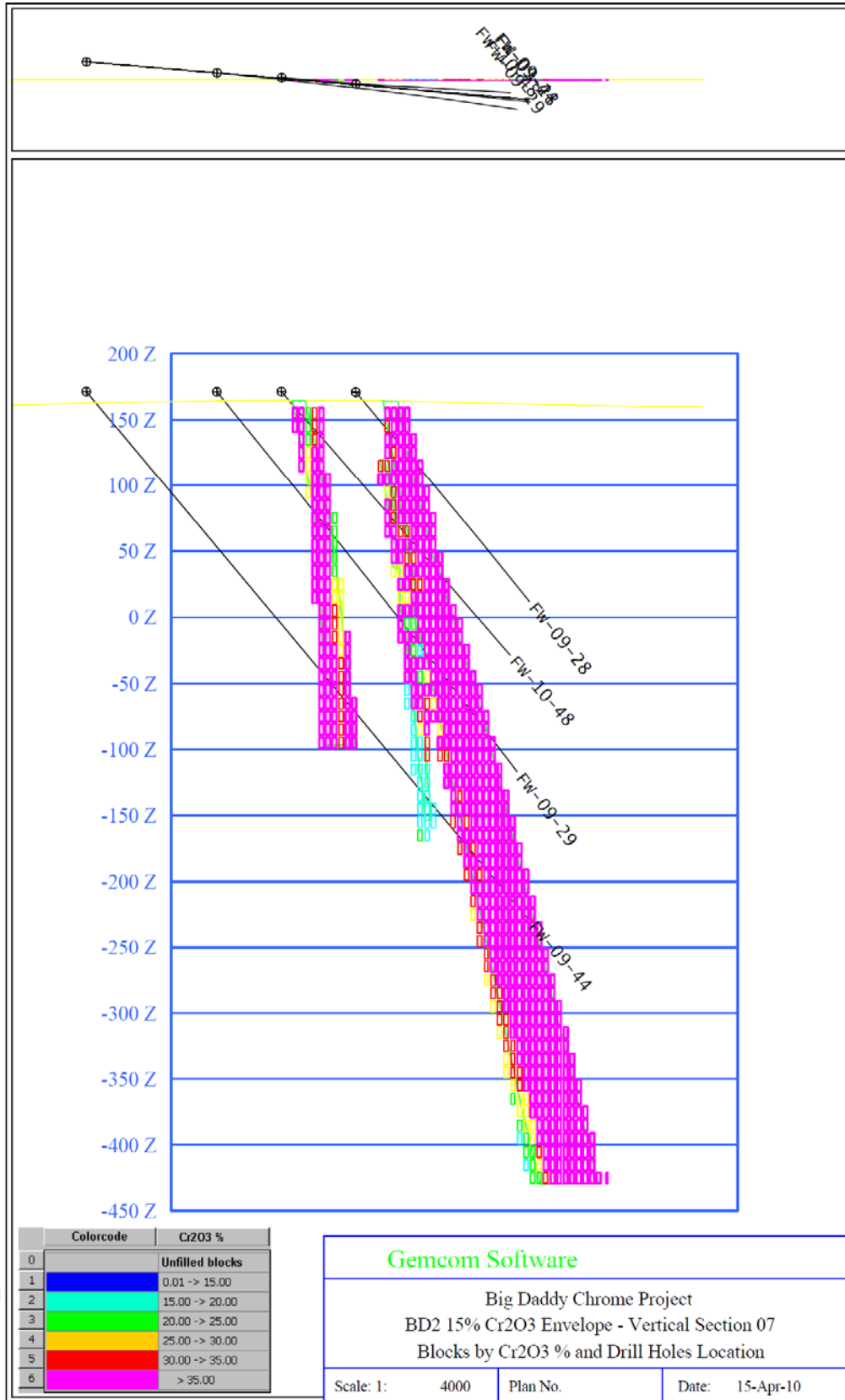
SURPAC - Micon International Limited - Toronto Office.



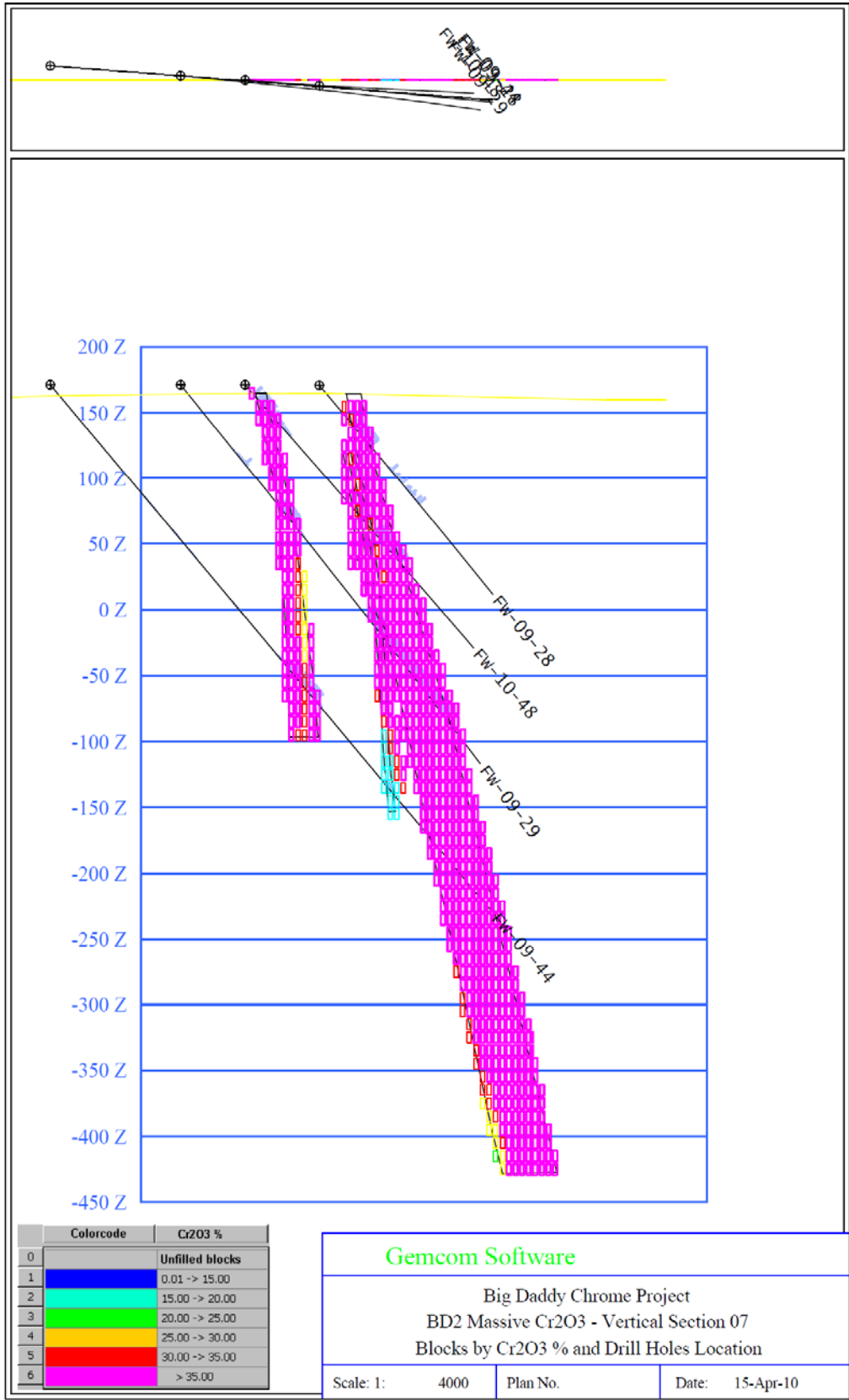
SURPAC - Micon International Limited - Toronto Office.



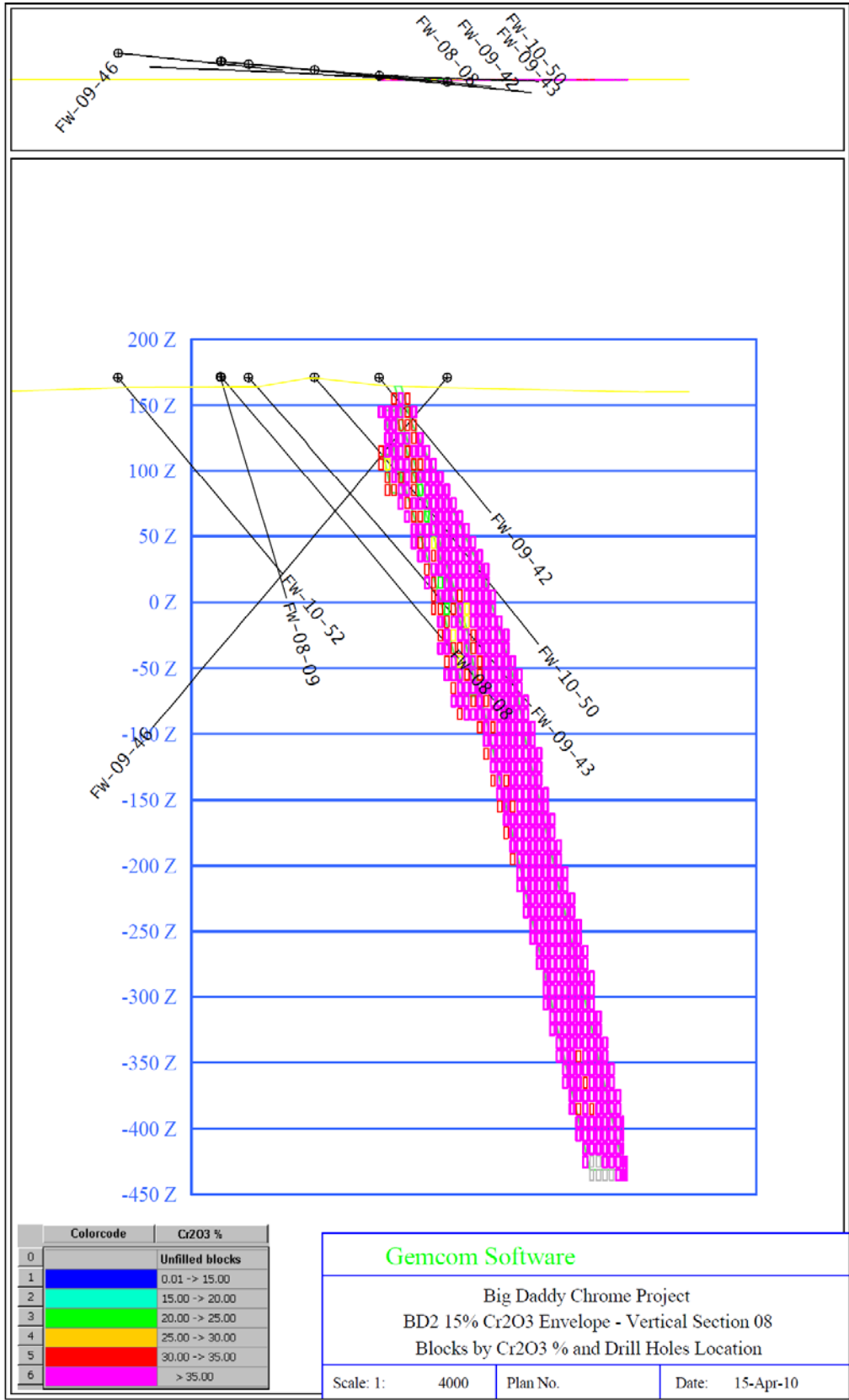
SURPAC - Micon International Limited - Toronto Office.



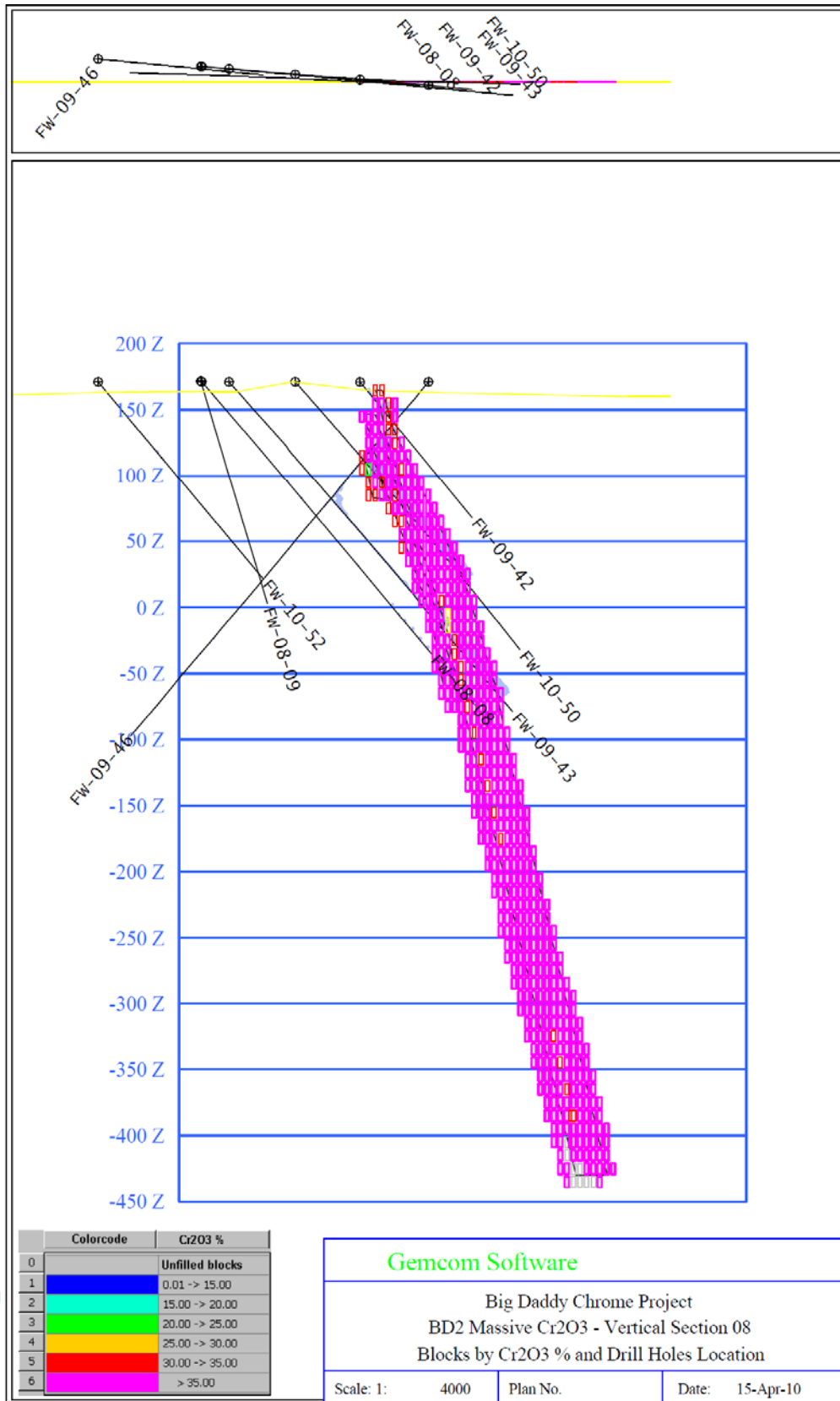
SURPAC - Micon International Limited - Toronto Office.



SURPAC - Micon International Limited - Toronto Office.

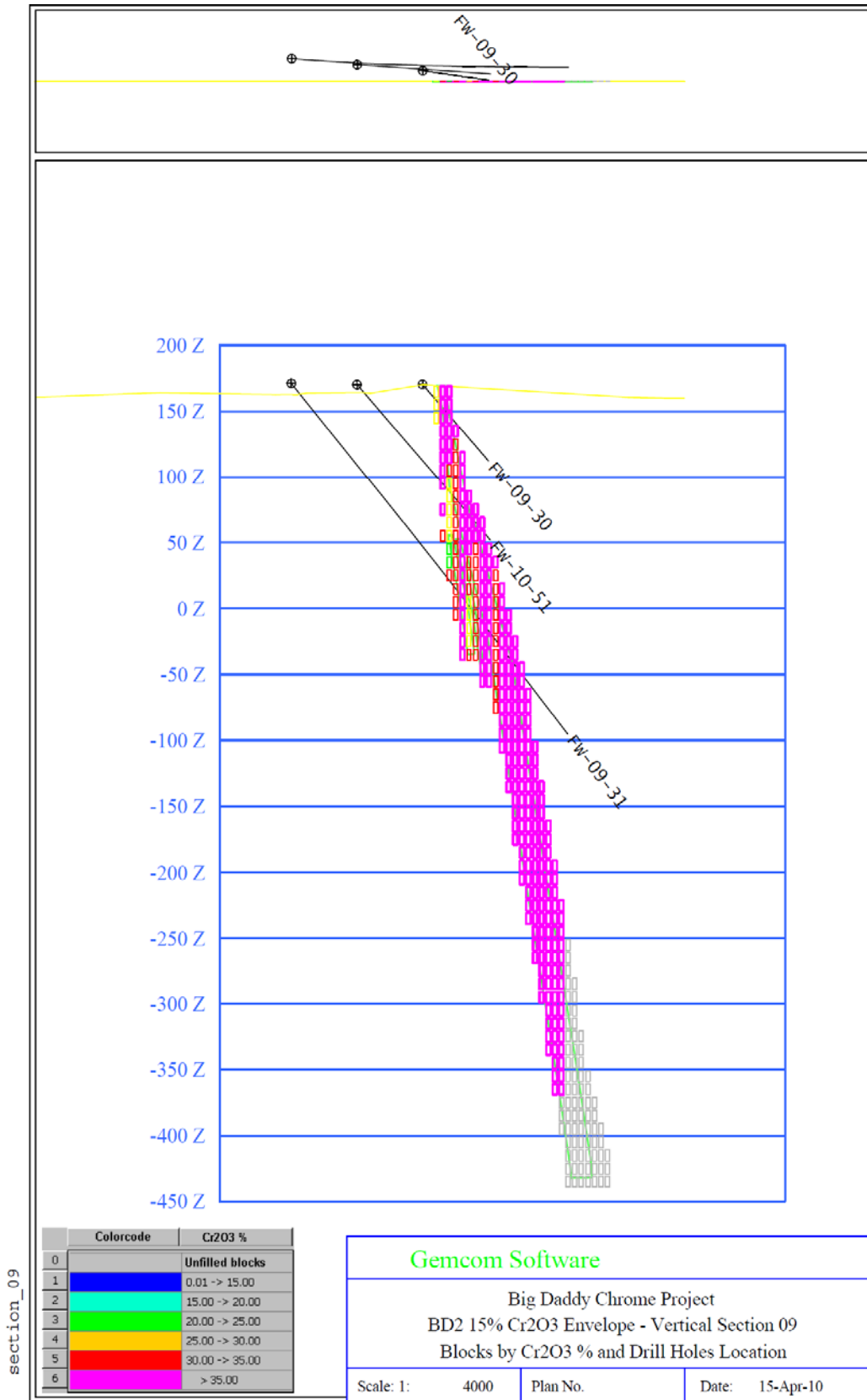


SURPAC - Micon International Limited - Toronto Office.

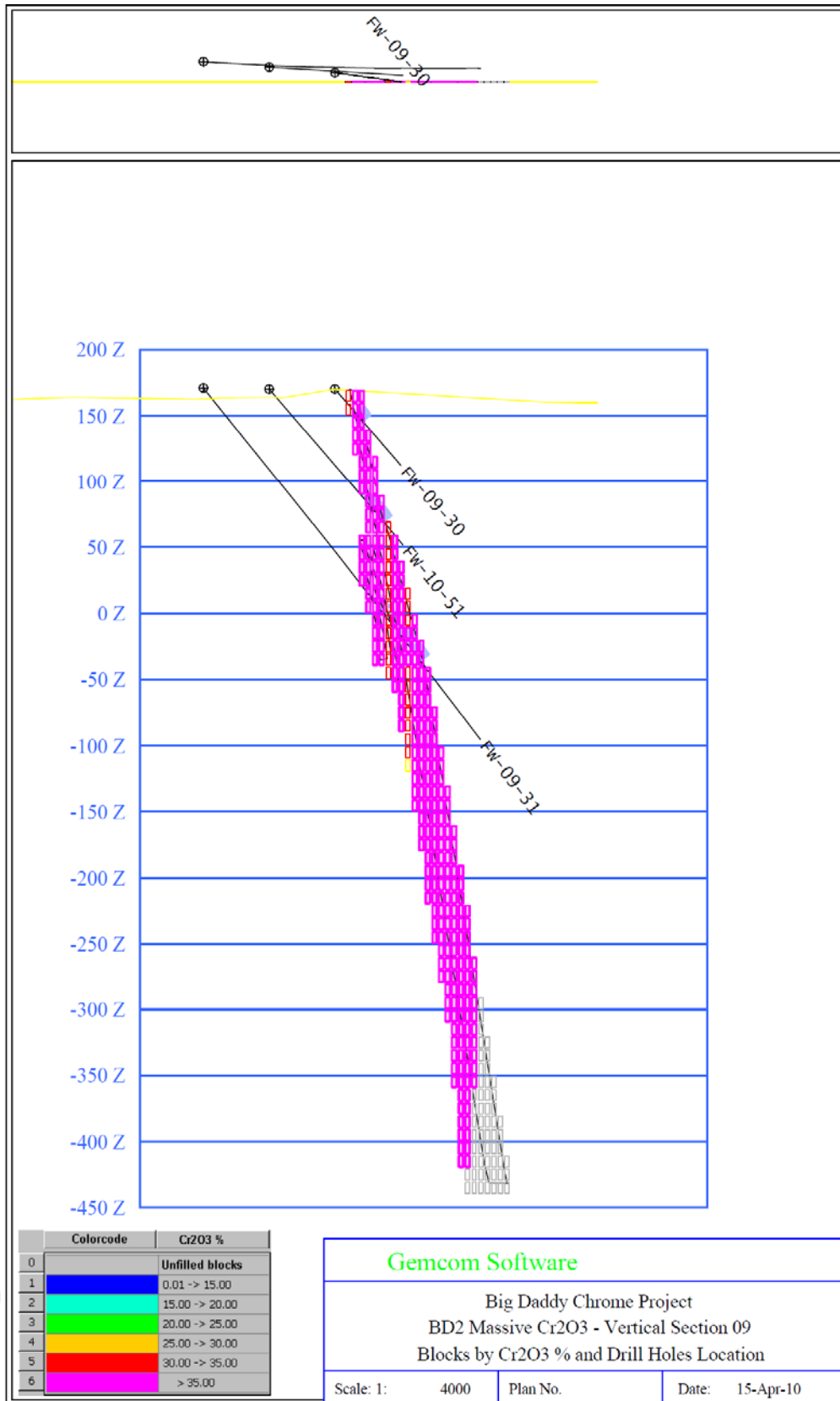


SURPAC - Micon International Limited - Toronto Office.

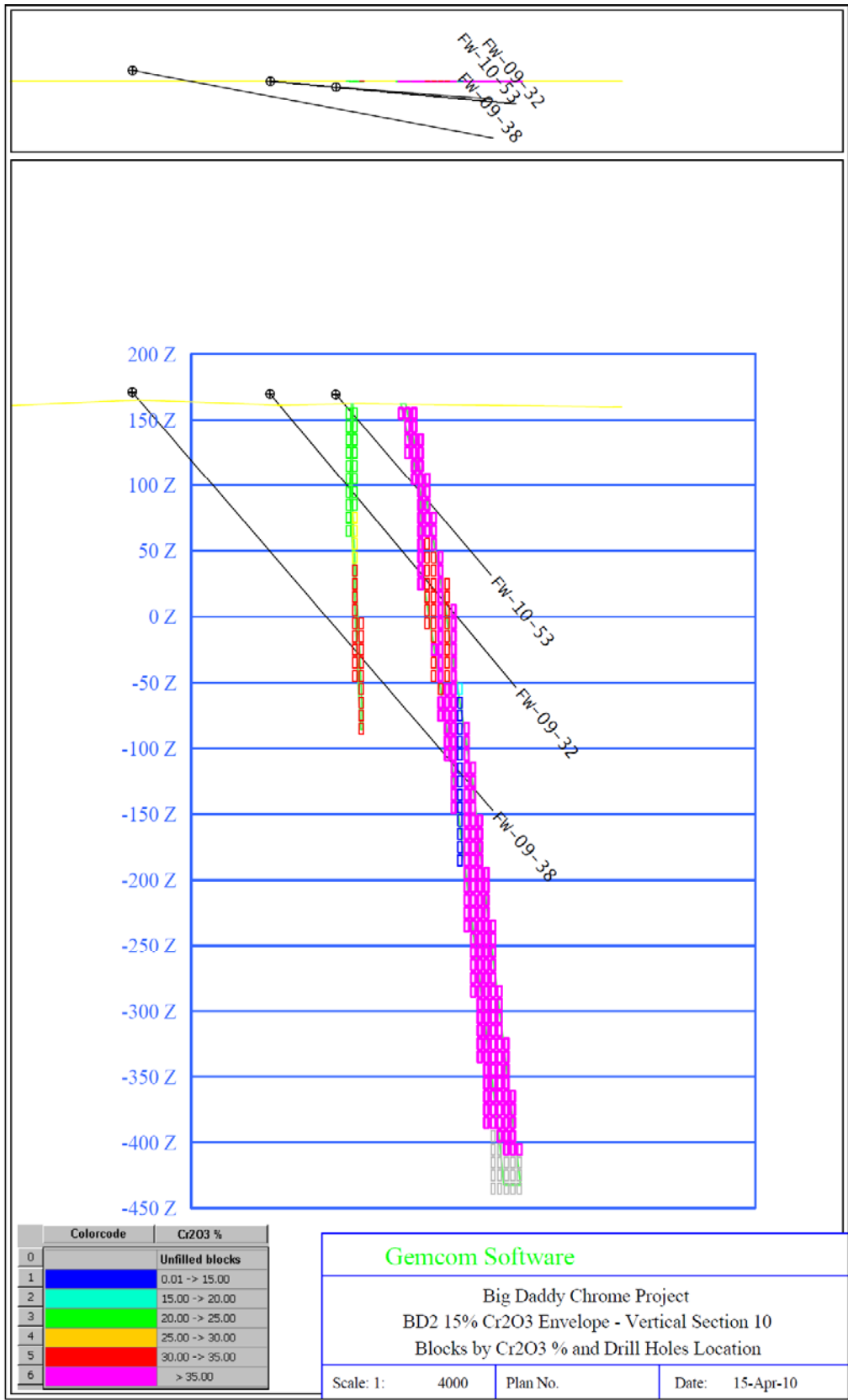




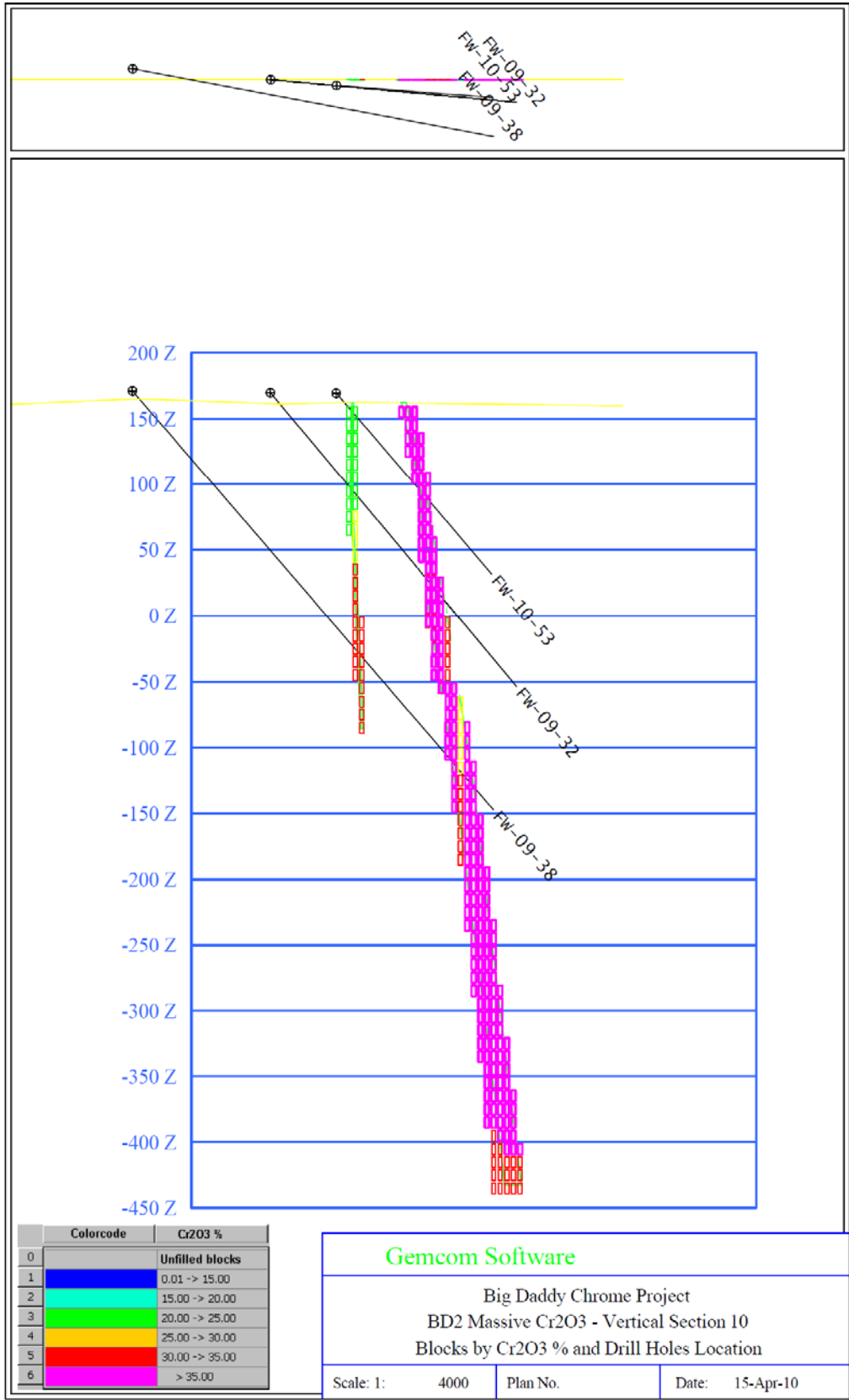
SURPAC - Micon International Limited - Toronto Office.



SURPAC - Micon International Limited - Toronto Office.



SURPAC - Micon International Limited - Toronto Office.



SURPAC - Micon International Limited - Toronto Office.