Environment Act
License Proposal for

WS Steel
49 Life Sciences Parkway
Steinbach, MB

January 2014

Prepared by:

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Engineering Manager

Contents

Executive Summary

This proposal is filed as application for a license in accordance with Manitoba Regulation 164/88 for the WS Steel facilities located at 49 Life Sciences Parkway, Steinbach, Manitoba. The application is for the WS Steel manufacturing operations which have existed at this site since 2005. The original plant was relocated from a rural location, which had been operating for 15 years outside of Blumenort, MB. The information contained in the application was prepared by WS Steel for the specific purpose of application for Environmental Licence and represents WS Steel's understanding of the requirements of the Province of Manitoba for such application. Environmental impacts considered for this application are generated by operational processes and support operations at WS Steel. WS Steel's operations consist of full spectrum manufacturing of metal products, from bulk steel form through to finished product. The plant is a state-of-the-art facility designed and built in accordance with all applicable regulations. WS Steel strives to provide a safe work environment for its employees and ensure that it acts responsibly towards the surrounding community.

WS Steel is committed to protecting the natural environment through proactive management of its operations and seeks continuous improvement in its environmental protection programs. WS Steel has been operating in the manufacturing industry for 25 years and during that time has devoted significant resources towards environmental protection systems and policies. Through the use of appropriate technologies, WS Steel has operated in the manufacturing industry in a way that respects all aspects of the environment. WS Steel requests that the Province consider granting a licence under this completed application.

I. Introduction

This application is for an existing manufacturing facility which has been in continuous operation since 2005.

I.1 Background

WS Steel developed the current site as a facility in which to expand their manufacturing operations. The original plant was located in a rural area outside of Blumenort, MB. The City of Steinbach entered into discussions with WS Steel to bring their operations into the Steinbach Industrial Park in 2002. The facility was completed in 2005 and has been in operation for the past 9 years. Recently, Manitoba Conservation has requested that WS Steel submit an application for a license due to a noise complaint and part of a province-wide effort to license industrial facilities in the province. As a result, this proposal is filed for application for a license in accordance with Manitoba Regulation 164/88 for the operation of the WS Steel facility at the subject site.

I.2 Description of Facility

The development is a steel manufacturing facility that is currently undergoing an expansion. The facility is located in an industrial park with similar companies operating in the area. The site plan is shown in Appendix C. The WS Steel site footprint is approximately 20 acres or 8.1 hectares of land. Of the total site area, physical structures cover approximately 2 acres. The majority of the remaining site is covered by trees, gravel or paved with asphalt. There are small sections of grassed areas surrounding the building. WS Steel's operations consist of the manufacture of steel products, including handling, cutting, forming, welding, machining and finishing. The facility contains a typical office area for conducting administration and managing production within the plant. Staff and customer parking lots are located on the west side of the facility with heavier vehicles using the north and south entrances for shipping and receiving.

I.3 Hours of Operation

WS Steel production staff work in three distinct shifts. The main shift works from 0700 -1530 hrs from Monday to Friday. The evening shift works from 1600 – 0230 hrs from Monday to Thursday. The weekend shift works from 1700 hrs to 0500 hrs from Friday to Sunday. Management and office administrative operations are typically 0800 – 1630 hrs from Monday to Friday.

I.4 Method of Operation

WS Steel is operated as a complete metal fabrication facility. Bulk steel arrives in a semi-raw form and is processed into various metal products with varying types of finishing. Tables V.1 and V.2 provide an outline of the inputs and outputs of the facility. Facility inputs include raw metal product, various pre-fabricated steel parts, components, and tools, water for human use, gases used for metal cutting, electricity to operate equipment and natural gas used to fire the facility boilers/heaters.

Operational processes are as follows:

Bulk steel products are delivered on flat deck or closed flat deck trailers by large transport trucks to our receiving department. The products are received and stored on storage racks of various kinds inside and outside the facility. The metal products are eventually retrieved from storage for processing. The products are typically processed by one of several types of cutting technology, including laser devices, plasma devices and punching devices. The useful components are removed from the machines and continue for further processing. Any remaining material is either placed back into storage for future use or recycled through a steel recycling company.

After taking shape the metal components may be shipped immediately to the customer or processed in a variety of ways depending on customer specifications. Typical follow-on processing includes: lathing, machining, milling, bending, forming,

drilling, welding, sand blasting and painting. Components may be processed by one or all of the aforementioned procedures depending on the specifications. Work orders, drawings and specification sheets are utilized to determine the appropriate steps for every part and assembly. These administrative functions are mainly carried out in the office portion of the facility and are conveyed through plant supervisors who oversee production. Supporting the production operations are a variety of gases, including nitrogen, oxygen and propane. These gases are stored and handled in accordance with Work Place Health and Safety standards. A small maintenance shop, janitorial activities and consumables cell utilize miscellaneous products, tools and equipment in the support of operations.

The facility is heated using natural gas boilers, forced air units and radiant heaters depending on the heating requirements in the various sectors of the plant. Natural gas combustion products are discharged to the atmosphere from various processes (associated with production operations, cutting, and finishing) and supporting operations (including boilers and material handling).

I.5 Certificate of Title

WS Steel is the operating trade name of the organization. The legal name of the leasing proponent is “WS Machining and Fabrication”. The facility is on a property registered to 4313682 Manitoba Ltd. located at 49 Life Sciences Parkway, Steinbach, Manitoba under title number 2450827/1. The location of this property is identified as Lot 1 and Lot 2 of Plan # 42591 in the Life Sciences Industrial Park. The roll # for the property is 464083.

I.6 Owner of Mineral Rights

According to the view of WS Steel legal representatives, the owner of the surface and mineral rights beneath the WS Steel property is 4313682 Manitoba Ltd.

II. Surrounding Environment

The existing land use on which the site is located is industrial. The existing land use on land adjoining the site is industrial, residential, institutional and open space. On the north perimeter of the facility is a church, to the west is an open field and various industrial buildings, to the east is a residential development and to the south is commercial/industrial properties. No change in land use will be made for the purposes of this development.

The nearest residential area is approximately 300 m east of the WS Steel facility. There is approximately 100 meters of treed area between the residential properties and the WS facility. Integrity Ventures, a heavy equipment repair business, is on WS Steel’s south boundary. The eastern side of the facility is bordered by Life Sciences Parkway and subsequently an empty industrial lot. Esco, a steel blade manufacturer, is across

Life Sciences Parkway to the north-west. A church and parking lot borders the north side of the property.

II.1 Topography

The WS Steel site is generally flat with gentle slopes for surface water drainage in accordance with requirements of the Manitoba Building Code. The elevation of the facility site is approximately 266 meters above sea level (ASL).

II.2 Geological Background

Steinbach is located along the eastern edge of the prairies and the western edge of the Canadian Shield. The city is located directly east of the Red River Valley and as a result is relatively flat with fertile soil. The areas to the west and north of Steinbach could be described as tall grass prairie, while the areas south and east of the city progress steadily into coniferous forest segments. This forested area eventually leads into the Sandilands Provincial Forest which makes up part of the large boreal forest running north-south along the boundary of the Canadian Shield near the Manitoba-Ontario border.

Steinbach is located approximately 100 kilometers south of Lake Winnipeg, 90 kilometers from the Lake of the Woods region and 30 kilometers from the nearest sizeable body of water, St. Malo Lake. No rivers flow directly through Steinbach, however runoff water flows from the city to the Seine River. The Rat River flows to the south of the city. Both of these waterways are tributaries of the Red River and eventually flow into Lake Winnipeg.

II.3 Climate

The Steinbach meteorological station measures temperature and precipitation and is the closest weather station to WS Steel. Table 3.1 below contains the relevant meteorological information for the site:

Table 3.1 – Meteorological Information for Steinbach Manitoba

STEINBACH - MANITOBA
LATITUDE: 49°32'00.000" N LONGITUDE: 96°46'00.000" W ELEVATION: 253.60 m

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Temperature:													
Daily Average (°C)	-17.4	-13	-5.5	4.1	11.9	16.6	19.1	18.1	12.1	5.4	-5	-14.1	2.7

Standard Dev	3.8	4	3.5	2.8	2.4	1.7	1.6	1.7	1.2	1.8	3.5	4.1	1.6
Daily Max (°C)	-12	-7.4	-0.2	10.5	19.1	23.1	25.5	24.7	18.3	10.8	-0.8	-9.1	8.6
Daily Min (°C)	-22.7	-18.5	-10.8	-2.4	4.7	10.1	12.6	11.4	5.9	-0.1	-9.3	-19	-3.2
Precipitation:													
Rainfall (mm)	0	1.6	7	20.7	58.5	95.2	80.3	68.5	59.6	39.3	8.3	1.1	440.2
Snowfall (cm)	21.8	12.7	12.4	7.9	0.4	0	0	0	0.1	5.4	18.6	20	99.2
Total (mm)	21.8	14.4	19.4	28.7	58.9	95.2	80.3	68.5	59.7	44.6	26.9	21.1	539.4

Source: Environment Canada: Canadian Climate Normals 1971-2000 Station Data

II.4 Water

II.4.1 Surface Water

The WS Steel site is located in the Manning Canal Sub-Watershed which is encompassed within the larger Seine River Watershed. The nearest major water flow is the Seine River located approximately 15 km northwest of Steinbach. The Seine River flows northwest towards the Seine River Diversion Dam and then continues north into the Red River. The runoff and wash water from the WS Steel drains into the City of Steinbach's storm water collection system, which drains into some unnamed tributaries of the Manning Canal located approximately 1 km to the west and 500 meters to the northeast. These creeks flow northwest into the Manning Canal, which ultimately drains into the Seine River Diversion. (Manitoba Conservation, 2013)

II.4.2 Groundwater

As of November 2013, there were 13 registered water wells located within 500 meters of the WS Steel facility. All of the listed wells were active production wells. A list of the registered groundwater wells within 500 meters of the WS Steel facility is located at Appendix E.

The shallowest well within the 500 meter radius had a bottom depth of 36 m below the surface (ID# 81088) and the deepest well (ID# 57366) was 69 meters deep. (Manitoba Water Stewardship, 2013) According to the well logs, the soil in the vicinity of the WS Steel facility consists of a top soil layer extending to approximately 0.3 m below

the ground surface followed layers of diamicton, gravel, mud and carbonate sedimentary rock. WS Steel is connected to the City of Steinbach's water supply and sewer system. The water supply system consists of three deep wells, an iron removal plant, and 2,250,000 imperial gallons of surface and elevated storage. (City of Steinbach, 2008)

II.5 Vegetation and Wildlife

WS Steel has poplar trees and low level brush on two sides of the facility. The outer boundary of the facility has the grasses and plants native to the area prior to development. No wildlife or bird species are routinely observed on the WS Steel site, although the bush on two sites will undoubtedly contain animal and plant life. The expected wildlife in that area is expected to be similar to a typically city wildlife, or squirrels, birds and small mammals.

With respect to aquatic life and protected species, WS Steel is unaware of any negative impact that their facility has on either of these groups. It is understood that water discharge meets regulatory requirements and any emissions are of acceptable standards. The noise levels are typical of the surrounding industries and residential areas; ventilation systems, loading and unloading of commercial vehicles and traffic to and from the site.

II.6 Socio-Economic Environment

II.6.1 City of Steinbach

Steinbach is located within the Rural Municipality (RM) of Hanover and is the largest city in the municipality with a population of approximately 15000 people. Other communities located in the RM of Hanover include Mitchell, located approximately 6.5 km northwest of the WS Steel site with an approximate population of 1000 people and Grunthal located approximately 18 km southwest of the WS Steel site with an approximate population of 1,500. (Statistics Canada, 2014)

Steinbach is located in the centre of a large agricultural sector of the province and contains many thriving industrial and commercial businesses. Steinbach is the fastest growing city in Manitoba with a variety economic activity and is the regional shopping, service and agriculture supply centre for the surrounding areas, serving approximately 50,000 people. Recreation facilities in Steinbach include the T.G. Smith Centre Arena, the Steinbach Curling Club, the Steinbach Aquatic Centre and various baseball diamonds, soccer fields, football fields, tennis courts and a skateboard park. Steinbach has an RCMP detachment, a fire department, an airport, the Bethesda Hospital, three elementary schools, two middle schools, two high schools, the Eastman Education Centre and Steinbach Bible College. (City of Steinbach, 2014)

II.6.2 First Nations

The nearest First Nation Community to WS Steel is the Roseau River First Nation located approximately 54 km southwest of Steinbach. Roseau River First Nation had a registered population of 1,104 people living on the reserve in 2013 (Aboriginal Affairs and Northern Development Canada, 2008). Roseau River is an Anishinabe Nation community located in Anishinabe territory, also known as Treaty 1 territory. This area is also now known as southern Manitoba, just north of the United States-Canada border. Roseau River 2A, the main reserve, is at the junction of the Red and Roseau Rivers, with another portion, Roseau River 2A (Roseau Rapids), located on the escarpment 32 kilometers east of the main reserve. The Roseau River Anishinabe Nation is an Ojibway-speaking people of the Anishinabe Nation. The Roseau River Reservation consists of two parcels of land that make up a total of 7,576 acres. The largest piece of land, approximately 5,276 acres, is located 4 kilometres east of Hwy 75, adjacent to the Red River on Hwy 201, and the other 2,300 acres, known as Roseau River Rapids, located on the Roseau River, 5 kilometres east of Hwy 218 and 4 kilometres north of Hwy 201. Both properties are readily accessible by Provincial Hwy's 201 and 218. The regional land characteristics for both Reserves include excellent farmland conditions, surrounded by dense foliage and trees. Each has a river running through it. (Roseau River, 2014).

II.6.3 Protected Areas

St. Malo Provincial Park is located approximately 30 km southwest of the WS Steel site. The park is centered on a reservoir with two beaches and walking trails through an aspen forest. (Manitoba Conservation and Water Stewardship, 2013)

There are three Wildlife Management Areas (WMAs) located approximately 31 km from the project site. St. Malo WMA located to the southwest, Rat River WMA located to the south and Watson P. Davidson WMA is located to the southeast.

The St. Malo WMA occupies an area of 1.72 km^2 and is a cooperative wildlife area that consists of two parcels of land in an aspen forest that provides habitat for White-tailed deer, ruffed grouse and neo-tropical birds. The Rat River WMA occupies an area of 10.5 km^2 and is primarily a managed marsh area (cell) that provides flood protection along the Rat River. This area provides a habitat for waterfowl with the aspen forest area providing habitat for White-tailed deer and grouse. The Watson P. WMA encompasses an area of 59.2 km^2 and is mostly aspen forest with bogs scattered throughout. This WMA is a major breeding and migration corridor for northern forest owls (Great Gray, Northern Sawwhet and Boreal owls) and provides habitat for neo-tropical birds, upland game birds, White-tailed deer and the occasional moose. (Manitoba Conservation, 2013)

The Sandilands Provincial Forest is located approximately 32 km southeast of Steinbach in the Marchand Provincial Park and provides for recreational activities such as trails for snow mobiling, hiking, biking or cross-country skiing. Located within the

Sandilands Provincial Forest is the Pocock Lake Ecological Reserve, which was designated by the province to protect Pocock Lake and 81 hectares of wetlands. (Manitoba Conservation, 2013)

III. Land Use Designation

The City of Steinbach's land use zoning designations for the subject site and surrounding area are provided in appendices B.1 and B.2. The WS Steel property is designated as M1, Light Industrial. Property immediately to the west, south and north is designated M1. Property immediately to the east is zoned as RRS, Rural Residential Service. Property on the periphery to the south and southeast is designated Agricultural and M2, Heavy Industrial.

No change will be made to the site zoning for the purposes of the facility and this license application.

IV. Previous Studies

No authorizations have been received from other government agencies, other than City of Steinbach zoning and building permit approvals for the original facility in 2005.

V. Operational Process Inputs/Outputs

Table V.1 – Process Inputs

Process Inputs		
Process Inputs	**2012 Volume**	**2013 Volume**
Bulk Steel	7257609 lbs	8903228 lbs
Electricity	2,209,320 kWh	1,988,640 kWh
Natural Gas	60,111 m^3	75,465 m^3
Water	955 m^3	640 m^3
Diesel	148780 litres	166327 litres
Gasoline	145698 litres	121492 litres
Diesel Exhaust Fluid	-	1180 litres
Anti-Spatter Fluid	-	800 litres
Lens Cleaner	-	176 litres
Paint	-	17976 litres
Spray Paint	-	1123 litres
Gun Wash™	-	7815 litres
Oil	-	1400 litres
Machine Coolant	-	2480 litres
Pre-mixed Gases Argon/CO^2/N^2/O^2/ Helium	-	12502 m^3

Nitrogen	-	15851 m^3
0xygen	-	16689 m^3
Argon	-	311159 m^3
Propane	-	39554 lbs
Acetylene	-	324.7 m^3

Table V.2 – Process Outputs

Process Outputs	
Process Outputs	**2013**
Steel Products	7598668 lbs
Scrap Steel	1304560 lbs
Garbage	102000 lbs
Paint	1965 litres
Gun Wash™	2460 litres
Machine Coolant	820 litres
Carbon Dioxide Equivalent (Natural Gas)	143 tonnes
Carbon Dioxide Equivalent (Gasoline/Diesel)	631 tonnes

VI. Potential Impacts of the Facility

VI.1 Location

The site's physical presence displaces the natural environment and its associated plants and wildlife. The site, in isolation, has minimal environmental impact as it provides low quality habitat. The site is located within the City of Steinbach's zoned industrial land and is surrounded on three sides by industrial development with an industrial park roadway on the remaining side.

The site is maintained to provide minimal attraction to birds and animals thereby preventing human activity-wildlife conflict such as animal migration across roads and highways to the site. There is no standing water, potential food source or cover habitat to attract wildlife. All site waste is secured in containers and removed on a minimum weekly basis by contracted waste companies.

VI.2 Air

WS Steel monitors interior air quality conditions through an exterior consulting company and ambient air quality meets Workplace Health and Safety standards. Exterior to the facility, WS Steel produces roughly 775 tCO2eq of CO2 emissions from natural gas combustion, vehicle fuel and equivalent electricity consumption according to the US EPA calculation guidelines. WS Steel is unaware of any other significant air pollution created by its operations.

VI.3 Water

WS Steel has taken reasonable measures to prevent potential impacts to surface and ground water from its operations. All floor drains within production facilities are constructed so as to prevent spilled liquid from entering sanitary sewer or are directed to spill containment sumps or pits. There are no ground water wells on the site. Rain and snow melt runoff are directed to the City of Steinbach's storm water drainage system.

In 2013, WS Steel purchased approximately 640 m^3 of potable water supplied by the City of Steinbach and delivered to the site by the city's metered water distribution system. The bulk of the water is returned to the City of Steinbach's wastewater treatment facilities. The returned water is typical of household wastewater and does not require special treatment.

VI.4 Wastewater

Non-process wastewater generated from toilets, lunch rooms, janitorial sinks and non-contact cooling water is discharged to the City of Steinbach sewer system. There are no limitations on flow or parameter monitoring requirements. The City of Steinbach monitors its treated effluent discharge regularly. No adverse environmental impacts are expected from wastewater generated from the facility.

VI.5 Waste

WS Steel generates approximately 700 tons of solid waste annually. This waste is composed of 650 tons of raw steel scrap and 51 tons of packaging materials, general office waste, scrap equipment and cafeteria waste. WS Steel recycles all scrap steel and approximately 10-20% of other waste for a total of 660 tons of its solid waste annually. Recycled material includes scrap metal, paper, cardboard, plastics, glass, batteries, florescent light bulbs and e-waste. Recycled e-waste, metals, batteries, paper and florescent bulbs are directed to licensed private recyclers. All other recyclable materials are directed to the City of Steinbach's recycle program. Remaining non-hazardous solid waste is disposed by the City of Steinbach's sanitation services.

WS Steel is working diligently to improve efficiency levels in all processes. Key areas of waste are identified and solutions are in place to best mitigate unnecessary waste. WS Steel strives to continually improve upon its current processes to make a more efficient and environmentally-friendly business. Our scrap steel has been an area of potential improvement with a 14.7% waste of purchased bulk steel. A state-of-the-art software program is currently being researched to improve the material usage efficiency of the facility. It is estimated that 70% of the scrap steel waste is produced from Laser and Plasma cutting machines or roughly 900,000 lbs of steel annually. The proposed software would reduce that number to approximately 540,000 lbs of scrap steel. The

overall impact would be a reduction of scrap steel waste from 14.7% to 10.4%, or 360,000 lbs of steel. Moreover, this will save roughly 450,000 kWh of energy in processing that amount of recycled steel. WS Steel promotes a continuous improvement culture and will dedicate substantial resources to improving operations for environmental, workplace health and safety as well as good business practice purposes.

VI.6 Green House Gas Emissions

WS Steel operations emitted approximately 775 tCO2eq in 2012 (US EPA, 2013). These emissions are calculated from site electricity and natural gas consumption using CO2 emission factors. Natural gas combustion in the facility heating units is the main source of CO2 emissions. Electricity used for equipment, controls and lighting, is purchased from Manitoba Hydro and is assumed to be almost exclusively generated by hydroelectric means.

WS Steel operates 18 vehicles and 6 fuel-powered forklifts on a regular basis. The CO2 contribution of these vehicles is relatively low due to their occasional use. Employee vehicles used for daily work commutes contributes to CO2 emissions as do the emissions from contracted trucking transporting material to and from the site. The contractor vehicle emissions are not included in this application.

WS Steel is committed to reducing its greenhouse gas footprint and is continually improving operations to reduce GHG emissions through R&D and Efficiency Engineering.

VI.7 Odour

The manufacturing process is conducted in a closed system and emissions pass through a ventilation scrubber and filtering system to capture particulate matter and their potential odours. WS Steel is unaware of any odour complaints regarding the site.

VI.8 Noise

Noise produced at the site is compatible with industrial zoning. All industrial processes are within the site's buildings and are typically not audible to the outside environment. Rooftop HVAC units and scrubber systems produce intermittent sound outdoors. It is possible that industrial sound from inside the building can be heard outside while traffic moves into or out of the building. Tractor trailer traffic, site snow clearing, and expansion construction activity produce the highest levels of sound. Delivery activity is generally conducted during daytime hours, Monday to Friday. Occasional snow removal is the only significant night time noise generation from site operations. The site is aware of a noise complaint regarding the facility due to the close proximity of a housing development that has grown closer to the industrial park. The

exact description of the noise, including a sound recording of the noise was requested from the City of Steinbach By-Law Enforcement officer. The sound recording was reviewed and thoroughly examined along with mapping information shown in Appendix D. It was determined that the sound was travelling through an open door during warm summer months. The overhead door was opened to allow cooling in the building and production forming was being conducted in that portion of the building that summer. Since that time, the building has been expanded upon and there are no longer any overhead doors along the east side of the building. It is expected that noise will be greatly reduced as a result and that the neighbouring residential area will no long have nuisance noise levels.

WS Steel strives to be a good neighbour in the community, and as a result of the noise complaint, noise testing samples were taken at various locations around the facility to determine the levels of sound involved in the aforementioned complaints. The loudest source of routine noise was found to be the Air Make-up Unit (AMU) on the south side of the facility. At a distance of 10 meters, the sound was measured to be steady at 65 dBs with intermittent peaks at 88 dBs approximately 30 seconds to a minute apart. At roughly 300 meters, the sound produced from the AMU was barely audible when measured on 19 November 2013 under steady wind conditions. The bush on the south and east side of the facility provides a sound barrier that breaks up further breaks up the normal dissipation of sound amplitude over a distance. The results of the testing further supported our previous conclusions regarding the open overhead door. In the future expansion plans, WS Steel will no longer have overhead doors in production areas on the east side of the facility to mitigate any direct sound transmission from disrupting the residential development to the east.

VI.9 Light

The site maintains site lighting consistent with an industrial facility. There are building mounted lamps to provide safety and security lighting around the perimeter of the building. There are additional lamps in the parking lot to the west of the facility. No lighting is directed up into the sky or toward neighbouring property. The site is unaware of any lighting complaint regarding the site.

VI.10 Storage of Hazardous Materials

WS Steel stores hazardous materials on sight in accordance with Workplace Health and Safety and environmental regulations. Compressed gases are stored outside and secured in the upright position. Paint is stored in a self-contained paint storage room with proper ventilation and containment measures. Smaller quantities of cleaning solutions, welding sprays and similar liquids are stored in proper hazardous material lockers in accordance with Workplace Health and Safety regulations.

VI.11 Ozone Depleting Compounds (ODCs)

WS steel is unaware of any Ozone Depleting Compounds (ODCs) that are produced or released as a result of its manufacturing operations.

VII. Mitigation Measures and Residual Environmental Effects

WS Steel incorporates into their operations an Environmental, Health and Safety (EHS) management system that provides the framework to reduce and mitigate impacts on the environment. Protection of the environment is built into standard operating procedures (SOPs) for normal operation, start-up, shutdown, emergency situations and waste handling. WS Steel's environmental management practices place emphasis on prevention and incorporates continuous improvement in operational equipment and processes.

VII.1 Spill and Emergency Management

WS Steel strives to create a safe and environmentally-friendly facility by identifying dangerous products, foreseeing potential hazards and taking appropriate measures to mitigate the risk of an environmental occurrence. The analysis of potential hazards leads to the creation of policies and standard operating procedures that ensure safe operating practices. These policies are focussed on minimizing danger to human life, while containing and properly cleaning up spills to minimize damage to the environment.

Production and spill containment equipment are kept on site and in good working condition by a preventative maintenance program to minimize the risk of spill occurrence and the impact of a spill should one occur. Hazardous products are stored in self-contained storage lockers. These lockers are grounded to prevent static charge build-up and potential fires or explosions. The storage rooms provide a secondary level of containment and are linked into the facility's fire sprinkler system for suppression of any potential fires. With the facility expansion, WS Steel is currently reviewing its' hazardous goods storage and handling procedures to ensure a comprehensive spill and fire prevention plan is in place.

VII.2 Pollution Control Equipment

Within the facility, multiple United Air Specialists' (UAS) air scrubber systems are used in the ventilation exhaust system. The UAS air scrubber systems are engineered and designed to filter out particulates prior to exhausting and/or recirculating the air. The particulate collector is on a regular preventative maintenance schedule. The systems are cleaned and verified on a regular basis. A 100 gallon barrel is used to collect the

particulates and roughly 10 kg is captured each year. The collected particulate is disposed of and partly re-used in the steel making process.

WS Steel produces less than 800 tonnes of Green House Gas (GHG) emissions per annum, which is well below the 50,000 tonne mark for GHG reporting for Environment Canada regulations. WS Steel maintains acceptable ambient indoor air quality and does not exhaust any other harmful substances exterior to the facility. OHG Consulting of St. Paul, MB completed ambient and 'at-source' air quality tests and the results were acceptable according to Manitoba Workplace Health and Safety standards.

VIII. Monitoring and Reporting

WS Steel is committed to having a safe and environmentally friendly facility. Air quality and interior sound level testing is conducted on an annual basis in conjunction with Manitoba Health and Safety. The results from these tests are evaluated and used to determine whether improvements are required to improve workplace safety or environmental conditions. The facility is equipped with CO^2 detection equipment to ensure thresholds for human safety are not surpassed. WS Steel has upgraded ventilation technologies, modified facility designs and improved plant equipment layouts to improve worker safety and reduce environmental impacts. These monitoring procedures are in place for current systems and will be expanded upon to include new or additional systems in the future.

References

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U.S. Environmental Protection Agency. http://www.epa.gov/cleanenergy/energy-resources

APPENDIX A - CERTIFICATE OF TITLE

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DATE: 2013/12/20              TITLE SEARCH                              PASJWIE
TSTL (1 OF 9)          TITLE DISPLAY - WINNIPEG                        PAGE: 01
TITLE NUMBER.......      2450827/1        TITLE STATUS.......  ACCEPTED
REGISTRATION DATE..   2010/05/14          ASSESSMENT OFFICE..  ** MANITOBA **
COMPLETION DATE....   2010/05/20          CONSOLIDATION......  YES
LEGAL DESCRIPTION:
    4313682 MANITOBA LTD.

   IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON
   IN THE FOLLOWING DESCRIBED LAND:

   LOTS 1 AND 2 PLAN 42591 WLTO
   IN SW 1/4 36-6-6 EPM




TX: ____
DA: _____________________________
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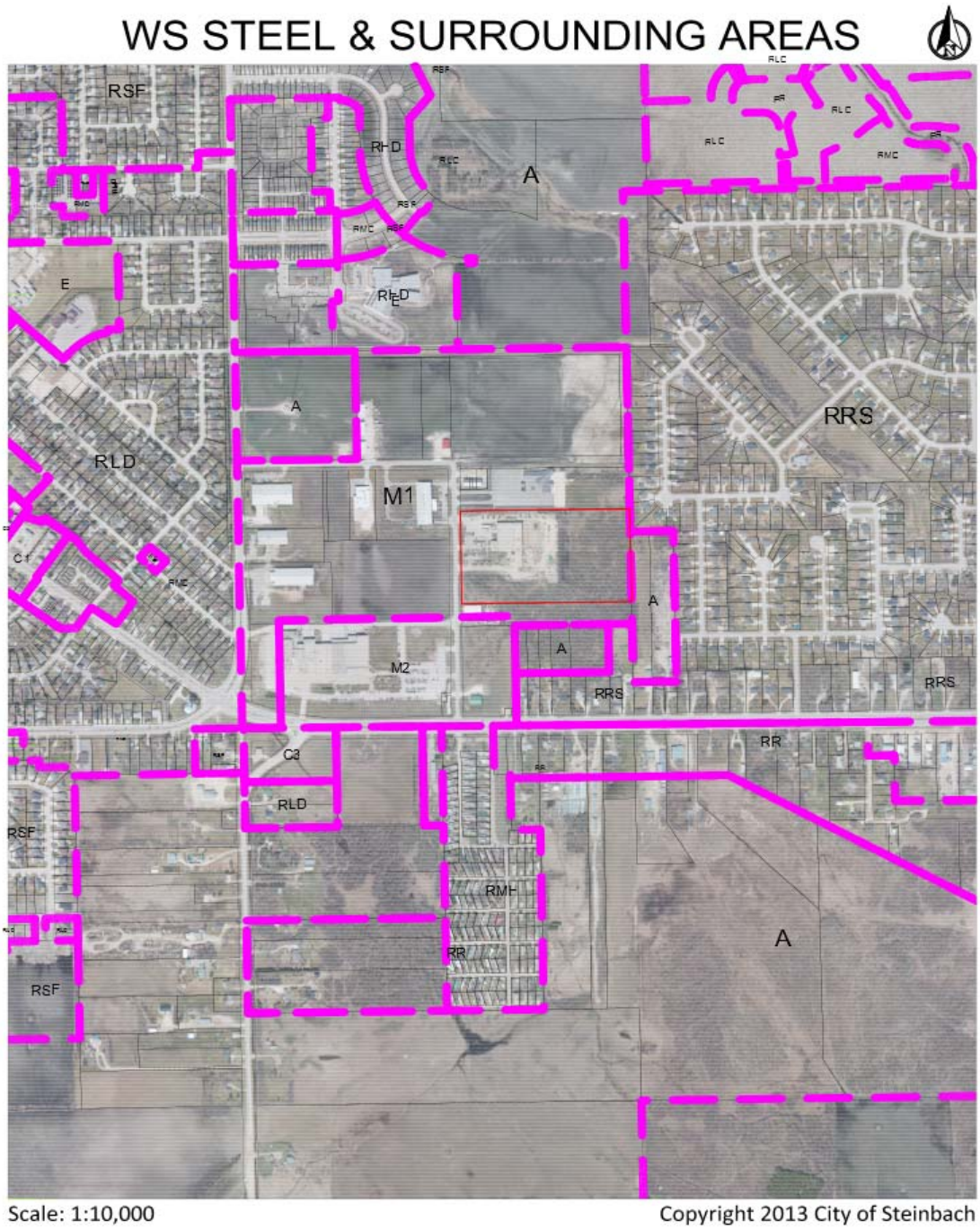
DATE: 2013/12/20              TITLE SEARCH                              PASJWIE
TSEC (2 OF 9)          TITLE DISPLAY - WINNIPEG                        PAGE: 03
TITLE NUMBER.......      2450827/1        TITLE STATUS.......  ACCEPTED
REGISTRATION DATE..   2010/05/14          ASSESSMENT OFFICE..  ** MANITOBA **
COMPLETION DATE....   2010/05/20          CONSOLIDATION......  YES
ACTIVE CHARGE LIST:  BEGINNING
  4371150/1 ACCEPTED  PERSONAL PROPERTY SECURITY NOTICE  REG'D: 2013/06/28
      DESCRIPTION:      DOES NOT EXPIRE
      FROM/BY:          STEINBACH CREDUT UNION LIMITED
      TO:               ROBERT PRESCOTT SMITH AS AGENT
      CONSIDERATION:                    NOTES:

  4382601/1 ACCEPTED  CAVEAT                          REG'D: 2013/07/24
      DESCRIPTION:      LEASE 1 JANUARY 2013 TO 31 DECEMBER 2018
      FROM/BY:          W S MACHINING & FABRICATION INC.
      TO:
      CONSIDERATION:                    NOTES:



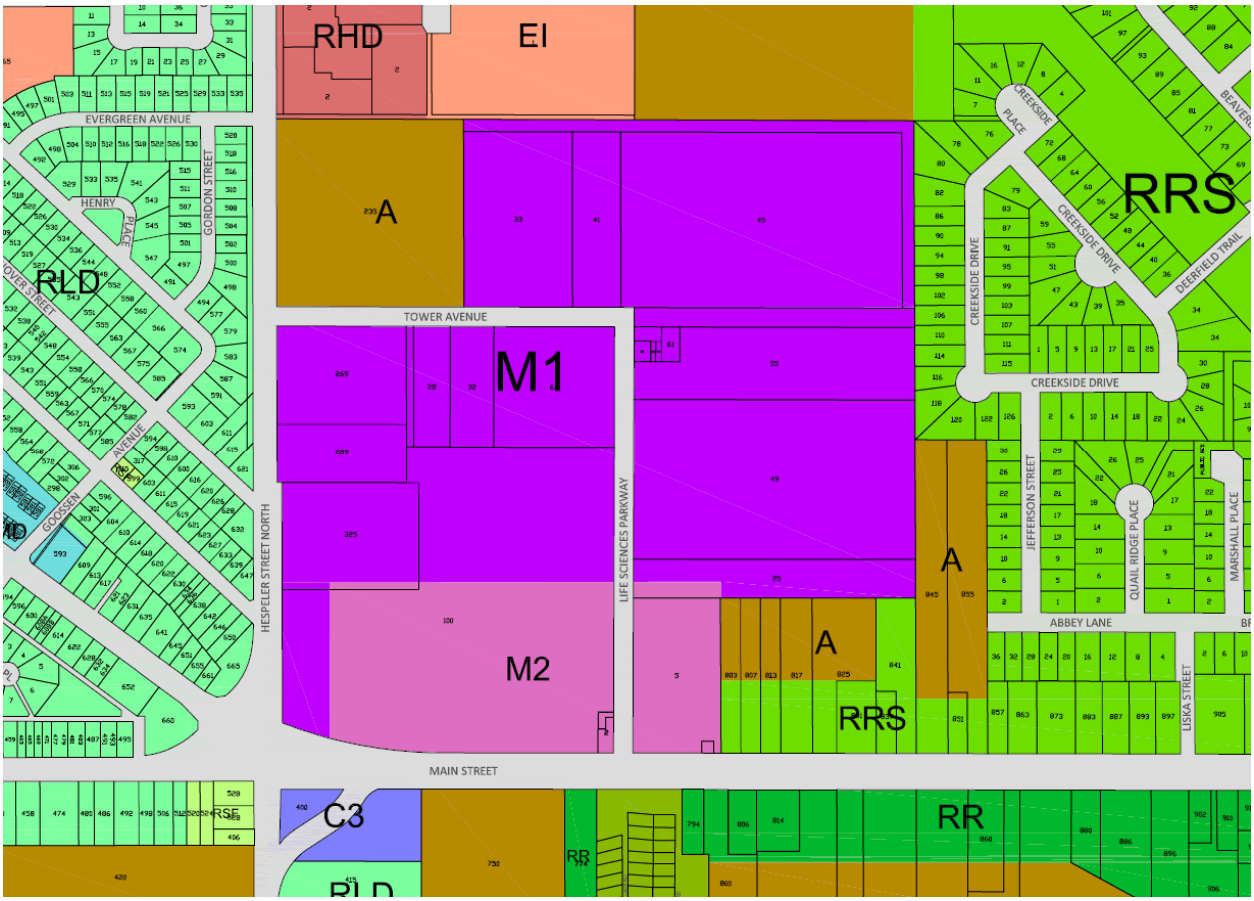

TX: ____                                    _____ REGISTRATION TO DISPLAY
DA: _____________________________ F6-TSTC   F7-PREV PAGE
*** NO MORE ACTIVE CHARGES FOUND FOR THIS TITLE ***
```

APPENDIX B.1- SURROUNDING AREA ZONING MAP

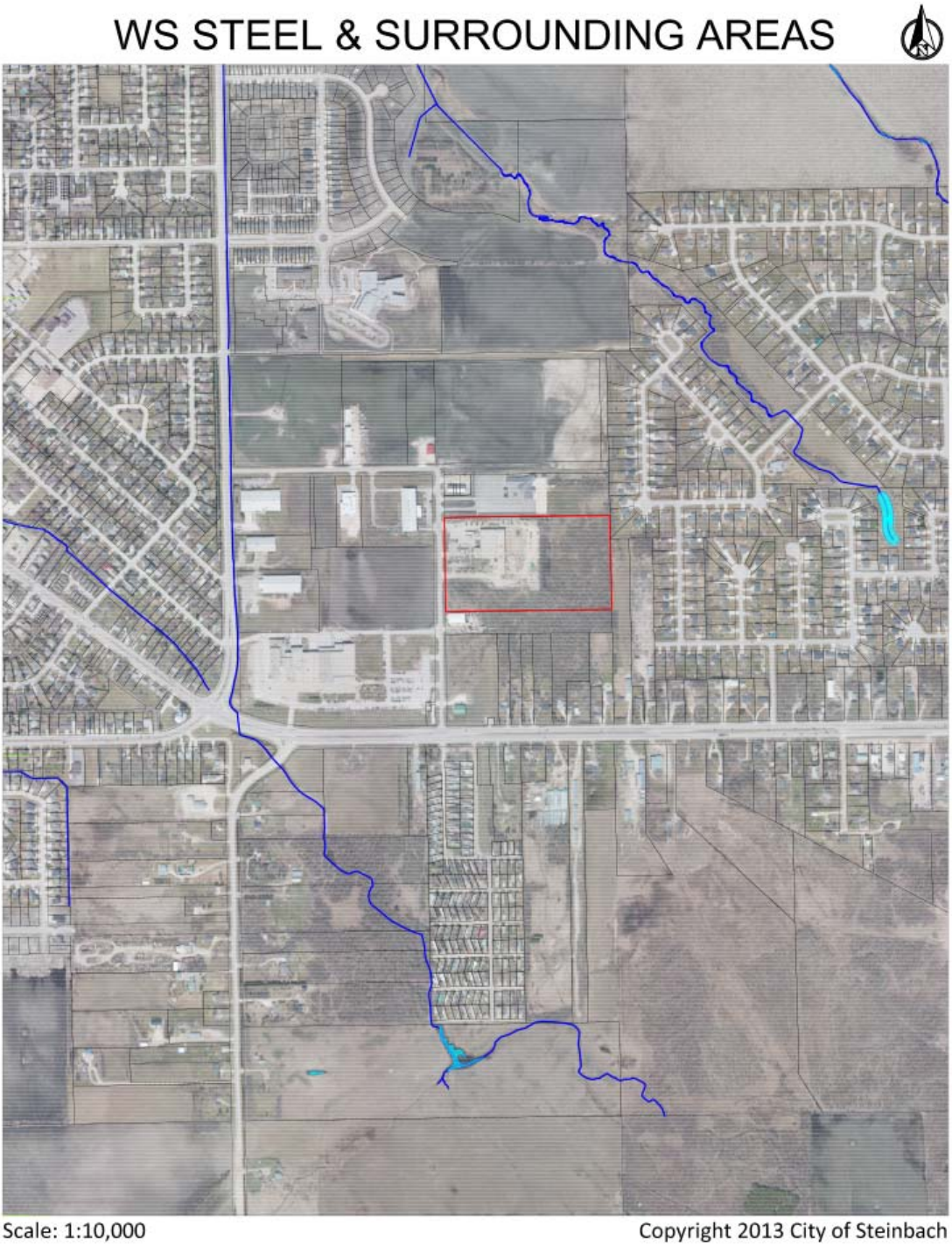


Scale: 1:10,000

APPENDIX B.2- SITE ZONING MAP



APPENDIX C – DRAINAGE MAP



APPENDIX D – NOISE COMPLAINT REFERENCE MAP

Distance from facility to housing is approximately 250-300 meters

Provided by the City of Steinbach

APPENDIX E – WATER WELLS WITHIN 500 METERS OF FACILITY

WellID	Depth (m)	Custodian	Water Level (m)	Water use	Well purpose	Water status	Top (m)	Bottom (m)	GIN Lithology
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	0.00	0.30	Soil
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	0.30	3.66	Diamicton
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	3.66	18.60	Diamicton
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	18.60	21.66	Gravel
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	21.66	29.58	Diamicton
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	29.58	36.30	Diamicton
100991	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	36.30	48.80	Carbonate sedimentary rock
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	0.00	0.30	Soil
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	0.30	3.66	Diamicton
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	3.66	19.52	Diamicton
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	19.52	25.92	Gravel
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	25.92	30.20	Diamicton
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	30.20	35.08	Diamicton
100993	48.80	Manitoba Water Stewardship	2.14	Domestic	PRODUCTION	ACTIVE	35.08	48.80	Carbonate sedimentary rock
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	0.00	4.57	Diamicton
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	4.57	21.34	Diamicton
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	21.34	30.48	Mud
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	30.48	31.39	Mud
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	31.39	35.97	Diamicton
4912	45.72	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	35.97	45.72	Carbonate sedimentary rock
57366	68.88	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	0.00	1.22	Diamicton
57366	68.88	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	1.22	33.53	Mud
57366	68.88	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	33.53	35.36	Diamicton
57366	68.88	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	35.36	36.27	Diamicton
57366	68.88	Manitoba Water Stewardship	0.30	Domestic	PRODUCTION	UNKNOWN	36.27	68.88	Carbonate sedimentary rock
121951	53.98	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	0.00	5.49	Diamicton
121951	53.98	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	5.49	29.89	Diamicton
121951	53.98	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	29.89	36.90	Mud
121951	53.98	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	36.90	39.65	Diamicton

121951	53.98	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	39.65	53.98	Carbonate sedimentary rock
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	0.00	0.30	Soil
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	0.30	3.36	Diamicton
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	3.36	25.92	Diamicton
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	25.92	28.36	Mud
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	28.36	35.99	Diamicton
112942	54.90	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	ACTIVE	35.99	54.90	Carbonate sedimentary rock
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	0.00	0.30	Soil
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	0.30	4.88	Diamicton
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	4.88	17.69	Diamicton
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	17.69	21.66	Gravel
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	21.66	28.67	Diamicton
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	28.67	35.08	Diamicton
112963	61.00	Manitoba Water Stewardship	3.05	Domestic	PRODUCTION	ACTIVE	35.08	61.00	Carbonate sedimentary rock
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	0.00	0.30	Soil
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	0.30	3.96	Diamicton
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	3.96	17.08	Diamicton
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	17.08	22.57	Sand
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	22.57	30.80	Mud
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	30.80	34.46	Diamicton
121775	42.40	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	34.46	42.40	Carbonate sedimentary rock
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	0.00	3.66	Diamicton
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	3.66	19.81	Diamicton
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	19.81	20.73	Gravel
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	20.73	29.87	Diamicton
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	29.87	33.53	Diamicton
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	33.53	35.97	Diamicton
81088	48.16	Manitoba Water Stewardship	3.66	Domestic	PRODUCTION	UNKNOWN	35.97	48.16	Carbonate sedimentary rock
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	0.00	1.22	Diamicton
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	1.22	10.67	Diamicton
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	10.67	12.19	Mud
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	12.19	24.38	Diamicton
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	24.38	27.43	Mud
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	27.43	33.53	Diamicton
78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	33.53	37.19	Diamicton

78186	53.34	Manitoba Water Stewardship	0.00	Domestic	PRODUCTION	UNKNOWN	37.19	53.34	Carbonate sedimentary rock
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	35.97	39.62	Diamicton
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	39.62	53.34	Carbonate sedimentary rock
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	0.00	6.10	Diamicton
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	6.10	16.76	Diamicton
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	16.76	22.86	Mud
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	22.86	31.09	Diamicton
72322	53.34	Manitoba Water Stewardship	4.88	Domestic	PRODUCTION	UNKNOWN	31.09	35.97	Diamicton
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	0.00	1.83	Sand
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	1.83	8.53	Diamicton
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	8.53	18.29	Diamicton
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	18.29	32.92	Mud
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	32.92	34.14	Mud
14446	36.58	Manitoba Water Stewardship	2.44	Domestic	PRODUCTION	UNKNOWN	34.14	36.58	Diamicton
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	0.00	3.96	Diamicton
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	3.96	25.01	Diamicton
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	25.01	31.42	Mud
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	31.42	35.08	Diamicton
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	35.08	37.52	Diamicton
137272	66.49	Manitoba Water Stewardship	3.36	Domestic	PRODUCTION	ACTIVE	37.52	66.49	Carbonate sedimentary rock