RAINY RIVER PROJECT
WHITE-TAILED DEER
2016 TISSUE SAMPLING REPORT

VERSION 2

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EXECUTIVE SUMMARY

New Gold Inc. (New Gold) is currently constructing, and plan to operate and eventually reclaim a new open pit and underground gold mine in Chapple Township, Ontario. As part of commitments made during the environmental approvals process, New Gold conducted a White-tailed Deer tissue and organ sampling program in 2016 to determine baseline concentration levels of various contaminants such as metals (e.g., cadmium, copper and zinc) and cyanide within deer located near the Rainy River Project (RRP). Future sampling conducted once the RRP has commenced operations will aid in determining exposure and ecological risk to wildlife if any, from RRP related contaminants. The study will also assist in determining if there are risks to humans that consume local wildlife.

Sampling kits were distributed by New Gold RRP to collect deer tissue and liver samples from hunters on a voluntary basis. Tissues were also sampled from two deer that died from vehicle collisions (not related to the RRP), and one which was hunted without permission on the RRP property. There was no harvesting of deer solely for the purpose of this program to the knowledge of RRP. Samples from 37 deer were analyzed for several metals as well as cyanide and the results were plotted relative to the distance of the harvest location from the RRP boundary.

Many of the contaminants measured were considered to be at negligible or low levels within most of the 37 deer samples analyzed, although a few had quite high variance with anomalous concentrations higher than the majority of the values (e.g., aluminum, cesium, iron and lead). These higher values could be due to illness or high levels of some contaminants naturally occurring in the environment. Samples collected closer to the RRP boundary did not show elevated concentrations in any of the contaminants measured.

There are few similar studies in Canada or in North America, which provide contaminant information from healthy White-tailed Deer populations that can be used as a baseline comparison for this study. It is also difficult to make comparisons at large geographic scales (e.g., outside Ontario or outside of Canada) as different ecological factors and human activities can result in different contaminant concentrations between populations. Accordingly, New Gold RRP will use the 2016 data as baseline data for comparison of concentration levels in deer tissue in future years (e.g., after operations have commenced and post-closure), rather than relying on comparisons to contaminant concentration levels in other studies.

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1.0 INTRODUCTION

1.1 Project Background

New Gold Inc. (New Gold) is currently constructing and plan to operate and eventually reclaim a new open pit and underground gold mine, the Rainy River Project (RRP) to produce doré bars (gold with silver) for sale (Figure 1-1).

Physical works related to the RRP will consist primarily of:

- Open pit;
- Underground mine;
- Overburden, mine rock and low grade ore stockpiles;
- Primary crusher and process plant;
- Tailings management area;
- 230 kilovolt transmission line;
- Relocation of a portion of gravel-surfaced Highway 600; and
- Associated buildings, facilities and infrastructure.

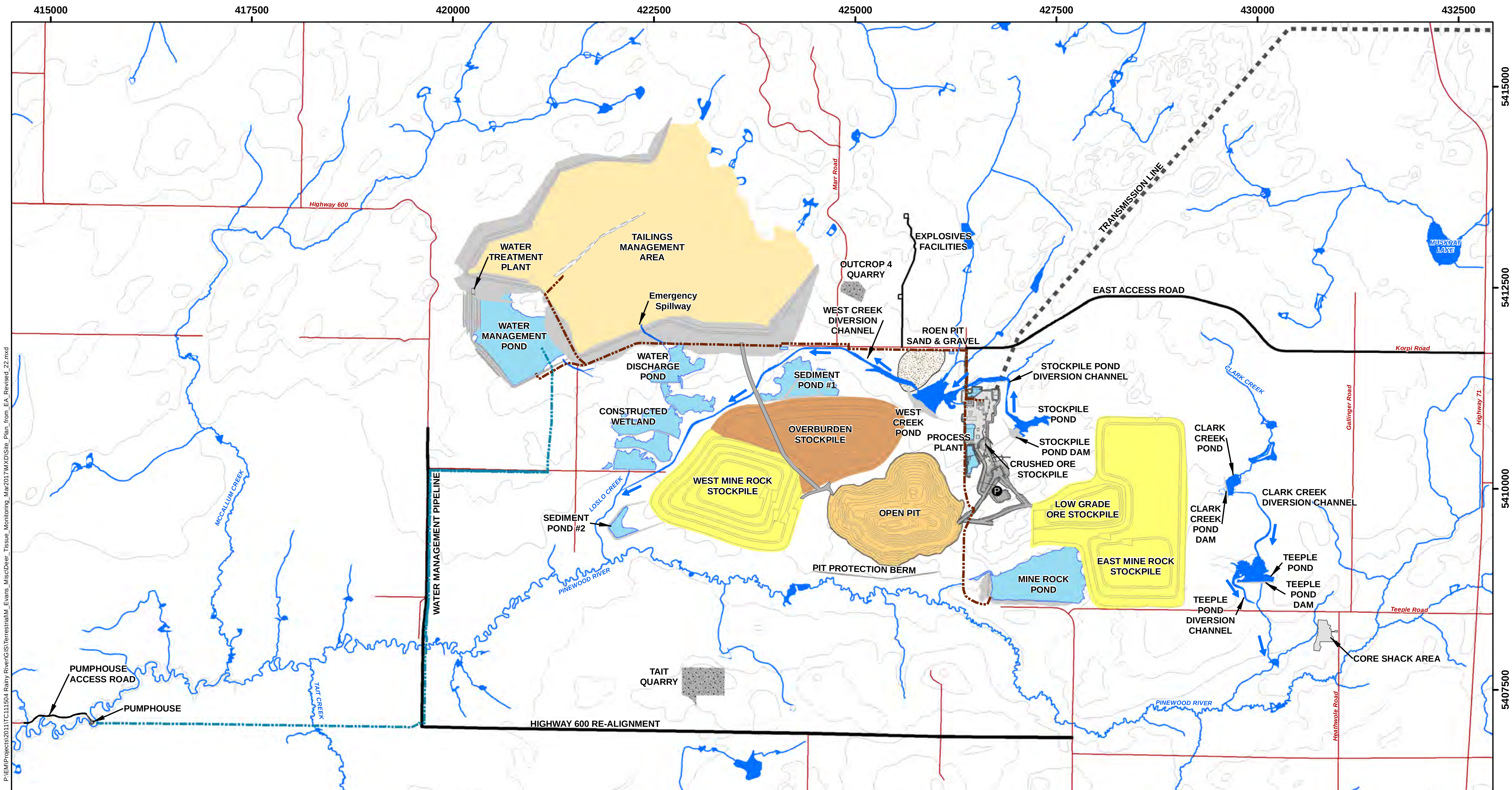
Development of the RRP was initiated in 2015 following completion of the Environmental Assessment process and receipt of applicable environmental approvals. In accordance with the *Canadian Environmental Assessment Act, 2012 (CEAA, 2012)* a follow-up monitoring plan was developed to verify the accuracy of the predictions made in the Environmental Assessment about the impacts of the RRP on wildlife and wildlife habitat, and to monitor the effectiveness of rehabilitation efforts for wildlife habitat and terrestrial environments.

As part of the overall follow-up monitoring plan, and to address concerns that dust from the project will settle on the vegetation deer will be eating (and thus carry the contaminants up the food chain) New Gold RRP committed to a White-tailed Deer tissue and organ sampling program. This program will determine exposure and ecological risk to wildlife from mine-related contaminants and confirming the low risks to humans that consume local wildlife.

1.2 Objective and Scope

Metals such as cadmium, copper and zinc are naturally-occurring in the environment, but may also be released to the environment in an enhanced manner through anthropogenic activities. Plant-eating animals, such as deer, are susceptible to ingesting unnaturally high levels of contaminants by feeding on toxic plants in polluted areas. Plants can absorb metals from soil, or become coated by microscopic airborne contaminants from dust and industrial emissions. Airborne contaminants can be carried long distances by winds before they are deposited at ground level, while dust generated along roads tends to remain more localized. This dust may have a more concentrated effect on nearby plants, and subsequently, on the animals that consume these plants. Both of these sources of contaminants have the potential to harm the health of the animals that consume affected plants, as well as potentially the health of humans who consume these animals.

This report sets out to present preliminary data to quantify pre-existing levels of contaminants present in the White-tailed Deer population located close to the RRP. The results of this study will set the baseline for determining exposure and ecological risk to local wildlife from mine-related contaminants and assessing the risks to humans that consume local wildlife if any.



LEGEND

Proposed Site Features

- Underground Portal
- Open Pit
- Process Plant
- Water Management Pipelines
- Tailings/Reclaim Pipeline
- Pond
- 230 kV Transmission Line
- Tailings Management Area
- Overburden Stockpile
- Rock Stockpile
- Dam
- Divider Dyke
- Site Roads
- Flow Direction
- Quarry
- Sand & Gravel Pit

NOTES:
-

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RAINY RIVER PROJECT

Site Plan
Ultimate Footprint

Datum: NAD83
Projection: UTM Zone 15N

N W E S

0 1.5 3 6 9 12 Kilometres

PROJECT N°: TC111504	FIGURE: 1-1
SCALE: 1:45,000	DATE: March 2017

2.0 METHODOLOGY

2.1 Sample Collection

A tissue collection program was developed by Nathan Baird, New Gold to test for metal and cyanide concentrations in White-tailed Deer. Sampling kits were distributed to interested parties during the 2016 deer hunting season to collect liver and muscle tissue samples from hunters on a voluntary basis (some heart samples were also supplied). Tissues were also sampled from two deer that died in vehicle collisions (D011 and D025) and one which was hunted without approval on the RRP property (D005). There was no harvesting of deer solely for the purpose of this program to the knowledge of New Gold RRP. Tissue and organ samples were collected from 37 deer at harvest locations shown in Figure 2-1.

Detailed information about each animal the samples were collected from was collected, including:

- Date harvested;
- Weather;
- Name and contact details of sample provider;
- Location of harvest;
- Tag number;
- Deer sex, age and physical condition;
- Time of harvest and time of sample collection;
- Type of harvest (firearm or crossbow);
- Location of shot (injury); and
- Any additional comments.

Table 2-1 provides the sample identification number with the relevant sex, age and type of harvest for the specimens described in this report.

The 2016 data presented in this report will serve as baseline data for the local deer population since construction of the RRP only began in the winter of 2015. It is anticipated that there will have been little to no metal contamination in tissues to date, and no cyanide contamination as there has been no use or storage of cyanide at the site to date. Tissue and organ sample collection will be conducted again in 2017, and then every three years through the operations phase until the closure of the RRP. If contaminant levels are found to increase problematically, the frequency of the program will be changed to annual sampling. The results of these future sampling periods will be compared to the 2016 baseline data presented herein.

2.2 Chemical Analysis

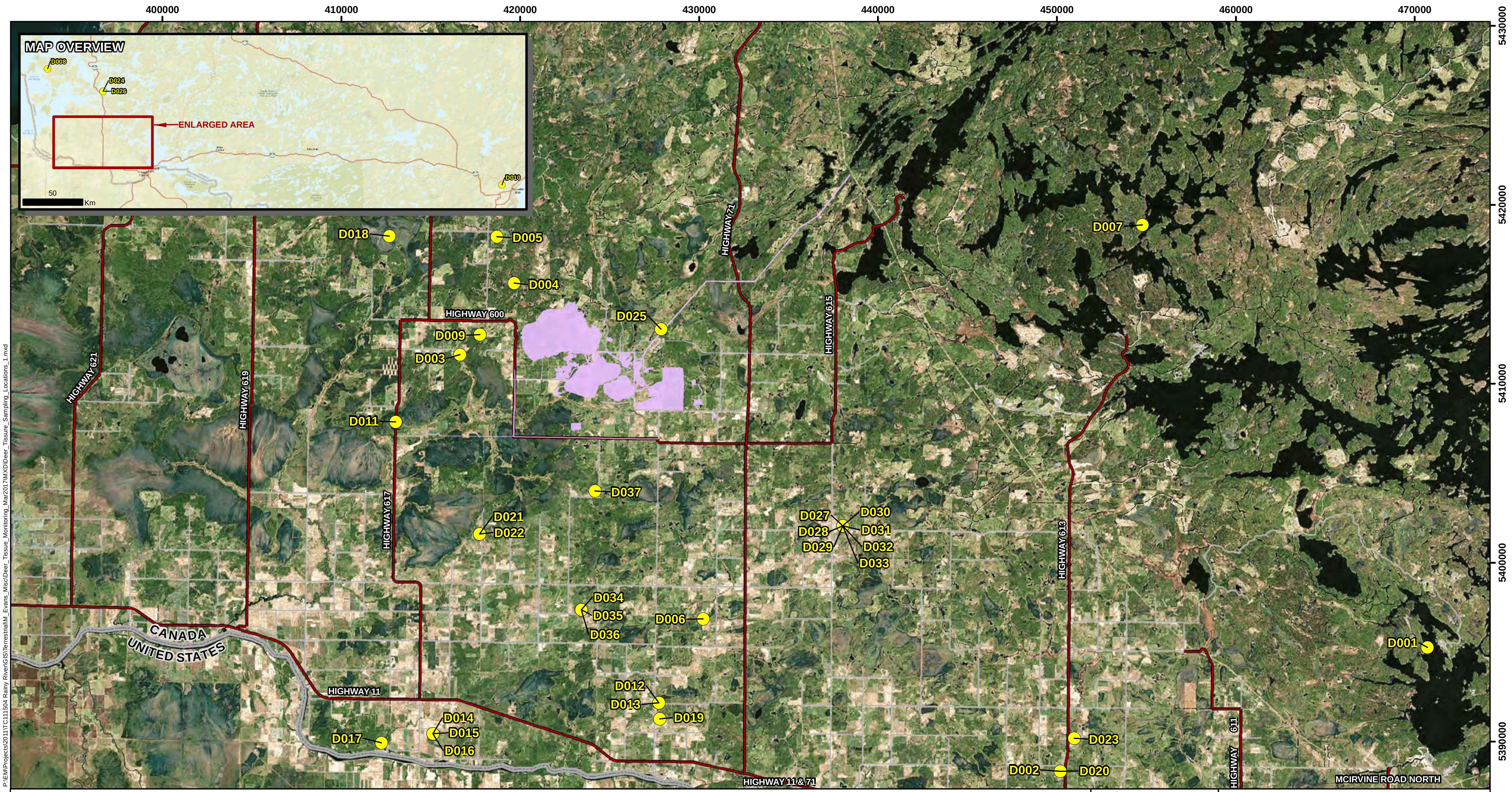
All deer tissue and organ samples were sent to ALS Environmental Labs in Mississauga, Ontario for metal and cyanide analysis. Liver samples were sampled for a suite of metals and muscle tissue was analyzed for cyanide. All metals other than mercury were tested for using an Inductively Coupled Plasma Mass Spectrometry (ICPMS) test (wet). Mercury was tested for using a Cold Vapour Atomic Fluorescence Spectroscopy (CVAFS) test (wet). The tests for metals were conducted following the British Columbia Lab Manual method described in *Metals in Animal Tissue and Vegetation (Biota) – Prescriptive*. Tissues samples were homogenized and sub-sampled prior to hotblock digestion with nitric acid, hydrochloric acids and hydrogen peroxide. For the ICPMS, analysis was by collision cell inductively coupled plasma – mass spectrometry, modified from United States Environmental Protection Agency (US EPA) Method 6020A. The CVAFS analysis uses atomic fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.

2.3 Analytical Methods

Small concentrations of contaminants cannot always be precisely measured. Concentrations that are too low to be measured are said to be below the Lowest Detection Limit (LDL) and as such range from 0 to the LDL value itself. In statistical analyses these values are often substituted with a constant value such as the LDL, half of the LDL, or 0. Mean, maximum, minimum and median values were calculated for each metal analyzed in this study. Many of the mean values were calculated as a range with the lower value calculated by substituting 0 for any value below the LDL and the higher value using the LDL value itself, resulting in a minimum and maximum possible value for the mean.

Table 2-1: White-tailed Deer Tissue Collection Data

Sample ID	Sex	Age	Type of Harvest
D001	Male	Adult	Firearm
D002	Male	Adult	Firearm
D003	Male	Yearling	Firearm
D004	Male	Adult	Firearm
D005	Male	Adult	Firearm
D006	Male	Adult	Firearm
D007	Male	Adult	Firearm
D008	Male	Adult	Firearm
D009	Male	Yearling	Firearm
D010	Female	Adult	Crossbow
D011	Female	Yearling	Vehicle
D012	Male	Adult	Firearm
D013	Female	Adult	Firearm
D014	Female	Adult	Firearm
D015	Male	Adult	Firearm
D016	Male	Adult	Firearm
D017	Female	Adult	Firearm
D018	Male	Adult	Firearm
D019	Male	Yearling	Firearm
D020	Male	Adult	Firearm
D021	Female	Adult	Firearm
D022	Male	-	Firearm
D023	Male	Fawn	Firearm
D024	Male	Adult	Firearm
D025	Female	Adult	Vehicle
D026	Male	Adult	Firearm
D027	Female	Adult	Firearm
D028	Male	Adult	Firearm
D029	Female	Adult	Firearm
D030	Male	Adult	Firearm
D031	Male	Adult	Firearm
D032	Female	Adult	Firearm
D033	Female	Fawn	Crossbow
D034	Male	Yearling	Firearm
D035	Female	Yearling	Firearm
D036	Female	Adult	Firearm
D037	Male	Adult	Firearm



LEGEND

- Deer Tissue Sampling Locations
- Approximate Principal RRP Facilities
- Highway
- Local Road
- Resource / Recreation Road
- Provincial Border

0 2.5 5 10 15 20 25 30 Kilometres

NOTES:
- Imagery extracted from ESRI.
- Road data extracted from Land Information Ontario, Ontario Road Network, MNRF

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RAINY RIVER PROJECT

Deer Tissue Sampling Locations

Datum: NAD83
Projection: UTM Zone 15N

PROJECT N^{o}: TC111504	**FIGURE: 2-1**
SCALE: 1:200,000	DATE: March 2017

3.0 RESULTS

Raw data for each contaminant and each sample as analyzed by ALS Environmental Labs are presented in Appendix A.

3.1 Concentrations of Contaminants

Wildlife exposure to contaminants such as metals may come from ingestion of effected plants, soil or water that have been exposed to the contaminants. Metal contaminants arise from many sources, including some which occur naturally in the environment, but may also formed from industry discharges (Oladunjoye et al. 2015). Some of these metals are natural and necessary nutritional requirements by wildlife in small (trace) amounts, but become toxic at high concentrations. Conversely, deficiencies in some of these metals can also cause health problems.

Table 3-1 presents a statistical summary with the range (minimum and maximum), average and median values for each contaminant. The results for each contaminant are discussed briefly below for ease of future comparison. As stated in Section 2.3, the average and median values are sometimes a range of values due to the uncertainty around concentrations lower than the LDL.

Figure 3-1 contains multiple graphs which show the concentrations found in the 37 deer samples from the RRP analyses for most of the contaminants analyzed. Beryllium, tellurium and zirconium were not graphed as these three metals were never detected over their respective LDL. The samples have been plotted relative to the distance between the deer tissue harvest location (Figure 2-1) and the boundary of the RRP. The distance / concentration relationship is discussed in Section 3.2.

Many of the contaminants were considered to be at negligible or low levels within most of the 37 deer samples tested, although a few had quite high variance with anomalous concentrations elevated over the majority of the values (e.g., aluminum, cesium, iron and lead).

All of the contaminants which were tested for can be produced by mining operations, but can all also occur naturally in the environment and can be introduced by other anthropogenic means.

Aluminum

Aluminum has a LDL of 0.40 milligrams per kilogram wet weight (mg/kg ww). The majority of the values for this metal in deer tissues for the RRP study hover around this mark, with 50% of the samples having non-detectable levels (the value is less than the LDL). Another 16 samples have concentrations less than 2.0 mg/kg ww. There were three samples that had concentrations of aluminum that are significantly higher than the rest: results of 6.12, 9.96 and 10.2 mg/kg ww from samples D027, D028 and D009, respectively.

Aluminum is the most abundant metal in the earth's crust and is found commonly in bedrock and unconsolidated surficial sediments / soil as well as groundwater. Aluminum can also be introduced into the environment by burning coal (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017).

Antimony

Antimony has a LDL of 0.0020 mg/kg ww and the majority of the samples had values for this element around this concentration (73.7% less than the LDL). Of the remainder of the samples, 21% of the samples had concentrations less than 0.01 mg/kg ww. Two samples had concentrations of antimony are higher than the rest: 0.0797 and 0.281 mg/kg ww (samples D005 and D035).

Antimony is naturally present in the earth's crust in bedrock, soil and waterbodies (lakes and rivers) although it is generally found in low concentrations (Agency for Toxic Substances and Disease Registry 2017; United States Department of the Interior 2016). Antimony can also enter the environment through various human activities including: coal-fired power plants, copper smelters and inorganic chemical plants (CCREM nd).

Arsenic

The LDL for Arsenic is 0.0040 mg/kg ww; 13% of the samples in this study had concentrations less than the LDL and the remainder of the concentrations in samples ranged from 0.0044 to 0.0491 mg/kg ww which are considered to be low (close to the LDL).

Arsenic is a widely distributed element found naturally in the earth's crust in soil and minerals and the largest natural source of arsenic entering surface waters is that from weathered rocks and soils (Nriagu 1989 in CCME 2017). Arsenic is used in metallurgical applications, wood preservatives, herbicides, pharmaceutical and glass manufacturing (Government of Canada 1993). As arsenic was historically widely used in pesticides, agricultural areas where it was used can have high levels in soils (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017).

Barium

All of the deer tissue samples had detectable levels of barium (LDL of 0.010 mg/kg ww), ranging from 0.012 to 0.155 mg/kg ww.

Barium is found naturally in some rocks and soils, and can be introduced to air and water by natural weathering processes. Some vegetation types are known to accumulate barium. Barium minerals and compounds are widely used in industry. Barium is used as a filler in such anthropogenic substances such as: paint, bricks, glass, rubber and insect / rodent poisons, and could enter the environment from the manufacturing or disposal of these products (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017).

Beryllium

There were no samples with beryllium concentrations above the respective LDL of 0.0020 mg/kg ww.

Beryllium occurs naturally in some rocks including coal and soil, although generally in low levels in Canada (CCREM nd). Natural weathering of soil and rocks causes it to enter water sources and it can accumulate in some plants. It is also released into the environment when coal or oil are burned or improperly disposed of (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017).

Bismuth

The LDL for bismuth is 0.0020 mg/kg ww. The majority of RRP deer tissue concentrations for this element were around this mark with 73.7% of the samples having non-detectable levels and the remaining values ranging between 0.0022 and 0.0067 mg/kg ww.

Bismuth is a naturally occurring metal in the earth's crust. Bismuth can be released into soil and water by natural weathering processes (Salminen et al. 2005).

Boron

Boron has a LDL of 0.20 mg/kg ww; 36% of the tissue samples had non-detectable concentration levels of boron; the remaining values ranged from 0.20 to 0.52 mg/kg ww.

Boron is a widely occurring metal in the earth's crust. Due to the extensive occurrence of boron in clay-rich sediments and sedimentary rocks, the majority of boron found in surface soils and waters from weathering of natural sources. Boron can accumulate in some plants. Boron is also widely used in fertilizers and pesticides so agricultural areas can have high levels in the soils. (Agency for Toxic Substances and Disease Registry 2017).

Cadmium

All of the samples in this study had detectable levels of cadmium, ranging from 0.0094 to 1.98 mg/kg ww.

Cadmium occurs naturally in rocks including coal and petroleum, and can enter water or soil when it is broken down by acidic water such as acid precipitation. Some areas naturally contain elevated concentrations of cadmium in underlying rock, with the spatial variation related to both rock composition and other natural processes. As cadmium is used in such items as batteries, plastics and pesticides (CCME 2017), it can also enter the environment from anthropogenic means including from landfills or incineration. Cadmium is known to accumulate in plants, including agricultural crops although the uptake rates will depend on the plant species (United States

Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017; CCME 2015).

Calcium

All of the deer tissue samples from the RRP had detectable levels of calcium, ranging from 29.2 to 106 mg/kg ww.

Calcium is the third most abundant metal in the earth’s crust and can be found naturally in rocks, minerals, and in all plants and animals. It is readily soluble in water and as a result, enters the environment through the weathering of rocks, especially limestone (CCREM nd).

Cesium

Cesium has a LDL of 0.0010 mg/kg ww. All of the samples had detectable levels of cesium, ranging from 0.0044 to 0.293 mg/kg ww.

Cesium occurs naturally in rocks, soil and mineral and can enter water and air by natural erosion and weathering processes. Anthropogenic sources of cesium include nuclear power plants and other nuclear operations (Agency for Toxic Substances and Disease Registry 2017).

Chromium

The majority (71%) of the deer tissue sample had detectable levels of chromium (LDL of 0.010 mg/kg ww) with values ranging from 0.010 to 3.2 mg/kg ww.

Chromium us a naturally occurring element in rocks, soil, water, air, plants and animals. In rocks and soil it is generally found as an insoluble oxide (CCME 2017). Anthropogenic sources of chromium in the environment include fossil fuel combustion, cement manufacturing, incineration and from industries such as ferrochromium production and electroplating (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017; CCME 2017).

Cobalt

All of the deer tissue samples but one had detectable levels of cobalt (LDL of 0.0040 mg/kg ww). Concentrations of cobalt in the deer tissue samples ranged from 0.0185 to 0.108 mg/kg ww.

Cobalt occurs naturally in a number of rock types, and accordingly, is present in soil, water, plants and animals. Anthropogenic sources of cobalt in the environment including coal burning, other industries, fertilizers, and vehicle exhaust (CCREM nd; Agency for Toxic Substances and Disease Registry 2017).

Copper

All of the tissue samples had detectable levels of copper, ranging from 0.6 to 191 mg/kg ww (LDL of 0.020 mg/kg ww).

Copper is a common, naturally occurring metal in rocks and minerals of the earth's crust and is found in surface soil, water, sediments, air, plants and animals. Major industrial sources include copper mining, smelting and refining industries, wire mills, coal-burning industries, and iron- and steel-producing industries (CCREM nd). As well as from industrial discharges and emissions, copper also enters the environment naturally from decaying plants and forest fires (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017).

Iron

All of the deer tissue samples from the RRP had detectable levels of iron, ranging from 79.8 to 901 mg/kg ww. The maximum concentration reported (901 mg/kg ww, sample D019) was significantly higher than the next highest value of 294 mg/kg ww. It is worth noting that this sample (D019) also had the lowest magnesium and phosphorus concentrations, and the liver was noted to be dark in colour, so it is likely that this animal has some health issues such as disease or some form of nutritional stress.

Iron is a naturally occurring metal found in minerals and is the fourth most abundant element in the earth's crust. It is released into soil and water by the natural weathering of rocks and is commonly present. Iron can also be introduced into the environment from human activities, including from burning of coal, acid mine drainage, mineral processing, landfill leachates, ieron-related industries, and the corrosion of iron and steel (CCREM nd).

Lead

The LDL for lead is 0.0040 mg/kg ww and 21% of the samples had non-detectable levels of lead. The remainder of the results range from 0.0042 to 39.9 mg/kg ww. The maximum value of 39.9 mg/kg ww (D035) was significantly higher than the next highest value of 2.52 (which was itself quite a bit higher than the third highest concentration of 0.267). It is hard to speculate the reason for this high concentration, but one possible reason could be from lead bullet contamination (Hunt et al. 2009).

Lead is a naturally occurring metal in the earth's crust. Most of the lead in the environment however, comes from human activities rather than the weathering of lead-containing rock (CCREM nd). The historic use of gasoline and pesticides containing lead caused large amounts to enter the environment. Lead binds to soil and will stay in an area for many years. Other sources of lead in the environment are burning fossil fuels, incineration, leaching from plumbing and weathering of paint (Agency for Toxic Substances and Disease Registry 2017).

Lithium

The LDL for lithium has a LDL of 0.010 mg/kg ww; 21% of the samples had non-detectable levels of lithium. The rest of the values range from 0.11 to 0.68 mg/kg ww.

Lithium naturally occurs in rocks and can be introduced to water and soils by natural weathering processes. Human activities also introduce lithium into the environment such as through the disposal of batteries, as well as coal combustion and aluminum product production (Salminen 2005; Yalamanchali 2012; CCREM nd). Lithium compounds are readily soluble; and is easily taken up and accumulated in plants. (CCREM nd; Yalamanchali 2012; Lenntech 2017).

Magnesium

All of the samples had detectable levels of magnesium ranging from 57.6 to 202 mg/kg ww. The minimum value of 57.6 (D019) is quite a bit lower than the next lowest which is 125 mg/kg ww. The sample (D019) with this low minimum value is also the sample that had an elevated iron concentration and decreased phosphorus concentration, and the liver was noted to be dark in colour.

Magnesium is a common naturally occurring element in the earth's crust and is found in many different rock types, including dolomite which is commonly quarried and used as an aggregate. It is used in a variety of industry applications, including: textiles, paper, refractories, ceramics and fertilizers. Magnesium is considered to be an essential element for all organisms and may be accumulated in in calcareous tissues (CCREM nd).

Manganese

All of the samples had detectable levels of manganese, ranging from 0.14 to 4.14 with an average value of 2.29 mg/kg ww.

Manganese occurs naturally in mineral form from sediments and rocks, and is taken up and accumulated by some plants. As it is used in the steel and chemical industries, manganese can also be released from emissions and waste disposal (United States Department of the Interior 2016; Agency for Toxic Substances and Disease Registry 2017; CCREM nd).

Mercury

Mercury has a LDL of 0.0010 mg/kg ww. One sample had a non-detectable concentration and the rest of the samples had concentrations ranging from 0.0016 to 0.111 mg/kg ww. The maximum value of 0.111 mg/kg ww (D024) was significantly higher than the next highest value of 0.0151 mg/kg ww.

Mercury occurs naturally and enters soil, water and air by the weathering of minerals in rocks and soils (Agency for Toxic Substances and Disease Registry 2017). Mercury is also introduced into the environment from anthropogenic usage, including: the pulp and paper manufacture, combustion of coal, and disposal of medical and electrical equipment (Agency for Toxic Substances and Disease Registry 2017; United States Department of the Interior 2016; CCME 2017).

Molybdenum

All of the samples in this study had detectable levels of molybdenum. The concentrations ranged from 0.0269 to 0.9530 mg/kg ww.

Molybdenum occurs naturally in rocks, and the weathering of igneous and sedimentary rocks (especially shales) introduces molybdenum to the environment naturally. Molybdenum can also be released into the environment by combustion of fossil fuels and through waste products of industries using molybdenum (CCME 2017).

Nickel

The majority (68.4%) of the tissue samples that nickel concentrations below the LDL of 0.040 mg/kg ww. The remainder of the samples had nickel concentrations of 0.056 to 1.5 mg/kg ww. The maximum value of 1.5 mg/kg ww (D028) was significantly higher than the next highest value of 0.259 mg/kg ww.

Nickel is mined commercially in Canada including in Ontario. Nickel is found naturally in soils and water through the weathering of bedrock and can accumulate in plants. Human activities such as such as burning fossil fuels can also cause nickel to be introduced into the environment, as well as waste from nickel industries such as electroplating, stainless steel and alloy production (Agency for Toxic Substances and Disease Registry 2017; United States Department of the Interior 2016).

Phosphorus

All of the tissue samples had detectable levels of phosphorus: 853 to 4n430 mg/kg ww. The minimum value of 853 mg/kg ww (D019) is significantly lower than the next lowest value of 2,640 mg/kg ww. The sample with this lowest value for phosphorus (D019: 853 mg/kg ww) is also the sample that had low magnesium concentration and a high iron concentration, and the liver was noted to be dark in colour.

Phosphorus can be released into soil and water by natural weathering process of native bedrock, and is actively taken up by plants. Decomposition of these plants is another source of phosphorus to the environment, as well as such anthropogenic sources as fertilizers, pesticides and detergents (Lenntech 2017).

Potassium

All of the deer tissue samples had detectable levels of potassium, from 1310 to 3650 mg/kg ww.

Potassium is found in nature as a mineral and is released into the environment by natural weathering processes although it is resistant to weather processes. Potassium is used widely in fertilizers and detergents that can also introduce this element into the environment (Lenntech 2017). Potassium is needed for all life so is found in all plants and animals, and is readily accumulated (CCREM nd).

Rubidium

All of the samples had detectable levels of rubidium that ranged from 6.7 to 32.5 mg/kg ww.

Rubidium exists naturally in minerals and rocks and enters soil and water by natural weathering processes. Rubidium can also be introduced into the environment due to human activities, such as glass dust; however, natural sources are considered more abundant (Salminen et al. 2005).

Selenium

Selenium was detected in all of the samples: 0.198 to 1.880 mg/kg ww.

Selenium occurs naturally in rocks and soils, is easily taken up by plants, and can be introduced to the water and air by natural weathering processes and volcanic activity (CCREM nd). Selenium can also be released into the environment by the burning of coal and oil (Agency for Toxic Substances and Disease Registry 2017).

Sodium

Sodium has a LDL of 4.0 mg/kg ww. All of the samples had detectable levels of sodium which ranged from 413 to 1440 mg/kg ww.

Sodium exists naturally exists in the earth's crust, including as sodium chloride (salt) deposits. It is released into soils and waterbodies by weathering and leaching. Anthropogenic products and use in snow and ice control (sodium chloride) can also introduce sodium into the environment (United States Department of the Interior 2016; CCREM nd).

Strontium

Strontium has a LDL of 0.010 mg/kg ww. All but three samples had detectable levels of strontium, with concentrations up to 0.089 mg/kg ww measured.

Strontium is found in nature through the weathering of native rocks, and can accumulate in many plants. Strontium can be introduced into the environment by burning coal and oil (Agency for Toxic Substances and Disease Registry 2017).

Tellurium

Tellurium has a LDL of 0.0040 mg/kg ww and all of the samples in this study were below this concentration level.

Tellurium exist naturally in coal and minerals though is quite rare (Lenntech 2017). Natural weathering processes introduce tellurium into soils (Salminen et al. 2005) from where it is taken up readily by plants (Lenntech 2017). Tellurium can be introduced into the environment as a by-product of copper and lead refining (P S Analytical 2015).

Thallium

Thallium has a LDL of 0.00040 mg/kg ww; 42% of the samples had non-detectable thallium concentration levels and the rest of the samples ranged from 0.00041 to 0.00193 mg/kg ww.

Thallium is found naturally in soils, air and water as a result of weathering of native rocks, and is readily taken up by plants (Agency for Toxic Substances and Disease Registry 2017).

Tin

Tin has a LDL of 0.020 mg/kg ww; 39.5% of the samples had non-detectable tin concentration levels. The concentrations is the remaining samples ranged from 0.021 to 0.086 mg/kg ww.

Tin also is found naturally in soil, air and water, and can be released to the environment from industrial discharges, steel manufacturing and municipal sewage as well as other anthropogenic sources (CCREM nd).

Uranium

Uranium has a LDL of 0.00040 mg/kg ww. Only two samples had detectable uranium concentration levels (0.00058 and 0.00108 mg/kg ww).

Uranium naturally occurs in rocks and can be readily mobilized by weathering and natural erosion (CCME 2017). Uranium accumulates in plants, especially in the roots.

Vanadium

Vanadium has a LDL of 0.020 mg/kg ww; 44.7% of the samples had non-detectable vanadium concentration levels and the rest ranged from 0.024 to 0.135 mg/kg ww.

Vanadium is naturally occurring element present in the earth's crust in abundance, particularly with basic igneous rocks. It is released to soils, water and air by weathering processes. Anthropogenic sources of vanadium include air borne particles from oil and coal combustion, and steel production (CCREM nd).

Zinc

All of the deer tissue samples had detectable levels of zinc that ranged from 10.4 to 61 mg/kg ww.

Zinc is a common element in the earth's crust. It is mined and refined in Canada and has a large number of industrial uses. Anthropogenic sources of zinc release to the environment include burning of coal, fertilizer use and steel production (Agency for Toxic Substances and Disease Registry 2017). Zinc is an essential element, and is easily taken up by plants.

Zirconium

All of the samples had non-detectable concentration levels of zirconium, below the LDL of 0.040 mg/kg ww.

Zirconium is present naturally in minerals and rocks, although the most common form is resistant to weathering so it is not often introduced into soils and therefore not often taken up by plants (Lenntech 2017). Zirconium can also be introduced into the environment due to human activities; however, natural sources are considered more abundant (Salminen et al. 2005).

Cyanide

Cyanide has a LDL of 0.10 mg/kg ww and 16.7% of all the samples had non-detectable concentration levels. The concentration of cyanide in the remainder of the samples ranged from 0.10 to 0.41 mg/kg ww. The cyanide concentration values were dispersed well, with none of the values particularly higher or lower than the rest.

Cyanide is group of organic compounds that can be found naturally in the environment or introduced through anthropogenic means. Some micro-organisms (bacteria, fungi and algae) produce cyanide and it is also found naturally in some plants such as soy and released to the environment during decomposition. Cyanide can also be introduced into the environment from industrial processes and effluent, including from gold processing plants; as well as from landfills, public wastewater treatment plants, and some pesticides (Agency for Toxic Substances and Disease Registry 2017; United States Department of the Interior 2016).

3.2 Comparison of Results to Distance of Harvest from the Project Boundary

Figure 3-1 contains multiple graphs that present each contaminant plotted relative to the distance between the deer tissue harvest location (shown in Figure 2-1) and the boundary of the RRP.

These graphs were developed to identify if there are any early patterns between contamination levels in deer tissue and proximity to the RRP.

As seen in in the various graphs in Figure 3-1, none of the contaminants exhibited a statistically significant relationship between concentration levels and proximity to the RRP boundary (note the flat or nearly flat trend lines in each graph). The slight increase / decrease of the trend lines is generally due to a random distribution of the data with anomalous higher concentrations than the bulk of the data located towards the one end of the axis or the other.

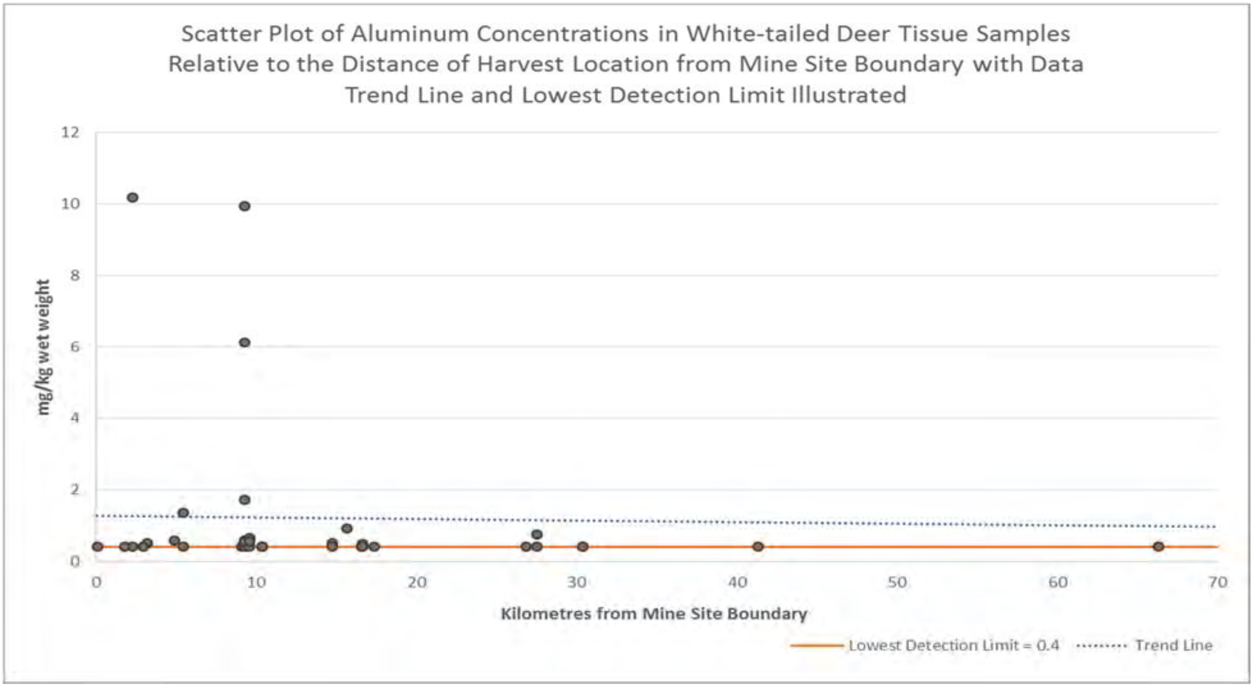
Due to the nature of the study (e.g., samples were provided voluntarily by hunters) there was no control over the locations, or the distribution of locations, from which the 37 deer samples were collected. Many of the animals were harvested within 20 km of the RRP boundary and are distributed in a useful pattern for analysing distances from the RRP boundary:

- 19% of the samples were collected within 5 km of the boundary;
- 54% were collected within 10 km; and
- 78% were collected within 20 km of the boundary.

More distant samples was taken approximately 41 km, 66 km and 333 km from the Project boundary.

Table 3-1: Measured Contaminants in White-tailed Deer Samples in 2016

Contaminant	Lowest Detection Limit (mg/kg ww)	Minimum (mg/kg ww)	Maximum (mg/kg ww)	Mean (mg/kg ww)	Median (mg/kg ww)
Aluminum	0.40	<0.40	10.2	0.978 – 1.178	0.205 – 0.405
Antimony	0.0020	<0.0020	0.2810	0.0104 – 0.0119	0.0 – 0.0020
Arsenic	0.0040	<0.0040	0.0491	0.0118 – 0.0123	0.0091
Barium	0.010	0.012	0.155	0.044	0.033
Beryllium	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bismuth	0.0020	<0.0020	0.0067	0.0010 – 0.0025	0.0 – 0.0020
Boron	0.20	<0.20	0.52	0.19 – 0.27	0.24
Cadmium	0.0010	0.009	1.980	0.539	0.414
Calcium	4.0	29.2	106.0	50.6	47.8
Cesium	0.0010	0.0044	0.2930	0.0479	0.0281
Chromium	0.010	<0.010	3.2	0.139 – 0.142	0.025
Cobalt	0.0040	<0.0040	0.1080	0.0505 – 0.0506	0.0494
Copper	0.020	0.6	191.0	80.8	71.3
Iron	0.60	79.8	901.0	160.4	136.0
Lead	0.0040	<0.0040	39.9 [1]	1.1385 – 1.1393	0.0072
Lithium	0.10	<0.10	0.68	0.25 – 0.27	0.26
Magnesium	0.40	57.6	202.0	161.2	162.0
Manganese	0.010	0.14	4.14	2.29	2.45
Mercury	0.0010	<0.0010	0.1110	0.0085 – 0.0086	0.0052
Molybdenum	0.0040	0.0269	0.9530	0.3488	0.3205
Nickel	0.040	<0.040	1.5	0.071 – 0.098	0.00 – 0.040
Phosphorus	2.0	853.0	4430.0	3488.8	3630.0
Potassium	4.0	1310.0	3650.0	2737.1	2800.0
Rubidium	0.010	6.7	32.5	18.0	18.5
Selenium	0.010	0.198	1.880	0.876	0.828
Sodium	4.0	413.0	1440.0	814.3	795.0
Strontium	0.010	<0.010	0.089	0.033 – 0.034	0.028
Tellurium	0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Thallium	0.00040	<0.00040	0.00193	0.00045 – 0.00062	0.00048
Tin	0.020	<0.020	0.086	0.024 – 0.032	0.025
Uranium	0.00040	<0.00040	0.00108	0.00004 – 0.00042	0.0000 – 0.00040
Vanadium	0.020	<0.020	0.135	0.035 – 0.043	0.031
Zinc	0.10	10.4	61.0	32.2	32,4
Zirconium	0.040	<0.040	<0.040	<0.040	<0.040
Cyanide	0.10	<0.10	0.41	0.177 – 0.193	0.18



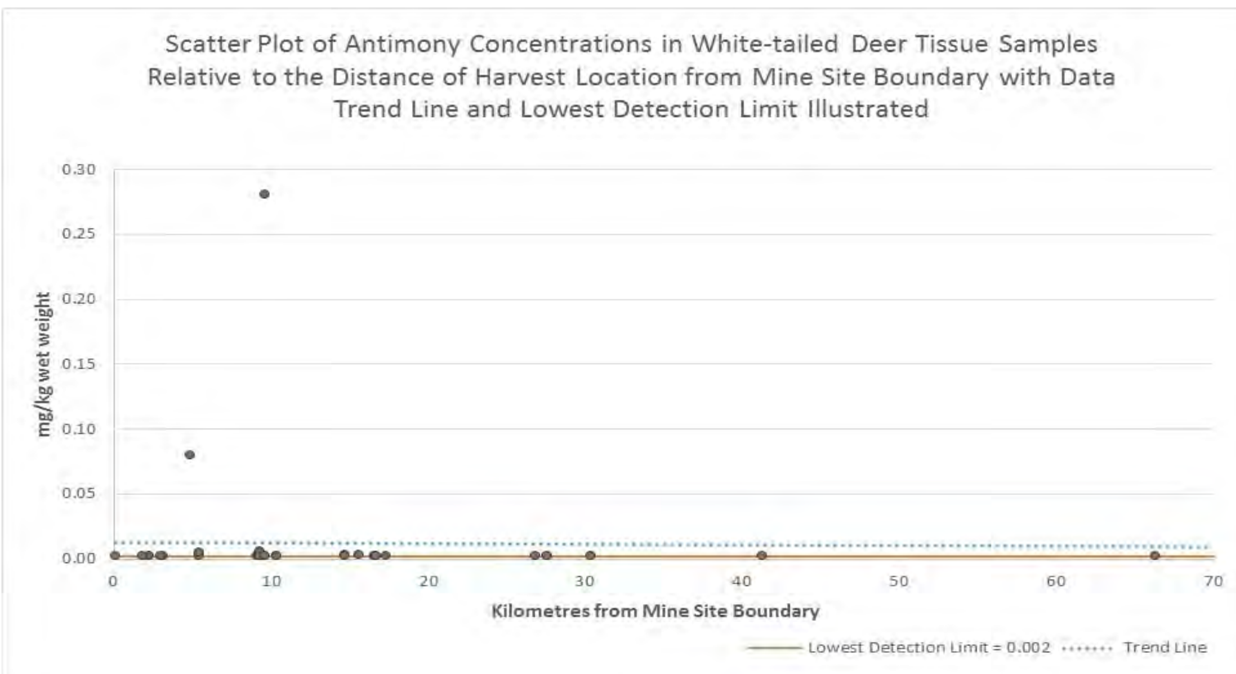
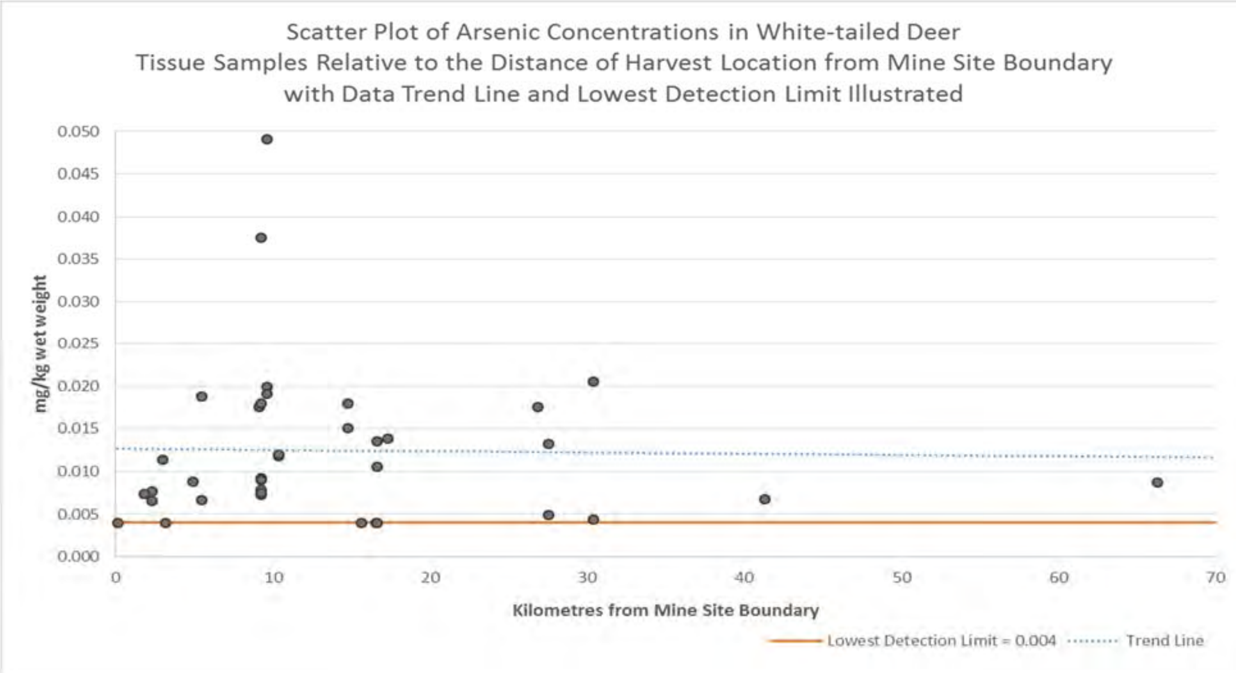


Figure 3-1: Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



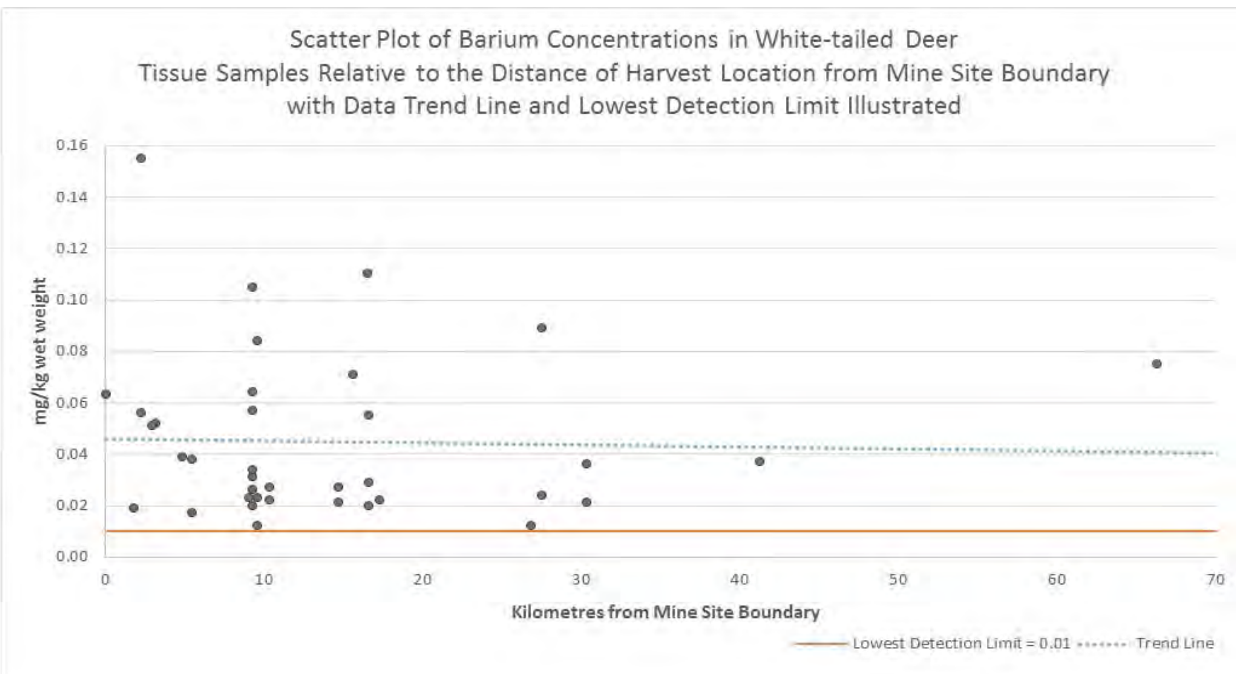
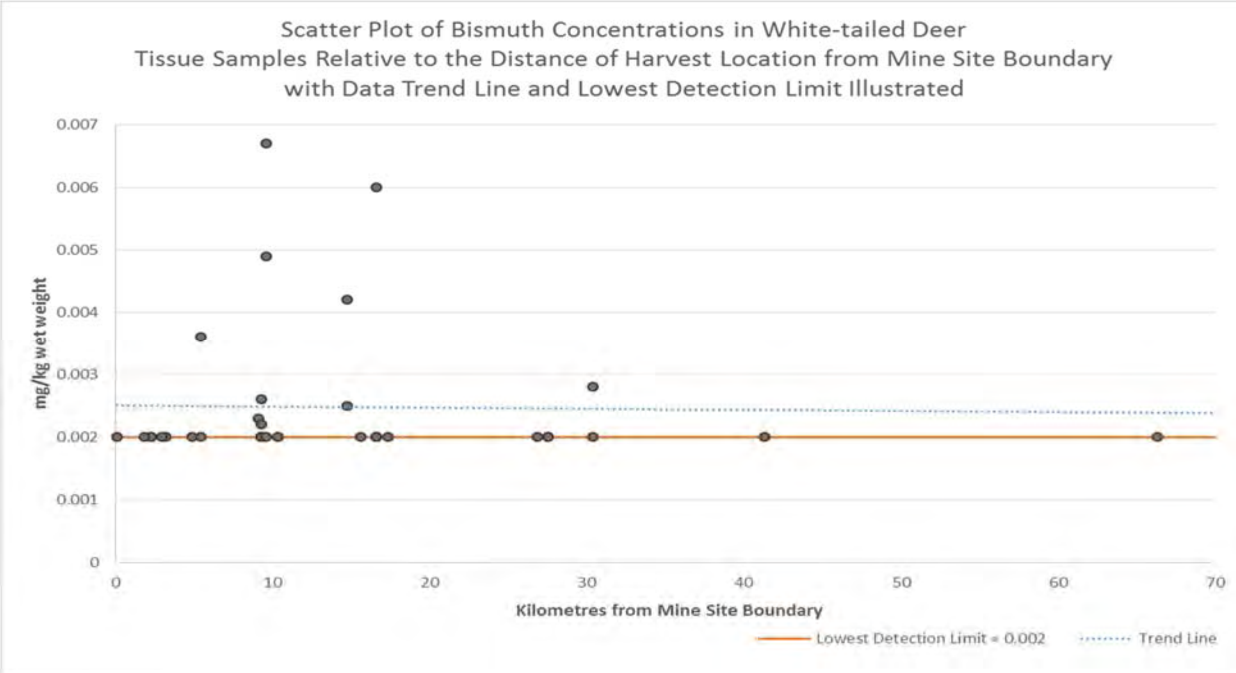


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



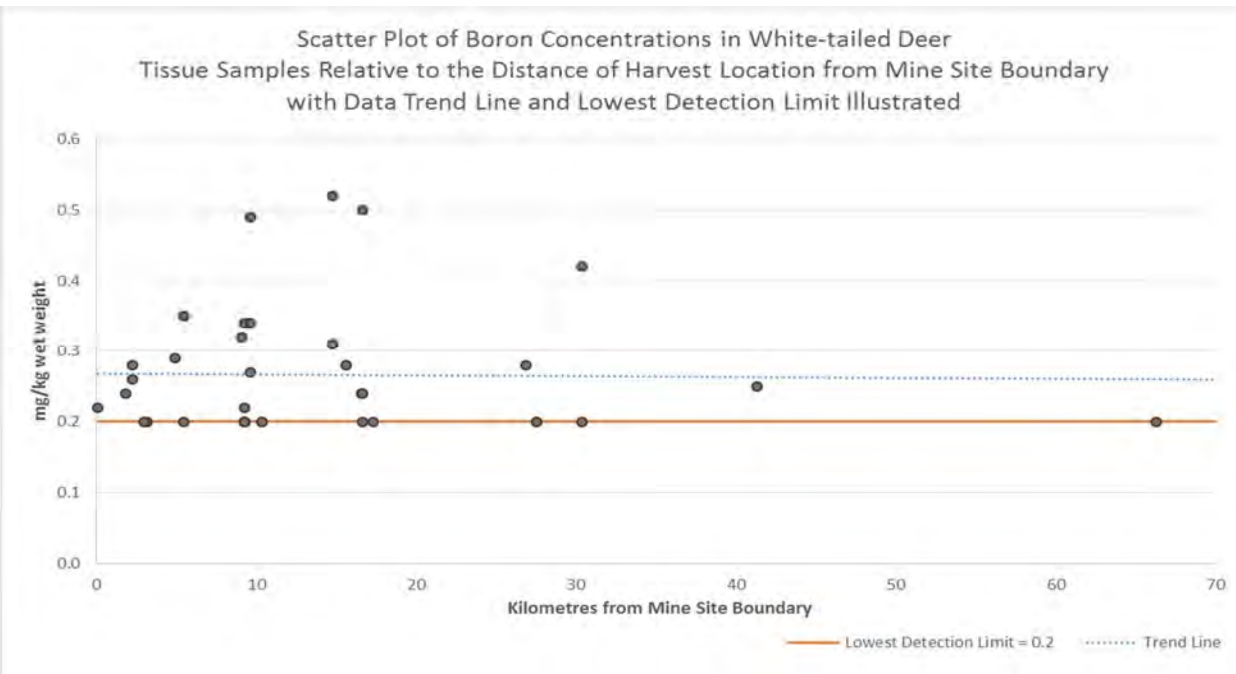
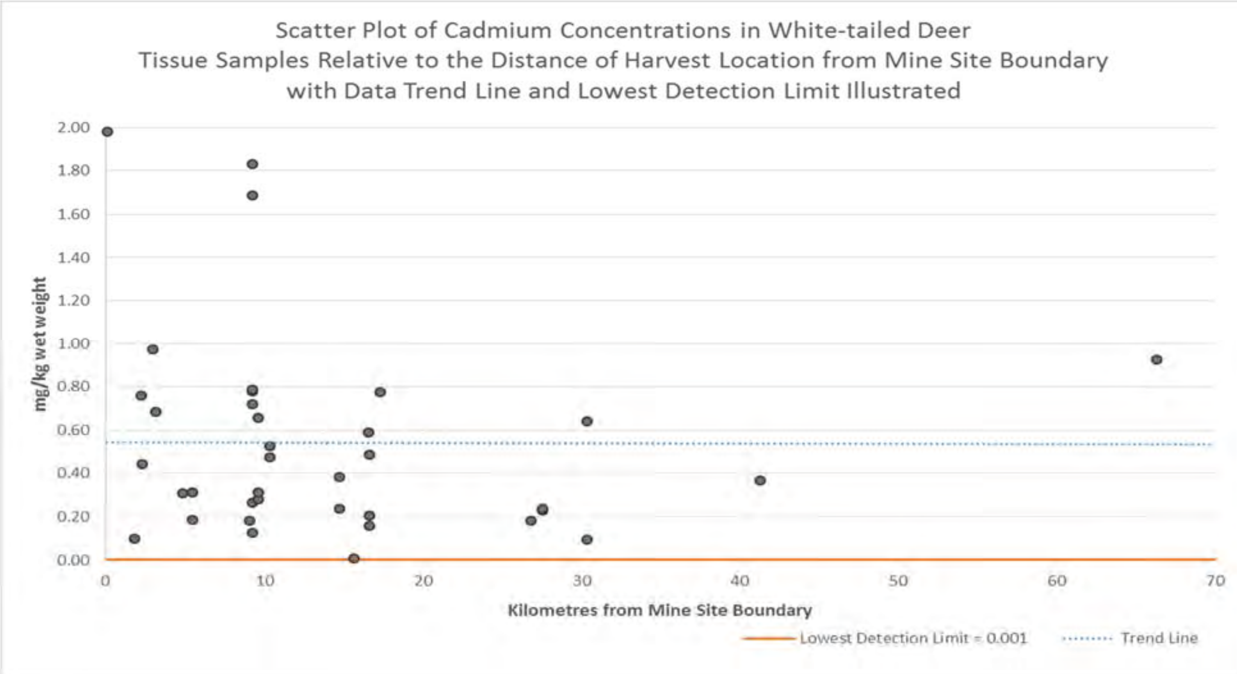


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



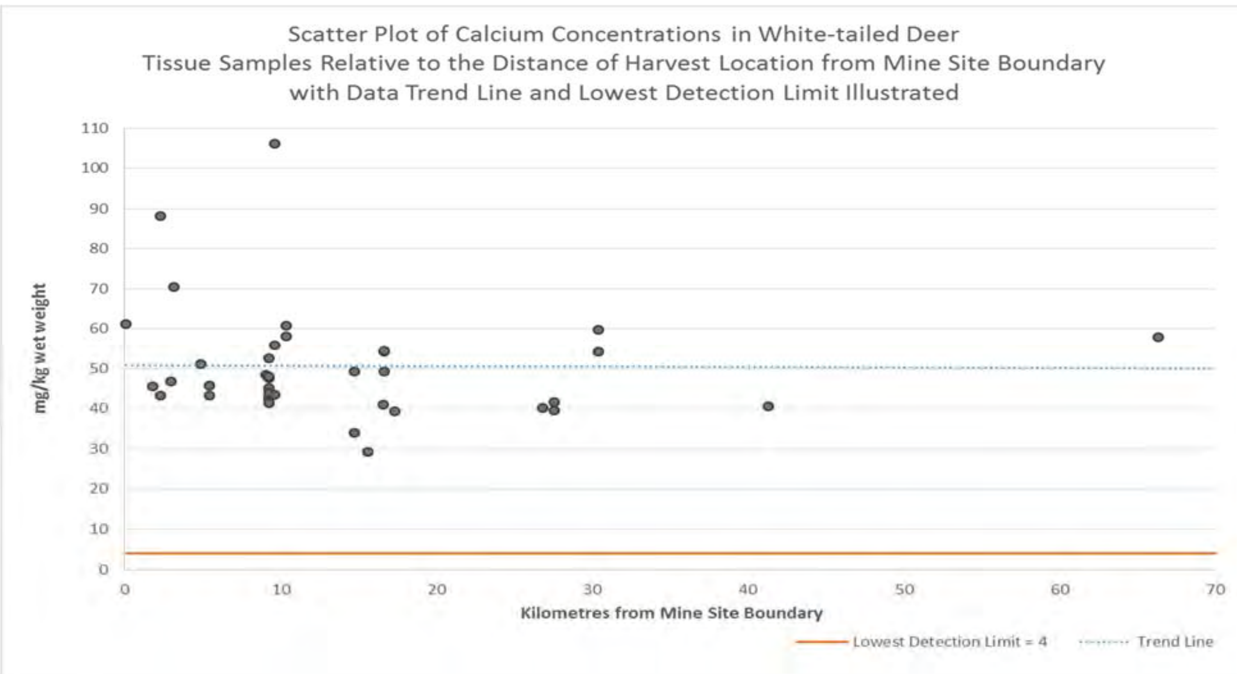
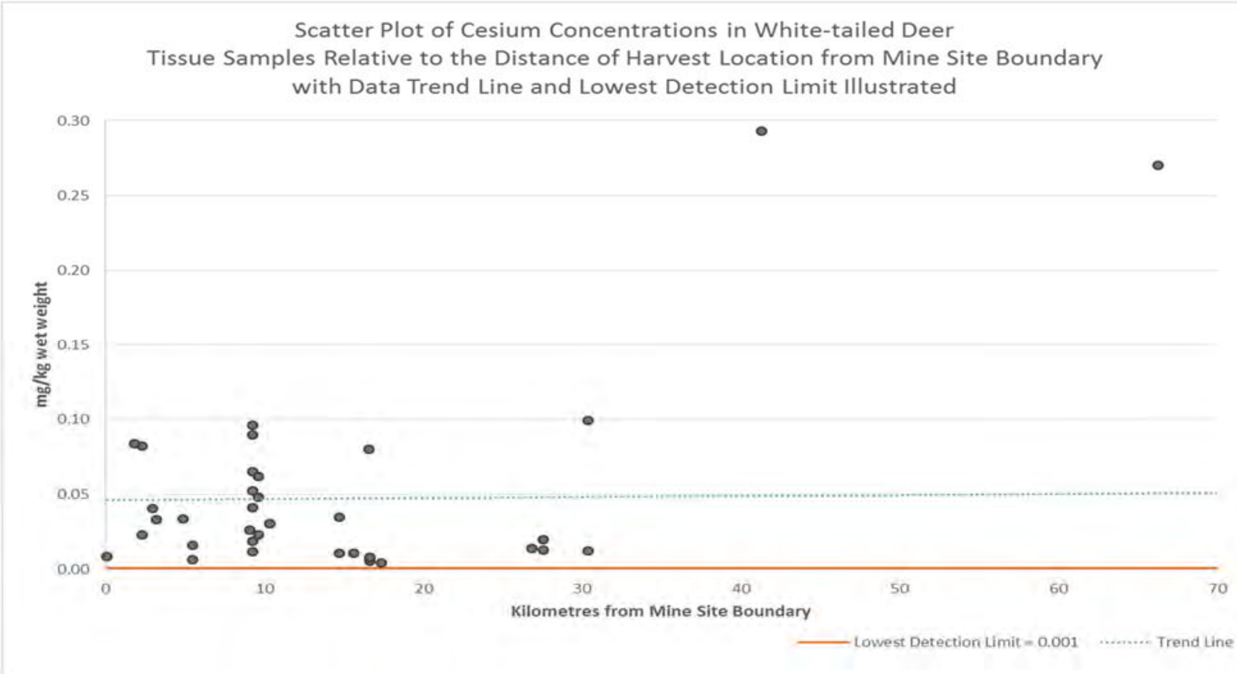


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



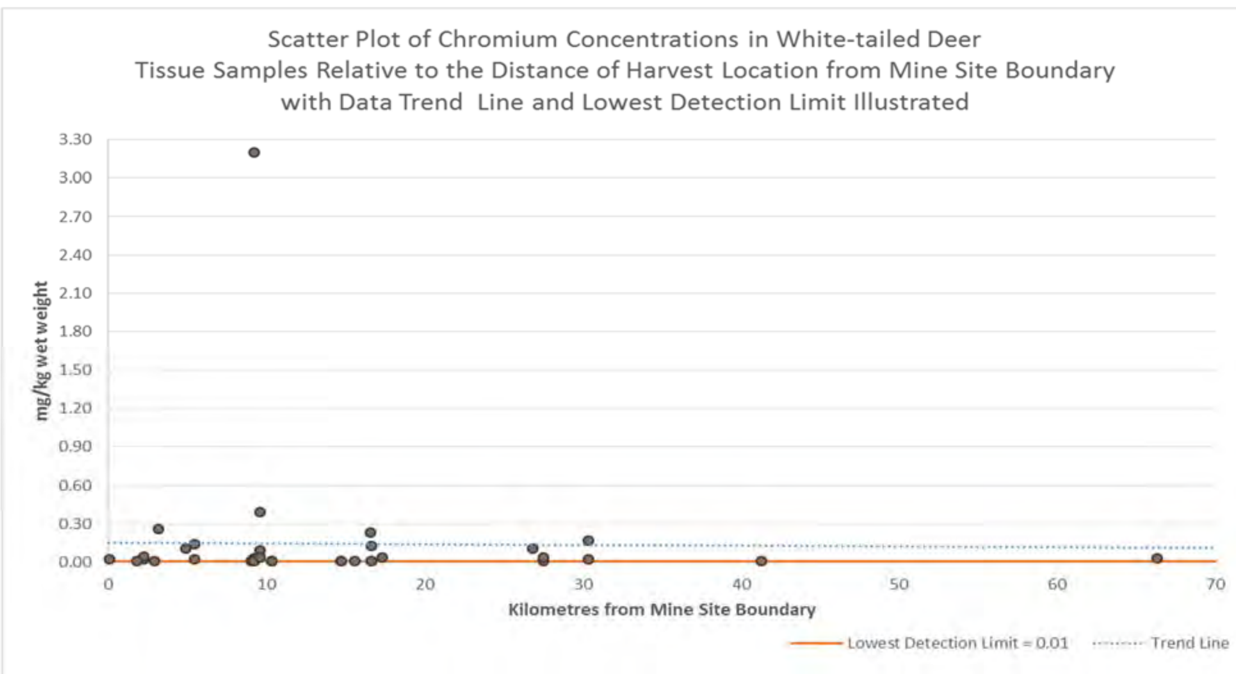
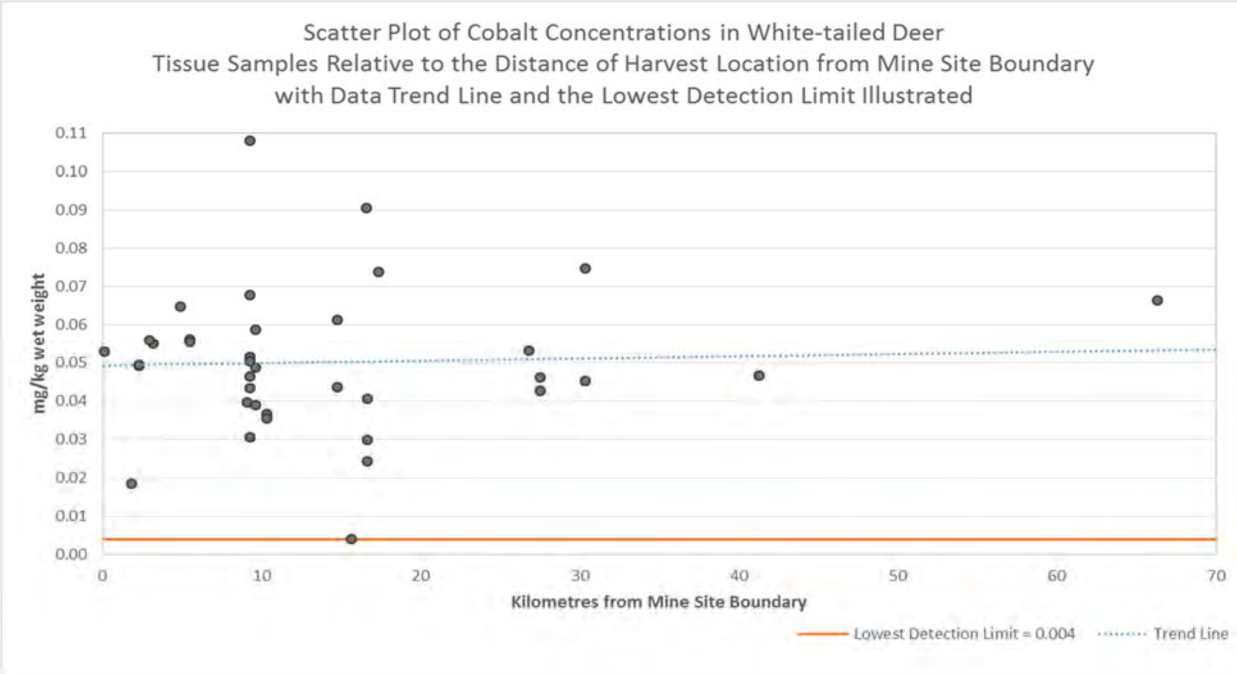


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



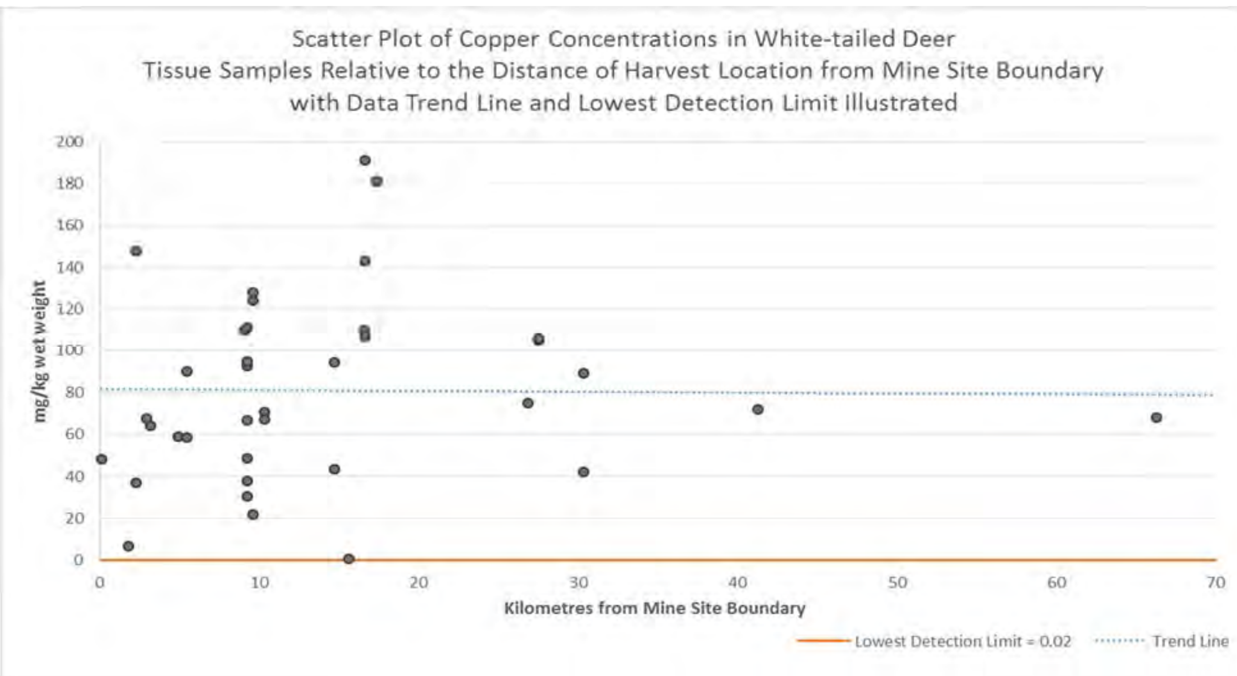
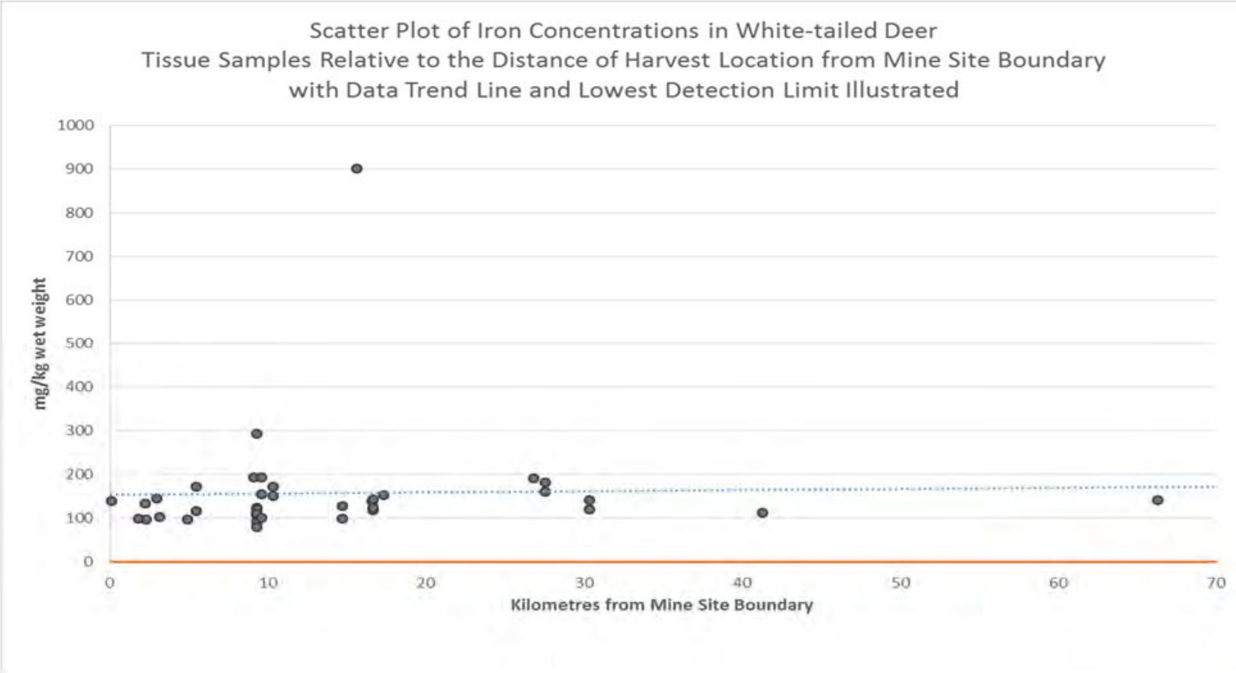
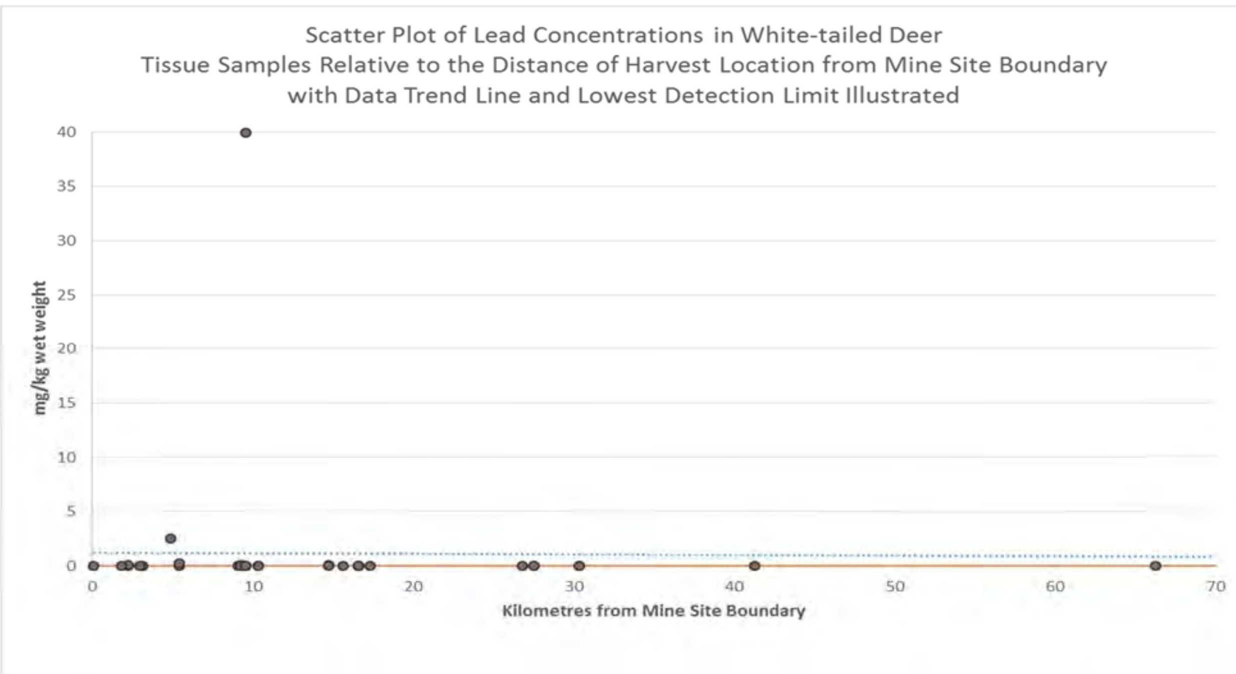


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit





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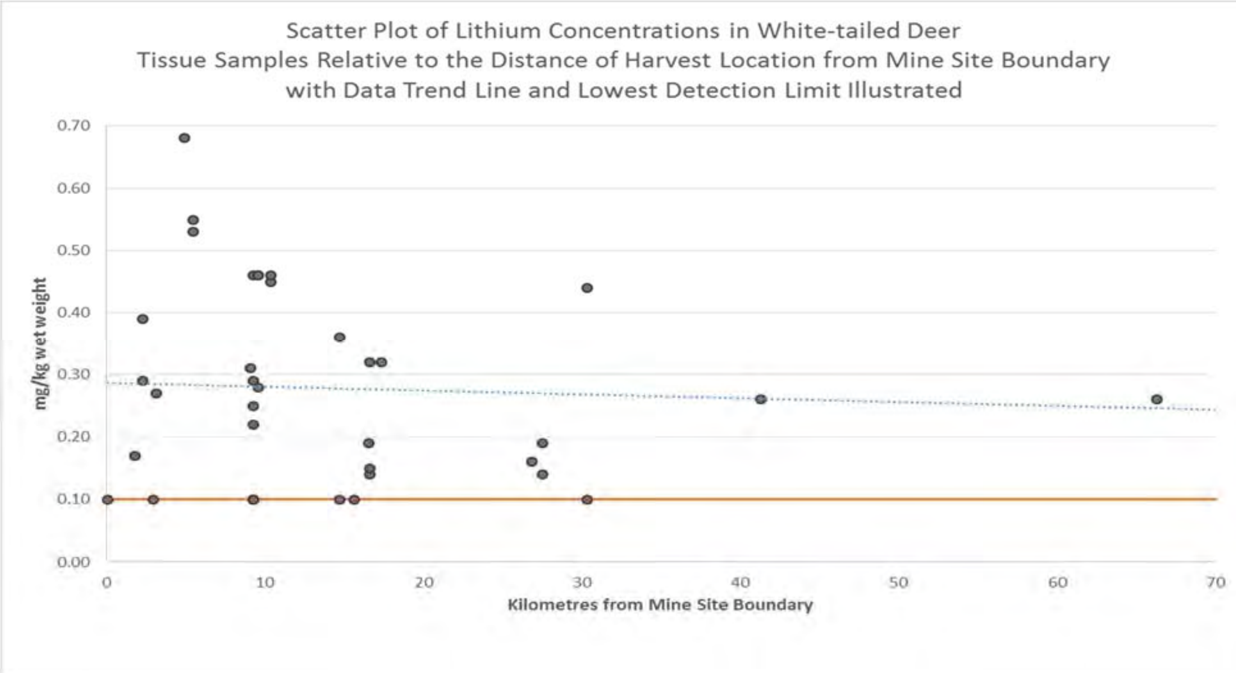

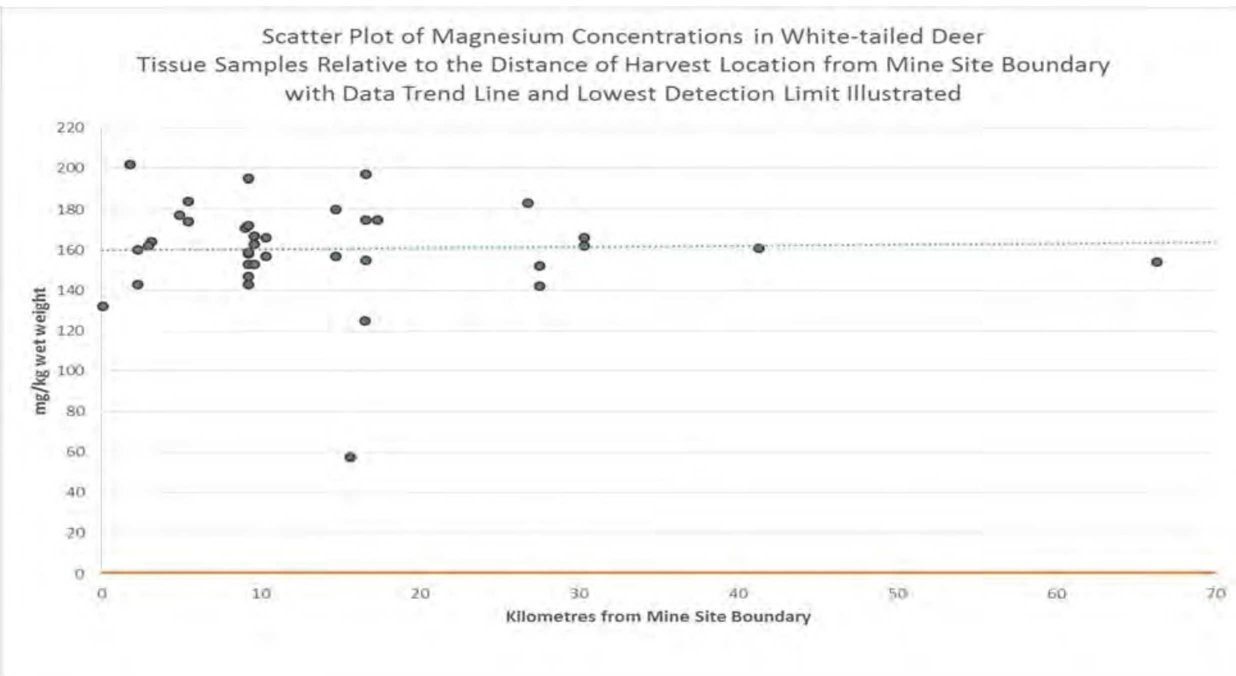

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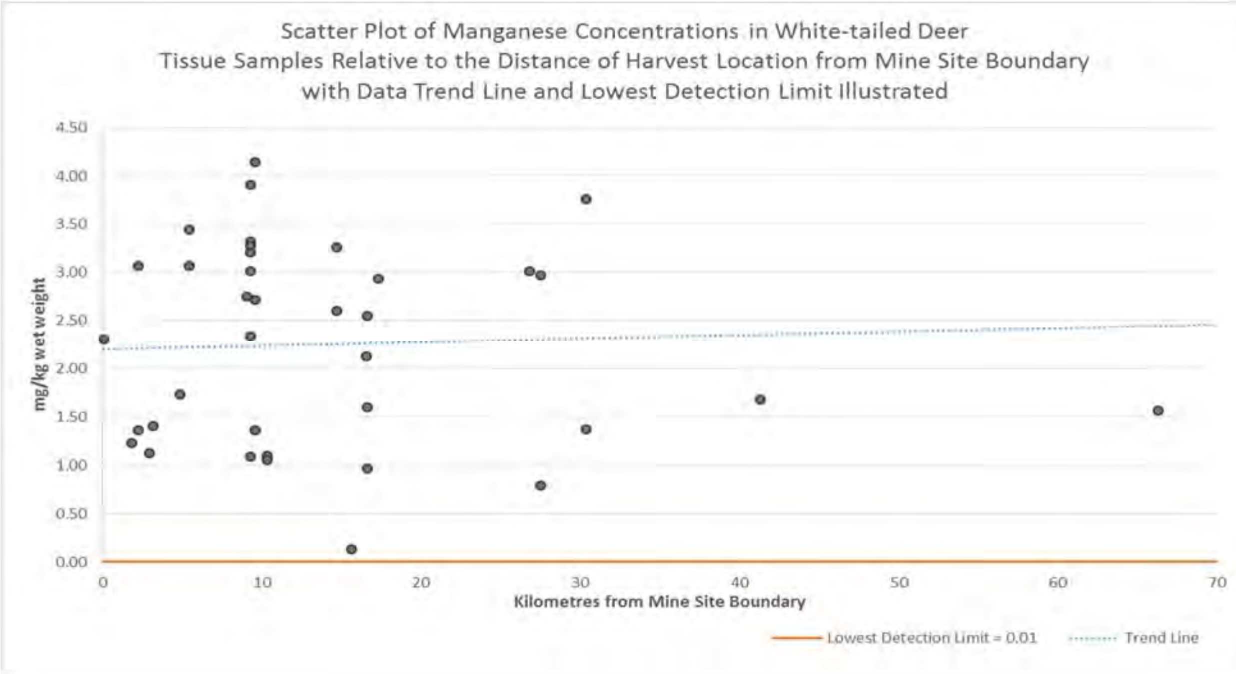

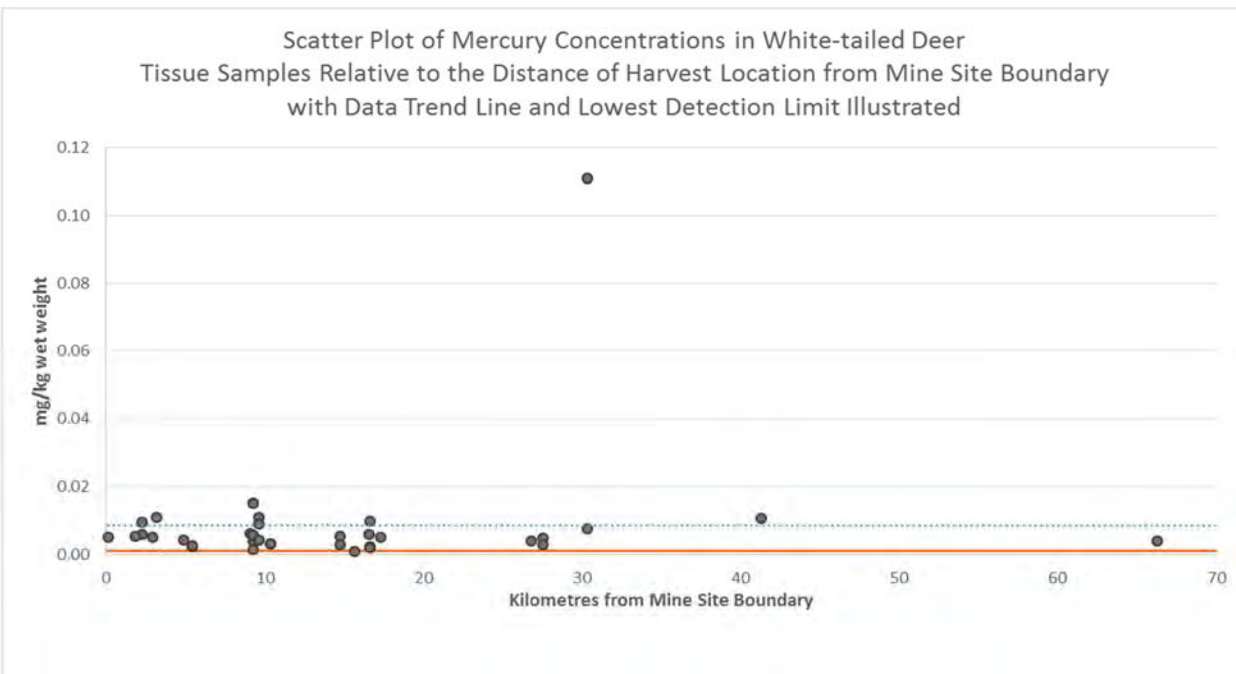

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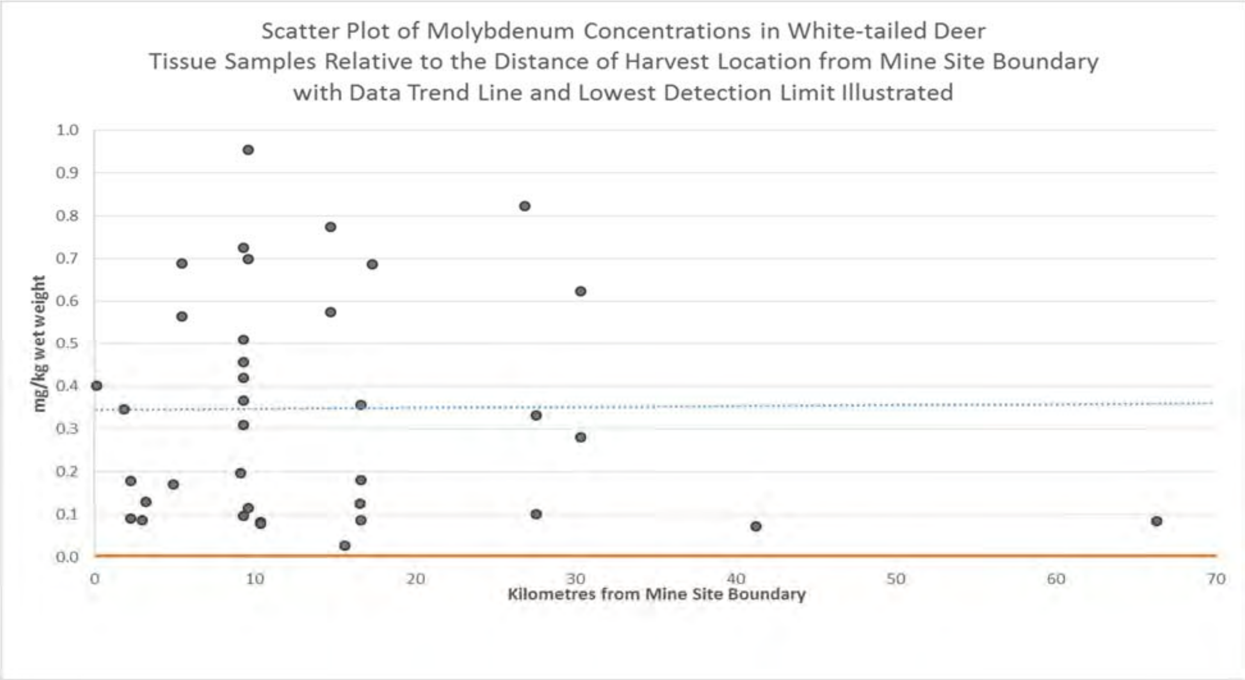

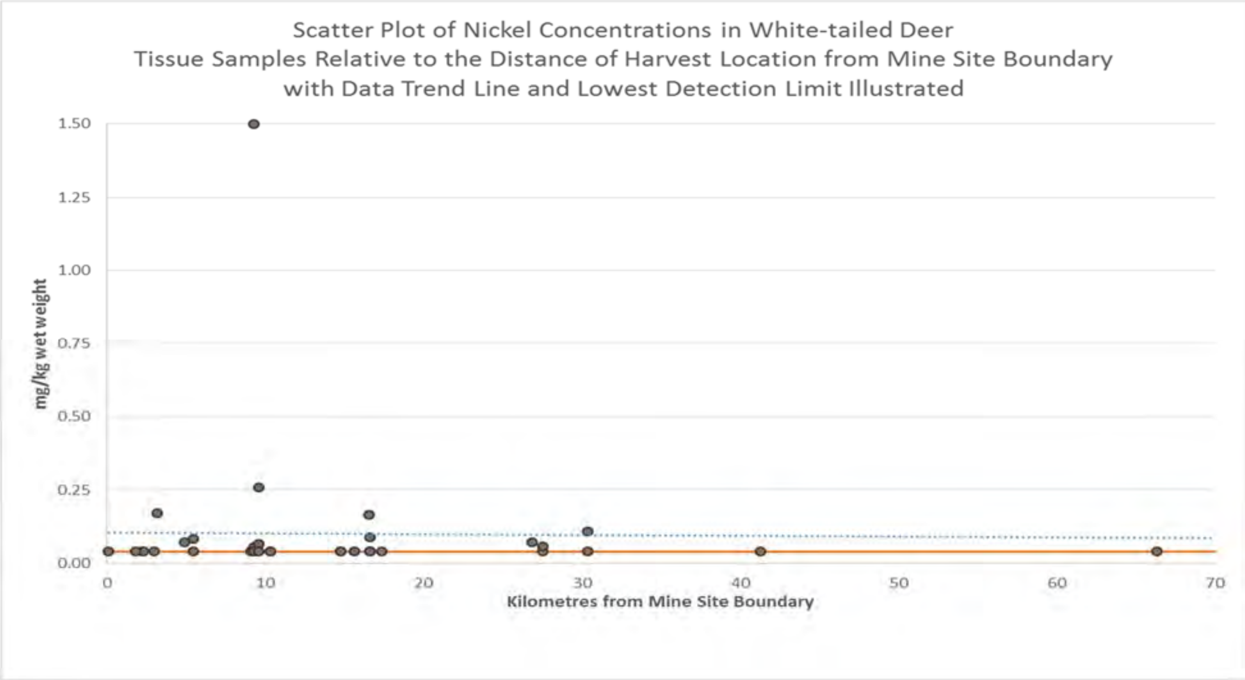

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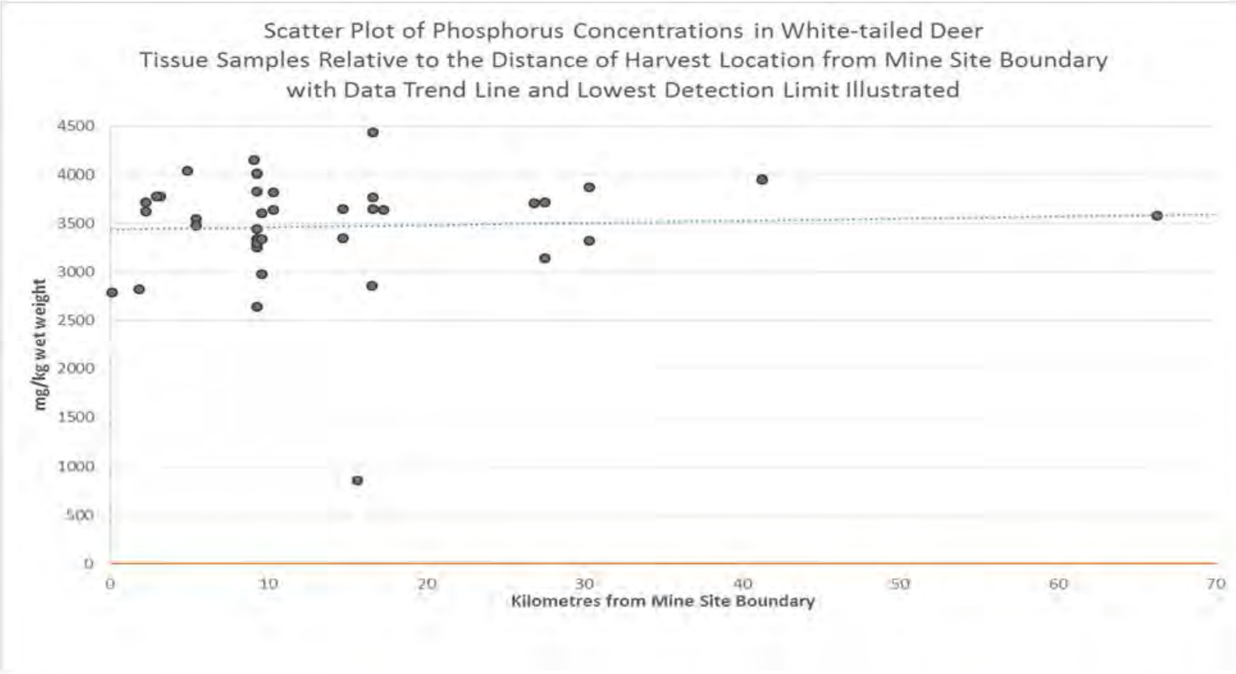

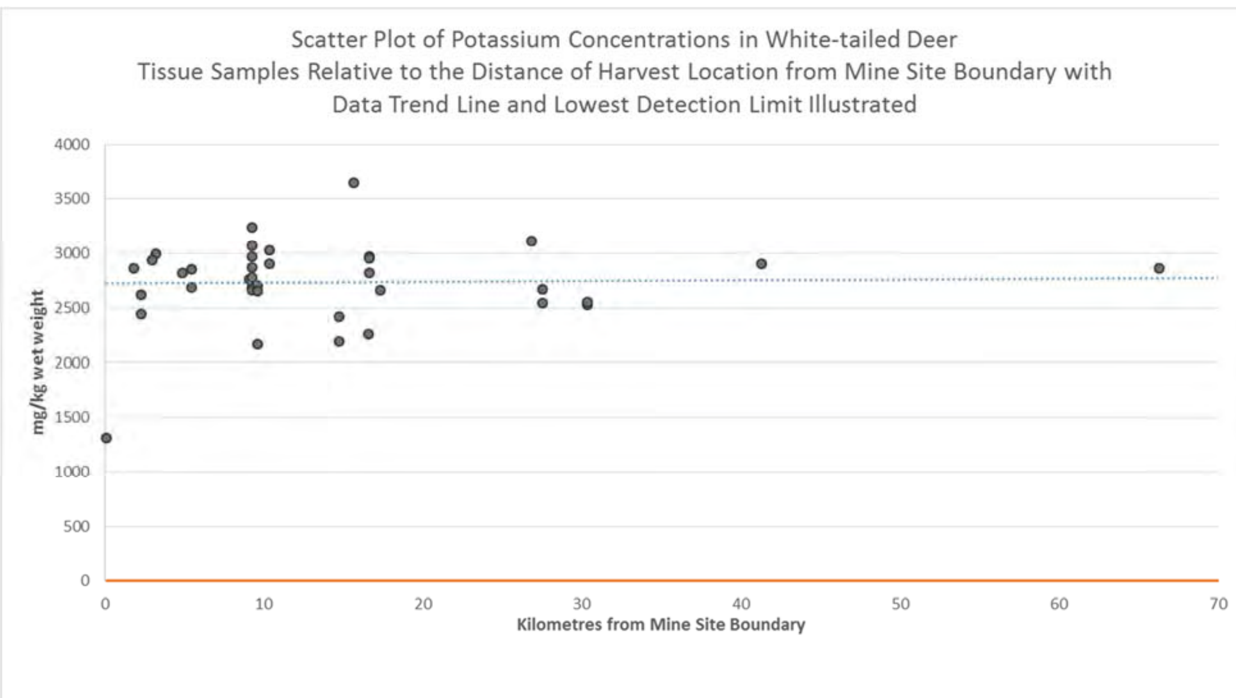

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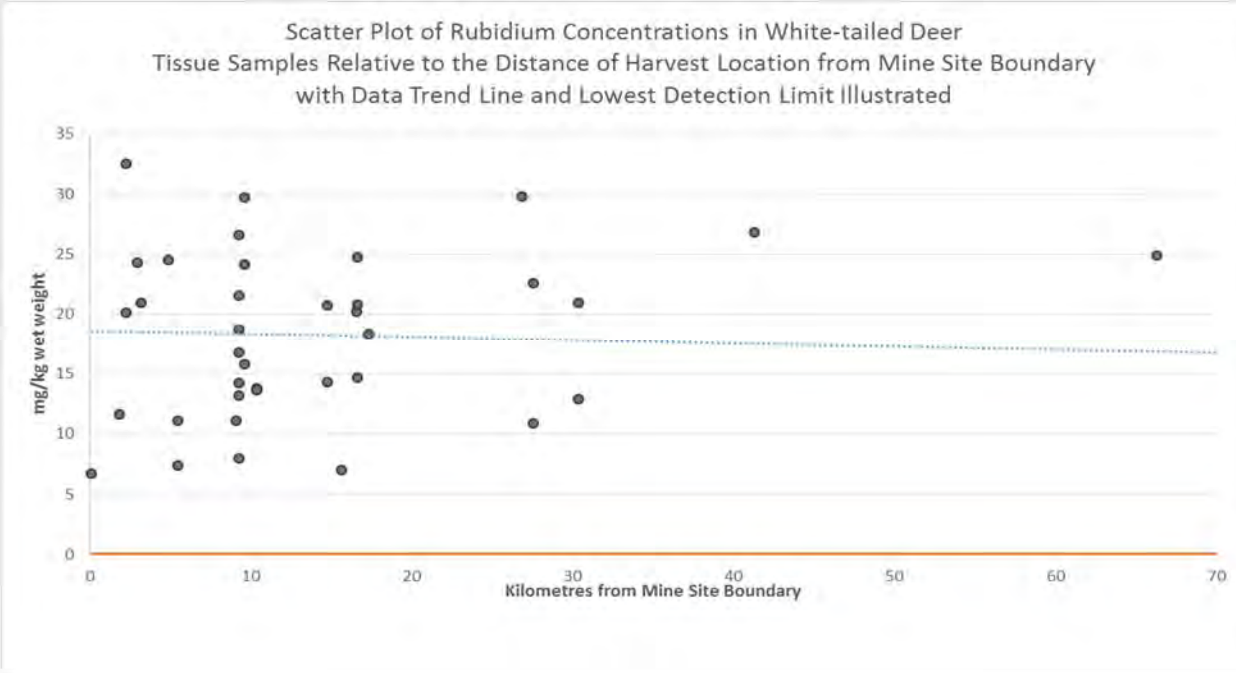

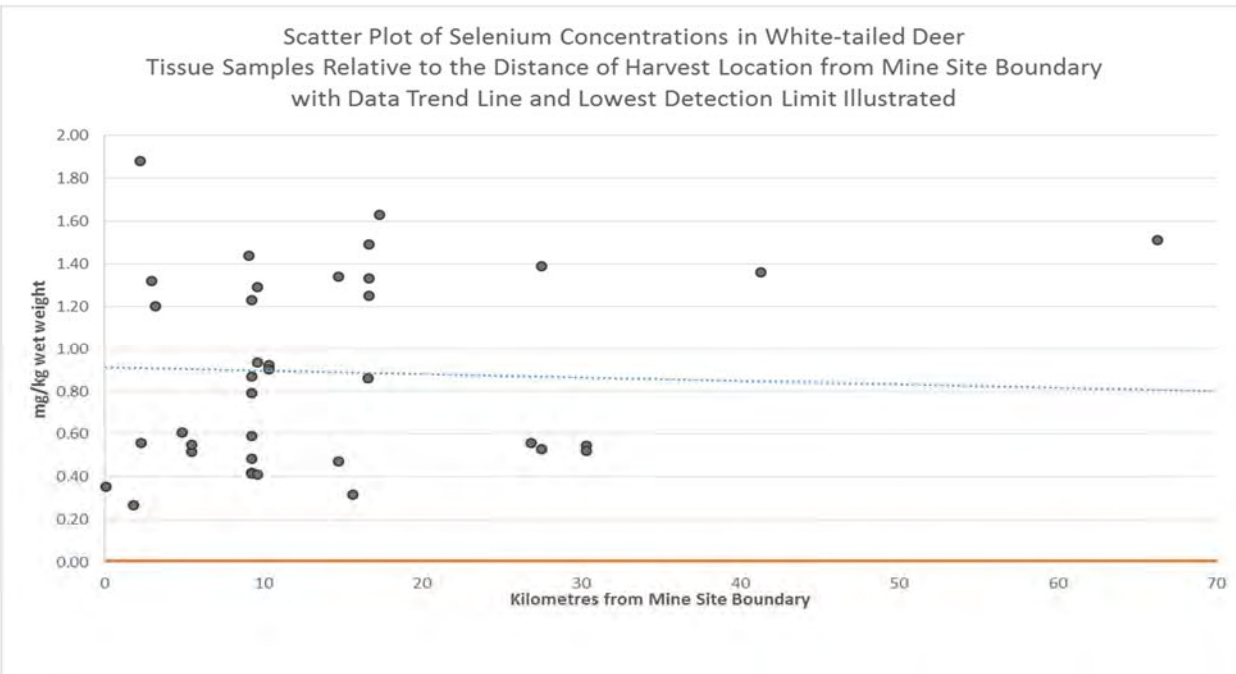

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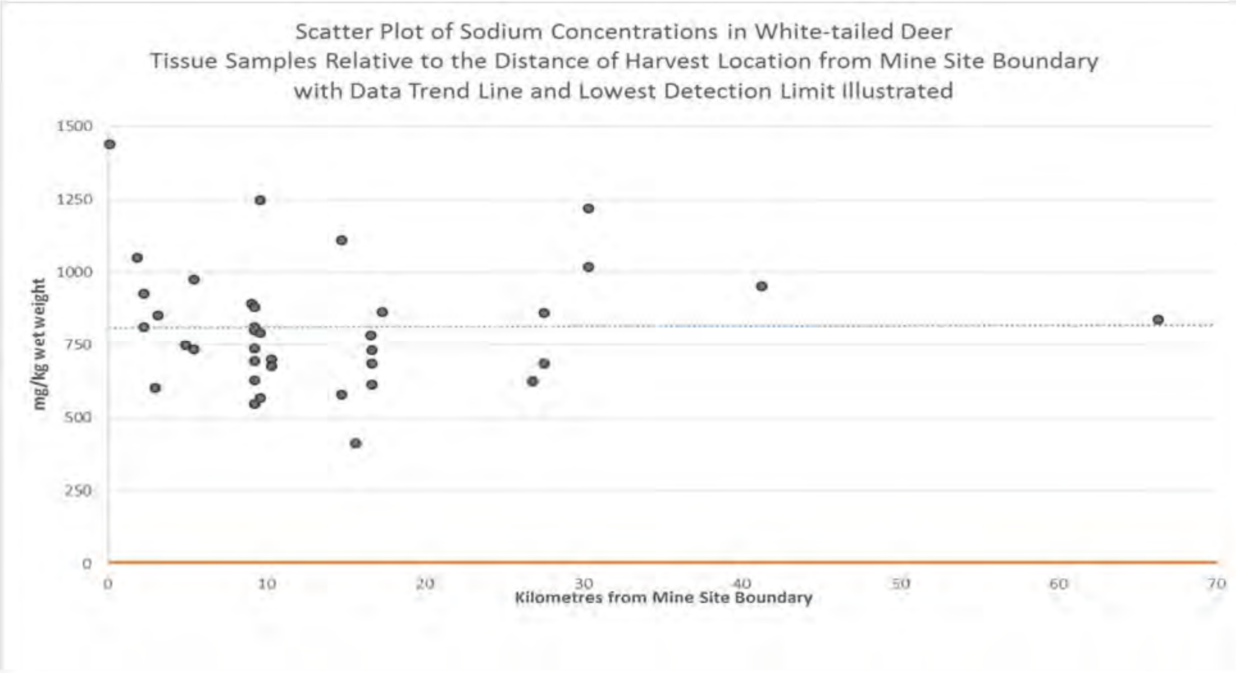

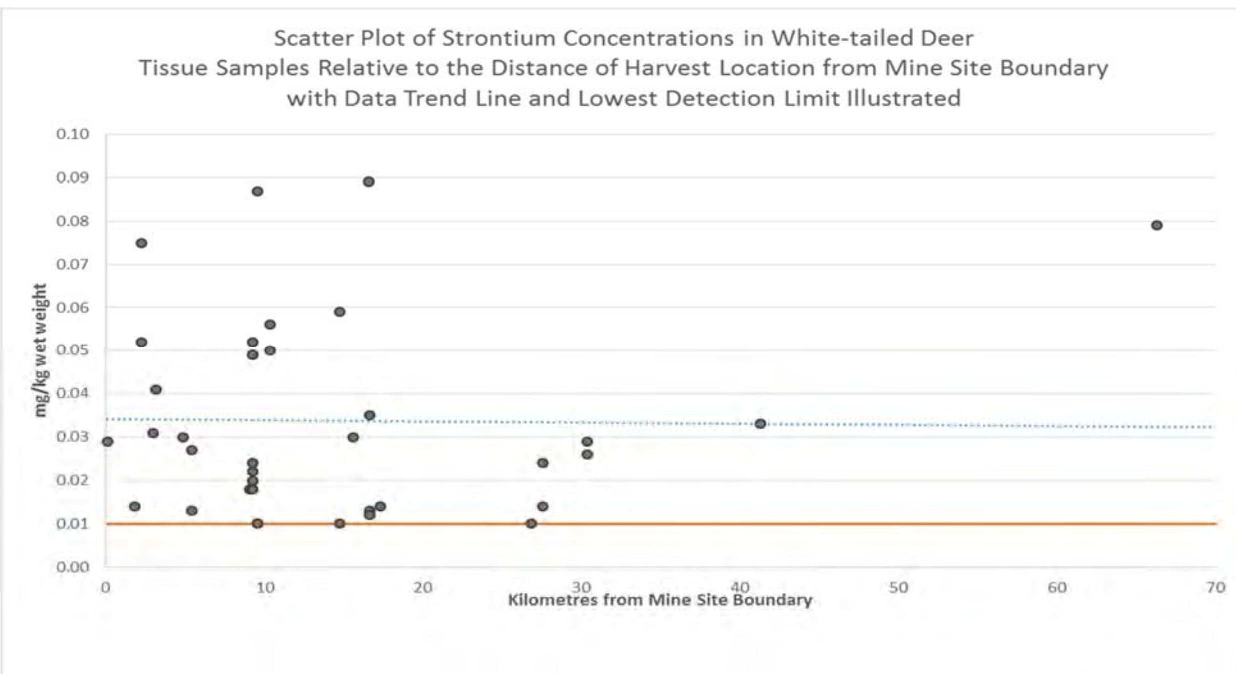

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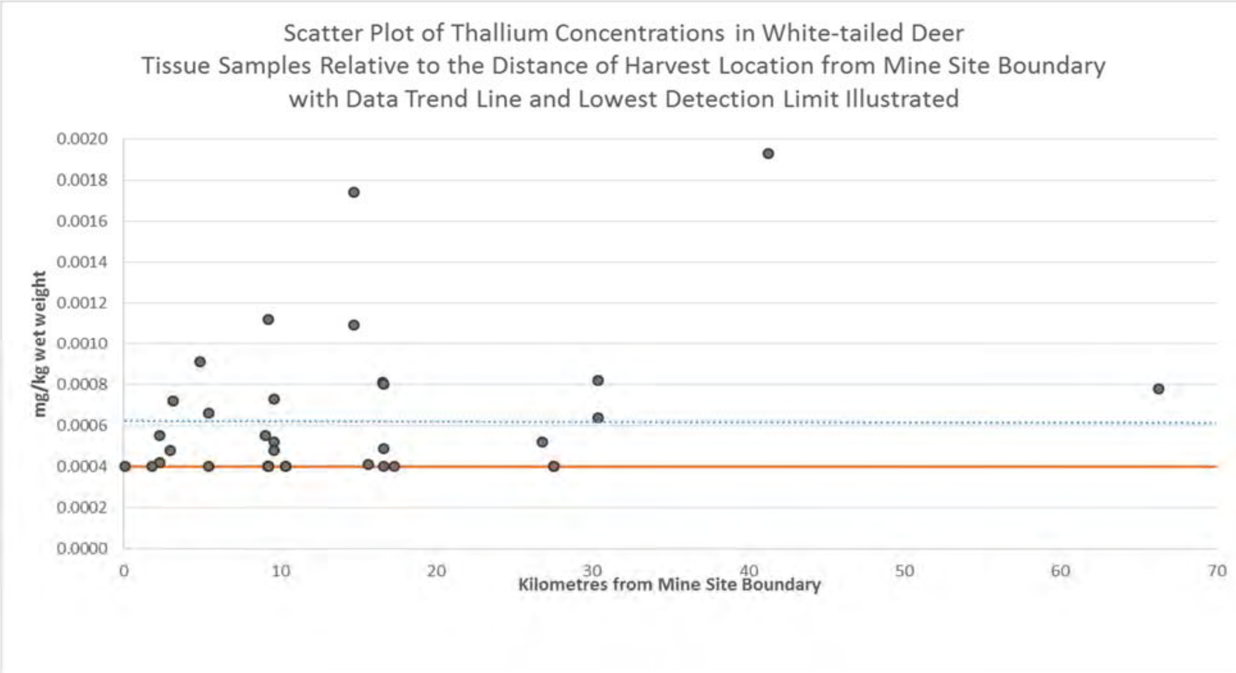

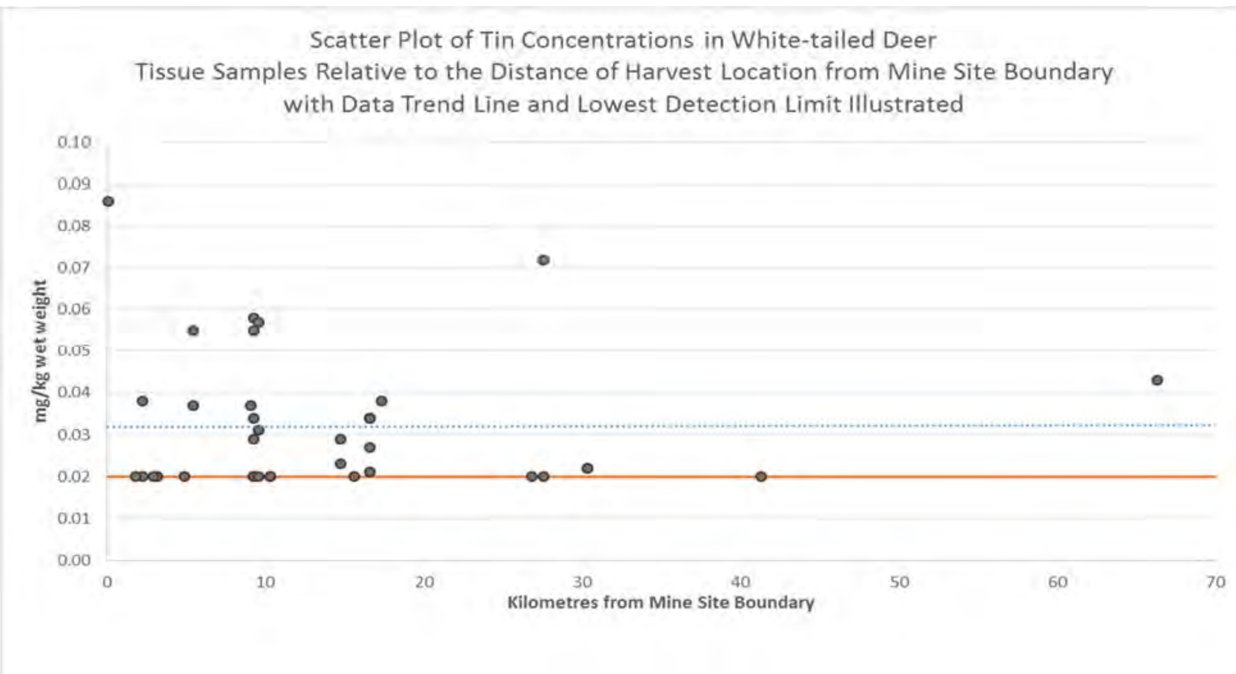

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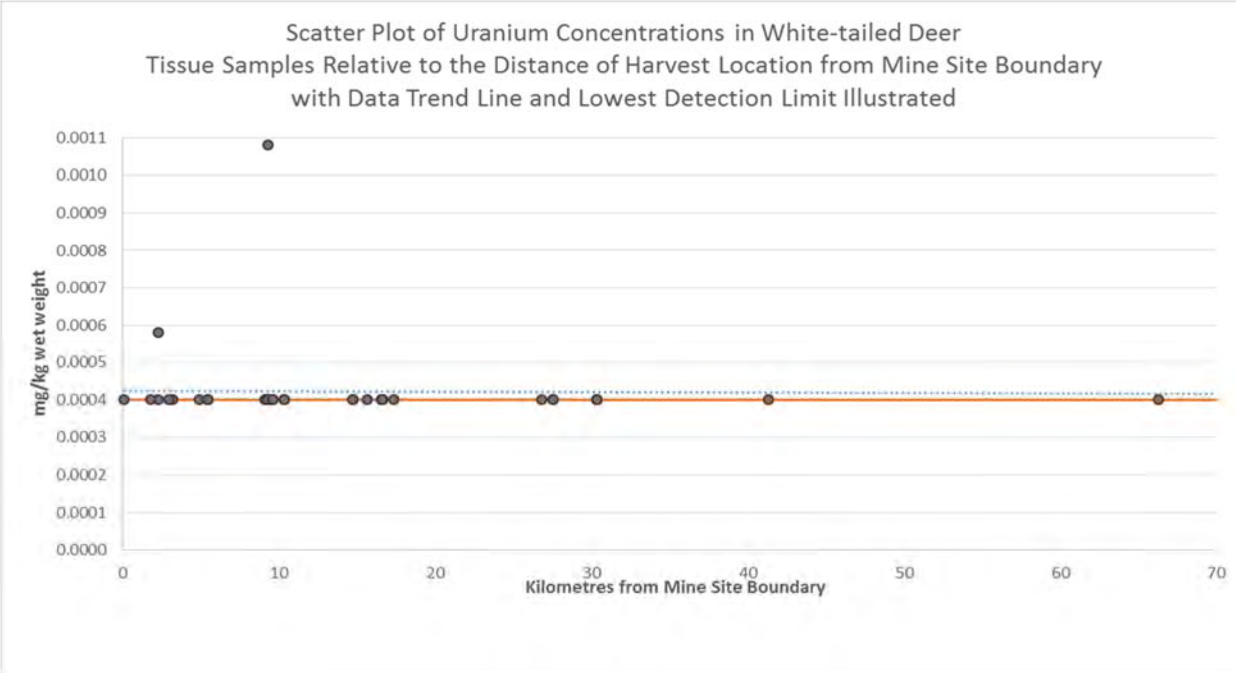


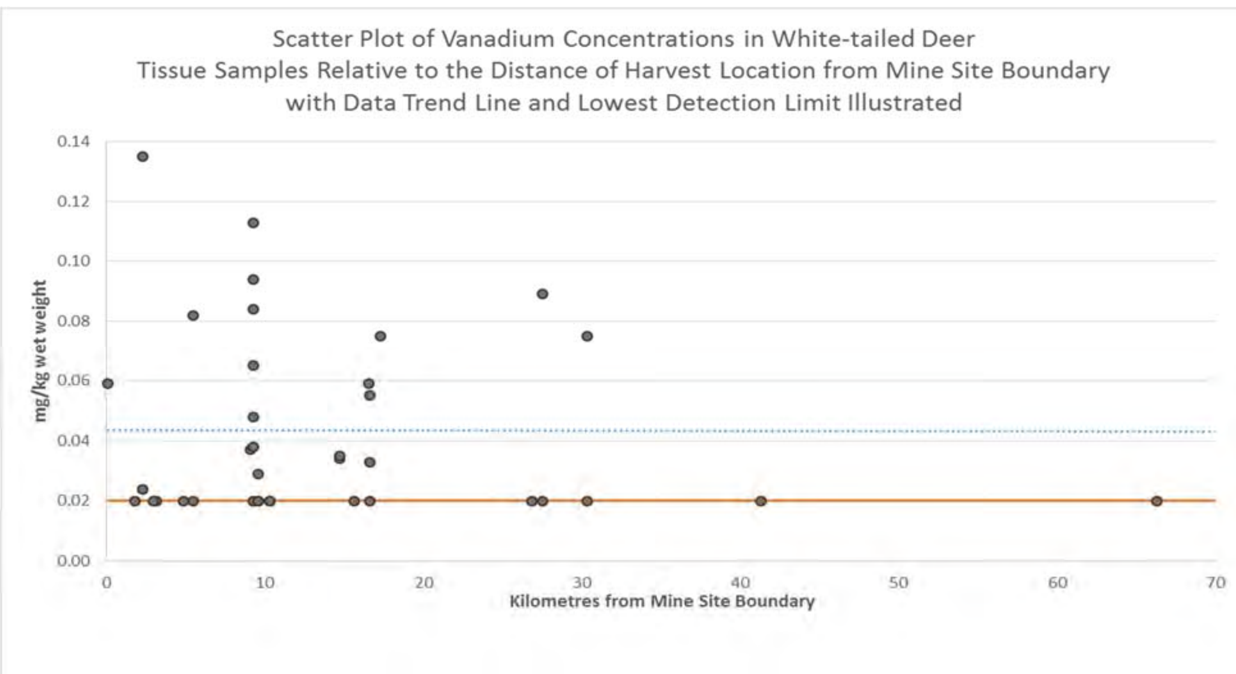
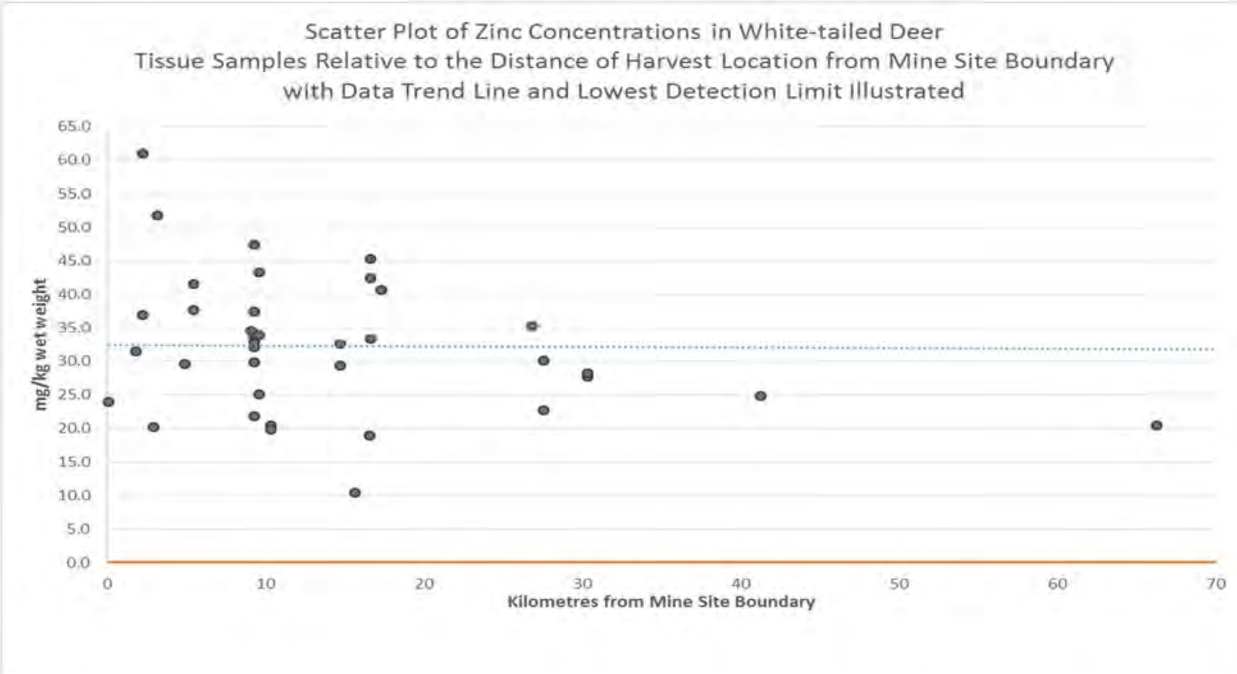


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit



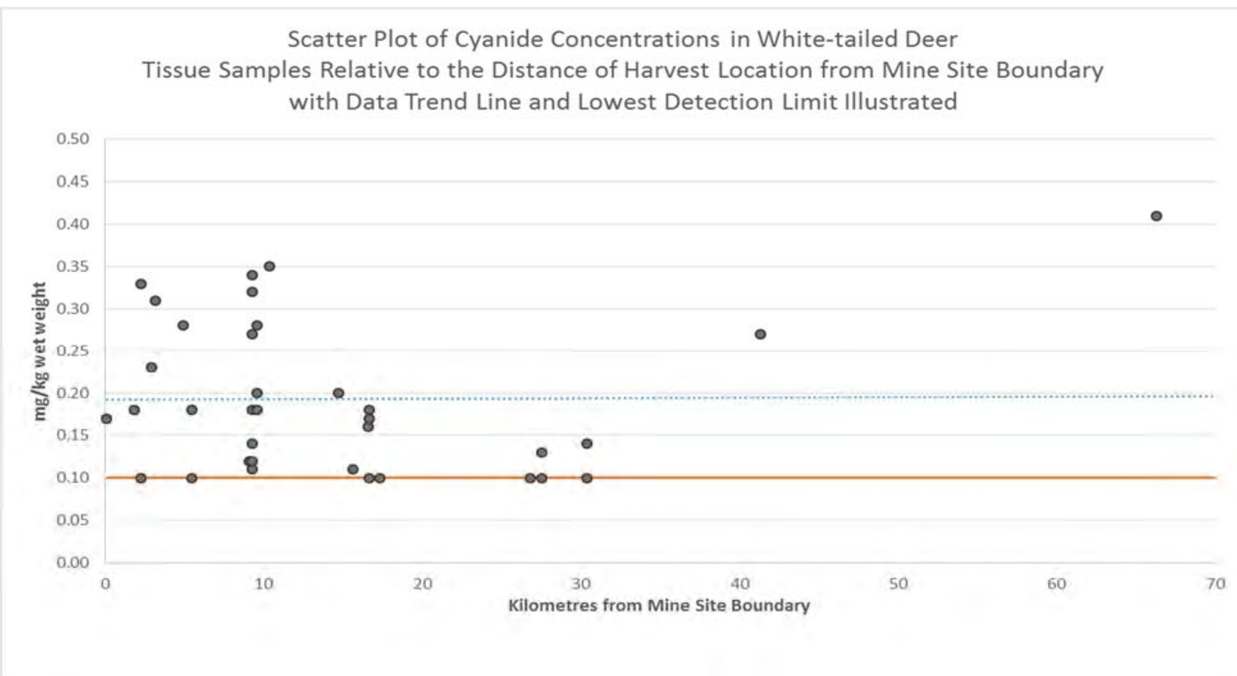


Figure 3-1 (cont'd): Scatter Plots showing Contaminant Concentrations for White-tailed Deer Tissue Samples relative to the distance of the Harvest Location from the Mine Site Boundary with a Linear Trend Line and the Lowest Detection Limit

4.0 DISCUSSION

The 2016 data presented in this report will serve as baseline concentrations of contaminants in tissue for the RRP White-tailed Deer population. Establishing baseline values for any variable, and in this case the concentrations of contaminants in deer located within 30 km of the RRP, is important so that if any future irregularities are detected, there is a data source for comparison. Data collected from future sampling programs of deer in the vicinity of the RRP will be compared to these results on a regular basis, to identify any exposure and ecological risk to local wildlife from mine-related contaminants and asses the risks to humans that consume local wildlife should they arise.

Several of the contaminants analysed have large ranges of concentrations which can make higher values appear elevated in relation to the rest of the data. The RRP has not begun operations at the time of tissue collection (or issuance of this report). The concentration of contaminants present are natural or from anthropogenic sources other than the RRP. It can be assumed that the levels shown in this data are indicative of the deer population in the area of the RRP and the high variance of values is due to these substances already occurring in the local environment.

Wildlife exposure to contaminants such as metals may come from the ingestion of plants that accumulate the metals from the local soil, or from ingestion of metal-containing dust on leaves. Some of these metals are natural and necessary nutritional requirements by wildlife, in small (trace) amounts, but become toxic at high concentrations. Conversely, deficiencies in some of these metals can also cause health problems.

There are few published studies on contaminant concentrations in the tissues and organs of deer in Ontario and Canada, and little is known about the normal nutritional requirements of various minerals and elements by deer (Schultz et al. 1994, Khan et al. 1995, Zimmerman et al. 2008). Accordingly, little is known about what the normal baseline concentrations are in deer for the various metals analyzed in this study. Similarly, information is not available regarding what concentrations would be considered detrimental, nor what the effects of detrimental concentrations would be on the physiology of deer.

Direct comparisons between the baseline data collected in this study and previous studies are difficult for many reasons, such as differences in variables such as age, sex, habitat, food sources and nearness to anthropogenic sources of contamination, which are all often unknown. Nonetheless, this baseline data will provide a resource for comparison of future study results from data collected after the RRP start operations.

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6.0 CLOSING

This White-tailed Deer Tissue Sampling Report was prepared by Amec Foster Wheeler for the sole benefit of New Gold Inc. RRP for specific application to the RRP site. The quality of information, conclusions and estimates contained herein are consistent with the level of effort involved in Amec Foster Wheeler's services and based on: i) information available at the time of preparation, and ii) the assumptions, conditions and qualifications set forth in this document. This report is intended to be used by New Gold Inc. only, and its nominated representatives, subject to the terms and conditions of its contract with Amec Foster Wheeler. Any other use of, or reliance on, this report by any third party is at that party's sole risk. This report has been prepared in accordance with generally accepted industry-standard. No other warranty, expressed or implied, is made.

If you require further information regarding the above or the project in general, please contact Sheila Daniel, Principal, Mining Environmental at (905) 568-2929. Thank you for the opportunity to be of service to New Gold Inc.

Report prepared by:	Reviewed by:
<Original signed by>	<Original signed by>
Becky Harris, B.Sc. Ecologist	Matt Evans, Ph.D. Senior Ecologist

Rainy River Project

APPENDIX A

WHITE-TAILED DEER TISSUE CONTAMINANT CONCENTRATION VALUES

	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Beryllium (Be)	Bismuth (Bi)	Boron (B)	Cadmium (Cd)	Calcium (Ca)	Cesium (Cs)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Lithium (Li)	Magnesium (Mg)
LDL	0.40	0.0020	0.0040	0.010	0.0020	0.0020	0.20	0.0010	4.0	0.0010	0.010	0.0040	0.020	0.60	0.0040	0.10	0.40
Sample ID																	
D001	<0.4	0.0022	0.0067	0.037	<0.002	<0.002	0.25	0.367	40.5	0.293	<0.01	0.0467	72.1	113	<0.004	0.26	161
D002	<0.4	<0.002	0.0132	0.089	<0.002	<0.002	<0.2	0.230	41.7	0.0200	<0.01	0.0462	105	161	<0.004	0.19	152
D003	0.51	<0.002	<0.004	0.052	<0.002	<0.002	<0.2	0.686	70.4	0.0332	0.263	0.0550	64.3	103	<0.004	0.27	164
D004	<0.4	<0.002	0.0077	0.056	<0.002	<0.002	0.26	0.759	43.2	0.0822	0.025	0.0492	148	133	<0.004	0.39	143
D005	0.58	0.0797	0.0088	0.039	<0.002	<0.002	0.29	0.310	51.1	0.0335	0.111	0.0648	58.8	96.6	2.52	0.68	177
D006 liver only	<0.4	<0.002	0.0118	0.027	<0.002	<0.002	<0.2	0.527	60.8	0.0302	<0.01	0.0367	70.4	151	<0.004	0.45	166
D006 liver and heart	<0.4	<0.002	0.0120	0.022	<0.002	<0.002	<0.2	0.474	58.1	0.0302	<0.01	0.0355	67.3	172	<0.004	0.46	157
D007	0.41	<0.002	<0.004	0.110	<0.002	<0.002	0.24	0.589	41.0	0.0800	0.236	0.0906	110	139	0.0053	0.19	125
D008	<0.4	<0.002	0.0087	0.075	<0.002	<0.002	<0.2	0.925	57.9	0.270	0.035	0.0665	68.2	141	0.0068	0.26	154
D009	10.2	<0.002	0.0065	0.155	<0.002	<0.002	0.28	0.444	88.1	0.0231	0.043	0.0495	36.8	96.7	0.0728	0.29	160
D010	<0.4	<0.002	0.0084	0.019	<0.002	<0.002	0.23	0.582	49.6	0.0136	0.015	0.0672	61.0	236	<0.004	0.11	182
D011	<0.4	<0.002	0.0074	0.019	<0.002	<0.002	0.24	0.0989	45.5	0.0841	<0.01	0.0185	6.85	100	<0.004	0.17	202
D012 liver only	0.52	0.0033	0.0151	0.021	<0.002	0.0025	0.31	0.384	34.0	0.0345	0.011	0.0435	43.5	129	0.104	<0.1	157
D013	<0.4	<0.002	0.0180	0.027	<0.002	0.0042	0.52	0.239	49.3	0.0108	<0.01	0.0612	94.3	98.7	0.0042	0.36	180
D014	0.47	<0.002	<0.004	0.055	<0.002	<0.002	<0.2	0.487	54.2	0.0056	<0.01	0.0243	191	119	0.0280	0.14	155
D015	0.49	<0.002	0.0106	0.029	<0.002	<0.002	0.50	0.157	49.3	0.0077	<0.01	0.0405	143	144	0.0112	0.15	175
D016	<0.4	<0.002	0.0135	0.020	<0.002	0.0060	0.24	0.205	54.3	0.0078	0.127	0.0299	107	125	0.0488	0.32	197
D017	<0.4	<0.002	0.0139	0.022	<0.002	<0.002	<0.2	0.775	39.4	0.0044	0.039	0.0739	181	153	0.0042	0.32	175
D018	<0.4	<0.002	0.0176	0.023	<0.002	0.0023	0.32	0.184	48.4	0.0260	0.011	0.0397	110	194	0.0076	0.31	171
D019	0.91	0.0031	<0.004	0.071	<0.002	<0.002	0.28	0.0094	29.2	0.0105	0.010	<0.004	0.562	901	0.0127	<0.1	57.6
D020	0.76	<0.002	0.0049	0.024	<0.002	<0.002	0.20	0.236	39.5	0.0131	0.041	0.0426	106	182	0.0070	0.14	142
D021	<0.4	<0.002	0.0188	0.017	<0.002	0.0036	<0.2	0.314	43.3	0.0163	0.140	0.0561	58.5	172	0.0042	0.53	184
D022	1.35	0.0053	0.0066	0.038	<0.002	<0.002	0.35	0.187	45.7	0.0064	0.026	0.0554	90.0	117	0.267	0.55	174
D023	<0.4	<0.002	0.0176	0.012	<0.002	<0.002	0.28	0.183	40.2	0.0141	0.107	0.0532	74.9	192	0.0073	0.16	183
D024	<0.4	<0.002	0.0205	0.036	<0.002	<0.002	<0.2	0.639	54.1	0.0993	0.169	0.0453	89.0	120	0.0125	<0.1	166
D025	0.41	<0.002	<0.004	0.063	<0.002	<0.002	0.22	1.98	61.1	0.0085	0.025	0.0528	48.2	140	0.0044	<0.1	132
D026	<0.4	<0.002	0.0044	0.021	<0.002	0.0028	0.42	0.0944	59.7	0.0124	0.024	0.0748	42.0	142	0.0093	0.44	162
D027	6.12	<0.002	0.0375	0.064	<0.002	<0.002	<0.2	0.719	47.6	0.0412	0.033	0.0515	92.8	91.8	0.0054	0.46	172
D028	9.96	0.0049	0.0180	0.105	<0.002	0.0022	0.34	0.781	52.6	0.0654	3.20	0.108	30.7	124	0.0382	0.22	195

	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Beryllium (Be)	Bismuth (Bi)	Boron (B)	Cadmium (Cd)	Calcium (Ca)	Cesium (Cs)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Lithium (Li)	Magnesium (Mg)
LDL	0.40	0.0020	0.0040	0.010	0.0020	0.0020	0.20	0.0010	4.0	0.0010	0.010	0.0040	0.020	0.60	0.0040	0.10	0.40
Sample ID																	
D029	<0.4	0.0054	0.0079	0.031	<0.002	<0.002	0.20	1.69	45.1	0.0898	<0.01	0.0463	94.6	107	0.0268	<0.1	147
D030	0.58	0.0041	0.0092	0.057	<0.002	<0.002	<0.2	0.788	47.9	0.0524	0.017	0.0433	48.4	120	0.0376	<0.1	158
D031	1.73	<0.002	0.0073	0.034	<0.002	0.0026	0.22	0.264	42.6	0.0188	0.032	0.0305	37.8	294	0.0063	0.29	143
D032	<0.4	0.0053	0.0090	0.026	<0.002	<0.002	<0.2	1.83	41.5	0.0962	0.016	0.0503	111	111	0.0662	<0.1	153
D033	0.56	<0.002	0.0075	0.020	<0.002	<0.002	<0.2	0.126	43.9	0.0119	<0.01	0.0677	66.7	79.8	0.0102	0.25	159
D034	0.42	<0.002	0.0199	0.012	<0.002	0.0049	0.27	0.281	55.9	0.0230	0.097	0.0389	124	194	0.0070	0.28	163
D035	0.65	0.281	0.0491	0.084	<0.002	0.0067	0.49	0.658	106	0.0617	0.041	0.0488	22.0	102	39.9	0.46	153
D036	0.55	<0.002	0.0191	0.023	<0.002	<0.002	0.34	0.311	43.5	0.0480	0.393	0.0588	128	155	0.0226	0.46	167
D037	<0.4	<0.002	0.0114	0.051	<0.002	<0.002	<0.2	0.973	46.7	0.0406	<0.01	0.0560	67.7	145	0.0045	<0.1	162

	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorus (P)	Potassium (K)	Rubidium (Rb)	Selenium (Se)	Sodium (Na)	Strontium (Sr)	Tellurium (Te)	Thallium (Tl)	Tin (Sn)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)	Cyanide
LDL	0.010	0.0010	0.0040	0.040	2.0	4.0	0.010	0.010	4.0	0.010	0.0040	0.00040	0.020	0.00040	0.020	0.10	0.040	0.10
Sample ID																		
D001	1.68	0.0108	0.0736	<0.04	3950	2900	26.8	1.36	952	0.033	<0.004	0.00193	<0.02	<0.0004	<0.02	24.8	<0.04	0.27
D002	0.789	0.0049	0.102	<0.04	3720	2540	22.6	1.39	684	0.014	<0.004	<0.0004	<0.02	<0.0004	<0.02	22.7	<0.04	0.13
D003	1.41	0.0110	0.130	0.170	3780	3000	20.9	1.20	853	0.041	<0.004	0.00072	<0.02	<0.0004	<0.02	51.8	<0.04	0.31
D004	1.36	0.0096	0.0904	<0.04	3720	2440	32.5	1.88	813	0.052	<0.004	0.00042	0.038	<0.0004	0.024	37.0	<0.04	<0.10
D005	1.73	0.0042	0.170	0.072	4040	2820	24.5	0.609	749	0.030	<0.004	0.00091	<0.02	<0.0004	<0.02	29.6	<0.04	0.28
D006 liver only	1.10	0.0033	0.0834	<0.04	3820	3030	13.8	0.922	699	0.056	<0.004	<0.0004	<0.02	<0.0004	<0.02	20.5	<0.04	0.35
D006 liver and heart	1.06	0.0031	0.0792	<0.04	3640	2900	13.6	0.903	676	0.050	<0.004	<0.0004	<0.02	<0.0004	<0.02	19.8	<0.04	0.16
D007	2.13	0.0061	0.125	0.165	2860	2260	20.2	0.863	783	0.089	<0.004	0.00081	0.034	<0.0004	0.059	19.0	<0.04	0.41
D008	1.57	0.0040	0.0851	<0.04	3580	2860	24.9	1.51	838	0.079	<0.004	0.00078	0.043	<0.0004	<0.02	20.5	<0.04	0.33
D009	3.07	0.0060	0.178	<0.04	3620	2620	20.1	0.560	927	0.075	<0.004	0.00055	<0.02	0.00058	0.135	61.0	<0.04	0.20
D010	3.64	0.0033	0.458	<0.04	4150	2910	7.08	0.198	852	0.021	<0.004	<0.0004	0.035	<0.0004	0.048	33.9	<0.04	0.18
D011	1.23	0.0054	0.345	<0.04	2820	2860	11.6	0.267	1050	0.014	<0.004	<0.0004	<0.02	<0.0004	<0.02	31.4	<0.04	0.20
D012 liver only	2.60	0.0053	0.575	<0.04	3350	2190	20.7	0.473	1110	0.010	<0.004	0.00174	0.023	<0.0004	0.034	29.3	<0.04	0.17
D013	3.26	0.0029	0.775	<0.04	3650	2420	14.3	1.34	579	0.059	<0.004	0.00109	0.029	<0.0004	0.035	32.6	<0.04	0.18
D014	1.60	0.0024	0.180	<0.04	3650	2970	14.7	1.49	612	0.035	<0.004	<0.0004	0.021	<0.0004	0.033	42.4	<0.04	<0.10
D015	2.55	0.0100	0.357	<0.04	3770	2820	24.7	1.33	684	0.013	<0.004	0.00080	0.027	<0.0004	0.055	45.3	<0.04	0.10
D016	0.969	0.0020	0.0873	0.088	4430	2950	20.8	1.25	732	0.012	<0.004	0.00049	0.034	<0.0004	<0.02	33.3	<0.04	0.12
D017	2.94	0.0052	0.686	<0.04	3640	2660	18.3	1.63	863	0.014	<0.004	<0.0004	0.038	<0.0004	0.075	40.7	<0.04	0.11
D018	2.75	0.0064	0.198	<0.04	4150	2760	11.1	1.44	893	0.018	<0.004	0.00055	0.037	<0.0004	0.037	34.6	<0.04	<0.10
D019	0.138	<0.001	0.0269	<0.04	853	3650	7.00	0.318	413	0.030	<0.004	0.00041	<0.02	<0.0004	<0.02	10.4	<0.04	<0.10
D020	2.97	0.0029	0.331	0.059	3140	2670	10.9	0.528	861	0.024	<0.004	<0.0004	0.072	<0.0004	0.089	30.1	<0.04	0.18
D021	3.45	0.0024	0.688	0.084	3550	2690	11.1	0.518	976	0.013	<0.004	<0.0004	0.037	<0.0004	<0.02	37.7	<0.04	<0.10
D022	3.07	0.0026	0.565	<0.04	3480	2850	7.38	0.550	734	0.027	<0.004	0.00066	0.055	<0.0004	0.082	41.6	<0.04	<0.10
D023	3.02	0.0040	0.824	0.072	3710	3110	29.8	0.559	626	<0.01	<0.004	0.00052	<0.02	<0.0004	<0.02	35.3	<0.04	0.17
D024	3.76	0.111	0.623	0.108	3870	2530	20.9	0.545	1220	0.026	<0.004	0.00082	0.022	<0.0004	<0.02	27.7	<0.04	0.14
D025	2.30	0.0051	0.401	<0.04	2790	1310	6.69	0.354	1440	0.029	<0.004	<0.0004	0.086	<0.0004	0.059	24.0	<0.04	0.27

	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorus (P)	Potassium (K)	Rubidium (Rb)	Selenium (Se)	Sodium (Na)	Strontium (Sr)	Tellurium (Te)	Thallium (Tl)	Tin (Sn)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)	Cyanide
LDL	0.010	0.0010	0.0040	0.040	2.0	4.0	0.010	0.010	4.0	0.010	0.0040	0.00040	0.020	0.00040	0.020	0.10	0.040	0.10
Sample ID																		
D026	1.37	0.0076	0.280	<0.04	3320	2550	12.9	0.522	1020	0.029	<0.004	0.00064	0.022	<0.0004	0.075	28.2	<0.04	0.18
D027	1.09	0.0151	0.0963	<0.04	3830	2970	16.8	1.23	627	0.022	<0.004	<0.0004	0.058	<0.0004	0.084	21.8	<0.04	0.34
D028	3.91	0.0151	0.726	1.50	4010	3240	26.6	0.419	813	0.049	<0.004	0.00112	0.034	0.00108	0.048	47.4	<0.04	0.32
D029	3.02	0.0056	0.419	0.056	3250	2870	13.2	0.792	799	0.020	<0.004	<0.0004	<0.02	<0.0004	<0.02	29.8	<0.04	0.12
D030	3.32	0.0058	0.367	<0.04	3340	2690	21.5	0.592	736	0.049	<0.004	<0.0004	<0.02	<0.0004	0.113	37.4	<0.04	0.11
D031	2.34	0.0041	0.310	<0.04	2640	2660	7.96	0.486	880	0.052	<0.004	<0.0004	0.029	<0.0004	0.094	33.4	<0.04	0.14
D032	3.21	0.0058	0.456	<0.04	3440	3070	14.2	0.868	694	0.018	<0.004	<0.0004	0.055	<0.0004	0.038	32.1	<0.04	0.20
D033	3.28	0.0016	0.510	<0.04	3300	2780	18.7	0.417	547	0.024	<0.004	<0.0004	<0.02	<0.0004	0.065	32.8	<0.04	0.18
D034	1.36	0.0043	0.116	0.066	3610	2700	29.7	1.29	791	<0.01	<0.004	0.00052	<0.02	<0.0004	<0.02	25.1	<0.04	0.28
D035	2.72	0.0109	0.698	<0.04	2980	2170	24.1	0.410	1250	0.087	<0.004	0.00073	0.057	<0.0004	0.029	34.0	<0.04	0.23
D036	4.14	0.0091	0.953	0.259	3340	2650	15.8	0.937	568	<0.01	<0.004	0.00048	0.031	<0.0004	<0.02	43.3	<0.04	0.27
D037	1.13	0.0052	0.0867	<0.04	3780	2940	24.3	1.32	601	0.031	<0.004	0.00048	<0.02	<0.0004	<0.02	20.2	<0.04	0.13

Notes: Values are in mg/kg wet weight.
Values listed in BOLD are the Lowest Detection Limit (LDL) where the actual value recorded was below this limit. The LDL are due to limitations in analysis and below this value concentrations cannot be precisely measured.

amec foster wheeler

newgold Rainy River Project

APPENDIX B

WHITE-TAILED DEER TISSUE
SAMPLE LOG SHEETS AND COLLECTION FORMS

amec foster wheeler

newgold Rainy River Project

Fall Deer Tissue Sample Log Sheet

Date	Sample ID	Collection Location (UTM if possible)	Sampler	Comments
2016-11-06	1	West Side Stanjikoming Bay	Blair Bouyere	head Shot
2016-11-08	2	WMU 10	Tammy Grinsell	Neck Shot - liver fluke?
2016-11-10	3	416622 5411624	Tanner Neilson	heart Shot
2016-11-09	(4)	419645 5415627	Perry Sharp	Neck Shot
2016-11-11	5	Jones Rd	Nathan Baird	long time dead 8hrs
2016-11-11	(6)	N-Clink 1mile East Barwick Rd	Elvin Taylor	large Sample provided
2016-11-15	7	15U 454778 5418867	Terry Smith	Shoulder shot / heart
2016-11-19	8	Brown Bay, Aulneau Peninsula, St Cloud MN	Tom Rusin	
2016-11-20	9	417731 5412746	Colin Neilson	liver harvest 15 hours after harvest
2016-11-20	(10)	Hwy 617 1Km N Neilson Rd	Darryl Flank	T Bag
2016-11-18	11	Hwy 617 1Km N Neilson Rd	Robyn Gaebel	Hit By truck
2016-11-10	12	3km E Barwick Rd 20m N hillbilly Rd	Tim Blair	Muscle only liver only.
2016-10-29	(13)	400m E Barwick Rd 20m N hillbilly	Kim Gauld	Stomach
2016-11-19	(14)	Stratton 1/3	Kelvin Caul	
2016-11-19	(15)	Stratton 2/3	Leo Heynes	
2016-11-19	(16)	Stratton 1/1	Brendon Loney	
2016-11-19	(17)	Stratton 3/3	Kelvin Caul	
2016-11-22	(18)	lot 8 Con 4 Stratton	Dan Neilson	
2016-11-29	19	Lot 11 Con 2 Dobie Twp N1/2	Vaughn Wilson	heart + Muscle
2016-12-04	20	655 Hwy 613 N	Tammy Grinsell	
2016-11-25	(21)	**Pelletier Hunt Camp**	**Brandon Gagnon**	
2016-11-26	22	" " "	Roger Pelletier	
2016-12-03	23	1295 Maki Rd Devlin	Ryan Flammand	
2016-12-04	24	Island Crow LK	John Kurkosky	
2016-12-14	25	EAR	Nathan Baird	Road Kill
2016-10-29	26	SE corner Hele and Church NW 1/4	Jason Bilosky	
2016-11-05	27	Lot 8 Con 3 Kingsford twp	Carol Angus	
2016-11-09	28	S1/2 Lot 2 Con 2 Kingsford Twp	Bob Angus	
2016-12-10	29	" "	Linton Angus	
2016-12-03	30	Lot 7 Con 2 Kingsford	Fred Angus	
2016-12-10	31	P7 Lot 4 Con 3 Kingsford	Linda Angus	
2016-12-11	32	L7 Con 2 Kingsford	Darrell Angus	
2016-12-11	33	Pt Lot 9 Con 3 Kingsford	Ken Angus	
2016-12-11	34	Corner Dance Hall Off lake	Anthony Platt	
2016-11-5	35	Mather Twp	Randy Craig	liver Dark
2016-11-11	36	Mather Twp	Danny Maki	
2016-11-16	(37)	Tate Rd	Rick Woods	
	38			
	39			
	40			
	41			
	42			
	43			
	44			

666 ~~Guelph Lab~~ ALS Lab
6666 Guelph Lab.
66 ALS Lab
6 Guelph Lab

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