TECHNICAL SUPPORTING DOCUMENT

Mary River Project | Phase 2 Proposal | FEIS Addendum | August 2018

TSD 11

Evaluation of Exposure Potential From Ore Dusting Events in Selected VECs





HUMAN HEALTH OR ECOLOGICAL IMPACT TECHNICAL SUPPORTING DOCUMENT SUMMARY

The Human Health or Ecological Impact Technical Supporting Document provides an assessment the Phase 2 Proposal's effects on potential human health or ecological impacts related to contaminants released via ore dust deposition. The Phase 2 Proposal builds on the extensive baseline studies and assessments carried out since 2011 for the larger Approved Project and is thus closely linked to the FEIS and previous addendums.

Specifically, it considers whether ore dust released via Project activities has the potential to change the chemistry of soils in the area, and whether that ore dust has the potential to accumulate in key wildlife species foraging in the area (caribou), as well as vegetation (blueberry) that may be consumed by humans.

Dusts (including road dust and ore dust) are expected to settle in areas inside and outside of the Potential Development Area (PDA) for each of the three operational areas of the Project. Dusts released from operational activities will be transported by air and will deposit on local soils and vegetation. The metals present in dust (in particular ore dust) will add to naturally occurring metals in soils, and have the potential of being taken up into vegetation through root uptake. Direct ingestion of ore dusts on vegetation is possible for both humans and caribou, particularly in light of the limited precipitation rates in the region. Based on this, caribou and humans have a potential to be exposed to ore dusts via consumption of food sources within areas near the mine, port and roads.

The report provides a brief overview of existing terrestrial monitoring programs related to dustfall and describes methods for predicting future dust deposition as a result of the Phase 2 Proposal, as well as the likelihood of exposure by caribou and humans to trace metals in ore dusts on soils and in food sources.

Based on the assessment, it was concluded that areas outside the PDA that will potentially receive higher than average dustfall rates related to Project activities are small in size, which limits the exposure potential for both people and wildlife. It is considered unlikely that ore dust deposition from the Project would result in levels of metals in blueberries or caribou tissues that would be harmful to human health, if consumed. Similarly, it is considered unlikely that ore dust deposition from the Project would result in levels of metals in lichen that would be harmful to caribou health

RÉSUMÉ DE LA DOCUMENTATION TECHNIQUE COMPLÉMENTAIRE SUR LA SANTÉ HUMAINE OU L'IMPACT ÉCOLOGIQUE

La documentation technique complémentaire sur la santé humaine ou l'impact écologique comporte une évaluation des impacts potentiels de la proposition de la phase 2 sur la santé humaine ou l'environnement à cause des contaminants libérés par les dépôts de poussière de minerai. La proposition de la phase 2 est fondée sur les études préliminaires et les évaluations complètes réalisées depuis 2011 pour l'ensemble du projet approuvé et est donc étroitement liée à l'énoncé des incidences environnementales (EIE) et aux addendas précédents.

Plus précisément, elle examine si la poussière de minerai libérée par les activités du projet pourrait modifier la chimie des sols dans la région et si cette poussière de minerai peut s'accumuler dans les principales espèces sauvages qui se nourrissent dans la région (caribou) ainsi que dans la végétation (bleuets) qui peut être consommée par les humains.

Les poussières (y compris la poussière de la route et la poussière de minerai) devraient se déposer à l'intérieur et à l'extérieur de la zone d'aménagement potentiel (ZAP) de chacune des trois zones d'exploitation du projet. Les poussières libérées suies aux activités d'exploitation seront transportées par voie aérienne et se déposeront sur les sols et la végétation à l'échelle locale. Les métaux présents dans les poussières (en particulier la poussière de minerai) s'ajouteront aux métaux naturels dans les sols et pourraient être absorbés par la végétation par les racines. L'ingestion directe de poussières de minerai sur la végétation par les humaines et les caribous est possible, particulièrement en raison des faibles précipitations dans la région. Les caribous et les humains peuvent donc être exposés aux poussières de minerai en consommant des sources de nourriture dans les zones proches de la mine, du port et des routes.

Le rapport fournit un bref aperçu des programmes de surveillance terrestre actuels en lien avec les poussières et décrit les méthodes de prévision des futurs dépôts de poussières résultant de la proposition de la phase 2 ainsi que la probabilité d'exposition des caribous et des humains aux traces de métaux dans les sols et les sources de nourriture.

L'évaluation a conclu que les zones à l'extérieur de la ZAP susceptibles de recevoir des chutes de poussières supérieures à la moyenne en conséquence des activités du projet sont de petite taille, ce qui limite le potentiel d'exposition des personnes et des animaux sauvages. Il est peu probable que les dépôts de poussière de minerai générés par le projet se traduisent par l'apparition de concentrations assez élevées de métaux dans les bleuets ou les tissus de caribou pour s'avérer nocifs pour la santé humaine s'ils sont consommés. De même, il est peu probable que les dépôts de poussières de minerai générés par le projet entraînent l'accumulation de métaux dans le lichen dans des proportions pouvant nuire à la santé du caribou.

ᐃᓄᐃᑦ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖏᑦ ᐅᕙᔫᓐᓃᑦ ᐆᒪᔪᐃᑦ ᐊᐅᓚᓂᖏᒍᑦ ᐊᒃᑐᐃᓃᑦ ᐱᔾᓇᑐᔪᑦ ᐃᑲᔪᐃᔾᔪᑎᑦ ᑎᑎᖅᑲᑦ ᐅᓂᒃᑳᓚᐊᑦ

ᐃᓄᐃᑦ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖏᑦ ᐅᕙᔫᓐᓃᑦ ᐆᒪᔪᐃᑦ ᐊᐅᓚᓂᖏᒍᑦ ᐊᒃᑐᐃᓃᑦ ᐱᔾᓇᑐᔪᑦ ᐃᑲᔪᐃᔾᔪᑎᑦ ᑎᑎᖅᑲᑦ ᐅᓂᒃᑳᓚᐊᖓ ᓴᖅᑭᑎᑦᑎᔪᑦ ᖃᒥᕐᕿᐃᓂᕐᒥᒃ ᐱᓕᕆᐊᑉ ᒪᕿᒋᓕᖅᑕᖓᓄᑦ ᐅᒃᑑᑎᖓᑕ ᐊᒃᑐᐃᓂᖃᕐᓂᖓ ᓴᖅᑭᑐᐃᓐᓇᕆᐊᓖᑦ ᐃᓄᐃᑦ ᖃᓄᐃᖏᑦᑎᐊᒃᓂᖏᑦ ᐅᕙᔫᓐᓃᑦ ᐆᒪᔫᑦ ᐊᐅᓚᓂᖏᒍᑦ ᐊᒃᑐᐃᓃᑦ ᐊᒃᑐᐊᔪᑦ ᓱᕈᔾᒃᑕᐅᓂᖏᓐᓄᑦ ᓴᕘᕋᔭᒃᓴᐅᑉ ᐳᔪᖓᑕ ᑎᒃᑕᐅᕙᐅᖃᑦᑕᒃᓂᖏᓐᓄᑦ. ᐱᓕᕆᐊᑉ ᒪᕿᒋᓕᖅᑕᖓᓄᑦ ᐆᒃᑑᑎᖓ ᐃᓚᒋᐊᕆᔭᖃᖅᑐᖅ ᖄᖓᒍᑦ ᐊᕆᔫᔪᑦ ᑑᙵᕚᑦ ᖃᐅᔨᓴᕚᓂᑦ ᐊᕙᑎᒧᑦ ᑕᒪᓐᓇᓗ ᕿᒥᕿᐃᓂᖅ ᑕᐃᑲᖓᑦ 2011−ᒥ ᑖᓯᒨᖓ ᐃᓗᐃᑑᔪᒧᑦ ᐊᕆᖅᓯᒪᔪᒧᑦ ᐅᔾᖓᓂᐊᕐᓂᕐᒧᑦ ᑕᐃᒫᒃᓗ ᐊᒃᑐᐊᓂᖅᑲᖅᐳᖅ ᑭᖑᓪᓕᖅᐹᑉ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐅᓂᐊᕐᓂᐅᔪᓄᑦ ᐅᓂᒃᑳᖏᓄᑦ (FEIS) ᓯᕗᓂᐊᒍᓪᓗ ᐅᐃᒍᕆᐊᖅᑕᐅᓂᑯᔪᒃᑯᑦ.

ᐱᓗᐊᖅᑐᒥᒡᓗ, ᐃᓱᒪᕆᔭᖃᖅᐳᖅ ᓴᕗᕋᔭᒃᓴᐅᑉ ᐳᔪᖓ ᑎᒃᑕᐅᔪᖅ ᐅᔾᕋᖕᓂᐊᖅᑐᑦ ᐱᓕᕆᐊᕆᓐᓄᑦ ᐱᑦᑕᖅᑎᑦᑎᔪᓐᓇᕐᒪᖔᑦ ᐃᔾᔪᐊ ᐃᓕᖅᑯᓯᖓ ᐊᓯᔾᔨᕐᓗᓂᐅᒃ ᐱᕈᑎᐊᕈᓐᓇᐃᓪᓕᓗᑎᒃ ᐊᕙᑖᒍᑦ, ᑕᒪᓐᓇᓗ ᓴᕗᕋᔭᒃᓴᐅᑉ ᐳᔪᓕᐊᖓ ᐱᑦᑕᖅᑎᑦᑎᖓᒪᖔᑦ ᑲᑎᑉᐸᓪᓕᐊᔪᒥᒃ ᑐᖅᑯᐃᓂᕐᒥᒃ ᐊᑐᐆᕐᔪᑦ ᓂᔾᔪᑏᑦ ᓂᕐᒪᔪᓰᑦ ᐱᕈᖅᑐᕆᓐᓂᒃ (ᑐᒃᑐᑦ), ᐊᒻᒪᓗᑦᑕᐅᖅ ᐱᕈᖅᑐᑦ ᐊᑐᖅᑕᐅᓰᑦ (ᑭᒍᑕᕆᕐᓇᑦ) ᓂᕆᔭᐅᓰᑦ ᐃᓄᖕᓄᑦ.

ᐳᔪᕐᓗᒃ (ᐃᓚᐅᔪᑦ ᐊᖅᑯᑎᐅᐸ ᐳᔪᕐᓗᖓ ᓴᕗᕋᔭᒃᓴᐅᓪᓗ ᐳᔪᕐᓗᖓ) ᓂᕆᐅᒋᔭᐅᕙᑦ ᑎᒃᑕᐅᕐᑲᑦᑕᕐᓂᐊᓐᓂᖏᑕ ᐊᕙᑖᒍᑦ ᑕᒪᐃᓐᓂᒃ ᐃᓗᐊᒍᑦ ᓯᓚᑖᒍᓪᓗ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᕆᐊᓕᐅᐸ ᓴᓇᕝᕙᐅᔩᑉ ᐃᓂᐊᓂ (PDA) ᐊᑐᓂᑦ ᐱᖓᓯᓄᑦ ᐱᓕᕆᕝᕙᐅᔪᐃᑦ ᓄᓇᖕᒋᓄᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᐅᐸ ᐊᑐᖅᑕᖕᒋᑦ. ᐳᔪᕐᓗᐃᑦ ᓴᖅᑭᑦᑐᑦ ᐱᓕᕆᕝᕕᑦᑕ ᐱᓕᕆᐊᖕᒋᓄᑦ ᑎᒃᑕᐅᕐᑲᑦᑕᖅᐳᑦ ᓯᓚᐃᓐᓇᒃᑯᑦ ᑐᐸᓪᓕᐊᓪᓗᑎᒃ ᓄᓇᐅᐸ ᖃᖓᓄᑦ ᐃᔾᔪᖓᓄᑦ ᐱᕈᖅᑐᓄᓪᓗ. ᓴᕗᕋᔭᒃᓴᖅ ᐃᓚᒋᔾᑦ ᐳᔪᕐᓗᖓᓄᑦ (ᓇᑐᓇᐃᕐᓗᒍ ᓴᕗᒃᓴᐅᐸ ᐳᔪᕐᓗᐊ) ᐃᓚᓕᐅᔾᔮᓂᐊᕐᒪᑦ ᐱᑦᑲᓇᖅᑐᓄᑦ ᓴᕗᕋᔭᒃᓴᓄᑦ ᐃᔾᔪᒥᑦᑐᓄᑦ, ᑕᑯᒃᓴᕈᐃᑐᐃᓐᓇᕆᐊᓕᒃ ᐱᕈᖅᑐᓄᑦ ᐱᖃᓯᐅᔾᔭᐅᓗᓂ ᐊᐃᕋᕆᑦᑎᒍᑦ. ᑕᕝᕘᖕᒐᓪᓚᕆᒃ ᓂᕆᖃᓯᐅᑎᓂᕐᒥᒃ ᓴᕗᕋᔭᒃᓴᕋᔭᖕᒥᒃ ᐱᕈᖅᑐᒥᑦᑐᓂᒃ ᓴᖅᑭᑦᑐᖃᕈᓐᓇᖅᑐᖅ ᐃᓄᖕᒋᓄᑦ ᑐᒃᑐᕆᓄᓪᓗ, ᐱᓗᐊᖅᑐᒥᒃ ᑕᑯᓇᒃᑯᒍ ᒪᖁᒐᔪᓗᐊᕆᓐᓂᖓ ᐊᑐᖅᑕᕗᑦ ᓄᓇᖓ. ᑐᙵᕕᒋᓪᓗᒍ ᑖᓐᓇ, ᑐᒃᑐᐃᑦ ᐃᓄᐃᓪᓗ ᐊᒃᑐᖅᑕᐅᑐᐃᓐᓇᕆᐊᖃᖅᑐᑦ ᓴᕗᕋᔭᒃᓴᐅᐸ ᐳᔪᕐᓗᖓᓄᑦ ᓂᕆᓂᕆᑦᑎᒍᑦ ᐱᕈᖅᑐᕋᔭᖅᓃᑦᑐᓂᒃ ᖃᓂᒌᔭᖓᓂ ᐅᔾᕋᖕᓂᐊᕝᕙᐅᐸ, ᐅᒥᐊᕐᔪᐊᓚᓇᕝᕙᐅᐸ ᐊᖅᑯᑎᖕᒋᓐᓂᓪᓗ.

ᐅᓇ ᐅᓂᒃᑳᖅ ᓴᖅᑮᕗᖅ ᓇᐃᑦᑐᒥᒃ ᑕᑯᓐᓂᕐᒥᒃ ᐃᓗᐃᑑᔪᒥᒃ ᐊᑐᖅᑕᐅᔪᓂᒃ ᓄᓇᒥᒃ ᖃᐅᔨᓴᐃᓐᓇᕈᑎᐅᔪᓂᒃ ᐊᒃᑐᐊᔪᑦ ᐳᔪᕐᓗᓕᐊᕐᒍᔪᓄᑦ ᐅᓂᒃᑲᓇᔾᖃᖅᓗᓂ ᐊᑐᖅᑕᐅᔪᓂᒃ ᓂᕆᐅᒋᔭᖅᑭᑎᕐᒋᑦ ᓇᒧᑦ ᓯᕗᓂᐊᒍᑦ ᐳᔪᕐᓗᖓ ᑎᒃᑕᐅᑦᑕᔭᕐᒪᖔᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐱᓕᕆᐊᕐᒍᔪᑦ ᐱᓕᕆᐊᑉ ᒪᕿᒋᓕᖅᑕᖓᓄᑦ ᐅᒃᑑᑎᖓᒍᑦ, ᐊᒻᒪᑦᑕᐅᖅ ᐊᒃᑐᐃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᒃ ᐱᑦᑕᕐᓗᑎᒃ ᑐᒃᑐᓂᑦ ᐃᓄᖕᓂᓪᓗ ᓴᕗᕋᔭᒃᓴᐅᐸ ᖃᓪᒪᒃᑯᕆᓂᒃ ᐃᔾᔪᖓᓄᑦ ᓂᖃᕆᔭᐅᓰᓄᓪᓗ.

ᖃᐅᔨᓴᕈᑏᑦ ᒪᓕᒃᑯᑎᑦ, ᐃᓱᒪᓕᐊᕆᔭᐅᓪᓗᓂ ᓄᓇᐃᑦ ᓯᓚᑖᓃᑦᑐ ᓴᓇᔭᐅᕝᕙᒃᓴᐅᔩᑉ ᑕᑯᒃᓴᕈᕝᕙᐅᑐᐃᓐᓇᕆᐊᓖᑦ ᖁᑦᑎᓛᒥᒃ ᕿᑎᕋᖅᑐᒥᒃ ᐳᔪᕐᓗᒧᑦ ᑎᒃᑕᐅᕝᕙᐅᑦᑕᖅᑐᑦ ᐊᒃᑐᐊᓃᑦ ᐅᔾᕋᖕᓂᐊᖅᑐᑦ ᐱᓕᕆᓂᕆᓐᓄᑦ ᒥᑭᑑᓚᔭᕐᓂᕆᑕ, ᑕᒪᓐᓇᓗ ᑭᒡᓕᖅᑲᓐᓂᐊ ᐃᓱᖅᑲᖅᑎᑦᑎᓪᓗᓂ ᐊᒃᑐᐅᓂᐅᓇᔭᕐᑐᒥᒃ ᓂᕆᖅᑲᓱᐅᔾᔨᓂᕐᒧᑦ ᓴᕗᕋᔭᒃᓴᒥᒃ ᐃᓄᖕᒋᓐᓄᑦ ᓂᔾᔪᑎᖕᒋᓄᓪᓗ. ᐃᓱᒪᕆᔭᐅᔪᖅ ᓴᖅᑭᓗᐊᕋᔭᕋᓱᕆᔭᐅᓇᓂ ᐳᔪᕐᓗᓕᐊᕐᒍᔪᑦ ᐱᓕᕆᕝᕕᐅᔪᒥ ᖁᑎᓗᐋᖅᑐᒥᒃ ᓴᕗᕋᔭᒃᓴᖅᑲᓕᖅᑎᑦᑎᓇᔭᕐᓂᖓᓂᒃ ᑭᒍᑕᕆᕐᓇᓂᒃ ᑐᒃᑑᓪᓗ ᓂᕿᖕᒋᓐᓂᒃ ᐅᓗᓇᐊᓇᓰᑦ ᐃᓅᑉ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖓᓄᑦ, ᓂᕆᔭᐅᓐᓂᕈᑎᒃ. ᐊᔾᔨᑐᐃᓐᓇᖓᑦᑕᐅᖅ, ᐃᓱᒪᓇᓗᐊᕋᓂ ᐳᔪᕐᓗᓕᐊᕐᒍᔪᑦ ᑎᒃᑕᐅᓰᖅ ᐱᓕᕆᕝᕕᐅᔪᓂ ᖁᐊᔭᐅᑎᓄᑦ ᓴᕗᕋᔭᒃᓴᖃᓕᖅᑎᑦᑎᓇᔭᕐᓂᖓᓂᒃ ᐅᓗᓇᐊᓇᓕᓪᓗᑎᒃ ᑐᒃᑑᑉ ᖃᓄᐃᖕᒋᓐᓂᕐᒋᓄᑦ.

SCIENCE INTEGRITY KNOWLEDGE

EVALUATION OF EXPOSURE POTENTIAL FROM ORE DUSTING EVENTS IN SELECTED VECS: HUMANS, CARIBOU AND BLUEBERRY

Baffinland Iron Mines Corporation Mary River Project – Phase 2 Proposal

Technical Supporting Document No. 11

FINAL REPORT

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Prepared For: Megan Lord-Hoyle
Director of Sustainable Development
Baffinland Iron Mines Corporation
2275 Upper Middle Road East, Suite 300, Oakville, Ontario

Sovereign Place 5121 Sackville Street., Suite 604, Halifax, Nova Scotia ▪ B3J 1K1
Tel: 902-429-0278 ▪ Fax: 902-429-0279 ▪
www.intrinsikscience.com

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EVALUATION OF EXPOSURE POTENTIAL FROM ORE DUSTING EVENTS IN SELECTED VECS: CARIBOU AND BLUEBERRY

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EVALUATION OF EXPOSURE POTENTIAL FROM ORE DUSTING EVENTS IN SELECTED VECS: HUMANS, CARIBOU AND BLUEBERRY

1 INTRODUCTION

The Mary River Project is one of the most northern mines in Canada, and one of the richest iron ore deposits in the world. The mine is located 160 km south of Pond Inlet in Nunavut and commenced operations in the fall of 2014. Iron ore is mined, crushed, screened with no processing as a result of the high quality of the ore, and shipped from a northern port facility located on Milne Inlet. The Project is authorized by Project Certificate No. 005 (NIRB, 2014) to mine up to 22.2 million tonnes per annum (Mtpa) of iron ore and to transport up to 18 Mtpa of iron ore to market by rail over the Southern Transportation Corridor to ship the ore year-round from Steensby Port, and to transport up to 4.2 Mtpa of iron ore to market by truck over the Milne Inlet Tote Road to ship during the open water season from Milne Port.

Due to the lowered price of iron ore, Baffinland implemented a phased approach to development of the project, and proceeded with the current 4.2 Mtpa trucking operation, known as the Early Revenue Phase (ERP). Baffinland recently submitted a request for a second amendment to Project Certificate No.005 to allow for a short-term increase in production and transport of ore via road through Milne Port from the current 4.2 Mtpa to 6.0 Mtpa. In order to establish an economically viable project, production must now increase, and as such, Baffinland is now preparing an Environmental Impact Statement (EIS) for a proposed expansion of its operations. This project is known as the Phase 2 Expansion Project, or the Phase 2 proposal.

The Phase 2 Proposal (the third project certificate amendment request) involves increasing the quantity of ore shipped through Milne Port to 12 Mtpa, via the construction of a new railway running parallel to the existing Tote Road (called the North Railway). The total mine production will increase to 30 Mtpa with 12 Mtpa being transported via the North Railway to Milne Port and 18 Mtpa transported via the South Railway to Steensby Port. Construction on the North Railway is planned to begin in late 2019. Completion of construction of the North Railway is expected by 2020 with transportation of ore to Milne Port by trucks and railway ramping up as mine production increases to 12 Mtpa by 2020. Shipping from Milne Port will also increase to 12 Mtpa by 2020. Construction of the South Railway and Steensby Port will commence in 2021 with commissioning and a gradual increase in mine production to 30 Mtpa by 2024. Shipping of 18 Mtpa from Steensby Port will begin in 2025.

Phase 2 also involves the development of additional infrastructure at Milne Port, including a second ore dock. Shipping at Milne Port will continue to occur during the open water season, and may extend into the shoulder periods when the landfast ice is not being used to support travel and harvesting by Inuit. Various upgrades and additional infrastructure will also be required at the Mine Site and along both the north and south transportation corridors to support the increase in production and construction of the two rail lines.

The timeline of these anticipated project changes is outlined in Table 1-1.

Table 1-1 Phase 2 Proposal Timeline

Area	*2018*	*2019-2020*	*2021*	*2022-2023*	*2024*	*2025-2035*
Mine	5.5 Mtpa	6 Mtpa	12 Mtpa	12 Mtpa	21 Mtpa	30 Mtpa
Tote Road/Trucking	5.5 Mtpa	6 Mtpa	12 Mtpa*	NA	NA	NA
North Rail	NA	NA	12 Mtpa*	12 Mtpa	12 Mtpa	12 Mtpa
South Rail	NA	NA	NA	NA	9 Mtpa	18 Mtpa
Milne Port	5.5 Mtpa	6 Mtpa	12 Mtpa	12 Mtpa	12 Mtpa	12 Mtpa
South/Steensby Port	NA	NA	NA	NA	9 Mtpa	18 Mtpa

NA = not applicable
* = 12 Mtpa transported by truck from Mine Site to km 56, and by rail from km 56 to Milne Port in 2021

With respect to project stages, the following is the anticipated operations and closure timings:

- 20 years of operations
- 3 years active closure
- 5 years post closure monitoring

The Nunavut Impact Review Board (NIRB) established guidelines for the Phase 2 Proposal in October of 2015. The guidelines require an investigation of the following with respect to possible contaminants and human health (NIRB, 2015):

- "Potential impacts on human health from air contamination, fugitive dust resulting from air and ground traffic, potential impacts to potable water quality, and exposure to escalated noise and extreme weather conditions;
- Potential impacts on human health from bioaccumulation and take-up of contaminants associated with changes to the level of contaminants loadings in country foods (i.e., wildlife and vegetation consumed by humans);
- Potential impacts to human health as a result of increased use of the Milne Inlet Tote Road for ore haulage and Milne Inlet Port facilities, including exposure to noise, dust and gaseous emissions;"

As part of their community consultation process, Baffinland conducted a series of 5 Community Workshops in 2016 to discuss the Phase 2 Proposal and gathering information from the various communities. Each workshop was focused on a different key issue (Contemporary Inuit Land use in the Eclipse Sound and Navy Board Inlet area; Shipping through Ice; Open water shipping; Caribou; and Phase 2 and Arctic Bay). In the Caribou Community Workshop (Workshop number 4) conducted by Baffinland, community members raised a number of concerns related to dust the country foods, as follows (Jason Prno Consulting Services Ltd., 2017):

"We historically relied on the game, we still do. We still hunt to survive. We're still like that. It's part of our Inuit system. We still eat country food. If that were to be affected in some way we would be very concerned." [Workshop #4 Participant](page 76)

"In the winter we are not so concerned about dust. We are more concerned in the summer season, when it becomes an issue. Dust comes from the wheels of the trucks. I'm more concerned about caribou eating the vegetation that is covered in dust around the mine site, rather than the tote road." [Workshop #4 Participant] (page 79)

"I'm not concerned about trucks hitting caribou if caribou numbers increase. The only concern to me that I have experienced is, I think around 2008 during the Bulk Sample, Joshua and I were on a trip. We saw caribou near Mary River and we caught it. You could hear blasting at Mary River. All the caribou would flee the blasting, more than traffic noise. Noise isn't really a deterrent to caribou. I'm not against the project, but we would need to know if the caribou were eating contaminated foods." [Verification Meeting Participant] (page 82)

"I have a concern about the dust. Can it be better controlled? When I was flying on Canadian North over the tote road, I could see the dust spreading along the tote road. Even from 20,000 feet. Can there be a better plan that you put in place? Can you cover the trucks? So that vegetation on the road won't be affected?" [Workshop #4 Participant] (page 82)

"Regarding caribou, we've talked about widening the road. I've seen the road every year from Mary River to Milne Inlet. At Mary River the dust is formed from the wheels of the trucks. When it's raining it's not dusty. We need to discuss this. The HTO will need to discuss this. The roads need to be maintained. If the caribou ate contaminated vegetation, like lead or zinc, how long would it take them to get sick?" [Workshop #4 Participant] (page 82)

"If the caribou was contaminated and I ate it, would I have health issues because of it? Would those issues be passed on to my children and their children?" [Workshop #4 Participant] (page 82)

Therefore, the purpose of this report is to provide an assessment of potential human health or ecological impacts related to contaminants released via ore dust deposition (largely through fugitive dusting events), in order to address the information requirements in NIRB's EIS Guidelines and concerns raised by the community. This report assesses the potential for deposited dust, released via Mine Site, transportation, and port site activities, to change the chemistry of soils in the area, and whether that dust has the potential to accumulate in key wildlife species foraging in the area, as well as vegetation that may be consumed by humans. It assesses the potential for accumulation in representative species such as caribou and blueberry, which can be consumed by humans. Baffinland has adopted caribou is a Key Indicator of the Terrestrial Wildlife and Habitat VEC, and blueberry is a species representative of Plants Important to Inuit, a Key Indicator of the Vegetation VEC. The potential changes in these species, and implications for human health are also discussed.

The assessment approach used in this report follows a standard screening level risk assessment approach, wherein future soil, lichen and berry concentrations are predicted based on predictions related to dust deposition over the operational period of the facilities. The predicted future soil concentrations are compared to both ecological and human health soil quality guidelines, as well as maximum baseline soil data, to identify any concerns. The predicted future vegetation concentrations are compared to maximum baseline concentrations, and toxicity-based thresholds, where available. Assessments of air quality and noise (RWDI, 2017a,b), as well as water quality (Baffinland, 2017; FEIS, Addendum No. 2) are provided under separate cover. This report is similar to the report conducted in 2010, as part of the original EIS, which addressed two key questions:

- Will ore dust deposition from the Project result in levels of metals in blueberries that are harmful for human consumption?
- Will ore dust deposition from the Project result in levels of metals in caribou tissue that are harmful for human consumption, or harmful for the health of the caribou?

This report presents a high-level qualitative evaluation of these two focused questions based on ore chemistry data (from the existing monitoring program related to dustfall near the Study Area, which includes the Mine Site, Milne Port and Tote Road), exposure potential, bioaccumulation and metals toxicological considerations. This report focuses on dust deposition in areas outside the active operations of the Project (referred to as Potential Development Areas, or PDA), since these areas are most likely to be used for foraging activities by both humans and wildlife.

Since the vast majority of dust generated from the Project is expected to be related to the mining, transportation, crushing, screening, and stockpiling of ore, the chemical composition of the dust considered in this report is specifically associated with metals in ore and other dust generated by project activities. No other chemical analytes associated with Project emissions are considered in this report such as organic emissions from waste management activities, burning of fuels for power generation, vehicles and equipment, waste rock handling, *etc*. Trains travelling between the mine site and port will emit products of combustion and have the potential to produce airborne dust from blow-off from open rail cars. Since the trains will be in transit and only briefly present at any location along the corridor, the impact of products of combustion is considered insignificant and is not considered further. Since ore is composed only of naturally occurring metals and metalloids (hereafter collectively referred to as metals), this study only considered such substances. As shipping increases out of Milne Port, and the rail construction advances, a temporary ore transfer facility will be constructed midway along the Tote Road, which will enable ore to be trucked to this facility, off loaded onto a completed part of the rail line, and transported by rail to Milne Port. This transfer facility is anticipated to be operational for one to two years only.

This report provides a brief overview of existing terrestrial monitoring programs related to dustfall for the purposes of characterizing the geochemistry of dustfall, areas soils and vegetation (Section 2.0); predicted future dust deposition as a result of the Phase 2 Proposal is presented in Section 3.0; methods for predicting future soil, lichen and berry concentrations are provided in Section 4.0; an assessment of caribou exposures to trace metals in dust on soils and vegetation based on dust deposition at the Mine Site, Tote Road area and Milne Port (Section 5.0); an assessment of human exposures to trace metals in dust related to local food consumption of caribou and blueberry based on dust deposition at the mine site, Tote Road area and Milne Port (Section 6.0), and Conclusions and Uncertainties (Section 7.0). References cited are provided in Section 8.0.

2 SUMMARY OF EXISTING ENVIRONMENTAL MONITORING DATA AND APPLICATION OF MONITORING DATA WITHIN THIS ASSESSMENT

The NIRB project certificate includes a number of conditions related to environmental monitoring, several of which are linked to dust released as a result of mining and transportation activities. Baffinland's Terrestrial Environment Mitigation and Monitoring Plan (TEMMP; Baffinland, 2016) includes monitoring of metals in soils and vegetation and dustfall monitoring. Since mining has been taking place since fall of 2014, it is important to incorporate the available monitoring data into the current assessment, to characterize existing conditions, and to obtain a geochemical fingerprint of the dust composition. This geochemical fingerprint can then to applied to predicted future dust deposition rates associated with the Phase 2 Proposal (see Section 3.0), in order to predict future changes to soil chemistry, vegetation chemistry, and ultimately enable assessment of caribou and humans. The monitoring programs that have relevant data for this project (i.e., programs with data characterizing metals levels in dust, soils, vegetation, and biota, if possible) are:

- Dustfall monitoring program; and
- Vegetation and soil base metals sampling program.

A summary of these programs and how the data from within these programs were used in the current assessment is described below.

2.1 Dustfall Monitoring Program

The dustfall monitoring program started in 2013 (EDI, 2014), and included 26 dustfall stations, in areas close to and far from the mine site, based on the original dust deposition isopleth predictions in the EIS. The 2013 data preceded mining activities and only involved 3 months of sampling, and hence, will not be used in the current assessment. The 2014 dustfall monitoring program included the addition of 8 more monitoring stations, for a total of 34 stations (EDI, 2015). In the 2014 program, there were 9 Mine Site dustfall stations, 7 stations at Milne Port, and 16 stations along Tote Road, as well as 2 reference sites. One station at Milne Port was discontinued due to conflicts with port infrastructure, leaving a total of 33 stations. A map of the dustfall stations is provided in Figure 2-1 (EDI, 2015). Dustfall was found to be elevated in samplers at the mine site, at Milne Port, and along Tote Road (EDI, 2015). Dustfall associated with the Tote Road was measured to occur within 1 km of the centerline on either side of the road, but was non-detectable at greater distances (EDI, 2015). The 2015 dustfall program yielded similar results (EDI, 2016).

For the current project, geochemistry data collected at selected dustfall stations closer in to the mine were used to characterize the chemical composition of the mine-related dust into the future at the mine site. Data from the stations along Tote Road may have a slightly different chemistry than the data from the mine site stations, as Tote Road stations likely represent a higher proportion of road dust than ore dust (which would not be expected to be as enriched as ore but would rather represent the geology of the land), as well as some ore dust (from ore being transported by the trucks). Therefore, separate geochemical ratios were calculated from selected stations along Tote Road, to characterize the geochemical fingerprint of that dust. Similarly, separate geochemical fingerprint was developed for Milne Port, based on dustfall monitoring in that area. In all cases, dustfall geochemistry from the 2015 and 2016 dustfall monitoring programs were used, as the mine and transportation aspects of the project were in operation during these two years. Based on data evaluation conducted by EDI (2015), and discussions with RWDI related to operational activities, dustfall geochemistry data from the following stations were used to provide a geochemistry fingerprint for each of the 3 areas (see Figure 2-1 for specific monitor locations):

- Mine Site: DF-M-02 and DF-M-03 were used to characterize mine geochemistry as these are near-field stations influenced by a variety of activities at the mine;
- Tote Road: Near-field stations DF-RS-04 and 05, as well as DF-RN-04 and 05 were selected to characterize the geochemistry; and
- Milne Port: DF-P-01, DF-P-05 and DF-P-07 were selected to characterize port-side dust geochemistry.
  All of the selected stations are in the areas of high potential dust impact, as illustrated in Figure 2-1.

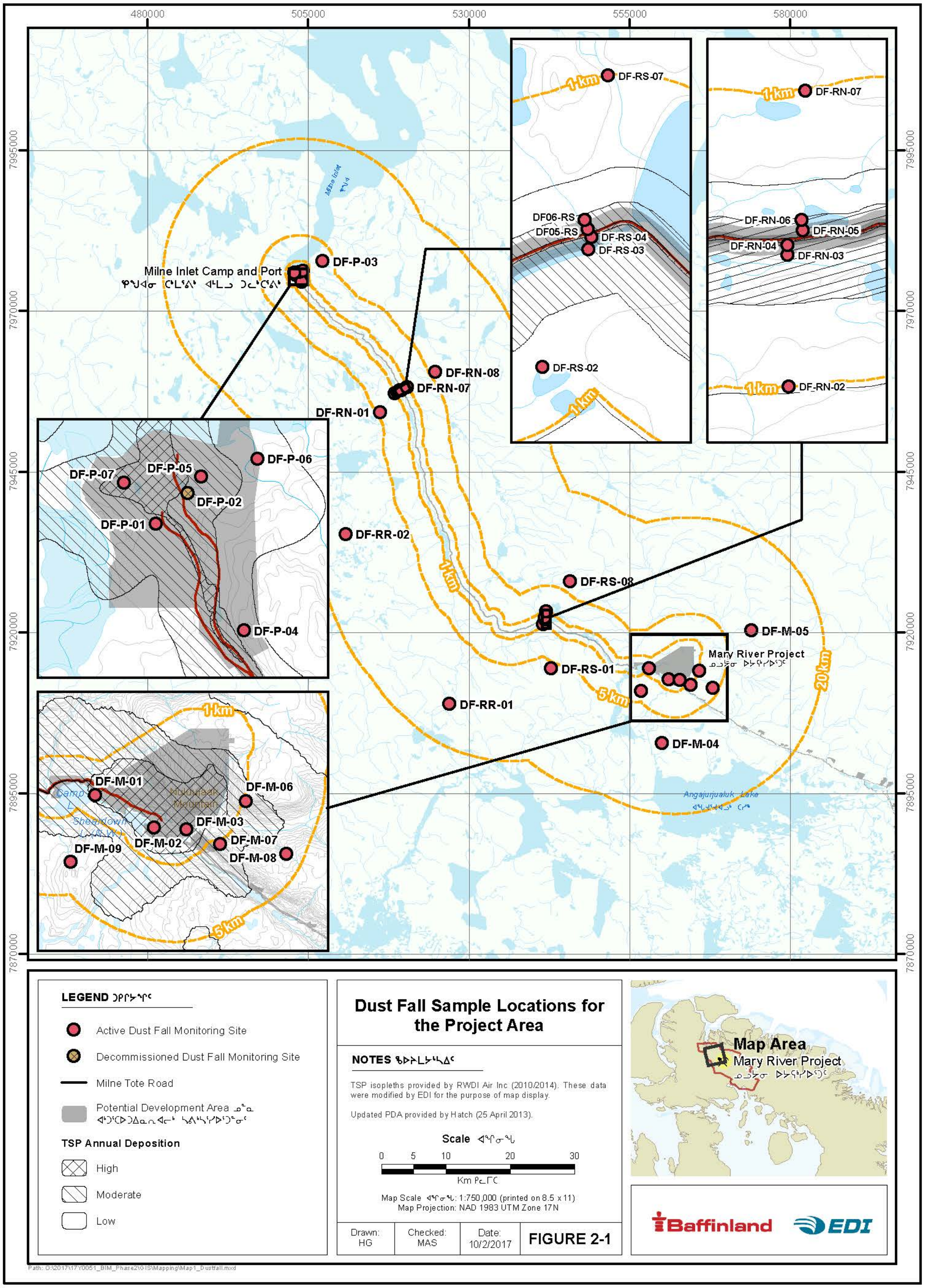

Figure 2-1 Dustfall Sampling Locations (EDI, 2015)

In order to identify which geochemical elements merited further study in this evaluation, the raw geochemistry data from 3 dustfall monitoring stations closest to the Mine Site were examined. The data from these stations were considered to represent a reasonable worst case scenario for geochemistry composition, as these stations are closest to the mine (and road geochemistry was considered to more likely represent natural soil geochemistry in the area, and hence, as less enriched type of fingerprint than stations near the mine). To select metals/metalloids requiring consideration in this study, the following items were considered:

- Frequency of detection within dustfall;
- Whether the chemical is an essential element / nutrient;
- The chemical's toxic potential and bioaccumulative characteristics;
- The results of the 2013 to 2015 EDI annual monitoring reports, in terms of whether they prioritized the element as a Chemical of Potential Concern (COPC); and
- Results from the Intrinsik 2010 assessment.

Appendix A presents the raw chemistry data for the 3 relevant dustfall stations near the Mine Site, and the rationale used to identify possible Chemicals of Potential Concern (COPCs). Based on the evaluation, the following chemicals were retained for further evaluation in this assessment:

- Aluminum
- Antimony
- Arsenic
- Barium
- Cadmium
- Chromium
- Cobalt
- Copper
- Iron
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Selenium
- Silver
- Strontium
- Thallium
- Tin
- Uranium
- Vanadium
- Zinc

Following selection of COPCs, geochemistry ratios within dust from the selected dustfall stations near the mine, port and Tote Road were calculated to represent the geochemical fingerprint of ore dust that could be emitted into the future as a result of mining and transportation activities. The calculations and data are provided in Appendix A. A summary of geochemistry ratios from the dustfall monitoring stations at the mine, port and road monitoring stations are provided in Table 2-1a,b.

Table 2-1a Average Percent of Metals in Total Insoluble Dustfall at the Mine Site, Tote Road and Milne Port [%]											
Location	***Aluminum***	***Antimony***	***Arsenic***	***Barium***	***Cadmium***	***Chromium***	***Cobalt***	***Copper***	***Iron***	***Lead***	***Manganese***
Mine Site											
Average Percent of Dustfall	2.83	0.0014	0.0033	0.013	0.0012	0.020	0.0027	0.016	4.43	0.0027	0.11
Tote Road											
Average Percent of Dustfall	2.14	0.00018	0.0089	0.017	0.00060	0.0055	0.0012	0.012	3.08	0.0024	0.049
Milne Port											
Average Percent of Dustfall	1.58	0.00054	0.018	0.013	0.00091	0.0066	0.0013	0.022	3.06	0.0017	0.064

Table 2-1b Average Percent of Metals in Total Insoluble Dustfall at the Mine Site, Tote Road and Milne Port [%]											
Location	***Mercury***	***Molybdenum***	***Nickel***	***Selenium***	***Silver***	***Strontium***	***Thallium***	***Tin***	***Uranium***	***Vanadium***	***Zinc***
Mine Site											
Average Percent of Dustfall	0.0011	0.0025	0.017	0.0033	0.000096	0.0064	0.000045	0.00059	0.00070	0.0058	0.025
Tote Road											
Average Percent of Dustfall	0.0014	0.00037	0.0045	0.0016	0.000030	0.0066	0.00017	0.00050	0.00034	0.0036	0.016
Milne Port											
Average Percent of Dustfall	0.0021	0.00045	0.0062	0.0032	0.000044	0.015	0.00032	0.00071	0.00071	0.00416	0.053

The ratios in Table 2-1 were used to characterize the chemistry of future predicted dustfall associated with the mine, trucking and other transport activities.

2.2 Soil and Vegetation Monitoring Programs

Baseline metals sampling in soil and vegetation were originally conducted in 2008, with additional baseline soil data being collected in 2012 (southern sections of the Regional Study Area, RSA), and 2013 (northern portions of the RSA) (EDI, 2015). An additional set of soil and vegetation samples were collected in 2014 (EDI, 2015). The focus of vegetation monitoring was on lichen (*Cladonia* spp,), willow (*Salix* spp.), and blueberry (*Vaccinium uliginosum*). Lichen was selected primarily as it is a major forage plant for caribou, whereas blueberries are consumed by humans and wildlife. Lichen are a commonly used biomonitoring indicator species in northern areas, not only due to the fact that they are a major food source for key species, such as caribou, but also because they have the potential to accumulate contaminants more readily than other vegetation species, due to their large surface area and ability to accumulate metals and other airborne contaminants (Braune et al, 1999). The 2012 to 2014 data provide baseline metals characterization around the Mine Site, Milne Port, and reference areas, including potential influences related to construction. During these sampling events, a total of 68 soil samples were taken, and 94 vegetation samples (62 lichen, 24 willow and 8 blueberry; soil sampling depth < 10 cm; EDI, 2015). Vegetation and soil sampling locations are provided in Figure 2-2. These data are considered to be baseline data, since mining did not commence until September, 2014. The data may have some minor influence of construction activities, but EDI (2015) clearly indicates that the data are representative of baseline conditions. EDI (2015) explored relationships between soil and the different vegetation types, and distance from the mine, for a selected number of COPCs. The selection of the COPCs identified by EDI (2015) was based on:

- Baseline metals concentrations (if a metal was not detected in baseline, it was not selected as a COPC);
- Metals present in Mary River ore;
- Potential metals in road cover/road-generated dust;
- Level of risk associated with various elements, based on CCME soil quality guidelines, scientific literature related to toxicity and presence in the arctic.

Based on these considerations, EDI identified aluminum, arsenic, cadmium, copper, lead, selenium and zinc as COPCs, and developed toxicity thresholds for these elements in soils (CCME guidelines), vascular plants, and lichen (based on literature). Statistical analysis for these selected COPCs was performed, and results were compared to identified Project Thresholds. This analysis indicated that baseline metal levels in soil were well below thresholds, and metal levels in vegetation tissues (excluding blueberry due to insufficient sample size) were mostly below threshold levels with few baseline COPCs naturally exceeding thresholds. EDI (2015) found there was no evidence of a relationship between metal concentrations in willow and distance from the Potential Development Area (PDA) for any of the 7 metals tested; however, there was a correlation between lichen and distance from the PDA for three COPCs (Al; Cd; Cu). Al and Cu concentrations in lichen decreased with distance from the mine, whereas cadmium concentrations were found to increase. EDI (2015) concluded that although statistically significant, the trend in Cd and Cu may not be biologically important and could be the result of natural mineralization of the Mary River area. Future monitoring will evaluate these trends in lichen to see if there is any change from baseline conditions that may be a result of Project effects. EDI (2015) also investigated relationships between metal concentrations in willow and soil, and lichen and soil, and found no obvious relationships within the baseline data for these 7 metals.

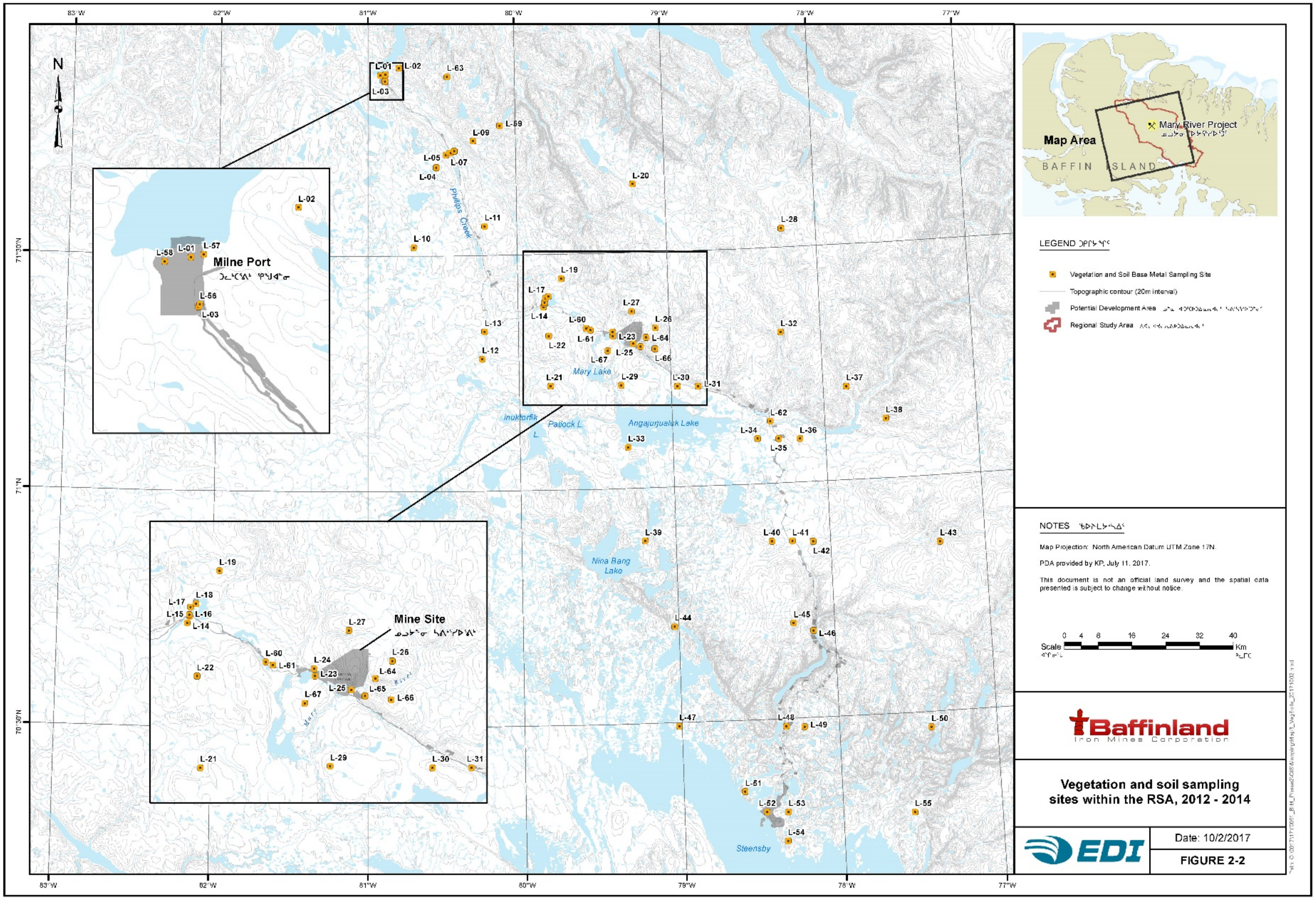

Figure 2-2 Vegetation and Soil Sampling Locations (EDI, 2015)

For this study, Intrinsik used the COPC list identified in Section 2.1, as it represents a more investigative or exploratory list of chemicals for the assessment of potential implications of long term dust deposition. Table 2-2 to 2-4 present the baseline soil, lichen and blueberry data for the COPCs of interest. Willow data is not presented. As discussed in EDI (2015), willow is a species of metal tolerance and was removed from the trace metals monitoring program as it can naturally accumulate metals at levels three to eight times other vascular plants, making it an unreliable monitoring species. Although willow is consumed by caribou in other arctic areas, it is assumed that lichen is a more preferred forage plant for North Baffin Island caribou. Given this, willow was no longer considered suitable for the vegetation and soil base metal monitoring program. These data were used to characterize existing baseline chemistry for each of the three media. The 2008 data were not used as these samples were one time samples at different locations.

In addition, site specific uptake factors were calculated using the baseline data. These uptake factors were calculated for soil: lichen and soil: berry for each COPC, using the available dataset. Uptake factors for berry are only based on a small number of samples (N = 8). The lichen uptake factors were used in the assessment to provide a site-specific ratio of potential change in lichen metals concentrations as a result of change in soil concentrations in the future, due to future operational activities. Other factors, such as deposition of dust onto lichen, were also factored into to the assessment, and approaches taken to account for this additional source of exposure are discussed in Section 4.0.

Table 2-2 Baseline Soil Metal Concentrations in mg/kg (dry weight) for the Years 2012, 2013 and 2014

Total Metals by ICPMS	***# Detected***	***Min***	***Max***	***Average***	***90th Percentile***
Total Aluminum (Al)	66	474	39300	4414	6515
Total Antimony (Sb)	2	<0.1	0.85	0.11	<0.1
Total Arsenic (As)	25	<0.5	4.14	0.76	1.24
Total Barium (Ba)	66	1.73	132	17.9	31.3
Total Cadmium (Cd)	35	<0.05	0.275	0.09	0.17
Total Chromium (Cr)	66	1.6	55.7	14.4	26.4
Total Cobalt (Co)	66	0.37	17.5	3.15	4.72
Total Copper (Cu)	66	0.67	48.4	6.15	9.65
Total Iron (Fe)	66	1550	90500	12391	20500
Total Lead (Pb)	66	0.65	31.7	4.45	6.67
Total Manganese (Mn)	66	7.93	416	110	204
Total Mercury (Hg)	4	<0.05	0.152	0.05	<0.05
Total Molybdenum (Mo)	45	<0.1	2.53	0.24	0.35
Total Nickel (Ni)	66	1.07	39.4	8.97	19.3
Total Selenium (Se)	1	<0.5	0.51	0.50	<0.5
Total Silver (Ag)	3	<0.05	0.198	0.05	<0.05
Total Strontium (Sr)	66	0.94	83.3	8.73	21.4
Total Thallium (Tl)	40	<0.05	0.435	0.08	0.13
Total Tin (Sn)	58	<0.1	2.66	0.37	0.59
Total Uranium (U)	66	0.136	6.13	1.01	1.90
Total Vanadium (V)	66	2.2	83.9	17.0	28.5
Total Zinc (Zn)	66	2.1	118	17.5	25.6

Notes: Data from EDI, 2015
N = 66
Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at the detection limit
< sign indicates chemical was not detected, value provided is the reportable detection limit

Table 2-3 Baseline Lichen Metal Concentrations in mg/kg (dry weight) for the Years 2012, 2013 and 2014

Total Metals by ICPMS	*# Detected*	*Min*	*Max*	*Average*	*90th Percentile*
Total Aluminum (Al)	60	20.5	1240	268	577
Total Antimony (Sb)	46	<0.005	0.064	0.01	0.015
Total Arsenic (As)	45	<0.05	1.1	0.12	0.19
Total Barium (Ba)	60	1.66	43.3	9.77	18.53
Total Cadmium (Cd)	60	0.025	0.297	0.10	0.193
Total Chromium (Cr)	45	<0.2	6.03	1.11	3.10
Total Cobalt (Co)	60	0.031	1.39	0.27	0.554
Total Copper (Cu)	60	0.505	3.82	1.34	2.34
Total Iron (Fe)	60	27	8830	569.7	1103
Total Lead (Pb)	60	0.218	6.71	1.42	2.63
Total Manganese (Mn)	60	7.55	97.8	34.05	70.49
Total Mercury (Hg)	60	0.02	0.236	0.07	0.0942
Total Molybdenum (Mo)	29	<0.05	0.364	0.08	0.134
Total Nickel (Ni)	59	<0.05	12.2	1.09	2.92
Total Selenium (Se)	47	<0.05	0.197	0.07	0.105
Total Silver (Ag)	1	<0.02	0.045	0.02	<0.02
Total Strontium (Sr)	60	1.9 2	75.9	15.55	33.85
Total Thallium (Tl)	57	<0.002	0.0249	0.01	0.0155
Total Tin (Sn)	7	<0.1	0.5	0.11	0.11
Total Uranium (U)	60	0.0081	0.847	0.10	0.230
Total Vanadium (V)	34	<0.2	3.43	0.70	1.55
Total Zinc (Zn)	60	7.14	33.2	15.96	24.14

Notes: Data from EDI, 2015
N = 60
Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at the detection limit
< sign indicates chemical was not detected, value provided is the reportable detection limit

Table 2-4 Baseline Blueberry Metal Concentrations in mg/kg (dry weight) for the Years 2013 and 2014

Total Metals by ICPMS	*# Detected*	*Min*	*Max*	*Average*	*90th Percentile*
Total Aluminum (Al)	8	24.2	277	143.41	221
Total Antimony (Sb)	3	<0.005	0.0371	0.01	0.0208
Total Arsenic (As)	0	<0.05	<0.05	<0.05	<0.05
Total Barium (Ba)	8	0.87	75.2	40.39	66.7
Total Cadmium (Cd)	8	0.265	0.94	0.54	0.871
Total Chromium (Cr)	8	0.23	1.35	0.65	1.15
Total Cobalt (Co)	8	0.034	1.44	0.38	0.704
Total Copper (Cu)	8	10.6	15.7	12.19	13.7
Total Iron (Fe)	8	71	489	244.75	449
Total Lead (Pb)	8	0.056	0.35	0.18	0.340
Total Manganese (Mn)	8	181	1600	627.38	1230
Total Mercury (Hg)	6	<0.01	0.023	0.01	0.0181
Total Molybdenum (Mo)	6	<0.05	0.412	0.12	0.20
Total Nickel (Ni)	8	0.633	18.9	4.52	8.43
Total Selenium (Se)	0	<0.05	<0.05	<0.05	<0.05
Total Silver (Ag)	0	<0.02	<0.02	<0.02	<0.02
Total Strontium (Sr)	8	2.41	8.74	4.91	7.87
Total Thallium (Tl)	7	<0.002	0.0091	0.00	0.00833
Total Tin (Sn)	1	<0.1	0.14	0.11	0.112
Total Uranium (U)	8	0.0074	0.111	0.03	0.0665
Total Vanadium (V)	4	<0.2	0.76	0.36	0.613
Total Zinc (Zn)	8	52.6	369	142.33	286

Notes: Data from EDI, 2015
N = 8
Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at the detection limit
< sign indicates chemical was not detected, value provided is the reportable detection limit

2.3 Summary

In summary, the COPC list provided in Section 2.1 is assessed in the dust deposition assessment presented in Section 5 and 6 of this report. The 90th percentile of baseline soils, lichen and berry are used to characterize the existing environment.

3 AIR DISPERSION PREDICTIONS OF FUTURE DUSTFALL AND SELECTION OF DUST DEPOSITION RATES FOR FUTURE PREDICTIONS

3.1 Air Dispersion Analysis Outcomes for Dust Deposition

The Project has the potential to generate dust related to the open pit mining operation at the Mine Site, as well as the operations related to ore transport via truck (on Tote Road), and stockpiling, crushing and shipping of materials in Milne Port. The vast majority of the dust is expected to be generated from the mining, transportation, crushing, screening, and stockpiling of ore. RWDI (2017a) has conducted an air dispersion analysis of various emissions from the operations of the Project.

Dust isopleths were provided by RWDI (2017a) for annual dust deposition inside and outside the PDA of the various project areas. Figures 3-1 to 3-4 illustrate the annualized dust deposition rates for the Mine Site, road (including construction) and port site. The figures represent the dust deposition for the following timeframes and scenarios:

- <u>Mine Site</u>: modelled scenario is for time frame 2025 – 2035, when the mine will be operating at is highest operating rate, of 30 Mtpa;
- <u>Tote Road/Rail Construction</u>: modelled scenario is for a maximum of transporting via road 6 Mtpa, during construction activities related to the rail line. This scenario occurs during the years of 2018 – 2020. In 2021, half of the rail line will be completed, and trucking of ore up to the completed section of the rail line will commence. At this time, the ore shipments will increase to 12 Mtpa, with trucking of ore occurring up to a mid-way point on Tote Road. Ore will then be transferred to rail at a temporary transfer station while the remaining parts of the rail line will be completed; and
- <u>Milne Port</u>: modelled scenario for maximum port operations, at a rate of 12 Mtpa, which occurs during the time frame of 2021 – 2035.

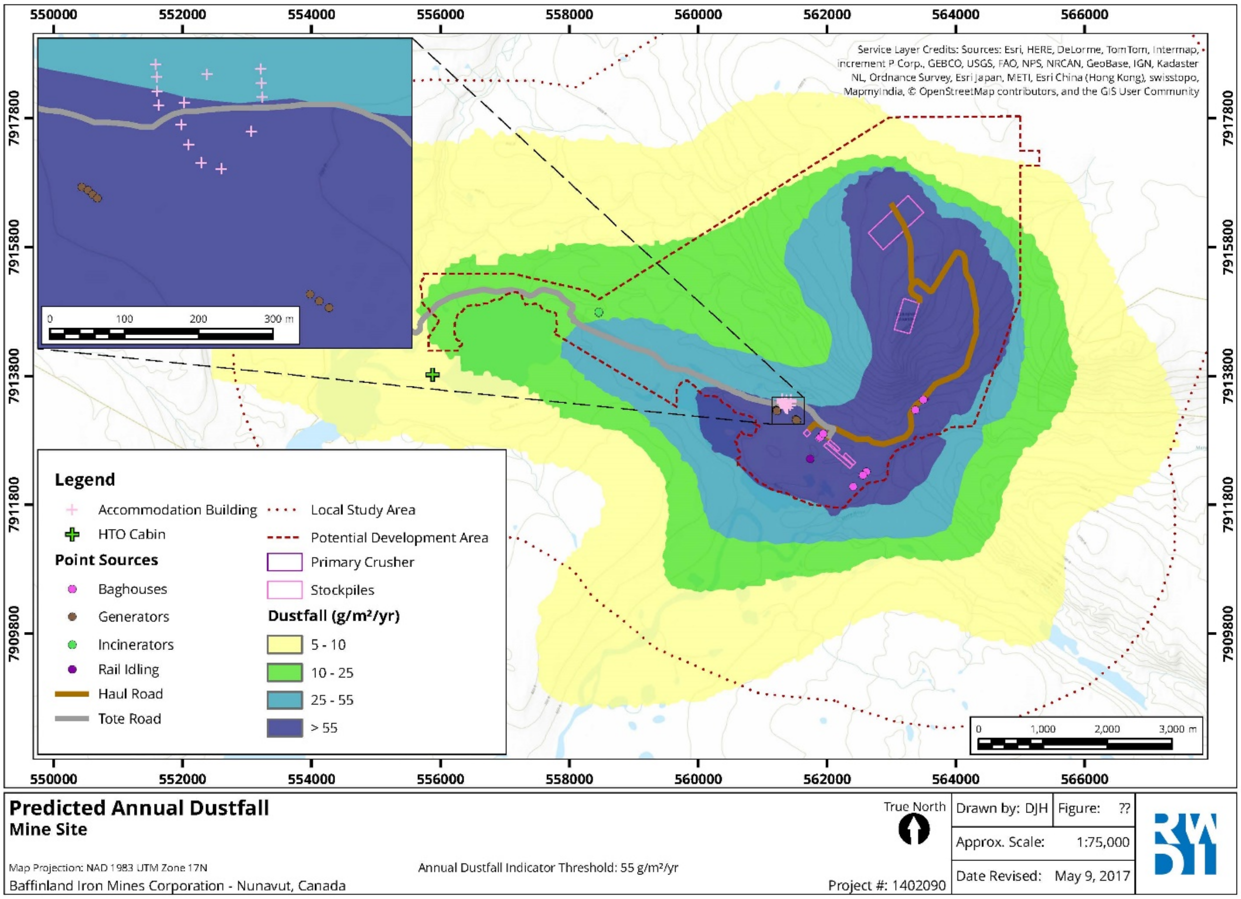

Figure 3-1 Predicted Annual Dustfall at Mine Site, based on a 30 Mtpa Operating Scenario (g/m²/year) (RWDI, 2017a)

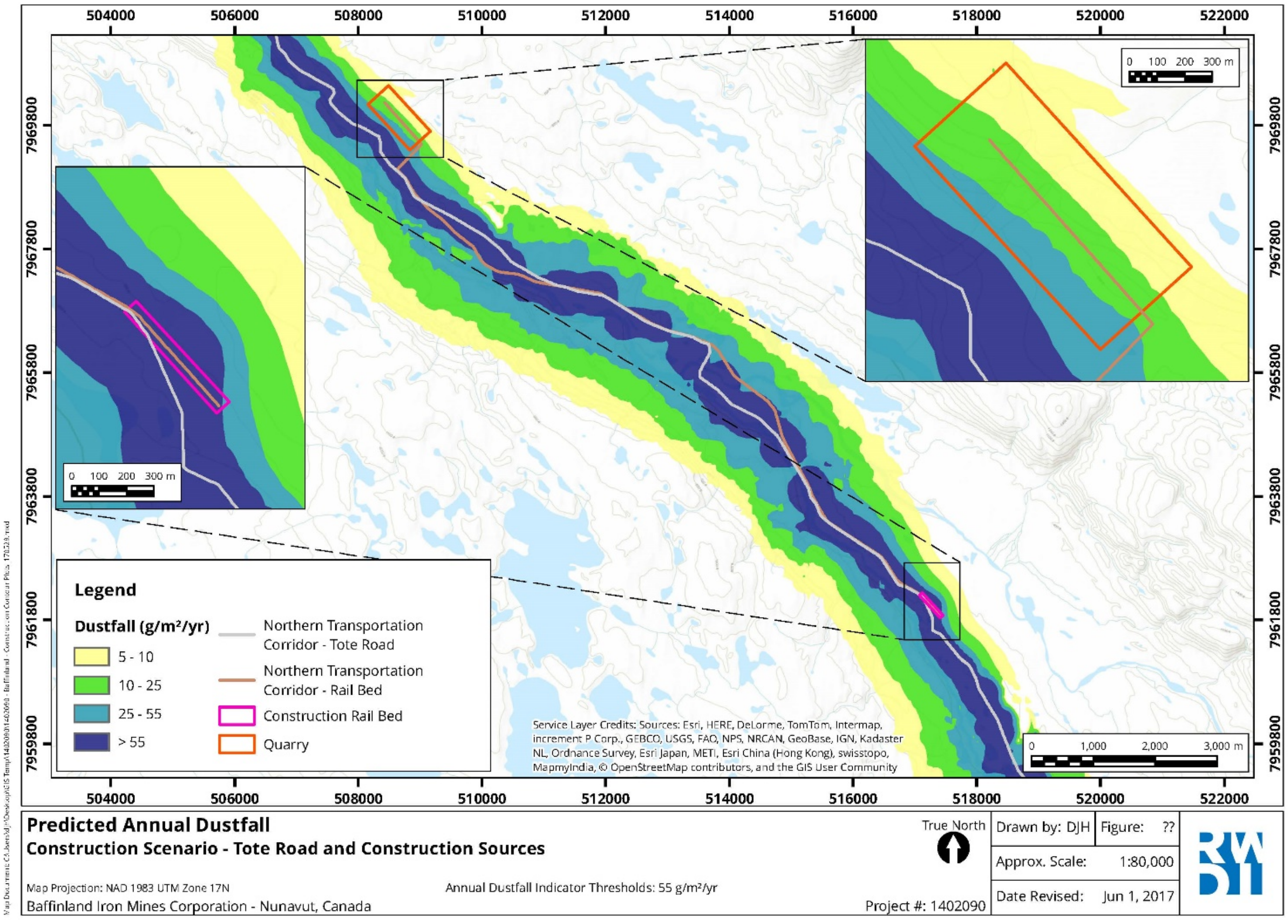

Figure 3-2 Predicted Annual Dustfall along Tote Road, during Construction of Rail line (g/m^2/year) (6 Mtpa scenario; RWDI, 2017a)

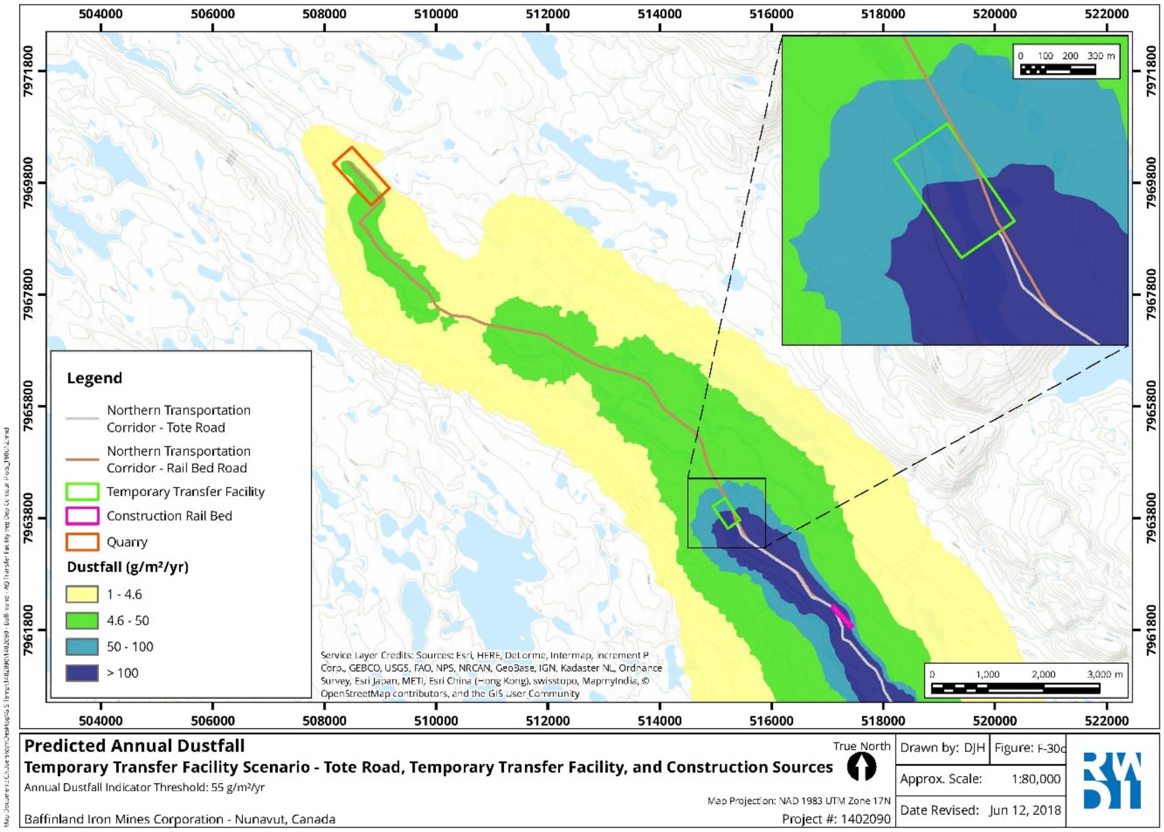

Figure 3-3 Predicted Annual Dustfall along Tote Road Including Temporary Transfer Facility, Tote Road and Construction Sources (12 Mtpa; RWDI, 2018)

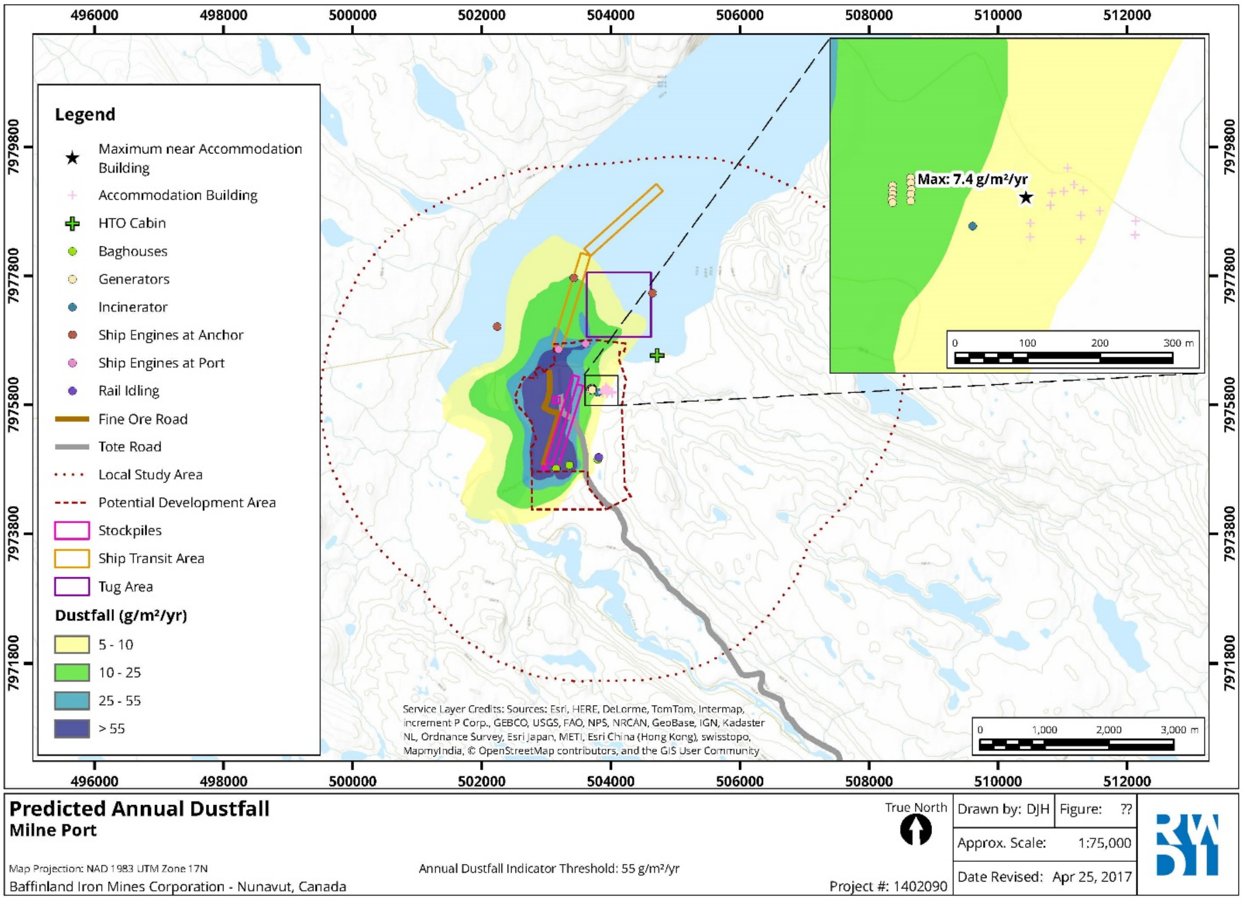

Figure 3-4 Predicted Annual Dustfall at Milne Port (g/m^2/year) (12 Mtpa scenario; RWDI, 2017a)

3.2 Selection of Dust Deposition Rates for Future Predictions

Based on the dust deposition predictions provided by RWDI (2017a), dust is expected to settle in areas inside and outside of the PDA for each of the 3 operational areas of the Project. Dust released from operational activities will be transported by air and will deposit on local soils and vegetation. The metals present in the dust will add to naturally occurring metals in soils and have the potential of being taken up into vegetation through root uptake. In addition, dust will also deposit directly on vegetation. Some foliar uptake may occur but this is likely limited. Direct ingestion of dust on vegetation is possible for both humans and caribou, particularly in light of the limited precipitation rates in the region. Based on this, caribou and humans have a potential to be exposed to dust via consumption of food sources within areas near the mine, port and roads. Since the areas inside the PDA have restricted access in terms of foraging by either humans or wildlife, upper bound estimates of dust deposition were selected for areas either at the PDA boundary, or close to the PDA boundary, for assessment purposes.

In order to predict possible future soil concentrations in areas near the Mine Site and transportation areas, dust deposition rates had to be identified for modelling purposes. As discussed in Section 3.1, RWDI modelled dust deposition for specific time frames and scenarios. Since the modelled scenarios only captured certain time frames over the entire project duration, other deposition rates had to be selected or calculated to represent dust deposition during alternative time frames, due to variable production rates over the time course of this project. The following approach was taken to identify dust deposition rates for the various scenarios:

- Where measured dustfall data were available (current scenario), these measured deposition rates were used to characterize dustfall. Measured dustfall rates were available for 2016 and 2017;
- Where predicted dustfall data were available (scenarios modelled by RWDI), dust deposition rates were selected using the isopleth figures (see Figures 3-1 to 3-4), to represent a reasonable worst case scenario for areas outside the PDA, where people and wildlife could come in contact with dust during foraging activities;
- Where no measured or modelled deposition estimates were available, either a linear scaling factor was applied (based on discussions with RWDI), to estimate dust deposition rate for the time frame in question, or dustfall rates were estimated based on modelled and measured values.

For the assessment of potential impacts, several scenarios were considered, as follows:

- For the Mine Site, dustfall rates of 55 g/m^2/year and 144 g/m^2/year were selected. The rate of 55 g/m^2/year represents a rate which generally bounds the southwestern and eastern side of the PDA (see Figure 3-1). Much of the eastern and northern side of the PDA boundary will incur lower rates of dustfall. There are areas on the eastern side, outside the PDA which will incur higher dustfall rates. The maximum Point of Impingement (MPOI) outside the PDA is 144 g/m^2/year and will occur on the south eastern side at the PDA boundary. This rate was also selected for assessment purposes. Higher dustfall rates are anticipated inside the PDA, but since this area will have restricted access during the operational period (and hence, lower exposure potential), these rates are not considered further. For perspective, the HTO cabin is identified in Figure 3-1. The dust deposition rates in this area are less than 10 g/m^2/year, and hence, will be lower than those considered in this assessment. The maximum dustfall rate of 144 g/m^2/year during peak production was assumed to occur from 2021 through to 2035, with measured rates being used for 2016 and 2017 from dustfall stations DF-M-02 and 03, which are located inside the PDA (see Table 3-1). For the 55 g/m^2/year dustfall scenario, rates in earlier years were scaled to lower dustfall rates, based on production rates. Measured dustfall rates were used for 2016 from dustfall stations DF-M-06 to 09, which are located outside the PDA. Measured data were not used for 2017, as annualized dustfall rates were not available, since dustfall was only measured during summer months, and was largely non-detect (EDI, 2018) (see Table 3-1).
- For the Tote Road, a reasonable maximum dustfall rate for the road/rail of 55 g/m^2/year was evaluated for the 6 Mtpa operating scenario (see Figure 3-2). This rate of dustfall generally occurs between 200 to 400 m from Tote Road, based on the isopleths presented

in Figure 3-2. Although higher rates occur in areas closer to the road, the areas affected by higher dustfall rates are anticipated to be limited in size. Measured dustfall rates were used for 2016 from stations DF-RS-03 and 06 and DF-RN-03 and 06 (mean). These stations are located 100 m from the mid-line of the Tote Road. For 2017, the scaled dustfall rate was very similar to mean rate from these four dustfall stations (scaled rate of 50 g/m^2/year relative to an average measured rate of 52.3 g/m^2/year; EDI, 2018). For the time period that combined rail and road transport will occur at a higher operating rate (12 Mtpa), the estimated depositional rate was doubled to 110 g/m^2/year. This rate of dustfall is estimated to generally occur between 200 to 500 m from the road, based on Figure 3-3. Possible deposition associated with the temporary transfer station, wherein ore is moved from the trucks to the railine, was discussed qualitatively, but is presented in Figure 3-3, along with the 12 Mtpa trucking scenario.

- For Milne Port, a similar approach to that used at Tote Road was applied. A reasonable maximum depositional rate of 55 g/m^2/year was considered representative of areas outside the PDA of the Milne Port area (see Figure 3-4). There is only a small area to the north of the PDA at the Port which has dustfall rates higher than 55 g/m^2/year, and the size of this area is limited. The Maximum Point of Impingement (MPOI) value for the port area, outside the PDA, was identified as 151 g/m^2/year (RWDI, personal communication). This value is similar to the mine site MPOI (144 g/m^2/year), and therefore results are not presented, as they are expected to be similar to the mine site scenario. Measured dustfall rates were used for 2016, based on stations DF-P-04 and 06. Measured dustfall from these stations in 2017 was lower than the scaled value, and hence, a scaled value was used for 2017 (see Table 3-1).

Table 3-1 provides the scaled dust deposition rates measured, modelled or estimated, for each time scenario and location, for areas outside the PDA of the mine, port and road.

Table 3-1 Operating Timeline and Magnitude and Modelling Approach - Deposition Rates

Area	2016			2017 - 2018			2019-2020			2021			2022-2023			2024			2025-2035		
	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale	Operating Rate	Dust Dep Rate	Rationale	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale	Operating Rate (Mt/a)	Dust Dep Rate $g/m^2/yr$	Rationale
Mine	3.25	79	Based on average deposition rates for 2015/2016 for DF-M-02 and DF-M-03	5.5	74.5	2017 dustfall monitoring data for DF-M-02 and 03 averaged 74.5 $g/m^2/year$ (EDI, 2018). This rate was assumed for 2017 – 2020, rather than a scaled rate	6	74.5	Assumed similar dustfall to 2017 – 2018; based on measured data (EDI, 2018)	12 Mt/a	144	Assumed Maximum Point of Impingement (MPOI) dustfall rate from 2025-2035	12	144	Assumed MPOI dustfall rate from 2025-2035	21	144	Assumed MPOI dustfall rate from 2025-2035	30	144	This is the Maximum Point of Impingement value (MPOI) for outside the PDA
	3.25	5.09	Based on average deposition rates for 2015/2016 for DF-M-06 to 09	5.5	10	Scaled from RWDI modelling of 30 Mt/a[1] (Note: the 2017 measured data for the dustfall monitoring stations DF-M-06 to 09 was largely non-detect, and an annual dust deposition rate was not reported; EDI, 2018)	6	11	Scaled from RWDI modelling of 30 Mt/a[2]	12 Mt/a	22	Scaled from RWDI modelling of 30 Mt/a scenario[3]	12	22	Same as 2021	21	39.3	Scaled from RWDI modelling of 30 Mt/a[4]	30	55	This rate is not the maximum outside the PDA (which is > 55 $g/m^2/d$), but it represents a reasonable maxima for areas that may have foraging by species or humans, outside the PDA

Area	2016			2017 - 2018			2019-2020			2021			2022-2023			2024			2025-2035		
	Operating Rate (Mt/a)	**Dust Dep Rate g/m²/yr**	**Rationale**	**Operating Rate**	**Dust Dep Rate**	**Rationale**	**Operating Rate (Mt/a)**	**Dust Dep Rate g/m²/yr**	**Rationale**	**Operating Rate (Mt/a)**	**Dust Dep Rate g/m²/yr**	**Rationale**	**Operating Rate (Mt/a)**	**Dust Dep Rate g/m²/yr**	**Rationale**	**Operating Rate (Mt/a)**	**Dust Dep Rate g/m²/yr**	**Rationale**	**Operating Rate (Mt/a)**	**Dust Dep Rate g/m²/yr**	**Rationale**
Tote Road/ Trucking	3.25	59.8	Based on average deposition rates for 2015/2016 for DF-RS-03; 06 and DF-RN-03; 06	5.5	50	Scaled from RWDI modelling of 6 Mt/a[5] (Note: measured data for 2017 at DF-RS-03; 06 and DF-RN-03; 06 averaged 52.3 g/m²/year, which is similar to the estimated value developed using scaling factors from the modelling.	6	55	RWDI predicted a 6 Mt/a scenario for trucking, combined with rail construction; selected 55 g/m²/d as a reasonable maxima for foraging by either wildlife or humans. Higher maximum exist, but limited in size (> 55 g/m²/yr)	12 Mt/a*	110	This is assessed as 1 year scenario, wherein ore will be trucked to km 56, and then moved by rail up to the port; this could last up to 2 years, and the potential impacts of 2 years are discussed qualitatively. In addition, the dust deposition implications of the Transfer station over 2 years are also considered and assessed in the text of the report	No assessment required – road transport stops.			NA			NA		
North Rail	NA	NA		NA	NA		construction			NA			12 (No assessment required)			12 (No assessment required)			12 (No assessment required)		
Milne Port	2.75	7.84	Based on average deposition rates for 2015/2016 for DF-P-04 and 06	5.5	25.2	Scaled from RWDI modelling of 12 Mt/a scenario[6] (Note: measured data for 2017 at DF-P-04 and 06 was	6	27.5	Scaled from RWDI modelling of 12 Mt/a scenario[7]	12 Mt/a	55	This rate is not the maximum outside the PDA (which is > 55 g/m²/d), but it represents a reasonable maxima for areas that may have	12	55	Same operational rate from 2021 - 2035	12	55	Same operational rate from 2021 - 2035	12	55	Same operational rate from 2021 - 2035

Area	2016			2017 - 2018			2019-2020			2021			2022-2023			2024			2025-2035		
	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale	Operating Rate	Dust Dep Rate	Rationale	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale	Operating Rate (Mt/a)	Dust Dep Rate g/m²/yr	Rationale
						lower than estimated value of 25.2 g/m²/year (mean of 13.3 g/m²/year; EDI, 2018)						foraging by species or humans, outside the PDA									

Shaded cells were used in predictions;
NA = not applicable
* = 12 Mt/a transported by truck from Mine Site to km 56, and by rail from km 56 to Milne Port in 2021

1) 30 Mta/5.5 Mta = 5.5 scaling factor; 55 g/m²/yr/5.5 = 10 g/m²/yr
2) 30 Mt/a/6 Mta = 5 scaling factor; 55 g/m²/yr/5 = 11 g/m²/yr
3) 30 Mt/a/12 Mta = 2.5 scaling factor; 55 g/m²/yr/2.5 = 22 g/m²/yr
4) 30 Mt/a/21 Mta = 1.4 scaling factor; 55 g/m2/yr/1.4 = 39.3 g/m²/yr
5) 6 Mt/a/5.5 Mta = 1.1 scaling factor; 55 g/m2/yr/1.1 = 50 g/m²/yr
6) 12 Mta/5.5 Mta = 2.18 scaling factor; 55 g/m²/yr/2.18 = 25.2 g/m²/yr
7) 12 Mta/6 Mta = 2.0 scaling factor; 55 g/m²/yr/2.0 = 27.5 g/m²/yr

4 POTENTIAL FUTURE SOIL, LICHEN AND BERRY CONCENTRATIONS, METHODOLOGY AND OUTCOMES

4.1 Approach to Predicting Future Soil Concentrations

The approach taken to estimate future incremental soil concentrations of metals utilized the following:

- Geochemistry "fingerprint" ratios for mine, port, and road dusts (see Appendix A, and Table 2-1);
- Deposition rates for areas outside the PDA based on modelled, measured and estimated depositional rates (see Table 3-1);
- Standardized equations from US EPA (2005) used to predict changes to soils from atmospheric depositional sources. These equations are used in the vast majority of Environmental Impact Assessments to predict future impacts to soils, and associated media (such as vegetation) related to dust deposition.

The predicted increments resulting from these dust deposition rates for areas outside the PDA were subsequently added to the 90th percentile of the measured baseline soil concentrations (see Table 2-2), to calculate the potential future soil concentration.

Incremental increase in soil metal concentrations were calculated using the equations below, as suggested by the US EPA (2005):

$$D_S = \left(\frac{D}{Zs \times BD}\right)$$

Where,

D_S = Annual deposition to soil over exposure duration (mg COPC/kg soil-year)
D = Yearly deposition rate of contaminant (mg/m^2-year)
Z_s = Soil mixing zone depth (assumed 20 cm mixing zone, as per US EPA, 2005)
BD = Soil bulk density (1.5 g/cm^3)

Soil concentrations were calculated on a mass per mass basis (mg/kg) based on the following equation, as suggested by the US EPA (2005):

$$C_s = \frac{D_s \times [1 - \exp(-kt \times tD)]}{kt}$$

Where,

Cs = average soil concentration over exposure duration (mg/kg soil)
Ds = deposition to soil (mg COPC/kg-soil/year)
kt = chemical soil loss constant due to all processes (degradation or loss due to erosion) (yrs-1)
tD = time period over which deposition occurs (yrs)

It was conservatively assumed that metal losses from soil (e.g., degradation, erosion, runoff), once deposited, were limited over the period of deposition and were assumed to have a half-life of 10,000 days or a rate loss constant of 0.0253 $year^{-1}$.

The following periods of deposition were assumed for each project specific time snapshot, with increased dust deposition rates over life of mine as production rates increase (see Table 3-1):

- Project 2016 assumed 1 year of deposition;
- Project 2017 to 2018 assumed 2 years of deposition;
- Project 2019 to 2020 assumed 2 years of deposition;
- Project 2021assumed 1 years of deposition;
- Project 2022 to 2023 assumed 2 years of deposition;
- Project 2024 assumed 1 years of deposition; and
- Project 2025 to 2035 assumed 11 years of deposition.

The calculated incremental metal soil concentrations were then added to the 90th percentile[1] of the measured baseline soil metals concentrations data (see Table 2-2), for each COPC.

Tables 4-1 to 4-4 present the baseline, project increment alone, and the accumulated Project incremental and final total (baseline + increment) soil metals concentrations at the end of each time snapshot within the operating period, for the Mine Site (2 dust deposition scenarios; 144 g/m^2/year and 55 g/m^2/year), Tote Road (55 g/m^2/year, increasing to 110 g/m^2/year in 2021) and Milne Port (55 g/m^2/year), for areas outside the PDA.

In Table 4-3, dust deposition will greatly reduce around Tote Road in year 2022/2023, once the switch over to rail transport from road transport is completed. Rail transport is anticipated to be associated with a much lower rate of dust deposition. Based on particle size information, over 99% of the ore will consist of particles larger than 74 microns in diameter. This size of particles is anticipated to exhibit very low wind losses, which are deemed insignificant. Therefore, dust generation from the rail operations is expected to be limited to attrition of particles during loading of rail cars, and is expected to be minimal, with no significant windblown emissions during transportation (FEIS, Volume 5).

[1] A number of regulatory agencies prefer or endorse the use of the 90th percentile for soil background or baseline concentration statistics. This would be a conservative (biased high) estimate of baseline soil concentrations in the area.

Table 4-1 Predicted Future Soil Concentrations (mg/kg) for Each Time Frame of Operations for the Mine Site Based on Increasing Dust Deposition Rates up to 144 g/m2/year (project alone and accumulated project + baseline)

Metal/COPC	*Baseline Surface Soil Concentration[a] (90th %ile) (mg/kg)*	*2016*		*2017-2018*		*2019-2020*		*2021*		*2022-2023*		*2024*		*2025-2035*	
		Project	*Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*
Aluminum	6515	7.4	6522.4	13.80	6536.2	13.8	6550.0	13.4	6563.4	26.5	6589.9	13.414	6603.274	130.434	6733.708
Antimony	<0.1	0.00364	0.104	0.00683	0.110	0.00683	0.117	0.0066	0.124	0.0131	0.137	0.0066	0.144	0.065	0.208
Arsenic	1.24	0.0087	1.25	0.01624	1.26	0.0162	1.28	0.0158	1.30	0.0312	1.33	0.016	1.344	0.153	1.497
Barium	31.3	0.0348	31.3	0.0653	31.4	0.0653	31.4	0.064	31.5	0.125	31.6	0.064	31.668	0.618	32.286
Cadmium	0.172	0.00317	0.175	0.00595	0.181	0.00595	0.187	0.0058	0.193	0.0114	0.204	0.006	0.210	0.056	0.266
Chromium	26.4	0.051	26.5	0.0951	26.5	0.095	26.6	0.092	26.7	0.183	26.9	0.092	27.008	0.899	27.907
Cobalt	4.72	0.0069	4.73	0.01292	4.74	0.0129	4.75	0.0126	4.77	0.0248	4.79	0.013	4.803	0.122	4.925
Copper	9.65	0.0419	9.69	0.0785	9.77	0.0785	9.84	0.076	9.92	0.151	10.1	0.076	10.147	0.742	10.889
Iron	20500	11.5	20511.5	21.60	20533.1	21.6	20554.7	21.0	20575.7	41.5	20617.2	20.997	20638.182	204.177	20842.359
Lead	6.67	0.0070	6.68	0.01321	6.69	0.0132	6.70	0.0128	6.72	0.0254	6.74	0.013	6.755	0.125	6.879
Manganese	203.5	0.278	204	0.522	204.3	0.522	204.8	0.507	205.3	1.00	206.3	0.507	206.838	4.932	211.769
Mercury	<0.05	0.00291	0.0529	0.00546	0.0584	0.00546	0.0638	0.0053	0.0691	0.0105	0.080	0.005	0.085	0.052	0.137
Molybdenum	0.35	0.0066	0.357	0.01229	0.369	0.0123	0.381	0.0119	0.393	0.0236	0.417	0.012	0.429	0.116	0.545
Nickel	19.3	0.0432	19.3	0.0809	19.4	0.0809	19.5	0.079	19.6	0.155	19.7	0.079	19.818	0.765	20.583
Selenium	<0.5	0.0087	0.509	0.01628	0.525	0.0163	0.541	0.0158	0.557	0.0313	0.588	0.016	0.604	0.154	0.758
Silver	<0.05	0.000249	0.0502	0.000467	0.0507	0.000467	0.0512	0.000454	0.0516	0.00090	0.0525	0.000	0.053	0.004	0.057
Strontium	21.4	0.0167	21.4	0.0314	21.4	0.0314	21.5	0.0305	21.5	0.060	21.6	0.030	21.601	0.296	21.897
Thallium	0.128	0.000116	0.128	0.0002175	0.128	0.000217	0.129	0.000211	0.129	0.00042	0.129	0.000	0.129	0.002	0.131
Tin	0.585	0.00153	0.587	0.00287	0.589	0.00287	0.592	0.00279	0.595	0.0055	0.601	0.003	0.603	0.027	0.631
Uranium	1.90	0.00182	1.90	0.00342	1.90	0.00342	1.90	0.00332	1.91	0.0066	1.91	0.003	1.917	0.032	1.949
Vanadium	28.8	0.0151	28.8	0.0284	28.8	0.0284	28.8	0.0276	28.8	0.054	28.9	0.028	28.932	0.268	29.200
Zinc	25.6	0.064	25.7	0.1195	25.8	0.119	25.9	0.116	26.0	0.229	26.2	0.116	26.364	1.129	27.493

[a] Baseline data from EDI, 2015

Table 4-2 Predicted Future Soil Concentrations (mg/kg) for Each Time Frame for the Mine Site Based on Scaled Dust Deposition Rates up to 55 g/m^2/year (project alone and accumulated project + baseline)

Metal/COPC	Baseline Surface Soil Concentration[a] (90th %ile) (mg/kg)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035	
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline
Aluminum	6515	0.474	6515.5	1.84	6517.3	2.02	6519.3	2.14	6521.5	4.2	6525.7	3.7	6529.4	49.8	6579.2
Antimony	<0.1	0.000235	0.100	0.00091	0.101	0.00100	0.102	0.00106	0.103	0.0021	0.105	0.002	0.107	0.025	0.132
Arsenic	1.24	0.00056	1.24	0.00216	1.24	0.00238	1.25	0.0025	1.25	0.0050	1.25	0.004	1.26	0.059	1.32
Barium	31.3	0.00225	31.3	0.00871	31.3	0.0096	31.3	0.0101	31.3	0.020	31.3	0.017	31.3	0.236	31.6
Cadmium	0.172	0.000204	0.172	0.000793	0.173	0.00087	0.174	0.00092	0.175	0.0018	0.177	0.002	0.178	0.021	0.20
Chromium	26.4	0.00327	26.4	0.0127	26.4	0.0139	26.4	0.0148	26.4	0.029	26.5	0.025	26.5	0.343	26.8
Cobalt	4.72	0.000444	4.72	0.00172	4.72	0.00189	4.72	0.00201	4.73	0.0040	4.73	0.003	4.733	0.047	4.780
Copper	9.65	0.00270	9.65	0.0105	9.66	0.0115	9.67	0.0122	9.68	0.024	9.71	0.021	9.727	0.283	10.0
Iron	20500	0.74	20500.7	2.88	20503.6	3.17	20506.8	3.4	20510.1	6.6	20516.8	5.731	20522.5	77.984	20600.5
Lead	6.67	0.000454	6.67	0.00176	6.67	0.00194	6.67	0.00205	6.68	0.0041	6.7	0.004	6.68	0.048	6.73
Manganese	203.5	0.0179	203.5	0.0696	203.6	0.077	203.7	0.081	203.7	0.16	203.9	0.138	204.043	1.884	205.927
Mercury	<0.05	0.000188	0.0502	0.000728	0.0509	0.00080	0.052	0.00085	0.0526	0.0017	0.0542	0.001	0.056	0.020	0.075
Molybdenum	0.35	0.000422	0.350	0.00164	0.352	0.00180	0.354	0.00191	0.356	0.0038	0.360	0.003	0.363	0.044	0.407
Nickel	19.3	0.00278	19.3	0.0108	19.3	0.0119	19.3	0.0126	19.3	0.025	19.4	0.021	19.4	0.292	19.7
Selenium	<0.5	0.00056	0.501	0.00217	0.503	0.00239	0.505	0.0025	0.508	0.0050	0.513	0.004	0.517	0.059	0.576
Silver	<0.05	0.0000161	0.0500	0.0000623	0.0501	0.000069	0.0501	0.000073	0.0502	0.000143	0.0504	0.000	0.050	0.002	0.052
Strontium	21.4	0.00108	21.4	0.00418	21.4	0.0046	21.4	0.0049	21.4	0.0096	21.4	0.008	21.433	0.113	21.546
Thallium	0.128	0.0000075	0.128	0.0000290	0.128	0.0000319	0.128	0.000034	0.128	0.000067	0.128	0.00006	0.128	0.0008	0.129
Tin	0.585	0.000099	0.585	0.000383	0.585	0.00042	0.586	0.00045	0.586	0.00088	0.587	0.0008	0.588	0.010	0.598
Uranium	1.90	0.000117	1.90	0.000456	1.90	0.00050	1.90	0.00053	1.90	0.00105	1.90	0.0009	1.899	0.012	1.911
Vanadium	28.8	0.00098	28.8	0.00378	28.8	0.0042	28.8	0.0044	28.8	0.0087	28.8	0.008	28.780	0.102	28.882
Zinc	25.6	0.00410	25.6	0.0159	25.6	0.0175	25.6	0.0185	25.7	0.037	25.7	0.032	25.724	0.431	26.156

[a] Baseline data from EDI, 2015

Table 4-3 Predicted Future Soil Concentrations (mg/kg) for Each Time Frame for Tote Road Area Based on Scaled Dust Deposition Rates of 55 g/m^2/year up to 110 g/ m^2/year (project alone and accumulated project + baseline)

Metal/ COPC	*Baseline Surface Soil Concentration[a] (90th %ile) (mg/kg)*	*2016*		*2017-2018*		*2019-2020*		*2021*		*2022-2023*		*2024*		*2025-2035*	
		Project	*Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*
Aluminum	6515	4.22	6519	6.96	6526	7.66	6534	7.76	6542	-	6542	-	6542	-	6542
Antimony	<0.1	0.000346	0.100	0.00057	0.101	0.000629	0.102	0.000637	0.102	-	0.102	-	0.102	-	0.102
Arsenic	1.24	0.0175	1.26	0.0289	1.29	0.0318	1.32	0.0322	1.35	-	1.35	-	1.35	-	1.4
Barium	31.3	0.0342	31.3	0.0564	31.3	0.0621	31.4	0.0629	31.5	-	31.5	-	31.5	-	31.5
Cadmium	0.172	0.0012	0.173	0.00196	0.175	0.00215	0.177	0.0022	0.179	-	0.179	-	0.179	-	0.179
Chromium	26.4	0.0109	26.4	0.0180	26.4	0.0198	26.4	0.020	26.5	-	26.5	-	26.5	-	26.5
Cobalt	4.72	0.00232	4.72	0.00384	4.73	0.00422	4.73	0.0043	4.73	-	4.73	-	4.73	-	4.73
Copper	9.65	0.023	9.67	0.0380	9.71	0.0418	9.75	0.0423	9.79	-	9.79	-	9.79	-	9.79
Iron	20500	6	20506	10	20516	11	20527	11	20538	-	20538	-	20538	-	20538
Lead	6.67	0.00475	6.67	0.00785	6.68	0.00863	6.69	0.0087	6.70	-	6.70	-	6.70	-	6.70
Manganese	203.5	0.0971	203.6	0.160	203.8	0.176	203.9	0.1785	204.1	-	204.1	-	204.1	-	204.1
Mercury	<0.05	0.0028	0.0528	0.00461	0.0574	0.00507	0.0625	0.0051	0.0676	-	0.0676	-	0.0676	-	0.0676
Molybdenum	0.35	0.00073	0.351	0.00121	0.352	0.00133	0.353	0.0013	0.355	-	0.355	-	0.355	-	0.355
Nickel	19.3	0.0088	19.3	0.0145	19.3	0.01600	19.3	0.0162	19.4	-	19.4	-	19.4	-	19.4
Selenium	<0.5	0.0032	0.503	0.00527	0.508	0.00580	0.514	0.0059	0.520	-	0.520	-	0.520	-	0.520
Silver	<0.05	0.000058	0.0501	0.00010	0.0502	0.00011	0.0503	0.0001	0.0504	-	0.0504	-	0.0504	-	0.0504
Strontium	21.4	0.0131	21.4	0.0216	21.4	0.0238	21.5	0.0241	21.5	-	21.5	-	21.5	-	21.5
Thallium	0.128	0.00033	0.128	0.00055	0.129	0.00060	0.129	0.0006	0.130	-	0.130	-	0.130	-	0.130
Tin	0.585	0.0010	0.586	0.00163	0.588	0.00179	0.589	0.0018	0.591	-	0.591	-	0.591	-	0.591
Uranium	1.90	0.00067	1.90	0.00111	1.90	0.00122	1.90	0.0012	1.90	-	1.90	-	1.90	-	1.90
Vanadium	28.8	0.0071	28.8	0.0117	28.8	0.0129	28.8	0.0131	28.8	-	28.8	-	28.8	-	28.8
Zinc	25.6	0.0313	25.6	0.0517	25.7	0.0569	25.7	0.0576	25.8	-	25.8	-	25.8	-	25.8

a Baseline data from EDI, 2015

Table 4-4 Predicted Future Soil Concentrations (mg/kg) for Each Time Frame of Operations of the Milne Port Area Based on Scaled Dust Deposition Rates up to 55 g/m²/year (project alone and accumulated project + baseline)

Metal/ COPC	Baseline Surface Soil Concentration[a] (90th %ile) (mg/kg)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035	
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline
Aluminum	6515	0.407	6515.41	2.59	6517.99	2.82	6520.8	2.9	6523.7	5.6	6529.3	2.86	6532.2	27.78	6559.9
Antimony	<0.1	0.000138	0.100	0.000877	0.101	0.00096	0.102	0.00097	0.103	0.00191	0.105	0.0010	0.106	0.0094	0.115
Arsenic	1.24	0.00459	1.24	0.0291	1.27	0.0318	1.31	0.032	1.34	0.064	1.40	0.03	1.43	0.31	1.75
Barium	31.3	0.00331	31.3	0.0210	31.3	0.0229	31.3	0.023	31.3	0.046	31.4	0.02	31.39	0.23	31.62
Cadmium	0.172	0.000236	0.172	0.00150	0.174	0.00163	0.18	0.00165	0.177	0.00326	0.180	0.002	0.18	0.02	0.20
Chromium	26.4	0.00171	26.4	0.0108	26.4	0.0118	26.4	0.0120	26.4	0.0236	26.5	0.01	26.47	0.12	26.59
Cobalt	4.72	0.00033	4.72	0.00212	4.72	0.00231	4.72	0.0023	4.73	0.0046	4.73	0.00	4.73	0.02	4.76
Copper	9.65	0.0058	9.65	0.0365	9.69	0.040	9.73	0.040	9.8	0.080	9.8	0.04	9.89	0.39	10.28
Iron	20500	0.79	20500.8	5.02	20505.8	5.5	20511.3	5.5	20516.8	10.9	20528	6	20533	54	20587
Lead	6.67	0.000437	6.67	0.00277	6.67	0.00303	6.68	0.0031	6.68	0.0061	6.69	0.00	6.69	0.03	6.72
Manganese	203.5	0.0166	203.5	0.105	203.6	0.115	203.7	0.116	203.9	0.230	204.1	0.12	204.2	1.13	205.3
Mercury	<0.05	0.00055	0.0506	0.00350	0.0541	0.0038	0.0579	0.0039	0.0617	0.0076	0.069	0.0039	0.07	0.04	0.11
Molybdenum	0.35	0.000116	0.350	0.000739	0.351	0.00081	0.352	0.0008	0.352	0.00161	0.354	0.0008	0.35	0.01	0.36
Nickel	19.3	0.00159	19.3	0.0101	19.3	0.0110	19.3	0.0111	19.3	0.0220	19.4	0.01	19.37	0.11	19.48
Selenium	<0.5	0.00081	0.501	0.00517	0.506	0.0056	0.512	0.0057	0.517	0.0113	0.529	0.01	0.53	0.06	0.59
Silver	<0.05	0.0000113	0.0500	0.0000719	0.0501	0.000078	0.0502	0.000079	0.0502	0.000157	0.0504	0.00008	0.05	0.0008	0.05
Strontium	21.4	0.00385	21.4	0.0245	21.4	0.0267	21.5	0.027	21.5	0.053	21.5	0.03	21.56	0.26	21.83
Thallium	0.128	0.000082	0.128	0.000519	0.129	0.00057	0.129	0.00057	0.130	0.00113	0.131	0.0006	0.13	0.0056	0.14
Tin	0.585	0.000184	0.585	0.00117	0.586	0.00127	0.588	0.00129	0.589	0.00254	0.591	0.0013	0.59	0.013	0.61
Uranium	1.90	0.000184	1.90	0.00117	1.90	0.00127	1.90	0.00129	1.90	0.00255	1.90	0.0013	1.90	0.013	1.92
Vanadium	28.8	0.00107	28.8	0.00681	28.8	0.0074	28.8	0.0075	28.8	0.0149	28.8	0.0075	28.80	0.07	28.87
Zinc	25.6	0.0136	25.6	0.0866	25.7	0.094	25.8	0.096	25.9	0.189	26.1	0.10	26.17	0.93	27.11

[a] Baseline data from EDI, 2015

4.2 Approach to Predicting Future Berry and Lichen Concentrations

The approach to predicting future berry and lichen concentrations was based on the following:

- Measured baseline concentrations were used for the project specific 2016 time snapshot and the concentrations are presented in Table 2-3;
- Deposition rates for areas outside the PDA based on modelled, measured and estimated depositional rates (see Table 3-1); and
- Standardized equations from US EPA (2005) used to predict changes to berries and lichen from atmospheric depositional sources. These equations are used in the vast majority of Environmental Impact Assessments to predict future impacts to vegetation related to dust deposition.

The predicted increments resulting from these dust deposition rates for areas outside the PDA were subsequently added to the 90th percentile of the measured baseline berry (see Table 2-4) and lichen (see Table 2-3) concentrations, to calculate the potential future concentrations.

The measured baseline concentration was correlated with the measured baseline concentration with a site-specific bio-concentration factor (BCF); therefore, if soil concentrations increased then berry and lichen concentrations increased accordingly. BCF values were calculated based on the following equation:

$$BCF = \frac{C_L}{C_S}$$

Where,

BCF	=	Site-specific berry or lichen bio-concentration factor (kg-soil / kg-plant)
C_L	=	90th percentile concentration in berry or lichen (mg-COPC / kg-lichen)
C_S	=	90th percentile concentration in soil (mg-COPC / kg-soil)

In addition to lichen uptake of COPC via soil, the future concentrations also included uptake via atmospheric deposition. The following equation was used to predict plant concentrations based on deposition (US EPA 2005):

$$Pd = \frac{D \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Where,

Pd	=	plant concentration as a result of direct deposition (mg/kg DW)
D	=	deposition (mg/m²/yr)
Rp	=	intercept fraction of edible portions of plant (unitless)
kp	=	plant surface loss coefficient (yr-1)
Tp	=	length of plant exposure to deposition (yr)
Yp	=	yield or productivity (kg DW/m²)

The US EPA OSW (2005) recommends the use of the default intercept fraction of edible portions of plant (Rp) value (unitless), because it represents the most current information available with respect to productivity and relative ingestion rates. A default Rp value of 0.5 was assumed in the assessment. The kp value is a measure of the amount of chemical lost as a result of removal by wind and water and growth dilution. The length of plant exposure was assumed to be 0.12 years or 44 days (US EPA 2005). The US EPA OSW (2005) recommends a default kp value of 18 yr^{-1}, which corresponds to a 14-day half-life. Finally, the US EPA OSW (2005) recommends using a Yp value of 0.24 kg DW/m^2 for forage and this value was assumed for predicting berry concentrations; however, a literature search was conducted to determine a more suitable productivity value specific for lichen. A recent study in Norway investigating grazing areas for reindeer reported a lichen yield of 0.15 kg DW/m^2 (Odland et al 2014) and this value was assumed in the assessment.

Predicted lichen and berry concentrations are provided in Section 5.0 and 6.0, respectively.

5 ASSESSMENT OF CARIBOU EXPOSURES TO TRACE METALS IN ORE DUST ON SOILS AND VEGETATION

This section of the report addresses the question:

- "*Will ore dust deposition from the project result in levels of metals that are harmful for the health of the caribou?*"

5.1 Background

Based on surveys and information gathered by EDI (2015; 2016), caribou currently occur at low densities in the Project area, and their abundance is cyclical (roughly a 70 year cycle of abundance). It is possible that even though their current abundance is low, caribou could be present and therefore could use habitat in some of the Project area, and could of course return to this area in future years in larger numbers. Caribou are considered to feed primarily on lichens in the study area (EDI, 2015).

A screening level assessment of caribou exposures to metals in ore dust is presented in Section 5.2, which presents comparisons of predicted future soil concentrations to ecological health-based soil quality guidelines (Section 5.2.1); discussions related to bioaccumulation potential (Section 5.2.2); an evaluation of potential future lichen concentrations (Section 5.2.3), and discussions related to dust deposition and potential for exposure across the LSA (Section 5.2.4). Conclusions are presented in Section 5.3.

5.2 Screening Level Assessment - Caribou

5.2.1 Comparison to Environmental Health-Based Soil Quality Guidelines

Total future soil concentrations (predicted increment for each time frame of operations with increasing dust deposition rates + 90th percentile baseline) for the 3 sites [Mine Site (2 dust deposition scenarios: 144 g/m^2/yr and 55 g/m^2/yr); Tote Road; Milne Port] were compared to both ecological health-based soil quality guidelines (*e.g.*, CCME, 2017; OMOE, 2016) and the maximum measured baseline soil concentrations. These comparisons were undertaken to gather perspective on whether the incremental soil concentrations, once added to baseline, will exceed soil quality guidelines or maximum baseline soil concentrations.

The soil quality guidelines used in these comparisons are derived by Canadian or U.S. regulatory agencies, and are widely used across North America for determining whether or not chemicals present in soils merit further study. CCME ecological soil quality guidelines were used preferentially, and where CCME guidelines were not available, guidelines were sought from other Canadian jurisdictions, such as Ontario, preferentially, and then US EPA. Where possible, the soil quality guidelines used in the caribou screening level assessment are for an agricultural land use classification (agricultural land use guidelines are the most conservative, relative to guidelines derived for all other land uses), and were based on the lower of either vegetation or mammalian soil and food ingestion pathways. These pathway-specific guideline values are developed to be generally protective of mammalian ecological receptors, and by including the lower of either guideline, or the vegetation guideline (where one exists), it provides an added level of conservatism. It is recognized however that the toxicity information used to develop these soil quality guidelines may not consider Arctic species and environmental conditions; therefore, there is some uncertainty in the application of these values. Since no Arctic-specific soil quality guidelines exist though, the soil quality guidelines used in this evaluation are considered to be reasonable benchmarks for determining which metals require further assessment in relation to potential caribou exposures.

In addition to soil quality guideline comparisons, it is also important to consider the naturally occurring metals levels in the existing environment (*i.e.*, baseline conditions). The available baseline dataset for metals levels in soils is reasonable (N = 66 for most elements), and provides an indication of existing natural metals soil concentration ranges within the region (see Table 2-2). The baseline soil chemistry data provides an additional benchmark of comparison to identify which metals could become significantly elevated in local soils as a result of ore dust deposition.

Where predicted future metals soil concentrations (baseline + project increment, accumulated over the time frames considered in the assessment) are below the applicable agricultural or residential land use soil quality guidelines, and within the range of measured baseline soil concentrations (which is the same as being less than the maximum baseline soil concentrations), there is a reasonably high degree of confidence that caribou health will not be adversely affected. If predicted future metals soil concentrations (baseline + project increment) are greater than both the applicable soil quality guideline and the maximum baseline soil concentration, caribou are not necessarily at risk, but, further evaluation would be appropriate. Only strontium lacked a soil quality guideline, and therefore comparisons can only be made to maximum baseline soil concentrations. Exceedances of future soil concentrations above the baseline maxima were considered to require further discussion/evaluation.

Table 5-1 and 5-2 presents the soil quality guideline and maximum baseline concentration comparisons for both the 144 g/m^2/year and 55 g/m^2/year dust deposition scenarios at the Mine Site, whereas Table 5-3 presents the Tote Road scenario (at 55 g/m^2/year, up to 110 g/m^2/year) and Table 5-4 presents the Milne Port scenario (at 55 g/m^2/year). Note that the dust deposition rates vary between time frames as operations scale up, and are not at 144 or 55 g/m^2/year during all years (see Table 3-1).

Table 5-1 Predicted Future Soil Concentrations for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 144 g/m²/year, Compared to Ecological-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	*Baseline Surface Soil Concentration (90th %ile) (mg/kg)*	*2016*		*2017-2018*		*2019-2020*		*2021*		*2022-2023*		*2024*		*2025-2035*		*Soil Quality Guideline[a]*	*Maximum Baseline[*]*
		Project	*Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*		
Aluminum	6515	7.4	6522.4	13.80	6536.2	13.8	6550.0	13.4	6563.4	26.5	6589.9	13.414	6603.274	130.434	6733.708	pH < 5.5b	39300
Antimony	<0.1	0.00364	0.104	0.00683	0.110	0.00683	0.117	0.0066	0.124	0.0131	0.137	0.0066	0.144	0.065	0.208	20c	0.85
Arsenic	1.24	0.0087	1.25	0.01624	1.26	0.0162	1.28	0.0158	1.30	0.0312	1.33	0.016	1.344	0.153	1.497	17	4.14
Barium	31.3	0.0348	31.3	0.0653	31.4	0.0653	31.4	0.064	31.5	0.125	31.6	0.064	31.668	0.618	32.286	390c	132
Cadmium	0.172	0.00317	0.175	0.00595	0.181	0.00595	0.187	0.0058	0.193	0.0114	0.204	0.006	0.210	0.056	0.266	3.8/10	0.275
Chromium	26.4	0.051	26.5	0.0951	26.5	0.095	26.6	0.092	26.7	0.183	26.9	0.092	27.008	0.899	27.907	64	55.7
Cobalt	4.72	0.0069	4.73	0.01292	4.74	0.0129	4.75	0.0126	4.77	0.0248	4.79	0.013	4.803	0.122	4.925	40c	17.5
Copper	9.65	0.0419	9.69	0.0785	9.77	0.0785	9.84	0.076	9.92	0.151	10.1	0.076	10.147	0.742	10.889	63	48.4
Iron	20500	11.5	20511.5	21.60	20533.1	21.6	20554.7	21.0	20575.7	41.5	20617.2	20.997	20638.182	204.177	20842.359	pH 5-8d	90500
Lead	6.67	0.0070	6.68	0.01321	6.69	0.0132	6.70	0.0128	6.72	0.0254	6.74	0.013	6.755	0.125	6.879	70/300	31.7
Manganese	203.5	0.278	204	0.522	204.3	0.522	204.8	0.507	205.3	1.00	206.3	0.507	206.838	4.932	211.769	220/4000f	416
Mercury	<0.05	0.00291	0.0529	0.00546	0.0584	0.00546	0.0638	0.0053	0.0691	0.0105	0.080	0.005	0.085	0.052	0.137	12	0.152
Molybdenum	0.35	0.0066	0.357	0.01229	0.369	0.0123	0.381	0.0119	0.393	0.0236	0.417	0.012	0.429	0.116	0.545	6.9c	2.53
Nickel	19.3	0.0432	19.3	0.0809	19.4	0.0809	19.5	0.079	19.6	0.155	19.7	0.079	19.818	0.765	20.583	50	39.4
Selenium	<0.5	0.0087	0.509	0.01628	0.525	0.0163	0.541	0.0158	0.557	0.0313	0.588	0.016	0.604	0.154	0.758	1	0.51
Silver	<0.05	0.000249	0.0502	0.000467	0.0507	0.000467	0.0512	0.000454	0.0516	0.00090	0.0525	0.000	0.053	0.004	0.057	20c	0.198
Strontium	21.4	0.0167	21.4	0.0314	21.4	0.0314	21.5	0.0305	21.5	0.060	21.6	0.030	21.601	0.296	21.897	NGA	83.3
Thallium	0.128	0.000116	0.128	0.0002175	0.128	0.000217	0.129	0.000211	0.129	0.00042	0.129	0.000	0.129	0.002	0.131	1/1.4	0.435
Tin	0.585	0.00153	0.587	0.00287	0.589	0.00287	0.592	0.00279	0.595	0.0055	0.601	0.003	0.603	0.027	0.631	5g	2.66
Uranium	1.90	0.00182	1.90	0.00342	1.90	0.00342	1.90	0.00332	1.91	0.0066	1.91	0.003	1.917	0.032	1.949	33/500	6.13
Vanadium	28.8	0.0151	28.8	0.0284	28.8	0.0284	28.8	0.0276	28.8	0.054	28.9	0.028	28.932	0.268	29.200	86e	83.9
Zinc	25.6	0.064	25.7	0.1195	25.8	0.119	25.9	0.116	26.0	0.229	26.2	0.116	26.364	1.129	27.493	200	118

Notes:

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are ecological health-based soil quality guidelines for residential / parkland and agricultural land use (agricultural guidelines are applicable to wildlands). Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] U.S. EPA (2003a); for soils with pH <5.5 Al should be retained as a COC. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[c] OMOE (Ontario Ministry of the Environment; 2016) soil component value. Value presented is lower of the mammal / bird and plant / soil organism soil component value.

[d] U.S. EPA (2003b); for soils with pH between 5 and 8, iron is considered non-toxic. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[e] OMOE Soil Component Value, based on background

[f] U.S. EPA EcoSSL (https://rais.ornl.gov/documents/eco-ssl_manganese.pdf); vegetation / mammalian soil quality guidelines

[g] Alberta Environment, 2016; http://aep.alberta.ca/land/land-industrial/inspections-and-compliance/documents/AlbertaTier1Guidelines-Feb02-2016A.pdf

Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations

[*] Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Table 5-2 Predicted Future Soil Concentrations for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 55 g/m²/year, Compared to Ecological-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	Baseline Surface Soil Concentration (90th %ile) (mg/kg)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035		Soil Quality Guideline[a]	Maximum Baseline*
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline		
Aluminum	6515	0.474	6515.5	1.84	6517.3	2.02	6519.3	2.14	6521.5	4.2	6525.7	3.7	6529.4	49.8	6579.2	pH < 5.5[b]	39300
Antimony	<0.1	0.000235	0.100	0.00091	0.101	0.00100	0.102	0.00106	0.103	0.0021	0.105	0.002	0.107	0.025	0.132	20[c]	0.85
Arsenic	1.24	0.00056	1.24	0.00216	1.24	0.00238	1.25	0.0025	1.25	0.0050	1.25	0.004	1.26	0.059	1.32	17	4.14
Barium	31.3	0.00225	31.3	0.00871	31.3	0.0096	31.3	0.0101	31.3	0.020	31.3	0.017	31.3	0.236	31.6	390[c]	132
Cadmium	0.172	0.000204	0.172	0.000793	0.173	0.00087	0.174	0.00092	0.175	0.0018	0.177	0.002	0.178	0.021	0.20	3.8/10	0.275
Chromium	26.4	0.00327	26.4	0.0127	26.4	0.0139	26.4	0.0148	26.4	0.029	26.5	0.025	26.5	0.343	26.8	64	55.7
Cobalt	4.72	0.000444	4.72	0.00172	4.72	0.00189	4.72	0.00201	4.73	0.0040	4.73	0.003	4.733	0.047	4.780	40[c]	17.5
Copper	9.65	0.00270	9.65	0.0105	9.66	0.0115	9.67	0.0122	9.68	0.024	9.71	0.021	9.727	0.283	10.0	63	48.4
Iron	20500	0.74	20500.7	2.88	20503.6	3.17	20506.8	3.4	20510.1	6.6	20516.8	5.731	20522.5	77.984	20600.5	pH 5-8[d]	90500
Lead	6.67	0.000454	6.67	0.00176	6.67	0.00194	6.67	0.00205	6.68	0.0041	6.7	0.004	6.68	0.048	6.73	70/300	31.7
Manganese	203.5	0.0179	203.5	0.0696	203.6	0.077	203.7	0.081	203.7	0.16	203.9	0.138	204.043	1.884	205.927	220/4000[f]	416
Mercury	<0.05	0.000188	0.0502	0.000728	0.0509	0.00080	0.052	0.00085	0.0526	0.0017	0.0542	0.001	0.056	0.020	0.075	12	0.152
Molybdenum	0.35	0.000422	0.350	0.00164	0.352	0.00180	0.354	0.00191	0.356	0.0038	0.360	0.003	0.363	0.044	0.407	6.9[c]	2.53
Nickel	19.3	0.00278	19.3	0.0108	19.3	0.0119	19.3	0.0126	19.3	0.025	19.4	0.021	19.4	0.292	19.7	50	39.4
Selenium	<0.5	0.00056	0.501	0.00217	0.503	0.00239	0.505	0.0025	0.508	0.0050	<u>0.513</u>	0.004	<u>0.517</u>	0.059	<u>0.576</u>	1	0.51
Silver	<0.05	0.0000161	0.0500	0.0000623	0.0501	0.000069	0.0501	0.000073	0.0502	0.000143	0.0504	0.000	0.050	0.002	0.052	20[c]	0.198
Strontium	21.4	0.00108	21.4	0.00418	21.4	0.0046	21.4	0.0049	21.4	0.0096	21.4	0.008	21.433	0.113	21.546	NGA	83.3
Thallium	0.128	0.0000075	0.128	0.0000290	0.128	0.0000319	0.128	0.000034	0.128	0.000067	0.128	0.00006	0.128	0.0008	0.129	1/1.4	0.435
Tin	0.585	0.000099	0.585	0.000383	0.585	0.00042	0.586	0.00045	0.586	0.00088	0.587	0.0008	0.588	0.010	0.598	5[g]	2.66
Uranium	1.90	0.000117	1.90	0.000456	1.90	0.00050	1.90	0.00053	1.90	0.00105	1.90	0.0009	1.899	0.012	1.911	33/500	6.13
Vanadium	28.8	0.00098	28.8	0.00378	28.8	0.0042	28.8	0.0044	28.8	0.0087	28.8	0.008	28.780	0.102	28.882	86[e]	83.9
Zinc	25.6	0.00410	25.6	0.0159	25.6	0.0175	25.6	0.0185	25.7	0.037	25.7	0.032	25.724	0.431	26.156	200	118

Notes:

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are ecological health-based soil quality guidelines for residential / parkland and agricultural land use (agricultural guidelines are applicable to wildlands). Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] U.S. EPA (2003a); for soils with pH <5.5 Al should be retained as a COC. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[c] OMOE (Ontario Ministry of the Environment; 2016) soil component value. Value presented is lower of the mammal / bird and plant / soil organism soil component value.

[d] U.S. EPA (2003b); for soils with pH between 5 and 8, iron is considered non-toxic. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[e] OMOE Soil Component Value, based on background

[f] U.S. EPA EcoSSL (https://rais.ornl.gov/documents/eco-ssl_manganese.pdf); vegetation / mammalian soil quality guidelines

[g] Alberta Environment, 2016; http://aep.alberta.ca/land/land-industrial/inspections-and-compliance/documents/AlbertaTier1Guidelines-Feb02-2016A.pdf

Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations

* Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Table 5-3 Predicted Future Soil Concentrations for Time Frame of Operations at Tote Road Based on a Scaled Dust Deposition Rate of 55 g/m^2/year up to 110 g/m^2/year, Compared to Ecological-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	*Baseline Surface Soil Concentration (90th %ile)*	*2016*		*2017-2018*		*2019-2020*		*2021*		*2022-2023*		*2024*		*2025-2035*		*Soil Quality Guideline[a]*	*Maximum Baseline[*]*
		Project	*Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Projec t*	*Accumulate d Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*		
Aluminum	6515	4.22	6519	6.96	6526	7.66	6534	7.76	6542	-	6542	-	6542	-	6542	pH < 5.5[b]	39300
Antimony	<0.1	0.00034 6	0.100	0.00057	0.101	0.00062 9	0.102	0.000637	0.102	-	0.102	-	0.102	-	0.102	20[c]	0.85
Arsenic	1.24	0.0175	1.26	0.0289	1.29	0.0318	1.32	0.0322	1.35	-	1.35	-	1.35	-	1.4	17	4.14
Barium	31.3	0.0342	31.3	0.0564	31.3	0.0621	31.4	0.0629	31.5	-	31.5	-	31.5	-	31.5	390[c]	132
Cadmium	0.172	0.0012	0.173	0.00196	0.175	0.00215	0.177	0.0022	0.179	-	0.179	-	0.179	-	0.179	3.8/10	0.275
Chromium	26.4	0.0109	26.4	0.0180	26.4	0.0198	26.4	0.020	26.5	-	26.5	-	26.5	-	26.5	64	55.7
Cobalt	4.72	0.00232	4.72	0.00384	4.73	0.00422	4.73	0.0043	4.73	-	4.73	-	4.73	-	4.73	40[c]	17.5
Copper	9.65	0.023	9.67	0.0380	9.71	0.0418	9.75	0.0423	9.79	-	9.79	-	9.79	-	9.79	63	48.4
Iron	20500	6	20506	10	20516	11	20527	11	20538	-	20538	-	20538	-	20538	pH 5-8[d]	90500
Lead	6.67	0.00475	6.67	0.00785	6.68	0.00863	6.69	0.0087	6.70	-	6.70	-	6.70	-	6.70	70/300	31.7
Manganese	203.5	0.0971	203.6	0.160	203.8	0.176	203.9	0.1785	204.1	-	204.1	-	204.1	-	204.1	220/4000[f]	416
Mercury	<0.05	0.0028	0.0528	0.00461	0.0574	0.00507	0.0625	0.0051	0.0676	-	0.0676	-	0.0676	-	0.0676	12	0.152
Molybdenum	0.35	0.00073	0.351	0.00121	0.352	0.00133	0.353	0.0013	0.355	-	0.355	-	0.355	-	0.355	6.9[c]	2.53
Nickel	19.3	0.0088	19.3	0.0145	19.3	0.01600	19.3	0.0162	19.4	-	19.4	-	19.4	-	19.4	50	39.4
Selenium	<0.5	0.0032	0.503	0.00527	0.508	0.00580	0.514	0.0059	0.520	-	0.520	-	0.520	-	0.520	1	0.51
Silver	<0.05	0.00005 8	0.0501	0.00010	0.0502	0.00011	0.0503	0.0001	0.0504	-	0.0504	-	0.0504	-	0.0504	20[c]	0.198
Strontium	21.4	0.0131	21.4	0.0216	21.4	0.0238	21.5	0.0241	21.5	-	21.5	-	21.5	-	21.5	NGA	83.3
Thallium	0.128	0.00033	0.128	0.00055	0.129	0.00060	0.129	0.0006	0.130	-	0.130	-	0.130	-	0.130	1/1.4	0.435
Tin	0.585	0.0010	0.586	0.00163	0.588	0.00179	0.589	0.0018	0.591	-	0.591	-	0.591	-	0.591	5[g]	2.66
Uranium	1.90	0.00067	1.90	0.00111	1.90	0.00122	1.90	0.0012	1.90	-	1.90	-	1.90	-	1.90	33/500	6.13
Vanadium	28.8	0.0071	28.8	0.0117	28.8	0.0129	28.8	0.0131	28.8	-	28.8	-	28.8	-	28.8	86[e]	83.9
Zinc	25.6	0.0313	25.6	0.0517	25.7	0.0569	25.7	0.0576	25.8	-	25.8	-	25.8	-	25.8	200	118

Notes:

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are ecological health-based soil quality guidelines for residential / parkland and agricultural land use (agricultural guidelines are applicable to wildlands). Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] U.S. EPA (2003a); for soils with pH <5.5 Al should be retained as a COC. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[c] OMOE (Ontario Ministry of the Environment; 2016) soil component value. Value presented is lower of the mammal / bird and plant / soil organism soil component value.

[d] U.S. EPA (2003b); for soils with pH between 5 and 8, iron is considered non-toxic. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[e] OMOE Soil Component Value, based on background

[f] U.S. EPA EcoSSL (https://rais.ornl.gov/documents/eco-ssl_manganese.pdf); vegetation / mammalian soil quality guidelines

[g] Alberta Environment, 2016; http://aep.alberta.ca/land/land-industrial/inspections-and-compliance/documents/AlbertaTier1Guidelines-Feb02-2016A.pdf

Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations

[*] Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Table 5-4 Predicted Future Soil Concentrations for Time Frame of Operations at Milne Port Based on a Scaled Dust Deposition Rate up to 55 g/m^2/year, Compared to Ecological-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	*Baseline Surface Soil Concentration (90th %ile)*	*2016*		*2017-2018*		*2019-2020*		*2021*		*2022-2023*		*2024*		*2025-2035*		*Soil Quality Guideline[a]*	*Maximum Baseline**
		Project	*Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*	*Project*	*Accumulated Project + Baseline*		
Aluminum	6515	0.407	6515.41	2.59	6517.99	2.82	6520.8	2.9	6523.7	5.6	6529.3	2.86	6532.2	27.78	6559.9	pH < 5.5[b]	39300
Antimony	<0.1	0.000138	0.100	0.000877	0.101	0.00096	0.102	0.00097	0.103	0.00191	0.105	0.0010	0.106	0.0094	0.115	20[c]	0.85
Arsenic	1.24	0.00459	1.24	0.0291	1.27	0.0318	1.31	0.032	1.34	0.064	1.40	0.03	1.43	0.31	1.75	17	4.14
Barium	31.3	0.00331	31.3	0.0210	31.3	0.0229	31.3	0.023	31.3	0.046	31.4	0.02	31.39	0.23	31.62	390[c]	132
Cadmium	0.172	0.000236	0.172	0.00150	0.174	0.00163	0.18	0.00165	0.177	0.00326	0.180	0.002	0.18	0.02	0.20	3.8/10	0.275
Chromium	26.4	0.00171	26.4	0.0108	26.4	0.0118	26.4	0.0120	26.4	0.0236	26.5	0.01	26.47	0.12	26.59	64	55.7
Cobalt	4.72	0.00033	4.72	0.00212	4.72	0.00231	4.72	0.0023	4.73	0.0046	4.73	0.00	4.73	0.02	4.76	40[c]	17.5
Copper	9.65	0.0058	9.65	0.0365	9.69	0.040	9.73	0.040	9.8	0.080	9.8	0.04	9.89	0.39	10.28	63	48.4
Iron	20500	0.79	20500.8	5.02	20505.8	5.5	20511.3	5.5	20516.8	10.9	20528	6	20533	54	20587	pH 5-8[d]	90500
Lead	6.67	0.000437	6.67	0.00277	6.67	0.00303	6.68	0.0031	6.68	0.0061	6.69	0.00	6.69	0.03	6.72	70/300	31.7
Manganese	203.5	0.0166	203.5	0.105	203.6	0.115	203.7	0.116	203.9	0.230	204.1	0.12	204.2	1.13	205.3	220/4000[f]	416
Mercury	<0.05	0.00055	0.0506	0.00350	0.0541	0.0038	0.0579	0.0039	0.0617	0.0076	0.069	0.0039	0.07	0.04	0.11	12	0.152
Molybdenum	0.35	0.000116	0.350	0.000739	0.351	0.00081	0.352	0.0008	0.352	0.00161	0.354	0.0008	0.35	0.01	0.36	6.9[c]	2.53
Nickel	19.3	0.00159	19.3	0.0101	19.3	0.0110	19.3	0.0111	19.3	0.0220	19.4	0.01	19.37	0.11	19.48	50	39.4
Selenium	<0.5	0.00081	0.501	0.00517	0.506	0.0056	0.512	0.0057	0.517	0.0113	0.529	0.01	0.53	0.06	0.59	1	0.51
Silver	<0.05	0.0000113	0.0500	0.0000719	0.0501	0.000078	0.0502	0.000079	0.0502	0.000157	0.0504	0.00008	0.05	0.0008	0.05	20[c]	0.198
Strontium	21.4	0.00385	21.4	0.0245	21.4	0.0267	21.5	0.027	21.5	0.053	21.5	0.03	21.56	0.26	21.83	NGA	83.3
Thallium	0.128	0.000082	0.128	0.000519	0.129	0.00057	0.129	0.00057	0.130	0.00113	0.131	0.0006	0.13	0.0056	0.14	1/1.4	0.435
Tin	0.585	0.000184	0.585	0.00117	0.586	0.00127	0.588	0.00129	0.589	0.00254	0.591	0.0013	0.59	0.013	0.61	5[g]	2.66
Uranium	1.90	0.000184	1.90	0.00117	1.90	0.00127	1.90	0.00129	1.90	0.00255	1.90	0.0013	1.90	0.013	1.92	33/500	6.13
Vanadium	28.8	0.00107	28.8	0.00681	28.8	0.0074	28.8	0.0075	28.8	0.0149	28.8	0.0075	28.80	0.07	28.87	86[e]	83.9
Zinc	25.6	0.0136	25.6	0.0866	25.7	0.094	25.8	0.096	25.9	0.189	26.1	0.10	26.17	0.93	27.11	200	118

Notes:

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are ecological health-based soil quality guidelines for residential / parkland and agricultural land use (agricultural guidelines are applicable to wildlands). Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] U.S. EPA (2003a); for soils with pH <5.5 Al should be retained as a COC. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[c] OMOE (Ontario Ministry of the Environment; 2016) soil component value. Value presented is lower of the mammal / bird and plant / soil organism soil component value.

[d] U.S. EPA (2003b); for soils with pH between 5 and 8, iron is considered non-toxic. The pH of 68 soil samples analyzed ranged 4.58 to 8.81 with an average pH of 6.57.

[e] OMOE Soil Component Value, based on background

[f] U.S. EPA EcoSSL (https://rais.ornl.gov/documents/eco-ssl_manganese.pdf); vegetation / mammalian soil quality guidelines

[g] Alberta Environment, 2016; http://aep.alberta.ca/land/land-industrial/inspections-and-compliance/documents/AlbertaTier1Guidelines-Feb02-2016A.pdf

Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations; *Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Based on the comparisons presented in Table 5-1 to 5-4, none of the predicted incremental + baseline soils exceed soil quality guidelines. With respect to whether predicted future soil concentrations exceed the maximum baseline soil concentration, only selenium exceeds maximum baseline (Table 5-1 – Table 5-4), but predicted future concentrations remaining below the soil quality guideline (baseline + increment combined). Selenium is actually non-detect in all dustfall samples, and hence, this exceedance is a function of the conservative assumptions used in the assessment (see Appendix A for dustfall data). Selenium is also not detected in all but 1 baseline soil sample; as such, the incremental contributions from the Project are being added to a detection limit, which is biasing the baseline soil concentration high (see Tables 5-1 to 5-4). Mine operations do not involve chemical processing, and as such, no alteration in the natural chemical speciation is anticipated to occur.

For the Tote Road scenario, if the temporary transfer facility and road trucking at 12 Mtpa were to continue for 2 years, rather than a single year, the incremental contributions identified in Table 5-3 in year 2021 would be estimated to double. This scenario would not have any effect on the conclusions indicated in the preceding paragraph.

5.2.2 Bioaccumulation and Existing Monitoring Data Considerations

Metals are found naturally in the environment, and occur in virtually all environmental media, irrespective of anthropogenic sources. As such, numerous metals are present at measurable concentrations in baseline soil and vegetation samples (see Tables 2-2 to 2-4).

As a check mechanism for the identification of the metals of interest in the current evaluation, the bioaccumulation and/or biomagnification potential of each metal of interest was reviewed, in order to identify those metals with the potential to bioaccumulate in terrestrial organisms and/or biomagnify within terrestrial food webs, such that there could be significant transfer of the metals from soil and plants to higher trophic levels. If a substance does not bioaccumulate to any significant degree within terrestrial organisms, it will not biomagnify in higher trophic levels. For some metals where the literature indicates a moderate or high potential for bioaccumulation, the nutrient status of that metal is important to consider. A number of metals are essential macro or micronutrients and organisms physiologically regulate the uptake, metabolism and excretion of these substances. While these substances may be actively absorbed from environmental media to concentrations in tissues and organs that can substantially exceed the media concentrations, it does not necessarily mean that the concentrations of such substances will increase further in the food chain. The primary metals of interest, with respect to bioaccumulation are cadmium, lead, thallium, selenium (Intrinsik, 2010; FEIS). In addition, concerns are also typically expressed related to toxicity of arsenic, and biomagnification potential for mercury (which is only anticipated to occur in aquatic environments, as opposed to terrestrial environments).

Within the environmental monitoring program associated with current operations at the Project (EDI, 2015), several Chemicals of Potential Concern (COPCs) have been focused on when assessing the soils and vegetation collected pre-operations, and since that time. These COPCs include aluminum, arsenic, cadmium, copper, lead, selenium and zinc (see Section 2.2 for rationale).

Examination of the soil concentration increments for either the bioaccumulative inorganics (cadmium, lead, selenium and thallium), or other potential COPCs identified (aluminum, arsenic, copper, mercury and zinc) indicates that the predicted incremental contributions from the mine, road or port operations are small and unlikely to pose a risk to caribou or other wildlife (Tables 5-1 to 5-4). In addition, and most importantly, selenium and mercury are non-detect in all dustfall samples taken to date at the mine, port and road and hence, are not present in measureable concentrations in ore (see Appendix A). Similarly, cadmium is only detected in a total of 3 dustfall samples taken in 2015 and 2016 at either the mine or port (non-detect at all near-field road dustfall samples), and hence is not present in concentrations of concern in ore or dustfall. Arsenic and thallium are also most frequently non-detect in dustfall (see Appendix A).

While the predicted future soil concentration of selenium slightly exceeds the maximum baseline soil concentrations, they do not exceed conservative soil quality guidelines (Table 5-1 to Table 5-4). As such, future soil concentrations of selenium are not considered to pose an ecological health concern for caribou. Selenium is an essential element, but does exert toxicity if exposure levels are elevated. Based on the current predictions, there is negligible risk of this occurring. In addition, the baseline soil selenium concentration is non-detect (< 0.5 mg/kg), and the increments predicted are being added to the detection limit, and therefore are being overestimated. Selenium is non-detect in the ore, and hence, not of concern (see Appendix A).

An important factor which has not been considered in the bioaccumulation check is the potential bioavailability of the metals within the ore dust in the environment, once released. The form of metal present in the environment is a major factor influencing metals accumulation in species and dietary items (Chapman, 2008). Bioavailability refers to the extent and rate to which a chemical can be absorbed into the systemic circulation of an organism, and potentially produce an adverse effect (Hrudey *et al*., 1996; Kelly *et al.,* 2002). There is a large volume of research that has been conducted which indicates that when metals in soils are ingested, only a fraction of the metal is available for absorption (as opposed to 100% of the metal). The available fraction varies depending upon the specific form of the metal present, the soil characteristics, as well as the gut characteristics of the organism ingesting the soils. Dust particulate from ore is likely to have a lower bioavailability, and hence, lower potential for uptake into vegetation or in the gut of an animal, if directly ingested.

5.2.3 Predicted Lichen Concentrations

In order to further evaluate potential for accumulation in lichen, predictions of possible future lichen concentrations were undertaken, relative to dustfall outside the PDA at the mine (55 g/m^2/year only, as higher depositional rates occur in a limited sized area), Tote Road and Milne Port. These predictions involved the use of site-specific soil to lichen uptake factors from the existing baseline data (although soil uptake is not a predominant pathway of uptake for lichen), as well as atmospheric deposition onto the lichen. Since there are no regulatory thresholds available related to lichen metals uptake, the predicted incremental concentrations are added to the 90th percentile of baseline lichen concentrations, and compared to maximum baseline lichen concentrations, for perspective. In addition, EDA (2015) has developed lichen metal thresholds for a select number of COPCs, which include the following:

- Cadmium : 30 mg/kg dry weight

- Copper: 15 mg/kg dry weight
- Lead: 5 mg/kg dry weight
- Zinc: 178 mg/kg dry weight

These thresholds were also used for comparison purposes, to speak to potential toxicity within lichen associated with metals exposures. Tables 5-5 to 5-7 present the predicted future lichen concentrations. Since caribou have large home ranges, and only a small area will be affected by higher dust rates, only the 55 g/m^2/year deposition rate is shown for the Mine Site.

Table 5-5 Predicted Future Lichen Concentrations (mg/kg-DW) for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 55 g/m^2/year, Compared to Maximum Baseline Lichen Concentrations

Metal /COPC	*Baseline Lichen Concentration (90th %ile)*	*2016*	*2017-2018*	*2019-2020*	*2021*	*2022-2023*	*2024*	*2025-2035*	*Maximum Baseline**
		Project + Baseline	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	
Aluminum	577.1	600.7	623.6	628.3	683.9	684.1	759.6	836.5	1240
Antimony	0.0147	0.0264	0.0378	0.0401	<u>0.0676</u>	<u>0.068</u>	<u>0.105</u>	<u>0.144</u>	0.064
Arsenic	0.194	0.222	0.249	0.255	0.320	0.321	0.409	0.504	1.1
Barium	18.5	18.6	18.8	18.8	19.0	19.0	19.4	19.9	43.3
Cadmium	0.193	0.204	0.214	0.216	0.240	0.241	0.273	<u>0.327</u>	0.297
Chromium	3.10	3.26	3.42	3.45	3.83	3.84	4.36	4.90	6.03
Cobalt	0.554	0.577	0.598	0.602	0.654	0.655	0.725	0.799	1.39
Copper	2.34	2.47	2.60	2.63	2.94	2.95	3.38	<u>3.85</u>	3.82
Iron	1103.0	1140.0	1175.7	1183.0	1270.1	1270.3	1388.5	1506.4	8830
Lead	2.63	2.66	2.68	2.68	2.74	2.74	2.81	2.90	6.71
Manganese	70.5	71.4	72.3	72.4	74.5	74.6	77.4	80.8	97.8
Mercury	0.0942	0.104	0.114	0.116	0.138	0.140	0.169	0.232	0.236
Molybdenum	0.134	0.156	0.176	0.181	0.230	0.231	0.298	<u>0.379</u>	0.364
Nickel	2.92	3.06	3.19	3.22	3.55	3.55	3.99	4.46	12.2
Selenium	0.105	0.133	0.160	0.166	<u>0.231</u>	<u>0.232</u>	<u>0.321</u>	<u>0.418</u>	0.197
Silver	<0.02	0.0208	0.0216	0.0218	0.0236	0.0237	0.0262	0.0293	0.045
Strontium	33.9	33.9	34.0	34.0	34.1	34.1	34.3	34.6	75.9
Thallium	0.0155	0.0159	0.0163	0.0163	0.0172	0.0172	0.0184	0.0197	0.0249
Tin	0.11	0.115	0.120	0.121	0.132	0.132	0.148	0.165	0.5
Uranium	0.23	0.236	0.242	0.243	0.257	0.257	0.275	0.295	0.847
Vanadium	1.6	1.61	1.65	1.66	1.78	1.78	1.93	2.09	3.43
Zinc	24.14	24.3	24.6	24.6	25.1	25.1	25.7	26.8	33.2

Notes:
DW: dry weight;Underlined values are > Maximum Baseline lichen concentration
* Maximum baseline lichen concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline lichen concentrations

Table 5-6 Predicted Future Lichen Concentrations (mg/kg-DW) for Time Frame of Operations at Tote Road Based on a Scaled Dust Deposition Rate up to 110 g/m^2/year, Compared to Maximum Baseline Lichen Concentrations

Metal/ COPC	*Baseline Lichen Concentration (90th %ile)*	2016 Project + Baseline	2017-2018 Accumulated Project + Baseline	2019-2020 Accumulated Project + Baseline	2021 Accumulated Project + Baseline	2022-2023 Accumulated Project + Baseline	2024 Accumulated Project + Baseline	2025-2035 Accumulated Project + Baseline	Maximum Baseline*
Aluminum	577.1	787.3	753.2	770.8	963.8	577.1	577.1	577.1	1240
Antimony	0.0147	0.0320	0.0292	0.0306	0.0465	0.0147	0.0147	0.0147	0.064
Arsenic	0.194	1.069	0.928	1.002	<u>1.804</u>	0.194	0.194	0.194	1.1
Barium	18.5	20.3	20.0	20.1	21.7	18.5	18.5	18.5	43.3
Cadmium	0.193	0.253	0.245	0.250	<u>0.304</u>	0.193	0.193	0.193	0.297
Chromium	3.10	3.64	3.55	3.60	4.10	3.10	3.10	3.10	6.03
Cobalt	0.554	0.670	0.652	0.661	0.768	0.554	0.554	0.554	1.39
Copper	2.34	3.49	3.30	3.40	<u>4.45</u>	2.34	2.34	2.34	3.82
Iron	1103.0	1404.7	1355.5	1380.8	1658.0	1103.0	1103.0	1103.0	8830
Lead	2.63	2.87	2.83	2.85	3.07	2.63	2.63	2.63	6.71
Manganese	70.5	75.4	74.6	75.0	79.4	70.5	70.5	70.5	97.8
Mercury	0.0942	<u>0.238</u>	0.219	0.2314	<u>0.3592</u>	0.0942	0.0942	0.0942	0.236
Molybdenum	0.134	0.171	0.165	0.168	0.202	0.134	0.134	0.134	0.364
Nickel	2.92	3.36	3.29	3.33	3.73	2.92	2.92	2.92	12.2
Selenium	0.105	<u>0.265</u>	<u>0.239</u>	<u>0.253</u>	<u>0.399</u>	0.105	0.105	0.105	0.197
Silver	<0.02	0.0229	0.0225	0.0227	0.0254	0.0200	0.0200	0.0200	0.045
Strontium	33.9	34.5	34.4	34.5	35.1	33.9	33.9	33.9	75.9
Thallium	0.0155	<u>0.0321</u>	<u>0.0294</u>	<u>0.0308</u>	<u>0.0460</u>	0.0155	0.0155	0.0155	0.0249
Tin	0.110	0.159	0.151	0.155	0.201	0.110	0.110	0.110	0.500
Uranium	0.23	0.264	0.258	0.261	0.292	0.230	0.230	0.230	0.847
Vanadium	1.6	1.91	1.86	1.89	2.21	1.56	1.56	1.56	3.43
Zinc	24.1	25.7	25.5	25.6	27.1	24.1	24.1	24.1	33.2

Notes:
DW: dry weight;Underlined values are > Maximum Baseline lichen concentration
* Maximum baseline lichen concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline lichen concentrations

Table 5-7 Predicted Future Lichen Concentrations (mg/kg-DW) for Time Frame of Operations at Milne Port Based on a Scaled Dust Deposition Rate up to 55 g/m^2/year, Compared to Maximum Baseline Lichen Concentrations

Metal/COPC	*Baseline Lichen Concentration (90^{th} %ile)*	*2016*	*2017-2018*	*2019-2020*	*2021*	*2022-2023*	*2024*	*2025-2035*	*Maximum Baseline**
		Project + Baseline	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	
Aluminum	577.1	597.4	642.5	648.4	719.5	719.8	719.5	721.7	1240
Antimony	0.0147	0.0216	0.0369	0.0390	0.0631	0.0632	0.0631	0.0643	0.064
Arsenic	0.194	0.423	0.933	1.00	1.80	1.81	1.80	1.85	1.1
Barium	18.5	18.7	19.1	19.1	19.7	19.7	19.7	19.8	43.3
Cadmium	0.193	0.205	0.232	0.236	0.277	0.279	0.277	0.293	0.297
Chromium	3.10	3.18	3.37	3.40	3.70	3.70	3.70	3.71	6.03
Cobalt	0.554	0.571	0.608	0.613	0.671	0.671	0.671	0.674	1.39
Copper	2.34	2.62	3.26	3.35	4.35	4.36	4.35	4.44	3.82
Iron	1103	1142.4	1229.7	1241.2	1379.1	1379.4	1379.1	1381.7	8830
Lead	2.63	2.65	2.70	2.71	2.79	2.79	2.79	2.80	6.71
Manganese	70.5	71.3	73.2	73.4	76.3	76.4	76.3	76.7	97.8
Mercury	0.0942	0.123	0.189	0.198	0.294	0.301	0.294	0.358	0.236
Molybdenum	0.134	0.140	0.153	0.155	0.175	0.176	0.175	0.178	0.364
Nickel	2.92	3.00	3.18	3.20	3.48	3.48	3.48	3.49	12.2
Selenium	0.105	0.146	0.236	0.248	0.391	0.392	0.391	0.401	0.197
Silver	<0.02	0.0206	0.0218	0.0220	0.0240	0.0240	0.0240	0.0243	0.045
Strontium	33.9	34.0	34.5	34.6	35.2	35.3	35.2	35.6	75.9
Thallium	0.0155	0.0196	0.0287	0.0299	0.0441	0.0442	0.0441	0.0448	0.0249
Tin	0.110	0.119	0.140	0.142	0.174	0.175	0.174	0.176	0.5
Uranium	0.230	0.239	0.260	0.262	0.294	0.295	0.294	0.296	0.847
Vanadium	1.56	1.61	1.73	1.75	1.93	1.93	1.93	1.94	3.43
Zinc	24.1	24.8	26.4	26.6	29.0	29.1	29.0	29.8	33.2

Notes:

DW: dry weight;Underlined values are > Maximum Baseline lichen concentration

* Maximum baseline lichen concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline lichen concentrations

Based on the predicted lichen concentrations, antimony, cadmium, copper, molybdenum and selenium were estimated to increase in concentration above baseline levels near the Mine Site (Table 5-5; 55 g/m^2/year deposition rate), whereas arsenic, cadmium, copper, mercury, selenium and thallium were estimated to increase above baseline ranges near Tote Road (Table 5-6; 55 g/m^2/year up to 110 g/m^2/year deposition rate), and arsenic, copper, mercury, selenium and thallium were estimated to increase above baseline ranges near the Port (Table 5-7; 55 g/m^2/year deposition rate). None of the toxicity thresholds developed by EDI (2015) for cadmium, copper, lead or zinc are exceeded in these predictions. The areas which will be impacted by these dustfall rates (and higher rates) largely occur within the PDA, near the PDA boundary or in close proximity to the Tote Road, and hence are limited in size (see Figures 3-1 to 3-3). In general, dustfall rates within the LSA will be much lower than those used in these predictions, and considering the large home range of caribou, exposure levels to caribou are unlikely to significantly change (if they were to forage in the area). Several of these exceedances are a function of the conservative assumptions used in the assessment (e.g., selenium and mercury are non-detect in all dustfall samples, and were assumed to be present at the detection limit; arsenic, antimony, cadmium and thallium also have a high percentages of non-detects, and only detected samples in dustfall were used to calculate the geochemistry ratios; see Appendix A).

5.2.4 Exposure Potential based on Considerations of Spatial Areas Affected by Ore Dust Deposition versus Areas used by Caribou

Based on the isopleth diagrams provided by RWDI (2017a; 2018; see Figures 3-1 to 3-4), the size of the areas potentially influenced by dust deposition rates of 55 g/m^2/yr are limited and are directly adjacent to the active operational areas at the Mine Site, along Tote Road and at Milne Port, and, for the most part, either inside or near the PDA. Therefore, based on this information, the size of areas affected by the higher dust loadings (> 55 g/m^2/yr) are relatively small and are limited to areas in proximity to the active operational areas, or within the PDAs.

Caribou are known to be present throughout the region, but have not been reported in recent surveys (EDI, 2015; 2016). They are anticipated to return in the area over time, and therefore could incur exposure to dust and soils through the consumption of vegetation containing metals, incidental ingestion of soils, and ingestion of dust present on vegetation surfaces. Individual caribou movement ranges vary from 12,062 Ha to 149,181 Ha within the caribou regional study area; with a large caribou movement area range of 1,030,880 Ha recorded that transcends the regional study area boundary (Figure 13; Appendix 6F; EDI, 2010).

Based on the limited size of the areas affected by deposition rates of 55 g/m^2/year or greater, and the fact that these areas, and areas exhibiting higher dust deposition rates, are largely within the active PDAs, the likelihood of significant metals exposures to caribou is considered to be low, particularly in light of their movement through the study area.

5.3 Summary/Conclusions for Caribou

Based on the caribou assessment conducted herein, the following can be concluded:

- Metals will be released in ore dust and have the potential to accumulate in soils, and hence, in vegetation (such as lichen). Future predicted soil concentrations of all metals considered in this assessment were either within baseline concentration ranges, or below agricultural land use soil quality guidelines, and therefore are unlikely to pose a significant risk to caribou.
- The spatial extent of dust deposition and impact to soil is predicted to rapidly decline with increasing distance from the PDA.
- Based on the estimated future soil concentrations of all metals considered, some accumulation within vegetation and other terrestrial organisms tissues is anticipated to occur, but would likely be localized to areas most affected by dust loadings which are generally limited in their spatial extent.
- Based on the size of the areas affected by deposition rates of 55 g/m^2/year or greater, and the fact that these areas, and areas exhibiting higher dust deposition rates, are limited in size and largely within the active PDAs, the likelihood of significant metals exposures to caribou is considered to be low, particularly in light of their limited exposure to impact areas due to movement through the regional study area.

Based on the lack of exceedance over ecologically-based soil quality guidelines, and the limited change to vegetation predicted in this assessment, other terrestrial wildlife species with smaller home ranges would not be anticipated to be adversely affected by the predicted levels of dustfall. There is a reasonable degree of confidence in this assessment. Lichen predictions have a degree uncertainty associated with them.

6 ASSESSMENT OF HUMAN EXPOSURES TO TRACE METALS IN ORE DUST FROM CONSUMPTION OF BLUEBERRY AND CARIBOU

This section of the report addresses the questions

- *"Will ore dust deposition from the Project result in levels of metals in blueberries that are harmful for human consumption?"*
- *"Will ore dust deposition from the project result in levels of metals in caribou tissue that are harmful for human consumption?"*
- *Potential impacts on human health from bioaccumulation and take-up of contaminants associated with changes to the level of contaminant loadings in country foods (ie., wildlife and vegetation consumed by humans).*

6.1 Background

Caribou are an integral component of a subsistence lifestyle, and are harvested and consumed by hunters from communities surrounding the Project area. While caribou are currently in low abundance in the Regional Study Area (EDI, 2016), caribou are anticipated to return to the area over the life of the mine. Other country foods, such as berries, may be potentially found within the study area, though vegetation baseline and monitoring studies have found that berries are difficult to find and therefore not abundant in the terrestrial regional study area (EDI, 2015), and Baffinland's Inuit knowledge study did not identify any berry-picking areas within the Mine Site to Milne Port study area (Baffinland, 2014).

A screening level assessment of potential human exposures to metals in blueberries and caribou meat is presented in Section 6.2, based on predicted soil concentrations, with additional discussions related to possible exposures to caribou and berries being presented in Section 6.3 Conclusions are presented in Section 6.4.

6.2 Screening Level Assessment

6.2.1 Comparison to Human Health Soil Quality Guidelines

Total future soil concentrations (predicted accumulated increment + 90th percentile baseline) for both scaled dust deposition scenarios at the Mine Site (144 g/m^2/yr and 55 g/m^2/yr), as well as Tote Road (55 g/m^2/yr up to 110 g/m^2/yr) and Milne Port (55 g/m^2/yr) were compared to human health-based soil quality guidelines (CCME, 2017; OMOE, 2016; or U.S. EPA Region 3, 2016) and the maximum measured baseline soil concentrations. The soil quality guidelines used in these comparisons were preferentially selected from CCME (2017 – agricultural or residential human health based soil quality guidelines), followed by OMOE (2016; agricultural land use). If no guidelines were available from these jurisdictions, guidelines were sought from US EPA (2016). These US guidelines are set with a Hazard Quotient (HQ) of 1, and in order to make them more conservative and in keeping with Canadian soil protocols, these values were divided by 5, to set the guideline at an HQ of 0.2, which allows exposures to also come from other exposure pathways, such as food, air quality, etc. There is some uncertainty in the application of these guidelines though, as they were not specifically derived for arctic conditions. But, since these are national generic (and conservative) guidelines that are considered broadly protective of human health, they are considered to be reasonable benchmarks for determining which metals require further assessment in the current evaluation.

As previously described in Section 5.2, in addition to soil quality guideline comparisons, it is also important to consider the naturally occurring metals levels in the existing environment (*i.e.*, baseline conditions). The available baseline dataset for metals levels in soils (N = 66) provides an indication of existing natural metals soil concentration ranges within the region (see Table 2-2). The baseline soil chemistry data provides an additional benchmark of comparison to identify which metals could become significantly elevated in local soils as a result of ore dust deposition.

Where predicted future metals soil concentrations (baseline + accumulated increment over the operations time frame) are below the applicable agricultural land use soil quality guidelines, and within the range of measured baseline soil concentrations (which is the same as being less than the maximum baseline soil concentrations), there is a reasonably high degree of confidence that human health will not be adversely affected. If predicted future metals soil concentrations (baseline + accumulated increment) are greater than both the applicable soil quality guideline and the maximum baseline soil concentration, human health risks are not necessarily indicated (given the inherently conservative nature of these guidelines), but further evaluation would be warranted.

Table 6-1 to 6-4 presents the soil quality guideline and maximum baseline concentration comparisons for the Mine Site area (144 g/m^2/year and 55 g/m^2/year) dust deposition scenarios, as well as Tote Road (55 - 110 g/m^2/year) and Milne Port (55 g/m^2/year).

The only metal that exceeds guidelines at either the Mine Site (Tables 6-1 and 6-2), Tote Road (Table 6-3) or Port (Table 6-4) is iron, which also exceeds guidelines in baseline. Since this area is heavily enriched with iron, this is not surprising. Metals can naturally exceed guidelines (since they are naturally occurring), and the concentrations predicted into the future are within the natural baseline range (even when the accumulated increment over time is added to the 90th percentile of the baseline soil concentration), and hence, are not considered to be an issue of concern from a health perspective.

The only metal in soils that exceeds the maximum baseline concentration is selenium (Table 6-1 to 6-4; which is likely a function of the conservative assumptions used in the assessment; selenium is non-detect in the dustfall and was assumed to be present at the detection limit), but in all cases, the predicted future soil concentration (baseline + accumulated increment) is well below the human health-based soil quality guidelines. Therefore, this is not considered to be an issue of concern, from a human health perspective.

Table 6-1 Predicted Future Soil Concentrations for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 144 $g/m^2/year$, Compared to Human-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/COPC	Baseline Surface Soil Concentration (90th %ile)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035		Soil Quality Guideline[a]	Maximum Baseline
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline		
Aluminum	6515	7.4	6522.4	13.80	6536.2	13.8	6550.0	13.4	6563.4	26.5	6589.9	13.414	6603.3	130.434	6733.7	15,400[b]	39300
Antimony	<0.1	0.00364	0.104	0.00683	0.110	0.00683	0.117	0.0066	0.124	0.0131	0.137	0.0066	0.144	0.065	0.208	7.5[d]	0.85
Arsenic	1.24	0.0087	1.25	0.01624	1.26	0.0162	1.28	0.0158	1.30	0.0312	1.33	0.016	1.34	0.153	1.50	12	4.14
Barium	31.3	0.0348	31.3	0.0653	31.4	0.0653	31.4	0.064	31.5	0.125	31.6	0.064	31.67	0.618	32.29	750/500 (direct contact: 6800)	132
Cadmium	0.172	0.00317	0.175	0.00595	0.181	0.00595	0.187	0.0058	0.193	0.0114	0.204	0.006	0.210	0.056	0.266	1.4/14	0.275
Chromium	26.4	0.051	26.5	0.0951	26.5	0.095	26.6	0.092	26.7	0.183	26.9	0.092	27.01	0.899	27.91	220[c]	55.7
Cobalt	4.72	0.0069	4.73	0.01292	4.74	0.0129	4.75	0.0126	4.77	0.0248	4.79	0.013	4.80	0.122	4.92	22[d]	17.5
Copper	9.65	0.0419	9.69	0.0785	9.77	0.0785	9.84	0.076	9.92	0.151	10.1	0.076	10.15	0.742	10.89	1100	48.4
Iron	20500	11.5	20512	21.60	20533	21.6	20555	21.0	20576	41.5	20617	20.997	20638	204.177	20842	11000[b]	90500
Lead	6.67	0.0070	6.68	0.01321	6.69	0.0132	6.70	0.0128	6.72	0.0254	6.74	0.013	6.75	0.125	6.88	140	31.7
Manganese	203.5	0.278	204	0.522	204.3	0.522	204.8	0.507	205.3	1.00	206.3	0.507	206.8	4.932	211.8	360[b]	416
Mercury	<0.05	0.00291	0.0529	0.00546	0.0584	0.00546	0.0638	0.0053	0.0691	0.0105	0.080	0.005	0.085	0.052	0.137	6.6	0.152
Molybdenum	0.35	0.0066	0.357	0.01229	0.369	0.0123	0.381	0.0119	0.393	0.0236	0.417	0.012	0.429	0.116	0.545	110[d]	2.53
Nickel	19.3	0.0432	19.3	0.0809	19.4	0.0809	19.5	0.079	19.6	0.155	19.7	0.079	19.8	0.765	20.6	330[d]	39.4
Selenium	<0.5	0.0087	0.509	0.01628	0.525	0.0163	0.541	0.0158	0.557	0.0313	0.588	0.016	0.604	0.154	0.758	80	0.51
Silver	<0.05	0.000249	0.0502	0.000467	0.0507	0.000467	0.0512	0.000454	0.0516	0.00090	0.0525	0.000	0.053	0.004	0.057	77[d]	0.198
Strontium	21.4	0.0167	21.4	0.0314	21.4	0.0314	21.5	0.0305	21.5	0.060	21.6	0.030	21.6	0.296	21.9	9,400[b]	83.3
Thallium	0.128	0.000116	0.128	0.0002175	0.128	0.000217	0.129	0.000211	0.129	0.00042	0.129	0.000	0.129	0.002	0.131	1	0.435
Tin	0.585	0.00153	0.587	0.00287	0.589	0.00287	0.592	0.00279	0.595	0.0055	0.601	0.003	0.603	0.027	0.631	9,400[b]	2.66
Uranium	1.90	0.00182	1.90	0.00342	1.90	0.00342	1.90	0.00332	1.91	0.0066	1.91	0.003	1.92	0.032	1.95	23	6.13
Vanadium	28.8	0.0151	28.8	0.0284	28.8	0.0284	28.8	0.0276	28.8	0.054	28.9	0.028	28.93	0.268	29.20	86[e]	83.9
Zinc	25.6	0.064	25.7	0.1195	25.8	0.119	25.9	0.116	26.0	0.229	26.2	0.116	26.36	1.129	27.49	5600[d]	118

Notes

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are human health-based soil quality guidelines for residential / parkland and agricultural land use. Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] US EPA, 2016 Regional Screening Values: Residential Land use. Values divided by 5 to create a value based on a Hazard Quotient of 0.2, rather than 1.0 (https://www.epa.gov/sites/production/files/2016-06/documents/master_sl_table_run_may2016.pdf)

[c] CCME guideline for total chromium (derived in 1997).

[d] OMOE (Ontario Ministry of the Environment, 2016) soil screening standards from their generic site condition standards (SCS) document (OMOE, 2011). Standard provided is the S1 (soil contact) guideline

[e] OMOE Soil Component Value, based on background

[f] Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations

[*] Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soil

Table 6-2 Predicted Future Soil Concentrations for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 55 g/m^2/year, Compared to Human-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/COPC	Baseline Surface Soil Concentration (90th %ile)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035		Soil Quality Guideline[a]	Maximum Baseline*
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline		
Aluminum	6515	0.474	6515.5	1.84	6517.3	2.02	6519.3	2.14	6521.5	4.2	6525.7	3.7	6529.4	49.8	6579.2	15,400[b]	39300
Antimony	<0.1	0.000235	0.100	0.00091	0.101	0.00100	0.102	0.00106	0.103	0.0021	0.105	0.002	0.107	0.025	0.132	7.5[d]	0.85
Arsenic	1.24	0.00056	1.24	0.00216	1.24	0.00238	1.25	0.0025	1.25	0.0050	1.25	0.004	1.26	0.059	1.32	12	4.14
Barium	31.3	0.00225	31.3	0.00871	31.3	0.0096	31.3	0.0101	31.3	0.020	31.3	0.017	31.3	0.236	31.6	750/500 (direct contact: 6800)	132
Cadmium	0.172	0.000204	0.172	0.000793	0.173	0.00087	0.174	0.00092	0.175	0.0018	0.177	0.002	0.178	0.021	0.20	1.4/14	0.275
Chromium	26.4	0.00327	26.4	0.0127	26.4	0.0139	26.4	0.0148	26.4	0.029	26.5	0.025	26.5	0.343	26.8	220[c]	55.7
Cobalt	4.72	0.000444	4.72	0.00172	4.72	0.00189	4.72	0.00201	4.73	0.0040	4.73	0.003	4.733	0.047	4.780	22[d]	17.5
Copper	9.65	0.00270	9.65	0.0105	9.66	0.0115	9.67	0.0122	9.68	0.024	9.71	0.021	9.727	0.283	10.0	1100	48.4
Iron	20500	0.74	20501	2.88	20504	3.17	20507	3.4	20510	6.6	20517	5.731	20522	77.984	20600	11000[b]	90500
Lead	6.67	0.000454	6.67	0.00176	6.67	0.00194	6.67	0.00205	6.68	0.0041	6.7	0.004	6.68	0.048	6.73	140	31.7
Manganese	203.5	0.0179	203.5	0.0696	203.6	0.077	203.7	0.081	203.7	0.16	203.9	0.138	204.043	1.884	205.927	360[b]	416
Mercury	<0.05	0.000188	0.0502	0.000728	0.0509	0.00080	0.052	0.00085	0.0526	0.0017	0.0542	0.001	0.056	0.020	0.075	6.6	0.152
Molybdenum	0.35	0.000422	0.350	0.00164	0.352	0.00180	0.354	0.00191	0.356	0.0038	0.360	0.003	0.363	0.044	0.407	110[d]	2.53
Nickel	19.3	0.00278	19.3	0.0108	19.3	0.0119	19.3	0.0126	19.3	0.025	19.4	0.021	19.4	0.292	19.7	330[d]	39.4
Selenium	<0.5	0.00056	0.501	0.00217	0.503	0.00239	0.505	0.0025	0.508	0.0050	0.513	0.004	0.517	0.059	0.576	80	0.51
Silver	<0.05	0.0000161	0.0500	0.0000623	0.0501	0.000069	0.0501	0.000073	0.0502	0.000143	0.0504	0.000	0.050	0.002	0.052	77[d]	0.198
Strontium	21.4	0.00108	21.4	0.00418	21.4	0.0046	21.4	0.0049	21.4	0.0096	21.4	0.008	21.433	0.113	21.546	9,400[b]	83.3
Thallium	0.128	0.0000075	0.128	0.0000290	0.128	0.0000319	0.128	0.000034	0.128	0.000067	0.128	0.00006	0.128	0.0008	0.129	1	0.435
Tin	0.585	0.000099	0.585	0.000383	0.585	0.00042	0.586	0.00045	0.586	0.00088	0.587	0.0008	0.588	0.010	0.598	9,400[b]	2.66
Uranium	1.90	0.000117	1.90	0.000456	1.90	0.00050	1.90	0.00053	1.90	0.00105	1.90	0.0009	1.899	0.012	1.911	23	6.13
Vanadium	28.8	0.00098	28.8	0.00378	28.8	0.0042	28.8	0.0044	28.8	0.0087	28.8	0.008	28.780	0.102	28.882	86[e]	83.9
Zinc	25.6	0.00410	25.6	0.0159	25.6	0.0175	25.6	0.0185	25.7	0.037	25.7	0.032	25.724	0.431	26.156	5600[d]	118

Notes

[g] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are human health-based soil quality guidelines for residential / parkland and agricultural land use. Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[h] US EPA, 2016 Regional Screening Values: Residential Land use. Values divided by 5 to create a value based on a Hazard Quotient of 0.2, rather than 1.0 (https://www.epa.gov/sites/production/files/2016-06/documents/master_sl_table_run_may2016.pdf)

[i] CCME guideline for total chromium (derived in 1997).

[j] OMOE (Ontario Ministry of the Environment, 2016) soil screening standards from their generic site condition standards (SCS) document (OMOE, 2011). Standard provided is the S1 (soil contact) guideline

[k] OMOE Soil Component Value, based on background

[l] Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations

* Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Table 6-3 Predicted Future Soil Concentrations for Time Frame of Operations at Tote Road Based on a Scaled Dust Deposition Rate up to 55 to 110 g/m²/year, Compared to Human-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	Baseline Surface Soil Concentration (90th %ile)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035		Soil Quality Guideline[a]	Maximum Baseline*
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline		
Aluminum	6515	4.22	6519	6.96	6526	7.66	6534	7.76	6542	-	6542	-	6542	-	6542	15,400[b]	39300
Antimony	<0.1	0.000346	0.100	0.00057	0.101	0.000629	0.102	0.000637	0.102	-	0.102	-	0.102	-	0.102	7.5[d]	0.85
Arsenic	1.24	0.0175	1.26	0.0289	1.29	0.0318	1.32	0.0322	1.35	-	1.35	-	1.35	-	1.4	12	4.14
Barium	31.3	0.0342	31.3	0.0564	31.3	0.0621	31.4	0.0629	31.5	-	31.5	-	31.5	-	31.5	750/500 (direct contact: 6800)	132
Cadmium	0.172	0.0012	0.173	0.00196	0.175	0.00215	0.177	0.0022	0.179	-	0.179	-	0.179	-	0.179	1.4/14	0.275
Chromium	26.4	0.0109	26.4	0.0180	26.4	0.0198	26.4	0.020	26.5	-	26.5	-	26.5	-	26.5	220[c]	55.7
Cobalt	4.72	0.00232	4.72	0.00384	4.73	0.00422	4.73	0.0043	4.73	-	4.73	-	4.73	-	4.73	22[d]	17.5
Copper	9.65	0.023	9.67	0.0380	9.71	0.0418	9.75	0.0423	9.79	-	9.79	-	9.79	-	9.79	1100	48.4
Iron	20500	6	20506	10	20516	11	20527	11	20538	-	20538	-	20538	-	20538	11000[b]	90500
Lead	6.67	0.00475	6.67	0.00785	6.68	0.00863	6.69	0.0087	6.70	-	6.70	-	6.70	-	6.70	140	31.7
Manganese	203.5	0.0971	203.6	0.160	203.8	0.176	203.9	0.1785	204.1	-	204.1	-	204.1	-	204.1	360[b]	416
Mercury	<0.05	0.0028	0.0528	0.00461	0.0574	0.00507	0.0625	0.0051	0.0676	-	0.0676	-	0.0676	-	0.0676	6.6	0.152
Molybdenum	0.35	0.00073	0.351	0.00121	0.352	0.00133	0.353	0.0013	0.355	-	0.355	-	0.355	-	0.355	110[d]	2.53
Nickel	19.3	0.0088	19.3	0.0145	19.3	0.01600	19.3	0.0162	19.4	-	19.4	-	19.4	-	19.4	330[d]	39.4
Selenium	<0.5	0.0032	0.503	0.00527	0.508	0.00580	0.514	0.0059	0.520	-	0.520	-	0.520	-	0.520	80	0.51
Silver	<0.05	0.000058	0.0501	0.00010	0.0502	0.00011	0.0503	0.0001	0.0504	-	0.0504	-	0.0504	-	0.0504	77[d]	0.198
Strontium	21.4	0.0131	21.4	0.0216	21.4	0.0238	21.5	0.0241	21.5	-	21.5	-	21.5	-	21.5	9,400[b]	83.3
Thallium	0.128	0.00033	0.128	0.00055	0.129	0.00060	0.129	0.0006	0.130	-	0.130	-	0.130	-	0.130	1	0.435
Tin	0.585	0.0010	0.586	0.00163	0.588	0.00179	0.589	0.0018	0.591	-	0.591	-	0.591	-	0.591	9,400[b]	2.66
Uranium	1.90	0.00067	1.90	0.00111	1.90	0.00122	1.90	0.0012	1.90	-	1.90	-	1.90	-	1.90	23	6.13
Vanadium	28.8	0.0071	28.8	0.0117	28.8	0.0129	28.8	0.0131	28.8	-	28.8	-	28.8	-	28.8	86[e]	83.9
Zinc	25.6	0.0313	25.6	0.0517	25.7	0.0569	25.7	0.0576	25.8	-	25.8	-	25.8	-	25.8	5600[d]	118

Notes

a Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are human health-based soil quality guidelines for residential / parkland and agricultural land use. Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

b US EPA, 2016 Regional Screening Values: Residential Land use. Values divided by 5 to create a value based on a Hazard Quotient of 0.2, rather than 1.0 (https://www.epa.gov/sites/production/files/2016-06/documents/master_sl_table_run_may2016.pdf)

c CCME guideline for total chromium (derived in 1997).

d OMOE (Ontario Ministry of the Environment, 2016) soil screening standards from their generic site condition standards (SCS) document (OMOE, 2011). Standard provided is the S1 (soil contact) guideline

e OMOE Soil Component Value, based on background

f Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations; *Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

Table 6-4 Predicted Future Soil Concentrations for Time Frame of Operations at Milne Port Based on a Scaled Dust Deposition Rate up to 55 g/m²/year, Compared to Human-Health Based Soil Quality Guidelines and Maximum Baseline Soil Concentrations

Metal/ COPC	Baseline Surface Soil Concentration (90th %ile)	2016		2017-2018		2019-2020		2021		2022-2023		2024		2025-2035		Soil Quality Guideline[a]	Maximum Baseline*
		Project	Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline	Project	Accumulated Project + Baseline		
Aluminum	6515	0.407	6515.41	2.59	6517.99	2.82	6520.8	2.9	6523.7	5.6	6529.3	2.86	6532.2	27.78	6559.9	15,400[b]	39300
Antimony	<0.1	0.000138	0.100	0.000877	0.101	0.00096	0.102	0.00097	0.103	0.00191	0.105	0.0010	0.106	0.0094	0.115	7.5[d]	0.85
Arsenic	1.24	0.00459	1.24	0.0291	1.27	0.0318	1.31	0.032	1.34	0.064	1.40	0.03	1.43	0.31	1.75	12	4.14
Barium	31.3	0.00331	31.3	0.0210	31.3	0.0229	31.3	0.023	31.3	0.046	31.4	0.02	31.39	0.23	31.62	750/500 (direct contact: 6800)	132
Cadmium	0.172	0.000236	0.172	0.00150	0.174	0.00163	0.18	0.00165	0.177	0.00326	0.180	0.002	0.18	0.02	0.20	1.4/14	0.275
Chromium	26.4	0.00171	26.4	0.0108	26.4	0.0118	26.4	0.0120	26.4	0.0236	26.5	0.01	26.47	0.12	26.59	220[c]	55.7
Cobalt	4.72	0.00033	4.72	0.00212	4.72	0.00231	4.72	0.0023	4.73	0.0046	4.73	0.00	4.73	0.02	4.76	22[d]	17.5
Copper	9.65	0.0058	9.65	0.0365	9.69	0.040	9.73	0.040	9.8	0.080	9.8	0.04	9.89	0.39	10.28	1100	48.4
Iron	20500	0.79	20500.8	5.02	20505.8	5.5	20511.3	5.5	20516.8	10.9	20528	6	20533	54	20587	11000[b]	90500
Lead	6.67	0.000437	6.67	0.00277	6.67	0.00303	6.68	0.0031	6.68	0.0061	6.69	0.00	6.69	0.03	6.72	140	31.7
Manganese	203.5	0.0166	203.5	0.105	203.6	0.115	203.7	0.116	203.9	0.230	204.1	0.12	204.2	1.13	205.3	360[b]	416
Mercury	<0.05	0.00055	0.0506	0.00350	0.0541	0.0038	0.0579	0.0039	0.0617	0.0076	0.069	0.0039	0.07	0.04	0.11	6.6	0.152
Molybdenum	0.35	0.000116	0.350	0.000739	0.351	0.00081	0.352	0.0008	0.352	0.00161	0.354	0.0008	0.35	0.01	0.36	110[d]	2.53
Nickel	19.3	0.00159	19.3	0.0101	19.3	0.0110	19.3	0.0111	19.3	0.0220	19.4	0.01	19.37	0.11	19.48	330[d]	39.4
Selenium	<0.5	0.00081	0.501	0.00517	0.506	0.0056	0.512	0.0057	0.517	0.0113	0.529	0.01	0.53	0.06	0.59	80	0.51
Silver	<0.05	0.0000113	0.0500	0.0000719	0.0501	0.000078	0.0502	0.000079	0.0502	0.000157	0.0504	0.00008	0.05	0.0008	0.05	77[d]	0.198
Strontium	21.4	0.00385	21.4	0.0245	21.4	0.0267	21.5	0.027	21.5	0.053	21.5	0.03	21.56	0.26	21.83	9,400[b]	83.3
Thallium	0.128	0.000082	0.128	0.000519	0.129	0.00057	0.129	0.00057	0.130	0.00113	0.131	0.0006	0.13	0.0056	0.14	1	0.435
Tin	0.585	0.000184	0.585	0.00117	0.586	0.00127	0.588	0.00129	0.589	0.00254	0.591	0.0013	0.59	0.013	0.61	9,400[b]	2.66
Uranium	1.90	0.000184	1.90	0.00117	1.90	0.00127	1.90	0.00129	1.90	0.00255	1.90	0.0013	1.90	0.013	1.92	23	6.13
Vanadium	28.8	0.00107	28.8	0.00681	28.8	0.0074	28.8	0.0075	28.8	0.0149	28.8	0.0075	28.80	0.07	28.87	86[e]	83.9
Zinc	25.6	0.0136	25.6	0.0866	25.7	0.094	25.8	0.096	25.9	0.189	26.1	0.10	26.17	0.93	27.11	5600[d]	118

Notes

[a] Unless otherwise noted, all soil quality guidelines are from CCME 2017 (on-line; http://ceqg-rcqe.ccme.ca/). Guidelines are human health-based soil quality guidelines for residential / parkland and agricultural land use. Where agricultural and residential / parkland are different, the agricultural guideline is presented first followed by the residential / parkland guideline.

[b] US EPA, 2016 Regional Screening Values: Residential Land use. Values divided by 5 to create a value based on a Hazard Quotient of 0.2, rather than 1.0 (https://www.epa.gov/sites/production/files/2016-06/documents/master_sl_table_run_may2016.pdf)

[c] CCME guideline for total chromium (derived in 1997).

[d] OMOE (Ontario Ministry of the Environment, 2016) soil screening standards from their generic site condition standards (SCS) document (OMOE, 2011). Standard provided is the S1 (soil contact) guideline

[e] OMOE Soil Component Value, based on background

Shaded values are > Soil Quality Guidelines; Underlined values are > Maximum soil baseline concentrations; * Maximum baseline soil concentrations are used as an additional point of comparison for the accumulated increments from operations + 90%ile of baseline soils

6.2.2 Bioaccumulation and Existing Monitoring Data Considerations

As discussed in Section 5.2.2, a bioaccumulation check was conducted for all metals, and cadmium, lead, selenium, and thallium were identified as being of potential concern with respect to bioaccumulation in terrestrial organisms, which include human food resources. In addition, arsenic and mercury are typically also identified as potential toxicity concerns (arsenic) or having biomagnification potential (mercury; in aquatic environments, rather than terrestrial environments). Other COPCs identified by EDI (2015) include aluminum, copper, and zinc.

Examination of the soil concentration increments for cadmium, lead, selenium and thallium, relative to the applicable soil quality guidelines and maximum baseline soil concentrations for the highest deposition rate (144 g/m^2/year; Table 6-1), suggests that change in concentrations range from 0.003 mg/kg (thallium) to 0.258 mg/kg (selenium), which is unlikely to be distinguishable from natural baseline variability, and predicted changes are largely related to the conservative assumptions used in the assessment (selenium and thallium are either non-detect in dustfall; or largely non-detect). The predicted future soil levels of these metals are below agricultural land use soil quality guidelines, and/or are within the baseline concentration ranges, with the exception of selenium which is biased high since the increment is based on non-detectable dustfall concentrations, and is being added to a non-detect baseline concentration.

For the other metals/metalloids, predicted incremental increases range from 0.087 mg/kg (mercury; mercury is also non-detect in dustfall, and this increment is related to conservative assumptions used in the assessment) to 218 mg/kg (aluminum) (144 g/m^2/year; Table 6-1) and in all cases are within the baseline soil range.

6.2.3 Potential for Uptake in Caribou Muscle and Organ Meats and Berry

Local Inuit community members and stakeholders have raised concerns related to possible uptake of metals from the environment into Caribou (through their food chain, which includes consumption of lichen; see Section 1.0), as well as uptake into other traditional foods, such as berries. These concerns are discussed further, relative to the predicted future soil concentrations.

6.2.4 Exposure due to Uptake in Caribou Muscle or Organ Meats

Typically, the main metal of concern relative to organ meat accumulation and human consumption is cadmium with several studies in the scientific literature examining cadmium levels in caribou organ meats in the north (e.g., Gamburg and Sheuhammer, 1994; Chan et al 2001; Crête et al, 1989; Kim et al, 1998). Some other studies have examined other metals (e.g., Chan et al, 1995; Robillard et al, 2002; Elkin and Bethke, 1995; Gamburg et al, 2005), but the focus for human health and organ meat consumption is typically on cadmium, due to its bioaccumulative characteristics combined with toxicity. The accumulation of cadmium within game species is largely restricted to organ meats, such as the liver and kidneys (rather than muscle tissue), (Sileo and Beyer, 1985; Vos *et al*, 1990). This issue has been identified previously in northern caribou herds (INAC, 2003), where elevated cadmium concentrations have been measured in caribou liver and kidneys. The prime exposure pathway for Inuit related to cadmium is smoking, and smoking cessation has been identified as the best way for people to lower their cadmium exposures (Chan, 2012).

Based on the caribou assessment (Section 5), exposures to caribou are expected to be low due to the relatively small area outside the various PDAs where dust deposition is predicted to be elevated, and given the large home range of the caribou. As a result of this, the likelihood of significant increases in metals loadings to caribou, and hence, to locals eating caribou meats and organs, is likely negligible. In addition, the predicted change to soils in cadmium concentrations is small and largely related to conservative assumptions used in the assessment, as cadmium is generally non detect in dustfall (see Tables 5-1 to 5-4 and 6-1 to 6-4), using elevated dustfall rates for areas outside of mining activities (144 and 55 g/m^2/year). Dustfall rates near the HTO cabin near the Mine Site are < 10 g/m^2/year (see Figure 3-1), and are < 5 g/m^2/year at the HTO cabin near Milne Port (see Figure 3-4). The predicted change in cadmium in lichens is also small and within baseline ranges with the exception of near the Mine Site and Tote Road, where elevated deposition occurs (see Table 5-5 to 5-7). Cadmium was actually only detected in 2 samples of dustfall near the Mine Site, of 72 samples (see Appendix A; Tables A1, A2 and A3), indicating that it is not present at elevated concentrations within the ore. Based on the large home range of caribou, the small size of the areas affected by elevated dustfall rates, the general lack of detection of cadmium within ore dustfall samples, it is considered unlikely that any measureable change in cadmium in caribou organs or muscle tissue would occur as a result of dustfall associated with Mary River mine operations.

6.2.5 Exposure Due to Metals Uptake in or Dust Deposition on Blueberry

The uptake of metals from soils into any terrestrial plant depends on a number of soil properties, including soil concentrations, soil pH, redox potential, metal speciation (chemical form), interactions between other metals and other substances present in these media (such as organic carbon and various minerals which provide large surface areas for metal adsorption/desorption reactions, and vegetation characteristics (such as root depth, growing season, species, aboveground biomass, etc.). While the accumulation potential for the metals of interest in blueberries is expected to be low overall, there is a high degree of uncertainty in this statement, due to the unique environmental conditions in the arctic. Predictions of possible future berry concentrations were undertaken based on site-specific soil to berry sample uptake factors, as well as standardized methods for predicting deposition of dust onto forage or browse. These predicted incremental concentrations at the Mine Site (55 g/m^2/year deposition area only), Tote Road and Milne Port (55 g/m^2/year) are provided in Tables 6-5 to 6-7. The incremental increases are added to the 90% of baseline blueberry, but the number of blueberry samples is small (N = 8), and hence an understanding of natural variability in blueberry vegetation in the area is very limited. These predictions, and the baseline data, are for leaves as opposed to berries. Berry concentrations are typically lower than those found in leaves (Baes, 1984).

Table 6-5 Predicted Future Berry Concentrations (mg/kg-DW) for Time Frame of Operations at the Mine Site Based on a Scaled Dust Deposition Rate up to 55 g/m^2/year, Compared to Maximum Baseline Berry Concentrations

Metal/ COPC	Baseline Berry Concentration (90^{th} %ile)	2016	2017-2018	2019-2020	2021	2022-2023	2024	2025-2035	Maximum Baseline*
		Project + Baseline	Accumulated Project + Baseline	Accumulated Project + Baseline	Accumulated Project + Baseline	Accumulated Project + Baseline	Accumulated Project + Baseline	Accumulated Project + Baseline	
Aluminum	221	235.8	250.0	252.9	287.7	287.8	335.0	382.1	277
Antimony	0.0208	0.0281	0.0353	0.0368	0.0540	0.054	0.078	0.105	0.0371
Arsenic	<0.050	0.0674	0.0842	0.088	0.129	0.129	0.184	0.240	<0.05
Barium	66.7	66.8	66.9	66.9	67.1	67.1	67.3	68.0	75.2
Cadmium	0.871	0.878	0.887	0.889	0.904	0.91	0.93	1.05	0.94
Chromium	1.15	1.26	1.35	1.37	1.61	1.61	1.94	2.27	1.35
Cobalt	0.704	0.717	0.731	0.734	0.766	0.767	0.811	0.860	1.44
Copper	13.67	13.8	13.8	13.9	14.1	14.1	14.3	15.0	15.7
Iron	449.1	472.2	494.5	499.1	553.5	553.6	627.5	700.3	489
Lead	0.34	0.354	0.368	0.371	0.404	0.404	0.449	0.495	0.35
Manganese	1229.0	1229.7	1230.5	1230.7	1232.0	1232.5	1234.1	1246.4	1600
Mercury	0.0181	0.0240	0.0298	0.0310	0.0448	0.0451	0.0637	0.0883	0.023
Molybdenum	0.201	0.214	0.227	0.230	0.261	0.262	0.304	0.368	0.412
Nickel	8.43	8.52	8.60	8.62	8.82	8.83	9.11	9.49	18.9
Selenium	<0.050	0.0675	0.0844	0.088	0.129	0.129	0.185	0.244	<0.05
Silver	<0.02	0.0205	0.0210	0.0211	0.0223	0.0223	0.0239	0.0261	<0.02
Strontium	7.9	7.91	7.94	7.95	8.03	8.03	8.13	8.28	8.74
Thallium	0.0083	0.00856	0.00879	0.00883	0.00938	0.0094	0.0101	0.0109	0.0091
Tin	0.11	0.115	0.118	0.119	0.126	0.126	0.136	0.147	0.14
Uranium	0.07	0.0701	0.0737	0.0744	0.0830	0.083	0.095	0.106	0.111
Vanadium	0.6	0.643	0.673	0.679	0.750	0.75	0.85	0.94	0.76
Zinc	286.4	286.6	286.8	286.9	287.2	287.4	287.7	292.6	369

Notes

DW: dry weight;Underlined values are > Maximum Baseline berry concentration

* Maximum baseline berry concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline berry concentrations

Table 6-6 Predicted Future Berry Concentrations (mg/kg-DW) for Time Frame of Operations at Tote Road Based on a Scaled Dust Deposition Rate up to 55 to 110 g/m^2/year, Compared to Maximum Baseline Berry Concentrations

Metal/ COPC	*Baseline Berry Concentration (90th %ile)*	*2016*	*2017-2018*	*2019-2020*	*2021*	*2022-2023*	*2024*	*2025-2035*	*Maximum Baseline**
		Project + Baseline	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	*Accumulated Project + Baseline*	
Aluminum	221	<u>352.3</u>	<u>330.9</u>	<u>341.9</u>	<u>462.5</u>	221.0	221.0	221.0	277
Antimony	0.02079	0.0316	0.0299	0.0308	<u>0.0407</u>	0.021	0.021	0.021	0.0371
Arsenic	<0.050	<u>0.60</u>	<u>0.51</u>	<u>0.55</u>	<u>1.05</u>	0.05	0.05	0.05	<0.05
Barium	66.7	67.9	67.7	67.8	68.8	66.7	66.7	66.7	75.2
Cadmium	0.871	0.914	0.911	0.916	<u>0.950</u>	0.871	0.871	0.871	0.94
Chromium	1.15	<u>1.49</u>	<u>1.44</u>	<u>1.47</u>	<u>1.78</u>	1.15	1.15	1.15	1.35
Cobalt	0.704	0.776	0.765	0.771	0.837	0.704	0.704	0.704	1.44
Copper	13.67	14.4	14.3	14.4	15.0	13.7	13.7	13.7	15.7
Iron	449.1	<u>637.6</u>	<u>606.8</u>	<u>622.6</u>	<u>795.8</u>	449.1	449.1	449.1	489
Lead	0.34	<u>0.488</u>	<u>0.464</u>	<u>0.477</u>	<u>0.613</u>	0.340	0.340	0.340	0.35
Manganese	1229.0	1232.6	1232.5	1232.8	1235.6	1229.0	1229.0	1229.0	1600
Mercury	0.0181	<u>0.106</u>	<u>0.092</u>	<u>0.0997</u>	<u>0.1795</u>	0.0181	0.0181	0.0181	0.023
Molybdenum	0.201	0.224	0.220	0.222	0.243	0.201	0.201	0.201	0.412
Nickel	8.43	8.71	8.66	8.69	8.94	8.43	8.43	8.43	18.9
Selenium	<0.050	<u>0.15</u>	<u>0.13</u>	<u>0.14</u>	<u>0.23</u>	0.05	0.05	0.05	<0.05
Silver	<0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<0.02
Strontium	7.9	8.3	8.2	8.3	8.6	7.9	7.9	7.9	8.74
Thallium	0.0083	<u>0.0187</u>	<u>0.0170</u>	<u>0.01785</u>	<u>0.02733</u>	0.00833	0.00833	0.00833	0.0091
Tin	0.11	0.143	0.138	0.141	<u>0.169</u>	0.112	0.112	0.112	0.14
Uranium	0.07	0.0873	0.0839	0.0857	0.1048	0.0665	0.0665	0.0665	0.111
Vanadium	0.6	<u>0.834</u>	<u>0.798</u>	<u>0.817</u>	<u>1.020</u>	0.613	0.613	0.613	0.76
Zinc	286.4	287.7	287.8	287.9	288.8	286.4	286.4	286.4	369

Notes
DW: dry weight; Underlined values are > Maximum Baseline berry concentration
* Maximum baseline berry concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline berry concentrations

Table 6-7 Predicted Future Berry Concentrations (mg/kg-DW) for Time Frame of Operations at Milne Port Based on a Scaled Dust Deposition Rate up to 55 g/m²/year, Compared to Maximum Baseline Berry Concentrations

Metal/ COPC	Baseline Berry Concentration (90th %ile)	2016 Project + Baseline	2017-2018 Accumulated Project + Baseline	2019-2020 Accumulated Project + Baseline	2021 Accumulated Project + Baseline	2022-2023 Accumulated Project + Baseline	2024 Accumulated Project + Baseline	2025-2035 Accumulated Project + Baseline	Maximum Baseline*
Aluminum	221	233.7	261.8	265.5	310.0	310.1	310.0	310.8	277
Antimony	0.02079	0.0251	0.0348	0.0361	0.0511	0.051	0.051	0.053	0.0371
Arsenic	<0.050	0.193	0.510	0.55	1.05	1.05	1.05	1.06	<0.05
Barium	66.7	66.8	67.1	67.1	67.5	67.6	67.5	67.9	75.2
Cadmium	0.871	0.879	0.902	0.905	0.930	0.939	0.930	1.003	0.94
Chromium	1.15	1.21	1.33	1.34	1.53	1.53	1.53	1.53	1.35
Cobalt	0.704	0.714	0.737	0.740	0.777	0.777	0.777	0.780	1.44
Copper	13.67	13.9	14.3	14.4	15.0	15.0	15.0	15.5	15.7
Iron	449.1	473.7	528.2	535.4	621.6	621.7	621.6	622.7	489
Lead	0.34	0.354	0.384	0.388	0.436	0.436	0.436	0.437	0.35
Manganese	1229.0	1229.6	1231.3	1231.5	1233.3	1234.0	1233.3	1239.5	1600
Mercury	0.0181	0.0354	0.0745	0.080	0.140	0.141	0.140	0.152	0.023
Molybdenum	0.201	0.204	0.213	0.214	0.226	0.227	0.226	0.231	0.412
Nickel	8.43	8.48	8.59	8.61	8.78	8.78	8.78	8.82	18.9
Selenium	<0.050	0.075	0.132	0.139	0.228	0.229	0.228	0.233	<0.05
Silver	<0.02	0.0204	0.0212	0.0213	0.0225	0.0225	0.0225	0.0228	<0.02
Strontium	7.9	7.99	8.27	8.30	8.72	8.73	8.72	8.81	8.74
Thallium	0.0083	0.0109	0.0165	0.0173	0.0262	0.0262	0.0262	0.0265	0.0091
Tin	0.11	0.118	0.131	0.132	0.152	0.153	0.152	0.154	0.14
Uranium	0.07	0.0722	0.0849	0.087	0.107	0.107	0.107	0.107	0.111
Vanadium	0.6	0.646	0.720	0.730	0.847	0.847	0.847	0.849	0.76
Zinc	286.4	287.0	288.7	288.9	290.4	291.5	290.4	299.8	369

Notes
DW: dry weight; Underlined values are > Maximum Baseline berry concentration
* Maximum baseline berry concentrations are used as a point of comparison for the accumulated increments from operations + 90%ile of baseline berry concentrations

Within Tables 6-5 to 6-7, several metals are predicted to be higher in berries in the future, relative to baseline. The comparisons are difficult to interpret in that only 8 berry samples are available to characterize baseline. The increments are being added to the 90^{th} percentile of baseline and when only 8 data points are available, exceedance of the maximum baseline value is not unanticipated. In general, the incremental increases are small.

EDI (2015) has established toxicity thresholds for vascular plants, as follows:

- Aluminum: 50 mg/kg DW
- Arsenic: 3 mg/kg DW
- Cadmium: 5 mg/kg DW
- Copper: 25 mg/kg DW
- Lead: 20 mg/kg DW
- Selenium: 5 mg/kg DW
- Zinc: 100 mg/kg DW

The predicted berry concentrations are all within these thresholds, with the exception of aluminum and zinc, wherein both of the thresholds are also exceeded by maximum baseline concentrations.

In general, blueberry or other berries have been difficult to locate within the LSA (see EDI, 2015). In the 2014 sampling program, only 4 samples of blueberry were found, and EDI had proposed removing blueberry from the terrestrial monitoring program due to the inherently low sample size. Additionally, no berry picking was identified within the study area during the 2006-2010 Inuit knowledge study (Baffinland, 2014). In light of this, and considering the limited size of areas that have elevated dustfall rates (mostly near or within the PDA of the mine and port, as well as within close proximity to the Tote Road), as well as the likely low bioavailability of metals in dustfall, it is considered unlikely that berry metal concentrations from within the LSA would increase dramatically over that found in baseline.

7 CONCLUSIONS

Based on the assessment conducted, the following can be concluded:

- Metals are naturally occurring in the environment and are present within existing soils and vegetation in the region. Mining activities will result in release of ore dust in the vicinities of the Potential Development Areas (PDAs) at the Mine Site, Milne Port, as well as along the Northern Transportation Corridor;
- Dustfall predictions indicate that the areas outside the PDAs that will potentially receive higher dustfall rates are relatively small in size, which limits the exposure potential for both people and wildlife;
- There is a high degree of certainty on the geochemistry of dust from the project, since multiple years of dustfall chemistry data are available. The metals chemistry of the dust is predominantly composed of iron, aluminum and manganese, since this is an iron ore mine. In general, metals that are reported to bioaccumulate in foodchains are present at low or very low (below detection limits) concentrations in dustfall near the Project. Therefore, the potential for bioaccumulation in food chains is considered low.
- The bioavailability of ore dust is unknown at this time, but is likely low in that the mineral types and forms of metals present in the ore may serve to limit the potential for uptake into either terrestrial vegetation or animals;
- Based on the estimated future soil concentrations of all metals considered, some accumulation within vegetation and other terrestrial organisms tissues is anticipated to occur, but would likely be localized to areas most affected by dust loadings which are generally limited in size.
- Based on the assessment conducted, it is considered unlikely that ore dust deposition from the Project at the rates considered in this assessment would result in levels of metals in blueberries or caribou tissues that would be harmful to human health, if consumed. Similarly, it is considered unlikely that ore dust deposition from the Project would result in levels of metals in lichen that would be harmful to caribou health. This conclusion is based on consideration of the areas expected to be affected by dustfall, the predicted future soil and vegetation concentrations, and the home range of caribou.

<u>Uncertainties, Conservative Assumptions and Limitations</u>:

As inherent in any risk assessment study, there are limitations, uncertainties and conservative assumptions applicable to this screening level risk assessment, as follows:

- The mixing depth of dust into soils (20 cm) was based on standard practice and assumptions. Confirmation was sought from biologists familiar with the area. Soil sampling depths were shallower, at 10 cm (see EDI, 2015). Changing the mixing assumption of 20 cm to 10 cm has no impact on the conclusions related to comparisons to soil quality guidelines, and comparisons to maximum baseline soil concentrations are only exceeded for 3 COPCs (which are still within soil quality guidelines). Reducing the mixing depth of soil has minimal influence on the predicted future lichen concentrations. On average total lichen concentrations outside the PDA increase by 2% if the soil mixing depth is set to 10 cm rather than 20 cm.

- While the maximum Point of Impingement value for areas outside the PDA (144 $g/m^2/year$) was used in the current assessment of the Mine Site, there are higher dustfall rates within the PDA of the mine. These areas are limited in size, and restricted to the active areas of the PDA. Higher dustfall in these areas will result in higher soil concentrations, but exposure potential is limited for caribou and country food foragers as the area will have restricted access during operations. Berries are also scarce in the Study Area, based on multiple years of terrestrial monitoring attempts to collect berries in the Study area. Therefore, it is considered unlikely that any significant consumption of berries from the area could occur. It is anticipated that soil sampling, assessment and appropriate reclamation will occur as part of closure planning, in areas found to be requiring reclamation.
- The geochemical ratios used in the assessment have a high degree of certainty, since they are based on dustfall chemistry from the project. The ratios applied between the Mine, Port and Tote Road are similar (see Table 2-2), and hence, while only a 55 $g/m^2/year$ dust deposition rate was applied at the Tote Road and Milne port areas, the findings from the Mine Site at 144 $g/m^2/year$ could be applied to these other areas (no soil quality guideline exceedances, with the exception of iron, which is similarly exceeded in baseline). Areas within the port and Tote Road which have higher depositional rates do occur, but these are of limited size, and hence, would not present a significant exposure concern.
- In Table 3-1, dustfall rates for the mine (144 $g/m^2/year$ scenario) are higher in year 2016, because they are based on measured dustfall rates from two stations inside the PDA (DF-M-02 and 03). This is considered conservative, since dustfall outside the PDA would be anticipated to be lower, and these higher rates were used in the assessment for this time frame. Measured dustfall data from these same stations was also used for 2017 (EDI, 2018). Dustfall at the mine is anticipated to be reduced in the future, due to the relocation of the crusher to the port area from the mine (see Section 21 – Water Quality, in FEIS).
- Lichen uptake of metals is uncertain. Standard procedures were used to predict future lichen concentrations, but there is a high degree of uncertainty in these predictions. Monitoring of lichen is important due to the important role these species play as a food source for caribou.
- Berry predictions also have uncertainty associated with them, and comparisons to baseline data were complicated by the small sample size (N=8; leaves and twigs only). While berries are an important forage fruit for the Inuit, they are not abundant in the study area and multiple years of sampling has yielded only 8 samples to date. Therefore, while the predictions are uncertain, there is also a limited opportunity for consumption of berries, due to the paucity of occurrence of berries in the study area.
- Geochemical ratios for the mine, port and road areas did include some non-detect data. In several cases, the geochemistry ratio is based on a detection limit. This is anticipated to bias the ratio high, rather than low, and hence is considered conservative (see Appendix A).
- The estimated dustfall rates for Tote Road assume a certain level of dust mitigation on Tote Road, within RWDI's modelling assumptions. Dustfall rates in the future were assumed to be similar to those used in this assessment. Higher dustfall rates would be

associated with more pronounced changes in soils and vegetation. Mitigation measures to manage dustfall are important in ensuring that dustfall rates are adequately controlled.

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APPENDIX A

2015 – 2016 DUSTFALL DATA AND CALCULATIONS

A-1.0 DUST DATA AND DATA CALCULATIONS

In order to estimate the possible future change in soil and vegetation chemistry as a result of dust deposition from mine activities, a geochemical fingerprint of the dust had to be developed. Given the potential differences in the dusts related to mine and port activity and dusts related to road traffic, three separate geochemical fingerprints were calculated.

To complete this tasks, existing dustfall monitoring data were examined to determine which geochemical elements merit further study, and the data were also used to develop an understanding of the percentage of each element of interest within the total dustfall in areas near the mine, port and selected road monitoring stations. These percentages can then be applied to future dust deposition estimates developed using air dispersion modelling, to predict the potential deposition of specific geochemical elements onto soil and vegetation. As such, the assessment of dustfall data was conducted to determine two key items:

- Which geochemical elements merit consideration in the assessment of future impacts; and
- The geochemical fingerprint or ratios of dusts near the mine, port, and from transportation activities on the road, which can be applied to future dust deposition estimates to characterize potential changes in the environment.

To determine which geochemical elements merited consideration in the assessment of future impacts, only data from the mine site dustfall monitoring were used, as it was assumed to represent a worst-case geochemistry composition. Dustfall geochemistry data (in mg/dm^2/day) for 40 elements collected in the environmental monitoring programs of 2015 and 2016 were provided to Intrinsik by EDI, and were sorted by near-field mining sampling locations, DF-M-01, 02 and 03, as these represent the closest monitoring stations to mining activities (see Figure 2-1 in main report; see Tables A-1 to A-3 for raw data).

For dustfall samples DF-M-01 to DF-M-03, the number of samples analyzed and the number of detected concentrations for each of the elements analyzed at each sampling location were determined for sampling years 2015 and 2016 (see Table A-4).

To determine which chemicals would be carried forward for evaluation, a screening approach was used which consisted of the following steps.

Chemicals which were not detected or detected in only a very few samples (i.e., 3 or less total for the three sampling stations closest to the mine; DF-M-01, DF-M-02 and DF-M-03) were eliminated from further evaluation. The exception to this was where the chemical was one that is considered to be bioaccumulative or generally of public concern. In these cases, the chemical was retained for further assessment. Mercury, selenium, and tellurium were not detected in any dustfall samples obtained from sample locations DF-M-01 to DF-M-03, while beryllium bismuth, boron, cadmium and sulphur were detected 3 or less times respectively out of the samples collected at these three stations over 2 years (See Tables A-4). These chemicals were eliminated from further consideration with the exception of mercury, selenium and cadmium which were included due to their potential to bioaccumulate and the fact that these are chemicals generally of public concern.

For chemicals generally detected in dustfall, additional professional judgement was applied to determine whether the element merited further study. The considerations included:

- Whether the chemical is an essential element / nutrient;
- The chemical's toxic potential;
- The results of the 2013 to 2015 EDI annual monitoring reports, in terms of whether they prioritized the element as a Chemical of Potential Concern (COPC); and
- Results from the Intrinsik 2010 assessment.

Based on these considerations, the following chemicals were eliminated for further consideration: calcium, cesium, lithium, magnesium, potassium, phosphorus, rubidium, silicon, sodium, thorium, titanium, tungsten and zirconium. Antimony, arsenic and thallium were only sporadically detected (see Table A-4), but were retained due to either toxicity or bioaccumulative potential. While aluminum was not considered an appropriate COPC in the EDI in the 2014 annual monitoring report, aluminum was carried forward for further assessment due to the large amount of this metal that may be released.

The following chemicals were retained for further evaluation:

- Aluminum
- Antimony
- Arsenic
- Barium
- Cadmium
- Chromium
- Cobalt
- Copper
- Iron
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Selenium
- Silver
- Strontium
- Thallium
- Tin
- Uranium
- Vanadium
- Zinc

Following the selection of COPCs, calculation of geochemical ratios for the specific selected (near-field) sampling stations was undertaken. These ratios were applied to future dust predictions to characterize metals impacts to soils, etc. Based on EDI (2015) assessment of the dustfall data, and discussions with RWDI and Knight Pièsold, mine site stations of DF-M-02 and DF-M-03 were selected to characterize mine site geochemical ratios, as these stations are closest to the active mining area. DF-RN-04 and 05, and DF-RS04 and 05 were selected to represent the road dust geochemistry as they are near field to road activities, and DF-P-01, 05 and 07 were selected to represent Port geochemistry (see Figure 2-1, main report). Station DF-M-01 is distant to most mine site activities generating ore dust, and hence, this station was not used to characterize typical ore dust. For each of these COPCs, at each sampling date, at each sampling locations, the percent of total insoluble dustfall by element was calculated by dividing the measured concentration of the element by the total insoluble dustfall and multiplying that value by 100. For example, on May 9, 2015 aluminum was measured at 0.04460 mg/dm^2/day at station DF-M-02. This value was divided by the total insoluble dustfall concentration at DF-M-02 on May 9, 2015 of 3.01 mg/dm^2/day and multiplied by 100 which resulted in a value of 1.48%. Samples that were not detected were assumed to equal the detection limit in these calculations. An average percent of total dustfall by element was then calculated for 2015 – 2016 at each sampling location. Following examination of the station –specific averages, it was then determined that the stations within each area (mine; port and Tote road) would be averaged. Dustfall data and the percent of total dustfall and average percent of total dustfall are provided in Tables A-5 to A-7 (mine site), Table A-8 to A-11 (Milne Port) and Table A-12 to A-16 (road dust). These percentage ratios were used to characterize the fraction of each element on future dust deposition.

Further examination of ratios for some metals/metalloids that were only detected in a few samples was undertaken, since the assumption of using the detection limit to represent concentrations in dustfall biases concentrations high. The mine site ratios for thallium, arsenic and antimony were re-calculated using only detected samples in DF-M-02 and DF-M-03, and the resultant ratio (average of all detected samples ratios) for thallium was 4.46E-5, arsenic was 3.33E-3 and for antimony was 1.4 E-03. Cadmium was based on the sole detected value of 1.22E-3. These values were used to predict future soil concentrations in the mine area associated with mine dusts.

Table A-1 Dustfall Data for Sample Site DF-M-01 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total
19-Dec-16	0.53	5.43E-03	1.00E-06	5.20E-05	3.79E-05	5.20E-06	5.20E-06	1.00E-04	5.20E-06	1.75E-03	5.30E-07	1.17E-05	4.50E-06
19-Nov-16	2.79	8.06E-02	1.00E-06	5.00E-05	4.53E-04	5.00E-06	5.00E-06	1.00E-04	5.00E-06	1.71E-02	7.58E-06	1.90E-04	5.04E-05
17-Oct-16	4.70	1.34E-02	1.30E-06	6.70E-05	9.50E-05	6.70E-06	6.70E-06	1.30E-04	6.70E-06	3.70E-03	1.24E-06	1.99E-05	7.60E-06
23-Sep-16	0.92	2.81E-02	8.10E-07	4.10E-05	2.40E-04	4.10E-06	4.10E-06	8.10E-05	4.10E-06	1.01E-02	2.66E-06	2.61E-05	1.27E-05
15-Aug-16	1.99	4.43E-02	9.30E-07	4.70E-05	3.35E-04	4.70E-06	5.40E-06	9.30E-05	4.70E-06	2.12E-02	4.58E-06	4.05E-05	2.24E-05
12-Jul-16	3.14	9.46E-02	1.10E-06	5.30E-05	7.43E-04	5.30E-06	5.30E-06	1.10E-04	5.30E-06	2.27E-02	8.04E-06	7.22E-05	4.24E-05
11-Jun-16	2.52	5.73E-02	9.70E-07	7.00E-05	4.02E-04	4.90E-06	4.90E-06	9.70E-05	4.90E-06	1.69E-02	4.75E-06	5.80E-05	2.68E-05
09-May-16	6.82	1.16E-01	2.30E-06	7.10E-05	4.58E-04	5.70E-06	5.70E-06	1.10E-04	5.70E-06	4.53E-02	8.43E-06	2.04E-04	1.02E-04
11-Apr-16	1.09	1.79E-02	1.20E-06	6.40E-05	8.74E-05	5.90E-06	5.90E-06	1.20E-04	5.90E-06	6.63E-03	1.09E-06	4.34E-05	1.81E-05
14-Mar-16	1.26	1.33E-02	1.60E-06	6.10E-05	5.59E-05	6.10E-06	6.10E-06	1.20E-04	6.10E-06	1.11E-02	7.60E-07	3.62E-05	2.10E-05
16-Feb-16	0.31	2.52E-03	1.10E-06	5.60E-05	9.10E-06	5.60E-06	5.60E-06	1.10E-04	5.60E-06	1.87E-03	5.60E-07	2.00E-05	5.10E-06
18-Jan-16	0.38	5.40E-03	1.60E-06	6.00E-05	2.31E-05	6.00E-06	6.00E-06	1.20E-04	6.00E-06	3.21E-03	6.00E-07	1.83E-05	7.70E-06
21-Dec-15	0.18	1.44E-03	9.30E-07	4.70E-05	1.23E-05	4.70E-06	4.70E-06	9.30E-05	4.70E-06	9.00E-04	4.70E-07	7.00E-05	2.78E-06
17-Nov-15	0.16	2.32E-03	7.90E-07	3.90E-05	1.27E-05	3.90E-06	3.90E-06	7.90E-05	3.90E-06	2.46E-03	3.90E-07	4.70E-05	2.99E-06
08-Oct-15	0.50	1.08E-02	1.00E-05	5.00E-04	1.06E-04	5.00E-05	5.00E-05	1.00E-03	5.00E-05	8.20E-03	5.00E-06	5.00E-05	1.00E-05
06-Sep-15	2.73	6.55E-02	1.10E-05	5.50E-04	3.88E-04	5.50E-05	5.50E-05	1.10E-03	5.50E-05	5.68E-02	7.00E-06	1.10E-03	4.40E-05
08-Aug-15	1.43	4.76E-02	1.20E-06	5.40E-05	3.00E-04	5.40E-06	5.40E-06	1.10E-04	5.40E-06	2.00E-02	4.34E-06	8.60E-05	2.64E-05
10-Jul-15	0.41	8.36E-03	1.10E-06	1.40E-06	5.16E-05	5.40E-06	5.40E-06	1.10E-04	5.40E-07	8.52E-03	-	1.68E-05	5.60E-06
08-Jun-15	1.65	4.02E-02	1.20E-06	1.60E-04	1.45E-04	5.80E-06	5.80E-06	1.20E-04	5.80E-07	2.06E-02	-	8.59E-05	2.25E-05
09-May-15	13.70	2.16E-01	1.05E-05	1.90E-04	5.32E-04	9.60E-06	6.70E-06	1.30E-04	1.62E-06	7.90E-02	-	4.33E-04	1.42E-04
07-Apr-15	0.62	2.18E-02	1.60E-06	1.60E-05	5.96E-05	7.90E-06	7.90E-06	1.60E-04	7.90E-07	8.45E-03	-	5.59E-05	1.62E-05
08-Mar-15	0.66	7.63E-03	1.20E-06	9.90E-05	4.43E-05	6.20E-06	6.20E-06	1.20E-04	6.20E-07	1.79E-03	-	1.68E-05	9.50E-06
07-Feb-15	2.93	4.90E-02	4.60E-06	1.10E-04	1.72E-04	1.10E-05	1.10E-05	2.30E-04	1.10E-06	1.54E-02	-	8.50E-05	3.15E-05
04-Jan-15	0.82	8.17E-03	3.80E-06	1.30E-05	3.45E-05	1.30E-05	1.30E-05	2.60E-04	1.30E-06	4.06E-03	-	1.90E-05	6.60E-06

Sample Date	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total
19-Dec-16	2.30E-05	1.03E-02	1.26E-05	5.20E-05	5.24E-03	1.82E-04	5.20E-06	1.52E-06	1.04E-05	5.20E-04	2.85E-03	1.78E-05	1.00E-05	8.33E-03
19-Nov-16	1.35E-04	1.18E-01	1.12E-04	8.00E-05	8.05E-02	1.94E-03	5.00E-06	7.56E-06	1.10E-04	1.96E-03	4.30E-02	2.68E-04	1.00E-05	1.40E-01
17-Oct-16	4.70E-05	1.88E-02	2.05E-05	6.70E-05	1.20E-02	2.88E-04	6.70E-06	2.20E-06	1.73E-05	6.70E-04	7.21E-03	4.56E-05	1.30E-05	2.12E-02
23-Sep-16	3.49E-05	3.75E-02	2.13E-05	4.10E-05	2.57E-02	6.04E-04	4.10E-07	3.25E-06	2.88E-05	6.50E-04	1.74E-02	1.09E-04	8.10E-06	4.20E-02
15-Aug-16	6.90E-05	5.61E-02	2.41E-05	4.70E-05	4.34E-02	1.02E-03	4.70E-07	3.99E-06	5.17E-05	1.26E-03	2.94E-02	1.83E-04	9.30E-06	6.91E-02
12-Jul-16	9.40E-05	1.25E-01	6.63E-05	8.10E-05	7.72E-02	2.00E-03	5.30E-07	7.05E-06	8.91E-05	2.18E-03	5.47E-02	3.10E-04	1.10E-05	1.55E-01
11-Jun-16	5.36E-05	7.31E-02	4.93E-05	5.20E-05	4.92E-02	1.30E-03	4.90E-06	4.15E-06	5.75E-05	1.55E-03	3.39E-02	2.04E-04	9.70E-06	9.83E-02
09-May-16	1.64E-04	1.65E-01	7.46E-05	1.64E-04	1.13E-01	3.67E-03	5.70E-06	9.31E-06	1.94E-04	3.60E-03	5.15E-02	3.19E-04	1.10E-05	2.20E-01
11-Apr-16	2.80E-05	3.50E-02	8.22E-06	5.90E-05	1.53E-02	5.91E-04	5.90E-06	4.70E-06	3.68E-05	5.90E-04	7.61E-03	4.36E-05	1.20E-05	2.83E-02
14-Mar-16	4.80E-05	5.16E-02	1.25E-05	6.10E-05	1.47E-02	8.84E-04	6.10E-06	4.90E-06	4.17E-05	1.04E-03	4.91E-03	2.76E-05	1.20E-05	1.99E-02
16-Feb-16	1.00E-04	1.23E-02	2.14E-06	5.60E-05	2.66E-03	3.09E-04	5.60E-06	1.00E-06	3.40E-05	4.50E-03	5.60E-04	3.30E-06	1.10E-05	3.80E-03
18-Jan-16	1.20E-04	1.24E-02	5.09E-06	6.00E-05	5.47E-03	3.00E-04	6.00E-06	1.87E-06	1.70E-05	4.80E-03	1.91E-03	1.31E-05	1.20E-05	8.09E-03
21-Dec-15	1.20E-04	6.96E-03	2.24E-06	4.70E-05	1.33E-03	1.34E-04	4.70E-05	8.30E-07	4.70E-06	4.70E-04	4.70E-04	3.21E-06	9.30E-06	2.23E-03
17-Nov-15	1.25E-05	6.68E-03	5.00E-06	3.90E-05	2.70E-03	2.20E-04	3.90E-05	7.90E-07	2.00E-04	5.40E-04	1.07E-03	6.91E-06	7.90E-06	4.21E-03
08-Oct-15	1.00E-04	1.42E-02	8.00E-06	5.00E-04	1.17E-02	2.33E-04	5.00E-07	5.00E-06	5.00E-05	5.00E-03	5.70E-03	4.00E-05	1.00E-04	1.87E-02
06-Sep-15	6.60E-04	9.46E-02	4.23E-05	5.50E-04	8.69E-02	1.68E-03	5.50E-07	5.70E-06	1.80E-04	5.50E-03	3.62E-02	2.46E-04	1.10E-04	1.09E-01
08-Aug-15	1.60E-04	6.94E-02	2.17E-05	5.40E-05	4.47E-02	1.13E-03	5.40E-07	3.89E-06	7.22E-05	1.09E-03	2.40E-02	1.53E-04	1.10E-05	7.65E-02
10-Jul-15	1.97E-04	1.21E-02	7.00E-06	5.40E-05	8.88E-03	2.26E-04	5.40E-07	1.00E-06	2.06E-05	5.40E-04	4.00E-03	-	1.10E-05	1.35E-02
08-Jun-15	3.16E-04	6.18E-02	2.41E-05	5.80E-05	4.13E-02	9.78E-04	5.80E-07	4.12E-06	7.57E-05	7.70E-04	1.96E-02	-	1.20E-05	7.19E-02
09-May-15	5.33E-04	3.89E-01	1.59E-04	2.66E-04	2.03E-01	6.29E-03	6.30E-07	3.35E-05	4.09E-04	5.13E-03	7.52E-02	-	1.30E-05	3.40E-01
07-Apr-15	4.90E-04	-	1.45E-05	7.90E-05	2.04E-02	8.59E-04	7.90E-06	6.05E-06	3.92E-05	-	5.02E-03	-	1.60E-05	-
08-Mar-15	1.63E-04	-	1.16E-05	6.20E-05	5.42E-03	5.51E-04	1.20E-05	2.98E-06	1.70E-05	-	2.42E-03	-	1.20E-05	-
07-Feb-15	2.21E-04	-	5.54E-05	1.10E-04	4.89E-02	1.22E-03	1.10E-05	8.20E-06	8.30E-05	-	2.70E-02	-	2.30E-05	-
04-Jan-15	4.70E-05	-	8.40E-06	1.30E-04	8.10E-03	2.37E-04	1.30E-06	1.90E-06	1.80E-05		5.30E-03	-	2.60E-05	-

Sample Date	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
19-Dec-16	1.10E-07	3.00E-03	5.50E-06	5.20E-03	1.00E-06	1.00E-06	1.02E-06	1.00E-06	2.80E-04	1.50E-06	1.15E-06	1.00E-05	4.10E-05	5.20E-06
19-Nov-16	5.30E-07	3.50E-03	3.14E-05	5.00E-03	1.00E-06	1.80E-06	3.65E-05	5.70E-06	5.26E-03	2.27E-05	1.87E-05	1.60E-04	3.25E-04	1.82E-05
17-Oct-16	2.60E-07	2.77E-03	9.30E-06	6.70E-03	1.30E-06	1.30E-06	4.74E-06	1.60E-06	8.50E-04	2.70E-06	2.25E-06	2.10E-05	1.17E-04	6.70E-06
23-Sep-16	2.00E-07	4.18E-03	2.30E-05	4.10E-03	8.10E-07	8.10E-07	9.63E-06	1.95E-06	1.93E-03	5.70E-06	4.54E-06	3.70E-05	1.24E-04	5.90E-06
15-Aug-16	1.86E-07	6.00E-03	2.90E-05	4.70E-03	9.30E-07	1.06E-06	1.57E-05	2.87E-06	3.16E-03	1.93E-06	1.12E-05	6.94E-05	1.82E-04	1.02E-05
12-Jul-16	1.10E-06	2.80E-03	3.90E-05	5.30E-03	1.10E-06	1.80E-06	5.12E-05	9.50E-06	5.80E-03	1.70E-05	1.92E-05	1.18E-04	2.56E-04	3.77E-05
11-Jun-16	1.34E-06	8.70E-03	3.30E-05	4.90E-03	9.70E-07	1.19E-06	3.13E-05	6.80E-06	3.46E-03	6.80E-06	1.24E-05	7.70E-05	1.87E-04	1.60E-04
09-May-16	5.90E-07	7.85E-03	8.54E-05	5.70E-03	1.10E-06	1.70E-06	1.02E-04	4.80E-06	4.70E-03	6.66E-05	4.77E-05	1.92E-04	4.18E-04	4.75E-05
11-Apr-16	1.20E-07	8.30E-03	9.76E-05	5.90E-03	1.20E-06	1.20E-06	1.12E-05	1.20E-06	6.40E-04	1.09E-05	3.90E-06	2.50E-05	7.70E-05	6.80E-06
14-Mar-16	1.90E-07	8.60E-03	3.01E-05	6.10E-03	1.20E-06	1.20E-06	6.90E-06	1.20E-06	4.20E-04	1.52E-05	8.06E-06	1.90E-05	8.00E-05	1.18E-05
16-Feb-16	1.10E-07	1.30E-02	7.90E-06	5.60E-03	1.10E-06	1.10E-06	1.53E-06	1.10E-06	1.10E-04	1.10E-06	3.02E-06	1.10E-05	2.40E-04	5.60E-06
18-Jan-16	1.20E-07	1.80E-02	6.00E-05	6.00E-03	1.20E-06	1.20E-06	2.62E-06	1.20E-05	2.00E-04	4.50E-06	2.08E-06	1.20E-05	5.60E-05	6.00E-06
21-Dec-15	9.30E-08	7.60E-04	1.30E-05	4.70E-03	9.30E-07	9.30E-07	9.40E-07	9.30E-07	9.30E-05	9.30E-07	4.93E-07	9.30E-06	4.20E-05	4.70E-06
17-Nov-15	7.90E-08	1.30E-03	1.20E-05	3.90E-03	7.90E-07	7.90E-07	2.40E-06	8.20E-07	9.90E-05	2.49E-06	1.29E-06	7.90E-06	2.40E-04	3.90E-06
08-Oct-15	1.00E-06	5.00E-03	2.70E-05	5.00E-02	1.00E-05	1.00E-05	6.80E-06	1.00E-05	1.00E-03	1.00E-05	2.20E-06	1.00E-04	3.00E-04	5.00E-05
06-Sep-15	1.10E-06	5.50E-03	3.40E-03	5.50E-02	1.10E-05	1.10E-05	4.78E-05	1.10E-05	4.30E-03	1.10E-05	2.22E-05	1.20E-04	3.50E-04	5.50E-05
08-Aug-15	1.80E-07	3.80E-03	1.77E-04	5.40E-03	1.10E-06	1.10E-06	2.77E-05	2.80E-06	2.64E-03	2.40E-06	1.15E-05	7.40E-05	2.37E-04	2.17E-05
10-Jul-15	1.30E-07	1.99E-03	3.31E-05	-	-	1.10E-06	-	1.10E-06	4.00E-04	-	1.60E-06	1.50E-05	1.91E-04	-
08-Jun-15	6.81E-06	3.36E-03	4.21E-05	-	-	1.20E-06	-	2.90E-06	1.84E-03	-	1.20E-05	6.60E-05	1.71E-04	-
09-May-15	2.06E-06	1.10E-02	1.12E-04	-	-	2.90E-06	-	1.29E-05	7.77E-03	-	6.47E-05	3.57E-04	9.27E-04	-
07-Apr-15	3.00E-07	1.94E-03	1.23E-05	-	-	1.60E-06	-	2.20E-06	-	-	2.79E-06	2.60E-05	1.40E-04	-
08-Mar-15	2.10E-07	1.20E-03	5.70E-06	-	-	1.20E-06	-	1.60E-06	-	-	3.67E-06	1.20E-05	8.60E-05	
07-Feb-15	2.40E-07	4.40E-03	3.09E-05	-	-	2.30E-06	-	4.40E-06	-	-	2.27E-05	8.40E-05	2.96E-04	-
04-Jan-15	2.60E-07	3.50E-03	9.40E-06	-	-	2.60E-06	-	5.00E-06	-	-	2.15E-06	2.60E-05	1.46E-04	-

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-2 Dustfall Data for Sample Site DF-M-02 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total
19-Dec-16	0.91	7.94E-03	1.10E-06	5.30E-05	3.18E-05	5.30E-06	5.30E-06	1.10E-04	5.30E-06	1.52E-03
19-Nov-16	6.60	4.96E-02	1.00E-06	5.90E-05	1.56E-04	5.10E-06	5.10E-06	1.00E-04	5.10E-06	8.28E-03
17-Oct-16	1.00	1.60E-02	1.30E-06	6.60E-05	1.12E-04	6.60E-06	6.60E-06	1.30E-04	6.60E-06	3.80E-03
23-Sep-16	0.89	2.01E-02	8.10E-07	4.10E-05	1.59E-04	4.10E-06	4.10E-06	8.10E-05	4.10E-06	9.28E-03
15-Aug-16	0.57	1.03E-02	9.30E-07	4.70E-05	8.44E-05	4.70E-06	4.70E-06	9.30E-05	4.70E-06	7.55E-03
12-Jul-16	1.31	4.11E-02	1.00E-06	5.10E-05	2.61E-04	5.10E-06	5.10E-06	1.00E-04	5.10E-06	1.45E-02
11-Jun-16	4.45	9.15E-02	9.60E-07	7.10E-05	5.98E-04	4.80E-06	4.80E-06	9.60E-05	4.80E-06	2.32E-02
09-May-16	13.80	2.15E-01	1.20E-06	9.60E-05	8.42E-04	1.04E-05	5.90E-06	3.30E-04	5.90E-06	7.69E-02
11-Apr-16	3.32	3.61E-02	1.10E-05	5.60E-04	9.60E-05	5.60E-05	5.60E-05	1.10E-03	5.60E-05	9.00E-03
14-Mar-16	6.59	6.31E-02	1.20E-05	6.00E-04	9.70E-05	6.00E-05	6.00E-05	1.20E-03	6.00E-05	9.60E-03
16-Feb-16	2.17	1.56E-02	1.10E-06	5.50E-05	3.06E-05	5.50E-06	5.50E-06	1.10E-04	5.50E-06	6.93E-03
18-Jan-16	2.61	2.71E-02	1.20E-05	5.80E-04	9.30E-05	5.80E-05	5.80E-05	1.20E-03	5.80E-05	9.30E-03
21-Dec-15	0.91	7.39E-03	9.50E-07	4.80E-05	1.92E-05	4.80E-06	4.80E-06	9.50E-05	4.80E-06	1.90E-03
17-Nov-15	0.46	7.03E-03	7.90E-07	4.30E-05	2.49E-05	4.00E-06	4.00E-06	7.90E-05	4.00E-06	3.87E-03
08-Oct-15	0.28	8.81E-03	1.00E-05	5.00E-04	8.10E-05	5.00E-05	5.00E-05	1.00E-03	5.00E-05	8.10E-03
06-Sep-15	2.54	7.53E-02	1.10E-05	5.50E-04	4.32E-04	5.50E-05	5.50E-05	1.10E-03	5.50E-05	2.89E-02
08-Aug-15	0.94	3.55E-02	1.10E-06	5.40E-05	2.10E-04	5.40E-06	5.40E-06	1.10E-04	5.40E-06	1.40E-02
10-Jul-15	0.66	1.42E-02	1.10E-06	1.50E-06	1.01E-04	5.40E-06	5.40E-06	1.10E-04	5.40E-07	5.26E-03
08-Jun-15	1.34	4.02E-02	1.20E-06	1.50E-04	1.81E-04	5.80E-06	5.80E-06	2.10E-04	5.80E-07	1.46E-02
09-May-15	3.01	4.46E-02	4.70E-06	1.80E-04	1.26E-04	5.20E-06	5.20E-06	1.00E-04	5.20E-07	1.60E-02
07-Apr-15	0.10	3.84E-02	2.30E-06	1.70E-04	1.15E-04	8.60E-06	8.60E-06	1.70E-04	8.60E-07	8.87E-03
08-Mar-15	1.11	1.50E-02	2.70E-06	1.60E-04	4.91E-05	1.40E-05	1.40E-05	2.70E-04	1.40E-06	2.43E-03
07-Feb-15	0.86	8.44E-03	3.70E-06	1.70E-04	3.02E-05	1.80E-05	1.80E-05	3.70E-04	1.80E-06	1.83E-03
04-Jan-15	0.18	9.86E-03	7.60E-06	2.00E-04	6.38E-05	1.30E-05	1.30E-05	2.50E-04	2.20E-06	3.29E-03

Sample Date	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
19-Dec-16	5.30E-07	2.45E-05	1.12E-05	4.30E-05	6.30E-02	4.29E-05	5.30E-05	7.12E-03	5.92E-04	5.30E-06
19-Nov-16	2.30E-06	1.06E-04	8.54E-05	1.57E-04	3.12E-01	7.74E-05	6.20E-05	4.36E-02	3.08E-03	5.10E-06
17-Oct-16	1.60E-06	2.37E-05	1.02E-05	5.80E-05	3.40E-02	3.06E-05	6.60E-05	1.21E-02	4.26E-04	6.60E-06
23-Sep-16	2.20E-06	2.91E-05	1.32E-05	4.26E-05	3.30E-02	2.16E-05	4.10E-05	1.99E-02	5.88E-04	4.10E-07
15-Aug-16	1.14E-06	1.60E-05	6.77E-06	9.70E-05	1.53E-02	6.98E-06	4.70E-05	1.11E-02	3.44E-04	4.70E-07
12-Jul-16	4.01E-06	6.03E-05	2.47E-05	5.40E-05	6.11E-02	2.56E-05	5.10E-05	3.72E-02	1.09E-03	5.10E-07
11-Jun-16	7.21E-06	1.12E-04	4.96E-05	1.01E-04	1.22E-01	8.43E-05	9.10E-05	6.88E-02	2.51E-03	4.80E-06
09-May-16	1.12E-05	8.28E-04	2.51E-04	3.91E-04	4.40E-01	9.29E-05	3.68E-04	2.41E-01	1.34E-02	5.90E-06
11-Apr-16	5.60E-06	1.09E-04	5.20E-05	1.10E-04	1.55E-01	1.40E-05	5.60E-04	2.79E-02	2.37E-03	5.60E-06
14-Mar-16	6.00E-06	1.45E-04	9.90E-05	1.80E-04	3.99E-01	2.82E-05	6.00E-04	4.87E-02	5.15E-03	6.00E-06
16-Feb-16	5.50E-07	4.06E-05	3.82E-05	1.00E-04	1.34E-01	1.12E-05	5.50E-05	1.34E-02	2.21E-03	5.50E-06
18-Jan-16	5.80E-06	9.10E-05	7.70E-05	1.20E-04	1.29E-01	1.86E-05	5.80E-04	1.84E-02	3.52E-03	5.80E-06
21-Dec-15	4.80E-07	7.10E-05	1.74E-05	1.20E-04	4.12E-02	5.22E-06	4.80E-05	5.03E-03	8.95E-04	4.80E-05
17-Nov-15	4.50E-07	4.80E-05	8.54E-06	2.21E-05	2.15E-02	5.10E-06	4.00E-05	6.50E-03	6.00E-04	4.00E-05
08-Oct-15	5.00E-06	1.24E-03	5.30E-05	1.00E-04	1.60E-02	8.10E-06	5.00E-04	9.56E-03	4.28E-04	5.00E-07
06-Sep-15	6.40E-06	1.10E-03	5.40E-05	6.60E-04	1.24E-01	3.82E-05	5.50E-04	7.53E-02	2.19E-03	5.50E-07
08-Aug-15	2.84E-06	8.70E-05	2.06E-05	1.60E-04	5.24E-02	1.60E-05	5.40E-05	3.41E-02	9.06E-04	5.40E-07
10-Jul-15	-	2.86E-05	9.10E-06	2.60E-04	2.16E-02	8.10E-06	5.40E-05	1.19E-02	3.57E-04	5.40E-07
08-Jun-15	-	1.18E-04	2.97E-05	1.69E-04	8.24E-02	2.48E-05	5.80E-05	3.82E-02	1.23E-03	5.80E-07
09-May-15	-	1.14E-04	5.09E-05	1.66E-04	1.69E-01	3.71E-05	5.80E-05	3.95E-02	2.41E-03	5.20E-07
07-Apr-15	-	9.75E-05	2.84E-05	1.43E-04	-	3.60E-05	8.60E-05	3.32E-02	1.42E-03	8.60E-06
08-Mar-15	-	7.70E-05	1.85E-05	1.93E-04	-	1.36E-05	1.40E-04	1.22E-02	8.87E-04	2.70E-05
07-Feb-15	-	1.80E-05	1.29E-05	2.35E-04	-	1.59E-05	1.80E-04	5.65E-03	4.46E-04	9.20E-06
04-Jan-15	-	1.40E-04	1.16E-05	9.10E-05	-	1.89E-05	1.30E-04	8.00E-03	4.07E-04	1.30E-06

Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total
19-Dec-16	3.20E-06	2.81E-05	5.30E-04	1.54E-03	9.10E-06	1.10E-05	9.87E-03	3.80E-07	1.68E-03	5.20E-06
19-Nov-16	4.21E-06	1.75E-04	2.64E-03	9.24E-03	5.86E-05	1.00E-05	6.26E-02	9.80E-07	3.50E-03	2.00E-05
17-Oct-16	2.90E-06	2.31E-05	6.60E-04	7.59E-03	4.63E-05	1.30E-05	2.57E-02	3.30E-07	3.00E-03	1.11E-05
23-Sep-16	2.65E-06	2.69E-05	5.00E-04	1.22E-02	7.87E-05	8.10E-06	3.04E-02	1.70E-07	4.48E-03	1.80E-05
15-Aug-16	1.22E-06	1.63E-05	5.20E-04	7.38E-03	4.01E-05	9.30E-06	1.61E-02	9.30E-08	3.70E-03	1.10E-05
12-Jul-16	2.66E-06	6.04E-05	9.50E-04	2.21E-02	1.33E-04	1.00E-05	7.07E-02	1.00E-06	2.35E-03	2.30E-05
11-Jun-16	6.19E-06	9.89E-05	2.98E-03	4.87E-02	2.87E-04	9.60E-06	1.59E-01	3.97E-07	8.70E-03	5.70E-05
09-May-16	8.17E-06	5.22E-04	2.16E-02	6.74E-02	3.58E-04	1.20E-05	3.48E-01	1.15E-06	7.39E-03	1.68E-04
11-Apr-16	4.50E-05	1.09E-04	5.60E-03	8.00E-03	3.60E-05	1.10E-04	4.38E-02	1.10E-06	7.90E-02	2.40E-05
14-Mar-16	4.80E-05	1.78E-04	6.00E-03	6.90E-03	3.30E-05	1.20E-04	7.23E-02	1.20E-06	8.40E-02	5.30E-05
16-Feb-16	3.82E-06	5.70E-05	4.40E-03	1.52E-03	8.30E-06	1.10E-05	1.81E-02	2.30E-07	1.30E-02	1.44E-05
18-Jan-16	5.80E-06	1.12E-04	5.80E-03	5.80E-03	2.80E-05	1.20E-04	3.21E-02	1.20E-06	1.70E-02	5.80E-05
21-Dec-15	1.12E-06	3.09E-05	7.30E-04	1.13E-03	6.09E-06	9.50E-06	8.48E-03	1.31E-07	9.30E-04	1.30E-05
17-Nov-15	9.60E-07	2.00E-04	1.16E-03	2.98E-03	1.66E-05	7.90E-06	1.10E-02	9.70E-08	1.57E-03	1.20E-05
08-Oct-15	2.43E-04	1.26E-03	5.00E-03	5.00E-03	3.10E-05	1.00E-04	1.50E-02	1.00E-06	5.00E-03	2.20E-05
06-Sep-15	5.50E-06	1.52E-04	5.50E-03	3.47E-02	2.18E-04	1.10E-04	1.16E-01	1.10E-06	5.50E-03	3.50E-03
08-Aug-15	2.48E-06	5.62E-05	1.15E-03	1.83E-02	1.11E-04	1.10E-05	5.65E-02	1.40E-07	3.80E-03	2.40E-05
10-Jul-15	1.19E-06	2.63E-05	5.40E-04	6.96E-03	-	1.10E-05	2.18E-02	1.70E-07	1.04E-03	9.60E-06
08-Jun-15	4.37E-06	9.56E-05	1.04E-03	1.56E-02	-	1.20E-05	6.53E-02	3.20E-07	1.95E-03	2.04E-05
09-May-15	1.21E-05	1.08E-04	1.92E-03	1.37E-02	-	1.00E-05	6.51E-02	4.70E-07	2.31E-03	2.37E-05
07-Apr-15	1.14E-05	7.07E-05	-	1.21E-02	-	1.70E-05	-	6.40E-07	3.54E-03	1.83E-05
08-Mar-15	7.70E-06	5.20E-05	-	2.90E-03	-	2.70E-05	-	2.28E-05	1.40E-03	1.11E-05
07-Feb-15	1.80E-06	1.80E-05	-	1.80E-03	-	3.70E-05	-	3.70E-07	1.80E-03	7.60E-06
04-Jan-15	3.20E-06	2.20E-05		4.90E-03	-	2.50E-05	-	2.50E-07	3.10E-03	1.05E-05

Sample Date	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
19-Dec-16	5.30E-03	1.10E-06	1.10E-06	2.22E-06	1.10E-06	1.90E-04	1.10E-06	1.86E-06	1.10E-05	5.20E-05	5.30E-06
19-Nov-16	1.43E-02	1.00E-06	1.00E-06	1.54E-05	3.20E-06	1.41E-03	1.00E-06	1.45E-05	4.30E-05	2.05E-04	1.64E-05
17-Oct-16	6.60E-03	1.30E-06	1.30E-06	5.83E-06	1.90E-06	1.00E-03	1.30E-06	2.73E-06	2.40E-05	1.19E-04	6.60E-06
23-Sep-16	4.10E-03	8.10E-07	8.10E-07	6.98E-06	1.61E-06	1.45E-03	5.70E-06	4.15E-06	3.28E-05	1.27E-04	6.50E-06
15-Aug-16	4.70E-03	9.30E-07	9.30E-07	2.61E-06	9.68E-06	7.20E-04	2.88E-06	2.98E-06	1.84E-05	7.00E-05	4.70E-06
12-Jul-16	5.10E-03	1.00E-06	1.00E-06	1.99E-05	9.20E-06	2.59E-03	1.60E-05	8.64E-06	6.80E-05	1.41E-04	1.83E-05
11-Jun-16	4.80E-03	9.60E-07	1.67E-06	4.74E-05	6.70E-06	5.55E-03	6.70E-06	2.50E-05	1.34E-04	2.53E-04	1.50E-04
09-May-16	9.90E-03	1.20E-06	1.90E-06	8.31E-05	4.80E-06	6.69E-03	1.40E-06	9.53E-05	4.43E-04	5.09E-04	5.49E-05
11-Apr-16	5.60E-02	1.10E-05	1.10E-05	1.41E-05	1.10E-05	1.10E-03	1.10E-05	9.00E-06	1.10E-04	3.40E-04	5.60E-05
14-Mar-16	6.00E-02	1.20E-05	1.20E-05	2.00E-05	1.20E-05	1.20E-03	1.20E-05	2.59E-05	1.20E-04	3.60E-04	6.00E-05
16-Feb-16	5.50E-03	1.10E-06	1.10E-06	5.68E-06	1.10E-06	1.60E-04	1.60E-06	2.29E-05	1.10E-05	2.30E-04	1.46E-05
18-Jan-16	5.80E-02	1.20E-05	1.20E-05	7.00E-06	1.20E-05	1.20E-03	1.20E-05	1.42E-05	1.20E-04	3.50E-04	5.80E-05
21-Dec-15	4.80E-03	9.50E-07	9.50E-07	2.59E-06	9.50E-07	2.00E-04	9.50E-07	2.39E-06	9.50E-06	5.70E-05	4.80E-06
17-Nov-15	4.00E-03	7.90E-07	7.90E-07	4.60E-06	9.00E-07	2.43E-04	7.90E-07	5.03E-06	8.60E-06	2.40E-04	7.60E-06
08-Oct-15	5.00E-02	1.00E-05	1.00E-05	5.00E-06	1.00E-05	1.00E-03	1.00E-05	1.30E-06	1.00E-04	3.00E-04	5.00E-05
06-Sep-15	5.50E-02	1.10E-05	1.10E-05	3.81E-05	1.10E-05	3.90E-03	1.10E-05	1.74E-05	1.30E-04	3.30E-04	5.50E-05
08-Aug-15	5.40E-03	1.10E-06	1.10E-06	1.40E-05	2.40E-06	1.91E-03	1.20E-06	5.52E-06	6.20E-05	1.33E-04	1.30E-05
10-Jul-15	-	-	1.10E-06	-	1.10E-06	7.30E-04	-	1.65E-06	2.40E-05	8.80E-05	-
08-Jun-15	-	-	1.20E-06	-	2.40E-06	1.63E-03	-	8.63E-06	7.20E-05	1.68E-04	-
09-May-15	-	-	1.00E-06	-	2.70E-06	1.51E-03	-	1.34E-05	6.80E-05	2.15E-04	-
07-Apr-15	-	-	1.70E-06	-	6.80E-06	-	-	8.30E-06	4.70E-05	3.24E-04	-
08-Mar-15	-	-	2.70E-06	-	2.70E-06	-	-	4.01E-06	2.70E-05	1.61E-04	
07-Feb-15	-	-	3.70E-06	-	3.70E-06	-	-	6.43E-06	3.70E-05	1.10E-04	-
04-Jan-15	-	-	2.50E-06	-	4.70E-06	-	-	4.03E-06	2.50E-05	1.28E-04	-

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-3 Dustfall Data for Sample Site DF-M-03 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total
19-Dec-16	0.54	6.95E-03	1.10E-06	5.70E-05	4.86E-05	5.70E-06	5.70E-06	1.10E-04	5.70E-06	1.88E-03
19-Nov-16	1.22	3.02E-02	9.60E-07	5.20E-05	2.13E-04	4.80E-06	5.50E-06	9.60E-05	4.80E-06	6.43E-03
17-Oct-16	1.00	1.71E-02	1.40E-06	7.00E-05	1.14E-04	7.00E-06	7.00E-06	1.40E-04	7.00E-06	4.40E-03
24-Sep-16	1.35	3.69E-02	8.00E-07	4.00E-05	2.53E-04	4.00E-06	4.00E-06	8.00E-05	4.00E-06	1.09E-02
15-Aug-16	1.09	2.73E-02	1.00E-06	5.00E-05	1.89E-04	5.00E-06	5.00E-06	1.00E-04	5.00E-06	9.15E-03
12-Jul-16	5.02	1.64E-01	1.00E-06	5.10E-05	9.18E-04	5.10E-06	5.10E-06	1.00E-04	5.10E-06	3.18E-02
11-Jun-16	2.58	6.89E-02	9.50E-07	7.20E-05	4.39E-04	4.80E-06	4.80E-06	9.50E-05	4.80E-06	1.89E-02
09-May-16	3.53	9.92E-02	1.20E-06	7.30E-05	3.64E-04	5.80E-06	5.80E-06	1.20E-04	5.80E-06	2.38E-02
11-Apr-16	7.89	1.06E-01	1.20E-05	5.80E-04	2.91E-04	5.80E-05	5.80E-05	1.20E-03	5.80E-05	1.63E-02
14-Mar-16	1.73	3.57E-02	1.20E-05	5.90E-04	1.18E-04	5.90E-05	5.90E-05	1.20E-03	5.90E-05	9.40E-03
16-Feb-16	1.12	1.64E-02	1.10E-06	5.50E-05	5.61E-05	5.50E-06	5.50E-06	1.10E-04	5.50E-06	6.23E-03
18-Jan-16	1.07	2.66E-02	1.20E-06	5.80E-05	1.09E-04	5.80E-06	5.80E-06	1.20E-04	5.80E-06	8.40E-03
21-Dec-15	0.48	6.47E-03	9.50E-07	4.80E-05	2.28E-05	4.80E-06	4.80E-06	9.50E-05	4.80E-06	1.69E-03
17-Nov-15	0.75	1.55E-02	8.00E-07	4.00E-05	5.50E-05	4.00E-06	4.00E-06	8.00E-05	4.00E-06	3.76E-03
08-Oct-15	0.50	1.69E-02	1.10E-05	5.40E-04	1.10E-04	5.40E-05	5.40E-05	1.10E-03	5.40E-05	8.60E-03
06-Sep-15	5.41	1.69E-01	1.10E-05	5.50E-04	9.52E-04	5.50E-05	5.50E-05	1.10E-03	5.50E-05	5.71E-02
08-Aug-15	0.85	2.75E-02	1.10E-06	5.50E-05	1.60E-04	5.50E-06	5.50E-06	1.10E-04	5.50E-06	1.40E-02
10-Jul-15	1.65	5.25E-02	1.10E-06	1.34E-04	2.48E-04	5.40E-06	5.40E-06	1.10E-04	5.40E-07	1.12E-02
08-Jun-15	2.55	6.15E-02	1.20E-06	9.20E-06	2.32E-04	5.80E-06	5.80E-06	1.20E-04	5.80E-07	2.05E-02
09-May-15	3.32	6.22E-02	4.30E-06	1.70E-05	1.61E-04	5.20E-06	5.20E-06	1.00E-04	5.20E-07	1.58E-02
07-Apr-15	0.66	4.34E-03	1.50E-06	2.70E-04	5.95E-05	6.80E-06	6.80E-06	1.40E-04	6.80E-07	1.21E-02
07-Mar-15	0.69	1.06E-02	1.40E-06	7.20E-05	4.32E-05	7.20E-06	7.20E-06	1.40E-04	7.20E-07	1.65E-03
07-Feb-15	0.54	7.51E-03	3.30E-06	1.50E-04	3.66E-05	1.70E-05	1.70E-05	3.30E-04	1.70E-06	2.04E-03
04-Jan-15	1.45	2.50E-02	3.10E-06	1.50E-05	1.75E-04	1.50E-05	1.50E-05	3.10E-04	1.50E-06	1.55E-02

Sample Date	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
19-Dec-16	5.70E-07	2.07E-05	6.20E-06	3.40E-05	2.96E-02	1.28E-05	5.70E-05	5.27E-03	2.98E-04	5.70E-06
19-Nov-16	3.64E-06	6.19E-05	2.14E-05	1.14E-04	6.53E-02	9.38E-05	4.80E-05	2.37E-02	8.79E-04	4.80E-06
17-Oct-16	2.19E-06	3.02E-05	9.70E-06	4.90E-05	2.85E-02	2.31E-05	7.00E-05	1.32E-02	4.50E-04	7.00E-06
24-Sep-16	4.16E-06	6.32E-05	2.29E-05	4.56E-05	5.76E-02	4.12E-05	4.00E-05	3.57E-02	1.04E-03	4.00E-07
15-Aug-16	2.80E-06	4.18E-05	1.69E-05	7.10E-05	4.00E-02	1.56E-05	5.00E-05	2.54E-02	7.28E-04	5.00E-07
12-Jul-16	1.60E-05	2.49E-04	8.83E-05	1.47E-04	2.28E-01	9.84E-05	1.58E-04	1.37E-01	3.93E-03	5.10E-07
11-Jun-16	5.75E-06	1.04E-04	3.52E-05	5.96E-05	9.16E-02	4.59E-05	6.10E-05	5.77E-02	1.67E-03	4.80E-06
09-May-16	5.17E-06	3.09E-04	7.64E-05	1.19E-04	1.45E-01	4.17E-05	1.28E-04	8.75E-02	3.70E-03	5.80E-06
11-Apr-16	5.80E-06	3.62E-04	1.16E-04	1.70E-04	3.14E-01	3.43E-05	5.80E-04	8.36E-02	4.13E-03	5.80E-06
14-Mar-16	5.90E-06	9.10E-05	3.10E-05	1.20E-04	8.21E-02	1.99E-05	5.90E-04	3.02E-02	1.20E-03	5.90E-06
16-Feb-16	1.06E-06	3.83E-05	1.79E-05	1.00E-04	5.19E-02	1.33E-05	5.50E-05	1.43E-02	9.75E-04	5.50E-06
18-Jan-16	2.25E-06	5.89E-05	2.02E-05	1.20E-04	3.90E-02	2.15E-05	5.80E-05	2.56E-02	8.40E-04	5.80E-06
21-Dec-15	4.80E-07	7.10E-05	6.02E-06	1.20E-04	1.72E-02	4.83E-06	4.80E-05	5.30E-03	3.25E-04	4.80E-05
17-Nov-15	1.13E-06	4.80E-05	9.38E-06	2.60E-05	2.09E-02	9.20E-06	4.00E-05	1.52E-02	3.90E-04	4.00E-05
08-Oct-15	5.40E-06	2.11E-04	1.50E-05	1.10E-04	2.50E-02	8.60E-06	5.40E-04	1.53E-02	4.04E-04	5.40E-07
06-Sep-15	1.33E-05	1.10E-03	1.03E-04	6.60E-04	2.49E-01	6.93E-05	5.50E-04	1.69E-01	4.17E-03	5.50E-07
08-Aug-15	2.21E-06	8.80E-05	1.53E-05	1.80E-04	3.65E-02	1.58E-05	5.50E-05	3.34E-02	6.87E-04	5.50E-07
10-Jul-15	-	9.23E-05	2.96E-05	1.46E-04	7.27E-02	2.59E-05	5.40E-05	4.82E-02	1.16E-03	5.40E-07
08-Jun-15	-	1.47E-04	4.29E-05	7.48E-04	8.85E-02	3.36E-05	6.90E-05	6.67E-02	1.46E-03	5.80E-07
09-May-15	-	1.57E-04	4.51E-05	2.82E-04	1.28E-01	5.22E-05	7.30E-05	5.66E-02	1.94E-03	5.20E-07
07-Apr-15	-	1.45E-05	4.20E-06	4.13E-04	-	4.13E-06	6.80E-05	3.44E-03	2.94E-04	6.80E-06
07-Mar-15	-	3.06E-05	9.20E-06	3.64E-05	-	1.64E-05	7.20E-05	8.13E-03	4.87E-04	1.40E-05
07-Feb-15	-	1.70E-05	7.00E-06	2.37E-04	-	1.48E-05	1.70E-04	6.47E-03	4.30E-04	8.30E-06
04-Jan-15	-	7.70E-05	2.00E-05	1.21E-04	-	7.54E-05	1.50E-04	2.64E-02	8.26E-04	1.50E-06

Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total
19-Dec-16	3.11E-06	1.70E-05	5.70E-04	2.91E-03	1.77E-05	1.10E-05	9.93E-03	1.80E-07	1.92E-03	4.50E-06	5.70E-03
19-Nov-16	7.75E-06	5.19E-05	1.01E-03	1.50E-02	9.32E-05	9.60E-06	4.72E-02	5.56E-07	5.40E-03	1.60E-05	4.80E-03
17-Oct-16	2.17E-06	2.40E-05	7.00E-04	9.01E-03	5.57E-05	1.40E-05	2.75E-02	2.30E-07	3.00E-03	1.27E-05	7.00E-03
24-Sep-16	4.47E-06	5.34E-05	9.80E-04	2.12E-02	1.43E-04	8.00E-06	5.73E-02	2.55E-07	2.94E-03	1.70E-05	4.00E-03
15-Aug-16	2.02E-06	3.69E-05	6.60E-04	1.75E-02	1.05E-04	1.00E-05	4.45E-02	1.30E-07	4.00E-03	1.70E-05	5.00E-03
12-Jul-16	9.39E-06	1.99E-04	3.96E-03	8.73E-02	5.24E-04	1.00E-05	2.72E-01	1.00E-06	4.53E-03	4.90E-05	5.10E-03
11-Jun-16	5.64E-06	8.04E-05	2.06E-03	3.86E-02	2.24E-04	9.50E-06	1.17E-01	7.49E-07	8.60E-03	3.70E-05	4.80E-03
09-May-16	4.76E-06	2.11E-04	4.90E-03	3.63E-02	2.13E-04	1.20E-05	1.61E-01	4.90E-07	5.45E-03	1.00E-04	5.80E-03
11-Apr-16	4.60E-05	2.84E-04	5.80E-03	2.96E-02	1.51E-04	1.20E-04	1.41E-01	1.20E-06	8.10E-02	1.42E-04	5.80E-02
14-Mar-16	4.70E-05	6.90E-05	5.90E-03	1.77E-02	9.70E-05	1.20E-04	5.43E-02	1.20E-06	8.20E-02	2.20E-05	5.90E-02
16-Feb-16	3.84E-06	3.50E-05	4.40E-03	7.98E-03	4.65E-05	1.10E-05	2.55E-02	1.80E-07	1.30E-02	1.21E-05	5.50E-03
18-Jan-16	2.86E-06	4.51E-05	4.60E-03	1.48E-02	9.43E-05	1.20E-05	4.52E-02	2.10E-07	1.70E-02	5.80E-05	5.80E-03
21-Dec-15	7.00E-07	1.18E-05	4.80E-04	3.23E-03	1.80E-05	9.50E-06	1.05E-02	9.50E-08	1.40E-03	1.30E-05	4.80E-03
17-Nov-15	1.04E-06	2.00E-04	4.50E-04	8.47E-03	4.78E-05	8.00E-06	2.77E-02	8.30E-08	1.88E-03	1.50E-05	4.00E-03
08-Oct-15	2.12E-05	1.91E-04	5.40E-03	8.60E-03	6.60E-05	1.10E-04	2.74E-02	1.10E-06	1.00E-02	5.00E-05	5.40E-02
06-Sep-15	8.20E-06	2.62E-04	5.70E-03	8.42E-02	5.15E-04	1.10E-04	2.64E-01	1.10E-06	5.50E-03	3.40E-03	5.50E-02
08-Aug-15	2.20E-06	4.12E-05	1.28E-02	2.68E-02	9.69E-05	1.10E-05	4.41E-02	3.90E-07	3.90E-03	2.40E-05	1.28E-02
10-Jul-15	4.74E-06	7.53E-05	1.28E-03	2.71E-02	-	1.10E-05	8.63E-02	3.80E-07	2.01E-03	1.76E-05	-
08-Jun-15	5.56E-06	1.15E-04	1.08E-03	3.35E-02	-	1.20E-05	1.10E-01	4.80E-07	4.33E-03	2.88E-05	-
09-May-15	1.63E-05	1.34E-04	1.18E-03	1.89E-02	-	1.00E-05	9.45E-02	5.90E-07	2.41E-03	2.42E-05	-
07-Apr-15	8.30E-07	8.10E-06	-	9.30E-04	-	1.40E-05	-	5.00E-07	1.18E-03	2.52E-05	-
07-Mar-15	3.84E-06	1.95E-05	-	4.92E-03	-	1.40E-05	-	1.70E-07	1.40E-03	6.50E-06	-
07-Feb-15	1.70E-06	1.70E-05	-	1.70E-03	-	3.30E-05	-	3.30E-07	1.70E-03	7.70E-06	-
04-Jan-15	1.22E-05	6.00E-05		1.30E-02	-	3.10E-05	-	3.40E-07	5.40E-03	2.00E-05	-

Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
19-Dec-16	1.10E-06	1.10E-06	1.80E-06	1.70E-06	3.40E-04	1.10E-06	1.83E-06	1.10E-05	6.10E-05	5.70E-06
19-Nov-16	9.60E-07	9.60E-07	1.17E-05	3.73E-06	2.40E-03	1.78E-06	5.89E-06	5.75E-05	2.10E-04	1.26E-05
17-Oct-16	1.40E-06	1.40E-06	6.54E-06	4.60E-06	1.32E-03	5.10E-06	2.47E-06	3.30E-05	1.11E-04	7.00E-06
24-Sep-16	8.00E-07	8.50E-07	1.36E-05	2.22E-06	2.76E-03	5.60E-06	6.10E-06	7.10E-05	1.81E-04	1.25E-05
15-Aug-16	1.00E-06	1.00E-06	7.65E-06	1.90E-06	1.98E-03	1.00E-06	3.99E-06	5.10E-05	1.36E-04	6.80E-06
12-Jul-16	1.00E-06	3.00E-06	6.70E-05	9.20E-06	1.10E-02	1.60E-05	2.71E-05	2.92E-04	4.60E-04	6.14E-05
11-Jun-16	9.50E-07	1.27E-06	2.69E-05	6.70E-06	4.40E-03	6.70E-06	1.04E-05	1.15E-04	2.44E-04	1.50E-04
09-May-16	1.20E-06	1.20E-06	4.36E-05	3.50E-06	3.63E-03	1.40E-06	2.33E-05	1.61E-04	5.84E-04	2.93E-05
11-Apr-16	1.20E-05	1.20E-05	4.52E-05	1.20E-05	2.50E-03	1.20E-05	1.81E-05	1.30E-04	3.50E-04	5.80E-05
14-Mar-16	1.20E-05	1.20E-05	2.11E-05	1.20E-05	1.20E-03	1.20E-05	9.80E-06	1.20E-04	3.50E-04	5.90E-05
16-Feb-16	1.10E-06	1.10E-06	1.72E-05	1.30E-06	7.20E-04	1.30E-06	1.43E-05	2.30E-05	2.30E-04	1.41E-05
18-Jan-16	1.20E-06	1.20E-06	1.42E-05	1.20E-05	1.31E-03	3.40E-06	8.08E-06	4.90E-05	1.23E-04	2.14E-05
21-Dec-15	9.50E-07	9.50E-07	5.11E-06	1.26E-06	2.50E-04	9.50E-07	2.21E-06	9.50E-06	5.40E-05	4.80E-06
17-Nov-15	8.00E-07	8.00E-07	8.50E-06	1.41E-06	6.99E-04	8.50E-07	4.56E-06	3.04E-05	2.40E-04	7.70E-06
08-Oct-15	1.10E-05	1.10E-05	8.10E-06	1.10E-05	1.10E-03	1.10E-05	2.40E-06	1.10E-04	3.20E-04	5.40E-05
06-Sep-15	1.10E-05	1.10E-05	7.52E-05	1.10E-05	9.70E-03	1.10E-05	2.59E-05	3.10E-04	5.60E-04	5.50E-05
08-Aug-15	1.10E-06	1.10E-06	8.94E-06	1.60E-06	1.50E-03	1.20E-06	3.83E-06	4.80E-05	3.32E-04	7.90E-06
10-Jul-15	-	1.10E-06	-	3.20E-06	2.84E-03	-	7.39E-06	9.70E-05	2.39E-04	-
08-Jun-15	-	1.20E-06	-	6.50E-06	3.41E-03	-	9.99E-06	1.36E-04	3.05E-04	-
09-May-15	-	1.00E-06	-	3.90E-06	2.09E-03	-	1.19E-05	9.60E-05	2.98E-04	-
07-Apr-15	-	1.40E-06	-	2.20E-06	-	-	5.70E-07	1.40E-05	1.17E-04	-
07-Mar-15	-	1.40E-06	-	1.40E-06	-	-	4.56E-06	1.40E-05	1.03E-04	
07-Feb-15	-	3.30E-06	-	3.30E-06	-	-	3.49E-06	3.30E-05	9.90E-05	-
04-Jan-15	-	3.10E-06	-	3.80E-06	-	-	4.35E-06	5.30E-05	2.98E-04	-

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-4 Number of Dust Samples Analyzed and Number of Detected Samples per Chemical for Sample Sites DF-M-01 to DF-M-03

Sample Site	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cs	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Rb	Se	Si	Ag	Na	Sr	S	Te	Tl	Th	Sn	Ti	W	U	V	Zn	Zr
DF-M-01																																								
Number of samples	24	24	24	24	24	24	24	24	24	17	24	24	24	20	24	24	24	24	24	24	24	20	24	17	24	20	24	24	24	17	17	24	17	24	20	17	24	24	24	17
# Detected samples	24	7	4	24	1	2	0	1	24	12	19	23	18	20	21	5	24	24	0	21	20	11	22	17	0	20	16	15	19	0	0	6	16	13	17	10	24	16	21	8
DF-M-02																																								
Number of samples	24	24	24	24	24	24	24	24	24	17	24	24	24	20	24	24	24	24	24	24	24	20	24	17	24	20	24	24	24	17	17	24	17	24	20	17	24	24	24	17
# Detected samples	24	3	5	22	1	0	2	1	19	10	19	24	17	20	21	4	24	24	0	19	22	11	21	17	0	20	15	13	18	2	0	2	16	12	15	4	24	14	16	7
DF-M-03																																								
Number of samples	24	24	24	24	24	24	24	24	24	17	24	24	24	20	24	24	24	24	24	24	24	20	24	17	24	20	24	24	24	17	17	24	17	24	20	17	24	24	24	17
# Detected samples	24	2	4	24	0	1	0	0	22	12	19	24	17	20	23	5	24	24	0	21	22	12	23	17	0	20	17	14	20	1	0	3	17	15	19	7	24	17	18	11

Table A-5 Dustfall Data for Sample Site DF-M-02 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-M-02																							
04-Jan-15	0.18	9.86E-03	7.60E-06	2.00E-04	6.38E-05	2.20E-06	1.40E-04	1.16E-05	9.10E-05	-	1.89E-05	4.07E-04	1.30E-06	3.20E-06	2.20E-05	2.50E-05	2.50E-07	1.05E-05	2.50E-06	4.70E-06	4.03E-06	2.50E-05	1.28E-04
Percent of Total Dustfall		5.48E+00	4.22E-03	1.11E-01	3.54E-02	1.22E-03	7.78E-02	6.44E-03	5.06E-02	-	1.05E-02	2.26E-01	7.22E-04	1.78E-03	1.22E-02	1.39E-02	1.39E-04	5.83E-03	1.39E-03	2.61E-03	2.24E-03	1.39E-02	7.11E-02
07-Feb-15	0.86	8.44E-03	3.70E-06	1.70E-04	3.02E-05	1.80E-06	1.80E-05	1.29E-05	2.35E-04	-	1.59E-05	4.46E-04	9.20E-06	1.80E-06	1.80E-05	3.70E-05	3.70E-07	7.60E-06	3.70E-06	3.70E-06	6.43E-06	3.70E-05	1.10E-04
Percent of Total Dustfall		9.81E-01	4.30E-04	1.98E-02	3.51E-03	2.09E-04	2.09E-03	1.50E-03	2.73E-02	-	1.85E-03	5.19E-02	1.07E-03	2.09E-04	2.09E-03	4.30E-03	4.30E-05	8.84E-04	4.30E-04	4.30E-04	7.48E-04	4.30E-03	1.28E-02
08-Mar-15	1.11	1.50E-02	2.70E-06	1.60E-04	4.91E-05	1.40E-06	7.70E-05	1.85E-05	1.93E-04	-	1.36E-05	8.87E-04	2.70E-05	7.70E-06	5.20E-05	2.70E-05	2.28E-05	1.11E-05	2.70E-06	2.70E-06	4.01E-06	2.70E-05	1.61E-04
Percent of Total Dustfall		1.35E+00	2.43E-04	1.44E-02	4.42E-03	1.26E-04	6.94E-03	1.67E-03	1.74E-02	-	1.23E-03	7.99E-02	2.43E-03	6.94E-04	4.68E-03	2.43E-03	2.05E-03	1.00E-03	2.43E-04	2.43E-04	3.61E-04	2.43E-03	1.45E-02
07-Apr-15	0.10	3.84E-02	2.30E-06	1.70E-04	1.15E-04	8.60E-07	9.75E-05	2.84E-05	1.43E-04	-	3.60E-05	1.42E-03	8.60E-06	1.14E-05	7.07E-05	1.70E-05	6.40E-07	1.83E-05	1.70E-06	6.80E-06	8.30E-06	4.70E-05	3.24E-04
Percent of Total Dustfall		3.84E+01	2.30E-03	1.70E-01	1.15E-01	8.60E-04	9.75E-02	2.84E-02	1.43E-01	-	3.60E-02	1.42E+00	8.60E-03	1.14E-02	7.07E-02	1.70E-02	6.40E-04	1.83E-02	1.70E-03	6.80E-03	8.30E-03	4.70E-02	3.24E-01
09-May-15	3.01	4.46E-02	4.70E-06	1.80E-04	1.26E-04	5.20E-07	1.14E-04	5.09E-05	1.66E-04	1.69E-01	3.71E-05	2.41E-03	5.20E-07	1.21E-05	1.08E-04	1.00E-05	4.70E-07	2.37E-05	1.00E-06	2.70E-06	1.34E-05	6.80E-05	2.15E-04
Percent of Total Dustfall		1.48E+00	1.56E-04	5.98E-03	4.19E-03	1.73E-05	3.79E-03	1.69E-03	5.51E-03	5.61E+00	1.23E-03	8.01E-02	1.73E-05	4.02E-04	3.59E-03	3.32E-04	1.56E-05	7.87E-04	3.32E-05	8.97E-05	4.45E-04	2.26E-03	7.14E-03
08-Jun-15	1.34	4.02E-02	1.20E-06	1.50E-04	1.81E-04	5.80E-07	1.18E-04	2.97E-05	1.69E-04	8.24E-02	2.48E-05	1.23E-03	5.80E-07	4.37E-06	9.56E-05	1.20E-05	3.20E-07	2.04E-05	1.20E-06	2.40E-06	8.63E-06	7.20E-05	1.68E-04
Percent of Total Dustfall		3.00E+00	8.96E-05	1.12E-02	1.35E-02	4.33E-05	8.81E-03	2.22E-03	1.26E-02	6.15E+00	1.85E-03	9.18E-02	4.33E-05	3.26E-04	7.13E-03	8.96E-04	2.39E-05	1.52E-03	8.96E-05	1.79E-04	6.44E-04	5.37E-03	1.25E-02
10-Jul-15	0.66	1.42E-02	1.10E-06	1.50E-06	1.01E-04	5.40E-07	2.86E-05	9.10E-06	2.60E-04	2.16E-02	8.10E-06	3.57E-04	5.40E-07	1.19E-06	2.63E-05	1.10E-05	1.70E-07	9.60E-06	1.10E-06	1.10E-06	1.65E-06	2.40E-05	8.80E-05
Percent of Total Dustfall		2.15E+00	1.67E-04	2.27E-04	1.53E-02	8.18E-05	4.33E-03	1.38E-03	3.94E-02	3.27E+00	1.23E-03	5.41E-02	8.18E-05	1.80E-04	3.98E-03	1.67E-03	2.58E-05	1.45E-03	1.67E-04	1.67E-04	2.50E-04	3.64E-03	1.33E-02
08-Aug-15	0.94	3.55E-02	1.10E-06	5.40E-05	2.10E-04	5.40E-06	8.70E-05	2.06E-05	1.60E-04	5.24E-02	1.60E-05	9.06E-04	5.40E-07	2.48E-06	5.62E-05	1.10E-05	1.40E-07	2.40E-05	1.10E-06	2.40E-06	5.52E-06	6.20E-05	1.33E-04
Percent of Total Dustfall		3.78E+00	1.17E-04	5.74E-03	2.23E-02	5.74E-04	9.26E-03	2.19E-03	1.70E-02	5.57E+00	1.70E-03	9.64E-02	5.74E-05	2.64E-04	5.98E-03	1.17E-03	1.49E-05	2.55E-03	1.17E-04	2.55E-04	5.87E-04	6.60E-03	1.41E-02
06-Sep-15	2.54	7.53E-02	1.10E-05	5.50E-04	4.32E-04	5.50E-05	1.10E-03	5.40E-05	6.60E-04	1.24E-01	3.82E-05	2.19E-03	5.50E-07	5.50E-06	1.52E-04	1.10E-04	1.10E-06	3.50E-03	1.10E-05	1.10E-05	1.74E-05	1.30E-04	3.30E-04
Percent of Total Dustfall		2.96E+00	4.33E-04	2.17E-02	1.70E-02	2.17E-03	4.33E-02	2.13E-03	2.60E-02	4.88E+00	1.50E-03	8.62E-02	2.17E-05	2.17E-04	5.98E-03	4.33E-03	4.33E-05	1.38E-01	4.33E-04	4.33E-04	6.85E-04	5.12E-03	1.30E-02
08-Oct-15	0.28	8.81E-03	1.00E-05	5.00E-04	8.10E-05	5.00E-05	1.24E-03	5.30E-05	1.00E-04	1.60E-02	8.10E-06	4.28E-04	5.00E-07	2.43E-04	1.26E-03	1.00E-04	1.00E-06	2.20E-05	1.00E-05	1.00E-05	1.30E-06	1.00E-04	3.00E-04
Percent of Total Dustfall		3.15E+00	3.57E-03	1.79E-01	2.89E-02	1.79E-02	4.43E-01	1.89E-02	3.57E-02	5.71E+00	2.89E-03	1.53E-01	1.79E-04	8.68E-02	4.50E-01	3.57E-02	3.57E-04	7.86E-03	3.57E-03	3.57E-03	4.64E-04	3.57E-02	1.07E-01
17-Nov-15	0.46	7.03E-03	7.90E-07	4.30E-05	2.49E-05	4.00E-06	4.80E-05	8.54E-06	2.21E-05	2.15E-02	5.10E-06	6.00E-04	4.00E-05	9.60E-07	2.00E-04	7.90E-06	9.70E-08	1.20E-05	7.90E-07	9.00E-07	5.03E-06	8.60E-06	2.40E-05
Percent of Total Dustfall		1.53E+00	1.72E-04	9.35E-03	5.41E-03	8.70E-04	1.04E-02	1.86E-03	4.80E-03	4.67E+00	1.11E-03	1.30E-01	8.70E-03	2.09E-04	4.35E-02	1.72E-03	2.11E-05	2.61E-03	1.72E-04	1.96E-04	1.09E-03	1.87E-03	5.22E-02
21-Dec-15	0.91	7.39E-03	9.50E-07	4.80E-05	1.92E-05	4.80E-06	7.10E-05	1.74E-05	1.20E-04	4.12E-02	5.22E-06	8.95E-04	4.80E-05	1.12E-06	3.09E-05	9.50E-06	1.31E-07	1.30E-05	9.50E-07	9.50E-07	2.39E-06	9.50E-06	5.70E-05
Percent of Total Dustfall		8.12E-01	1.04E-04	5.27E-03	2.11E-03	5.27E-04	7.80E-03	1.91E-03	1.32E-02	4.53E+00	5.74E-04	9.84E-02	5.27E-03	1.23E-04	3.40E-03	1.04E-03	1.44E-05	1.43E-03	1.04E-04	1.04E-04	2.63E-04	1.04E-03	6.26E-03
18-Jan-16	2.61	2.71E-02	1.20E-05	5.80E-04	9.30E-05	5.80E-05	9.10E-05	7.70E-05	1.20E-04	1.29E-01	1.86E-05	3.52E-03	5.80E-06	5.80E-06	1.12E-04	1.20E-04	1.20E-06	5.80E-05	1.20E-05	1.20E-05	1.42E-05	1.20E-04	3.50E-04
Percent of Total Dustfall		1.04E+00	4.60E-04	2.22E-02	3.56E-03	2.22E-03	3.49E-03	2.95E-03	4.60E-03	4.94E+00	7.13E-04	1.35E-01	2.22E-04	2.22E-04	4.29E-03	4.60E-03	4.60E-05	2.22E-03	4.60E-04	4.60E-04	5.44E-04	4.60E-03	1.34E-02
16-Feb-16	2.17	1.56E-02	1.10E-06	5.50E-05	3.06E-05	5.50E-06	4.06E-05	3.82E-05	1.00E-04	1.34E-01	1.12E-05	2.21E-03	5.50E-06	3.82E-06	5.70E-05	1.10E-05	2.30E-07	1.44E-05	1.10E-06	1.10E-06	2.29E-05	1.10E-05	2.30E-04
Percent of Total Dustfall		7.19E-01	5.07E-05	2.53E-03	1.41E-03	2.53E-04	1.87E-03	1.76E-03	4.61E-03	6.18E+00	5.16E-04	1.02E-01	2.53E-04	1.76E-04	2.63E-03	5.07E-04	1.06E-05	6.64E-04	5.07E-05	5.07E-05	1.06E-03	5.07E-04	1.06E-02
14-Mar-16	6.59	6.31E-02	1.20E-05	6.00E-04	9.70E-05	6.00E-05	1.45E-04	9.90E-05	1.80E-04	3.99E-01	2.82E-05	5.15E-03	6.00E-06	4.80E-05	1.78E-04	1.20E-04	1.20E-06	5.30E-05	1.20E-05	1.20E-05	2.59E-05	1.20E-04	3.60E-04
Percent of Total Dustfall		9.58E-01	1.82E-04	9.10E-03	1.47E-03	9.10E-04	2.20E-03	1.50E-03	2.73E-03	6.05E+00	4.28E-04	7.81E-02	9.10E-05	7.28E-04	2.70E-03	1.82E-03	1.82E-05	8.04E-04	1.82E-04	1.82E-04	3.93E-04	1.82E-03	5.46E-03
11-Apr-16	3.32	3.61E-02	1.10E-05	5.60E-04	9.60E-05	5.60E-05	1.09E-04	5.20E-05	1.10E-04	1.55E-01	1.40E-05	2.37E-03	5.60E-06	4.50E-05	1.09E-04	1.10E-04	1.10E-06	2.40E-05	1.10E-05	1.10E-05	9.00E-06	1.10E-04	3.40E-04
Percent of Total Dustfall		1.09E+00	3.31E-04	1.69E-02	2.89E-03	1.69E-03	3.28E-03	1.57E-03	3.31E-03	4.67E+00	4.22E-04	7.14E-02	1.69E-04	1.36E-03	3.28E-03	3.31E-03	3.31E-05	7.23E-04	3.31E-04	3.31E-04	2.71E-04	3.31E-03	1.02E-02
09-May-16	13.80	2.15E-01	1.20E-06	9.60E-05	8.42E-04	5.90E-06	8.28E-04	2.51E-04	3.91E-04	4.40E-01	9.29E-05	1.34E-02	5.90E-06	8.17E-06	5.22E-04	1.20E-05	1.15E-06	1.68E-04	1.90E-06	4.80E-06	9.53E-05	4.43E-04	5.09E-04
Percent of Total Dustfall		1.56E+00	8.70E-06	6.96E-04	6.10E-03	4.28E-05	6.00E-03	1.82E-03	2.83E-03	3.19E+00	6.73E-04	9.71E-02	4.28E-05	5.92E-05	3.78E-03	8.70E-05	8.33E-06	1.22E-03	1.38E-05	3.48E-05	6.91E-04	3.21E-03	3.69E-03
11-Jun-16	4.45	9.15E-02	9.60E-07	7.10E-05	5.98E-04	4.80E-06	1.12E-04	4.96E-05	1.01E-04	1.22E-01	8.43E-05	2.51E-03	4.80E-06	6.19E-06	9.89E-05	9.60E-06	3.97E-07	5.70E-05	1.67E-06	6.70E-06	2.50E-05	1.34E-04	2.53E-04
Percent of Total Dustfall		2.06E+00	2.16E-05	1.60E-03	1.34E-02	1.08E-04	2.52E-03	1.11E-03	2.27E-03	2.74E+00	1.89E-03	5.64E-02	1.08E-04	1.39E-04	2.22E-03	2.16E-04	8.92E-06	1.28E-03	3.75E-05	1.51E-04	5.62E-04	3.01E-03	5.69E-03
12-Jul-16	1.31	4.11E-02	1.00E-06	5.10E-05	2.61E-04	5.10E-06	6.03E-05	2.47E-05	5.40E-05	6.11E-02	2.56E-05	1.09E-03	5.10E-07	2.66E-06	6.04E-05	1.00E-05	1.00E-06	2.30E-05	1.00E-06	9.20E-06	8.64E-06	6.80E-05	1.41E-04
Percent of Total Dustfall		3.14E+00	7.63E-05	3.89E-03	1.99E-02	3.89E-04	4.60E-03	1.89E-03	4.12E-03	4.66E+00	1.95E-03	8.32E-02	3.89E-05	2.03E-04	4.61E-03	7.63E-04	7.63E-05	1.76E-03	7.63E-05	7.02E-04	6.60E-04	5.19E-03	1.08E-02
15-Aug-16	0.57	1.03E-02	9.30E-07	4.70E-05	8.44E-05	4.70E-06	1.60E-05	6.77E-06	9.70E-05	1.53E-02	6.98E-06	3.44E-04	4.70E-07	1.22E-06	1.63E-05	9.30E-06	9.30E-08	1.10E-05	9.30E-07	9.68E-06	2.98E-06	1.84E-05	7.00E-05
Percent of Total Dustfall		1.81E+00	1.63E-04	8.25E-03	1.48E-02	8.25E-04	2.81E-03	1.19E-03	1.70E-02	2.68E+00	1.22E-03	6.04E-02	8.25E-05	2.14E-04	2.86E-03	1.63E-03	1.63E-05	1.93E-03	1.63E-04	1.70E-03	5.23E-04	3.23E-03	1.23E-02
23-Sep-16	0.89	2.01E-02	8.10E-07	4.10E-05	1.59E-04	4.10E-06	2.91E-05	1.32E-05	4.26E-05	3.30E-02	2.16E-05	5.88E-04	4.10E-07	2.65E-06	2.69E-05	8.10E-06	1.70E-07	1.80E-05	8.10E-07	1.61E-06	4.15E-06	3.28E-05	1.27E-04
Percent of Total Dustfall		2.26E+00	9.10E-05	4.61E-03	1.79E-02	4.61E-04	3.27E-03	1.48E-03	4.79E-03	3.71E+00	2.43E-03	6.61E-02	4.61E-05	2.98E-04	3.02E-03	9.10E-04	1.91E-05	2.02E-03	9.10E-05	1.81E-04	4.66E-04	3.69E-03	1.43E-02
17-Oct-16	1.00	1.60E-02	1.30E-06	6.60E-05	1.12E-04	6.60E-06	2.37E-05	1.02E-05	5.80E-05	3.40E-02	3.06E-05	4.26E-04	6.60E-06	2.90E-06	2.31E-05	1.30E-05	3.30E-07	1.11E-05	1.30E-06	1.90E-06	2.73E-06	2.40E-05	1.19E-04
Percent of Total Dustfall		1.60E+00	1.30E-04	6.60E-03	1.12E-02	6.60E-04	2.37E-03	1.02E-03	5.80E-03	3.40E+00	3.06E-03	4.26E-02	6.60E-04	2.90E-04	2.31E-03	1.30E-03	3.30E-05	1.11E-03	1.30E-04	1.90E-04	2.73E-04	2.40E-03	1.19E-02
19-Nov-16	6.60	4.96E-02	1.00E-06	5.90E-05	1.56E-04	5.10E-06	1.06E-04	8.54E-05	1.57E-04	3.12E-01	7.74E-05	3.08E-03	5.10E-06	4.21E-06	1.75E-04	1.00E-05	9.80E-07	2.00E-05	1.00E-06	3.20E-06	1.45E-05	4.30E-05	2.05E-04
Percent of Total Dustfall		7.52E-01	1.52E-05	8.94E-04	2.36E-03	7.73E-05	1.61E-03	1.29E-03	2.38E-03	4.73E+00	1.17E-03	4.67E-02	7.73E-05	6.38E-05	2.65E-03	1.52E-04	1.48E-05	3.03E-04	1.52E-05	4.85E-05	2.20E-04	6.52E-04	3.11E-03
19-Dec-16	0.91	7.94E-03	1.10E-06	5.30E-05	3.18E-05	5.30E-06	2.45E-05	1.12E-05	4.30E-05	6.30E-02	4.29E-05	5.92E-04	5.30E-06	3.20E-06	2.81E-05	1.10E-05	3.80E-07	5.20E-06	1.10E-06	1.10E-06	1.86E-06	1.10E-05	5.20E-05
Percent of Total Dustfall		8.73E-01	1.21E-04	5.82E-03	3.49E-03	5.82E-04	2.69E-03	1.23E-03	4.73E-03	6.92E+00	4.71E-03	6.51E-02	5.82E-04	3.52E-04	3.09E-03	1.21E-03	4.18E-05	5.71E-04	1.21E-04	1.21E-04	2.04E-04	1.21E-03	5.71E-03
AVERAGE % Total Dusfall		**3.45E+00**	**5.69E-04**	**2.65E-02**	**1.52E-02**	**1.37E-03**	**3.13E-02**	**3.71E-03**	**1.88E-02**	**4.71E+00**	**3.37E-03**	**1.45E-01**	**1.23E-03**	**4.45E-03**	**2.71E-02**	**4.21E-03**	**1.55E-04**	**8.19E-03**	**4.22E-04**	**8.01E-04**	**9.14E-04**	**6.75E-03**	**3.15E-02**

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-6 Dustfall Data for Sample Site DF-M-03 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-M-03																							
04-Jan-15	1.45	2.50E-02	3.10E-06	1.50E-05	1.75E-04	1.50E-06	7.70E-05	2.00E-05	1.21E-04	-	7.54E-05	8.26E-04	1.50E-06	1.22E-05	6.00E-05	3.10E-05	3.40E-07	2.00E-05	3.10E-06	3.80E-06	4.35E-06	5.30E-05	2.98E-04
Percent of Total Dustfall		1.72E+00	2.14E-04	1.03E-03	1.21E-02	1.03E-04	5.31E-03	1.38E-03	8.34E-03	-	5.20E-03	5.70E-02	1.03E-04	8.41E-04	4.14E-03	2.14E-03	2.34E-05	1.38E-03	2.14E-04	2.62E-04	3.00E-04	3.66E-03	2.06E-02
07-Feb-15	0.54	7.51E-03	3.30E-06	1.50E-04	3.66E-05	1.70E-06	1.70E-05	7.00E-06	2.37E-04	-	1.48E-05	4.30E-04	8.30E-06	1.70E-06	1.70E-05	3.30E-05	3.30E-07	7.70E-06	3.30E-06	3.30E-06	3.49E-06	3.30E-05	9.90E-05
Percent of Total Dustfall		1.39E+00	6.11E-04	2.78E-02	6.78E-03	3.15E-04	3.15E-03	1.30E-03	4.39E-02	-	2.74E-03	7.96E-02	1.54E-03	3.15E-04	3.15E-03	6.11E-03	6.11E-05	1.43E-03	6.11E-04	6.11E-04	6.46E-04	6.11E-03	1.83E-02
07-Mar-15	0.69	1.06E-02	1.40E-06	7.20E-05	4.32E-05	7.20E-07	3.06E-05	9.20E-06	3.64E-05	-	1.64E-05	4.87E-04	1.40E-05	3.84E-06	1.95E-05	1.40E-05	1.70E-07	6.50E-06	1.40E-06	1.40E-06	4.56E-06	1.40E-05	1.03E-04
Percent of Total Dustfall		1.54E+00	2.03E-04	1.04E-02	6.26E-03	1.04E-04	4.43E-03	1.33E-03	5.28E-03	-	2.38E-03	7.06E-02	2.03E-03	5.57E-04	2.83E-03	2.03E-03	2.46E-05	9.42E-04	2.03E-04	2.03E-04	6.61E-04	2.03E-03	1.49E-02
07-Apr-15	0.66	4.34E-03	1.50E-06	2.70E-04	5.95E-05	6.80E-07	1.45E-05	4.20E-06	4.13E-04	-	4.13E-06	2.94E-04	6.80E-06	8.30E-07	8.10E-06	1.40E-05	5.00E-07	2.52E-05	1.40E-06	2.20E-06	5.70E-07	1.40E-05	1.17E-04
Percent of Total Dustfall		6.58E-01	2.27E-04	4.09E-02	9.02E-03	1.03E-04	2.20E-03	6.36E-04	6.26E-02	-	6.26E-04	4.45E-02	1.03E-03	1.26E-04	1.23E-03	2.12E-03	7.58E-05	3.82E-03	2.12E-04	3.33E-04	8.64E-05	2.12E-03	1.77E-02
09-May-15	3.32	6.22E-02	4.30E-06	1.70E-05	1.61E-04	5.20E-07	1.57E-04	4.51E-05	2.82E-04	1.28E-01	5.22E-05	1.94E-03	5.20E-07	1.63E-05	1.34E-04	1.00E-05	5.90E-07	2.42E-05	1.00E-06	3.90E-06	1.19E-05	9.60E-05	2.98E-04
Percent of Total Dustfall		1.87E+00	1.30E-04	5.12E-04	4.85E-03	1.57E-05	4.73E-03	1.36E-03	8.49E-03	3.86E+00	1.57E-03	5.84E-02	1.57E-05	4.91E-04	4.04E-03	3.01E-04	1.78E-05	7.29E-04	3.01E-05	1.17E-04	3.58E-04	2.89E-03	8.98E-03
08-Jun-15	2.55	6.15E-02	1.20E-06	9.20E-06	2.32E-04	5.80E-07	1.47E-04	4.29E-05	7.48E-04	8.85E-02	3.36E-05	1.46E-03	5.80E-07	5.56E-06	1.15E-04	1.20E-05	4.80E-07	2.88E-05	1.20E-06	6.50E-06	9.99E-06	1.36E-04	3.05E-04
Percent of Total Dustfall		2.41E+00	4.71E-05	3.61E-04	9.10E-03	2.27E-05	5.76E-03	1.68E-03	2.93E-02	3.47E+00	1.32E-03	5.73E-02	2.27E-05	2.18E-04	4.51E-03	4.71E-04	1.88E-05	1.13E-03	4.71E-05	2.55E-04	3.92E-04	5.33E-03	1.20E-02
10-Jul-15	1.65	5.25E-02	1.10E-06	1.34E-04	2.48E-04	5.40E-07	9.23E-05	2.96E-05	1.46E-04	7.27E-02	2.59E-05	1.16E-03	5.40E-07	4.74E-06	7.53E-05	1.10E-05	3.80E-07	1.76E-05	1.10E-06	3.20E-06	7.39E-06	9.70E-05	2.39E-04
Percent of Total Dustfall		3.18E+00	6.67E-05	8.12E-03	1.50E-02	3.27E-05	5.59E-03	1.79E-03	8.85E-03	4.41E+00	1.57E-03	7.03E-02	3.27E-05	2.87E-04	4.56E-03	6.67E-04	2.30E-05	1.07E-03	6.67E-05	1.94E-04	4.48E-04	5.88E-03	1.45E-02
08-Aug-15	0.85	2.75E-02	1.10E-06	5.50E-05	1.60E-04	5.50E-06	8.80E-05	1.53E-05	1.80E-04	3.65E-02	1.58E-05	6.87E-04	5.50E-07	2.20E-06	4.12E-05	1.10E-05	3.90E-07	2.40E-05	1.10E-06	1.60E-06	3.83E-06	4.80E-05	3.32E-04
Percent of Total Dustfall		3.24E+00	1.29E-04	6.47E-03	1.88E-02	6.47E-04	1.04E-02	1.80E-03	2.12E-02	4.29E+00	1.86E-03	8.08E-02	6.47E-05	2.59E-04	4.85E-03	1.29E-03	4.59E-05	2.82E-03	1.29E-04	1.88E-04	4.51E-04	5.65E-03	3.91E-02
06-Sep-15	5.41	1.69E-01	1.10E-05	5.50E-04	9.52E-04	5.50E-05	1.10E-03	1.03E-04	6.60E-04	2.49E-01	6.93E-05	4.17E-03	5.50E-07	8.20E-06	2.62E-04	1.10E-04	1.10E-06	3.40E-03	1.10E-05	1.10E-05	2.59E-05	3.10E-04	5.60E-04
Percent of Total Dustfall		3.12E+00	2.03E-04	1.02E-02	1.76E-02	1.02E-03	2.03E-02	1.90E-03	1.22E-02	4.60E+00	1.28E-03	7.71E-02	1.02E-05	1.52E-04	4.84E-03	2.03E-03	2.03E-05	6.28E-02	2.03E-04	2.03E-04	4.79E-04	5.73E-03	1.04E-02
08-Oct-15	0.50	1.69E-02	1.10E-05	5.40E-04	1.10E-04	5.40E-05	2.11E-04	1.50E-05	1.10E-04	2.50E-02	8.60E-06	4.04E-04	5.40E-07	2.12E-05	1.91E-04	1.10E-04	1.10E-06	5.00E-05	1.10E-05	1.10E-05	2.40E-06	1.10E-04	3.20E-04
Percent of Total Dustfall		3.38E+00	2.20E-03	1.08E-01	2.20E-02	1.08E-02	4.22E-02	3.00E-03	2.20E-02	5.00E+00	1.72E-03	8.08E-02	1.08E-04	4.24E-03	3.82E-02	2.20E-02	2.20E-04	1.00E-02	2.20E-03	2.20E-03	4.80E-04	2.20E-02	6.40E-02
17-Nov-15	0.75	1.55E-02	8.00E-07	4.00E-05	5.50E-05	4.00E-06	4.80E-05	9.38E-06	2.60E-05	2.09E-02	9.20E-06	3.90E-04	4.00E-05	1.04E-06	2.00E-04	8.00E-06	8.30E-08	1.50E-05	8.00E-07	1.41E-06	4.56E-06	3.04E-05	2.40E-04
Percent of Total Dustfall		2.07E+00	1.07E-04	5.33E-03	7.33E-03	5.33E-04	6.40E-03	1.25E-03	3.47E-03	2.79E+00	1.23E-03	5.20E-02	5.33E-03	1.39E-04	2.67E-02	1.07E-03	1.11E-05	2.00E-03	1.07E-04	1.88E-04	6.08E-04	4.05E-03	3.20E-02
21-Dec-15	0.48	6.47E-03	9.50E-07	4.80E-05	2.28E-05	4.80E-06	7.10E-05	6.02E-06	1.20E-04	1.72E-02	4.83E-06	3.25E-04	4.80E-05	7.00E-07	1.18E-05	9.50E-06	9.50E-08	1.30E-05	9.50E-07	1.26E-06	2.21E-06	9.50E-06	5.40E-05
Percent of Total Dustfall		1.35E+00	1.98E-04	1.00E-02	4.75E-03	1.00E-03	1.48E-02	1.25E-03	2.50E-02	3.58E+00	1.01E-03	6.77E-02	1.00E-02	1.46E-04	2.46E-03	1.98E-03	1.98E-05	2.71E-03	1.98E-04	2.63E-04	4.60E-04	1.98E-03	1.13E-02
18-Jan-16	1.07	2.66E-02	1.20E-06	5.80E-05	1.09E-04	5.80E-06	5.89E-05	2.02E-05	1.20E-04	3.90E-02	2.15E-05	8.40E-04	5.80E-06	2.86E-06	4.51E-05	1.20E-05	2.10E-07	5.80E-05	1.20E-06	1.20E-05	8.08E-06	4.90E-05	1.23E-04
Percent of Total Dustfall		2.49E+00	1.12E-04	5.42E-03	1.02E-02	5.42E-04	5.50E-03	1.89E-03	1.12E-02	3.64E+00	2.01E-03	7.85E-02	5.42E-04	2.67E-04	4.21E-03	1.12E-03	1.96E-05	5.42E-03	1.12E-04	1.12E-03	7.55E-04	4.58E-03	1.15E-02
16-Feb-16	1.12	1.64E-02	1.10E-06	5.50E-05	5.61E-05	5.50E-06	3.83E-05	1.79E-05	1.00E-04	5.19E-02	1.33E-05	9.75E-04	5.50E-06	3.84E-06	3.50E-05	1.10E-05	1.80E-07	1.21E-05	1.10E-06	1.30E-06	1.43E-05	2.30E-05	2.30E-04
Percent of Total Dustfall		1.46E+00	9.82E-05	4.91E-03	5.01E-03	4.91E-04	3.42E-03	1.60E-03	8.93E-03	4.63E+00	1.19E-03	8.71E-02	4.91E-04	3.43E-04	3.13E-03	9.82E-04	1.61E-05	1.08E-03	9.82E-05	1.16E-04	1.28E-03	2.05E-03	2.05E-02
14-Mar-16	1.73	3.57E-02	1.20E-05	5.90E-04	1.18E-04	5.90E-05	9.10E-05	3.10E-05	1.20E-04	8.21E-02	1.99E-05	1.20E-03	5.90E-06	4.70E-05	6.90E-05	1.20E-04	1.20E-06	2.20E-05	1.20E-05	1.20E-05	9.80E-06	1.20E-04	3.50E-04
Percent of Total Dustfall		2.06E+00	6.94E-04	3.41E-02	6.82E-03	3.41E-03	5.26E-03	1.79E-03	6.94E-03	4.75E+00	1.15E-03	6.94E-02	3.41E-04	2.72E-03	3.99E-03	6.94E-03	6.94E-05	1.27E-03	6.94E-04	6.94E-04	5.66E-04	6.94E-03	2.02E-02
11-Apr-16	7.89	1.06E-01	1.20E-05	5.80E-04	2.91E-04	5.80E-05	3.62E-04	1.16E-04	1.70E-04	3.14E-01	3.43E-05	4.13E-03	5.80E-06	4.60E-05	2.84E-04	1.20E-04	1.20E-06	1.42E-04	1.20E-05	1.20E-05	1.81E-05	1.30E-04	3.50E-04
Percent of Total Dustfall		1.34E+00	1.52E-04	7.35E-03	3.69E-03	7.35E-04	4.59E-03	1.47E-03	2.15E-03	3.98E+00	4.35E-04	5.23E-02	7.35E-05	5.83E-04	3.60E-03	1.52E-03	1.52E-05	1.80E-03	1.52E-04	1.52E-04	2.29E-04	1.65E-03	4.44E-03
09-May-16	3.53	9.92E-02	1.20E-06	7.30E-05	3.64E-04	5.80E-06	3.09E-04	7.64E-05	1.19E-04	1.45E-01	4.17E-05	3.70E-03	5.80E-06	4.76E-06	2.11E-04	1.20E-05	4.90E-07	1.00E-04	1.20E-06	3.50E-06	2.33E-05	1.61E-04	5.84E-04
Percent of Total Dustfall		2.81E+00	3.40E-05	2.07E-03	1.03E-02	1.64E-04	8.75E-03	2.16E-03	3.37E-03	4.11E+00	1.18E-03	1.05E-01	1.64E-04	1.35E-04	5.98E-03	3.40E-04	1.39E-05	2.83E-03	3.40E-05	9.92E-05	6.60E-04	4.56E-03	1.65E-02
11-Jun-16	2.58	6.89E-02	9.50E-07	7.20E-05	4.39E-04	4.80E-06	1.04E-04	3.52E-05	5.96E-05	9.16E-02	4.59E-05	1.67E-03	4.80E-06	5.64E-06	8.04E-05	9.50E-06	7.49E-07	3.70E-05	1.27E-06	6.70E-06	1.04E-05	1.15E-04	2.44E-04
Percent of Total Dustfall		2.67E+00	3.68E-05	2.79E-03	1.70E-02	1.86E-04	4.03E-03	1.36E-03	2.31E-03	3.55E+00	1.78E-03	6.47E-02	1.86E-04	2.19E-04	3.12E-03	3.68E-04	2.90E-05	1.43E-03	4.92E-05	2.60E-04	4.03E-04	4.46E-03	9.46E-03
12-Jul-16	5.02	1.64E-01	1.00E-06	5.10E-05	9.18E-04	5.10E-06	2.49E-04	8.83E-05	1.47E-04	2.28E-01	9.84E-05	3.93E-03	5.10E-07	9.39E-06	1.99E-04	1.00E-05	1.00E-06	4.90E-05	3.00E-06	9.20E-06	2.71E-05	2.92E-04	4.60E-04
Percent of Total Dustfall		3.27E+00	1.99E-05	1.02E-03	1.83E-02	1.02E-04	4.96E-03	1.76E-03	2.93E-03	4.54E+00	1.96E-03	7.83E-02	1.02E-05	1.87E-04	3.96E-03	1.99E-04	1.99E-05	9.76E-04	5.98E-05	1.83E-04	5.40E-04	5.82E-03	9.16E-03
15-Aug-16	1.09	2.73E-02	1.00E-06	5.00E-05	1.89E-04	5.00E-06	4.18E-05	1.69E-05	7.10E-05	4.00E-02	1.56E-05	7.28E-04	5.00E-07	2.02E-06	3.69E-05	1.00E-05	1.30E-07	1.70E-05	1.00E-06	1.90E-06	3.99E-06	5.10E-05	1.36E-04
Percent of Total Dustfall		2.50E+00	9.17E-05	4.59E-03	1.73E-02	4.59E-04	3.83E-03	1.55E-03	6.51E-03	3.67E+00	1.43E-03	6.68E-02	4.59E-05	1.85E-04	3.39E-03	9.17E-04	1.19E-05	1.56E-03	9.17E-05	1.74E-04	3.66E-04	4.68E-03	1.25E-02
24-Sep-16	1.35	3.69E-02	8.00E-07	4.00E-05	2.53E-04	4.00E-06	6.32E-05	2.29E-05	4.56E-05	5.76E-02	4.12E-05	1.04E-03	4.00E-07	4.47E-06	5.34E-05	8.00E-06	2.55E-07	1.70E-05	8.50E-07	2.22E-06	6.10E-06	7.10E-05	1.81E-04
Percent of Total Dustfall		2.73E+00	5.93E-05	2.96E-03	1.87E-02	2.96E-04	4.68E-03	1.70E-03	3.38E-03	4.27E+00	3.05E-03	7.70E-02	2.96E-05	3.31E-04	3.96E-03	5.93E-04	1.89E-05	1.26E-03	6.30E-05	1.64E-04	4.52E-04	5.26E-03	1.34E-02
17-Oct-16	1.00	1.71E-02	1.40E-06	7.00E-05	1.14E-04	7.00E-06	3.02E-05	9.70E-06	4.90E-05	2.85E-02	2.31E-05	4.50E-04	7.00E-06	2.17E-06	2.40E-05	1.40E-05	2.30E-07	1.27E-05	1.40E-06	4.60E-06	2.47E-06	3.30E-05	1.11E-04
Percent of Total Dustfall		1.71E+00	1.40E-04	7.00E-03	1.14E-02	7.00E-04	3.02E-03	9.70E-04	4.90E-03	2.85E+00	2.31E-03	4.50E-02	7.00E-04	2.17E-04	2.40E-03	1.40E-03	2.30E-05	1.27E-03	1.40E-04	4.60E-04	2.47E-04	3.30E-03	1.11E-02
19-Nov-16	1.22	3.02E-02	9.60E-07	5.20E-05	2.13E-04	4.80E-06	6.19E-05	2.14E-05	1.14E-04	6.53E-02	9.38E-05	8.79E-04	4.80E-06	7.75E-06	5.19E-05	9.60E-06	5.56E-07	1.60E-05	9.60E-07	3.73E-06	5.89E-06	5.75E-05	2.10E-04
Percent of Total Dustfall		2.48E+00	7.87E-05	4.26E-03	1.75E-02	3.93E-04	5.07E-03	1.75E-03	9.34E-03	5.35E+00	7.69E-03	7.20E-02	3.93E-04	6.35E-04	4.25E-03	7.87E-04	4.56E-05	1.31E-03	7.87E-05	3.06E-04	4.83E-04	4.71E-03	1.72E-02
19-Dec-16	0.54	6.95E-03	1.10E-06	5.70E-05	4.86E-05	5.70E-06	2.07E-05	6.20E-06	3.40E-05	2.96E-02	1.28E-05	2.98E-04	5.70E-06	3.11E-06	1.70E-05	1.10E-05	1.80E-07	4.50E-06	1.10E-06	1.70E-06	1.83E-06	1.10E-05	6.10E-05
Percent of Total Dustfall		1.29E+00	2.04E-04	1.06E-02	9.00E-03	1.06E-03	3.83E-03	1.15E-03	6.30E-03	5.48E+00	2.37E-03	5.52E-02	1.06E-03	5.76E-04	3.15E-03	2.04E-03	3.33E-05	8.33E-04	2.04E-04	3.15E-04	3.39E-04	2.04E-03	1.13E-02
AVERAGE % Total Dusfall		**2.20E+00**	**2.52E-04**	**1.32E-02**	**1.16E-02**	**9.68E-04**	**7.59E-03**	**1.58E-03**	**1.33E-02**	**4.14E+00**	**2.04E-03**	**6.86E-02**	**1.01E-03**	**5.90E-04**	**6.11E-03**	**2.48E-03**	**3.66E-05**	**4.66E-03**	**2.50E-04**	**3.78E-04**	**4.87E-04**	**4.89E-03**	**1.75E-02**

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-7 Percent of Total Dustfall for Sample Sites DF-M-02 and DF-M-03 by Chemical (mg/dm²-day)

Sample Site	Sample Date	Parameter	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-M-02	04-Jan-15	Percent of Total Dustfall	5.48E+00	4.22E-03	1.11E-01	3.54E-02	1.22E-03	7.78E-02	6.44E-03	5.06E-02	-	1.05E-02	2.26E-01	7.22E-04	1.78E-03	1.22E-02	1.39E-02	1.39E-04	5.83E-03	1.39E-03	2.61E-03	2.24E-03	1.39E-02	7.11E-02
DF-M-02	07-Feb-15	Percent of Total Dustfall	9.81E-01	4.30E-04	1.98E-02	3.51E-03	2.09E-04	2.09E-03	1.50E-03	2.73E-02	-	1.85E-03	5.19E-02	1.07E-03	2.09E-04	2.09E-03	4.30E-03	4.30E-05	8.84E-04	4.30E-04	4.30E-04	7.48E-04	4.30E-03	1.28E-02
DF-M-02	08-Mar-15	Percent of Total Dustfall	1.35E+00	2.43E-04	1.44E-02	4.42E-03	1.26E-04	6.94E-03	1.67E-03	1.74E-02	-	1.23E-03	7.99E-02	2.43E-03	6.94E-04	4.68E-03	2.43E-03	2.05E-03	1.00E-03	2.43E-04	2.43E-04	3.61E-04	2.43E-03	1.45E-02
DF-M-02	07-Apr-15	Percent of Total Dustfall	3.84E+01	2.30E-03	1.70E-01	1.15E-01	8.60E-04	9.75E-02	2.84E-02	1.43E-01	-	3.60E-02	1.42E+00	8.60E-03	1.14E-02	7.07E-02	1.70E-02	6.40E-04	1.83E-02	1.70E-03	6.80E-03	8.30E-03	4.70E-02	3.24E-01
DF-M-02	09-May-15	Percent of Total Dustfall	1.48E+00	1.56E-04	5.98E-03	4.19E-03	1.73E-05	3.79E-03	1.69E-03	5.51E-03	5.61E+00	1.23E-03	8.01E-02	1.73E-05	4.02E-04	3.59E-03	3.32E-04	1.56E-05	7.87E-04	3.32E-05	8.97E-05	4.45E-04	2.26E-03	7.14E-03
DF-M-02	08-Jun-15	Percent of Total Dustfall	3.00E+00	8.96E-05	1.12E-02	1.35E-02	4.33E-05	8.81E-03	2.22E-03	1.26E-02	6.15E+00	1.85E-03	9.18E-02	4.33E-05	3.26E-04	7.13E-03	8.96E-04	2.39E-05	1.52E-03	8.96E-05	1.79E-04	6.44E-04	5.37E-03	1.25E-02
DF-M-02	10-Jul-15	Percent of Total Dustfall	2.15E+00	1.67E-04	2.27E-04	1.53E-02	8.18E-05	4.33E-03	1.38E-03	3.94E-02	3.27E+00	1.23E-03	5.41E-02	8.18E-05	1.80E-04	3.98E-03	1.67E-03	2.58E-05	1.45E-03	1.67E-04	1.67E-04	2.50E-04	3.64E-03	1.33E-02
DF-M-02	08-Aug-15	Percent of Total Dustfall	3.78E+00	1.17E-04	5.74E-03	2.23E-02	5.74E-04	9.26E-03	2.19E-03	1.70E-02	5.57E+00	1.70E-03	9.64E-02	5.74E-05	2.64E-04	5.98E-03	1.17E-03	1.49E-05	2.55E-03	1.17E-04	2.55E-04	5.87E-04	6.60E-03	1.41E-02
DF-M-02	06-Sep-15	Percent of Total Dustfall	2.96E+00	4.33E-04	2.17E-02	1.70E-02	2.17E-03	4.33E-02	2.13E-03	2.60E-02	4.88E+00	1.50E-03	8.62E-02	2.17E-05	2.17E-04	5.98E-03	4.33E-03	4.33E-05	1.38E-01	4.33E-04	4.33E-04	6.85E-04	5.12E-03	1.30E-02
DF-M-02	08-Oct-15	Percent of Total Dustfall	3.15E+00	3.57E-03	1.79E-01	2.89E-02	1.79E-02	4.43E-01	1.89E-02	3.57E-02	5.71E+00	2.89E-03	1.53E-01	1.79E-04	8.68E-02	4.50E-01	3.57E-02	3.57E-04	7.86E-03	3.57E-03	3.57E-03	4.64E-04	3.57E-02	1.07E-01
DF-M-02	17-Nov-15	Percent of Total Dustfall	1.53E+00	1.72E-04	9.35E-03	5.41E-03	8.70E-04	1.04E-02	1.86E-03	4.80E-03	4.67E+00	1.11E-03	1.30E-01	8.70E-03	2.09E-04	4.35E-02	1.72E-03	2.11E-05	2.61E-03	1.72E-04	1.96E-04	1.09E-03	1.87E-03	5.22E-02
DF-M-02	21-Dec-15	Percent of Total Dustfall	8.12E-01	1.04E-04	5.27E-03	2.11E-03	5.27E-04	7.80E-03	1.91E-03	1.32E-02	4.53E+00	5.74E-04	9.84E-02	5.27E-03	1.23E-04	3.40E-03	1.04E-03	1.44E-05	1.43E-03	1.04E-04	1.04E-04	2.63E-04	1.04E-03	6.26E-03
DF-M-02	18-Jan-16	Percent of Total Dustfall	1.04E+00	4.60E-04	2.22E-02	3.56E-03	2.22E-03	3.49E-03	2.95E-03	4.60E-03	4.94E+00	7.13E-04	1.35E-01	2.22E-04	2.22E-04	4.29E-03	4.60E-03	4.60E-05	2.22E-03	4.60E-04	4.60E-04	5.44E-04	4.60E-03	1.34E-02
DF-M-02	16-Feb-16	Percent of Total Dustfall	7.19E-01	5.07E-05	2.53E-03	1.41E-03	2.53E-04	1.87E-03	1.76E-03	4.61E-03	6.18E+00	5.16E-04	1.02E-01	2.53E-04	1.76E-04	2.63E-03	5.07E-04	1.06E-05	6.64E-04	5.07E-05	5.07E-05	1.06E-03	5.07E-04	1.06E-02
DF-M-02	14-Mar-16	Percent of Total Dustfall	9.58E-01	1.82E-04	9.10E-03	1.47E-03	9.10E-04	2.20E-03	1.50E-03	2.73E-03	6.05E+00	4.28E-04	7.81E-02	9.10E-05	7.28E-04	2.70E-03	1.82E-03	1.82E-05	8.04E-04	1.82E-04	1.82E-04	3.93E-04	1.82E-03	5.46E-03
DF-M-02	11-Apr-16	Percent of Total Dustfall	1.09E+00	3.31E-04	1.69E-02	2.89E-03	1.69E-03	3.28E-03	1.57E-03	3.31E-03	4.67E+00	4.22E-04	7.14E-02	1.69E-04	1.36E-03	3.28E-03	3.31E-03	3.31E-05	7.23E-04	3.31E-04	3.31E-04	2.71E-04	3.31E-03	1.02E-02
DF-M-02	09-May-16	Percent of Total Dustfall	1.56E+00	8.70E-06	6.96E-04	6.10E-03	4.28E-05	6.00E-03	1.82E-03	2.83E-03	3.19E+00	6.73E-04	9.71E-02	4.28E-05	5.92E-05	3.78E-03	8.70E-05	8.33E-06	1.22E-03	1.38E-05	3.48E-05	6.91E-04	3.21E-03	3.69E-03
DF-M-02	11-Jun-16	Percent of Total Dustfall	2.06E+00	2.16E-05	1.60E-03	1.34E-02	1.08E-04	2.52E-03	1.11E-03	2.27E-03	2.74E+00	1.89E-03	5.64E-02	1.08E-04	1.39E-04	2.22E-03	2.16E-04	8.92E-06	1.28E-03	3.75E-05	1.51E-04	5.62E-04	3.01E-03	5.69E-03
DF-M-02	12-Jul-16	Percent of Total Dustfall	3.14E+00	7.63E-05	3.89E-03	1.99E-02	3.89E-04	4.60E-03	1.89E-03	4.12E-03	4.66E+00	1.95E-03	8.32E-02	3.89E-05	2.03E-04	4.61E-03	7.63E-04	7.63E-05	1.76E-03	7.63E-05	7.02E-04	6.60E-04	5.19E-03	1.08E-02
DF-M-02	15-Aug-16	Percent of Total Dustfall	1.81E+00	1.63E-04	8.25E-03	1.48E-02	8.25E-04	2.81E-03	1.19E-03	1.70E-02	2.68E+00	1.22E-03	6.04E-02	8.25E-05	2.14E-04	2.86E-03	1.63E-03	1.63E-05	1.93E-03	1.63E-04	1.70E-03	5.23E-04	3.23E-03	1.23E-02
DF-M-02	23-Sep-16	Percent of Total Dustfall	2.26E+00	9.10E-05	4.61E-03	1.79E-02	4.61E-04	3.27E-03	1.48E-03	4.79E-03	3.71E+00	2.43E-03	6.61E-02	4.61E-05	2.98E-04	3.02E-03	9.10E-04	1.91E-05	2.02E-03	9.10E-05	1.81E-04	4.66E-04	3.69E-03	1.43E-02
DF-M-02	17-Oct-16	Percent of Total Dustfall	1.60E+00	1.30E-04	6.60E-03	1.12E-02	6.60E-04	2.37E-03	1.02E-03	5.80E-03	3.40E+00	3.06E-03	4.26E-02	6.60E-04	2.90E-04	2.31E-03	1.30E-03	3.30E-05	1.11E-03	1.30E-04	1.90E-04	2.73E-04	2.40E-03	1.19E-02
DF-M-02	19-Nov-16	Percent of Total Dustfall	7.52E-01	1.52E-05	8.94E-04	2.36E-03	7.73E-05	1.61E-03	1.29E-03	2.38E-03	4.73E+00	1.17E-03	4.67E-02	7.73E-05	6.38E-05	2.65E-03	1.52E-04	1.48E-05	3.03E-04	1.52E-05	4.85E-05	2.20E-04	6.52E-04	3.11E-03
DF-M-02	19-Dec-16	Percent of Total Dustfall	8.73E-01	1.21E-04	5.82E-03	3.49E-03	5.82E-04	2.69E-03	1.23E-03	4.73E-03	6.92E+00	4.71E-03	6.51E-02	5.82E-04	3.52E-04	3.09E-03	1.21E-03	4.18E-05	5.71E-04	1.21E-04	1.21E-04	2.04E-04	1.21E-03	5.71E-03
DF-M-03	04-Jan-15	Percent of Total Dustfall	1.72E+00	2.14E-04	1.03E-03	1.21E-02	1.03E-04	5.31E-03	1.38E-03	8.34E-03	-	5.20E-03	5.70E-02	1.03E-04	8.41E-04	4.14E-03	2.14E-03	2.34E-05	1.38E-03	2.14E-04	2.62E-04	3.00E-04	3.66E-03	2.06E-02
DF-M-03	07-Feb-15	Percent of Total Dustfall	1.39E+00	6.11E-04	2.78E-02	6.78E-03	3.15E-04	3.15E-03	1.30E-03	4.39E-02	-	2.74E-03	7.96E-02	1.54E-03	3.15E-04	3.15E-03	6.11E-03	6.11E-05	1.43E-03	6.11E-04	6.11E-04	6.46E-04	6.11E-03	1.83E-02
DF-M-03	07-Mar-15	Percent of Total Dustfall	1.54E+00	2.03E-04	1.04E-02	6.26E-03	1.04E-04	4.43E-03	1.33E-03	5.28E-03	-	2.38E-03	7.06E-02	2.03E-03	5.57E-04	2.83E-03	2.03E-03	2.46E-05	9.42E-04	2.03E-04	2.03E-04	6.61E-04	2.03E-03	1.49E-02
DF-M-03	07-Apr-15	Percent of Total Dustfall	6.58E-01	2.27E-04	4.09E-02	9.02E-03	1.03E-04	2.20E-03	6.36E-04	6.26E-02	-	6.26E-04	4.45E-02	1.03E-03	1.26E-04	1.23E-03	2.12E-03	7.58E-05	3.82E-03	2.12E-04	3.33E-04	8.64E-05	2.12E-03	1.77E-02
DF-M-03	09-May-15	Percent of Total Dustfall	1.87E+00	1.30E-04	5.12E-04	4.85E-03	1.57E-05	4.73E-03	1.36E-03	8.49E-03	3.86E+00	1.57E-03	5.84E-02	1.57E-05	4.91E-04	4.04E-03	3.01E-04	1.78E-05	7.29E-04	3.01E-05	1.17E-04	3.58E-04	2.89E-03	8.98E-03
DF-M-03	08-Jun-15	Percent of Total Dustfall	2.41E+00	4.71E-05	3.61E-04	9.10E-03	2.27E-05	5.76E-03	1.68E-03	2.93E-02	3.47E+00	1.32E-03	5.73E-02	2.27E-05	2.18E-04	4.51E-03	4.71E-04	1.88E-05	1.13E-03	4.71E-05	2.55E-04	3.92E-04	5.33E-03	1.20E-02
DF-M-03	10-Jul-15	Percent of Total Dustfall	3.18E+00	6.67E-05	8.12E-03	1.50E-02	3.27E-05	5.59E-03	1.79E-03	8.85E-03	4.41E+00	1.57E-03	7.03E-02	3.27E-05	2.87E-04	4.56E-03	6.67E-04	2.30E-05	1.07E-03	6.67E-05	1.94E-04	4.48E-04	5.88E-03	1.45E-02
DF-M-03	08-Aug-15	Percent of Total Dustfall	3.24E+00	1.29E-04	6.47E-03	1.88E-02	6.47E-04	1.04E-02	1.80E-03	2.12E-02	4.29E+00	1.86E-03	8.08E-02	6.47E-05	2.59E-04	4.85E-03	1.29E-03	4.59E-05	2.82E-03	1.29E-04	1.88E-04	4.51E-04	5.65E-03	3.91E-02
DF-M-03	06-Sep-15	Percent of Total Dustfall	3.12E+00	2.03E-04	1.02E-02	1.76E-02	1.02E-03	2.03E-02	1.90E-03	1.22E-02	4.60E+00	1.28E-03	7.71E-02	1.02E-05	1.52E-04	4.84E-03	2.03E-03	2.03E-05	6.28E-02	2.03E-04	2.03E-04	4.79E-04	5.73E-03	1.04E-02
DF-M-03	08-Oct-15	Percent of Total Dustfall	3.38E+00	2.20E-03	1.08E-01	2.20E-02	1.08E-02	4.22E-02	3.00E-03	2.20E-02	5.00E+00	1.72E-03	8.08E-02	1.08E-04	4.24E-03	3.82E-02	2.20E-02	2.20E-04	1.00E-02	2.20E-03	2.20E-03	4.80E-04	2.20E-02	6.40E-02
DF-M-03	17-Nov-15	Percent of Total Dustfall	2.07E+00	1.07E-04	5.33E-03	7.33E-03	5.33E-04	6.40E-03	1.25E-03	3.47E-03	2.79E+00	1.23E-03	5.20E-02	5.33E-03	1.39E-04	2.67E-02	1.07E-03	1.11E-05	2.00E-03	1.07E-04	1.88E-04	6.08E-04	4.05E-03	3.20E-02
DF-M-03	21-Dec-15	Percent of Total Dustfall	1.35E+00	1.98E-04	1.00E-02	4.75E-03	1.00E-03	1.48E-02	1.25E-03	2.50E-02	3.58E+00	1.01E-03	6.77E-02	1.00E-02	1.46E-04	2.46E-03	1.98E-03	1.98E-05	2.71E-03	1.98E-04	2.63E-04	4.60E-04	1.98E-03	1.13E-02
DF-M-03	18-Jan-16	Percent of Total Dustfall	2.49E+00	1.12E-04	5.42E-03	1.02E-02	5.42E-04	5.50E-03	1.89E-03	1.12E-02	3.64E+00	2.01E-03	7.85E-02	5.42E-04	2.67E-04	4.21E-03	1.12E-03	1.96E-05	5.42E-03	1.12E-04	1.12E-03	7.55E-04	4.58E-03	1.15E-02
DF-M-03	16-Feb-16	Percent of Total Dustfall	1.46E+00	9.82E-05	4.91E-03	5.01E-03	4.91E-04	3.42E-03	1.60E-03	8.93E-03	4.63E+00	1.19E-03	8.71E-02	4.91E-04	3.43E-04	3.13E-03	9.82E-04	1.61E-05	1.08E-03	9.82E-05	1.16E-04	1.28E-03	2.05E-03	2.05E-03
DF-M-03	14-Mar-16	Percent of Total Dustfall	2.06E+00	6.94E-04	3.41E-02	6.82E-03	3.41E-03	5.26E-03	1.79E-03	6.94E-03	4.75E+00	1.15E-03	6.94E-02	3.41E-04	2.72E-03	3.99E-03	6.94E-03	6.94E-05	1.27E-03	6.94E-04	6.94E-04	5.66E-04	6.94E-03	2.02E-02
DF-M-03	11-Apr-16	Percent of Total Dustfall	1.34E+00	1.52E-04	7.35E-03	3.69E-03	7.35E-04	4.59E-03	1.47E-03	2.15E-03	3.98E+00	4.35E-04	5.23E-02	7.35E-05	5.83E-04	3.60E-03	1.52E-03	1.52E-05	1.80E-03	1.52E-04	1.52E-04	2.29E-04	1.65E-03	4.44E-03
DF-M-03	09-May-16	Percent of Total Dustfall	2.81E+00	3.40E-05	2.07E-03	1.03E-02	1.64E-04	8.75E-03	2.16E-03	3.37E-03	4.11E+00	1.18E-03	1.05E-01	1.64E-04	1.35E-04	5.98E-03	3.40E-04	1.39E-05	2.83E-03	3.40E-05	9.92E-05	6.60E-04	4.56E-03	1.65E-02
DF-M-03	11-Jun-16	Percent of Total Dustfall	2.67E+00	3.68E-05	2.79E-03	1.70E-02	1.86E-04	4.03E-03	1.36E-03	2.31E-03	3.55E+00	1.78E-03	6.47E-02	1.86E-04	2.19E-04	3.12E-03	3.68E-04	2.90E-05	1.43E-03	4.92E-05	2.60E-04	4.03E-04	4.46E-03	9.46E-03
DF-M-03	12-Jul-16	Percent of Total Dustfall	3.27E+00	1.99E-05	1.02E-03	1.83E-02	1.02E-04	4.96E-03	1.76E-03	2.93E-03	4.54E+00	1.96E-03	7.83E-02	1.02E-05	1.87E-04	3.96E-03	1.99E-04	1.99E-05	9.76E-04	5.98E-05	1.83E-04	5.40E-04	5.82E-03	9.16E-03
DF-M-03	15-Aug-16	Percent of Total Dustfall	2.50E+00	9.17E-05	4.59E-03	1.73E-02	4.59E-04	3.83E-03	1.55E-03	6.51E-03	3.67E+00	1.43E-03	6.68E-02	4.59E-05	1.85E-04	3.39E-03	9.17E-04	1.19E-05	1.56E-03	9.17E-05	1.74E-04	3.66E-04	4.68E-03	1.25E-02
DF-M-03	24-Sep-16	Percent of Total Dustfall	2.73E+00	5.93E-05	2.96E-03	1.87E-02	2.96E-04	4.68E-03	1.70E-03	3.38E-03	4.27E+00	3.05E-03	7.70E-02	2.96E-05	3.31E-04	3.96E-03	5.93E-04	1.89E-05	1.26E-03	6.30E-05	1.64E-04	4.52E-04	5.26E-03	1.34E-02
DF-M-03	17-Oct-16	Percent of Total Dustfall	1.71E+00	1.40E-04	7.00E-03	1.14E-02	7.00E-04	3.02E-03	9.70E-04	4.90E-03	2.85E+00	2.31E-03	4.50E-02	7.00E-04	2.17E-04	2.40E-03	1.40E-03	2.30E-05	1.27E-03	1.40E-04	4.60E-04	2.47E-04	3.30E-03	1.11E-02
DF-M-03	19-Nov-16	Percent of Total Dustfall	2.48E+00	7.87E-05	4.26E-03	1.75E-02	3.93E-04	5.07E-03	1.75E-03	9.34E-03	5.35E+00	7.69E-03	7.20E-02	3.93E-04	6.35E-04	4.25E-03	7.87E-04	4.56E-05	1.31E-03	7.87E-05	3.06E-04	4.83E-04	4.71E-03	1.72E-02
DF-M-03	19-Dec-16	Percent of Total Dustfall	1.29E+00	2.04E-04	1.06E-02	9.00E-03	1.06E-03	3.83E-03	1.15E-03	6.30E-03	5.48E+00	2.37E-03	5.52E-02	1.06E-03	5.76E-04	3.15E-03	2.04E-03	3.33E-05	8.33E-04	2.04E-04	3.15E-04	3.39E-04	2.04E-03	1.13E-02
AVERAGE Percent ratios DF-M-02 & 03			**2.83E+00**	**4.11E-04**	**1.98E-02**	**1.34E-02**	**1.17E-03**	**1.95E-02**	**2.65E-03**	**1.61E-02**	**4.43E+00**	**2.71E-03**	**1.07E-01**	**1.12E-03**	**2.52E-03**	**1.66E-02**	**3.34E-03**	**9.58E-05**	**6.43E-03**	**3.36E-04**	**5.89E-04**	**7.01E-04**	**5.82E-03**	**2.45E-02**

Table A-8 Dustfall Data for Sample Site DF-P-01 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
06-Jan-15	0.58	7.84E-03	2.30E-06	1.10E-04	5.26E-05	1.10E-05	1.10E-05	2.20E-04	1.10E-06	3.96E-02	-	1.80E-05	5.60E-06	3.80E-05	-	9.90E-06	1.10E-04	1.85E-02	2.99E-04	1.10E-06	2.30E-06	1.10E-05	-	3.90E-03	-	2.20E-05	-	2.20E-07	1.57E-02	4.64E-05	-	-	2.20E-06	-	2.20E-06	-	-	3.88E-06	2.20E-05	1.73E-04	-
Percent of Total Dustfall		1.35E+00	3.97E-04	1.90E-02	9.07E-03	1.90E-03	1.90E-03	3.79E-02	1.90E-04	6.83E+00	-	3.10E-03	9.66E-04	6.55E-03	-	1.71E-03	1.90E-02	3.19E+00	5.16E-02	1.90E-04	3.97E-04	1.90E-03	-	6.72E-01	-	3.79E-03	-	3.79E-05	2.71E+00	8.00E-03	-	-	3.79E-04	-	3.79E-04	-	-	6.69E-04	3.79E-03	2.98E-02	-
07-Feb-15	0.62	7.43E-03	4.10E-06	1.90E-04	2.98E-05	2.10E-05	2.10E-05	4.10E-04	2.10E-06	2.04E-02	-	2.10E-05	4.10E-06	2.87E-04	-	9.40E-06	2.10E-04	2.14E-02	2.20E-04	1.00E-05	1.21E-05	2.10E-05	-	5.80E-03	-	4.10E-05	-	4.10E-07	4.84E-02	6.98E-05	-	-	4.10E-06	-	4.10E-06	-	-	3.47E-06	4.10E-05	1.20E-04	-
Percent of Total Dustfall		1.20E+00	6.61E-04	3.06E-02	4.81E-03	3.39E-03	3.39E-03	6.61E-02	3.39E-04	3.29E+00	-	3.39E-03	6.61E-04	4.63E-02	-	1.52E-03	3.39E-02	3.45E+00	3.55E-02	1.61E-03	1.95E-03	3.39E-03	-	9.35E-01	-	6.61E-03	-	6.61E-05	7.81E+00	1.13E-02	-	-	6.61E-04	-	6.61E-04	-	-	5.60E-04	6.61E-03	1.94E-02	-
08-Mar-15	0.21	3.88E-03	2.40E-06	9.50E-05	1.82E-05	6.00E-06	6.00E-06	1.20E-04	6.00E-07	1.06E-02	-	1.01E-05	2.30E-06	1.68E-04	-	4.83E-06	6.00E-05	7.06E-03	1.10E-04	1.20E-05	6.00E-07	6.00E-06	-	1.83E-03	-	1.20E-05	-	1.20E-07	3.60E-03	1.45E-05	-	-	1.20E-06	-	1.20E-06	-	-	1.62E-06	1.20E-05	9.60E-05	0.00E+00
Percent of Total Dustfall		1.85E+00	1.14E-03	4.52E-02	8.67E-03	2.86E-03	2.86E-03	5.71E-02	2.86E-04	5.05E+00	-	4.81E-03	1.10E-03	8.00E-02	-	2.30E-03	2.86E-02	3.36E+00	5.24E-02	5.71E-03	2.86E-04	2.86E-03	-	8.71E-01	-	5.71E-03	-	5.71E-05	1.71E+00	6.90E-03	-	-	5.71E-04	-	5.71E-04	-	-	7.71E-04	5.71E-03	4.57E-02	0.00E+00
07-Apr-15	0.10	8.77E-03	4.20E-06	1.90E-04	4.41E-05	9.70E-06	9.70E-06	1.90E-04	9.70E-07	2.64E-02	-	2.69E-05	6.30E-06	1.87E-04	-	1.98E-05	9.70E-05	2.06E-02	3.24E-04	9.70E-06	3.33E-06	1.68E-05	-	4.78E-03	-	1.90E-05	-	2.80E-07	3.55E-02	5.31E-05	-	-	1.90E-06	-	3.40E-06	-	-	2.24E-06	1.90E-05	5.13E-04	-
Percent of Total Dustfall		8.77E+00	4.20E-03	1.90E-01	4.41E-02	9.70E-03	9.70E-03	1.90E-01	9.70E-04	2.64E+01	-	2.69E-02	6.30E-03	1.87E-01	-	1.98E-02	9.70E-02	2.06E+01	3.24E-01	9.70E-03	3.33E-03	1.68E-02	-	4.78E+00	-	1.90E-02	-	2.80E-04	3.55E+01	5.31E-02	-	-	1.90E-03	-	3.40E-03	-	-	2.24E-03	1.90E-02	5.13E-01	-
09-May-15	8.21	1.54E-01	2.67E-05	3.50E-05	3.24E-04	7.00E-06	7.00E-06	1.90E-04	8.10E-07	2.80E-01	-	4.42E-04	1.13E-04	3.80E-04	3.66E-01	6.71E-05	2.42E-04	2.08E-01	5.35E-03	7.00E-07	3.62E-05	2.54E-04	5.22E-03	2.67E-02	-	1.40E-05	1.99E-01	1.57E-06	1.13E-01	3.36E-04	-	-	1.40E-06	-	9.50E-06	2.20E-03	-	2.25E-05	1.94E-04	1.05E-03	-
Percent of Total Dustfall		1.88E+00	3.25E-04	4.26E-04	3.95E-03	8.53E-05	8.53E-05	2.31E-03	9.87E-06	3.41E+00	-	5.38E-03	1.38E-03	4.63E-03	4.46E+00	8.17E-04	2.95E-03	2.53E+00	6.52E-02	8.53E-06	4.41E-04	3.09E-03	6.36E-02	3.25E-01	-	1.71E-04	2.42E+00	1.91E-05	1.38E+00	4.09E-03	-	-	1.71E-05	-	1.16E-04	2.68E-02	-	2.74E-04	2.36E-03	1.28E-02	-
08-Jun-15	1.64	2.49E-02	2.30E-06	1.50E-04	1.17E-04	5.80E-06	5.80E-06	1.20E-04	5.80E-07	7.32E-02	-	6.84E-05	1.33E-05	1.67E-04	3.85E-02	1.46E-05	5.80E-05	4.13E-02	6.42E-04	5.80E-07	3.60E-06	3.94E-05	6.80E-04	9.64E-03	-	1.20E-05	4.55E-02	1.80E-07	5.44E-03	6.98E-05	-	-	1.20E-06	-	2.10E-06	6.80E-04	-	6.41E-06	3.00E-05	2.52E-04	-
Percent of Total Dustfall		1.52E+00	1.40E-04	9.15E-03	7.13E-03	3.54E-04	3.54E-04	7.32E-03	3.54E-05	4.46E+00	-	4.17E-03	8.11E-04	1.02E-02	2.35E+00	8.90E-04	3.54E-03	2.52E+00	3.91E-02	3.54E-05	2.20E-04	2.40E-03	4.15E-02	5.88E-01	-	7.32E-04	2.77E+00	1.10E-05	3.32E-01	4.26E-03	-	-	7.32E-05	-	1.28E-04	4.15E-02	-	3.91E-04	1.83E-03	1.54E-02	-
11-Jul-15	5.53	7.27E-02	3.50E-06	1.14E-04	6.06E-04	5.20E-06	5.20E-06	1.20E-04	5.20E-07	1.17E-01	-	1.02E-04	3.76E-05	1.63E-04	1.05E-01	2.62E-05	8.80E-05	8.47E-02	1.70E-03	5.20E-07	4.59E-06	8.16E-05	1.81E-03	3.65E-02	-	1.00E-05	1.17E-01	3.30E-07	5.63E-03	1.37E-04	-	-	1.20E-06	-	2.90E-06	3.91E-03	-	1.44E-05	9.10E-05	5.28E-04	-
Percent of Total Dustfall		1.31E+00	6.33E-05	2.06E-03	1.10E-02	9.40E-05	9.40E-05	2.17E-03	9.40E-06	2.12E+00	-	1.84E-03	6.80E-04	2.95E-03	1.90E+00	4.74E-04	1.59E-03	1.53E+00	3.07E-02	9.40E-06	8.30E-05	1.48E-03	3.27E-02	6.60E-01	-	1.81E-04	2.12E+00	5.97E-06	1.02E-01	2.48E-03	-	-	2.17E-05	-	5.24E-05	7.07E-02	-	2.60E-04	1.65E-03	9.55E-03	-
09-Aug-15	11.1	2.15E-01	1.40E-05	5.40E-04	1.88E-03	5.40E-05	5.40E-05	1.10E-03	5.40E-05	4.30E-01	2.36E-05	8.70E-04	1.40E-04	1.60E-03	3.41E-01	8.10E-05	5.40E-04	3.12E-01	6.08E-03	5.40E-07	6.80E-06	2.94E-04	6.20E-03	1.06E-01	6.38E-04	1.10E-04	3.24E-01	1.10E-06	3.80E-02	4.30E-04	5.40E-02	1.10E-05	1.10E-05	1.29E-04	1.50E-05	1.17E-02	1.10E-05	5.76E-05	2.70E-04	1.12E-03	9.10E-05
Percent of Total Dustfall		1.94E+00	1.26E-04	4.86E-03	1.69E-02	4.86E-04	4.86E-04	9.91E-03	4.86E-04	3.87E+00	2.13E-04	7.84E-03	1.26E-03	1.44E-02	3.07E+00	7.30E-04	4.86E-03	2.81E+00	5.48E-02	4.86E-06	6.13E-05	2.65E-03	5.59E-02	9.55E-01	5.75E-03	9.91E-04	2.92E+00	9.91E-06	3.42E-01	3.87E-03	4.86E-01	9.91E-05	9.91E-05	1.16E-03	1.35E-04	1.05E-01	9.91E-05	5.19E-04	2.43E-03	1.01E-02	8.20E-04
06-Sep-15	7.83	1.17E-01	1.70E-05	5.90E-04	1.08E-03	5.90E-05	5.90E-05	1.20E-03	5.90E-05	4.26E-01	1.54E-05	1.20E-03	9.30E-05	7.10E-04	2.03E-01	6.74E-05	5.90E-04	2.43E-01	4.19E-03	5.90E-07	5.90E-06	1.86E-04	5.90E-03	5.57E-02	3.42E-04	1.20E-04	1.75E-01	1.20E-06	5.34E-02	3.70E-03	5.90E-02	1.20E-05	1.20E-05	6.60E-05	1.20E-05	6.20E-03	1.20E-05	4.77E-05	1.70E-04	1.12E-03	5.90E-05
Percent of Total Dustfall		1.49E+00	2.17E-04	7.54E-03	1.38E-02	7.54E-04	7.54E-04	1.53E-02	7.54E-04	5.44E+00	1.97E-04	1.53E-02	1.19E-03	9.07E-03	2.59E+00	8.61E-04	7.54E-03	3.10E+00	5.35E-02	7.54E-06	7.54E-05	2.38E-03	7.54E-02	7.11E-01	4.37E-03	1.53E-03	2.23E+00	1.53E-05	6.82E-01	4.73E-02	7.54E-01	1.53E-04	1.53E-04	8.43E-04	1.53E-04	7.92E-02	1.53E-04	6.09E-04	2.17E-03	1.43E-02	7.54E-04
08-Oct-15	1.57	4.19E-02	1.00E-05	5.00E-04	4.07E-04	5.00E-05	5.00E-05	1.00E-03	5.00E-05	9.04E-02	5.00E-06	2.39E-04	3.00E-05	1.00E-04	5.74E-02	2.06E-05	5.00E-04	5.43E-02	1.06E-03	5.00E-07	1.76E-05	5.50E-04	5.00E-03	2.17E-02	1.33E-04	1.00E-04	6.96E-02	1.00E-06	9.50E-03	1.02E-04	5.00E-02	1.00E-05	1.00E-05	2.01E-05	1.00E-05	2.20E-03	1.00E-05	9.10E-06	1.00E-04	4.80E-04	5.00E-05
Percent of Total Dustfall		2.67E+00	6.37E-04	3.18E-02	2.59E-02	3.18E-03	3.18E-03	6.37E-02	3.18E-03	5.76E+00	3.18E-04	1.52E-02	1.91E-03	6.37E-03	3.66E+00	1.31E-03	3.18E-02	3.46E+00	6.75E-02	3.18E-05	1.12E-03	3.50E-02	3.18E-01	1.38E+00	8.47E-03	6.37E-03	4.43E+00	6.37E-05	6.05E-01	6.50E-03	3.18E+00	6.37E-04	6.37E-04	1.28E-03	6.37E-04	1.40E-01	6.37E-04	5.80E-04	6.37E-03	3.06E-02	3.18E-03
17-Nov-15	1.14	1.84E-02	1.63E-06	4.70E-05	1.62E-04	4.00E-06	4.00E-06	7.90E-05	4.00E-06	6.63E-02	2.01E-06	4.80E-05	1.50E-05	3.69E-05	3.11E-02	9.60E-06	4.00E-05	3.43E-02	6.40E-04	4.00E-05	1.89E-06	2.00E-04	5.00E-04	9.56E-03	5.12E-05	7.90E-06	2.99E-02	1.37E-07	8.25E-03	5.70E-05	4.00E-03	7.90E-07	7.90E-07	1.40E-05	1.25E-06	8.24E-04	7.90E-07	5.15E-06	2.37E-05	2.40E-04	7.50E-06
Percent of Total Dustfall		1.61E+00	1.43E-04	4.12E-03	1.42E-02	3.51E-04	3.51E-04	6.93E-03	3.51E-04	5.82E+00	1.76E-04	4.21E-03	1.32E-03	3.24E-03	2.73E+00	8.42E-04	3.51E-03	3.01E+00	5.61E-02	3.51E-03	1.66E-04	1.75E-02	4.39E-02	8.39E-01	4.49E-03	6.93E-04	2.62E+00	1.20E-05	7.24E-01	5.00E-03	3.51E-01	6.93E-05	6.93E-05	1.23E-03	1.10E-04	7.23E-02	6.93E-05	4.52E-04	2.08E-03	2.11E-02	6.58E-04
28-Dec-15	0.34	2.83E-03	7.70E-07	3.80E-05	3.28E-05	3.80E-06	3.80E-06	7.70E-05	3.80E-06	1.71E-02	3.80E-07	5.80E-05	2.83E-06	1.00E-04	5.10E-03	2.41E-06	3.80E-05	2.01E-02	1.38E-04	3.80E-05	8.60E-07	4.40E-06	3.80E-04	5.16E-03	9.53E-06	7.70E-06	4.99E-03	7.70E-08	5.95E-02	9.30E-05	3.80E-03	7.70E-07	7.70E-07	1.65E-06	7.70E-07	1.31E-04	7.70E-07	1.61E-06	7.70E-06	8.70E-05	3.80E-06
Percent of Total Dustfall		8.32E-01	2.26E-04	1.12E-02	9.65E-03	1.12E-03	1.12E-03	2.26E-02	1.12E-03	5.03E+00	1.12E-04	1.71E-02	8.32E-04	2.94E-02	1.50E+00	7.09E-04	1.12E-02	5.91E+00	4.06E-02	1.12E-02	2.53E-04	1.29E-03	1.12E-01	1.52E+00	2.80E-03	2.26E-03	1.47E+00	2.26E-05	1.75E+01	2.74E-02	1.12E+00	2.26E-04	2.26E-04	4.85E-04	2.26E-04	3.85E-02	2.26E-04	4.74E-04	2.26E-03	2.56E-02	1.12E-03
19-Jan-16	11.90	9.99E-02	1.60E-05	7.90E-04	2.30E-04	7.90E-05	7.90E-05	1.60E-03	7.90E-05	5.70E-02	7.90E-06	3.30E-04	2.86E-04	4.20E-04	6.11E-01	6.10E-05	7.90E-04	9.88E-02	1.55E-02	7.90E-06	7.90E-06	4.43E-04	1.38E-02	1.44E-02	4.50E-05	1.60E-04	1.07E-01	2.10E-06	2.08E-01	2.81E-04	7.90E-02	1.60E-05	1.60E-05	2.11E-05	1.60E-05	1.60E-03	1.60E-05	6.29E-05	1.60E-04	6.30E-04	7.90E-05
Percent of Total Dustfall		8.39E-01	1.34E-04	6.64E-03	1.93E-03	6.64E-04	6.64E-04	1.34E-02	6.64E-04	4.79E-01	6.64E-05	2.77E-03	2.40E-03	3.53E-03	5.13E+00	5.13E-04	6.64E-03	8.30E-01	1.30E-01	6.64E-05	6.64E-05	3.72E-03	1.16E-01	1.21E-01	3.78E-04	1.34E-03	8.99E-01	1.76E-05	1.75E+00	2.36E-03	6.64E-01	1.34E-04	1.34E-04	1.77E-04	1.34E-04	1.34E-02	1.34E-04	5.29E-04	1.34E-03	5.29E-03	6.64E-04
16-Feb-16	1.18	6.11E-03	1.10E-06	5.70E-05	2.80E-05	5.70E-06	5.70E-06	1.10E-04	5.70E-06	9.26E-03	5.70E-07	1.50E-05	1.18E-05	1.00E-04	2.66E-02	3.55E-06	5.70E-05	8.04E-03	7.57E-04	5.70E-06	1.02E-06	3.40E-05	4.50E-03	1.65E-03	5.10E-06	1.10E-05	7.87E-03	1.10E-07	1.30E-02	2.16E-05	5.70E-03	1.10E-06	1.10E-06	1.93E-06	1.10E-06	1.10E-04	1.10E-06	9.15E-06	1.10E-05	2.40E-04	5.70E-06
Percent of Total Dustfall		5.18E-01	9.32E-05	4.83E-03	2.37E-03	4.83E-04	4.83E-04	9.32E-03	4.83E-04	7.85E-01	4.83E-05	1.27E-03	1.00E-03	8.47E-03	2.25E+00	3.01E-04	4.83E-03	6.81E-01	6.42E-02	4.83E-04	8.64E-05	2.88E-03	3.81E-01	1.40E-01	4.32E-04	9.32E-04	6.67E-01	9.32E-06	1.10E+00	1.83E-03	4.83E-01	9.32E-05	9.32E-05	1.64E-04	9.32E-05	9.32E-03	9.32E-05	7.75E-04	9.32E-04	2.03E-02	4.83E-04
14-Mar-16	6.87	5.98E-02	1.20E-05	6.10E-04	1.98E-04	6.10E-05	6.10E-05	1.20E-03	6.10E-05	8.85E-02	6.10E-06	1.29E-04	1.12E-04	1.70E-04	3.35E-01	3.02E-05	6.10E-04	1.92E-01	5.63E-03	6.10E-06	4.80E-05	1.79E-04	6.10E-03	4.97E-02	4.70E-05	1.20E-04	6.92E-02	1.20E-06	9.54E-01	8.69E-04	6.10E-02	1.20E-05	1.20E-05	1.64E-05	1.20E-05	1.20E-03	1.20E-05	7.27E-05	1.20E-04	4.90E-04	6.10E-05
Percent of Total Dustfall		8.70E-01	1.75E-04	8.88E-03	2.88E-03	8.88E-04	8.88E-04	1.75E-02	8.88E-04	1.29E+00	8.88E-05	1.88E-03	1.63E-03	2.47E-03	4.88E+00	4.40E-04	8.88E-03	2.79E+00	8.20E-02	8.88E-05	6.99E-04	2.61E-03	8.88E-02	7.23E-01	6.84E-04	1.75E-03	1.01E+00	1.75E-05	1.39E+01	1.26E-02	8.88E-01	1.75E-04	1.75E-04	2.39E-04	1.75E-04	1.75E-02	1.75E-04	1.06E-03	1.75E-03	7.13E-03	8.88E-04
11-Apr-16	17.50	1.51E-01	1.10E-05	5.70E-04	4.00E-04	5.70E-05	5.70E-05	1.10E-03	5.70E-05	5.34E-02	5.70E-06	4.86E-04	2.38E-04	3.10E-04	8.83E-01	5.27E-05	5.70E-04	1.34E-01	1.07E-02	5.70E-06	4.60E-05	5.09E-04	8.00E-03	1.55E-02	7.10E-05	1.10E-04	1.69E-01	2.10E-06	8.00E-02	1.65E-04	5.70E-02	1.10E-05	1.10E-05	3.36E-05	1.10E-05	1.50E-03	1.10E-05	4.59E-05	1.10E-04	5.40E-04	7.30E-05
Percent of Total Dustfall		8.63E-01	6.29E-05	3.26E-03	2.29E-03	3.26E-04	3.26E-04	6.29E-03	3.26E-04	3.05E-01	3.26E-05	2.78E-03	1.36E-03	1.77E-03	5.05E+00	3.01E-04	3.26E-03	7.66E-01	6.11E-02	3.26E-05	2.63E-04	2.91E-03	4.57E-02	8.86E-02	4.06E-04	6.29E-04	9.66E-01	1.20E-05	4.57E-01	9.43E-04	3.26E-01	6.29E-05	6.29E-05	1.92E-04	6.29E-05	8.57E-03	6.29E-05	2.62E-04	6.29E-04	3.09E-03	4.17E-04
10-May-16	10.30	1.24E-01	2.40E-06	8.60E-05	6.78E-04	8.40E-06	5.70E-06	2.80E-04	5.70E-06	1.68E-01	6.49E-06	3.03E-04	1.94E-04	2.73E-04	4.22E-01	6.48E-05	2.04E-04	1.90E-01	1.32E-02	5.70E-06	6.50E-06	3.76E-04	2.07E-02	4.77E-02	1.64E-04	1.10E-05	1.81E-01	1.28E-06	4.47E-01	5.73E-04	2.64E-02	1.10E-06	1.20E-06	4.43E-05	3.40E-06	3.12E-03	1.10E-06	9.11E-05	1.13E-04	7.64E-04	4.07E-05
Percent of Total Dustfall		1.20E+00	2.33E-05	8.35E-04	6.58E-03	8.16E-05	5.53E-05	2.72E-03	5.53E-05	1.63E+00	6.30E-05	2.94E-03	1.88E-03	2.65E-03	4.10E+00	6.29E-04	1.98E-03	1.84E+00	1.28E-01	5.53E-05	6.31E-05	3.65E-03	2.01E-01	4.63E-01	1.59E-03	1.07E-04	1.76E+00	1.24E-05	4.34E+00	5.56E-03	2.56E-01	1.07E-05	1.17E-05	4.30E-04	3.30E-05	3.03E-02	1.07E-05	8.84E-04	1.10E-03	7.42E-03	3.95E-04
11-Jun-16	2.18	2.19E-02	9.50E-07	7.70E-05	2.23E-04	4.80E-06	4.80E-06	9.50E-05	4.80E-06	4.04E-02	1.98E-06	4.27E-05	2.66E-05	4.45E-05	4.70E-02	1.08E-05	4.80E-05	3.12E-02	1.28E-03	4.80E-06	1.54E-06	4.65E-05	1.84E-03	1.07E-02	5.91E-05	9.50E-06	3.55E-02	1.29E-07	8.60E-03	4.60E-05	4.80E-03	9.50E-07	9.50E-07	7.66E-06	6.70E-06	1.00E-03	6.70E-06	1.56E-05	2.60E-05	3.71E-04	1.50E-04
Percent of Total Dustfall		1.00E+00	4.36E-05	3.53E-03	1.02E-02	2.20E-04	2.20E-04	4.36E-03	2.20E-04	1.85E+00	9.08E-05	1.96E-03	1.22E-03	2.04E-03	2.16E+00	4.95E-04	2.20E-03	1.43E+00	5.87E-02	2.20E-04	7.06E-05	2.13E-03	8.44E-02	4.91E-01	2.71E-03	4.36E-04	1.63E+00	5.92E-06	3.94E-01	2.11E-03	2.20E-01	4.36E-05	4.36E-05	3.51E-04	3.07E-04	4.59E-02	3.07E-04	7.16E-04	1.19E-03	1.70E-02	6.88E-03
12-Jul-16	6.38	9.66E-02	1.20E-06	5.10E-05	9.73E-04	5.10E-06	5.10E-06	1.20E-04	5.10E-06	2.19E-01	1.37E-05	1.51E-04	6.77E-05	1.12E-04	1.71E-01	5.62E-05	1.56E-04	1.45E-01	3.22E-03	5.10E-07	7.10E-06	1.40E-04	3.26E-03	4.84E-02	2.98E-04	1.00E-05	1.62E-01	1.00E-06	9.66E-03	1.76E-04	5.10E-03	1.00E-06	1.80E-06	4.88E-05	9.20E-06	5.78E-03	1.60E-05	4.03E-05	1.55E-04	7.09E-04	4.76E-05
Percent of Total Dustfall		1.51E+00	1.88E-05	7.99E-04	1.53E-02	7.99E-05	7.99E-05	1.88E-03	7.99E-05	3.43E+00	2.15E-04	2.37E-03	1.06E-03	1.76E-03	2.68E+00	8.81E-04	2.45E-03	2.27E+00	5.05E-02	7.99E-06	1.11E-04	2.19E-03	5.11E-02	7.59E-01	4.67E-03	1.57E-04	2.54E+00	1.57E-05	1.51E-01	2.76E-03	7.99E-02	1.57E-05	2.82E-05	7.65E-04	1.44E-04	9.06E-02	2.51E-04	6.32E-04	2.43E-03	1.11E-02	7.46E-04
15-Aug-16	5.26	7.43E-02	1.79E-06	4.70E-05	9.76E-04	4.70E-06	8.70E-06	9.80E-05	4.70E-06	2.02E-01	1.13E-05	1.27E-04	5.47E-05	1.07E-04	1.44E-01	4.62E-05	1.29E-04	1.23E-01	2.67E-03	4.70E-07	5.51E-06	1.14E-04	2.98E-03	4.16E-02	2.54E-04	9.40E-06	1.24E-01	3.57E-07	1.38E-02	1.55E-04	7.20E-03	9.40E-07	1.53E-06	3.29E-05	4.67E-06	5.22E-03	1.71E-06	3.02E-05	1.44E-04	4.78E-04	2.41E-05
Percent of Total Dustfall		1.41E+00	3.40E-05	8.94E-04	1.86E-02	8.94E-05	1.65E-04	1.86E-03	8.94E-05	3.84E+00	2.15E-04	2.41E-03	1.04E-03	2.03E-03	2.74E+00	8.78E-04	2.45E-03	2.34E+00	5.08E-02	8.94E-06	1.05E-04	2.17E-03	5.67E-02	7.91E-01	4.83E-03	1.79E-04	2.36E+00	6.79E-06	2.62E-01	2.95E-03	1.37E-01	1.79E-05	2.91E-05	6.25E-04	8.88E-05	9.92E-02	3.25E-05	5.74E-04	2.74E-03	9.09E-03	4.58E-04
22-Sep-16	2.63	4.37E-02	1.04E-06	4.20E-05	4.43E-04	4.20E-06	4.20E-06	8.40E-05	8.00E-06	1.08E-01	6.84E-06	8.44E-05	4.38E-05	7.23E-05	1.00E-01	3.20E-05	7.30E-05	7.11E-02	2.23E-03	4.20E-07	1.89E-06	8.58E-05	2.66E-03	2.17E-02	1.42E-04	8.40E-06	6.45E-02	3.41E-07	1.03E-02	1.16E-04	4.20E-03	8.40E-07	8.90E-07	2.30E-05	2.74E-06	2.95E-03	5.90E-06	2.00E-05	8.90E-05	4.02E-04	1.41E-05
Percent of Total Dustfall		1.66E+00	3.95E-05	1.60E-03	1.68E-02	1.60E-04	1.60E-04	3.19E-03	3.04E-04	4.11E+00	2.60E-04	3.21E-03	1.67E-03	2.75E-03	3.80E+00	1.22E-03	2.78E-03	2.70E+00	8.48E-02	1.60E-05	7.19E-05	3.26E-03	1.01E-01	8.25E-01	5.40E-03	3.19E-04	2.45E+00	1.30E-05	3.92E-01	4.41E-03	1.60E-01	3.19E-05	3.38E-05	8.75E-04	1.04E-04	1.12E-01	2.24E-04	7.60E-04	3.38E-03	1.53E-02	5.36E-04
19-Oct-16	1.00	1.99E-02	1.30E-06	6.30E-05	2.10E-04	6.30E-06	6.30E-06	1.30E-04	6.30E-06	4.07E-02	2.17E-06	2.96E-05	1.33E-05	4.20E-05	4.02E-02	1.82E-05	6.30E-05	2.89E-02	6.02E-04	6.30E-06	3.18E-06	2.96E-05	6.30E-04	9.59E-03	5.75E-05	1.30E-05	3.23E-02	2.00E-07	5.39E-03	5.69E-05	6.30E-03	1.30E-06	1.30E-06	8.48E-06	1.80E-06	1.07E-03	1.30E-06	6.11E-06	2.90E-05	2.01E-04	7.80E-06
Percent of Total Dustfall		1.99E+00	1.30E-04	6.30E-03	2.10E-02	6.30E-04	6.30E-04	1.30E-02	6.30E-04	4.07E+00	2.17E-04	2.96E-03	1.33E-03	4.20E-03	4.02E+00	1.82E-03	6.30E-03	2.89E+00	6.02E-02	6.30E-04	3.18E-04	2.96E-03	6.30E-02	9.59E-01	5.75E-03	1.30E-03	3.23E+00	2.00E-05	5.39E-01	5.69E-03	6.30E-01	1.30E-04	1.30E-04	8.48E-04	1.80E-04	1.07E-01	1.30E-04	6.11E-04	2.90E-03	2.01E-02	7.80E-04
18-Nov-16	6.20	7.06E-02	1.60E-06	6.20E-05	4.81E-04	5.20E-06	5.70E-06	1.00E-04	5.20E-06	1.24E-01	7.18E-06	1.44E-04	7.57E-05	1.75E-04	2.14E-01	1.07E-04	1.09E-04	8.60E-02	3.45E-03	5.20E-06	5.98E-06	1.50E-04	3.09E-03	2.29E-02	1.49E-04	1.00E-05	1.04E-01	9.10E-07	1.66E-02	1.47E-04	5.20E-03	1.00E-06	1.30E-06	3.74E-05	6.20E-06	2.63E-03	1.00E-06	4.03E-05	7.60E-05	4.80E-04	2.48E-05
Percent of Total Dustfall		1.14E+00	2.58E-05	1.00E-03	7.76E-03	8.39E-05	9.19E-05	1.61E-03	8.39E-05	2.00E+00	1.16E-04	2.32E-03	1.22E-03	2.82E-03	3.45E+00	1.73E-03	1.76E-03	1.39E+00	5.56E-02	8.39E-05	9.65E-05	2.42E-03	4.98E-02	3.69E-01	2.40E-03	1.61E-04	1.68E+00	1.47E-05	2.68E-01	2.37E-03	8.39E-02	1.61E-05	2.10E-05	6.03E-04	1.00E-04	4.24E-02	1.61E-05	6.50E-04	1.23E-03	7.74E-03	4.00E-04
17-Dec-16	1.76	2.06E-02	1.10E-06	5.40E-05	9.13E-05	5.40E-06	5.40E-06	1.10E-04	5.40E-06	7.13E-03	9.10E-07	3.54E-05	2.07E-05	4.30E-05	1.01E-01	2.02E-05	5.40E-05	1.76E-02	7.70E-04	5.40E-06	3.15E-06	5.82E-05	5.40E-04	2.79E-03	1.70E-05	1.10E-05	2.84E-02	3.50E-07	6.39E-03	2.30E-05	5.40E-03	1.10E-06	1.10E-06	6.40E-06	1.20E-06	2.60E-04	1.10E-06	4.88E-06	1.40E-05	8.80E-05	8.60E-06
Percent of Total Dustfall		1.17E+00	6.25E-05	3.07E-03	5.19E-03	3.07E-04	3.07E-04	6.25E-03	3.07E-04	4.05E-01	5.17E-05	2.01E-03	1.18E-03	2.44E-03	5.74E+00	1.15E-03	3.07E-03	1.00E+00	4.38E-02	3.07E-04	1.79E-04	3.31E-03	3.07E-02	1.59E-01	9.66E-04	6.25E-04	1.61E+00	1.99E-05	3.63E-01	1.31E-03	3.07E-01	6.25E-05	6.25E-05	3.64E-04	6.82E-05	1.48E-02	6.25E-05	2.77E-04	7.95E-04	5.00E-03	4.89E-04
2015 AVERAGE % Total Dustfall		2.20E+00	6.90E-04	2.97E-02	1.41E-02	2.02E-03	2.02E-03	4.01E-02	6.44E-04	6.46E+00	2.03E-04	9.10E-03	1.53E-03	3.33E-02	2.78E+00	2.66E-03	2.05E-02	4.62E+00	7.26E-02	2.67E-03	6.99E-04	7.57E-03	9.29E-02	1.19E+00	5.18E-03	4.00E-03	2.62E+00	5.01E-05	5.78E+00	1.50E-02	1.18E+00	2.37E-04	4.01E-04	1.00E-03	5.47E-04	7.18E-02	2.37E-04	6.50E-04	4.69E-03	6.23E-02	1.09E-03
2016 AVERAGE % Total Dustfall		1.18E+00	7.02E-05	3.47E-03	9.24E-03	3.34E-04	3.39E-04	6.78E-03	3.44E-04	2.02E+00	1.22E-04	2.41E-03	1.42E-03	3.08E-03	3.83E+00	8.62E-04	3.88E-03	1.74E+00	7.25E-02	1.67E-04	1.77E-04	2.85E-03	1.06E-01	4.91E-01	2.52E-03	6.61E-04	1.73E+00	1.37E-05	1.99E+00	3.75E-03	3.53E-01	6.61E-05	6.88E-05	4.69E-04	1.24E-04	4.93E-02	1.25E-04	6.44E-04	1.70E-03	1.07E-02	1.09E-03
2015/2016 AVERAGE % Total Dustfall		1.69E+00	3.80E-04	1.66E-02	1.17E-02	1.18E-03	1.18E-03	2.35E-02	4.94E-04	4.24E+00	1.46E-04	5.76E-03	1.47E-03	1.82E-02	3.41E+00	1.76E-03	1.22E-02	3.18E+00	7.25E-02	1.42E-03	4.38E-04	5.21E-03	1.01E-01	8.39E-01	3.30E-03	2.33E-03	2.09E+00	3.19E-05	3.89E+00	9.38E-03	5.96E-01	1.16E-04	2.35E-04	6.25E-04	3.36E-04	5.83E-02	1.58E-04	6.47E-04	3.20E-03	3.65E-02	1.09E-03

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-9 Dustfall Data for Sample Site DF-P-05 by Chemical (mg/dm^2-day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
06-Jan-15	0.65	0.0193	0.0000318	0.000013	0.000189	0.000013	0.000013	0.00026	0.0000013	0.0676	-	0.000045	0.0000093	0.000106	-	0.0000386	0.00013	0.0399	0.000508	0.0000013	0.0000049	0.000025	-	0.0113	-	0.000026	-	0.00000026	0.0611	0.000124	-	-	0.0000026	-	0.0000094	-	-	0.0000117	0.000026	0.000854	-
Percent of Total Dustfall		2.96923	0.00489	0.00200	0.02908	0.00200	0.00200	0.04000	0.00020	10.40000	-	0.00692	0.00143	0.01631	-	0.00594	0.02000	6.13846	0.07815	0.00020	0.00075	0.00385	-	1.73846	-	0.00400	-	0.00004	9.40000	0.01908	-	-	0.00040	-	0.00145	-	-	0.00180	0.00400	0.13138	-
07-Feb-15	1.29	0.0162	0.0000044	0.0002	0.000085	0.000022	0.000022	0.00044	0.0000022	0.0292	-	0.000022	0.0000093	0.000091	-	0.0000246	0.00022	0.0463	0.000419	0.000011	0.0000062	0.000022	-	0.0159	-	0.000044	-	0.00000044	0.1250	0.000165	-	-	0.0000044	-	0.0000044	-	-	0.0000085	0.000044	0.000370	-
Percent of Total Dustfall		1.25581	0.00034	0.01550	0.00657	0.00171	0.00171	0.03411	0.00017	2.26357	-	0.00171	0.00072	0.00705	-	0.00191	0.01705	3.58915	0.03248	0.00085	0.00048	0.00171	-	1.23256	-	0.00341	-	0.00003	9.68992	0.01279	-	-	0.00034	-	0.00034	-	-	0.00066	0.00341	0.02868	-
08-Mar-15	0.62	0.0098	0.0000024	0.000095	0.0000466	0.000006	0.000006	0.00012	0.0000006	0.0145	-	0.000021	0.0000052	0.000095	-	0.0000148	0.00006	0.0120	0.000240	0.000012	0.0000020	0.000011	-	0.0048	-	0.000012	-	0.00000016	0.0052	0.0000238	-	-	0.0000012	-	0.0000022	-	-	0.00000509	0.000012	0.000207	0
Percent of Total Dustfall		1.58065	0.00039	0.01532	0.00752	0.00097	0.00097	0.01935	0.00010	2.33871	-	0.00342	0.00084	0.01527	-	0.00239	0.00968	1.93548	0.03871	0.00194	0.00032	0.00176	-	0.76774	-	0.00194	-	0.00003	0.84355	0.00384	-	-	0.00019	-	0.00035	-	-	0.00082	0.00194	0.03339	0.00000
07-Apr-15	10.40	0.0122	0.0000026	0.000019	0.000042	0.0000094	0.0000094	0.00019	9.4E-07	0.0216	-	0.000039	0.0000084	0.000065	-	0.0000177	0.000094	0.0207	0.000412	0.0000094	0.0000039	0.000022	-	0.0051	-	0.000019	-	0.00000019	0.0348	0.000051	-	-	0.0000019	-	0.0000246	-	-	0.0000033	0.000019	0.000694	-
Percent of Total Dustfall		0.11731	0.00003	0.00018	0.00041	0.00009	0.00009	0.00183	0.00001	0.20769	-	0.00037	0.00008	0.00062	-	0.00017	0.00090	0.19904	0.00396	0.00009	0.00004	0.00022	-	0.04933	-	0.00018	-	0.00000	0.33462	0.00049	-	-	0.00002	-	0.00024	-	-	0.00003	0.00018	0.00667	-
09-May-15	4.13	0.08860	0.0000171	0.0002	0.0002030	0.0000061	0.0000061	0.00013	6.1E-07	0.1290	-	0.000229	0.0000545	0.000595	0.196	0.0000	0.000123	0.118	0.0027500	6.1E-07	0.0000	0.000128	0.00288	0.0216	-	0.000012	0.123	0.00000095	0.13500000	0.000252	-	-	0.0000012	-	0.0000064	0.00172	-	0.0000159	0.000121	0.001	-
Percent of Total Dustfall		2.14528	0.00041	0.00484	0.00492	0.00015	0.00015	0.00315	0.00001	3.12349	-	0.00554	0.00132	0.01441	4.74576	0.00100	0.00298	2.85714	0.06659	0.00001	0.00064	0.00310	0.06973	0.52300	-	0.00029	2.97821	0.00002	3.26877	0.00610	-	-	0.00003	-	0.00015	0.04165	-	0.00038	0.00293	0.02421	-
08-Jun-15	2.69	0.04260	0.0000023	0.0000092	0.0002030	0.0000058	0.0000058	0.00012	5.8E-07	0.0928	-	0.000106	0.0000204	0.000123	0.0598	0.0000	0.000083	0.0606	0.0010700	5.8E-07	0.0000	0.0000638	0.00074	0.0184	-	0.000012	0.0802	0.00000024	0.00870000	0.0001	-	-	0.0000012	-	0.000007	0.00148	-	0.0000164	0.000056	0.000547	-
Percent of Total Dustfall		1.58364	0.00009	0.00034	0.00755	0.00022	0.00022	0.00446	0.00002	3.44981	-	0.00394	0.00076	0.00457	2.22305	0.00103	0.00309	2.25279	0.03978	0.00002	0.00023	0.00237	0.02751	0.68401	-	0.00045	2.98141	0.00001	0.32342	0.00372	-	-	0.00004	-	0.00026	0.05502	-	0.00061	0.00208	0.02033	-
11-Jul-15	3.36	0.04850	0.0000043	0.000109	0.0003010	0.0000052	0.0000052	0.0001	5.2E-07	0.0718	-	0.000089	0.0000225	0.000088	0.0666	0.0000	0.000078	0.0605	0.0011500	5.2E-07	0.0000	0.0000564	0.00094	0.0231	-	0.00001	0.081	0.00000023	0.00651000	0.0000994	-	-	0.000001	-	0.000004	0.00231	-	0.0000195	0.000063	0.000882	-
Percent of Total Dustfall		1.44345	0.00013	0.00324	0.00896	0.00015	0.00015	0.00298	0.00002	2.13690	-	0.00264	0.00067	0.00263	1.98214	0.00079	0.00232	1.80060	0.03423	0.00002	0.00017	0.00168	0.02798	0.68750	-	0.00030	2.41071	0.00001	0.19375	0.00296	-	-	0.00003	-	0.00012	0.06875	-	0.00058	0.00188	0.02625	-
09-Aug-15	7.96	0.14500	0.0000133	0.000055	0.0010600	0.0000055	0.0000055	0.00015	0.0000055	0.2510	0.0000225	0.000224	0.0000669	0.000220	0.202	0.0001	0.000231	0.177	0.0037900	5.5E-07	0.0000	0.000161	0.00329	0.0685	0.000466	0.000011	0.226	0.00000055	0.01820000	0.000394	0.0086	0.0000011	0.000003	0.000108	0.0000113	0.00769	0.0000017	0.0000959	0.000186	0.000958	0.0000683
Percent of Total Dustfall		1.82161	0.00017	0.00069	0.01332	0.00007	0.00007	0.00188	0.00007	3.15327	0.00028	0.00281	0.00084	0.00276	2.53769	0.00105	0.00290	2.22362	0.04761	0.00001	0.00018	0.00202	0.04133	0.86055	0.00585	0.00014	2.83920	0.00001	0.22864	0.00495	0.10804	0.00001	0.00004	0.00136	0.00014	0.09661	0.00002	0.00120	0.00234	0.01204	0.00086
06-Sep-15	10.5	0.16100	0.0000120	0.00059	0.0013300	0.000059	0.000059	0.0012	0.000059	0.3810	0.0000252	0.0012	0.0000820	0.00071	0.24	0.0001	0.00059	0.241	0.0044900	5.9E-07	0.0000	0.000182	0.0059	0.0822	0.000557	0.00012	0.252	0.0000012	0.07840000	0.0037	0.059	0.000012	0.000012	0.000106	0.000012	0.009	0.000012	0.000141	0.00024	0.00198	0.000065
Percent of Total Dustfall		1.53333	0.00011	0.00562	0.01267	0.00056	0.00056	0.01143	0.00056	3.62857	0.00024	0.01143	0.00078	0.00676	2.28571	0.00105	0.00562	2.29524	0.04276	0.00001	0.00016	0.00173	0.05619	0.78286	0.00530	0.00114	2.40000	0.00001	0.74667	0.03524	0.56190	0.00011	0.00011	0.00101	0.00011	0.08571	0.00011	0.00134	0.00229	0.01886	0.00062
08-Oct-15	2.34	0.04510	0.0000096	0.00048	0.0003870	0.000048	0.000048	0.00096	0.000048	0.1420	0.0000061	0.000097	0.0000241	0.000116	0.0669	0.0000	0.00048	0.0729	0.0012100	4.8E-07	0.0000	0.00195	0.0048	0.0216	0.000139	0.000096	0.0767	0.00000096	0.02100000	0.000118	0.048	0.0000096	0.0000096	0.0000234	0.0000096	0.00214	0.0000096	0.0000177	0.000096	0.00137	0.000048
Percent of Total Dustfall		1.92735	0.00041	0.02051	0.01654	0.00205	0.00205	0.04103	0.00205	6.06838	0.00026	0.00415	0.00103	0.00496	2.85897	0.00109	0.02051	3.11538	0.05171	0.00002	0.00025	0.08333	0.20513	0.92308	0.00594	0.00410	3.27778	0.00004	0.89744	0.00504	2.05128	0.00041	0.00041	0.00100	0.00041	0.09145	0.00041	0.00076	0.00410	0.05855	0.00205
17-Nov-15	1.52	0.02920	0.0000056	0.000051	0.0002870	0.0000041	0.0000041	0.000083	0.0000041	0.0993	3.47E-06	0.000057	0.0000152	0.000060	0.0386	0.0000	0.000053	0.051	0.0007600	0.000041	0.0000	0.00021	0.00085	0.0158	0.0000855	0.0000083	0.0525	0.00000013	0.01900000	0.000105	0.0041	8.3E-07	8.3E-07	0.0000188	3.26E-06	0.00132	8.3E-07	0.0000137	0.0000413	0.00063	0.0000131
Percent of Total Dustfall		1.92105	0.00037	0.00336	0.01888	0.00027	0.00027	0.00546	0.00027	6.53289	0.00023	0.00375	0.00100	0.00393	2.53947	0.00173	0.00349	3.35526	0.05000	0.00270	0.00032	0.01382	0.05592	1.03947	0.00563	0.00055	3.45395	0.00001	1.25000	0.00691	0.26974	0.00005	0.00005	0.00124	0.00021	0.08684	0.00005	0.00090	0.00272	0.04145	0.00086
28-Dec-15	0.10	0.00336	0.0000032	0.000038	0.0000432	0.0000038	0.0000038	0.000077	0.0000038	0.0183	4.9E-07	0.000058	0.0000025	0.0001	0.00551	0.0000	0.000038	0.0236	0.0001430	0.000038	0.0000	0.0000047	0.00038	0.0063	0.0000107	0.0000077	0.00586	0.000000077	0.06800000	0.000115	0.0038	7.7E-07	7.7E-07	2.28E-06	7.7E-07	0.00014	7.7E-07	0.0000022	0.0000077	0.000184	0.0000038
Percent of Total Dustfall		3.36000	0.00320	0.03800	0.04320	0.00380	0.00380	0.07700	0.00380	18.30000	0.00049	0.05800	0.00254	0.10000	5.51000	0.00658	0.03800	23.60000	0.14300	0.03800	0.00098	0.00470	0.38000	6.29000	0.01070	0.00770	5.86000	0.00008	68.00000	0.11500	3.80000	0.00077	0.00077	0.00228	0.00077	0.14000	0.00077	0.00220	0.00770	0.18400	0.00380
19-Jan-16	0.48	0.00584	0.0000021	0.000074	0.0000800	0.0000074	0.0000074	0.0015	0.0000074	0.0412	7.7E-07	0.000017	0.0000054	0.00015	0.0106	0.0000	0.000074	0.0588	0.0002670	0.0000074	0.0000	0.0000156	0.0059	0.0167	0.0000223	0.000015	0.0103	0.00000015	0.29900000	0.00034	0.0074	0.0000015	0.0000015	4.08E-06	0.000015	0.00027	0.0000015	2.78E-06	0.000015	0.000829	0.0000074
Percent of Total Dustfall		1.21667	0.00044	0.01542	0.01667	0.00154	0.00154	0.31250	0.00154	8.58333	0.00016	0.00348	0.00113	0.03125	2.20833	0.00173	0.01542	12.25000	0.05563	0.00154	0.00090	0.00325	1.22917	3.47917	0.00465	0.00313	2.14583	0.00003	62.29167	0.07083	1.54167	0.00031	0.00031	0.00085	0.00313	0.05625	0.00031	0.00058	0.00313	0.17271	0.00154
16-Feb-16	2.03	0.01410	0.0000086	0.000058	0.0000890	0.0000058	0.0000058	0.00012	0.0000058	0.0300	8.1E-07	0.000033	0.0000251	0.0001	0.0794	0.0000	0.000058	0.0231	0.0014000	0.0000058	0.0000	0.000042	0.0046	0.0053	0.0000201	0.000012	0.0202	0.00000015	0.03800000	0.0000683	0.0058	0.0000012	0.0000012	6.26E-06	0.0000012	0.00032	0.0000018	0.0000136	0.000015	0.00024	0.000011
Percent of Total Dustfall		0.69458	0.00042	0.00286	0.00438	0.00029	0.00029	0.00591	0.00029	1.47783	0.00004	0.00165	0.00124	0.00493	3.91133	0.00053	0.00286	1.13793	0.06897	0.00029	0.00028	0.00207	0.22660	0.25961	0.00099	0.00059	0.99507	0.00001	1.87192	0.00336	0.28571	0.00006	0.00006	0.00031	0.00006	0.01576	0.00009	0.00067	0.00074	0.01182	0.00054
15-Mar-16	1.85	0.02130	0.0000055	0.000058	0.0001830	0.0000058	0.0000058	0.00044	0.0000058	0.0806	1.39E-06	0.000052	0.0000252	0.000059	0.0806	0.0000	0.000058	0.151	0.0012500	0.0000058	0.0000	0.0000456	0.00127	0.0435	0.0000434	0.000012	0.0318	0.0000002	0.85700000	0.000792	0.0191	0.0000012	0.0000012	0.0000117	0.0000017	0.00056	0.0000025	0.0000112	0.000025	0.00077	0.0000156
Percent of Total Dustfall		1.15135	0.00030	0.00314	0.00989	0.00031	0.00031	0.02378	0.00031	4.35676	0.00008	0.00283	0.00136	0.00319	4.35676	0.00115	0.00314	8.16216	0.06757	0.00031	0.00062	0.00246	0.06865	2.35135	0.00235	0.00065	1.71892	0.00001	46.32432	0.04281	1.03243	0.00006	0.00006	0.00063	0.00009	0.03027	0.00014	0.00061	0.00135	0.04162	0.00084
11-Apr-16	4.12	0.05770	0.0000120	0.00059	0.0003980	0.000059	0.000059	0.0012	0.000059	0.0746	0.0000059	0.000123	0.0000640	0.000170	0.216	0.0000	0.00059	0.0707	0.0028900	0.0000059	0.000047	0.000132	0.0059	0.0240	0.000098	0.00012	0.0809	0.0000012	0.09900000	0.000202	0.059	0.000012	0.000012	0.0000282	0.000012	0.0018	0.000012	0.0000163	0.00012	0.00067	0.000059
Percent of Total Dustfall		1.40049	0.00029	0.01432	0.00966	0.00143	0.00143	0.02913	0.00143	1.81068	0.00014	0.00299	0.00155	0.00413	5.24272	0.00068	0.01432	1.71602	0.07015	0.00014	0.00114	0.00320	0.14320	0.58252	0.00238	0.00291	1.96359	0.00003	2.40291	0.00490	1.43204	0.00029	0.00029	0.00068	0.00029	0.04369	0.00029	0.00040	0.00291	0.01626	0.00143
09-May-16	5.57	0.10100	0.0000121	0.000085	0.0010200	0.0000058	0.0000058	0.00046	0.0000058	0.2540	8.37E-06	0.000197	0.0000674	0.000147	0.164	0.0001	0.000159	0.246	0.0037000	0.0000058	0.0000	0.000152	0.00518	0.0780	0.000259	0.000012	0.175	0.00000057	0.80300000	0.000939	0.0306	0.0000012	0.000001	0.0000516	0.000006	0.00433	0.0000028	0.0000312	0.000145	0.00187	0.0000329
Percent of Total Dustfall		1.81329	0.00022	0.00153	0.01831	0.00010	0.00010	0.00826	0.00010	4.56014	0.00015	0.00354	0.00121	0.00264	2.94434	0.00104	0.00285	4.41652	0.06643	0.00010	0.00026	0.00273	0.09300	1.40036	0.00465	0.00022	3.14183	0.00001	14.41652	0.01686	0.54937	0.00002	0.00003	0.00093	0.00011	0.07774	0.00005	0.00056	0.00260	0.03357	0.00059
11-Jun-16	3.22	0.04280	0.0000028	0.000068	0.0003980	0.0000048	0.0000048	0.000095	0.0000048	0.1170	5.98E-06	0.000071	0.0000223	0.000045	0.0586	0.0000	0.000062	0.0709	0.0011100	0.0000048	0.0000	0.0000467	0.00111	0.0246	0.000143	0.0000095	0.0797	0.000000157	0.01460000	0.000113	0.0048	9.5E-07	9.5E-07	0.0000247	0.0000067	0.00229	0.0000067	0.0000209	0.0000621	0.000741	0.00015
Percent of Total Dustfall		1.32919	0.00009	0.00211	0.01236	0.00015	0.00015	0.00295	0.00015	3.63354	0.00019	0.00220	0.00069	0.00139	1.81988	0.00076	0.00193	2.20186	0.03447	0.00015	0.00013	0.00145	0.03447	0.76398	0.00444	0.00030	2.47516	0.00000	0.45342	0.00351	0.14907	0.00003	0.00003	0.00077	0.00021	0.07112	0.00021	0.00065	0.00193	0.02301	0.00466
12-Jul-16	5.46	0.09540	0.0000022	0.000053	0.0008790	0.0000053	0.0000053	0.00013	0.0000053	0.2560	0.000015	0.000143	0.0000464	0.000101	0.134	0.0001	0.000175	0.162	0.0025400	5.3E-07	0.0000	0.000101	0.00222	0.0510	0.00032	0.000011	0.164	0.0000011	0.01670000	0.000239	0.0053	0.0000011	0.000002	0.000066	0.0000096	0.00539	0.000017	0.0000633	0.000136	0.000723	0.0000498
Percent of Total Dustfall		1.74725	0.00004	0.00097	0.01610	0.00010	0.00010	0.00238	0.00010	4.68864	0.00027	0.00262	0.00085	0.00185	2.45421	0.00101	0.00321	2.96703	0.04652	0.00001	0.00024	0.00185	0.04066	0.93407	0.00586	0.00020	3.00366	0.00002	0.30586	0.00438	0.09707	0.00002	0.00003	0.00121	0.00018	0.09872	0.00031	0.00116	0.00249	0.01324	0.00091
15-Aug-16	2.42	0.02870	0.0000022	0.000047	0.0003000	0.0000047	0.0000047	0.000094	0.0000047	0.1010	0.0000049	0.000047	0.0000169	0.000066	0.0444	0.0000	0.000060	0.0545	0.0008770	4.7E-07	0.0000	0.0000373	0.00086	0.0179	0.000111	0.0000094	0.048	0.000000158	0.01530000	0.000096	0.0047	9.4E-07	9.4E-07	0.0000156	2.89E-06	0.00188	1.02E-06	0.0000286	0.0000516	0.000677	0.0000125
Percent of Total Dustfall		1.18595	0.00009	0.00194	0.01240	0.00019	0.00019	0.00388	0.00019	4.17355	0.00020	0.00193	0.00070	0.00273	1.83471	0.00091	0.00248	2.25207	0.03624	0.00002	0.00024	0.00154	0.03554	0.73967	0.00459	0.00039	1.98347	0.00001	0.63223	0.00397	0.19421	0.00004	0.00004	0.00064	0.00012	0.07769	0.00004	0.00118	0.00213	0.02798	0.00052
22-Sep-16	3.00	0.04350	0.0000027	0.000043	0.0004390	0.0000043	0.0000043	0.000087	0.0000043	0.1520	6.39E-06	0.000076	0.0000325	0.000069	0.0785	0.0000	0.000079	0.0874	0.0016900	4.3E-07	0.0000	0.0000688	0.00179	0.0226	0.000155	0.0000087	0.0665	0.00000033	0.01430000	0.000166	0.0093	8.7E-07	0.000001	0.0000225	3.75E-06	0.00271	0.0000061	0.0000348	0.0000864	0.00102	0.0000139
Percent of Total Dustfall		1.45000	0.00009	0.00143	0.01463	0.00014	0.00014	0.00290	0.00014	5.06667	0.00021	0.00252	0.00108	0.00230	2.61667	0.00129	0.00263	2.91333	0.05633	0.00001	0.00019	0.00229	0.05967	0.75333	0.00517	0.00029	2.21667	0.00001	0.47667	0.00553	0.31000	0.00003	0.00003	0.00075	0.00013	0.09033	0.00020	0.00116	0.00288	0.03400	0.00046
18-Oct-16	1.80	0.03250	0.0000027	0.000062	0.0002960	0.0000062	0.0000062	0.00012	0.0000062	0.0681	3.99E-06	0.000049	0.0000183	0.000077	0.0556	0.0000	0.000062	0.0466	0.0008830	0.0000062	0.0000	0.0000433	0.00092	0.0150	0.0000926	0.000012	0.0528	0.0000061	0.00753000	0.0000867	0.0062	0.0000012	0.0000012	0.0000158	0.0000029	0.00154	0.0000012	0.0000128	0.000059	0.000537	0.0000098
Percent of Total Dustfall		1.80556	0.00015	0.00344	0.01644	0.00034	0.00034	0.00667	0.00034	3.78333	0.00022	0.00270	0.00102	0.00428	3.08889	0.00228	0.00344	2.58889	0.04906	0.00034	0.00025	0.00241	0.05111	0.83333	0.00514	0.00067	2.93333	0.00034	0.41833	0.00482	0.34444	0.00007	0.00007	0.00088	0.00016	0.08556	0.00007	0.00071	0.00328	0.02983	0.00054
18-Nov-16	2.69	0.04340	0.0000033	0.000054	0.0003950	0.0000052	0.0000058	0.0001	0.0000052	0.0692	5.65E-06	0.000052	0.0000202	0.000197	0.0688	0.0003	0.000056	0.0466	0.0011200	0.0000052	0.0000	0.0000417	0.00114	0.0210	0.000137	0.00001	0.0745	0.0000009	0.01610000	0.0000957	0.0052	0.000001	0.000001	0.0000256	0.0000081	0.00233	0.0000016	0.0000261	0.000048	0.000843	0.0000178
Percent of Total Dustfall		1.61338	0.00012	0.00201	0.01468	0.00019	0.00022	0.00372	0.00019	2.57249	0.00021	0.00193	0.00075	0.00732	2.55762	0.00959	0.00208	1.73234	0.04164	0.00019	0.00103	0.00155	0.04238	0.78067	0.00509	0.00037	2.76952	0.00003	0.59851	0.00356	0.19331	0.00004	0.00005	0.00095	0.00030	0.08662	0.00006	0.00097	0.00178	0.03134	0.00066
17-Dec-16	1.28	0.01270	0.0000054	0.000055	0.0001070	0.0000055	0.0000055	0.00011	0.0000055	0.0109	1.53E-06	0.000023	0.0000083	0.000026	0.0404	0.0000	0.000055	0.0103	0.0004780	0.0000055	0.0000	0.0000194	0.00055	0.0045	0.0000273	0.000011	0.0205	0.00000019	0.01390000	0.0000333	0.0055	0.0000011	0.0000011	5.58E-06	0.0000017	0.00027	0.0000011	0.0000067	0.000011	0.000229	0.0000072
Percent of Total Dustfall		0.99219	0.00042	0.00430	0.00836	0.00043	0.00043	0.00859	0.00043	0.85156	0.00012	0.00178	0.00065	0.00203	3.15625	0.00133	0.00430	0.80469	0.03734	0.00043	0.00020	0.00152	0.04297	0.34922	0.00213	0.00086	1.60156	0.00001	1.08594	0.00260	0.42969	0.00009	0.00009	0.00044	0.00013	0.02109	0.00009	0.00052	0.00086	0.01789	0.00056
2015 AVERAGE % Total Dustfall		1.80E+00	8.78E-04	9.13E-03	1.41E-02	1.00E-03	1.00E-03	2.02E-02	6.07E-04	5.13E+00	3.00E-04	8.72E-03	1.00E-03	1.49E-02	3.09E+00	2.06E-03	1.05E-02	4.45E+00	5.24E-02	3.66E-03	3.76E-04	1.00E-02	1.08E-01	1.30E+00	6.68E-03	2.02E-03	3.28E+00	2.38E-05	7.93E+00	1.80E-02	1.36E+00	2.73E-04	2.03E-04	1.38E-03	3.80E-04	8.33E-02	2.74E-04	9.41E-04	2.96E-03	4.88E-02	1.37E-03
2016 AVERAGE % Total Dustfall		1.37E+00	2.22E-04	4.46E-03	1.28E-02	4.36E-04	4.38E-04	3.42E-02	4.36E-04	3.80E+00	1.66E-04	2.51E-03	1.02E-03	5.67E-03	3.02E+00	1.86E-03	4.89E-03	3.60E+00	5.25E-02	2.96E-04	4.58E-04	2.19E-03	1.72E-01	1.10E+00	3.95E-03	8.80E-04	2.25E+00	4.32E-05	1.09E+01	1.39E-02	5.47E-01	8.80E-05	9.08E-05	7.53E-04	4.08E-04	6.29E-02	1.55E-04	7.64E-04	2.17E-03	3.78E-02	1.11E-03
2015/2016 AVERAGE % Total Dustfall		1.59E+00	5.50E-04	6.79E-03	1.35E-02	7.19E-04	7.20E-04	2.72E-02	5.21E-04	4.47E+00	2.06E-04	5.62E-03	1.01E-03	1.03E-02	3.04E+00	1.96E-03	7.72E-03	4.02E+00	5.25E-02	1.98E-03	4.17E-04	6.11E-03	1.47E-01	1.20E+00	4.76E-03	1.45E-03	2.66E+00	3.35E-05	9.44E+00	1.60E-02	7.85E-01	1.42E-04	1.47E-04	9.37E-04	3.94E-04	7.10E-02	1.90E-04	8.53E-04	2.57E-03	4.33E-02	1.19E-03

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-10 Dustfall Data for Sample Site DF-P-07 by Chemical (mg/dm² day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
06-Jan-15	0.1	0.00615	0.0000023	0.000012	0.0000294	0.000012	0.000012	0.00023	0.0000012	0.0295	-	0.000014	0.0000049	0.000026	-	0.0000073	0.00012	0.0144	0.000247	0.0000012	0.0000025	0.000012	-	0.0029	-	0.000023	-	0.00000023	0.0119	0.0000357	-	-	0.0000023	-	0.0000023	-	-	0.00000318	0.000023	0.000098	-
Percent of Total Dustfall		6.15000	0.00230	0.01200	0.02940	0.01200	0.01200	0.23000	0.00120	29.50000	-	0.01400	0.00490	0.02600	-	0.00730	0.12000	14.40000	0.24700	0.00120	0.00250	0.01200	-	2.90000	-	0.02300	-	0.00023	11.90000	0.03570	-	-	0.00230	-	0.00230	-	-	0.00318	0.02300	0.09800	-
07-Feb-15	0.24	0.00266	0.0000022	0.000086	0.0000158	0.000011	0.000011	0.00022	0.0000011	0.0094	-	0.000011	0.0000022	0.000276	-	0.0000036	0.00011	0.0096	0.000097	0.0000054	0.0000011	0.000011	-	0.0027	-	0.000022	-	0.00000022	0.0231	0.0000415	-	-	0.0000022	-	0.0000022	-	-	0.00000150	0.000022	0.000065	-
Percent of Total Dustfall		1.10833	0.00092	0.03583	0.00658	0.00458	0.00458	0.09167	0.00046	3.92083	-	0.00458	0.00092	0.11500	-	0.00150	0.04583	4.00000	0.04025	0.00225	0.00046	0.00458	-	1.12500	-	0.00917	-	0.00009	9.62500	0.01729	-	-	0.00092	-	0.00092	-	-	0.00063	0.00917	0.02708	-
08-Mar-15	0.24	0.0045	0.0000012	0.000095	0.0000235	0.000006	0.000006	0.00012	0.0000006	0.0111	-	0.000007	0.0000020	0.000032	-	0.0000052	0.00006	0.0065	0.000100	0.000012	0.0000006	0.000006	-	0.0019	-	0.000012	-	0.00000012	0.0024	0.0000158	-	-	0.0000012	-	0.0000012	-	-	0.00000241	0.000012	0.000046	0
Percent of Total Dustfall		1.86667	0.00050	0.03958	0.00979	0.00250	0.00250	0.05000	0.00025	4.62500	-	0.00292	0.00083	0.01333	-	0.00215	0.02500	2.70833	0.04163	0.00500	0.00025	0.00250	-	0.77083	-	0.00500	-	0.00005	1.00000	0.00658	-	-	0.00050	-	0.00050	-	-	0.00100	0.00500	0.01917	0.00000
07-Apr-15	1.83	0.00249	0.0000019	0.000019	0.0000114	0.0000094	0.0000094	0.00019	9.4E-07	0.0071	-	0.0000094	0.0000026	0.000135	-	0.0000023	0.000094	0.0055	0.000122	0.0000094	9.4E-07	0.0000094	-	0.0010	-	0.000019	-	0.00000019	0.0107	0.0000156	-	-	0.0000019	-	0.0000019	-	-	0.00000063	0.000019	0.000177	-
Percent of Total Dustfall		0.13607	0.00010	0.00104	0.00062	0.00051	0.00051	0.01038	0.00005	0.38962	-	0.00051	0.00014	0.00738	-	0.00012	0.00514	0.30273	0.00667	0.00051	0.00005	0.00051	-	0.05464	-	0.00104	-	0.00001	0.58470	0.00085	-	-	0.00010	-	0.00010	-	-	0.00003	0.00104	0.00967	-
09-May-15	0.42	0.00671	0.0000075	0.000016	0.0000292	0.0000068	0.0000068	0.00014	6.8E-07	0.0220	-	0.000014	0.0000049	0.000045	0.0172	0.0000	0.000068	0.0139	0.0002660	6.8E-07	0.0000	0.0000111	0.00068	0.0028	-	0.000014	0.0111	0.00000014	0.02730000	0.0000427	-	-	0.0000014	-	0.0000014	0.00014	-	1.78E-06	0.000014	0.00018	-
Percent of Total Dustfall		1.59762	0.00179	0.00381	0.00695	0.00162	0.00162	0.03333	0.00016	5.23810	-	0.00326	0.00117	0.01069	4.09524	0.00139	0.01619	3.30952	0.06333	0.00016	0.00048	0.00264	0.16190	0.67381	-	0.00333	2.64286	0.00003	6.50000	0.01017	-	-	0.00033	-	0.00033	0.03333	-	0.00042	0.00333	0.04286	-
08-Jun-15	0.10	0.00126	0.0000023	0.00015	0.0000198	0.0000058	0.0000058	0.00012	5.8E-07	0.0059	-	0.000011	0.0000012	0.000257	0.00192	0.0000	0.000058	0.00351	0.0000364	5.8E-07	0.0000	0.0000058	0.00058	0.0007	-	0.000012	0.00285	0.00000012	0.00260000	0.0000091	-	-	0.0000012	-	0.0000012	0.00012	-	1.9E-07	0.000012	0.000241	-
Percent of Total Dustfall		1.26000	0.00230	0.15000	0.01980	0.00580	0.00580	0.12000	0.00058	5.86000	-	0.01100	0.00120	0.25700	1.92000	0.00232	0.05800	3.51000	0.03640	0.00058	0.00068	0.00580	0.58000	0.72000	-	0.01200	2.85000	0.00012	2.60000	0.00910	-	-	0.00120	-	0.00120	0.12000	-	0.00019	0.01200	0.24100	-
11-Jul-15	0.17	0.00339	0.0000010	0.000113	0.0000305	0.0000052	0.0000052	0.0001	5.2E-07	0.0097	-	0.000007	0.0000020	0.000176	0.00475	0.0000	0.000052	0.00511	0.0000874	5.2E-07	0.0000	0.0000052	0.00052	0.0021	-	0.00001	0.00566	0.0000001	0.00111000	0.0000126	-	-	0.000001	-	0.000001	0.00016	-	0.0000009	0.00001	0.000333	-
Percent of Total Dustfall		1.99412	0.00059	0.06647	0.01794	0.00306	0.00306	0.05882	0.00031	5.70000	-	0.00382	0.00118	0.10353	2.79412	0.00154	0.03059	3.00588	0.05141	0.00031	0.00035	0.00306	0.30588	1.24706	-	0.00588	3.32941	0.00006	0.65294	0.00741	-	-	0.00059	-	0.00059	0.09412	-	0.00053	0.00588	0.19588	-
09-Aug-15	1.00	0.01690	0.0000014	0.000055	0.0001270	0.0000055	0.0000055	0.00011	0.0000055	0.0710	2.66E-06	0.000088	0.0000111	0.00016	0.0272	0.0000	0.000055	0.0368	0.0005760	5.5E-07	0.0000	0.0000265	0.00058	0.0083	0.0000542	0.000011	0.0277	0.00000012	0.00570000	0.000062	0.0055	0.0000011	0.0000011	0.0000122	0.0000026	0.00084	0.0000011	9.05E-06	0.000025	0.000241	0.0000124
Percent of Total Dustfall		1.69000	0.00014	0.00550	0.01270	0.00055	0.00055	0.01100	0.00055	7.10000	0.00027	0.00880	0.00111	0.01600	2.72000	0.00123	0.00550	3.68000	0.05760	0.00006	0.00027	0.00265	0.05800	0.83300	0.00542	0.00110	2.77000	0.00001	0.57000	0.00620	0.55000	0.00011	0.00011	0.00122	0.00026	0.08400	0.00011	0.00091	0.00250	0.02410	0.00124
06-Sep-15	0.28	0.00409	0.0000012	0.000058	0.0000648	0.0000058	0.0000058	0.00012	0.0000058	0.0435	7.1E-07	0.00012	0.0000054	0.00007	0.00698	0.0000	0.000058	0.0217	0.0002440	5.8E-07	0.0000	0.0000412	0.00058	0.0033	0.0000162	0.000012	0.00646	0.00000012	0.02500000	0.00037	0.03	0.0000012	0.0000012	2.13E-06	0.0000012	0.00025	0.0000012	2.25E-06	0.000048	0.000495	0.0000058
Percent of Total Dustfall		1.46071	0.00043	0.02071	0.02314	0.00207	0.00207	0.04286	0.00207	15.53571	0.00025	0.04286	0.00193	0.02500	2.49286	0.00096	0.02071	7.75000	0.08714	0.00021	0.00095	0.01471	0.20714	1.17857	0.00579	0.00429	2.30714	0.00004	8.92857	0.13214	10.71429	0.00043	0.00043	0.00076	0.00043	0.08929	0.00043	0.00080	0.01714	0.17679	0.00207
08-Oct-15	0.53	0.00905	0.0000097	0.00049	0.0000780	0.000049	0.000049	0.00097	0.000049	0.0114	0.0000049	0.000049	0.0000097	0.000097	0.0118	0.0000078	0.00049	0.01	0.0001880	4.9E-07	0.0000049	0.000049	0.0049	0.0049	0.0000232	0.000097	0.0153	0.00000097	0.0049	0.0000434	0.049	0.0000097	0.0000097	0.0000049	0.0000097	0.00097	0.0000097	1.31E-06	0.000097	0.00038	0.000049
Percent of Total Dustfall		1.70755	0.00183	0.09245	0.01472	0.00925	0.00925	0.18302	0.00925	2.15094	0.00092	0.00925	0.00183	0.01830	2.22642	0.00147	0.09245	1.88679	0.03547	0.00009	0.00092	0.00925	0.92453	0.92453	0.00438	0.01830	2.88679	0.00018	0.92453	0.00819	9.24528	0.00183	0.00183	0.00092	0.00183	0.18302	0.00183	0.00025	0.01830	0.07170	0.00925
17-Nov-15	0.38	0.00723	0.0000008	0.000051	0.0000770	0.000004	0.000004	0.00008	0.000004	0.0215	8.2E-07	0.000048	0.0000056	0.000017	0.0115	0.0000051	0.00004	0.0123	0.0002400	0.00004	0.0000	0.0002	0.0004	0.0039	0.0000221	0.000008	0.0117	0.000000095	0.00676000	0.000028	0.004	0.0000008	0.0000008	0.0000034	9.2E-07	0.00035	0.0000008	2.19E-06	0.0000103	0.00024	0.000004
Percent of Total Dustfall		1.90263	0.00021	0.01342	0.02026	0.00105	0.00105	0.02105	0.00105	5.65789	0.00022	0.01263	0.00147	0.00434	3.02632	0.00134	0.01053	3.23684	0.06316	0.01053	0.00033	0.05263	0.10526	1.03158	0.00582	0.00211	3.07895	0.00003	1.77895	0.00737	1.05263	0.00021	0.00021	0.00089	0.00024	0.09211	0.00021	0.00058	0.00271	0.06316	0.00105
28-Dec-15	0.12	0.00122	0.0000008	0.000039	0.0000121	0.0000039	0.0000039	0.000077	0.0000039	0.0082	3.9E-07	0.000058	0.0000015	0.0001	0.00239	0.0000	0.000039	0.00911	0.0000693	0.000039	3.9E-07	0.0000039	0.00039	0.0022	4.16E-06	0.0000077	0.00218	0.000000077	0.02770000	0.000084	0.0039	7.7E-07	7.7E-07	7.1E-07	7.7E-07	0.000077	7.7E-07	5.03E-07	0.0000077	0.000085	0.0000039
Percent of Total Dustfall		1.01667	0.00064	0.03250	0.01008	0.00325	0.00325	0.06417	0.00325	6.80000	0.00033	0.04833	0.00125	0.08333	1.99167	0.00082	0.03250	7.59167	0.05775	0.03250	0.00033	0.00325	0.32500	1.79167	0.00347	0.00642	1.81667	0.00006	23.08333	0.07000	3.25000	0.00064	0.00064	0.00059	0.00064	0.06417	0.00064	0.00042	0.00642	0.07083	0.00325
19-Jan-16	0.10	0.00082	0.0000015	0.000073	0.0000120	0.0000073	0.0000073	0.0015	0.0000073	0.0042	7.3E-07	0.0000073	0.0000015	0.00015	0.00257	0.0000012	0.000073	0.00797	0.0000948	0.0000073	7.3E-07	0.0000127	0.0058	0.0021	0.0000018	0.000015	0.00122	0.00000015	0.04300000	0.000073	0.0073	0.0000015	0.0000015	1.02E-06	0.000015	0.00015	0.0000015	3.5E-07	0.000015	0.000114	0.0000073
Percent of Total Dustfall		0.82000	0.00150	0.07300	0.01200	0.00730	0.00730	1.50000	0.00730	4.20000	0.00073	0.00730	0.00150	0.15000	2.57000	0.00120	0.07300	7.97000	0.09480	0.00730	0.00073	0.01270	5.80000	2.08000	0.00180	0.01500	1.22000	0.00015	43.00000	0.07300	7.30000	0.00150	0.00150	0.00102	0.01500	0.15000	0.00150	0.00035	0.01500	0.11400	0.00730
16-Feb-16	0.27	0.00145	0.0000011	0.000057	0.0000115	0.0000057	0.0000057	0.00011	0.0000057	0.0037	5.7E-07	0.000007	0.0000027	0.0001	0.00524	0.0000	0.000057	0.00278	0.0001920	0.0000057	5.7E-07	0.000034	0.0046	0.0006	0.000002	0.000011	0.00196	0.00000011	0.013	0.0000104	0.0057	0.0000011	0.0000011	5.7E-07	0.0000011	0.00011	0.0000011	1.11E-06	0.000011	0.00024	0.0000057
Percent of Total Dustfall		0.53704	0.00041	0.02111	0.00426	0.00211	0.00211	0.04074	0.00211	1.38148	0.00021	0.00248	0.00100	0.03704	1.94074	0.00044	0.02111	1.02963	0.07111	0.00211	0.00021	0.01259	1.70370	0.21852	0.00074	0.00407	0.72593	0.00004	4.81481	0.00385	2.11111	0.00041	0.00041	0.00021	0.00041	0.04074	0.00041	0.00041	0.00407	0.08889	0.00211
14-Mar-16	0.66	0.00536	0.0000012	0.000059	0.0000214	0.0000059	0.0000059	0.00012	0.0000059	0.0139	5.9E-07	0.000034	0.0000095	0.000020	0.0203	0.0000	0.000059	0.0305	0.0005700	0.0000059	0.0000047	0.0000202	0.00072	0.0085	0.000006	0.000012	0.00687	0.00000012	0.15500000	0.000175	0.0059	0.0000012	0.0000012	1.52E-06	0.0000012	0.00012	0.0000012	4.99E-06	0.000012	0.000095	0.0000059
Percent of Total Dustfall		0.81212	0.00018	0.00894	0.00324	0.00089	0.00089	0.01818	0.00089	2.10606	0.00009	0.00511	0.00144	0.00303	3.07576	0.00065	0.00894	4.62121	0.08636	0.00089	0.00071	0.00306	0.10909	1.29394	0.00091	0.00182	1.04091	0.00002	23.48485	0.02652	0.89394	0.00018	0.00018	0.00023	0.00018	0.01818	0.00018	0.00076	0.00182	0.01439	0.00089
11-Apr-16	0.47	0.00511	0.0000012	0.000058	0.0000264	0.0000058	0.0000058	0.00012	0.0000058	0.0048	5.8E-07	0.000015	0.0000083	0.000023	0.0185	0.0000	0.000058	0.00628	0.0003480	0.0000058	0.0000047	0.0000139	0.00058	0.0022	0.0000059	0.000012	0.00636	0.00000012	0.01670000	0.0000362	0.0058	0.0000012	0.0000012	0.0000016	0.0000012	0.00012	0.0000012	1.89E-06	0.000012	0.000063	0.0000058
Percent of Total Dustfall		1.08723	0.00026	0.01234	0.00562	0.00123	0.00123	0.02553	0.00123	1.02979	0.00012	0.00323	0.00177	0.00489	3.93617	0.00047	0.01234	1.33617	0.07404	0.00123	0.00100	0.00296	0.12340	0.47021	0.00126	0.00255	1.35319	0.00003	3.55319	0.00770	1.23404	0.00026	0.00026	0.00034	0.00026	0.02553	0.00026	0.00040	0.00255	0.01340	0.00123
09-May-16	0.98	0.01550	0.0000012	0.000092	0.0001180	0.0000058	0.0000058	0.00012	0.0000058	0.0260	0.000001	0.000033	0.0000172	0.000031	0.0361	0.0000	0.000058	0.0302	0.0010900	0.0000058	0.0000	0.0000386	0.00179	0.0090	0.0000332	0.000012	0.023	0.00000012	0.08420000	0.0000977	0.0058	0.0000012	0.0000012	5.49E-06	0.0000024	0.00057	0.0000012	6.53E-06	0.000017	0.000203	0.0000072
Percent of Total Dustfall		1.58163	0.00012	0.00939	0.01204	0.00059	0.00059	0.01224	0.00059	2.65306	0.00010	0.00334	0.00176	0.00316	3.68367	0.00070	0.00592	3.08163	0.11122	0.00059	0.00016	0.00394	0.18265	0.91837	0.00339	0.00122	2.34694	0.00001	8.59184	0.00997	0.59184	0.00012	0.00012	0.00056	0.00024	0.05816	0.00012	0.00067	0.00173	0.02071	0.00073
11-Jun-16	0.13	0.00163	0.0000009	0.000073	0.0000363	0.0000047	0.0000047	0.000094	0.0000047	0.0051	4.7E-07	0.000008	0.0000015	0.000011	0.00263	0.0000	0.000047	0.00397	0.0000646	0.0000047	4.7E-07	0.0000047	0.00047	0.0013	7.14E-06	0.0000094	0.00331	0.000000094	0.0085	0.000011	0.0047	9.4E-07	9.4E-07	4.7E-07	0.0000066	0.000098	0.0000066	4.7E-07	0.0000094	0.000278	0.00015
Percent of Total Dustfall		1.25385	0.00072	0.05615	0.02792	0.00362	0.00362	0.07231	0.00362	3.93077	0.00036	0.00592	0.00113	0.00869	2.02308	0.00072	0.03615	3.05385	0.04969	0.00362	0.00036	0.00362	0.36154	1.03077	0.00549	0.00723	2.54615	0.00007	6.53846	0.00846	3.61538	0.00072	0.00072	0.00036	0.00508	0.07538	0.00508	0.00036	0.00723	0.21385	0.11538
12-Jul-16	0.45	0.00762	0.0000011	0.000053	0.0000530	0.0000053	0.0000053	0.00011	0.0000053	0.0239	1.02E-06	0.000018	0.0000077	0.000026	0.0171	0.0000	0.000053	0.0147	0.0004260	5.3E-07	0.0000	0.0000186	0.00053	0.0032	0.0000207	0.000011	0.0121	0.0000011	0.00236000	0.000022	0.0053	0.0000011	0.0000011	3.58E-06	0.0000096	0.00035	0.000017	4.05E-06	0.000011	0.00039	0.0000053
Percent of Total Dustfall		1.69333	0.00024	0.01178	0.01178	0.00118	0.00118	0.02444	0.00118	5.31111	0.00023	0.00409	0.00171	0.00578	3.80000	0.00132	0.01178	3.26667	0.09467	0.00012	0.00033	0.00413	0.11778	0.70889	0.00460	0.00244	2.68889	0.00024	0.52444	0.00489	1.17778	0.00024	0.00024	0.00080	0.00213	0.07778	0.00378	0.00090	0.00244	0.08667	0.00118
15-Aug-16	0.42	0.00447	0.0000009	0.000047	0.0000773	0.0000047	0.0000047	0.000093	0.0000047	0.0242	5.2E-07	0.000010	0.0000064	0.000065	0.012	0.0000	0.000047	0.0128	0.0003420	4.7E-07	0.0000	0.0000188	0.00047	0.0026	0.0000135	0.0000093	0.00653	0.000000093	0.00850000	0.000025	0.0073	9.3E-07	9.3E-07	1.53E-06	9.5E-07	0.000244	9.3E-07	2.87E-06	0.0000199	0.000524	0.0000047
Percent of Total Dustfall		1.06429	0.00022	0.01119	0.01840	0.00112	0.00112	0.02214	0.00112	5.76190	0.00012	0.00245	0.00153	0.01548	2.85714	0.00065	0.01119	3.04762	0.08143	0.00011	0.00025	0.00448	0.11190	0.61190	0.00321	0.00221	1.55476	0.00002	2.02381	0.00595	1.73810	0.00022	0.00022	0.00036	0.00023	0.05810	0.00022	0.00068	0.00474	0.12476	0.00112
22-Sep-16	0.34	0.00442	0.0000008	0.000042	0.0000572	0.0000042	0.0000042	0.000084	0.0000042	0.0203	4.9E-07	0.000011	0.0000059	0.000013	0.0115	0.0000	0.000042	0.0112	0.0002790	4.2E-07	0.0000	0.0000197	0.00042	0.0024	0.0000142	0.0000084	0.00628	0.000000084	0.00622000	0.000022	0.0057	8.4E-07	8.4E-07	1.88E-06	8.4E-07	0.000258	0.0000059	2.06E-06	0.0000286	0.000407	0.0000042
Percent of Total Dustfall		1.30000	0.00025	0.01235	0.01682	0.00124	0.00124	0.02471	0.00124	5.97059	0.00014	0.00315	0.00172	0.00379	3.38235	0.00084	0.01235	3.29412	0.08206	0.00012	0.00027	0.00579	0.12353	0.70588	0.00418	0.00247	1.84706	0.00002	1.82941	0.00647	1.67647	0.00025	0.00025	0.00055	0.00025	0.07588	0.00174	0.00061	0.00841	0.11971	0.00124
18-Oct-16	1.00	0.00630	0.0000012	0.000064	0.0000646	0.0000061	0.0000061	0.00012	0.0000061	0.0129	6.2E-07	0.000010	0.0000047	0.000025	0.013	0.0000	0.000061	0.00906	0.0002040	0.0000061	0.0000	0.0000126	0.00061	0.0030	0.0000178	0.000012	0.00975	0.00000012	0.00403000	0.0000195	0.0061	0.0000012	0.0000012	2.14E-06	0.0000012	0.00032	0.0000012	1.82E-06	0.000019	0.000266	0.0000061
Percent of Total Dustfall		0.63000	0.00012	0.00640	0.00646	0.00061	0.00061	0.01200	0.00061	1.29000	0.00006	0.00100	0.00047	0.00250	1.30000	0.00073	0.00610	0.90600	0.02040	0.00061	0.00009	0.00126	0.06100	0.29900	0.00178	0.00120	0.97500	0.00001	0.40300	0.00195	0.61000	0.00012	0.00012	0.00021	0.00012	0.03200	0.00012	0.00018	0.00190	0.02660	0.00061
18-Nov-16	0.76	0.00898	0.0000010	0.000053	0.0000762	0.0000051	0.0000051	0.0001	0.0000051	0.0129	9.7E-07	0.000011	0.0000069	0.000019	0.0179	0.0000	0.000051	0.00826	0.0003110	0.0000051	0.0000	0.000015	0.00051	0.0034	0.0000205	0.00001	0.0151	0.0000001	0.00530000	0.0000269	0.0051	0.000001	0.000001	4.74E-06	0.0000011	0.00021	0.000001	5.17E-06	0.00001	0.000079	0.0000051
Percent of Total Dustfall		1.18158	0.00013	0.00697	0.01003	0.00067	0.00067	0.01316	0.00067	1.69737	0.00013	0.00142	0.00091	0.00250	2.35526	0.00145	0.00671	1.08684	0.04092	0.00067	0.00014	0.00197	0.06711	0.44342	0.00270	0.00132	1.98684	0.00001	0.69737	0.00354	0.67105	0.00013	0.00013	0.00062	0.00014	0.02763	0.00013	0.00068	0.00132	0.01039	0.00067
17-Dec-16	0.34	0.00373	0.0000011	0.000055	0.0000666	0.0000055	0.0000055	0.00011	0.0000055	0.0040	5.5E-07	0.000006	0.0000022	0.000011	0.00804	0.0000	0.000055	0.00334	0.0001170	0.0000055	5.5E-07	0.0000058	0.00055	0.0016	0.0000101	0.000011	0.00621	0.00000011	0.00442000	0.0000126	0.0055	0.0000011	0.0000011	1.14E-06	0.0000011	0.00011	0.0000011	1.34E-06	0.000011	0.000054	0.0000055
Percent of Total Dustfall		1.09706	0.00032	0.01618	0.01959	0.00162	0.00162	0.03235	0.00162	1.18824	0.00016	0.00179	0.00065	0.00324	2.36471	0.00130	0.01618	0.98235	0.03441	0.00162	0.00016	0.00171	0.16176	0.47059	0.00297	0.00324	1.82647	0.00003	1.30000	0.00371	1.61765	0.00032	0.00032	0.00034	0.00032	0.03235	0.00032	0.00039	0.00324	0.01588	0.00162
2015 AVERAGE % Total Dustfall		1.82E+00	9.79E-04	3.94E-02	1.43E-02	3.85E-03	3.85E-03	7.64E-02	1.60E-03	7.71E+00	3.97E-04	1.35E-02	1.49E-03	5.67E-02	2.66E+00	1.84E-03	3.85E-02	4.62E+00	6.57E-02	4.45E-03	6.30E-04	9.47E-03	3.33E-01	1.10E+00	4.97E-03	7.64E-03	2.71E+00	7.68E-05	5.68E+00	2.59E-02	4.96E+00	6.44E-04	7.64E-04	8.78E-04	7.79E-04	9.50E-02	6.44E-04	7.45E-04	8.87E-03	8.67E-02	2.81E-03
2016 AVERAGE % Total Dustfall		1.09E+00	3.73E-04	2.05E-02	1.23E-02	1.85E-03	1.85E-03	1.50E-01	1.85E-03	3.04E+00	2.05E-04	3.44E-03	1.30E-03	2.00E-02	2.77E+00	8.74E-04	1.85E-02	2.81E+00	7.01E-02	1.58E-03	3.67E-04	4.85E-03	7.44E-01	7.71E-01	2.75E-03	3.73E-03	1.68E+00	5.57E-05	8.06E+00	1.30E-02	1.94E+00	3.73E-04	3.73E-04	4.67E-04	2.03E-03	5.60E-02	1.15E-03	5.33E-04	4.54E-03	7.08E-02	1.12E-02
2015/2016 AVERAGE % Total Dustfall		1.46E+00	6.76E-04	3.00E-02	1.33E-02	2.85E-03	2.85E-03	1.13E-01	1.72E-03	5.37E+00	2.62E-04	8.47E-03	1.40E-03	3.83E-02	2.73E+00	1.36E-03	2.85E-02	3.71E+00	6.79E-02	3.02E-03	4.99E-04	7.16E-03	5.80E-01	9.38E-01	3.41E-03	5.68E-03	2.09E+00	6.62E-05	6.87E+00	1.95E-02	2.83E+00	4.53E-04	5.68E-04	5.88E-04	1.40E-03	7.16E-02	1.00E-03	6.39E-04	6.71E-03	7.87E-02	8.39E-03

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-11 Percent of Total Dustfall for Sample Sites DF-P-01, DF-P-05, and DF-P-07 by Chemical (mg/dm^2 day)

Sample Site	Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
DF-P-01	06-Jan-15	Percent of Total Dustfall	1.35E+00	3.97E-04	1.90E-02	9.07E-03	1.90E-03	1.90E-03	3.79E-02	1.90E-04	6.83E+00	-	3.10E-03	9.66E-04	6.55E-03	-	1.71E-03	1.90E-02	3.19E+00	5.16E-02	1.90E-04	3.97E-04	1.90E-03	-	6.72E-01	-	3.79E-03	-	3.79E-05	2.71E+00	8.00E-03	-	-	3.79E-04	-	3.79E-04	-	-	6.69E-04	3.79E-03	2.98E-02	-
DF-P-05	06-Jan-15	Percent of Total Dustfall	2.97E+00	4.89E-03	2.00E-03	2.91E-02	2.00E-03	2.00E-03	4.00E-02	2.00E-04	1.04E+01	-	6.92E-03	1.43E-03	1.63E-02	-	5.94E-03	2.00E-02	6.14E+00	7.82E-02	2.00E-04	7.54E-04	3.85E-03	-	1.74E+00	-	4.00E-03	-	4.00E-05	9.40E+00	1.91E-02	-	-	4.00E-04	-	1.45E-03	-	-	1.80E-03	4.00E-03	1.31E-01	-
DF-P-07	06-Jan-15	Percent of Total Dustfall	6.15E+00	2.30E-03	1.20E-02	2.94E-02	1.20E-02	1.20E-02	2.30E-01	1.20E-03	2.95E+01	-	1.40E-02	4.90E-03	2.60E-02	-	7.30E-03	1.20E-01	1.44E+01	2.47E-01	1.20E-03	2.50E-03	1.20E-02	-	2.90E+00	-	2.30E-02	-	2.30E-04	1.19E+01	3.57E-02	-	-	2.30E-03	-	2.30E-03	-	-	3.18E-03	2.30E-02	9.80E-02	-
DF-P-01	07-Feb-15	Percent of Total Dustfall	1.20E+00	6.61E-04	3.06E-02	4.81E-03	3.39E-03	3.39E-03	6.61E-02	3.39E-04	3.29E+00	-	3.39E-03	6.61E-04	4.63E-02	-	1.52E-03	3.39E-02	3.45E+00	3.55E-02	1.61E-03	1.95E-03	3.39E-03	-	9.35E-01	-	6.61E-03	-	6.61E-05	7.81E+00	1.13E-02	-	-	6.61E-04	-	6.61E-04	-	-	5.60E-04	6.61E-03	1.94E-02	-
DF-P-05	07-Feb-15	Percent of Total Dustfall	1.26E+00	3.41E-04	1.55E-02	6.57E-03	1.71E-03	1.71E-03	3.41E-02	1.71E-04	2.26E+00	-	1.71E-03	7.21E-04	7.05E-03	-	1.91E-03	1.71E-02	3.59E+00	3.25E-02	8.53E-04	4.81E-04	1.71E-03	-	1.23E+00	-	3.41E-03	-	3.41E-05	9.69E+00	1.28E-02	-	-	3.41E-04	-	3.41E-04	-	-	6.62E-04	3.41E-03	2.87E-02	-
DF-P-07	07-Feb-15	Percent of Total Dustfall	1.11E+00	9.17E-04	3.58E-02	6.58E-03	4.58E-03	4.58E-03	9.17E-02	4.58E-04	3.92E+00	-	4.58E-03	9.17E-04	1.15E-01	-	1.50E-03	4.58E-02	4.00E+00	4.03E-02	2.25E-03	4.58E-04	4.58E-03	-	1.13E+00	-	9.17E-03	-	9.17E-05	9.63E+00	1.73E-02	-	-	9.17E-04	-	9.17E-04	-	-	6.25E-04	9.17E-03	2.71E-02	-
DF-P-01	08-Mar-15	Percent of Total Dustfall	1.85E+00	1.14E-03	4.52E-02	8.67E-03	2.86E-03	2.86E-03	5.71E-02	2.86E-04	5.05E+00	-	4.81E-03	1.10E-03	8.00E-02	-	2.30E-03	2.86E-02	3.36E+00	5.24E-02	5.71E-03	2.86E-04	2.86E-03	-	8.71E-01	-	5.71E-03	-	5.71E-05	1.71E+00	6.90E-03	-	-	5.71E-04	-	5.71E-04	-	-	7.71E-04	5.71E-03	4.57E-02	0.00E+00
DF-P-05	08-Mar-15	Percent of Total Dustfall	1.58E+00	3.87E-04	1.53E-02	7.52E-03	9.68E-04	9.68E-04	1.94E-02	9.68E-05	2.34E+00	-	3.42E-03	8.39E-04	1.53E-02	-	2.39E-03	9.68E-03	1.94E+00	3.87E-02	1.94E-03	3.16E-04	1.76E-03	-	7.68E-01	-	1.94E-03	-	2.58E-05	8.44E-01	3.84E-03	-	-	1.94E-04	-	3.55E-04	-	-	8.21E-04	1.94E-03	3.34E-02	0.00E+00
DF-P-07	08-Mar-15	Percent of Total Dustfall	1.87E+00	5.00E-04	3.96E-02	9.79E-03	2.50E-03	2.50E-03	5.00E-02	2.50E-04	4.63E+00	-	2.92E-03	8.33E-04	1.33E-02	-	2.15E-03	2.50E-02	2.71E+00	4.16E-02	5.00E-03	2.50E-04	2.50E-03	-	7.71E-01	-	5.00E-03	-	5.00E-05	1.00E+00	6.58E-03	-	-	5.00E-04	-	5.00E-04	-	-	1.00E-03	5.00E-03	1.92E-02	0.00E+00
DF-P-01	07-Apr-15	Percent of Total Dustfall	8.77E+00	4.20E-03	1.90E-01	4.41E-02	9.70E-03	9.70E-03	1.90E-01	9.70E-04	2.64E+01	-	2.69E-02	6.30E-03	1.87E-01	-	1.98E-02	9.70E-02	2.06E+01	3.24E-01	9.70E-03	3.33E-03	1.68E-02	-	4.78E+00	-	1.90E-02	-	2.80E-04	3.55E+01	5.31E-02	-	-	1.90E-03	-	3.40E-03	-	-	2.24E-03	1.90E-02	5.13E-01	-
DF-P-05	07-Apr-15	Percent of Total Dustfall	1.17E-01	2.50E-05	1.83E-04	4.08E-04	9.04E-05	9.04E-05	1.83E-03	9.04E-06	2.08E-01	-	3.70E-04	8.08E-05	6.24E-04	-	1.70E-04	9.04E-04	1.99E-01	3.96E-03	9.04E-05	3.73E-05	2.15E-04	-	4.93E-02	-	1.83E-04	-	1.83E-06	3.35E-01	4.87E-04	-	-	1.83E-05	-	2.37E-04	-	-	3.18E-05	1.83E-04	6.67E-03	-
DF-P-07	07-Apr-15	Percent of Total Dustfall	1.36E-01	1.04E-04	1.04E-03	6.23E-04	5.14E-04	5.14E-04	1.04E-02	5.14E-05	3.90E-01	-	5.14E-04	1.42E-04	7.38E-03	-	1.23E-04	5.14E-03	3.03E-01	6.67E-03	5.14E-04	5.14E-05	5.14E-04	-	5.46E-02	-	1.04E-03	-	1.04E-05	5.85E-01	8.52E-04	-	-	1.04E-04	-	1.04E-04	-	-	3.44E-05	1.04E-03	9.67E-03	-
DF-P-01	09-May-15	Percent of Total Dustfall	1.88E+00	3.25E-04	4.26E-04	3.95E-03	8.53E-05	8.53E-05	2.31E-03	9.87E-06	3.41E+00	-	5.38E-03	1.38E-03	4.63E-03	4.46E+00	8.17E-04	2.95E-03	2.53E+00	6.52E-02	8.53E-06	4.41E-04	3.09E-03	6.36E-02	3.25E-01	-	1.71E-04	2.42E+00	1.91E-05	1.38E+00	4.09E-03	-	-	1.71E-05	-	1.16E-04	2.68E-02	-	2.74E-04	2.36E-03	1.28E-02	-
DF-P-05	09-May-15	Percent of Total Dustfall	2.15E+00	4.14E-04	4.84E-03	4.92E-03	1.48E-04	1.48E-04	3.15E-03	1.48E-05	3.12E+00	-	5.54E-03	1.32E-03	1.44E-02	4.75E+00	9.98E-04	2.98E-03	2.86E+00	6.66E-02	1.48E-05	6.42E-04	3.10E-03	6.97E-02	5.23E-01	-	2.91E-04	2.98E+00	2.30E-05	3.27E+00	6.10E-03	-	-	2.91E-05	-	1.55E-04	4.16E-02	-	3.85E-04	2.93E-03	2.42E-02	-
DF-P-07	09-May-15	Percent of Total Dustfall	1.60E+00	1.79E-03	3.81E-03	6.95E-03	1.62E-03	1.62E-03	3.33E-02	1.62E-04	5.24E+00	-	3.26E-03	1.17E-03	1.07E-02	4.10E+00	1.39E-03	1.62E-02	3.31E+00	6.33E-02	1.62E-04	4.76E-04	2.64E-03	1.62E-01	6.74E-01	-	3.33E-03	2.64E+00	3.33E-05	6.50E+00	1.02E-02	-	-	3.33E-04	-	3.33E-04	3.33E-02	-	4.24E-04	3.33E-03	4.29E-02	-
DF-P-01	08-Jun-15	Percent of Total Dustfall	1.52E+00	1.40E-04	9.15E-03	7.13E-03	3.54E-04	3.54E-04	7.32E-03	3.54E-05	4.46E+00	-	4.17E-03	8.11E-04	1.02E-02	2.35E+00	8.90E-04	3.54E-03	2.52E+00	3.91E-02	3.54E-05	2.20E-04	2.40E-03	4.15E-02	5.88E-01	-	7.32E-04	2.77E+00	1.10E-05	3.32E-01	4.26E-03	-	-	7.32E-05	-	1.28E-04	4.15E-02	-	3.91E-04	1.83E-03	1.54E-02	-
DF-P-05	08-Jun-15	Percent of Total Dustfall	1.58E+00	8.55E-05	3.42E-04	7.55E-03	2.16E-04	2.16E-04	4.46E-03	2.16E-05	3.45E+00	-	3.94E-03	7.58E-04	4.57E-03	2.22E+00	1.03E-03	3.09E-03	2.25E+00	3.98E-02	2.16E-05	2.32E-04	2.37E-03	2.75E-02	6.84E-01	-	4.46E-04	2.98E+00	8.92E-06	3.23E-01	3.72E-03	-	-	4.46E-05	-	2.60E-04	5.50E-02	-	6.10E-04	2.08E-03	2.03E-02	-
DF-P-07	08-Jun-15	Percent of Total Dustfall	1.26E+00	2.30E-03	1.50E-01	1.98E-02	5.80E-03	5.80E-03	1.20E-01	5.80E-04	5.86E+00	-	1.10E-02	1.20E-03	2.57E-01	1.92E+00	2.32E-03	5.80E-02	3.51E+00	3.64E-02	5.80E-04	6.80E-04	5.80E-03	5.80E-01	7.20E-01	-	1.20E-02	2.85E+00	1.20E-04	2.60E+00	9.10E-03	-	-	1.20E-03	-	1.20E-03	1.20E-01	-	1.90E-04	1.20E-02	2.41E-01	-
DF-P-01	11-Jul-15	Percent of Total Dustfall	1.31E+00	6.33E-05	2.06E-03	1.10E-02	9.40E-05	9.40E-05	2.17E-03	9.40E-06	2.12E+00	-	1.84E-03	6.80E-04	2.95E-03	1.90E+00	4.74E-04	1.59E-03	1.53E+00	3.07E-02	9.40E-06	8.30E-05	1.48E-03	3.27E-02	6.60E-01	-	1.81E-04	2.12E+00	5.97E-06	1.02E-01	2.48E-03	-	-	2.17E-05	-	5.24E-05	7.07E-02	-	2.60E-04	1.65E-03	9.55E-03	-
DF-P-05	11-Jul-15	Percent of Total Dustfall	1.44E+00	1.28E-04	3.24E-03	8.96E-03	1.55E-04	1.55E-04	2.98E-03	1.55E-05	2.14E+00	-	2.64E-03	6.70E-04	2.63E-03	1.98E+00	7.95E-04	2.32E-03	1.80E+00	3.42E-02	1.55E-05	1.67E-04	1.68E-03	2.80E-02	6.88E-01	-	2.98E-04	2.41E+00	6.85E-06	1.94E-01	2.96E-03	-	-	2.98E-05	-	1.19E-04	6.88E-02	-	5.80E-04	1.88E-03	2.63E-02	-
DF-P-07	11-Jul-15	Percent of Total Dustfall	1.99E+00	5.88E-04	6.65E-02	1.79E-02	3.06E-03	3.06E-03	5.88E-02	3.06E-04	5.70E+00	-	3.82E-03	1.18E-03	1.04E-01	2.79E+00	1.54E-03	3.06E-02	3.01E+00	5.14E-02	3.06E-04	3.47E-04	3.06E-03	3.06E-01	1.25E+00	-	5.88E-03	3.33E+00	5.88E-05	6.53E-01	7.41E-03	-	-	5.88E-04	-	5.88E-04	9.41E-02	-	5.29E-04	5.88E-03	1.96E-01	-
DF-P-01	09-Aug-15	Percent of Total Dustfall	1.94E+00	1.26E-04	4.86E-03	1.69E-02	4.86E-04	4.86E-04	9.91E-03	4.86E-04	3.87E+00	2.13E-04	7.84E-03	1.26E-03	1.44E-02	3.07E+00	7.30E-04	4.86E-03	2.81E+00	5.48E-02	4.86E-06	6.13E-05	2.65E-03	5.59E-02	9.55E-01	5.75E-03	9.91E-04	2.92E+00	9.91E-06	3.42E-01	3.87E-03	4.86E-01	9.91E-05	9.91E-05	1.16E-03	1.35E-04	1.05E-01	9.91E-05	5.19E-04	2.43E-03	1.01E-02	8.20E-04
DF-P-05	09-Aug-15	Percent of Total Dustfall	1.82E+00	1.67E-04	6.91E-04	1.33E-02	6.91E-05	6.91E-05	1.88E-03	6.91E-05	3.15E+00	2.83E-04	2.81E-03	8.40E-04	2.76E-03	2.54E+00	1.05E-03	2.90E-03	2.22E+00	4.76E-02	6.91E-06	1.80E-04	2.02E-03	4.13E-02	8.61E-01	5.85E-03	1.38E-04	2.84E+00	6.91E-06	2.29E-01	4.95E-03	1.08E-01	1.38E-05	3.52E-05	1.36E-03	1.42E-04	9.66E-02	2.14E-05	1.20E-03	2.34E-03	1.20E-02	8.58E-04
DF-P-07	09-Aug-15	Percent of Total Dustfall	1.69E+00	1.40E-04	5.50E-03	1.27E-02	5.50E-04	5.50E-04	1.10E-02	5.50E-04	7.10E+00	2.66E-04	8.80E-03	1.11E-03	1.60E-02	2.72E+00	1.23E-03	5.50E-03	3.68E+00	5.76E-02	5.50E-05	2.69E-04	2.65E-03	5.80E-02	8.33E-01	5.42E-03	1.10E-03	2.77E+00	1.20E-05	5.70E-01	6.20E-03	5.50E-01	1.10E-04	1.10E-04	1.22E-03	2.60E-04	8.40E-02	1.10E-04	9.05E-04	2.50E-03	2.41E-02	1.24E-03
DF-P-01	06-Sep-15	Percent of Total Dustfall	1.49E+00	2.17E-04	7.54E-03	1.38E-02	7.54E-04	7.54E-04	1.53E-02	7.54E-04	5.44E+00	1.97E-04	1.53E-02	1.19E-03	9.07E-03	2.59E+00	8.61E-04	7.54E-03	3.10E+00	5.35E-02	7.54E-06	7.54E-05	2.38E-03	7.54E-02	7.11E-01	4.37E-03	1.53E-03	2.23E+00	1.53E-05	6.82E-01	4.73E-02	7.54E-01	1.53E-04	1.53E-04	8.43E-04	1.53E-04	7.92E-02	1.53E-04	6.09E-04	2.17E-03	1.43E-02	7.54E-04
DF-P-05	06-Sep-15	Percent of Total Dustfall	1.53E+00	1.14E-04	5.62E-03	1.27E-02	5.62E-04	5.62E-04	1.14E-02	5.62E-04	3.63E+00	2.40E-04	1.14E-02	7.81E-04	6.76E-03	2.29E+00	1.05E-03	5.62E-03	2.30E+00	4.28E-02	5.62E-06	1.55E-04	1.73E-03	5.62E-02	7.83E-01	5.30E-03	1.14E-03	2.40E+00	1.14E-05	7.47E-01	3.52E-02	5.62E-01	1.14E-04	1.14E-04	1.01E-03	1.14E-04	8.57E-02	1.14E-04	1.34E-03	2.29E-03	1.89E-02	6.19E-04
DF-P-07	06-Sep-15	Percent of Total Dustfall	1.46E+00	4.29E-04	2.07E-02	2.31E-02	2.07E-03	2.07E-03	4.29E-02	2.07E-03	1.55E+01	2.54E-04	4.29E-02	1.93E-03	2.50E-02	2.49E+00	9.57E-04	2.07E-02	7.75E+00	8.71E-02	2.07E-04	9.50E-04	1.47E-02	2.07E-01	1.18E+00	5.79E-03	4.29E-03	2.31E+00	4.29E-05	8.93E+00	1.32E-01	1.07E+01	4.29E-04	4.29E-04	7.61E-04	4.29E-04	8.93E-02	4.29E-04	8.04E-04	1.71E-02	1.77E-01	2.07E-03
DF-P-01	08-Oct-15	Percent of Total Dustfall	2.67E+00	6.37E-04	3.18E-02	2.59E-02	3.18E-03	3.18E-03	6.37E-02	3.18E-03	5.76E+00	3.18E-04	1.52E-02	1.91E-03	6.37E-03	3.66E+00	1.31E-03	3.18E-02	3.46E+00	6.75E-02	3.18E-05	1.12E-03	3.50E-02	3.18E-01	1.38E+00	8.47E-03	6.37E-03	4.43E+00	6.37E-05	6.05E-01	6.50E-03	3.18E+00	6.37E-04	6.37E-04	1.28E-03	6.37E-04	1.40E-01	6.37E-04	5.80E-04	6.37E-03	3.06E-02	3.18E-03
DF-P-05	08-Oct-15	Percent of Total Dustfall	1.93E+00	4.10E-04	2.05E-02	1.65E-02	2.05E-03	2.05E-03	4.10E-02	2.05E-03	6.07E+00	2.61E-04	4.15E-03	1.03E-03	4.96E-03	2.86E+00	1.09E-03	2.05E-02	3.12E+00	5.17E-02	2.05E-05	2.52E-04	8.33E-02	2.05E-01	9.23E-01	5.94E-03	4.10E-03	3.28E+00	4.10E-05	8.97E-01	5.04E-03	2.05E+00	4.10E-04	4.10E-04	1.00E-03	4.10E-04	9.15E-02	4.10E-04	7.56E-04	4.10E-03	5.85E-02	2.05E-03
DF-P-07	08-Oct-15	Percent of Total Dustfall	1.71E+00	1.83E-03	9.25E-02	1.47E-02	9.25E-03	9.25E-03	1.83E-01	9.25E-03	2.15E+00	9.25E-04	9.25E-03	1.83E-03	1.83E-02	2.23E+00	1.47E-03	9.25E-02	1.89E+00	3.55E-02	9.25E-05	9.25E-04	9.25E-03	9.25E-01	9.25E-01	4.38E-03	1.83E-02	2.89E+00	1.83E-04	9.25E-01	8.19E-03	9.25E+00	1.83E-03	1.83E-03	9.25E-04	1.83E-03	1.83E-01	1.83E-03	2.47E-04	1.83E-02	7.17E-02	9.25E-03
DF-P-01	17-Nov-15	Percent of Total Dustfall	1.61E+00	1.43E-04	4.12E-03	1.42E-02	3.51E-04	3.51E-04	6.93E-03	3.51E-04	5.82E+00	1.76E-04	4.21E-03	1.32E-03	3.24E-03	2.73E+00	8.42E-04	3.51E-03	3.01E+00	5.61E-02	3.51E-03	1.66E-04	1.75E-02	4.39E-02	8.39E-01	4.49E-03	6.93E-04	2.62E+00	1.20E-05	7.24E-01	5.00E-03	3.51E-01	6.93E-05	6.93E-05	1.23E-03	1.10E-04	7.23E-02	6.93E-05	4.52E-04	2.08E-03	2.11E-02	6.58E-04
DF-P-05	17-Nov-15	Percent of Total Dustfall	1.92E+00	3.67E-04	3.36E-03	1.89E-02	2.70E-04	2.70E-04	5.46E-03	2.70E-04	6.53E+00	2.28E-04	3.75E-03	1.00E-03	3.93E-03	2.54E+00	1.73E-03	3.49E-03	3.36E+00	5.00E-02	2.70E-03	3.20E-04	1.38E-02	5.59E-02	1.04E+00	5.63E-03	5.46E-04	3.45E+00	8.55E-06	1.25E+00	6.91E-03	2.70E-01	5.46E-05	5.46E-05	1.24E-03	2.14E-04	8.68E-02	5.46E-05	9.01E-04	2.72E-03	4.14E-02	8.62E-04
DF-P-07	17-Nov-15	Percent of Total Dustfall	1.90E+00	2.13E-04	1.34E-02	2.03E-02	1.05E-03	1.05E-03	2.11E-02	1.05E-03	5.66E+00	2.16E-04	1.26E-02	1.47E-03	4.34E-03	3.03E+00	1.34E-03	1.05E-02	3.24E+00	6.32E-02	1.05E-02	3.29E-04	5.26E-02	1.05E-01	1.03E+00	5.82E-03	2.11E-03	3.08E+00	2.50E-05	1.78E+00	7.37E-03	1.05E+00	2.11E-04	2.11E-04	8.95E-04	2.42E-04	9.21E-02	2.11E-04	5.76E-04	2.71E-03	6.32E-02	1.05E-03
DF-P-01	28-Dec-15	Percent of Total Dustfall	8.32E-01	2.26E-04	1.12E-02	9.65E-03	1.12E-03	1.12E-03	2.26E-02	1.12E-03	5.03E+00	1.12E-04	1.71E-02	8.32E-04	2.94E-02	1.50E+00	7.09E-04	1.12E-02	5.91E+00	4.06E-02	1.12E-02	2.53E-04	1.29E-03	1.12E-01	1.52E+00	2.80E-03	2.26E-03	1.47E+00	2.26E-05	1.75E+01	2.74E-02	1.12E+00	2.26E-04	2.26E-04	4.85E-04	2.26E-04	3.85E-02	2.26E-04	4.74E-04	2.26E-03	2.56E-02	1.12E-03
DF-P-05	28-Dec-15	Percent of Total Dustfall	3.36E+00	3.20E-03	3.80E-02	4.32E-02	3.80E-03	3.80E-03	7.70E-02	3.80E-03	1.83E+01	4.90E-04	5.80E-02	2.54E-03	1.00E-01	5.51E+00	6.58E-03	3.80E-02	2.36E+01	1.43E-01	3.80E-02	9.80E-04	4.70E-03	3.80E-01	6.29E+00	1.07E-02	7.70E-03	5.86E+00	7.70E-05	6.80E+01	1.15E-01	3.80E+00	7.70E-04	7.70E-04	2.28E-03	7.70E-04	1.40E-01	7.70E-04	2.20E-03	7.70E-03	1.84E-01	3.80E-03
DF-P-07	28-Dec-15	Percent of Total Dustfall	1.02E+00	6.42E-04	3.25E-02	1.01E-02	3.25E-03	3.25E-03	6.42E-02	3.25E-03	6.80E+00	3.25E-04	4.83E-02	1.25E-03	8.33E-02	1.99E+00	8.17E-04	3.25E-02	7.59E+00	5.78E-02	3.25E-02	3.25E-04	3.25E-03	3.25E-01	1.79E+00	3.47E-03	6.42E-03	1.82E+00	6.42E-05	2.31E+01	7.00E-02	3.25E+00	6.42E-04	6.42E-04	5.92E-04	6.42E-04	6.42E-02	6.42E-04	4.19E-04	6.42E-03	7.08E-02	3.25E-03
DF-P-01	19-Jan-16	Percent of Total Dustfall	8.39E-01	1.34E-04	6.64E-03	1.93E-03	6.64E-04	6.64E-04	1.34E-02	6.64E-04	4.79E-01	6.64E-05	2.77E-03	2.40E-03	3.53E-03	5.13E+00	5.13E-04	6.64E-03	8.30E-01	1.30E-01	6.64E-05	6.64E-05	3.72E-03	1.16E-01	1.21E-01	3.78E-04	1.34E-03	8.99E-01	1.76E-05	1.75E+00	2.36E-03	6.64E-01	1.34E-04	1.34E-04	1.77E-04	1.34E-04	1.34E-02	1.34E-04	5.29E-04	1.34E-03	5.29E-03	6.64E-04
DF-P-05	19-Jan-16	Percent of Total Dustfall	1.22E+00	4.38E-04	1.54E-02	1.67E-02	1.54E-03	1.54E-03	3.13E-01	1.54E-03	8.58E+00	1.60E-04	3.48E-03	1.13E-03	3.13E-02	2.21E+00	1.73E-03	1.54E-02	1.23E+01	5.56E-02	1.54E-03	8.98E-04	3.25E-03	1.23E+00	3.48E+00	4.65E-03	3.13E-03	2.15E+00	3.13E-05	6.23E+01	7.08E-02	1.54E+00	3.13E-04	3.13E-04	8.50E-04	3.13E-03	5.63E-02	3.13E-04	5.79E-04	3.13E-03	1.73E-01	1.54E-03
DF-P-07	19-Jan-16	Percent of Total Dustfall	8.20E-01	1.50E-03	7.30E-02	1.20E-02	7.30E-03	7.30E-03	1.50E+00	7.30E-03	4.20E+00	7.30E-04	7.30E-03	1.50E-03	1.50E-01	2.57E+00	1.20E-03	7.30E-02	7.97E+00	9.48E-02	7.30E-03	7.30E-04	1.27E-02	5.80E+00	2.08E+00	1.80E-03	1.50E-02	1.22E+00	1.50E-04	4.30E+01	7.30E-02	7.30E+00	1.50E-03	1.50E-03	1.02E-03	1.50E-02	1.50E-01	1.50E-03	3.50E-04	1.50E-02	1.14E-01	7.30E-03
DF-P-01	16-Feb-16	Percent of Total Dustfall	5.18E-01	9.32E-05	4.83E-03	2.37E-03	4.83E-04	4.83E-04	9.32E-03	4.83E-04	7.85E-01	4.83E-05	1.27E-03	1.00E-03	8.47E-03	2.25E+00	3.01E-04	4.83E-03	6.81E-01	6.42E-02	4.83E-04	8.64E-05	2.88E-03	3.81E-01	1.40E-01	4.32E-04	9.32E-04	6.67E-01	9.32E-06	1.10E+00	1.83E-03	4.83E-01	9.32E-05	9.32E-05	1.64E-04	9.32E-05	9.32E-03	9.32E-05	7.75E-04	9.32E-04	2.03E-02	4.83E-04
DF-P-05	16-Feb-16	Percent of Total Dustfall	6.95E-01	4.24E-04	2.86E-03	4.38E-03	2.86E-04	2.86E-04	5.91E-03	2.86E-04	1.48E+00	3.99E-05	1.65E-03	1.24E-03	4.93E-03	3.91E+00	5.32E-04	2.86E-03	1.14E+00	6.90E-02	2.86E-04	2.80E-04	2.07E-03	2.27E-01	2.60E-01	9.90E-04	5.91E-04	9.95E-01	7.39E-06	1.87E+00	3.36E-03	2.86E-01	5.91E-05	5.91E-05	3.08E-04	5.91E-05	1.58E-02	8.87E-05	6.70E-04	7.39E-04	1.18E-02	5.42E-04
DF-P-07	16-Feb-16	Percent of Total Dustfall	5.37E-01	4.07E-04	2.11E-02	4.26E-03	2.11E-03	2.11E-03	4.07E-02	2.11E-03	1.38E+00	2.11E-04	2.48E-03	1.00E-03	3.70E-02	1.94E+00	4.41E-04	2.11E-02	1.03E+00	7.11E-02	2.11E-03	2.11E-04	1.26E-02	1.70E+00	2.19E-01	7.41E-04	4.07E-03	7.26E-01	4.07E-05	4.81E+00	3.85E-03	2.11E+00	4.07E-04	4.07E-04	2.11E-04	4.07E-04	4.07E-02	4.07E-04	4.11E-04	4.07E-03	8.89E-02	2.11E-03
DF-P-01	14-Mar-16	Percent of Total Dustfall	8.70E-01	1.75E-04	8.88E-03	2.88E-03	8.88E-04	8.88E-04	1.75E-02	8.88E-04	1.29E+00	8.88E-05	1.88E-03	1.63E-03	2.47E-03	4.88E+00	4.40E-04	8.88E-03	2.79E+00	8.20E-02	8.88E-05	6.99E-04	2.61E-03	8.88E-02	7.23E-01	6.84E-04	1.75E-03	1.01E+00	1.75E-05	1.39E+01	1.26E-02	8.88E-01	1.75E-04	1.75E-04	2.39E-04	1.75E-04	1.75E-02	1.75E-04	1.06E-03	1.75E-03	7.13E-03	8.88E-04
DF-P-07	14-Mar-16	Percent of Total Dustfall	8.12E-01	1.82E-04	8.94E-03	3.24E-03	8.94E-04	8.94E-04	1.82E-02	8.94E-04	2.11E+00	8.94E-05	5.11E-03	1.44E-03	3.03E-03	3.08E+00	6.52E-04	8.94E-03	4.62E+00	8.64E-02	8.94E-04	7.12E-04	3.06E-03	1.09E-01	1.29E+00	9.09E-04	1.82E-03	1.04E+00	1.82E-05	2.35E+01	2.65E-02	8.94E-01	1.82E-04	1.82E-04	2.30E-04	1.82E-04	1.82E-02	1.82E-04	7.56E-04	1.82E-03	1.44E-02	8.94E-04
DF-P-05	15-Mar-16	Percent of Total Dustfall	1.15E+00	2.97E-04	3.14E-03	9.89E-03	3.14E-04	3.14E-04	2.38E-02	3.14E-04	4.36E+00	7.51E-05	2.83E-03	1.36E-03	3.19E-03	4.36E+00	1.15E-03	3.14E-03	8.16E+00	6.76E-02	3.14E-04	6.22E-04	2.46E-03	6.86E-02	2.35E+00	2.35E-03	6.49E-04	1.72E+00	1.08E-05	4.63E+01	4.28E-02	1.03E+00	6.49E-05	6.49E-05	6.32E-04	9.19E-05	3.03E-02	1.35E-04	6.05E-04	1.35E-03	4.16E-02	8.43E-04
DF-P-01	11-Apr-16	Percent of Total Dustfall	8.63E-01	6.29E-05	3.26E-03	2.29E-03	3.26E-04	3.26E-04	6.29E-03	3.26E-04	3.05E-01	3.26E-05	2.78E-03	1.36E-03	1.77E-03	5.05E+00	3.01E-04	3.26E-03	7.66E-01	6.11E-02	3.26E-05	2.63E-04	2.91E-03	4.57E-02	8.86E-02	4.06E-04	6.29E-04	9.66E-01	1.20E-05	4.57E-01	9.43E-04	3.26E-01	6.29E-05	6.29E-05	1.92E-04	6.29E-05	8.57E-03	6.29E-05	2.62E-04	6.29E-04	3.09E-03	4.17E-04
DF-P-05	11-Apr-16	Percent of Total Dustfall	1.40E+00	2.91E-04	1.43E-02	9.66E-03	1.43E-03	1.43E-03	2.91E-02	1.43E-03	1.81E+00	1.43E-04	2.99E-03	1.55E-03	4.13E-03	5.24E+00	6.84E-04	1.43E-02	1.72E+00	7.01E-02	1.43E-04	1.14E-03	3.20E-03	1.43E-01	5.83E-01	2.38E-03	2.91E-03	1.96E+00	2.91E-05	2.40E+00	4.90E-03	1.43E+00	2.91E-04	2.91E-04	6.84E-04	2.91E-04	4.37E-02	2.91E-04	3.96E-04	2.91E-03	1.63E-02	1.43E-03
DF-P-07	11-Apr-16	Percent of Total Dustfall	1.09E+00	2.55E-04	1.23E-02	5.62E-03	1.23E-03	1.23E-03	2.55E-02	1.23E-03	1.03E+00	1.23E-04	3.23E-03	1.77E-03	4.89E-03	3.94E+00	4.74E-04	1.23E-02	1.34E+00	7.40E-02	1.23E-03	1.00E-03	2.96E-03	1.23E-01	4.70E-01	1.26E-03	2.55E-03	1.35E+00	2.55E-05	3.55E+00	7.70E-03	1.23E+00	2.55E-04	2.55E-04	3.40E-04	2.55E-04	2.55E-02	2.55E-04	4.02E-04	2.55E-03	1.34E-02	1.23E-03
DF-P-05	09-May-16	Percent of Total Dustfall	1.81E+00	2.17E-04	1.53E-03	1.83E-02	1.04E-04	1.04E-04	8.26E-03	1.04E-04	4.56E+00	1.50E-04	3.54E-03	1.21E-03	2.64E-03	2.94E+00	1.04E-03	2.85E-03	4.42E+00	6.64E-02	1.04E-04	2.62E-04	2.73E-03	9.30E-02	1.40E+00	4.65E-03	2.15E-04	3.14E+00	1.02E-05	1.44E+01	1.69E-02	5.49E-01	2.15E-05	2.51E-05	9.26E-04	1.08E-04	7.77E-02	5.03E-05	5.60E-04	2.60E-03	3.36E-02	5.91E-04
DF-P-07	09-May-16	Percent of Total Dustfall	1.58E+00	1.22E-04	9.39E-03	1.20E-02	5.92E-04	5.92E-04	1.22E-02	5.92E-04	2.65E+00	1.02E-04	3.34E-03	1.76E-03	3.16E-03	3.68E+00	6.98E-04	5.92E-03	3.08E+00	1.11E-01	5.92E-04	1.62E-04	3.94E-03	1.83E-01	9.18E-01	3.39E-03	1.22E-03	2.35E+00	1.22E-05	8.59E+00	9.97E-03	5.92E-01	1.22E-04	1.22E-04	5.60E-04	2.45E-04	5.82E-02	1.22E-04	6.66E-04	1.73E-03	2.07E-02	7.35E-04
DF-P-01	10-May-16	Percent of Total Dustfall	1.20E+00	2.33E-05	8.35E-04	6.58E-03	8.16E-05	5.53E-05	2.72E-03	5.53E-05	1.63E+00	6.30E-05	2.94E-03	1.88E-03	2.65E-03	4.10E+00	6.29E-04	1.98E-03	1.84E+00	1.28E-01	5.53E-05	6.31E-05	3.65E-03	2.01E-01	4.63E-01	1.59E-03	1.07E-04	1.76E+00	1.24E-05	4.34E+00	5.56E-03	2.56E-01	1.07E-05	1.17E-05	4.30E-04	3.30E-05	3.03E-02	1.07E-05	8.84E-04	1.10E-03	7.42E-03	3.95E-04
DF-P-01	11-Jun-16	Percent of Total Dustfall	1.00E+00	4.36E-05	3.53E-03	1.02E-02	2.20E-04	2.20E-04	4.36E-03	2.20E-04	1.85E+00	9.08E-05	1.96E-03	1.22E-03	2.04E-03	2.16E+00	4.95E-04	2.20E-03	1.43E+00	5.87E-02	2.20E-04	7.06E-05	2.13E-03	8.44E-02	4.91E-01	2.71E-03	4.36E-04	1.63E+00	5.92E-06	3.94E-01	2.11E-03	2.20E-01	4.36E-05	4.36E-05	3.51E-04	3.07E-04	4.59E-02	3.07E-04	7.16E-04	1.19E-03	1.70E-02	6.88E-03
DF-P-05	11-Jun-16	Percent of Total Dustfall	1.33E+00	8.63E-05	2.11E-03	1.24E-02	1.49E-04	1.49E-04	2.95E-03	1.49E-04	3.63E+00	1.86E-04	2.20E-03	6.93E-04	1.39E-03	1.82E+00	7.58E-04	1.93E-03	2.20E+00	3.45E-02	1.49E-04	1.33E-04	1.45E-03	3.45E-02	7.64E-01	4.44E-03	2.95E-04	2.48E+00	4.88E-06	4.53E-01	3.51E-03	1.49E-01	2.95E-05	2.95E-05	7.67E-04	2.08E-04	7.11E-02	2.08E-04	6.49E-04	1.93E-03	2.30E-02	4.66E-03
DF-P-07	11-Jun-16	Percent of Total Dustfall	1.25E+00	7.23E-04	5.62E-02	2.79E-02	3.62E-03	3.62E-03	7.23E-02	3.62E-03	3.93E+00	3.62E-04	5.92E-03	1.13E-03	8.69E-03	2.02E+00	7.23E-04	3.62E-02	3.05E+00	4.97E-02	3.62E-03	3.62E-04	3.62E-03	3.62E-01	1.03E+00	5.49E-03	7.23E-03	2.55E+00	7.23E-05	6.54E+00	8.46E-03	3.62E+00	7.23E-04	7.23E-04	3.62E-04	5.08E-03	7.54E-02	5.08E-03	3.62E-04	7.23E-03	2.14E-01	1.15E-01
DF-P-01	12-Jul-16	Percent of Total Dustfall	1.51E+00	1.88E-05	7.99E-04	1.53E-02	7.99E-05	7.99E-05	1.88E-03	7.99E-05	3.43E+00	2.15E-04	2.37E-03	1.06E-03	1.76E-03	2.68E+00	8.81E-04	2.45E-03	2.27E+00	5.05E-02	7.99E-06	1.11E-04	2.19E-03	5.11E-02	7.59E-01	4.67E-03	1.57E-04	2.54E+00	1.57E-05	1.51E-01	2.76E-03	7.99E-02	1.57E-05	2.82E-05	7.65E-04	1.44E-04	9.06E-02	2.51E-04	6.32E-04	2.43E-03	1.11E-02	7.46E-04
DF-P-05	12-Jul-16	Percent of Total Dustfall	1.75E+00	4.03E-05	9.71E-04	1.61E-02	9.71E-05	9.71E-05	2.38E-03	9.71E-05	4.69E+00	2.75E-04	2.62E-03	8.50E-04	1.85E-03	2.45E+00	1.01E-03	3.21E-03	2.97E+00	4.65E-02	9.71E-06	2.44E-04	1.85E-03	4.07E-02	9.34E-01	5.86E-03	2.01E-04	3.00E+00	2.01E-05	3.06E-01	4.38E-03	9.71E-02	2.01E-05	3.48E-05	1.21E-03	1.76E-04	9.87E-02	3.11E-04	1.16E-03	2.49E-03	1.32E-02	9.12E-04
DF-P-07	12-Jul-16	Percent of Total Dustfall	1.69E+00	2.44E-04	1.18E-02	1.18E-02	1.18E-03	1.18E-03	2.44E-02	1.18E-03	5.31E+00	2.27E-04	4.09E-03	1.71E-03	5.78E-03	3.80E+00	1.32E-03	1.18E-02	3.27E+00	9.47E-02	1.18E-04	3.27E-04	4.13E-03	1.18E-01	7.09E-01	4.60E-03	2.44E-03	2.69E+00	2.44E-04	5.24E-01	4.89E-03	1.18E+00	2.44E-04	2.44E-04	7.96E-04	2.13E-03	7.78E-02	3.78E-03	9.00E-04	2.44E-03	8.67E-02	1.18E-03
DF-P-01	15-Aug-16	Percent of Total Dustfall	1.41E+00	3.40E-05	8.94E-04	1.86E-02	8.94E-05	1.65E-04	1.86E-03	8.94E-05	3.84E+00	2.15E-04	2.41E-03	1.04E-03	2.03E-03	2.74E+00	8.78E-04	2.45E-03	2.34E+00	5.08E-02	8.94E-06	1.05E-04	2.17E-03	5.67E-02	7.91E-01	4.83E-03	1.79E-04	2.36E+00	6.79E-06	2.62E-01	2.95E-03	1.37E-01	1.79E-05	2.91E-05	6.25E-04	8.88E-05	9.92E-02	3.25E-05	5.74E-04	2.74E-03	9.09E-03	4.58E-04
DF-P-05	15-Aug-16	Percent of Total Dustfall	1.19E+00	9.26E-05	1.94E-03	1.24E-02	1.94E-04	1.94E-04	3.88E-03	1.94E-04	4.17E+00	2.02E-04	1.93E-03	6.98E-04	2.73E-03	1.83E+00	9.09E-04	2.48E-03	2.25E+00	3.62E-02	1.94E-05	2.43E-04	1.54E-03	3.55E-02	7.40E-01	4.59E-03	3.88E-04	1.98E+00	6.53E-06	6.32E-01	3.97E-03	1.94E-01	3.88E-05	3.88E-05	6.45E-04	1.19E-04	7.77E-02	4.21E-05	1.18E-03	2.13E-03	2.80E-02	5.17E-04
DF-P-07	15-Aug-16	Percent of Total Dustfall	1.06E+00	2.21E-04	1.12E-02	1.84E-02	1.12E-03	1.12E-03	2.21E-02	1.12E-03	5.76E+00	1.24E-04	2.45E-03	1.53E-03	1.55E-02	2.86E+00	6.55E-04	1.12E-02	3.05E+00	8.14E-02	1.12E-04	2.45E-04	4.48E-03	1.12E-01	6.12E-01	3.21E-03	2.21E-03	1.55E+00	2.21E-05	2.02E+00	5.95E-03	1.74E+00	2.21E-04	2.21E-04	3.64E-04	2.26E-04	5.81E-02	2.21E-04	6.83E-04	4.74E-03	1.25E-01	1.12E-03
DF-P-01	22-Sep-16	Percent of Total Dustfall	1.66E+00	3.95E-05	1.60E-03	1.68E-02	1.60E-04	1.60E-04	3.19E-03	3.04E-04	4.11E+00	2.60E-04	3.21E-03	1.67E-03	2.75E-03	3.80E+00	1.22E-03	2.78E-03	2.70E+00	8.48E-02	1.60E-05	7.19E-05	3.26E-03	1.01E-01	8.25E-01	5.40E-03	3.19E-04	2.45E+00	1.30E-05	3.92E-01	4.41E-03	1.60E-01	3.19E-05	3.38E-05	8.75E-04	1.04E-04	1.12E-01	2.24E-04	7.60E-04	3.38E-03	1.53E-02	5.36E-04
DF-P-05	22-Sep-16	Percent of Total Dustfall	1.45E+00	8.90E-05	1.43E-03	1.46E-02	1.43E-04	1.43E-04	2.90E-03	1.43E-04	5.07E+00	2.13E-04	2.52E-03	1.08E-03	2.30E-03	2.62E+00	1.29E-03	2.63E-03	2.91E+00	5.63E-02	1.43E-05	1.92E-04	2.29E-03	5.97E-02	7.53E-01	5.17E-03	2.90E-04	2.22E+00	1.10E-05	4.77E-01	5.53E-03	3.10E-01	2.90E-05	3.27E-05	7.50E-04	1.25E-04	9.03E-02	2.03E-04	1.16E-03	2.88E-03	3.40E-02	4.63E-04
DF-P-07	22-Sep-16	Percent of Total Dustfall	1.30E+00	2.47E-04	1.24E-02	1.68E-02	1.24E-03	1.24E-03	2.47E-02	1.24E-03	5.97E+00	1.44E-04	3.15E-03	1.72E-03	3.79E-03	3.38E+00	8.44E-04	1.24E-02	3.29E+00	8.21E-02	1.24E-04	2.71E-04	5.79E-03	1.24E-01	7.06E-01	4.18E-03	2.47E-03	1.85E+00	2.47E-05	1.83E+00	6.47E-03	1.68E+00	2.47E-04	2.47E-04	5.53E-04	2.47E-04	7.59E-02	1.74E-03	6.06E-04	8.41E-03	1.20E-01	1.24E-03
DF-P-05	18-Oct-16	Percent of Total Dustfall	1.81E+00	1.50E-04	3.44E-03	1.64E-02	3.44E-04	3.44E-04	6.67E-03	3.44E-04	3.78E+00	2.22E-04	2.70E-03	1.02E-03	4.28E-03	3.09E+00	2.28E-03	3.44E-03	2.59E+00	4.91E-02	3.44E-04	2.50E-04	2.41E-03	5.11E-02	8.33E-01	5.14E-03	6.67E-04	2.93E+00	3.39E-04	4.18E-01	4.82E-03	3.44E-01	6.67E-05	6.67E-05	8.78E-04	1.61E-04	8.56E-02	6.67E-05	7.11E-04	3.28E-03	2.98E-02	5.44E-04
DF-P-07	18-Oct-16	Percent of Total Dustfall	6.30E-01	1.20E-04	6.40E-03	6.46E-03	6.10E-04	6.10E-04	1.20E-02	6.10E-04	1.29E+00	6.20E-05	1.00E-03	4.70E-04	2.50E-03	1.30E+00	7.28E-04	6.10E-03	9.06E-01	2.04E-02	6.10E-04	8.50E-05	1.26E-03	6.10E-02	2.99E-01	1.78E-03	1.20E-03	9.75E-01	1.20E-05	4.03E-01	1.95E-03	6.10E-01	1.20E-04	1.20E-04	2.14E-04	1.20E-04	3.20E-02	1.20E-04	1.82E-04	1.90E-03	2.66E-02	6.10E-04
DF-P-01	19-Oct-16	Percent of Total Dustfall	1.99E+00	1.30E-04	6.30E-03	2.10E-02	6.30E-04	6.30E-04	1.30E-02	6.30E-04	4.07E+00	2.17E-04	2.96E-03	1.33E-03	4.20E-03	4.02E+00	1.82E-03	6.30E-03	2.89E+00	6.02E-02	6.30E-04	3.18E-04	2.96E-03	6.30E-02	9.59E-01	5.75E-03	1.30E-03	3.23E+00	2.00E-05	5.39E-01	5.69E-03	6.30E-01	1.30E-04	1.30E-04	8.48E-04	1.80E-04	1.07E-01	1.30E-04	6.11E-04	2.90E-03	2.01E-02	7.80E-04
DF-P-01	18-Nov-16	Percent of Total Dustfall	1.14E+00	2.58E-05	1.00E-03	7.76E-03	8.39E-05	9.19E-05	1.61E-03	8.39E-05	2.00E+00	1.16E-04	2.32E-03	1.22E-03	2.82E-03	3.45E+00	1.73E-03	1.76E-03	1.39E+00	5.56E-02	8.39E-05	9.65E-05	2.42E-03	4.98E-02	3.69E-01	2.40E-03	1.61E-04	1.68E+00	1.47E-05	2.68E-01	2.37E-03	8.39E-02	1.61E-05	2.10E-05	6.03E-04	1.00E-04	4.24E-02	1.61E-05	6.50E-04	1.23E-03	7.74E-03	4.00E-04
DF-P-05	18-Nov-16	Percent of Total Dustfall	1.61E+00	1.23E-04	2.01E-03	1.47E-02	1.93E-04	2.16E-04	3.72E-03	1.93E-04	2.57E+00	2.10E-04	1.93E-03	7.51E-04	7.32E-03	2.56E+00	9.59E-03	2.08E-03	1.73E+00	4.16E-02	1.93E-04	1.03E-03	1.55E-03	4.24E-02	7.81E-01	5.09E-03	3.72E-04	2.77E+00	3.35E-05	5.99E-01	3.56E-03	1.93E-01	3.72E-05	4.83E-05	9.52E-04	3.01E-04	8.66E-02	5.95E-05	9.70E-04	1.78E-03	3.13E-02	6.62E-04
DF-P-07	18-Nov-16	Percent of Total Dustfall	1.18E+00	1.32E-04	6.97E-03	1.00E-02	6.71E-04	6.71E-04	1.32E-02	6.71E-04	1.70E+00	1.28E-04	1.42E-03	9.08E-04	2.50E-03	2.36E+00	1.45E-03	6.71E-03	1.09E+00	4.09E-02	6.71E-04	1.43E-04	1.97E-03	6.71E-02	4.43E-01	2.70E-03	1.32E-03	1.99E+00	1.32E-05	6.97E-01	3.54E-03	6.71E-01	1.32E-04	1.32E-04	6.24E-04	1.45E-04	2.76E-02	1.32E-04	6.80E-04	1.32E-03	1.04E-02	6.71E-04
DF-P-01	17-Dec-16	Percent of Total Dustfall	1.17E+00	6.25E-05	3.07E-03	5.19E-03	3.07E-04	3.07E-04	6.25E-03	3.07E-04	4.05E-01	5.17E-05	2.01E-03	1.18E-03	2.44E-03	5.74E+00	1.15E-03	3.07E-03	1.00E+00	4.38E-02	3.07E-04	1.79E-04	3.31E-03	3.07E-02	1.59E-01	9.66E-04	6.25E-04	1.61E+00	1.99E-05	3.63E-01	1.31E-03	3.07E-01	6.25E-05	6.25E-05	3.64E-04	6.82E-05	1.48E-02	6.25E-05	2.77E-04	7.95E-04	5.00E-03	4.89E-04
DF-P-05	17-Dec-16	Percent of Total Dustfall	9.92E-01	4.22E-04	4.30E-03	8.36E-03	4.30E-04	4.30E-04	8.59E-03	4.30E-04	8.52E-01	1.20E-04	1.78E-03	6.48E-04	2.03E-03	3.16E+00	1.33E-03	4.30E-03	8.05E-01	3.73E-02	4.30E-04	2.02E-04	1.52E-03	4.30E-02	3.49E-01	2.13E-03	8.59E-04	1.60E+00	1.48E-05	1.09E+00	2.60E-03	4.30E-01	8.59E-05	8.59E-05	4.36E-04	1.33E-04	2.11E-02	8.59E-05	5.23E-04	8.59E-04	1.79E-02	5.63E-04
DF-P-07	17-Dec-16	Percent of Total Dustfall	1.10E+00	3.24E-04	1.62E-02	1.96E-02	1.62E-03	1.62E-03	3.24E-02	1.62E-03	1.19E+00	1.62E-04	1.79E-03	6.47E-04	3.24E-03	2.36E+00	1.30E-03	1.62E-02	9.82E-01	3.44E-02	1.62E-03	1.62E-04	1.71E-03	1.62E-01	4.71E-01	2.97E-03	3.24E-03	1.83E+00	3.24E-05	1.30E+00	3.71E-03	1.62E+00	3.24E-04	3.24E-04	3.35E-04	3.24E-04	3.24E-02	3.24E-04	3.94E-04	3.24E-03	1.59E-02	1.62E-03
2015 AVERAGE % Total Dustfall			1.94E+00	8.49E-04	2.61E-02	1.42E-02	2.29E-03	2.29E-03	4.56E-02	9.50E-04	6.43E+00	3.00E-04	1.04E-02	1.34E-03	3.50E-02	2.84E+00	2.19E-03	2.32E-02	4.56E+00	6.35E-02	3.59E-03	5.68E-04	9.02E-03	1.78E-01	1.20E+00	5.61E-03	4.55E-03	2.87E+00	5.02E-05	6.46E+00	1.96E-02	2.50E+00	3.85E-04	4.56E-04	1.08E-03	5.69E-04	8.34E-02	3.85E-04	7.79E-04	5.51E-03	6.59E-02	1.75E-03
2016 AVERAGE % Total Dustfall			1.21E+00	2.22E-04	9.47E-03	1.15E-02	8.73E-04	8.75E-04	6.36E-02	8.76E-04	2.95E+00	1.65E-04	2.79E-03	1.24E-03	9.59E-03	3.21E+00	1.20E-03	9.08E-03	2.72E+00	6.50E-02	6.82E-04	3.34E-04	3.30E-03	3.41E-01	7.88E-01	3.07E-03	1.76E-03	1.88E+00	3.75E-05	7.00E+00	1.02E-02	9.45E-01	1.76E-04	1.78E-04	5.63E-04	8.54E-04	5.60E-02	4.78E-04	6.47E-04	2.80E-03	3.98E-02	4.46E-03
2015/16 AVERAGE % Total Dustfall			1.58E+00	5.35E-04	1.78E-02	1.28E-02	1.58E-03	1.58E-03	5.46E-02	9.13E-04	4.69E+00	2.04E-04	6.61E-03	1.29E-03	2.23E-02	3.06E+00	1.69E-03	1.61E-02	3.64E+00	6.43E-02	2.14E-03	4.51E-04	6.16E-03	2.76E-01	9.92E-01	3.82E-03	3.15E-03	2.28E+00	4.39E-05	6.73E+00	1.49E-02	1.40E+00	2.37E-04	3.17E-04	7.17E-04	7.12E-04	6.70E-02	4.51E-04	7.13E-04	4.16E-03	5.28E-02	3.56E-03

Table A-12 Dustfall Data for Sample Site DF-RN-04 by Chemical (mg/dm^2 day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-RN-04																							
06-Jan-15	4.58	3.35E-02	4.10E-06	2.40E-04	1.63E-04	2.00E-06	9.30E-05	1.79E-05	4.06E-04	-	4.85E-05	1.25E-03	2.00E-06	7.50E-06	5.20E-05	4.00E-05	4.00E-07	3.50E-04	4.00E-06	4.00E-06	8.17E-06	6.90E-05	3.90E-04
Percent of Total Dustfall		7.31E-01	8.95E-05	5.24E-03	3.56E-03	4.37E-05	2.03E-03	3.91E-04	8.86E-03	-	1.06E-03	2.73E-02	4.37E-05	1.64E-04	1.14E-03	8.73E-04	8.73E-06	7.64E-03	8.73E-05	8.73E-05	1.78E-04	1.51E-03	8.52E-03
07-Feb-15	2.87	5.05E-02	2.20E-06	5.40E-06	1.90E-04	5.40E-07	1.11E-04	2.55E-05	2.03E-04	-	5.69E-05	9.69E-04	5.40E-06	1.07E-05	4.65E-05	1.10E-05	3.90E-07	7.80E-05	1.10E-06	3.90E-06	1.73E-05	8.10E-05	2.22E-04
Percent of Total Dustfall		1.76E+00	7.67E-05	1.88E-04	6.62E-03	1.88E-05	3.87E-03	8.89E-04	7.07E-03	-	1.98E-03	3.38E-02	1.88E-04	3.73E-04	1.62E-03	3.83E-04	1.36E-05	2.72E-03	3.83E-05	1.36E-04	6.03E-04	2.82E-03	7.74E-03
07-Mar-15	1.73	3.14E-02	2.50E-06	9.90E-05	1.13E-04	6.20E-07	7.09E-05	1.35E-05	4.67E-05	-	4.23E-05	5.87E-04	1.20E-05	5.57E-06	2.83E-05	1.20E-05	2.40E-07	8.27E-05	1.20E-06	2.50E-06	1.15E-05	4.80E-05	1.85E-04
Percent of Total Dustfall		1.82E+00	1.45E-04	5.72E-03	6.53E-03	3.58E-05	4.10E-03	7.80E-04	2.70E-03	-	2.45E-03	3.39E-02	6.94E-04	3.22E-04	1.64E-03	6.94E-04	1.39E-05	4.78E-03	6.94E-05	1.45E-04	6.65E-04	2.77E-03	1.07E-02
07-Apr-15	5.46	8.33E-02	5.60E-06	5.60E-04	3.36E-04	2.80E-06	1.89E-04	3.51E-05	2.30E-04	-	8.69E-05	1.72E-03	2.80E-05	1.31E-05	7.50E-05	5.60E-05	7.60E-07	2.68E-04	5.60E-06	7.60E-06	2.83E-05	1.28E-04	6.70E-04
Percent of Total Dustfall		1.53E+00	1.03E-04	1.03E-02	6.15E-03	5.13E-05	3.46E-03	6.43E-04	4.21E-03	-	1.59E-03	3.15E-02	5.13E-04	2.40E-04	1.37E-03	1.03E-03	1.39E-05	4.91E-03	1.03E-04	1.39E-04	5.18E-04	2.34E-03	1.23E-02
09-May-15	16.20	3.23E-01	1.89E-05	1.30E-04	4.69E-04	1.50E-06	7.44E-04	1.80E-04	5.07E-04	6.29E-01	1.54E-04	1.05E-02	1.50E-06	9.63E-05	5.27E-04	3.10E-05	1.88E-06	9.52E-04	3.10E-06	8.20E-06	3.84E-05	4.02E-04	1.15E-03
Percent of Total Dustfall		1.99E+00	1.17E-04	8.02E-04	2.90E-03	9.26E-06	4.59E-03	1.11E-03	3.13E-03	3.88E+00	9.51E-04	6.48E-02	9.26E-06	5.94E-04	3.25E-03	1.91E-04	1.16E-05	5.88E-03	1.91E-05	5.06E-05	2.37E-04	2.48E-03	7.10E-03
08-Jun-15	6.51	1.02E-01	2.30E-06	2.30E-05	4.07E-04	5.80E-07	2.87E-04	5.92E-05	6.31E-04	1.63E-01	5.24E-05	2.67E-03	5.80E-07	1.16E-05	1.86E-04	1.20E-05	6.40E-07	4.01E-04	1.30E-06	3.30E-06	1.21E-05	1.56E-04	3.12E-04
Percent of Total Dustfall		1.57E+00	3.53E-05	3.53E-04	6.25E-03	8.91E-06	4.41E-03	9.09E-04	9.69E-03	2.50E+00	8.05E-04	4.10E-02	8.91E-06	1.78E-04	2.86E-03	1.84E-04	9.83E-06	6.16E-03	2.00E-05	5.07E-05	1.86E-04	2.40E-03	4.79E-03
10-Jul-15	23.80	4.55E-01	2.50E-06	1.36E-04	4.80E-03	1.10E-06	6.60E-04	2.55E-04	5.01E-04	6.76E-01	9.87E-05	1.02E-02	5.40E-07	9.10E-06	5.74E-04	2.20E-05	1.05E-06	1.08E-03	8.60E-06	1.10E-05	4.66E-05	5.72E-04	1.02E-03
Percent of Total Dustfall		1.91E+00	1.05E-05	5.71E-04	2.02E-02	4.62E-06	2.77E-03	1.07E-03	2.11E-03	2.84E+00	4.15E-04	4.29E-02	2.27E-06	3.82E-05	2.41E-03	9.24E-05	4.41E-06	4.54E-03	3.61E-05	4.62E-05	1.96E-04	2.40E-03	4.29E-03
09-Aug-15	35.1	8.01E-01	1.10E-05	5.30E-04	8.32E-03	5.30E-05	1.04E-03	4.52E-04	1.60E-03	1.17E+00	1.88E-04	1.88E-02	5.30E-07	2.15E-05	9.84E-04	1.10E-04	1.70E-06	1.38E-03	1.50E-05	1.10E-05	8.43E-05	9.90E-04	1.78E-03
Percent of Total Dustfall		2.28E+00	3.13E-05	1.51E-03	2.37E-02	1.51E-04	2.96E-03	1.29E-03	4.56E-03	3.33E+00	5.36E-04	5.36E-02	1.51E-06	6.13E-05	2.80E-03	3.13E-04	4.84E-06	3.93E-03	4.27E-05	3.13E-05	2.40E-04	2.82E-03	5.07E-03
05-Sep-15	21.9	5.59E-01	1.20E-05	5.90E-04	6.40E-03	5.90E-05	1.20E-03	3.13E-04	7.10E-04	8.32E-01	1.48E-04	1.33E-02	5.90E-07	8.80E-06	6.53E-04	1.20E-04	1.90E-06	3.70E-03	1.20E-05	1.20E-05	5.24E-05	7.30E-04	1.26E-03
Percent of Total Dustfall		2.55E+00	5.48E-05	2.69E-03	2.92E-02	2.69E-04	5.48E-03	1.43E-03	3.24E-03	3.80E+00	6.76E-04	6.07E-02	2.69E-06	4.02E-05	2.98E-03	5.48E-04	8.68E-06	1.69E-02	5.48E-05	5.48E-05	2.39E-04	3.33E-03	5.75E-03
08-Oct-15	5.98	1.55E-01	9.50E-06	4.80E-04	1.61E-03	4.80E-05	3.01E-04	8.80E-05	1.48E-04	2.24E-01	4.29E-05	3.56E-03	4.80E-07	1.01E-05	2.47E-04	9.50E-05	9.50E-07	2.98E-04	9.50E-06	9.50E-06	1.50E-05	2.00E-04	5.60E-04
Percent of Total Dustfall		2.59E+00	1.59E-04	8.03E-03	2.69E-02	8.03E-04	5.03E-03	1.47E-03	2.47E-03	3.75E+00	7.17E-04	5.95E-02	8.03E-06	1.69E-04	4.13E-03	1.59E-03	1.59E-05	4.98E-03	1.59E-04	1.59E-04	2.51E-04	3.34E-03	9.36E-03
17-Nov-15	1.64	3.12E-02	3.60E-06	4.20E-05	3.07E-04	4.20E-06	8.60E-05	1.59E-05	4.61E-05	4.08E-02	1.46E-05	7.20E-04	4.20E-05	3.28E-06	2.10E-04	8.30E-06	1.18E-07	1.10E-04	8.30E-07	2.33E-06	5.83E-06	4.38E-05	2.50E-04
Percent of Total Dustfall		1.90E+00	2.20E-04	2.56E-03	1.87E-02	2.56E-04	5.24E-03	9.70E-04	2.81E-03	2.49E+00	8.90E-04	4.39E-02	2.56E-03	2.00E-04	1.28E-02	5.06E-04	7.20E-06	6.71E-03	5.06E-05	1.42E-04	3.55E-04	2.67E-03	1.52E-02
27-Dec-15	0.93	1.19E-02	1.03E-06	4.10E-05	1.09E-04	4.10E-06	6.20E-05	6.16E-06	1.10E-04	1.58E-02	7.14E-06	3.02E-04	4.10E-05	1.46E-06	1.67E-05	8.30E-06	9.90E-08	6.30E-05	8.30E-07	9.80E-07	1.68E-06	1.89E-05	7.00E-05
Percent of Total Dustfall		1.28E+00	1.11E-04	4.41E-03	1.17E-02	4.41E-04	6.67E-03	6.62E-04	1.18E-02	1.70E+00	7.68E-04	3.25E-02	4.41E-03	1.57E-04	1.80E-03	8.92E-04	1.06E-05	6.77E-03	8.92E-05	1.05E-04	1.81E-04	2.03E-03	7.53E-03
19-Jan-16	0.46	6.70E-03	1.50E-06	7.40E-05	5.50E-05	7.40E-06	1.82E-05	3.40E-06	1.50E-04	7.43E-03	4.60E-06	1.62E-04	7.40E-06	9.30E-07	9.60E-06	1.50E-05	1.50E-07	7.40E-05	1.50E-06	1.50E-05	1.15E-06	1.50E-05	5.10E-05
Percent of Total Dustfall		1.46E+00	3.26E-04	1.61E-02	1.20E-02	1.61E-03	3.96E-03	7.39E-04	3.26E-02	1.62E+00	1.00E-03	3.52E-02	1.61E-03	2.02E-04	2.09E-03	3.26E-03	3.26E-05	1.61E-02	3.26E-04	3.26E-03	2.50E-04	3.26E-03	1.11E-02
17-Feb-16	2.52	2.68E-02	4.30E-06	5.70E-05	2.14E-04	5.70E-06	7.07E-05	1.46E-05	1.00E-04	3.61E-02	1.87E-05	7.41E-04	5.70E-06	5.17E-06	4.00E-05	1.10E-05	2.70E-07	1.68E-04	1.10E-06	1.70E-06	4.61E-06	4.50E-05	2.40E-04
Percent of Total Dustfall		1.06E+00	1.71E-04	2.26E-03	8.49E-03	2.26E-04	2.81E-03	5.79E-04	3.97E-03	1.43E+00	7.42E-04	2.94E-02	2.26E-04	2.05E-04	1.59E-03	4.37E-04	1.07E-05	6.67E-03	4.37E-05	6.75E-05	1.83E-04	1.79E-03	9.52E-03
13-Mar-16	1.83	1.99E-02	1.30E-06	6.50E-05	1.37E-04	6.50E-06	5.47E-05	1.01E-05	3.10E-05	2.44E-02	1.34E-05	5.22E-04	6.50E-06	5.20E-06	2.73E-05	1.30E-05	1.30E-07	1.15E-04	1.30E-06	1.30E-06	3.53E-06	3.00E-05	9.70E-05
Percent of Total Dustfall		1.09E+00	7.10E-05	3.55E-03	7.49E-03	3.55E-04	2.99E-03	5.52E-04	1.69E-03	1.33E+00	7.32E-04	2.85E-02	3.55E-04	2.84E-04	1.49E-03	7.10E-04	7.10E-06	6.28E-03	7.10E-05	7.10E-05	1.93E-04	1.64E-03	5.30E-03
10-Apr-16	1.88	3.52E-02	1.10E-06	5.60E-05	3.23E-04	5.60E-06	8.64E-05	2.03E-05	4.60E-05	5.07E-02	1.11E-05	8.38E-04	5.60E-06	4.50E-06	5.77E-05	1.10E-05	1.70E-07	1.11E-04	1.10E-06	1.40E-06	3.59E-06	4.80E-05	1.72E-04
Percent of Total Dustfall		1.87E+00	5.85E-05	2.98E-03	1.72E-02	2.98E-04	4.60E-03	1.08E-03	2.45E-03	2.70E+00	5.90E-04	4.46E-02	2.98E-04	2.39E-04	3.07E-03	5.85E-04	9.04E-06	5.90E-03	5.85E-05	7.45E-05	1.91E-04	2.55E-03	9.15E-03
10-May-16	3.67	8.99E-02	1.10E-06	5.30E-05	6.46E-04	5.30E-06	2.24E-04	4.87E-05	7.80E-05	1.09E-01	2.46E-05	1.85E-03	5.30E-06	4.38E-06	1.41E-04	1.10E-05	2.00E-07	1.96E-04	1.20E-06	3.30E-06	9.05E-06	1.37E-04	2.26E-04
Percent of Total Dustfall		2.45E+00	3.00E-05	1.44E-03	1.76E-02	1.44E-04	6.10E-03	1.33E-03	2.13E-03	2.97E+00	6.70E-04	5.04E-02	1.44E-04	1.19E-04	3.84E-03	3.00E-04	5.45E-06	5.34E-03	3.27E-05	8.99E-05	2.47E-04	3.73E-03	6.16E-03
11-Jun-16	4.40	9.25E-02	1.00E-06	8.10E-05	8.49E-04	5.10E-06	1.56E-04	4.81E-05	7.30E-05	1.23E-01	4.21E-05	1.88E-03	5.10E-06	3.02E-06	1.05E-04	1.00E-05	1.70E-07	1.61E-04	1.80E-06	7.10E-06	1.13E-05	1.57E-04	2.29E-04
Percent of Total Dustfall		2.10E+00	2.27E-05	1.84E-03	1.93E-02	1.16E-04	3.55E-03	1.09E-03	1.66E-03	2.80E+00	9.57E-04	4.27E-02	1.16E-04	6.86E-05	2.39E-03	2.27E-04	3.86E-06	3.66E-03	4.09E-05	1.61E-04	2.57E-04	3.57E-03	5.20E-03
12-Jul-16	31.40	5.11E-01	1.10E-05	5.30E-04	4.50E-03	5.30E-05	7.85E-04	2.67E-04	4.40E-04	7.10E-01	2.10E-04	1.15E-02	5.30E-07	1.36E-05	5.77E-04	1.10E-04	1.10E-05	1.10E-03	1.10E-05	9.60E-05	6.02E-05	8.20E-04	1.35E-03
Percent of Total Dustfall		1.63E+00	3.50E-05	1.69E-03	1.43E-02	1.69E-04	2.50E-03	8.50E-04	1.40E-03	2.26E+00	6.69E-04	3.66E-02	1.69E-06	4.33E-05	1.84E-03	3.50E-04	3.50E-05	3.50E-03	3.50E-05	3.06E-04	1.92E-04	2.61E-03	4.30E-03
15-Aug-16	9.92	1.92E-01	9.30E-06	4.70E-04	1.88E-03	4.70E-05	2.74E-04	9.78E-05	6.50E-04	2.62E-01	8.25E-05	4.26E-03	4.70E-07	8.30E-06	2.02E-04	9.30E-05	9.30E-07	6.50E-04	9.30E-06	9.30E-06	2.13E-05	2.99E-04	7.00E-04
Percent of Total Dustfall		1.94E+00	9.38E-05	4.74E-03	1.90E-02	4.74E-04	2.76E-03	9.86E-04	6.55E-03	2.64E+00	8.32E-04	4.29E-02	4.74E-06	8.37E-05	2.04E-03	9.38E-04	9.38E-06	6.55E-03	9.38E-05	9.38E-05	2.15E-04	3.01E-03	7.06E-03
22-Sep-16	2.62	4.67E-02	8.60E-07	4.30E-05	5.16E-04	4.30E-06	6.04E-05	2.69E-05	9.95E-05	7.55E-02	8.19E-05	1.27E-03	4.30E-07	7.67E-06	5.94E-05	8.60E-06	7.85E-07	3.81E-04	1.45E-06	4.91E-06	6.59E-06	7.27E-05	4.03E-04
Percent of Total Dustfall		1.78E+00	3.28E-05	1.64E-03	1.97E-02	1.64E-04	2.31E-03	1.03E-03	3.80E-03	2.88E+00	3.13E-03	4.85E-02	1.64E-05	2.93E-04	2.27E-03	3.28E-04	3.00E-05	1.45E-02	5.53E-05	1.87E-04	2.52E-04	2.77E-03	1.54E-02
18-Oct-16	2.80	6.32E-02	1.20E-06	6.10E-05	6.90E-04	6.10E-06	4.70E-05	2.46E-05	4.86E-04	9.77E-02	2.90E-04	1.24E-03	6.10E-06	2.99E-05	4.26E-05	1.20E-05	2.87E-06	8.90E-05	3.00E-06	1.20E-05	1.03E-05	5.90E-05	6.41E-04
Percent of Total Dustfall		2.26E+00	4.29E-05	2.18E-03	2.46E-02	2.18E-04	1.68E-03	8.79E-04	1.74E-02	3.49E+00	1.04E-02	4.43E-02	2.18E-04	1.07E-03	1.52E-03	4.29E-04	1.03E-04	3.18E-03	1.07E-04	4.29E-04	3.68E-04	2.11E-03	2.29E-02
18-Nov-16	3.46	8.04E-02	1.00E-06	5.20E-05	9.23E-04	5.20E-06	1.22E-04	3.69E-05	7.23E-04	1.22E-01	5.36E-04	1.84E-03	5.20E-06	3.69E-05	6.76E-05	1.00E-05	3.21E-06	6.47E-05	3.80E-06	2.30E-05	2.08E-05	9.50E-05	9.23E-04
Percent of Total Dustfall		2.32E+00	2.89E-05	1.50E-03	2.67E-02	1.50E-04	3.53E-03	1.07E-03	2.09E-02	3.53E+00	1.55E-02	5.32E-02	1.50E-04	1.07E-03	1.95E-03	2.89E-04	9.28E-05	1.87E-03	1.10E-04	6.65E-04	6.01E-04	2.75E-03	2.67E-02
18-Dec-16	6.07	1.02E-01	1.10E-06	5.30E-05	9.91E-04	5.30E-06	2.58E-04	4.26E-05	5.75E-04	1.32E-01	4.71E-04	2.51E-03	5.30E-06	3.84E-05	1.08E-04	1.10E-05	3.61E-06	1.21E-04	3.30E-06	1.78E-05	3.13E-05	1.35E-04	7.62E-04
Percent of Total Dustfall		1.68E+00	1.81E-05	8.73E-04	1.63E-02	8.73E-05	4.25E-03	7.02E-04	9.47E-03	2.17E+00	7.76E-03	4.14E-02	8.73E-05	6.33E-04	1.78E-03	1.81E-04	5.95E-05	1.99E-03	5.44E-05	2.93E-04	5.16E-04	2.22E-03	1.26E-02
AVERAGE % Total Dusfall		1.81E+00	8.67E-05	3.46E-03	1.52E-02	2.54E-04	3.82E-03	9.37E-04	6.94E-03	2.71E+00	2.32E-03	4.26E-02	4.86E-04	2.85E-04	2.69E-03	6.39E-04	2.17E-05	6.31E-03	7.49E-05	2.85E-04	3.05E-04	2.62E-03	9.73E-03

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-13 Dustfall Data for Sample Site DF-RN-05 by Chemical (mg/dm² day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-RN-05																							
06-Jan-15	0.19	0.00165	0.0000023	0.0002	0.0000159	0.0000011	0.000011	0.0000022	0.000078	-	0.0000044	0.0000485	0.0000011	0.0000011	0.000011	0.000022	0.00000022	0.0000166	0.0000022	0.0000022	0.00000054	0.000022	0.000067
Percent of Total Dustfall		8.68E-01	1.21E-03	1.05E-01	8.37E-03	5.79E-04	5.79E-03	1.16E-03	4.11E-02	-	2.32E-03	2.55E-02	5.79E-04	5.79E-04	5.79E-03	1.16E-02	1.16E-04	8.74E-03	1.16E-03	1.16E-03	2.84E-04	1.16E-02	3.53E-02
07-Feb-15	1.01	0.0134	0.0000022	0.00012	0.000057	0.0000011	0.000031	0.0000068	0.000072	-	0.0000211	0.00026	0.000011	0.0000027	0.000014	0.000022	0.00000022	0.000025	0.0000022	0.0000022	0.00000537	0.000023	0.00010
Percent of Total Dustfall		1.33E+00	2.18E-04	1.19E-02	5.63E-03	1.09E-04	3.07E-03	6.73E-04	7.13E-03	-	2.09E-03	2.54E-02	1.09E-03	2.67E-04	1.39E-03	2.18E-03	2.18E-05	2.43E-03	2.18E-04	2.18E-04	5.32E-04	2.28E-03	1.02E-02
07-Mar-15	0.88	0.0158	0.0000012	0.000086	0.0000625	0.0000006	0.000040	0.0000080	0.000077	-	0.0000230	0.000304	0.000012	0.0000044	0.000017	0.000012	0.00000036	0.0000460	0.0000012	0.0000013	0.00000737	0.000025	0.000105
Percent of Total Dustfall		1.80E+00	1.36E-04	9.77E-03	7.10E-03	7.05E-05	4.52E-03	9.09E-04	8.73E-03	-	2.61E-03	3.45E-02	1.36E-03	4.94E-04	1.91E-03	1.36E-03	4.09E-05	5.23E-03	1.36E-04	1.48E-04	8.38E-04	2.84E-03	1.19E-02
07-Apr-15	2.09	0.07780	0.0000039	0.00018	0.0000904	0.00000076	0.000204	0.0000456	0.000355	-	0.0000249	0.0026000	0.0000076	0.0000233	0.00015	0.000015	0.00000066	0.0000802	0.0000015	0.0000026	0.00000591	0.000096	0.000363
Percent of Total Dustfall		3.72E+00	1.87E-04	8.61E-03	4.33E-03	3.64E-05	9.76E-03	2.18E-03	1.70E-02	-	1.19E-03	1.24E-01	3.64E-04	1.11E-03	7.18E-03	7.18E-04	3.16E-05	3.84E-03	7.18E-05	1.24E-04	2.83E-04	4.59E-03	1.74E-02
09-May-15	5.70	0.09360	0.0000070	0.000078	0.0001650	0.0000008	0.000199	0.0000507	0.000197	0.176	0.0000	0.0029700	0.000001	0.0000	0.000147	0.0000110	0.00000077	0.000368	0.000001	0.0000027	0.0000099	0.000121	0.000339
Percent of Total Dustfall		1.64E+00	1.23E-04	1.37E-03	2.89E-03	1.40E-05	3.49E-03	8.89E-04	3.46E-03	3.09E+00	6.72E-04	5.21E-02	9.47E-06	4.33E-04	2.58E-03	1.93E-04	1.35E-05	6.46E-03	1.93E-05	4.74E-05	1.74E-04	2.12E-03	5.95E-03
08-Jun-15	6.15	0.09820	0.0000023	0.00018	0.0003140	0.00000058	0.000374	0.0000685	0.000320	0.17	0.0000	0.0031800	0.000001	0.0000	0.000229	0.0000120	0.00000056	0.000371	0.000001	0.0000025	0.00000925	0.000165	0.000295
Percent of Total Dustfall		1.60E+00	3.74E-05	2.93E-03	5.11E-03	9.43E-06	6.08E-03	1.11E-03	5.20E-03	2.76E+00	5.98E-04	5.17E-02	9.43E-06	1.82E-04	3.72E-03	1.95E-04	9.11E-06	6.03E-03	1.95E-05	4.07E-05	1.50E-04	2.68E-03	4.80E-03
10-Jul-15	3.60	0.08200	0.0000027	0.000138	0.0008050	0.00000054	0.000150	0.0000478	0.000129	0.125	0.0000	0.0018300	0.000001	0.0000	0.000122	0.0000110	0.00000025	0.000164	0.000001	0.0000021	0.0000084	0.000106	0.000263
Percent of Total Dustfall		2.28E+00	7.50E-05	3.83E-03	2.24E-02	1.50E-05	4.17E-03	1.33E-03	3.58E-03	3.47E+00	5.69E-04	5.08E-02	1.50E-05	8.78E-05	3.39E-03	3.06E-04	6.94E-06	4.56E-03	3.89E-05	5.83E-05	2.33E-04	2.94E-03	7.31E-03
09-Aug-15	16.70	0.45700	0.0000100	0.00052	0.0045100	0.000052	0.000840	0.0002610	0.001600	0.671	0.0001	0.0105000	0.000001	0.0000	0.0006	0.0001000	0.0000011	0.00068	0.000010	0.00001	0.0000496	0.00057	0.00103
Percent of Total Dustfall		2.74E+00	5.99E-05	3.11E-03	2.70E-02	3.11E-04	5.03E-03	1.56E-03	9.58E-03	4.02E+00	6.59E-04	6.29E-02	3.11E-06	4.73E-05	3.59E-03	5.99E-04	6.59E-06	4.07E-03	5.99E-05	5.99E-05	2.97E-04	3.41E-03	6.17E-03
05-Sep-15	9.79	0.23600	0.0000120	0.00058	0.0026900	0.000058	0.001200	0.0001350	0.000700	0.352	0.0001	0.0054700	0.000001	0.0000	0.000298	0.0001200	0.0000012	0.0037	0.000012	0.000012	0.0000228	0.00031	0.00055
Percent of Total Dustfall		2.41E+00	1.23E-04	5.92E-03	2.75E-02	5.92E-04	1.23E-02	1.38E-03	7.15E-03	3.60E+00	6.40E-04	5.59E-02	5.92E-06	5.92E-05	3.04E-03	1.23E-03	1.23E-05	3.78E-02	1.23E-04	1.23E-04	2.33E-04	3.17E-03	5.62E-03
08-Oct-15	2.42	0.06050	0.0000096	0.00048	0.0006300	0.000048	0.000305	0.0000380	0.000096	0.0874	0.0000	0.0014000	0.000000	0.0000	0.000274	0.0000960	0.00000096	0.000137	0.000010	0.0000096	0.00000584	0.000096	0.00034
Percent of Total Dustfall		2.50E+00	3.97E-04	1.98E-02	2.60E-02	1.98E-03	1.26E-02	1.57E-03	3.97E-03	3.61E+00	7.73E-04	5.79E-02	1.98E-05	4.38E-04	1.13E-02	3.97E-03	3.97E-05	5.66E-03	3.97E-04	3.97E-04	2.41E-04	3.97E-03	1.40E-02
17-Nov-15	0.66	0.01260	0.0000011	0.000041	0.0001370	0.0000041	0.000049	0.0000066	0.000021	0.0168	0.0000	0.0003000	0.000041	0.0000	0.00021	0.0000081	0.000000107	0.000052	0.000001	0.00000122	0.00000212	0.0000182	0.00024
Percent of Total Dustfall		1.91E+00	1.71E-04	6.21E-03	2.08E-02	6.21E-04	7.42E-03	1.01E-03	3.11E-03	2.55E+00	8.94E-04	4.55E-02	6.21E-03	2.23E-04	3.18E-02	1.23E-03	1.62E-05	7.88E-03	1.23E-04	1.85E-04	3.21E-04	2.76E-03	3.64E-02
27-Dec-15	0.27	0.00315	0.0000008	0.00004	0.0000340	0.000004	0.000060	0.0000019	0.000100	0.00446	0.0000	0.0000912	0.000040	0.0000	0.0000041	0.0000080	0.00000008	0.000028	0.000001	0.0000008	0.000000479	0.000008	0.000041
Percent of Total Dustfall		1.17E+00	2.96E-04	1.48E-02	1.26E-02	1.48E-03	2.22E-02	7.11E-04	3.70E-02	1.65E+00	9.00E-04	3.38E-02	1.48E-02	1.48E-04	1.52E-03	2.96E-03	2.96E-05	1.04E-02	2.96E-04	2.96E-04	1.77E-04	2.96E-03	1.52E-02
19-Jan-16	0.17	0.00251	0.0000014	0.000072	0.0000310	0.0000072	0.000009	0.0000015	0.000140	0.00302	0.0000	0.0000699	0.000007	0.0000	0.0000072	0.0000140	0.00000014	0.000072	0.000001	0.000014	0.00000035	0.000014	0.000043
Percent of Total Dustfall		1.48E+00	8.24E-04	4.24E-02	1.82E-02	4.24E-03	5.41E-03	8.82E-04	8.24E-02	1.78E+00	1.24E-03	4.11E-02	4.24E-03	4.24E-04	4.24E-03	8.24E-03	8.24E-05	4.24E-02	8.24E-04	8.24E-03	2.06E-04	8.24E-03	2.53E-02
17-Feb-16	0.66	0.00728	0.0000011	0.000056	0.0000761	0.0000056	0.000033	0.0000045	0.000100	0.00918	0.0000	0.0001880	0.000006	0.0000	0.000034	0.0000110	0.00000011	0.0000431	0.000001	0.0000011	0.00000119	0.000011	0.00024
Percent of Total Dustfall		1.10E+00	1.67E-04	8.48E-03	1.15E-02	8.48E-04	4.95E-03	6.82E-04	1.52E-02	1.39E+00	8.47E-04	2.85E-02	8.48E-04	2.30E-04	5.15E-03	1.67E-03	1.67E-05	6.53E-03	1.67E-04	1.67E-04	1.80E-04	1.67E-03	3.64E-02
13-Mar-16	0.56	0.00591	0.0000013	0.000065	0.0000750	0.0000065	0.000024	0.0000034	0.000022	0.00694	0.0000	0.0001560	0.000007	0.0000	0.0000102	0.0000130	0.00000013	0.0000382	0.000001	0.0000013	0.00000074	0.000013	0.000066
Percent of Total Dustfall		1.06E+00	2.32E-04	1.16E-02	1.34E-02	1.16E-03	4.29E-03	6.07E-04	3.93E-03	1.24E+00	7.14E-04	2.79E-02	1.16E-03	9.29E-04	1.82E-03	2.32E-03	2.32E-05	6.82E-03	2.32E-04	2.32E-04	1.32E-04	2.32E-03	1.18E-02
10-Apr-16	2.23	0.04670	0.0000015	0.000059	0.0004230	0.0000058	0.000120	0.0000270	0.000065	0.0678	0.0000	0.0011000	0.000006	0.0000	0.0000791	0.0000120	0.00000015	0.000128	0.000001	0.0000015	0.00000484	0.000062	0.000223
Percent of Total Dustfall		2.09E+00	6.73E-05	2.65E-03	1.90E-02	2.60E-04	5.38E-03	1.21E-03	2.91E-03	3.04E+00	6.95E-04	4.93E-02	2.60E-04	2.06E-04	3.55E-03	5.38E-04	6.73E-06	5.74E-03	5.38E-05	6.73E-05	2.17E-04	2.78E-03	1.00E-02
10-May-16	3.80	0.09860	0.0000010	0.000087	0.0008010	0.0000052	0.000275	0.0000598	0.000097	0.137	0.0000	0.0022600	0.000005	0.0000	0.000171	0.0000100	0.00000031	0.000181	0.000001	0.0000031	0.00000992	0.000158	0.000279
Percent of Total Dustfall		2.59E+00	2.63E-05	2.29E-03	2.11E-02	1.37E-04	7.24E-03	1.57E-03	2.55E-03	3.61E+00	7.24E-04	5.95E-02	1.37E-04	8.61E-05	4.50E-03	2.63E-04	8.16E-06	4.76E-03	3.68E-05	8.16E-05	2.61E-04	4.16E-03	7.34E-03
11-Jun-16	12.00	0.25800	0.0000010	0.000095	0.0020700	0.000005	0.000496	0.0001310	0.000219	0.32	0.0001	0.0051100	0.000005	0.0000	0.000354	0.0000100	0.00000057	0.000465	0.000004	0.0000069	0.0000286	0.000394	0.00054
Percent of Total Dustfall		2.15E+00	8.33E-06	7.92E-04	1.73E-02	4.17E-05	4.13E-03	1.09E-03	1.83E-03	2.67E+00	6.98E-04	4.26E-02	4.17E-05	5.22E-05	2.95E-03	8.33E-05	4.75E-06	3.88E-03	3.50E-05	5.75E-05	2.38E-04	3.28E-03	4.50E-03
12-Jul-16	8.56	0.17000	0.0000010	0.000051	0.0014700	0.0000051	0.000269	0.0000852	0.000142	0.228	0.0001	0.0037800	0.000001	0.0000	0.000187	0.0000100	0.000001	0.000415	0.000003	0.0000092	0.0000169	0.000263	0.000424
Percent of Total Dustfall		1.99E+00	1.17E-05	5.96E-04	1.72E-02	5.96E-05	3.14E-03	9.95E-04	1.66E-03	2.66E+00	6.82E-04	4.42E-02	5.96E-06	6.64E-05	2.18E-03	1.17E-04	1.17E-05	4.85E-03	3.50E-05	1.07E-04	1.97E-04	3.07E-03	4.95E-03
15-Aug-16	4.15	0.06520	0.0000009	0.000047	0.0006910	0.0000047	0.000102	0.0000360	0.000082	0.096	0.0000	0.0016400	0.000000	0.0000	0.0000776	0.0000093	0.00000027	0.000271	0.000001	0.00000319	0.00000785	0.000107	0.000262
Percent of Total Dustfall		1.57E+00	2.24E-05	1.13E-03	1.67E-02	1.13E-04	2.46E-03	8.67E-04	1.98E-03	2.31E+00	7.88E-04	3.95E-02	1.13E-05	8.70E-05	1.87E-03	2.24E-04	6.51E-06	6.53E-03	3.23E-05	7.69E-05	1.89E-04	2.58E-03	6.31E-03
22-Sep-16	1.78	0.03360	0.0000008	0.000042	0.0003810	0.0000042	0.000050	0.0000197	0.000056	0.0535	0.0000	0.0009250	0.000000	0.0000	0.0000453	0.0000084	0.000000448	0.000268	0.000001	0.00000275	0.00000469	0.0000537	0.000236
Percent of Total Dustfall		1.89E+00	4.72E-05	2.36E-03	2.14E-02	2.36E-04	2.79E-03	1.11E-03	3.14E-03	3.01E+00	1.89E-03	5.20E-02	2.36E-05	1.84E-04	2.54E-03	4.72E-04	2.52E-05	1.51E-02	5.17E-05	1.54E-04	2.63E-04	3.02E-03	1.33E-02
18-Oct-16	<1.0	0.02650	0.0000012	0.000092	0.0002980	0.0000062	0.000042	0.0000115	0.000153	0.0402	0.0001	0.0005680	0.000006	0.0000	0.0000234	0.0000120	0.00000095	0.0000554	0.000001	0.0000068	0.00000418	0.000031	0.000317
Percent of Total Dustfall		2.65E+00	1.20E-04	9.20E-03	2.98E-02	6.20E-04	4.17E-03	1.15E-03	1.53E-02	4.02E+00	7.90E-03	5.68E-02	6.20E-04	9.25E-04	2.34E-03	1.20E-03	9.50E-05	5.54E-03	1.20E-04	6.80E-04	4.18E-04	3.10E-03	3.17E-02
18-Nov-16	1.47	0.02930	0.0000010	0.000058	0.0003120	0.0000051	0.000044	0.0000127	0.000246	0.0397	0.0002	0.0006300	0.000005	0.0000	0.000025	0.0000100	0.00000108	0.0000399	0.000001	0.0000085	0.0000094	0.000034	0.000287
Percent of Total Dustfall		1.99E+00	6.80E-05	3.95E-03	2.12E-02	3.47E-04	2.97E-03	8.64E-04	1.67E-02	2.70E+00	1.13E-02	4.29E-02	3.47E-04	8.03E-04	1.70E-03	6.80E-04	7.35E-05	2.71E-03	7.48E-05	5.78E-04	6.39E-04	2.31E-03	1.95E-02
18-Dec-16	2.03	0.03830	0.0000010	0.000052	0.0003830	0.0000052	0.000100	0.0000153	0.000210	0.0464	0.0002	0.0008800	0.000005	0.0000	0.0000417	0.0000100	0.00000151	0.0000559	0.000001	0.0000061	0.0000121	0.000049	0.000281
Percent of Total Dustfall		1.89E+00	4.93E-05	2.56E-03	1.89E-02	2.56E-04	4.92E-03	7.54E-04	1.03E-02	2.29E+00	7.49E-03	4.33E-02	2.56E-04	6.95E-04	2.05E-03	4.93E-04	7.44E-05	2.75E-03	4.93E-05	3.00E-04	5.96E-04	2.41E-03	1.38E-02
AVERAGE % Total Dusfall		1.93E+00	1.95E-04	1.17E-02	1.65E-02	5.89E-04	6.18E-03	1.09E-03	1.27E-02	2.77E+00	2.04E-03	4.78E-02	1.35E-03	3.65E-04	4.67E-03	1.78E-03	3.22E-05	8.77E-03	1.82E-04	5.66E-04	3.04E-04	3.51E-03	1.48E-02

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-14 Dustfall Data for Sample Site DF-RS-04 by Chemical (mg/dm² day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
06-Jan-15	0.81	0.0147	0.0000025	0.0002	0.0000890	0.0000014	0.000041	0.0000097	0.000252	-	0.0000329	0.000452	0.0000013	0.0000042	0.000029	0.000025	0.00000025	0.0000220	0.0000025	0.0000025	0.00000578	0.000025	0.000160
Percent of Total Dustfall		1.81E+00	3.09E-04	2.47E-02	1.10E-02	1.73E-04	5.06E-03	1.20E-03	3.11E-02	-	4.06E-03	5.58E-02	1.60E-04	5.19E-04	3.58E-03	3.09E-03	3.09E-05	2.72E-03	3.09E-04	3.09E-04	7.14E-04	3.09E-03	1.98E-02
07-Feb-15	0.59	0.00699	0.0000024	0.000071	0.0000396	0.0000012	0.000019	0.0000047	0.000069	-	0.0000133	0.000218	0.000012	0.0000024	0.000014	0.000024	0.00000024	0.0000086	0.0000024	0.0000024	0.00000252	0.000024	0.000082
Percent of Total Dustfall		1.18E+00	4.07E-04	1.20E-02	6.71E-03	2.03E-04	3.22E-03	7.97E-04	1.17E-02	-	2.25E-03	3.69E-02	2.03E-03	4.07E-04	2.37E-03	4.07E-03	4.07E-05	1.46E-03	4.07E-04	4.07E-04	4.27E-04	4.07E-03	1.39E-02
07-Mar-15	0.95	0.0170	0.0000012	0.000099	0.0000855	0.0000006	0.000043	0.0000113	0.000127	-	0.0000308	0.000458	0.000012	0.0000043	0.000030	0.000012	0.00000035	0.0000252	0.0000012	0.0000019	0.00000545	0.000025	0.000150
Percent of Total Dustfall		1.79E+00	1.26E-04	1.04E-02	9.00E-03	6.53E-05	4.47E-03	1.19E-03	1.34E-02	-	3.24E-03	4.82E-02	1.26E-03	4.48E-04	3.16E-03	1.26E-03	3.68E-05	2.65E-03	1.26E-04	2.00E-04	5.74E-04	2.63E-03	1.58E-02
07-Apr-15	1.00	0.0331	0.0000019	0.000019	0.0000797	0.0000009	0.000077	0.0000169	0.000067	-	0.0000237	0.000904	0.0000094	0.0000084	0.000045	0.000019	0.00000031	0.0000219	0.0000019	0.0000019	0.00000542	0.000042	0.000171
Percent of Total Dustfall		3.31E+00	1.90E-04	1.90E-03	7.97E-03	9.40E-05	7.72E-03	1.69E-03	6.71E-03	-	2.37E-03	9.04E-02	9.40E-04	8.36E-04	4.51E-03	1.90E-03	3.10E-05	2.19E-03	1.90E-04	1.90E-04	5.42E-04	4.20E-03	1.71E-02
09-May-15	4.89	0.09750	0.0000059	0.000097	0.0003600	0.00000054	0.000170	0.0000483	0.000230	0.14	0.0001	0.0021400	0.000001	0.0000	0.000138	0.0000110	0.00000081	0.000118	0.000001	0.0000091	0.0000194	0.000162	0.000425
Percent of Total Dustfall		1.99E+00	1.21E-04	1.98E-03	7.36E-03	1.10E-05	3.48E-03	9.88E-04	4.70E-03	2.86E+00	1.24E-03	4.38E-02	1.10E-05	2.45E-04	2.82E-03	2.25E-04	1.66E-05	2.41E-03	2.86E-05	1.86E-04	3.97E-04	3.31E-03	8.69E-03
08-Jun-15	34.70	0.68400	0.0000035	0.000046	0.0048000	0.0000014	0.001080	0.0003920	0.000901	1.07	0.0003	0.0158000	0.000001	0.0000	0.000973	0.0000230	0.00000263	0.000394	0.000011	0.0000315	0.000098	0.00102	0.00176
Percent of Total Dustfall		1.97E+00	1.01E-05	1.33E-04	1.38E-02	4.03E-06	3.11E-03	1.13E-03	2.60E-03	3.08E+00	7.64E-04	4.55E-02	1.67E-06	6.05E-05	2.80E-03	6.63E-05	7.58E-06	1.14E-03	3.29E-05	9.08E-05	2.82E-04	2.94E-03	5.07E-03
10-Jul-15	5.18	0.12700	0.0000012	0.000126	0.0011800	0.00000054	0.000159	0.0000638	0.000134	0.187	0.0000	0.0024900	0.000001	0.0000	0.000144	0.0000110	0.00000034	0.000329	0.000002	0.0000029	0.00000925	0.00016	0.000287
Percent of Total Dustfall		2.45E+00	2.32E-05	2.43E-03	2.28E-02	1.04E-05	3.07E-03	1.23E-03	2.59E-03	3.61E+00	6.49E-04	4.81E-02	1.04E-05	6.29E-05	2.78E-03	2.12E-04	6.56E-06	6.35E-03	3.86E-05	5.60E-05	1.79E-04	3.09E-03	5.54E-03
08-Aug-15	26.7	0.78800	0.0000110	0.00054	0.0070900	0.000054	0.000860	0.0004150	0.001600	1.17	0.0002	0.0164000	0.000001	0.0000	0.000893	0.0001100	0.0000022	0.00063	0.000012	0.000013	0.0000722	0.00097	0.00162
Percent of Total Dustfall		2.95E+00	4.12E-05	2.02E-03	2.66E-02	2.02E-04	3.22E-03	1.55E-03	5.99E-03	4.38E+00	9.18E-04	6.14E-02	2.02E-06	4.23E-05	3.34E-03	4.12E-04	8.24E-06	2.36E-03	4.49E-05	4.87E-05	2.70E-04	3.63E-03	6.07E-03
05-Sep-15	24.3	0.81800	0.0000120	0.00062	0.0079200	0.000062	0.001200	0.0004410	0.000750	1.2	0.0003	0.0170000	0.000001	0.0000	0.000987	0.0001200	0.0000024	0.0039	0.000014	0.000013	0.0000738	0.00109	0.00177
Percent of Total Dustfall		3.37E+00	4.94E-05	2.55E-03	3.26E-02	2.55E-04	4.94E-03	1.81E-03	3.09E-03	4.94E+00	1.21E-03	7.00E-02	2.55E-06	4.86E-05	4.06E-03	4.94E-04	9.88E-06	1.60E-02	5.76E-05	5.35E-05	3.04E-04	4.49E-03	7.28E-03
08-Oct-15	8.8	0.23700	0.0000100	0.0005	0.0020200	0.00005	0.000343	0.0001240	0.000200	0.33	0.0001	0.0048100	0.000001	0.0000	0.000319	0.0001000	0.000001	0.00047	0.000010	0.00001	0.0000233	0.00032	0.00069
Percent of Total Dustfall		2.69E+00	1.14E-04	5.68E-03	2.30E-02	5.68E-04	3.90E-03	1.41E-03	2.27E-03	3.75E+00	9.56E-04	5.47E-02	5.68E-06	1.11E-04	3.63E-03	1.14E-03	1.14E-05	5.34E-03	1.14E-04	1.14E-04	2.65E-04	3.64E-03	7.84E-03
17-Nov-15	1.17	0.03480	0.0000019	0.00004	0.0002690	0.000004	0.000070	0.0000175	0.000042	0.0421	0.0000	0.0005900	0.000040	0.0000	0.00021	0.0000081	0.000000108	0.000045	0.000001	0.0000023	0.0000059	0.0000618	0.00024
Percent of Total Dustfall		2.97E+00	1.63E-04	3.42E-03	2.30E-02	3.42E-04	5.98E-03	1.50E-03	3.58E-03	3.60E+00	1.41E-03	5.04E-02	3.42E-03	1.62E-04	1.79E-02	6.92E-04	9.23E-06	3.85E-03	6.92E-05	1.97E-04	5.04E-04	5.28E-03	2.05E-02
21-Dec-15	0.26	0.00626	0.0000009	0.000047	0.0000458	0.0000047	0.000071	0.0000036	0.000120	0.00761	0.0000	0.0001100	0.000047	0.0000	0.0000342	0.0000094	0.000000094	0.000013	0.000001	0.00000127	0.00000108	0.0000113	0.000075
Percent of Total Dustfall		2.41E+00	3.62E-04	1.81E-02	1.76E-02	1.81E-03	2.73E-02	1.39E-03	4.62E-02	2.93E+00	9.62E-04	4.23E-02	1.81E-02	1.96E-04	1.32E-02	3.62E-03	3.62E-05	5.00E-03	3.62E-04	4.88E-04	4.15E-04	4.35E-03	2.88E-02
18-Jan-16	0.15	0.00338	0.0000011	0.000056	0.0000270	0.0000056	0.000010	0.0000022	0.000110	0.00423	0.0000	0.0000711	0.000006	0.0000	0.0000084	0.0000110	0.00000011	0.000056	0.000001	0.000011	0.00000056	0.000011	0.000059
Percent of Total Dustfall		2.25E+00	7.33E-04	3.73E-02	1.80E-02	3.73E-03	6.33E-03	1.47E-03	7.33E-02	2.82E+00	1.38E-03	4.74E-02	3.73E-03	4.73E-04	5.60E-03	7.33E-03	7.33E-05	3.73E-02	7.33E-04	7.33E-03	3.73E-04	7.33E-03	3.93E-02
16-Feb-16	0.25	0.00522	0.0000011	0.000055	0.0000422	0.0000055	0.000014	0.0000036	0.000099	0.00678	0.0000	0.0001130	0.000006	0.0000	0.000033	0.0000110	0.00000011	0.0000153	0.000001	0.0000011	0.00000086	0.000011	0.00023
Percent of Total Dustfall		2.09E+00	4.40E-04	2.20E-02	1.69E-02	2.20E-03	5.76E-03	1.44E-03	3.96E-02	2.71E+00	1.05E-03	4.52E-02	2.20E-03	4.96E-04	1.32E-02	4.40E-03	4.40E-05	6.12E-03	4.40E-04	4.40E-04	3.44E-04	4.40E-03	9.20E-02
14-Mar-16	0.36	0.00681	0.0000012	0.00006	0.0000615	0.000006	0.000026	0.0000051	0.000016	0.00888	0.0000	0.0001540	0.000006	0.0000	0.0000129	0.0000120	0.00000012	0.0000406	0.000001	0.0000012	0.00000093	0.000012	0.000053
Percent of Total Dustfall		1.89E+00	3.33E-04	1.67E-02	1.71E-02	1.67E-03	7.31E-03	1.42E-03	4.44E-03	2.47E+00	1.01E-03	4.28E-02	1.67E-03	1.33E-03	3.58E-03	3.33E-03	3.33E-05	1.13E-02	3.33E-04	3.33E-04	2.58E-04	3.33E-03	1.47E-02
10-Apr-16	1.23	0.03530	0.0000012	0.000061	0.0002340	0.0000061	0.000072	0.0000208	0.000041	0.0496	0.0000	0.0006490	0.000006	0.0000	0.0000508	0.0000120	0.00000012	0.000024	0.000001	0.0000016	0.00000389	0.000046	0.000169
Percent of Total Dustfall		2.87E+00	9.76E-05	4.96E-03	1.90E-02	4.96E-04	5.85E-03	1.69E-03	3.33E-03	4.03E+00	9.02E-04	5.28E-02	4.96E-04	3.90E-04	4.13E-03	9.76E-04	9.76E-06	1.95E-03	9.76E-05	1.30E-04	3.16E-04	3.74E-03	1.37E-02
09-May-16	3.66	0.10800	0.0000011	0.000055	0.0006450	0.0000055	0.000193	0.0000651	0.000094	0.146	0.0000	0.0020300	0.000006	0.0000	0.000141	0.0000110	0.00000029	0.000109	0.000002	0.0000043	0.0000158	0.00021	0.000289
Percent of Total Dustfall		2.95E+00	3.01E-05	1.50E-03	1.76E-02	1.50E-04	5.27E-03	1.78E-03	2.57E-03	3.99E+00	1.09E-03	5.55E-02	1.50E-04	1.08E-04	3.85E-03	3.01E-04	7.92E-06	2.98E-03	4.37E-05	1.17E-04	4.32E-04	5.74E-03	7.90E-03
11-Jun-16	53.50	0.71100	0.0000099	0.0005	0.0051100	0.00005	0.000790	0.0003720	0.000641	0.982	0.0006	0.0181000	0.000005	0.0000	0.000735	0.0000990	0.00000226	0.00035	0.000014	0.000069	0.000133	0.00104	0.00205
Percent of Total Dustfall		1.33E+00	1.85E-05	9.35E-04	9.55E-03	9.35E-05	1.48E-03	6.95E-04	1.20E-03	1.84E+00	1.09E-03	3.38E-02	9.35E-06	5.72E-05	1.37E-03	1.85E-04	4.22E-06	6.54E-04	2.67E-05	1.29E-04	2.49E-04	1.94E-03	3.83E-03
12-Jul-16	109.00	1.48000	0.0000110	0.00053	0.0117000	0.000053	0.001430	0.0007270	0.001110	2.04	0.0010	0.0351000	0.000001	0.0000	0.00142	0.0001100	0.000011	0.00068	0.000029	0.000096	0.000189	0.00202	0.00383
Percent of Total Dustfall		1.36E+00	1.01E-05	4.86E-04	1.07E-02	4.86E-05	1.31E-03	6.67E-04	1.02E-03	1.87E+00	8.97E-04	3.22E-02	4.86E-07	3.97E-05	1.30E-03	1.01E-04	1.01E-05	6.24E-04	2.66E-05	8.81E-05	1.73E-04	1.85E-03	3.51E-03
15-Aug-16	12.40	0.31500	0.0000094	0.00047	0.0028000	0.000047	0.000300	0.0001510	0.000660	0.434	0.0002	0.0068700	0.000000	0.0000	0.000302	0.0000940	0.0000013	0.00028	0.000009	0.0000143	0.0000363	0.000442	0.00096
Percent of Total Dustfall		2.54E+00	7.58E-05	3.79E-03	2.26E-02	3.79E-04	2.42E-03	1.22E-03	5.32E-03	3.50E+00	1.65E-03	5.54E-02	3.79E-06	2.10E-04	2.44E-03	7.58E-04	1.05E-05	2.26E-03	7.58E-05	1.15E-04	2.93E-04	3.56E-03	7.74E-03
21-Sep-16	22.50	0.43300	0.0000084	0.00042	0.0035600	0.000042	0.000428	0.0002190	0.000372	0.61	0.0003	0.0100000	0.000000	0.0000	0.000427	0.0000840	0.00000238	0.00063	0.000009	0.0000186	0.0000558	0.0006	0.00134
Percent of Total Dustfall		1.92E+00	3.73E-05	1.87E-03	1.58E-02	1.87E-04	1.90E-03	9.73E-04	1.65E-03	2.71E+00	1.47E-03	4.44E-02	1.87E-06	6.31E-05	1.90E-03	3.73E-04	1.06E-05	2.80E-03	4.00E-05	8.27E-05	2.48E-04	2.67E-03	5.96E-03
17-Oct-16	2.20	0.07220	0.0000014	0.000068	0.0006600	0.0000068	0.000081	0.0000330	0.000147	0.103	0.0001	0.0015400	0.000007	0.0000	0.0000704	0.0000140	0.00000109	0.0000498	0.000002	0.0000062	0.00000939	0.000097	0.000385
Percent of Total Dustfall		3.28E+00	6.36E-05	3.09E-03	3.00E-02	3.09E-04	3.66E-03	1.50E-03	6.68E-03	4.68E+00	4.40E-03	7.00E-02	3.09E-04	4.95E-04	3.20E-03	6.36E-04	4.95E-05	2.26E-03	9.09E-05	2.82E-04	4.27E-04	4.41E-03	1.75E-02
18-Nov-16	0.47	0.01330	0.0000010	0.00005	0.0001640	0.000005	0.000024	0.0000072	0.000073	0.0197	0.0001	0.0003110	0.000005	0.0000	0.0000147	0.0000100	0.00000034	0.0000141	0.000001	0.0000026	0.00000236	0.000019	0.000145
Percent of Total Dustfall		2.83E+00	2.13E-04	1.06E-02	3.49E-02	1.06E-03	5.15E-03	1.53E-03	1.55E-02	4.19E+00	1.28E-02	6.62E-02	1.06E-03	1.33E-03	3.13E-03	2.13E-03	7.23E-05	3.00E-03	2.13E-04	5.53E-04	5.02E-04	4.04E-03	3.09E-02
18-Dec-16	0.79	0.02050	0.0000011	0.000053	0.0002240	0.0000053	0.000078	0.0000109	0.000128	0.0279	0.0001	0.0005260	0.000005	0.0000	0.0000373	0.0000110	0.00000086	0.0000216	0.000001	0.0000039	0.00000355	0.000034	0.000216
Percent of Total Dustfall		2.59E+00	1.39E-04	6.71E-03	2.84E-02	6.71E-04	9.86E-03	1.38E-03	1.62E-02	3.53E+00	1.71E-02	6.66E-02	6.71E-04	1.47E-03	4.72E-03	1.39E-03	1.09E-04	2.73E-03	1.39E-04	4.94E-04	4.49E-04	4.30E-03	2.73E-02
AVERAGE % Total Dusfall		2.36752	0.00017	0.00814	0.01841	0.00061	0.00549	0.00132	0.01270	3.37478	0.00270	0.05249	0.00151	0.00040	0.00469	0.00163	0.00003	0.00523	0.00017	0.00052	0.00037	0.00383	0.01753

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-15 Dustfall Data for Sample Site DF-RS-05 by Chemical (mg/dm^2 day)

Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
06-Jan-15	0.64	0.0121	0.0000027	0.000014	0.0000920	0.0000014	0.000039	0.0000092	0.000071	-	0.0000261	0.000387	0.0000014	0.0000040	0.000028	0.000027	0.00000027	0.0000212	0.0000027	0.0000027	0.00000306	0.000027	0.000195
Percent of Total Dustfall		1.89E+00	4.22E-04	2.19E-03	1.44E-02	2.19E-04	6.09E-03	1.44E-03	1.11E-02	-	4.08E-03	6.05E-02	2.19E-04	6.25E-04	4.38E-03	4.22E-03	4.22E-05	3.31E-03	4.22E-04	4.22E-04	4.78E-04	4.22E-03	3.05E-02
07-Feb-15	0.39	0.0073	0.0000022	0.00016	0.0000403	0.0000011	0.000022	0.0000047	0.000067	-	0.0000153	0.000199	0.000011	0.0000022	0.000012	0.000022	0.00000022	0.0000103	0.0000022	0.0000022	0.00000387	0.000022	0.000085
Percent of Total Dustfall		1.88E+00	5.64E-04	4.10E-02	1.03E-02	2.82E-04	5.64E-03	1.21E-03	1.72E-02	-	3.92E-03	5.10E-02	2.82E-03	5.64E-04	3.08E-03	5.64E-03	5.64E-05	2.64E-03	5.64E-04	5.64E-04	9.92E-04	5.64E-03	2.18E-02
07-Mar-15	0.63	0.0119	0.0000012	0.000049	0.0000567	0.0000006	0.000031	0.0000080	0.000110	-	0.0000275	0.000337	0.000012	0.0000044	0.000020	0.000012	0.00000032	0.0000187	0.0000012	0.0000013	0.00000386	0.000018	0.000115
Percent of Total Dustfall		1.89E+00	1.90E-04	7.78E-03	9.00E-03	9.84E-05	4.90E-03	1.27E-03	1.75E-02	-	4.37E-03	5.35E-02	1.90E-03	6.97E-04	3.21E-03	1.90E-03	5.08E-05	2.97E-03	1.90E-04	2.06E-04	6.13E-04	2.86E-03	1.83E-02
07-Apr-15	0.84	0.0272	0.0000017	0.00017	0.0000704	0.00000084	0.000065	0.0000139	0.000063	-	0.0000158	0.000733	0.0000084	0.0000067	0.000039	0.000017	0.00000028	0.0000184	0.0000017	0.0000017	0.00000445	0.000037	0.000170
Percent of Total Dustfall		3.24E+00	2.02E-04	2.02E-02	8.38E-03	1.00E-04	7.75E-03	1.65E-03	7.45E-03	-	1.88E-03	8.73E-02	1.00E-03	8.02E-04	4.65E-03	2.02E-03	3.33E-05	2.19E-03	2.02E-04	2.02E-04	5.30E-04	4.40E-03	2.02E-02
09-May-15	6.38	0.11500	0.0000056	0.000086	0.0004240	0.00000054	0.000195	0.0000562	0.000167	0.165	0.0001	0.0025000	0.000001	0.0000	0.000162	0.0000110	0.00000101	0.000141	0.000002	0.0000087	0.000024	0.000193	0.000451
Percent of Total Dustfall		1.80E+00	8.78E-05	1.35E-03	6.65E-03	8.46E-06	3.06E-03	8.81E-04	2.62E-03	2.59E+00	1.08E-03	3.92E-02	8.46E-06	2.15E-04	2.54E-03	1.72E-04	1.58E-05	2.21E-03	2.51E-05	1.36E-04	3.76E-04	3.03E-03	7.07E-03
08-Jun-15	28.60	0.64100	0.0000059	0.000037	0.0045300	0.0000014	0.001140	0.0003690	0.000842	1.03	0.0002	0.0147000	0.000001	0.0000	0.00101	0.0000230	0.00000234	0.000319	0.000010	0.0000223	0.0000788	0.000908	0.00157
Percent of Total Dustfall		2.24E+00	2.06E-05	1.29E-04	1.58E-02	4.90E-06	3.99E-03	1.29E-03	2.94E-03	3.60E+00	8.64E-04	5.14E-02	2.03E-06	6.29E-05	3.53E-03	8.04E-05	8.18E-06	1.12E-03	3.39E-05	7.80E-05	2.76E-04	3.17E-03	5.49E-03
10-Jul-15	23.20	0.54600	0.0000031	0.000142	0.0052900	0.0000011	0.000641	0.0002760	0.000482	0.816	0.0001	0.0110000	0.000001	0.0000	0.000607	0.0000220	0.00000147	0.0011	0.000009	0.0000129	0.0000432	0.000692	0.00108
Percent of Total Dustfall		2.35E+00	1.34E-05	6.12E-04	2.28E-02	4.74E-06	2.76E-03	1.19E-03	2.08E-03	3.52E+00	5.73E-04	4.74E-02	2.33E-06	4.70E-05	2.62E-03	9.48E-05	6.34E-06	4.74E-03	3.88E-05	5.56E-05	1.86E-04	2.98E-03	4.66E-03
08-Aug-15	35.5	1.02000	0.0000120	0.00062	0.0091700	0.000062	0.001100	0.0005360	0.001900	1.51	0.0003	0.0214000	0.000001	0.0000	0.00117	0.0001200	0.0000039	0.00114	0.000016	0.000015	0.0000919	0.00127	0.00208
Percent of Total Dustfall		2.87E+00	3.38E-05	1.75E-03	2.58E-02	1.75E-04	3.10E-03	1.51E-03	5.35E-03	4.25E+00	8.82E-04	6.03E-02	1.75E-06	3.75E-05	3.30E-03	3.38E-04	1.10E-05	3.21E-03	4.51E-05	4.23E-05	2.59E-04	3.58E-03	5.86E-03
05-Sep-15	12.8	0.38900	0.0000120	0.00059	0.0036200	0.000059	0.001200	0.0002020	0.000710	0.561	0.0001	0.0078200	0.000001	0.0000	0.00049	0.0001200	0.0000012	0.0037	0.000012	0.000014	0.0000331	0.00052	0.00085
Percent of Total Dustfall		3.04E+00	9.38E-05	4.61E-03	2.83E-02	4.61E-04	9.38E-03	1.58E-03	5.55E-03	4.38E+00	1.16E-03	6.11E-02	4.61E-06	4.61E-05	3.83E-03	9.38E-04	9.38E-06	2.89E-02	9.38E-05	1.09E-04	2.59E-04	4.06E-03	6.64E-03
08-Oct-15	11.70	0.32700	0.0000097	0.00049	0.0028600	0.000049	0.000575	0.0001700	0.000265	0.461	0.0001	0.0066400	0.000000	0.0000	0.000516	0.0000970	0.00000114	0.000248	0.000010	0.0000097	0.0000279	0.000465	0.00105
Percent of Total Dustfall		2.79E+00	8.29E-05	4.19E-03	2.44E-02	4.19E-04	4.91E-03	1.45E-03	2.26E-03	3.94E+00	9.32E-04	5.68E-02	4.19E-06	1.74E-04	4.41E-03	8.29E-04	9.74E-06	2.12E-03	8.29E-05	8.29E-05	2.38E-04	3.97E-03	8.97E-03
17-Nov-15	0.49	0.01470	0.0000013	0.000043	0.0001140	0.0000043	0.000051	0.0000077	0.000021	0.0178	0.0000	0.0002400	0.000043	0.0000	0.00022	0.0000086	0.000000086	0.000021	0.000001	0.00000132	0.00000209	0.0000257	0.00026
Percent of Total Dustfall		3.00E+00	2.55E-04	8.78E-03	2.33E-02	8.78E-04	1.04E-02	1.56E-03	4.24E-03	3.63E+00	1.27E-03	4.90E-02	8.78E-03	1.63E-04	4.49E-02	1.76E-03	1.76E-05	4.29E-03	1.76E-04	2.69E-04	4.27E-04	5.24E-03	5.31E-02
21-Dec-15	0.20	0.00462	0.0000010	0.000049	0.0000416	0.0000049	0.000073	0.0000027	0.000130	0.00551	0.0000	0.0000782	0.000049	0.0000	0.0000049	0.0000097	0.000000097	0.000014	0.000001	0.00000097	0.000000732	0.0000097	0.000047
Percent of Total Dustfall		2.31E+00	4.85E-04	2.45E-02	2.08E-02	2.45E-03	3.65E-02	1.35E-03	6.50E-02	2.76E+00	9.95E-04	3.91E-02	2.45E-02	2.45E-04	2.45E-03	4.85E-03	4.85E-05	7.00E-03	4.85E-04	4.85E-04	3.66E-04	4.85E-03	2.35E-02
18-Jan-16	0.14	0.00352	0.0000012	0.000058	0.0000283	0.0000058	0.000010	0.0000023	0.000120	0.00448	0.0000	0.0000729	0.000006	0.0000	0.0000059	0.0000120	0.00000012	0.000058	0.000001	0.000012	0.0000058	0.000012	0.00006
Percent of Total Dustfall		2.51E+00	8.57E-04	4.14E-02	2.02E-02	4.14E-03	6.86E-03	1.64E-03	8.57E-02	3.20E+00	1.23E-03	5.21E-02	4.14E-03	5.71E-04	4.21E-03	8.57E-03	8.57E-05	4.14E-02	8.57E-04	8.57E-03	4.14E-04	8.57E-03	4.29E-02
16-Feb-16	0.20	0.00371	0.0000011	0.000055	0.0000320	0.0000055	0.000010	0.0000025	0.000100	0.00458	0.0000	0.0000768	0.000006	0.0000	0.000033	0.0000110	0.00000011	0.0000137	0.000001	0.0000011	0.00000047	0.000011	0.00023
Percent of Total Dustfall		1.86E+00	5.50E-04	2.75E-02	1.60E-02	2.75E-03	5.15E-03	1.25E-03	5.00E-02	2.29E+00	8.45E-04	3.84E-02	2.75E-03	2.75E-04	1.65E-02	5.50E-03	5.50E-05	6.85E-03	5.50E-04	5.50E-04	2.35E-04	5.50E-03	1.15E-01
14-Mar-16	0.28	0.00516	0.0000012	0.000059	0.0000418	0.0000059	0.000023	0.0000038	0.000017	0.00709	0.0000	0.0001200	0.000006	0.0000	0.0000172	0.0000120	0.00000012	0.0000296	0.000001	0.0000012	0.00000074	0.000012	0.000047
Percent of Total Dustfall		1.84E+00	4.29E-04	2.11E-02	1.49E-02	2.11E-03	8.18E-03	1.36E-03	6.07E-03	2.53E+00	8.61E-04	4.29E-02	2.11E-03	1.68E-03	6.14E-03	4.29E-03	4.29E-05	1.06E-02	4.29E-04	4.29E-04	2.64E-04	4.29E-03	1.68E-02
10-Apr-16	1.13	0.03190	0.0000012	0.000061	0.0002180	0.0000061	0.000060	0.0000184	0.000033	0.0438	0.0000	0.0005970	0.000006	0.0000	0.0000515	0.0000120	0.00000012	0.000035	0.000001	0.0000014	0.00000317	0.000041	0.000108
Percent of Total Dustfall		2.82E+00	1.06E-04	5.40E-03	1.93E-02	5.40E-04	5.30E-03	1.63E-03	2.92E-03	3.88E+00	8.81E-04	5.28E-02	5.40E-04	4.25E-04	4.56E-03	1.06E-03	1.06E-05	3.10E-03	1.06E-04	1.24E-04	2.81E-04	3.63E-03	9.56E-03
09-May-16	3.19	0.10600	0.0000011	0.00006	0.0006120	0.0000055	0.000189	0.0000569	0.000082	0.126	0.0000	0.0018400	0.000006	0.0000	0.00013	0.0000110	0.00000035	0.000117	0.000001	0.0000037	0.0000145	0.000189	0.000284
Percent of Total Dustfall		3.32E+00	3.45E-05	1.88E-03	1.92E-02	1.72E-04	5.92E-03	1.78E-03	2.57E-03	3.95E+00	1.00E-03	5.77E-02	1.72E-04	1.66E-04	4.08E-03	3.45E-04	1.10E-05	3.67E-03	4.39E-05	1.16E-04	4.55E-04	5.92E-03	8.90E-03
11-Jun-16	56.60	0.85400	0.0000100	0.0005	0.0060700	0.00005	0.000863	0.0004240	0.000710	1.18	0.0006	0.0211000	0.000005	0.0000	0.000809	0.0001000	0.0000035	0.00031	0.000017	0.00007	0.000146	0.00118	0.00224
Percent of Total Dustfall		1.51E+00	1.77E-05	8.83E-04	1.07E-02	8.83E-05	1.52E-03	7.49E-04	1.25E-03	2.08E+00	1.12E-03	3.73E-02	8.83E-06	6.27E-05	1.43E-03	1.77E-04	6.18E-06	5.48E-04	3.00E-05	1.24E-04	2.58E-04	2.08E-03	3.96E-03
12-Jul-16	27.80	0.59100	0.0000110	0.00054	0.0047400	0.000054	0.000598	0.0002900	0.000450	0.834	0.0004	0.0143000	0.000001	0.0000	0.000584	0.0001100	0.000011	0.00032	0.000012	0.000098	0.0000761	0.00083	0.00169
Percent of Total Dustfall		2.13E+00	3.96E-05	1.94E-03	1.71E-02	1.94E-04	2.15E-03	1.04E-03	1.62E-03	3.00E+00	1.43E-03	5.14E-02	1.94E-06	6.80E-05	2.10E-03	3.96E-04	3.96E-05	1.15E-03	4.32E-05	3.53E-04	2.74E-04	2.99E-03	6.08E-03
15-Aug-16	8.27	0.23600	0.0000097	0.00049	0.0021900	0.000049	0.000247	0.0001140	0.000680	0.326	0.0001	0.0051500	0.000000	0.0000	0.000237	0.0000970	0.00000097	0.0003	0.000010	0.0000101	0.0000266	0.000334	0.00089
Percent of Total Dustfall		2.85E+00	1.17E-04	5.93E-03	2.65E-02	5.93E-04	2.99E-03	1.38E-03	8.22E-03	3.94E+00	1.75E-03	6.23E-02	5.93E-06	1.20E-04	2.87E-03	1.17E-03	1.17E-05	3.63E-03	1.17E-04	1.22E-04	3.22E-04	4.04E-03	1.08E-02
22-Sep-16	8.79	0.20100	0.0000082	0.00041	0.0016500	0.000041	0.000215	0.0001020	0.000182	0.287	0.0002	0.0045800	0.000000	0.0000	0.000198	0.0000820	0.00000143	0.00029	0.000008	0.0000102	0.000024	0.000284	0.00071
Percent of Total Dustfall		2.29E+00	9.33E-05	4.66E-03	1.88E-02	4.66E-04	2.45E-03	1.16E-03	2.07E-03	3.27E+00	1.76E-03	5.21E-02	4.66E-06	1.02E-04	2.25E-03	9.33E-04	1.63E-05	3.30E-03	9.33E-05	1.16E-04	2.73E-04	3.23E-03	8.08E-03
17-Oct-16	1.40	0.05030	0.0000013	0.000064	0.0004600	0.0000064	0.000059	0.0000235	0.000110	0.0728	0.0001	0.0010500	0.000006	0.0000	0.000049	0.0000130	0.00000082	0.0000433	0.000001	0.0000065	0.00000604	0.000066	0.000285
Percent of Total Dustfall		3.59E+00	9.29E-05	4.57E-03	3.29E-02	4.57E-04	4.19E-03	1.68E-03	7.86E-03	5.20E+00	5.61E-03	7.50E-02	4.57E-04	8.21E-04	3.50E-03	9.29E-04	5.86E-05	3.09E-03	9.29E-05	4.64E-04	4.31E-04	4.71E-03	2.04E-02
18-Nov-16	<0.10	0.00196	0.0000010	0.000051	0.0000295	0.0000051	0.000005	0.0000013	0.000018	0.00316	0.0000	0.0000549	0.000005	0.0000	0.0000051	0.0000100	0.00000011	0.0000061	0.000001	0.000001	0.00000047	0.00001	0.000042
Percent of Total Dustfall		1.96E+00	1.00E-03	5.10E-02	2.95E-02	5.10E-03	5.10E-03	1.30E-03	1.80E-02	3.16E+00	8.53E-03	5.49E-02	5.10E-03	7.00E-04	5.10E-03	1.00E-02	1.10E-04	6.10E-03	1.00E-03	1.00E-03	4.70E-04	1.00E-02	4.20E-02
18-Dec-16	0.47	0.01340	0.0000011	0.000054	0.0001400	0.0000054	0.000049	0.0000075	0.000076	0.0182	0.0001	0.0003290	0.000005	0.0000	0.0000216	0.0000110	0.00000051	0.0000124	0.000001	0.0000029	0.00000201	0.000022	0.000131
Percent of Total Dustfall		2.85E+00	2.34E-04	1.15E-02	2.98E-02	1.15E-03	1.03E-02	1.60E-03	1.62E-02	3.87E+00	1.53E-02	7.00E-02	1.15E-03	1.78E-03	4.60E-03	2.34E-03	1.09E-04	2.64E-03	2.34E-04	6.17E-04	4.28E-04	4.68E-03	2.79E-02
AVERAGE % Total Dusfall		2.45E+00	2.51E-04	1.23E-02	1.94E-02	9.52E-04	6.61E-03	1.37E-03	1.44E-02	3.45E+00	2.60E-03	5.43E-02	2.32E-03	4.35E-04	5.84E-03	2.44E-03	3.61E-05	6.28E-03	2.48E-04	6.35E-04	3.79E-04	4.49E-03	2.16E-02

Note: Red font values are non-detect values, and the detection limit is presented as the value

Table A-16 Percent of Total Dustfall for Sample Sites DF-RN-04, DF-RN-05, DF-RS-04 and DF-RS-05 by Chemical (mg/dm^2 day)

Sample Site	Sample Date	Total Insoluble Dustfall	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Cadmium (Cd)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Selenium (Se)-Total	Silver (Ag)-Total	Strontium (Sr)-Total	Thallium (Tl)-Total	Tin (Sn)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total
DF-RN-04	06-Jan-15	**Percent of Total Dustfall**	7.31E-01	8.95E-05	5.24E-03	3.56E-03	4.37E-05	2.03E-03	3.91E-04	8.86E-03	-	1.06E-03	2.73E-02	4.37E-05	1.64E-04	1.14E-03	8.73E-04	8.73E-06	7.64E-03	8.73E-05	8.73E-05	1.78E-04	1.51E-03	8.52E-03
DF-RN-04	07-Feb-15	**Percent of Total Dustfall**	1.76E+00	7.67E-05	1.88E-04	6.62E-03	1.88E-05	3.87E-03	8.89E-04	7.07E-03	-	1.98E-03	3.38E-02	1.88E-04	3.73E-04	1.62E-03	3.83E-04	1.36E-05	2.72E-03	3.83E-05	1.36E-04	6.03E-04	2.82E-03	7.74E-03
DF-RN-04	07-Mar-15	**Percent of Total Dustfall**	1.82E+00	1.45E-04	5.72E-03	6.53E-03	3.58E-05	4.10E-03	7.80E-04	2.70E-03	-	2.45E-03	3.39E-02	6.94E-04	3.22E-04	1.64E-03	6.94E-04	1.39E-05	4.78E-03	6.94E-05	1.45E-04	6.65E-04	2.77E-03	1.07E-02
DF-RN-04	07-Apr-15	**Percent of Total Dustfall**	1.53E+00	1.03E-04	1.03E-02	6.15E-03	5.13E-05	3.46E-03	6.43E-04	4.21E-03	-	1.59E-03	3.15E-02	5.13E-04	2.40E-04	1.37E-03	1.03E-03	1.39E-05	4.91E-03	1.03E-04	1.39E-04	5.18E-04	2.34E-03	1.23E-02
DF-RN-04	09-May-15	**Percent of Total Dustfall**	1.99E+00	1.17E-04	8.02E-04	2.90E-03	9.26E-06	4.59E-03	1.11E-03	3.13E-03	3.88E+00	9.51E-04	6.48E-02	9.26E-06	5.94E-04	3.25E-03	1.91E-04	1.16E-05	5.88E-03	1.91E-05	5.06E-05	2.37E-04	2.48E-03	7.10E-03
DF-RN-04	08-Jun-15	**Percent of Total Dustfall**	1.57E+00	3.53E-05	3.53E-04	6.25E-03	8.91E-06	4.41E-03	9.09E-04	9.69E-03	2.50E+00	8.05E-04	4.10E-02	8.91E-06	1.78E-04	2.86E-03	1.84E-04	9.83E-06	6.16E-03	2.00E-05	5.07E-05	1.86E-04	2.40E-03	4.79E-03
DF-RN-04	10-Jul-15	**Percent of Total Dustfall**	1.91E+00	1.05E-05	5.71E-04	2.02E-02	4.62E-06	2.77E-03	1.07E-03	2.11E-03	2.84E+00	4.15E-04	4.29E-02	2.27E-06	3.82E-05	2.41E-03	9.24E-05	4.41E-06	4.54E-03	3.61E-05	4.62E-05	1.96E-04	2.40E-03	4.29E-03
DF-RN-04	09-Aug-15	**Percent of Total Dustfall**	2.28E+00	3.13E-05	1.51E-03	2.37E-02	1.51E-04	2.96E-03	1.29E-03	4.56E-03	3.33E+00	5.36E-04	5.36E-02	1.51E-06	6.13E-05	2.80E-03	3.13E-04	4.84E-06	3.93E-03	4.27E-05	3.13E-05	2.40E-04	2.82E-03	5.07E-03
DF-RN-04	05-Sep-15	**Percent of Total Dustfall**	2.55E+00	5.48E-05	2.69E-03	2.92E-02	2.69E-04	5.48E-03	1.43E-03	3.24E-03	3.80E+00	6.76E-04	6.07E-02	2.69E-06	4.02E-05	2.98E-03	5.48E-04	8.68E-06	1.69E-02	5.48E-05	5.48E-05	2.39E-04	3.33E-03	5.75E-03
DF-RN-04	08-Oct-15	**Percent of Total Dustfall**	2.59E+00	1.59E-04	8.03E-03	2.69E-02	8.03E-04	5.03E-03	1.47E-03	2.47E-03	3.75E+00	7.17E-04	5.95E-02	8.03E-06	1.69E-04	4.13E-03	1.59E-03	1.59E-05	4.98E-03	1.59E-04	1.59E-04	2.51E-04	3.34E-03	9.36E-03
DF-RN-04	17-Nov-15	**Percent of Total Dustfall**	1.90E+00	2.20E-04	2.56E-03	1.87E-02	2.56E-04	5.24E-03	9.70E-04	2.81E-03	2.49E+00	8.90E-04	4.39E-02	2.56E-03	2.00E-04	1.28E-02	5.06E-04	7.20E-06	6.71E-03	5.06E-05	1.42E-04	3.55E-04	2.67E-03	1.52E-02
DF-RN-04	27-Dec-15	**Percent of Total Dustfall**	1.28E+00	1.11E-04	4.41E-03	1.17E-02	4.41E-04	6.67E-03	6.62E-04	1.18E-02	1.70E+00	7.68E-04	3.25E-02	4.41E-03	1.57E-04	1.80E-03	8.92E-04	1.06E-05	6.77E-03	8.92E-05	1.05E-04	1.81E-04	2.03E-03	7.53E-03
DF-RN-04	19-Jan-16	**Percent of Total Dustfall**	1.46E+00	3.26E-04	1.61E-02	1.20E-02	1.61E-03	3.96E-03	7.39E-04	3.26E-02	1.62E+00	1.00E-03	3.52E-02	1.61E-03	2.02E-04	2.09E-03	3.26E-03	3.26E-05	1.61E-02	3.26E-04	3.26E-03	2.50E-04	3.26E-03	1.11E-02
DF-RN-04	17-Feb-16	**Percent of Total Dustfall**	1.06E+00	1.71E-04	2.26E-03	8.49E-03	2.26E-04	2.81E-03	5.79E-04	3.97E-03	1.43E+00	7.42E-04	2.94E-02	2.26E-04	2.05E-04	1.59E-03	4.37E-04	1.07E-05	6.67E-03	4.37E-05	6.75E-05	1.83E-04	1.79E-03	9.52E-03
DF-RN-04	13-Mar-16	**Percent of Total Dustfall**	1.09E+00	7.10E-05	3.55E-03	7.49E-03	3.55E-04	2.99E-03	5.52E-04	1.69E-03	1.33E+00	7.32E-04	2.85E-02	3.55E-04	2.84E-04	1.49E-03	7.10E-04	7.10E-06	6.28E-03	7.10E-05	7.10E-05	1.93E-04	1.64E-03	5.30E-03
DF-RN-04	10-Apr-16	**Percent of Total Dustfall**	1.87E+00	5.85E-05	2.98E-03	1.72E-02	2.98E-04	4.60E-03	1.08E-03	2.45E-03	2.70E+00	5.90E-04	4.46E-02	2.98E-04	2.39E-04	3.07E-03	5.85E-04	9.04E-06	5.90E-03	5.85E-05	7.45E-05	1.91E-04	2.55E-03	9.15E-03
DF-RN-04	10-May-16	**Percent of Total Dustfall**	2.45E+00	3.00E-05	1.44E-03	1.76E-02	1.44E-04	6.10E-03	1.33E-03	2.13E-03	2.97E+00	6.70E-04	5.04E-02	1.44E-04	1.19E-04	3.84E-03	3.00E-04	5.45E-06	5.34E-03	3.27E-05	8.99E-05	2.47E-04	3.73E-03	6.16E-03
DF-RN-04	11-Jun-16	**Percent of Total Dustfall**	2.10E+00	2.27E-05	1.84E-03	1.93E-02	1.16E-04	3.55E-03	1.09E-03	1.66E-03	2.80E+00	9.57E-04	4.27E-02	1.16E-04	6.86E-05	2.39E-03	2.27E-04	3.86E-06	3.66E-03	4.09E-05	1.61E-04	2.57E-04	3.57E-03	5.20E-03
DF-RN-04	12-Jul-16	**Percent of Total Dustfall**	1.63E+00	3.50E-05	1.69E-03	1.43E-02	1.69E-04	2.50E-03	8.50E-04	1.40E-03	2.26E+00	6.69E-04	3.66E-02	1.69E-06	4.33E-05	1.84E-03	3.50E-04	3.50E-05	3.50E-03	3.50E-05	3.06E-04	1.92E-04	2.61E-03	4.30E-03
DF-RN-04	15-Aug-16	**Percent of Total Dustfall**	1.94E+00	9.38E-05	4.74E-03	1.90E-02	4.74E-04	2.76E-03	9.86E-04	6.55E-03	2.64E+00	8.32E-04	4.29E-02	4.74E-06	8.37E-05	2.04E-03	9.38E-04	9.38E-06	6.55E-03	9.38E-05	9.38E-05	2.15E-04	3.01E-03	7.06E-03
DF-RN-04	22-Sep-16	**Percent of Total Dustfall**	1.78E+00	3.28E-05	1.64E-03	1.97E-02	1.64E-04	2.31E-03	1.03E-03	3.80E-03	2.88E+00	3.13E-03	4.85E-02	1.64E-05	2.93E-04	2.27E-03	3.28E-04	3.00E-05	1.45E-02	5.53E-05	1.87E-04	2.52E-04	2.77E-03	1.54E-02
DF-RN-04	18-Oct-16	**Percent of Total Dustfall**	2.26E+00	4.29E-05	2.18E-03	2.46E-02	2.18E-04	1.68E-03	8.79E-04	1.74E-02	3.49E+00	1.04E-02	4.43E-02	2.18E-04	1.07E-03	1.52E-03	4.29E-04	1.03E-04	3.18E-03	1.07E-04	4.29E-04	3.68E-04	2.11E-03	2.29E-02
DF-RN-04	18-Nov-16	**Percent of Total Dustfall**	2.32E+00	2.89E-05	1.50E-03	2.67E-02	1.50E-04	3.53E-03	1.07E-03	2.09E-02	3.53E+00	1.55E-02	5.32E-02	1.50E-04	1.07E-03	1.95E-03	2.89E-04	9.28E-05	1.87E-03	1.10E-04	6.65E-04	6.01E-04	2.75E-03	2.67E-02
DF-RN-04	18-Dec-16	**Percent of Total Dustfall**	1.68E+00	1.81E-05	8.73E-04	1.63E-02	8.73E-05	4.25E-03	7.02E-04	9.47E-03	2.17E+00	7.76E-03	4.14E-02	8.73E-05	6.33E-04	1.78E-03	1.81E-04	5.95E-05	1.99E-03	5.44E-05	2.93E-04	5.16E-04	2.22E-03	1.26E-02
DF-RN-05	06-Jan-15	**Percent of Total Dustfall**	8.68E-01	1.21E-03	1.05E-01	8.37E-03	5.79E-04	5.79E-03	1.16E-03	4.11E-02	-	2.32E-03	2.55E-02	5.79E-04	5.79E-04	5.79E-03	1.16E-02	1.16E-04	8.74E-03	1.16E-03	1.16E-03	2.84E-04	1.16E-02	3.53E-02
DF-RN-05	07-Feb-15	**Percent of Total Dustfall**	1.33E+00	2.18E-04	1.19E-02	5.63E-03	1.09E-04	3.07E-03	6.73E-04	7.13E-03	-	2.09E-03	2.54E-02	1.09E-03	2.67E-04	1.39E-03	2.18E-03	2.18E-05	2.43E-03	2.18E-04	2.18E-04	5.32E-04	2.28E-03	1.02E-02
DF-RN-05	07-Mar-15	**Percent of Total Dustfall**	1.80E+00	1.36E-04	9.77E-03	7.10E-03	7.05E-05	4.52E-03	9.09E-04	8.73E-03	-	2.61E-03	3.45E-02	1.36E-03	4.94E-04	1.91E-03	1.36E-03	4.09E-05	5.23E-03	1.36E-04	1.48E-04	8.38E-04	2.84E-03	1.19E-02
DF-RN-05	07-Apr-15	**Percent of Total Dustfall**	3.72E+00	1.87E-04	8.61E-03	4.33E-03	3.64E-05	9.76E-03	2.18E-03	1.70E-02	-	1.19E-03	1.24E-01	3.64E-04	1.11E-03	7.18E-03	7.18E-04	3.16E-05	3.84E-03	7.18E-05	1.24E-04	2.83E-04	4.59E-03	1.74E-02
DF-RN-05	09-May-15	**Percent of Total Dustfall**	1.64E+00	1.23E-04	1.37E-03	2.89E-03	1.40E-05	3.49E-03	8.89E-04	3.46E-03	3.09E+00	6.72E-04	5.21E-02	9.47E-06	4.33E-04	2.58E-03	1.93E-04	1.35E-05	6.46E-03	1.93E-05	4.74E-05	1.74E-04	2.12E-03	5.95E-03
DF-RN-05	08-Jun-15	**Percent of Total Dustfall**	1.60E+00	3.74E-05	2.93E-03	5.11E-03	9.43E-06	6.08E-03	1.11E-03	5.20E-03	2.76E+00	5.98E-04	5.17E-02	9.43E-06	1.82E-04	3.72E-03	1.95E-04	9.11E-06	6.03E-03	1.95E-05	4.07E-05	1.50E-04	2.68E-03	4.80E-03
DF-RN-05	10-Jul-15	**Percent of Total Dustfall**	2.28E+00	7.50E-05	3.83E-03	2.24E-02	1.50E-05	4.17E-03	1.33E-03	3.58E-03	3.47E+00	5.69E-04	5.08E-02	1.50E-05	8.78E-05	3.39E-03	3.06E-04	6.94E-06	4.56E-03	3.89E-05	5.83E-05	2.33E-04	2.94E-03	7.31E-03
DF-RN-05	09-Aug-15	**Percent of Total Dustfall**	2.74E+00	5.99E-05	3.11E-03	2.70E-02	3.11E-04	5.03E-03	1.56E-03	9.58E-03	4.02E+00	6.59E-04	6.29E-02	3.11E-06	4.73E-05	3.59E-03	5.99E-04	6.59E-06	4.07E-03	5.99E-05	5.99E-05	2.97E-04	3.41E-03	6.17E-03
DF-RN-05	05-Sep-15	**Percent of Total Dustfall**	2.41E+00	1.23E-04	5.92E-03	2.75E-02	5.92E-04	1.23E-02	1.38E-03	7.15E-03	3.60E+00	6.40E-04	5.59E-02	5.92E-06	5.92E-05	3.04E-03	1.23E-03	1.23E-05	3.78E-02	1.23E-04	1.23E-04	2.33E-04	3.17E-03	5.62E-03
DF-RN-05	08-Oct-15	**Percent of Total Dustfall**	2.50E+00	3.97E-04	1.98E-02	2.60E-02	1.98E-03	1.26E-02	1.57E-03	3.97E-03	3.61E+00	7.73E-04	5.79E-02	1.98E-05	4.38E-04	1.13E-02	3.97E-03	3.97E-05	5.66E-03	3.97E-04	3.97E-04	2.41E-04	3.97E-03	1.40E-02
DF-RN-05	17-Nov-15	**Percent of Total Dustfall**	1.91E+00	1.71E-04	6.21E-03	2.08E-02	6.21E-04	7.42E-03	1.01E-03	3.11E-03	2.55E+00	8.94E-04	4.55E-02	6.21E-03	2.23E-04	3.18E-02	1.23E-03	1.62E-05	7.88E-03	1.23E-04	1.85E-04	3.21E-04	2.76E-03	3.64E-02
DF-RN-05	27-Dec-15	**Percent of Total Dustfall**	1.17E+00	2.96E-04	1.48E-02	1.26E-02	1.48E-03	2.22E-02	7.11E-04	3.70E-02	1.65E+00	9.00E-04	3.38E-02	1.48E-02	1.48E-04	1.52E-03	2.96E-03	2.96E-05	1.04E-02	2.96E-04	2.96E-04	1.77E-04	2.96E-03	1.52E-02
DF-RN-05	19-Jan-16	**Percent of Total Dustfall**	1.48E+00	8.24E-04	4.24E-02	1.82E-02	4.24E-03	5.41E-03	8.82E-04	8.24E-02	1.78E+00	1.24E-03	4.11E-02	4.24E-03	4.24E-04	4.24E-03	8.24E-03	8.24E-05	4.24E-02	8.24E-04	8.24E-03	2.06E-04	8.24E-03	2.53E-02
DF-RN-05	17-Feb-16	**Percent of Total Dustfall**	1.10E+00	1.67E-04	8.48E-03	1.15E-02	8.48E-04	4.95E-03	6.82E-04	1.52E-02	1.39E+00	8.47E-04	2.85E-02	8.48E-04	2.30E-04	5.15E-03	1.67E-03	1.67E-05	6.53E-03	1.67E-04	1.67E-04	1.80E-04	1.67E-03	3.64E-02
DF-RN-05	13-Mar-16	**Percent of Total Dustfall**	1.06E+00	2.32E-04	1.16E-02	1.34E-02	1.16E-03	4.29E-03	6.07E-04	3.93E-03	1.24E+00	7.14E-04	2.79E-02	1.16E-03	9.29E-04	1.82E-03	2.32E-03	2.32E-05	6.82E-03	2.32E-04	2.32E-04	1.32E-04	2.32E-03	1.18E-02
DF-RN-05	10-Apr-16	**Percent of Total Dustfall**	2.09E+00	6.73E-05	2.65E-03	1.90E-02	2.60E-04	5.38E-03	1.21E-03	2.91E-03	3.04E+00	6.95E-04	4.93E-02	2.60E-04	2.06E-04	3.55E-03	5.38E-04	6.73E-06	5.74E-03	5.38E-05	6.73E-05	2.17E-04	2.78E-03	1.00E-02
DF-RN-05	10-May-16	**Percent of Total Dustfall**	2.59E+00	2.63E-05	2.29E-03	2.11E-02	1.37E-04	7.24E-03	1.57E-03	2.55E-03	3.61E+00	7.24E-04	5.95E-02	1.37E-04	8.61E-05	4.50E-03	2.63E-04	8.16E-06	4.76E-03	3.68E-05	8.16E-05	2.61E-04	4.16E-03	7.34E-03
DF-RN-05	11-Jun-16	**Percent of Total Dustfall**	2.15E+00	8.33E-06	7.92E-04	1.73E-02	4.17E-05	4.13E-03	1.09E-03	1.83E-03	2.67E+00	6.98E-04	4.26E-02	4.17E-05	5.22E-05	2.95E-03	8.33E-05	4.75E-06	3.88E-03	3.50E-05	5.75E-05	2.38E-04	3.28E-03	4.50E-03
DF-RN-05	12-Jul-16	**Percent of Total Dustfall**	1.99E+00	1.17E-05	5.96E-04	1.72E-02	5.96E-05	3.14E-03	9.95E-04	1.66E-03	2.66E+00	6.82E-04	4.42E-02	5.96E-06	6.64E-05	2.18E-03	1.17E-04	1.17E-05	4.85E-03	3.50E-05	1.07E-04	1.97E-04	3.07E-03	4.95E-03
DF-RN-05	15-Aug-16	**Percent of Total Dustfall**	1.57E+00	2.24E-05	1.13E-03	1.67E-02	1.13E-04	2.46E-03	8.67E-04	1.98E-03	2.31E+00	7.88E-04	3.95E-02	1.13E-05	8.70E-05	1.87E-03	2.24E-04	6.51E-06	6.53E-03	3.23E-05	7.69E-05	1.89E-04	2.58E-03	6.31E-03
DF-RN-05	22-Sep-16	**Percent of Total Dustfall**	1.89E+00	4.72E-05	2.36E-03	2.14E-02	2.36E-04	2.79E-03	1.11E-03	3.14E-03	3.01E+00	1.89E-03	5.20E-02	2.36E-05	1.84E-04	2.54E-03	4.72E-04	2.52E-05	1.51E-02	5.17E-05	1.54E-04	2.63E-04	3.02E-03	1.33E-02
DF-RN-05	18-Oct-16	**Percent of Total Dustfall**	2.65E+00	1.20E-04	9.20E-03	2.98E-02	6.20E-04	4.17E-03	1.15E-03	1.53E-02	4.02E+00	7.90E-03	5.68E-02	6.20E-04	9.25E-04	2.34E-03	1.20E-03	9.50E-05	5.54E-03	1.20E-04	6.80E-04	4.18E-04	3.10E-03	3.17E-02
DF-RN-05	18-Nov-16	**Percent of Total Dustfall**	1.99E+00	6.80E-05	3.95E-03	2.12E-02	3.47E-04	2.97E-03	8.64E-04	1.67E-02	2.70E+00	1.13E-02	4.29E-02	3.47E-04	8.03E-04	1.70E-03	6.80E-04	7.35E-05	2.71E-03	7.48E-05	5.78E-04	6.39E-04	2.31E-03	1.95E-02
DF-RN-05	18-Dec-16	**Percent of Total Dustfall**	1.89E+00	4.93E-05	2.56E-03	1.89E-02	2.56E-04	4.92E-03	7.54E-04	1.03E-02	2.29E+00	7.49E-03	4.33E-02	2.56E-04	6.95E-04	2.05E-03	4.93E-04	7.44E-05	2.75E-03	4.93E-05	3.00E-04	5.96E-04	2.41E-03	1.38E-02
DF-RS-04	06-Jan-15	**Percent of Total Dustfall**	1.81E+00	3.09E-04	2.47E-02	1.10E-02	1.73E-04	5.06E-03	1.20E-03	3.11E-02	-	4.06E-03	5.58E-02	1.60E-04	5.19E-04	3.58E-03	3.09E-03	3.09E-05	2.72E-03	3.09E-04	3.09E-04	7.14E-04	3.09E-03	1.98E-02
DF-RS-04	07-Feb-15	**Percent of Total Dustfall**	1.18E+00	4.07E-04	1.20E-02	6.71E-03	2.03E-04	3.22E-03	7.97E-04	1.17E-02	-	2.25E-03	3.69E-02	2.03E-03	4.07E-04	2.37E-03	4.07E-03	4.07E-05	1.46E-03	4.07E-04	4.07E-04	4.27E-04	4.07E-03	1.39E-02
DF-RS-04	07-Mar-15	**Percent of Total Dustfall**	1.79E+00	1.26E-04	1.04E-02	9.00E-03	6.53E-05	4.47E-03	1.19E-03	1.34E-02	-	3.24E-03	4.82E-02	1.26E-03	4.48E-04	3.16E-03	1.26E-03	3.68E-05	2.65E-03	1.26E-04	2.00E-04	5.74E-04	2.63E-03	1.58E-02
DF-RS-04	07-Apr-15	**Percent of Total Dustfall**	3.31E+00	1.90E-04	1.90E-03	7.97E-03	9.40E-05	7.72E-03	1.69E-03	6.71E-03	-	2.37E-03	9.04E-02	9.40E-04	8.36E-04	4.51E-03	1.90E-03	3.10E-05	2.19E-03	1.90E-04	1.90E-04	5.42E-04	4.20E-03	1.71E-02
DF-RS-04	09-May-15	**Percent of Total Dustfall**	1.99E+00	1.21E-04	1.98E-03	7.36E-03	1.10E-05	3.48E-03	9.88E-04	4.70E-03	2.86E+00	1.24E-03	4.38E-02	1.10E-05	2.45E-04	2.82E-03	2.25E-04	1.66E-05	2.41E-03	2.86E-05	1.86E-04	3.97E-04	3.31E-03	8.69E-03
DF-RS-04	08-Jun-15	**Percent of Total Dustfall**	1.97E+00	1.01E-05	1.33E-04	1.38E-02	4.03E-06	3.11E-03	1.13E-03	2.60E-03	3.08E+00	7.64E-04	4.55E-02	1.67E-06	6.05E-05	2.80E-03	6.63E-05	7.58E-06	1.14E-03	3.29E-05	9.08E-05	2.82E-04	2.94E-03	5.07E-03
DF-RS-04	10-Jul-15	**Percent of Total Dustfall**	2.45E+00	2.32E-05	2.43E-03	2.28E-02	1.04E-05	3.07E-03	1.23E-03	2.59E-03	3.61E+00	6.49E-04	4.81E-02	1.04E-05	6.29E-05	2.78E-03	2.12E-04	6.56E-06	6.35E-03	3.86E-05	5.60E-05	1.79E-04	3.09E-03	5.54E-03
DF-RS-04	08-Aug-15	**Percent of Total Dustfall**	2.95E+00	4.12E-05	2.02E-03	2.66E-02	2.02E-04	3.22E-03	1.55E-03	5.99E-03	4.38E+00	9.18E-04	6.14E-02	2.02E-06	4.23E-05	3.34E-03	4.12E-04	8.24E-06	2.36E-03	4.49E-05	4.87E-05	2.70E-04	3.63E-03	6.07E-03
DF-RS-04	05-Sep-15	**Percent of Total Dustfall**	3.37E+00	4.94E-05	2.55E-03	3.26E-02	2.55E-04	4.94E-03	1.81E-03	3.09E-03	4.94E+00	1.21E-03	7.00E-02	2.55E-06	4.86E-05	4.06E-03	4.94E-04	9.88E-06	1.60E-02	5.76E-05	5.35E-05	3.04E-04	4.49E-03	7.28E-03
DF-RS-04	08-Oct-15	**Percent of Total Dustfall**	2.69E+00	1.14E-04	5.68E-03	2.30E-02	5.68E-04	3.90E-03	1.41E-03	2.27E-03	3.75E+00	9.56E-04	5.47E-02	5.68E-06	1.11E-04	3.63E-03	1.14E-03	1.14E-05	5.34E-03	1.14E-04	1.14E-04	2.65E-04	3.64E-03	7.84E-03
DF-RS-04	17-Nov-15	**Percent of Total Dustfall**	2.97E+00	1.63E-04	3.42E-03	2.30E-02	3.42E-04	5.98E-03	1.50E-03	3.58E-03	3.60E+00	1.41E-03	5.04E-02	3.42E-03	1.62E-04	1.79E-02	6.92E-04	9.23E-06	3.85E-03	6.92E-05	1.97E-04	5.04E-04	5.28E-03	2.05E-02
DF-RS-04	21-Dec-15	**Percent of Total Dustfall**	2.41E+00	3.62E-04	1.81E-02	1.76E-02	1.81E-03	2.73E-02	1.39E-03	4.62E-02	2.93E+00	9.62E-04	4.23E-02	1.81E-02	1.96E-04	1.32E-02	3.62E-03	3.62E-05	5.00E-03	3.62E-04	4.88E-04	4.15E-04	4.35E-03	2.88E-02
DF-RS-04	18-Jan-16	**Percent of Total Dustfall**	2.25E+00	7.33E-04	3.73E-02	1.80E-02	3.73E-03	6.33E-03	1.47E-03	7.33E-02	2.82E+00	1.38E-03	4.74E-02	3.73E-03	4.73E-04	5.60E-03	7.33E-03	7.33E-05	3.73E-02	7.33E-04	7.33E-03	3.73E-04	7.33E-03	3.93E-02
DF-RS-04	16-Feb-16	**Percent of Total Dustfall**	2.09E+00	4.40E-04	2.20E-02	1.69E-02	2.20E-03	5.76E-03	1.44E-03	3.96E-02	2.71E+00	1.05E-03	4.52E-02	2.20E-03	4.96E-04	1.32E-02	4.40E-03	4.40E-05	6.12E-03	4.40E-04	4.40E-04	3.44E-04	4.40E-03	9.20E-02
DF-RS-04	14-Mar-16	**Percent of Total Dustfall**	1.89E+00	3.33E-04	1.67E-02	1.71E-02	1.67E-03	7.31E-03	1.42E-03	4.44E-03	2.47E+00	1.01E-03	4.28E-02	1.67E-03	1.33E-03	3.58E-03	3.33E-03	3.33E-05	1.13E-02	3.33E-04	3.33E-04	2.58E-04	3.33E-03	1.47E-02
DF-RS-04	10-Apr-16	**Percent of Total Dustfall**	2.87E+00	9.76E-05	4.96E-03	1.90E-02	4.96E-04	5.85E-03	1.69E-03	3.33E-03	4.03E+00	9.02E-04	5.28E-02	4.96E-04	3.90E-04	4.13E-03	9.76E-04	9.76E-06	1.95E-03	9.76E-05	1.30E-04	3.16E-04	3.74E-03	1.37E-02
DF-RS-04	09-May-16	**Percent of Total Dustfall**	2.95E+00	3.01E-05	1.50E-03	1.76E-02	1.50E-04	5.27E-03	1.78E-03	2.57E-03	3.99E+00	1.09E-03	5.55E-02	1.50E-04	1.08E-04	3.85E-03	3.01E-04	7.92E-06	2.98E-03	4.37E-05	1.17E-04	4.32E-04	5.74E-03	7.90E-03
DF-RS-04	11-Jun-16	**Percent of Total Dustfall**	1.33E+00	1.85E-05	9.35E-04	9.55E-03	9.35E-05	1.48E-03	6.95E-04	1.20E-03	1.84E+00	1.09E-03	3.38E-02	9.35E-06	5.72E-05	1.37E-03	1.85E-04	4.22E-06	6.54E-04	2.67E-05	1.29E-04	2.49E-04	1.94E-03	3.83E-03
DF-RS-04	12-Jul-16	**Percent of Total Dustfall**	1.36E+00	1.01E-05	4.86E-04	1.07E-02	4.86E-05	1.31E-03	6.67E-04	1.02E-03	1.87E+00	8.97E-04	3.22E-02	4.86E-07	3.97E-05	1.30E-03	1.01E-04	1.01E-05	6.24E-04	2.66E-05	8.81E-05	1.73E-04	1.85E-03	3.51E-03
DF-RS-04	15-Aug-16	**Percent of Total Dustfall**	2.54E+00	7.58E-05	3.79E-03	2.26E-02	3.79E-04	2.42E-03	1.22E-03	5.32E-03	3.50E+00	1.65E-03	5.54E-02	3.79E-06	2.10E-04	2.44E-03	7.58E-04	1.05E-05	2.26E-03	7.58E-05	1.15E-04	2.93E-04	3.56E-03	7.74E-03

DF-RS-04	21-Sep-16	**Percent of Total Dustfall**	1.92E+00	3.73E-05	1.87E-03	1.58E-02	1.87E-04	1.90E-03	9.73E-04	1.65E-03	2.71E+00	1.47E-03	4.44E-02	1.87E-06	6.31E-05	1.90E-03	3.73E-04	1.06E-05	2.80E-03	4.00E-05	8.27E-05	2.48E-04	2.67E-03	5.96E-03
DF-RS-04	17-Oct-16	**Percent of Total Dustfall**	3.28E+00	6.36E-05	3.09E-03	3.00E-02	3.09E-04	3.66E-03	1.50E-03	6.68E-03	4.68E+00	4.40E-03	7.00E-02	3.09E-04	4.95E-04	3.20E-03	6.36E-04	4.95E-05	2.26E-03	9.09E-05	2.82E-04	4.27E-04	4.41E-03	1.75E-02
DF-RS-04	18-Nov-16	**Percent of Total Dustfall**	2.83E+00	2.13E-04	1.06E-02	3.49E-02	1.06E-03	5.15E-03	1.53E-03	1.55E-02	4.19E+00	1.28E-02	6.62E-02	1.06E-03	1.33E-03	3.13E-03	2.13E-03	7.23E-05	3.00E-03	2.13E-04	5.53E-04	5.02E-04	4.04E-03	3.09E-02
DF-RS-04	18-Dec-16	**Percent of Total Dustfall**	2.59E+00	1.39E-04	6.71E-03	2.84E-02	6.71E-04	9.86E-03	1.38E-03	1.62E-02	3.53E+00	1.71E-02	6.66E-02	6.71E-04	1.47E-03	4.72E-03	1.39E-03	1.09E-04	2.73E-03	1.39E-04	4.94E-04	4.49E-04	4.30E-03	2.73E-02
DF-RS-05	06-Jan-15	**Percent of Total Dustfall**	1.89E+00	4.22E-04	2.19E-03	1.44E-02	2.19E-04	6.09E-03	1.44E-03	1.11E-02	-	4.08E-03	6.05E-02	2.19E-04	6.25E-04	4.38E-03	4.22E-03	4.22E-05	3.31E-03	4.22E-04	4.22E-04	4.78E-04	4.22E-03	3.05E-02
DF-RS-05	07-Feb-15	**Percent of Total Dustfall**	1.88E+00	5.64E-04	4.10E-02	1.03E-02	2.82E-04	5.64E-03	1.21E-03	1.72E-02	-	3.92E-03	5.10E-02	2.82E-03	5.64E-04	3.08E-03	5.64E-03	5.64E-05	2.64E-03	5.64E-04	5.64E-04	9.92E-04	5.64E-03	2.18E-02
DF-RS-05	07-Mar-15	**Percent of Total Dustfall**	1.89E+00	1.90E-04	7.78E-03	9.00E-03	9.84E-05	4.90E-03	1.27E-03	1.75E-02	-	4.37E-03	5.35E-02	1.90E-03	6.97E-04	3.21E-03	1.90E-03	5.08E-05	2.97E-03	1.90E-04	2.06E-04	6.13E-04	2.86E-03	1.83E-02
DF-RS-05	07-Apr-15	**Percent of Total Dustfall**	3.24E+00	2.02E-04	2.02E-02	8.38E-03	1.00E-04	7.75E-03	1.65E-03	7.45E-03	-	1.88E-03	8.73E-02	1.00E-03	8.02E-04	4.65E-03	2.02E-03	3.33E-05	2.19E-03	2.02E-04	2.02E-04	5.30E-04	4.40E-03	2.02E-02
DF-RS-05	09-May-15	**Percent of Total Dustfall**	1.80E+00	8.78E-05	1.35E-03	6.65E-03	8.46E-06	3.06E-03	8.81E-04	2.62E-03	2.59E+00	1.08E-03	3.92E-02	8.46E-06	2.15E-04	2.54E-03	1.72E-04	1.58E-05	2.21E-03	2.51E-05	1.36E-04	3.76E-04	3.03E-03	7.07E-03
DF-RS-05	08-Jun-15	**Percent of Total Dustfall**	2.24E+00	2.06E-05	1.29E-04	1.58E-02	4.90E-06	3.99E-03	1.29E-03	2.94E-03	3.60E+00	8.64E-04	5.14E-02	2.03E-06	6.29E-05	3.53E-03	8.04E-05	8.18E-06	1.12E-03	3.39E-05	7.80E-05	2.76E-04	3.17E-03	5.49E-03
DF-RS-05	10-Jul-15	**Percent of Total Dustfall**	2.35E+00	1.34E-05	6.12E-04	2.28E-02	4.74E-06	2.76E-03	1.19E-03	2.08E-03	3.52E+00	5.73E-04	4.74E-02	2.33E-06	4.70E-05	2.62E-03	9.48E-05	6.34E-06	4.74E-03	3.88E-05	5.56E-05	1.86E-04	2.98E-03	4.66E-03
DF-RS-05	08-Aug-15	**Percent of Total Dustfall**	2.87E+00	3.38E-05	1.75E-03	2.58E-02	1.75E-04	3.10E-03	1.51E-03	5.35E-03	4.25E+00	8.82E-04	6.03E-02	1.75E-06	3.75E-05	3.30E-03	3.38E-04	1.10E-05	3.21E-03	4.51E-05	4.23E-05	2.59E-04	3.58E-03	5.86E-03
DF-RS-05	05-Sep-15	**Percent of Total Dustfall**	3.04E+00	9.38E-05	4.61E-03	2.83E-02	4.61E-04	9.38E-03	1.58E-03	5.55E-03	4.38E+00	1.16E-03	6.11E-02	4.61E-06	4.61E-05	3.83E-03	9.38E-04	9.38E-06	2.89E-02	9.38E-05	1.09E-04	2.59E-04	4.06E-03	6.64E-03
DF-RS-05	08-Oct-15	**Percent of Total Dustfall**	2.79E+00	8.29E-05	4.19E-03	2.44E-02	4.19E-04	4.91E-03	1.45E-03	2.26E-03	3.94E+00	9.32E-04	5.68E-02	4.19E-06	1.74E-04	4.41E-03	8.29E-04	9.74E-06	2.12E-03	8.29E-05	8.29E-05	2.38E-04	3.97E-03	8.97E-03
DF-RS-05	17-Nov-15	**Percent of Total Dustfall**	3.00E+00	2.55E-04	8.78E-03	2.33E-02	8.78E-04	1.04E-02	1.56E-03	4.24E-03	3.63E+00	1.27E-03	4.90E-02	8.78E-03	1.63E-04	4.49E-02	1.76E-03	1.76E-05	4.29E-03	1.76E-04	2.69E-04	4.27E-04	5.24E-03	5.31E-02
DF-RS-05	21-Dec-15	**Percent of Total Dustfall**	2.31E+00	4.85E-04	2.45E-02	2.08E-02	2.45E-03	3.65E-02	1.35E-03	6.50E-02	2.76E+00	9.95E-04	3.91E-02	2.45E-02	2.45E-04	2.45E-03	4.85E-03	4.85E-05	7.00E-03	4.85E-04	4.85E-04	3.66E-04	4.85E-03	2.35E-02
DF-RS-05	18-Jan-16	**Percent of Total Dustfall**	2.51E+00	8.57E-04	4.14E-02	2.02E-02	4.14E-03	6.86E-03	1.64E-03	8.57E-02	3.20E+00	1.23E-03	5.21E-02	4.14E-03	5.71E-04	4.21E-03	8.57E-03	8.57E-05	4.14E-02	8.57E-04	8.57E-03	4.14E-04	8.57E-03	4.29E-02
DF-RS-05	16-Feb-16	**Percent of Total Dustfall**	1.86E+00	5.50E-04	2.75E-02	1.60E-02	2.75E-03	5.15E-03	1.25E-03	5.00E-02	2.29E+00	8.45E-04	3.84E-02	2.75E-03	2.75E-04	1.65E-02	5.50E-03	5.50E-05	6.85E-03	5.50E-04	5.50E-04	2.35E-04	5.50E-03	1.15E-01
DF-RS-05	14-Mar-16	**Percent of Total Dustfall**	1.84E+00	4.29E-04	2.11E-02	1.49E-02	2.11E-03	8.18E-03	1.36E-03	6.07E-03	2.53E+00	8.61E-04	4.29E-02	2.11E-03	1.68E-03	6.14E-03	4.29E-03	4.29E-05	1.06E-02	4.29E-04	4.29E-04	2.64E-04	4.29E-03	1.68E-02
DF-RS-05	10-Apr-16	**Percent of Total Dustfall**	2.82E+00	1.06E-04	5.40E-03	1.93E-02	5.40E-04	5.30E-03	1.63E-03	2.92E-03	3.88E+00	8.81E-04	5.28E-02	5.40E-04	4.25E-04	4.56E-03	1.06E-03	1.06E-05	3.10E-03	1.06E-04	1.24E-04	2.81E-04	3.63E-03	9.56E-03
DF-RS-05	09-May-16	**Percent of Total Dustfall**	3.32E+00	3.45E-05	1.88E-03	1.92E-02	1.72E-04	5.92E-03	1.78E-03	2.57E-03	3.95E+00	1.00E-03	5.77E-02	1.72E-04	1.66E-04	4.08E-03	3.45E-04	1.10E-05	3.67E-03	4.39E-05	1.16E-04	4.55E-04	5.92E-03	8.90E-03
DF-RS-05	11-Jun-16	**Percent of Total Dustfall**	1.51E+00	1.77E-05	8.83E-04	1.07E-02	8.83E-05	1.52E-03	7.49E-04	1.25E-03	2.08E+00	1.12E-03	3.73E-02	8.83E-06	6.27E-05	1.43E-03	1.77E-04	6.18E-06	5.48E-04	3.00E-05	1.24E-04	2.58E-04	2.08E-03	3.96E-03
DF-RS-05	12-Jul-16	**Percent of Total Dustfall**	2.13E+00	3.96E-05	1.94E-03	1.71E-02	1.94E-04	2.15E-03	1.04E-03	1.62E-03	3.00E+00	1.43E-03	5.14E-02	1.94E-06	6.80E-05	2.10E-03	3.96E-04	3.96E-05	1.15E-03	4.32E-05	3.53E-04	2.74E-04	2.99E-03	6.08E-03
DF-RS-05	15-Aug-16	**Percent of Total Dustfall**	2.85E+00	1.17E-04	5.93E-03	2.65E-02	5.93E-04	2.99E-03	1.38E-03	8.22E-03	3.94E+00	1.75E-03	6.23E-02	5.93E-06	1.20E-04	2.87E-03	1.17E-03	1.17E-05	3.63E-03	1.17E-04	1.22E-04	3.22E-04	4.04E-03	1.08E-02
DF-RS-05	22-Sep-16	**Percent of Total Dustfall**	2.29E+00	9.33E-05	4.66E-03	1.88E-02	4.66E-04	2.45E-03	1.16E-03	2.07E-03	3.27E+00	1.76E-03	5.21E-02	4.66E-06	1.02E-04	2.25E-03	9.33E-04	1.63E-05	3.30E-03	9.33E-05	1.16E-04	2.73E-04	3.23E-03	8.08E-03
DF-RS-05	17-Oct-16	**Percent of Total Dustfall**	3.59E+00	9.29E-05	4.57E-03	3.29E-02	4.57E-04	4.19E-03	1.68E-03	7.86E-03	5.20E+00	5.61E-03	7.50E-02	4.57E-04	8.21E-04	3.50E-03	9.29E-04	5.86E-05	3.09E-03	9.29E-05	4.64E-04	4.31E-04	4.71E-03	2.04E-02
DF-RS-05	18-Nov-16	**Percent of Total Dustfall**	1.96E+00	1.00E-03	5.10E-02	2.95E-02	5.10E-03	5.10E-03	1.30E-03	1.80E-02	3.16E+00	8.53E-03	5.49E-02	5.10E-03	7.00E-04	5.10E-03	1.00E-02	1.10E-04	6.10E-03	1.00E-03	1.00E-03	4.70E-04	1.00E-02	4.20E-02
DF-RS-05	18-Dec-16	**Percent of Total Dustfall**	2.85E+00	2.34E-04	1.15E-02	2.98E-02	1.15E-03	1.03E-02	1.60E-03	1.62E-02	3.87E+00	1.53E-02	7.00E-02	1.15E-03	1.78E-03	4.60E-03	2.34E-03	1.09E-04	2.64E-03	2.34E-04	6.17E-04	4.28E-04	4.68E-03	2.79E-02
AVERAGE DF-RN-04, DF-RN-05, DF-RS-04 and DF-RS-05			**2.14E+00**	**1.76E-04**	**8.90E-03**	**1.74E-02**	**6.02E-04**	**5.52E-03**	**1.18E-03**	**1.17E-02**	**3.08E+00**	**2.41E-03**	**4.93E-02**	**1.42E-03**	**3.71E-04**	**4.48E-03**	**1.62E-03**	**2.96E-05**	**6.65E-03**	**1.68E-04**	**5.01E-04**	**3.40E-04**	**3.61E-03**	**1.59E-02**