NI 43-101 Technical Report
Updated Mineral Resource Estimate
Elk Creek Niobium Project
Nebraska

Effective Date: February 20, 2015
Report Date: March 10, 2015

Report Prepared for

NioCorp Developments Ltd.

8000 South Chester Street, Suite 375
Centennial, CO 80112

Report Prepared by

SRK Consulting (U.S.), Inc.
7175 West Jefferson Avenue, Suite 3000
Lakewood, CO 80235

SRK Project Number: 241900.030

Signed by Qualified Persons:

Martin Frank Pittuck, MSc, CEng, MIMMM (Corporate Consultant Mining Geology)
Benjamin Parsons, MSc, MAusIMM (CP) (Principal Consultant Resource Geology)

Reviewed by:

Dorinda Bair, BSc, CPG (Principal Consultant Geologist)

Table of Contents

List of Tables

List of Figures

List of Appendices

1 Summary

This report was prepared as a Canadian National Instrument 43-101 (NI 43-101) Technical Report, Updated Mineral Resource Estimate for NioCorp Developments Ltd. (NioCorp or the Company) by SRK Consulting (U.S.), Inc. (SRK or the Consultants) on the Elk Creek Niobium Deposit (Elk Creek or Project) located in southeast Nebraska, United States of America (US). NioCorp was formerly known as Quantum Rare Earth Developments Corp. (Quantum) but changed its name to NioCorp Developments Ltd. effective March 4, 2014.

1.1 Property Description and Ownership

Elk Creek is an early stage exploration project located in southeast Nebraska, USA. It is located Approximately 75 km southeast of Lincoln, Nebraska, the state capital and 110 km south of Omaha, Nebraska. The mineralization is centered about 40°16'0.3.5" N latitude and 96°11'08.5" E longitude. The area is well developed with direct access to roads, rail, supply and distribution companies and a local work force, including heavy equipment operators. Geologist can be sourced from local universities. An experienced mining related workforce can be found in Denver Colorado (eight hours drive west of the Project). The deposit is located within U.S. Geological Survey (USGS) Tecumseh Quadrangle Nebraska SE (7.5 minute series) mapsheet in Sections 1-6, 9-11; Township 3N; Range 11 and Sections 19-23, 25-36; Township 4N, Range 11.

The Property consists of 57 lease agreements covering approximately 3,267 ha. Lease agreements are between NioCorp's subsidiary Elk Creek Resources Corp (ECRC) and the individual land owners. ECRC is a Nebraska based and wholly owned subsidiary of NioCorp. NioCorp retains 100% of the mineral rights to the Project and is the operator. The agreements are in the form of five-year pre-paid Exploration Lease Agreements (ELA), with an Option to Purchase (OTP) the mineral rights at the end of the lease. The individual land owners have title to the surface and subsurface rights, and the agreements are primarily with respect to only the mineral interest of each property. The agreements convey to the Company adequate surface rights to be able to access the land and complete the exploration work.

The agreements are due for renewal during 2015 and the Company is currently in the process of renegotiating a five year extension for key areas.

1.2 Geology and Mineralization

The Project includes the Elk Creek Carbonatite (the Carbonatite) that intruded older Precambrian granitic and low- to medium-grade metamorphic basement rocks. Both the Carbonatite and Precambrian rocks are interpreted to be unconformably overlain by approximately 200 m of Paleozoic marine sedimentary rocks of Pennsylvanian age. As a result of this thick cover, there is no surface outcrop within the Project area of the Carbonatite, which was identified and targeted through magnetic surveys and confirmed through subsequent drilling. The available magnetic data indicates dominant northeast, west-northwest striking lineaments and secondary northwest and north oriented features that mimic the position of regional faults parallel and/or perpendicular to the Nemaha Uplift.

The Carbonatite hosts significant niobium (reported as Nb_2O_5), titanium (reported as TiO_2) and scandium (Sc) and is composed predominantly of dolomite, calcite and ankerite, with lesser chlorite, barite, phlogopite, pyrochlore, serpentine, fluorite, sulfides and quartz. Niobium is contained within the mineral pyrochlore and REE mineralization is reported to occur as bästnasite, parisite, synchysite and monazite. The niobium has been the main element of interest for the current study, but recent developments since the previous technical report within the metallurgical testwork indicate the potential to recover TiO_2 and Sc as part of the proposed process flowsheet. Work remains on-going to optimize and further test this at a pilot stage but based on the work completed to date SRK considers these elements to have potential for economic extraction and therefore are discussed in the technical report and included in the mineral resource statement.

1.3 Status of Exploration, Development and Operations

Drilling at the Project was conducted in three phases. The first was during the 1970's and 1980's by the Molybdenum Company of America (Molycorp), the second in 2011 by Quantum, and the third and latest program in 2014 by NioCorp. To date, 129 diamond core holes have been completed for a total of 64,981 m over the entire geological complex. Of these a total of 48 holes for 33,909 m have been completed to date in the mineralized area and used in the current Mineral Resource Estimate.

All drilling has been completed using a combination of Tricone, Reverse Circulation (RC) or Diamond (DDH) drilling in the upper portion of the hole within the Pennsylvanian sediments. All drilling within the underlying Carbonatite has been completed using DDH methods.

SRK reviewed and validated the electronic database provided and concludes that the sampling methods, Quality Assurance/Quality Control (QA/QC), and database management practices employed by NioCorp are all at or above industry standards and are suitable for use in resource estimation.

1.4 Mineral Processing and Metallurgical Testing

1.5 Mineral Resource Estimate

The Mineral Resources have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014.

The drillhole database used in the estimation is of high quality and has been independently verified by SRK. A three-dimensional geologic model was constructed using ARANZ Leapfrog Mining Software (Leapfrog). Modeling was based on logged geology in the drilling database, using a combination of geological controls and niobium grade shells. The grade estimation was confined to a hard boundary of three grade shell domains defined at 0.3%, 0.4% and 0.5% niobium pentoxide (Nb_2O_5%), with the estimation using only the composited samples from the same domain.

The Mineral Resource was initially reported for Nb_2O_5% in a press release on February 9, 2015, which utilized all the assay information from the historical drilling and the NioCorp 2014 drilling program.

The Nb_2O_5% grade estimation utilized an Ordinary Kriging (OK) algorithm supported by 5.0 m sample composites for all the mineralized units, with Inverse Distance Weighting (IDW) to a Power of 2 and a Nearest Neighbor estimate completed for the Nb_2O_5% as a cross check. Search distances were determined from directional variograms calculated using the capped and composited samples.

A nested search ellipse estimation method consisting of three passes was used. The search ellipse has been rotated into the main dip and strike orientation of the deposit. Density has been assigned based on mean density per major geological unit from density determination values taken during the 2014 estimation program, using a combination of weight in air/weight in water, and volumetric analysis. Resources are reported as Nb_2O_5.

Subsequent developments in the metallurgical testwork indicated the potential to recover TiO_2 and Sc based on a revised flowsheet. Further, the Company completed a reassay program of historical pulps which were not included in the original 2011/2012 reassay programs. The updated database has been provided to SRK who completed a review of the database and the QA/QC information for the additional elements to ensure their inclusion in the estimation process. External Laboratory checks showed a bias between the two laboratories with Actlabs returning higher values for $Nb_2O_{5.}$ The slight high bias confirms the slight over reporting noted in the routine submissions of standard reference material (SRM) which SRK estimate to be in the order of 4.0% to 4.4 % (based on the SRMs). The bias in the external duplicates reports slight increase in the bias to 8.7 %. SRK considers the level of bias to be within acceptable levels for use in the current Mineral Resource. SRK noted some gaps for TiO_2 and Sc still remain within the database. The gaps in the database are a result of the current reassay program being limited to pulp material collected during the 2011 reanalysis program. SRK reviewed. Based on established relationships and statistical analysis, SRK is comfortable to use the revised database for the current mineral resource estimation.

The Nb_2O_5%, TiO_2%, and Sc grade estimation utilized an Ordinary Kriging (OK) algorithm supported by the 5.0 m sample composites for the all the mineralized units, with the same checks completed as for the Nb_2O_5% only estimate. Search distances were determined from directional variograms calculated using the capped and composited samples. A nested search ellipse estimation method consisting of three passes was used. The search ellipse has been rotated into the main dip and strike orientation of the deposit.

Density has been estimated based on density determination values taken during the 2014 resource estimation program, using a combination of weight in air/weight in water, and volumetric analysis. Based on a statistical review of the density measurements and the assay results from the whole rock analysis which including Fe_2O_3% and TiO_2%.a general trend of higher density with higher grade was identified and therefore an ordinary kriged estimate of density was chosen as the preferred option.

SRK has validated the Mineral Resource estimates using a number of different validation techniques.

- Inspection of block grades in plan and section and comparison with drillhole grades;
- Comparative Statistical study vs. composite data and alternative estimation methods; and
- Sectional interpretation of the mean block and sample grades (Swath Plots).

In the opinion of SRK, the Mineral Resource estimate reported herein is a reasonable representation of the global Nb_2O_5 grades and the location of higher grade zones which provide a reasonable underground mining target at Elk Creek.

The Mineral Resources are classified under the categories of Indicated and Inferred according to CIM guidelines. Due to a lack of dense drilling (in the order of 35 m x 35 m), no Measured Mineral Resource has been assigned at this stage.

Classification of the resources reflects the relative confidence of the grade estimates. This classification is based on several factors including; sample spacing relative to geological and geostatistical observations regarding the continuity of mineralization, data verification to original sources, specific gravity determinations, accuracy of drill collar locations, accuracy of topographic surface, quality of the assay data and many other factors.

For the Indicated resource classification, a solid shape was constructed around the core of the deposit where most drillholes are spaced approximately 60 to 70 m apart, and blocks have been estimated with a minimum of two boreholes.

The Mineral Resources have been confined to estimated blocks within the Carbonatite. In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an underground mining method, SRK has defined an underground mining cut-off grade (CoG) based on assumed costs, pricing and metallurgical recoveries. Costs and recoveries are based on bench mark studies completed for similar projects, and application of possible local variations. The blocks above the mining CoG form contiguous mining targets without isolated blocks that would be unlikely to warrant the cost of development. All material within the geological wireframes above a CoG of 0.3% Nb_2O_5 has been considered to have reasonable prospects of being mined via underground methods.

The Mineral Resource for the Elk Creek Project is summarized in Table 1.5.1, with a summary of the sensitivity of the tonnage as grade to cut-off shown in Table 1.5.2.

Table 1.5.1: SRK Mineral Resource Statement for Elk Creek Nb_2O_5%, Effective Date February 20, 2015

Classification	Cut-off (Nb_2O_5%)	Tonnage (000's t)	Grade (Nb_2O_5%)	Contained Nb_2O_5 ('000 kg)	Grade (TiO_2%)	Contained TiO_2 ('000 kg)	Grade (Sc g/t)	Contained Sc ('000 kg)
Indicated	0.3	80,500	0.71	572,000	2.68	2,160,000	72	5,800
Inferred	0.3	99,600	0.56	558,000	2.31	2,300,000	63	6,300

(1) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. The Concession is wholly owned by and exploration is operated by NioCorp Developments Ltd.

(2) The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves (December 2005) as required by NI 43-101.

(3) SRK reasonably expects the Elk Creek deposit to be amenable to a variety of Underground Mining methods. Using results from initial metallurgical testwork, suitable underground mining and processing costs, and forecast Niobium price SRK has reported the Mineral Resource at a cut-off of 0.3% Nb_2O_5

(4) SRK Completed a site inspection of the deposit by Mr. Martin Pittuck, MSc. C.Eng, MIMMM , an appropriate "independent qualified person" as this term is defined in NI 43-101.

Table 1.5.2: Grade Tonnage Showing Sensitivity of Elk Creek Mineral Resource to CoG

Classification	Cut-off (Nb_2O_5 %)	Tonnage (000's t)	Grade (Nb_2O_5 %)	Contained Nb_2O_5 (000's kg)	Grade (TiO_2 %)	Contained TiO_2 (000's kg)	Grade (Sc g/t)	Contained Sc (000's kg)
Indicated	0.60	59,700	0.82	489,200	2.94	1,750,000	74.2	4,400
	0.55	63,400	0.80	507,200	2.92	1,850,000	74.0	4,700
	0.50	65,200	0.79	515,000	2.91	1,900,000	73.9	4,800
	0.45	65,800	0.79	520,100	2.90	1,910,000	73.8	4,900
	0.40	68,100	0.78	531,000	2.87	1,950,000	73.7	5,000
	0.35	72,800	0.75	545,700	2.79	2,030,000	73.2	5,300
	0.30	80,500	0.71	571,600	2.68	2,160,000	72.0	5,800
Inferred	0.60	44,600	0.78	347,800	2.94	1,310,000	67.6	3,000
	0.55	50,700	0.76	385,100	2.92	1,480,000	67.3	3,400
	0.50	53,300	0.75	399,400	2.92	1,550,000	67.1	3,600
	0.45	54,300	0.74	401,600	2.91	1,580,000	66.9	3,600
	0.40	58,400	0.72	420,500	2.83	1,650,000	66.8	3,900
	0.35	67,500	0.67	452,400	2.69	1,810,000	66.0	4,500
	0.30	99,600	0.56	558,000	2.31	2,300,000	63.0	6,300

Source: SRK, 2015

1.6 Conclusions and Recommendations

NioCorp commenced a three phase diamond drilling program in May 2014. The focus of the programs has been to infill the central portion of a known Nb mineralized deposit, to increase the geological knowledge and infill a portion of the model where the previous drillhole spacing was in the order of 200 m.

Using the verified database SRK has completed and updated a Mineral Resource estimate which has been conducted in a manner consistent with industry best practices.

SRK has constructed mineralization models for the deposit, based upon all of the available drilling information.

SRK has interpolated Nb_2O_5 grade data using ordinary kriging into a block model of dimensions 5 m x 15 m x 5 m (based on an assumed mining unit), using appropriate search and estimation parameters tested for sensitivity to the estimation process. The resultant block model has been fully validated and no material bias identified.

SRK has classified the Mineral Resource in the Indicated (51%) and Inferred (49%) Mineral Resource categories, mainly on the basis of the geological and grade continuity and the relatively wide drillhole spacing of up to 60 to 120 m on average. Additional Inferred material has been added to the geological model as a result of the Phase II and III drilling programs, at the end of the deposit and by increasing the model at depth, with the deeper vertical holes completed. The deposit remains open both along strike to the northwest and southeast and at depth. SRK notes that the highest grades are associated with mineralization at depth and this remains the best potential to increase the current Mineral Resource further.

SRK does not recommend any additional drilling until the results of a Preliminary Economic Assessment (PEA) are known therefore advancing the understanding of other critical technical aspects, such as:

- Metallurgical testwork and Pilot plant testwork;
- Geotechnical analysis;
- Hydrogeological and hydrological studies;
- Environmental assessment and permitting requirements; and
- Infrastructure design.

Data collection for each of these studies has commenced, with the Company completing geotechnical logging and acoustic teleview down hole (ATV) surveys on a number of the existing holes. In addition a total of three vertical PQ diamond drillholes have been drilled for the collection of samples for pilot scale metallurgical testing. Using this information the Company plans to announce the results of a PEA in the near future.

SRK does consider further work can be completed on the database to further increase confidence in preparation for defining a Measured Mineral Resource; the focus should be on three main areas:

- Assaying samples which have not currently been assayed for TiO_2 and Sc which fall within or close to the current geological/mineralization wireframes
- Conducting a QA/QC program which includes submission of low, medium and high grade TiO_2 and Sc SRM (if one can be purchased), along with the submission of a range of grades from returned pulps to the primary assay laboratory. The aim of this exercise will be to

confirm the accuracy of the laboratory as the precision is well established from the duplicate program.

- Follow-up with Actlabs and SGS Laboratories to understand the fundamental difference in the sampling methods and identify the source of the bias noted in the external duplicates for Nb_2O_5. SRK recommends the Company submitted additional material namely in the medium to higher grade ranges (>0.5 %) to increase the sample population size above the range. The study can be used to define a regression factor to determine the potential impact on the Mineral Resource and if the Actlabs results should be factored. SRK highlights that sufficient QA/QC should be included in the study to confirm accurate assays are achieved at SGS. SRK would consider the potential of factoring the Actlabs will not impact the Mineral Resource more than ± 10%.

The proposed assay programs will not directly result in an increase in the current Mineral Resource classification, but will provided the correct level of confidence within the database that subsequent infill drill programs can be designed to achieve Measured Mineral Resources.

1.6.1 Costs

Estimated costs for the Engineering Studies and Exploration Program as proposed by SRK are illustrated in Table 1.6.1.1. SRK considers an initial budget of US$130,000 sufficient to complete a PEA as the majority of the required data collection has already been completed during the 2014 drilling program.

Table 1.6.1.1: Summary of Proposed Costs to Advance the Project to the Next Phase

Description	Total Cost (US$ 000's)
SGS vs Actlabs Pulp Duplicate Study	10
Assay Absent TiO_2 and Sc assays	35
Site Collection	5
Subtotal Re-assays	**50**
PEA Study	130
Sub Total	**130**
Contingency	10
Total	**190**

Source: SRK, 2015

2 Introduction

2.1 Terms of Reference and Purpose of the Report

This report was prepared as an NI 43-101 Technical Report, updated Mineral Resource Estimate for NioCorp Developments Ltd. (NioCorp or the Company) by SRK Consulting (U.S.), Inc. (SRK or the Consultants) on the Elk Creek Niobium Deposit (the Project) located in southeast Nebraska. NioCorp was formerly known as Quantum Rare Earth Developments Corp. (Quantum) but changed its name to NioCorp effective March 3, 2014.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by NioCorp subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits NioCorp to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with NioCorp. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

This report provides mineral resource and mineral reserve estimates, and a classification of resources prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014.

2.2 Qualifications of Consultants (SRK)

The Consultants preparing this Technical Report are specialists in the fields of geology, exploration, mineral resource and mineral reserve estimation and classification, underground mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, process design, capital and operating cost estimation, and mineral economics.

None of the Consultants or any associates employed in the preparation of this report has any beneficial interest in NioCorp. The Consultants are not insiders, associates, or affiliates of NioCorp. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between NioCorp and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered Qualified Persons (QP) as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions. The QP's are responsible for specific sections as follows:

- Martin Pittuck, MSc, CEng, MIMMM (Corporate Consultant Resource Geology) is the QP responsible for Data Verification and the Mineral Resource Estimate Sections 1, 12, and 14, 25 and 26 of this Technical Report.

- Benjamin Parsons, MSc, MAusIMM (Principal Consultant Resource Geology) provided assistance in the preparation of the geological model and Mineral Resource estimate under the guidance of Martin Pittuck. Mr. Parsons is the QP responsible for Sections 2 to 11, 13, 15 through 24, 27 and 28, of this Technical Report.

Certificates of QPs are provided in Appendix A.

2.3 Details of Inspection

Martin Pittuck visited the Elk Creek property between June 17 to 19, 2014. This included a cursory inspection of the deposit area, the exploration camp and sample preparation prior to dispatch. SRK has not visited the laboratory during the site inspection as all samples are shipped to Canada for analysis.

SRK was given full access to relevant data requested and conducted discussions with junior and senior project geologists regarding exploration procedures and interpretations.

Table 2.3.1: Site Visit Participants

Personnel	Company	Expertise	Date(s) of Visit
Martin Pittuck	SRK Consulting	Overall QP for Mineral Resource Estimate	June 17 to 19, 2014
Cody Bramwell	SRK Consulting	Field Geologist/ Geotechnical	Site rotations May 2014 – December 2014
Dave MacDonnell	SRK Consulting (Associate)	Field Geologist/ Geotechnical	Site rotations May 2014 – December 2014

Source: SRK, 2015

2.4 Sources of Information

The sources of information include data and reports supplied by NioCorp personnel as well as documents cited throughout the report and referenced in Section 27.

2.5 Effective Date

This Technical Report covers two Mineral Resource estimates based on the following:

- Niobium only case (disclosed in a press release dated February 9, 2015), and
- Niobium, titanium and scandium update (disclosed in a press release dated February 23, 2015).

The effective date of the report is **February 20, 2015**.

2.6 Units of Measure

The metric system has been used throughout this report. Tonnes are metric and are equivalent to 1,000 kg, or 2,204.6 lb. All currency is in United States dollars (US$) unless otherwise stated.

3 Reliance on Other Experts

The Consultant's opinion contained herein is based on information provided to the Consultants by NioCorp throughout the course of the investigations. SRK has relied upon the work of other consultants in the project areas in support of this Technical Report.

SRK was reliant upon information and data provided by NioCorp including historic data inherited from previous owners. NioCorp have utilized the services of Dahrouge Consulting (Dahrouge) for the capture and databasing of the historical data, plus on site geological management for the 2011 and 2014 exploration programs. SRK has been provided with adequate copies in digital format of the historical logs and provided full access to the Dahrouge dataroom. SRK has, where possible, verified data provided independently, and completed a site visit to review physical evidence for the Project.

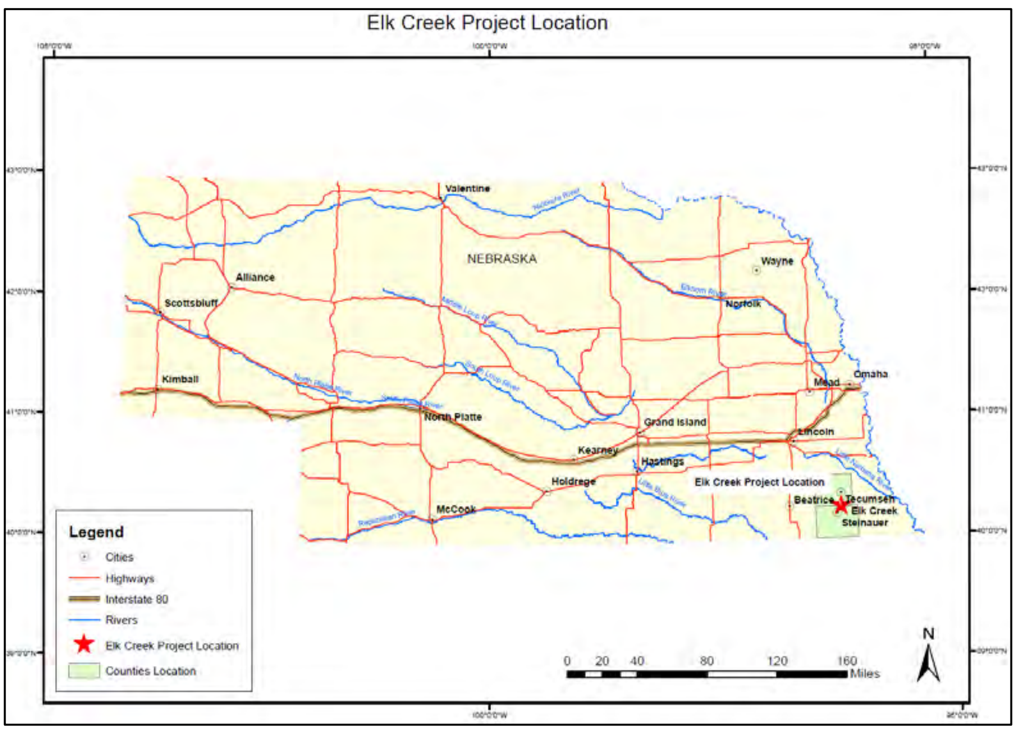
SRK has relied upon information supplied by NioCorp (Mr. Scott Honan) during this current study. Land titles and mineral rights for the Project have not been independently reviewed in detail by SRK and SRK did not seek an independent legal opinion of these items.

4 Property Description and Location

4.1 Property Location

The Project is located in southeast Nebraska, USA. The Property is situated as shown in Figure 4.1.1 below and is located:

- Within USGS Tecumseh Quadrangle Nebraska SE (7.5 minute series) mapsheet in Sections 1-6, 9-11; Township 3N; Range 11 and Sections 19-23, 25-36; Township 4N, Range 11;
- At approximately 40°16' north and 96°11' west in the State of Nebraska, in central USA;
- On the border of Johnson and Pawnee counties;
- Approximately 75 km southeast of Lincoln, Nebraska, the state capital of Nebraska;
- Approximately 110 km south of Omaha, Nebraska;
- Approximately 183 km northwest of Kansas City, Kansas and Missouri;
- Approximately 5 km southwest of the town of Elk Creek, Nebraska; the closest municipality to the deposit;
- Approximately 53 km west of the state border with Missouri;
- Approximately 55 km southwest of the state border with Iowa;
- Approximately 29 km north of the state border with Kansas;
- Approximately 53 km west of the Missouri River, which forms the state border with Missouri and Iowa; and
- Approximately 5 km southeast of the Nemaha River a tributary of the Missouri River.



Source: SRK, 2014

Figure 4.1.1: Project Location Map

4.2 Property Description

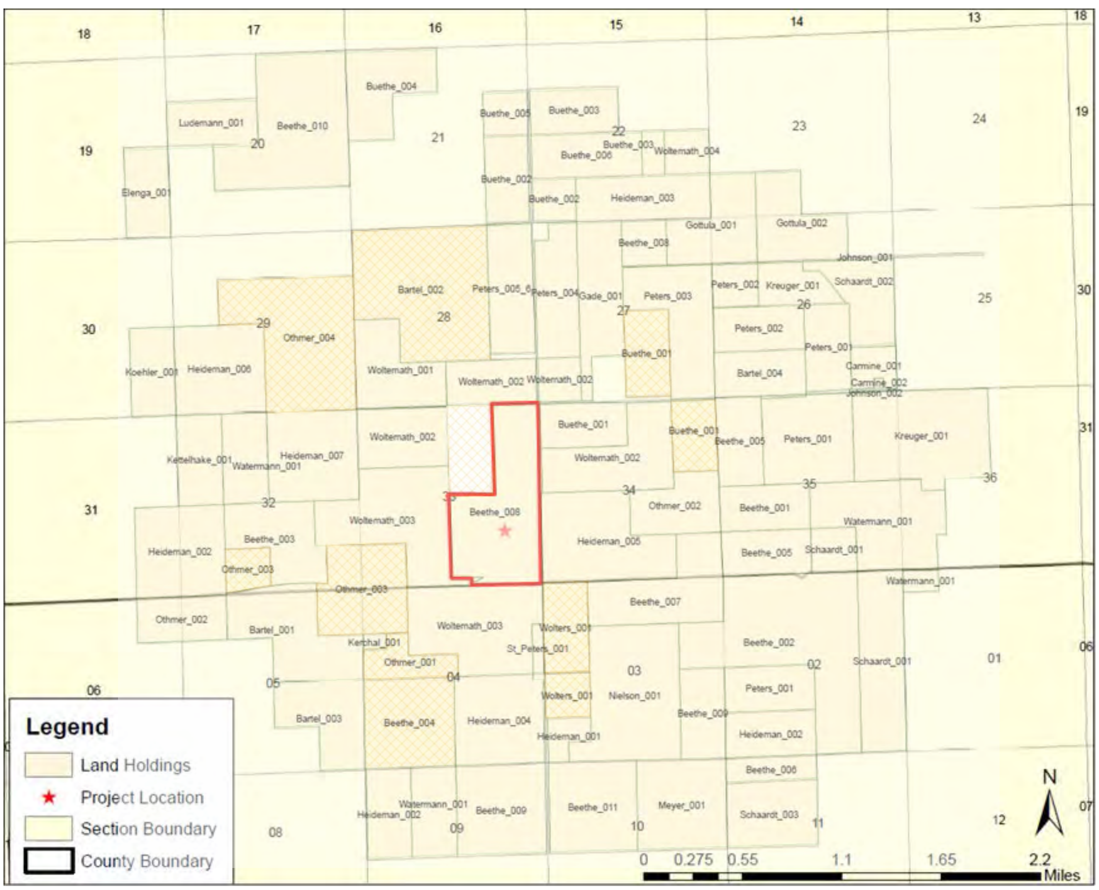
The Project is a niobium-bearing carbonatite deposit located in Johnson County, southeast Nebraska. In addition to niobium, addition elements of interest include titanium and scandium.

4.3 Mineral Titles

As of the effective date of this Technical Report (February 20, 2015), the Property consists of 57 lease agreements covering approximately 3,267 ha. These agreements are at times referred to Option Agreements or Options to Purchase (OTP). Lease agreements are between NioCorp's subsidiary Elk Creek Resources Corp (ECRC) and the individual land owners. ECRC is a Nebraska based and wholly owned subsidiary of NioCorp. The leases are shown in Figure 4.3.1 and listed in Table 4.3.1.

SRK has not researched property title or mineral rights for the Project and expresses no opinion as to the legal ownership status of the Project. As part of the lease agreements the Company has where required secured surface rights to be able to conduct exploration work, as required to develop the Project.

The Mineral Resource is located in two lease areas identified with bold text in Table 4.3.1; these are located on Section 33; Township 4N; Range 11; on the Tecumseh Quadrangle mapsheet.



Yellow hashed out leases are not held by ECRC, with infilled leases indicating recently released leases.
Source: SRK, 2015

Figure 4.3.1: Land Tenure Map

Table 4.3.1: Lease Agreements Covering the Elk Creek Nb-REE Deposit

Option Agreement Name	Code	Hectares	Acres	Original Agreement Sign Date	Original Agreement Expiry	New / Extended Agreement Expiry
Bartels Family Trust dated April 26, 2007	Bartel_001	69.67	172.17	8-Mar-10	8-Mar-15	
Bartels, Jolene	Bartel_004	32.37	80.00	5-May-10	5-May-15	
Bartels, Life Estate of Robert and Mildred	Bartel_003	48.56	120.00	28-Apr-10	28-Apr-15	
Beethe, Allan R.	Beethe_010	113.31	280.00	3-Jun-10	3-Jun-15	
Beethe, Arlin L. and Kimberly	Beethe_001	32.37	80.00	18-Mar-10	18-Mar-15	
Beethe, Elda E	Beethe_008	107.82	266.43	30-Apr-10	30-Apr-15	
Beethe, Gary	Beethe_009	96.33	238.03	21-Apr-10	21-Apr-15	
Beethe, Glenn W	Beethe_002	146.56	362.16	15-Apr-10	15-Apr-15	
Beethe, Harlan D. and Lisa M	Beethe_003	48.69	120.32	15-Apr-10	15-Apr-15	
Beethe, Leona 160 Acres	Beethe_005	64.75	160.00	18-Mar-10	18-Mar-15	
Beethe, Marlen	Beethe_011	63.44	156.76	25-May-10	25-May-15	
Beethe, Michael L	Beethe_006	17.80	43.98	15-Apr-10	15-Apr-15	
Beethe, Verlyn	Beethe_007	66.27	163.75	14-Apr-10	14-Apr-15	
Buethe 1998 Family Trust	Buethe_002	46.43	114.74	24-May-10	24-May-15	
Buethe, Ronald	Buethe_003	39.92	98.65	25-May-10	25-May-15	
Buethe, Timothy	Buethe_004	48.56	120.00	25-May-10	25-May-15	
Buethe, William B.	Buethe_005	15.17	37.49	24-May-10	24-May-15	
Buethe, Willis	Buethe_006	40.00	98.83	24-May-10	24-May-15	
Carmine, Larry D.	Carmine_001	13.96	34.49	20-May-10	20-May-15	
Carmine, Lois	Carmine_002	0.70	1.72	20-May-10	20-May-15	
County of Johnson	Johnson_001	4.54	11.21	2-Mar-10	2-Mar-15	
County of Johnson Commissioners	Johnson_002	0.61	1.50	8-Jun-10	8-Jun-15	
Elenga, Anna Marie	Elenga_001	32.37	80.00	4-Jun-10	4-Jun-15	
Gade, Ronald and Sharon R	Gade_001	52.61	130.00	7-Apr-10	7-Apr-15	
Gottula, Alan	Gottula_001	48.56	120.00	12-May-10	12-May-15	
Gottula, Murl	Gottula_002	48.56	120.00	2-Jun-10	2-Jun-15	
Heidemann, Harlan E. and June A	Heideman_001	11.72	28.95	8-Apr-10	8-Apr-15	
Heidemann, Lanie	Heideman_002	128.90	318.53	26-Mar-10	26-Mar-15	
Heidemann, Lavon L. and Robin Y	Heideman_003	48.56	120.00	17-Mar-10	17-Mar-15	17-Mar-20
Heidemann, Lavon L. and Robin Y	Heideman_004	62.96	155.58	15-Mar-10	15-Mar-15	15-Mar-20
Heidemann, Lavon L. and Robin Y	Heideman_005	79.55	196.57	16-Mar-10	16-Mar-15	16-Mar-20
Heidemann, Leland L. and Lola L	Heideman_006	64.75	160.00	26-Mar-10	26-Mar-15	26-Mar-20
Heidemann, Leslie L	Heideman_007	64.75	160.00	25-Mar-10	25-Mar-15	25-Mar-20
Kerchal, Kenneth W. and Lorretta	Kerchal_001	5.47	13.52	1-Apr-10	1-Apr-15	
Kettelhake, Harold	Kettelhake_001	32.37	80.00	9-Jun-10	9-Jun-15	
Koehler, Robert	Koehler_001	32.37	80.00	4-Jun-10	4-Jun-15	
Krueger, Gregory A and Joyce R	Krueger_001	123.41	304.95	18-Dec-09	18-Dec-14	18-Dec-19
Krueger, Papuga, Hall	Kreuger_002	9.91	24.50	29-Apr-10	29-Apr-15	
Ludemann, Wade	Ludemann_001	32.37	80.00	9-Jun-10	9-Jun-15	
Meyer, Loran	Meyer_001	64.75	160.00	25-May-10	25-May-15	
Nielson, Rolande O. and Tami R	Nielson_001	101.09	249.80	31-Mar-10	31-Mar-15	
Othmer, Colleen K	Othmer_002	71.69	177.16	24-Mar-10	24-Mar-15	
Peters Living Trust dated August 20, 2008	Peters_001	129.58	320.21	31-Mar-10	31-Mar-15	
Peters, Curtis T. and Catherine M	Peters_002	47.87	118.30	5-Apr-10	5-Apr-15	
Peters, Gary R. and wife	Peters_006	4.80	11.87	30-Apr-10	30-Apr-15	
Peters, Marion L.	Peters_005	39.60	97.85	30-Apr-10	30-Apr-15	
Peters, Raymond H. & Marion L. Rev. Trust	Peters_004	43.27	106.92	30-Apr-10	30-Apr-15	
Peters, Royce and Sheila	Peters_003	64.08	158.35	5-Apr-10	5-Apr-15	
Schaardt, Elmo W. and Lucille I	Schaardt_001	81.28	200.84	24-Mar-10	24-Mar-15	
Schaardt, Michael	Schaardt_002	37.79	93.38	20-May-10	20-May-15	
Schaardt, Timothy and Carol	Schaardt_003	46.95	116.02	20-May-10	20-May-15	
St. Peter's Lutheran Church	St_Peters_001	2.02	5.00	16-Jun-10	16-Jun-15	
Watermann, Leona	Watermann_001	145.69	360.00	6-May-10	6-May-15	
Woltemath, Eileen M	Woltemath_001	48.47	119.77	4-Dec-09	4-Dec-14	21-Jan-20
Woltemath, Eldred R.	Woltemath_004	16.19	40.00	2-Jun-10	2-Jun-15	
Woltemath, Roger L. and Nancy A	Woltemath_002	152.49	376.81	4-Dec-09	4-Dec-14	4-Dec-19
Woltemath, Victor L. and Juanita E	Woltemath_003	172.20	425.52	25-Mar-10	25-Mar-15	25-Mar-20
Total	**57**	**3,266.9**	**8,072.6**			

Source: NioCorp, 2015

SRK noted that at the time of writing a number of the leases included within Table 4.3.1 have expired but these do not directly influence the current mineral resource. NioCorp is currently negotiating with owners to obtain the surface and mineral rights to the Property situated to the northwest of

Beethe_008 (shown as a white rectangle adjacent to the red line in Figure 4.3.1 and covering approximately 80 acres). At the time of writing this report negotiations are ongoing (personal communication, January, 2015). Surface rights to this parcel were obtained in an agreement dated December 4, 2014 with the surface owner, and are included in Table 4.3.1 as agreement Woltemath_80S.

The imminent expiry date on some of the agreements is in 2015 with some expiring at the end of 2014 and the status of these agreements remains a current focus of the Company. SRK has discussed the current renewal process with NioCorp and understands that the Company is currently in the process of reviewing all agreements, with particular focus on the leases covering or in close proximity to the Project and any potential infrastructure. Of the agreements that have expired at the time of writing, only two are considered by NioCorp to have relevance to the ongoing development of the project. These agreements are Othmer_003 and Othmer_004. The landowners are currently considering NioCorp's offers to extend the original agreements.

Discussion with NioCorp and review of the previous NI 43-101 completed in 2012, describe the lease agreements and acquisition of the property by Quantum. Below is an excerpt from "Resource Estimate and Technical Report for the Elk Creek Nb-REE Project, Nebraska, USA", completed by Tetra Tech Waldrop (Tetra Tech) for Quantum and dated April 23, 2012.

"The Property was acquired through 64 agreements between ECRC and individual land owners that are in the form of five-year pre-paid Exploration Lease Agreements (ELA), with an Option to Purchase (OTP) the mineral rights at the end of the lease (or for clarification at any point during the term)*. The individual land owners have title to the surface and subsurface rights, and the agreements are primarily with respect to only the mineral interest of each property.*

The property boundaries are set out in a written description of each individual lease agreement. This property description is based on the Public Land Survey System (PLSS), descriptions of lots, and written descriptions of surface features (rivers, fences, roads, etc.).

The acquisition of the Elk Creek Property by Quantum involves the purchase of all of the issued and outstanding common shares of 859404 BC Ltd., ("859404") a private British Columbia company (Quantum News Release, Dec. 2010). 859404 holds 100% of the issued and outstanding shares of ECRC, the Nebraskan corporation that has secured individual agreements to acquire the mineral rights to the Elk Creek carbonatite. The property was held under a similar type of option agreement by Molycorp in the 1970's and 1980's.

In consideration for the common shares of 859404, Quantum will pay a total of US$500,000 and issue one common share of the Company for each common share of 859404 issued and outstanding. Of the total, US$200,000 has been paid by Quantum on signing of the agreement with 859404 and the balance of cash and shares is payable upon acceptance by the TSX Exchange."

It is SRK's opinion that ECRC's ability to securing the long term rights to land above and surrounding the Project will be key to completing a feasibility study of mining in the future.

4.3.1 Nature and Extent of Issuer's Interest

As part of the exploration lease agreements where required the Company has also secured surface rights, which allow for access to the land for drilling activities and associated mineral exploration and project development work.

Some of the agreements include a 2% Net Smelter Return royalty (NSR) attached with the OTP. The agreements grant the operator an exclusive right to explore and evaluate the property for a period of 60 months, with an option to purchase the mineral interest and in some cases the surface rights at any time during the term.

4.4 Royalties, Agreements and Encumbrances

The leases covering the Project are 100% owned by NioCorp, and with the exception of a 2% NSR attached with some of the OTPs, have no other outstanding royalties, agreements or encumbrances.

4.5 Environmental Liabilities and Permitting

4.5.1 Environmental Liabilities

Existing environmental liabilities at the Project site are related to the exploration activities that have been undertaken to date. The Project consists of undeveloped (in terms of mining), farm land with no previous mineral development, mining or milling history. No existing liabilities associated with the utility rights of way or the gravel highway in the Project area are the responsibility of the Company. A number of the lease agreements described above provide for the establishment of an escrow account where funds are deposited against the need to reclaim exploration areas once drilling is complete. At the time of writing, all reclamation work from previous drilling programs has been completed and all escrow monies have been released back to NioCorp.

Baseline environmental studies have been initiated. Studies to assess terrestrial, aquatic, and atmospheric conditions will be required. These studies require input from many sources, including stakeholders. Environmental impact assessment including biotic, abiotic, and socio-economic impacts will be assessed at various levels during state permitting efforts. The Project will be subject to review under the State of Nebraska. At this time, it is uncertain whether Federal permitting is required for the Project. The Project could be subject to the U.S. Environmental Protection Agency (USEPA) and to the U.S. Army Corps of Engineers (USACE) national policies.

NioCorp has initiated consultation with the local business community and required agencies.

4.5.2 Required Permits and Status

Within the land position described on Figure 4.3.1, the mineralization occupies approximately 280 ha (692 acres) of lease agreements. The deposit is contained within the larger geological feature known as the Elk Creek Carbonatite. The deposit hosts concentrations of niobium, titanium and scandium.

The exploration work conducted to date on the Project has been completed under an Exploration Permit NE0211001 issued by the State of Nebraska, Department of Environmental Quality, which provided the Company with the rights to have 10 open boreholes active at the Project at a time. In addition to the exploration permit the Company acquired an exemption letter from the Department of Health and Human Services for the use of a handheld held Niton X-Ray Florescence Analyzer (Niton), used on drill core for preliminary analysis onsite.

Subsequently, the proposed Project will be held to permitting requirements that are determined to be necessary by Johnson County, the State of Nebraska, and the USEPA and USACE national policies, such as the National Environmental Policy Act (42 U.S.C 4321) and the Clean Water Act (33 U.S.C. 1251 et seq.).

4.6 Other Significant Factors and Risks

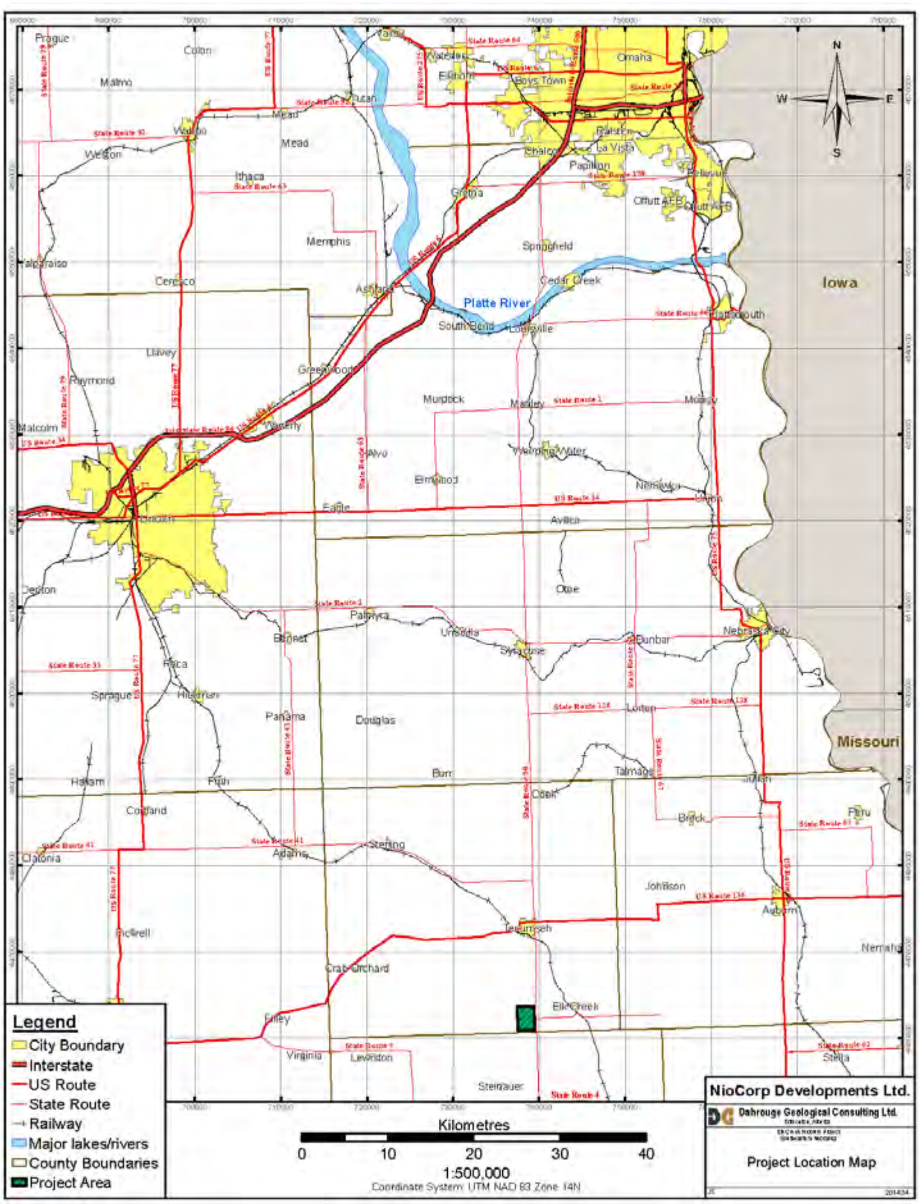
SRK notes that a potential Risk for the development of the Project relates to the issue of renewing the current lease agreements. SRK understands that the Company is currently in the process of renegotiating key lease agrees with the priority focusing on those directly above the mineralization and the surrounding leases, which may be required for surface infrastructure should the Project advance to more detailed levels of study. During this process SRK highlights that the deposit remains open to the north of the current mineralization and there is potential to expand the deposit in that direction. No exploration has been completed into this lease but it is known that main strike of the mineralization enters into the southwest corner of this parcel of land.

With the exception of the points raised above, there are no known other significant factors or risks which could have a material impact on the ability to affect access, titles or the right to perform exploration work on the property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility and Transportation to the Property

The Property is easily accessible year round as it is situated approximately 74 km southeast of Lincoln (State Capital), Nebraska and approximately 110 km south of Omaha, Nebraska. Access to site can be completed via road or from one of the regional airports. There are several regular flights to both Lincoln and Omaha; however, the Project is most easily accessible from Lincoln (Figure 5.1.1).



Source: Dahrouge, 2014

Figure 5.1.1: Project Location Showing Main Access Routes

From Lincoln Municipal Airport, the Property is accessed via paved roads on the main and a secondary network of gravel roads by following:

- Interstate Highway 80 south for approximately 3.5 km to the Beatrice exit;
- Then join Highway 77 south for approximately 40.5 km;
- Then join Highway 41 south for approximately 46.6 km; and,
- Then join Highway 50 south for approximately 16.1 km (approximately 10.0 miles) to the approximate center of the Elk Creek deposit.

The drive from the Lincoln Municipal Airport to the property is typically 1 hour and 15 minutes, and from Omaha's Eppley Airport the drive is approximately 1 hour and 45 minutes.

Geologist can be sourced from local universities. An experienced mining related workforce can be found in Denver Colorado (eight hours drive west of the Project).

5.2 Climate and Length of Operating Season

Southeast Nebraska is situated in a Humid Continental Climate (Dfa) on the Köppen climate classification system. In eastern Nebraska this climate is generally characterized by hot humid summers and cold winters. Average winter temperatures vary between -10.4°C to 1.6°C. Average summer temperatures vary between 18°C to 32°C. Exploration may be conducted all year round.

Average monthly precipitation (rain and snowfall) varies between 22 and 127 mm. Average yearly precipitation is between 800 and 850 mm with an average yearly snowfall of approximately 72 cm (Table 5.2.1). Nebraska is located within an area known for tornados which runs through central USA, where thunderstorms are common in the spring and summer months. Tornadoes primarily occur during the spring and summer and may occur into the autumn months.

Table 5.2.1: Summary of Elk Creek Precipitation Data (4) (5)

Station	Mean Monthly Precipitation	Mean Monthly Pan Evaporation	Mean Monthly Lake Evaporation (5)	Annual Evapotranspiration
	Tecumseh Station (1) (mm)	Sabetha Lake Station (2) (mm)	Sabetha Lake Station (2) (mm)	Rainwater Basin Station (3)
January	21	-	-	30
February	28	-	-	32
March	49	-	-	66
April	72	131	98	84
May	111	167	126	98
June	117	186	139	98
July	99	210	158	102
August	97	190	142	87
September	89	138	103	86
October	58	103	77	81
November	39	57	43	58
December	26	-	-	29
Annual	**805**	**1,182**	**887**	**851**
7 Year Wet-Cycle Total	**6,662**			
7Year Dry-Cycle Total	**4,318**			

(1) Tecumseh station data (WRCC, DRI) is considered the most representative based on elevation and proximity to the project site.
(2) Data from Southwest Climate and Environmental Information Collaborative (WRCC, DRI); Sabetha Lake station data is considered the most representative based on elevation and proximity to the project site.
(3) RAWS Network (DRI), ASCE Standardized Reference ET Calculations.
(4) 5-year average from 2009 through 2013.
(5) Based on Lake Evaporation as 75% of Pan Evaporation.

5.3 Sufficiency of Surface Rights

The Company has negotiated surface rights as needed as part of the Exploration Lease Agreements (discussed in Section 4.3). It is expected that with appropriate studies and negotiations with land owners that land access and provision of land for infrastructure development will be achievable. There is sufficient suitable land area available within the mineral claims for mine waste disposal, for future tailings disposal, a processing plant, and related mine infrastructure.

5.4 Infrastructure Availability and Sources

Elk Creek is the nearest town to the Project, with a population of approximately 100 people. Tecumseh, with roughly 1,700 inhabitants, is the nearest town of any size to the Project site and is situated approximately 11 km north of the Property. Tecumseh is well-suited as a staging base for future exploration work at the Project with available accommodations, fuel, and supplies. Contractors, bulk supplies, and skilled labor (engineering, surveying) may be sourced locally or from the cities of Lincoln or Omaha. Mining activities currently taking place in the area are limited to limestone and aggregate operations, to support the local cement manufacturing and construction industries. The Company has links to the University of Nebraska Lincoln which operate a geology department.

The Project is situated in a rural agricultural area that is covered by a well-developed network of paved highways and secondary gravel roads.

There are three electrical power generating stations within a 50 km radius of the Project that include the Beatrice and Sheldon coal generating stations and the Cooper nuclear power generating station.

The nearest railway heads are found in both Tecumseh and Elk Creek. The Burlington Northern Santa Fe (BNSF) railway runs parallel to the Nemaha River connecting Kansas City to Omaha and Lincoln.

The nearest major airports are located in Lincoln and Omaha, Nebraska and Kansas City in Kansas.

Water sources are available near the Property from local rivers and from groundwater wells for drilling requirements.

5.4.1 Potential Tailings Storage Areas

A tailings storage facility (TSF) area required to support milling will need to be defined within the current mineral leases held by NioCorp. A number of potential sites exist but further metallurgical testwork and understanding of the mine design as well as mine backfill requirements will be required to define the size of the facility. Work is currently being completed based on the updated mineral resource presented in this report.

5.4.2 Potential Waste Rock Disposal Areas

A disposal facility for waste rock (i.e. mined rock that does not contain economic concentrations of niobium, titanium or scandium) may be required to support mining and will need to be defined within the current mineral leases held by NioCorp. Given that the current mining method has yet to be defined the size of any such facility is as yet unknown. SRK anticipate the mining method for the Project will be via underground methods with waste rock potentially used as a source of backfill.

Further work will be required to confirm this assumption, which is currently being completed based on the updated mineral resource presented in this report.

5.4.3 Potential Processing Plant Sites

The Company holds sufficient surface rights to locate processing facilities at or near access to mineralization. The current lease agreements due to expire in 2015 will need to be extended or the underlying options exercised beyond this time period to secure the land needed for the processing facilities.

5.5 Physiography

The local topography of eastern Nebraska is relatively low-relief with shallow rolling hills intersected by shallow river valleys. Elevation varies from about 325 to 390 masl. Bedrock outcrop exposure is nonexistent in the Project area.

The majority of the Project area is used for cultivation of corn and soybeans, along with uses as grazing land. Native vegetation typical of eastern Nebraska is upland tall-grass, prairie and upland deciduous forests.

6 History

The following section provides a brief summary of the history of the Project and SRK has relied upon information provided in the previous NI 43-101 Technical Report produced by Tetra Tech for Quantum, entitled "Resource Estimate and Technical Report for the Elk Creek Nb-REE Project, Nebraska, USA", effective date April 23, 2012.

6.1 Ownership History

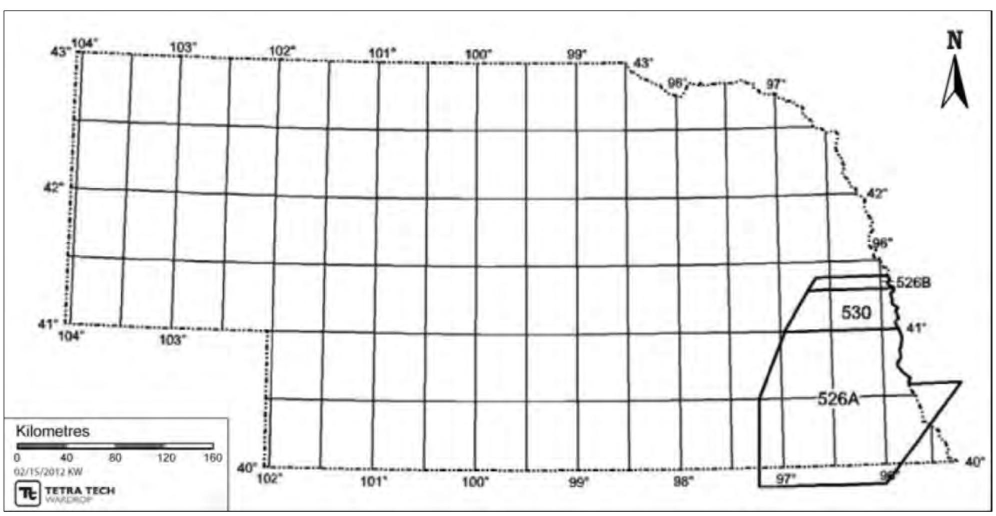
Initial regional geological work was completed by the USGS. The details of the initial ownership of the complete Project area are not clear, but it is reported that land packages were initially controlled by Cominco American Inc. (Cominco American) and Molycorp during the early 1970's.

The majority of exploration over the Project area was completed by Molycorp prior to 1984. Between 1984 and 2010 at an unknown date the title of the Project was held by ECRC. On May 4, 2010 Quantum announced the acquisition of the ECRC and acquired the mineral rights to the Project. On March 3, 2013 Quantum announced an official name change from Quantum Rare Earth Developments Corp. to NioCorp Developments Ltd. (NioCorp). NioCorp's focus is to develop the Elk Creek Niobium Deposit.

6.2 Exploration History

6.2.1 USGS, 1964

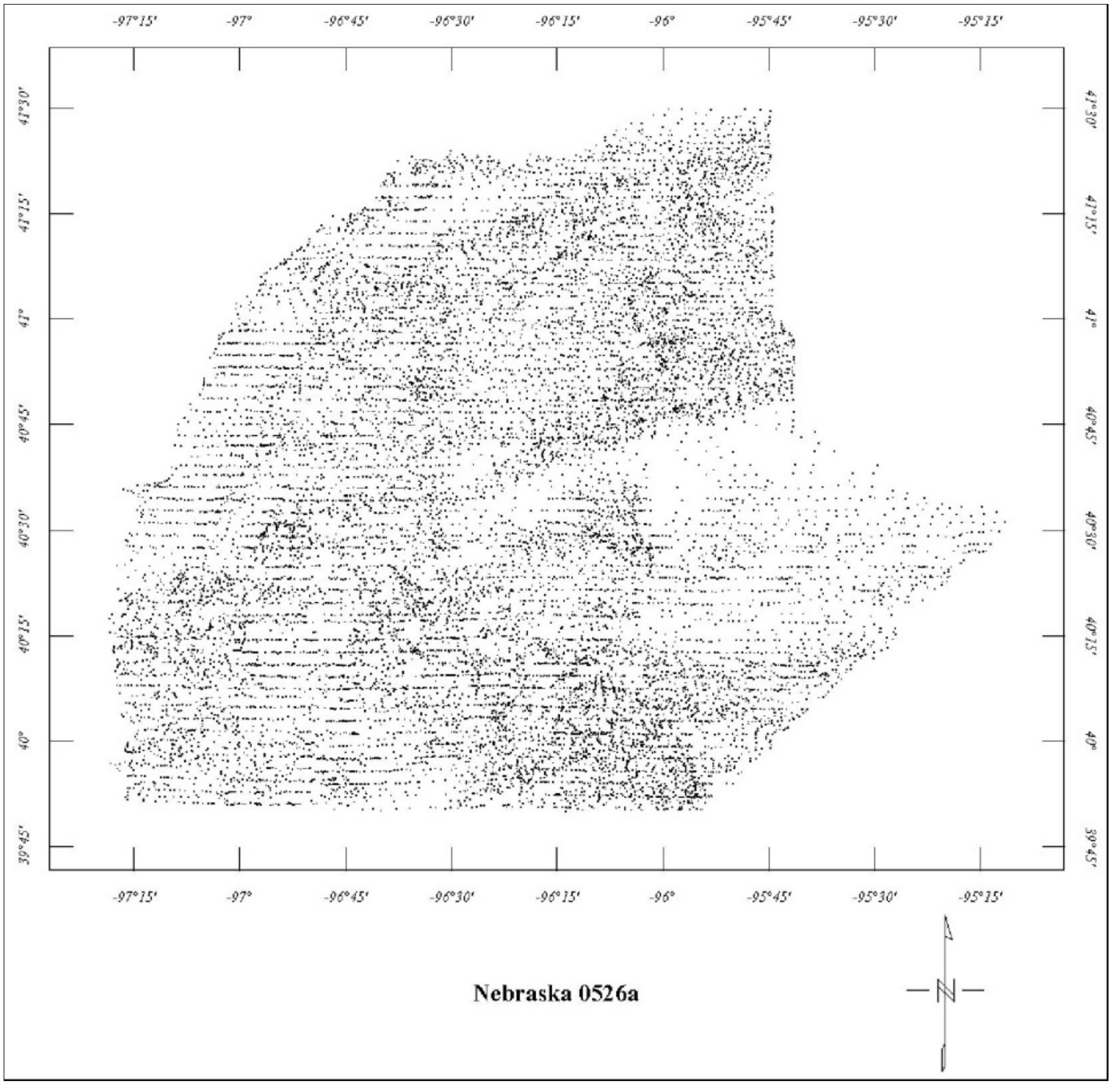
Between November 1963 and January 1964, the USGS flew three airborne magnetic surveys over southeast Nebraska. A total of 6,590 line km were flown (836, 209, and 5,544 line miles respectively) along east-west direction at a flight line spacing of two miles and at altitude of 305 m (1,000 ft) above ground (USGS website: OFR 99-0557). Figure 6.2.1.1 shows the area covered by the airborne survey.



Source: Tetra Tech, 2012 - Modified from USGS 1964

Figure 6.2.1.1: 1964 USGS Aeromagnetic Survey Area Showing Surveys 526A, 526B, and 530 Respectively

The wide spacing of the flight lines illustrate only regional features and do not locate local anomalies (e.g. Elk Creek Nb-REE anomaly). Details of the aeromagnetic survey may be found in USGS Publication 73-297, which was unavailable at the time of writing. Results of the aeromagnetic survey are shown in Figure 6.2.1.2 below.



Source: Tetra Tech, 2012

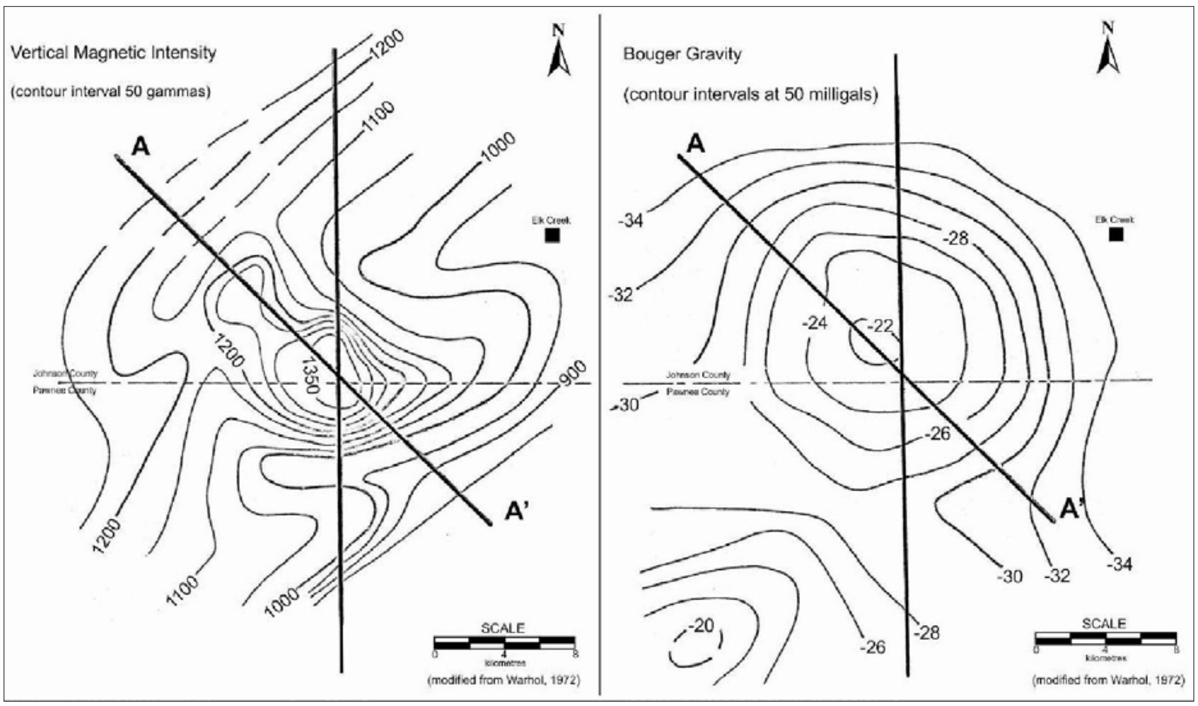
Figure 6.2.1.2: 1964 USGS Aeromagnetic Results (Merged 526A, 526B, and 530 Surveys)

6.2.2 Discovery, 1970-1971

Further investigation of the Project was not completed until 1970, when the Elk Creek gravity anomaly was initially identified during a reconnaissance gravity geophysical survey of southeast Nebraska by the Conservation and Survey Division (CSD) of the University of Nebraska- Lincoln (UNL). During the same time period the UNL geology department (operating independently), was mapping the magnetic expression of the Nemaha Arch and the Humboldt Fault.

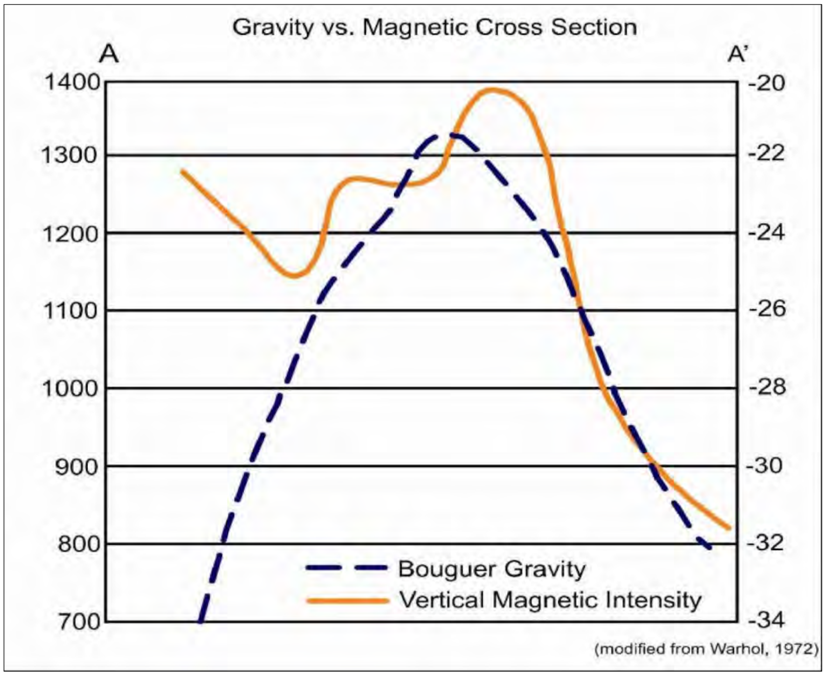
A comparison of the two geophysical survey results showed a positive anomaly that was coincident with a positive gravity anomaly over the area now defined as the Elk Creek gravity anomaly (Anzman, 1976). The geophysical gravity survey outlined a near-circular anomaly, along with a concurrent magnetic anomaly, approximately 7 km in diameter. Analysis of the geophysical data provided a model of a cylindrical mass of indefinite length with a radius of 1,700 m (5,500 ft; Burfeind et al. 1971). Figure 6.2.2.1 and Figure 6.2.2.2 below illustrate the results of the two surveys.

In 1971, the Nebraska Geological Survey (NGS) commissioned a test drillhole 2-B-71 to determine the source of the near circular gravity anomaly. With some support from the United States Bureau of Mines (USBM) the test hole was deepened. The test hole 2-B-71, later renamed NN-1 by Molycorp, encountered 191 m (628 ft) of marine sediments, followed by a carbonate-rich rock (carbonatite) to the end of the hole at 290 m (952 ft) (Brookins et al. 1975) in what is now referred to as the Elk Creek Carbonatite.



Source: Tetra Tech, 2012

Figure 6.2.2.1: Comparison of the 1970 Magnetic and Gravity Geophysical Surveys



Source: Tetra Tech, 2012

Figure 6.2.2.2: Cross-section A-A' of the 1970 Gravity and Magnetic Geophysical Surveys

6.2.3 Cominco American, 1974

The earliest known reference to Cominco American operating within the Elk Creek gravity anomaly area is from 1974. It is unclear at precisely when Cominco American first acquired the mineral rights in the Elk Creek anomaly area. It is believed between 1971 and 1973 both Cominco American and Molycorp held mineral rights over selected portions of the Elk Creek gravity anomaly.

In 1974, Cominco American completed five drillholes (CA-1 to CA-5) within the Elk Creek gravity anomaly. Details of the Cominco American drillholes and exploration activities within the property were not available. The information on drilling activities stated here was taken from the Molycorp database. SRK has not reviewed or included any information from Cominco American as part of the current study.

6.2.4 Molycorp, 1973-1986

The earliest known reference to Molycorp operating within the Elk Creek gravity anomaly area is from 1973. It is unclear at precisely when Molycorp first acquired the mineral rights in the Elk Creek anomaly area. Molycorp completed a number of phases of exploration on the Project during this period including more detailed geophysical surveys, regional drilling (mineralization limits) and focused drilling on the Project area. The exploration program focused on understanding the potential for rare earth elements of economic significance at the Project, with results showing a niobium anomaly at Elk Creek.

Between 1986 and 2011, no further exploration had been recorded on the Property.

6.2.5 Geophysical Surveys

In 1973, a detailed aeromagnetic survey was flown by Olympus Aerial Surveys Inc. (Olympic Aerial Surveys), of Salt Lake City, Utah, USA, for Molycorp, with the aim of locating drill sites. Flight lines within the Elk Creek anomaly area were spaced at 200 m (1/8 mile), outside the anomaly at 400 m (1/4 mile). A total of 50,764 ha (196 square miles) were covered by 2,090 line km (Anzman, 1976). The altitude of the survey was not stated in Anzman 1976.

In 1980, an extensive regional geophysical program was made in southeastern Nebraska including the Elk Creek anomaly. The program consisted of 6,437 line km of aeromagnetics and approximately 4,000 gravity station readings. The aeromagnetic survey was contracted by Olympus Aerial Surveys.

The gravity geophysical survey was conducted by the CSD-UNL, which undertook approximately a quarter of the station readings, and by Molycorp's in-house Geophysical Services Group, which undertook the remaining three quarters of the gravity station readings.

6.2.6 Drilling

Between, 1973 and 1974, Molycorp completed six drillholes: EC-1 to EC-4, targeting the Elk Creek anomaly and two other holes outside the Elk Creek anomaly area (Anzman, 1976). Drillholes were typically carried out by RC drilling through the overlying sedimentary rocks and diamond drilling through the Ordovician-Cambrian basement rocks.

Molycorp continued their drill program from 1977 and, in May 1978, Molycorp made its discovery of the Elk Creek Nb-REE deposit with drillhole EC-11. EC-11 is located on Section 33, Township 4N, and Range 11. The Carbonatite hosting the Elk Creek Nb-REE deposit was intersected at a vertical depth of 203.61 m (668 ft).

Molycorp continued its drilling program through to 1984 that mainly centered on the Elk Creek Nb-REE deposit within a radius of roughly 2 km. By 1984, Molycorp had completed 57 drillholes within the Elk Creek gravity anomaly area, which included 25 drillholes over the Elk Creek Nb-REE deposit.

From 1984 to 1986, drilling was focused on the Elk Creek gravity anomaly area. The anomaly area is roughly 7 km in diameter and drilling was conducted on a grid pattern of approximately 610 by 610 m (roughly 2,000 by 2,000 ft.) with some closer spaced drillholes in selected areas.

By 1986, a total of 106 drillholes were completed for a total of approximately 46,797 m (153,532 ft). The deepest hole reached a depth of 1,038 m (3,406 ft) and bottomed in carbonatite.

6.2.7 Molycorp Data Verification, 1973-1986

Verification work on the historical database has been completed by Dahrouge Geological Consulting Ltd (Dahrouge), who were contracted by Quantum to compile and verify the historical database between 2010 and 2011. Work included data capture from historical drilling logs, verification drilling and reanalysis of historical samples.

The following excerpt was taken from McCallum and Cathro (2010).

"In some of the analytical log sheets available to the Authors, it appears that Molycorp analyzed niobium through their exploration division laboratory at Louviers, Colorado. They also analyzed the same interval at another, unspecified, commercial laboratory. It is unclear to the Authors what material the duplicate analyses were derived from (coarse reject duplicate, pulp duplicate, or ¼ core

duplicate). As discussed in Section 15, Molycorp Inc. utilized some standards to establish the calibration curve of the x-ray refraction (XRF) instruments. It is unclear if Molycorp also utilized inserted standard reference samples to test the analytical accuracy of their own laboratory or external commercial laboratories.

Molycorp utilized the commercial laboratory, Skyline Labs Inc., of Wheat Ridge, Colorado between 1980 and 1986, with analysis by ICP spectrographic methods and unknown preparation methods. According to analytical reports and certificates available at UNL, values of lanthanum, cerium, neodymium, barium, sodium, thorium, lead, thorium, uranium, potassium, titanium, zinc, vanadium, niobium, phosphorous, beryllium, zircon, strontium, lithium, yttrium, silver, chromium, copper, iron, manganese, nickel and cobalt were tested. The intervals tested are comprised of commonly 100 ft intervals, presumably composited from the pulverized material of the 10 ft intervals.

In the "Niobium Analytical Standardization" report, dated June 1983, by Sisneros and Yernberg, it was noted that the routine XRF analysis performed by Molycorp's exploration division laboratory at Louviers generated niobium values that were higher than other analytical techniques. This difference in niobium values was concluded not to be a product of preparation techniques, but a result of the standardization errors in the XRF analytical technique. A set of fifteen composites was prepared from Elk Creek drill-core samples and analyzed with varying methods including XRF, ICP emission spectrometry and DC plasma emission spectrometry at ten laboratories. It was concluded that the difference was caused by high barium and iron within the matrix of the sample, with the largest deviations found in the coarse-grained material. The deviation of Molycorp's routine analytical method compared to the recommended value ranges from 20% to just below 50% (with the exception of one sample deviating 1%). The recommended value was based on a statistical analysis of the round-robin results.

The correction for the effect of barium and iron on the given Louviers niobium value was calibrated with the XRF instrument at Molycorp's Louviers, Colorado exploration laboratory, and many of the previously analyzed samples were re-tested with the new calibration. The samples that have received the Ba+Fe correction have been noted on the historic Molycorp analytical logs; however in the later series of holes, it is not identified on the assay log. It is expected that all holes drilled after 1983 were analyzed with the newer calibration.

Subsequent to the 1983 "Niobium Analytical Standardization" report, Molycorp had 100 ft composite intervals of the majority of the drillholes (EC-1 to EC-105) sent to Metric Labs of Ste-Marthe-Sur-Le-Lac, Quebec for check analysis of niobium."

6.3 Historic Resource Estimates

6.3.1 Molycorp Internal Estimates

During the review of historical documentation and the previous NI 43-101 Technical Report, it has been noted that Molycorp produced an internal estimate of the tonnage and grade within the Elk Creek deposit. This estimate is not considered to be compliant with CIM terms and conditions, or has been documented to an NI 43-101 standard. The estimate is based on assay analysis conducted by Molycorp at its own laboratory at Louviers, Colorado, USA and other analytical work at several commercial laboratories.

On February 5, 1986, in an internal Molycorp memo (Cook and Shearer, 1986), from the two principle project geologists, Cook and Shearer, states:

"Niobium Resource Lands (Elk Creek Section 33)

These lands include the Section 33 niobium resource and adjacent untested lands. The resource contains 39.4 million tons of 0.82% Nb_2O_5 *and is open to the north, west and at depth."*

Tetra Tech commented in the previous NI 43-101 (April 2012) that the memo is the only evidence of an historic resource conducted on the Property. There are no documents available to explain or support how this resource was estimated. Tetra Tech concluded during its investigation that it was apparent that the historic resource may have been estimated by a polygonal method.

6.3.2 Tetra Tech Wardrop Estimate (April 2012)

In April 2012, Tetra Tech produced an NI 43-101 Technical Report for the Project based on the results of verification work completed by Quantum through Dahrouge. The Tetra Tech Mineral Resource estimate for the Project was prepared in accordance with CIM Best Practices and disclosed in accordance with NI 43-101, with an effective date of March 21, 2012.

The Mineral Resource was estimated by the OK interpolation method on capped grade values. The Mineral Resource for the Elk Creek deposit was classified as having Indicated and Inferred Resources based on drillhole spacing, drillhole location and sample data population.

The Mineral Resource estimate for the deposit, at 0.4 Nb_2O_5% CoG, is an Indicated Resource of 19.3 Mt at 0.67 Nb_2O_5%; and an Inferred Resource of 83.3 Mt at 0.63 $Nb_2O_5$5%.

Table 6.3.2.1 and Table 6.3.2.2 present the Indicated and Inferred Resource estimates for the Elk Creek deposit at various Nb_2O_5% cut-offs between 0.35 and 0.70 Nb_2O_5%.

Tetra Tech concluded that the Elk Creek deposit warrants further investigation and development.

Table 6.3.2.1: Tetra Tech 2012 Indicated Mineral Resource Grade Tonnage Sensitivity for Elk Creek

Cut-off Nb_2O_5 (%)	Density g/cm^3	Tonnes (000's t)	Nb_2O_5 (%)	Contained Metal (000's kg)
0.70	2.96	7,226	0.86	61,940
0.65	2.96	9,113	0.82	74,653
0.60	2.96	11,373	0.78	88,770
0.55	2.96	13,441	0.75	100,722
0.50	2.96	15,844	0.71	113,271
0.45	2.96	17,940	0.69	123,279
0.40	2.96	19,319	0.67	129,182
0.35	2.96	19,632	0.66	130,376

Source: Tetra Tech, 2012

Table 6.3.2.2: Tetra Tech 2012 Inferred Mineral Resource Grade Tonnage Sensitivity for Elk Creek

Cut-off Nb_2O_5 (%)	Density g/cm^3	Tonnes (000's t)	Nb_2O_5 (%)	Contained Metal (000's kg)
0.70	2.96	20,984	0.8	167,447
0.65	2.96	32,115	0.76	242,535
0.60	2.96	44,596	0.72	320,521
0.55	2.96	58,803	0.68	402,231
0.50	2.96	71,333	0.66	468,026
0.45	2.96	80,297	0.64	510,904
0.40	2.96	83,288	0.63	523,844
0.35	2.96	83,744	0.63	525,591

Source: Tetra Tech, 2012

6.3.3 SRK Estimate (September 2014)

In September 2014, SRK produced an NI 43-101 Technical Report for the Project based on the historical drillhole information and the results from Phase I of the 2014 NioCorp drilling program. The Mineral Resource estimate for the Project was prepared in accordance with CIM Best Practices and disclosed in accordance with NI 43-101, with an effective date of September 9, 2014.

The Mineral Resource was estimated by the OK interpolation method on capped grade values. The Mineral Resource for the Elk Creek deposit was classified as having Indicated and Inferred Resources based on drillhole spacing, drillhole location and sample data population.

The Mineral Resource estimate for the deposit, at 0.3 Nb_2O_5% CoG, is an Indicated Resource of 28.2 Mt at 0.63 Nb_2O_5%; and an Inferred Resource of 132.8 Mt at 0.55 $Nb_2O_5$5%.

Table 6.3.3.1 present the Indicated and Inferred Resource estimates for the Elk Creek deposit, and Table 6.3.3.2 shows the grade tonnage sensitivity at various Nb_2O_5% cut-offs between 0.35 and 0.70 Nb_2O_5%.

SRK concluded that the Elk Creek deposit warranted further infill drilling to increase the current level of confidence, and commencement of other technical disciplines such as geotechnical and hydrogeological to improve the investigation and development of the Project.

Table 6.3.3.1: SRK Mineral Resource Statement for Elk Creek Nb_2O_5%, Effective Date September 9, 2014

Classification	Cut-off (Nb_2O_5%)	Tonnage (000's Tonnes)	Grade (Nb_2O_5%)	Contained Nb_2O_5 (000's kg)
Indicated	0.30	28,200	0.63	177,000
Inferred	0.30	132,800	0.55	733,700

Source: SRK, 2014

- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. The Concession is wholly owned by and exploration is operated by NioCorp Developments Ltd.
- The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves (May 2014) as required by NI 43-101.
- SRK assumes the Elk Creek deposit to be amenable to a variety of Underground Mining methods. In the absence of definitive pricing for Nb and established rates of metallurgical recovery, SRK has reported the Mineral Resource at a cut-off of 0.3% Nb_2O_5. The Company's previous Mineral Resource dated April 2012 was calculated at a cut-off of 0.4% Nb_2O_5.
- SRK Completed a site inspection to the deposit by Mr. Martin Pittuck, MSc., C.Eng, MIMMM , an appropriate "independent qualified person" as this term is defined in NI 43-101.

Table 6.3.3.2: Grade Tonnage Showing Sensitivity of Elk Creek Mineral Resource (September 2014) To CoG

Classification	Cut-off (Nb_2O_5%)	Tonnage (000's Tonnes)	Grade (Nb_2O_5%)	Contained Nb_2O_5 (000's kg)
Indicated	0.60	15,800	0.78	123,700
	0.55	17,400	0.76	132,800
	0.50	19,100	0.74	141,800
	0.45	20,700	0.72	149,600
	0.40	22,600	0.70	157,400
	0.35	25,300	0.66	167,500
	0.30	28,200	0.63	177,200
Inferred	0.60	51,900	0.78	404,900
	0.55	57,300	0.76	435,800
	0.50	63,700	0.74	469,600
	0.45	71,700	0.71	507,700
	0.40	87,000	0.66	573,300
	0.35	111,100	0.60	662,700
	0.30	132,800	0.55	733,700

Source: SRK, 2014

6.4 Historic Production

There has been no historical production of the niobium Mineral Resource at the Project.

7 Geological Setting and Mineralization

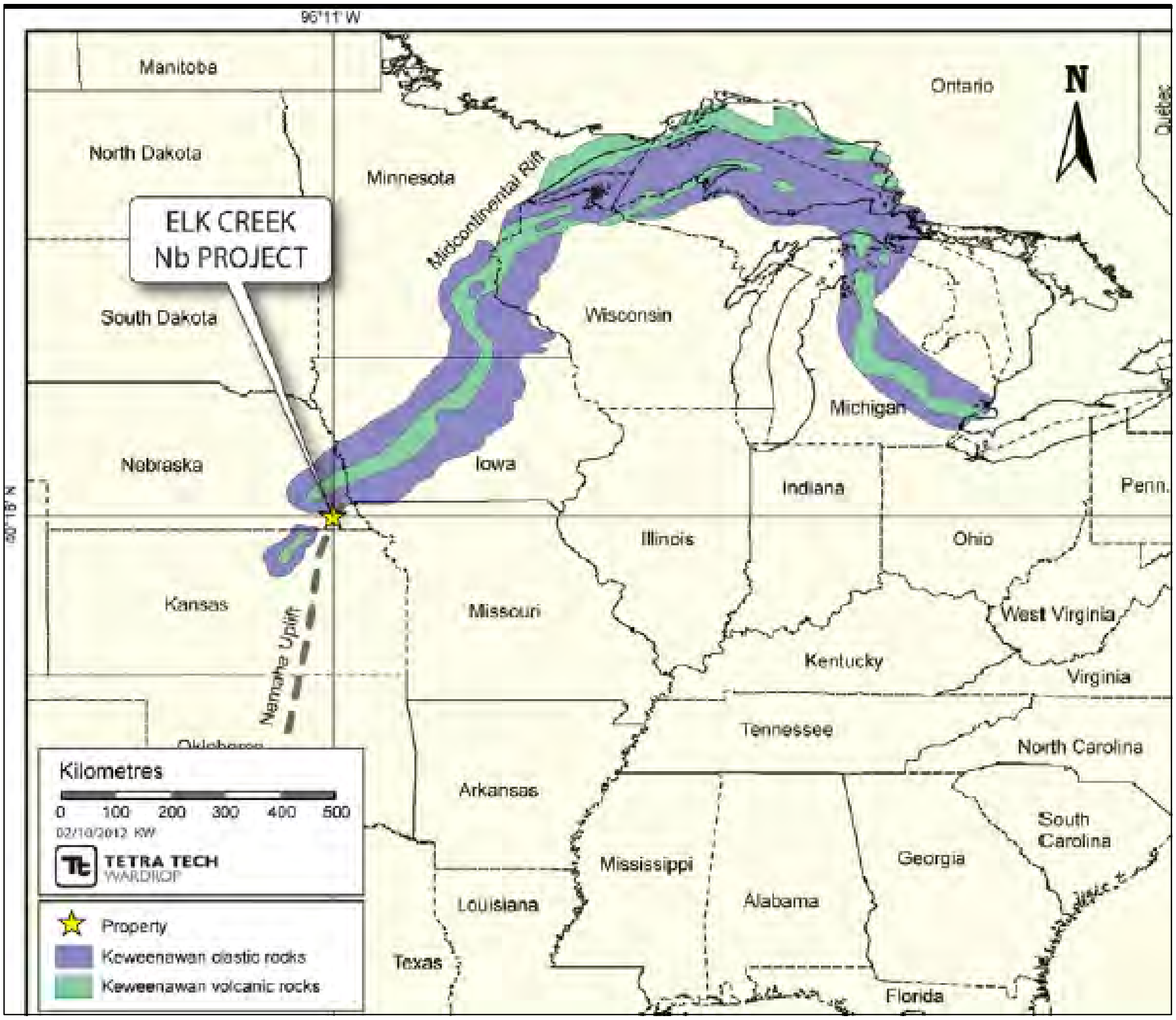
7.1 Regional Geology

The Nebraska Precambrian basement predominantly comprises granite, diorite, basalt, anorthosite, gneiss, schist and clastic sediments. A series of island arcs sutured onto the Archean continent created the basic framework of the area. This suture left a north-trending intervening boundary zone ancestral to the Nemaha Uplift, providing a pre-existing tectonic framework which controlled the trend of the later Midcontinent Rift System (1.0 to 1.2 Ga) (Carlson & Treves, 2005). The Carbonatite is located at the northeast extremity of the Nemaha Uplift.

The Midcontinent Rift System, or Keweenawan Rift, comprises mafic igneous rocks and forms a belt over 2,000 km long and 55 km wide that is exposed at surface in the Lake Superior Region and extends southwards through the states of Michigan, Wisconsin, Minnesota, Iowa, Nebraska and into Kansas (Carlson, 1992). Both basalt and associated red clastic sedimentary rocks are found in the Precambrian basement of southeastern Nebraska. These rocks are very similar to those found in the Lake Superior region and are thus considered to be a product of the Keweenawan rifting (Burchett and Reed, 1967; Treves et al., 1983). Figure 7.1.1 illustrates the major rock types of the Midcontinental Rift system.

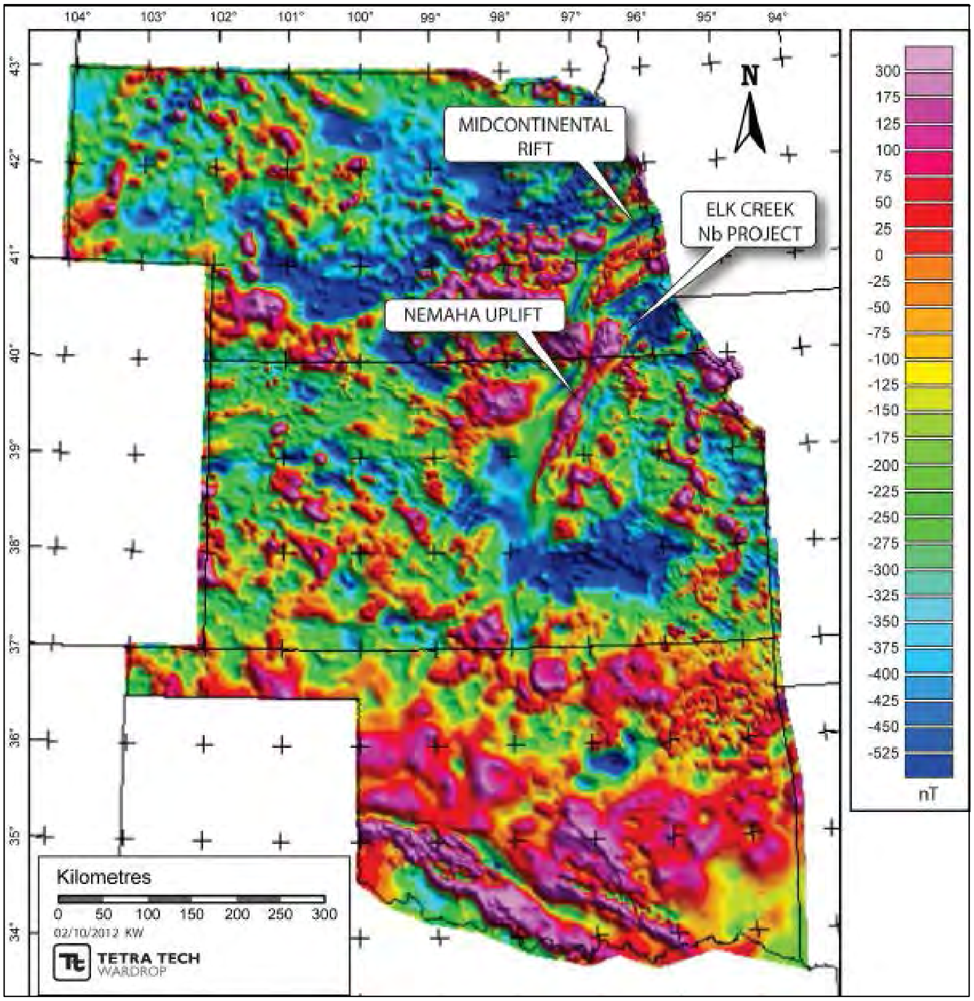
The Nemaha Uplift (300 Ma) extends southward as a narrow belt from southeastern Nebraska across Kansas along the midcontinent rift system (King, 1969) (Figure 7.1.1). Along the northern and eastern margins are complex fault zones and steeply dipping units. Regional north-northeast to northeast striking faults are locally transected by northwest trending ones, including the Central Plains mega shear (Central Missouri Fault) to the north and the Oklahoma mega shear to the south (McBee, 2003). The Carbonatite body intruded near to the axis of the Nemaha uplift and has similar dates to a cluster of carbonatites north of Lake Superior that are in the range of 560 to 580 Ma. (Woolley, 1989; Erdosh, 1979). Temporally the Carbonatite occurs near the boundary between the Penokean Orogen (approximately 1,840 Ma) and the Dawes terrane (1,780 Ma) of the Central Plains Orogen (Carlson and Treves, 2005).

Figure 7.1.2 shows a merged airborne magnetic anomaly map of Nebraska, Kansas and Oklahoma states (USGS, 2004) showing the Midcontinent Rift and Nemaha Uplift systems.



Source: Modified from Palacas et.al, 1990

Figure 7.1.1: Regional Geology Map



Source: Modified from USGS 2004
Showing the Midcontinental Rift and Nemaha Uplift.

Figure 7.1.2: Merged Aeromagnetic Anomaly Map of Nebraska, Kansas and Oklahoma States

Regional geophysical data and drilling have confirmed the presence of kimberlitic intrusive bodies in northern Kansas to the southwest of the Carbonatite. These kimberlites were emplaced along the rift system during Cretaceous time (Berendsen and Weis, 2001).

The Paleozoic rocks overlying the Carbonatite region are dominated by approximately 200 m of essentially flat-lying Pennsylvanian marine strata consisting of carbonates, sandstones and shales. The eastern portion of Nebraska was glaciated several times throughout the early Pleistocene (Wayne, 1981), resulting in the deposition of approximately 50 m of unconsolidated till.

7.2 Property Geology

The property includes the Carbonatite that has intruded older Precambrian granitic and low- to medium-grade metamorphic basement rocks. The Carbonatite and Precambrian rocks are believed to be unconformably overlain by approximately 200 m of Paleozoic marine sedimentary rocks of Pennsylvanian age (ca. 299 to 318 Ma).

As a result of this thick cover, there is no surface outcrop within the Project area of the Carbonatite, which was identified and targeted through magnetic surveys and confirmed through subsequent drilling. The available magnetic data indicates dominant northeast, west-northwest striking lineaments and secondary northwest and north oriented features that mimic the position of regional faults parallel and/or perpendicular to the Nemaha Uplift.

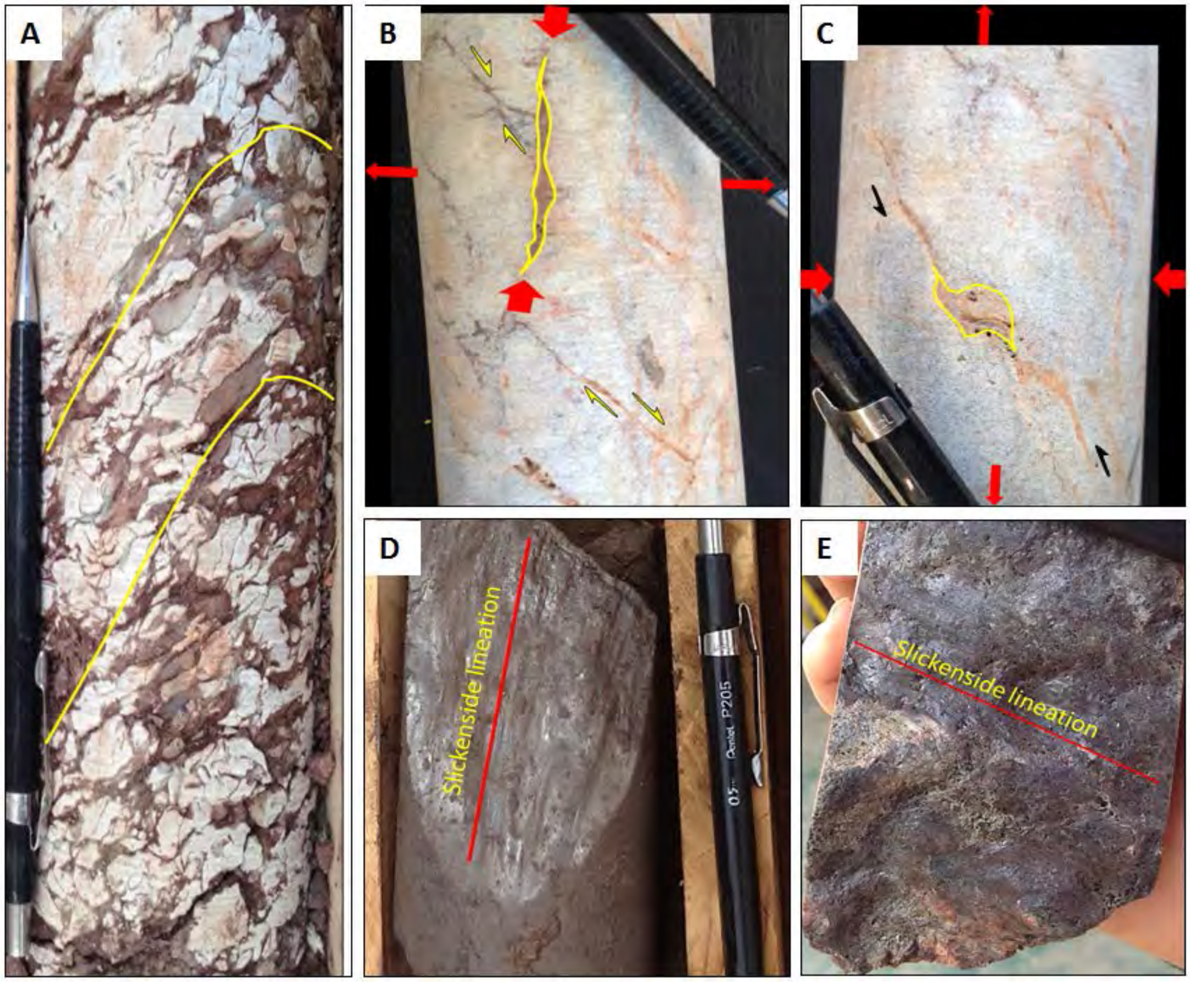
7.3 Elk Creek Carbonatite

The Elk Creek Carbonatite is an elliptical magmatic body with northwest trending long axis perpendicular to the strike of the 1.1-Ga Midcontinent Rift System, near the northern part of the Nemaha uplift (Burchett, 1982; Carlson, 1997). It was first discovered by drilling in 1971 and tentatively identified as a carbonatite on the basis that it resembled rocks of the Fen District of Norway (Treves et al., 1972a and 1972b). The definitive confirmation of carbonatite was completed using Rare Earth Element (REE), P_20_5 and $^{87}Sr/^{86}Sr$ isotope analysis (Brookins et al., 1975). The Carbonatite has also been compared to the Iron Hill carbonatite stock in Gunnison County, Colorado on the basis of similar mineralogy (Xu, 1996).

The Carbonatite consists predominantly of dolomite, calcite and ankerite, with lesser chlorite, barite, phlogopite, pyrochlore, serpentine, fluorite, sulfides and quartz (Xu, 1996). It is, however, believed from stratigraphic reconstruction based on drill core observation in the area that the carbonatite is unconformably overlain by approximately 200 m of essentially flat-lying Palaeozoic marine sedimentary rocks, including carbonates, sandstones and shales of Pennsylvanian age (ca. 299 to 318 Ma).

Current studies suggest that the Carbonatite was emplaced ca. 500 Ma (Xu, 1996) in response to stress along the Nemaha Uplift boundary predating deposition of the Pennsylvanian sedimentary sequence (ca. 299 to 318 Ma). However, observations on drill cores from the Project site show that the contact between the Carbonatite body and the Pennsylvanian sediments is a sheared but oxidized contact suggesting that the Carbonatite is intrusive in the Pennsylvanian sequence (Figures 7.3.1 and 7.3.2). Furthermore, both rock types appear to have been affected by at least one main brittle-ductile deformation event resulting in formation of fault structures. Microstructures including sub-vertical and sub-horizontal tension veins, together with related sheared veins and fault planes displaying sub-vertical and sub-horizontal slickensides along drill cores are indications for the presence of extensional and oblique to strike-slip faults (Figures 7.3.1 and 7.3.2). These faults could correspond to the magnetic lineaments present in the area. Investigations aiming to define the location, as well as the orientation and kinematics of these structures are in progress.

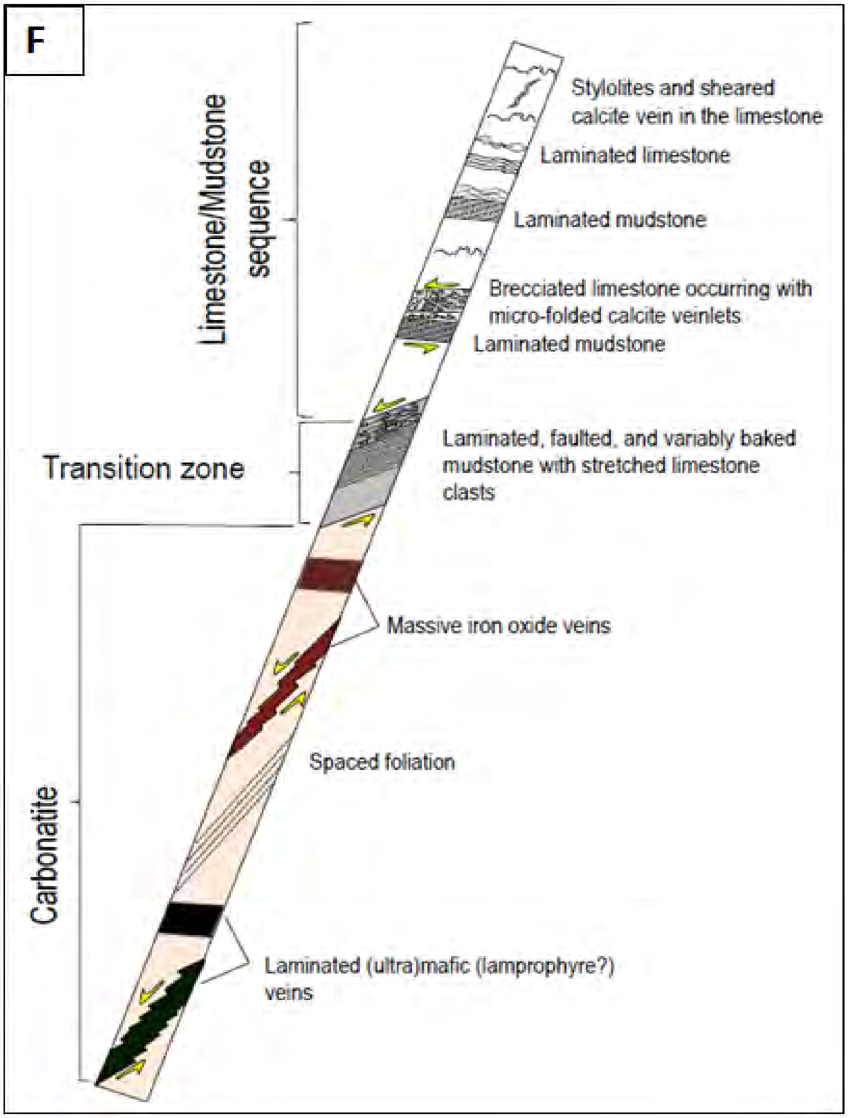
Microstructures presented in Figure 7.3.1 suggest the presence of extensional and strike-slip to oblique faults in the area as follows: A) Spaced foliation and breccia in the contact zone between the Carbonatite and the Pennsylvanian sequence; Subvertical (B) and subhorizontal (C) tension veins and associated sheared veins in the carbonatite; Fault planes showing subvertical (D) and oblique (E) slickensides in the carbonatite. Note that observations were made on cores from subvertical holes (about 70 degrees plunge).



Source: SRK, 2014

Figure 7.3.1: Core Photographs Showing Microstructures

Figure 7.3.2 presents microstructures along a composite subvertical drill core suggesting that the Carbonatite is intrusive within the Pennsylvanian rock sequence.



Source: SRK, 2014
Illustration not to scale

Figure 7.3.2: Schematic of Drillhole Showing Typical Transition from Pennsylvanian Sediments to Carbonatite Units

7.3.1 Age Dating

An original hypothesis suggested that the Elk Creek Carbonatite was of Keweenawan age (Treves et al., 1983) or ca. 1,100 Ma. However, in 1985, Paterman, of the USGS Isotope Laboratory, provided a K-Ar age of 544 (±7) Ma (Cambrian) from biotite within the Carbonatite. Two more K-Ar dates were provided by Georgia State University (M. Ghazi (date unknown)) which also provided dates from biotite samples. The ages of 464 (±5) Ma and 484 (±5) Ma, respectively, are Ordovician and thus much younger than the Midcontinent Rift System. Whilst these radiometric dates provide a generalized time range for the Carbonatite intrusion, additional age dating is needed to establish a more precise date.

7.4 Carbonatite Lithological Units

The lithological units present in the carbonatite complex were defined by Molycorp during their drill programs and simplified by Dahrouge for interpretation purposes during each stage of the project (2011 and 2014). The units in Table 7.4.1 (youngest at the top) represent the data captured during the original data capture in 2011. The information was compiled from the drill logs and the corresponding geology reports for each drillhole

Table 7.4.1: Elk Creek Rock Types as Defined by Molycorp and Dahrouge (2011)

Name (Molycorp)	Code	Name (Dahrouge)	Code
Overlying Lithologies			
Quaternary sediments	Qt	Overburden	Ovb
Pennsylvanian Sediments	Pu	Pennsylvanian Sediments	sed
Elk Creek Complex			
Younger Mafic Rock	ym		mafBc
Barite Beforsite III Barite Beforsite II	bb III bb II	Barite Dolomite Carbonatite	dolCarb
Beforsite Breccia	bbx	Dolomite Carbonatite Breccia	dolCarbBc
Barite Beforsite I	bb I	Barite Dolomite Carbonatite	dolCarb
Apatite Beforsite II Apatite Beforsite I	ab II ab I	Apatite Dolomite Carbonatite Breccia	dolCarb
Older Mafic Rock	om	Mafic dyke, vein or fragment	maf
Magnetite Beforsite	mb	Magnetite Dolomite Carbonatite	mdolCarb
Syenite II Syenite I	sy II sy I	Syenite	sy
Host Rocks			
Granite/Gneiss	pCgg	Granite/Gneiss	gn
Amphibole Biotite – Gneiss	pCbg	Amphibole Biotite – Gneiss	gn

A study of six Molycorp drillholes by Xu (1996) identified two main phases within the area, a carbonate phase and a silicate phase. The study was based on drillholes 2-B-71 (also known as “NN-1”), EC-40, EC-42, EC-50, EC-70 and EC- 82.

The carbonate phase was classified into two main units (defined by texture, massive or brecciated) and several sub-units (defined by mineralogy as presented below).

<u>Massive Carbonatite</u>

- Dolomite carbonatite;
- Apatite-bearing dolomite carbonatite and pyrochlore-bearing carbonatite;
- Apatite-dolomite carbonatite;
- Hematite-dolomite carbonatite; and
- Magnetite-dolomite carbonatite.

<u>Brecciated Carbonatite</u>

The silicate phase was also classified into several units as follows:

- Altered basalt;
- Altered lamprophyre; and
- Altered syenite.

In the 2014 drilling, the Dahrouge geologists have split the dolCarb units down into a number of key units using the information of the different phases of carbonatite. The main Carbonatite lithologies used are:

- Dolomite Carbonatite – dolCarb;
- Dolomite Carbonatite Breccia – dolCarbBc;
- Hematite-dolomite Carbonatite – hemdolCarb;
- Magnetite-dolomite Carbonatite – mdolCarb; and
- Magnetite-dolomite Carbonatite Breccia – mdolCarbBc.

SRK considers the more detailed split of the Carbonatite units to be relevant to determining the distribution of different grade populations as supported by Statistics (discussed in Section 14.3). The most significant difference is the change in the logging codes between dolCarb and mdolCarb, in terms of the major rock types.

7.5 Marine Sedimentary Rocks

The State of Nebraska-wide test hole database contains information for about 5,500 test holes drilled since 1930 by the CSD, School of Natural Resources (SNR), UNL (UNL-CSD/SNR), and cooperating agencies. Test hole location data, as well as lithological descriptions, stratigraphic interpretations and geophysical log records are included in the database. In addition, UNL-CSD/SNR maintains an extensive collection of geologic samples obtained from the drilling process (UNL-CSD/SNR website).

The overlying sedimentary units on the Project are of Pennsylvanian age. The CSD’s 1971 test hole 2-B-71, also labelled NN-1 by Molycorp, intersected several formations of overlying Pennsylvanian strata (Table 7.5.1).

Table 7.5.1: Stratigraphy Overlying the Elk Creek Carbonatite

System	Series	Group	Formation	Member	Depth From (ft)	Depth To (ft)
Quaternary	-	-	-	-	0.00	43.90
Pennsylvanian	Virgilian	Wabaunsee	Zeandale	Wamego	43.90	82.50
Pennsylvanian	Virgilian	Wabaunsee	Emporta	Elmont	82.50	95.00
Pennsylvanian	Virgilian	Wabaunsee	Auburn	-	95.00	113.50
Pennsylvanian	Virgilian	Wabaunsee	Bern	Wakarusa	113.50	138.60
Pennsylvanian	Virgilian	Wabaunsee	Scranton	-	138.60	238.80
Pennsylvanian	Virgilian	Wabaunsee	Howard	-	238.80	243.10
Pennsylvanian	Virgilian	Wabaunsee	Severy	-	243.10	265.50
Pennsylvanian	Virgilian	Shawnee	Topeka	Coal Creek	265.50	292.00
Pennsylvanian	Virgilian	Shawnee	Calhoun	-	292.00	292.80
Pennsylvanian	Virgilian	Shawnee	Deer Creek	Ervine Creek	292.80	331.00
Pennsylvanian	Virgilian	Shawnee	Tecumseh	-	331.00	341.50
Pennsylvanian	Virgilian	Shawnee	Lecompton	Avoca	341.50	369.00
Pennsylvanian	Virgilian	Shawnee	Kanawaka	-	369.00	370.00
Pennsylvanian	Virgilian	Shawnee	Oread	Kereford	370.00	422.30
Pennsylvanian	Virgilian	Douglas	-	-	422.30	478.40
Pennsylvanian	Missourian	Lansing	Stanton	South Bend	478.40	494.70
Pennsylvania	Missourian	Lansing	Stanton	Rock Lake	494.70	500.00
Pennsylvanian	Missourian	Lansing	Stanton	Stoner	500.00	515.10
Pennsylvanian	Missourian	Lansing	Vilas	-	515.10	516.40
Pennsylvanian	Missourian	Lansing	Plattsburgh	-	516.40	523.40
Pennsylvanian	Missourian	Kansas City	Bonner Springs	-	523.40	526.50
Pennsylvanian	Missourian	Kansas City	Wyandotte	Farley	526.50	565.00
Pennsylvanian	Missourian	Kansas City	Lane	-	565.00	567.40
Pennsylvanian	Missourian	Kansas City	Iola	-	567.40	590.00
Pennsylvanian	Missourian	Kansas City	Chanute	-	590.00	594.40
Pennsylvanian	Missourian	Kansas City	Drum	-	594.40	602.50
Pennsylvanian	Missourian	Kansas City	-	-	602.50	628.30
Cambrian	Undifferentiated	-	Elk Creek Carbonatite	-	628.30	952.00

Test Hole 2-B-71 or NN-1
Source: McCallum and Cathro, 2010

7.6 Structural Geology

On the basis of data provided to carry out this structural study, SRK concludes that the Elk Creek project contains five main sets of brittle faults variably cutting through the Pennsylvanian rocks and the carbonatite boundary which appears to be tectonic. The orientations of the faults were determined by comparing ATV logs with specific SRK customized structural core logging data, and by undertaking a preliminary interpretation of the provided geophysics images.

SRK has used this data to model the fault pattern in 3-D for use in further resource estimation and geotechnical studies. The overall fault model included approximately 28 structures with the vicinity of the Elk Creek deposit with varying levels of confidence. Based on a review within the mineralization at least three key northeast trending faults have been identified and used during the geological model process

The joints and veins define orientation sets comparable to the fault trends. Hematite veins, which may be up to a meter thick, represent the weakest fault and joint infilling material which may be problematic for mining and should therefore be given more attention during any future geotechnical studies.

7.7 Mineralization

The property hosts niobium, niobium and Scandium mineralization as well as REE and barium mineralization that occurs within the Elk Creek Carbonatite. The current known extents of the Carbonatite unit are approximately 950 m along strike, 300 m wide, and 750 m in dip extent, below the unconformity. For the purposes of this report, niobium, titanium and scandium are considered the main elements of interests, within additional background on REE mineralization included and discussed below.

In the Molycorp database, nearly every drillhole contains a separate geological report summarizing rock types, assay results and associated petrographic descriptions identifying niobium and/or REE minerals. Niobium is reported to be hosted in pyrochlore and REE mineralization is reported to occur as bästnasite, parisite, synchysite and monazite. SRK highlighted during the 2014 NI 43-101 Technical Report that the level of detail shown in the geological reports has not been transferred to the electronic database in completeness, this has been improved in the revised database with Dahrouge geologist familiar with the current logging codes, conducting a review of the historical logs, reports and available drill core to provide an updated geological database.

7.7.1 Niobium Mineralization

The deposit contains significant concentrations of niobium. Based on the metallurgical testwork completed to date at a number of laboratories using Qemscan analysis, the niobium mineralization is known to be fine grained, and that 77% of the niobium occurs in the mineral pyrochlore while the balance occurs in an iron-titanium-niobium oxide mineral of varying composition.

7.7.2 Additional Elements of Economic Interest

Within the Elk Creek Carbonatite a host of other elements exist with varying degrees of concentration. The Company has completed both whole rock analysis and multi-element analysis on all samples for the 2014 program, plus resampling of selected historical core/pulps between 2011 and 2014.

As the metallurgical testwork advanced (discussed in Section 13.3 of this report) during 2014 and 2015 the ability to obtain a titanium dioxide (TiO_2) and Scandium (Sc) product, became apparent. TiO_2 is typically found to be related to the niobium grades with a range of between 3:1 to 4:1 found within the core of the deposit. The Scandium mineralization does not directly correlate to niobium mineralization but does show a grade increase with increasing niobium at low grades, but then a scatter of grades (on average considered higher grades 60 to 80 ppm, within the mdolCarb units.

7.7.3 Rare Earth Element Mineralization

Within the Elk Creek Carbonatite complex there are several occurrences of REE mineralization, including the Project. REE mineralization within the Carbonatite occurs within the following minerals:

- Bästnasite ([Ce,La,Y]CO3F);
- Parisite (Ca[Ce,La]2[CO3]3F2);
- Synchysite (Ca(Ce,La)[F|CO3]2); and
- Monazite ([Ce,La]PO4).

A review of historic documents for drillhole EC-93, and part of Quantum's re-sampling program due to the high grade REE mineralization as noted in the Molycorp drill logs includes an excerpt as follows:.

"Barite beforsite is the predominant lithology from 149.4 to 304.8 m. It contains xenoliths of syenite, older mafic rocks, and apatite beforsite I, and is intruded by younger mafic rocks. Intervals 33 m (100 ft) long contain 2.13% to 2.75% LnO from 149.4 to 274.3 ft. An interval 18.3 m long at 179.8 to 198.1 ft contains 3.89% LnO. The highest grade mineralization intercepted was 3.0 m at 4.72% LnO at 155.4 to 158.5 m. Lanthanide minerals occur as radial patches and random aggregates of needles, irregular patches and vein-like aggregates. The aggregates occur with and without quartz. The aggregates appear as light-gray patches in reddish-brown, hematite-altered beforsite. Although individual lanthanide mineral grains are in the micrometer size range, aggregates of lanthanide minerals range from 0.23 to 8.0 mm. in maximum dimension. Monazite and bästnasite have been identified in the aggregates, and EDX spectra show Ce > La."

It should be noted that Molycorp term's LnO, or rare-earth oxides (REO) incorporates lanthanum, cerium and neodymium along with the other 12 rare earth elements.

Present day nomenclature for REE is shown in Table 7.7.3.1.

Table 7.7.3.1: List of Elements and Oxides Associated REE Mineralization

Element	Element Acronym	Compound	Common Oxides
Associated Elements and Oxides			
Niobium	Nb	Nb_2O_5	
Light Rare Earth Metals and Oxides (LREO)			Total Rare Earth Oxides
Lanthanum	La	La_20_3	
Cerium	Ce	Ce_20_3	
Praseodymium	Pr	Pr_20_3	
Neodymium	Nd	Nd_20_3	
Samarium	Sm	Sm_20_3	
Heavy Rare Earth Metals and Oxides (HREO)			
Europium	Eu	Eu_20_3	
Gadolinium	Gd	Gd_20_3	
Terbium	Tb	Tb_20_3	
Dysprosium	Dy	Dy_20_3	
Holmium	Ho	Ho_20_3	
Erbium	Er	Er_20_3	
Thulium	Tm	Tm_20_3	
Ytterbium	Yb	Yb_20_3	
Lutetium	Lu	Lu_20_3	
Yttrium	Y	Y_20_3	

8 Deposit Type

The Elk Creek Nb-REE deposit is hosted within the Elk Creek Carbonatite. By definition a carbonatite is an igneous rock body with greater than 50% modal carbonate minerals, mainly in the form of calcite, dolomite, ankerite, or sodium- and potassium-bearing carbonates. Carbonatites commonly occur as intrusive bodies, such as isolated sills, dikes, or plugs, although rarely occur as extrusive rocks. Many carbonatites are associated with alkali silicate rocks (for example, syenite, nepheline syenite, ijolite, urtite, pyroxenite, etc.). Carbonatites are usually surrounded by an aureole of metasomatically altered rocks called fenites. Carbonatite-associated deposits can be classified as magmatic or metasomatic types (Richardson and Birkett, 1996).

Carbonatites have been classified based on chemical classification into four classes (Woolley and Kempe, 1989; Wyllie and Lee, 1998), and further subdivided based on mineralogical and textural characteristics:

- Calcio-carbonatite coarse-grained: *sövite*, and finer-grained: *alvikite;*
- Magnesio-carbonatite dolomite-rich: *beforsite*, and ankerite-rich: *rauhaugite;*
- Ferro-carbonatite (iron rich carbonates); and
- Natro-carbonatite (sodium-potassium-calcium carbonates).

The use of a chemical classification of carbonatites should be used with caution when replacement, or metasomatic, processes have altered the primary composition of the carbonatite rock (Mitchell, 2005).

The majority of carbonatite deposits are located within stable, intra-plate crustal units, although some are linked with orogenic activity, or plate separation. It is also important to note that carbonatites tend to occur in clusters, and in many places there has been repetition of activity over time (Woolley, 1989).

Worldwide, carbonatite deposits are mined for niobium, REE, iron, copper, phosphate (apatite), vermiculite and fluorite; with barite, zircon/baddeleyite, tantalum and uranium as common by-products (Richardson and Birkett, 1996).

9 Exploration

The Carbonatite is covered by approximately 190 – 200 m of Pennsylvanian sedimentary rocks. No surface exploration has been completed with the 2014 exploration program focusing on infill drilling of the existing Mineral Resource using diamond drilling methods. The following section provides a summary of the 2012 NI 43-101 Technical Report for the exploration work completed by the Company since acquiring the Project in 2010.

9.1 Quantum, 2010-2011

9.1.1 Data Compilation, 2010-2011

During 2010, the Company contracted Dahrouge to undertake a compilation of all Molycorp hard copy data and digitize all paper files, including drill logs and accompanying drill core geological reports, internal memos and other historic reports.

The historic drill core logs feature almost all the 106 Molycorp drillholes, and four (out of five) Cominco American drillholes. Eight historic Molycorp drill logs were not available in the historic database.

The information gathered by Dahrouge has been compiled into a Central Database (“Elk Creek Database”) using CAE Mining Fusion software.

9.1.2 Quantum Re-sampling Program, 2010

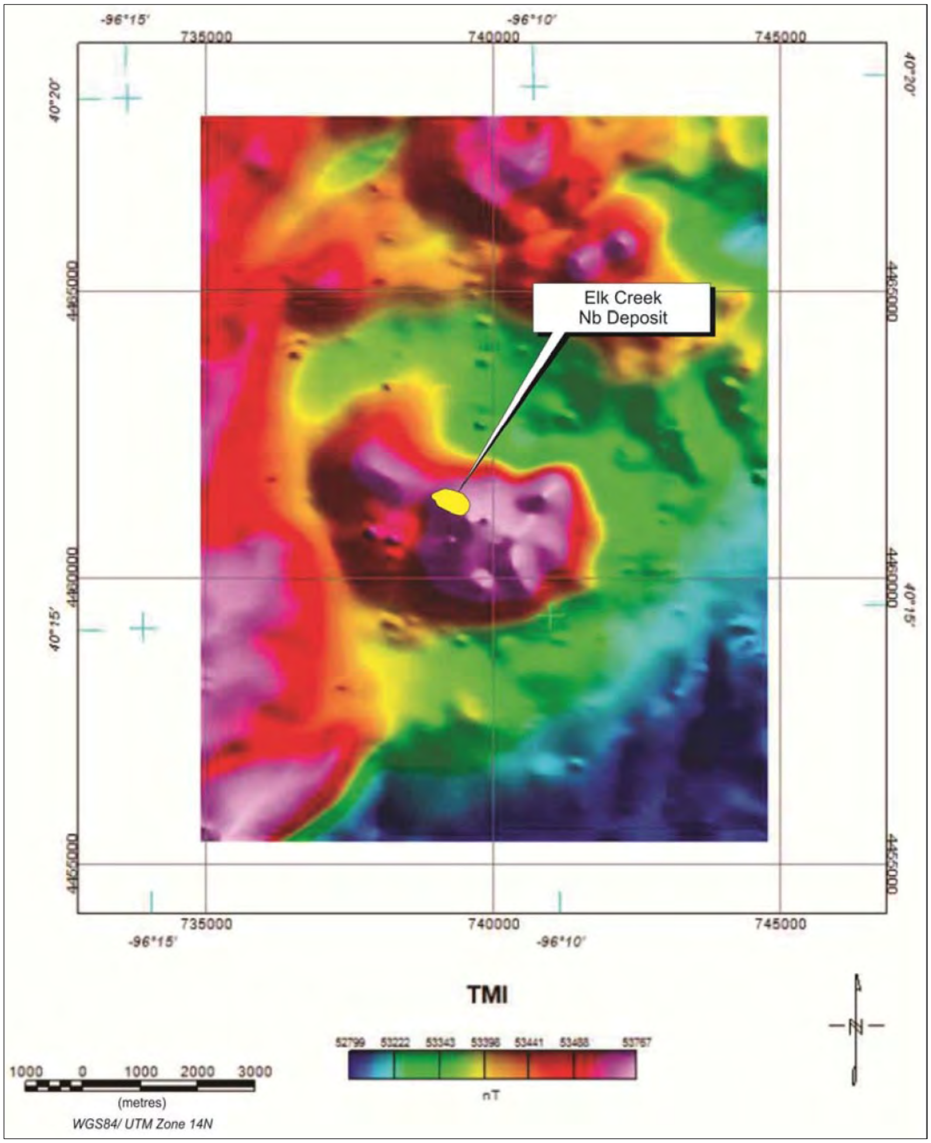
Commencing in November 2010, the Company contracted Dahrouge to undertake a re-sampling of the historic drill core pulps as part of a QA/QC program to ascertain the reliability of the historic drill core assay results and to obtain more detailed analysis of the REE content of the samples. The samples were re-analyzed separately by XRF. The Nb_2O_5 assay results were validated and incorporated into the Elk Creek database.

SRK has reviewed the results of the program and confirms that it has followed current industry standards in the preparation and correlation of the database.

9.2 Quantum, 2011-2012

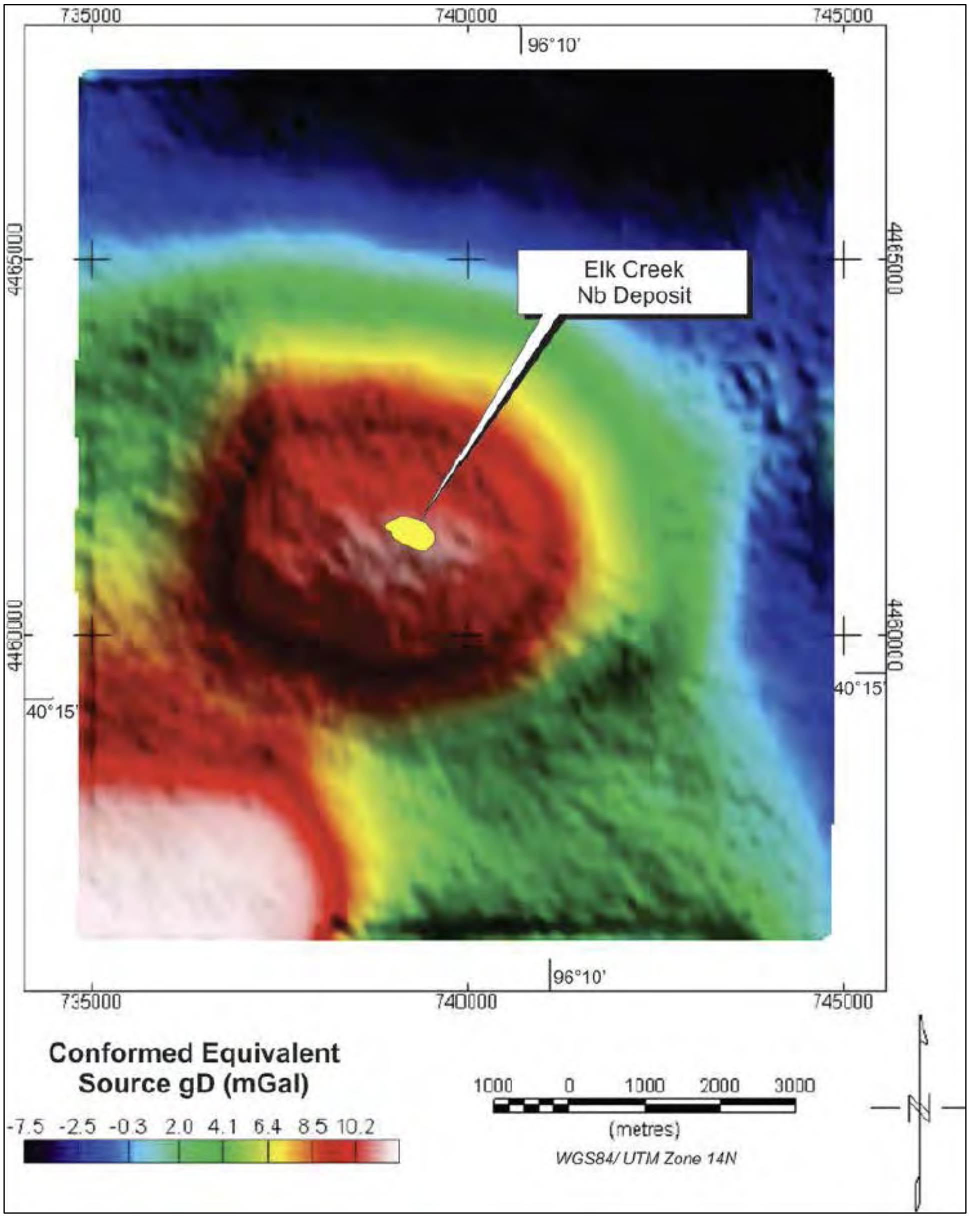
9.2.1 Airborne Gravity and Magnetic Geophysical Survey, 2011

In April 2011, Quantum commissioned Fugro of Ottawa, ON, to conduct high-resolution FALCONTM airborne gravity gradiometer (gD) and total magnetic intensity (TMI) geophysical surveys. The results of the gravity and magnetic geophysical surveys are shown in Figures 9.2.1.1 and 9.2.1.2 below.



Source: Tetra Tech, 2012

Figure 9.2.1.1: Airborne Total Magnetic Map



Source: Tetra Tech, 2012

Figure 9.2.1.2: Gravity Gradiometer Map

The survey area was centered on the Elk Creek deposit and covered a total area of approximately 110 km^2 (approximately 10 by 11 km) around the deposit. A total of 1,176 line km were flown. Flight lines were oriented 000/180° azimuth on a nominal line spacing of 100 m. Five tie lines were flown, oriented at 090°/270° azimuth, spaced 2,750 m apart. All flight lines were flown at a nominal clearance of 100 m (Fugro, 2011).

9.3 Significant Results and Interpretation

It has been noted that the 2011-2012 geophysical surveys closely match the results of the CSD and UNL geophysical surveys in the early 1970's confirming the original gravity anomaly.

Subsequently, in October 2011, Colorado-based Condor Consulting Inc. (Condor) was retained by the Company to process and analyze the FALCONTM gravity and magnetic geophysical survey data. Condor noted coincident gravity and magnetic anomalies traversing 1,200 m to the east from the known Elk Creek deposit. Several anomalies of higher relative density and magnetization have also been identified outside of the drilled prospect area (Condor, 2011).

No further geophysical studies targeting the Elk Creek carbonatite have been completed as part of the current phase of exploration. SRK considers the exploration programs completed at the Elk Creek deposit to date to be appropriate for the style of mineralization.

10 Drilling

10.1 Type and Extent

Drilling at the Project was conducted in three phases. The first was during the 1970's and 1980's by Molycorp, the second in 2011 by Quantum, and the third and latest program in 2014 by NioCorp. To date, 129 diamond core holes have been completed for a total of 64,981 m (Figure 10.1.1). All drilling has been completed using a combination of Tricone, Reverse Circulation (RC) or diamond drill core (DDH) drilling in the upper portion of the hole within the Pennsylvanian sediments. All drilling within the Carbonatite has been completed using diamond coring methods.

To date, local labor has been used by drilling contractors when preparing the drillhole pads. All drilling has been completed using standardized procedures which are in line with international standards of best practice. The drilling completed by Molycorp was completed by using company owned equipment and sampling procedures. The drilling companies used by the Company during the 2011 and 2014 drilling programs are detailed below:

- 2011: Black Rock Drilling, LLC (BRD Personnel and Leasing Corp.), 17525 E Euclid Ave, Spokane Valley, WA 99216;
- 2014: Envirotech Drilling LLC, 900 East 4th Street, Winnemucca, NV 89445
- 2014: West-Core Drilling, LLC (561 W Main Elko, NV 89801 USA); and
- 2014: Idea Drilling, 1997 9th Avenue North, Virginia, MN 55792.

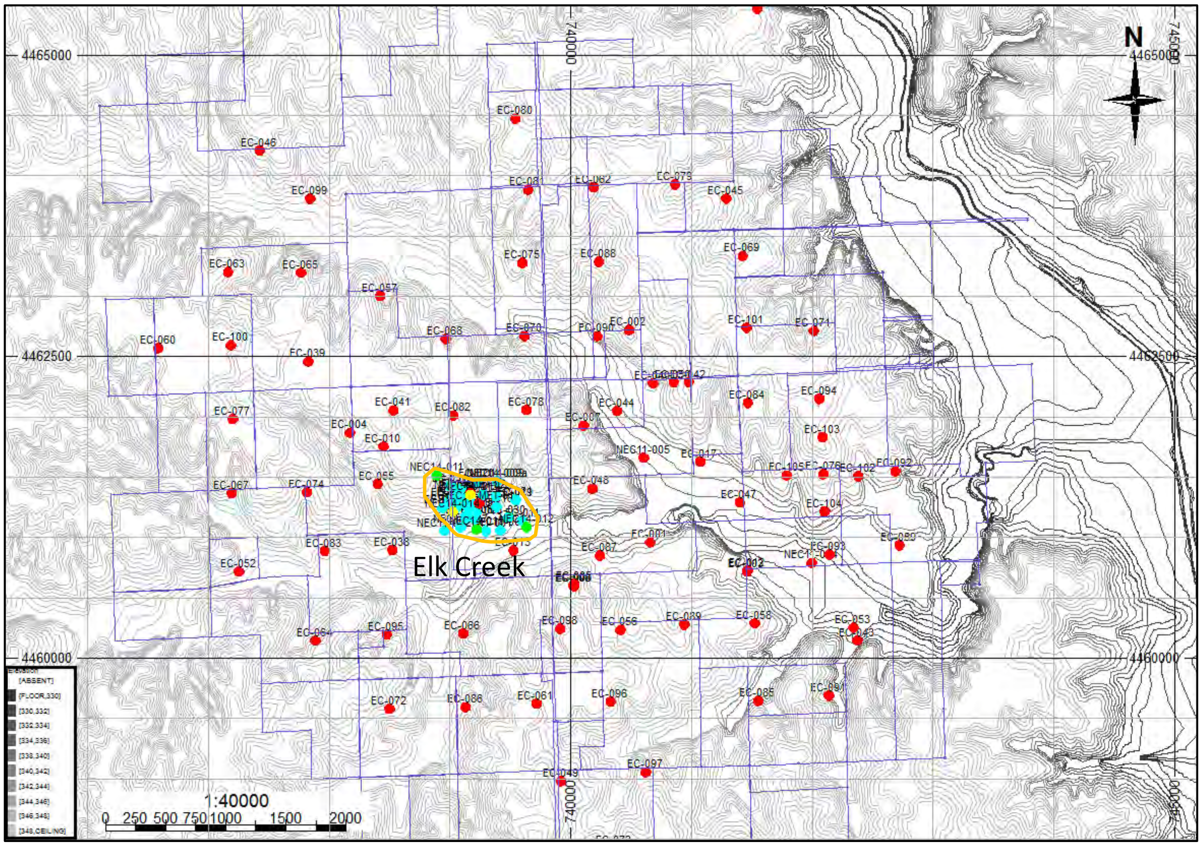
The drilling has been completed using conventional techniques, using experienced drilling contractors. A portion of the 2014 drillholes used RC drilling within the Pennsylvanian sediments, to increase the efficiency in drilling through the cover material, within areas of strong geological confidence.

The following sections provide a brief summary of the drilling completed by Molycorp, Quantum and NioCorp (as shown in Table 10.1.1).

Table 10.1.1: Summary of Drilling Database within the Geological Complex

Year	Company	Number of Holes	Average Depth (m)	Sum Length (m)
1970-1980	Molycorp	106	434.7	46,078.3
2011	Quantum	5	684.0	3,419.9
2014	NioCorp	18	845.4	15,482.8
Subtotal		**129**	**501.7**	**64,981.0**

Source: SRK, 2014



Source: SRK, 2015

Figure 10.1.1: Drillhole Location Map of All Drilling vs. the Topographic Contour

Not all of the drillholes within the Project were used in the Mineral Resource estimation that accompanies this report, as many do not intersect the Nb_2O_5 anomaly and are located at a significant distance away from the deposit. Of the 129 total drillholes within the Project, 48 drillholes are within the Elk Creek niobium deposit area. Table 10.1.2 summarizes the drillholes within the Elk Creek niobium deposit area, which were used in the Mineral Resource estimation.

Table 10.1.2: Summary of Drilling Database within Elk Creek Deposit Area

Year	Company	Number of Holes	Average Depth (m)	Sum Length (m)
1970-1980	Molycorp	27	596.6	16,108.2
2011	Quantum	3	772.6	2,317.7
2014	NioCorp	18	845.4	15,482.8
Subtotal		**48**	**700.9**	**33,908.7**

Source: SRK, 2015

10.2 Molycorp, 1973-1986

Between 1973 and 1986, Molycorp completed a regional scale drill program over approximately 7 by 7 km gravity anomaly that includes the Elk Creek niobium deposit. The total program consisted of 106 drillholes for a total of approximately 46,078 m. Outside the Elk Creek niobium deposit area, the regional drill program was conducted on a regular grid of 610 by 610 m (2,000 by 2,000 ft) with some closely spaced holes in selected areas within the gravity anomaly. A more detailed description of this program may be found in Section 6.2.6 in this report.

Included in this total, some 27 holes for 16,108 m were drilled over the deposit. Drilling orientations varied considerably.

The Molycorp drillhole locations centered over the Elk Creek niobium anomaly are presented in Figure 10.1.1 (shown in blue).

10.3 Quantum, 2011

In April 2011, Quantum conducted a preliminary drill program (three holes) on the Elk Creek niobium deposit and two REE exploration targets (two holes), which have been excluded from the current Mineral Resource estimation, as they do not intersect the Nb_2O_5 anomaly and are located to the east. The objectives of the drill program over the Project were to verify the presence of higher grade niobium mineralization at depth, and to infill drill the known niobium deposit in order to upgrade the resource category of the previous resource estimate and expand the known resource. The drill program was also established to collect sufficient sample material for metallurgical characterization and process development studies of the niobium mineralization.

The 2011 program consisted of five inclined drillholes, totaling 3,420 m of NQ size diameter core.. Inclusive of this total, three drillholes, totaling 2,318 m were drilled into the known Elk Creek deposit. The summary of the 2011 drill program is listed in Table 10.3.1.

Table 10.3.1: Summary of 2011 Drill Program

Drillhole	UTM Easting	UTM Northing	Elevation (m)	Depth (m)	Bearing (º)	Dip (º)
NEC 11-001	739299	4461052	341.49	900.38	28.1	-72.0
NEC 11-002	738955	4461058	343.88	908.61	33.5	-61.0
NEC 11-003	739417	4461060	340.79	508.71	34.3	-55.9
Outside Elk Creek Niobium Deposit; REE Exploration Targets						
NEC 11-004	741997	4460790	333.65	465.73	80.7	-55.6
NEC 11-005	740604	4461660	337.48	636.42	95.7	-56.0
Total				**3,419.85**		

Source: Tetra Tech, 2012

Hole NEC11-001 targeted the eastern portion of the deposit below historic drillhole EC-11 and between vertical holes EC-27 and EC-30. Hole NEC11-002 was drilled into the northwestern portion of the deposit. Hole NEC11-003 was drilled into the southeastern portion of the deposit. Drillholes NEC11-004 and 005 drilled into regional REE targets are not subject to this report and have been excluded from the Mineral Resource estimate.

The Quantum 2011 drillhole locations centered over the Elk Creek Niobium anomaly are presented in Figure 10.1.1 (shown in green).

Results from the 2011 drilling program provided additional information on areas of the deposit at depth where limited information was previously available. The drillholes confirmed the high-grade potential of the niobium mineralization, as indicated by previous drilling completed by Molycorp.

10.4 NioCorp 2014 Program

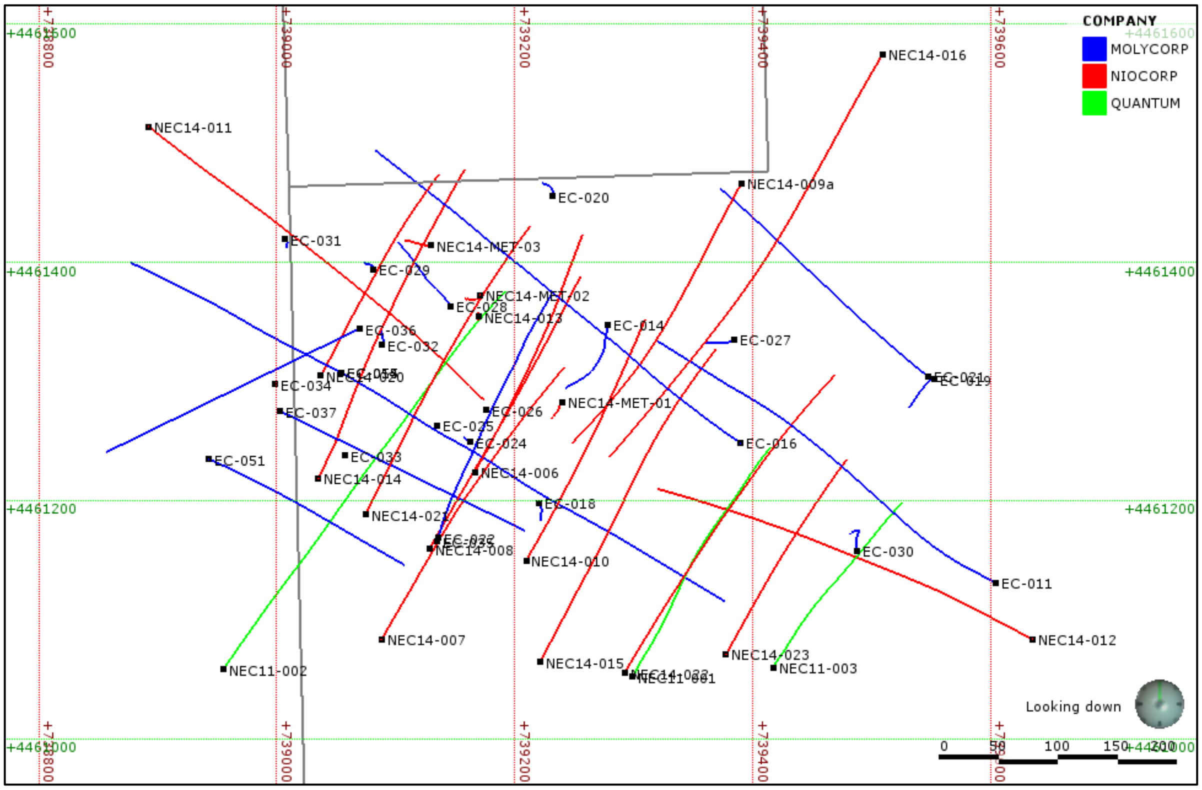
NioCorp commenced drilling on the Elk Creek deposit using a three phased program with the aim of increasing the confidence in the 2012 Mineral Resource estimate from Inferred to Indicated. The three phased program was originally based on 14 drillholes for approximately 12,150 m (announced in a press release on April 29 2014), but was subsequently expanded during the program to 18 drillholes for approximately 15,482 m. Three of the 18 drillholes were drilled for the purpose of metallurgical characterization and process development studies. Two of these drillholes, NEC14-MET-01 and NEC14-MET-02 were not assayed, while NEC14-MET-03 was quarter cored with one quarter being assayed and the remainder used for metallurgical testwork. The drilling has been orientated to intersect the geological model from the southwest and northeast (perpendicular to the strike), with the exception of NEC14-011 and NEC14-012, which were oriented southeast and northwest, respectively.

The NioCorp 2014 drillhole locations (shown in Table 10.4.1) are presented in Figure 10.4.1 (shown in red). The grey lines in Figure 10.4.1 are the mineral lease boundaries.

Table 10.4.1: Summary of NioCorp 2014 Phase 1 Drill Program

Drillhole	UTM Easting	UTM Northing	Elevation (m)	Depth (m)	Bearing	Dip	Comments
NEC14-006	739166.2	4461224.0	352.0	772.7	30	-70	
NEC14-007	739088.2	4461083.5	344.8	907.4	30	-70	
NEC14-008	739128.1	4461159.4	351.2	886.1	30	-70	
NEC14-009	739390.2	4461466.2	349.3	751.3	210	-70	
NEC14-009a	739390.2	4461466.2	349.3	897.0	210	-70	Wedge from 485.51m
NEC14-010	739209.5	4461149.8	347.8	796.1	30	-70	
NEC14-011	738892.5	4461513.6	359.7	900.4	125	-65	
NEC14-012	739635.1	4461083.4	339.9	843.2	300	-65	
NEC14-013	739169.3	4461354.3	355.2	880.3	360	-90	
NEC14-014	739034.8	4461218.6	346.1	901.0	30	-75	
NEC14-015	739221.1	4461064.7	342.4	827.8	30	-70	
NEC14-016	739509.1	4461574.7	354.7	913.8	210	-60	
NEC14-020	739037.1	4461305.0	348.4	587.7	30	-70	
NEC14-021	739074.3	4461188.5	347.1	865.0	30	-70	
NEC14-022	739292.2	4461055.3	340.3	950.4	30	-69	
NEC14-023	739377.6	4461071.0	341.5	615.1	30	-70	
NEC14-MET-01	739240.4	4461282.7	352.8	894.7	360	-90	
NEC14-MET-02	739171.1	4461372.4	355.8	865.0	360	-90	
NEC14-MET-03	739129.9	4461414.5	355.4	913.3	360	-90	
Subtotal				**15,968.3***			

Source: SRK, 2015
* Does not equal total drilled meters due to NEC14-009a beginning at a depth of 485.51 m, total meters for 2014 drilling program is 18 holes for 15,482.8 m.



Source: SRK, 2015

Figure 10.4.1: Elk Creek Drillhole Location Map by Company

10.5 Procedures (NioCorp 2014 Program)

Detailed descriptions of Molycorp's drilling, sample procedures, analyses and security have not been documented and reviewed by SRK. Given Molycorp's position as a leader in the rare earth industry at the time, it is likely Molycorp applied Industry best practice for the time period. The 2011 drilling campaign was managed by Dahrouge and SRK under the same quality and procedures used in the current study. The 2014 drilling program includes a quality control program to ensure the results can be used to verify earlier drilling results and add confidence to the overall understanding of the deposit.

For the 2014 drilling program planned drillhole collars were initially located using a handheld GarminTM Global Positioning System (GPS) and marked with wooden stakes. A tracked excavator was used to construct the drill pad and collars were then relocated using the GPS with wooden stakes after pad construction. A geological compass and an azimuth pointing system (APS) was used to sight in the drill to the planned azimuth and inclination.

The 2014 core drilling was conducted by both West-Core Drilling and Idea Drilling, both private contractors. West-Core used both an AVD R40 track-mounted core drill and an Atlas Copco CS-14 track-mounted core drill, while Idea used an Atlas Copco CT-20 truck-mounted core drill. Overburden was cased in all drillholes to depths ranging from 18 to 37 m. The Pennsylvanian limestones and mudstones overlying the target carbonatite were drilled PQ-sized core and HQ-sized core for drillholes NEC14-020 to NEC14-023. The Carbonatite was drilled with HQ-sized core, with the exception of the three metallurgical holes (NEC14-MET-01, NEC14-MET-02 and NEC-14MET-03), which were drilled completely using PQ-sized core. Core size reduction took place just beneath the Pennsylvanian-carbonatite contact at depths ranging from 206 to 238 m. The core drilling rigs operated 24 hours/day and 7 days/week, with typical progress of 40 m/day.

During the drilling operation, the core is retrieved from the core barrel and laid sequentially into wooden core boxes by the drilling contractor. Interval blocks are then placed at all run breaks. Once the box is full, the ends and top of the box are labeled with drillhole identification and the sequential box number. Upon completing a box, it is stacked on a pallet or on a truck bed at the drill rig. At the end of each drilling shift, the boxes of core are transported by the drilling contractor in a pickup truck to the NioCorp field office. At this point, the core is in the custody of Dahrouge Geological Consulting Ltd. (Dahrouge). Eight of the 2014 drillholes had piezometers installed in them after drilling was complete. For these drillholes, surface completion consisted of surface casing capped with a locking steel cover, a 1.2 square meter cement pad around the surface casing and a steel name plate attached to the casing. Surface completion for the drillholes that did not have piezometers installed consisted of a steel marker post and attached name plate. All name plates include drillhole number, total depth and orientation. Abandonment of the drillholes consisted of cementing from total depth to surface in the non-piezometer drillholes and from total depth to the bottom of the piezometers in the other drillholes with piezometer installations.

10.5.1 Collar Surveys

All hole collars were initially surveyed prior to drilling using a handheld GPS. On completion of the hole an external contractor ESP INC. (Engineering/Surveying/Planning), based in Lincoln, Nebraska, has been used to provide a detailed survey of the collar location using a using a Sokkia GS2700 IS GPS, which has 10 mm horizontal and 20 mm vertical accuracy. Data has been provided to SRK in digital format in UTM (NADS83 Zone 14) grid coordinates.

The location of 24 of the 29 Molycorp drill collars and re-excavated if required to locate the drillhole in 2011 over the Elk Creek niobium deposit, were surveyed using the same UTM coordinate system by CES Group P.A. Engineers & Surveyors (CES), based in Kansas City, Missouri.

10.5.2 Downhole Surveys

Initial collar surveys of dip and azimuth have been taken using compass measurements for all holes (RC and DD). Downhole surveying has been undertaken on historical Molycorp holes drilled into below the Pennsylvanian sediments at an interval of 30.48 m (100 ft).

The 2011 drilling program was surveyed at 3.05 m (10 ft) intervals, based on the drilling rod lengths used at the time. All drillholes were surveyed immediately after completion of drilling. Downhole deviations, subsurface azimuth and dip, were mapped using a Devico DeviFlex survey tool, which is a nonmagnetic, electronic, multi-shot tool. The DeviFlex tool consists of two independent measuring systems, while three accelerometers and four strain gauges used to calculate inclination and change in azimuth.

The DeviFlex tool communicates with a PDA and the survey results can be viewed on the PDA immediately after completion of the survey. Dahrouge geologists checked the downloaded data for possible errors and inconsistencies and some readings were removed for quality control purposes.

The DeviFlex output contains a column for possible tool movement during surveying. In the event there was potential tool movement, that particular reading was removed from the dataset.

The DeviFlex tool records changes in azimuth, as opposed to absolute azimuth measurements. Because of this an initial (surface) survey azimuth is required to calibrate the DeviFlex downhole azimuth readings. CES surveyed all initial drillhole azimuths by surveying the azimuth of the drill rods extruding from the ground during drilling. These initial azimuth readings were used to calibrate the DeviFlex downhole change in azimuth readings and calculate absolute azimuth measurements.

The 2014 drilling program was surveyed at 6.1 m (20 ft) intervals using a Reflex GYRO survey tool. Dahrouge geologists operated the GYRO and collected the surveys. Downhole deviations, subsurface azimuth and dip, were mapped with the GYRO, which utilizes a digital MEMS-gyro non-magnetic assemblage. The Gyro tool is used to mitigate magnetic deviation caused by metal equipment, or naturally occurring minerals such as magnetite and pyrrhotite which occur in the deposit.

These surveys are synchronized electronically with a receiver at surface, and recordings are collected every 30 seconds, after the tool has had a chance to equilibrate. The Reflex GYRO has an integrated APS (Azimuth Pointing System) that is used to orientate the True North azimuth, a GPS position and degree of inclination. Downhole surveys are completed through the drill rods and location data points are collected every 6.1 m (~20 ft).

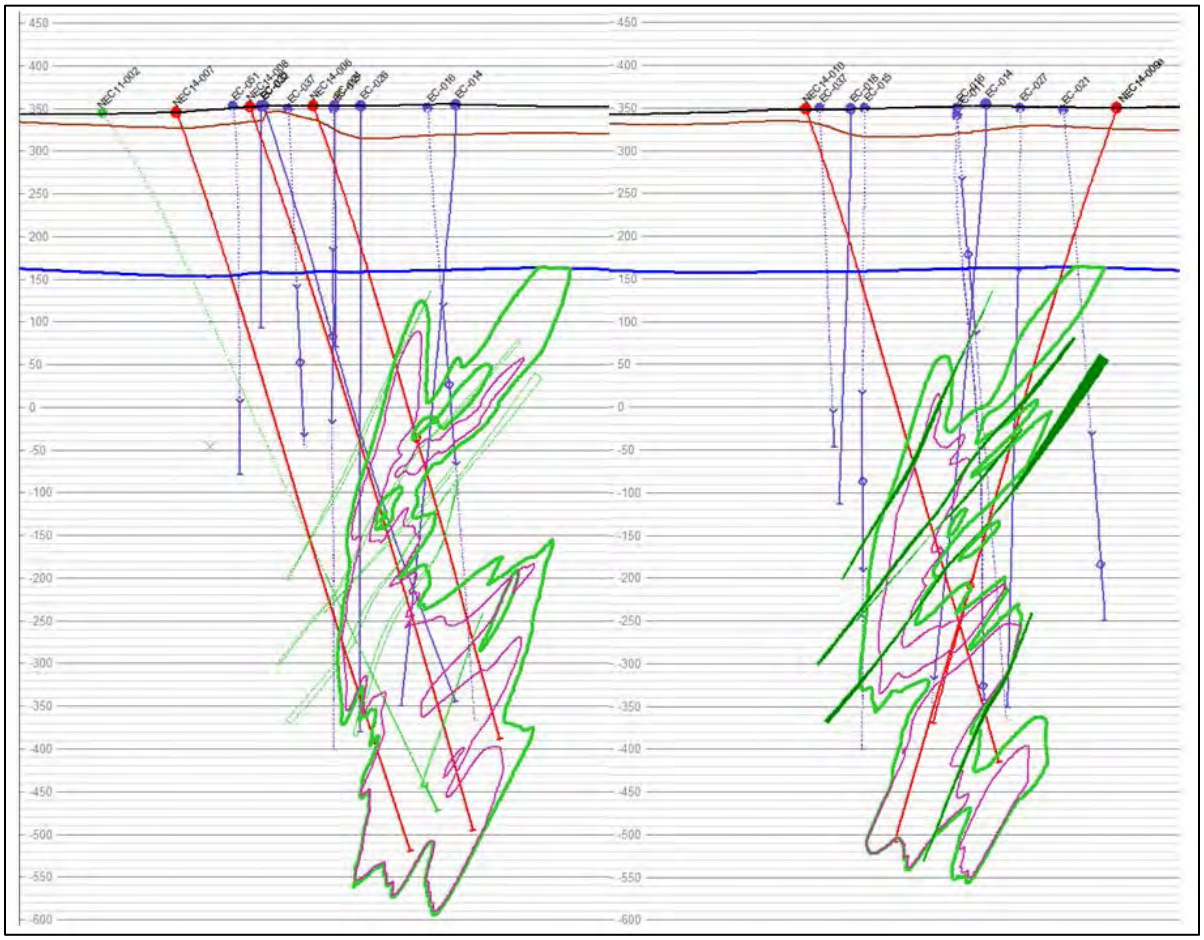
SRK considers the methods used for the downhole surveying during the 2011 and 2014 campaigns to be in line with Industry best practice. Given the long hole lengths of over 700 m, the Company has used suitable techniques to provide a continuous (ranging from 3 to 6 m), measure of the drillhole trace from the base of the hole. The use of a Gyro has avoided any potential issues due to the magnetic nature of the rocks. The confidence in the hole location of the Molycorp drilling is considered lower due to their historic nature and the wider measurement spacing. Overall SRK consider the level of confidence in the downholes surveys to be sufficient for the declaration of an Indicated level of Mineral Resource.

10.6 Interpretation and Relevant Results

The drilling has been conducted by reputable contractors using industry standard techniques and procedures. This work has confirmed the presence of niobium, titanium and scandium mineralization hosted in dolomite-carbonatite and lamprophyre rocks. In general the Lamprophyre is niobium depleted, but contacts between Lamprophyre and Carbonatite may be enriched.

The historic drillholes within the deposit and Mineral Resource area were not conducted on a systematic grid and drill spacing varies from 25 to 225 m. The major drilling direction used by NioCorp has been towards the northeast (Figure 10.6.1). Two sets of scissor holes were drilled to the southwest on separate drilling lines within the central portion of the deposit, to confirm that there is no directional bias in the selected hole orientation.

The majority of the holes have inclinations in the order of 60° to 70°. The use of scissor holes has confirmed the sub vertical nature of the southwest contact (Figure 10.6.1)



Source: SRK, 2014

Figure 10.6.1: Typical Cross-sections looking northwest showing NioCorp Holes Drilled to the Northeast and Southwest, Confirming the Width of the Deposit

SRK is of the opinion that the drilling operations were conducted by professionals using industry best practice that the core was handled, logged and sampled in an acceptable manner by professional geologists, and the results are suitable for support of a NI 43-101 compliant resource estimation.

11 Sample Preparation, Analysis and Security

The following section summarizes the sampling methodology used by Molycorp and the Company during the historic drilling, the 2011 and the 2014 drill programs.

11.1 Molycorp, 1973-1986

Detailed descriptions of Molycorp's sample procedures, analyses and security have not been documented and reviewed by SRK. However, given the detailed nature of the historic drill logs and reports for the individual drillholes, and Molycorp's position as a leader in the rare earth industry at the time, it is considered likely that Molycorp applied the same standards to their sampling procedures.

A review of previous Technical Reports details by Ms. Beverly Beethe, a sampling technician for Molycorp, recalled the following procedures:

- The drill core was photographed;
- The drill core was split with a hydraulic core splitter;
- The core was crushed on-site, before sending samples to the lab (the crusher is no longer on site); and
- The core crusher was cleaned between samples by using limestone blank material.

Complete details of the sampling procedures were unclear as to whether the procedures had changed over the period of the drill programs. Photographs of the core were not included with Molycorp's available historic records.

Molycorp built two well-insulated, steel buildings, located on the property of Ms. Elda Beethe (Lease Agreement Beethe_008), within 100 m of the known deposit. The buildings were ceded to Ms. Beethe when Molycorp abandoned the Project. The following italicized text is excerpted from McCallum and Cathro 2010, which provides the best detail on the known and assumed methods used during Molycorp drilling:

"It is also uncertain what methods were used to crush, pulverize, blend and split any of the original 10' intervals and composite intervals. In order to confirm some of the analyses of Molycorp's internal laboratory, some of the 10' intervals were split and combined into either 50' or 100' composites and sent to commercial laboratories for independent assays. The procedure of creating the larger composites is unknown at this time."

Drill core samples collected were sent to Molycorp's exploration laboratory at Louviers, Colorado for niobium and LnO analysis. The analytical methods are described in an internal memo by Sisneros and Yernberg, 1983, where "…Niobium was analyzed by wavelength dispersive XRF on pressed powder pellets, following pulverization to -325 mesh. Molycorp did include some quality control methods. Standardization was provided by using a variety of Elk Creek samples, which had been analyzed by alternative methods at other internal Molycorp laboratory facilities. Over the project duration, the number and/or identification of the standards used changed several times. In 1981, the instrumentation changed from a Philips PW1212 to a PW1400." (Sisernos and Yernberg, 1983)

The assay tables from some of the holes (EC-27 and EC-30) indicate a 'tentative test' (XRF) of niobium value from Louviers laboratory, and a 'commercial lab test" (XRF) of niobium values. It is unclear which commercial laboratory conducted these tests, although the 1983 Niobium Analytical Standardization report mentions that the Molycorp exploration department occasionally utilized Bondar-Clegg. Notes on the assay tables indicate that the commercial laboratory utilized one standard (from hole EC-11) for its XRF analysis, whereas Louviers utilized 19 standards from hole EC-11.

The drill core, crushed (coarse reject), and pulverized material are currently being stored at a facility managed by the University of Nebraska-Lincoln (UNL). This facility is located approximately 8.5 km south of the town of Mead, Nebraska, and approximately 63 km northeast of Lincoln, Nebraska. The core was stored at two other storage facilities on UNL property, prior to its current location. Prior to the acquisition of the core by UNL in the early 2000s, the core was stored in the steel sheds on the property of Elda Beethe.

SRK completed a site visit to the Mead Core facility by Mr. Cody Bramwell on April 15, 2014. An inventory of the core was spot checked against a 2011 core inventory list originally compiled by Dahrouge and no discrepancies were found. The core investigation concentrated on 27 drillholes within the resource area. Table 11.1.1.1, is an inventory of core at the Mead facility filtered to include only the 26 drillholes within the resource area.

Table 11.1.1.1: Core Inventory of Drillholes within the Resource Area at the Mead Facility

Hole ID	Core Box Intervals		Depth		Missing Boxes
	Box # From	Box # To	From (m)	To (m)	
EC-11	7	41	207.6	310.3	1 - 6
EC-11A	1	180	233.2	769.6	
EC-14	13	188	43.9	707.1	1 - 12
EC-15	30	244	215.8	839.7	1 - 29
EC-16	7	218	214.6	817.5	1 - 6
EC-18	9	102	189.6	462.4	1 - 8
EC-19	9	178	194.2	664.2	1 - 8
EC-20	6	189	190.5	739.0	1 - 5
EC-21	6	156	210.3	644.3	1 - 5
EC-22	12	193	207.0	733.3	1 - 11
EC-24	11	39	191.7	281.9	1 - 10
EC-25	9	47	192.9	304.5	1 - 8
EC-26	14	191	199.3	733.0	1 - 13
EC-27 & 27A	13	186	202.4	702.0	1 - 12
EC-28	16	209	193.5	769.6	1 - 15
EC-29	14	182	196.9	726.0	1 - 13
EC-30	9	201	182.9	757.1	1 - 8
EC-31	16	117	203.3	512.4	1 - 15
EC-32	13	165	196.0	681.2	1 - 12
EC-33	14	83	199.0	405.4	1 - 13
EC-34	16	69	202.4	362.7	1 - 15
EC-35	6	27	192.0	260.0	1 - 5
EC-36	8	95	214.0	474.0	1 - 7
EC-37	14	87	239.9	457.5	1 - 13
EC-51	1	89	220.1	470.6	
EC-54	7	97	213.7	464.5	1 - 6

Source: SRK, 2014

An investigation of the drillholes within the resource area at the Mead facility led to the following conclusions:

- Core boxes were generally in good condition and labeled well;

- Not all of the historical core made it to the Mead facility with most drillholes missing between six and 26 of the first core boxes (Table 11.1.1.1);
- No drill core of the Pennsylvanian strata exists, hence no information on the strata was gathered;
- Drill core is typically NQ and some noted as being BQ;
- All drill core had been hydraulically split, removing the option of sampling for geotechnical purposes;
- Accurate geotechnical and hydrogeological parameters were difficult to estimate due to the core appearing to have been hydraulically split; and
- Identifying mineralization was difficult due to the fine grained nature of the rock and a lack of differences between mineralized and non-mineralized rock.

In addition to the drill core, there also exists an unknown inventory of sample pulps and rejects at the Mead facility.

11.2 Quantum Re-Sampling, 2010

The 2010/2011 re-sampling program utilized a included a total of 1861 samples of pulverized material from the Molycorp drillholes that were prepared by the analytical division of Molycorp. Samples were derived from 1.52 m (5 ft) or 3.05 m (10 ft) intervals of split NQ or HQ diameter size core. The samples were selected based on the geological interpretation at the time and in areas of elevated Nb_2O_5 values. Not all samples have been selected continuously within each drillhole. SRK confirmed evidence of the resampling during the site inspection to the Mead Core facility.

A rigorous QA/QC protocol was used, and included the routine insertion of field duplicates, laboratory pulp duplicates, blanks and niobium certified reference standards. Samples were transported to the ALS Chemex (ALS) facility in Reno, Nevada, and prepared for analysis at the ALS testing facility in North Vancouver, B.C., using method XE-XRF10, whereby samples are prepared by pulverizing to 90% passing -70 µm, then decomposed utilizing a lithium borate flux, and analysis by XRF. A portion of niobium results were checked with Hazen Research Inc. (Hazen) of Golden, Colorado (Quantum news release February 22, 2011).

11.3 Quantum Drilling Program, 2011

For the 2011 sampling program, a rigorous quality assurance and quality control protocol was established. It involved the routine insertion of field duplicates, laboratory pulp duplicates, blanks, and certified reference standards. All samples were shipped to, and analyzed by Activation Laboratories (Actlabs) of Ancaster, ON. An eight-major oxides, rare earths, and trace element package was selected and samples were analyzed via fusion inductively coupled plasma (ICP) and inductively coupled plasma-mass spectrometry (ICP-MS) in addition to niobium by XRF, and fluorine by method 4F-F (news release, September 21, 2011).

11.4 NioCorp Drilling Program, 2014

Different drilling techniques, such as DDH, RC and tricone drilling, have been employed to drill through the overlying geological rock units (limestone & mudstone), but all carbonatite intervals have been diamond cored. All drilling contractors at Elk Creek utilized DDH utilized conventional wireline drilling techniques. Two drilling diameters have been used during the program with the upper portions of each cored hole drilled using PQ diameter (85 mm) for geotechnical testing and HQ diameter (63.5 mm) through the Carbonatite, with the exception of NEC14-MET-01, NEC14-MET-02 and NEC14-MET-03, which were drilled entirely with PQ. Geological and geotechnical logging is completed prior to mark-up and splitting of the core and completed by onsite geologists with the number of geologists used limited to ensure consistency in the logging codes used.

SRK are responsible for the geotechnical logging. Rock quality was determined using the Q-system ($Q=(RQD/ J_n)*(J_r/ J_a)*(J_w/SRF)$), where RQD= Rock quality designation; J_n= Joint set number; J_r= Roughness of the most unfavorable joint or discontinuity; J_a= Degree of alteration or filling along the weakest joint; J_W= Water inflow; SRF= Stress reduction factor. SRK personnel also record hardness and weathering to aid in geotechnical parameters for the future mine design.

11.4.1 Core Recovery

Core recovery and RQD were generally good for most drill core. Core recovery has been recorded in the data base and is measured in the field at the drilling rig by the geologist. The borehole name is noted and the drilling interval, this is compared to the actual core recovered to back calculate the recovery. The recovery information is then loaded into the sample database.

SRK has reviewed the drill core recovery results and comments that while the recoveries per hole during indicates recoveries vary from a low as 2% but the typical minimum recovery is in the order of 47% to 100%, with the average recovery per hole ranging from 93% to 99%.

Drill core was digitally photographed under natural outdoor or fluorescent indoor lighting prior to core cutting. All digital photos are of high resolution and stored in a digital archive format. The geological logging included observations of color, lithology, texture, structure, mineralization, and alteration. All geological information is collected at sample interval scale and recorded in a digital logging program that has been custom formatted for carbonatite deposits. Detailed geological core logging of the Carbonatite intervals, alteration zones and its relationship to other intrusions allows sampling to be restricted by unique geological boundaries.

11.4.2 Sample Preparation for Analysis

Trained staff was involved at all stages of the sampling, sample packaging and sample transportation process. Day to day logging tasks were split between Dahrouge and SRK, whereby Dahrouge completed all geological and sampling related tasks, while SRK focused on geotechnical logging requirements. During the diamond drilling program (including the RC pre-collar drilling of RC/DD holes), staff members were based full time at the drill project site to supervise the drilling and data collection including geological and geotechnical properties. Geological sampling was completed by geologists (Dahrouge), under the supervision of qualified professional geologists. Between four and six trained geologists acted as samplers.

Core sampling method and approach has been consistent through the 2011 and 2014 drill programs. Core was boxed on site and delivered each day to a core facility on the Elk Creek project site where the core was logged and split. For the 2014 diamond drilling program, up to three coring drill rigs were monitored by two qualified professional geologists, one drill supervisor and an experienced geological team. Drill core was boxed and transported from each drill rig to the core processing facility (distances up to 800 m), at the end of each 12 hour shift. Core logging involved detailed geotechnical and geological information. All key geological features have been logged comprehensively. A project database which contains the relevant rock codes and lithology descriptions has been created. A total of 22 detailed rock codes have been used during the logging, which is reduced to 10 codes under a simplified logging code defined as “MAJOR” in the database (Table 11.4.2.1). DDH core was sampled and assayed at predominantly 1 m intervals.

Table 11.4.2.1: Summary of MAJOR Rock Codes Used by Dahrouge Geologist

Major	Description
Casing	Drillhole casing
TILL	Till
SEDT	Sediments
CARB	Carbonatite
MCARB	Magnetite Carbonatite
CARB-LAMP	Carbonatite mixed with lamprophyre
MCARB-LAMP	Magnetite Carbonatite mixed with lamprophyre
LAMP	Lamprophyre
MAFIC	Mafic intrusive units
INT	Other intrusive units

Source: Dahrouge, 2015

The drill core within each core box was marked up and then split along orientation marks. Cutting was completed using one of three electric-powered, water-cooled diamond-bladed BD 3003E core saws at the Elk Creek sample preparation and storage facility. HQ and minor intervals of PQ core were halved for assay. Drillhole NEC14-MET-03, a PQ-sized hole, was quartered with one quarter being assayed, and the remaining core packaged for metallurgical testing.

Infrequent broken or soft sections of the core (typically the iron oxide altered zones) were sampled by the geologists and an equal sample split was taken from this material. These intervals account for a significantly small portion of the sampled material. Core not used for assaying or metallurgical testing is stored at the Elk Creek project site.

A summary of the sampling procedure used to collect core samples at Elk Creek is as follows:

- The entire carbonatite intersection was sampled, including the geologically logged low-grade niobium carbonatite intervals of the footwall or hangingwall, for all holes with the exception of NEC14-020 to NEC14-023 where approximately 10 m of the hanging wall was sampled;
- Sample intervals, generally 1 m in length, were marked on the core and recorded in the geological database (Fusion Database);
- Sample intervals were assigned a unique sample number;
- Specific gravity measurements were performed at approximately 6 m spacing;
- Hand-held Niton-XRF measurements were collected on the core to assist geological and sample divisions;
- Magnetic susceptibility measurements were performed on the core to assist geological and sample divisions;
- Clearly marked sample intervals were split in half by a wet diamond saw;
- Split intervals were cleaned prior to bagging and cutting equipment was regularly cleaned;
- Sampled intervals were placed in durable barcoded sample bags that were clearly labelled and contain back up sample tags within each bag;

- Sample bags containing original core sections and field inserted control samples were barcode scanned and secured in 5 gallon plastic shipping pails;
- Detailed shipping logs and preparation requests were sent in hard copy and digitally to the primary analytical laboratory;
- Sampled core sections and blind control samples were shipped for analysis in secured pails and transferred using a bonded trucking company; and
- The unsampled half of the core is stored in labelled wooden core boxes at the project site for reference or further sampling.

Core samples and the core library are securely stored at the project facility work area. This material is stored inside locked metal buildings when the project is not operating.

11.4.3 Security Measures

NioCorp has rigorous security measures in place to prevent any tampering of the core or samples before and during the transport process. These measures include redundant sample identification, appropriate sample bag closures and shipment of sample bags inside pails with lids. SRK is of the opinion that these measures are consistent with or in excess of current industry best practices for projects at this scale of exploration.

11.4.4 Sample Analysis

The 2011 and 2014 sawn core samples were shipped to Activation Laboratories Ltd. (Actlabs) 1336 Sandhill drive, Ancaster, Ontario Canada. Actlabs is the primary laboratory for sample preparation and for analysis of the 2011 and 2014 drill core samples. Actlabs regularly participates in proficiency testing and maintains formal approval of CAN-P-1578, CAN-P-1579, CAN-P-1585, CAN-P-4E (ISO/IEC 17025:2005) accreditation from Standards Council of Canada and maintains current certification issued March 5, 2014 through February 27, 2018. Actlabs maintains ISO 17025 standards, which is obtained through experienced peer audits that ensure they conform to recognized analytical standards and that the accredited method validation verifies a number of analytical variables designed to ensures that data obtained from these methods are defensible. Actlabs maintain a custom Laboratory Information Management System (LIMS) system to provide the traceability necessary for today's stringent reporting requirements.

The 2014 sampling program employed SGS as an external check laboratory. SGS is an integrated geochemistry, mineralogy and metallurgy laboratory in Lakefield, ON, which has extensive experience with Nb_20_5 and REE analysis for both exploration and metallurgy projects. SGS Lakefield is ISO17025 accredited for the analysis methods used on this project (GO_XRF76V & GE_ICP90A).

Core samples are shipped to Actlabs, where they are received, weighed, prepared, and assayed. Sample preparation is completed using Actlabs' RX1 preparation package that has been modified to meet the project requirements. A summary of the process is detailed below:

- Samples are received and cataloged;
- Collect as received sample weight (kg);
- Drying of the whole sample at 60°C for 12 hours, in a customized high air flow drying room;
- Collect dry sample weight (kg);
- Crushed in a jaw crusher (Boyd crushers) to 90% passing -10 mesh (2 mm), with quartz cleaner between each sample;

- Riffle split (RSD splitters or option of Jones Riffle split) coarse crushed sample and extract a 250 g sample;
- Pulverized 250 g sample using ESSA pulverizers with ring and puck bowls to 95% -200 mesh (75 µm), with quartz cleaner between each sample;
- Laboratory internal coarse-reject duplicates (1 in 50) and Pulp duplicates (1 in 30) are also routinely prepared; and
- Quality of the rejects and pulps are routinely monitored to ensure proper preparation procedures are performed.

During the preparation procedure coarse-reject splits and pulp-splits are extracted from the original core sections for primary laboratory and secondary (external) laboratory check analysis. These samples are then inserted into the sampled sequence and/or shipped to the external check laboratory, SGS (Lakefield), for analysis.

Core samples were systematically assayed at Actlabs for niobium (Nb_2O_5) and tantalum (Ta_2O_5) by XRF analysis, using a Panalytical Axios-mAX, following a lithium metaborate/tetraborate fusion of a 2 g sample. All XRF analysis followed procedures outlined in Actlabs “8-XRF” package, with selected analytical results provided for Nb_2O_5 and Ta_2O_5. Whole Rock analysis and 43 Major Elements were completed using ICP and ICP/MS (by a Perkin Elmer Sciex ELAN 6000, 6100, 9000 ICP/MS) finish following a Lithium metaborate/tetraborate fusion preparation as defined by analytical Actlabs' “8-REE Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)” package.

Additional analysis was performed for fluoride, using analytical package “4F-F“. Fluoride content is quantified using a fluoride ion electrode to directly measure fluoride-ion activity, when a prepared fuseate is dissolved in dilute nitric acid and its ionic strength adjusted in ammonium citrate buffer. Prior to analysis sample is prepped using a combined fusion with lithium metaborate and lithium tetraborate in induction furnace. Fluoride analysis was completed for 2014 drillholes, NEC14-006, NEC14-007, and NEC14-008.

All QC data are registered in the LIMS system and Assay results have been returned to NioCorp and the overseeing professional geologists in electronic format and loaded into the sample database with the batch number and date of assay recorded after review for QA/QC.

External pulp check samples were submitted to SGS (Lakefield) Labs, as a third party analytical result confirmation. Pulp samples and their control samples were prepared by Actlabs and shipped to SGS (Lakefield), where they were received, evaluated for sample quality and re-homogenized, and assayed. SGS (Lakefield) prepared and re-homogenized samples prior to analysis using MISC80 package prior to analysis. During preparation SGS completed a 10% sieve check (SCR32 package) to ensure 95% sample pulverization passes 200 mesh (75 µm) preparation requirements. Samples were assayed using an XRF analysis for Nb_2O_5 and 13 major Whole Rock oxides, following a borate fusion as defined under SGS package “GO XRF76V - ORE GRADE” (Table 11.4.4.1). Scandium analysis has been completed at SGS laboratory using GE_ICP90A package which has a detection limit of 5 ppm.

Table 11.4.4.1: Detection Limits for Primary Laboratory (Actlabs)

XRF (%)		Trace Elements ICP & ICP/MS (ppm)					
Oxide	**Detection Limit**	**Element**	**Detection Limit**	**Reported By**	**Element**	**Detection Limit**	**Reported By**
Nb_2O_5	0.003	Ag	0.5	ICP/MS	Nb	1	ICP/MS
Ta_2O_5	0.003	As	5	ICP/MS	Nd	0.1	ICP/MS
4F-F (%)		Ba	3	ICP	Ni	20	ICP/MS
Analysis	**Detection Limit**	Be	1	ICP	Pb	5	ICP/MS
F	0.01	Bi	0.4	ICP/MS	Pr	0.05	ICP/MS
Fusion ICP (%)		Ce	0.1	ICP/MS	Rb	2	ICP/MS
Oxide	**Detection Limit**	Co	1	ICP/MS	Sb	0.5	ICP/MS
SiO_2	0.01	Cr	20	ICP/MS	Sc	1	ICP
Al_2O_3	0.01	Cs	0.5	ICP/MS	Sm	0.1	ICP/MS
Fe_2O_3	0.01	Cu	10	ICP/MS	Sn	1	ICP/MS
MgO	0.01	Dy	0.1	ICP/MS	Sr	2	ICP
MnO	0.001	Er	0.1	ICP/MS	Ta	0.1	ICP/MS
CaO	0.01	Eu	0.05	ICP/MS	Tb	0.1	ICP/MS
TiO_2	0.001	Ga	1	ICP/MS	Th	0.1	ICP/MS
Na_2O	0.01	Gd	0.1	ICP/MS	T	0.1	ICP/MS
K_2O	0.01	Ge	1	ICP/MS	Tm	0.05	ICP/MS
P_2O_5	0.01	Hf	0.2	ICP/MS	U	0.1	ICP/MS
Loss on Ignition	0.01	Ho	0.1	ICP/MS	V	5	ICP
		In	0.2	ICP/MS	W	1	ICP/MS
		La	0.1	ICP/MS	Y	2	ICP
		Lu	0.04	ICP/MS	Yb	0.1	ICP/MS
		Mo	2	ICP/MS	Zn	30	ICP/MS
					Zr	4	ICP

Source: SRK, 2014

11.5 Quality Assurance/Quality Control Procedures

The Company has integrated a series of routine QA/QC procedures throughout the sampling and analytical analysis for both the 2011 and 2014 drilling programs, to ensure a high level of quality is maintained throughout the process. SRK has not reviewed any QA/QC data for the Molycorp drilling program, as no information has been detailed in the database. Definition of quality of the historical assays has been based on resampling/verification work completed by Dahrouge during 2010 – 2011. A total of 1,861 samples (approximately 44% of the original assays) were selected for reanalysis during the program and subjected to the current QA/QC protocols. The selection for reassay was based on available material and proximity to the mineralization wireframe used during that study.

The following control measures were used to monitor both the precision and accuracy of sampling, sub-sampling, preparation and assaying. For the 2011 and 2014 sampling the QA/QC consisted of the insertion of duplicate samples taken from various stages of the process, insertion of known control samples (Standards Reference Material (SRM) and Blanks), plus an external check at a SGS laboratory. A summary of the type of samples, source and level of insertion is included in Table 11.5.1 and Table 11.5.2. Note percentages are reported as proportion of samples vs. the original submissions, unless otherwise noted.

Table 11.5.1: Summary of Designed Level of Insertion of Quality Control Submissions

Sample Type	Sample Sub-type	Type	Insertion Rate
Duplicates	Field quartered core	¼ HQ core	5.0%
	Coarse-Rejects	Reject split	3.0%
	Pulp	Pulp split	5.0%
Standard Reference Material SRM's	SX18-01 (Dilinger Hutte Lab)	Nb SRM	6.0%
	SX18-02 (Dilinger Hutte Lab)	Nb SRM	
	SX18-04 (Dilinger Hutte Lab)	Nb SRM	
	*SX18-05 (Dilinger Hutte Lab)	Nb SRM	
Blanks	Field Quartz Blanks	Optical Quartz	5.0%
External Lab Checks “Umpire Lab”	Pulp Splits		5.0%
	Nb & REE SRMs	Nb SRM	(5% of splits)
	Field Quartz Blanks	Optical Quartz	(5% of splits)

Source: Dahrouge, 2014

Table 11.5.2: Summary of Actual Submissions per Sample Type Within the 2014 Program

Sample Type	Type	Total Samples	Insertion Rate
Original Sections	1/2 HQ core, ¼ PQ core	9,653	NA
Field Duplicates	1/4 HQ core	419	4.3%
Coarse-Reject Duplicates	Crush-split	260	2.7%
Pulp Duplicates	Pulp-split	468	4.9%
Standards (SRM's)	Pulp	496	5.1%
Field Blanks	Optical Quartz	454	4.7%
External Checks	Pulp	462	4.8%
External Checks Duplicates	Pulp-split	44	9.5%*
External Checks CRM’s	Pulp	49	10.6%*

Source: SRK, 2015
* Insertion rate is a percentage of total External Check Samples submitted

In addition to the QA/QC Program which accompanied the 2014 drilling program, there was also a QA/QC Program which accompanied the 2014 reassay program which was undertaken to increase the database size for both titanium and scandium analysis. The 2014 reassay program consisted of submitting 1,335 historic Molycorp pulps for Scandium analysis. QA/QC for the reassay program consisted of the insertion of pulp duplicate samples and SRMs. A summary of the type of samples, source and level of insertion for the reassay program is included in Table 11.5.3.

SRK highlights that due to the timing of the relatively recent developments within the metallurgical database the routine submission of 2014 pulps did not include a Scandium CRM. For the purpose of the current exercise SRK has relied heavily on the analysis of duplicate results to assign confidence, however SRK recommends the Company complete further verification using external checks and a suite of Scandium SRM to increase the confidence further, provided such SRMs can be obtained

Table 11.5.3: Summary of Actual Submissions per Sample Type Within the 2014 Reassay Program

Sample Type	Type	Total Samples	Insertion Rate
Original Sections	1/2 NQ core	1,335	NA
Pulp Duplicates	Pulp-split	7	0.5%
SRM's	Pulp	67	5.0%

Source: SRK, 2015

The following section provides details of the types of samples used at each section of the sampling process, followed by a discussion of the results. The QA/QC data was analyzed by the Project geologist on a routine basis prior to entering the data into the central database. Failures were reported directly back to the laboratory with systems (described in Section 11.5.1) in place for reanalysis. (example 10 samples before and after a failed standard)

SRK has been supplied with all the raw QA/QC data and has completed an independent check of the results.

11.5.1 Actions

The Company has a defined list of action points to review all QA/QC results. To review field quartz blanks a limit of 20 x ICP-MS detection limits and 2 x XRF detection limits, depending on the element being analyzed are applied. Results which report above this value are reported to the laboratory as having potential contamination.

The SRM has been sourced from Dillinger Hutte Laboratory (Germany). SRK has reviewed the certificates for each of the SRM's and notes that no standard deviation has been supplied and only a confidence interval of 95% is shown on the certificates (based on three laboratory round robin testwork). Due to a lack of information in the certificate the Company has elected to use a 5% error as a caution limit, and a 10% error as a failure. While this is not generally accepted as best practice which would be based on 2x or 3x standard deviations for caution or failure, SRK agrees that the limits applied are reasonably tight which provide a reasonable level of control in assigning confidence to the assay results. SRK noted no significant difference in the potential pass/fail decisions using either the 10% or 3x 95% confidence limits from the certificate, and therefore considers the current limits to be acceptable.

In terms of the duplicate samples, no reassays are requested based on the field duplicates, which are monitored for sample fluctuations and local variability. The reject and pulp duplicates are reviewed and reassays requested on values in excess of 20% difference using the equation:

$$\% \text{ Diff} = \text{ABS}\,[(X_1-X_2) / (X_1+X_2)] * 100$$

When Duplicates or SRM's fail the 10 sequential samples on either side of the QC Sample are re-analyzed or re-analysis of the entire batch is requested, depending on the fail type, location, and sample range.

11.5.2 Field Sample Collection, Identification, Labeling, Insertion of Field Controls and Shipment

Sample tickets were assigned initially at the core shed using barcodes with duplicate tickets placed in the bag and on the outside of the bag, In addition to the routine samples a number of check samples (QC) were routinely inserted. Trained staff was involved at all stages of the sampling, sample packaging and sample transportation process.

Sample identification was confirmed using barcode labeling and visual sample type comparisons prior to sample shipment. Utilization of barcoded samples ensured both shipment forms and analytical labs used accurate information. Two types of QC samples were inserted at this stage of the process which includes the following:

- Field ¼-core duplicates – 1 in 20 (5%), inserted to test mineralization and sampling variability;
- Field quartz blanks – 1 in 20 (5%) Blanks were inserted within or immediately after samples collected from mineralized intervals, targeting zones of elevated visual mineralization, where possible; and
- SRM material – 1 in 20 (5%) is inserted in the field with the sample sequence.

11.5.3 Sample Preparation and Insertion of Pre-Selected and Quality Control Samples: Actlabs

Samples were dispatched to the laboratory via commercial transport. The laboratory received and weighed the samples. Receiving logs were monitored by Dahrouge, which were then checked against original sample lists to ensure accuracy.

The standard sample preparation at the laboratory targeting the criteria of 95% passing 200 mesh (-200 mesh). The high passing rate and the fine mesh are required to ensure the niobium minerals are sufficiently liberated for sub-sampling due to the fine size fractions known from metallurgical and petrographical studies.

To ensure quality throughout the sample preparation phase, NioCorp (via Dahrouge) utilized the insertion and splitting of pre-selected control and duplicate samples, based on the insertion rates discussed in Table 11.5.1.

11.5.4 Results

Standards (SRMs)

The 2014 Program included 496 SRMs inserted in Actlabs batches as part of the routine sample submissions. The material was sourced from Dillinger Haute laboratory (Germany). A summary of the defined limits and results for Nb_2O_5 and TiO_2 are shown in Tables 11.5.4.1 and 11.5.4.2, respectively. The tables show the mean assay grades vs. the assigned, plus a summary of the number of samples returned outside of the warning and acceptable limits.

Table 11.5.4.1: Summary of Nb_2O_5 Results of SRM's Submitted to Actlabs

Standard ID	Assigned (%)	Count	Mean Assay (%)	Standard Deviation	Range	Minimum	Maximum	Difference From Assigned Grade	N outside 10%		N outside 5%	
SX18-01	0.695	169	0.712	0.023	0.176	0.593	0.769	2.4%	3	1.8%	36	21.3%
SX18-02	0.199	154	0.207	0.005	0.025	0.193	0.218	4.0%	0	0.0%	57	37.0%
SX18-04	1.32	8	1.016	0.019	0.055	0.988	1.043	4.4%	0	0.0%	3	37.5%
SX18-05	0.973	169	0.712	0.023	0.176	0.593	0.769	2.4%	3	1.8%	36	21.3%

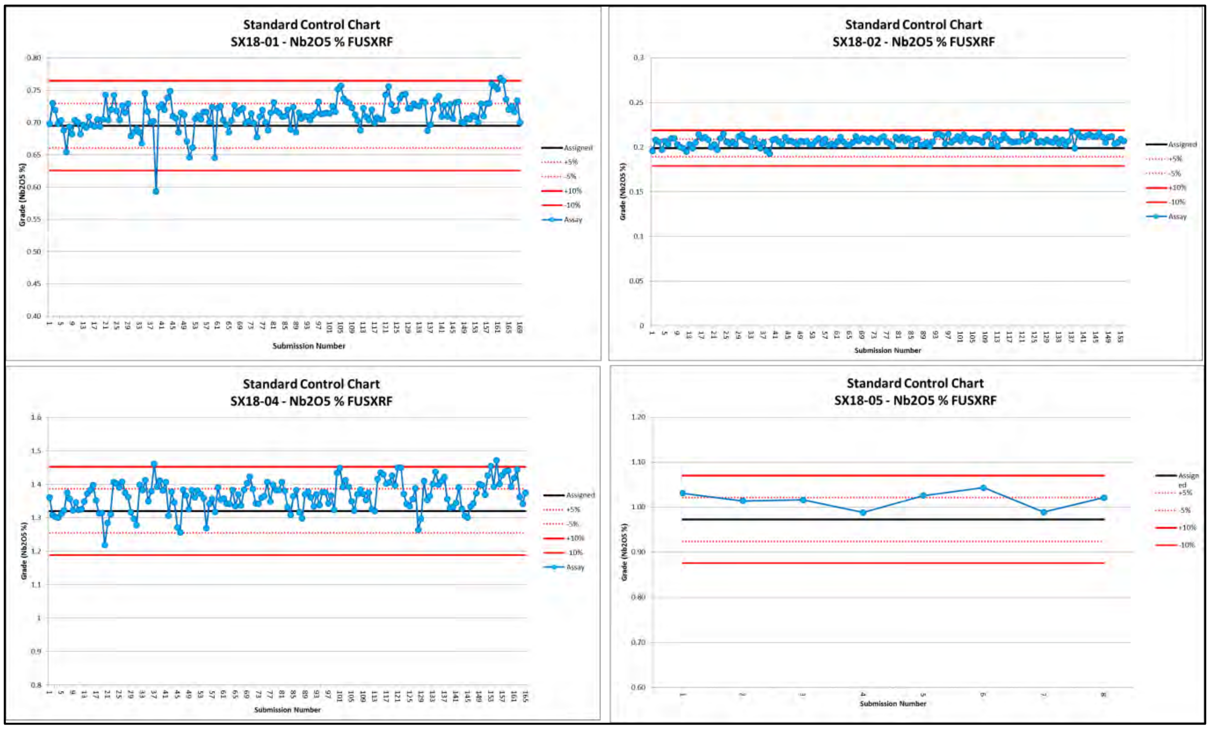
Source: SRK, 2015

Table 11.5.4.2: Summary of TiO_2 Results of SRM's Submitted to Actlabs

Standard ID	Assigned (%)	Count	Mean Assay (%)	Standard Deviation	Range	Minimum	Maximum	Difference From Assigned Grade	N outside 10%		N outside 5%	
SX18-01	0.266	169	0.254	0.013	0.141	0.234	0.375	-4.5%	10	5.9%	90	53.3%
SX18-02	0.237	154	0.231	0.008	0.062	0.201	0.263	-2.5%	5	3.2%	33	21.4%
SX18-04	0.287	165	0.265	0.011	0.056	0.235	0.291	-7.7%	34	20.6%	123	74.5%
SX18-05	0.295	8	0.284	0.006	0.018	0.271	0.289	-3.7%	0	0.0%	1	12.5%

Source: SRK, 2015

The results for Nb_2O_5 (Figure 11.5.4.1) from the SRM submissions have been within acceptable limits, with results generally reporting slightly above the assigned grades (between 2.4% and 4.4%). This can be seen in SX18-02 with the assay values typically reporting above the assigned value of the SRM. In general these range between the assigned value and the ±5% caution line. Statistically the results indicate a slight high bias across all grade ranges with the differences between the mean and assigned grades ranging from 2.4% to 4.4%. A total of six samples have reported outside the failure level of ±10%.

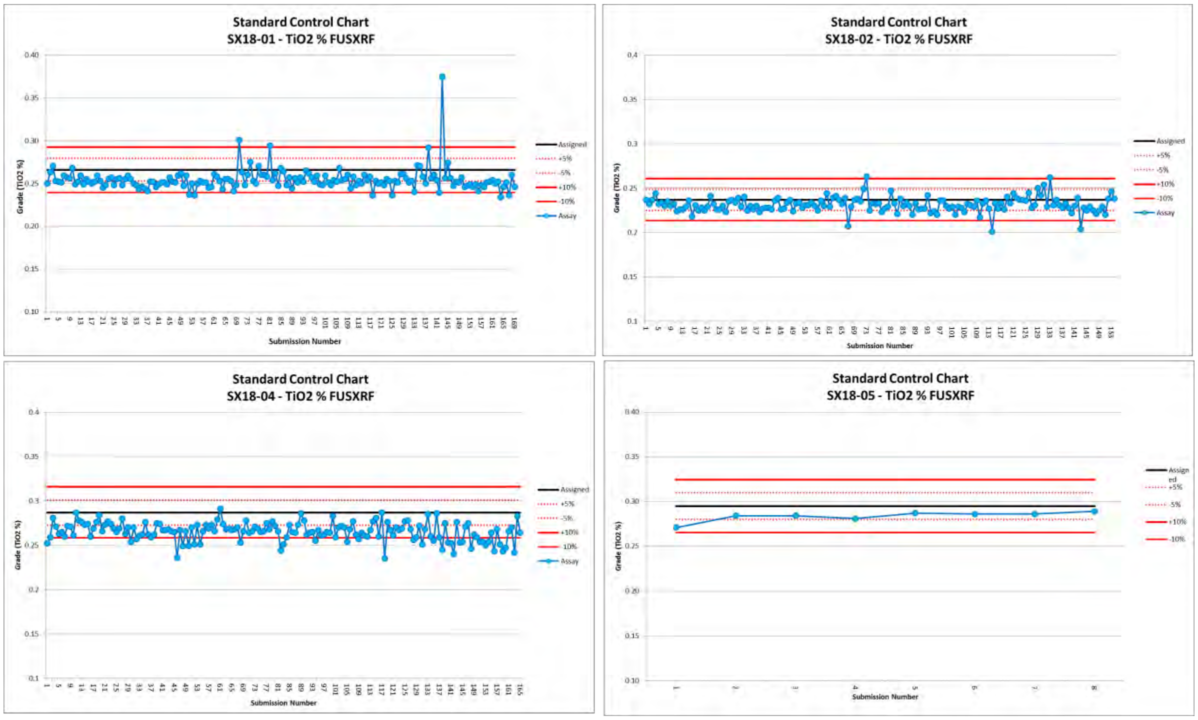


Source: SRK, 2015

Figure 11.5.4.1: Summary of SRM Control Charts for Nb_2O_5 Submitted to Actlabs (2014)

Analysis of the selected SRM used for Nb_2O_5 assay certificates also provides an expected value and associated range for TiO_2, for all four SRM's selected (Figure 11.5.4.2). The most significant issue to note is that the grade range of the TiO_2 in the SRM is in the order of 0.25% to 0.30%, which is an order of magnitude lower than the typical grade ranges at Elk Creek of 2.0% to 3.5% within the geological wireframe. The results from the low grade analysis shows the analysis are typically below the assigned grade within 5% to 10%. The lowest performance is noted in SX-18-04 where a number of the assays report less than 10% low.

Given the low grade nature of the assays in the SRM's SRK has relied more heavily on the duplicate assays and external checks by SGS. SRK recommends the Company define, a program where a small proportion of the assays across all grade ranges (1% to 2%) are sent for reanalysis with new SRMs that cover the full range of expected grades to add to the confidence in the assay database.



Source: SRK, 2015

Figure 11.5.4.2: Summary of CRM Control Charts for TiO_2 Submitted to Actlabs (2014)

Only 67 scandium SRM submissions have been analyzed to date (Figure 11.5.4.3). The routine submissions to Actlabs (which were analyzed for Sc) were completed prior to changes in the metallurgical flowsheet. With the revised focus on titanium and scandium the company conducted a reassay program of 2011 sample pulps which had not previously been analyzed for TiO_2 or Sc. A scandium SRM was included within these batches. The results indicate good correlation between the laboratory scandium values and the expected grade with a difference in the mean of 0.36 ppm or 0.4%. A total of three samples have reported above the guideline line of 3 standard deviations during the study.

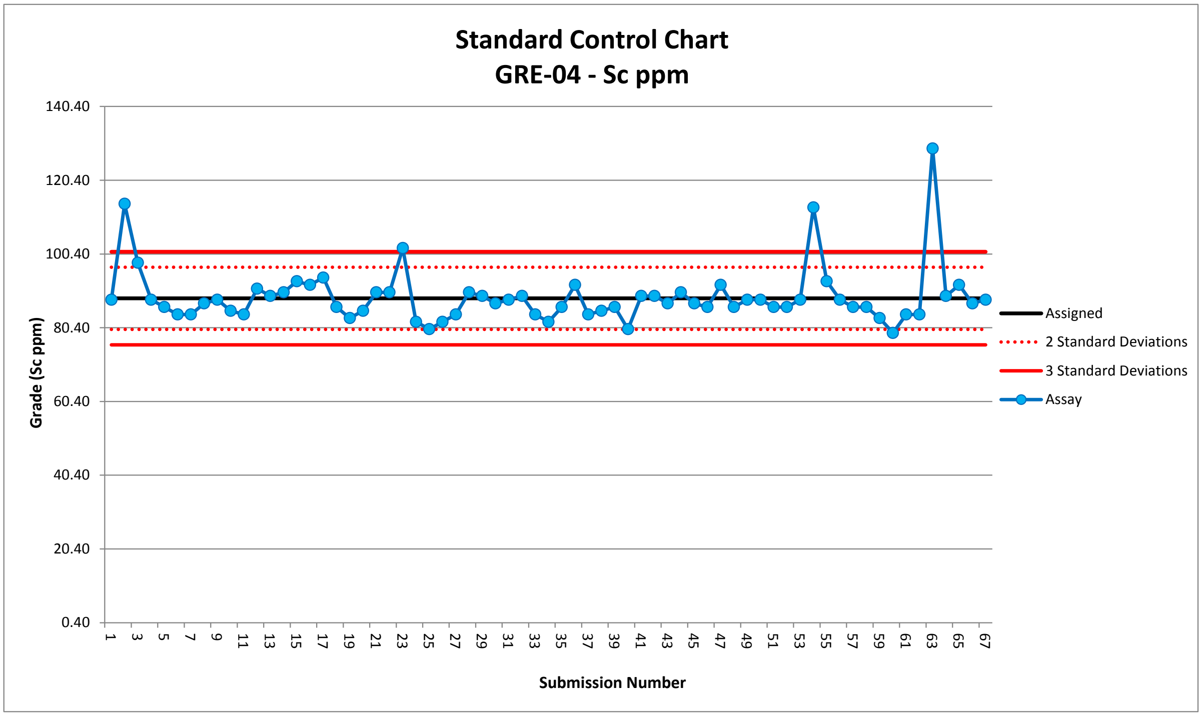


Figure 11.5.4.3: Summary of CRM Control Charts for Sc (ppm) Submitted to SGS (2014)

Overall SRK considers that the SRM's have performed within acceptable levels of error for the reporting of Mineral Resources. SRK has discussed the slight high bias in the Nb_2O_5 assays with the Project geologist who has raised the issue with the laboratory, as review of the laboratory internal SRM values indicated the assays are performing within the laboratory defined limits. The external CRM values however show the laboratory has over reported based on routine submitted SRM in the order of 2% to 4 %.

Blanks

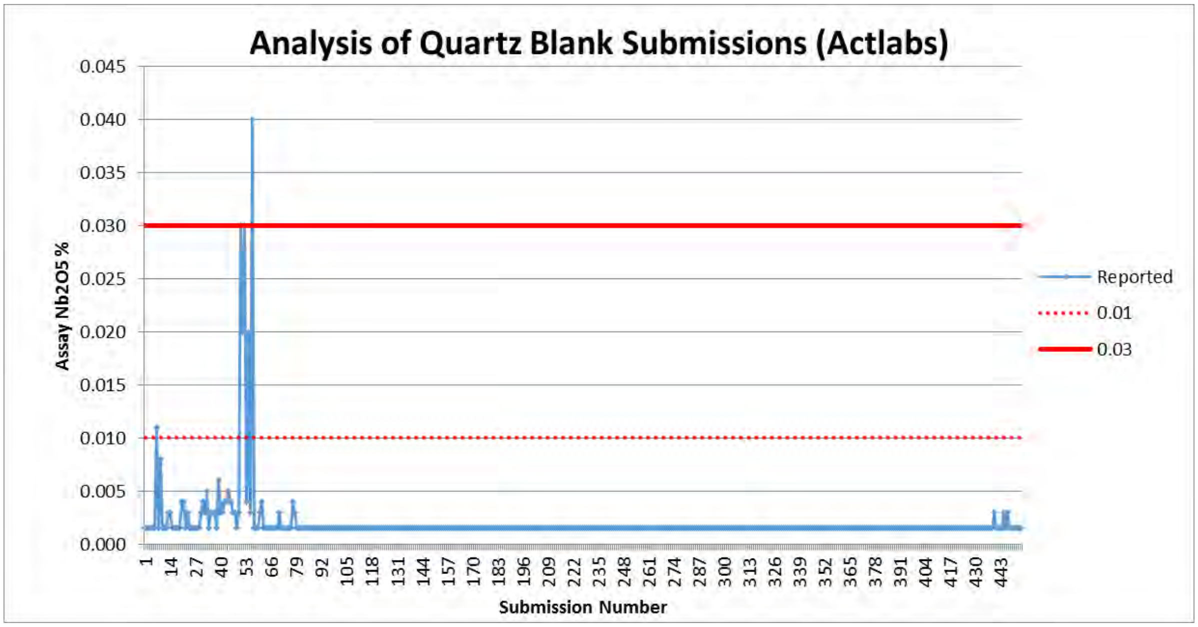
Coarse natural clear quartz blanks (sourced from an optical quality quartz quarry) were also included in order to:

- Pass through the same sample preparation system as the real samples and highlight any potential contamination; and
- Be indistinguishable from real samples and prevent these samples being treated in a different manner to real samples at the laboratory.

The following certified natural blanks were inserted within batches of samples sent to the laboratory. In total, 454 natural blanks (4.7% total submissions) were inserted at regular intervals within the sample suite which represents 4.7% of total sample submissions from the 2014 drilling program. The detection limits for Nb_2O_5 and TiO_2 are 0.003 and 0.001 % respectively. SRK has assigned control limits (approximately 10x detection) at 0.01 and 0.03 % for both Nb_2O_5 and TiO_2.

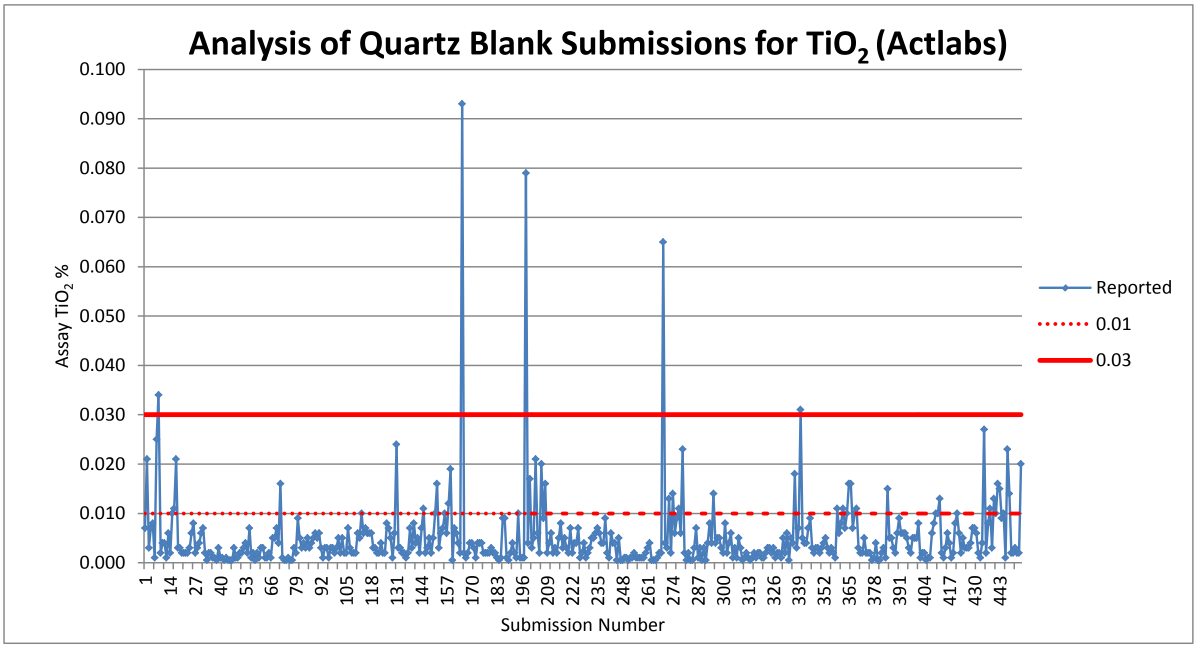
SRK notes that cluster assays (Figure 11.5.4.4), during the early stages of the drilling, displayed potential sample contaminations but SRK does not consider this to be material to the Mineral Resource estimate.

SRK notes for the TiO_2 data (Figure 11.5.4.5) more variability is noted than within the Nb_2O_5 database, but overall the majority of the samples are less than 0.01 % control line which is the equivalent of 10x the detection limit, above which potential contamination maybe identified. Overall SRK considers that the Blank material have performed within acceptable levels of error and there is limited evidence of any major contamination issues at the laboratory.



Source: SRK, 2015

Figure 11.5.4.4: Summary of Blank Control Charts for Nb_2O_5 Submission to Actlabs (2014)



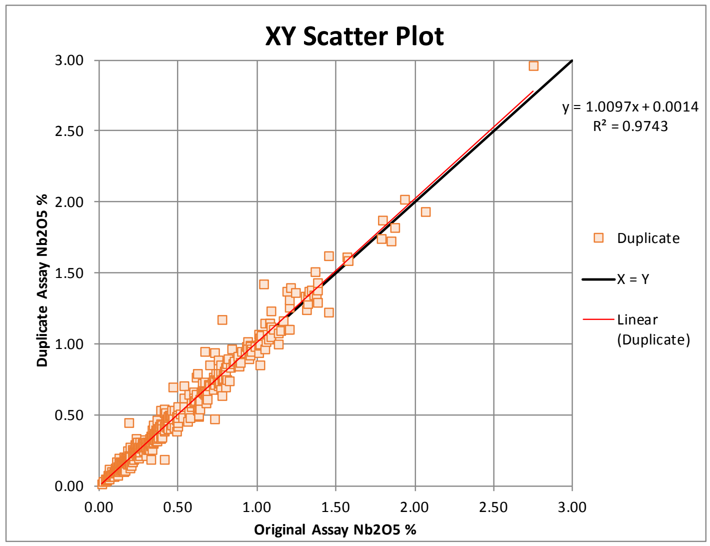
Source: SRK, 2015

Figure 11.5.4.5: Summary of Blank Control Charts for Nb_2O_5 Submission to Actlabs (2014)

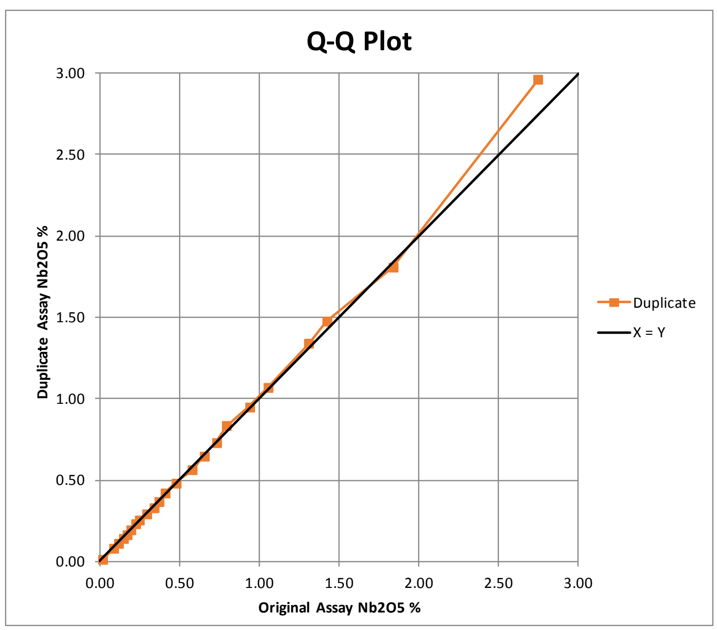
Duplicates

A total of 419 field duplicate samples, comprised of ¼ core, were resubmitted to Actlabs as part of the routine sample submission from DDH samples, which represent 4.3% of total sample submissions from the 2014 drilling program. The results are shown in Figure 11.5.4.6 and indicate a reasonable comparison between the original and duplicate assays. SRK has also compared the base statistics for the two datasets and found the difference in the mean grades to be 1.3% for Nb_2O_5 and 1.0% for TiO_2, which indicates an acceptable level of precision at the laboratory.

ASSAY Value	*Original*	*Duplicate*
Mean	0.50	0.51
Standard Error	0.02	0.02
Median	0.37	0.37
Mode	0.21	0.10
Standard Deviation	0.40	0.41
Sample Variance	0.16	0.17
Kurtosis	2.97	3.39
Skewness	1.48	1.52
Range	2.74	2.95
Minimum	0.01	0.01
Maximum	2.75	2.96
Sum	210.51	213.15
Count	419	419
Confidence Level(95.	0.04	0.04
% Difference Mean		**1.26%**



Percentile	Original	Duplicate
0.0%	0.01	0.01
5.0%	0.09	0.08
10.0%	0.12	0.11
15.0%	0.15	0.15
20.0%	0.17	0.17
25.0%	0.19	0.19
30.0%	0.22	0.23
35.0%	0.25	0.26
40.0%	0.30	0.29
45.0%	0.34	0.33
50.0%	0.37	0.37
55.0%	0.41	0.42
60.0%	0.48	0.48
65.0%	0.58	0.56
70.0%	0.65	0.65
75.0%	0.73	0.73
80.0%	0.80	0.83
85.0%	0.94	0.95
90.0%	1.06	1.07
95.0%	1.31	1.34
97.5%	1.42	1.47
99.0%	1.84	1.81
100.0%	2.75	2.96

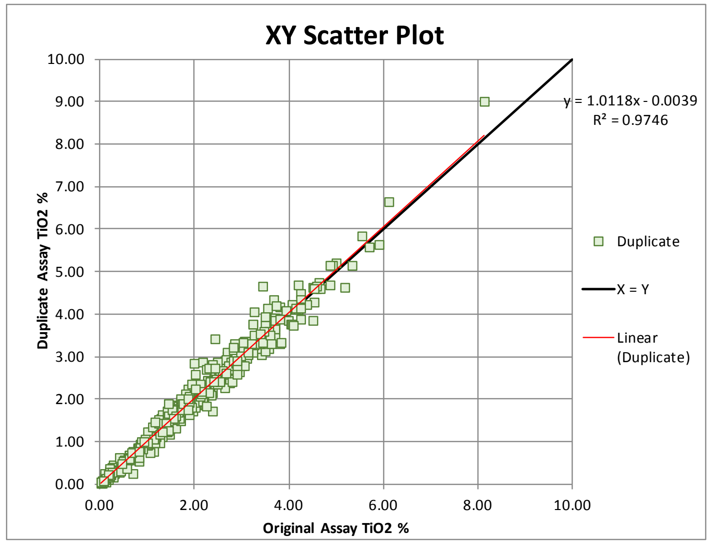


Source: SRK, 2015

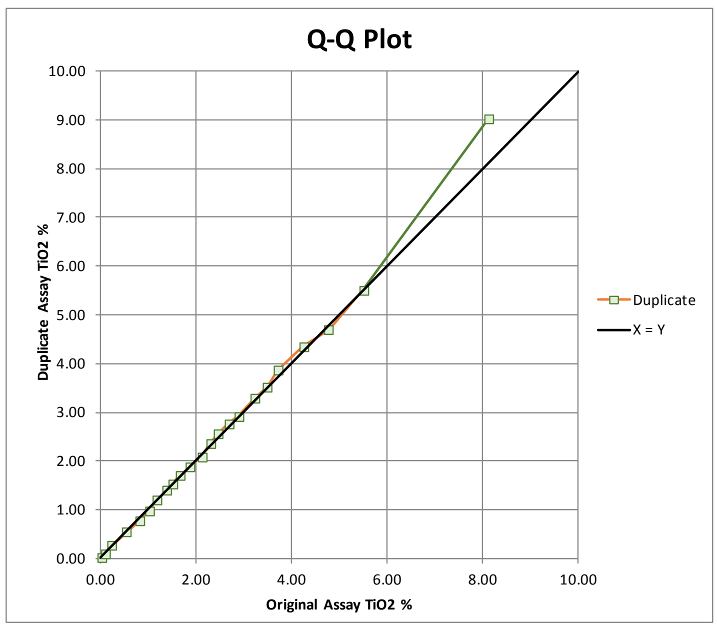
Figure 11.5.4.6: XY Scatter and QQ Plot Showing Comparison of Original vs. Field Duplicate Analysis Nb_2O_5

ASSAY Value	Original	Duplicate
Mean	2.03	2.05
Standard Error	0.07	0.07
Median	1.87	1.88
Mode	1.64	1.65
Standard Deviation	1.34	1.37
Sample Variance	1.79	1.88
Kurtosis	0.41	0.94
Skewness	0.61	0.69
Range	8.10	8.99
Minimum	0.02	0.03
Maximum	8.12	9.02
Sum	849.55	857.91
Count	419.00	419.00
Confidence Level(95.	0.13	0.13

% Difference Mean **0.98%**



Percentile	Original	Duplicate
0.0%	0.02	0.03
5.0%	0.11	0.11
10.0%	0.24	0.26
15.0%	0.55	0.55
20.0%	0.82	0.77
25.0%	1.02	0.98
30.0%	1.19	1.21
35.0%	1.40	1.40
40.0%	1.51	1.53
45.0%	1.67	1.70
50.0%	1.87	1.88
55.0%	2.13	2.09
60.0%	2.30	2.36
65.0%	2.47	2.56
70.0%	2.69	2.76
75.0%	2.90	2.91
80.0%	3.24	3.30
85.0%	3.50	3.52
90.0%	3.71	3.86
95.0%	4.25	4.35
97.5%	4.78	4.69
99.0%	5.50	5.51
100.0%	8.12	9.02

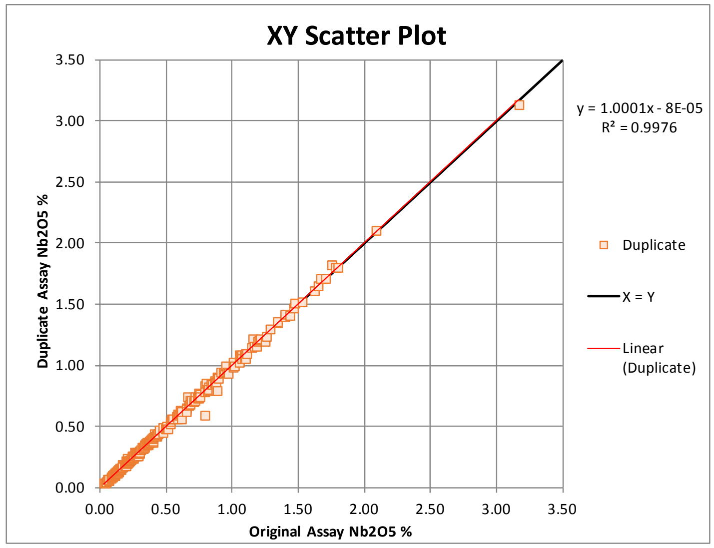


Source: SRK, 2015

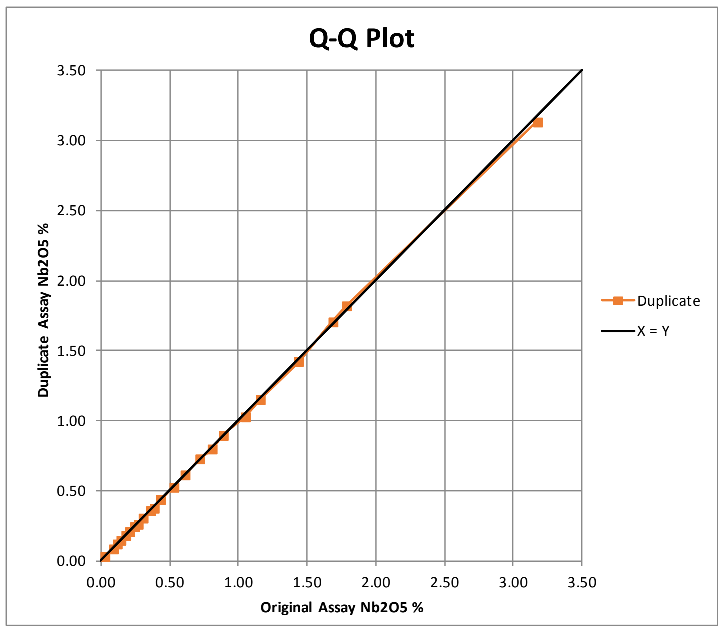
Figure 11.5.4.7: XY Scatter and QQ Plot Showing Comparison of Original vs. Field Duplicate Analysis TiO_2

206 Reject duplicate samples, comprising a second riffled sample split taken after crushing, were submitted to Actlabs for reanalysis (blind) as part of the routine sample submission from DDH samples, which represent 2.7% of the total sample submissions from the 2014 drilling program. The results are shown in Figure 11.5.4.8 and indicate a reasonable comparison between the original and duplicate assays. SRK has also compared the base statistics for the two datasets and found the difference in the mean grades to be 0.0% for Nb_2O_5 and 0.3% for TiO_2, which indicates an acceptable level of precision at the laboratory.

ASSAY Value	*Original*	*Duplicate*
Mean	0.55	0.55
Standard Error	0.03	0.03
Median	0.39	0.38
Mode	0.12	0.22
Standard Deviation	0.46	0.46
Sample Variance	0.21	0.21
Kurtosis	3.99	3.85
Skewness	1.59	1.59
Range	3.14	3.10
Minimum	0.03	0.03
Maximum	3.17	3.13
Sum	143.42	143.40
Count	260	260
Confidence Level(95.	0.06	0.06
% Difference Mean		**-0.01%**



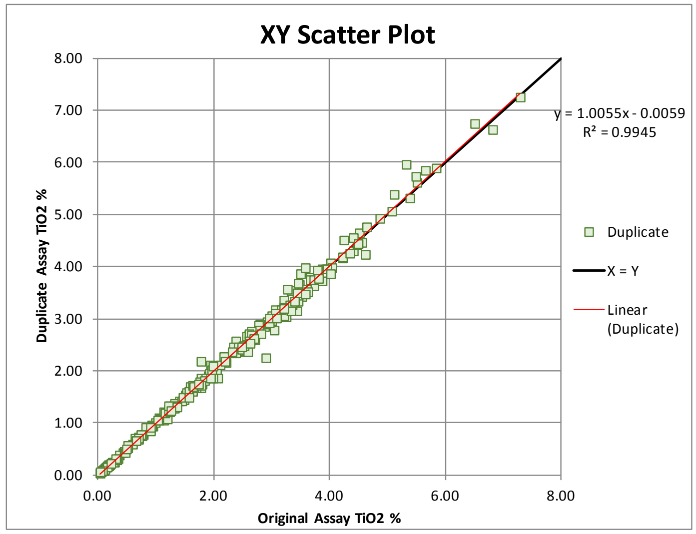
Percentile	Original	Duplicate
0.0%	0.03	0.03
5.0%	0.09	0.09
10.0%	0.12	0.12
15.0%	0.15	0.15
20.0%	0.18	0.18
25.0%	0.21	0.21
30.0%	0.24	0.24
35.0%	0.27	0.27
40.0%	0.31	0.31
45.0%	0.36	0.36
50.0%	0.39	0.38
55.0%	0.44	0.44
60.0%	0.53	0.53
65.0%	0.62	0.62
70.0%	0.72	0.73
75.0%	0.81	0.80
80.0%	0.89	0.90
85.0%	1.05	1.03
90.0%	1.16	1.16
95.0%	1.44	1.42
97.5%	1.69	1.71
99.0%	1.79	1.82
100.0%	3.17	3.13



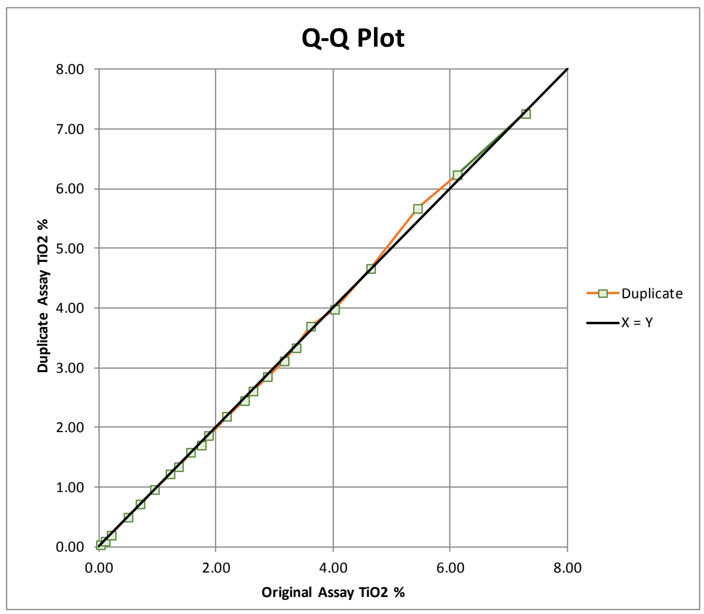
Source: SRK, 2015

Figure 11.5.4.8: XY Scatter and QQ Plot Showing Comparison of Original vs. Reject Duplicate (Riffle Split) Analysis Nb_2O_5

ASSAY Value	*Original*	*Duplicate*
Mean	2.13	2.13
Standard Error	0.09	0.09
Median	1.87	1.86
Mode	0.94	1.44
Standard Deviation	1.47	1.49
Sample Variance	2.18	2.21
Kurtosis	0.18	0.27
Skewness	0.65	0.69
Range	7.25	7.23
Minimum	0.03	0.03
Maximum	7.28	7.26
Sum	552.69	554.18
Count	260.00	260.00
Confidence Level(95.	0.18	0.18
% Difference Mean		**0.27%**



Percentile	Original	Duplicate
0.0%	0.03	0.03
5.0%	0.11	0.11
10.0%	0.20	0.20
15.0%	0.49	0.50
20.0%	0.71	0.72
25.0%	0.95	0.97
30.0%	1.21	1.22
35.0%	1.35	1.34
40.0%	1.57	1.58
45.0%	1.74	1.72
50.0%	1.87	1.86
55.0%	2.18	2.18
60.0%	2.48	2.45
65.0%	2.63	2.62
70.0%	2.88	2.85
75.0%	3.16	3.11
80.0%	3.36	3.35
85.0%	3.61	3.70
90.0%	4.02	3.98
95.0%	4.63	4.65
97.5%	5.44	5.67
99.0%	6.11	6.23
100.0%	7.28	7.26

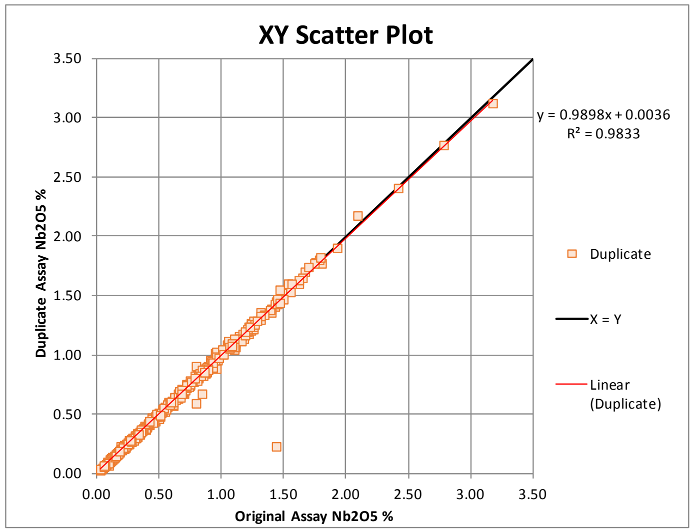


Source: SRK, 2015

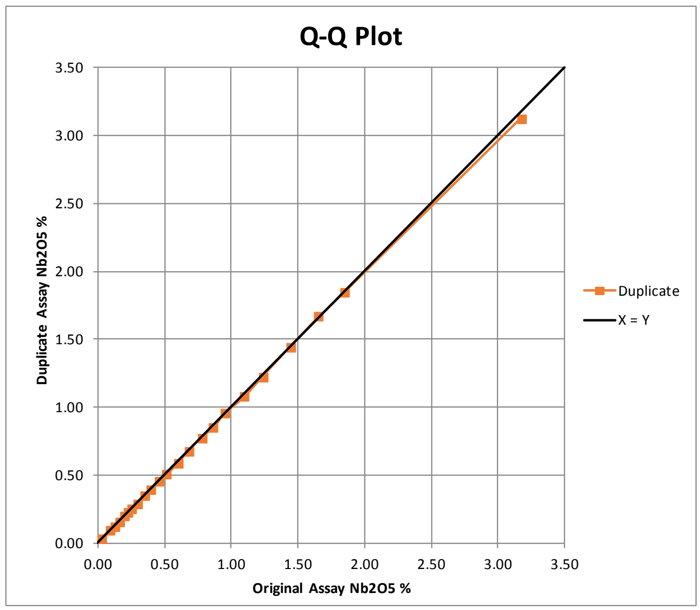
Figure 11.5.4.9: XY Scatter and QQ Plot Showing Comparison of Original vs. Reject Duplicate (Riffle Split) Analysis TiO_2

There were 468 pulp duplicate samples, comprising a second riffled sample split, taken after pulverization, were submitted as part of the routine sample submission from DDH samples, which represent 4.9% of total sample submissions from the 2014 drilling program. The results are shown in Figure 11.5.4.10 and indicate a reasonable comparison between the original and duplicate assays. SRK has also compared the base statistics for the two datasets and found the difference in the mean grades to be 0.4% for Nb_2O_5 and 0.3% for TiO_2, which indicates an acceptable level of precision at the laboratory.

ASSAY Value	*Original*	*Duplicate*
Mean	0.59	0.59
Standard Error	0.02	0.02
Median	0.46	0.45
Mode	0.17	0.21
Standard Deviation	0.46	0.46
Sample Variance	0.22	0.22
Kurtosis	2.86	2.82
Skewness	1.38	1.39
Range	3.14	3.09
Minimum	0.03	0.03
Maximum	3.17	3.13
Sum	276.32	275.19
Count	468	468
Confidence Level(95.	0.04	0.04
% Difference Mean		**-0.41%**



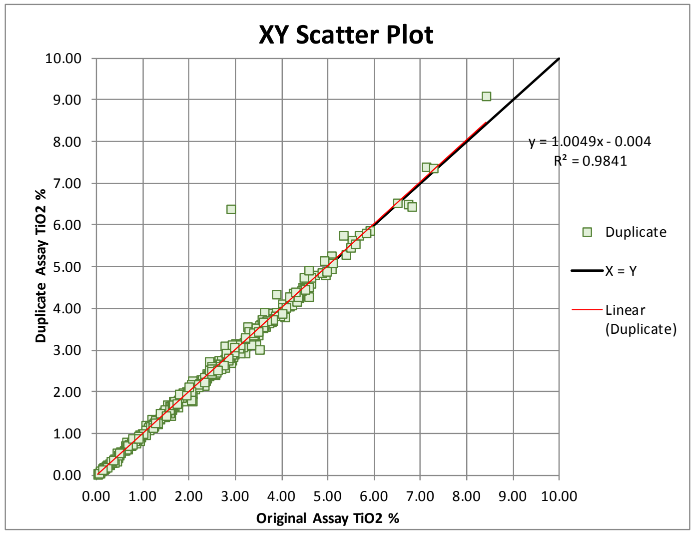
Percentile	Original	Duplicate
0.0%	0.03	0.03
5.0%	0.09	0.09
10.0%	0.13	0.12
15.0%	0.16	0.16
20.0%	0.20	0.20
25.0%	0.22	0.22
30.0%	0.26	0.26
35.0%	0.29	0.29
40.0%	0.35	0.35
45.0%	0.40	0.40
50.0%	0.46	0.45
55.0%	0.51	0.51
60.0%	0.60	0.59
65.0%	0.68	0.68
70.0%	0.78	0.77
75.0%	0.86	0.85
80.0%	0.95	0.96
85.0%	1.10	1.08
90.0%	1.24	1.22
95.0%	1.44	1.44
97.5%	1.65	1.67
99.0%	1.84	1.85
100.0%	3.17	3.13



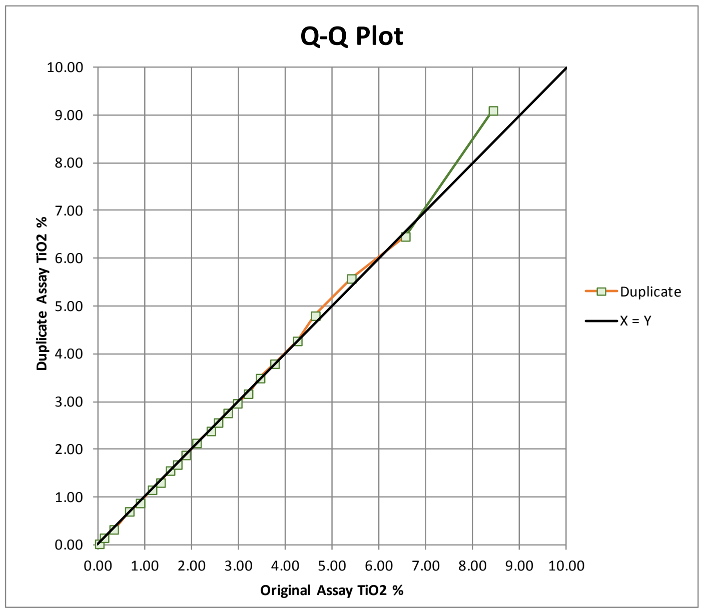
Source: SRK, 2015

Figure 11.5.4.10: XY Scatter and QQ Plot Showing Comparison of Original vs. Pulp Duplicate Analysis Nb_2O_5

ASSAY Value	Original	Duplicate
Mean	2.26	2.26
Standard Error	0.07	0.07
Median	2.10	2.13
Mode	0.94	0.53
Standard Deviation	1.47	1.49
Sample Variance	2.18	2.23
Kurtosis	0.46	0.76
Skewness	0.65	0.72
Range	8.39	9.06
Minimum	0.03	0.03
Maximum	8.42	9.09
Sum	1056.03	1059.36
Count	468.00	468.00
Confidence Level(95.	0.13	0.14
% Difference Mean		**0.32%**



Percentile	Original	Duplicate
0.0%	0.03	0.03
5.0%	0.14	0.15
10.0%	0.34	0.32
15.0%	0.66	0.70
20.0%	0.90	0.87
25.0%	1.14	1.16
30.0%	1.32	1.31
35.0%	1.54	1.55
40.0%	1.69	1.69
45.0%	1.88	1.87
50.0%	2.10	2.13
55.0%	2.40	2.40
60.0%	2.57	2.57
65.0%	2.77	2.76
70.0%	2.97	2.96
75.0%	3.21	3.15
80.0%	3.46	3.49
85.0%	3.77	3.80
90.0%	4.26	4.28
95.0%	4.64	4.81
97.5%	5.42	5.59
99.0%	6.58	6.46
100.0%	8.42	9.09



Source: SRK, 2015

Figure 11.5.4.11: XY Scatter and QQ Plot Showing Comparison of Original vs. Pulp Duplicate Analysis TiO_2

SRK has reviewed all the data available using XY Scatter Plots, QQ-Plots and ARD vs. percentage rank charts. Based on the review SRK concludes that no significant issues in terms of the precision exists from the Actlabs assays in the database, with all phases of the sample preparation displaying strong correlations between the original and duplicate assays. The results confirm the expected trend of greater precision within pulp duplicates vs. field duplicates which are have more potential variability from the sample itself (geology), through the entire sampling process (laboratory precision).

11.5.5 Check Analysis SGS vs. Actlabs

A total of 462 pulp duplicate samples, comprising a second riffled sample split of pulverized material, taken at the same time of extraction as the primary pulps, were submitted as part of the routine sample submission to a check laboratory (SGS). The total number of samples represents the equivalent of approximately 5% of the original submissions.

The SRM material submitted to SGS returned assays which were very close to the SRM values indicating slightly better accuracy than Actlabs for both Nb_2O_5 (Figure 11.5.5.1) and TiO_2 (Figure 11.5.5.2). The charts indicate that similar to Actlabs the SRM's return values at or above the assigned grades for Nb_2O_5 and values at or below the assigned grades for TiO_2. In SRK's opinion both laboratories provide sufficient accuracy for Indicated Mineral Resources.

A review of the XY Scatter plot (Figure 11.5.5.3) for Nb_2O_5 shows Actlabs reporting consistently higher across all grade ranges. SRK assumes this indicates some difference either in the method or equipment accuracy at one of the laboratories. A comparison of the mean Nb_2O_5 grades indicates an 8.7%high bias at Actlabs compared to SGS.

The bias is consistent with higher values reporting larger differences. SRK recommends the Company follow-up with both Laboratories to understand the fundamental difference in the sampling methods and identify the source of the bias. The results of the insertion of SRM material to the two laboratories indicate that SGS in general reports better accuracy than Actlabs, but the dataset is limited to 49 submissions vs. 492 submissions at SGS and Actlabs respectively. The results from SGS are assumed to present more accurate results SRK recommend that a more comprehensive set of samples are submitted to SGS with SRMs, specifically focusing on mid to high grades, so that a correction can be built into the Actlabs assays for future estimates. SRK does not suspect this will have a material impact on the overall Mineral Resource and the difference will be within acceptable level of errors of the current classification system.

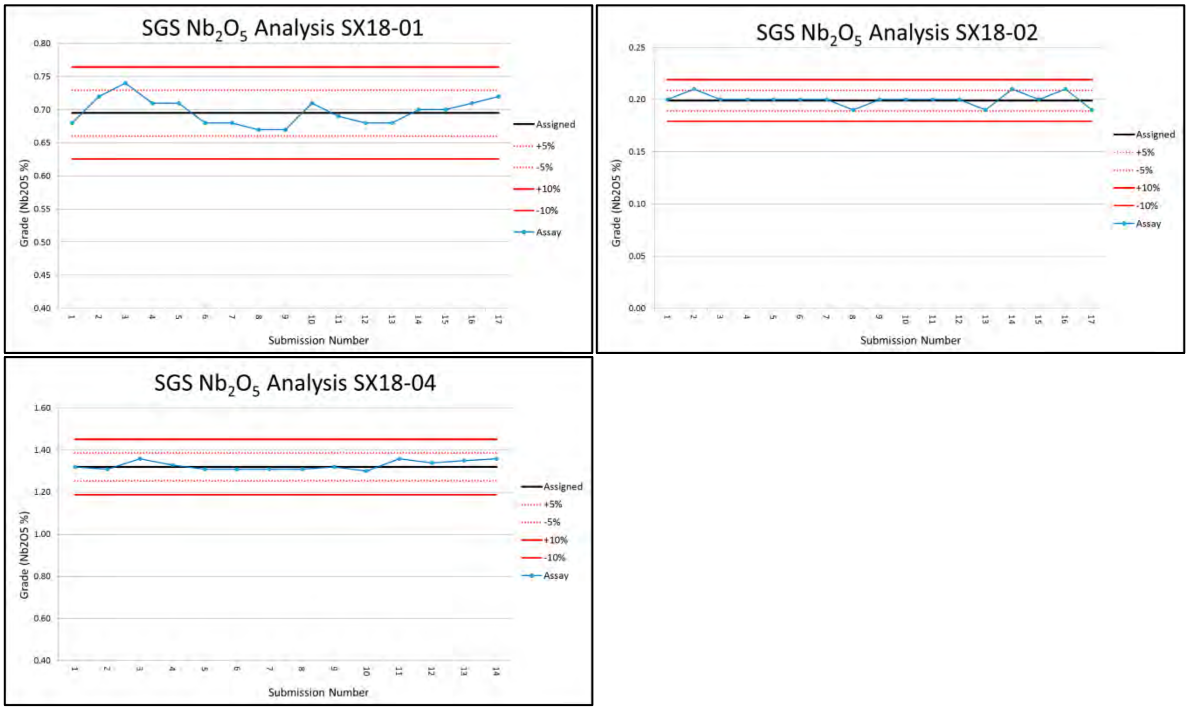
A review of the XY Scatter plot (Figure 11.5.5.4) for TiO_2 shows a slight low bias exists between the two datasets with Actlabs reporting consistently lower across all grade ranges. SRK assumes this indicates some difference in the either method or equipment accuracy at one of the laboratories. A comparison of the mean grades indicates a low bias towards the Actlabs results in the order of -4.6% on the mean grades (Actlabs reporting lower grades).

A review of the XY Scatter plot (Figure 11.5.5.5) for Sc shows good correlation between the two datasets with Actlabs reporting slightly lower grades across all grade ranges. A comparison of the mean grades indicates good correlation with Actlabs results in the order of -0.5% of the mean grades (Actlabs reporting lower grades).

In addition to the pulp duplicates a further 44 samples were submitted which were further duplicates of the external laboratory pulp submissions. SRK has reviewed this information and does not note any significant bias.

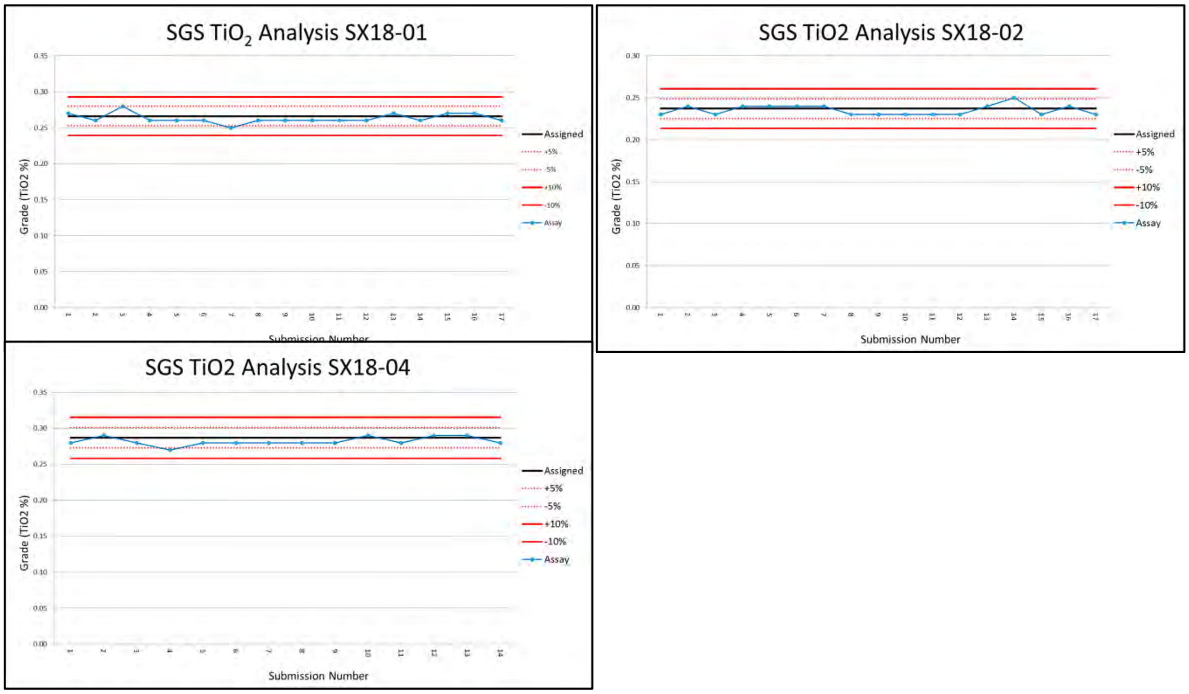
After considering the performance of the two laboratories for SRM material submitted, SRK concludes that a slight high bias exists in Nb_2O_5 assays for the 2014 database, with Actlabs returning higher assays than SGS. The bias has been reported to the laboratory and investigations into probable cause are ongoing. No conclusion on the source of the bias is available at the time of writing.

SRK concludes that while a bias exists it is currently within acceptable levels of error and therefore will not materially impact on the Mineral Resource. SRK has accepted the database as presented by Actlabs, and not made any adjustments to the assay information provided.



Source: SRK, 2015

Figure 11.5.5.1: Summary of SRM Nb_2O_5 Assays Submitted to SGS During Check Analysis

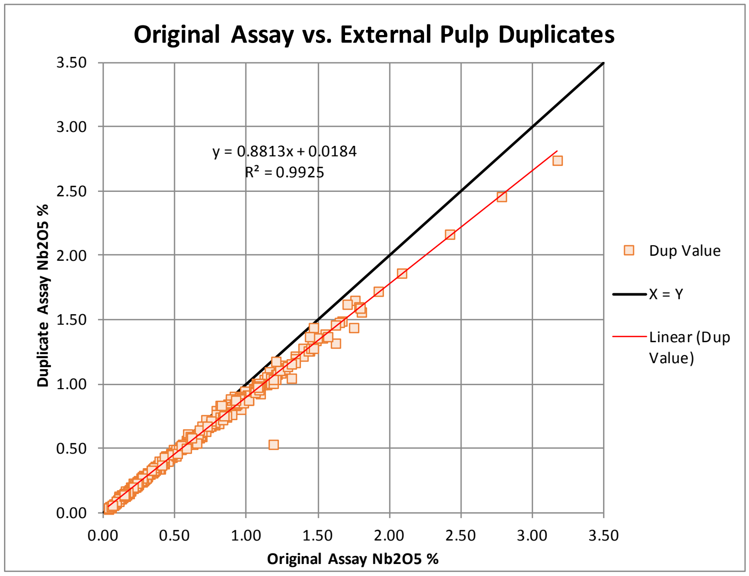


Source: SRK, 2015

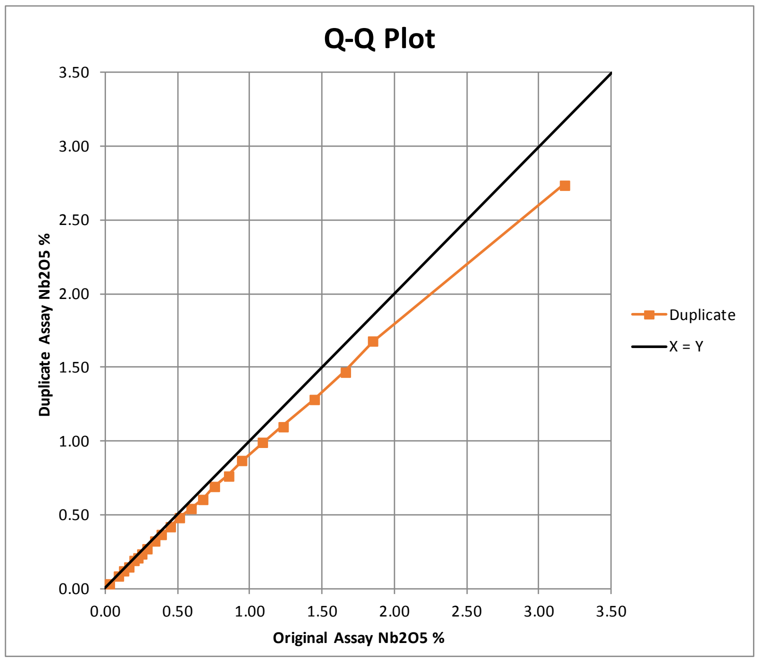
Figure 11.5.5.2: Summary of SRM TiO_2 Assays Submitted to SGS during Check Analysis

ASSAY Value	*Original*	*Duplicate*
Mean	0.59	0.53
Standard Error	0.02	0.02
Median	0.45	0.43
Mode	0.17	0.20
Standard Deviation	0.46	0.41
Sample Variance	0.22	0.17
Kurtosis	2.99	2.68
Skewness	1.41	1.35
Range	3.14	2.71
Minimum	0.03	0.03
Maximum	3.17	2.74
Sum	270.55	246.94
Count	462	462
Confidence Level(95.	0.04	0.04

% Difference Mean **-8.73%**



Percentile	Original	Duplicate
0.0%	0.03	0.03
5.0%	0.09	0.09
10.0%	0.12	0.12
15.0%	0.16	0.15
20.0%	0.20	0.19
25.0%	0.22	0.21
30.0%	0.25	0.24
35.0%	0.29	0.27
40.0%	0.34	0.32
45.0%	0.39	0.36
50.0%	0.45	0.43
55.0%	0.51	0.48
60.0%	0.59	0.54
65.0%	0.68	0.61
70.0%	0.75	0.69
75.0%	0.85	0.77
80.0%	0.95	0.87
85.0%	1.09	0.99
90.0%	1.23	1.10
95.0%	1.44	1.28
97.5%	1.66	1.47
99.0%	1.85	1.68
100.0%	3.17	2.74

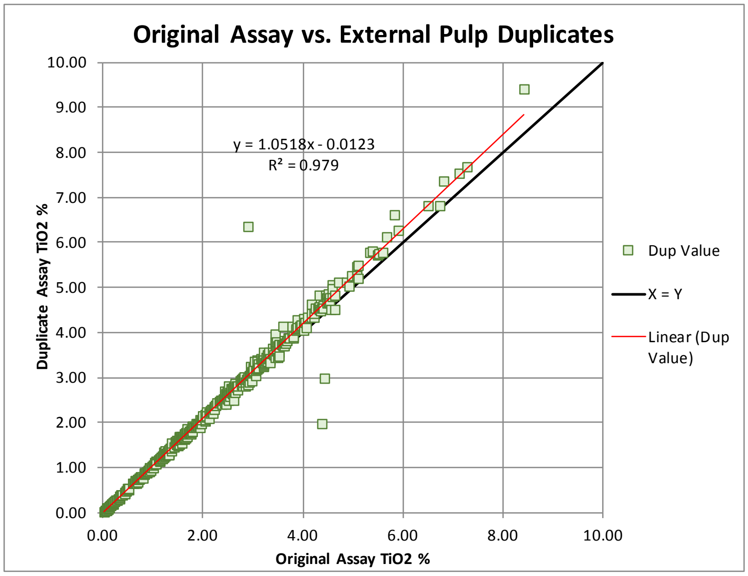


Source: SRK, 2014

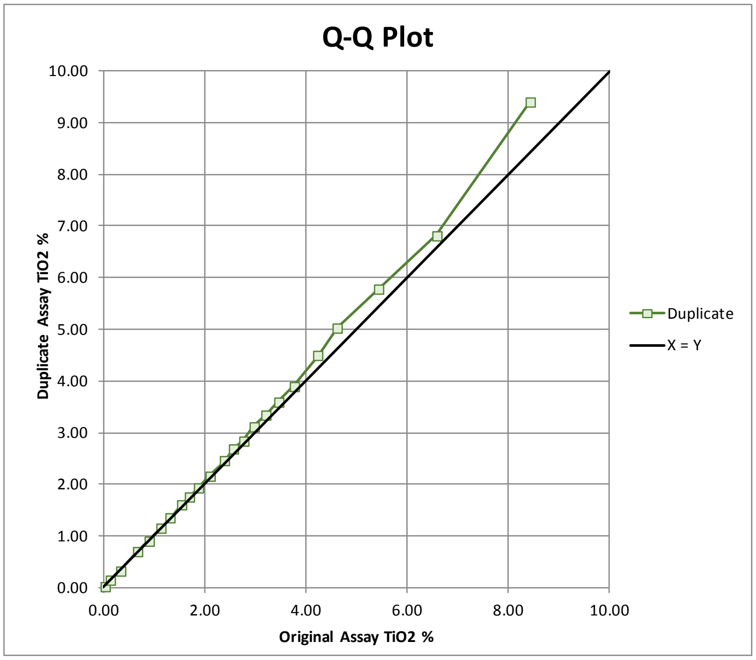
Figure 11.5.5.3: XY Scatter and QQ Plot Showing Comparison of Original vs. Umpire Laboratory Analysis Nb_2O_5

ASSAY Value	*Original*	*Duplicate*
Mean	2.25	2.35
Standard Error	0.07	0.07
Median	2.10	2.17
Mode	0.09	1.78
Standard Deviation	1.48	1.57
Sample Variance	2.18	2.47
Kurtosis	0.47	0.76
Skewness	0.66	0.74
Range	8.39	9.38
Minimum	0.03	0.02
Maximum	8.42	9.40
Sum	1039.25	1087.41
Count	462	462
Confidence Level(95.	0.14	0.14

% Difference Mean **4.63%**



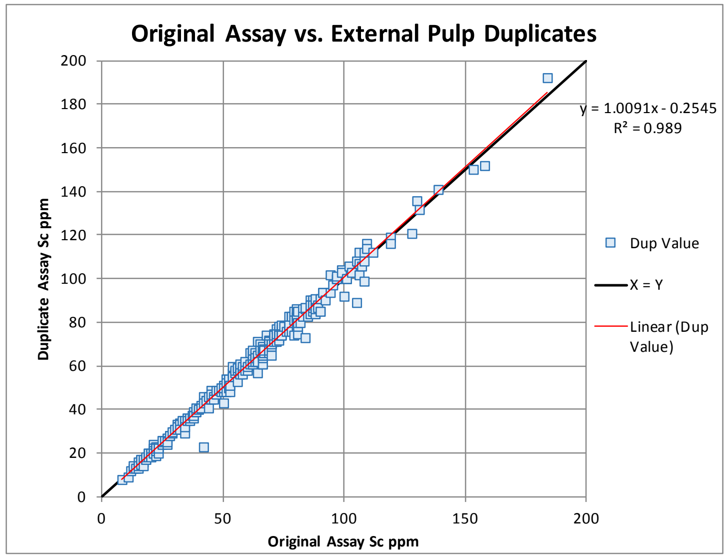
Percentile	Original	Duplicate
0.0%	0.03	0.02
5.0%	0.14	0.15
10.0%	0.33	0.33
15.0%	0.66	0.69
20.0%	0.89	0.90
25.0%	1.13	1.16
30.0%	1.32	1.35
35.0%	1.53	1.59
40.0%	1.68	1.75
45.0%	1.87	1.93
50.0%	2.10	2.17
55.0%	2.39	2.46
60.0%	2.57	2.68
65.0%	2.77	2.84
70.0%	2.97	3.12
75.0%	3.21	3.35
80.0%	3.46	3.59
85.0%	3.77	3.90
90.0%	4.24	4.49
95.0%	4.63	5.03
97.5%	5.43	5.78
99.0%	6.59	6.81
100.0%	8.42	9.40



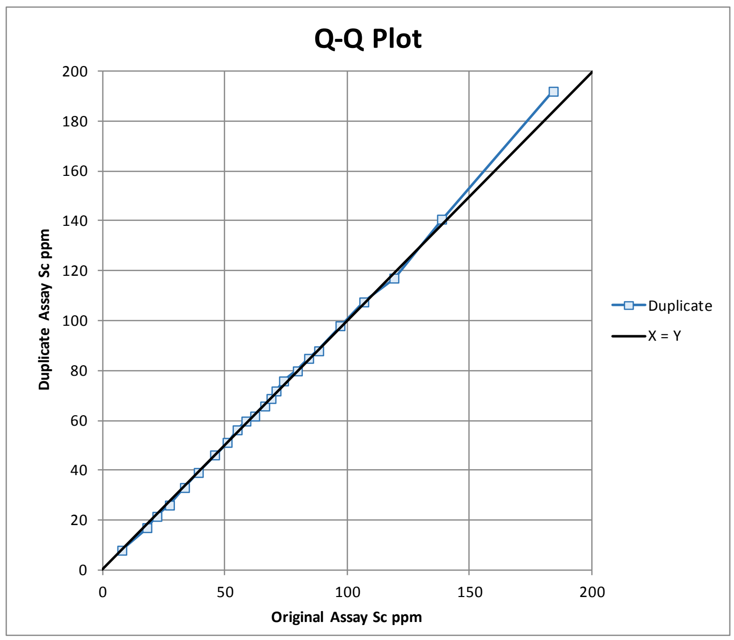
Source: SRK, 2015

Figure 11.5.5.4: XY Scatter and QQ Plot Showing Comparison of Original vs. Umpire Laboratory Analysis TiO_2

ASSAY Value	*Original*	*Duplicate*
Mean	61.25	61.56
Standard Error	1.64	1.67
Median	62.00	62.00
Mode	62.00	20.00
Standard Deviation	28.76	29.18
Sample Variance	827.19	851.67
Kurtosis	0.79	0.84
Skewness	0.50	0.49
Range	176.00	184.00
Minimum	8.00	8.00
Maximum	184.00	192.00
Sum	18805.00	18898.00
Count	307	307
Confidence Level(95.	3.23	3.28
% Difference Mean		**0.49%**



Percentile	Original	Duplicate
0.0%	8.00	8.00
5.0%	18.00	17.00
10.0%	22.00	21.60
15.0%	27.00	26.00
20.0%	33.20	33.00
25.0%	39.00	39.00
30.0%	45.80	46.00
35.0%	51.00	51.00
40.0%	55.00	56.40
45.0%	58.70	60.00
50.0%	62.00	62.00
55.0%	66.00	66.00
60.0%	69.00	69.00
65.0%	71.00	72.00
70.0%	74.00	76.00
75.0%	79.50	80.00
80.0%	84.00	84.80
85.0%	88.00	88.00
90.0%	97.00	97.80
95.0%	106.70	107.70
97.5%	119.00	117.05
99.0%	138.52	140.70
100.0%	184.00	192.00



Source: SRK, 2015

Figure 11.5.5.5: XY Scatter and QQ Plot Showing Comparison of Original vs. Umpire Laboratory Analysis Sc

11.6 Specific Gravity

NioCorp collected specific gravity (SG) measurements in 2011 and 2014 program, covering the spatial and temporal aspect of all drill campaigns and considering the various lithologies present. Two methodologies have been implemented, (1) water immersion specific gravity measurement and (2) volumetric dry density measurement. Initially only the water immersion measurements were taken but during the site inspection by SRK it was recommended that a volumetric wet and dry density measurements should also be taken, due to the porous or vuggy nature of some of the core causing possible errors in the water immersion method. The two methods used are described below:

Water immersion method determines the specific gravity by the following formula:

$$SG = (\text{weight in air}) / (\text{weight in air} - \text{weight in water})$$

A 10 to 20 cm piece of whole, dry, HQ core were weighed dry on an Ohaus Scout Pro scale and the weight recorded. The weight in water is determined by attaching the core by a long nylon fishing line to the Ohaus balance, lowering the core piece into a large plastic tub located immediately below the scale and filled with purified water. The weight of the core while immersed is then recorded, and applied to the formula for determining the SG. Porous core samples of altered carbonatite cannot be accurately measured using this method and are better represented by using the dry density measurement.

Dry Volumetric method determines the Density by the following formula:

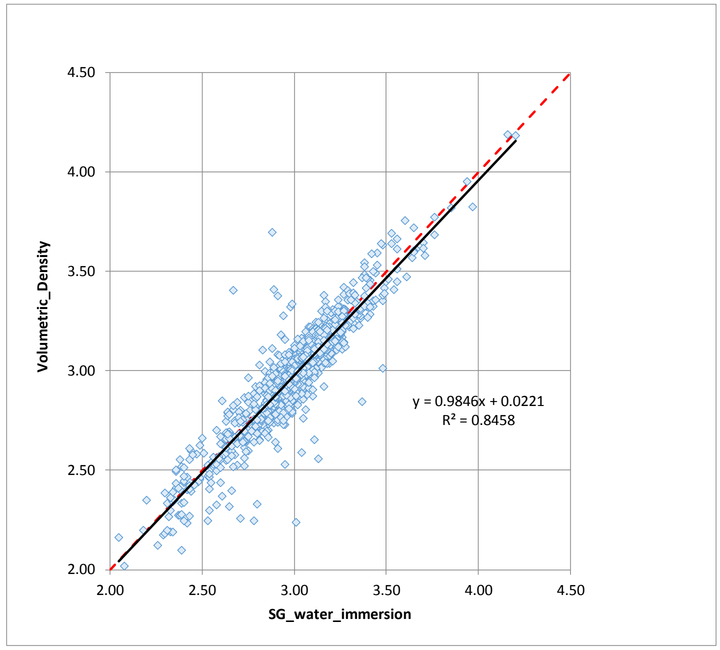
$$SG= [(\text{weight in air})]/ [(\pi)\ (\text{core length})\ (\text{core radius})^2]$$

A 10 to 15 cm piece of whole, HQ or PQ core, were dried in a convection oven for 60 minutes at 200°F. If the core still has moisture, it was left in the oven for a longer period of time. The exact length of the core was measured with a caliper and recorded. The sample was then weighed dry in air by suspending the core by a long nylon fishing line from an Ohaus Scout Pro balance and the weight of the core recorded. It is assumed the radius remains constant for each size of drill core: 31.75 mm for HQ and 41.50 mm for PQ. These measurements are applied to the formula for determining the SG. Calibration weights were occasionally used to verify the accuracy of the balance. The table used to complete the measurements is made of wood construction and tested for level by the technician.

A total of 1225 samples have been analyzed using both method and a comparison between the two methods (Figure 11.6.1) shows that the water immersion method returns higher density values. A statistical analysis of the mean grades of the two populations where both methods have been recorded show a difference of approximately 1%. The correlation shown on the XY scatter indicates a strong correlation for the majority of cases, but for some samples there are significant differences with the volumetric density returning higher grades. This may be a result of voids, porous material.

SRK does not consider the difference to have a material impact.

	SG_water_immersion	*Volumetric_Density*
Mean	2.98	2.96
Standard Error	0.01	0.01
Median	2.98	2.96
Mode	2.97	2.69
Standard Deviation	0.24	0.26
Sample Variance	0.06	0.07
Kurtosis	2.36	1.83
Skewness	-0.04	-0.02
Range	2.15	2.17
Minimum	2.05	2.02
Maximum	4.20	4.19
Sum	3651.48	3622.14
Count	1225	1225



Source: SRK: 2015

Figure 11.6.1: Comparison of Density Measurements Using Volumetrics vs. Water Immersion Methods

11.7 Opinion on Adequacy

SRK comments that the decision for reassays of the SRMs/standards is based on a percentage and not the typical 2 x standard deviation, or 3 x standard deviation which is generally accepted as industry best practice. SRK has reviewed the original certificates for the SRMs submitted as part of the 2014 program and notes that no standard deviation is shown on the certificate. The limits have been requested from the supplier by Dahrouge but not supplied. The current method of using a ±5% and ±10% limit while not ideal provides a reasonable level of confidence in the control samples, and the Company has address this issue by including an additional certified reference sample GRE-04, which provides certified standard deviations which form the basis of control lines.

SRK is of the opinion that these measures are consistent with or in excess of current industry best practices for projects at this scale of exploration.

12 Data Verification

The geological database has been provided to SRK by Dahrouge who have been involved with the Project since the Company acquired the Project, under its former name of Quantum. In addition to the digital database SRK has been provided access to historical copies of the data captured in scanned format for the drilling logs.

During the period of ownership by the Company a number of validation exercises have been completed on the database to provide a high level of confidence in the data available for the geological modelling and associated Mineral Resource Estimate.

The following Section provides a summary of the previous verification exercises completed by Dahrouge and Tetra Tech (as part of the previous NI 43-101 Technical Report), plus additional verification work completed by SRK as part of the current study.

12.1 Tetra Tech Data Verification, 2012

Tetra Tech reviewed the database of the 27 drillholes within the Project area and found:

- The database consists of 29 drillholes, totaling 18,159.15 m. Twenty-seven of the twenty-nine drillholes, totaling 17,057 m, were used in the interpretation of the Elk Creek niobium deposit;
- Tetra Tech performed an internal verification process of the project database against the original logs, surveyor reports, and laboratory-issued assay certificates;
- The data verification process examined the collars (easting, northing, elevation), lithologies (interval, rock type), and assays (sample number, Nb_2O_5% value);
- No errors were found in the collar, lithology, and assay files;
- A number of holes (EC-25, EC-33, EC-34, EC-35, EC-36 and EC-37) were missing downhole survey information; however, these holes appear on the southwestern limit of the deposit and were only used in the interpretation of the deposit, not in the resource estimate;
- Quantum's 2010 to 2011 re-sampling data compared to historic values was less than 1% different in all cases except for one where the tolerance was less than 2%;
- REE assay values were not included in the 2012 Mineral Resource estimate and therefore were excluded from the verification analysis;
- The results of the verification study found the following: During Quantum's 2011 drilling program, seven historic Molycorp drill collars were uncovered to survey the collar locations. The entries in the survey reports were recorded in imperial units (feet) and a factor of 0.3048 was used to convert the values into a metric system (meters). The database entries were verified against these converted values from the survey reports, and no inconsistencies were found;
- Completed verification of the digital database against the assay certificates for the three holes drilled within the Elk Creek Niobium Deposit (NEC11-001, NEC11-002, and NEC11-003), accounting for 1,195 of the total 6,078 samples, or 19.66% of the entire sample dataset., and no errors were observed;
- It was noted that when assaying yielded results below detection limit, half the detection limit (i.e. less than 0.003 Nb_2O_5%) was entered in the database for samples from 2011 drillholes,

whereas a value of 0 was entered for all such occurrences in holes drilled prior to 2011. SRK has utilized a value of half the detection limit for all such occurrences;

- Completed verification on the lithological logging for potential transcription errors for NEC11-001, NEC11-002, and NEC11-003. It was noted that overburden depths were not recorded in the logs but were, however, entered in the database;
- Sixteen of the historic Molycorp drillholes were attributed with a negative azimuth value in the survey file. All drillholes were vertical therefore rendering the azimuth insignificant, and all such negative values were corrected to zero;
- Tetra Tech identified a number of cases where minor intervals where logged in the field but were not transcribed into the database;
- All errors were correct by Tetra Tech prior to importing into technical software;
- The header, lithology, survey, and assays tables from the database were imported into Gemcom GEMS™ software, which has a routine that checks for duplicate intervals, overlapping intervals, and intervals beyond the length of the hole. No errors were identified; and,
- Completion of a site inspection on February 8 to 9, 2012, which included the inspection of Quantum's 2011 drillhole locations and of the core logging, sampling and storage facility.

Independent check samples were collected during the site visit by Tetra Tech. Four ¼ core samples were collected from the available drill core at the core storage site at Quantum's core logging and sampling facility.

- The samples were sent to Actlabs in Ancaster, ON for analysis. The sample preparation was carried out by crushing the sample with the entire sample passing a 10 Mesh (1.7 mm) screen. The sample was then split and 250 g pulverized with hardened steel to 95% passing a 150 Mesh (106 µm) screen (Actlabs code RX1). Analysis for niobium was conducted using XRF analysis;
- The Tetra Tech check sample analysis correlates well with Quantum's assay results for the same sample intervals in three of the four cases; and,
- Tetra Tech concluded that the analytical results for Nb_2O_5% have been confirmed and that they are adequate for purposes of the 2012 Technical Report.

12.2 SRK Validation

SRK geologists under the guidance of Cody Bramwell and David MacDonnell were on site on a rotational basis during the 2014 drilling program conducted by NioCorp.

12.2.1 Site Inspection

In accordance with NI 43-101 guidelines, Martin Pittuck (Qualified Person) visited the Elk Creek Project between June 17 and 19, 2014. The main purpose of the site visit was to:

- Ascertain the geological and geographical setting of the Elk Creek deposit;
- Witness the extent of the exploration work completed to date;
- Inspect the drilling rig(s);
- Review the sample preparation methodology;
- Inspect core logging and sample storage facilities;
- Discuss geological interpretation and inspect drill core; and

- Assess logistical aspects and other practicalities relating to the exploration property.

SRK was able to verify the quality of geological and sampling information and develop an interpretation of niobium grade distributions appropriate to use in the Mineral Resource model. A basic review of the electronic database against a number of drillhole intersections was also completed.

In addition to the site inspection by Martin Pittuck SRK has had a continual involvement reviewing data, interpretation and modelling outcomes.

12.2.2 Procedures

To verify the database SRK has looked at all aspects of the data collection. SRK checked the coordinates of all drillholes via handheld GPS for NioCorp 2014 drillholes. SRK notes that the drillholes are well-located and have been surveyed by an external company using high precision equipment.

Survey Information

During the review of the historical database a number of potential transcription errors between the historical locations and the captured information have been identified. This in part has been attributed to the collars co-ordinates beginning captured from detailed historical maps during the original data capture, which may potentially have had a different datum. Where possible historic collars (24 drillholes) were re-surveyed but given the agricultural nature of the land were not always located at surface. Where this occurred holes were re-located using metal detectors and dug out using backhoe, and re-surveyed. The results showed a consistent shift between the historical collars used in the 2014 estimates. The difference in the UTM coordinates is consistently 4.7 m in the X coordinate and approximately 7.85 m in the Y coordinate (as shown in Table 12.2.2.1).

Table 12.2.2.1: Summary of Difference between DGPS vs. Digitized Collar Locations

BHID	Method	XCOLLAR_ DIFF-GPS	YCOLLAR_ DIFF-GPS	XCOLLAR_ MAP	YCOLLAR_ MAP	X_ Difference (m)	Y_ Difference (m)
EC-11	DIFF-GPS	739,604.1	4,461,131.2	739,599.4	4,461,139.1	-4.7	7.9
EC-14	DIFF-GPS	739,278.0	4,461,347.5	739,273.3	4,461,355.3	-4.7	7.8
EC-15	DIFF-GPS	739,054.2	4,461,307.6	739,049.5	4,461,315.4	-4.7	7.9
EC-16	DIFF-GPS	739,389.4	4,461,248.5	739,385.0	4,461,256.3	-4.4	7.8
EC-19	DIFF-GPS	739,552.7	4,461,301.9	739,548.0	4,461,309.8	-4.7	7.9
EC-20	DIFF-GPS	739,231.9	4,461,455.5	739,227.3	4,461,463.2	-4.6	7.7
EC-21	DIFF-GPS	739,547.0	4,461,304.5	739,542.3	4,461,312.4	-4.7	7.9
EC-22	DIFF-GPS	739,135.4	4,461,168.6	739,130.7	4,461,176.4	-4.7	7.9
EC-24	DIFF-GPS	739,162.1	4,461,249.3	739,157.4	4,461,257.2	-4.7	7.9
EC-25	DIFF-GPS	739,134.8	4,461,263.2	739,130.1	4,461,271.1	-4.7	7.9
EC-26	DIFF-GPS	739,176.3	4,461,276.0	739,171.7	4,461,283.9	-4.7	7.9
EC-27	DIFF-GPS	739,384.2	4,461,335.4	739,379.5	4,461,343.2	-4.7	7.9
EC-28	DIFF-GPS	739,145.6	4,461,363.4	739,141.0	4,461,370.9	-4.6	7.5
EC-29	DIFF-GPS	739,080.9	4,461,394.1	739,076.1	4,461,402.0	-4.8	7.9
EC-30	DIFF-GPS	739,487.3	4,461,158.0	739,482.2	4,461,166.5	-5.1	8.5
EC-31	DIFF-GPS	739,006.8	4,461,419.7	739,002.1	4,461,427.6	-4.7	7.9
EC-32	DIFF-GPS	739,087.8	4,461,330.8	739,083.1	4,461,338.6	-4.7	7.9
EC-33	DIFF-GPS	739,057.6	4,461,237.7	739,052.9	4,461,245.6	-4.7	7.9
EC-34	DIFF-GPS	738,998.8	4,461,297.8	738,994.1	4,461,305.6	-4.7	7.9
EC-35	DIFF-GPS	739,134.2	4,461,165.7	739,129.5	4,461,173.6	-4.7	7.9
EC-36	DIFF-GPS	739,069.2	4,461,344.2	739,064.5	4,461,352.1	-4.7	7.9
EC-37	DIFF-GPS	739,003.1	4,461,274.9	738,998.4	4,461,282.8	-4.7	7.9
EC-51	DIFF-GPS	738,942.9	4,461,234.7	738,938.2	4,461,242.6	-4.7	7.9
EC-54	DIFF-GPS	739,053.9	4,461,307.6	739,049.2	4,461,315.4	-4.7	7.9

Source: Dahrouge, 2014

Based on the investigation SRK has adjusted the collar locations accordingly to account for the higher confidence in the differential global positioning satellite (DGPS) measurements.

Historical Assay Information (Adjustments in Molycorp Assays)

During a review of the historical assays against the raw Molycorp database obtained by Dahrouge since SRK's 2014 estimate, an issue was noted where by a proportion of the Molycorp assay database had been factored (original assays factored by 80%). No clear explanation has been defined within these cases as to the reason for the factored assay results.

The latest database export provided to SRK included information for the historical assays broken down into the following categories:

- Nb_2O_5_%_Orig-XRF (Molycorp data, not always reported)
- Nb_2O_5_%_Corr-XRF (Molycorp laboratory corrected data, not always reported)
- Nb_2O_5_%_ALS (2010 re-assay)

Within the 2012 data compilation the general format has been to adjust any results which contained only the original Molycorp XRF data by the afore mentioned 80%. SRK estimates this has been completed for approximately 10% of the assays within the 0.3% grade shell limit, which decreasing to <4% within the 0.4% grade shell. Based on a study of the mean grade using the original vs. the adjusted values the influence on the mean grade is negligible (<0.5%). Given no defined reason for the adjustment has been noted SRK has used the original data where no reassays during the 2011/2012 verification program have been completed. SRK does not anticipate the use of the factored or unfactored historical assays will have a material impact on the current Mineral Resource estimate. To ensure best practice and sufficient QA/QC is completed on the database SRK would recommend re-assaying the 10% of samples from the historical holes which lie within the 0.3% grade shell if available in pulp or the core is in sufficient quality to obtain a sample using the current QA/QC protocol.

Database Information

The database used for the resource estimate was constructed by Dahrouge and is stored in CAE Mining Fusion Database, and is considered to be of good quality. The use of a commercial database is considered industry best practice with the following key advantages:

- The system facilitates fast and accurate data collection and can be configured (via pick-lists) to meet all specific data schemes and logging standards relevant to each site;
- Drillhole related data can be recorded directly at the worksite on a touch-screen tablet or a notebook computer;
- Data is stored locally and synchronized to a single central database for the Project via a network connection. Transfer to and from the Central Database provides an audit trail for any edits made to the database;
- The QA/QC system allows users to achieve immediate data validation as information is captured. Only valid field values and labels are accepted, ensuring consistent logging standards are applied across multiple staff or sites;
- Importing laboratory results can be done directly to avoid potential transcription errors. The import function can proactively detect problems with analytical results; and
- Export routines can be created to provide the required data for use in technical software in a consistent format.

SRK has been supplied with exports from the database covering, collar, survey, lithology, assay, alteration and key structural indicators. SRK has used importing routines within Datamine Mining Software (Datamine) and ARANZ Leapfrog Mining Software (Leapfrog). During the importing routine the following errors have been noted:

- Assay values in the Molycorp database where Nb_2O_5% values are set to zero. These are assumed by SRK to represent values below detection limits and so SRK reset the values to half of the respective half detection limit;
- A search for sample overlaps or significant gaps in the interval tables, duplicate samples, errors in the length field, anomalous assay and survey results has been completed. No material issues were noted in the final sample database;
- The original signed electronic copies of the laboratory certificates were also spot verified for selected holes in the final electronic assay database and no errors were found; and
- Within the multi-element database a number of cases exist in the Molycorp assays have yet to be re-assayed for TiO_2 or Sc, as they were not included in the 2010 verification program. SRK has assumed that this is due to the original samples not being located for re-submission. SRK has ignored all cases where this occurs and inserted a default “NNS” for use in Leapfrog during the geological modelling process.

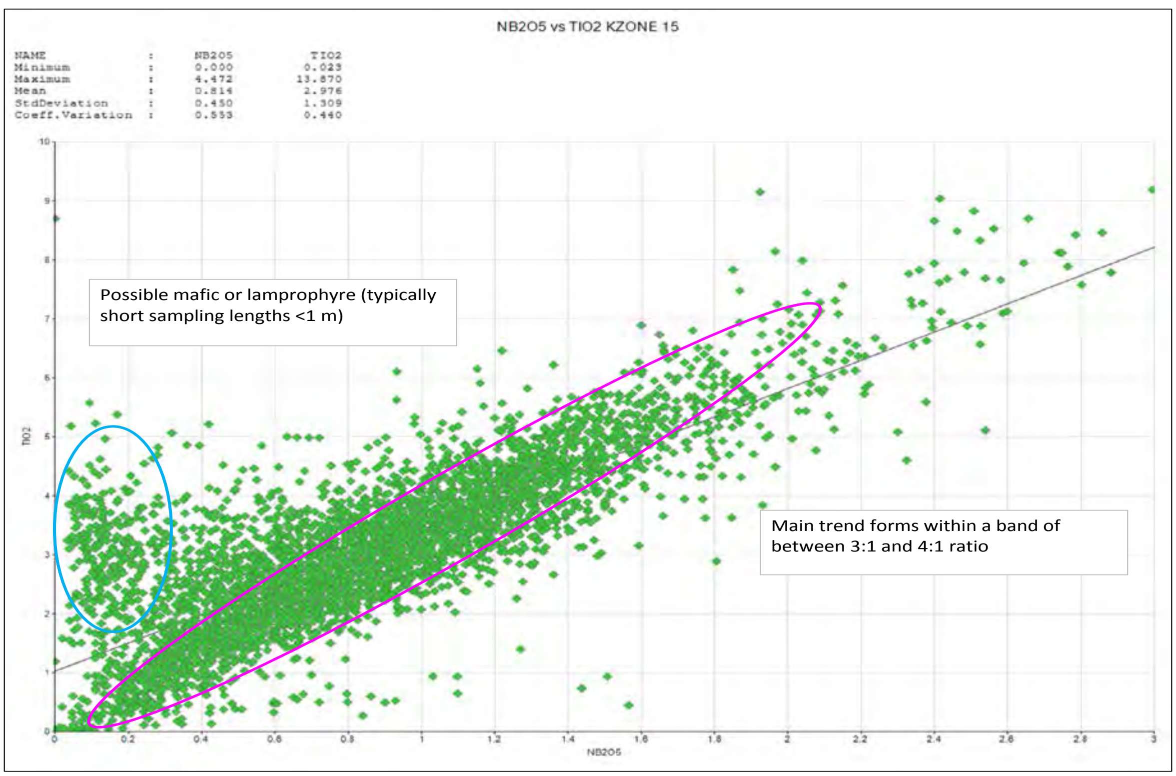
Absent TiO_2 and Sc assays

In total 6.0% and 7.1% of the Nb_2O_5 assays within the mineralized wireframes contain absent values for TiO_2 and Sc respectively. The average Nb_2O_5 grade for the absent values is approximately 0.3% Nb_2O_5. These samples were not included within the 2010 reassay program and therefore no pulp material was available for inclusion in the 2014 assay program. SRK has investigated alternative methods of how the absent values should be treated within the database.

Within the geological wireframes where multi-element data was absent, SRK has completed a regression analysis for absent TiO_2 and Sc values in the database. The sample regression was established by plotting XY Scatter charts of each element vs. the Nb_2O_5. SRK notes a very strong positive correlation between Nb_2O_5 and TiO_2 although a portion of the population where the TiO_2 grades are elevated shows a lesser corresponding increase in the Nb_2O_5. In SRK's opinion these may relate to more Lamprophyric material which tends to have lower Nb_2O_5 grades. Based on the analysis SRK elected to use an equation to derive missing values for TiO_2:

- IF (TiO_2 ==absent()) TiO_2 = Nb_2O_5 x 3.5

In addition to the assigned values SRK has also flagged the database with an indicator for quality where true assays equal 1 and assigned values equal 0. This allows SRK to review the quality of the original sampling data during the classification process.



Source: SRK, 2015

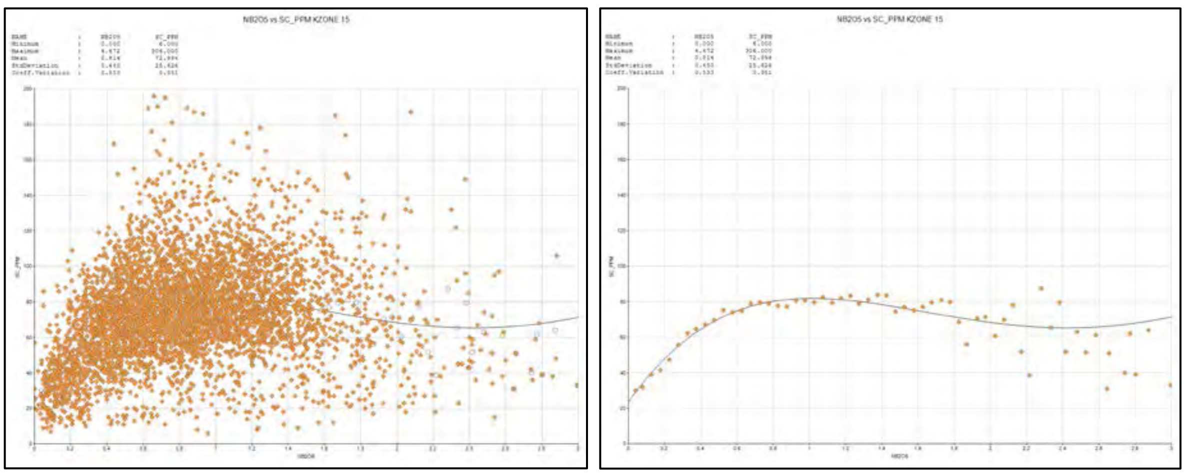
Figure 12.2.2.1: XY Scatter Showing Relationship Between TiO_2 and Nb_2O_5

In contrast there is no linear trend which can be established between the Sc and Nb_2O_5 grades (left Figure 12.2.2.2). To establish a relationship SRK has created an average for the Sc values based on

0.05 % interval bands of Nb_2O_5. The resultant chart shown on the right in Figure 12.2.2.2 shows a more defined model which has been used to assign values with missing Sc assays. To model the trend SRK has used linear trends at lower grades and then capped the Sc values above a given threshold. An example of the criteria used for estimation domain (KZONE) 15 is shown below:

- *IF(KZONE==15 AND SC_PPM==absent() AND Nb_2O_5<0.55)*
    - *SC_PPM=(Nb_2O_5*110)+20 END*
- *IF(KZONE==15 AND SC_PPM==absent() AND Nb_2O_5>=0.55)*
    - *SC_PPM=80 END*

The equations have been optimized per estimation domain with validation being completed by testing actual raw values to ensure the results remain within the plotted population. Additional checks have been completed to confirm the Nb_2O_5 population for the absent Sc values remains consistent with the sample population within Nb_2O_5 and Sc values, via histograms.



Source: SRK, 2015

Figure 12.2.2.2: Analysis of Sc vs. Nb_2O_5 grades within KZONE 15

To test the potential impact on the resultant mineral resource estimate SRK completed three estimates as follows:

- Missing values reset to the detection limit and assumed to be waste;
- Missing values ignored and hence estimates rely only on neighboring values; and
- Missing values assigned based on Nb_2O_5 assays using regression formulae given above.

SRK compared the results using visual analysis via key cross-sections (10 in total per element), plus production of a global grade tonnage curve (not classified) for each scenario. The results were tabulated and compared to assess the level of risk in using each scenario.

Table 12.2.2.2: Summary of Analysis for Selection of Treatment for Absent TiO_2 and Sc Assays

Cut-Off	TONNES	Detection Limit Assigned			Ignored Absent Values			Regression Analysis		
Nb_2O_5	(000's t)	Nb_2O_5	TiO_2	SC_PPM	Nb_2O_5	TiO_2	SC_PPM	Nb_2O_5	TiO_2	SC_PPM
0.00	1,271,000	0.10	0.38	10.4	0.10	0.43	12.1	0.10	0.41	12.2
0.30	180,000	0.63	2.37	59.5	0.63	2.55	66.8	0.63	2.48	67.0
0.40	126,000	0.75	2.83	67.6	0.75	2.86	70.3	0.75	2.85	70.5
0.50	118,000	0.77	2.91	68.5	0.77	2.92	70.6	0.77	2.91	70.8
0.70	75,000	0.86	3.01	69.0	0.86	3.02	71.2	0.86	3.02	71.4

Source: SRK, 2015

SRK preference has been to use the regression methodology in the current estimate as it is known from reviewing the 2014 assays that relationships exist between both the TiO_2 and Sc values with the Nb_2O_5 mineralization. Therefore by ignoring assigning a value of half detection limit would result in an underestimate, and ignoring the samples could potentially overstate the grade.

In comparison for the regression analysis the increase in the mean grade from 2.37 % to 2.48 % for TiO_2, and 59.5 ppm to 67 ppm for Sc at a cut-off of 0.3% Nb_2O_5. SRK considers these difference to be within acceptable levels of error, with the error reducing further at higher cut-offs. The reduction in the differences at higher cut-offs is due to samples having already been sent for either primary or reanalysis to obtain TiO_2 and Sc values.

SRK would recommend that the entire historical database which has not been submitted for reanalysis be sent for TiO_2 and Sc assays to confirm the numbers used in the current estimate. SRK does not consider that this will make a material impact but having absent assays within the geological wireframe is not considered Industry Best Practice. Work programs will be required to increase the level of confidence for assay database further with the focus on two main areas:

- assaying values which have not currently been assayed for TiO_2 and Sc which fall within or in close proximity to the current geological/mineralization wireframes
- Conducting a QA/QC program which includes submission of a low, medium and high grade TiO2 and Sc SRM (if one can be purchased), along with the submission of a range of grades from returned pulps to the primary laboratory. The aim of this exercise would be to confirm the accuracy of the laboratory as the precision is well established from the duplicate program.

12.2.3 Limitations

SRK was not limited in its access to any of the supporting data used for the resource estimation or describing the geology and mineralization in this report.

The database verification is limited to the procedures described above. All mineral resource data relies on the industry professionalism and integrity of those who collected and handled the database.

12.3 Opinion on Data Adequacy

SRK is of the opinion that appropriate scientific methods and best professional judgment were utilized in the collection and interpretation of the data used in this report. However, users of this report are cautioned that the evaluation methods employed herein are subject to inherent uncertainties.

In summary, SRK has accepted the sample database as provided by the Company and concludes that the data is sufficiently reliable to support Mineral Resource estimation. SRK recommends that the issues raised previously between the umpire laboratory checks should be further reviewed. SRK would consider the work programs laid out above, in conjunction with further infill drilling will be required to gain confidence in the database to possibly delineate a Measured Mineral Resource.

13 Mineral Processing and Metallurgical Testing

13.1 Introduction to Niobium Processing

To provide context on the typical metallurgical processing routes to produce a niobium concentrate SRK provides a brief summary taken from Niobium 101 summary found on www.iamgold.com website.

"*After the ore is mined it is finely ground and beneficiated (separation process) by flotation and high-intensity magnetic separation to remove iron minerals. In Canada, nitric acid can be used to remove apatite, and in Brazil a chloride leach process is used to reduce the barium, phosphorus and sulphur content. The end result of this physical processing is a pyrochlore concentrate grading 55-60%* Nb_2O_5*. Most pyrochlore concentrates, however, are converted into a standard-grade ferroniobium for use in applications where the retained impurities can be tolerated. For applications requiring higher purity levels, further processing is required to yield purity levels of ~99% such as the levels found in niobium oxides and vacuum-grade ferroniobium*."

The following section describes the progress of the studies.

13.2 Historical Testwork

13.2.1 Molycorp

Molycorp completed a number of tests on three composite samples. The findings from the studies are summarized in the previous NI 43-101 Technical Report entitled "Elk Creek Niobium Project, Nebraska, US, Resource Estimate Update, dated April 23, 2012. In the report it has been highlighted that due to incompleteness of the reporting it has not been possible to establish the representativeness of the original samples with respect to the mineralization. A summary of the findings is presented in Table 13.2.1.1 below:

Table 13.2.1.1: Summary of Molycorp Metallurgical Testwork Findings

Borehole	Head Grade	Concentrate	Recovery	Test method
EC-15	2.4%	44.1%	66.3%	Flotation testwork using hot fatty acid float (similar to Niobec)
EC-26	1.3% to 1.54%	unknown	~ 20%	Gravity separation testwork
EC-26	~ 1.3%	unknown	Unknown	Magnetic separation testwork
EC-40	1.1% to 1.2%	17.6%	Up to 50.6%	Flotation testwork using hot fatty acid float

Source: SRK, 2014

The investigation confirmed the presence of Niobium and that extraction via floatation was a possible route for future processing. More testwork would be required to ensure sample representivity and investigate improvements/optimization of the processing flowsheet.

13.2.2 Quantum 2011 - 2012

In November 2011, the Company contracted Hazen Research of Golden, Colorado to conduct characterization and process development studies on two samples collected from the 2011 drilling campaign. The samples were collected from borehole NEC11-001 (majority) with a single sample selected from NEC11-002. Three samples were taken from NEC11-001 which covered a range of low, medium and high grade material. All samples were collected from ¼ core, with selection based on consistency of grades and whole rock geochemistry assays.

The testwork included:

- Assay: Sample preparation and analysis by XRF including 31 elements and whole rock analysis, with check analysis at Actlabs in Ontario via inductively coupled plasma-mass spectrometry (ICP-MS);
- Mineralogy: x-ray diffraction (XRD) analysis, Optical Microscopy and Electron Probe analysis, plus a QEMSCAN analysis;
- Beneficiation grinding and gravity separation;
- Magnetic separation; and
- Flotation.

The work focused on grinding, floatation, roasting and magnetic separation testing and applying the techniques used at other operating niobium plants to generate a high-grade physical concentrate. The testwork established that niobium mineral liberation required fine grinding, on the order of 8 microns. High niobium losses were encountered during the magnetic separation tests. The flotation testwork examined a number of collectors and flotation schemes for both direct niobium mineral flotation and reverse flotation for carbonates, sulfides and other gangue minerals. A total of 153 bench tests were completed during this time frame, but a high grade physical concentrate (~40% Nb_2O_5 by weight) was not achieved.

13.3 NioCorp (2014) Testing and Procedures

In support of the Elk Creek Mineral Resource and to advance the Project, NioCorp have focused on understanding the metallurgical aspects of the Project from an early stage. Given the limited number of active niobium processing spreadsheets this work has involved the use of multiple laboratories. In support of the current study, characterization of the Elk Creek resource was undertaken at SGS laboratories in Lakefield, Ontario (SGS), Hazen Research, Inc. in Golden, Colorado (Hazen), Eriez Flotation Division in Erie, Pennsylvania (Eriez), XPS in Falconbridge, Ontario (XPS) and COREM in Quebec City, Quebec (COREM).

The laboratories were provided with drill core samples representative of the geological model within the Mineralization wireframes, and have completed testing to define the mineralogy as well as to separate and recover niobium-bearing minerals. Further substantial detailed testing, optimization and analysis will be required to define a process flowsheet for the project and to refine the actual technical and financial viability of the project

The laboratories have reported on their progress through February 9, 2015 via e-mail and teleconferences with NioCorp. In addition, formal written reports have been prepared by the laboratories and submitted to NioCorp, which have been provided to SRK for review. A summary of the main technical reports provided to SRK are shown in Table 13.3.1.

Table 13.3.1: Summary of Elk Creek Project – Metallurgical Reports

Laboratory	Report	Date
Hazen	Beneficiation of Niobium Ore from Elk Creek, Nebraska	December 17, 2014
Eriez	Column Flotation of Niobium Ore from NioCorp's Elk Creek Deposit	February 24, 2015
SGS	An Investigation into Hydrometallurgical Extraction of Niobium from Flotation Concentrates - Progress Report 1	December 2, 2014
SGS	An Investigation into Solid Liquid Separation Response of Metallurgical Samples Generated by the Elk Creek Deposit Bench and Mini-Pilot Niobium Flotation Programs	December 3, 2014
SGS	Pilot Plant Flotation Testing on a Sample from the Elk Creek Deposit	February 9, 2015
SGS	An Investigation into Hydrometallurgical Extraction of Niobium from Flotation Concentrates - Progress Report 2	February 24, 2015
SGS	An Investigation by High Definition Mineralogy into the Mineralogical Characteristics of Twenty Variability Samples from the Elk Creek Project	June 24, 2014

Source: NioCorp, 2015

A summary of the findings from the various test programs is provided below:

13.3.1 Hazen Testwork

The program at Hazen commenced in April 2014 and concluded in August 2014. Hazen completed a Qemscan analysis on selected mineralized intersections to define the mineralogy and the deportment of niobium. The key conclusions from the Qemscan study were that the niobium mineralization is fine grained, and that 77% of the niobium occurs in the mineral pyrochlore while the balance occurs in an iron-titanium-niobium oxide mineral of varying composition.

Hazen conducted a series of bench scale mineral processing tests on selected samples taken from ¼ core over selected intersections of the mineralization. A total of 191 individual tests were completed. Numerous gravity separation, magnetic separation and flotation bench tests were conducted to achieve a separation of the niobium bearing minerals.

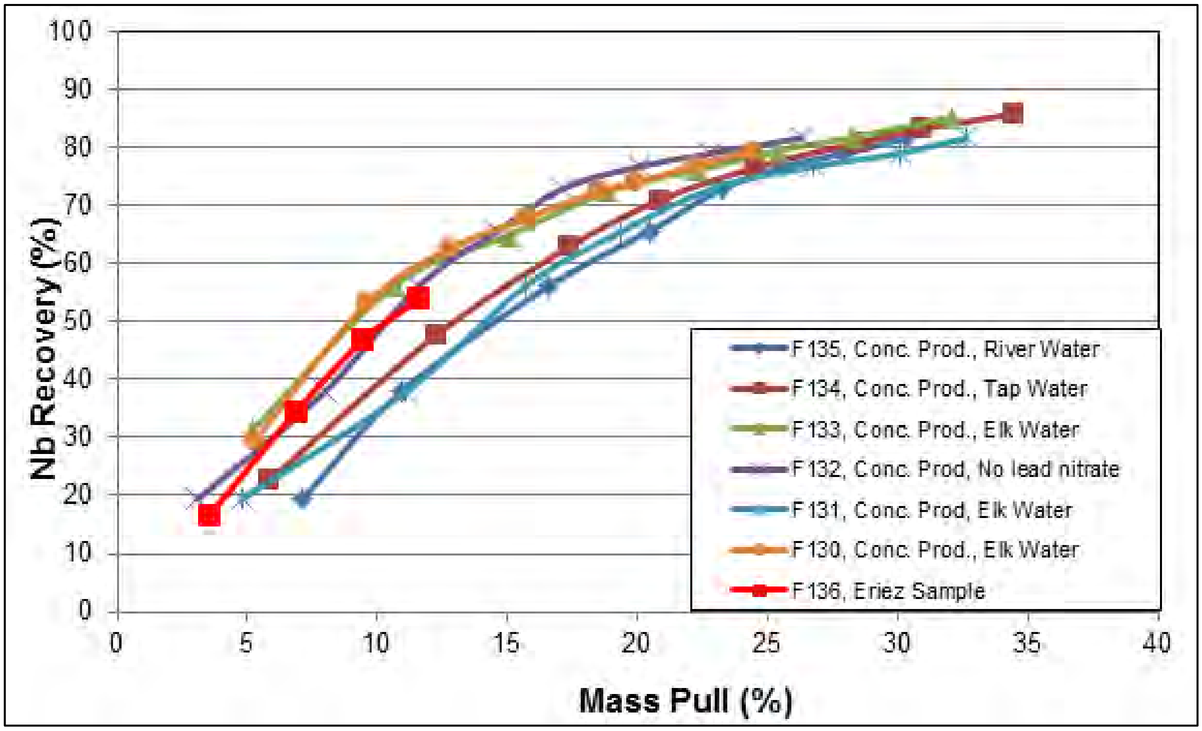
Neither gravity nor magnetic separation tests showed any appreciable upgrading of the samples tested. Flotation testing was not successful, as an appreciable upgrading of niobium to the flotation concentrate was not achieved. Given no substantial upgrading of niobium into a mineral concentrate was achieved, and the program at Hazen was concluded in August of 2014.

13.3.2 SGS Testwork

The SGS program also started in April 2014 and was completed in February 2015. SGS completed a mineralogical study on the resource using X-Ray Diffraction (XRD) and Qemscan methodologies to confirm the mineralogy and the deportment of niobium. Twenty variability samples from assay rejects and ten drill core samples from the resource were analyzed. XRD analysis of five composites yielded moderate amounts of dolomite, ankerite, and mica with minor to trace amounts of calcite, magnetite, barite, fluorite, apatite, quartz, ilmenite, pyrochlore, chlorite, rutile, ilmenorutile, cerianite, pyroxene, magnetite, hematite, and potassium-feldspar.

The Qemscan results indicated that if the average concentration of niobium is used, then pyrochlore carries most of the niobium (60% to 85% and average 77%), followed by niobium-rutile (6% to 33% and average 16%), and ilmenorutile (1% to 14% and average 7%), where trace levels (<1%) are hosted by REE minerals. These results are consisted with the Qemscan analysis conducted by Hazen.

SGS also completed a series of bench scale mineral processing tests on samples of the resource. A total of 136 bench flotation tests were completed, which included evaluations of different flotation conditions, flotation kinetics and locked cycle testing. SGS did complete gravity and magnetic separation tests, which showed a similar lack of upgrading as was seen in the tests completed by Hazen. SGS initiated a series of flotation tests using hydroxamate based collectors, which did demonstrate upgrading of the niobium content in the flotation concentrate with appreciable metallurgical recoveries. The best results in terms of minimizing mass pull and collector dosage while maximizing concentrate grade and recovery are depicted in Figure 13.3.2.1.



Source: NioCorp, 2015

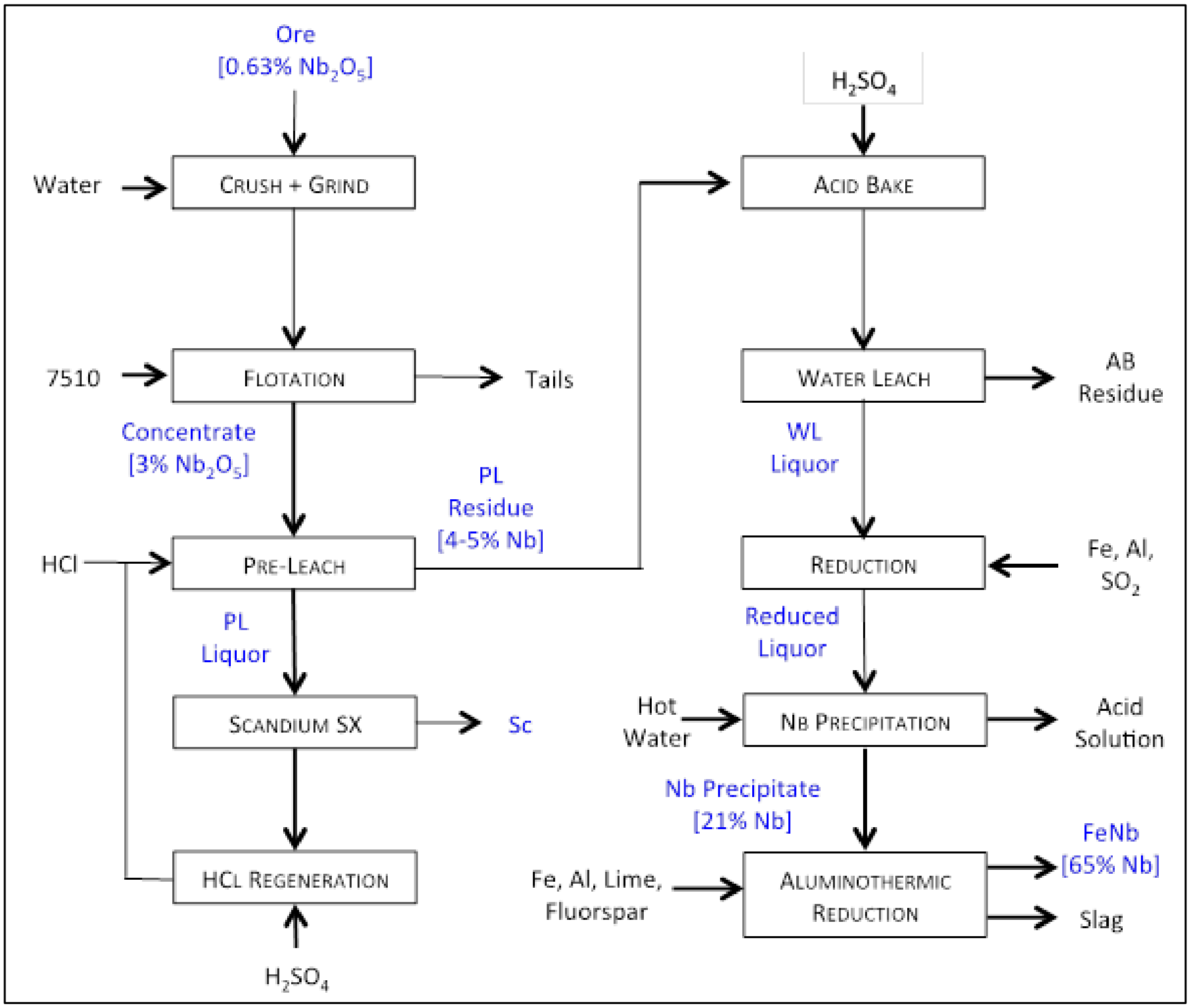
Figure 13.3.2.1: Selected SGS Flotation Results - Mass Pull and Recovery

In general, SGS was able to demonstrate niobium recoveries in the range of 60% to 70% at a mass pull to the concentrate of 10% to 20% in standard mechanical flotation cells. Concentrate grades ranged from 1.5% Nb_2O_5 to 4.0% Nb_2O_5. Collector dosages during these tests averaged approximately 1 kg/t. Based on an average grind size of 100% passing 38 µm and 80% passing 20 µm.

SGS completed the test series in standard mechanical flotation cells. This testwork demonstrated that a flotation concentrate of sufficient grade to feed directly to a pyrometallurgical process in order to produce ferroniobium product was not feasible. Concurrent with the flotation program, a hydrometallurgical test program was initiated at SGS in June 2014 in order to produce a higher grade niobium product suitable for producing ferroniobium.

In order to support the hydrometallurgical program, a mechanical cell flotation pilot was conducted at SGS in September 2014. The objectives of this program were two-fold: to produce approximately 100 kg of flotation concentrate for hydrometallurgical testing, and to scale up the bench flotation process and run it continuously. The pilot circuit consisted of two ball mills, a magnetic separation circuit, five rougher flotation stages and four cleaner flotation stages. To feed the pilot plant, 1,600 kg of assay rejects were utilized with an average grade of 0.65% Nb_2O_5. The plant produced approximately 93 kg of flotation concentrate grading 3.33% Nb_2O_5, which represents a recovery rate of approximately 56%. These results were comparable to bench flotation results achieved during the same time frame at SGS.

Between June and December 2014, numerous bench tests were conducted to evaluate a hydrometallurgical flowsheet for the project. A depiction of the base hydrometallurgical flowsheet is shown in Figure 13.3.2.2.

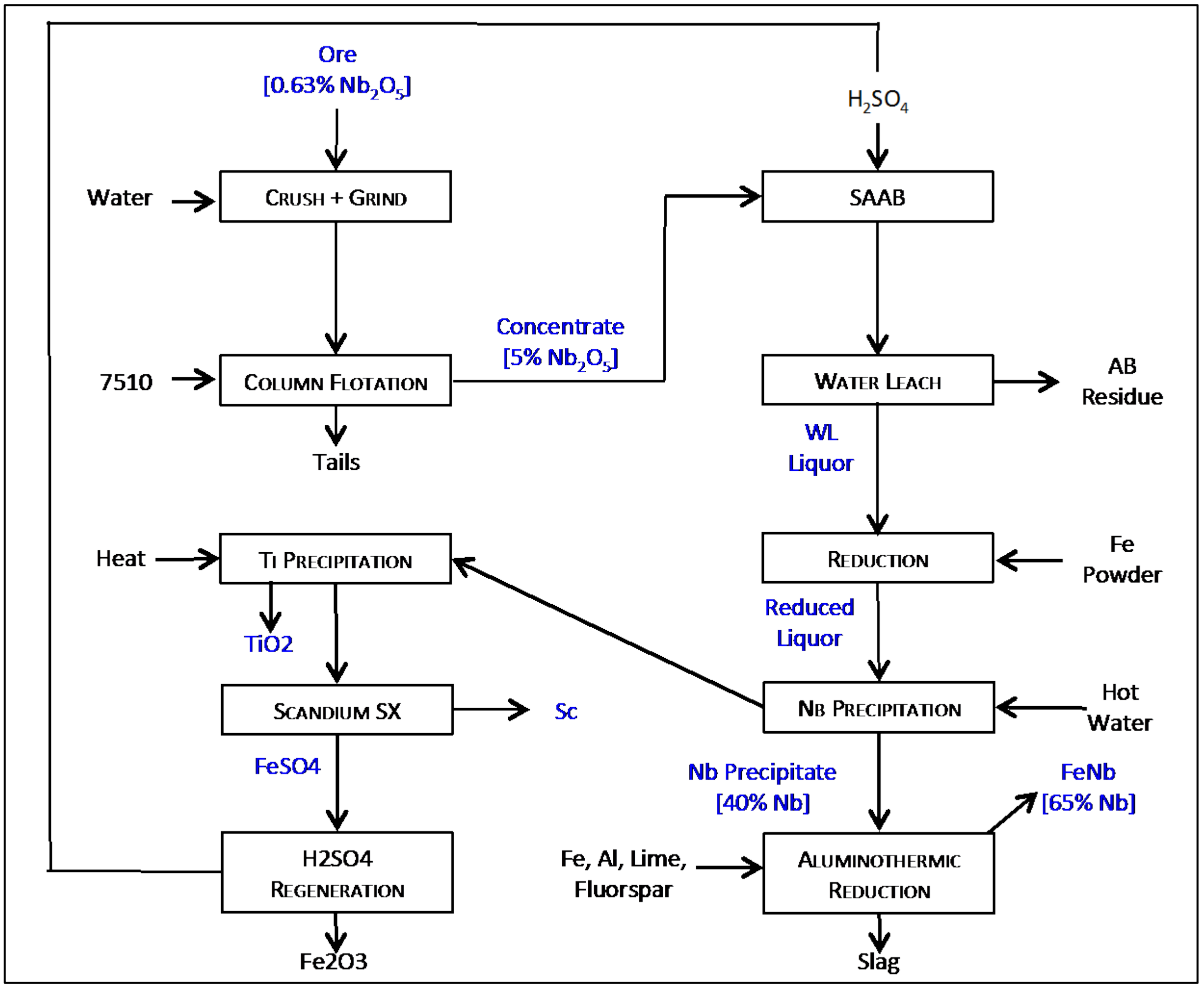


Source: NioCorp, 2015

Figure 13.3.2.2: Base Hydrometallurgical Flowsheet

Each aspect of the flowsheet was tested at the bench scale, and niobium recoveries to the Niobium Precipitate as high as 96% have been reported. A pilot plant operation covering the pre-leach, acid bake, water leach, reduction and Niobium Precipitation steps was completed between December 2014 and January 2015. The pilot plant confirmed the bench scale operations, but practical difficulties were noted in running the acid bake and Niobium Precipitation steps on a continuous basis. As a result, Niobium Precipitation produced in the pilot study ranged in grade from 11% to 13% Nb_2O_5, which was lower than the 21% Nb_2O_5 grades achieved in the bench tests. A formal report documenting the performance of the pilot is still currently in progress.

In an effort to improve the operability of the hydrometallurgical flowsheet, a second series of bench tests was initiated at SGS in December 2014. This testwork focused on replacing the pre-leach and acid baking operations with a Strong Acid Agitated Bake (SAAB) using sulfuric acid. The revised flowsheet appears in Figure 13.3.2.3.



Source: NioCorp, 2015

Figure 13.3.2.3: Revised (SAAB) Hydrometallurgical Flowsheet

The SAAB flowsheet demonstrated a number of advantages over the base flowsheet, which are described below:

- The elimination of the acid bake phase removes a solid/liquid separation step, and replaces a mixer/kiln operation with a simple series of stirred tanks. This has improved the overall operability of the circuit.
- By eliminating HCl from the flowsheet, operating costs can potentially be reduced and the potential to recycle H_2SO_4 is maximized.

- Bench test completed to date demonstrated niobium precipitate grades as high as 40% Nb_2O_5 vs. the 21% Nb_2O_5 grade achieved in the base flowsheet.
- Niobium is precipitated selectively from Ti in the SAAB Niobium Precipitation step, which allows for the potential recovery of a TiO_2 co-product in a simple precipitation step following the niobium precipitation step.
- The potential Scandium recovery is increased from 40% to 50% in the base flowsheet to 70% to 90% in the SAAB flowsheet, as Sc values more readily dissolve in the SAAB leaching step.

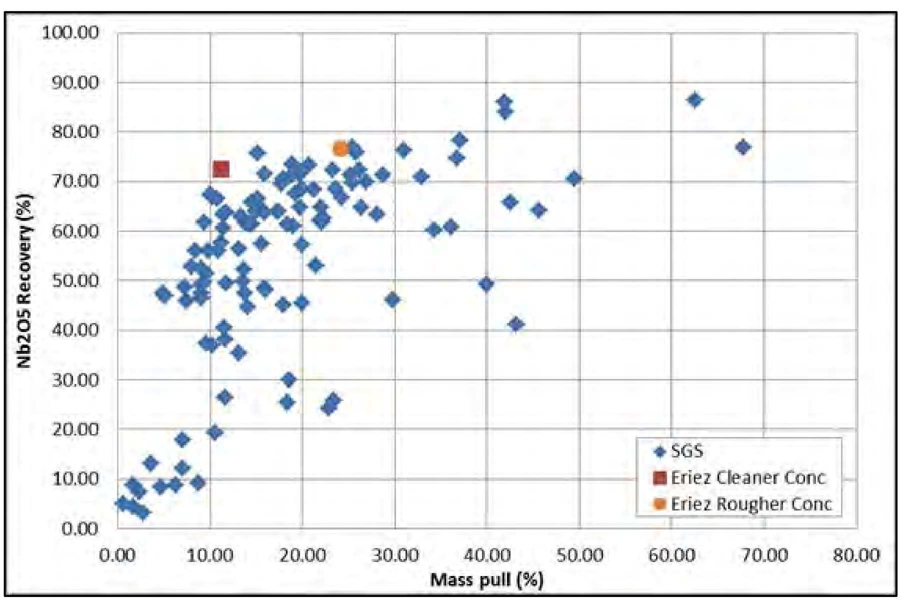
The increase in the last two points has led to the requirement to estimate the TiO_2 and Sc content within Elk Creek as this could potential provide additional revenue streams to the project by producing saleable products.

Testing is underway at SGS to refine the conditions for the SAAB flowsheet to maximize recoveries. The SAAB flowsheet will then be tested as a small-scale pilot (estimated March and April 2015), followed by a full pilot to confirm flowsheet conditions and metallurgical performance.

13.3.3 Eriez

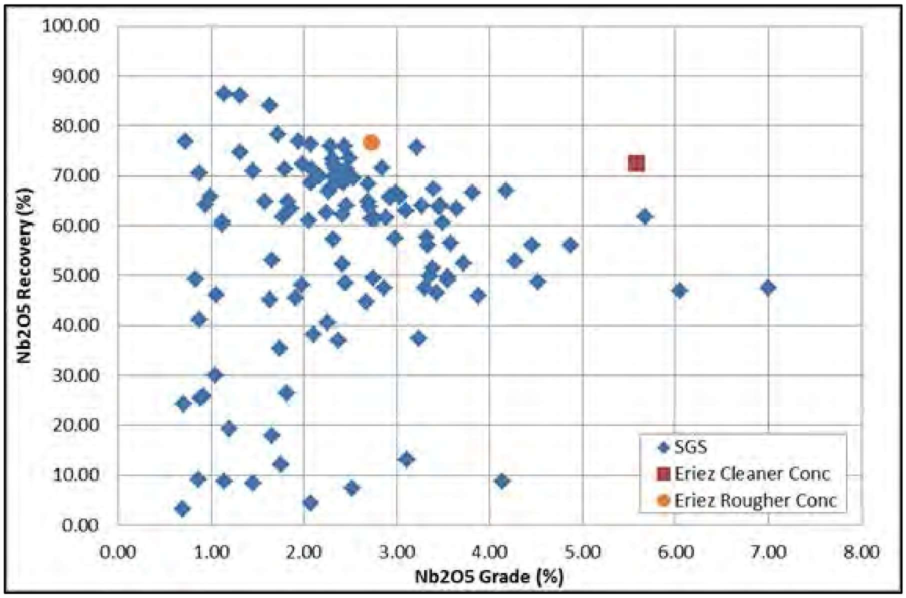
Eriez conducted a series of column flotation tests on representative samples of the resource in December 2014 and January 2015. The intent of these tests was to compare rougher and cleaner column flotation operations with the mechanical cell tests completed at SGS. Eriez successfully produced a final flotation concentrate containing 5.6% Nb_2O_5 at a mass yield of 11.2%, and an Nb_2O_5 recovery of 72.6%, with a total collector dosage of 744 g/t. Figures 13.3.3.1 and 13.3.3.2 depict the column flotation performance against a series of mechanical cell tests.

These results indicate that column flotation provides results superior to mechanical cells. Based on the Eriez testwork, the Company concluded to select column flotation as the basis for the flotation testing in future flotation piloting work.



Source: NioCorp, 2015

Figure 13.3.3.1: Column vs. Mechanical Flotation - Mass Pull/Recovery



Source: NioCorp, 2015

Figure 13.3.3.2: Column vs. Mechanical Flotation - Grade/Recovery

13.3.4 COREM

COREM conducted a mineralogical study on the Elk Creek resource using Qemscan methodologies in February 2015. COREM's study confirmed the work by Hazen and SGS, and showed pyrochlore contained 78% to 79% of the niobium, with the balance contained in Fe-Nb-Ti oxide minerals.

COREM completed a column flotation pilot in late February. The purpose of the pilot was to scale up the results obtained during column flotation testing at Eriez, and to produce 100 kg of flotation concentrate for use in ongoing hydrometallurgical testing at SGS. This column flotation pilot included a rougher column, two scavenger columns, a cleaner column, and two cleaner scavenger columns. Results from this testing are pending at the time of this report.

13.3.5 XPS

In January 2015, XPS conducted preliminary bench scale calcination and aluminothermic reduction tests on the niobium precipitate produced at SGS. The intent of this testwork was to demonstrate the production of ferroniobium from niobium precipitate at a bench scale. To date, there are no results to report from this preliminary work, as the testing was focused on characterizing the niobium precipitate and establishing its pyrometallurgical properties. Formal tests to produce ferroniobium are scheduled for March 2015.

13.4 Sample Representativeness

Samples for the 2014 metallurgical program have been selected from within the limits of known mineralization based on the geological model produced for the 2014 mineral resource estimate. NioCorp have drilled a total of three holes drilled for the purposes of collecting sufficient material to conduct future metallurgical pilot plant testwork (two of these holes were used solely for metallurgical samples and have been geologically logged and photographed, but not assayed). In addition to the

NioCorp metallurgical holes, additional material has been obtained early in the metallurgical process from holes drilled within the 2014 program, and within the limits of the 2014 geological wireframe. The samples represent a cross-section of material through the core of the deposit and are considered representative of the expected feed material.

13.5 Relevant Results

Since the initiation of the metallurgical testing program in April 2014, a number of milestones have been achieved. These include the development of flotation and hydrometallurgical process flowsheets for the Elk Creek resource, with the potential to produce ferroniobium, titanium and scandium oxide products. Pilot scale flotation and hydrometallurgical testing has also been completed to confirm bench test results.

Additional bench and pilot studies are underway at SGS and COREM to confirm results to this point and establish the characteristics and economics of the metallurgical flowsheet under continuous operating conditions. In addition, testwork is underway at XPS to demonstrate the production of ferroniobium from niobium precipitate produced at SGS.

SRK are comfortable that the results to date are sufficient for the definition of a Mineral Resource with the potential for economic extraction for ferroniobium, titanium and scandium oxide products.

13.6 Recovery Estimate Assumptions

Based on the recovery factors defined from SGS the niobium recovery is approximately 61% to 75% in flotation, with the completed phases of the hydromet testwork demonstrating very high recoveries, based on testwork completed to date. Testwork remains on-going with more detailed work and results expected in fourth quarter 2014. SRK has assumed an overall metallurgical recovery of 60% for the purpose of the current study during the definition of the CoG.

14 Mineral Resource Estimate

14.1 Introduction

This section describes the Mineral Resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the Mineral Resource estimate reported herein is a reasonable representation of the global Nb_2O_5, TiO_2, and Sc Mineral Resources found at Elk Creek at the current level of sampling.

The Mineral Resources have been estimated in conformity with generally accepted CIM “Estimation of Mineral Resource and Mineral Reserves Best Practices” guidelines and are reported in accordance with NI 43-101. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

Martin Pittuck is the Qualified Person (QP) responsible for the resource estimation methodology and the resource statement. Mr. Pittuck has been assisted by Ben Parsons, MAusIMM (CP) a Principal Consultant at SRK Consulting (U.S.) Inc., who has constructed the geologic model and completed the grade estimation under the close supervision and review of Martin Pittuck. Mr. Parsons has 14 years in geological model and resource estimation and has completed the estimation using a combination of ARANZ Geo Limited Leapfrog Geo (Leapfrog), for geological modelling and CAE Mining Datamine software (Datamine) for grade estimation and reporting.

Due to time constraints and assay turnaround for the multi-element and Scandium assays at the Laboratory, the Company requested SRK produce an initial mineral resource estimate for Nb_2O_5 only, which has been reviewed and updated based on the addition of TiO_2 and Sc upon receipt of the assays.

The methodology used for preparation of the Mineral Resource statement was as follows:

- Database verification;
- Construction of Nb_2O_5 mineralization wireframe models;
- Definition of resource domains;
- Preparing of data for geostatistical analysis and variography (capping and compositing);
- Block modelling and grade interpolation;
- Resource classification and validation;
- Assessment of “reasonable prospects for economic extraction” and selection of appropriate CoG;
- Preparation of a Mineral Resource Statement for Nb_2O_5;
- Database verification of the multi-element assay database;
- Verification/validation of the defined wireframes to the TiO_2 and Sc database;
- Block modelling and grade interpolation;
- Resource classification and validation; and
- Preparation of a Mineral Resource Statement using $Nb_2O_{5,}$ as the primary economic assumption for determining the CoG.

The effective date of the Mineral Resource statement is February 20, 2015.

14.2 Drillhole Database

The drillhole database was constructed by Dahrouge from Molycorp data and raw data captured by Dahrouge during the 2011 and 2014, drilling campaigns. The information has been exported from the Central Database and provided to SRK in .csv format. SRK determined the data to be of good quality. The database provided in Microsoft Excel® .csv spreadsheets containing collar locations surveyed in UTM coordinates, downhole deviation surveys, assay intervals with elemental analyses, geologic intervals with rock types, alteration and key structures. SRK has assigned appropriate codes for missing samples and no recovery for use during the modeling procedures.

The complete database which covers the entire NioCorp concession area contains information from 129 diamond-core drillholes totaling approximately 64,981 m of drilling. There are no obvious gaps in the naming sequence of drillholes. The maximum drillhole depth is 950.4 m and the average is 501.7 m. Focusing on the Elk Creek Niobium Project a total of 48 holes have been completed (inclusive of one wedged hole) for a total of 33.908.7 m of drilling.. A summary of the holes by drilling phase (Company) is shown in Table 14.2.1.

Table 14.2.1: Summary of Drilling Database over the Deposit by Phase

Year	Company	Number of Holes	Average Depth (m)	Sum Length (m)
1970-1980	Molycorp	27	596.6	16,108.2
2011	Quantum	3	772.6	2,317.7
2014	NioCorp	18	845.4	15,482..8
Subtotal		**34**	**649.1**	**33,908.7**

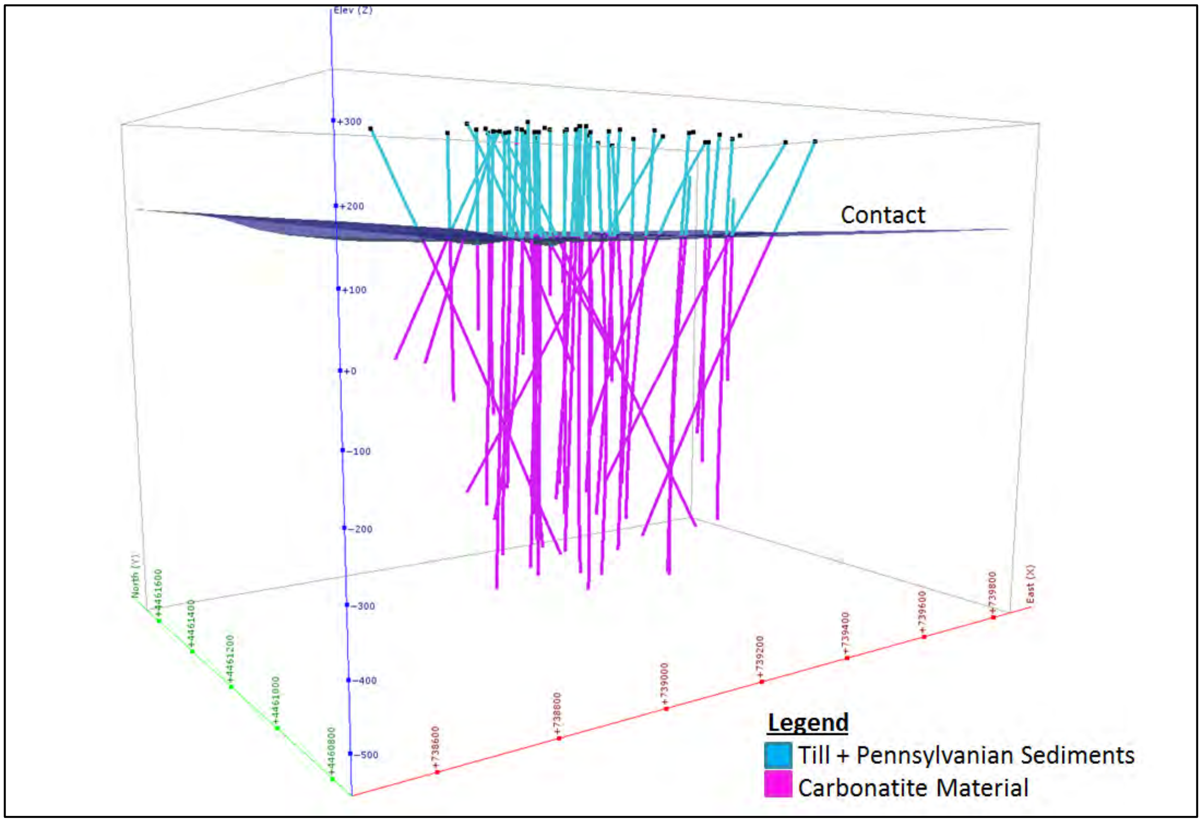
Source: SRK, 2015

14.3 Geologic Model

The drill log lithology data contains four major rock types based on the geologic observations of drill core, which based on the latest logging codes can be broken down into 19 sub-lithologies. The four main units considered during the analysis are:

- Overburden;
- Sediments;
- Carbonatite; and
- Mafic Units/Lamprophyre (low-grade domain).

The primary logging codes have been imported into Leapfrog to create geological horizons for the base of overburden/till, plus the contact between the Pennsylvanian Sediments and the underlying Carbonatite (Figure 14.3.1). The models have been used by creating contact points within each drillhole at the contact between these major units.



Source: SRK, 2015

Figure 14.3.1: 3D View of Elk Creek Deposit Showing Modelled Base of Till and Unconformity between Pennsylvanian Sediments and the Elk Creek Carbonatite

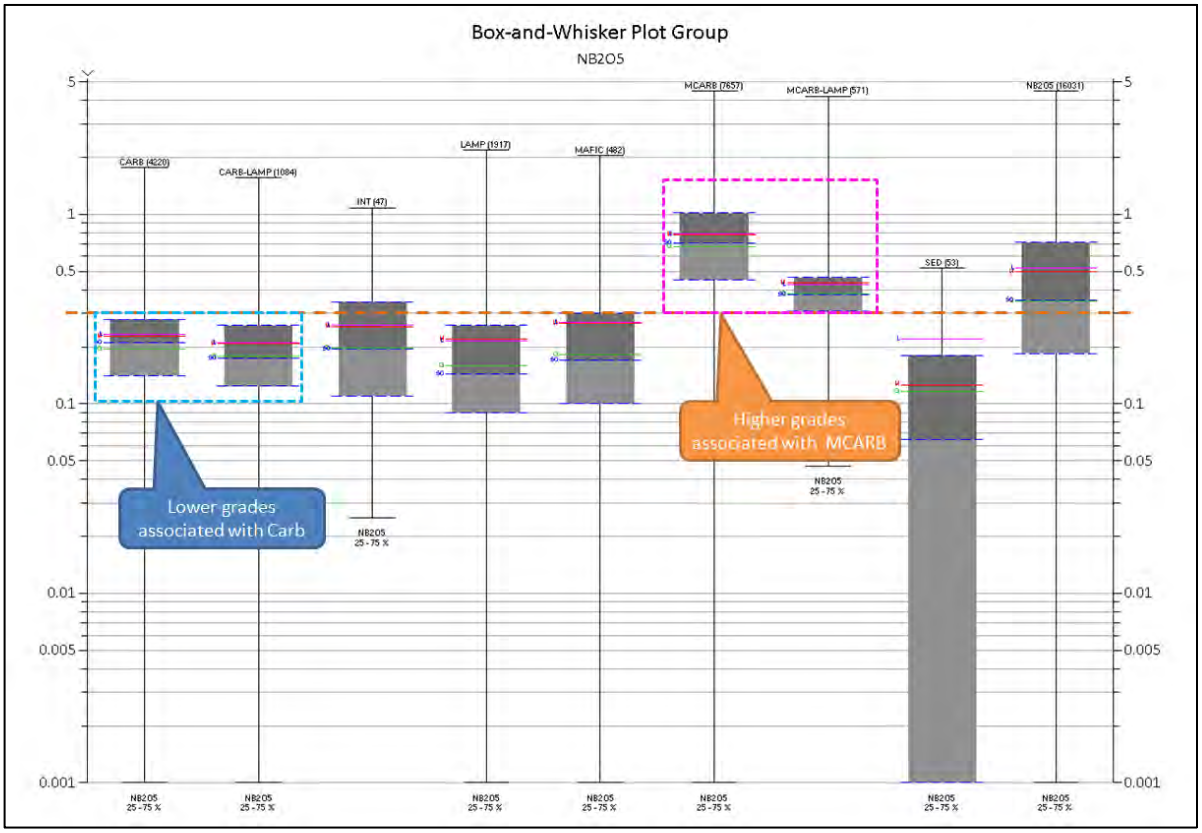
During the September 2014 geological model SRK did not consider the detail in the geological logs of the historical drilling to have sufficient detail to enable modelling of the geological units. Primarily this was due to a mixed population of higher grade magnetite-dolomite-carbonatite (mdolCarb), and lower grade dolomite-carbonatite (dolCarb), within material logged as dolCarb. As a result of this conclusion the decision was taken to review the historical information in addition to the collection of new drilling information, as discussed in Section 12.

Using the updated database SRK has completed a statistical analysis of the Nb_2O_5% grades per lithology using classical statistical methods. The database was then analyzed for relative abundance and Nb_2O_5 based on the main lithologies as shown in Figure 14.3.2. The box-whisker plot highlights the significant difference in the grade distributions between mCarb (pink square) and Carb (blue square). The MCARB and MCARB-LAMP account for 51% of the samples logged vs. 33% for the CARB and CARB-LAMP, which indicates these four codes cover 84% of the logged intervals. The other unit of significance in terms of logged intervals is the Lamporpyre units which accounts for 12%. The weighted average for all units is shown on the right of the chart.

The highest grades both in terms of values and mean grades, are found within the MCARB units with the next highest mean recorded in the MCARB-LAMP. The MCARB has grades in excess of 0.3% Nb_2O_5 for over 93% of the logged assays, while the MCARB-LAMP 79% of the logged values is greater than 0.3%. In comparison the CARB has 80% of the database below a nominal cut-off of

0.3% Nb_2O_5. The results confirm the importance of accurate geological logging and the improvement in geological domaining based on the relogging of the historical drilling.

In addition to the lower grades in the CARB units, SRK also noted lower grades within the MAFIC, INT and LAMP units. SRK has focused on trying to define these lower grade units via sectional analysis to domain these areas out of the geological model.



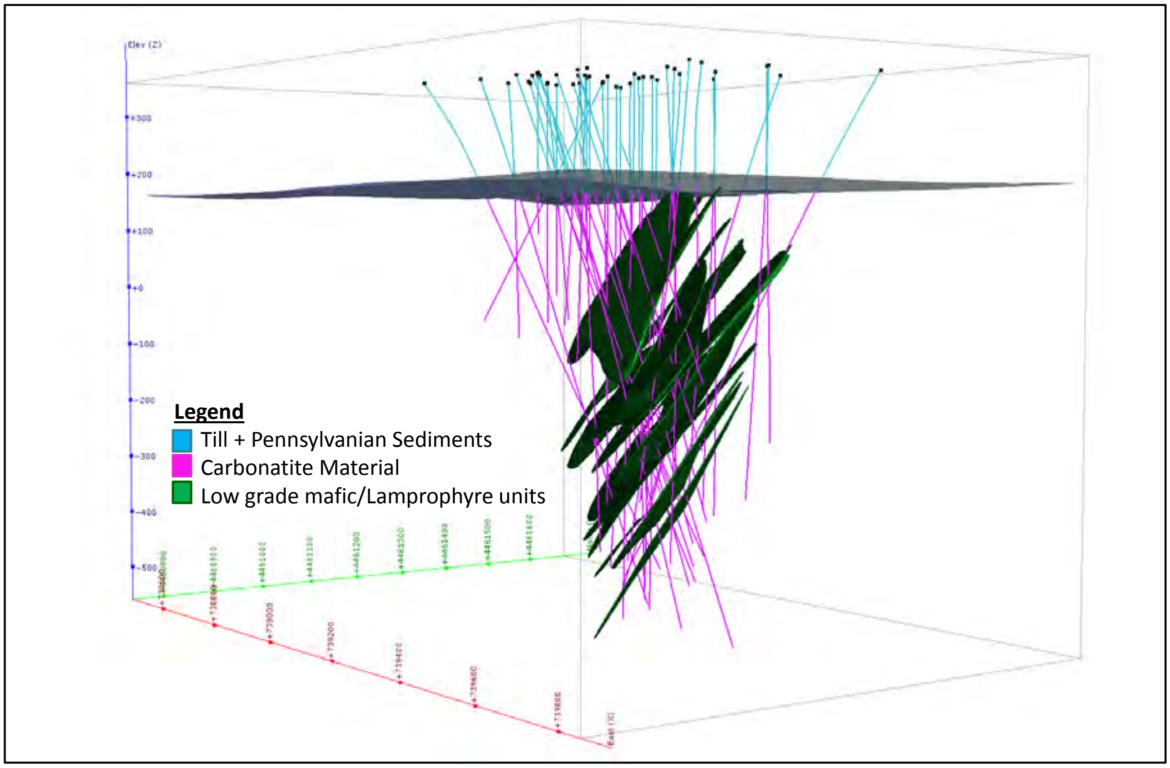
Source: SRK, 2015

Figure 14.3.2: Box Whisker Plot Showing Nb_2O_5 (%) Grades Split per Lithology

Historically within the historical database all early or late stage intrusives not defined as dolCarb have been assigned a mafic rock code. The NioCorp database shows a split between units logged as Mafic (considered to be late stage) which in general are low grade to barren, compared to Lamprohyre units which are shown to carry a mixture of low and high grades, which tend towards higher grades where units have been logged with a breccia texture. Given the nature of the rock-types and their similar properties, SRK consider there could remain a degree of mixing of data populations within these units. To improve the validation of the geological domaining for the low-grade a study of the multi-element database would increase the confidence required. SRK does not consider this to materially impact on the current geological model, but could provide additional confidence when looking to define Measured Mineral Resources.

SRK considers the presence of potentially late stage low/barren mafic units to be important. To be able to understand the distribution of Nb_2O_5 within the CARB and MCARB units SRK has first modelled the mafic units (Figure 14.3.3). To complete the model SRK has primarily used the lithology logging but has also used for guidance areas of low-grade to Nb_2O_5.and the overall trend of the mineralization. SRK notes that while the low-grade domain remains relatively easy to identify within cross-sections, the ability to link the structures between sections is difficult. In the September 2014 model SRK modelled a total of 6 units, but in comparison a total of 14 units have been modelled in the current update, with the strike length ranging from 150 to 650 m.

The resultant geological features have been imported into Datamine with the associated boreholes coded by the relevant geological units. The coding allows these units to be filtered from the geological modelling of the Carbonatite units.

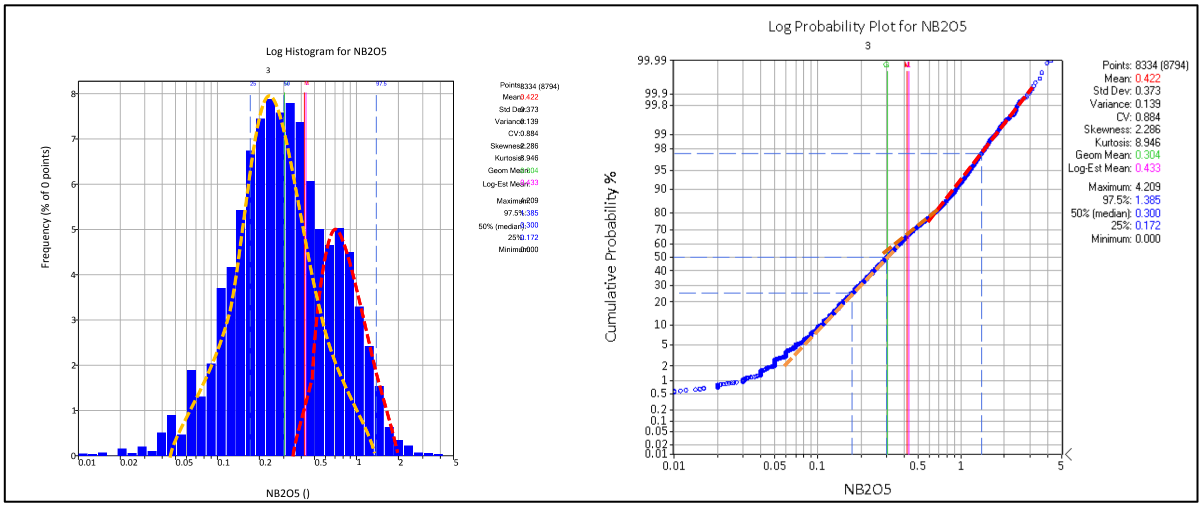


Source: SRK, 2015

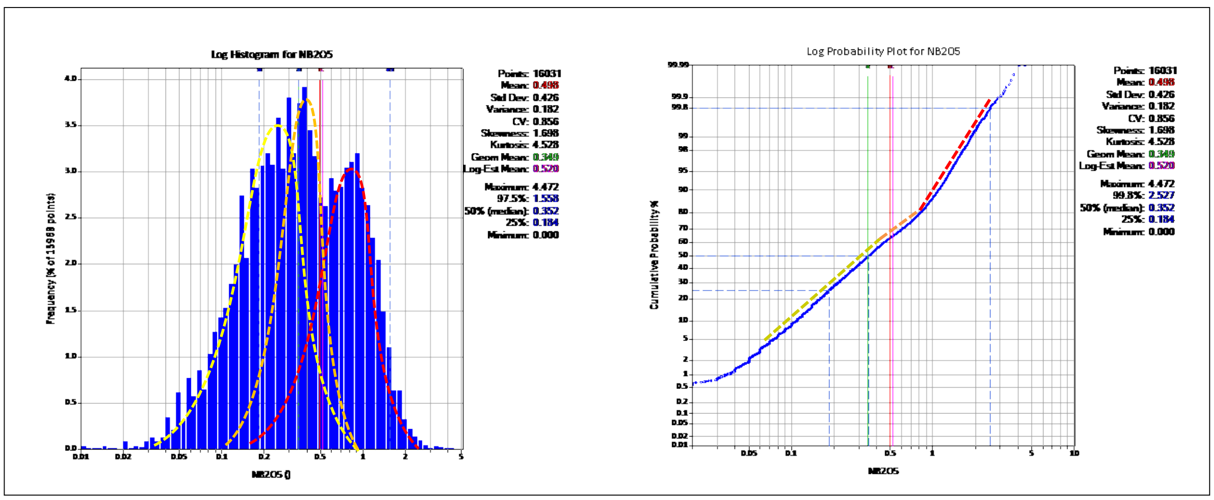
Figure 14.3.3: 3D view (looking northwest) of Elk Creek Deposit Showing Modelled Mafic Units Below the Carbonatite to Pennsylvanian Sediments Unconformity

Using log histograms and log-probability plots SRK has confirmed the box-whisker analysis that more than one sample population is present (Figure 14.3.4) at Elk Creek. The two main populations can be described as low-grade population ranging between 0.1% and 0.5% Nb_2O_5, and a higher-grade population in excess of 0.5% Nb_2O_5. The contact between the two populations is not clear on the charts and therefore SRK assumed some degree of transition between these two domains may exist. SRK has assumed that the lower grade population is defined by the CARB units, with the higher grades indicating the presence of MCARB.

The results indicated a slight change in the histogram compared to the September 2014 geological model, but overall supported the conclusions made at that time. The February 2015 shows a more defined change in the trend for the higher grade domain, plus the transitional zone between the two main populations, can be seen by a third peak in histogram in the range of 0.3% to 0.4% Nb_2O_5.



September 2014 Model



February 2015 Model

Source: SRK, 2014

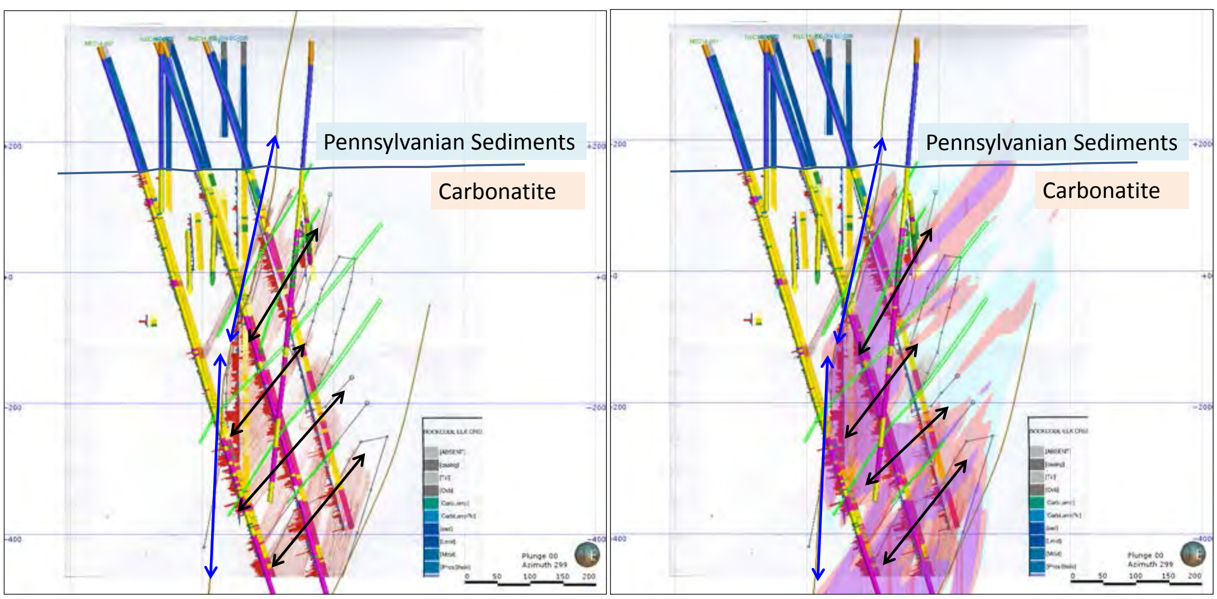
Figure 14.3.4: Statistical Analysis of Raw Nb_2O_5% Values within Elk Creek Carbonatite

Using Figure 14.3.4 and the assumption of a nominal lower grade cut-off of 0.3% Nb_2O_5, SRK has created grade shells at 0.3%, 0.4% and 0.5% Nb_2O_5. SRK found visually the best fits (in terms of correlation of grade and known higher-grade geological units), when using the 5 m composite data. At the shorter intervals, areas comprising of less than five continuous meters of low grade were producing isolates holes in the geological wireframes. SRK preferred the option to model larger more consistent wireframes, and are instead accounted for as internal dilution of lower-grade samples within the estimated blocks.

SRK tested multiple scenarios based on the raw and composite data to mimic the changes in niobium distributions between the CARB and MCARB beneath the unconformity, in addition to creating interpretations based solely on geological logging. Given the close relationship between the higher grades and the MCARB unit SRK has based the geological wireframe for the MCARB using an indicator methodology. To achieve and indicator model values in the database are assigned a value of 0 or 1 based on a set criteria. This criteria is then used as the mathematical basis for the definition of a grade shell within Leapfrog. The aim in using an indicator over a traditional grade shell is it removes the influence of the grades (where higher grades may push further), an relies on the underlying relationship between mineralized (value equals 1) and non-mineralized (value equals 0) material, which in SRK view better mimics the geology at Elk Creek. SRK initially used an indicator cut-off of 0.4% Nb_2O_5 using a range of thresholds between 0.25 and 0.5, with the resultant Leapfrog grade shells validated against the geological logging, and a 0.35 threshold (isovalue), providing the best visual correlation.

To evaluate the preferred interpretation for the geological/grade shells boundaries, SRK has been provided with a series cross-sections and one long section by onsite geological staff (Dahrouge). SRK has also held technical meetings with the senior Project Geologist to assist in defining the key geological controls on the deposit. The interpretation remains consistent with the September 2014 model, which has been supported by confirmation drilling during Phase II and Phase III programs at Elk Creek.

To improve the continuity in the geological interpretation SRK has used two dominant trend surfaces. The southwest contact has been modelled using a strong sub-vertical trend (shown in blue), while the northeast of the deposit has followed moderate dipping trends (shown in black) parallel to the low-grade mafic units(shown in green).



Source: SRK, 2015
Boreholes show geology and assays (red histograms), used for validation.

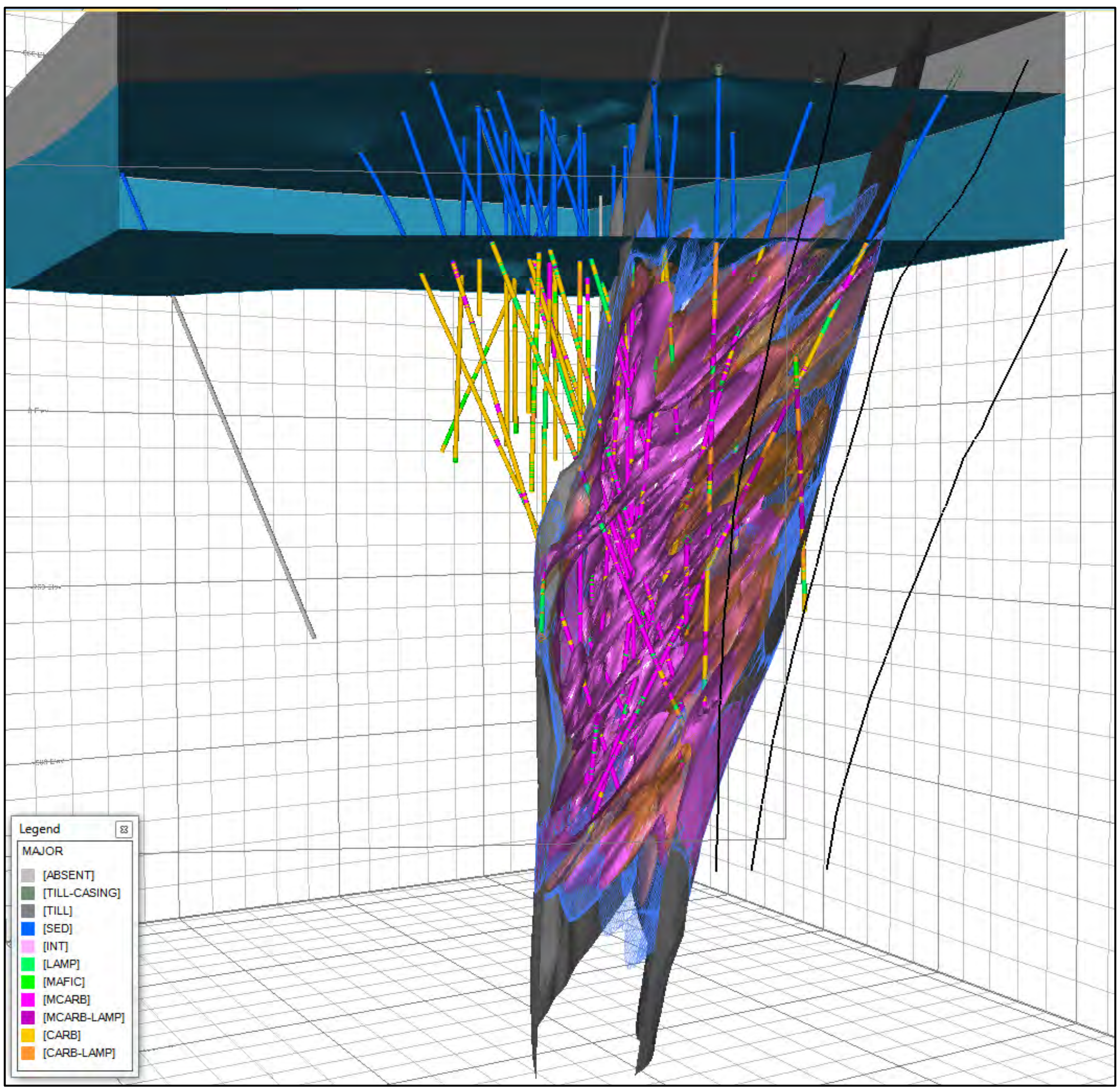
Figure 14.3.5: Cross-section Showing Leapfrog Model vs. Geological Interpretation

SRK has investigated the potential cause for the sharp contact on the southwestern edge of the deposit, to determine if the contact is structurally controlled. Based on a review of the drill core and ATV surveys completed to date no fault has been established. SRK therefore assume that this forms a sharp igneous lithological contact.

During the geological modelling SRK noted that the 0.4% Nb_2O_5 defined domain closely correlates to the logged MCARB intervals, while the 0.3% Nb_2O_5 limit defines the edges of the mineralization, which is defined as CARB.

SRK noted a number of cases where the indicator model created significant volumes on the edge of the deposit in areas of limited drilling. SRK assumes these volumes to lack sufficient geological confidence for the definition of the Mineral Resource. SRK has limited the extent of the indicator wireframes in these cases to a corridor of mineralization bound by the steep southwest contact and a shallower northeast contact. The northeast contact has been based on geological and assay values at depth and projected to the unconformity (shown in brown on Figure 14.3.5).

The final wireframes (Figure 14.3.6) selected have been imported into Datamine and cropped accordingly to mimic the unconformity between the Carbonatite and the overlying Pennsylvanian sediments, to domain the drillhole information and for the generation of the geological block model.



Source: SRK, 2015

Figure 14.3.6: 3D Views Looking Northeast and Northwest of Selected Grade Shells Showing Pennsylvanian-Carbonatite Unconformity

Using the wireframes for the various CoGs the following domains have been defined for use in the Mineral Resource Estimate (Table 14.3.1).

Table 14.3.1: Summary of geological domains

KZONE	MAJOR	Description	Basis for Wireframe
1	TILL	Till	Geological contact between base of till and sediments
2	SEDT	Sediments	Geological contact between sediments and carbonatite
10	CARB	Carbonatite	Geological unit below the sediment contact
13	CARB	Low grade Carbonatite	Carbonatite material inside an Indicator wireframe of 0.3%
14	MCARB	Magnetite Carbonatite >0.4% Nb_2O_5	Carbonatite material inside an Indicator wireframe of 0.4% - validated against MCARB logging
15	MCARB	Magnetite Carbonatite >0.5% Nb_2O_5	Carbonatite material inside an Indicator wireframe of 0.5% - validated against MCARB logging
21	MAFIC/LAMP	Low-grade units	Defined from logging and low-grade samples, modelled in Leapfrog as intrusive veins within the carbonatite

14.4 Assay Capping and Compositing

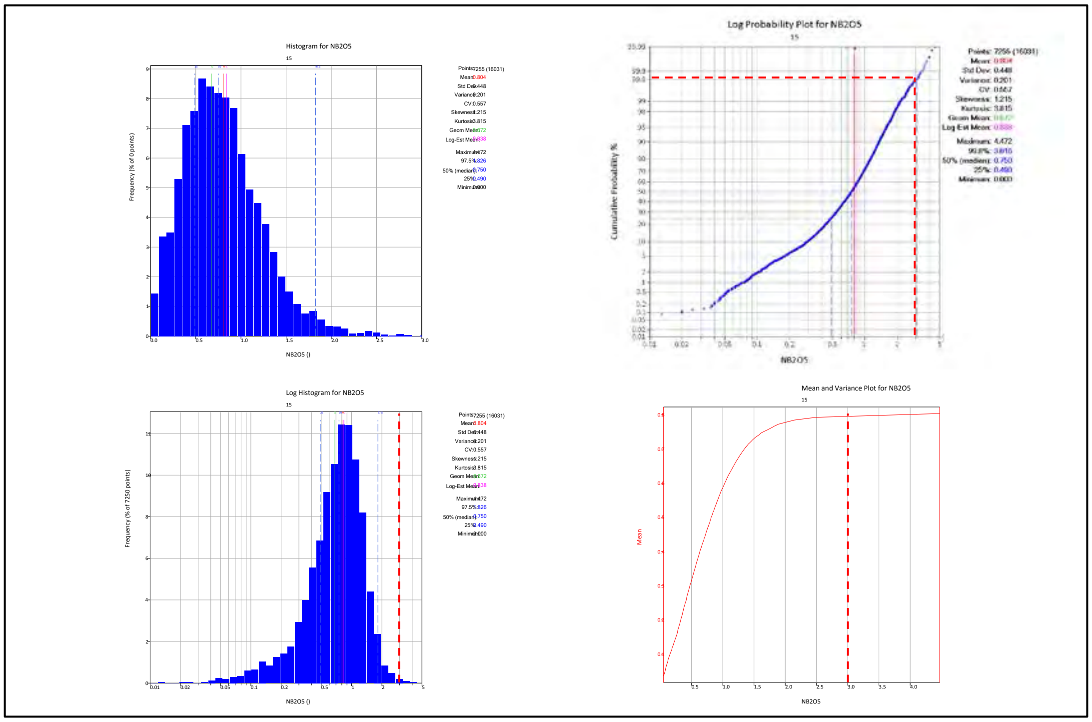
Prior to the undertaking of a statistical analysis, an outlier analysis has first been completed and samples need to be composited to equal lengths for constant sample volume, in order to honour sample support theories.

14.4.1 Outliers

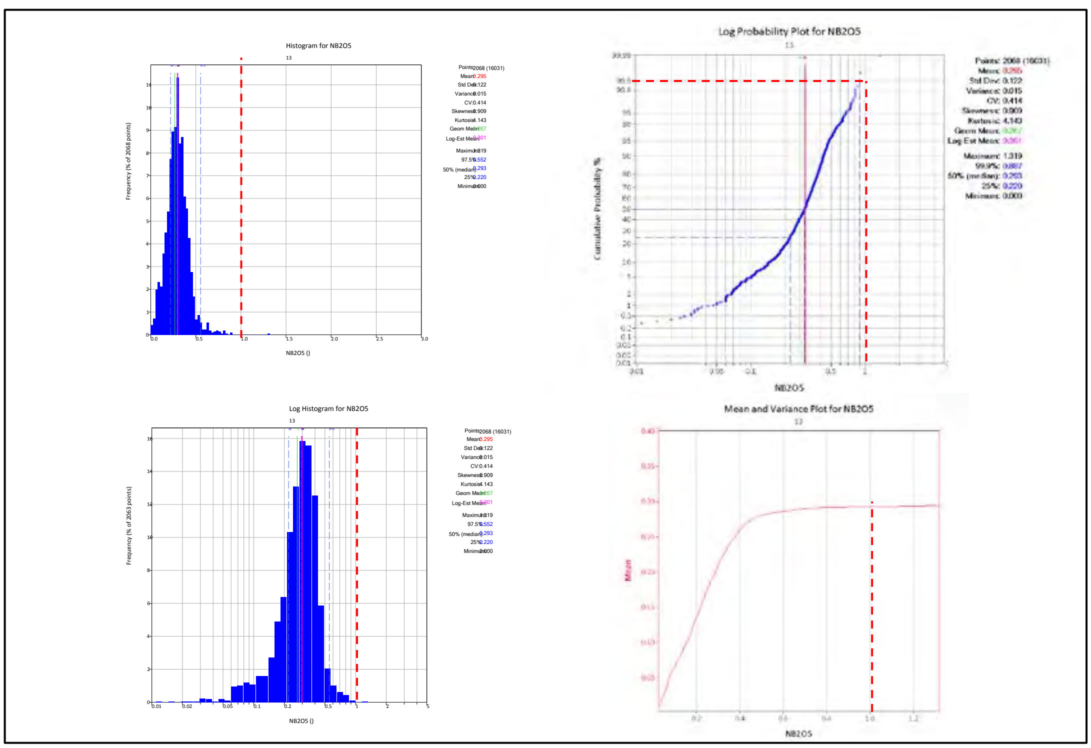
Outlier analysis has been completed for Nb_2O_5, TiO_2, Sc assays and density data per domain. The raw assay data was first plotted on histograms (Figure 14.4.1.1) and cumulative distribution plots (Figure 14.4.1.2) to understand its basic statistical distribution. High-grade capping was applied based on a combination of these plots, plus log histogram information. To create the plots the domained samples for all zones have been created in Datamine and imported into Snowden Supervisor v8.3 (Supervisor) for analysis.

The plots can be used to distinguish the grades at which additional samples have significant impacts on the local estimation and whose affect is considered extreme. Using this methodology top-cuts have been defined for each domain by reviewing the information from the different sample types.

The spatial occurrence of the capped values was visually verified to determine if they formed discrete zones which could potentially be modelled separately. Based on the analysis SRK has decided to apply a grade capping of 2.5% Nb_2O_5. For the mafic zones (mafic and Lamprophyre units) a cap of 1.0% Nb_2O_5 has been applied for the statistical analysis (Figure 14.4.1.1).



(a)

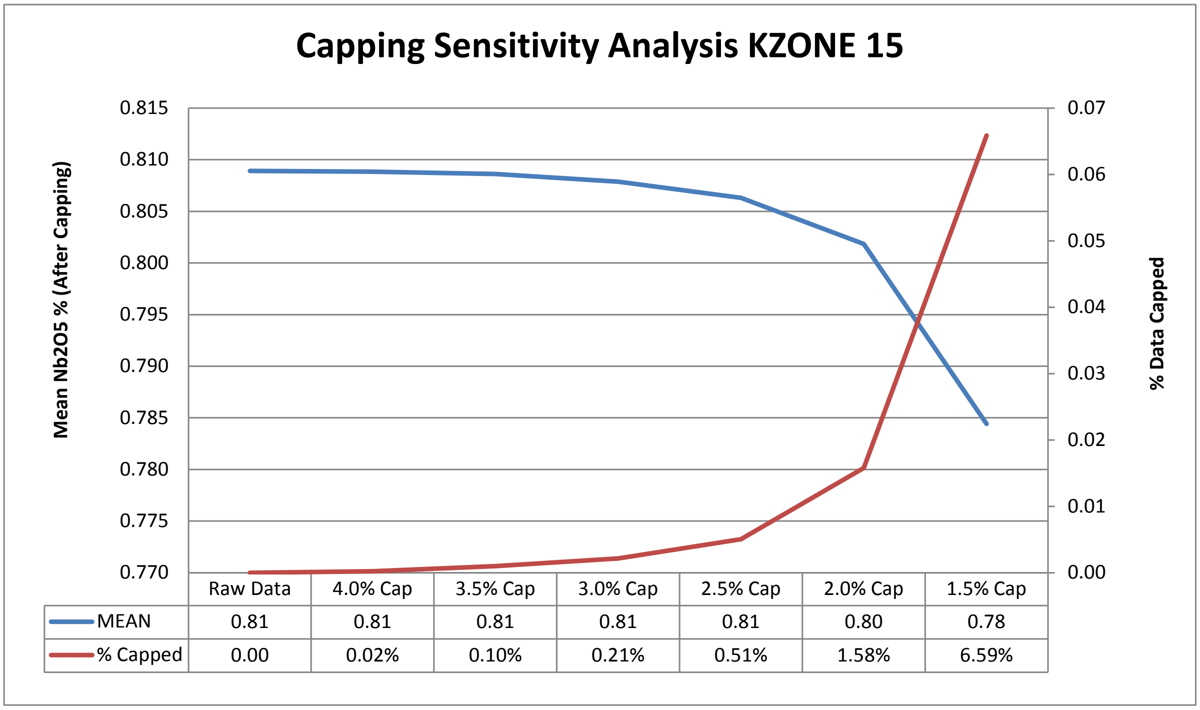


(b)

Source: SRK, 2014

Figure 14.4.1.1: SRK Capping Analysis, per Major Rock Type (a) MCARB, (b) CARB

The influence of the capping has been reviewed by SRK, to confirm the potential impact on the number of samples capped and the mean grades within each estimation domain. Figure 14.4.1.2 provides an example of the study which reviews the number of samples capped within the 0.5% grade shell. The results show that approximately 0.62% of the database has been capped, with the mean grade reducing from 0.829% to 0.825% Nb_2O_5. SRK considers the capping to be appropriate for the style of mineralization.



Source: SRK, 2015

Figure 14.4.1.2: Capping Sensitivity Analysis on Nb_2O_5% Grades within 0.5% Grade Shell

Table 14.4.1.1: Summary of the Capping Used per Domain and Element

KZONE	Major Rock	Rock Type	Cropped Density		
			Nb_2O_5	TiO_2	Sc
1	TILL	Till	n/a*	n/a*	n/a*
2	SED	Sediment	n/a*	n/a*	n/a*
10	CARB	Carbonatite (below cut-off)	1.0	4.0	80
13	CARB	Carbonatite (low grade)	1.0	4.0	95
14	MCARB	Magnetite Carbonatite (low grade)	1.5	4.5	110
15	MCARB	Magnetite Carbonatite (high grade)	3.0	6.0	150
21	MAFIC/LAMP	Mafic/Lamprophyre Units	1.0	3.5	65

* n/a due to no estimation of domain

14.4.2 Compositing

SRK has undertaken a sample composite analysis (Table 14.4.2.1) in order to determine the optimal sample composite length for grade interpolation. The analysis investigated both changes in composite length and minimum composite lengths for inclusion. Results are compared by reviewing the resultant mean grade against the length weighted raw sample mean grades, and the percentage of samples excluded applying the minimum composite length.

SRK has utilized a function in Datamine where all samples are maintained during the composite routine (MODE=1). MODE 1 forces all samples to be included in one of the composites by adjusting the composite length, while keeping it as close as possible to the 5 m interval selected by SRK. A review of the composite lengths per domain shows on average the mean length of the composite within the Carbonatite is in the order of 1.0 to 1.5 m, while the thinner mafic units average closer to 1.25 m. A comparison of the mean Nb_2O_5% grades shows the impact of the composite and capping routines results in slightly lower means at <0.4% in the Carbonatite. The reduction in mafic units reports larger differences of up to 15% but this is typically due to the low numbers in the samples populations. SRK assumes the differences in the mafics can be explained by differences in the logging of Molycorp drilling, and while this may have a degree of conservatism, the overall tonnage of the mafic units is low in comparison to the Carbonatite. SRK deemed the capping satisfactory, and no bias has been introduced during the capping and composite processes.

Table 14.4.2.1: Composite Length Analysis for Elk Creek Domain 15 (0.5 Nb_2O_5% grade shell)

Composite	% Min Length	N Samples	Minimum (Nb_2O_5%)	Maximum (Nb_2O_5%)	Mean (Nb_2O_5%)	Variance	Standard Deviation	CoV	% Difference from Mean
raw	all	8873	0	4.47	0.809	0.20	0.45	-	-
1	0.00	8337	0.0	4.47	0.803	0.17	0.41	-0.79%	0.51
1	0.25	8298	0.0	4.47	0.804	0.17	0.41	0.16%	0.51
1	0.50	8257	0.0	4.47	0.806	0.17	0.41	0.28%	0.51
1	0.75	8230	0.0	4.47	0.807	0.17	0.41	0.12%	0.51
1	1.00	8200	0.0	4.47	0.808	0.17	0.41	0.11%	0.51
2	0.00	4210	0.0	3.46	0.799	0.15	0.38	-1.08%	0.48
2	0.25	4171	0.0	3.46	0.802	0.15	0.38	0.38%	0.48
2	0.50	4149	0.0	3.46	0.804	0.15	0.38	0.20%	0.48
2	0.75	4092	0.0	3.46	0.809	0.15	0.38	0.69%	0.47
2	1.00	4057	0.0	3.46	0.812	0.15	0.38	0.27%	0.47
3	0.00	2848	0.0	3.50	0.795	0.13	0.37	-2.11%	0.46
3	0.25	2801	0.0	3.50	0.799	0.13	0.36	0.60%	0.46
3	0.50	2749	0.0	3.50	0.807	0.13	0.36	0.93%	0.45
3	0.75	2714	0.0	3.50	0.811	0.13	0.36	0.54%	0.45
3	1.00	2689	0.0	3.50	0.814	0.13	0.36	0.32%	0.44
4	0.00	2146	0.0	3.41	0.794	0.12	0.35	-2.42%	0.44
4	0.25	2118	0.0	3.41	0.798	0.12	0.34	0.50%	0.43
4	0.50	2069	0.0	3.41	0.805	0.12	0.34	0.90%	0.43
4	0.75	2032	0.0	3.41	0.811	0.12	0.34	0.67%	0.42
4	1.00	1989	0.0	3.41	0.817	0.12	0.34	0.79%	0.42
6	0.00	1736	0.0	2.71	0.793	0.11	0.33	-2.94%	0.42
6	0.25	1703	0.1	2.71	0.796	0.11	0.33	0.39%	0.42
6	**0.50**	1661	0.1	2.71	0.804	0.11	0.33	0.98%	0.41
6	0.75	1599	0.1	2.71	0.817	0.11	0.33	1.58%	0.40
6	1.00	1572	0.1	2.71	0.821	0.11	0.33	0.55%	0.40

Source: SRK, 2015

Table 14.4.2.2 shows a comparison of the mean grades within each zone based on the grade capping applied. Within the Carbonatite units the reduction in the mean is less than 0.5% for the Nb_2O_5 assays, while the difference in the means are more variable within TiO_2 and Sc database. Overall the reduction in the means are deemed acceptable by SRK and appropriate given the sampling distributions noted for each element.

Table 14.4.2.2: Comparison of Raw vs. Capped Composites Grades

	K Zone	Field	N Samples	Min.	Max.	Mean	Variance	Stand. Dev.	CoV	WGT Field	% Diff.
Raw Samples	2	Nb_2O_5	33	0.00	0.52	0.11	0.02	0.15	1.39	Length	
	10	Nb_2O_5	5609	0.00	2.32	0.20	0.02	0.15	0.77	Length	
	13	Nb_2O_5	2295	0.00	1.32	0.30	0.01	0.12	0.39	Length	
	14	Nb_2O_5	1939	0.00	1.18	0.36	0.03	0.16	0.45	Length	
	15	Nb_2O_5	8873	0.00	4.47	0.81	0.18	0.43	0.53	Length	
	21	Nb_2O_5	231	0.00	0.42	0.11	0.00	0.07	0.62	Length	
	2	SC_PPM	13	6.00	48.00	17.64	192.97	13.89	0.79	Length	
	10	SC_PPM	3885	4.00	196.00	32.52	371.10	19.26	0.59	Length	
	13	SC_PPM	2300	6.00	152.00	59.44	276.68	16.63	0.28	Length	
	14	SC_PPM	1940	8.00	156.00	62.82	459.68	21.44	0.34	Length	
	15	SC_PPM	8879	6.00	306.00	73.77	666.49	25.82	0.35	Length	
	21	SC_PPM	238	1.00	106.00	37.04	183.18	13.53	0.37	Length	
	2	TiO_2	36	0.07	1.82	0.58	0.22	0.47	0.82	Length	
	10	TiO_2	5630	0.01	6.80	0.94	0.86	0.93	0.98	Length	
	13	TiO_2	2296	0.02	5.22	1.38	0.51	0.72	0.52	Length	
	14	TiO_2	1940	0.02	7.33	1.80	0.71	0.84	0.47	Length	
	15	TiO_2	8878	0.02	13.87	2.98	1.62	1.27	0.43	Length	
	21	TiO_2	231	0.02	4.80	1.15	1.59	1.26	1.10	Length	
5 m Capped Composite	2	Nb_2O_5	28	0.00	0.48	0.12	0.02	0.15	1.22	Length	15.2%
	10	Nb_2O_5	1424	0.00	1.00	0.20	0.01	0.11	0.54	Length	-1.4%
	13	Nb_2O_5	556	0.00	0.66	0.30	0.01	0.07	0.25	Length	0.0%
	14	Nb_2O_5	469	0.00	0.74	0.36	0.01	0.11	0.32	Length	-0.2%
	15	Nb_2O_5	1664	0.00	2.60	0.80	0.11	0.33	0.40	Length	-0.1%
	21	Nb_2O_5	84	0.00	0.30	0.11	0.00	0.07	0.57	Length	0.0%
	2	SC_PPM	6	6.83	38.64	15.87	127.49	11.29	0.71	Length	-10.0%
	10	SC_PPM	672	10.00	80.00	31.93	240.94	15.52	0.49	Length	-1.8%
	13	SC_PPM	556	8.19	95.00	59.19	176.80	13.30	0.22	Length	-0.4%
	14	SC_PPM	469	9.50	110.00	62.66	356.25	18.87	0.30	Length	-0.2%
	15	SC_PPM	1664	10.85	150.00	73.48	455.10	21.33	0.29	Length	-0.4%
	21	SC_PPM	84	1.00	65.00	36.31	111.21	10.55	0.29	Length	-2.0%
	2	TiO_2	19	0.21	1.69	0.66	0.21	0.45	0.69	Length	14.1%
	10	TiO_2	1432	0.02	4.00	0.93	0.61	0.78	0.84	Length	-1.0%
	13	TiO_2	555	0.05	3.90	1.38	0.35	0.59	0.43	Length	-0.3%
	14	TiO_2	469	0.13	4.50	1.80	0.48	0.69	0.38	Length	-0.4%
	15	TiO_2	1664	0.05	5.97	2.96	0.90	0.95	0.32	Length	-0.7%
	21	TiO_2	84	0.02	3.50	1.09	1.24	1.12	1.03	Length	-5.6%

Source: SRK, 2015

14.5 Density

Dahrouge conducted density testing on the drill core to support the resource estimation. Approximately 2,045 samples were tested from the 2014 drilling program, completed using a combination of volumetric density (1,777 samples) determination and water immersion (1,493 samples) for confirmation. The density data was subdivided by the major lithologic groups used in the geologic model, and averages were calculated for each group.

The results are presented in Table 14.5.1. Density was assigned in the block model based on each block's lithology. Blocks outside of the resource estimation with unclassified lithology, were assigned a density of 2.82 g/cm^3, the average value for all the measurements taken.

Table 14.5.1: Density Determinations

Filters	SED	CARB	CARB-LAMP	MCARB	MCARB-LAMP	INT	LAMP	MAFIC
Samples	223	882	230	1940	113	12	382	24
Minimum	2.02	2.19	2.17	2.14	2.08	2.70	2.08	2.27
Maximum	2.85	3.96	3.44	4.19	3.30	3.77	4.19	3.41
Mean	2.49	2.89	2.85	3.04	2.91	2.90	2.85	2.95
Standard deviation	0.16	0.20	0.15	0.24	0.17	0.34	0.24	0.31
CV	0.06	0.07	0.05	0.08	0.06	0.12	0.09	0.11
10%	2.27	2.68	2.69	2.79	2.68	2.70	2.54	2.40
20%	2.36	2.79	2.77	2.87	2.82	2.73	2.69	2.65
30%	2.41	2.84	2.80	2.93	2.88	2.75	2.75	2.83
40%	2.44	2.86	2.83	2.98	2.92	2.81	2.82	2.98
50%	2.50	2.89	2.85	3.02	2.93	2.81	2.87	3.02
60%	2.55	2.92	2.89	3.07	2.96	2.83	2.92	3.02
70%	2.58	2.95	2.91	3.13	2.98	2.83	2.96	3.06
80%	2.62	2.99	2.95	3.19	3.02	2.83	3.00	3.19
90%	2.67	3.05	3.02	3.30	3.04	3.04	3.08	3.35
95%	2.72	3.18	3.05	3.45	3.08	3.40	3.16	3.35
99%	2.83	3.58	3.15	3.78	3.26	3.70	3.47	3.41

Source: SRK, 2015

During the February 6 Mineral Resource estimate (Nb_2O_5 reported only) which formed the basis for the press release dated 09 February 2015, SRK assumed an average density based on the major geological units. The average density assigned is shown in Table 14.5.2. The breakdown of density has been based on the estimation domain (KZONE), with higher density values within the higher grade domains based on the relationship within higher magnetite content associated with the higher grades.

Table 14.5.2: Density used per Major Rock Type used in February 9, 2015 Mineral Resource Estimate

KZONE	Major Rock	Rock Type	Assigned Density
1	TILL	Till	2.00
2	SED	Sediment	2.48
10	CARB	Carbonatite (below cut-off)	2.82
13	CARB	Carbonatite (low grade)	2.85
14	MCARB	Magnetite Carbonatite (low grade)	2.90
15	MCARB	Magnetite Carbonatite (high grade)	3.05
21	MAFIC/LAMP	Mafic/Lamprophyre Units	2.86

Source: SRK 2015

On receipt of the whole rock analysis database and prior to updating the Mineral Resource for the TiO_2% and Sc (ppm) estimates SRK conducted a review of the variability within the density values to determine/confirm if a relationship existed between the higher FeO_2% and the Nb_2O_5% (Figure 14.5.1). The study indicated that while a direct correlation is not established there is a trend for high density associated with high FeO_2% and Nb_2O_5%. Further review of the histograms for the density data per zone show variation in the density, and large enough sample populations for SRK to consider the estimation of density into the block model to be appropriate. SRK has assumed in terms of search orientations that the density values are associated with the same search orientations as the Nb_2O_5% distributions. To complete the analysis SRK has reviewed the histograms

(Figure 14.5.2) and applied capping to the density values per domain as appropriate. SRK has used the same methodology for reviewing outliers as discussed in Section 14.4.1 of this report.

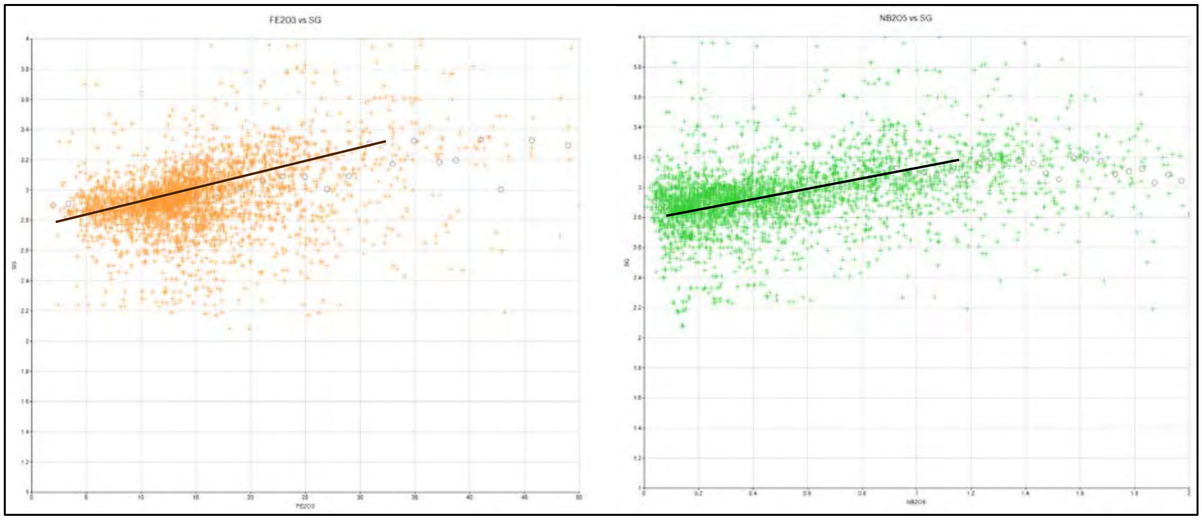


Figure 14.5.1: XY Scatter Plots of Density Values vs. Fe_2O_3 and Nb_2O_5

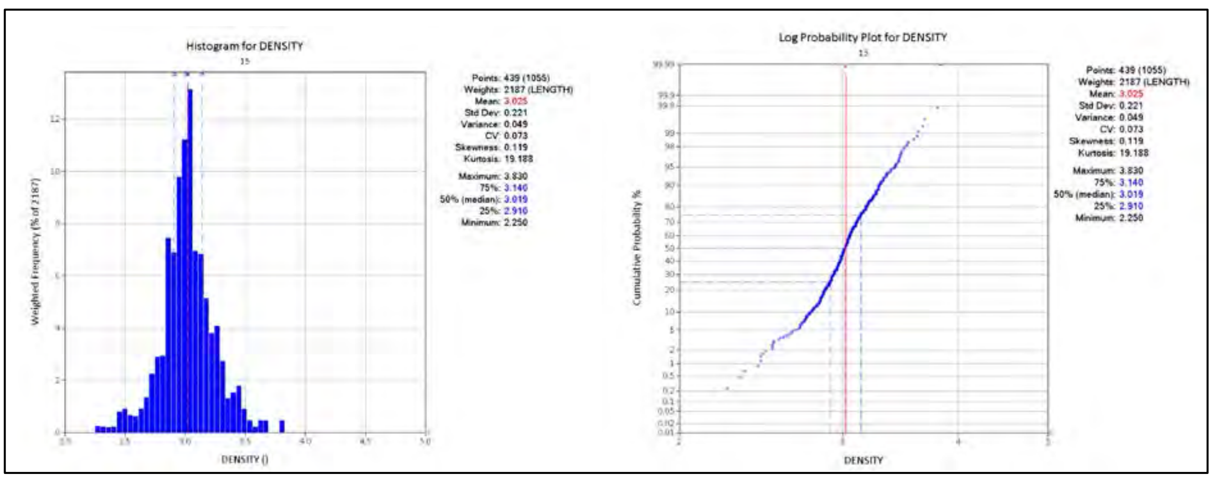


Figure 14.5.2: Histogram and Log Probability Plot of Density Measurements within KZONE 15

Table 14.5.3: Summary of Capped Density Values per Domain

KZONE	Major Rock	Rock Type	Capped Density
1	TILL	Till	n/a*
2	SED	Sediment	n/a*
10	CARB	Carbonatite (below cut-off)	3.20
13	CARB	Carbonatite (low grade)	3.25
14	MCARB	Magnetite Carbonatite (low grade)	3.30
15	MCARB	Magnetite Carbonatite (high grade)	3.85
21	MAFIC/LAMP	Mafic/Lamprophyre Units	3.00

* Used assigned density from previous study

In summary the change from the use of a single density per zone compared to the estimated density for the estimated domains (13, 14, 15, 21), reported a difference of 229,200,000 t vs. 228,200,000 t which is in the order of 0.5% (at a 0% Nb_2O_5 cut-off) which SRK does not consider to be a material change. SRK considers the use of estimated density to be more reasonable given the variable nature based on higher Nb_2O_5% and Fe_2O_3% (effective date February 20, 2015 and disclosed on February 23, 2015).

14.6 Variogram Analysis and Modeling

Variography is the study of the spatial variability of an attribute (in this case Nb_2O_5%, TiO_2%, Sc). Datamine and Supervisor have been utilized to test the geostatistical relationship for the deposit. Variogram analysis was performed on the capped and composited data filtered to include only the carbonatite domain. No stable semi-variograms have been achieved within the mafic units.

In completing the analysis the following has been considered:

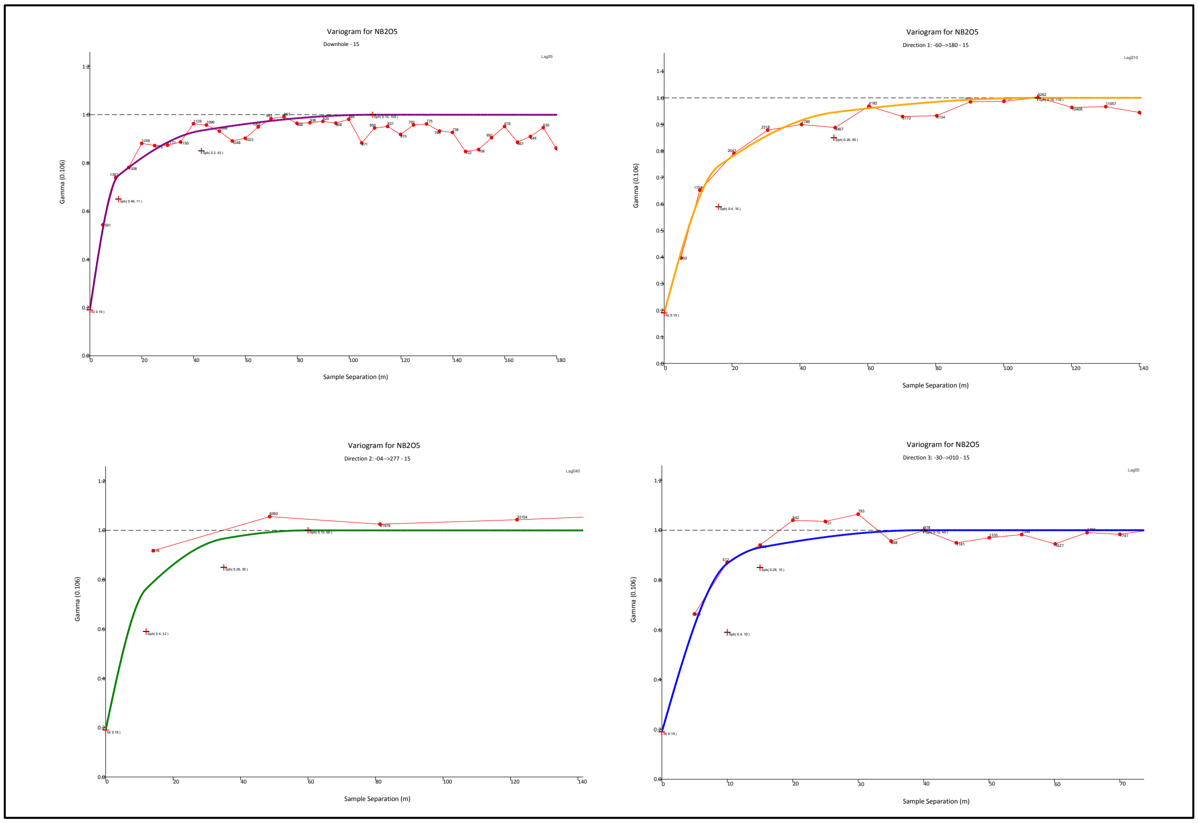
- Azimuth and dip of each zone was determined;
- The down-hole variogram was calculated and modelled to characterize the nugget effect;
- Experimental raw and pairwise relative semi-variograms, were calculated to determine directional variograms for the along strike, cross strike and down-dip directions;
- Directional variograms were modelled using the nugget and sill defined in the down-hole variography, and the ranges for the along strike, cross strike and down-dip directions; and
- All variances were re-scaled for each domain to match the total variance for that zone

A triple spherical structure was used to model the variograms for all three elements. A lag of 25 m was used with a variable separation based on the extents of the data. The semivariogram parameters are presented in Table 14.6.1. The experimental semi-variogram data is shown in Figure 14.6.1 fit with the model semi-variogram parameters listed in Table 14.6.1. The results indicate a reasonable nugget variance, but then a significant portion of the variability is within a short range (first sill) of between 7 to 20 m. SRK attributes this short scale variability to changes in the geological units between mdolcarb and dolcarb, improving the geological model and hence domaining may improve the results during the next Mineral Resource update.

Table 14.6.1: Semivariogram Model Results

Element	Sill	Variance	Variance %	Strike 120/0	Dip 30/-55	Across Strike 30/35
Nb_2O_5 (KZONE 13-15)	C0	0.19	0.19			
	C1	0.40	0.40	16	12	10
	C2	0.26	0.26	50	35	15
	C3	0.15	0.15	110	60	40
Nb_2O_5 KZONE 21)	C0	0.19	0.19			
	C1	0.40	0.40	12	12	12
	C2	0.26	0.26	50	50	50
	C3	0.15	0.15	105	105	105
TiO_2 (KZONE 13-15)	C0	0.24	0.24			
	C1	0.35	0.35	19	20	25
	C2	0.26	0.26	40	40	31
	C3	0.15	0.15	105	120	80
Sc ppm (KZONE 13-15)	C0	0.17	0.19			
	C1	0.26	0.40	13	12	18
	C2	0.12	0.26	61	36	53
	C3	0.45	0.15	180	84	75

Source: SRK, 2015



Source: SRK, 2015

Figure 14.6.1: Semi-Variogram Analysis for Elk Creek 0.5% Domain

14.7 Block Model

The block model was constructed within the UTM grid (NADS83 Zone 14) coordinate limits listed in Table 14.7.1. A 5 m x 15 m x 5 m (x, y, z) block size was chosen as an appropriate dimension based on the current drillhole spacing and a potential underground smallest mining unit (SMU), compared to a drill spacing in the order of 60 m x 60 m within infill drilled sections. Sub-blocking has been allowed along the boundaries to a minimum of 0.5 m along strike, 2.5 m across strike and 1.0 m in the vertical direction, to maintain the geological interpretation. The block size has been based on the SMU, but it is SRK understanding that mine planning for the stopes will likely occur at a larger scale and not be based on individual blocks. The current block size will allow the mine planning to have the required level of flexibility when running the stope optimization. The topographic surface was created from the aerial survey of the topography and verified against the drill collars.

All modelling was conducted in Datamine for Elk Creek grade estimation. The top the carbonatite surface is located approximately 200 m below surface and is overlain by a sequence of Pennsylvanian sediments which have been modelled in Leapfrog. All grade estimates cropped to this contact.

SRK previously used a rotation to improve the geometric representation of the deposit. A rotated block model was created using a strike of 120º (set to -60º using Datamine convention). Based on work currently underway on the geotechnical aspects of the project this rotation is noted to be oblique to some of the principal stresses, which have been supported by the fault model, and a specialized horizontal stress test completed as part of a geotechnical program. To improve the potential mine design and to reduce the potential for dilution SRK has rotated the block model to align with the key stress orientations.

To ensure no bias has been introduced in terms of dilution across the geological block model SRK has run the same model parameters using three different scenarios:

- Block model set-up based on key geological orientations (maximize grade continuity between blocks);
- Block model rotated 15º towards (half the required rotation) the principal stress orientation; and
- Block model rotated 15º towards (full rotation) into the principal stress orientation.

SRK noted that the difference in the global grades and tonnages between all three scenarios was negligible. Given the significant potential for improvement for the mine design (stope orientations), SRK elected to use the fully rotated prototype which aligns to the principal stress.

SRK has maintained the 5 m block size across strike as used in the geological model to ensure the vertical variation in the zones is modelled. A comparison of the block model dimensions used in 2014 and 2015 are shown in Table 14.7.1 and Table 14.7.2.

Table 14.7.1: Elk Creek Block Model Prototype used September 2014

Item	Origin	Rotation (Z Axis)	Block Dimension (m)	Number of Blocks	Minimum Sub-block
Easting	739,520		5	90	0.5
Northing	4,460,900	-60	15	55	2.5
Elevation	-600		5	200	1

Source: SRK, 2014

Table 14.7.2: Elk Creek Block Model Prototype used February 2015

Item	Origin	Rotation (Z Axis)	Block Dimension (m)	Number of Blocks	Minimum Sub-block
Easting	739,290		5	121	0.5
Northing	4,460,740	-30	15	70	2.5
Elevation	-650		5	220	1

Source: SRK, 2015

14.8 Estimation Methodology

The grade estimation has been completed using hard boundaries for the lithological (mafic) and mineralization (carbonatite grade shell) domains. Only the composites from the same domain have been used during estimation. This boundary corresponds to the geologic model presented in Section 14.3. The block model was first coded so that all blocks within this solid were flagged according to the relevant estimation domain (KZONE). The use of a soft boundary within the Carbonatite between the 0.4% and 0.5% limits has been tested during the September 2014 Mineral Resource estimate, the findings of which indicated that the higher grades within the MCARB were smoothing into lower grade carbonatite material. The findings from the study showed in a previous iteration of the geological wireframe that removing the hard boundary increased the tonnage by 2%

and the grade by 5% at a cut-off of 0.3% (Nb_2O_5%). This increased at higher cut-offs to 32% more tonnage for a reduction of 7% in the grade. SRK concluded that the hard contact provided a better visual comparison to the raw sampling information. A review of the drillhole logs and core indicate a relatively sharp increase in the levels of magnetite and hence the definition of MCARB material. SRK considers this assumption to remain appropriate to the current geological model and estimation.

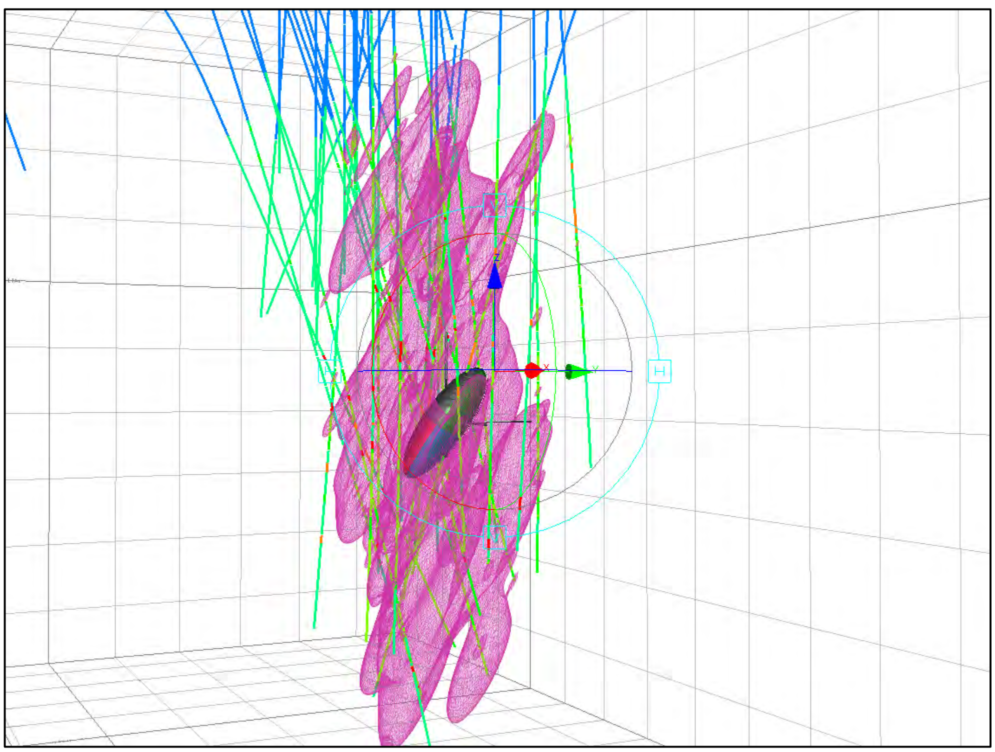
The Nb_2O_5% grade estimation utilized an OK algorithm supported by the 5 m sample composites for all units and elements, and density. A check estimate using Inverse distance weighting (IDW) to a Power of 2 and Nearest neighbor analysis has been completed for the Nb_2O_5 estimates for validation purposes. A nested search method consisting of three passes was used. The search ellipse has been rotated into the main dip and strike orientation of the deposit (Table 14.8.1).

Table 14.8.1: Ellipsoid Orientations

Domains	Rotation Angle 1	Axis of Rotation	Rotation Angle 1	Axis of Rotation
Nb_2O_5	30	Z-Axis	30	X-Axis
TiO_2	30	Z-Axis	30	X-Axis
Sc	15	Z-Axis	85	X-Axis
Density	30	Z-Axis	30	X-Axis

Source: SRK, 2015

Due to observed variations in the dip of the carbonatite and mafic units the search ranges have been rotated to best fit the semi-variogram orientation and the geological model (Figure 14.8.1). The search ranges are based on the results of the variography as well as the average drillhole spacing.



Source: SRK, 2014

Figure 14.8.1: Search Volume Orientation for Carbonatite Mineralization Shown vs. 0.5% Nb_2O_5 Grade Shell

In the first search passes for the Carbonatite, the estimation required a minimum of six and a maximum of 16 composites to assign grade to each block. A lower maximum number of 12 composites has been used in the mafics to account for the lower sample density and that commonly the mafics are represented by a single composite across the width of the wireframe. For the second pass, a minimum of three and a maximum of 12 composites were required to assign grade. In the third pass the minimum number of samples has been reduced to one sample and a maximum of 12 samples were required to assign grade. A maximum of three composites from a single drillhole were allowed for all passes, thus at least two drillholes were used for the first search pass. No blocks estimated in subsequent passes were allowed to overwrite the prior passes of estimation. No octant search restriction was applied.

The number of composites and drillholes used to estimate each block were stored during the estimation. Each pass of estimation was also recorded to show which blocks were estimated in which pass. The results show that an average of eight composites (using at least two holes) are used within the first two passes, which represents 73% of the number of blocks estimate. A detailed breakdown of the estimation parameters for the Carbonatite in each pass is shown in Table 14.8.2.

Table 14.8.2: Estimation Parameters and General Statistics for Carbonatite Estimate (0.3, 0.4, 0.5% Nb_2O_5 Grade Shells)

Parameter	KZONE 13 (0.3%)			KZONE 14 (0.4%)			KZONE 15 (0.5%)			KZONE 21 (MAFIC)		
	1	2	3	1	2	3	1	2	3	1	2	3
Major Axis (strike) (m)	75.00	150.00	300.00	75.00	150.00	300.00	75.00	150.00	300.00	50.00	100.00	250.00
Semi-Major Axis (dip) (m)	75.00	150.00	300.00	75.00	150.00	300.00	75.00	150.00	300.00	50.00	100.00	250.00
Minor Axis (across strike) (m)	20.00	40.00	80.00	20.00	40.00	80.00	20.00	40.00	80.00	10.00	20.00	50.00
Minimum Samples	6.00	3.00	1.00	6.00	3.00	1.00	6.00	3.00	1.00	3.00	4.00	1.00
Maximum Samples	16.00	12.00	12.00	16.00	12.00	12.00	16.00	12.00	12.00	12.00	24.00	20.00
Max per drillhole	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00

Source: SRK, 2015

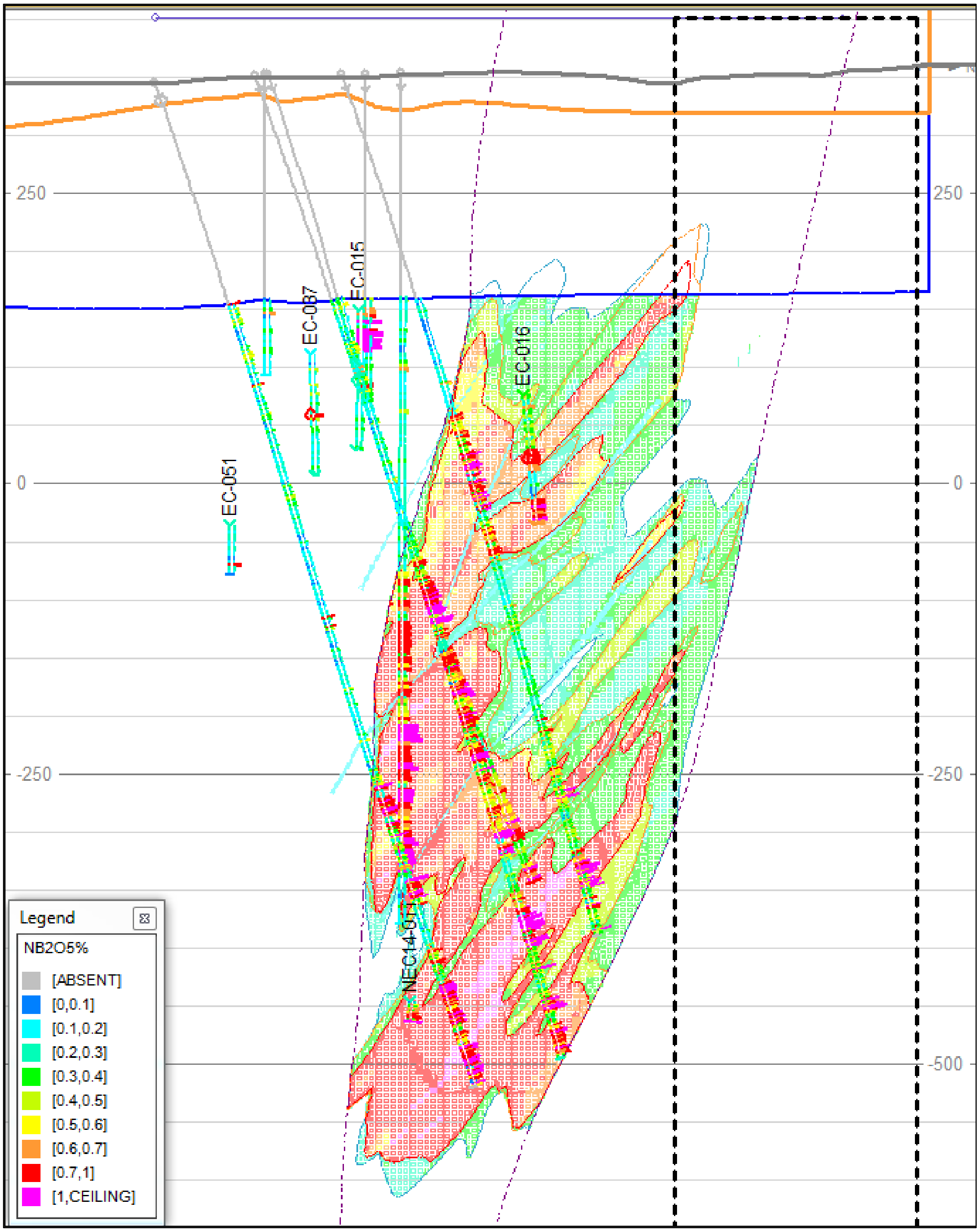
14.9 Model Validation

SRK has undertaken a thorough validation of the resultant interpolated model in order to confirm the estimation parameters, to check that the model represents the input data on both local and global scales and to check that the estimate is not biased. SRK has undertaken this using a using a number of different validation techniques.

- Inspection of block grades in plan and section and comparison with drillhole grades;
- Comparative Statistical study vs. composite data and alternative estimation methods; and
- Sectional interpretation of the mean block and sample grades (Swath Plots).

14.9.1 Visual Comparison

Visual validation provides a local validation of the interpolated block model on a local block scale, using visual assessments and validation plots of sample grades verses estimated block grades. A thorough visual inspection of cross-sections, long-sections and bench/level plans, comparing the sample grades with the block grades has been undertaken, which demonstrates good comparison between local block estimates and nearby samples, without excessive smoothing in the block model. Figure 14.9.1.1 shows an example cross-section of the visual validation checks and highlights the overall block grades corresponding with raw samples grades. Additional cross-sections showing the block estimates vs. the composite grades are shown in Appendix B.



Source: SRK, 2015

Figure 14.9.1.1: Cross-section looking northwest Showing Visual Validation of Boreholes to Grade Estimates

14.9.2 Comparative Statistics

SRK compared the composite grades to the estimated block grades within the wireframes for each domain. The composite grades are presented using the declustered weighting for comparison to the block statistics. Declustering was conducted using a cell-declustering algorithm, with default cell size of 20 m x 20 m x 20 m, improved correlation maybe achieved at different declustering grids. The comparison of the composite assays vs. the block estimates are shown in Table 14.9.2.1 for all three elements.

Table 14.9.2.1: Comparison of Block Estimates vs. Composite Samples (Carbonatite Domains)

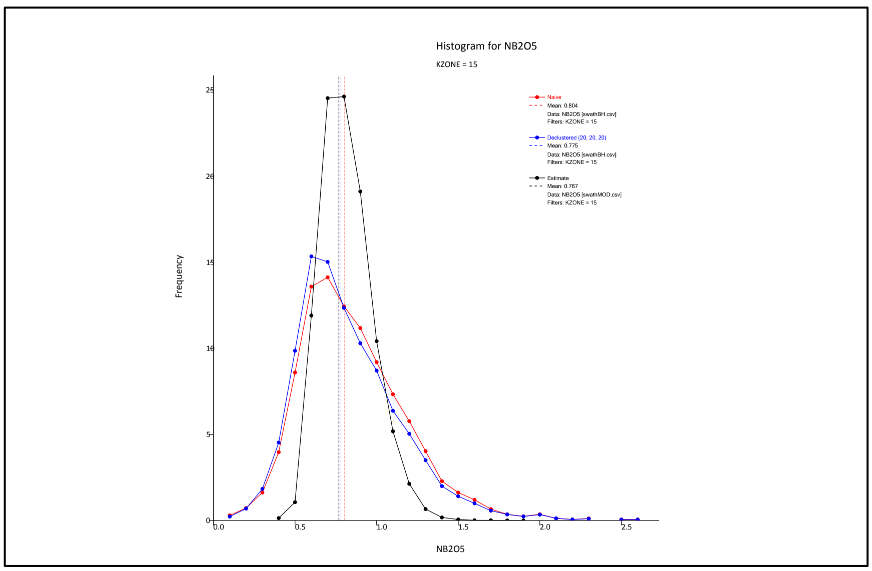
Element	KZONE	Statistic	Composite Sample Data	Declustered Sample Data	BlockData1 (Tonnage Weighted)	BlockData1 Vs Sample %Diff	BlockData1 Vs Declustered %Diff
Nb_2O_5	13	Mean	0.30	0.29	0.30	-0.49	1.12
		Std Dev	0.08	0.08	0.04		
		CV	0.26	0.27	0.13		
		Maximum	0.66	0.66	0.51		
		75%	0.35	0.35	0.32	-7.71	-7.44
		50%	0.31	0.30	0.30	-1.68	-0.36
		25%	0.26	0.25	0.27	7.06	9.40
	14	Mean	0.35	0.34	0.35	1.62	4.65
		Std Dev	0.12	0.13	0.06		
		CV	0.35	0.38	0.16		
		Maximum	0.74	0.74	0.58		
		75%	0.43	0.42	0.40	-7.67	-6.19
		50%	0.37	0.36	0.36	-2.97	-0.46
		25%	0.28	0.26	0.32	14.17	21.23
	15	Mean	0.80	0.78	0.77	-4.56	-1.09
		Std Dev	0.33	0.32	0.16		
		CV	0.41	0.41	0.20		
		Maximum	2.60	2.60	1.82		
		75%	0.99	0.95	0.86	-13.06	-9.55
		50%	0.75	0.72	0.75	-0.56	4.31
		25%	0.57	0.54	0.65	15.09	19.95
TiO_2	13	Mean	1.38	1.39	1.39	0.87	-0.06
		Std Dev	0.61	0.65	0.37		
		CV	0.44	0.47	0.27		
		Maximum	3.90	3.90	3.30		
		75%	1.63	1.65	1.63	-0.01	-0.86
		50%	1.25	1.26	1.38	10.53	9.57
		25%	1.00	1.00	1.15	15.03	15.12
	14	Mean	1.80	1.81	1.81	0.55	-0.24
		Std Dev	0.73	0.77	0.44		
		CV	0.41	0.42	0.25		
		Maximum	4.50	4.50	4.01		
		75%	2.19	2.23	2.08	-5.08	-6.83
		50%	1.63	1.64	1.76	7.80	7.19
		25%	1.35	1.34	1.53	13.27	14.39
	15	Mean	2.95	2.88	2.90	-1.91	0.70
		Std Dev	0.95	0.94	0.51		
		CV	0.32	0.33	0.18		
		Maximum	5.97	5.97	5.13		
		75%	3.56	3.44	3.21	-9.81	-6.75
		50%	2.87	2.81	2.85	-0.66	1.52
		25%	2.29	2.26	2.57	12.09	13.79
Sc	13	Mean	58.83	57.69	54.61	-7.17	-5.34
		Std Dev	13.99	15.12	11.50		
		CV	0.24	0.26	0.21		
		Maximum	95.00	95.00	88.66		
		75%	65.00	65.00	62.11	-4.45	-4.45
		50%	61.62	61.15	57.31	-6.99	-6.28
		25%	51.89	50.42	49.64	-4.34	-1.55
	14	Mean	61.49	60.04	61.13	-0.58	1.83
		Std Dev	19.74	20.63	13.29		
		CV	0.32	0.34	0.22		
		Maximum	110.00	110.00	107.92		
		75%	72.73	72.22	68.92	-5.23	-4.57
		50%	63.67	62.08	62.77	-1.41	1.12
		25%	50.05	46.92	52.84	5.58	12.62
	15	Mean	73.45	72.57	70.97	-3.37	-2.19
		Std Dev	21.37	21.51	15.23		
		CV	0.29	0.30	0.21		
		Maximum	150.00	150.00	133.82		
		75%	85.22	84.47	80.72	-5.28	-4.43
		50%	72.22	71.43	71.74	-0.66	0.44
		25%	60.29	59.23	61.10	1.34	3.17

Source: SRK, 2014

The results show acceptable levels of correlation between the mean blocks and declustered means for the Carbonatite domains. The 0.4 Nb_2O_5% and 0.5 $Nb_2O_{5\%}$ which combined for the majority of the metal above cut-off show difference in the mean grades typically reporting less than ± 2.5%, which SRK deems within acceptable levels.

The highest differences in the mean grades are noted within the 0.4 Nb_2O_5% grade shell, with the block model grades reporting approximately 4.7 % higher than the composite mean, and the 0.3 Sc_ppm estimates which reported 5.3 % lower than the composite means. The difference in the mean grades between the composite and the block estimates within the 0.4 Nb_2O_5% grade shell, is 0.02 % to provide context. SRK still considered these levels of error to be within acceptable levels of error for the current level of confidence and drillhole spacing.

In addition to the statistical analysis comparative histograms (Figure 14.9.2.1) and distribution plots have been reviewed to assess the degree of smoothing. The result indicate the mean grade of the deposits are relatively close (as confirmed in the statistical analysis), with the block models typically smoothed towards the mean and a reduction in higher end of the distribution. The level of smoothing is a function of the current drill spacing and to increase the correlation between the datasets further drilling at a closer spacing would likely be required.



Source: SRK, 2015

Figure 14.9.2.1: Example of Comparative Histogram of Composites vs. Block Estimates

During the 2014 Mineral Resource update SRK noted in the mafic units the differences between the composite and block estimates were more significant than in the Carbonatite units. SRK attributed the differences to two main factors:

- The relatively small sample populations; and
- The data populations within the mafic units were skewed and the influence of high grades samples statistical mean maybe considered higher.

SRK has therefore remodelled these units based on the revised geological logging codes and infill drilling information. SRK considers the confidence in the mafic units geological interpretation remains lower than the Carbonatite, but the majority of the estimates fall below the economic cut-off. A review of the statistical comparison between the composite grades and the block estimates does show an improvement in the 2015 block estimates. SRK still considered these levels of error to be within acceptable levels of error.

Table 14.9.2.2: Comparison of Block Estimates vs. Composite Samples (Mafic/low grade Domain)

Element	KZONE	Statistic	Composite Sample Data	Declustered Sample Data	BlockData1 (Tonnage Weighted)	BlockData1 Vs Sample %Diff	BlockData1 Vs Declustered %Diff
KZONE 21	Nb_2O_5	Mean	0.12	0.13	0.12	2.22	-3.93
		Std Dev	0.07	0.07	0.03		
		CV	0.55	0.52	0.24		
		Maximum	0.30	0.30	0.23		
		75%	0.17	0.18	0.14		
		50%	0.12	0.14	0.13	8.79	-7.66
		25%	0.07	0.07	0.11	60.43	52.80
	TiO_2	Mean	1.18	1.23	1.27	6.87	2.89
		Std Dev	1.15	1.14	0.62		
		CV	0.97	0.93	0.49		
		Maximum	3.50	3.50	3.23		
		75%	2.11	2.11	1.73	-18.26	-18.26
		50%	0.69	0.70	1.23	78.39	76.09
		25%	0.32	0.34	0.76	140.28	120.54
	Sc	Mean	37.1	37.9	38.4	3.29	1.24
		Std Dev	11.9	12.5	6.7		
		CV	0.3	0.3	0.2		
		Maximum	65.0	65.0	63.8		
		75%	37.0	37.4	43.5	17.61	16.28
		50%	35.0	35.0	37.1	6.07	6.07
		25%	34.6	34.7	33.1	-4.44	-4.70

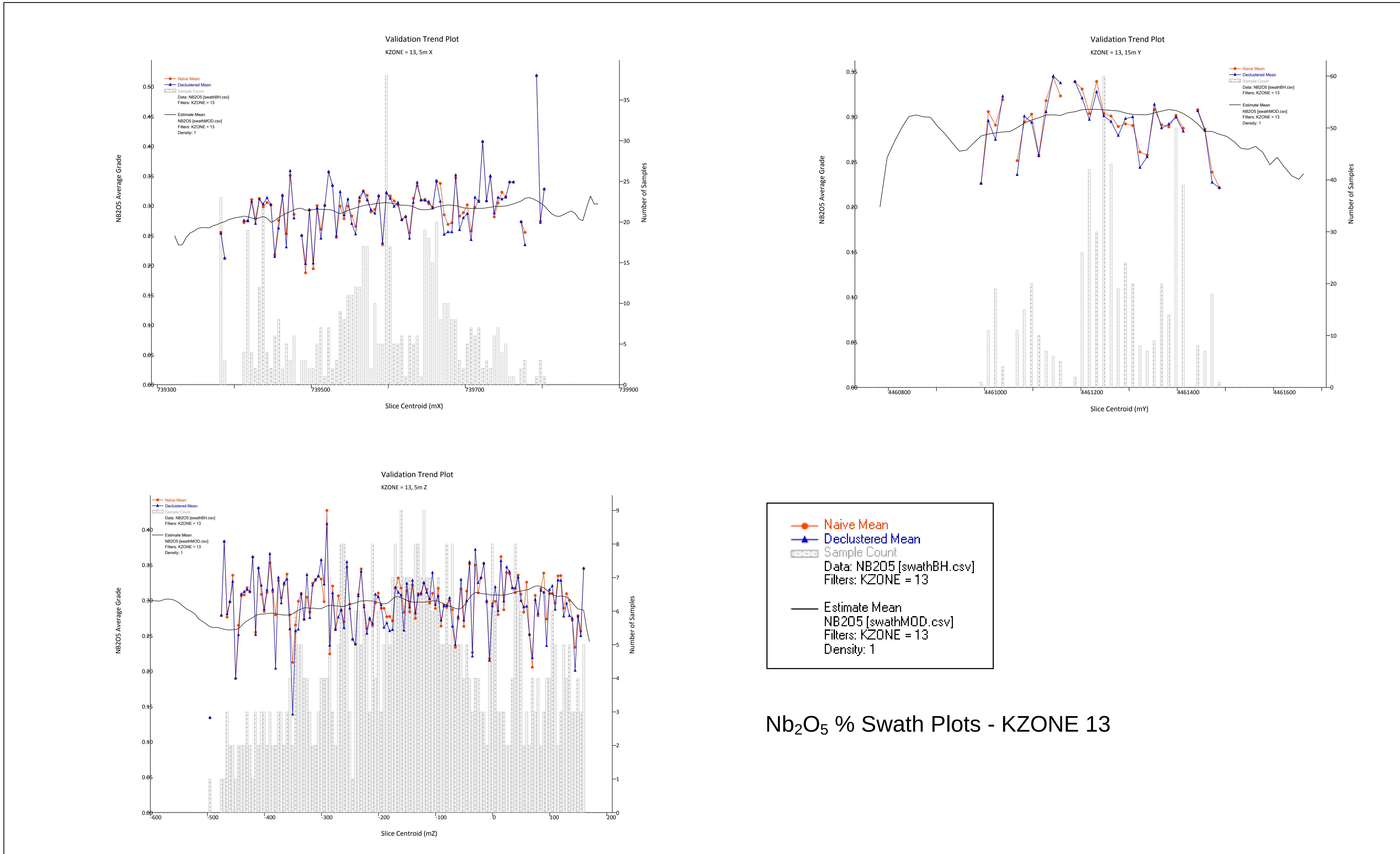
14.9.3 Swath Plots

Swath plots were generated, which show the mean grades in the block model as a function of their distribution along particular eastings, northings, and elevations.

The swaths compare the composite grades to the block grades, with the intention of ensuring that there are no significant deviations between the two which might mean that some bias exists in one part of the deposit. SRK calculated mean grades for composites and blocks within these swaths for all domains.

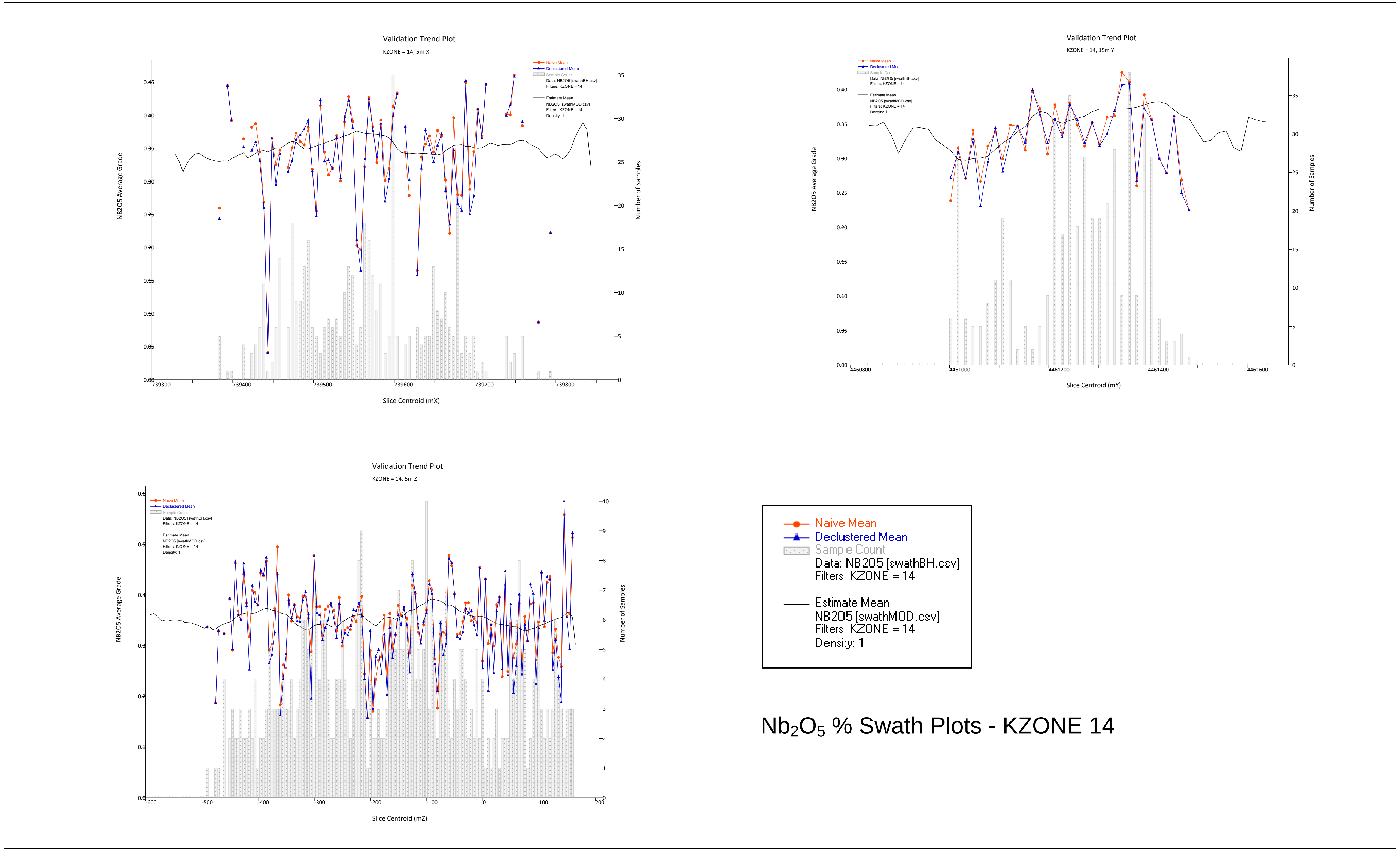
The resultant plots show a good correlation between the block model grades and the composite grades, with the block model showing a typically smoothed profile of the composite grades as expected. The plots for Nb_2O_5% generally confirm no indication of any significant bias introduced during the estimation, and generally display an adequate degree of smoothing. Based on the results of the analysis SRK have accepted the grades in the block model.

The swath analysis for the Carbonatite grade shells are shown in Figures 14.9.3.1 to 14.9.3.3.



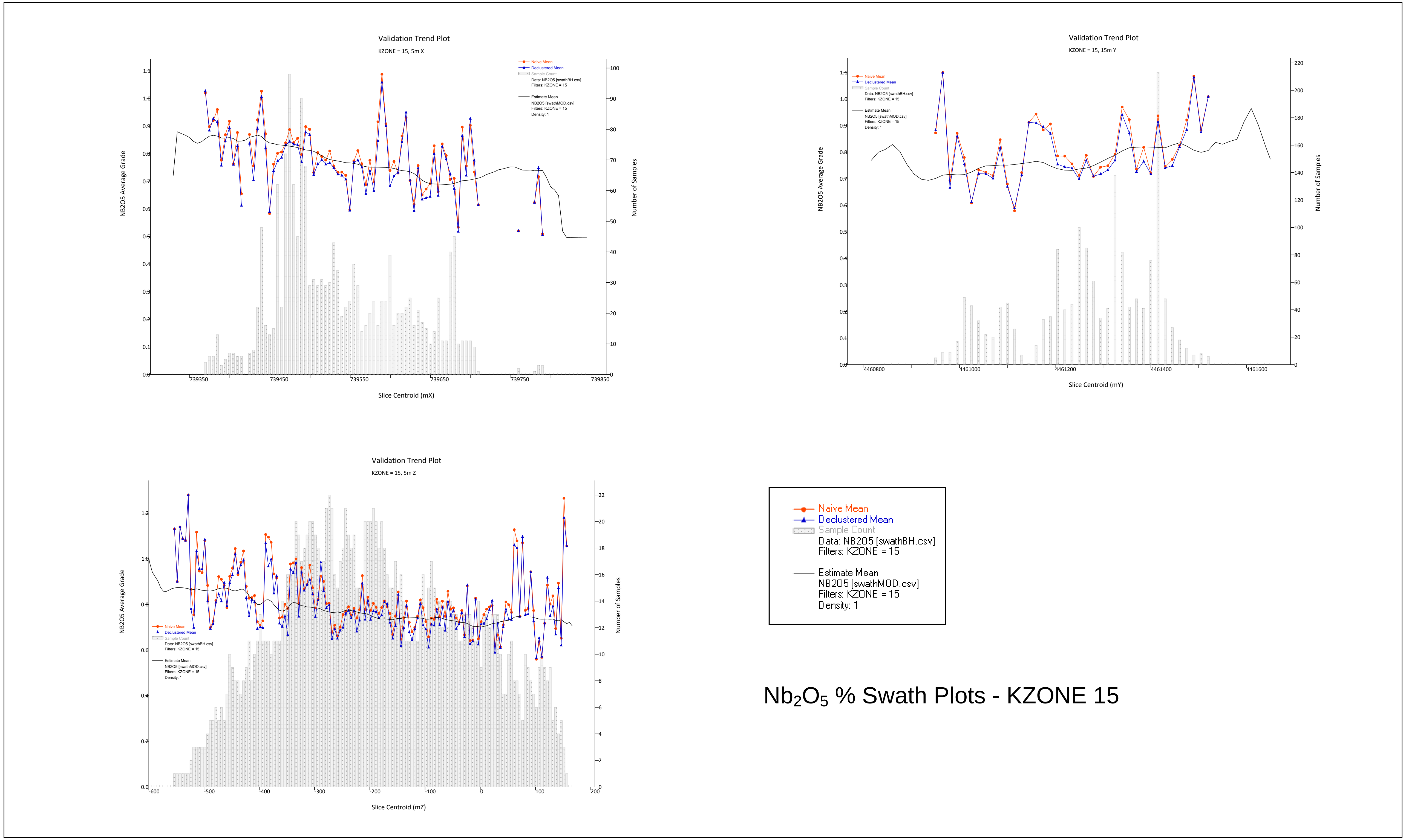
Source: SRK, 2015

Figure 14.9.3.1: Swath Plot for Nb_2O_5% Estimates for Elk Creek Carbonatite within 0.3% Grade shell (KZONE=13)



Source: SRK, 2014

Figure 14.9.3.2: Swath Plot for Nb_2O_5% Estimates for Elk Creek Carbonatite within 0.4% Grade shell (KZONE=14)



Source: SRK, 2014

Figure 14.9.3.3: Swath Plot for Nb_2O_5% Estimates for Elk Creek Carbonatite within 0.5% Grade shell (KZONE=15)

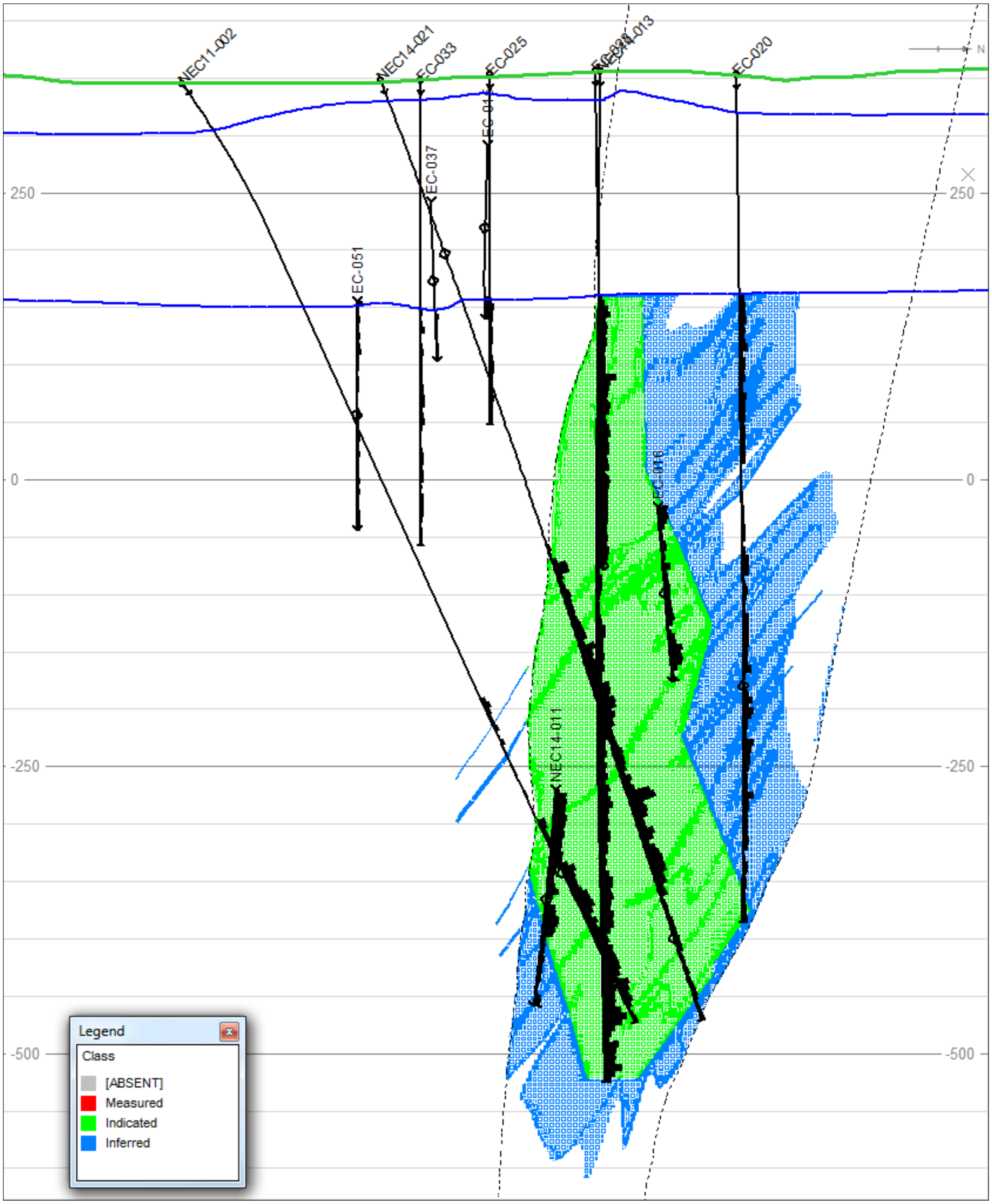
14.10 Resource Classification

The Mineral Resources are classified under the categories of Indicated and Inferred according to CIM guidelines. Due to a lack of dense (<35 m x 35 m) drilling and pending further analysis of the Actlabs vs. SGS accuracy issues no Measured Mineral Resource has been assigned at this stage for the Project.

SRK's classification mainly reflects the relative confidence of the geological model and the associated grade estimates. This classification is also based sample spacing relative to geological and geo-statistical observations regarding the continuity of mineralization, data verification to original sources, specific gravity determinations, accuracy of drill collar locations, accuracy of topographic surface, quality of the assay data and many other factors, which influence the confidence of the mineral estimation. No single factor controls the resource classification rather each factor influences the result.

For the resource classification, a solid shape was constructed around the relatively well drilled core of the deposit resulting from the NioCorp Phase I to Phase III programs, where most drillholes are spaced approximately 60 to 70 m apart which allows typically three holes to be used the first estimation search pass.

All blocks located within this area were classified as Indicated Mineral Resource (Figure 14.10.1). All blocks estimated outside of the perimeter of drillholes are classified as Inferred Mineral Resource, which typically extends 100 to 150 m beyond the drilling.



Source: SRK, 2015

Figure 14.10.1: Example of Classification

14.11 Mineral Resource Statement

The following section defines the updated Mineral Resource statement for the Elk Creek deposit. Two separate statements are shown based on an initial Nb_2O_5 only cases as disclosed by the Company a press release on the February 9, 2015. This statement has subsequently been updated to include TiO_2 and Sc estimates for the deposit and was disclosed on February 23, 2015, with an effective date of the report is February 20, 2015. This represents the latest Mineral Resource for the Elk Creek deposit.

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a Mineral Resource as:

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge".

Portions of a deposit that do not have reasonable prospects for eventual economic extraction must not be included in a Mineral Resource.

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate CoG taking into account extraction scenarios and processing recoveries. Based on this requirement, SRK considers that major portions of the Project are amenable for underground extraction with a processing method to recover Nb_2O_5, TiO_2 and Sc products.

The economic parameters were selected based on experience and benchmarking against similar projects (Table 14.11.1), and a 20% mark-up in the price assumptions to account for potential upside in market assumptions. Detailed technical studies have not been completed to date to confirm the assumed mining and processing costs, however SRK has provided reasonable estimates of the expected costs based on the knowledge of the style of mining (underground) and potential processing methods. The selected metal recovery is based on the initial metallurgical testwork completed during the Phase 1 program discussed in Section 13.3 of this current report.

Further work will be required to confirm these numbers via a detailed engineering study (prefeasibility or feasibility study). The reader is cautioned that the results are used solely for the purpose of testing the "reasonable prospects for economic extraction" by underground mining methods, and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Elk Creek Project, and further work will be required to establish the costs to a higher level of confidence.

The estimated cost information presented here is used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting CoG. The calculated Nb_2O_5 CoG is based on a fixed relationship between Nb_2O_5 and TiO_2 of 3.5 TiO_2:1 Nb_2O_5. Similarly a Nb_2O_5 and Sc fixed relationship of and 9 Sc: 1 Nb_2O_5 was used for the CoG calculation.

Table 14.11.1: Economic Assumptions Used to Define Mineral Resources

Parameter	Value	Unit
Mining Cost	26.00	US$/t mined
Processing	67.00	US$/t of feed
General and Administrative	1.50	US$/t of feed
Total Cost	94.50	US$/t of feed
Nb_2O_5 to Niobium conversion	69.9	percent
Niobium Process Recovery	60	percent
Niobium Price	50.00	US$/kg
TiO_2 Process Recovery	58.7	percent
TiO_2 Price	2.50	US$/kg
Sc Process Recovery	14.1	Percent
Sc Price	2,400	US$/kg
Calculated CoG Nb_2O_5	0.30	percent

Source: SRK, 2015

In order to determine the quantities of material offering “reasonable prospects for economic extraction” by an underground mining method, SRK has defined a suitable underground mining CoG based on assumed costs, pricing and metallurgical recoveries. Costs and recoveries are based on bench mark studies for similar projects, and incorporate current metallurgical testwork results for Elk Creek.

The Mineral Resource has been filtered to show all blocks above the mining cut-off to ensure estimates form suitable mining targets. Any isolated blocks of material reporting above cut-off can be removed as will unlikely warrant the cost of development. No such cases existed at Elk Creek and all material within the geological wireframes above a cut-off of 0.3 Nb_2O_5% has been considered to have reasonable prospects of being mined via underground methods.

Under the process of the current Mineral Resource estimate the Company has reported an independent press release to cover the Mineral Resource for the Elk Creek Project. The initial estimate was limited to a Nb_2O_5 product as metallurgical testwork was on-going. The Nb_2O_5 Mineral Resource was reported on February 9, 2015 and is detailed in Table 14.11.2.

Table 14.11.2: SRK Mineral Resource Statement for Elk Creek Nb_2O_5% only, Effective Date February 9, 2015*

Classification	Cut-off (Nb_2O_5%)	Tonnage (000’s Tonnes)	Grade (Nb_2O_5%)	Contained Nb_2O_5 (000’s kg)
Indicated	0.3	81,200	0.71	578,200
Inferred	0.3	99,800	0.56	557,500

(1) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. The Concession is wholly owned by and exploration is operated by NioCorp Developments Ltd.

(2) The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves (December 2005) as required by NI 43-101.

(3) SRK assumes the Elk Creek deposit to be amenable to a variety of Underground Mining methods. Using results from initial metallurgical testwork, suitable underground mining and processing costs, and forecast Niobium price SRK has reported the Mineral Resource at a cut-off of 0.3% Nb_2O_5.

(4) SRK Completed a site inspection to the deposit by Mr Martin Pittuck, MSc., C.Eng, MIMMM , an appropriate “independent qualified person” as this term is defined in NI 43-101.

***Note this statement has been postdated by the addition of TiO_2 and Sc released on February 23, 2015 (Company website)**

Upon release of the February 9, 2015, As a result of positive indications from the company's ongoing metallurgical testing and development program, titanium (TiO_2) and scandium (Sc) have been added to the Mineral Resource Statement. Both of these metals can be recovered with simple additions to the existing process flowsheet, and would provide additional revenue streams that would complement the planned production of ferroniobium.

SRK has updated the mineral resource on receipt of a validated database, to account for these additional revenue streams. No additional drilling has been completed between the two press releases and therefore the drilling and sampling information presented in this technical report remain unchanged. The only significant difference with the exception of the additional elements has been to estimate the density values, as a relationship has been identified by SRK for higher density values at higher Nb_2O_5, TiO_2 and Fe_2O_3 grades. The difference in the global tonnage between the estimated and assigned density has been accounted as < 1% change and is not considered material.

The updated mineral resource statement using the same economic parameters as defined in Table 14.11.1 have been used. The updated mineral resource was reported on February 23, 2015 with an effective date of **February 20, 2015** (Table 14.11.3). This should be considered the latest estimate for the Project and be used in any future studies.

Table 14.11.3: SRK Mineral Resource Statement for Elk Creek Nb_2O_5%, Effective Date February 20, 2015

Classification	Cut-off (Nb_2O_5%)	Tonnage (000's Tonnes)	Grade (Nb_2O_5%)	Contained Nb_2O_5 (000's kg)	Grade (TiO_2%)	Contained TiO_2 (000's kg)	Grade (Sc g/t)	Contained Sc (000's kg)
Indicated	0.3	80,500	0.71	572,000	2.68	2,160,000	72	5,800
Inferred	0.3	99,600	0.56	558,000	2.31	2,300,000	63	6,300

(1) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. The Concession is wholly owned by and exploration is operated by NioCorp Developments Ltd.

(2) The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves (December 2005) as required by NI 43-101.

(3) SRK assumes the Elk Creek deposit to be amenable to a variety of Underground Mining methods. Using results from initial metallurgical testwork, suitable underground mining and processing costs, and forecast Niobium price SRK has reported the Mineral Resource at a cut-off of 0.3% Nb_2O_5

(4) SRK Completed a site inspection of the deposit by Mr. Martin Pittuck, MSc. C.Eng, MIMMM , an appropriate "independent qualified person" as this term is defined in NI 43-101.

14.12 Mineral Resource Sensitivity

The grade tonnage distributions of the Measured and Indicated Mineral Resources at the Project are presented in Table 14.12.1 (based on the February 23, 2013 press release).

Table 14.12.1: Grade Tonnage Showing Sensitivity of Elk Creek Mineral Resource To CoG, Effective Date February 20, 2015

Classification	Cut-off (Nb_2O_5 %)	Tonnage (000's Tonnes)	Grade (Nb_2O_5 %)	Contained Nb_2O_5 (000's kg)	Grade (TiO_2 %)	Contained TiO_2 (000's kg)	Grade (Sc g/t)	Contained Sc (000's kg)
Indicated	0.60	59,700	0.82	489,200	2.94	1,750,000	74.2	4,400
	0.55	63,400	0.80	507,200	2.92	1,850,000	74.0	4,700
	0.50	65,200	0.79	515,000	2.91	1,900,000	73.9	4,800
	0.45	65,800	0.79	520,100	2.90	1,910,000	73.8	4,900
	0.40	68,100	0.78	531,000	2.87	1,950,000	73.7	5,000
	0.35	72,800	0.75	545,700	2.79	2,030,000	73.2	5,300
	0.30	80,500	0.71	571,600	2.68	2,160,000	72.0	5,800
Inferred	0.60	44,600	0.78	347,800	2.94	1,310,000	67.6	3,000
	0.55	50,700	0.76	385,100	2.92	1,480,000	67.3	3,400
	0.50	53,300	0.75	399,400	2.92	1,550,000	67.1	3,600
	0.45	54,300	0.74	401,600	2.91	1,580,000	66.9	3,600
	0.40	58,400	0.72	420,500	2.83	1,650,000	66.8	3,900
	0.35	67,500	0.67	452,400	2.69	1,810,000	66.0	4,500
	0.30	99,600	0.56	558,000	2.31	2,300,000	63.0	6,300

Source: SRK, 2015

14.13 Comparison with Previous Estimate

In comparison to the 2014 Mineral Resource estimate for the Project, the updated estimate (February 20, 2015) represents a significant increase in the Indicated Mineral Resource when compared to the September 2014 estimate. The differences in the Mineral Resource can be attributed to the following points:

- Phase II and III infill drilling has decreased the drill spacing to the order of 60 – 70 m through the central portion of the deposit;
- Phase II and III infill drilling has targeted higher grade material at depth in the Mineral Resource; and;
- Increase in the geological understanding of the controls on the niobium mineralization and grade domaining, based on the 2014 drilling program and relogging of historical holes.

To provide a like for like comparison of the Indicated Mineral Resources, SRK's 2014 block model reported using a CoG of 0.3 Nb_2O_5% has 22.6 Mt at a grade of 0.70% Nb_2O_5 which has increased to 80.5 Mt at a grade of 0.71% Nb_2O_5, within the Indicated category. This is an increase in the contained Nb_2O_5% from 177,000,000 kg to 571,600,000 kg, or 187% increase in the Indicated tonnage or 226% within the contained Indicated Nb_2O_5.

The Phase II and III infill drilling program initially only targeted the conversion of Inferred to Indicated within the current geological model, however as a direct result of the program additional Inferred material has been identified at depth and at the edges of the current mineral resource (limited to approximately 150 m along strike and 75 m down-dip.

The Inferred material when compared using a CoG of 0.3 Nb_2O_5% has reduced from 132.8 Mt at a grade of 0.55 Nb_2O_5% to 99.6 Mt at a grade of 0.56 Nb_2O_5%, which is a reduction from 733,700,000 kg to 557,800,000 kg (-24%) in contained Nb_2O_5 between the 2014 and 2015 models respectively.

Given the significant increase in the portion of Indicated material SRK considers the reduction in the Inferred to be reasonable as there is an increase in the global tonnage of approximately 20 Mt (approximately 10%). The deposit remains open at depth and along strike. A summary of the comparisons between CoG grades of 0.30 to 0.70 $Nb_2O_{5\%}$ is shown in Table 14.13.1.

Table 14.13.1: Comparison of 2012 to 2014 Tonnage and Grade per Category

	SRK September 2014 Estimates				SRK February 2015 Estimates							
	Cut-off	**Tonnes (000's t)**	**Grade Nb_2O_5 %**	**Contained (000's kg)**	**Tonnes (000's t)**	**Grade Nb_2O_5 %**	**Contained (000's kg)**	**Grade TiO_2 %**	**Contained (000's kg)**	**Grade Sc (g/t)**	**Contained (000's kg)**	**Difference (% Nb_2O_5)**
Indicated	0.70	10,800	0.84	91,300	45,200	0.87	391,800	3.01	1,361,200	73.9	3,300	**329.13%**
	0.65	13,500	0.81	109,500	53,300	0.84	446,800	2.97	1,581,800	74.1	3,900	**308.04%**
	0.60	15,800	0.78	123,700	59,700	0.82	486,600	2.94	1,751,100	74.2	4,400	**293.37%**
	0.55	17,400	0.76	133,100	63,400	0.80	508,200	2.92	1,850,400	74.0	4,700	**281.82%**
	0.50	19,100	0.74	142,000	65,200	0.79	517,700	2.91	1,897,300	73.9	4,800	**264.58%**
	0.45	20,700	0.72	149,300	65,800	0.79	520,800	2.90	1,912,100	73.8	4,900	**248.83%**
	0.40	22,600	0.70	157,600	68,100	0.78	530,100	2.87	1,950,600	73.6	5,000	**236.36%**
	0.35	25,300	0.66	167,800	72,800	0.75	547,600	2.79	2,029,500	73.2	5,300	**226.34%**
	0.30	28,200	0.63	177,000	80,500	0.71	571,600	2.68	2,159,400	72.0	5,800	**222.94%**
Inferred	0.70	34,400	0.85	291,100	29,800	0.00	251,600	3.02	900,800	67.7	2,000	**-13.57%**
	0.65	42,600	0.81	346,800	37,600	0.00	304,500	2.98	1,120,900	67.8	2,500	**-12.20%**
	0.60	51,900	0.78	404,900	44,600	0.78	348,100	2.94	1,313,200	67.6	3,000	**-14.03%**
	0.55	57,300	0.76	435,800	50,700	0.76	383,200	2.92	1,481,700	67.3	3,400	**-12.07%**
	0.50	63,700	0.74	469,600	53,300	0.75	396,800	2.92	1,554,700	67.1	3,600	**-15.50%**
	0.45	71,700	0.71	507,700	54,300	0.74	401,700	2.91	1,578,700	66.9	3,600	**-20.88%**
	0.40	87,200	0.66	573,300	58,400	0.72	419,000	2.83	1,654,700	66.8	3,900	**-26.91%**
	0.35	111,100	0.60	662,700	67,500	0.67	453,000	2.69	1,813,400	66.0	4,500	**-31.64%**
	0.30	132,800	0.55	733,700	99,600	0.56	557,800	2.31	2,304,500	63.0	6,300	**-23.97%**

Source: SRK, 2015

14.14 Relevant Factors

SRK is not aware of any environmental, permitting, legal, title, taxation marketing or other factors that could affect resources.

15 Mineral Reserve Estimate

No mineral reserves have been estimated for the Project.

16 Mining Methods

SRK has not reviewed mining methods as part of the current study. Given the depth and coverage of the Pennsylvanian sediments, SRK has assumed all mining will take place via underground methodology. More work will be required to define which mining methods would best suit the deposit. The company plans to announce the results of a PEA in the near future.

17 Recovery Methods

SRK has reviewed the recovery method as part of the current study as disclosed in Section 13 of this current report. The selected metal recovery is based on the initial metallurgical testwork completed to date.

No detailed technical studies have been completed to date to confirm the processing costs. The optimization parameters were selected based on experience and benchmarking against similar projects.

Further testwork may or may not improve this recovery, and the associated costs required to achieve this level of recovery are yet to be determined. The reader is cautioned that the results are used solely for the purpose of testing the "reasonable prospects for economic extraction" by underground mining methods, and do not represent an attempt to estimate mineral reserves.

The company is currently assessing these prospective revenue contributions, and plans to announce the results of a PEA in the near future.

18 Project Infrastructure

SRK has not reviewed Project Infrastructure as part of the current study. The company plans to announce the results of a PEA in the near future.

19 Market Studies and Contracts

SRK has not completed a market study and contracts review as part of the current study. The company plans to announce the results of a PEA in the near future.

20 Environmental Studies, Permitting and Social or Community Impact

SRK has completed a detailed environmental, permitting, social or community study as part of the current study. SRK has reviewed the required permitting at a high level with a summary provided in Section 4.5 of this report. The company plans to announce the results of a PEA in the near future.

21 Capital and Operating Costs

SRK has not reviewed Capital and Operating cost requirements as part of the current study. The company plans to announce the results of a PEA in the near future. The optimization parameters were selected based on experience and benchmarking against similar projects. The plans to announce the results of a PEA in the near future.

22 Economic Analysis

SRK has note completed a detailed economic study as part of the current study. The company plans to announce the results of a PEA in the near future.

23 Adjacent Properties

There are no significant properties adjacent to Elk Creek.

24 Other Relevant Data and Information

There is no additional information or explanation necessary to make the technical report understandable and not misleading.

25 Interpretation and Conclusions

NioCorp commenced a three phase diamond drilling program in May 2014. The focus of the programs has been to infill the central portion of a known Nb mineralized deposit, to increase the geological knowledge and infill a portion of the model where the previous drillhole spacing was in the order of 200 m.

25.1 Data Quality and Quantity

The 2014 drilling program was originally designed around 14 holes for a total of 12,150 m, but was subsequently expanded during the program to 18 drillholes for approximately 15,200 m. The total meters drilling (including the wedge portion) during 2014 is 15,482.8 m. The total drilling for the Project is 129 diamond core holes for a total of 64,981 m, but only a portion of the historical drilling focused on the Elk Creek Nb deposit. Focused over the deposit a total of 48 holes (including the wedge) for 33,908.7 m have been drilled at the deposit. All core within the Elk Creek Carbonatite has been sampled. In the 2011 and 2014 drilling programs all core has been cut using a diamond saw.

The drilling has been conducted by a reputable contractor using industry standard techniques and procedures. This work has confirmed the presence of Niobium hosted with dolomite-carbonatite and lamprophyre rocks.

Downhole deviation surveys were collected once drillholes were complete using a REFLEX GyroTM instrument at 6 m intervals. Upon completion of drilling, drillhole collars were surveyed by ESP Inc., a subcontractor using high precision equipment.

Data has been captured into a Central Database for all phases of work. Dahrouge has been contracted by the Company during 2011 and 2012 to digitally capture the historical Molycorp database, and to conduct verification sampling, and drilling over the Deposit. Dahrouge has been responsible for geological logging and sampling, plus general exploration site management. SRK has had a constant presence at the exploration program since the commencement of the 2014 program, and has been responsible for geotechnical logging.

SRK comments that the work has been done to a satisfactory level to provide sufficient confidence in the assay database for use in the current Mineral Resource estimate. SRK highlighted during the 2014 NI43-101 technical report that improvements could be made to the data capture of the historical logging, and Dahrouge has therefore relogged or recaptured the historical Molycorp samples using the latest logging codes and information. SRK highlights that the work completed during 2014 has shown a close link between logging of mdolCarb (magnetite-dolomite-carbonatite), with higher Nb_2O_5% grades.

The sampling methods, QA/QC, and database management practices employed by NioCorp are all at or above industry standards and provide a solid basis for the resource estimation. SRK has reviewed the results from the external laboratory checks on the Nb_2O_5 analysis and the XY Scatter plot shows a high bias exists between the two datasets with Actlabs reporting consistently higher across all grade ranges than SGS. A comparison of the mean grades indicates a high bias towards the Actlabs results in the order of 8.7%, on the mean grades (Actlabs reporting higher grades).

SRK assumes this indicates some difference in the either method or equipment accuracy at one of the laboratories. The bias is consistent with higher values reporting larger differences. SRK recommends the Company follow-up with both laboratories to understand the fundamental difference in the sampling methods and identify the source of the bias. If no immediate solution is noted SRK recommends sending a number of samples to a third laboratory to determine if the primary laboratory is reporting high or the external laboratory is reporting low.

SRK considers the bias to be within limits of the classification but the issue should be addressed prior to any future infill drilling programs or to be able to achieve estimates at a high level of confidence (Measured). Using the verified database SRK has completed and updated Mineral Resource estimate which has been conducted in a manner consistent with industry best practices.

SRK is of the opinion that the drilling operations were conducted by professionals, the core was handled, logged and sampled in an acceptable manner by professional geologists, and the results are suitable for support of an NI 43-101 compliant resource estimation.

25.2 Metallurgical Testwork

In support of this study, characterization of the Elk Creek resource was undertaken at Hazen, SGS, Eriez, COREM and XPS. The laboratories were provided with drill core samples representative of the resource, and have completed testing to define the mineralogy of the resource as well as to separate and recover niobium-bearing minerals. The results from both laboratories confirmed a deployment of approximately 77% of the niobium occurs as pyrochlore, while the balance occurs in an iron-titanium-niobium oxide mineral of varying composition.

Since the initiation of the metallurgical testing program in April 2014, a number of milestones have been achieved. These include the development of flotation and hydrometallurgical process flowsheets for the Elk Creek resource, with the potential to produce ferroniobium, titanium dioxide and scandium oxide products. Pilot scale flotation and hydrometallurgical testing has also been completed to confirm bench test results.

Additional bench and pilot studies are underway at SGS and COREM to confirm results to this point and establish the characteristics and economics of the metallurgical flowsheet under continuous operating conditions. In addition, testwork is underway at XPS to demonstrate the production of ferroniobium from niobium precipitate produced at SGS.

SRK are comfortable that the results to date are sufficient for the definition of a mineral resource with the potential for economic extraction for ferroniobium, titanium and scandium oxide products.

A pilot plant operation covering the pre-leach, acid bake, water leach, reduction and Niobium Precipitation steps was completed between December 2014 and January 2015. The pilot plant confirmed the bench scale operations, but practical difficulties were noted in running the acid bake and Niobium Precipitation steps on a continuous basis. As a result, Niobium Precipitation produced in the pilot study ranged in grade from 11% to 13% Nb_2O_5, which was lower than the 21% Nb_2O_5 grades achieved in the bench tests

In an effort to improve the operability of the hydrometallurgical flowsheet, a second series of bench tests was initiated at SGS in December 2014. This testwork focused on replacing the pre-leach and acid baking operations with a Strong Acid Agitated Bake (SAAB) using sulfuric acid.

The SAAB flowsheet demonstrated a number of advantages over the base flowsheet, which are described below:

- The elimination of the acid bake phase removes a solid/liquid separation step, and replaces a mixer/kiln operation with a simple series of stirred tanks. This has improved the overall operability of the circuit.
- By eliminating HCl from the flowsheet, operating costs can potentially be reduced and the potential to recycle H2SO4 is maximized.
- Bench test completed to date demonstrated niobium precipitate grades as high as 40% Nb_2O_5 vs. the 21% Nb_2O_5 grade achieved in the base flowsheet.
- Niobium is precipitated selectively from Ti in the SAAB Niobium Precipitation step, which allows for the potential recovery of a TiO_2 co-product in a simple precipitation step following the niobium precipitation step.
- The potential Scandium recovery is increased from 40% to 50% in the base flowsheet to 70% to 90% in the SAAB flowsheet, as Sc values more readily dissolve in the SAAB leaching step.

SRK comments that the Metallurgical testwork remains currently on-going at the time of reporting with studies aimed at optimizing and scaling up the SAAB process flowsheet.

25.3 Mineral Resource Estimate

SRK has constructed mineralization models for the deposit, based upon all of the available drilling information. Modelling has initially been completed in Leapfrog by modelling the grade shells at 0.3, 0.4, 0.5 Nb_2O_5% intervals. The use of structural trends has been utilized to mimic the geological interpretation. The grade shells have been cross checked against the geological interpretation to select the optimum parameters.

SRK has undertaken a statistical study of the data, which demonstrates adequate splitting/domaining of the deposit. High grade statistical outliers have been controlled in the estimation through grade capping. SRK has undertaken a geostatistical study to investigate the niobium grade continuity which showed minor changes to the parameters used in 2014. The semi-variograms remain to have a relatively short first range of between 7 - 20m, with the maximum range of influence of 80 – 110 m along strike and 60 m down-dip.

SRK has interpolated Nb_2O_5 grade data using OK into a block model of dimensions 5 m x 15 m x 5 m (based on an assumed mining unit), using appropriate search and estimation parameters tested using for sensitivity to the estimation process. The resultant block model has been fully validated and no material bias identified.

SRK has classified the Mineral Resource in the Indicated (51%) and Inferred (49%) Mineral Resource categories, mainly on the basis of the geological and grade continuity and the relatively wide drillhole spacing of up to 60 to 120 m on average. Additional Inferred material has been added to the geological model as a result of the Phase II and III drilling programs, at the end of the deposit and by increasing the model at depth, with the deeper vertical holes completed. The deposit remains open both along strike to the northwest and southeast and at depth. SRK notes that the highest grades are associated with mineralization at depth and this remains the best potential to increase the current mineral resource further.

The Mineral Resource estimate for the deposit, at 0.3 Nb_2O_5% cut-off, is an Indicated Resource of 80.5 Mt at 0.71 Nb_2O_5%; and an Inferred Resource of 99.6 Mt at 0.56 Nb_2O_5%. The updated Mineral

Resource represents a significant increase in the reported contained metal for the Indicated when compared to the 2014 estimate, while replacing a portion of the Inferred material which was upgraded in terms of confidence. The main reasons for the increases are:

- Phase II and III infill drilling has decreased the drill spacing to the order of 60 – 70 m through the central portion of the deposit;
- Phase II and III infill drilling has targeted higher grade material at depth in the Mineral Resource; and;
- Increase in the geological understanding of the controls on the niobium mineralization and grade domaining, based on the 2014 drilling program and relogging of historical holes.

25.4 Further Work

Further drilling would be required to either increase the Mineral Resource along strike or at depth, or increase the confidence in the current estimate (convert Indicated to Measured). The deposit remains open at depth and along strike and SRK considers the potential to increase the current Mineral Resources with some targeted exploration programs in the future. SRK notes that in general material intersected at depth is higher grade than shallower material. SRK notes that the deeper extension will require drilling holes in excess of 1,000 m, so would advise delaying the decision pending the outcome of a PEA of the Project.

Analysis of the current geological information by SRK and the Company have identified the following areas for exploration potential which require further exploration to define additional Mineral Resources, these include:

- Drilling a series of shallow holes to test for extension to the Mineral Resources closer to the contact between the Carbonatite and the Pennsylvanian sediments. Return of positive results would then test for further depth extensions ; and
- Drilling long (>1,000 m) diamond drillholes testing extension of the Mineral Resource at depth;
- Potential exist for drilling shorter diamond drill holes at depth following the establishment of potential underground access to the resource to test the extension of the Mineral Resource at depth, if Project economics are favorable.

25.5 Foreseeable Impacts of Risks

25.5.1 Surface Rights

The exploration and surface rights for the project area are due for renewal in 2015 (Q2 2015 for lease covering majority of the deposit). NioCorp would need to secure extended lease agreements or ownership of these parcels in order to operate the project as it is currently designed.

SRK understands the Company is currently in the process of renegotiating the exploration leases with a priority based on securing the leases over the deposit, and providing a sufficient buffer to enable siting of potential infrastructure. During this process an opportunity is available to also negotiate the rights to the 32.4 ha (80 acres) lease located to the north of the current project, which currently limits the Mineral Resource.

26 Recommendations

26.1 Recommended Work Programs and Costs

SRK does not recommend any additional drilling be conducted to further investigate and develop the known Project until the results of a PEA have been completed. The deposit remains open laterally and at depth, but it is SRK's understanding that the Company wishes to take the Project to a decision point as quickly as possible, and therefore advancing the other technical studies will be critical, such as:

- Metallurgical testwork and Pilot plant testwork;
- Geotechnical analysis;
- Hydrogeological and hydrological studies;
- Environmental assessment and permitting requirements; and
- Infrastructure design.

Data collection for each of these studies has commenced, with the Company completing geotechnical logging and ATV surveys on a number of the existing holes, plus a total of three vertical PQ diamond drillholes have been drilled for the collection of samples for metallurgical pilot testing. Using this information the company is currently assessing these prospective revenue contributions, and plans to announce the results of a PEA in the near future.

SRK does consider further work can be completed on the database to further increase confidence within the current database. The current database is adequate to support the Mineral Resource statement contained herein. The work programs required to increase the level of confidence for assay database further with the focus on three main areas:

- Assaying values which have not currently been assayed for TiO_2 and Sc which fall within or in close proximity to the current geological/mineralization wireframes
- Conducting a QA/QC program which includes submission of a low, medium and high grade TiO_2 and Sc SRM (if one can be purchased), along with the submission of a range of grades from returned pulps to the primary laboratory. The aim of this exercise will be to confirm the accuracy of the laboratory as the precision is well established from the duplicate program.
- Follow-up with Actlabs and SGS Laboratories to understand the fundamental difference in the sampling methods and identify the source of the bias noted in the external duplicates for Nb_2O_5. SRK recommends the Company submitted additional material namely in the medium to higher grade ranges (>0.5 %) to increase the sample population size above the range. The study can be used to define a regression factor to determine the potential impact on the Mineral Resource and if the Actlabs results should be factored. SRK highlights that sufficient QA/QC should be included in the study to confirm accurate assays are achieved at SGS. SRK would consider the potential of factoring the Actlabs will not impact the Mineral Resource more than ± 10 %.

26.1.1 Costs

Estimated costs for the Engineering Studies and Exploration Program as proposed by SRK are illustrated in Table 26.1.1.1. SRK considers an initial budget of US$ 130,000 sufficient to completed a PEA as the majority of the required data collection has already been completed during the 2014 drilling program.

Table 26.1.1.1: Summary of Proposed Costs to Advance the Project to the Next Phase

Description	Total Cost (US$ 000's)
SGS vs Actlabs Pulp Duplicate Study	7.5
Assay Absent TiO_2 and Sc assays	35.0
Site Collection	5.0
Subtotal Re-assays	**47.5**
PEA Study	130
Sub Total	**130**
Contingency	10
Total	**187.5**

Source: SRK, 2015

27 References

Anzman, J.R., 1976. Interpretation of Gravity and Magnetic Data, Elk Creek Anomaly, Johnson and Pawnee Counties, Nebraska. Molycorp, Inc. June 29, 1976. 22 pages.

Berendsen, P. and Weis, T., 2001. New Kimberlite Discoveries in Kansas: Magnetic Expression and Structural Setting. Transactions of the Kansas Academy of Science. 104(3-4), pp. 223-236.

Brookins, D. G., Treves, S. B., and Bolivar, S. L., 1975. Elk Creek, Nebraska Carbonatite: Strontium geochemistry: Earth Planet. Sci. Lett., v. 28, p. 79–82.

Burchett, R.R. and Reed, E.C., 1967. Central Guidebook to the Geology of southeastern Nebraska. The University of Nebraska-Lincoln, Conservation and Survey Division, Lincoln, Nebraska Geological Survey.

Burchett, R.R. and Reed, E.C., 1967. Central Guidebook to the Geology of southeastern Nebraska. The University of Nebraska-Lincoln, Conservation and Survey Division, Lincoln, Nebraska Geological Survey.

Carlson, M.P. and Treves, S.B., 2005. The Elk Creek Carbonatite, Southeast Nebraska – An Overview. Natural Resources Research, Vol. 14, No. 1 March, 2005. pp. 39-45.

Carlson, M.P., 1992. Tectonic implications and influence of the Midcontinent. Rift System in Nebraska and adjoining areas. In: (Richard W. Ojakangas, Albert B. Dickas, John C. Green, Eds. Basement tectonics 10: proceedings of the Tenth International Conference on Basement Tectonics, Duluth, MN.

Condor, 2011. Assessment of the Elk Creek, Nebraska; FALCON Survey for Quantum Rare Earth Developments Corporation. Condor Consulting, Lakewood, Colorado, USA. October 16, 2011. 169 pages.

Cook W.B. and Sherer, R.L., 1986. Proposed Land Retention for 1986, Elk Creek, Nebraska. February 5, 1986.

Drenth, B.J., 2014. Geophysical expression of a buried niobium and rare earth element deposit: the Elk Creek carbonatite, Nebraska, USA. Interpretation 2, 169-179.

Erdosh, G., 1979. The Ontario Carbonatite Province and Its Phosphate Potential. Economic Geology, Vol. 74, pp. 331-338.

Farmer, G. L., R. M. Kettler, and P. L. Verplanck, 2013. Geochemical and isotopic constraints on the age and origin of the Elk Creek carbonatite complex, southeast Nebraska: Presented at Geological Society of America 65th Annual Meeting, 21-7.

Fugro, 2011, Elk Creek, Nebraska; FALCONTM Airborne Gravity Gradiometer Survey for Quantum Rare Earth Development Corp.; Processing Report. April 2011. 39 pages.

King, P.B., 1969. The Tectonics of Middle North America. Hafner Publishing Company.

McBee, W., 2003. Nemaha Strike-Slip Fault Zone. Search and Discovery Article #10055.

McCallum, N.G. and Cathro, M.S., 2010. Technical Report on the Elk Creek Property, South-East Nebraska; for Quantum Rare Earth Developments Corp. August 9, 2010. 173 pages.

Mitchell, R.H., 2005. Carbonatites and Carbonatites and Carbonatites. The Canadian Mineralogist; December 2005; v. 43; no. 6; p. 2049-2068.

Palacas, J.G., Schmoker, J.W., Dawes, T.A., Pawlewicz, M.J., and Anderson, R.R.,1990, Petroleum source-rock assessment of Middle Proterozoic (Keweenawan) sedimentary rocks, Eischeid #1 well, Carroll County, Iowa, in Anderson, R.R., ed., The Amoco M.G. Eischeid #1 Deep Petroleum Test, Carroll County, Iowa, Preliminary Investigations: Iowa Department of Natural Resources, Geological Survey Bureau, Special Report Series No. 2, p. 119-134.

Pittuck, M.F., Parsons B., 2014. NI 43-101 Technical Report on Resources, Elk Creek Niobium Project, Nebraska, Effective Date: September 9, 2014, Report Date: November 3, 2014, Prepared for NioCorp Developments Ltd., Prepared by SRK Consulting (U.S.), Inc.

Richardson, D.G. and Birkett, T.C., 1996. Carbonatite associated Deposits; in Geology of Canadian Mineral Deposit Types, O.R. Ecstrand, W.D. Sinclair and R.I. Thorpe, Editors, Geological Survey of Canada, Geology of Canada Number 8, pp. 541-558.

Sisernos and Yernberg, Molycorp Internal Memo Niobium Analytical Standardization. June, 1983.

Tetra Tech, 2012. Report to: Quantum Rare Earth Developments Corp, Elk Creek Nb Project, Nebraska, US, Resource Estimate Update, Document No. 1291370100-REP-R0001-02, Effective Date: April 23, 2012, prepared for Quantum Rare Earth Developments Corp. by Tetra Tech Wardrop.

Treves, S.B., and Low, D.J., 1983. Precambrian Geology of Eastern and Central Nebraska. GSA Abstracts with Programs, north central Section, 15, No.4, pp.266-267.

Wayne, W.J. 1981. Kansan Proglacial Environment, east-central Nebraska. American Journal Science 281:375-389.

Woolley, A.R., 1989. The Spatial and Temporal Distribution of Carbonatites. In: Carbonatites, Genesis and Evolution (K. Bell, ed.). Unwin Hyman, London, pp 15-37.

Wyllie, P.J. and Lee, W-J., 1998. Model System Controls on Conditions for Formationof Magnesiocabonatite and Calciocarbonatite Magmas from the Mantle. Journal of Petrology, Volume 39, Number 11&12. Pp 1885-1893. 21 May 1998. 9 pages.

Xu, A., 1996, Mineralogy, petrology, geochemistry and origin of the Elk Creek carbonatite, Nebraska: Ph.D. thesis, University of Nebraska–Lincoln.

28 Glossary

The mineral resources and mineral reserves have been classified according to the "CIM Definition Standards for Mineral Resources and Mineral Reserves" (May 10, 2014). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

28.1 Mineral Resources

A **Mineral Resource** is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

28.2 Mineral Reserves

A **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at prefeasibility or feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a prefeasibility study or feasibility study.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

28.3 Definition of Terms

The following general mining terms may be used in this report.

Table 28.3.1: Definition of Terms

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of gold within mineralized rock.
Hangingwall	The overlying side of an orebody or slope.
Haulage	A horizontal underground excavation which is used to transport mined ore.
Hydrocyclone	A process whereby material is graded according to size by exploiting centrifugal forces of particulate materials.
Igneous	Primary crystalline rock formed by the solidification of magma.
Kriging	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
Level	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-Mine plans.
LRP	Long Range Plan.
Material Properties	Mine properties.
Milling	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve.
Pillar	Rock left behind to help support the excavations in an underground mine.

Term	Definition
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	All expenditures including those of an operating and capital nature.
Variogram	A statistical representation of the characteristics (usually grade).

28.4 Abbreviations

The following abbreviations may be used in this report.

Table 28.4.1: Abbreviations

Abbreviation	Unit or Term
Ag	silver
Au	gold
°C	degrees Centigrade
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CoG	cut-off grade
cm	centimeter
cm^2	square centimeter
cm^3	cubic centimeter
cfm	cubic feet per minute
CTW	calculated true width
DDH	diamond drilling
dia.	diameter
ELA	Exploration Lease Agreements
ft	foot (feet)
ft^2	square foot (feet)
ft^3	cubic foot (feet)
g	gram
gal	gallon
g/L	gram per liter
gpm	gallons per minute
GPS	global positioning system
g/t	grams per tonne
ha	hectares
hp	horsepower
ICP	induced couple plasma
IDW	inverse distance weighting
kg	kilograms
km	kilometer
km^2	square kilometer

Abbreviation	Unit or Term
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second
L/sec/m	liters per second per meter
lb	pound
LoM	Life-of-Mine
m	meter
m^2	square meter
m^3	cubic meter
mg/L	milligrams/liter
mm	millimeter
mm^2	square millimeter
mm^3	cubic millimeter
Moz	million troy ounces
MS	mass spectrometry
Mt	million tonnes
MW	million watts
m.y.	million years
NI 43-101	Canadian National Instrument 43-101
NSR	net smelter return
OK	Ordinary Kriging
OTP	Option To Purchase
oz	troy ounce
%	percent
PLSS	Public Land Survey System
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
QP	Qualified Person
RC	rotary circulation drilling
REE	rare earth element
REO	rare earth oxides
RoM	Run-of-Mine
RQD	Rock Quality Description
sec	second
SG	specific gravity
SRM	standard reference material
t	tonne (metric ton) (2,204.6 pounds)
t/h	tonnes per hour
t/d	tonnes per day
t/y	tonnes per year
TMI	total magnetic intensity
TSF	tailings storage facility
TSP	total suspended particulates
USACE	U.S. Army Corps of Engineers
USBM	U.S. Bureau of Mines
USEPA	U.S. Environmental Protection Agency
µm	micron or microns
W	watt
XRD	x-ray diffraction
XRF	x-ray refraction
y	year

Appendices

Appendix A: Certificates of Qualified Persons

SRK Consulting (UK) Limited
5th Floor Churchill House
17 Churchill Way
City and County of Cardiff
CF10 2HH, Wales
United Kingdom
E-mail: enquiries@srk.co.uk
URL: www.srk.co.uk
Tel: + 44 (0) 2920 348 150
Fax: + 44 (0) 2920 348 199

CERTIFICATE OF QUALIFIED PERSON

I, Martin Frank Pittuck, MSc, CEng, MIMMM do hereby certify that:

1. I am Director and Corporate Consultant (Mining Geology) of SRK Consulting (UK) Ltd with an office at 5th Floor, Churchill House, Churchill Way, Cardiff CF10 2HH.
2. This certificate applies to the technical report titled “NI 43-101 Technical Report, Updated Mineral Resource Estimate, Elk Creek Niobium Project, Nebraska,” with an Effective Date of February 20, 2015 (the “Technical Report”) prepared for NioCorp Developments, Ltd.
3. I am a graduate with a Master of Science in Mineral Resources gained from Cardiff College, University of Wales in 1996 and I have practised my profession continuously since that time. Since graduating I have worked as a consultant at SRK on a wide range of mineral projects, specializing in rare metals and igneous deposits. I have undertaken many geological investigations, resource estimations, mine evaluation technical studies and due diligence reports. I am a member of the Institution of Materials Mining and Metallurgy (Membership Number 49186) and I am a Chartered Engineer;
4. I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I visited the Elk Creek property on June 17 and 19, 2014.
6. I am co-author of this report and responsible for the preparation of the Mineral Resource Estimate, Sections 1, 12, 14, 25 and 26 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 10th Day of March, 2015.

“Signed and Sealed”

____
Martin Frank Pittuck, MSc, CEng, MIMMM
Director and Corporate Consultant (Mining Geology)

SRK Denver
7175 West Jefferson Avenue.
Suite 3000
Lakewood, CO 80235

T: 303.985.1333
F: 303.985.9947

denver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

I, Benjamin Parsons, MSc, MAusIMM (CP) do hereby certify that:

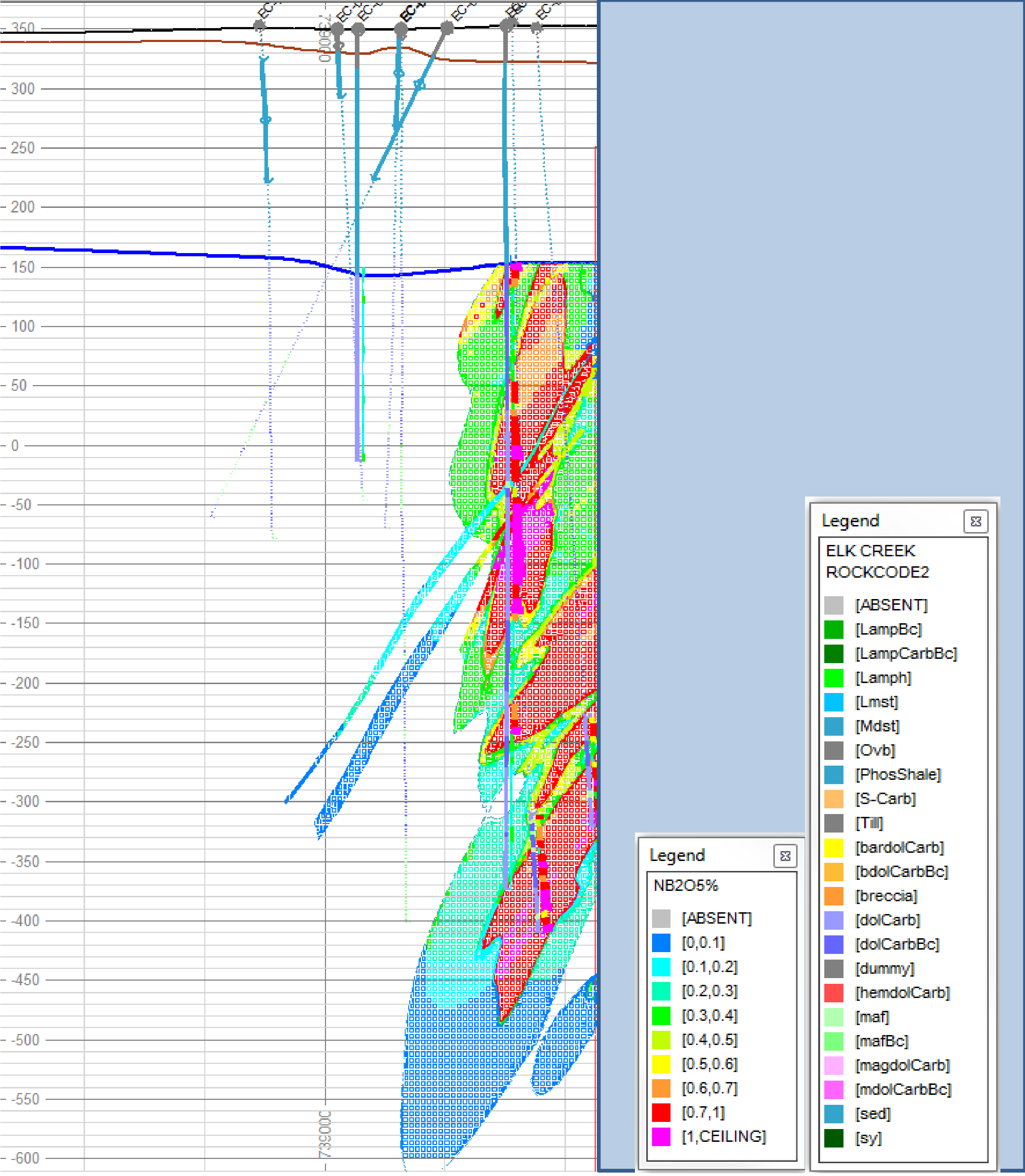
1. I am a Principal Consultant (Resource Geology) of SRK Consulting (U.S.), Inc., 7175 W. Jefferson Ave, Suite 3000, Denver, CO, USA, 80235.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Updated Mineral Resource Estimate, Elk Creek Niobium Project, Nebraska," with an Effective Date of February 20, 2015 (the "Technical Report") prepared for NioCorp Developments, Ltd.
3. I graduated with a degree in Exploration Geology from Cardiff University, UK in 1999. In addition, I have obtained a Masters degree (MSc) in Mineral Resources from Cardiff University, UK in 2000 and have worked as a geologist for a total of 15 years since my graduation from university. I am a member of the Australian Institution of Materials Mining and Metallurgy (Membership Number 222568) and I am a Chartered Professional.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have not visited the Elk Creek property.
6. I am co-author of this report and responsible for the preparation of database and compilations of the geological model. I am responsible for Sections 2 to 11, 13, 15 through 24, 27 and 28 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 10th Day of March, 2015.

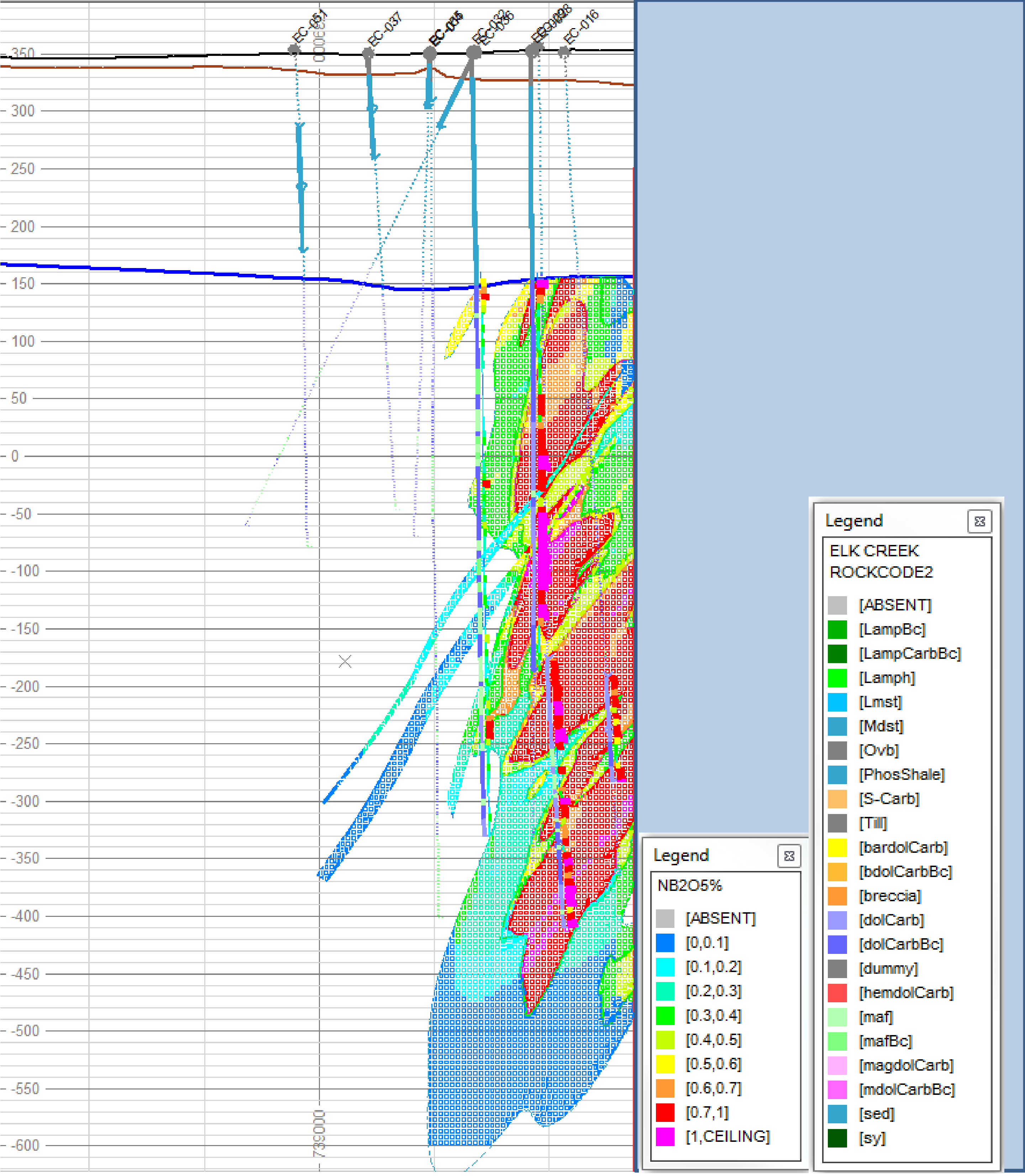
"Signed and Sealed"

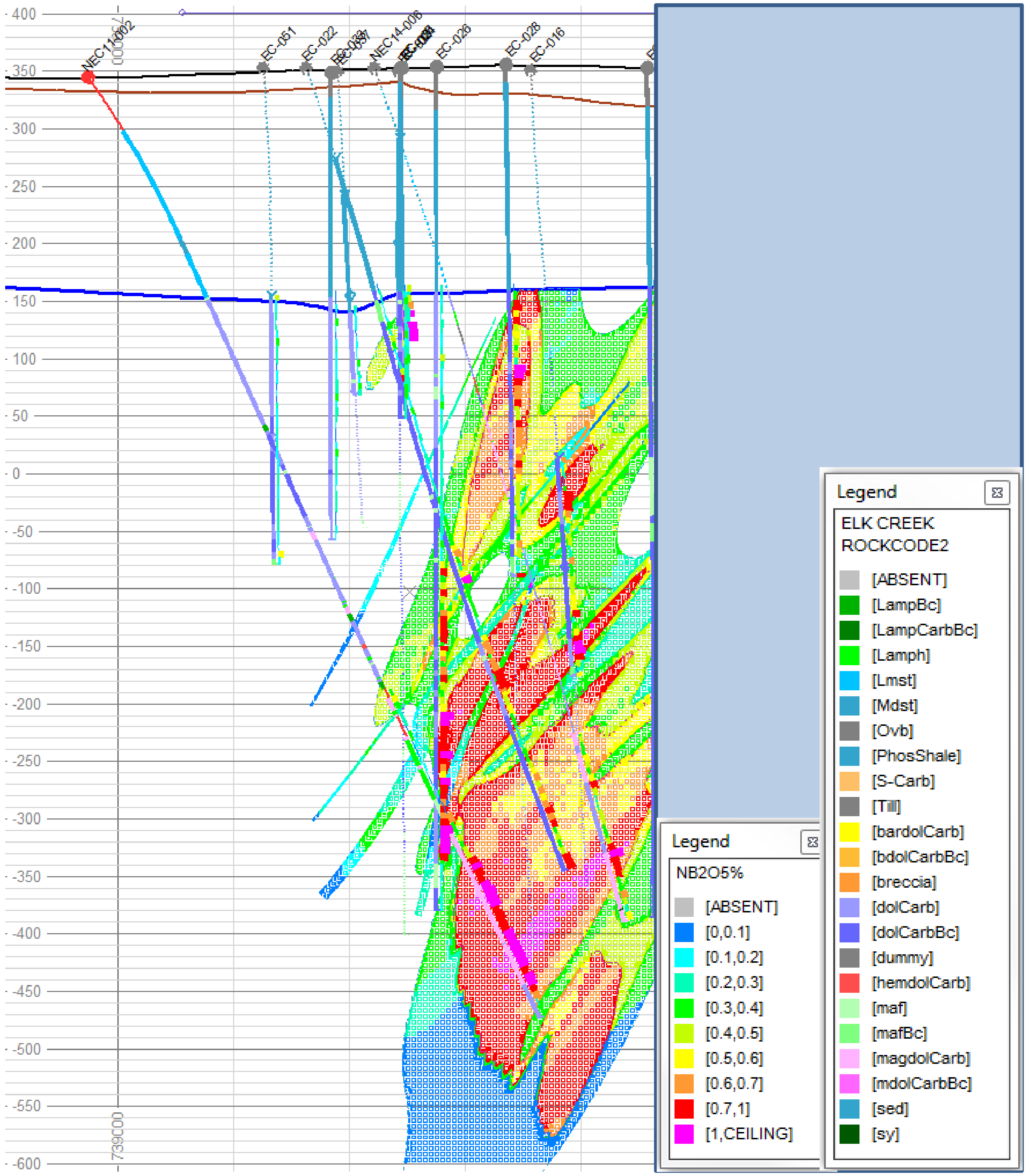
____
Benjamin Parsons, MSc, MAusIMM
Principal Consultant (Resource Geology)

Appendix B: Cross-sections Showing Block Estimates vs. Composite Grades

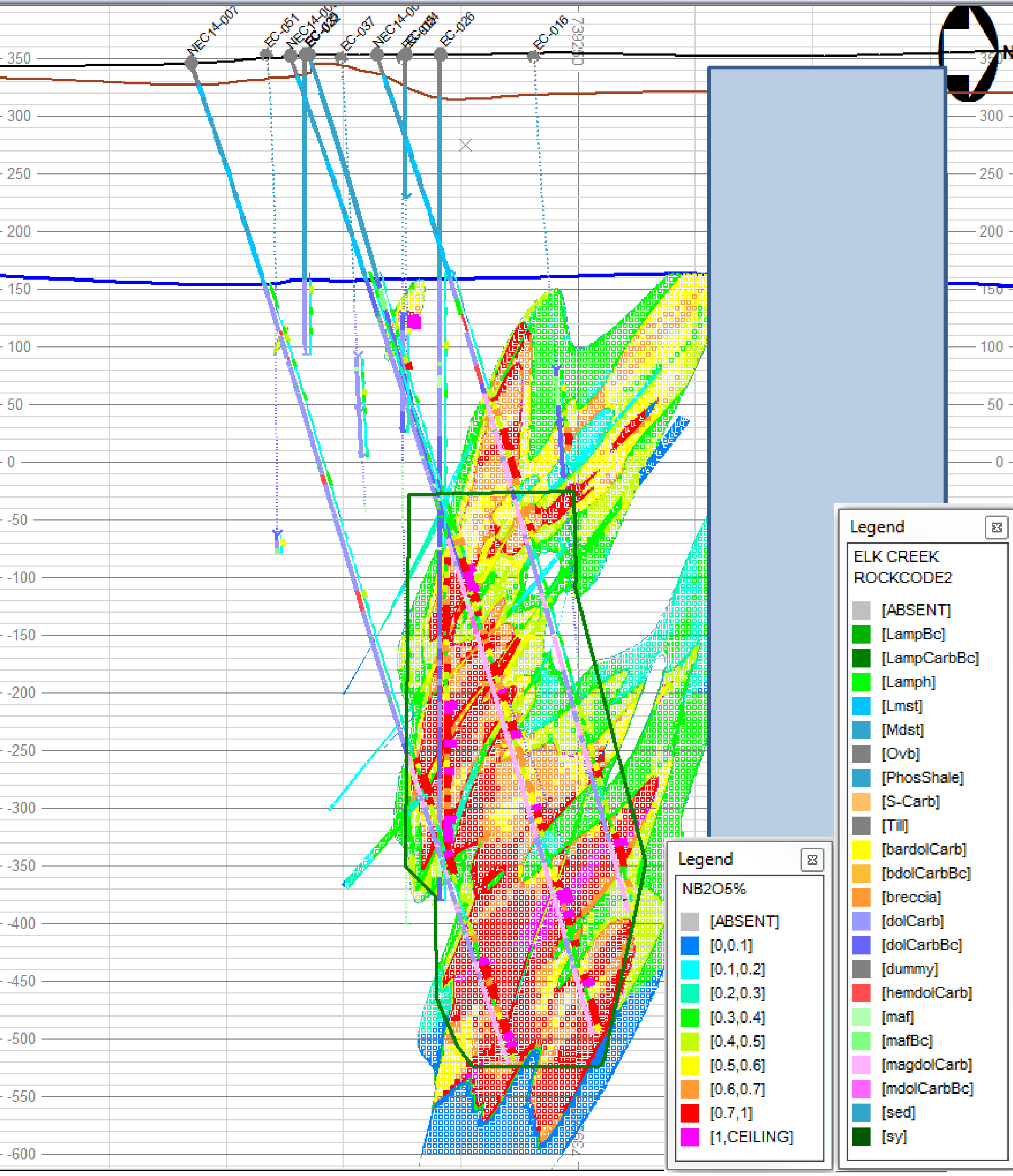


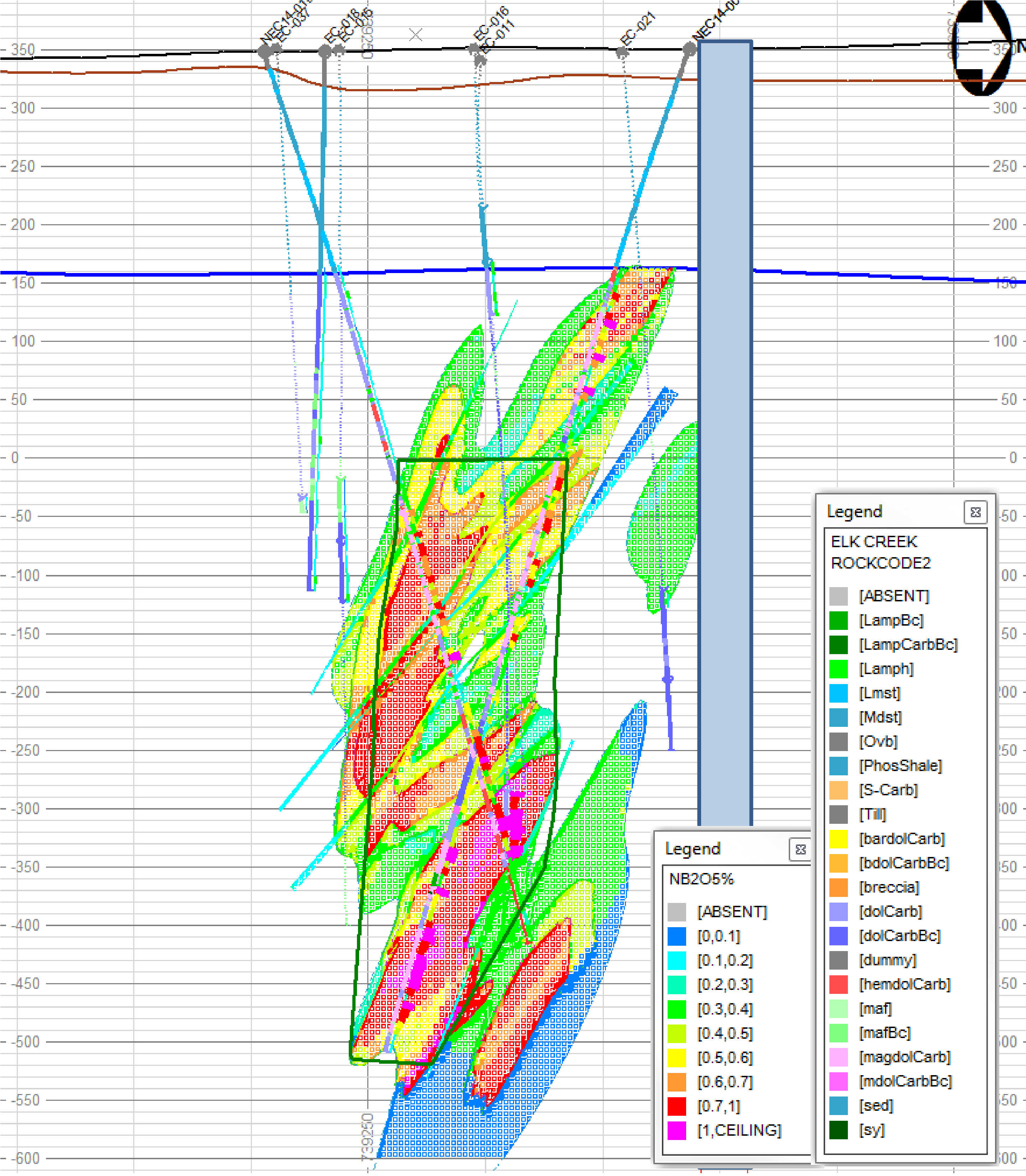
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
739000
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]


EC-051
EC-037
EC-005
EC-032
EC-036
EC-008
EC-016
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
739000
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]

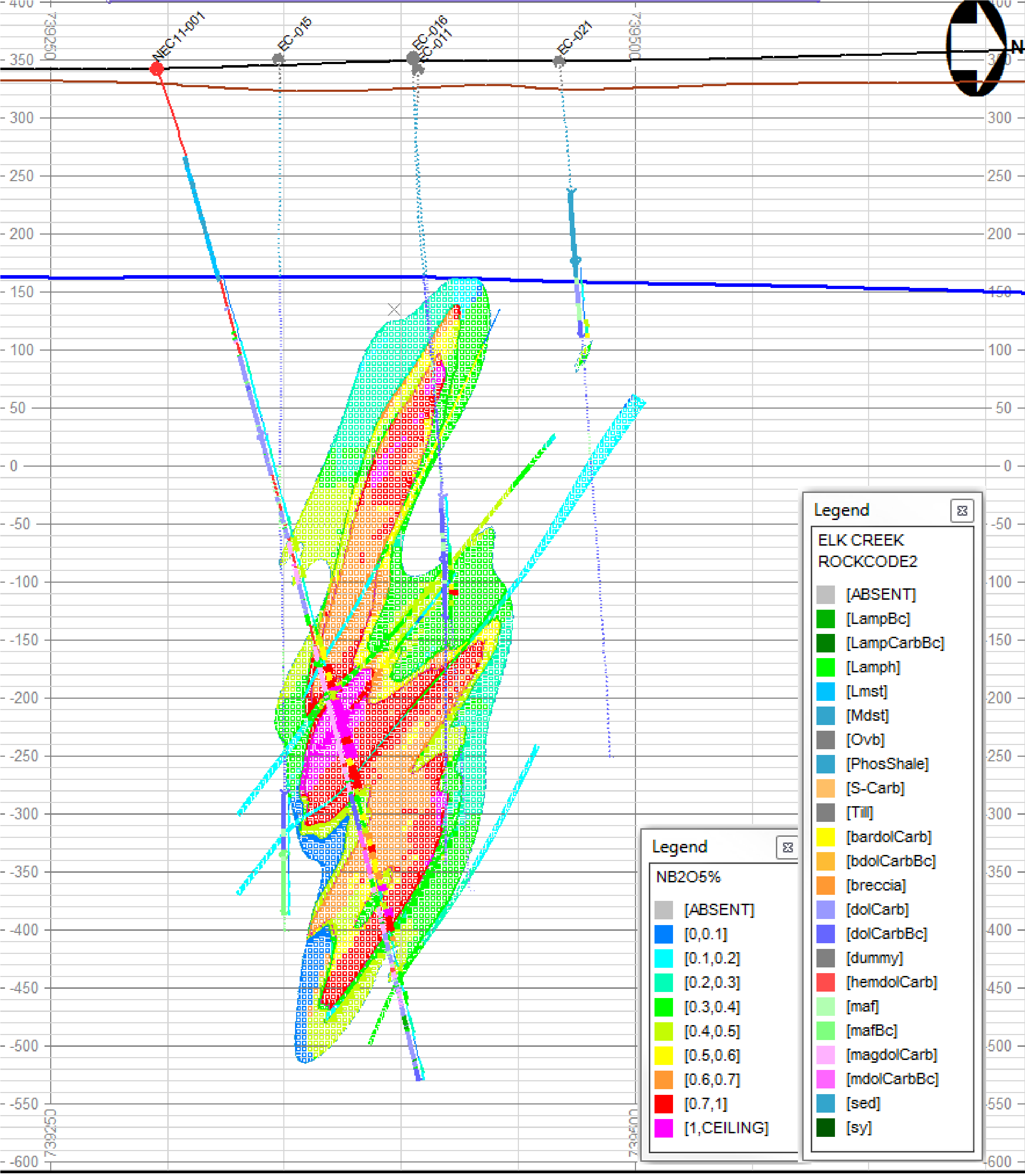


400
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
739000
EC-051
EC-022
NEC14-006
EC-026
EC-028
EC-016
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]

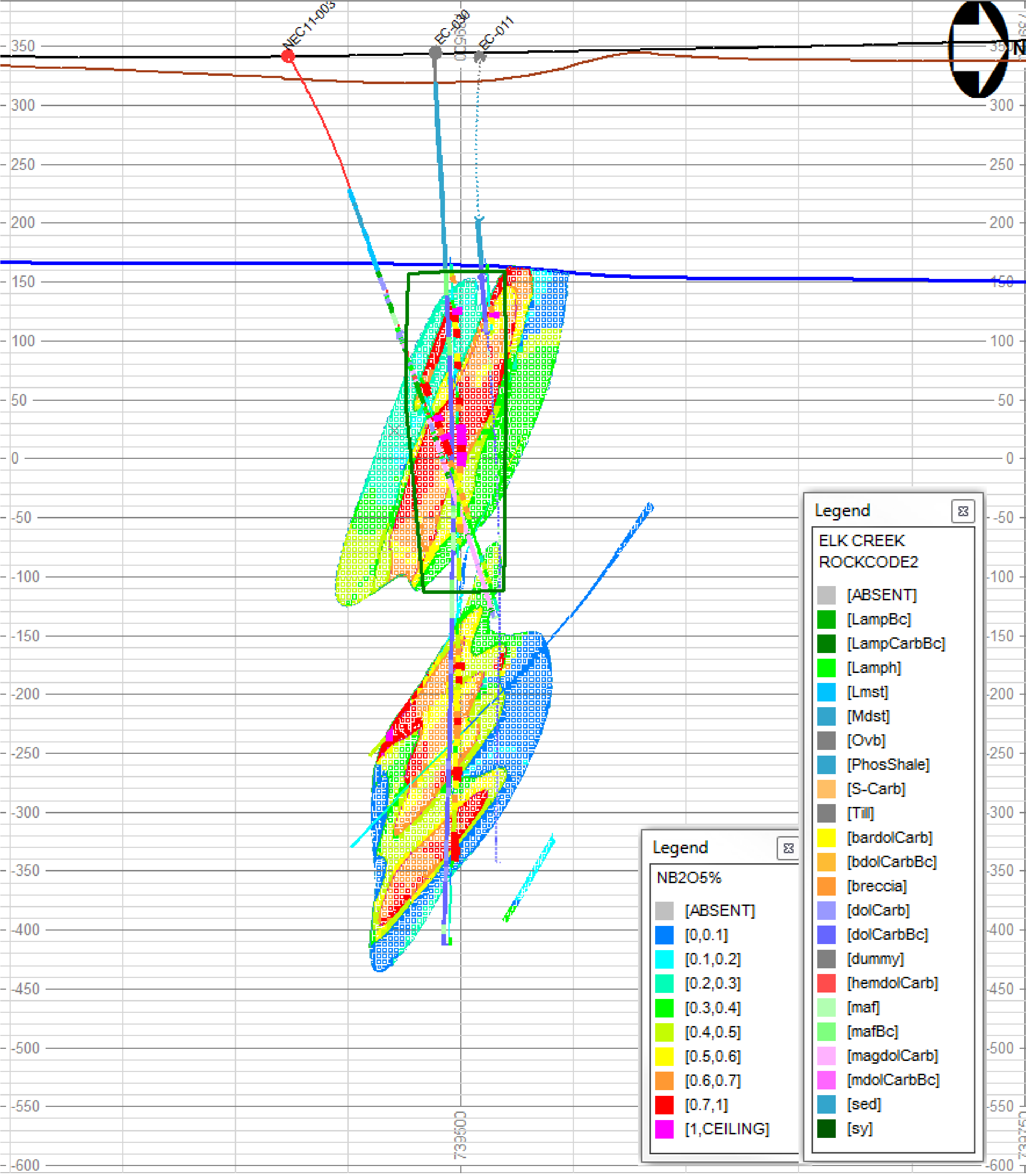

NEC14-007
EC-051
EC-037
EC-026
EC-016
739250
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]



NEC14-0
EC-037
EC-018
EC-015
739250
EC-016
EC-011
EC-021
NEC14-0
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]



NEC11-001
EC-015
EC-016
EC-011
EC-021
739250
739500
N
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]


NEC11-003
EC-030
EC-011
N
350
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
739500
Legend
NB2O5%
[ABSENT]
[0,0.1]
[0.1,0.2]
[0.2,0.3]
[0.3,0.4]
[0.4,0.5]
[0.5,0.6]
[0.6,0.7]
[0.7,1]
[1,CEILING]
Legend
ELK CREEK
ROCKCODE2
[ABSENT]
[LampBc]
[LampCarbBc]
[Lamph]
[Lmst]
[Mdst]
[Ovb]
[PhosShale]
[S-Carb]
[Till]
[bardolCarb]
[bdolCarbBc]
[breccia]
[dolCarb]
[dolCarbBc]
[dummy]
[hemdolCarb]
[maf]
[mafBc]
[magdolCarb]
[mdolCarbBc]
[sed]
[sy]