



TECHNICAL REVIEW COMMITTEE

**A TECHNICAL REVIEW REPORT
PREPARED FOR**

**THE RURAL MUNICIPALITY
OF
HANOVER**

**CANADA SHEEP AND LAMB
FARMS LTD.**

E1/2 NW 21-05-06E

TRC 12-014

DECEMBER 23, 2014

A. INTRODUCTION

The Technical Review Committee (TRC) consists of representatives from the following provincial departments:

- Agriculture, Food and Rural Development (MAFRD);
- Conservation & Water Stewardship (CWS);
- Infrastructure & Transportation (MIT);
- Municipal Government (MMG); and
- Any other department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, Manitoba Municipal Government, chairs the committee.

The Technical Review Committee Report includes the following:

- An assessment of completeness and nature of the information contained in the Site Assessment provided by the project proponent that enables the TRC to conduct its review.
- A summary of public comments along with proponent and departmental responses, if any.
- Recommendations to the Municipal Council and the proponent based upon a review of the information provided by the proponent.

Should the Municipal Council provide conditional approval of the proposal, the project proponent will be required to obtain various permits and licenses from the Province to address in greater detail environmental aspects of the proposal.

B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description go to

www.gov.mb.ca/ia/programs/livestock/public_registries.html

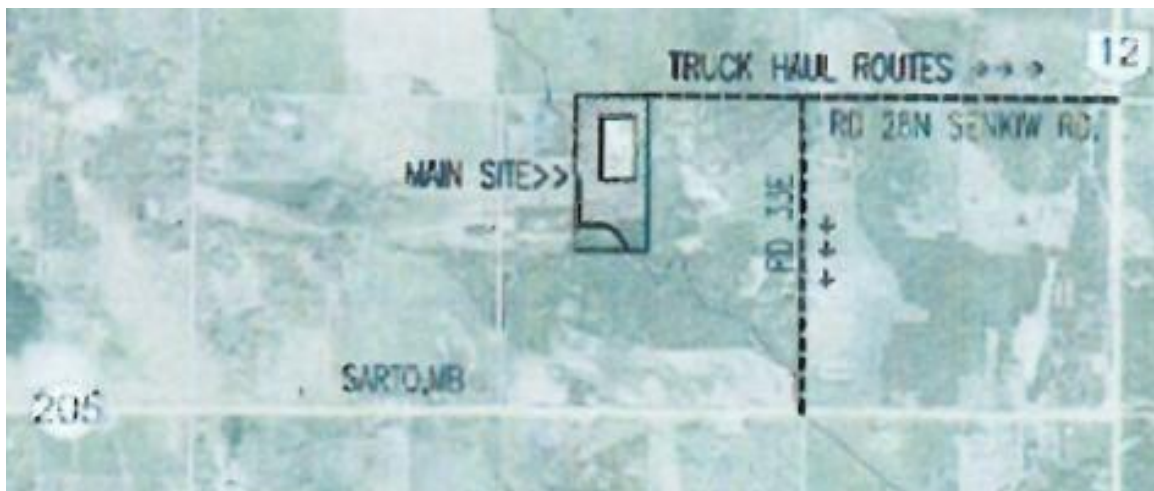
Applicant: Canada Sheep and Lamb Farms Ltd.

Site Location: Approximately 8 kms north east of Grunthal

R.M. of Hanover (E1/2 NW 21-05-06 EPM) Refer to map below.

Proposal: To expand an existing sheep operation to 658 Animal Units. This will involve the following:

- Constructing barn, shelter and corral additions barns and barns and 2 additional related confined livestock areas
- Continued field storage of manure and straw pack
- Consuming 15,540 imperial gallons of water per day
- Composting mortalities on site
- Using the truck haul routes as shown below



C.SITE ASSESSMENT AUDIT

The Audit of: Canada Sheep and Lamb Farms Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
2.0 Description of Operation	X	The applicant has provided a detailed description of the current operation.	MMG
3.0 Nature of Project	X	The applicant has clearly defined the nature of the project.	MMG
4.0 Proposed Type and Size of Operation	X	The applicant is proposing to expand his sheep breeding operation. He has indicated in the animal unit calculation that he will be housing 4000 ewes and 55 rams for breeding. The production model includes continuous (year-round) lambing and will also require 2150 lamb places.	MAFRD
5.0 Animal Confinement Facilities	X	<p>Environmental Stewardship Division; Environmental Approvals branch; Mines & Wastewater Section The Environmental Approvals branch has no concerns with this site assessment.</p> <p>Environmental Stewardship Division; Environmental Compliance & Enforcement branch; Eastern Region Note that construction and expansion of the confined livestock areas identified in the proposal would require a permit issued by the director.</p> <p>Environmental Stewardship Division; Environmental Programs & Strategies branch; Livestock section Manitoba Conservation and Water Stewardship regulates the construction of confined livestock areas (CLA) by requiring the proponent to submit an "Application for Permit to Construct, Modify or Expand a Confined Livestock Area" to the Environmental Approvals branch. Section 16(1) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) prohibits livestock in a confined livestock area to have access to surface water.</p>	CWS
6.0 Environmental Farm Planning		The applicant has indicated that there is no Environmental Farm Plan for this operation.	MAFRD

The Audit of: Canada Sheep and Lamb Farms Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
7.0 Water	X	<p>Environmental Stewardship Division; Environmental Programs & Strategies branch; Livestock section <i>The proposed operation is an existing facility but has identified they have exceeded the 300 animal unit threshold but not submitted Source Water Quality Monitoring analysis to Manitoba Conservation and Water Stewardship. This is a contravention of section 6.1(3) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98). The proponent must annually submit Source Water Quality Monitoring reports to Manitoba Conservation and Water Stewardship.</i></p> <p>Water Stewardship Division; Water Science & Management branch <i>The proponent has not indicated whether or not livestock will have access to surface waters (neither "yes" nor "no" were checked off in their submission).</i></p> <p><i>Proper nutrient management applications that avoid excess loss of nutrients to surface waters are needed on lands receiving nutrients including manure in southern Manitoba because long-term trend analysis of total phosphorus and total nitrogen has shown significant increases in these nutrients in the Assiniboine and Red rivers (Jones and Armstrong 2002).</i></p> <p><i>The proponent has acknowledged that the setback areas for all water features have been observed and excluded from land base calculations for this operation. It is important that these setbacks be clearly communicated and observed by everyone involved in manure application so as to minimize the risk of nutrients entering surface waters.</i></p> <p>Water Stewardship Division; Water Use Licensing branch; Groundwater Licensing section <i>The water requirement from the on-site well for the proposed operation requires a Water Rights Licence. An Application for a Water Rights Licence along with the \$100 fee must be properly filed with our Section.</i></p>	CWS
8.0 Manure Related	X	<p>Environmental Stewardship Division; Environmental Programs & Strategies branch; Livestock section <i>The proposed operation is an existing facility that has submitted a Manure Management Plan for the 2015 crop year. Canada</i></p>	CWS

The Audit of: Canada Sheep and Lamb Farms Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>Sheep and Lamb is required to submit an annual Manure Management Plan by the regulated July 10th deadline for the storage, handling, disposing, or application of any livestock manure prior to the application of manure to agricultural land.</p> <p>Environmental Stewardship Division; Environmental Compliance & Enforcement branch; Eastern Region Environmental Compliance and Enforcement (Eastern Region) has reviewed the above noted Proposal (Site Assessment) and has no concerns.</p>	
<p>8.1 Land Available/Required for Manure Application</p>	<p>X</p>	<p>MAFRD Detailed comments regarding the land requirement and soil test results are provided in Appendix A.</p> <p>MAFRD's land requirement estimate considers only the nitrogen (N) and phosphorus (P) from Canada Sheep and Lamb Farm Ltd's proposed breeding operation and does not consider nutrients from any other sources. In order to satisfy the Province's requirement in the RM of Hanover to balance sheep P excretion with crop P removal over the course of a rotation, it is estimated that Canada Sheep & Lamb Farms Ltd requires approximately 1068 acres of suitable land. This is also enough land for the sheep manure N.</p> <p>Canada Sheep & Lamb Farms Ltd has identified 1502 suitable acres for manure application (i.e. all of the 1432 acres listed in the first Manure Application Field Characteristics Table and an additional 70 acres on SE 17-5-6E included in the second Manure Application Field Characteristics Table). As such, Canada Sheep & Lamb Farms Ltd has demonstrated that sufficient suitable land is available for the sustainable management of the sheep manure N and P.</p> <p>The proponent supplied additional information to Manitoba Conservation and Water Stewardship on December 12 (Appendix B) clarifying that some of the fields that were sampled in the spring of 2014 had been fertilized for the upcoming crop. The nitrate-N levels measured on these fields in the spring of 2014 reflect levels following fertilization for the 2014 crop, <u>not</u> residual nitrate-N levels following the 2013 crop. Therefore, the residual nitrate-N limits do not apply to these samples. The nitrate-N limits established for "any time" apply to these samples and are twice the residual nitrate-N limits.</p> <p>It is recommended that Canada Sheep & Lamb Farms Ltd and</p>	<p>CWS MMG MAFRD</p>

The Audit of: Canada Sheep and Lamb Farms Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p><i>the partnering crop land owners manage the fertility of the fields that receive manure to keep all soil tests within the regulatory limits for soil nitrate-N and below 60 ppm Olsen P over the long-term.</i></p> <p>CWS Environmental Stewardship Division; Environmental Programs & Strategies branch; Livestock section <i>Manitoba Conservation and Water Stewardship has obtained information on average phosphorus output from livestock and expected crop removal rates of phosphorus as well as Census data in order to estimate the phosphorus budget in each Rural Municipality within agro-Manitoba. "Certain Areas", are defined by the Livestock Manure and Mortalities Management Regulation as areas where the amount of phosphorus in the manure produced annually by livestock in an area of not less than 93.24 km² is greater than two times the annual crop removal rate of P₂O₅ in that area. The Rural Municipality of Hanover is considered to be a "certain area".</i></p> <p><i>Manitoba Conservation and Water Stewardship requires permits for construction of manure storage facilities and confined livestock areas. As part of the review operators must identify manure spreadfields. In areas of Manitoba which are considered to be "certain areas" as defined above, Manitoba Conservation and Water Stewardship's current policy for the construction permit is to require an operation to demonstrate access to sufficient land to apply manure at a rate equivalent to 1 X the crop removal rate of phosphorus. It should be noted the spread field identified as RL 544 in the parish of Ste. Agathe is greater than 10 miles away and falls outside what is considered to be a reasonable distance as required under Section 12.2(1) of the Livestock Manure and Mortalities Management Regulation. The proponent has indicated sufficient land is available within a reasonable distance despite excluding the identified river lot.</i></p> <p><i>Spreadfields identified in the Site Assessment to be used by Canada Sheep and Lamb have been identified on Manure Management Plans for other operations as confirmed spreadfields, specifically: SW 33-05-07 E and NW 12-05-06 E. In order for sustainable use of these fields for manure application on a 1X application rate basis, the fields should only be used by one operation for land base calculations. The</i></p>	

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		<p><i>proponent should confirm long term access by Canada Sheep and Lamb.</i></p> <p><i>The additional soil tested land identified as available for manure application as listed in the separate table all demonstrated high residual phosphorus levels exceeding 60 ppm. Application of manure must comply with section 12.1(1) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98). Additionally, manure application, with respect to nitrogen, must be completed in accordance with section 12(1.4) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98). All residual nutrient concentrations must be below the regulated levels to be eligible for registration in a Manure Management Plan.</i></p> <p><i>Spread field RL 544 PAG indicates a nitrate nitrogen level of 164 lbs/ac. Although the regulated limit of the designated Agriculture Capability for that soil (2W) is of 140 lbs/ac (Residual), it was confirmed by the consultant of the proponent, soil sampling was conducted after the field was fertilized, prior to crop uptake. (See Appendix B). Note: The In Season (Post Fertilization) limit is 280 lbs/ac.</i></p> <p><i>The initial submission for field N ½ SE 28-05-06E had a residual nitrate nitrogen level of 108 lbs/ac. This exceeds the regulated limit of 90 lbs/ac for the designated Agriculture Capability for that soil (3M and 4M). However, a soil sample taken after the crop had been harvested was submitted indicating residual nitrate nitrogen levels below the regulated limit (19 lbs/ac). (See Appendix B)</i></p> <p><i>The Agriculture Capability listed for field N1/2 27-05-05 E is incorrect (3M5W). The correct Agriculture Capability is 3M5M. In addition, soil tests indicate a nitrate nitrogen level of 115 lbs/ac. Although the regulated limit of the designated Agriculture Capability for that soil (3M) is of 90 lbs/ac (Residual), it was confirmed by the consultant of the proponent, soil sampling was conducted after the field was fertilized, prior to crop uptake. (See Appendix B). Note: The In Season (Post Fertilization) limit is 180 lbs/ac.</i></p> <p><i>The Site Assessment has identified proposed spread field(s)</i></p>	

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>located in the Red River Valley Special Management Area (RRVSMA). Application of manure to spread fields in the RRVSMA must be done in compliance with Section 14.2 of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98).</p> <p>Water Stewardship Division; Water Science & Management branch Manitoba has included phosphorus as a nutrient by which fertilizer application through manure, synthetic fertilizer, and municipal waste sludge to agricultural lands may be limited. To remain environmentally sustainable over a long-term planning horizon of 25 years or more, the proponent must be able to balance phosphorus inputs from applied manure and other nutrient sources such as commercial fertilizers with crop removal rates to avoid excessive build-up in soils. Consequently, sufficient land base or economically achievable treatment technologies must be available so that manure can be applied at no more than 1 times crop removal rates. It should be noted that soil-test phosphorus levels of 60 ppm are well above phosphorus needs for most crops (over 20 ppm is usually considered very high), and that as excess phosphorus levels build up in soils, greater losses occur to surface and ground water. For long-term planning purposes, the proponent needs to have sufficient land available to ensure that manure can be applied at 1 times crop removal.</p> <p>MMG The spreadfields identified are designated and zoned for agricultural use.</p>	
9.0 Mortalities Disposal	X	<p>Environmental Stewardship Division; Environmental Programs & Strategies branch; Livestock section In accordance with the Livestock Manure and Mortalities Management Regulation (M.R. 42/98), mortalities must be kept in a secure storage room, covered container or secure location; and continuously frozen or refrigerated, if not disposed of within 48 hours after death.</p> <p>Composting mortalities is acceptable method of disposal</p>	CWS

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>provided it is in accordance with section 15.1 of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98).</p> <p>The proponent should prepare a contingency plan in case of a catastrophic event resulting in mass mortalities.</p>	
10.0 Project Site Description	X	<p>The site is designated "R" Rural Area in the RM of Hanover Development Plan No. 2170. Policies 3.3.5, 3.3.6, and 3.3.9 – 3.3.15 contained within the Rural Area section of the Development Plan support the development/expansion of the proposed livestock operation in this location.</p> <p>The site is zoned "R" Rural Zone in the RM of Hanover Zoning By-Law No. 2171. The proposed operation exceeds the separation distances in "Table 4-6 Minimum Separation Distances for Siting Livestock Operations." The site also meets minimum site width and yard requirements listed in the bulk requirements table of the Zoning By-Law "Table 4-2 "R" Rural Use and Site Requirements" but not site area.</p> <ul style="list-style-type: none"> Required site area of 160 acres in "Table 4-2 "R" Rural Use and Site Requirements" for "Expansion of existing LOs to three hundred or more animal units". <p>The applicant has applied to for a Variance Order reducing the site area requirement to 77 acres.</p>	MMG (CRP Regional Office)
10.0 Project Site Description (Native Prairie, Wildlife Mgt Areas, Crown Land)	X	<p>Biodiversity & Land Use Division; Wildlife branch; Habitat, Biodiversity & Endangered Species section A search of the Manitoba Conservation Data Centre's rare species database was completed and found no occurrences at this time for your area of interest.</p> <p>Biodiversity & Land Use Division; Lands branch; Provincial & Regional Land Management Planning section Land Management & Planning Section has no comment as no crown lands will be impacted or are proposed to be impacted; based on the information provided.</p>	CWS
11.0 Truck Haul Routes and Access Points	X	<p>We have no concerns with the amount of traffic generated or the proposed truck haul routes.</p> <p>For information PTH 12 is an RTAC route and PR 205 is capable of Class A1 loading.</p>	MIT

CWS – Conservation and Water Stewardship

MAFRD- Manitoba Agriculture, Food and Rural Development

MIT – Manitoba Infrastructure and Transportation

MMG- Municipal Government

D. PUBLIC COMMENTS & DISPOSITIONS

N/A

E.CONCLUSIONS & RECOMMENDATIONS

Overall Conclusion

Based on the Site Assessment submitted by the producer and available information, the TRC recommends the following appropriate practices, measures and safeguards be taken;

Recommended Actions to Council

- As per Section 114(1) of The Planning Act, Council must set a date for a Conditional Use hearing which must be at least 30 days after it receives this report
- As per Section 114(2) of The Planning Act, at least 14 days before the date of the hearing, Council must:
 - a) send notice of the hearing to
 - (1) the applicant,
 - (2) the minister, (c/o the Steinbach Community & Regional Planning Office)
 - (3) all adjacent planning districts and municipalities, and
 - (4) every owner of property located within three kilometres of the site of the proposed livestock operation, even if the property is located outside the boundaries of the planning district or municipality;
 - b) publish the notice of hearing in one issue of a newspaper with a general circulation in the planning district or municipality; and
 - c) post a copy of the notice of hearing on the affected property in accordance with Section 170 of The Planning Act.
- Council should specify the type(s) of operation, legal land location, number of animals in each livestock category and total animals units in its Conditional Use Order.
- As per Section 117 of The Planning Act, Council must send a copy of its (Conditional Use Order) to
 - a) the applicant;
 - b) the minister (c/o the Steinbach Community & Regional Planning Office); and
 - c) every person who made representation at the hearing.

Recommended Actions to Proponent

- Livestock manure shall be stored until such a time that it can be applied as fertilizer;
- It is recommended that manure be incorporated within 48 hours following broadcast application to minimize nitrogen volatilization losses;
- Application of manure to spread fields in the RRVSMA must be done in compliance with Section 14.2 of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98);
- The proponent is required to submit an “*Application for Permit to Construct, Modify, or Expand a Confined Livestock Area*” to Manitoba Conservation and Water Stewardship for each Confined Livestock Area (CLA) to be constructed;
- Construction of a CLA shall not commence until a permit is granted by the Director, and adequate notification is given to Manitoba Conservation and Water Stewardship;
- The proponent must submit a Manure Management Plan (MMP) annually to Manitoba Conservation and Water Stewardship in accordance with the *Livestock Manure and Mortalities Management Regulation* (MR 42/98);
- In accordance with the *Livestock Manure and Mortalities Management Regulation*, the proponent must annually submit to Manitoba Conservation and Water Stewardship analytical results from samples of drinking water provided to their livestock;
- The proponent must obtain a Water Rights Licence for the operation.
- The proponent should prepare a contingency plan in the event of a catastrophic event resulting in mass mortalities; and
- The proponent acquires a Variation Order from the Municipality reducing the site area requirement to 77 acres.
- NOTE: Both the conditional use order and variation order can be dealt with by Council at the same time through a combined conditional use and variation order Public Hearing. It is recommended that during the course of this Public Hearing Council first deal with the matter of the conditional use order.

*** and any additional measures identified through subsequent Provincial and Federal licensing or permitting in order to minimize any identified risks to health, safety and the environment.**

The overall conclusion represents the consensus of the TRC Members.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title	Address	Telephone
Don Malinowski Chair	Municipal Government	Senior Planner, TRC Community & Regional Planning Branch	604-800 Portage Avenue Winnipeg	945-8353
Petra Loro	Agriculture Food and Rural Development	Livestock Environment Specialist	545 University Crescent Winnipeg	945-3869
Andrea Bergman	Conservation and Water Stewardship	Technical Review Officer Environmental Programs & Strategies Branch	1007 Century Street Winnipeg	945-4384
Heinz Lausmann	Infrastructure and Transportation	Senior Highway Planning Engineer Highway Planning and Design Branch	1420-215 Garry Street Winnipeg	945-2664

Appendix A

Land Base Assessment Canada Sheep & Lamb Farms Ltd Prepared October 2014 (revised December 2014) Petra Loro, Livestock Environment Specialist

Manitoba Agriculture, Food and Rural Development (MAFRD) assessed the land base for manure application as provided by the proponent in order to provide Council with the assurance that adequate suitable land is available for this operation. The Province can require sufficient suitable land if the proponent is required to obtain a permit to construct, modify or expand the confined livestock area.

In the Rural Municipality of Hanover, it is currently the Government of Manitoba's policy to require enough suitable land to allow manure application at a rate that does not exceed the nitrogen (N) uptake or phosphorus (P) that will be removed from the field in the harvested portion of the crop over the course of a rotation. Only lands with Agriculture Capability Class 1 to 5 and recent soil tests demonstrating P levels below 60 ppm Olsen P are considered suitable. Buffer strips and setbacks must be excluded.

Canada Sheep & Lamb Farms Ltd submitted a total of 2057 acres of land for manure application, of which, MAFRD has determined that 1502 acres are suitable for manure application (i.e. all of the 1432 acres listed in the first Manure Application Field Characteristics Table and an additional 70 acres on SE 17-5-6E included in the second Manure Application Field Characteristics Table for which a copy of the original soil test report was provided). The suitable land is located primarily in the RMs of Hanover and La Broquerie with one parcel in Ritchot. These parcels have an Agriculture Capability Class of 2 and 3 (prime agricultural land) as well as lower classes 4 and 5 land. The soil survey information indicates the land has slight to severe limitations due to lack of moisture (M), wetness (W), stoniness (P) and density (D).

According to the animal unit calculation, the proposed expansion of Canada Sheep & Lamb Farms Ltd will include 4000 ewes, 55 rams and 2150 lamb places. The manure from these animals will be field-stored resulting in up to 40% of the N being lost through ammonia volatilization. Using the August 20, 2014 version of the land calculator available on the MAFRD website, it is estimated that these animals will generate approximately 63587 lbs N and 37917 lbs P₂O₅ to be land applied.

Using the crops and associated acreages provided by Canada Sheep & Lamb Farms Ltd, in conjunction with 10 year (2004-2013) MASC yield averages for the dominant soil zones, it is estimated that the average annual crop N uptake to be approximately 130.2 lb/acre and the average annual crop P₂O₅ removal to be approximately 35.5 lb/acre.

Therefore, in order to satisfy the Province's requirement in the RM of Hanover to balance P excretion with crop P removal over the course of a rotation, it is estimated that Canada Sheep & Lamb Farms Ltd requires *approximately* 1068 acres of suitable land. This is

also enough land for the manure N. MAFRD's land estimate considers only the N and P from the sheep and does not consider nutrients from any other sources.

Canada Sheep & Lamb Farms Ltd has identified 1502 suitable acres for manure application (i.e. all of the 1432 acres listed in the first Manure Application Field Characteristics Table and an additional 70 acres on SE 17-5-6E included in the second Manure Application Field Characteristics Table). As such, Canada Sheep & Lamb Farms Ltd has demonstrated that sufficient suitable land is available for the sustainable management of the sheep manure N and P.

MAFRD also reviewed the soil nitrate-N and phosphorus levels as provided on the test reports in the site assessment.

With respect to soil test phosphorus, all of the suitable fields for manure application tested below 60 ppm Olsen P with one field testing under 10 ppm Olsen P. Fields under 10 ppm Olsen P will respond well to fertilizer or manure P in most years. Manure can be applied to meet the N requirements of the crop on these fields. This often results in more P being applied than is removed from the field and a build-up of soil test P. These fields will also benefit from moderate build-up in soil test P. Two of the suitable fields for manure application tested greater than 50 ppm Olsen P. Further increasing soil test P on these fields is not recommended because by regulation no more than 2 times crop removal rates for P can be applied when soil-test P reaches 60 ppm.

There were a number of extra fields identified in the total land available for manure application that tested between 60 and 120 ppm. Although these lands cannot be used to satisfy the Provincial land requirement, manure is still permitted on these fields. Reduced manure application rates or less frequent manure application should occur on these fields to halt further soil test P build-up or even draw-down soil test P. If soil test levels reach 120 ppm Olsen P, manure application rates will be limited by regulation to no more P than what is removed in the harvested portion of the crop over the course of a rotation. One of the fields tested 189 ppm Olsen P. Further manure application is not permitted on this field until soil test P declines below 180 ppm Olsen P.

Actual manure application rates will be determined in the annual manure management plan submitted to Manitoba Conservation and Water Stewardship. It is recommended that Canada Sheep & Lamb Farms Ltd and the partnering crop land owners manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm P over the long-term in order to maintain flexibility in the manure management plan and to reduce the risk of P being lost to surface water in runoff.

With respect to soil nitrate-N, Manitoba has residual soil nitrate-N limits as well as limits that apply at "any time" during the year. Both are based on the Agriculture Capability of the soil. Residual soil nitrate-N means the amount of nitrate-N in the soil following the production of a crop (i.e. post harvest but prior to fertilization or production of the following crop). The fields identified for manure application include Class 2 and 3 soils (except 3M and 3MW) for which the residual soil nitrate-N limit is 140 lbs/acre and Class 3M and 4 soils for which the residual soil nitrate-N limit is 90 lbs/acre. There are also Class 5 soils identified for which the residual soil nitrate-N limit is 30 lbs/acre. Manure

application should be managed to ensure that soils do not exceed the residual soil nitrate-N limits.

The proponent supplied additional information to Manitoba Conservation and Water Stewardship on December 12 (Appendix B) clarifying that some of the fields that were sampled in the spring of 2014 had been fertilized for the upcoming crop. The nitrate-N levels measured on these fields in the spring of 2014 reflect levels following fertilization for the 2014 crop, not residual nitrate-N levels following the 2013 crop. Therefore, the residual nitrate-N limits do not apply to these samples. The nitrate-N limits established for “any time” apply to these samples and are twice the residual nitrate-N limits. Manure application should be managed to ensure that soils do not exceed the soil nitrate-N limits that have been established for “any time” during the year.

MAFRD provides extension support and computer software to help producers complete manure management plans. If the operation uses professional services to prepare the plan, manure management planners must successfully complete the Manure Management Planners Course offered by the Assiniboine Community College and be a member in good standing in the Manitoba Institute of Agrologists or a Certified Crop Advisor. If the services of a Commercial Manure Applicator are obtained to apply the manure, the applicator must be trained by the Assiniboine Community College and licensed by MAFRD.

Under *The Farm Practices Protection Act*, any complaints about odour or other disturbances (such as flies, smoke, noise or dust) can be directed in writing to The Manitoba Farm Industry Board. *The Act* is intended to provide for a quicker, less expensive and more effective way than lawsuits to resolve complaints about farm practices. It may create an understanding of the nature and circumstances of an agricultural operation, as well as bring about changes to the mutual benefit of all concerned, without the confrontation and the expense of the courts.

Appendix B

Supplemental Information Canada Sheep & Lamb Farms Ltd December 2014

Smith, Diane (CWS)

From: Marcus Dueck [marcus.dueck@fouroakag.ca]
Sent: Friday, December 12, 2014 12:44 PM
To: Smith, Diane (CWS)
Subject: RE: Canada Sheep and Lamb Soil Samples
Attachments: SE 28.pdf

RL 544 was fertilized in fall with chicken manure.

SE28 was fertilized about 3 years prior with sheep manure. The nutrient balance in this field is substantially lower now. I have attached a soil test that we took from that field this fall after the alfalfa was turned over.

If you have any questions on this please let me know.

Thank you.

Marcus Dueck, P.Ag.

204.371.1124 cell

marcus.dueck@fouroakag.ca



From: Smith, Diane (CWS) [mailto:Diane.Smith@gov.mb.ca]
Sent: Friday, December 12, 2014 9:28 AM
To: Marcus Dueck
Subject: RE: Canada Sheep and Lamb Soil Samples

Thanks Marcus. This helps. Is there a way when we can find out when the RL 544 and SE 28 were fertilized?

I really appreciate your help on this.

Thanks.

Diane Smith
204-391-0540

From: Marcus Dueck [mailto:marcus.dueck@fouroakag.ca]
Sent: Friday, December 12, 2014 9:26 AM
To: Smith, Diane (CWS)
Subject: RE: Canada Sheep and Lamb Soil Samples

Hello Diane,

I don't have quite all the information that you are looking for but here is what I know:

RL 544 - There was a soybean crop growing in the field when I sampled it but I do not know what the fertilization program was on the field.

N ½ SE 28-05-06E - This field was in an established alfalfa field. It was broken up later this year.

N1/2 27-05-05 E - This field was fertilized with beef manure the previous year. It was put into corn immediately after sampling without any fertilizer.

I hope this helps, if you need anything else please let me know.

Thank you.

Marcus Dueck, P.Ag.
204.371.1124 cell
marcus.dueck@fouroakag.ca



From: Smith, Diane (CWS) [<mailto:Diane.Smith@gov.mb.ca>]
Sent: Thursday, December 11, 2014 2:05 PM
To: marcus.dueck@fouroakag.ca
Subject: Canada Sheep and Lamb Soil Samples

Hey Marcus,

Could you send me an email outlining when fertilization (manure or otherwise) occurred with respect to sampling and planting dates (and what crop was grown).

These were the 3 fields we were discussing:

RL 544
N ½ SE 28-05-06E
N1/2 27-05-05 E

Thanks.

Diane Smith, M.Sc., P.Ag

Soils Specialist | Environmental Livestock Section | Environmental Programs & Strategies Branch | Conservation and Water Stewardship | 1007 Century Street | Winnipeg, Manitoba | R3H 0W4 | ☎: 204.391.0540 | 📠: 204.948.2420 | ✉: diane.smith@gov.mb.ca | 🌐: www.gov.mb.ca/conservation |

 Please consider the environment before printing this email.

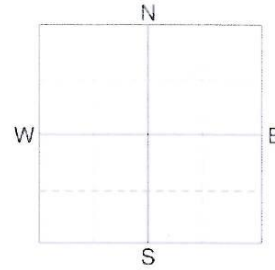
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Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **SE28-05-06E**
 SAMPLE ID
 FIELD NAME **SE28-05-06E**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **0**
 PREV. CROP **Alfalfa**



SUBMITTED FOR:
Canada Sheep N Lamb Farm

SUBMITTED BY: **DU4426**
FOUR OAK AG SOLUTION
31119 RD 27E
BOX 131
KLEEFELD, MB ROA OVO

REF # **1023253** BOX # **0**
 LAB # **NW97995**

Date Sampled **10/07/2014** Date Received **10/10/2014** Date Reported **12/12/2014**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		High Med Low								
Nitrate	0-6" 13 lb/ac		Corn-Grain	Corn-Silage	Soybeans					
	6-24" 6 lb/ac	****	YIELD GOAL	YIELD GOAL	YIELD GOAL					
	0-24" 19 lb/ac		150 BU	14 Tons	40 BU					
			SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
			Broadcast	Broadcast	Broadcast					
			LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION					
Phosphorus	Olsen 34 ppm	*****	N 111	N 77	N ***					
Potassium	82 ppm	*****	P ₂ O ₅ 15 Band (2x2) *	P ₂ O ₅ 15 Band (2x2) *	P ₂ O ₅ 0					
Chloride			K ₂ O 119 Broadcast	K ₂ O 101 Broadcast	K ₂ O 66 Broadcast					
Sulfur	0-6" 16 lb/ac	*****	Cl	Cl	Cl					
	6-24" 12 lb/ac	*****	S 10 Broadcast (Trial)	S 10 Broadcast (Trial)	S 10 Broadcast (Trial)					
Boron			B	B	B					
Zinc	2.10 ppm	*****	Zn 0	Zn 0	Zn 0					
Iron			Fe	Fe	Fe					
Manganese			Mn	Mn	Mn					
Copper	0.38 ppm	*****	Cu 0	Cu 0	Cu 0					
Magnesium			Mg	Mg	Mg					
Calcium			Lime	Lime	Lime					
Sodium										
Org.Matter	3.1 %	*****								
Carbonate(CCE)										
	0-6" 0.23 mmho/cm	*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24" 0.14 mmho/cm	***	0-6" 7.8			% Ca	% Mg	% K	% Na	% H
Sol.Salts			6-24" 8.4							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 50 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 60 K2O = 41 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 50 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 116 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

Crop 3: Nitrogen is credited 25 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 60 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.