



Conservation

Environmental Stewardship Division
Environmental Assessment and Licensing Branch
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FAXED

Client File: 130.60

February 23, 2009

Rodi Sveistrup
Environment Leader
Koch Fertilizer Canada, Ltd.
1400 – 17th Street East
Brandon MB R7A 7C4

Dear Mr. Sveistrup:

Further to your letter of December 23, 2008, please find enclosed the revised Environment Act Licence 1535 RR issued to Koch Fertilizer Canada, ULC to reflect current ownership.

In addition to the enclosed Revised Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with.

For further information on the administration and application of the Licence, please feel free to contact Peter Crocker, District Supervisor/Environment Officer at (204) 726-6565.

Yours truly,

Tracey Braun, M. Sc.
Director
Environment Act

Enclosures

cc: Luke Peloquin, Regional Director, Western Region
Attn: Peter Crocker
cc: City of Brandon

NOTE: Confirmation of Receipt of this Revised Licence 1535 RR (*by the Licencee only*) is required by the Director of Environmental Assessment and Licensing. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by March 9, 2009.

On behalf of Koch Fertilizer Canada, ULC

Date

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

LICENCE

Licence No. / Licence n° 1535 RR

Issue Date / Date de délivrance February 20, 1992

REVISED : September 18, 2006

REVISED : February 23, 2009

In accordance with The Environment Act (C.C.S.M. c. E125) /
Conformément à la Loi sur l'environnement (C.P.L.M. c. E125)

Pursuant to Section 10(1) / Conformément au Paragraphe 10(1)

THIS LICENCE IS ISSUED TO : / CETTE LICENCE EST DONNÉE À :

KOCH FERTILIZER CANADA, ULC; APPLICANT

subject to the following limits, terms and conditions to be complied with by Koch Fertilizer Canada, ULC in connection with the operation of a chemical fertilizer manufacturing plant located in the SW 1/4 of Section 18, Township 10, Range 18 WPM in the City of Brandon, Manitoba, and in connection with all ancillary activities and lands used for the conveyance, storage and disposal of liquid effluent from the said manufacturing facility.

DEFINITIONS

1) In this Licence:

"fertilization" means the application of nutrient rich liquid effluent onto soil in accordance with the limits, terms and conditions prescribed by this Licence.

"final discharge point" means the main effluent monitoring station until or unless the Director redesignates the final discharge point to be at the averaging pond effluent monitoring station.

"fire drill" means a live fire fighting practice session, involving the open burning of petroleum products, associated with a program for the training of the plant fire crew to extinguish petroleum product fires.

"liquid effluent" means liquid waste containing, in whole or in part, any waste stream or surface runoff from Koch Fertilizer Canada, ULC's plant site area, which is designated for disposal into the environment, except liquid waste which is sold to private land owners or land leaseholders for its nutrient value as a fertilizer product.

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AT ALL TIMES****

"opacity" means the degree to which visible emissions reduce the transmission of light and obscure the view of an object in the background.

"particulate matter" means any finely divided liquid or solid matter other than water droplets.

"plant site area" means that area designated on Appendix 'B', attached to this Licence, unless otherwise re-designated by the Director on the basis of new evidence.

"24-hour composite sample" means a sample collected over any 24 consecutive hours by means of a method of continuous in-stream sampling or by means of compositing a minimum of 24 grab samples comprised of approximately equal volumes and taken at intervals which are approximately evenly distributed over 24 consecutive hours.

RESTRICTIONS

Respecting Air Emissions

- 2) The Applicant shall not release oxides of nitrogen gas (NO and NO₂ expressed as nitrogen dioxide, NO₂) into the atmosphere where:
 - (a) the amount, as measured at the point of emission from the existing nitric acid plant by a method satisfactory to the Director, is in excess of:
 - (i) 6 kilograms per tonne of 100 percent nitric acid produced at this plant, as averaged over a 1-hour period; or
 - (ii) an opacity of 10 percent at any time; or,
 - (b) the amount, as measured at the point of emission from the new nitric acid plant by a method satisfactory to the Director on any occasion 20 operating days after the initial production start-up date of the plant, is in excess of:
 - (i) 2.5 kilograms per tonne of 100 percent nitric acid produced at this plant, as averaged over a 1-hour period; or
 - (ii) an opacity of 10 percent at any time;except where the Applicant demonstrates to the satisfaction of the Director, that an equipment breakdown, process upset, shutdown, start-up or power failure has occurred, and the Applicant has also complied with Clause 21(a), under which circumstances the emissions of oxides of nitrogen may exceed the specified limit but may only exceed the 10 percent opacity for a period not in excess of 1 hour for each such occurrence.

- 3) The Applicant shall not release sulphur dioxide gas (expressed as SO₂) into the atmosphere in excess of 5 kilograms per tonne of 100 percent ammonium thiosulphate produced, as measured at the point of emission from the ammonium thiosulphate plant by a method satisfactory to the Director.
- 4) The Applicant shall not release particulate matter into the atmosphere in excess of 0.23 grams per dry standard cubic metre calculated at 25 degrees Celsius and 760 millimetres of mercury, as measured at the point of emission from any process of the said operation by a method satisfactory to the Director.
- 5) The Applicant shall limit the emission of ammonia from the said operation to such an extent that downwind concentrations of ammonia (expressed as NH₃) in the air, as sampled in an area which the City of Brandon had, on or before December 10, 1985, zoned "residential" or "educational institutional", are not in excess of 3.0 parts per million of air, by volume, as averaged over a 1-hour period, except where the Applicant demonstrates to the satisfaction of the Director, that an equipment breakdown, process upset, shutdown, start-up or power failure has occurred and the Applicant has also complied with Clause 21(a).
- 6) The Applicant shall minimize the frequency of occurrence and duration of events of an equipment breakdown, process upset, shutdown, start-up or power failure which result in emissions of pollutants that may exceed the limits established in this Licence.

Respecting Wastewater Handling and Disposal

- 7) The Applicant shall channel all liquid effluent, which is directed from the plant site area for disposal towards the Assiniboine River or towards any fertigation holding pond, through the main effluent monitoring station as indicated in Appendix 'A', with the exception of concentrated liquid effluent which is hauled by truck from the plant site area for application onto soil.
- 8) The Applicant shall ensure that all existing and new liquid effluent conduits and holding or storage ponds are lined with a continuous and impervious liner of a quality acceptable to the Director, and shall maintain them as deemed necessary by the Director to ensure the protection of the local groundwater quality.
- 9) The Applicant shall not release any liquid effluent into the conduit leading in a northerly direction from the T-box junction towards the Assiniboine River between the 16th day of May of any year and the 14th day of September of the same year.

10) In addition to the prohibition set out in Clause 9, the Applicant shall not release any liquid effluent towards the Assiniboine River if:

(a) the effluent, as sampled at the final discharge point, contains pollutant loadings in excess of any of the following limits:

<u>Pollutant</u>	<u>Limits in kilograms over any 24-hour period</u>
(i) total nitrogen (expressed as N)	204.0
(ii) total ammonia-nitrogen (expressed as N)	91.0 (until May 15 th , 1994)
(iii) total phosphorous (expressed as P)	20.0

as determined from the analysis of any 24-hour composite sample of the effluent and the total volume of effluent released at the final discharge point during the said 24-hour period; or if,

(b) the effluent, as sampled at the averaging pond effluent monitoring station on and after September 15th, 1994, contains pollutant loadings of total ammonia-nitrogen (expressed as N) in excess of the following limits during the corresponding months:

<u>Month</u>	<u>Limits in kilograms over any 24-hour period</u>
January	120
February	120
March	120
April	90
May	80
September	38
October	40
November	50
December	130

as determined from the analysis of any 24-hour composite sample of the effluent and from the total volume of effluent released at this station during the said 24-hour period; or if

(c) the effluent, as sampled at the averaging pond effluent monitoring station, is of such quality that, in any grab sample:

(i) the pH of the effluent is less than 6.0 or more than 9.0; or
 (ii) the total chlorine residual of the effluent is in excess of 0.7 milligrams per

litre;
 or

(iii) there is physical evidence of oil or grease.

- 11) The Applicant shall undertake a program to reduce the concentration of total dissolved solids in the liquid effluent and, in this regard, shall submit an annual progress report to the Director, on or before the 1st day of March of each year after 1992, detailing the measures taken and the improvements achieved during the previous calendar year.

Respecting the Fertigation Program

- 12) The Applicant shall carry out the fertigation of soil with liquid effluent in accordance with the following limits, terms and conditions:
 - (a) there shall be no application of liquid effluent onto land after the 31st day of October of any year until the 15th day of April of the following year;
 - (b) the pH of the said liquid effluent shall not be lower than 6.0 nor higher than 9.0 units;
 - (c) the application rate of total nitrogen (expressed as N) to the soil shall not exceed 225 kilograms per hectare per year;
 - (d) the nitrate-nitrogen (expressed as N) contained in the top 120 centimetres of soil sampled from any field to which liquid effluent has been applied in the same or preceding year shall not be in excess of 265 kilograms per hectare, as determined from soil samples taken and analysed in accordance with Appendix 'C'; and
 - (e) the said liquid effluent shall be applied only onto land which was not fallowed in the previous growing season and on which crops are growing or will be grown in that crop year, or if applied after harvest only to stubble lands which will not be fallowed in the following year and further limited to only those lands set out in Appendix 'D' which said Appendix may be amended by the Director from time to time on the basis of new evidence.

Respecting Fire Drills

- 13) The Applicant shall provide the Director and the local fire department with a two day advance notice, together with the estimated duration, prior to the commencement of any fire drill.
- 14) The Applicant shall ensure that no burning takes place when wind speeds are in excess of 24.1 kilometres per hour (15 miles per hour).
- 15) The Applicant shall ensure the said training program is carried out in such a manner as to prevent the pollution of groundwater by fuels or chemicals.

MONITORING AND REPORTING REQUIREMENTS

Respecting Air Emissions

- 16) The Applicant shall, at the request of the Director and within such time frame as may be specified, ensure that adequate stack sampling facilities are installed in a manner and at such locations as are satisfactory to the Director, whereby the said facilities shall include, proper sampling ports, safe sampling platforms, safe access to the sampling platforms, access to electrical power to operate sampling equipment and such additional sampling facilities as may be requested.
- 17) The Applicant shall:
 - (a) at the request of the Director, carry out and complete emission testing for the emissions referred to in Clauses 2, 3 and 4 of this Licence within 60 days of the request and in a manner satisfactory to the Director; and
 - (b) submit a report containing the emission data, production data, and all other related data to the Director within 90 days after completion of the emission testing.
- 18) The Applicant shall, at the request of the Director and within such time frame as may be specified, provide additional ambient air monitoring stations at such locations as specified by the Director.
- 19) The Applicant shall:
 - (a) maintain and operate ambient air monitoring stations, at locations satisfactory to the Director, to determine on a continuous basis:
 - (i) the concentrations of ammonia; and
 - (ii) the speed and direction of the wind;
 - (b) operate the said monitoring stations in a manner consistent with operating guidelines prescribed by the Director; and
 - (c) within 15 days of the end of every month, submit a report to the Director on the preceding month's data based on the results obtained from the prescribed monitoring.
- 20) The Applicant shall report to the Director any results of the ambient air quality monitoring data with respect to ammonia concentrations in excess of 3 parts per million as a 1-hour average, within 24 hours of its occurrence or before noon of the first business day following an occurrence on a weekend or statutory holiday, by facsimile or any other notification procedure approved by the Director.
- 21) Regarding any event of an equipment breakdown, process upset, shutdown, start-up or power failure which results in emissions of pollutants that are likely to exceed the limits established in this Licence, the Applicant shall:

- (a) notify the Director and the City of Brandon within 24 hours of its occurrence or before noon of the first business day following an occurrence on a weekend or statutory holiday, by facsimile or any other notification procedure approved by the Director, stating the nature of the occurrence, the time and estimated duration of the event and the reason for the event; and
- (b) within 15 days of the end of every month, submit a statistical report to the Director and the City of Brandon containing a table of all the preceding month's reported events by process plant, category and number of occurrences, as well as a summary table of accumulated reported occurrences by process plant, category and number of occurrences since the beginning of the prevailing calendar year.

Respecting Wastewater Handling and Disposal

- 22) The Applicant shall ensure to provide and maintain appropriate liquid effluent sampling equipment, and properly calibrated flow rate measurement devices, for liquid effluent streams at such locations and in such a manner as is satisfactory to the Director.
- 23) The Applicant shall:
 - (a) (i) on every 6th day collect a 24-hour composite sample of liquid effluent being discharged through the final discharge point;
 - (ii) on every 6th day, or the nearest such day on which liquid effluent is being trucked from the plant site area for application onto land, compile a representative daily composite of the liquid effluent being hauled by extracting a grab sample from each loaded truck and compositing all such grab samples collected on that day into one composite sample; and
 - (b) measure and record, to an accuracy within plus or minus 2 percent of the actual amount, the quantity of liquid effluent discharged each day:
 - (i) through the main effluent monitoring station;
 - (ii) through the averaging pond effluent monitoring station (if applicable);
 - (iii) from the plant site area by truck for application onto land; and
 - (iv) from any additional liquid effluent monitoring station as may be specified by the Director; and
 - (c) analyse the samples collected pursuant to Clause 23(a) for the following substances and characteristics:
 - (i) total nitrogen (expressed as N)
 - (ii) total ammonia-nitrogen (expressed as N)
 - (iii) total phosphorus (expressed as P)
 - (iv) pH
 - (v) sulphates

- vi) total dissolved solids (filterable residue)
- (vii) total chlorine residual
- (viii) sodium
- (ix) magnesium
- (x) calcium
- (xi) conductivity

except that analyses need not be performed for the substances identified in (v), (vi) and (vii) on liquid effluent being used for fertigation, nor for the substances and characteristics identified in (viii), (ix), (x) and (xi) on liquid effluent being discharged to the Assiniboine River.

- 24) The Applicant shall submit the results of the analyses and records of liquid effluent quantities obtained pursuant to Clauses 23(b) and 23(c) to the Director within 30 days of the end of the month in which the samples and measurements were taken.

Respecting the Fertigation Program

- 25) The Applicant shall:

- (a) in the fall of each year, on or after the 15th day of September, collect and analyse, in accordance with procedures outlined in Appendix 'C', at least one bulked soil sample from each field fertigated during the 12 consecutive month period preceding the 1st day of September of that year, for the following chemical and physical characteristics:
- (i) pH;
 - (ii) water soluble nitrate-nitrogen, as N (by sodium bicarbonate extraction);
 - (iii) available phosphorus, as P (by sodium bicarbonate extraction);
 - (iv) exchangeable potassium (by neutral ammonium acetate extraction);
 - (v) exchangeable sodium (by neutral ammonium acetate extraction);
 - (vi) exchangeable calcium (by neutral ammonium acetate extraction);
 - (vii) exchangeable magnesium (by neutral ammonium acetate extraction);
 - (viii) conductivity; and
 - (ix) bulk density;

except that, where the Applicant has collected soil samples from fields fertigated from the 1st day of September to the 31st day of October of that same year and has sampled these fields not less than 15 days after their fertigation, and provided that the analytical results were included in the submission provided pursuant to Clause 25(b), these same fields need not be resampled in the following fall; and

- b) submit the results of the soil analyses to the Director, in a form acceptable to the Director, on or before the 1st day of March in the following year.
- 26) The Applicant shall, once in the spring and once in the fall of every year, sample and analyse the groundwater for its nitrate-nitrogen content, at such existing wells and/or at such new wells as may be requested by the Director, and submit the analytical results to the Director on or before the 1st day of March in the following year.
- 27) The Applicant shall submit to the Director, on or before the 1st day of March of each year, a report detailing the actual fertigation program carried out with liquid effluent in the previous year, to include the following:
- (a) the identification of all those fields which were fertigated, and which of these fields were fertigated by truck with concentrated liquid effluent;
 - (b) the total number of hectares fertigated;
 - (c) the total quantity of liquid effluent applied to the fertigated fields;
 - (d) the total quantity of total nitrogen applied to the fertigated fields;
 - (e) the identification of those fields and total hectares designated for fertigation in the upcoming year; and
 - (f) such other information as may be requested for inclusion by the Director.

Respecting Fire Drills

- 28) The Applicant shall:
- a) maintain records of each fire drill, to include:
 - (i) the date of the fire drill;
 - (ii) the time of start and time of extinguish of the open burning activity;
 - (iii) the amount and type of fuel burned; and
 - (b) submit this information to the Director and the local fire department within 15 days following each month during which the fire drills took place.

PROGRESSIVE RESTORATION AND FINAL DECOMMISSIONING

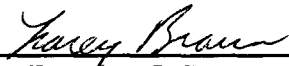
- 29) The Applicant shall, by the 1st day of March, 1993, submit to the Director a report containing:
- (a) an identification of all the known and suspected areas of groundwater polluted with nitrates to levels in excess of the current maximum acceptable concentration guideline of 10 milligrams per litre (expressed as N) for drinking water, which may have resulted from Koch Fertilizer Canada, ULC's past activities at the plant site and at or adjacent to the fertigation wastewater holding ponds;

- (b) a historical summary of the known quality of the groundwater at these identified areas with respect to the nitrate-nitrogen content;
 - (c) a summary of the groundwater remediation initiatives taken to date, and the progress achieved up to the end of 1992 through these initiatives in regards to reducing the nitrate levels in the affected groundwater; and
 - (d) a proposed outline and schedule for future measures planned for the progressive remediation of all the identified areas of polluted groundwater.
- 30) The Applicant shall submit a report to the Director, by the 1st day of March in each year following 1993, updating and plotting the annual progress made in the previous calendar year through the implemented groundwater remediation measures, until such time as the Director is satisfied that the areas of polluted groundwater have been satisfactorily decontaminated.
- 31) Six months prior to the imminent cessation of operations at the plant, the Applicant shall submit a Closure Plan to the Director, for the Director's approval, setting out the proposed decommissioning and reclamation activities and schedules for the plant site property and all facilities and other properties owned and used by the Applicant in the course of the said operation, which Plan shall include proposed remediation measures for polluted soil and groundwater.
- 32) Upon the cessation of operations at the plant, the Applicant shall carry out the Closure Plan as approved by the Director.

GENERAL

- 33) The Applicant shall ensure that a high standard of equipment maintenance and good housekeeping practices are carried out consistent with meeting the limits, terms and conditions of this Licence.
- 34) The Applicant shall, upon the request and to the satisfaction of the Director, establish such additional air, water or groundwater sampling facilities and ambient monitoring stations at such locations as may be requested, for the purpose of determining compliance with this Licence, and for the purpose of determining the ongoing impact of the manufacturing facility and its associated activities upon the environment.
- 35) The Applicant shall carry out sampling or monitoring activities and chemical analyses, for the purpose of meeting the requirements of this Licence, in accordance with methodologies and analytical procedures which are satisfactory to the Director.

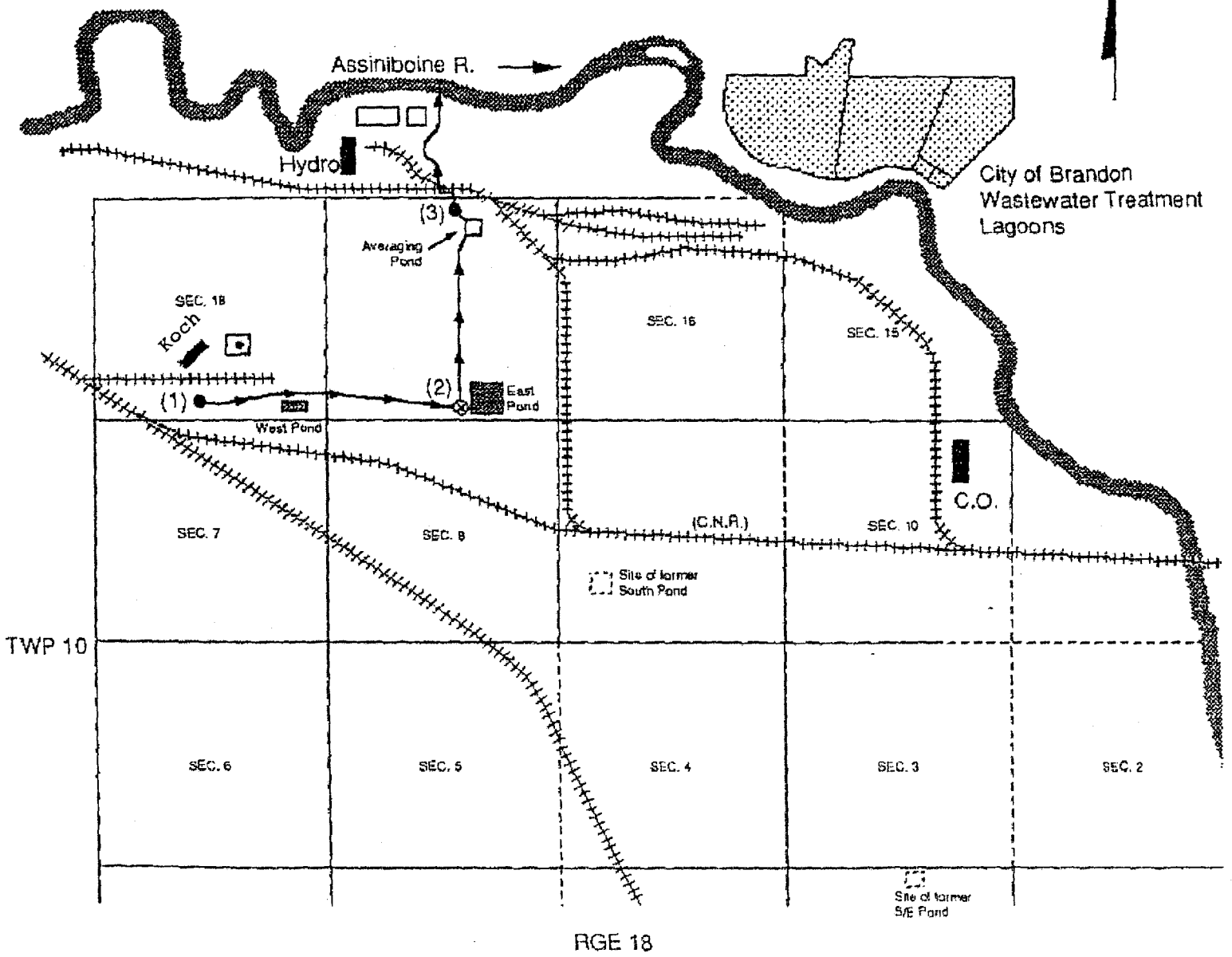
- 36) The Applicant shall, upon request by the Director, and for such duration as may be specified, monitor and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant containment, treatment, handling, disposal or emission systems, and environmental impacts associated with the operation of the said manufacturing facility, and provide the Director, within such time as may be specified, with such reports, drawings, specifications, analyses of pollutants at designated locations, wastewater flow rates, and such other information as may be so requested.
- 37) Environment Act Licence No. 1535 R is hereby rescinded.
- 38) This Licence will be reviewed by the Director on or before the 1st day of April, 1997 for the purpose of reaffirming or revising the limits, terms and conditions set out in this Licence.



Tracey Braun, M. Sc.
Director
Environment Act

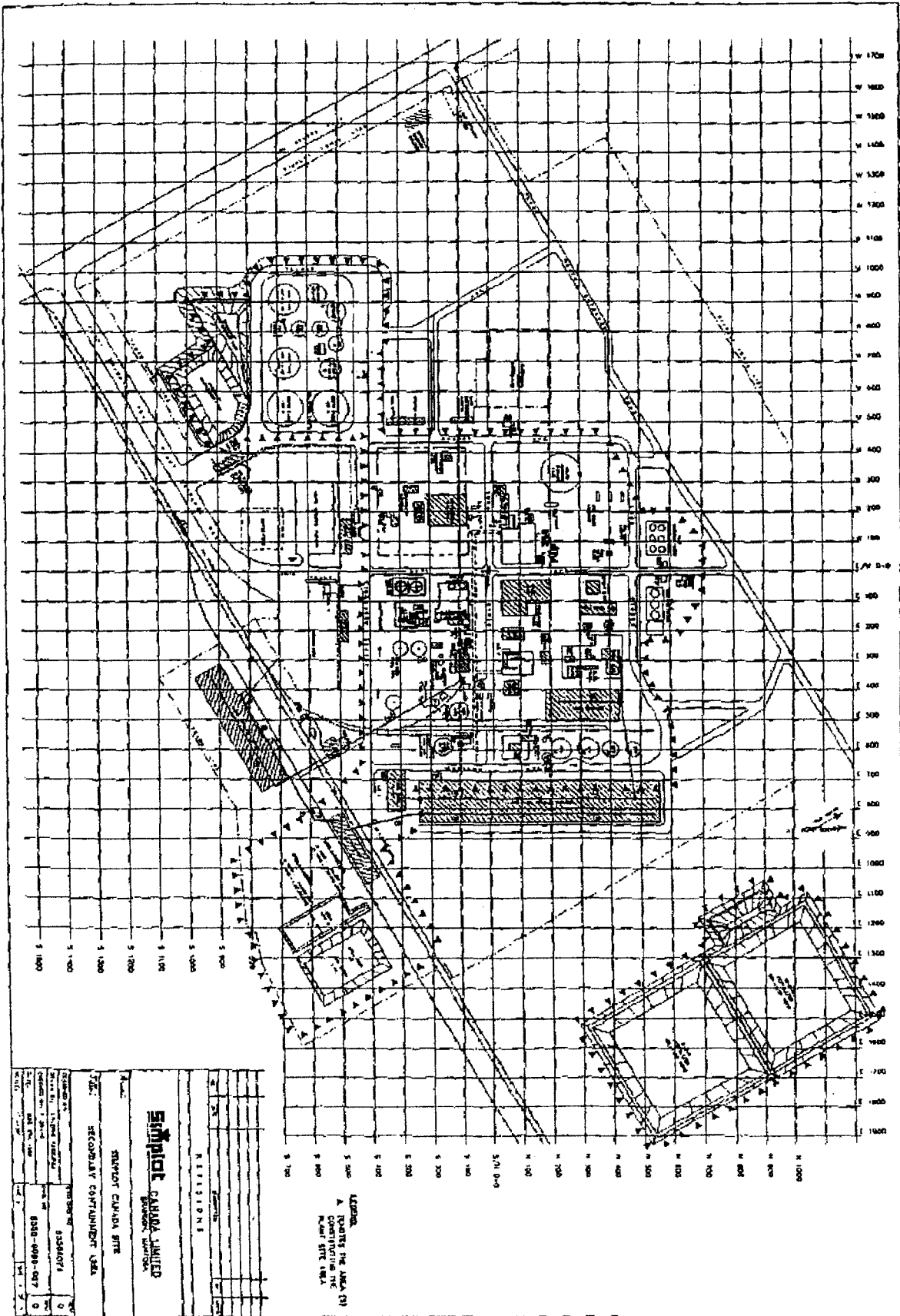
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APPENDIX A



- Koch's effluent drainage route
- (1) ● Koch's main effluent monitoring station
- (2) ⊗ Koch's T-Box junction
- (3) ● Koch's averaging pond effluent monitoring station
- Koch's concentrated waste storage pond
- Koch's active fertigation holding ponds

APPENDIX B (Amended September 26, 1994)



APPENDIX C

SOIL NITRATE CONTENT PROCEDURE

Analyses of soil samples in accordance with Clauses 12(d) and 25(a) of this Licence shall be carried out using analytical procedures recognized by the Norwest Labs or an equivalent recognized soil testing laboratory, and calculated in a manner such that on the basis of any representative bulked soil samples:

$$\text{Total nitrate-nitrogen per hectare} = \sum_{i=1}^4 0.003 \cdot A_i \cdot B_i \text{ kilograms per hectare, where}$$

i represents each vertical 30 centimetre increment, and

A = nitrate-nitrogen content (expressed as N) in parts per million, and

B = bulk density in kilograms per cubic metre.

A representative bulked soil sample shall be composed of soil, bulked into groups of 30 centimetre increments, from at least 10 test holes, 120 centimetres deep, randomly selected and distributed within an area of 32 hectares or within the area of a fertigated field, whichever area is less. Fertigation fields established before January 23, 1985, but having an area between 32 and 42 hectares shall require 13 test holes.

APPENDIX D

Allowable areas of stubble land which may be fertigated under the provision of Clause 12(e):

<u>Section</u>	<u>Township</u>	<u>Range</u>
SW 1/4 of Section 6	10	8 WPM
South 1/2 of Section 27	9	18 WPM
South 1/2 of Section 28	9	18 WPM
All of Section 29	9	18 WPM
All of Section 30	9	18 WPM
All of Section 31	9	18 WPM
West 1/2 of Section 32	9	18 WPM
S 1/3 of E 1/2 of SE 1/4 of Section 32	9	18 WPM
NW 1/4 of Section 28	9	18 WPM

unless otherwise revised from time to time by written authorization of the Director.