Report Preview

Report Details

Report Year	2015
Report Type:	NPRI,ON MOE TRA
Report Status:	Submitted
Modified Date/Time:	01/12/2016 10:10 AM

Company and Facility Details

Company Name:	Liberty Mines Inc
Business Number:	891339566
Mailing Address:	Delivery Mode: PostOfficeBox PO Box: 5114 Address Line 1: Stringers Road City, Province/Territory, Postal Code: South Porcupine Ontario P0N1H0 Country: Canada
Facility Name:	Redstone Mine
NAICS Code:	212232
NPRI ID:	11514
Physical Address:	Address Line 1: Stringers Road City, Province/Territory, Postal Code: South Porcupine Ontario P0N1H0 Country: Canada Latitude: 48.36120 Longitude: -81.11660 UTM Zone: 17 UTM Easting: 488260 UTM Northing: 5351798

Permits

Number or Permit Number:	8008-77EH4D
Government Department, Agency, or Program Name:	Permit To Take Water
Number or Permit Number:	9134-78WL8G
Government Department, Agency, or Program Name:	Environmental Protection Act 560/94, MISA Certificate of Approval

Contacts Details

Contact Type	Technical Contact, Certifying Official, Person who prepared the report, Person who coordinated the preparation of the Toxics Reduction Plan
Name:	Nishanthan Logeswaran
Position:	Environmental Site Coordinator
Telephone:	7052660746
Email:	nlogeswaran@northernsunmining.ca

Contact Type	Highest Ranking Employee
Name:	Mark Trevisiol
Position:	Site Manager
Telephone:	7052406450
Email:	mtrevisiol@northernsunmining.ca
Mailing Address:	Delivery Mode: GeneralDelivery Address Line 1: 1 Stringer's Road City, Province/Territory, Postal Code: South Porcupine Ontario P0N1H0 Country: Canada

General Information

Number of employees:	35
Activities for Which the 20,000-Hour Employee Threshold Does Not Apply:	None of the above
Activities Relevant to Reporting Dioxins, Furans and Hexacholorobenzene:	None of the above
Activities Relevant to Reporting of Polycyclic Aromatic Hydrocarbons (PAHs):	Wood preservation using creosote: No
Is this the first time the facility is reporting to the NPRI (under current or past ownership):	No
Is the facility controlled by another Canadian company or companies:	No
Did the facility report under other environmental regulations or permits:	No
Is the facility required to report one or more NPRI Part 4 substances (Criteria Air Contaminants):	Yes
Was the facility shut down for more than one week during the year:	Yes
Operating Schedule - Days of the Week:	Mon, Tue, Wed, Thu, Fri, Sat, Sun
Usual Number of Operating Hours per day:	24
Usual Daily Start Time (24h) (hh:mm):	06:00

Shutdown Periods:

From 2015-11-13 To 2015-12-31	Ore Feed finished and mill shut down and went into care and maintenance

Substance List

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
NA - 02	Arsenic (and its compounds)	0.1467	N/A	86.6250	N/A	kg
NA - 03	Cadmium (and its compounds)	0.0332	N/A	51.9750	N/A	kg
NA - 04	Chromium (and its compounds)	0.0009	N/A	19.0570	N/A	tonnes
NA - 05	Cobalt (and its compounds)	0.0009	N/A	2.2520	N/A	tonnes
NA - 06	Copper (and its compounds)	0.6647	N/A	39.8480	N/A	tonnes
NA - 08	Lead (and its compounds)	2.0673	N/A	11781.0000	N/A	kg
NA - 09	Manganese (and its compounds)	0.0007	N/A	91.8220	N/A	tonnes
NA - 10	Mercury (and its compounds)	0.0007	N/A	0.0000	N/A	kg
NA - 11	Nickel (and its compounds)	0.0527	N/A	65.8350	N/A	tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	3.7581	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.3982	N/A	N/A	N/A	tonnes
NA - 12	Selenium (and its compounds)	0.2778	N/A	121.2750	N/A	kg
NA - 13	Silver (and its compounds)	0.0002	N/A	0.0000	N/A	tonnes
7440-62-2	Vanadium (and its compounds)	0.0003	N/A	16.1120	N/A	tonnes
NA - 14	Zinc (and its compounds)	0.0008	N/A	11.4350	N/A	tonnes

Applicable Programs

CAS RN	Substance Name	NPRI	ON MOE TRA	ON MOE Reg 127/01	First report for this substance to the ON MOE TRA
NA - 02	Arsenic (and its compounds)	Yes	Yes		No
NA - 03	Cadmium (and its compounds)	Yes	Yes		No
NA - 04	Chromium (and its compounds)	Yes	Yes		No
NA - 05	Cobalt (and its compounds)	Yes	Yes		No
NA - 06	Copper (and its compounds)	Yes	Yes		No
NA - 08	Lead (and its compounds)	Yes	Yes		No
NA - 09	Manganese (and its compounds)	Yes	Yes		No
NA - 10	Mercury (and its compounds)	Yes	Yes		No
NA - 11	Nickel (and its compounds)	Yes	Yes		No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Yes	Yes		No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Yes	Yes		No
NA - 12	Selenium (and its compounds)	Yes	Yes		No
NA - 13	Silver (and its compounds)	Yes	Yes		No
7440-62-2	Vanadium (and its compounds)	Yes	Yes		No
NA - 14	Zinc (and its compounds)	Yes	Yes		No

General Information about the Substance - Releases and Transfers of the Substance

CAS RN	Substance Name	Was the substance released on-site	The substance will be reported as the sum of releases to all media (total of 1 tonne or less)	1 tonne or more of a Part 5 Substance (Speciated VOC) was released to air
NA - 02	Arsenic (and its compounds)	Yes	No	No
NA - 03	Cadmium (and its compounds)	Yes	No	No
NA - 04	Chromium (and its compounds)	Yes	No	No
NA - 05	Cobalt (and its compounds)	Yes	No	No
NA - 06	Copper (and its compounds)	Yes	No	No
NA - 08	Lead (and its compounds)	Yes	No	No
NA - 09	Manganese (and its compounds)	Yes	No	No
NA - 10	Mercury (and its compounds)	Yes	No	No
NA - 11	Nickel (and its compounds)	Yes	No	No
NA - 12	Selenium (and its compounds)	Yes	No	No
NA - 13	Silver (and its compounds)	Yes	No	No
7440-62-2	Vanadium (and its compounds)	Yes	No	No
NA - 14	Zinc (and its compounds)	Yes	No	No

General Information about the Substance - Disposals and Off-site Transfers for Recycling

CAS RN	Substance Name	Was the substance disposed of (on-site or off-site), or transferred for treatment prior to final disposal	Is the facility required to report on disposals of tailings and waste rock for the selected reporting period	Was the substance transferred off-site for recycling
NA - 02	Arsenic (and its compounds)	Yes	Yes	No
NA - 03	Cadmium (and its compounds)	Yes	Yes	No
NA - 04	Chromium (and its compounds)	Yes	Yes	No
NA - 05	Cobalt (and its compounds)	Yes	Yes	No
NA - 06	Copper (and its compounds)	Yes	Yes	No
NA - 08	Lead (and its compounds)	Yes	Yes	No
	Manganese			

CAS RN	Substance Name	Was the substance disposed of (on-site or off-site), or transferred for treatment prior to final disposal	Is the facility required to report on disposals of tailings and waste rock for the selected reporting period	Was the substance transferred off-site for recycling
NA - 09	(and its compounds)	Yes	Yes	No
NA - 10	Mercury (and its compounds)	Yes	Yes	No
NA - 11	Nickel (and its compounds)	Yes	Yes	No
NA - 12	Selenium (and its compounds)	Yes	Yes	No
NA - 13	Silver (and its compounds)	Yes	Yes	No
7440-62-2	Vanadium (and its compounds)	Yes	Yes	No
NA - 14	Zinc (and its compounds)	Yes	Yes	No

General Information about the Substance - Nature of Activities

CAS RN	Substance Name	Manufacture the Substance	Process the Substance	Otherwise Use of the Substance
NA - 02	Arsenic (and its compounds)		As a by-product	
NA - 03	Cadmium (and its compounds)		As a by-product	
NA - 04	Chromium (and its compounds)		As a by-product	
NA - 05	Cobalt (and its compounds)		As a by-product	
NA - 06	Copper (and its compounds)	For sale/distribution		
NA - 08	Lead (and its compounds)		As a by-product	
NA - 09	Manganese (and its compounds)		As a by-product	
NA - 10	Mercury (and its compounds)		As a by-product	
NA - 11	Nickel (and its compounds)	For sale/distribution		
NA - 12	Selenium (and its compounds)		As a by-product	
NA - 13	Silver (and its compounds)		As a by-product	
7440-62-2	Vanadium (and its compounds)		As a by-product	
NA - 14	Zinc (and its compounds)		As a by-product	

TRA Quantifications

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
NA - 02	Arsenic (and its compounds)	Use	5400 kg	Yes
NA - 02	Arsenic (and its compounds)	Creation	0 kg	Yes
NA - 02	Arsenic (and its compounds)	Contained	5313.228 kg	Yes
NA - 03	Cadmium (and its compounds)	Use	1800 kg	Yes
NA - 03	Cadmium (and its compounds)	Creation	0 kg	Yes
NA - 03	Cadmium (and its compounds)	Contained	1747.992 kg	Yes
NA - 04	Chromium (and its compounds)	Use	54.000 tonnes	Yes
NA - 04	Chromium (and its compounds)	Creation	0 tonnes	Yes
NA - 04	Chromium (and its compounds)	Contained	34.941 tonnes	Yes
NA - 05	Cobalt (and its compounds)	Use	54 tonnes	Yes
NA - 05	Cobalt (and its compounds)	Creation	0 tonnes	Yes
NA - 05	Cobalt (and its compounds)	Contained	51.747 tonnes	Yes
NA - 06	Copper (and its compounds)	Use	36738 tonnes	Yes
NA - 06	Copper (and its compounds)	Creation	0 tonnes	Yes
NA - 06	Copper (and its compounds)	Contained	36697.488 tonnes	Yes
NA - 08	Lead (and its compounds)	Use	108000 kg	Yes
NA - 08	Lead (and its compounds)	Creation	0 kg	Yes
NA - 08	Lead (and its compounds)	Contained	96216.933 kg	Yes
NA - 09	Manganese (and its compounds)	Use	39.600 tonnes	Yes
NA - 09	Manganese (and its compounds)	Creation	0 tonnes	Yes
NA - 09	Manganese (and its compounds)	Contained	0 tonnes	Yes
NA - 10	Mercury (and its compounds)	Use	12.600 kg	Yes
NA - 10	Mercury (and its compounds)	Creation	0 kg	Yes
NA - 10	Mercury (and its compounds)	Contained	12.600 kg	Yes
NA - 11	Nickel (and its compounds)	Use	2898.000 tonnes	Yes
NA - 11	Nickel (and its compounds)	Creation	0 tonnes	Yes

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
NA - 11	Nickel (and its compounds)	Contained	2832.112 tonnes	Yes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Use	0 tonnes	Yes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Creation	3.7580 tonnes	Yes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Contained		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Use	0 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Creation	0.398 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained		
NA - 12	Selenium (and its compounds)	Use	14400.000 kg	Yes
NA - 12	Selenium (and its compounds)	Creation	0 kg	Yes
NA - 12	Selenium (and its compounds)	Contained	14278.464 kg	Yes
NA - 13	Silver (and its compounds)	Use	15.300 tonnes	Yes
NA - 13	Silver (and its compounds)	Creation	0 tonnes	Yes
NA - 13	Silver (and its compounds)	Contained	15.300 tonnes	Yes
7440-62-2	Vanadium (and its compounds)	Use	16.740 tonnes	Yes
7440-62-2	Vanadium (and its compounds)	Creation	0 tonnes	Yes
7440-62-2	Vanadium (and its compounds)	Contained	0.627 tonnes	Yes
NA - 14	Zinc (and its compounds)	Use	36.000 tonnes	Yes
NA - 14	Zinc (and its compounds)	Creation	0 tonnes	Yes
NA - 14	Zinc (and its compounds)	Contained	24.565 tonnes	Yes

TRA Quantifications - Others

CAS RN	Substance Name	Change in Method of Quantification	Reasons for Change	Description of how the change impact tracking and quantification of the substance	Incidents out of the normal course of events	Significant Process Change
NA - 02	Arsenic (and its compounds)					No
NA - 03	Cadmium (and its compounds)					No
NA - 04	Chromium (and its compounds)					No
NA - 05	Cobalt (and its compounds)					No
NA - 06	Copper (and its compounds)					No
NA - 08	Lead (and its compounds)					No
NA - 09	Manganese (and its compounds)					No
NA - 10	Mercury (and its compounds)					No
NA - 11	Nickel (and its compounds)					No
NA - M09	PM10 - Particulate Matter <= 10 Microns					No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns					No
NA - 12	Selenium (and its compounds)					No
NA - 13	Silver (and its compounds)					No
7440-62-2	Vanadium (and its compounds)					No
NA - 14	Zinc (and its compounds)					No

On-site Releases - Releases to air

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 02	Arsenic (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0141 kg
NA - 02	Arsenic (and its compounds)	Fugitive Releases	C - Mass Balance		0.0836 kg
NA - 03	Cadmium (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0047 kg
NA - 03	Cadmium (and its compounds)	Fugitive Releases	C - Mass Balance		0.0279 kg
NA - 04	Chromium (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0001 tonnes
NA - 04	Chromium (and its compounds)	Fugitive Releases	C - Mass Balance		0.0008 tonnes
NA - 05	Cobalt (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0001 tonnes
NA - 05	Cobalt (and its compounds)	Fugitive Releases	C - Mass Balance		0.0008 tonnes
NA - 06	Copper (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0959 tonnes

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 06	Copper (and its compounds)	Fugitive Releases	C - Mass Balance		0.5687 tonnes
NA - 08	Lead (and its compounds)	Stack or Point Releases	C - Mass Balance		0.2819 kg
NA - 08	Lead (and its compounds)	Fugitive Releases	C - Mass Balance		1.6718 kg
NA - 09	Manganese (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0001 tonnes
NA - 09	Manganese (and its compounds)	Fugitive Releases	C - Mass Balance		0.0006 tonnes
NA - 10	Mercury (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0000 kg
NA - 10	Mercury (and its compounds)	Fugitive Releases	C - Mass Balance		0.0002 kg
NA - 11	Nickel (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0076 tonnes
NA - 11	Nickel (and its compounds)	Fugitive Releases	C - Mass Balance		0.0449 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Stack or Point Releases	E2 - Published Emission Factors		0.2793 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Fugitive Releases	E2 - Published Emission Factors		1.1146 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Road Dust	E2 - Published Emission Factors		2.3642 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	E2 - Published Emission Factors		0.1618 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Fugitive Releases	E2 - Published Emission Factors		0.0000 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Road Dust	E2 - Published Emission Factors		0.2364 tonnes
NA - 12	Selenium (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0376 kg
NA - 12	Selenium (and its compounds)	Fugitive Releases	C - Mass Balance		0.2229 kg
NA - 13	Silver (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0000 tonnes
NA - 13	Silver (and its compounds)	Fugitive Releases	C - Mass Balance		0.0002 tonnes
7440-62-2	Vanadium (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0000 tonnes
7440-62-2	Vanadium (and its compounds)	Fugitive Releases	C - Mass Balance		0.0003 tonnes
NA - 14	Zinc (and its compounds)	Stack or Point Releases	C - Mass Balance		0.0001 tonnes
NA - 14	Zinc (and its compounds)	Fugitive Releases	C - Mass Balance		0.0006 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
NA - 02	Arsenic (and its compounds)	0.0977 kg
NA - 03	Cadmium (and its compounds)	0.0326 kg
NA - 04	Chromium (and its compounds)	0.0009 tonnes
NA - 05	Cobalt (and its compounds)	0.0009 tonnes
NA - 06	Copper (and its compounds)	0.6646 tonnes
NA - 08	Lead (and its compounds)	1.9537 kg
NA - 09	Manganese (and its compounds)	0.0007 tonnes
NA - 10	Mercury (and its compounds)	0.0002 kg
NA - 11	Nickel (and its compounds)	0.0525 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	3.7581 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.3982 tonnes
NA - 12	Selenium (and its compounds)	0.2605 kg
NA - 13	Silver (and its compounds)	0.0002 tonnes
7440-62-2	Vanadium (and its compounds)	0.0003 tonnes
NA - 14	Zinc (and its compounds)	0.0007 tonnes

On-site Releases - Releases to water

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 02	Arsenic (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0490 kg
NA - 03	Cadmium (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0006 kg
NA - 04	Chromium (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0000 tonnes
NA - 05	Cobalt (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0000 tonnes
NA - 06	Copper (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0001 tonnes
NA - 08	Lead (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.1136 kg
NA - 10	Mercury (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0005 kg
NA - 11	Nickel (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0002 tonnes
NA - 12	Selenium (and its compounds)	Direct Discharges	M1 - Continuous Emission Monitoring		0.0173 kg
NA - 14	Zinc (and its compounds)	Direct Discharges	M2 - Predictive Emission Monitoring		0.0001 tonnes

On-site Releases - Releases to water - Total

CAS RN	Substance Name	Total - Releases to Water
NA - 02	Arsenic (and its compounds)	0.0490 kg
NA - 03	Cadmium (and its compounds)	0.0006 kg

CAS RN	Substance Name	Total - Releases to Water
NA - 04	Chromium (and its compounds)	0.0000 tonnes
NA - 05	Cobalt (and its compounds)	0.0000 tonnes
NA - 06	Copper (and its compounds)	0.0001 tonnes
NA - 08	Lead (and its compounds)	0.1136 kg
NA - 10	Mercury (and its compounds)	0.0005 kg
NA - 11	Nickel (and its compounds)	0.0002 tonnes
NA - 12	Selenium (and its compounds)	0.0173 kg
NA - 14	Zinc (and its compounds)	0.0001 tonnes

On-site Releases - Releases to water - Waterbody Breakdown List

CAS RN	Substance Name	Category	Water Body Name	Water Shed ID	Quantity
NA - 02	Arsenic (and its compounds)	Direct Discharges	Redstone River		0.0490 kg
NA - 03	Cadmium (and its compounds)	Direct Discharges	Redstone River		0.0006 kg
NA - 04	Chromium (and its compounds)	Direct Discharges	Redstone River		0.0000 tonnes
NA - 05	Cobalt (and its compounds)	Direct Discharges	Redstone River		0.0000 tonnes
NA - 06	Copper (and its compounds)	Direct Discharges	Redstone River		0.0001 tonnes
NA - 08	Lead (and its compounds)	Direct Discharges	Redstone River		0.1136 kg
NA - 10	Mercury (and its compounds)	Direct Discharges	Redstone River		0.0005 kg
NA - 11	Nickel (and its compounds)	Direct Discharges	Redstone River		0.0002 tonnes
NA - 12	Selenium (and its compounds)	Direct Discharges	Redstone River		0.0173 kg
NA - 14	Zinc (and its compounds)	Direct Discharges	Redstone River		0.0001 tonnes

On-site Releases - Releases to water - Dioxins and Furans Breakdown List

Category	CAS RN	Substance Name	Water Body Name	Quantity

On-site Releases - Total

CAS RN	Substance Name	Total releases
NA - 02	Arsenic (and its compounds)	0.1467 kg
NA - 03	Cadmium (and its compounds)	0.0332 kg
NA - 04	Chromium (and its compounds)	0.0009 tonnes
NA - 05	Cobalt (and its compounds)	0.0009 tonnes
NA - 06	Copper (and its compounds)	0.6647 tonnes
NA - 08	Lead (and its compounds)	2.0673 kg
NA - 09	Manganese (and its compounds)	0.0007 tonnes
NA - 10	Mercury (and its compounds)	0.0007 kg
NA - 11	Nickel (and its compounds)	0.0527 tonnes
NA - 12	Selenium (and its compounds)	0.2778 kg
NA - 13	Silver (and its compounds)	0.0002 tonnes
7440-62-2	Vanadium (and its compounds)	0.0003 tonnes
NA - 14	Zinc (and its compounds)	0.0008 tonnes

On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NA - 02	Arsenic (and its compounds)	25	25	25	25
NA - 03	Cadmium (and its compounds)	25	25	25	25
NA - 04	Chromium (and its compounds)	25	25	25	25
NA - 05	Cobalt (and its compounds)	25	25	25	25
NA - 06	Copper (and its compounds)	25	25	25	25
NA - 08	Lead (and its compounds)	25	25	25	25
NA - 09	Manganese (and its compounds)	25	25	25	25
NA - 10	Mercury (and its compounds)	25	25	25	25
NA - 11	Nickel (and its compounds)	25	25	25	25
NA - 12	Selenium (and its compounds)	25	25	25	25
NA - 13	Silver (and its compounds)	25	25	25	25
7440-62-2	Vanadium (and its compounds)	25	25	25	25
NA - 14	Zinc (and its compounds)	25	25	25	25

On-site Releases - Monthly Breakdown of Annual Releases

CAS RN	Substance Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
NA - M09	PM10 - Particulate Matter <= 10 Microns	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34

On-site Releases - Reasons for Changes in Quantities Released from Previous Year

CAS RN	Substance Name	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
7440-62-2	Vanadium (and its compounds)	Changes in production levels	
NA - 02	Arsenic (and its compounds)	Changes in production levels	
NA - 03	Cadmium (and its compounds)	Changes in production levels	
NA - 04	Chromium (and its compounds)	Changes in production levels	
NA - 05	Cobalt (and its compounds)	Changes in production levels	
NA - 06	Copper (and its compounds)	Changes in production levels	
NA - 08	Lead (and its compounds)	Changes in production levels	
NA - 09	Manganese (and its compounds)	Changes in production levels	
NA - 10	Mercury (and its compounds)	Changes in production levels	
NA - 11	Nickel (and its compounds)	Changes in production levels	
NA - 12	Selenium (and its compounds)	Changes in production levels	
NA - 13	Silver (and its compounds)	Changes in production levels	
NA - 14	Zinc (and its compounds)	Changes in production levels	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Changes in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No significant change (i.e. < 10%) or no change	

Disposals - On-site Disposal of Tailings and Waste Rock

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 02	Arsenic (and its compounds)	Tailings Management	C - Mass Balance		86.625 kg
NA - 03	Cadmium (and its compounds)	Tailings Management	C - Mass Balance		51.975 kg
NA - 04	Chromium (and its compounds)	Tailings Management	C - Mass Balance		19.057 tonnes
NA - 05	Cobalt (and its compounds)	Tailings Management	C - Mass Balance		2.252 tonnes
NA - 06	Copper (and its compounds)	Tailings Management	C - Mass Balance		39.848 tonnes
NA - 08	Lead (and its compounds)	Tailings Management	C - Mass Balance		11781 kg
NA - 09	Manganese (and its compounds)	Tailings Management	C - Mass Balance		91.822 tonnes
NA - 10	Mercury (and its compounds)	Tailings Management	C - Mass Balance		0.0000 kg
NA - 11	Nickel (and its compounds)	Tailings Management	C - Mass Balance		65.835 tonnes
NA - 12	Selenium (and its compounds)	Tailings Management	C - Mass Balance		121.275 kg
NA - 13	Silver (and its compounds)	Tailings Management	C - Mass Balance		0 tonnes
7440-62-2	Vanadium (and its compounds)	Tailings Management	C - Mass Balance		16.112 tonnes
NA - 14	Zinc (and its compounds)	Tailings Management	C - Mass Balance		11.435 tonnes

Disposals - On-site Disposal of Tailings and Waste Rock - Total

CAS RN	Substance Name	Total - On-site Disposals
NA - 02	Arsenic (and its compounds)	86.625 kg
NA - 03	Cadmium (and its compounds)	51.975 kg
NA - 04	Chromium (and its compounds)	19.057 tonnes
NA - 05	Cobalt (and its compounds)	2.252 tonnes
NA - 06	Copper (and its compounds)	39.848 tonnes
NA - 08	Lead (and its compounds)	11781 kg
NA - 09	Manganese (and its compounds)	91.822 tonnes
NA - 10	Mercury (and its compounds)	0.0000 kg
NA - 11	Nickel (and its compounds)	65.835 tonnes
NA - 12	Selenium (and its compounds)	121.275 kg
NA - 13	Silver (and its compounds)	0 tonnes
7440-62-2	Vanadium (and its compounds)	16.112 tonnes
NA - 14	Zinc (and its compounds)	11.435 tonnes

Disposals - Concentration of the Substance in Tailings

CAS RN	Disposals - Concentration of the Substance in Tailings	Average Tailings Concentration (ppm)	Tailings Concentration – additional information
7440-62-2	All samples above detection limit	93	
NA - 02	All samples above detection limit	0.5	
NA - 03	All samples above detection limit	0.3	
NA - 04	All samples above detection limit	110	
NA - 05	All samples above detection limit	13	
NA - 06	All samples above detection limit	230	
NA - 08	All samples above detection limit	68	
NA - 09	All samples above detection limit	530	
NA - 10	No samples above detection limit	0	
NA - 11	All samples above detection limit	380	
NA - 12	All samples above detection limit	0.7	
NA - 13	No information available on concentration	0	
NA - 14	All samples above detection limit	66	

Disposals - Concentration of the Substance in Waste Rock

CAS RN	Information on Sampling and Detection Limits for Waste Rock	Average Waste Rock Concentration (ppm)	Waste Rock Concentration – additional information	Reasons for excluding quantities in tailings or waste rock
7440-62-2				
NA - 02				
NA - 03				
NA - 04				
NA - 05				
NA - 06				
NA - 08				
NA - 09				
NA - 10				
NA - 11				
NA - 12				
NA - 13				
NA - 14				

Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
7440-62-2	Vanadium (and its compounds)	Production residues	Changes in production levels	
NA - 02	Arsenic (and its compounds)	Production residues	Changes in production levels	
NA - 03	Cadmium (and its compounds)	Production residues	Changes in production levels	
NA - 04	Chromium (and its compounds)	Production residues	Changes in production levels	
NA - 05	Cobalt (and its compounds)	Production residues	Changes in production levels	
NA - 06	Copper (and its compounds)	Production residues	Changes in production levels	
NA - 08	Lead (and its compounds)	Production residues	Changes in production levels	
NA - 09	Manganese (and its compounds)	Production residues	Changes in production levels	
NA - 10	Mercury (and its compounds)	Production residues	No significant change (i.e. < 10%) or no change	
NA - 11	Nickel (and its compounds)	Production residues	Changes in production levels	
NA - 12	Selenium (and its compounds)	Production residues	Changes in production levels	
NA - 13	Silver (and its compounds)	Production residues	No significant change (i.e. < 10%) or no change	
NA - 14	Zinc (and its compounds)	Production residues	Changes in production levels	

Recycling - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Recycled	Reasons for Changes in Quantities Recycled from Previous Year	Comments
7440-62-2	Vanadium (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 02	Arsenic (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 03	Cadmium (and its compounds)		No significant change (i.e. < 10%) or no change	

CAS RN	Substance Name	Reasons Why Substance Was Recycled	Reasons for Changes in Quantities Recycled from Previous Year	Comments
NA - 04	Chromium (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 05	Cobalt (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 06	Copper (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 08	Lead (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 09	Manganese (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 10	Mercury (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 11	Nickel (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 12	Selenium (and its compounds)		Changes in estimation methods	
NA - 13	Silver (and its compounds)		No significant change (i.e. < 10%) or no change	
NA - 14	Zinc (and its compounds)		No significant change (i.e. < 10%) or no change	

Comparison Report - Enters, Creation, Contained in Product

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 02	Arsenic (and its compounds)	No	Enters the facility (Use)	5400 kg	3617.580 kg	2014	1782.420	49.27
NA - 02	Arsenic (and its compounds)	No	Creation	0 kg	0 kg	2014	0	
NA - 02	Arsenic (and its compounds)	No	Contained	5313.228 kg	3559.534 kg	2014	1753.694	49.27
NA - 03	Cadmium (and its compounds)	No	Enters the facility (Use)	1800 kg	1205.860 kg	2014	594.140	49.27
NA - 03	Cadmium (and its compounds)	No	Creation	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Contained	1747.992 kg	1171.067 kg	2014	576.925	49.26
NA - 04	Chromium (and its compounds)	No	Enters the facility (Use)	54.000 tonnes	36.176 tonnes	2014	17.824	49.27
NA - 04	Chromium (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 04	Chromium (and its compounds)	No	Contained	34.941 tonnes	23.426 tonnes	2014	11.515	49.15
NA - 05	Cobalt (and its compounds)	No	Enters the facility (Use)	54 tonnes	36.176 tonnes	2014	17.824	49.27
NA - 05	Cobalt (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Contained	51.747 tonnes	34.668 tonnes	2014	17.079	49.26
NA - 06	Copper (and its compounds)	No	Enters the facility (Use)	36738 tonnes	24611.603 tonnes	2014	12126.397	49.27
NA - 06	Copper (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Contained	36697.488 tonnes	24584.465 tonnes	2014	12113.023	49.27
NA - 08	Lead (and its compounds)	No	Enters the facility (Use)	108000 kg	72351.600 kg	2014	35648.400	49.27
NA - 08	Lead (and its compounds)	No	Creation	0 kg	0 kg	2014	0	
NA - 08	Lead (and its compounds)	No	Contained	96216.933 kg	64469.249 kg	2014	31747.684	49.24
NA - 09	Manganese (and its compounds)	No	Enters the facility (Use)	39.600 tonnes	26.529 tonnes	2014	13.071	49.27
NA - 09	Manganese (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Contained	0 tonnes	0 tonnes	2014	0	
NA - 10	Mercury (and its compounds)	No	Enters the facility (Use)	12.600 kg	8.441 kg	2014	4.159	49.27
NA - 10	Mercury (and its compounds)	No	Creation	0 kg	0 kg	2014	0	
NA - 10	Mercury (and its compounds)	No	Contained	12.600 kg	8.441 kg	2014	4.159	49.27
NA - 11	Nickel (and its compounds)	No	Enters the facility (Use)	2898.000 tonnes	1941.435 tonnes	2014	956.565	49.27
NA - 11	Nickel (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 11	Nickel (and its compounds)	No	Contained	2832.112 tonnes	1897.356 tonnes	2014	934.756	49.27
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Creation	3.7580 tonnes	3.388 tonnes	2014	0.3700	10.92

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Creation	0.398 tonnes	0.387 tonnes	2014	0.011	2.84
NA - 12	Selenium (and its compounds)	No	Enters the facility (Use)	14400.000 kg	9646.880 kg	2014	4753.120	49.27
NA - 12	Selenium (and its compounds)	No	Creation	0 kg	0 kg	2014	0	
NA - 12	Selenium (and its compounds)	No	Contained	14278.464 kg	9565.564 kg	2014	4712.900	49.27
NA - 13	Silver (and its compounds)	No	Enters the facility (Use)	15.300 tonnes	10.250 tonnes	2014	5.050	49.27
NA - 13	Silver (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Contained	15.300 tonnes	10.250 tonnes	2014	5.050	49.27
7440-62-2	Vanadium (and its compounds)	No	Enters the facility (Use)	16.740 tonnes	0.000 tonnes	2014	16.740	100
7440-62-2	Vanadium (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
7440-62-2	Vanadium (and its compounds)	No	Contained	0.627 tonnes	0.000 tonnes	2014	0.627	100
NA - 14	Zinc (and its compounds)	No	Enters the facility (Use)	36.000 tonnes	24.117 tonnes	2014	11.883	49.27
NA - 14	Zinc (and its compounds)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Contained	24.565 tonnes	16.468 tonnes	2014	8.097	49.17

Comparison Report - Enters, Creation, Contained in Product : Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 02	Arsenic (and its compounds)	Increase in production levels	
NA - 03	Cadmium (and its compounds)	Increase in production levels	
NA - 04	Chromium (and its compounds)	Increase in production levels	
NA - 05	Cobalt (and its compounds)	Increase in production levels	
NA - 06	Copper (and its compounds)	Increase in production levels	
NA - 08	Lead (and its compounds)	Increase in production levels	
NA - 09	Manganese (and its compounds)	Increase in production levels	
NA - 10	Mercury (and its compounds)	Increase in production levels	
NA - 11	Nickel (and its compounds)	Increase in production levels	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Increase in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No reasons - quantities approximately the same	
NA - 12	Selenium (and its compounds)	Increase in production levels	
NA - 13	Silver (and its compounds)	Increase in production levels	
7440-62-2	Vanadium (and its compounds)	Other	data became available to complete the quantifications for this substance for 2015.
NA - 14	Zinc (and its compounds)	Increase in production levels	

Comparison Report - On-site Releases

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 02	Arsenic (and its compounds)	No	Total Releases to Air	0.0977 kg	0.0708 kg	2014	0.0269	37.99
NA - 02	Arsenic (and its compounds)	No	Total Releases to Water	0.0490 kg	0.0269 kg	2014	0.0221	82.16
NA - 02	Arsenic (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2014	0	
NA - 02	Arsenic (and its compounds)	No	Total Releases to All Media	0 kg				
NA - 03	Cadmium (and its compounds)	No	Total Releases to Air	0.0326 kg	0.0118 kg	2013	0.0208	176.27
NA - 03	Cadmium (and its compounds)	No	Total Releases to Water	0.0006 kg	0.0003 kg	2014	0.0003	100
NA - 03	Cadmium (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Total Releases to All Media	0 kg				
NA - 04	Chromium (and its compounds)	No	Total Releases to Air	0.0009 tonnes	0.0007 tonnes	2014	0.0002	28.57

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 04	Chromium (and its compounds)	No	Total Releases to Water	0.0000 tonnes	0.0000 tonnes	2014	0.0000	
NA - 04	Chromium (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 04	Chromium (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - 05	Cobalt (and its compounds)	No	Total Releases to Air	0.0009 tonnes	0.0007 tonnes	2014	0.0002	28.57
NA - 05	Cobalt (and its compounds)	No	Total Releases to Water	0.0000 tonnes	0.0000 tonnes	2014	0.0000	
NA - 05	Cobalt (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - 06	Copper (and its compounds)	No	Total Releases to Air	0.6646 tonnes	0.4816 tonnes	2014	0.1830	38.00
NA - 06	Copper (and its compounds)	No	Total Releases to Water	0.0001 tonnes	0.0000 tonnes	2014	0.0001	100
NA - 06	Copper (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - 08	Lead (and its compounds)	No	Total Releases to Air	1.9537 kg	1.4159 kg	2014	0.5378	37.98
NA - 08	Lead (and its compounds)	No	Total Releases to Water	0.1136 kg	0.0067 kg	2014	0.1069	1595.52
NA - 08	Lead (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2014	0	
NA - 08	Lead (and its compounds)	No	Total Releases to All Media	0 kg				
NA - 09	Manganese (and its compounds)	No	Total Releases to Air	0.0007 tonnes	0.0005 tonnes	2014	0.0002	40.0
NA - 09	Manganese (and its compounds)	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - 10	Mercury (and its compounds)	No	Total Releases to Air	0.0002 kg	0.0001 kg	2014	0.0001	100
NA - 10	Mercury (and its compounds)	No	Total Releases to Water	0.0005 kg	0.0000 kg	2014	0.0005	100
NA - 10	Mercury (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2014	0	
NA - 10	Mercury (and its compounds)	No	Total Releases to All Media	0 kg				
NA - 11	Nickel (and its compounds)	No	Total Releases to Air	0.0525 tonnes	0.0380 tonnes	2014	0.0145	38.16
NA - 11	Nickel (and its compounds)	No	Total Releases to Water	0.0002 tonnes	0.0002 tonnes	2014	0.0000	0
NA - 11	Nickel (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 11	Nickel (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Air	3.7581 tonnes	3.3879 tonnes	2014	0.3702	10.93
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to All Media	0 tonnes				
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Air	0.3982 tonnes	0.3867 tonnes	2014	0.0115	2.97
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to All Media	0 tonnes				
NA - 12	Selenium (and its compounds)	No	Total Releases to Air	0.2605 kg	0.1888 kg	2014	0.0717	37.98
NA - 12	Selenium (and its compounds)	No	Total Releases to Water	0.0173 kg	0.0000 kg	2014	0.0173	100

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 12	Selenium (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2014	0	
NA - 12	Selenium (and its compounds)	No	Total Releases to All Media	0 kg				
NA - 13	Silver (and its compounds)	No	Total Releases to Air	0.0002 tonnes	0.0002 tonnes	2014	0.0000	0
NA - 13	Silver (and its compounds)	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total Releases to All Media	0 tonnes				
7440-62-2	Vanadium (and its compounds)	No	Total Releases to Air	0.0003 tonnes	0.000 tonnes	2014	0.0003	100
7440-62-2	Vanadium (and its compounds)	No	Total Releases to Water	0 tonnes	0.000 tonnes	2014	0.000	
7440-62-2	Vanadium (and its compounds)	No	Total Releases to Land	0 tonnes	0.000 tonnes	2014	0.000	
7440-62-2	Vanadium (and its compounds)	No	Total Releases to All Media	0 tonnes				
NA - 14	Zinc (and its compounds)	No	Total Releases to Air	0.0007 tonnes	0.0005 tonnes	2014	0.0002	40.0
NA - 14	Zinc (and its compounds)	No	Total Releases to Water	0.0001 tonnes	0.0001 tonnes	2014	0.0000	0
NA - 14	Zinc (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Total Releases to All Media	0 tonnes				

Comparison Report - On-site Releases - Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 02	Arsenic (and its compounds)	Increase in production levels	
NA - 03	Cadmium (and its compounds)	Increase in production levels	
NA - 04	Chromium (and its compounds)	Increase in production levels	
NA - 05	Cobalt (and its compounds)	Increase in production levels	
NA - 06	Copper (and its compounds)	Increase in production levels	
NA - 08	Lead (and its compounds)	Increase in production levels	
NA - 09	Manganese (and its compounds)	Increase in production levels	
NA - 10	Mercury (and its compounds)	Increase in production levels	
NA - 11	Nickel (and its compounds)	Increase in production levels	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Increase in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No reasons - quantities approximately the same	
NA - 12	Selenium (and its compounds)	Increase in production levels	
NA - 13	Silver (and its compounds)	No reasons - quantities approximately the same	
7440-62-2	Vanadium (and its compounds)	Other	data became available to complete quantifications for 2015.
NA - 14	Zinc (and its compounds)	Increase in production levels	

Comparison Report - Disposals On-site, Off-site and Tailings and Waste Rock

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 02	Arsenic (and its compounds)	No	Total On-site Disposals	0 kg	0 kg	2014	0	
NA - 02	Arsenic (and its compounds)	No	Total Off-site Disposals	0 kg	0 kg	2014	0	
NA - 02	Arsenic (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 kg	0 kg	2014	0	
NA - 02	Arsenic (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	86.625 kg	57.948 kg	2014	28.677	49.49
NA - 02	Arsenic (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Total On-site Disposals	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Total Off-site Disposals	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 kg	0 kg	2014	0	
NA - 03	Cadmium (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	51.975 kg	34.769 kg	2014	17.206	49.49

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 03	Cadmium (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 kg	0 kg	2014	0	
NA - 04	Chromium (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 04	Chromium (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 04	Chromium (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 04	Chromium (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	19.057 tonnes	12.749 tonnes	2014	6.308	49.48
NA - 04	Chromium (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 05	Cobalt (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	2.252 tonnes	1.507 tonnes	2014	0.745	49.44
NA - 05	Cobalt (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 06	Copper (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	39.848 tonnes	26.656 tonnes	2014	13.192	49.49
NA - 06	Copper (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 08	Lead (and its compounds)	No	Total On-site Disposals	0 kg	0 kg	2014	0	
NA - 08	Lead (and its compounds)	No	Total Off-site Disposals	0 kg	0 kg	2014	0	
NA - 08	Lead (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 kg	0 kg	2014	0	
NA - 08	Lead (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	11781 kg	7880.928 kg	2014	3900.072	49.49
NA - 08	Lead (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 kg	0 kg	2014	0	
NA - 09	Manganese (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 09	Manganese (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	91.822 tonnes	61.425 tonnes	2014	30.397	49.49
NA - 09	Manganese (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 10	Mercury (and its compounds)	No	Total On-site Disposals	0 kg	0 kg	2014	0	
NA - 10	Mercury (and its compounds)	No	Total Off-site Disposals	0 kg	0 kg	2014	0	
NA - 10	Mercury (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 kg	0 kg	2014	0	
NA - 10	Mercury (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	0.0000 kg	0.0000 kg	2014	0.0000	
NA - 10	Mercury (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 kg	0 kg	2014	0	
NA - 11	Nickel (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 11	Nickel (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 11	Nickel (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 11	Nickel (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	65.835 tonnes	44.040 tonnes	2014	21.795	49.49
NA - 11	Nickel (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 12	Selenium (and its compounds)	No	Total On-site Disposals	0 kg	0 kg	2014	0	

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 12	Selenium (and its compounds)	No	Total Off-site Disposals	0 kg	0 kg	2014	0	
NA - 12	Selenium (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 kg	0 kg	2014	0	
NA - 12	Selenium (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	121.275 kg	81.127 kg	2014	40.148	49.49
NA - 12	Selenium (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 kg	0 kg	2014	0	
NA - 13	Silver (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 13	Silver (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
7440-62-2	Vanadium (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
7440-62-2	Vanadium (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
7440-62-2	Vanadium (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
7440-62-2	Vanadium (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	16.112 tonnes	10.778 tonnes	2014	5.334	49.49
7440-62-2	Vanadium (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Total On-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Total Off-site Disposals	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Total Off-site transfer for treatment Prior to Final Disposal	0 tonnes	0 tonnes	2014	0	
NA - 14	Zinc (and its compounds)	No	Total On-site Disposal of Tailings and Waste Rock	11.435 tonnes	7.649 tonnes	2014	3.786	49.50
NA - 14	Zinc (and its compounds)	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2014	0	

Comparison Report - Disposals On-site, Off-site and Tailings and Waste Rock - Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 02	Arsenic (and its compounds)	Increase in production levels	
NA - 03	Cadmium (and its compounds)	Increase in production levels	
NA - 04	Chromium (and its compounds)	Increase in production levels	
NA - 05	Cobalt (and its compounds)	Increase in production levels	
NA - 06	Copper (and its compounds)	Increase in production levels	
NA - 08	Lead (and its compounds)	Increase in production levels	
NA - 09	Manganese (and its compounds)	Increase in production levels	
NA - 10	Mercury (and its compounds)	No reasons - quantities approximately the same	
NA - 11	Nickel (and its compounds)	Increase in production levels	
NA - 12	Selenium (and its compounds)	Increase in production levels	
NA - 13	Silver (and its compounds)	No reasons - quantities approximately the same	
7440-62-2	Vanadium (and its compounds)	Increase in production levels	
NA - 14	Zinc (and its compounds)	Increase in production levels	

Pollution Prevention

Does the facility have a documented pollution prevention plan?	No
Did the facility complete any pollution prevention activities in the current NPRI reporting year	No

Progress on TRA Plan - Objectives

CAS RN	Substance Name	Objectives
NA - 02	Arsenic (and its	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which

CAS RN	Substance Name	Objectives
	compounds)	the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 03	Cadmium (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 04	Chromium (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 05	Cobalt (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 06	Copper (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 08	Lead (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 09	Manganese (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 10	Mercury (and its compounds)	The objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 11	Nickel (and its compounds)	The Objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - M09	PM10 - Particulate Matter <= 10 Microns	The objectives of this Plan are as follows: ☐ Provide the reader with information on measures currently in place at the Facility which control the "creation" and subsequent release of the Toxic Substance; ☐ Provide support for the Facility's position with respect to the Statement of Intent of this Plan; and ☐ Document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The objectives of this Plan are as follows: ☐ Provide the reader with information on measures currently in place at the Facility which control the "creation" and subsequent release of the Toxic Substance; ☐ Provide support for the Facility's position with respect to the Statement of Intent of this Plan; and ☐ Document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 12	Selenium (and its compounds)	The objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 13	Silver (and its compounds)	The objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
7440-62-2	Vanadium (and its compounds)	The objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.
NA - 14	Zinc (and its compounds)	The objectives of the Plan are as follows: • provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRAs definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production; • provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and • document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.

Progress on TRA Plan - Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 02	Arsenic (and its compounds)	No quantity target	No timeline target	
NA - 03	Cadmium (and its compounds)	No quantity target	No timeline target	
NA - 04	Chromium (and its compounds)	No quantity target	No timeline target	
NA - 05	Cobalt (and its compounds)	No quantity target	No timeline target	
NA - 06	Copper (and its compounds)	No quantity target	No timeline target	
NA - 08	Lead (and its compounds)	No quantity target	No timeline target	
NA - 09	Manganese (and its compounds)	No quantity target	No timeline target	
NA - 10	Mercury (and its compounds)	No quantity target	No timeline target	

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 11	Nickel (and its compounds)	No quantity target	No timeline target	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No quantity target	No timeline target	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No quantity target	No timeline target	
NA - 12	Selenium (and its compounds)	No quantity target	No timeline target	
NA - 13	Silver (and its compounds)	No quantity target	No timeline target	
7440-62-2	Vanadium (and its compounds)	No quantity target	No timeline target	
NA - 14	Zinc (and its compounds)	No quantity target	No timeline target	

Progress on TRA Plan - Description

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 02	Arsenic (and its compounds)	No quantity target	No timeline target	
NA - 03	Cadmium (and its compounds)	No quantity target	No timeline target	
NA - 04	Chromium (and its compounds)	No quantity target	No timeline target	
NA - 05	Cobalt (and its compounds)	No quantity target	No timeline target	
NA - 06	Copper (and its compounds)	No quantity target	No timeline target	
NA - 08	Lead (and its compounds)	No quantity target	No timeline target	
NA - 09	Manganese (and its compounds)	No quantity target	No timeline target	
NA - 10	Mercury (and its compounds)	No quantity target	No timeline target	
NA - 11	Nickel (and its compounds)	No quantity target	No timeline target	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No quantity target	No timeline target	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No quantity target	No timeline target	
NA - 12	Selenium (and its compounds)	No quantity target	No timeline target	
NA - 13	Silver (and its compounds)	No quantity target	No timeline target	
7440-62-2	Vanadium (and its compounds)	No quantity target	No timeline target	
NA - 14	Zinc (and its compounds)	No quantity target	No timeline target	

Progress on TRA Plan - Additional Actions

CAS RN	Substance Name	Were there any additional actions outside the plan taken during the reporting period to reduce the use and/or creation of the substance?	Describe any additional actions that were taken during the reporting period to achieve the plan's objectives	Provide a public summary of the description of the additional action taken
NA - 02	Arsenic (and its compounds)	No		
NA - 03	Cadmium (and its compounds)	No		
NA - 04	Chromium (and its compounds)	No		
NA - 05	Cobalt (and its compounds)	No		
NA - 06	Copper (and its compounds)	No		
NA - 08	Lead (and its compounds)	No		
NA - 09	Manganese (and its compounds)	No		
NA - 10	Mercury (and its compounds)	No		
NA - 11	Nickel (and its compounds)	No		
NA - M09	PM10 - Particulate Matter <= 10 Microns	No		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No		
NA - 12	Selenium (and its compounds)	No		
NA - 13	Silver (and its compounds)	No		
7440-62-2	Vanadium (and its compounds)	No		

CAS RN	Substance Name	Were there any additional actions outside the plan taken during the reporting period to reduce the use and/or creation of the substance?	Describe any additional actions that were taken during the reporting period to achieve the plan's objectives	Provide a public summary of the description of the additional action taken
NA - 14	Zinc (and its compounds)	No		

Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 02	Arsenic (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 02	Arsenic (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 03	Cadmium (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 04	Chromium (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 06	Copper (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 08	Lead (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 09	Manganese (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 10	Mercury (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 10	Mercury (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 12	Selenium (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 13	Silver (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 13	Silver (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7440-62-2	Vanadium (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 14	Zinc (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	

Progress on TRA Plan - Amendments

CAS RN	Substance Name	Were any amendments made to the toxic substance reduction plan during the reporting period	Description any amendments that were made to the toxic substance reduction plan during the reporting period	Provide a public summary of the description of any amendments that were made to the toxic substance reduction plan during the reporting period
NA - 02	Arsenic (and its compounds)	No		
NA - 03	Cadmium (and its compounds)	No		
NA - 04	Chromium (and its compounds)	No		
NA - 05	Cobalt (and its compounds)	No		
NA - 06	Copper (and its compounds)	No		

CAS RN	Substance Name	Were any amendments made to the toxic substance reduction plan during the reporting period	Description any amendments that were made to the toxic substance reduction plan during the reporting period	Provide a public summary of the description of any amendments that were made to the toxic substance reduction plan during the reporting period
NA - 08	Lead (and its compounds)	No		
NA - 09	Manganese (and its compounds)	No		
NA - 10	Mercury (and its compounds)	No		
NA - 11	Nickel (and its compounds)	No		
NA - M09	PM10 - Particulate Matter <= 10 Microns	No		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No		
NA - 12	Selenium (and its compounds)	No		
NA - 13	Silver (and its compounds)	No		
7440-62-2	Vanadium (and its compounds)	No		
NA - 14	Zinc (and its compounds)	No		

Report Submission and Electronic Certification

NPRI - Electronic Statement of Certification

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English

Comments (optional)

I hereby certify that I have exercised due diligence to ensure that the submitted information is true and complete. The amounts and values for the facility(ies) identified below are accurate, based on reasonable estimates using available data. The data for the facility(ies) that I represent are hereby submitted to the programs identified below using the Single Window Reporting Application.

I also acknowledge that the data will be made public.

Note: Only the person identified as the Certifying Official or the authorized delegate should submit the report(s) identified below.

Company Name

Liberty Mines Inc

Certifying Official (or authorized delegate)

Nishanthan Logeswaran

Report Submitted by

Nishanthan Logeswaran

I, the Certifying Official or authorized delegate, agree with the statements above and acknowledge that by pressing the "Submit Report(s)" button, I am electronically certifying and submitting the facility report(s) for the identified company to its affiliated programs.

ON MOE TRA - Electronic Certification Statement

Annual Report Certification Statement

As of 01/12/2016, I, Mark Trevisiol, certify that I have read the reports on the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the information contained in the reports is factually accurate and the reports comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.

TRA Substance List

CAS RN	Substance Name
NA - 02	Arsenic (and its compounds)
NA - 03	Cadmium (and its compounds)
NA - 04	Chromium (and its compounds)
NA - 05	Cobalt (and its compounds)

NA - 06	Copper (and its compounds)
NA - 08	Lead (and its compounds)
NA - 09	Manganese (and its compounds)
NA - 10	Mercury (and its compounds)
NA - 11	Nickel (and its compounds)
NA - M09	PM10 - Particulate Matter <= 10 Microns
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns
NA - 12	Selenium (and its compounds)
NA - 13	Silver (and its compounds)
7440-62-2	Vanadium (and its compounds)
NA - 14	Zinc (and its compounds)

Company Name

Liberty Mines Inc

Highest Ranking Employee

Mark Trevisiol

Report Submitted by

Nishanthan Logeswaran

Website address

I, the highest ranking employee, agree with the certification statement(s) above and acknowledge that by checking the box I am electronically signing the statement(s). I also acknowledge that by pressing the 'Submit Report(s)' button I am submitting the facility record(s)/report(s) for the identified facility to the Director under the Toxics Reduction Act, 2009. I also acknowledge that the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 provide the authority to the Director under the Act to make certain information as specified in subsection 27(5) of Ontario Regulation 455/09 available to the public.

Submitted Report

Period	Submission Date	Facility Name	Province	City	Programs
2015	01/12/2016	Redstone Mine	Ontario	South Porcupine	NPRI,ON MOE TRA

Note: If there is a change in the contact information for the facility, a change in the owner or operator of the facility, if operations at the facility are terminated, or if information submitted for any previous year was mistaken or inaccurate, please update this information through SWIM or by contacting the National Pollutant Release Inventory directly.

Version: 3.11.2