



R.M. OF KILLARNEY-TURTLE MOUNTAIN

0 5
SCALE IN KILOMETRES

PROVINCE OF MANITOBA
INFRASTRUCTURE
HIGHWAY PLANNING AND DESIGN BRANCH
GEOGRAPHIC & RECORDS MANAGEMENT SECTION
WINNIPEG
JANUARY 1, 2015

LEGEND

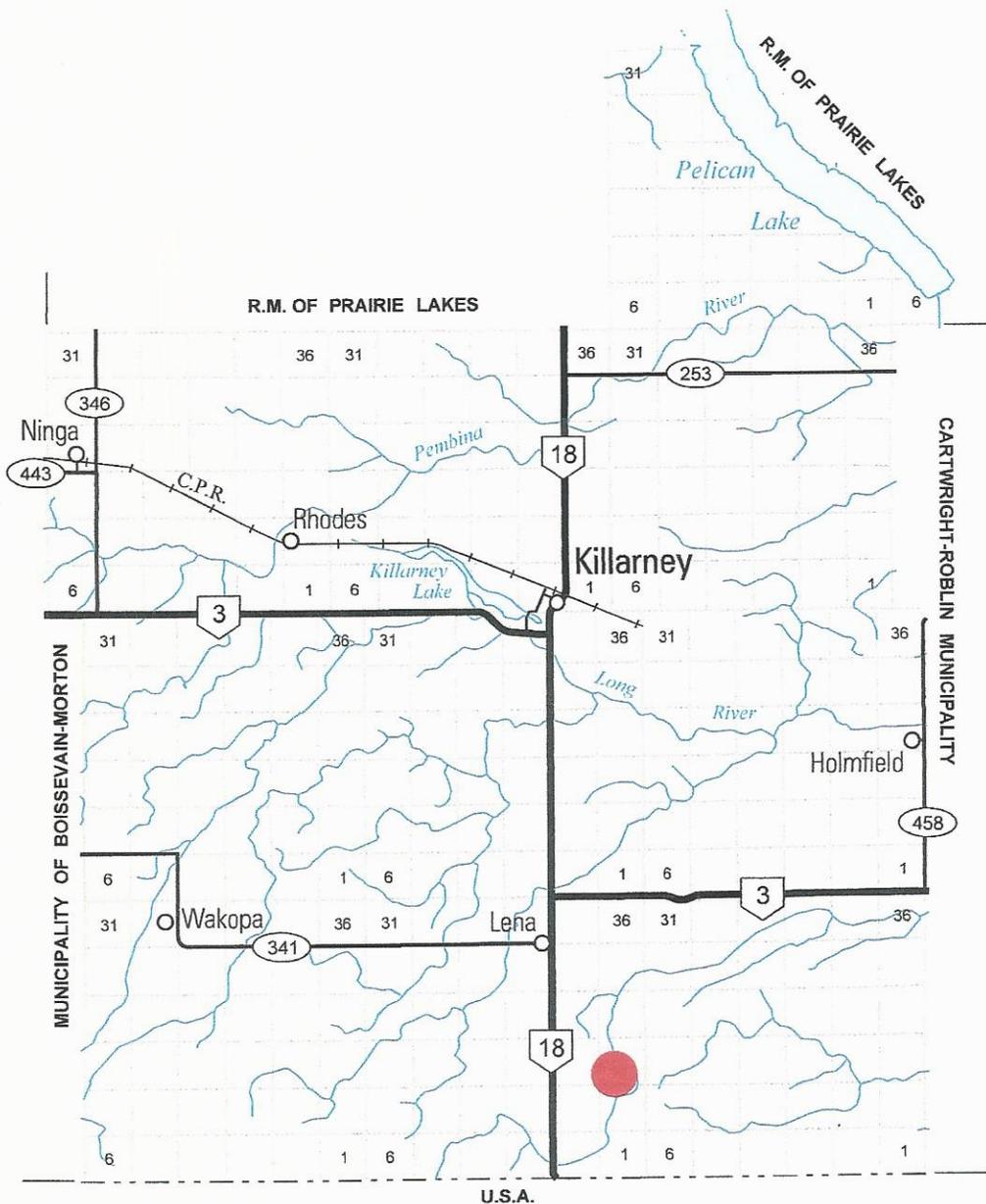
- PROVINCIAL TRUNK HIGHWAYS  18
- PROVINCIAL ROADS  341
- ACCESS ROADS 
- RAILWAYS 
- NIAGARA SITE 

Tp. 4

Tp. 3

Tp. 2

Tp. 1



Rge. 18W.

Rge. 17W.

Rge. 16W.

SHEET 1 OF 1

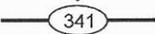


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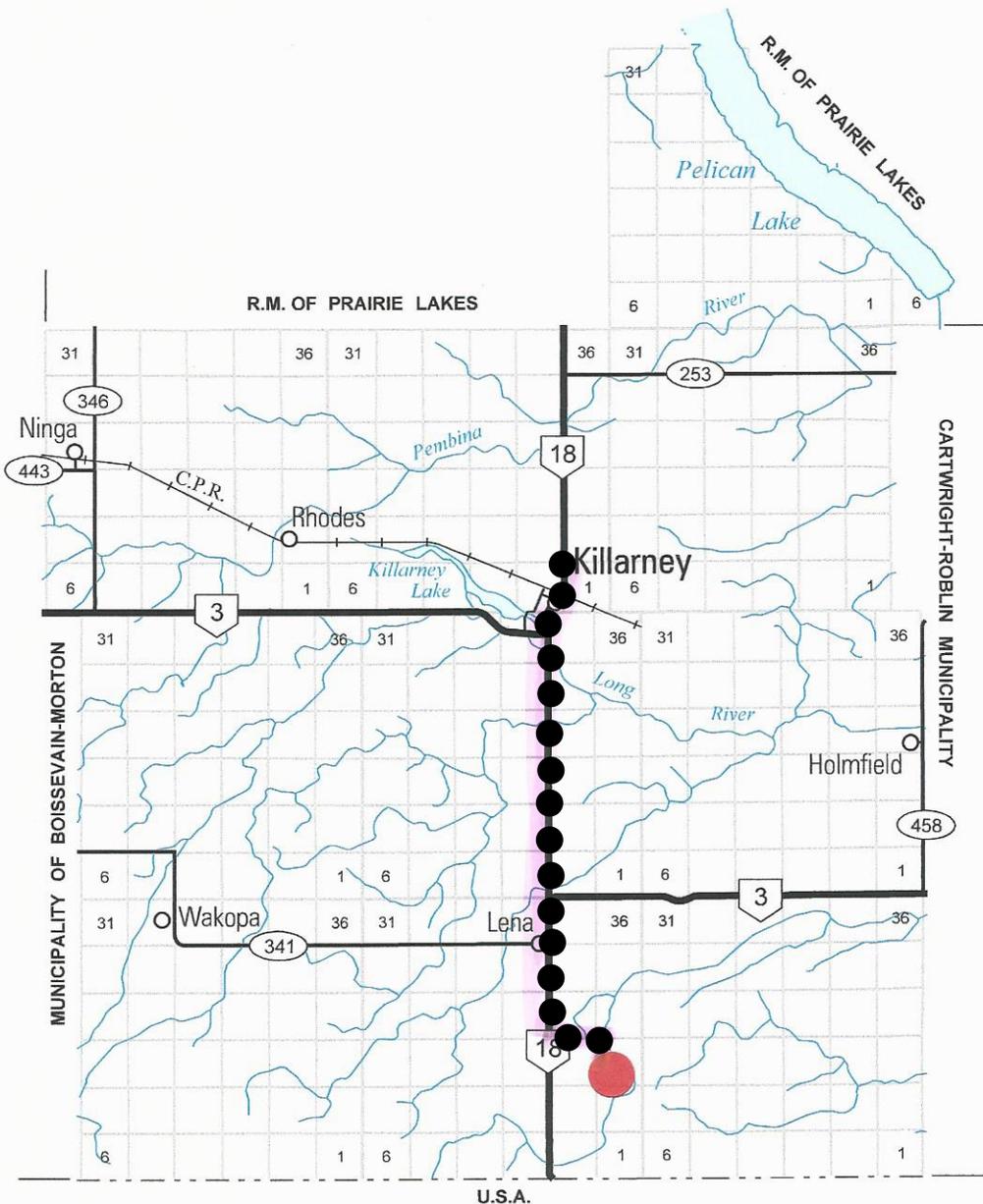
- PROVINCIAL TRUNK HIGHWAYS  ACCESS ROADS 
- PROVINCIAL ROADS  RAILWAYS 

Tp. 4

Tp. 3

Tp. 2

Tp. 1



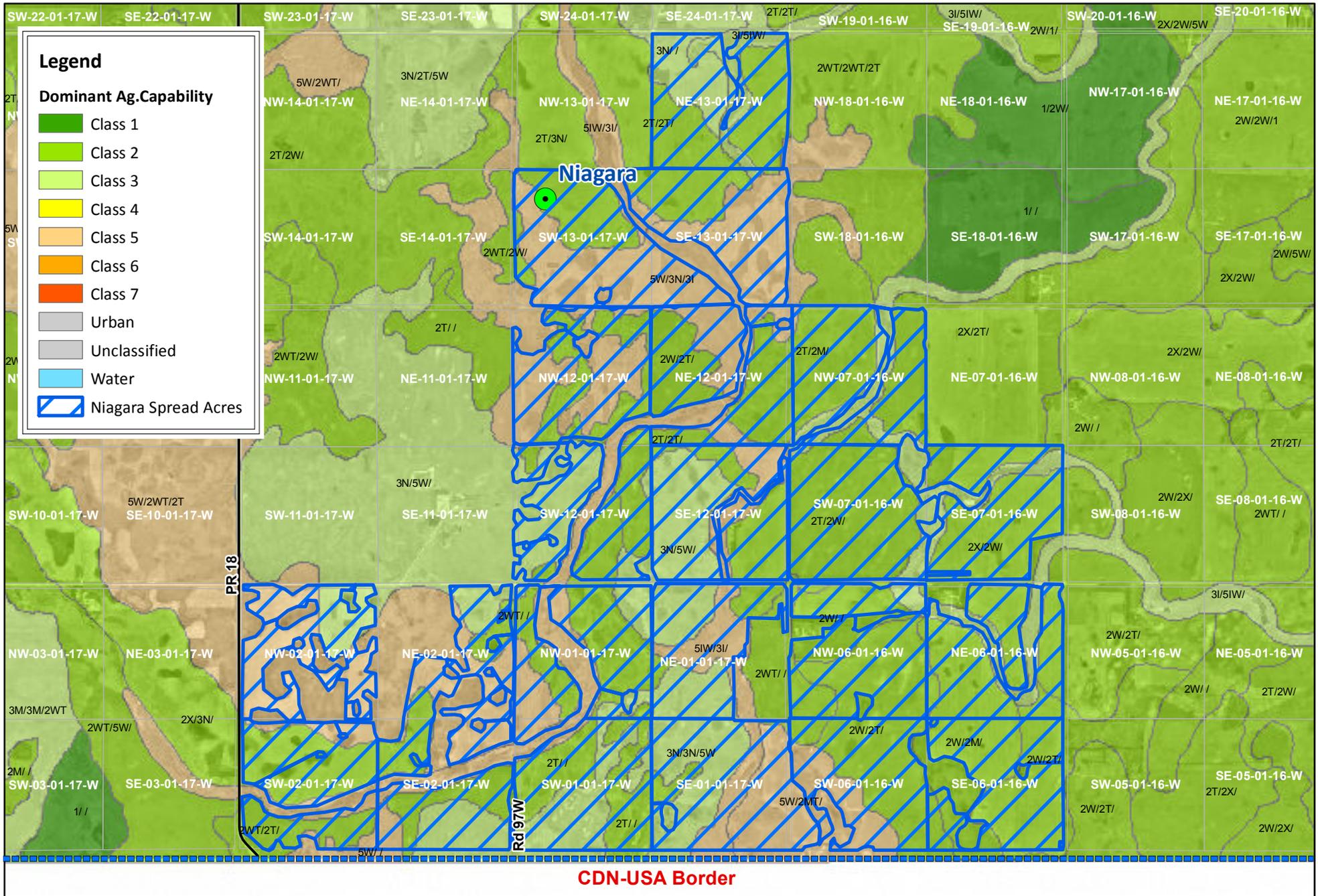
Rge. 18W.

Rge. 17W.

Rge. 16W.

SHEET 1 OF 1

Niagara [SW-13-01-17W] - Spread Acres with Ag. Capability



Prepared by:
Matt Reimer
 Manager of Agronomic Services
 Hylife Ltd.

Pig/Operation Type	Storage Type	Volatilization	Animal Numbers (Places)	Weight In (lb)	Weight Out (lb)	Average Animal Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles for the Place per Year (days)	Feed Consumed Per Pig Per Day (kg/day)	Protein %	N Excreted Per Herd Adjusted for Storage N (lb/yr/herd)	Phosphorus Content of Feed (DM) %	P2O5 Excreted Per Herd Per Year (lb/yr/herd)
Gestating Sow	Liquid Uncovered Earthen	30%		447	630	539	121	3	2.3	14%	0	0.53%	0
Nursing Sow	Liquid Uncovered Earthen	30%		539	539	539	21	15.2	6.5	20%	0	0.63%	0
Nursing Litter	Liquid Uncovered Earthen	30%		3.1	13.6	8	21	15.2	0	n/a	0	n/a	0
Live Cull Sow	Liquid Uncovered Earthen	30%		630	630	630	14	26.1	2.3	14%	0	0.46%	0
Bred Gilt	Liquid Uncovered Earthen	30%		340	447	394	121	3	2.3	14%	0	0.53%	0
Gilts (Purchased)	Liquid Uncovered Earthen	30%		290	340	315	28	13.0	3.2	16%	0	0.46%	0
Boars (Purchased)	Liquid Uncovered Earthen	30%		270	660	465	365	1	2.5	14%	0	0.46%	0
Weanlings	Liquid Uncovered Earthen	30%		13.6	61.6	38	52	6.9	0.7	20%	0	0.64%	0
Growers/Finishers	Liquid Uncovered Earthen	30%	10000	61.6	280	171	112	3	2.8	16%	259094	0.46%	128009
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%		n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0
Sows, farrow to 28 kg	Liquid Uncovered Earthen	30%		n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0
Sows, farrow to finish	Liquid Uncovered Earthen	30%		n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0

Last Revised April 13, 2016

Nutrients Excreted		lbs
Nitrogen		259094
P2O5		128009
Crop Nutrient Use		lb/ac
Nitrogen Uptake		128.0
P2O5 Removal		36.3
Land Base Requirements		acres
Acres for Nitrogen Uptake		2024
Acres for 2 x P2O5 Removal		1762
Acres for 1 x P2O5 Removal		3524

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N	Units				P2O5 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu		bu/ac		-	-	-
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	37.6	bu/ac	1473	57600	106893	176678
Corn Grain	0.44	0.97	1.53	lb/bu	115	bu/ac	147	7438	16398	25865
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton		tons/ac		-	-	-
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu	37.8	bu/ac	295	9367	43154	57985
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	53.6	bu/ac	1030	32573	82812	116489
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
Sub Total							2945	106978	249257	377016
Estimated Average Removal/Uptake (lb/ac)								36.3	84.6	128.0
Additional Acres										
Crop Planned on Additional Acres										
Total Acreage							2945			

Note: Additional acres include acres for which crop removal or soil data is limited or unavailable.

Last revised August 20, 2014

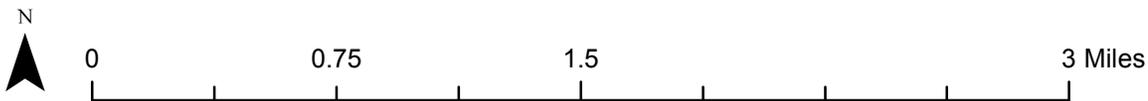
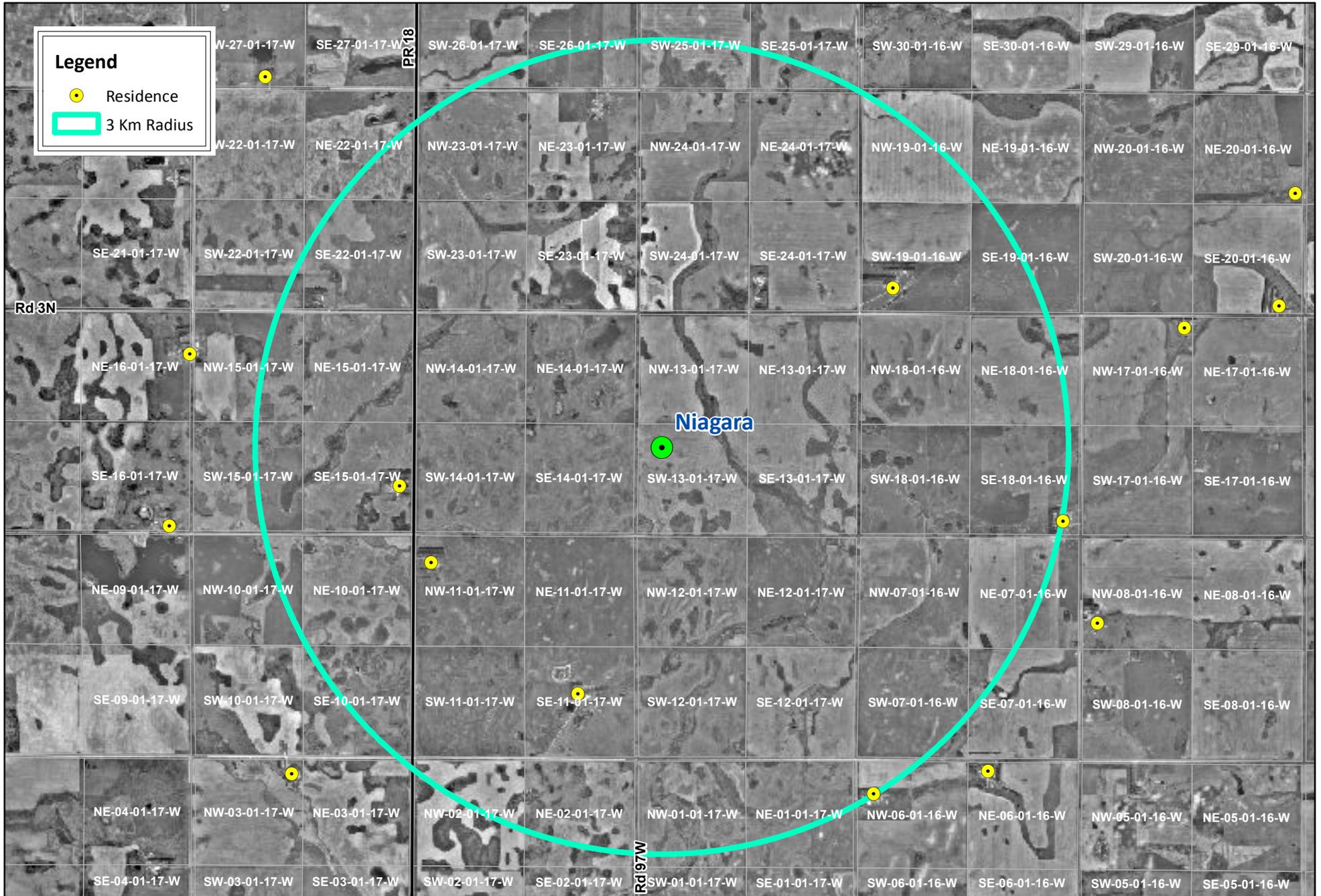
CROP ROTATION TABLE



A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Total Net Acreage for Manure Application				

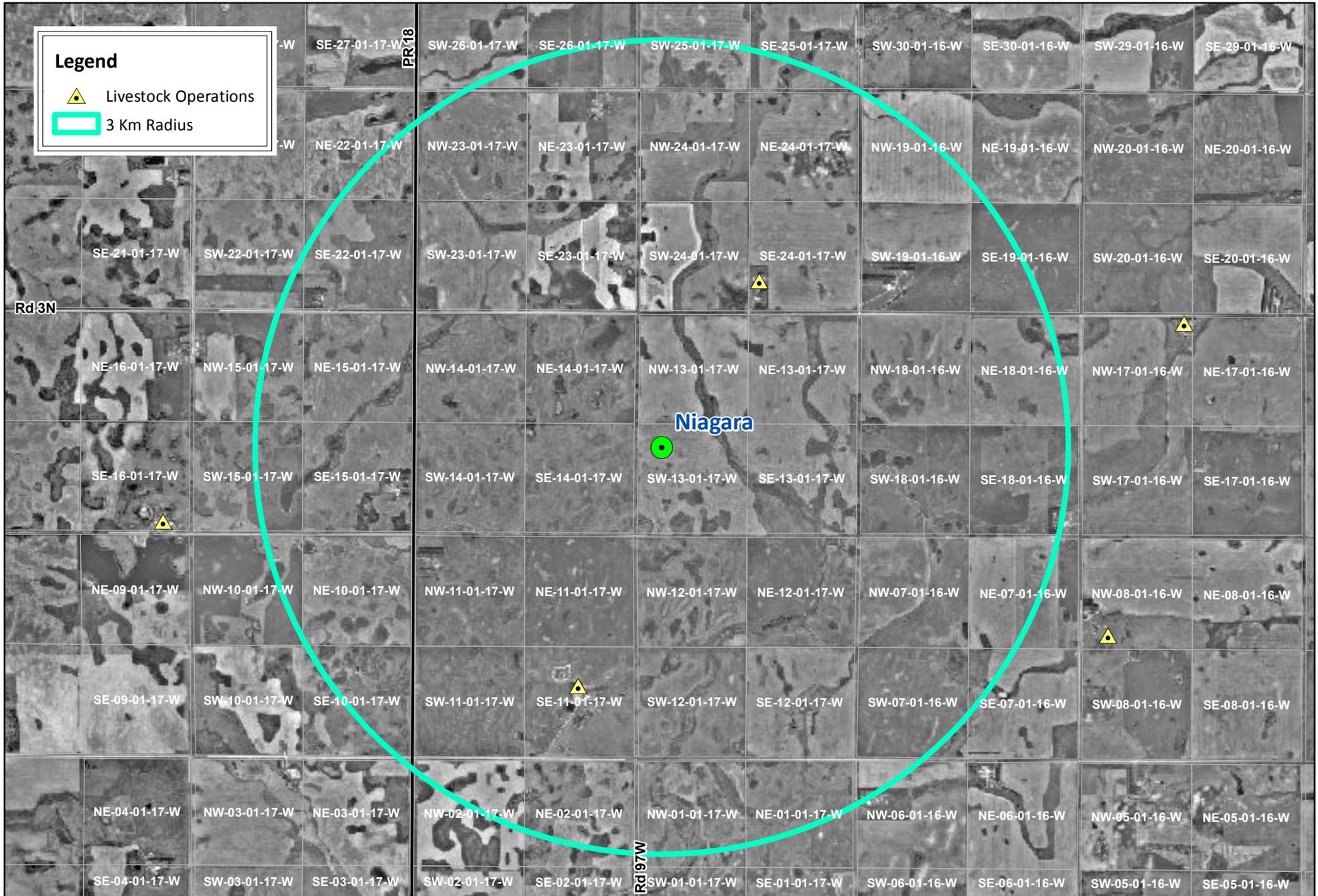
- A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
- B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. The total of column B should add up to Total Net Acreage for Manure Application provided in the Manure Application Field Characteristic Table.
- C. Enter the historical yield average for each crop. Long-term yield averages can be determined using MASC data (<http://www.masc.mb.ca/masc.nsf/index.html?OpenPage>) or on-farm yield records. If on-farm yield records are used, please provide copies.
- D. Enter the units for the yields provided (e.g. bu/acre, tons/acre).
- E. Enter the source of the historical yield average provided.

Niagara [SW-13-01-17W] - Residence within 3 KM



Prepared by:
Matt Reimer
Manager of Agronomic Services
Hylife Ltd.

Niagara [SW-13-01-17W] - Livestock Operations within 3 KM

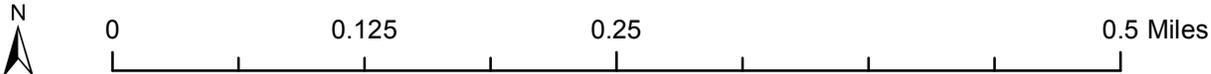


Prepared by:
Matt Reimer
 Manager of Agronomic Services
 Hylife Ltd.

Niagara - Surface Water Drainage



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Prepared by:
Mary-Jane Orr
Nutrient Management Specialist
Hylife Ltd.

RE: Identification of Species at Risk for Proposed HyLife Livestock Operations- Niagara

From: "Friesen, Chris (SD)" <Chris.Friesen@gov.mb.ca>
To: "'Peter Mah'" <petermahinc@gmail.com>
Cc: "'Sheldon Stott'" <Sheldon.Stott@hylife.com>
Bcc:
Date: Mon, 18 Sep 2017 15:32:02 +0000
Subject: RE: Last 2 HyLife Spread Field maps

Peter

Thank you for your information request. I completed a search of the MB Conservation Data Centre rare species database which resulted in the following occurrences:

Loggerhead Shrike (*Lanius ludovicianus excubitorides*), S1B, ESEA: Endangered, SARA: Threatened, COSEWIC: Threatened

SW 2-1-17W

Bobolink (*Dolichonyx oryzivorus*), S4B, COSEWIC: Threatened

NE 2-1-17W

NW 1-1-17W

SE 6-1-16W

Further information on this ranking system can be found on our website at <http://www.gov.mb.ca/conservation/cdc/constranks.html> and these designations can be found at <http://web2.gov.mb.ca/laws/statutes/ccsm/e111e.php>, <http://www.cosewic.gc.ca/> and http://www.sararegistry.gc.ca/default_e.cfm.

Manitoba's recommended setback distances can be found at <http://www.gov.mb.ca/conservation/cdc/pubs.html>

The information provided in this letter is based on existing data known to the Manitoba CDC of the Wildlife and Fisheries Branch at the time of the request. These data are dependent on the research and observations of our scientists and reflects our current state of knowledge. An absence of data does not confirm the absence of any rare or endangered species. Many areas of the province have never been thoroughly surveyed, however, and the absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. The information should, therefore, not be regarded as a final statement on the occurrence of any species of concern nor should it substitute for on-site surveys for species or environmental assessments. Also, because our Biotics database is continually updated and because information requests are evaluated by type of action, any given response is only appropriate for its respective request.

Please contact the Manitoba CDC for an update on this natural heritage information if more than six months passes before it is utilised.

Third party requests for products wholly or partially derived from the Biotics database must be approved by the Manitoba CDC before information is released. Once approved, the primary user will identify the Manitoba CDC as data contributors on any map or publication using data from our database, as the Manitoba Conservation Data Centre; Wildlife and Fisheries Branch, Manitoba Sustainable Development.

This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

We would be interested in receiving a copy of the results of any field surveys that you may undertake, to update our database with the most current knowledge of the area.

If you have any questions or require further information contact me directly at [\(204\) 945-7747](tel:2049457747).

Chris Friesen
Coordinator
Manitoba Conservation Data Centre
[204-945-7747](tel:2049457747)
chris.friesen@gov.mb.ca
<http://www.manitoba.ca/conservation/cdc/>

On Tue, Oct 3, 2017 at 7:10 AM, Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca> wrote:

To: Peter Mah <petermahinc@gmail.com>

Hi Peter

Ken's conclusion of no concerns for species at risk would also apply to the proposed Niagara operation.

Chris Friesen
Coordinator
Manitoba Conservation Data Centre
[204-945-7747](tel:2049457747)
chris.friesen@gov.mb.ca
<http://www.manitoba.ca/conservation/cdc/>

From: De Smet, Ken (SD)
Sent: September-29-17 12:49 PM
To: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>; Peter Mah <petermahinc@gmail.com>
Cc: Sheldon Stott <Sheldon.Stott@hylife.com>
Subject: RE: Identification of Species at Risk for Proposed HyLife Livestock Operations - Napa

Hi Chris & Peter

Just talked with Peter about the hog operation and the species/areas that we had identified as possible concerns.

Since neither Bobolink nor Loggerhead Shrike utilize cropland to any extent for nesting, and since most or all of the proposed spreading would occur after the nesting season, I see no concerns for either species.

CheersKen

Office: [\(204\) 945-5439](tel:(204)945-5439)
Fax: [\(204\) 945-3077](tel:(204)945-3077)
E-mail: Ken.DeSmet@gov.mb.ca

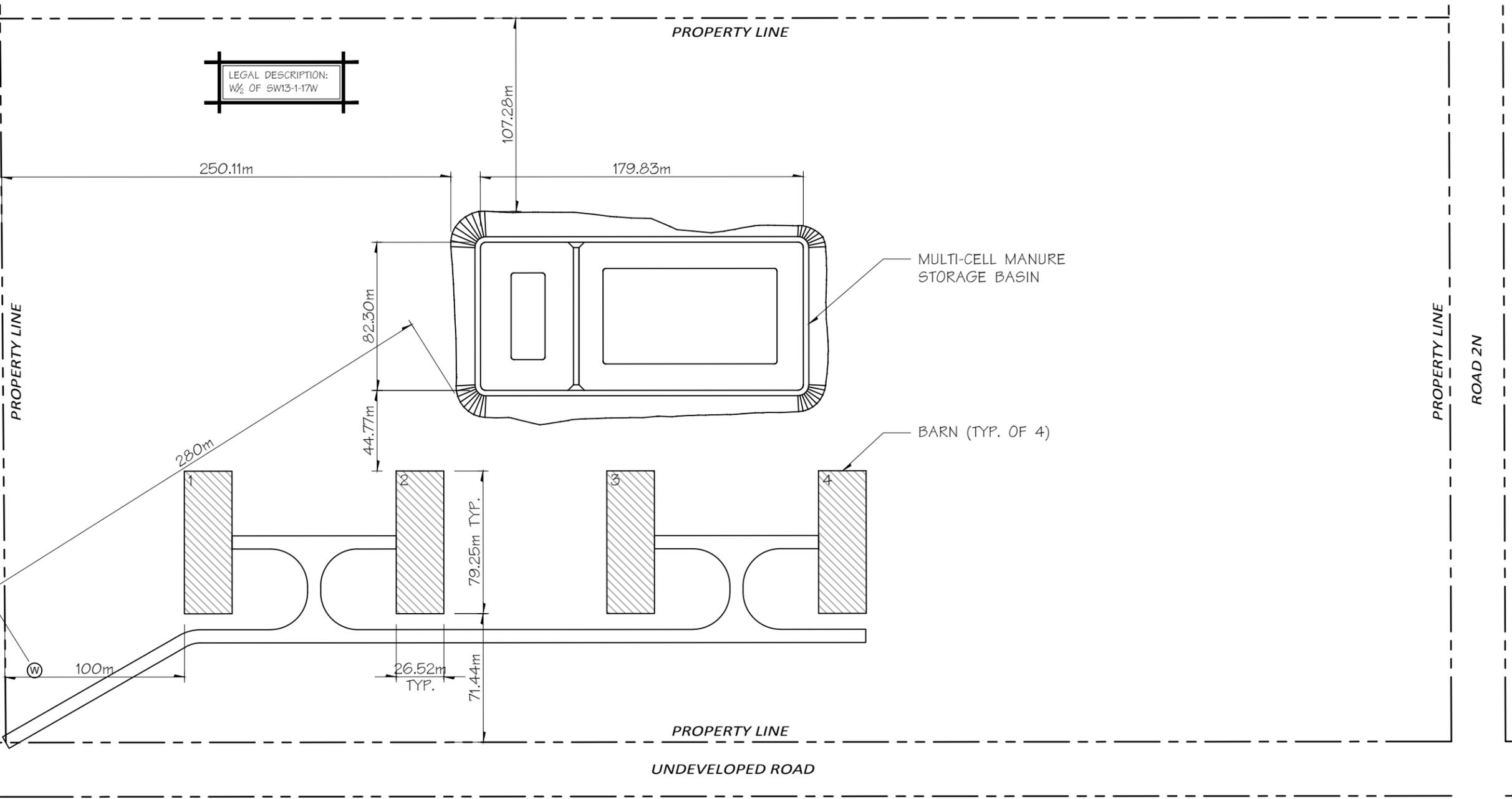
From: Friesen, Chris (SD)
Sent: September-29-17 8:13 AM
To: Peter Mah <petermahinc@gmail.com>
Cc: Sheldon Stott <Sheldon.Stott@hylife.com>; De Smet, Ken (SD) <Ken.DeSmet@gov.mb.ca>
Subject: Re: Identification of Species at Risk for Proposed HyLife Livestock Operations - Napa

Hi Peter

The best person to speak with regarding these bird occurrences is Ken De Smet (copied) if he hasn't already contacted you.

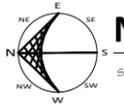
Cheers

Chris



LEGAL DESCRIPTION:
W $\frac{1}{2}$ OF SW13-1-17W

SITE DEVELOPMENT - GENERAL SITE	
ITEM	SYMBOL
PROPERTY LINE	---
WATER WELL	⊙ W
PIEZOMETER	⊙ P



NIAGARA SITE LAYOUT

SCALE: 1:2500

ISSUE (AND REVISION)		ENGINEER'S SEAL
NO.	DATE	DESCRIPTION
1	12/4/2017	ISSUED FOR CU PERMIT
PRINTED DATE:	12/4/2017 9:04:07 AM	INITIAL(S)

ISSUED FOR CU PERMIT

DGH ENGINEERING LTD.
Professional Service | Practical Solutions
12 Aviation Boulevard St. Andrews MB R1A 3N5 Canada
T: 204-334-8846 F: 204-334-6965

CLIENT: **HYLIFE LTD.**
BOX 100 LA BROQUERIE, MB ROA OWO

PROJECT TITLE: **NIAGARA SITE**
PROJECT LOCATION: .
PROJECT NUMBER: .

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DESIGNED	DRAWN	COORDINATOR
DATE	SCALE	X' REF PATH(S)
NOV/2017	AS NOTED	PROJECT.Dwg

SITE LAYOUT

C1
REV. 000



If available, indicate the dimensions of any proposed manure storage facility (MSF) that will be used to store manure from the proposed project:

CELL	Proposed Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	270 ft	170 ft	14 ft	ft	1:4	1:5	105
Secondary	270 ft	410 ft	12 ft	ft	1:4	1:5	308
Tertiary	ft	ft	ft	ft			
Circular Tank		Diameter	Height	Depth			
		ft	ft	ft			

The construction, modification or expansion of any manure storage structure requires a permit from Manitoba Sustainable Development as per the *Livestock Manure and Mortalities Management Regulation (M.R. 42/98)*.

The proposed site is rolling. The height of the EMS will be verified on site.



Manure Application Field Characteristics Table - Niagara

	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/ L/A	Total Acreage	Setbacks	Net Acreage For Application	Ag Capability Class/Subclass	Soil Phos (0- 6" Olsen ppm)	Development Plan Designation	Zoning
1	NE-01-01-17-W	Killarney-Turtle Mountain	A	160	34	126	3NI/5IW/2TW	10	Rural Area	AG - Agricultural General
2	NE-02-01-17-W	Killarney-Turtle Mountain	A	160	50	110	5W/2WT/3N	8	Rural Area	AG - Agricultural General
3	NE-06-01-16-W	Killarney-Turtle Mountain	A	160	30	130	2WTM/5IW/3I	6	Rural Area	AG - Agricultural General
4	NE-12-01-17-W	Killarney-Turtle Mountain	A	160	7	153	2WTM/5IW/3NI	6	Rural Area	AG - Agricultural General
5	NE-13-01-17-W	Killarney-Turtle Mountain	A	160	6	154	2WT/3NI/5IW	7	Rural Area	AG - Agricultural General
6	NW-01-01-17-W	Killarney-Turtle Mountain	A	160	20	140	2TW/5IW/3IN	6	Rural Area	AG - Agricultural General
7	NW-02-01-17-W	Killarney-Turtle Mountain	A	160	62	98	5W/2WT/3N	9	Rural Area	AG - Agricultural General
8	NW-06-01-16-W	Killarney-Turtle Mountain	A	160	14	146	2WT/3I/5IW	11	Rural Area	AG - Agricultural General
9	NW-07-01-16-W	Killarney-Turtle Mountain	A	160	12	148	2TMW/3I/5IW	7	Rural Area	AG - Agricultural General
10	NW-12-01-17-W	Killarney-Turtle Mountain	A	160	23	137	5W/3NI/2WT	11	Rural Area	AG - Agricultural General
11	SE-01-01-17-W	Killarney-Turtle Mountain	A	160	2	158	5WI/2MT/3IN	18	Rural Area	AG - Agricultural General
12	SE-02-01-17-W	Killarney-Turtle Mountain	A	160	78	82	3N/5W/2TW	8	Rural Area	AG - Agricultural General
13	SE-06-01-16-W	Killarney-Turtle Mountain	A	160	28	132	2WMT	6	Rural Area	AG - Agricultural General
14	SE-07-01-16-W	Killarney-Turtle Mountain	A	160	24	136	2XWT/3I/5IW	4	Rural Area	AG - Agricultural General
15	SE-12-01-17-W	Killarney-Turtle Mountain	A	160	7	153	3NI/5IW/2TW	6	Rural Area	AG - Agricultural General
16	SE-13-01-17-W	Killarney-Turtle Mountain	A	160	30	130	5W/3NI/2T	9	Rural Area	AG - Agricultural General
17	SW-01-01-17-W	Killarney-Turtle Mountain	A	160	16	144	2T/3N/5W	4	Rural Area	AG - Agricultural General
18	SW-02-01-17-W	Killarney-Turtle Mountain	A	160	30	130	2WT/3NI/5WI	6	Rural Area	AG - Agricultural General
19	SW-06-01-16-W	Killarney-Turtle Mountain	A	160	29	131	2WTM/5W	5	Rural Area	AG - Agricultural General
20	SW-07-01-16-W	Killarney-Turtle Mountain	A	160	8	152	2TW/3I/5IW	4	Rural Area	AG - Agricultural General
21	SW-12-01-17-W	Killarney-Turtle Mountain	A	160	23	137	3M/5W/2T	8	Rural Area	AG - Agricultural General
22	SW-13-01-17-W	Killarney-Turtle Mountain	A	160	42	118	5W/2T/3NI	8	Rural Area	AG - Agricultural General
						Total Net Acreage for	2945			



Sustainable Development

Box 16, 200 Saulteaux Crescent, Winnipeg MB R3J 3W3
T: 204-945-3983 F: 204-948-2357 E: wateruse@gov.mb.ca
www.manitoba.ca

September 12, 2017

File: Hylife Ltd. -23

Hylife Ltd.
C/O Carlie Pauls
Box 100
La Broquerie, MB R3A 0W0

Dear Carlie Pauls:

Attached is a **Groundwater Exploration Permit** issued in response to an application dated August 28, 2017 for a Water Rights Licence for a new agricultural project on SW 13-1-17 WPM.

The Groundwater Exploration Permit authorizes Hylife Ltd. to carry out exploration test drilling, construct supply well(s), and conduct aquifer pump testing. The purpose of the pump testing is to determine if sufficient water is available from the well(s) and from the aquifer to support the project and to determine water level impacts on existing local wells and/or registered projects with earlier precedence dates than the proposed project. Please note that during testing, pumping must cease if any local water supplies are negatively impacted as a result of testing. Hylife Ltd. would further be responsible to correct any water supply problems or provide temporary water supply to anyone whose water supplies are negatively impacted as a result of testing. Please familiarize yourself with the terms and conditions of the Groundwater Exploration Permit.

A licensing decision on this project will be held pending submission of the required information. Please note that diversion of water without a Water Rights Licence or written authorization would constitute a violation of *The Water Rights Act* and may be subject to enforcement.

One important condition of any licence that may be issued for this project, in due course, is that a water use monitoring device, acceptable to Water Use Licensing Section, must be installed on the system, to measure instantaneous pumping rate and accumulative withdrawals. This monitoring data must be made available to the department on an annual basis.

Please contact Lorraine Thibert directly at 204-945-6693 should you have any questions regarding the requirements outlined in this letter and the attached permit or the water rights licensing aspects of this project.

Yours truly,

Perry Stonehouse
Director

Attachment - Permit

cc. Lorraine Thibert, SD

Groundwater Exploration Permit

Pursuant to The Water Rights Act

Hylife Ltd.

is hereby permitted to construct a water well or wells on the following described lands to explore for groundwater in **13-1-17 WPM** for **agricultural** purposes, subject, however, to the following conditions:

1. The permittee must have legal access to the site where the exploration work and project wells are to be located.
2. This Authorization is not transferable or assignable to any other party.
3. Prior to undertaking any work or construction of any works authorized by this permit the permittee is required to retain the services of a hydrogeologist registered with Association of Professional Engineers and Geoscientists of Manitoba, who would be required to:
 - Plan and supervise the drilling of boreholes, test wells, production wells, observation wells and well pump testing as authorized by this permit.
 - Conduct a constant rate pumping test on proposed production well(s) in accordance with Form H (http://www.gov.mb.ca/conservation/waterstewardship/licensing/wlb/pdf/form_h_july_2013.pdf).
 - Conduct a recovery test for a period equal to pump test or 90% recovery.
 - Carry out an inventory of private and commercial wells within a 1600 m radius of the project well site. The inventory may need to be expanded based on the assessment of the expected area of water level drawdown impact resulting from future pumping.
 - Prepare and submit to the Water Use Licensing Section a technical report on drilling of boreholes and wells, pump testing of wells, well inventory and water quality sampling. The report would contain, but not limited to, such things as: well driller's reports for test wells, production wells; a plan showing the location of these wells on the property and/or GPS locations of the wells; an analysis of aquifer pumping tests; and calculations of transmissivity. The report would also indicate if any local wells are expected to be adversely affected by the proposed use of water and where these wells are located. Two copies of the report shall be submitted, one hardcopy and one digital copy.
4. During any pumping tests that may be conducted, pumping must cease immediately if any local water supplies are negatively impacted as a result of the tests. The permittee is also responsible to correct any water supply problems or provide temporary water supply to anyone whose water supplies are negatively impacted as a result of the tests.
5. This permit expires within twelve (12) months of the date of issuance.
6. Please note that diversion of water without a Water Rights Licence or written authorization would constitute a violation of The Water Rights Act and may be subject to enforcement.

Issued at the City of Winnipeg in the Province of Manitoba, this 15th day of SEPTEMBER, A.D. 2017


for The Honourable Minister of Conservation and Water Stewardship

SECTION 14.0 ADDITIONAL INFORMATION

Additional Notes to Section 7.5 Groundwater Protection

- We safeguard ground water quality and supply by carefully managing all our operations in manner that meets strict environmental requirements.
- Barns are not located in groundwater pollution hazard areas identified by government and background studies to the local development plan.
- Manure nutrient is stored in an engineer designed and certified earthen storage and is approved by Manitoba Sustainable Development before use.
- HyLife will monitor test samples from the sump pit that connects to the tile drainage system around the proposed earthen manure storage perimeter. Test sampling results will be submitted annually to Manitoba Sustainable Development.
- HyLife will comply fully within the approved annual groundwater withdrawal limit set by Manitoba Sustainable Development's Water Licensing Branch.

Additional Notes to Section 8.4 Odour Control Measures

- Odour is best managed through barn cleanliness and hygiene which is accomplished through barn design (pen configurations), the barn environment (temperature and air flow) in the barns and management.
- We have incorporated current technology for ventilation and climate control in the barns for the comfort of pigs and ensuring a clean environment.
- The equipment is being used in other HyLife barns and has a proven track record of success,

Additional Notes to Section 8.5 Manure Treatment

- Previous criteria and Confirmation Letter from Manitoba Pork Council relating to the Hog Production Pilot Protocol is no longer applicable.

Additional Notes to Section 8.6 Manure Application Method

- A coulter or Aerway applicator system will be used which penetrates the soil surface and allows the liquid manure to be incorporated immediately to maximize soil absorption.
- Annual manure nutrient management plans are prepared by qualified manure management planners, approved by government and applied as a crop fertilizer by GPS monitored equipment by certified applicators.

Additional Notes to Section 10

Project Site Description: Land Use Planning Considerations

- We have carefully explored potential development sites in the Killarney area. HyLife chose this proposed site because it is firstly on open, designated agricultural crop land that is being actively farmed. Thus neighbouring farmers will be able to sustainably utilize the manure as fertilizer for crop production. In turn, area farmers will be able to reduce their crop fertilizer input costs.
- This site also has good road access, hydro, good drainage, good topography, and groundwater supply. This site also allows us to exceed all government siting and setback requirements from residences and designated land uses and designated crown land.
- We also meet and indeed for the most part, exceed all provincial manure storage separation distances from property boundaries set by Manitoba regulations.
- The site is also situated within the Municipality of Killarney-Turtle Mountain that affords not only a good employable population but which provides important community and commercial services and close proximity to our new \$30 million HyLife feed mill.
- Local farmers will also benefit by having have a local opportunity to sell more feed crops to the new HyLife feed mill.

Additional Notes to Section 11.0 Truck Haul Routes and Access Points

- For this 10,000 head pork production operation expansion, there will typically be 8 to 12 feed trucks and 2 to 3 livestock trucks per week.
- The Municipality already maintains an existing network of municipal roads in the rural area and will determine which route we will use.

Additional Notes:

HyLife Community Consultation on Development Site & Proposal

- We have reached out to inform the community about our prospective plans in the area. In mid-September and early October, 2017 we met and talked to as many area farmers and residents around the proposed site while we were conducting alternative site investigations and geo-technical soil and ground water testing.
- HyLife also held an informal Public Open House on our development proposals on November 8th, 2017 to further inform residents and stakeholders in the community. While it was not requirements to consult early with neighbours in the site area nor to hold a Public Open House, we felt it was important to inform the community and to obtain their feedback.
- HyLife will continue to use our "best efforts to be a good neighbour" and good corporate citizen in the Killarney-Turtle Mountain community.



5 Fabas Street, Box 100, La Broquerie, Manitoba R0A 0W0
p: 1.204.424.5359 f: 1.204.424.5177 www.hylife.com

September 12, 2017

Dear Neighbour / Resident

Re: Proposed HyLife Livestock Development Project

HyLife is a company which started back in the 1994 as a collaboration of 2 family farm operations. Our head office is located in La Broquerie, Manitoba. Today, we are a fully integrated company that produces and sells high quality pork products around the world. While pork is our passion, we recognize that much of our success depends on our ability to produce a sustainable supply of quality pigs on the farm in our local communities.

You know us in the Killarney-Turtle Mountain area simply as HyLife. We have been here since 2004; fully invested in the community with our operations including our livestock barns, local office and now the new Killarney feed mill under construction. But you may know us even better by the many local people we employ whose families call Killarney-Turtle Mountain as home.

We dropped by today in the hopes of introducing ourselves and our preliminary HyLife finisher barn project to you.

While no formal application has been made yet, we want you to have a first-hand opportunity to learn more about the project which we hope to propose. Unfortunately, we missed you this time and look forward to getting in touch with you soon.

We would be happy to sit down with you should you have any questions.

Please contact me at (204) 355-7775 or Peter Mah at (204) 771-5117 should you wish to arrange another time to meet.

Sincerely,

Sheldon Stott,

Director of Environmental Affairs, HyLife

SECTION 14.0 ADDITIONAL INFORMATION

Additional Notes to Section 7.5 Groundwater Protection

- We safeguard ground water quality and supply by carefully managing all our operations in manner that meets strict environmental requirements.
- Barns are not located in groundwater pollution hazard areas identified by government and background studies to the local development plan.
- Manure nutrient is stored in an engineer designed and certified earthen storage and is approved by Manitoba Sustainable Development before use.
- HyLife will monitor test samples from the sump pit that connects to the tile drainage system around the proposed earthen manure storage perimeter. Test sampling results will be submitted annually to Manitoba Sustainable Development.
- HyLife will comply fully within the approved annual groundwater withdrawal limit set by Manitoba Sustainable Development's Water Licensing Branch.

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HYLIFE™

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Sincerely,

Sheldon Stott,

Director of Environmental Affairs, HyLife



Platinum Member - Canada's Best Managed Companies

Our Vision

We will be the BEST Canadian Food Company in the World

Core Values

- **Teamwork**
- **Do What We Say, Say What We Do**
- **Open Door Policy**
- **Respecting People**
- **Respecting Animals**
- **Turning Challenges into Opportunities**
- **Empowering People**
- **Striving to be the Best**
- **Community Partners**
- **Get 'er Done**
- **Sustainable Profitability**
- **Work Hard, Play Hard • Work Safe**

Mission Statement

At HyLife we focus on developing our employees, providing quality products to our customers, and working in partnership with our community.



R.M. OF KILLARNEY-TURTLE MOUNTAIN

0 5
SCALE IN KILOMETRES

PROVINCE OF MANITOBA
INFRASTRUCTURE
HIGHWAY PLANNING AND DESIGN BRANCH
GEOGRAPHIC & RECORDS MANAGEMENT SECTION
WINNIPEG
JANUARY 1, 2015

LEGEND

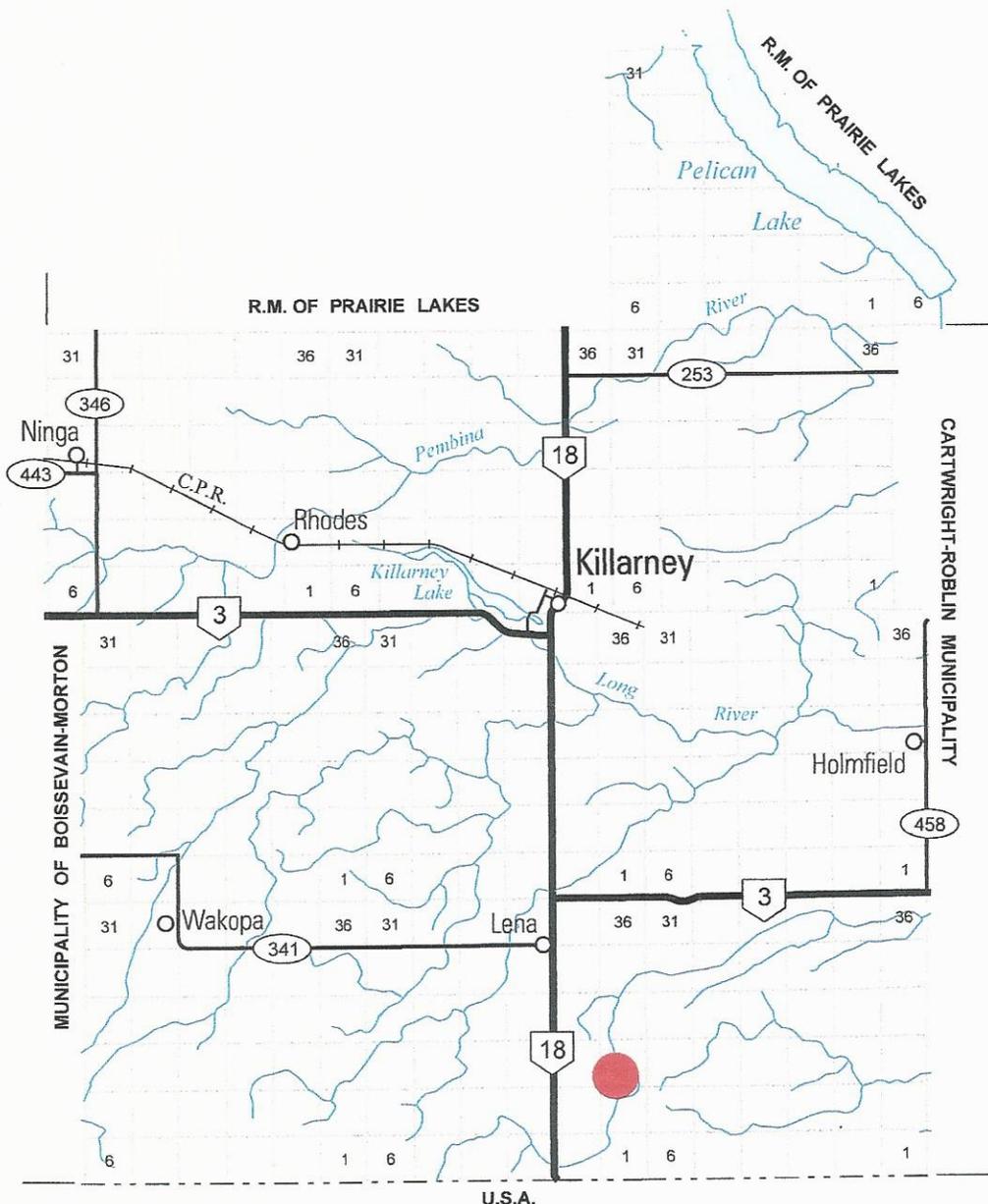
- PROVINCIAL TRUNK HIGHWAYS  ACCESS ROADS 
- PROVINCIAL ROADS  RAILWAYS 
- NIAGARA SITE 

Tp. 4

Tp. 3

Tp. 2

Tp. 1



Rge. 18W.

Rge. 17W.

Rge. 16W.

SHEET 1 OF 1

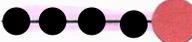


R.M. OF KILLARNEY-TURTLE MOUNTAIN

0 5
SCALE IN KILOMETRES

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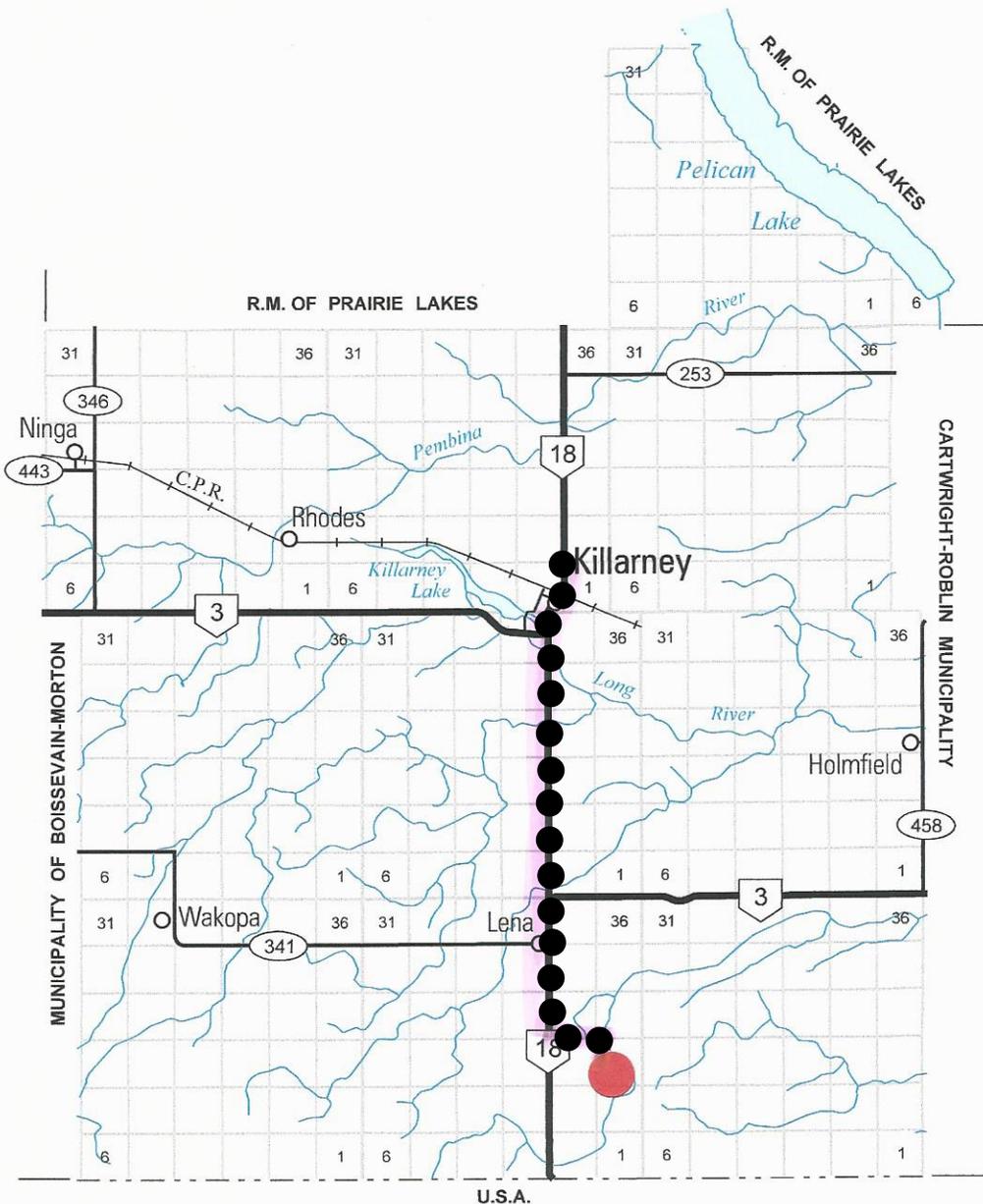
- PROVINCIAL TRUNK HIGHWAYS  ACCESS ROADS 
- PROVINCIAL ROADS  RAILWAYS 

Tp. 4

Tp. 3

Tp. 2

Tp. 1



Rge. 18W.

Rge. 17W.

Rge. 16W.

SHEET 1 OF 1

Animal Units Calculator

A	B	C	Current Operation		Proposed Operation	
			D	E	F	G
Operation Type	Animal Categories	Animal Units per Head	Current Number of Animals ¹	Current Animal Units	Proposed Number of Animals ²	Proposed Number of Animal Units
Dairy ³	Mature cows (lactating and dry) including associated livestock	2		-		-
	Mature cows (lactating and dry)	1.35		-		-
	Heifers (0 to 3 months)	0.16		-		-
	Heifers (4 to 13 months)	0.41		-		-
	Heifers (> 13 months)	0.87		-		-
	Bulls	1.35		-		-
	Veal calves	0.13		-		-
Beef	Beef cows including associated livestock	1.25		-		-
	Backgrounder	0.5		-		-
	Summer pasture / replacement heifers	0.625		-		-
	Feeder cattle	0.769		-		-
Pigs	Sows - farrow to finish (234-254 lbs)	1.25		-		-
	Sows - farrow to weanling (up to 11 lbs)	0.25		-		-
	Sows - farrow to nursery (51 lbs)	0.313		-		-
	Boars (artificial insemination units)	0.2		-		-
	Weanlings, Nursery (11-51 lbs)	0.033		-		-
	Growers / Finishers (51-249 lbs)	0.143		-	10,000	1,430
Chickens	Broilers	0.005		-		-
	Roasters	0.01		-		-
	Layers	0.0083		-		-
	Pullets	0.0033		-		-
	Broiler breeder pullets	0.0033		-		-
	Broiler breeder hens	0.01		-		-
Turkeys	Broilers	0.01		-		-
	Heavy Toms	0.02		-		-
	Heavy Hens	0.01		-		-
Horses	Mares	1.333		-		-
Sheep	Ewes	0.2		-		-
	Feeder lambs	0.063		-		-
Other Livestock	Type:			-		-
	Type:			-		-
Total Current:				-	Total Proposed:	1,430

Footnotes:

¹ Enter the current number of animals on the farm based on the operation's capacity (animal places) or previous Conditional Use Approval.

² Enter the total number of animals associated with the operation post construction or expansion.

³ There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will be calculated by multiplying this number by 2. This calculation assumes 85 lactating, 15 dry, 12 heifers (0 to 3 months), 36 heifers (4 to 13 months) and 50 heifers (> 13 months) for an operation with 100 mature cows. "Associated livestock" includes all of the heifer calves and replacement heifers. Alternatively, you can enter animal numbers in the individual categories (mature cows, heifers (0 to 3 months), heifers (4 to 13 months) and heifers (> 13 months)) and they will be summed at the bottom of the table. Bulls and veal calves are always calculated separately.

[For all other livestock or operation types please inquire with the Manitoba Agriculture Contacts](#)



Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
Beef/Dairy/Bison *				
Feeder/heifer/steer (600 lb.)		5	9	-
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry milking cow **		10	12	-
Lactating cow **		25	30	-
Bison		8	10	-
Horses				
Horses		8	11	-
Hogs				
Sow (Farrow/wean)		6.5		-
Dry Sow/Boar		4		-
Feeder	10,000	3		30,000
Nursery (33 lb.)		2		-
Chickens				
Broilers		0.035		-
Roasters/Pullets		0.04		-
Layers		0.055		-
Breeders		0.07		-
Turkeys				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
Sheep/Goats				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
TOTAL (IG/day)				30,000
*** TOTAL with 10% wash water				33,000

* For beef, dairy, bison and horse enterprises:
Use summer numbers if appropriate for the operation. Otherwise base projections on winter values.
Always use the greater of the two values.

** For intensive Dairy operations, please use the Dairy Barn Water Requirement Estimator found on separate sheet.

*** 10% of the total is added to allow for wash water

Enter this number on page 7 of Application Form.

Other consumption:
Normal household consumption:
60-75 IG/day per person or
(272-340 l/day/person)

Unit Conversions		
Total per day	Total per year	Unit
33,000	12,045,000	IG
136,380	49,778,700	litres
0.136	50	cubic decametres (dam ³)

Enter this number on page 7 of Application Form.

Conversion Factor: 1 IGPM = 4.546 l/m

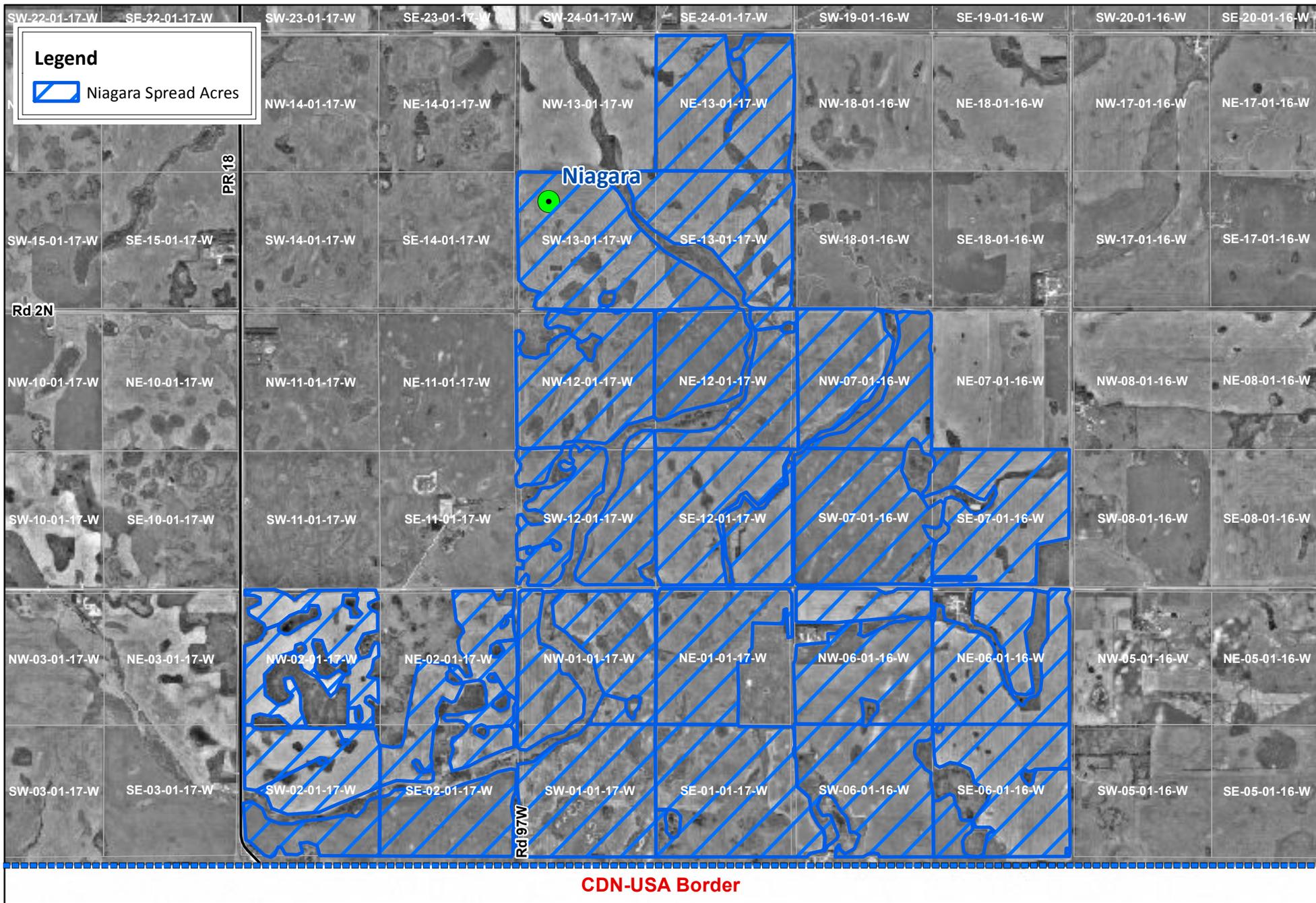
Animal Type (A)	Animal Sub-type (B)	Daily Manure Production				Production Period ² (Days) (G)	Number of Animals ³ (Capacity) (H)	Total Manure Volume (ft ³) (F _X G _X H)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)	
		References (C)	Manure Type (D)	Default Manure Production (ft ³ /animal/day) (E)	Operation Manure Production ¹ (ft ³ /animal/day) (F)					
Dairy (milking cows ⁴ and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid ⁵	3.5				-	0.0	
			Solid	3.4				-		
			Liquid ⁵	3.5				-	0.0	
	Tie Stall		Semi-Solid ⁵	3.6					-	0.0
			Solid	3.5					-	
			Liquid ⁵	3.6				-	0.0	
	Loose Housing		Solid	3.0					-	
Milking Parlour Manure and Washwater	Liquid	0.5					-			
Beef	Beef cows including associated livestock	pg 117, FPGs for Hogs 1998	Solid	1.2				-		
	Backgrounder (200 day)		Solid	0.73				-		
	Summer pasture / replacement heifers		Solid	0.85				-		
	Feeder cattle		Solid	1.1				-		
Pigs	Sows - farrow to finish (234 - 254 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	2.3				-	0.0	
	Sows - farrow to wean (up to 11 lbs)		Liquid	0.8				-	0.0	
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0	
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1				-	0.0	
	Grower / Finisher (51 - 249 lbs)		Liquid	0.25	0.25	400.00	10,000	1,000,000.00	6,228,832.7	
Animal Type	Type of Operation	Yearly Manure Production		Production Period ² (Days)	Number of Birds ³ (Capacity)	Total Manure Volume (ft ³) (F/365xGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)			
		Default Manure Production (ft ³ /year/bird space)	Operation Manure Production ¹ (ft ³ /year/bird space)							
Chickens	Broilers – floor ⁶	Table 3, pg 85, FPGs for Poultry 2000		1.23				-		
	Broiler breeder hens ⁷			2.3				-		
	Broiler breeder pullets ⁶			0.99				-		
	Roasters – floor ⁶			1.16				-		
	Layers – cage ⁸			2.33				-	0.0	
	Layers – floor ⁷			1.68				-		
	Layers – solid pack ⁹							-		
	Pullets – cage ⁸			0.71				-	0.0	
	Pullets – floor ⁶			0.75				-		
	Pullets – solid pack ⁹							-		
Turkeys	Broilers ⁶	Table 3, pg 85, FPGs for Poultry 2000		2.83				-		
	Heavy toms ⁶			5.58				-		
	Heavy hens ⁶			3.32				-		

Sizing of a manure storage facility in accordance with all requirements of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98) is the responsibility of the operator.

Instructions and footnotes:

- ¹ ENTER the manure production estimate for your operation. If no estimate is available, use the default value provided in column E. References for default daily and yearly manure production are provided in column C.
- ² ENTER the number of days worth of manure that will be produced. For earthen manure storage facilities the minimum storage requirement is 400 days. For steel and concrete manure storage facilities the minimum storage requirement is 250
- ³ ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).
- ⁴ Milking cows includes all lactating and dry cows.
- ⁵ Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour.
- ⁶ 2 inches of wood shavings or 4 inches of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 20 lb/ft³
- ⁷ One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 25 lb/ft³
- ⁸ Manure removed from barn at 90% moisture content with a density of 59 lb/ft³
- ⁹ Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

Niagara [SW-13-01-17W] - Spread Acres



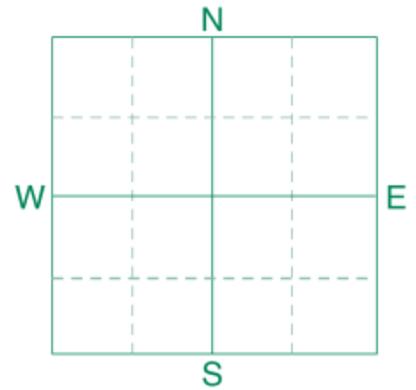
Prepared by:
Matt Reimer
Manager of Agronomic Services
Hylife Ltd.



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

SOIL TEST REPORT

FIELD ID **NINE02110**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **2** QTR **NE** ACRES **110**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA 0W0

REF # **2043177** BOX # **0**
 LAB # **NW166105**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain				
Nitrate	0-6" 6-24"	12 lb/ac 21 lb/ac	*****													
	0-24"	33 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL	50 BU	60 BU	130 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES		
						Band	Band	Band				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
						N	142		N	129		N	123		N	123
						P ₂ O ₅	43	Band *	P ₂ O ₅	35	Band *	P ₂ O ₅	46	Band *	P ₂ O ₅	46
Phosphorus	Olsen	8 ppm	*****			K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *		
						Cl			Cl			Cl				
Potassium		184 ppm	*****			S	15	Band	S	0		S	0			
Chloride	0-6" 6-24"	26 lb/ac 360 +lb/ac	*****			B			B			B				
						Zn			Zn			Zn				
Sulfur					Fe			Fe			Fe					
Boron					Mn			Mn			Mn					
Zinc					Cu			Cu			Cu					
Iron					Mg			Mg			Mg					
Manganese					Lime			Lime			Lime					
Copper					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)								
Magnesium								% Ca	% Mg	% K	% Na	% H				
Calcium					0-6" 8.1											
Sodium					6-24" 8.5											
Org.Matter																
Carbonate(CCE)																
Sol. Salts	0-6"	0.42 mmho/cm	*****													
	6-24"	0.65 mmho/cm	*****													

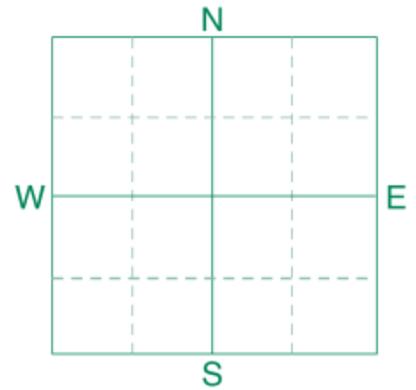
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NINE06130**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **6** QTR **NE** ACRES **130**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA 0W0

REF # **2043179** BOX # **0**
 LAB # **NW166109**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain		
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL		
	27 lb/ac 12 lb/ac					50 BU	60 BU	130 BU						
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						Band			Band			Band		
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Olsen	6 ppm	*****				N	136		N	123		N	117	
Phosphorus						P ₂ O ₅	48	Band *	P ₂ O ₅	39	Band *	P ₂ O ₅	53	Band *
Potassium	158 ppm	*****				K ₂ O	9	Band *	K ₂ O	18	Band *	K ₂ O	21	Band *
Chloride						Cl			Cl			Cl		
Sulfur	0-6" 6-24"	*****				S	10	Band	S	0		S	0	
Boron						B			B			B		
Zinc						Zn			Zn			Zn		
Iron						Fe			Fe			Fe		
Manganese						Mn			Mn			Mn		
Copper						Cu			Cu			Cu		
Magnesium						Mg			Mg			Mg		
Calcium						Lime			Lime			Lime		
Sodium														
Org.Matter														
Carbonate(CCE)														
Sol. Salts	0-6"	*****				Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)					
	0.42 mmho/cm					0.55 mmho/cm	*****							
	6-24"					0-6" 8.0								
						6-24" 8.3								

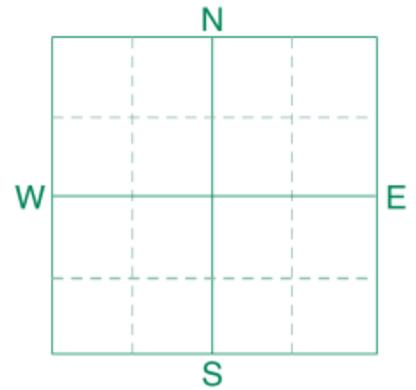
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NINE1276**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **12** QTR **NE** ACRES **76**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043181** BOX # **0**
 LAB # **NW130726**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain				
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL				
						50 BU			60 BU			130 BU				
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Band			Band			Band				
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Olsen	6 ppm	*****				N	146		N	133		N	127			
Phosphorus						P ₂ O ₅	48	Band *	P ₂ O ₅	39	Band *	P ₂ O ₅	53	Band *		
Potassium	172 ppm	*****				K ₂ O	2	Band *	K ₂ O	12	Band *	K ₂ O	15	Band *		
Chloride						Cl			Cl			Cl				
Sulfur	0-6" 6-24"	*****				S	15	Band	S	0		S	0			
Boron						B			B			B				
Zinc						Zn			Zn			Zn				
Iron						Fe			Fe			Fe				
Manganese						Mn			Mn			Mn				
Copper						Cu			Cu			Cu				
Magnesium						Mg			Mg			Mg				
Calcium						Lime			Lime			Lime				
Sodium																
Org.Matter																
Carbonate(CCE)																
Sol. Salts	0-6"	*****				Soil pH	Buffer pH		Cation Exchange Capacity			% Base Saturation (Typical Range)				
	6-24"	*****				0-6"	8.2					% Ca	% Mg	% K	% Na	% H
						6-24"	8.5									

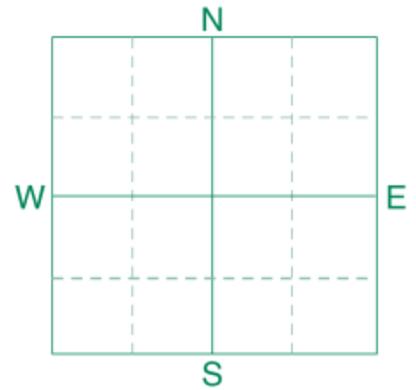
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NINE1277**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **12** QTR **NE** ACRES **77**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043182** BOX # **0**
 LAB # **NW130732**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain					
Nitrate	0-6" 6-24"	15 lb/ac 15 lb/ac	*****														
	0-24"	30 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL	50 BU	60 BU	130 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES			
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	Band	Band	Band	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	N	145	N	132	N	126
						N	145	P ₂ O ₅	53	Band *	P ₂ O ₅	43	Band *	P ₂ O ₅	59	Band *	
Phosphorus	Olsen	4 ppm	*****														
Potassium		185 ppm	*****														
Chloride																	
Sulfur	0-6" 6-24"	36 lb/ac 360 +lb/ac	*****														
Boron																	
Zinc																	
Iron																	
Manganese																	
Copper																	
Magnesium																	
Calcium																	
Sodium																	
Org.Matter																	
Carbonate(CCE)																	
Sol. Salts	0-6" 6-24"	0.4 mmho/cm 0.58 mmho/cm	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)								
						0-6" 8.2			% Ca	% Mg	% K	% Na	% H				
						6-24" 8.5											

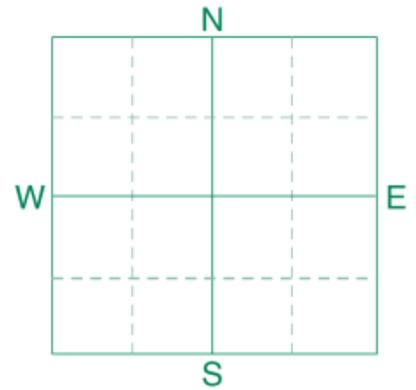
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
 Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
 Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NINE13154**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **13** QTR **NE** ACRES **154**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043185** BOX # **0**
 LAB # **NW166136**

Date Sampled _____ Date Received **10/26/2017** Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice					
		VLow Low Med High	Canola-bu		Wheat-Spring		Corn-Grain					
Nitrate	0-6" 6-24"	19 lb/ac 72 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL					
	0-24"	91 lb/ac	50 BU		60 BU		130 BU					
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES					
			Band		Band		Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION				
Phosphorus	Olsen	7 ppm	N	84		N	71					
Potassium		246 ppm	P ₂ O ₅	45	Band *	P ₂ O ₅	37	Band *				
Chloride			K ₂ O	0		K ₂ O	10	Band (2x2) *				
Sulfur	0-6" 6-24"	120 +lb/ac 360 +lb/ac	Cl			Cl						
Boron			S	10	Band	S	0					
Zinc			B			B						
Iron			Zn			Zn						
Manganese			Fe			Fe						
Copper			Mn			Mn						
Magnesium			Cu			Cu						
Calcium			Mg			Mg						
Sodium			Lime			Lime						
Org.Matter			Soil pH		Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)								% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.66 mmho/cm 1.16 mmho/cm	0-6" 8.0									
			6-24" 8.5									

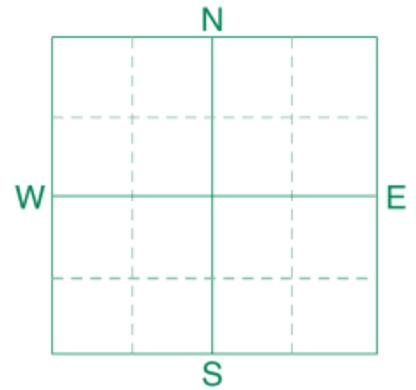
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NINW01140**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **1** QTR **NW** ACRES **140**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043187** BOX # **0**
 LAB # **NW166107**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain				
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL				
						50 BU			60 BU			130 BU				
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Band			Band			Band				
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Olsen Phosphorus	6 ppm	*****				N	151		N	138		N	132			
Potassium	199 ppm	*****				P ₂ O ₅	48	Band *	P ₂ O ₅	39	Band *	P ₂ O ₅	53	Band *		
Chloride						K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *		
Sulfur	0-6" 6-24"	*****				Cl			Cl			Cl				
						S	10	Band	S	0		S	0			
Boron						B			B			B				
Zinc						Zn			Zn			Zn				
Iron						Fe			Fe			Fe				
Manganese						Mn			Mn			Mn				
Copper						Cu			Cu			Cu				
Magnesium						Mg			Mg			Mg				
Calcium						Lime			Lime			Lime				
Sodium						Soil pH			% Base Saturation (Typical Range)							
Org.Matter						Buffer pH	Cation Exchange Capacity		% Ca	% Mg	% K	% Na	% H			
Carbonate(CCE)						0-6" 8.1										
Sol. Salts	0-6" 6-24"	*****				6-24" 8.4										

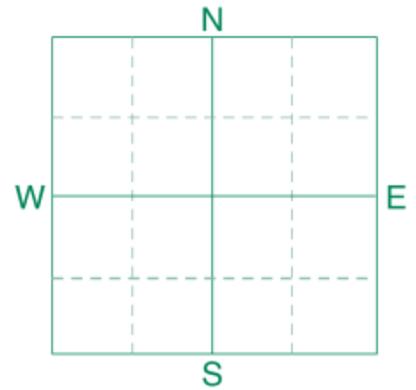
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NINW0298**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **2** QTR **NW** ACRES **98**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA **OWO**

REF # **2043188** BOX # **0**
 LAB # **NW166108**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice							
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain							
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL							
						50 BU			60 BU			130 BU							
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES							
						Band			Band			Band							
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION						
Phosphorus	Olsen 9 ppm	*****				N	141		N	128		N	122						
Potassium	211 ppm	*****				P ₂ O ₅	40	Band *	P ₂ O ₅	33	Band *	P ₂ O ₅	42	Band *					
Chloride						K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *					
Sulfur	0-6" 6-24"	*****				Cl			Cl			Cl							
Boron						S	10	Band	S	0		S	0						
Zinc						B			B			B							
Iron						Zn			Zn			Zn							
Manganese						Fe			Fe			Fe							
Copper						Mn			Mn			Mn							
Magnesium						Cu			Cu			Cu							
Calcium						Mg			Mg			Mg							
Sodium						Lime			Lime			Lime							
Org.Matter						Soil pH			Buffer pH			Cation Exchange Capacity			% Base Saturation (Typical Range)				
Carbonate(CCE)															% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	*****				0-6" 8.2			6-24" 8.6										

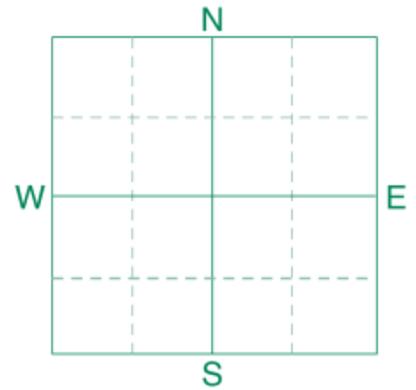
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
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 (<http://www.agvise.com>)
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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NINW06146**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **6** QTR **NW** ACRES **146**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA 0W0

REF # **2043190** BOX # **0**
 LAB # **NW166110**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain					
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL					
						50 BU			60 BU			130 BU					
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES					
						Band			Band			Band					
	Olsen	*****				LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION				
Phosphorus	11 ppm					N	146		N	133		N	127				
Potassium	171 ppm					P ₂ O ₅	35	Band *	P ₂ O ₅	29	Band *	P ₂ O ₅	36	Band *			
Chloride						K ₂ O	2	Band *	K ₂ O	12	Band *	K ₂ O	15	Band *			
Sulfur	0-6" 6-24"	*****				Cl			Cl			Cl					
						S	10	Band	S	0		S	0				
Boron						B			B			B					
Zinc						Zn			Zn			Zn					
Iron						Fe			Fe			Fe					
Manganese						Mn			Mn			Mn					
Copper						Cu			Cu			Cu					
Magnesium						Mg			Mg			Mg					
Calcium						Lime			Lime			Lime					
Sodium						Soil pH			Buffer pH			Cation Exchange Capacity			% Base Saturation (Typical Range)		
Org.Matter																	
Carbonate(CCE)																	
Sol. Salts	0-6"	*****				0-6" 8.0											
	6-24"	*****				6-24" 8.2											

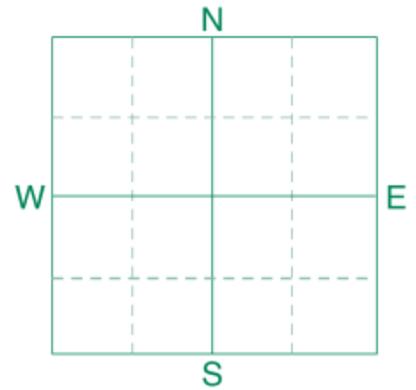
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
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Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NINW12137**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **12** QTR **NW** ACRES **137**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043192** BOX # **0**
 LAB # **NW130728**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain					
Nitrate	0-6" 6-24"	****				YIELD GOAL			YIELD GOAL			YIELD GOAL					
						50 BU			60 BU			130 BU					
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES					
						Band			Band			Band					
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION				
Olsen	11 ppm	*****				N	155		N	142		N	136				
Phosphorus						P ₂ O ₅	35	Band *	P ₂ O ₅	29	Band *	P ₂ O ₅	36	Band *			
Potassium	189 ppm	*****				K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *			
Chloride						Cl			Cl			Cl					
Sulfur	0-6" 6-24"	*****				S	10	Band	S	0		S	0				
Boron						B			B			B					
Zinc						Zn			Zn			Zn					
Iron						Fe			Fe			Fe					
Manganese						Mn			Mn			Mn					
Copper						Cu			Cu			Cu					
Magnesium						Mg			Mg			Mg					
Calcium						Lime			Lime			Lime					
Sodium						Soil pH			Buffer pH			Cation Exchange Capacity			% Base Saturation (Typical Range)		
Org.Matter																	
Carbonate(CCE)																	
Sol. Salts	0-6"	*****				0-6" 8.2											
	6-24"	*****				6-24" 8.6											

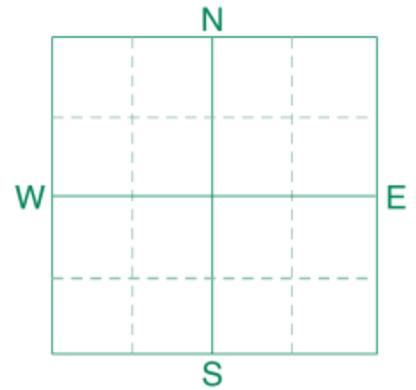
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



Soil Analysis by Agvise Laboratories
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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NISE0282**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **2** QTR **SE** ACRES **82**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA **OWO**

REF # **2043194** BOX # **0**
 LAB # **NW166141**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice							
		VLow	Low	Med	High	Canola-bu		Wheat-Spring		Corn-Grain							
Nitrate	0-6" 6-24"	*****				YIELD GOAL		YIELD GOAL		YIELD GOAL							
	10 lb/ac 15 lb/ac					50 BU		60 BU		130 BU							
	0-24"					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES							
	25 lb/ac					Band		Band		Band							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION						
Olsen	8 ppm	*****					N	150	N	137	N	131					
Phosphorus							P ₂ O ₅	43	Band *	P ₂ O ₅	35	Band *	P ₂ O ₅	46	Band *		
Potassium	200 ppm	*****					K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *		
Chloride							Cl			Cl			Cl				
Sulfur	0-6" 6-24"	*****					S	10	Band	S	0		S	0			
	34 lb/ac 282 lb/ac	*****					B			B			B				
Boron							Zn			Zn			Zn				
Zinc							Fe			Fe			Fe				
Iron							Mn			Mn			Mn				
Manganese							Cu			Cu			Cu				
Copper							Mg			Mg			Mg				
Magnesium							Lime			Lime			Lime				
Calcium							Soil pH		Buffer pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Sodium													% Ca	% Mg	% K	% Na	% H
Org.Matter							0-6"	8.2									
Carbonate(CCE)							6-24"	8.6									
Sol. Salts	0-6" 6-24"	*****															
	0.32 mmho/cm 0.5 mmho/cm	*****															

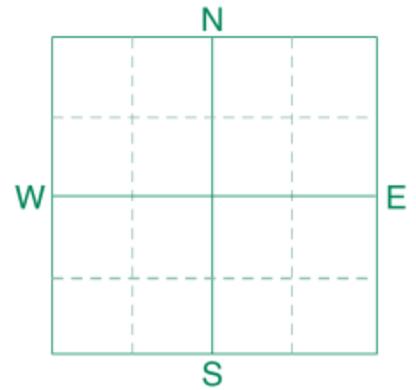
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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SOIL TEST REPORT

FIELD ID **NISE06132**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **6** QTR **SE** ACRES **132**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA OWO**

REF # **2043196** BOX # **0**
 LAB # **NW166143**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	Canola-bu		Wheat-Spring		Corn-Grain			
Nitrate	0-6" 6-24"	****				YIELD GOAL		YIELD GOAL		YIELD GOAL			
			11 lb/ac 9 lb/ac			50 BU		60 BU		130 BU			
	0-24"		20 lb/ac			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band		Band		Band			
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen	6 ppm	*****			N	155	N	142	N	136			
Phosphorus					P ₂ O ₅	48 Band *	P ₂ O ₅	39 Band *	P ₂ O ₅	53 Band *			
Potassium	185 ppm	*****			K ₂ O	0	K ₂ O	10 Band (Starter)*	K ₂ O	10 Band (2x2) *			
Chloride					Cl		Cl		Cl				
Sulfur	0-6" 6-24"	*****			S	10 Band	S	0	S	0			
Boron					B		B		B				
Zinc					Zn		Zn		Zn				
Iron					Fe		Fe		Fe				
Manganese					Mn		Mn		Mn				
Copper					Cu		Cu		Cu				
Magnesium					Mg		Mg		Mg				
Calcium					Lime		Lime		Lime				
Sodium													
Org.Matter													
Carbonate(CCE)													
Sol. Salts	0-6"	*****			Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"		0.43 mmho/cm 0.95 mmho/cm						% Ca	% Mg	% K	% Na	% H
					0-6" 7.9								
					6-24" 8.2								

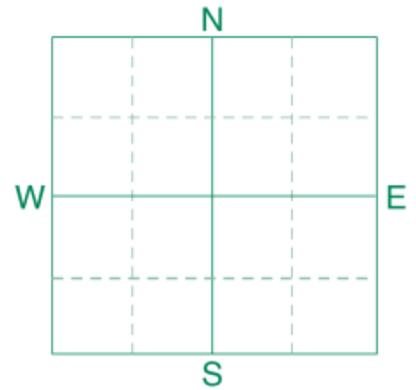
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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SOIL TEST REPORT

FIELD ID **NISE07136**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **7** QTR **SE** ACRES **136**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043215** BOX # **0**
 LAB # **NW130727**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High	Canola-bu		Wheat-Spring		Corn-Grain				
Nitrate	0-6" 6-24"	****				YIELD GOAL		YIELD GOAL		YIELD GOAL				
			9 lb/ac 12 lb/ac	50 BU		60 BU		130 BU						
	0-24"		21 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES						
				Band		Band		Band						
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen	4 ppm	*****			N	154		N	141	N	135			
Phosphorus					P ₂ O ₅	53	Band *	P ₂ O ₅	43	P ₂ O ₅	59	Band *		
Potassium	210 ppm	*****			K ₂ O	0		K ₂ O	10	K ₂ O	10	Band (2x2) *		
Chloride					Cl			Cl		Cl				
Sulfur	0-6" 6-24"	*****			S	15	Band	S	5	S	5	Band (Trial)		
Boron					B			B		B				
Zinc					Zn			Zn		Zn				
Iron					Fe			Fe		Fe				
Manganese					Mn			Mn		Mn				
Copper					Cu			Cu		Cu				
Magnesium					Mg			Mg		Mg				
Calcium					Lime			Lime		Lime				
Sodium														
Org.Matter														
Carbonate(CCE)														
Sol. Salts	0-6"	*****				Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"		0.34 mmho/cm 0.33 mmho/cm							% Ca	% Mg	% K	% Na	% H
						0-6" 8.2								
						6-24" 8.7								

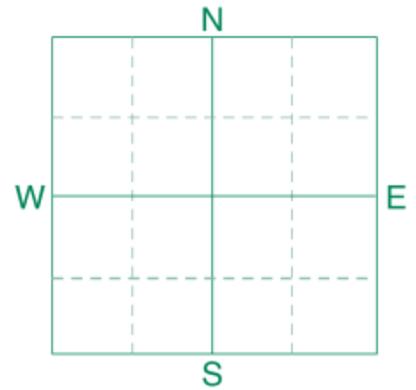
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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SOIL TEST REPORT

FIELD ID **NISE12153**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **12** QTR **SE** ACRES **153**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB ROA OWO

REF # **2043218** BOX # **0**
 LAB # **NW130730**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High								
Nitrate	0-6" 6-24"	12 lb/ac 18 lb/ac	*****	Canola-bu	Wheat-Spring		Corn-Grain			
	0-24"	30 lb/ac		YIELD GOAL	YIELD GOAL		YIELD GOAL			
				50 BU	60 BU		130 BU			
				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
				Band	Band		Band			
Olsen	6 ppm	*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus			N	145	N	132	N	126		
Potassium	182 ppm	*****	P ₂ O ₅	48 Band *	P ₂ O ₅	39 Band *	P ₂ O ₅	53 Band *		
Chloride			K ₂ O	0	K ₂ O	10 Band (Starter)*	K ₂ O	11 Band *		
Sulfur	0-6" 6-24"	120 +lb/ac 360 +lb/ac	Cl		Cl		Cl			
Boron			S	10 Band	S	0	S	0		
Zinc			B		B		B			
Iron			Zn		Zn		Zn			
Manganese			Fe		Fe		Fe			
Copper			Mn		Mn		Mn			
Magnesium			Cu		Cu		Cu			
Calcium			Mg		Mg		Mg			
Sodium			Lime		Lime		Lime			
Org.Matter			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Carbonate(CCE)						% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.61 mmho/cm 0.8 mmho/cm	0-6"	8.1						
			6-24"	8.5						

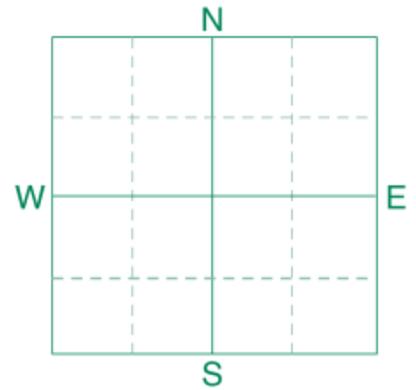
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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SOIL TEST REPORT

FIELD ID **NISE13130**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **13** QTR **SE** ACRES **130**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043219** BOX # **0**
 LAB # **NW113911**

Date Sampled

Date Received **10/11/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"	19 lb/ac 36 lb/ac	*****			Canola-bu		Wheat-Spring		Corn-Grain				
	0-24"	55 lb/ac				YIELD GOAL		YIELD GOAL		YIELD GOAL				
						50 BU		60 BU		130 BU				
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band		Band		Band				
Phosphorus	Olsen	9 ppm	*****			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Potassium		239 ppm	*****			N	120	N	107	N	101			
Chloride						P ₂ O ₅	40 Band *	P ₂ O ₅	33 Band *	P ₂ O ₅	42 Band *			
Sulfur	0-6" 6-24"	36 lb/ac 360 +lb/ac	*****			K ₂ O	0	K ₂ O	10 Band (Starter)*	K ₂ O	10 Band (2x2) *			
Boron						Cl		Cl		Cl				
Zinc						S	10 Band	S	0	S	0			
Iron						B		B		B				
Manganese						Zn		Zn		Zn				
Copper						Fe		Fe		Fe				
Magnesium						Mn		Mn		Mn				
Calcium						Cu		Cu		Cu				
Sodium						Mg		Mg		Mg				
Org.Matter						Lime		Lime		Lime				
Carbonate(CCE)														
Sol. Salts	0-6"	0.53 mmho/cm	*****			Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"	0.63 mmho/cm	*****			0-6" 7.2				% Ca	% Mg	% K	% Na	% H
						6-24" 8.0								

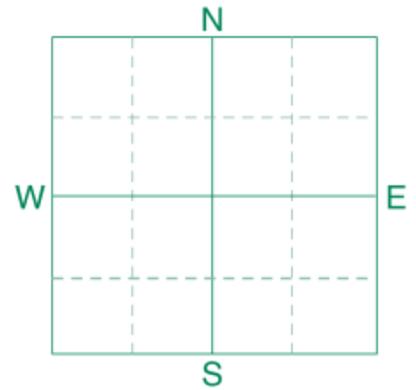
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NISW01144**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **1** QTR **SW** ACRES **144**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043222** BOX # **0**
 LAB # **NW166138**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain				
Nitrate	0-6" 6-24"	*****				YIELD GOAL			YIELD GOAL			YIELD GOAL				
						50 BU			60 BU			130 BU				
	0-24"					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Band			Band			Band				
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Olsen Phosphorus	4 ppm	*****				N	148		N	135		N	129			
Potassium	171 ppm	*****				P ₂ O ₅	53	Band *	P ₂ O ₅	43	Band *	P ₂ O ₅	59	Band *		
Chloride						K ₂ O	2	Band *	K ₂ O	12	Band *	K ₂ O	15	Band *		
Sulfur	0-6" 6-24"	*****				Cl			Cl			Cl				
						S	10	Band	S	0		S	0			
Boron						B			B			B				
Zinc						Zn			Zn			Zn				
Iron						Fe			Fe			Fe				
Manganese						Mn			Mn			Mn				
Copper						Cu			Cu			Cu				
Magnesium						Mg			Mg			Mg				
Calcium						Lime			Lime			Lime				
Sodium																
Org.Matter																
Carbonate(CCE)																
Sol. Salts	0-6"	*****				Soil pH	Buffer pH		Cation Exchange Capacity			% Base Saturation (Typical Range)				
	6-24"	*****				0-6" 8.0						% Ca	% Mg	% K	% Na	% H
						6-24" 8.1										

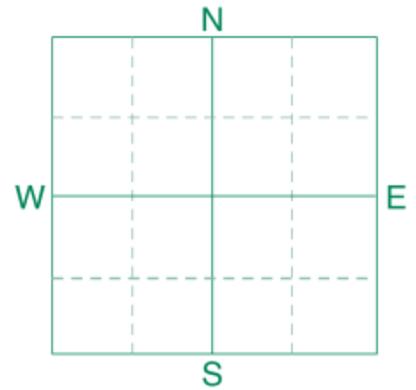
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NISW02130**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **2** QTR **SW** ACRES **130**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043223** BOX # **0**
 LAB # **NW166142**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain					
Nitrate	0-6" 6-24"	16 lb/ac 24 lb/ac	*****														
	0-24"	40 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL	50 BU	60 BU	130 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES			
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	Band	Band	Band	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	N	135		N	122	
						N	135		N	122		N	116		N	116	
Phosphorus	Olsen	6 ppm	*****			P ₂ O ₅	48	Band *	P ₂ O ₅	39	Band *	P ₂ O ₅	53	Band *	P ₂ O ₅	53	Band *
Potassium		211 ppm	*****			K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *	K ₂ O	10	Band (2x2) *
Chloride						Cl			Cl			Cl			Cl		
Sulfur	0-6" 6-24"	30 lb/ac 48 lb/ac	*****			S	15	Band	S	5	Band (Trial)	S	5	Band (Trial)	S	5	Band (Trial)
Boron						B			B			B			B		
Zinc						Zn			Zn			Zn			Zn		
Iron						Fe			Fe			Fe			Fe		
Manganese						Mn			Mn			Mn			Mn		
Copper						Cu			Cu			Cu			Cu		
Magnesium						Mg			Mg			Mg			Mg		
Calcium						Lime			Lime			Lime			Lime		
Sodium																	
Org.Matter																	
Carbonate(CCE)																	
Sol. Salts	0-6"	0.41 mmho/cm	*****			Soil pH	8.1		Cation Exchange Capacity			% Base Saturation (Typical Range)	% Ca	% Mg	% K	% Na	% H
	6-24"	0.3 mmho/cm	*****			Buffer pH	8.7										

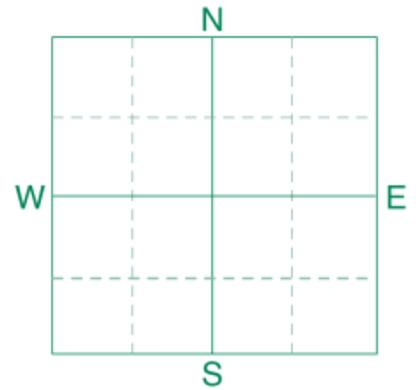
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NISW06131**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **6** QTR **SW** ACRES **131**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043225** BOX # **0**
 LAB # **NW166137**

Date Sampled

Date Received **10/26/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice										
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain										
Nitrate	0-6" 6-24"	13 lb/ac 15 lb/ac	*****																			
	0-24"	28 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL	50 BU	60 BU	130 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES								
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	Band	Band	Band	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	N	147		N	134		N	128			
						N	147		N	134		N	128		P ₂ O ₅	50	Band *	P ₂ O ₅	41	Band *	P ₂ O ₅	56
Phosphorus	Olsen	5 ppm	*****											K ₂ O	4	Band *	K ₂ O	14	Band *	K ₂ O	17	Band *
Potassium		167 ppm	*****											Cl			Cl			Cl		
Chloride			*****											S	10	Band	S	0		S	0	
Sulfur	0-6" 6-24"	120 +lb/ac 360 +lb/ac	*****											B			B			B		
Boron														Zn			Zn			Zn		
Zinc														Fe			Fe			Fe		
Iron														Mn			Mn			Mn		
Manganese														Cu			Cu			Cu		
Copper														Mg			Mg			Mg		
Magnesium														Lime			Lime			Lime		
Calcium																						
Sodium																						
Org.Matter																						
Carbonate(CCE)																						
Sol. Salts	0-6"	0.59 mmho/cm	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)													
	6-24"	1.12 mmho/cm	*****			0-6" 8.1			% Ca	% Mg	% K	% Na	% H									
						6-24" 8.4																

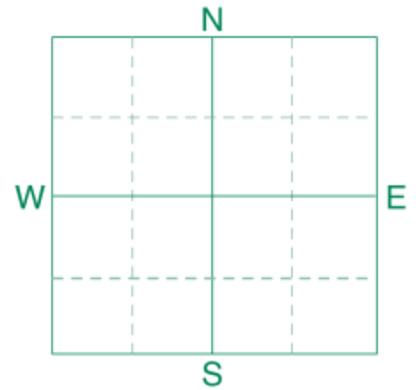
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NISW07152**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **16 W**
 SECTION **7** QTR **SW** ACRES **152**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043226** BOX # **0**
 LAB # **NW130731**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	9 lb/ac 9 lb/ac	****			Canola-bu	Wheat-Spring	Corn-Grain					
	0-24"	18 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL					
						50 BU	60 BU	130 BU					
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
						Band	Band	Band					
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen	4 ppm	*****			N	157	N	144	N	138			
Phosphorus					P ₂ O ₅	53 Band *	P ₂ O ₅	43 Band *	P ₂ O ₅	59 Band *			
Potassium	186 ppm	*****			K ₂ O	0	K ₂ O	10 Band (Starter)*	K ₂ O	10 Band (2x2) *			
Chloride					Cl		Cl		Cl				
Sulfur	0-6" 6-24"	40 lb/ac 72 lb/ac	*****		S	10 Band	S	0	S	0			
Boron					B		B		B				
Zinc					Zn		Zn		Zn				
Iron					Fe		Fe		Fe				
Manganese					Mn		Mn		Mn				
Copper					Cu		Cu		Cu				
Magnesium					Mg		Mg		Mg				
Calcium					Lime		Lime		Lime				
Sodium													
Org.Matter													
Carbonate(CCE)													
Sol. Salts	0-6"	0.33 mmho/cm	*****		Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"	0.33 mmho/cm	*****		0-6" 8.2				% Ca	% Mg	% K	% Na	% H
					6-24" 8.7								

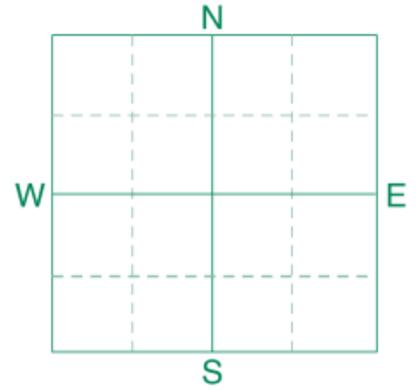
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NISW12137**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **12** QTR **SW** ACRES **137**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA OWO**

REF # **2043228** BOX # **0**
 LAB # **NW130725**

Date Sampled

Date Received **10/16/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice							
		VLow	Low	Med	High	Canola-bu			Wheat-Spring			Corn-Grain							
Nitrate	0-6" 6-24"	15 lb/ac 18 lb/ac	*****																
	0-24"	33 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL	50 BU	60 BU	130 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	Band	Band	Band	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	N	142		N	129			
Phosphorus	Olsen	8 ppm	*****						N	129		N	123		N	123			
Potassium		213 ppm	*****			P ₂ O ₅	43	Band *	P ₂ O ₅	35	Band *	P ₂ O ₅	46	Band *	P ₂ O ₅	46	Band *		
Chloride						K ₂ O	0		K ₂ O	10	Band (Starter)*	K ₂ O	10	Band (2x2) *	K ₂ O	10	Band (2x2) *		
Sulfur	0-6" 6-24"	52 lb/ac 360 +lb/ac	*****			Cl			Cl			Cl			Cl				
Boron						S	10	Band	S	0		S	0		S	0			
Zinc						B			B			B			B				
Iron						Zn			Zn			Zn			Zn				
Manganese						Fe			Fe			Fe			Fe				
Copper						Mn			Mn			Mn			Mn				
Magnesium						Cu			Cu			Cu			Cu				
Calcium						Mg			Mg			Mg			Mg				
Sodium						Lime			Lime			Lime			Lime				
Org.Matter						Soil pH			Buffer pH			Cation Exchange Capacity			% Base Saturation (Typical Range)				
Carbonate(CCE)						0-6" 8.1			6-24" 8.2						% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.4 mmho/cm 0.67 mmho/cm	*****																

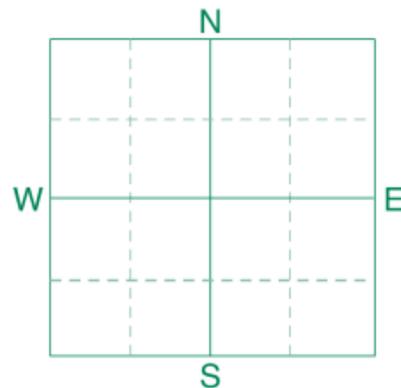
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NISW13118**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP **1** RANGE **17 W**
 SECTION **13** QTR **SW** ACRES **118**
 PREV. CROP



SUBMITTED FOR:
Niagara

SUBMITTED BY: **HY4851**
HYLIFE LTD.
5 FABAS STREET
BOX 100
LA BROQUERIE, MB **ROA 0W0**

REF # **2043230** BOX # **0**
 LAB # **NW113916**

Date Sampled

Date Received **10/11/2017**

Date Reported **11/20/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	Canola-bu		Wheat-Spring		Corn-Grain			
Nitrate	0-6" 6-24"	****				YIELD GOAL		YIELD GOAL		YIELD GOAL			
			10 lb/ac 9 lb/ac			50 BU		60 BU		130 BU			
	0-24"		19 lb/ac			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band		Band		Band			
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen	8 ppm	*****			N	156	N	143	N	137			
Phosphorus					P ₂ O ₅	43 Band *	P ₂ O ₅	35 Band *	P ₂ O ₅	46 Band *			
Potassium	181 ppm	*****			K ₂ O	0	K ₂ O	10 Band (Starter)*	K ₂ O	11 Band *			
Chloride					Cl		Cl		Cl				
Sulfur	0-6" 6-24"	*****			S	10 Band	S	0	S	0			
Boron					B		B		B				
Zinc					Zn		Zn		Zn				
Iron					Fe		Fe		Fe				
Manganese					Mn		Mn		Mn				
Copper					Cu		Cu		Cu				
Magnesium					Mg		Mg		Mg				
Calcium					Lime		Lime		Lime				
Sodium													
Org.Matter													
Carbonate(CCE)													
Sol. Salts	0-6"	*****			Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"		0.43 mmho/cm 1.31 mmho/cm						% Ca	% Mg	% K	% Na	% H
					0-6" 7.9								
					6-24" 8.2								

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 52 K2O = 35 AGVISE Band guidelines will build P & K test levels to the medium range over many years.