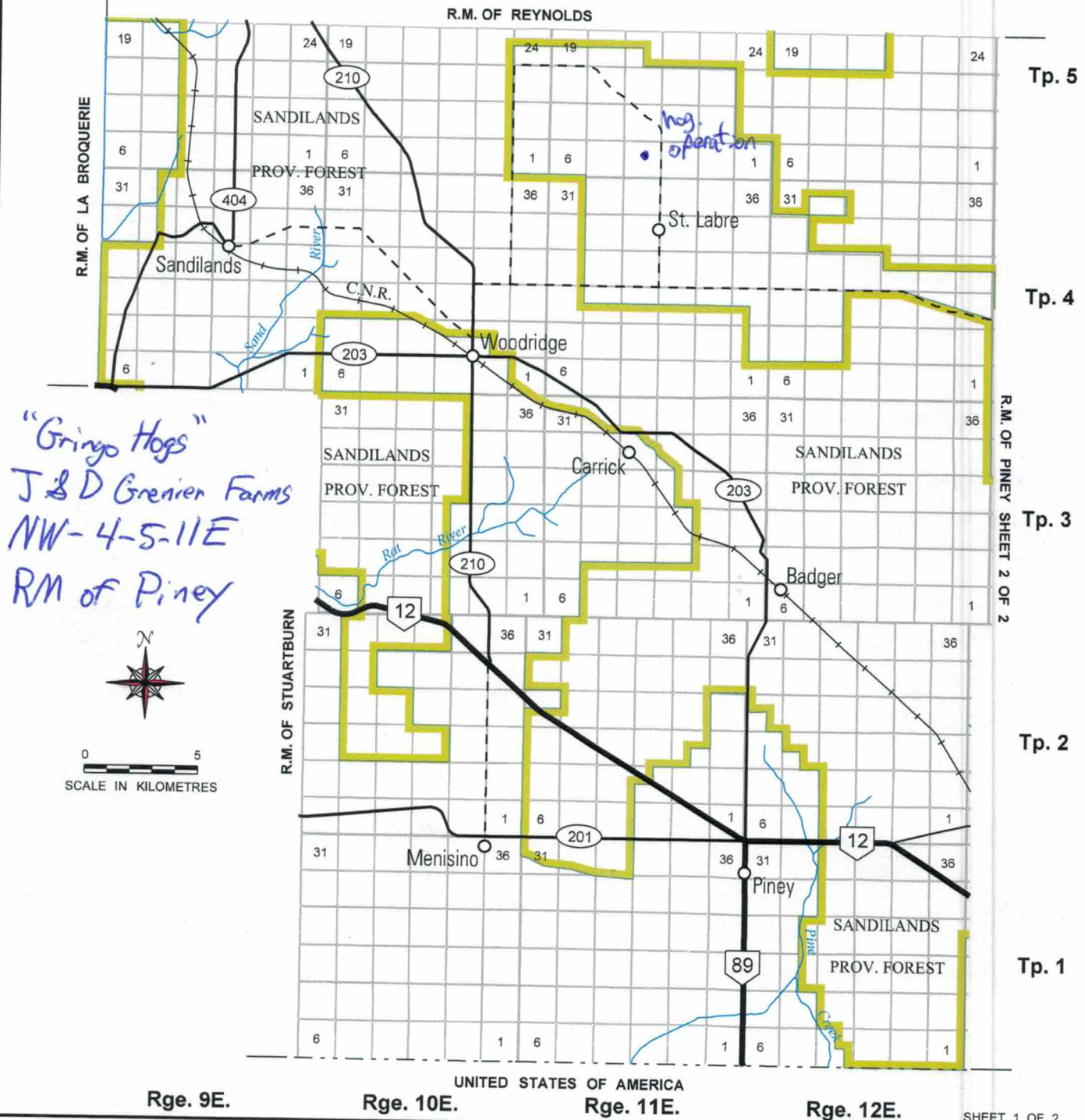
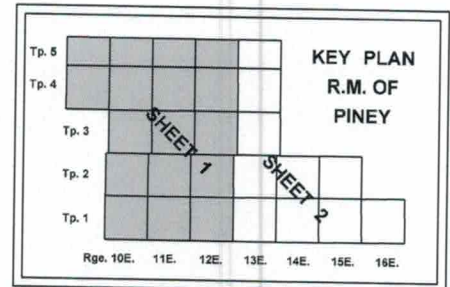


R.M. OF PINEY

LEGEND

- PROVINCIAL TRUNK HIGHWAYS 
- PROVINCIAL ROADS 
- ACCESS ROADS 
- MAIN MARKET ROADS 
- RAILWAYS 

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



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		-		-
Beef	Veal calves	0.13		-		-
	Beef cows including associated livestock	1.25		-		-
	Backgrounder	0.5		-		-
	Summer pasture / replacement heifers	0.625		-		-
Pigs	Feeder cattle	0.769		-		-
	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		-		-
Chickens	Growers / Finishers (51-249 lbs)	0.143	4,196	600	6,294	900
	Broilers	0.005		-		-
	Roasters	0.01		-		-
	Layers	0.0083		-		-
	Pullets	0.0033		-		-
	Broiler breeder pullets	0.0033		-		-
Turkeys	Broiler breeder hens	0.01		-		-
	Broilers	0.01		-		-
	Heavy Toms	0.02		-		-
Horses	Heavy Hens	0.01		-		-
Sheep	Mares	1.333		-		-
	Ewes	0.2		-		-
Other Livestock	Feeder lambs	0.063		-		-
	Type:			-		-
	Type:			-		-
Total Current:				600	Total Proposed:	900

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.

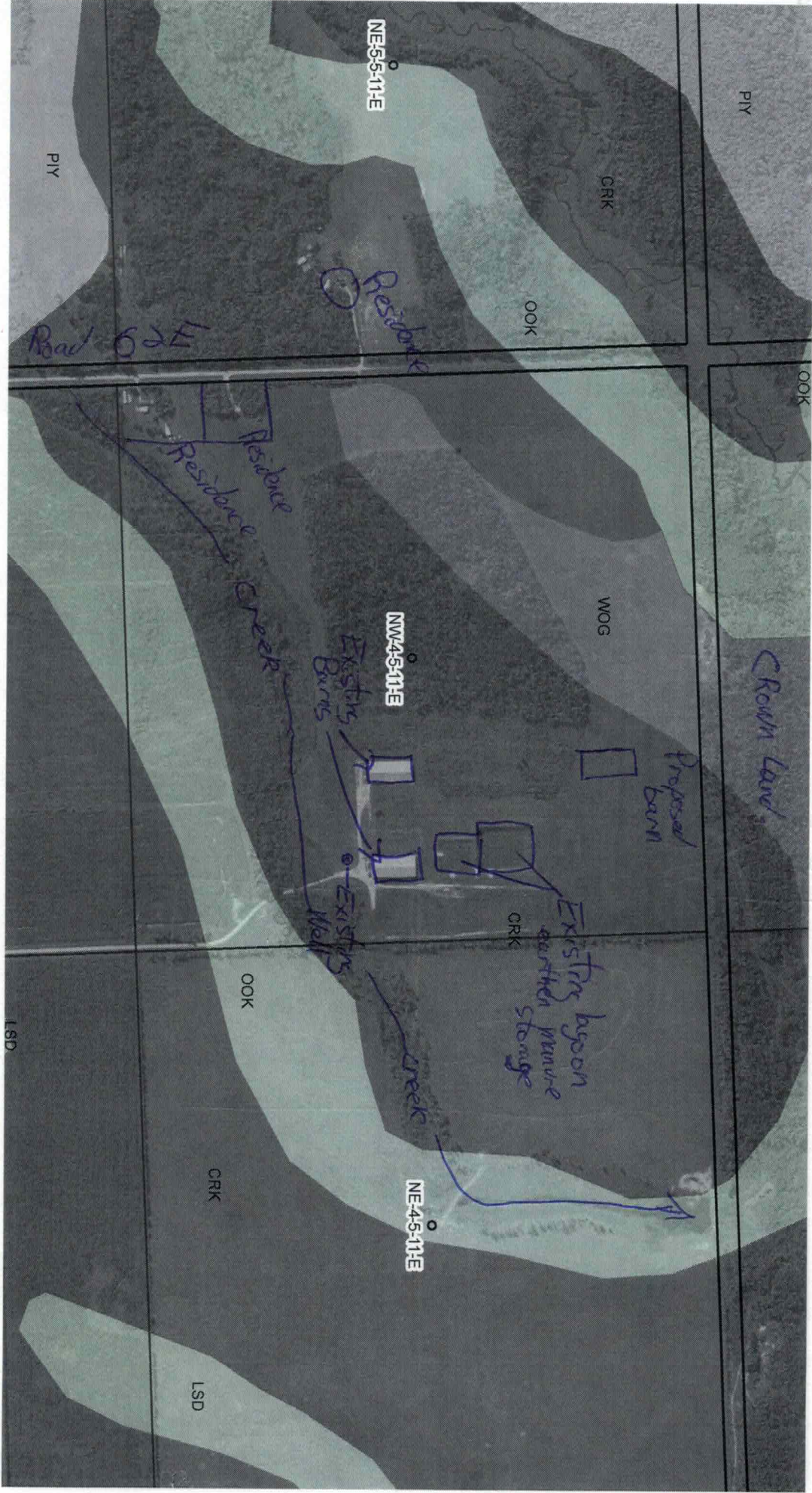
³ There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will 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](#)

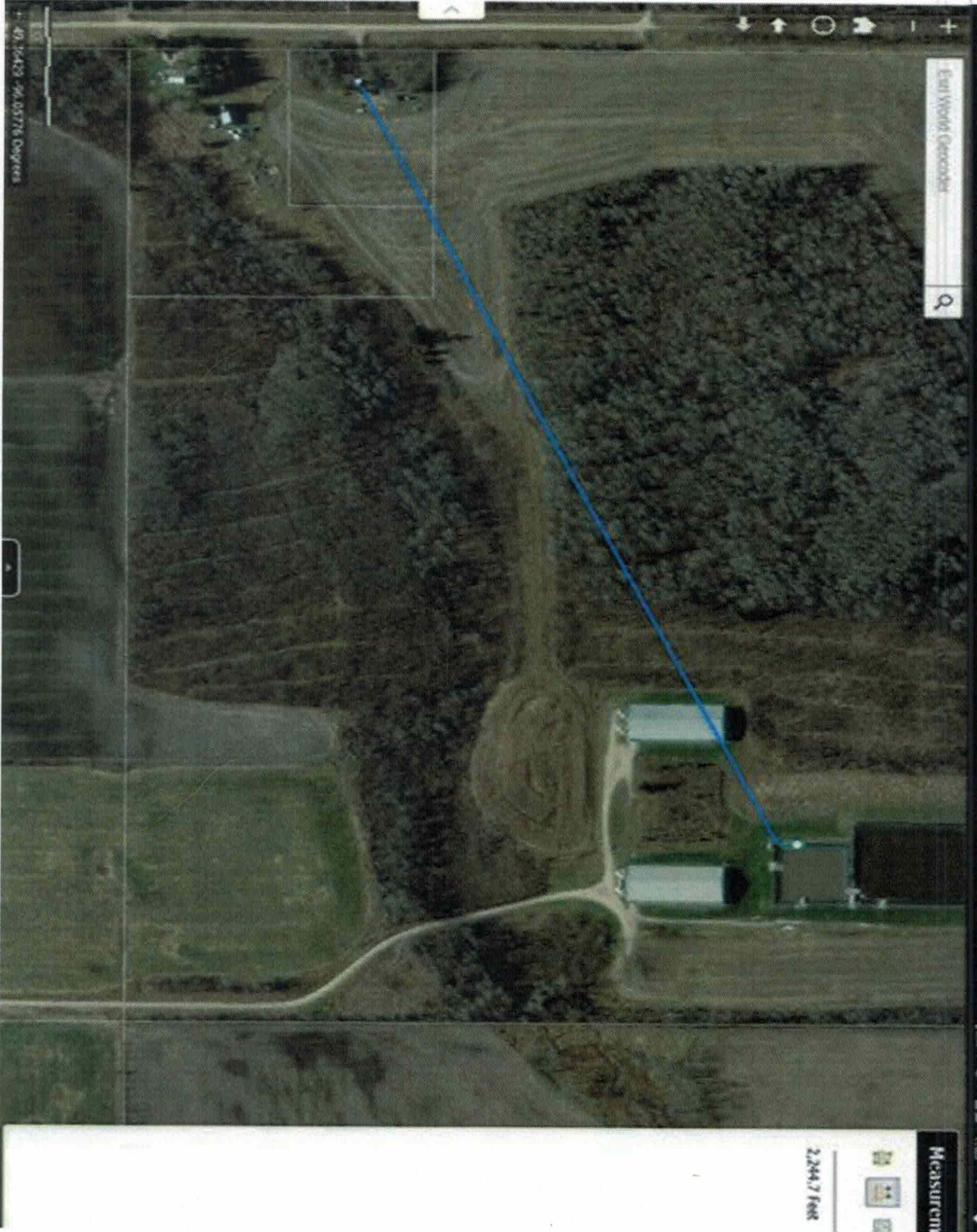


Site plan.

N



Land Use and Development



2019 Mar 14

WELL INFORMATION REPORT

Manitoba



Well PID: 122111

Location: NW4-5-11E

UTMX:714261 UTMZ:5472297 XY Accuracy:1 EXACT [<5M] [GPS]

UTMZ:355 Z Accuracy:4 FAIR - Shuttle at Centroid

Owner: ADRIEN GIENIER/GINGO HOGS

Driller: Kiansky Bros. Ltd.

Well Name:

Date Completed: 2002 Aug 30

Well Use: PRODUCTION

WATER USE: Livestock

Well Status: ACTIVE

Aquifer: SAND AND GRAVEL

REMARKS:

S OF BLDG, 3 HRS RECOVERY, BACKFILLED WITH GRAVEL 70-120 FT

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	35	TILL
35.0	47	MEDIUM SAND
47.0	49	BOULDER
49.0	95	GREY TILL, CLAYEY
95.0	120	BLUE CLAYEY TILL
120.0	130	GREY TILL WITH STONES
130.0	157	FINE GRAVEL
157.0	160	DARK BLUE CLAY

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	134.0	CASING	5.0			INSERT	PVC
134.0	149.0	PERFORATIONS	3.0		0.012	WIRE WOUND	PVC
120.0	160.0	GRAVEL PACK				NO. 20-40	SILICA S.
8.0	70.0	CASING GROUT					BENTONITE

Top of Casing: 3.0 ft above ground

PUMPING TEST

Date : 2002 Aug 30 Pumping 40.0 Imp. gallons/minute

Water level before test : 18.7 ft below ground

Water level at end of test : 22.8 ft below ground

Test duration: 3:00:00

Test Zone: from 134.0 ft to 149.0 ft

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×G×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
Beef	Loose Housing	pg 117, FPGs for Hogs 1998	Solid	3.0				-	
	Milking Parlour Manure and Washwater		Liquid	0.5				-	
	Beef cows including associated livestock		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	6,294	629,400.00	3,921,162.0
Animal Type	Type of Operation	Yearly Manure Production				Production Period ² (Days)	Number of Birds (Capacity)	Total Manure Volume (ft ³) (F/365×G×H)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)
Chickens	Broilers – floor ⁶	Table 3, pg 85, FPGs for Poultry 2000	Default Manure Production (ft ³ /year/bird space)	Operation Manure Production ¹ (ft ³ /year/bird space)				-	
	Broiler breeder hens ⁷		1.23				-		
	Broiler breeder pullets ⁶		2.3				-		
	Roasters – floor ⁶		0.99				-		
	Layers – cage ⁸		1.16				-	0.0	
	Layers – floor ⁷		2.33				-		
Turkeys	Layers – solid pack ⁹	Table 3, pg 85, FPGs for Poultry 2000		1.68				-	
	Pullets – cage ⁸		0.71				-	0.0	
	Pullets – floor ⁶		0.75				-		
	Pullets – solid pack ⁹						-		
	Broilers ⁶		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 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

Existing and Proposed Manure Storage Facility Dimension Table

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

CELL	Existing Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	160 ft	160	12	12	3,5:1	5:1	
Secondary	250 ft	220	11	11	3:1	5:1	321 days
Tertiary	ft	ft	ft	ft			
Circular Tank		Diameter	Height	Depth (Above Grade)			
		ft	ft	ft			

Permit/Registration # _____ LM-749 _____



MANURE APPLICATION FIELD CHARACTERISTICS TABLE



Field	A Legal Description	B Rural Municipality	C O/C/L/ A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	SE 5-5-11E	Piney	O	160	76	84	Class 3, Class 4 P	16	Rural Area 1	Rural 1 Zone
2	SW 33-4-11E	Piney	O	160	92	68	Class 4 DP, 3M	38	Rural Area 2	Rural Zone 2
3	NW 4-5-11E	Piney	O	150	78	82	Class 4 DP, 3M	57	Rural Area 2	Rural Zone 2
4	NE 4-5-11E	Piney	A	160	10	150	Class 4 DP, 3M	23	Rural Area 2	Rural Zone 2
5	NW 33-4-11E	Piney	O	154	14	140	Class 4m, 6W	22	Rural Area 2	Rural Zone 2 + Rural Zone 1
6	SW 4-5-11E	Piney	A	156	10	146	Class 4 DP, 3M	41	Rural Area 2	Rural Zone 2
7	SE 4-5-11E	Piney	A	157	2	155	Class 4DP, 3M	15	Rural Area 1 / Rural Area 2	Rural Zone 2 + Rural Zone 1
8	NW 3-5-11E	Piney	A	160	110	50	Class 4DP, 3M	24	Rural Area 2	Rural Zone 2
9	NE 32-4-11E	Piney	A	160	10	30	Class 4DP, 6W	21	Rural Area 1 / Rural Area 2	Rural Zone 2 + Rural Zone 1
10	NE 3-5-11E	Piney	A	160	47	113	Class 4M, 5M	32	Rural Area 2 / Limited Rural Area	Rural Zone 2 + Limited Rural Zone
11	SW 3-5-11E	Piney	A	156	21	135	Class 4DP-3M	37	Rural Area 2 / Limited Rural Area	Rural Zone 2
12										
13							1153 J & D Grenier spread			
14										
15										
16							(2107 Moonshadow -pg2)		**Any Class 6 does not receive any manure**	
17							(1043 Moonshadow -pg3)			
18							3150 Moonshadow spread			
19										
20							4303 crop acres available			
Total Net Acreage for Manure Application:						1153				

A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).

B. Identify the Rural Municipality in which the parcel is located.

C. Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).

D. Enter the total acreage for the parcel.

E. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).

F. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.

G. Enter the agriculture capability class and subclass ratings for the acreage available for manure application.

H. Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.

I. Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).

J. Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).

MANURE APPLICATION FIELD CHARACTERISTICS TABLE



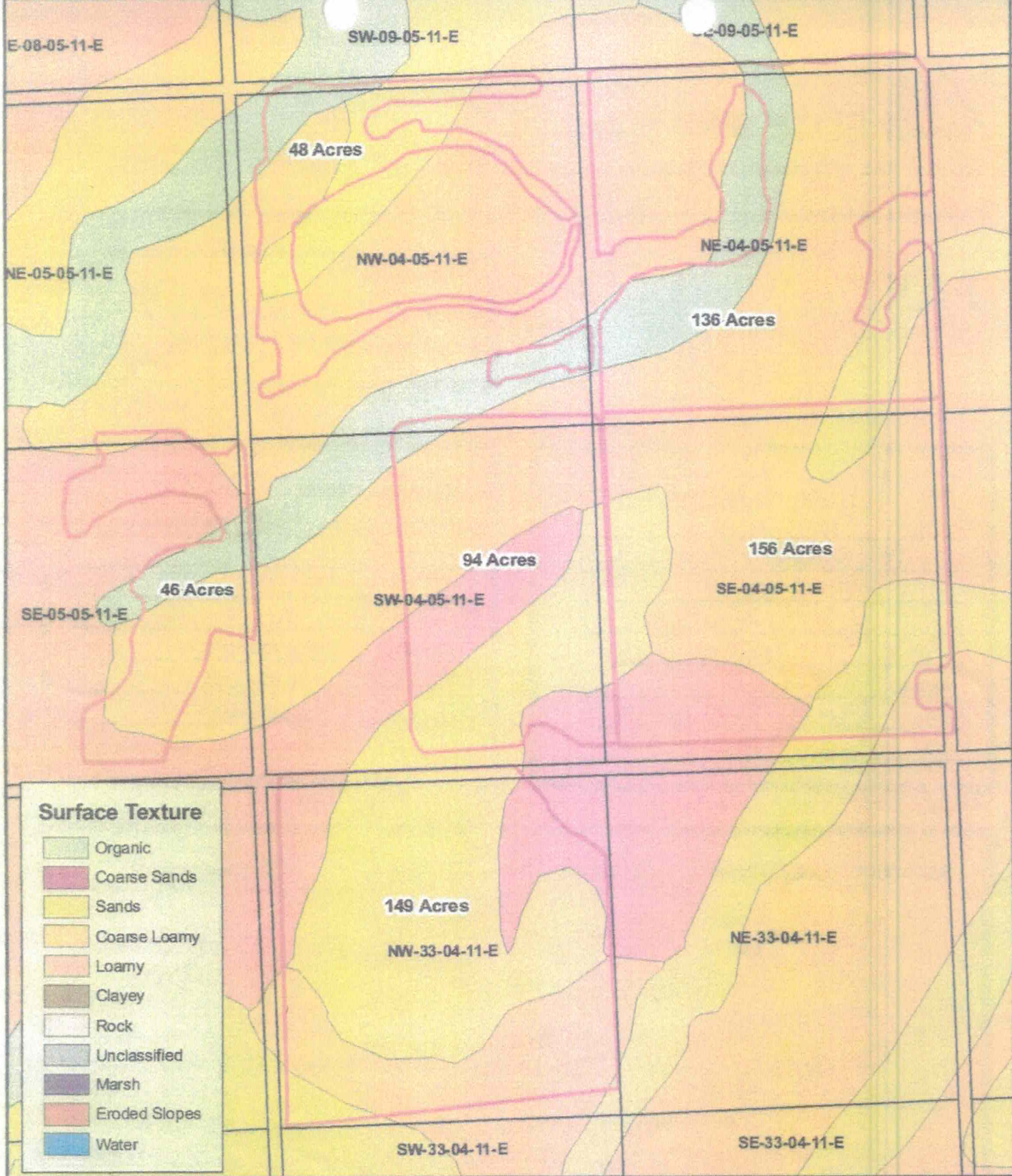
Field	A Legal Description	B Rural Municipality	C O/C/L/ A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	SW4-5-11E					150				
2	NE33-4-11E					150				
3	NW34-4-11E					110				
4	NE34-4-11E					81				
5	SW34-4-11E					115				
6	SE34-4-11E					60				
7	SE35-4-11E					160				
8	SW35-4-11E					107				
9	NE35-4-11E					16				
10	SW36-4-11E					85				
11	NE28-4-11E					115				
12	NW27-4-11E					26				
13	SE27-4-11E					110				
14	NE27-4-11E					140				
15	NE26-4-11E					121				
16	NW26-4-11E					137				
17	SW26-4-11E					163				
18	SE26-4-11E					130				
19	NW25-4-11E					56				
20	SW25-4-11E					75				
Total Net Acreage for Manure Application:						2107				

- A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. Identify the Rural Municipality in which the parcel is located.
- C. Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. Enter the total acreage for the parcel.
- E. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
- G. Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
- I. Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).

MANURE APPLICATION FIELD CHARACTERISTICS TABLE

Field	A Legal Description	B Rural Municipality	C O/C/L/A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	SE25-4-11E					45				
2	NE19-4-11E					120				
3	NW19-4-11E					80				
4	NW-24-4-11E					70				
5	NE24-4-11E					80				
6	SE24-4-11E					145				
7	SW24-4-11E					56				
8	SE23-4-11E					82				
9	SW23-4-11E					155				
10	SE22-4-11E					60				
11	SW19-4-12					150				
12										
13										
14										
15										
16										
17										
18										
19										
20										
Total Net Acreage for Manure Application:						1043				

- A. _____ Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. _____ Identify the Rural Municipality in which the parcel is located.
- C. _____ Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. _____ Enter the total acreage for the parcel.
- E. _____ Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. _____ Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
- G. _____ Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. _____ Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
- I. _____ Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. _____ Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).



Adrian Grenier - Soil Surface Texture

ESI Environmental Dept.
June, 2005

0 650 1,300 2,600 Feet

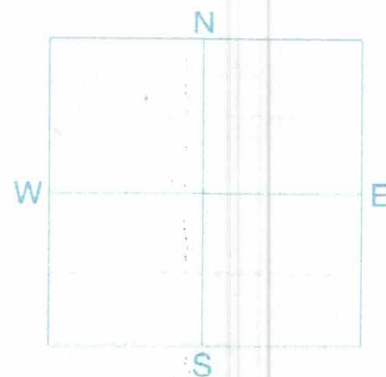




Soil Analysis by Agvise Laboratories
(http://www.agvise.com)
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID SE 5-5-11E
SAMPLE ID
FIELD NAME Rene Thomas
COUNTY
TWP RANGE
SECTION QTR ACRES 0
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: TE2698
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB R5G 1W4

REF # 2479653 BOX # 2644
LAB # NW154231

Date Sampled

Date Received 10/25/2018

Date Reported 12/10/2018

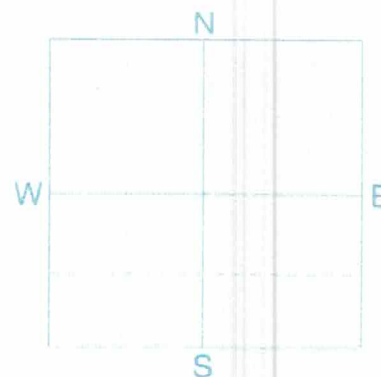
Nutrient In The Soil			Interpretation	1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
Nitrate	0-6"	17 lb/ac	*****	Corn-Grain			Alfalfa			Oats				
	6-24"	27 lb/ac		YIELD GOAL			YIELD GOAL			YIELD GOAL				
				180 BU			7 Tons			130 BU				
	0-24"	44 lb/ac		SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
				Band			Broadcast/Maint.			Band				
				LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Phosphorus	Olsen	16 ppm	*****	N	172		N	0		N	86			
Potassium		56 ppm	*****	P ₂ O ₅	26	Band *	P ₂ O ₅	70	Broadcast	P ₂ O ₅	17	Band *		
Chloride	0-24"	64 lb/ac	*****	K ₂ O	92	Band *	K ₂ O	350	Broadcast	K ₂ O	81	Band *		
Sulfur	0-6"	16 lb/ac	*****	Cl		Not Available	Cl		Not Available	Cl	0			
Boron	6-24"	30 lb/ac	*****	S	7	Band (Trial)	S	15	Broadcast (Trial)	S	7	Band (Trial)		
Zinc		0.4 ppm	*****	B	0		B	2	Broadcast	B	0			
Iron		2.62 ppm	*****	Zn	0		Zn	0		Zn	0			
Manganese		51.9 ppm	*****	Fe	0		Fe	0		Fe	0			
Copper		3.3 ppm	*****	Mn	0		Mn	0		Mn	0			
Magnesium		0.61 ppm	*****	Cu	0		Cu	1	Broadcast (Trial)	Cu	1	Band (Trial)		
Calcium		342 ppm	*****	Mg	0		Mg	0		Mg	0			
Sodium		2080 ppm	*****	Lime			Lime			Lime				
Org.Matter		33 ppm	****	Soil pH			Cation Exchange Capacity			% Base Saturation (Typical Range)				
Carbonate(CCE)		2.8 %	*****	Buffer pH						% Ca	% Mg	% K	% Na	% H
	0-6"	0.15 mmho/cm	***				13.5 meq			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
Sol. Salts	6-24"	0.14 mmho/cm	***	0-6" 7.6 6-24" 7.8						76.8	21.1	1.1	1.1	



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

SOIL TEST REPORT

FIELD ID **SW 33-4-11E**
SAMPLE ID
FIELD NAME **Willy's East**
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINBACH
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2479654** BOX # **2669**
LAB # **NW154254**

Date Sampled

Date Received **10/25/2018**

Date Reported **12/10/2018**

Nutrient In The Soil			Interpretation			1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
Nitrate	0-6"	21 lb/ac	*****			Corn-Grain			Alfalfa			Oats				
	6-24"	33 lb/ac				YIELD GOAL			YIELD GOAL			YIELD GOAL				
						180 BU			7 Tons			130 BU				
	0-24"	54 lb/ac				SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Band			Band/Maint.			Band				
			LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION						
Phosphorus	Olsen	38 ppm	*****			N	162		N	0		N	76			
Potassium		103 ppm	*****			P ₂ O ₅	15	Band (2x2) *	P ₂ O ₅	70	Band *	P ₂ O ₅	15	Band (Starter)*		
Chloride	0-24"	124 lb/ac	*****			K ₂ O	63	Band *	K ₂ O	350	Band *	K ₂ O	57	Band *		
	0-6"	20 lb/ac	*****			Cl		Not Available	Cl		Not Available	Cl	0			
Sulfur	6-24"	30 lb/ac	*****													
Boron		0.5 ppm	*****			S	5	Band (Trial)	S	5	Band (Trial)	S	5	Band (Trial)		
Zinc		3.03 ppm	*****			B	0		B	2	Broadcast	B	0			
Iron		34.8 ppm	*****			Zn	0		Zn	0		Zn	0			
Manganese		2.0 ppm	*****			Fe	0		Fe	0		Fe	0			
Copper		1.97 ppm	*****			Mn	0		Mn	0		Mn	0			
Magnesium		464 ppm	*****			Cu	0		Cu	0		Cu	0			
Calcium		3349 ppm	*****			Mg	0		Mg	0		Mg	0			
Sodium		41 ppm	*****			Lime			Lime			Lime				
Org.Matter		4.1 %	*****													
Carbonate(CCE)		2.1 %	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)							
	0-6"	0.24 mmho/cm	*****						% Ca	% Mg	% K	% Na	% H			
Sol. Salts	6-24"	0.21 mmho/cm	*****			0-6" 8.1		21.1 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)			
						6-24" 8.4			79.5	18.4	1.3	0.8				

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * 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 = 72 K2O = 49 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: ** Chloride yield data is limited for this crop. * 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 = 70 K2O = 350 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

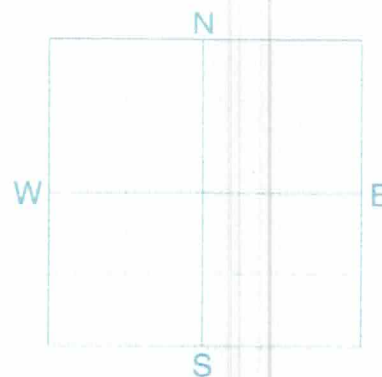
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 33 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NW 4-5-11E**
SAMPLE ID
FIELD NAME **Joels Barn**
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2479652** BOX # **2644**
LAB # **NW154234**

Date Sampled

Date Received **10/25/2018**

Date Reported **12/10/2018**

Nutrient In The Soil			Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice						
				Corn-Grain		Alfalfa		Oats						
				YIELD GOAL		YIELD GOAL		YIELD GOAL						
				180 BU		7 Tons		130 BU						
				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES						
				Band		Broadcast/Maint.		Band						
Nitrate				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION					
				N	152	N	0	N	66					
Phosphorus	Olsen	57 ppm		P ₂ O ₅	15	Band (2x2) *		P ₂ O ₅	0	P ₂ O ₅	15	Band (Starter) *		
Potassium		93 ppm		K ₂ O	69	Band *		K ₂ O	350	Broadcast	K ₂ O	62	Band *	
Chloride	0-24"	40 lb/ac		Cl		Not Available		Cl		Not Available	Cl	0		
	0-6" 6-24"	28 lb/ac 90 lb/ac		S	0			S	10	Broadcast (Trial)	S	0		
Sulfur				B	1	Broadcast		B	3	Broadcast	B	1	Broadcast	
Boron		0.4 ppm		Zn	0			Zn	0		Zn	0		
Zinc		5.91 ppm		Fe	0			Fe	0		Fe	0		
Iron		54.4 ppm		Mn	0			Mn	0		Mn	0		
Manganese		4.4 ppm		Cu	0			Cu	0		Cu	0		
Copper		1.07 ppm		Mg	0			Mg	0		Mg	0		
Magnesium		268 ppm		Lime	0			Lime	0		Lime	0		
Calcium		1628 ppm		Soil pH		Buffer pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Sodium		28 ppm								% Ca	% Mg	% K	% Na	% H
Org.Matter		2.5 %		0-6" 6.9		6-24" 7.6		10.7 meq		(65-75) 75.8	(15-20) 20.8	(1-7) 2.2	(0-5) 1.1	(0-5)
Carbonate(CEC)		0.5 %												
Sol. Salts	0-6" 6-24"	0.2 mmho/cm 0.22 mmho/cm												

General Comments: Coarse Loams (CEC range = 11 to 20) (Medium)

Crop 1: ** Chloride yield data is limited for this crop. * 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 = 72 K2O = 49 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: ** Chloride yield data is limited for this crop. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 70 K2O = 350 AGVISE Broadcast/Maintenance guidelines will build P & K test levels to the high range over several years and then maintain them.

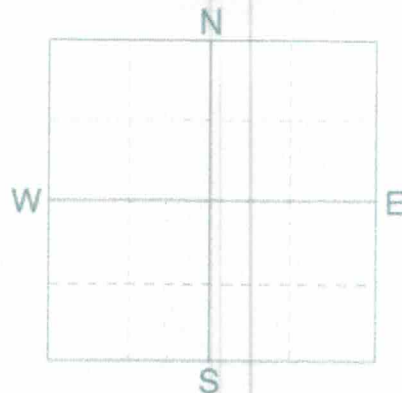
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 33 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



Soil Analysis by Agvise Laboratories
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Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NW 33-4-11E**
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **11518419** BOX # **0**
LAB # **NW171665**

Date Sampled

Date Received **10/30/2017**

Date Reported **4/16/2018**

Nutrient In The Soil			Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
Nitrate	0-6"	17 lb/ac	View Low Med High	*****			Corn-Grain			YIELD GOAL			YIELD GOAL					
	6-24"	24 lb/ac					YIELD GOAL											
	0-24"	41 lb/ac					200 BU											
	SUGGESTED GUIDELINES						SUGGESTED GUIDELINES			SUGGESTED GUIDELINES								
Band																		
LB/ACRE APPLICATION			LB/ACRE APPLICATION			LB/ACRE APPLICATION												
N 199			N			N												
P ₂ O ₅ 15			P ₂ O ₅			P ₂ O ₅												
K ₂ O 79			K ₂ O			K ₂ O												
Cl			Cl			Cl												
S 7			S			S												
B			B			B												
Zn 0			Zn			Zn												
Fe			Fe			Fe												
Mn			Mn			Mn												
Cu			Cu			Cu												
Mg			Mg			Mg												
Lime			Lime			Lime												
Soil pH			Buffer pH			Cation Exchange Capacity			% Base Saturation (Typical Range)									
0-6" 7.6									% Ca		% Mg		% K		% Na		% H	
6-24" 8.2																		

Corn-Grain		YIELD GOAL		YIELD GOAL											
200 BU															
SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES											
Band															
LB/ACRE APPLICATION		LB/ACRE APPLICATION		LB/ACRE APPLICATION											
N 199		N		N											
P ₂ O ₅ 15		P ₂ O ₅		P ₂ O ₅											
K ₂ O 79		K ₂ O		K ₂ O											
Cl		Cl		Cl											
S 7		S		S											
B		B		B											
Zn 0		Zn		Zn											
Fe		Fe		Fe											
Mn		Mn		Mn											
Cu		Cu		Cu											
Mg		Mg		Mg											
Lime		Lime		Lime											
Soil pH		Buffer pH		Cation Exchange Capacity		% Base Saturation (Typical Range)									
0-6" 7.6						% Ca		% Mg		% K		% Na		% H	
6-24" 8.2															

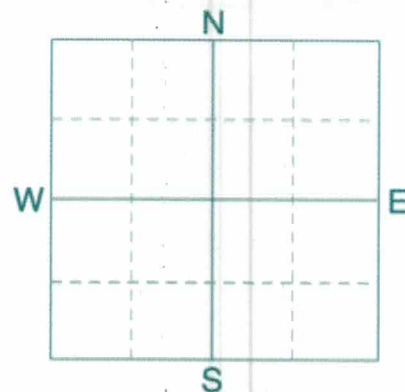
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 80 K2O = 54 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **SE 3-5-11E**
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **14073997** BOX # **0**
LAB # **NW63150**

Date Sampled

Date Received **09/06/2016**

Date Reported **9/7/2016**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
Nitrate	0-6"	42 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL	
	6-24"	12 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
	0-24"	54 lb/ac	LB/ACRE APPLICATION		LB/ACRE APPLICATION		LB/ACRE APPLICATION	
Olsen		41 ppm	N		N		N	
Phosphorus			P ₂ O ₅		P ₂ O ₅		P ₂ O ₅	
Potassium		97 ppm	K ₂ O		K ₂ O		K ₂ O	
Chloride			Cl		Cl		Cl	
Sulfur	0-6"	24 lb/ac	S		S		S	
	6-24"	42 lb/ac	B		B		B	
Boron			Zn		Zn		Zn	
Zinc		3.37 ppm	Fe		Fe		Fe	
Iron			Mn		Mn		Mn	
Manganese			Cu		Cu		Cu	
Copper			Mg		Mg		Mg	
Magnesium		504 ppm	Lime		Lime		Lime	
Calcium		2859 ppm	Soil pH		Buffer pH		Cation Exchange Capacity	
Sodium		22 ppm	0-6" 7.7				% Base Saturation (Typical Range)	
Org.Matter		3.5 %	6-24" 8.2		18.8 meq		% Ca	% Mg
Carbonate(CCE)							% K	% Na
Sol. Salts	0-6"	0.27 mmho/cm					% H	
	6-24"	0.15 mmho/cm						

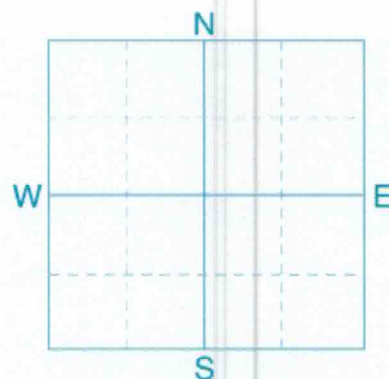
General Comments: Texture is not estimated on high pH soils.



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

SOIL TEST REPORT

FIELD ID **SE 4-5-11E**
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP **Alfalfa**



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2330569** BOX # **833**
LAB # **NW44875**

Date Sampled

Date Received **08/23/2018**

Date Reported **8/25/2018**

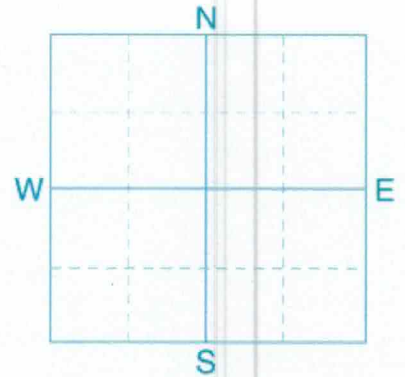
Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		YLOW Low Med High						
Nitrate	0-6" 8 lb/ac	***	YIELD GOAL		YIELD GOAL		YIELD GOAL	
	6-24" 6 lb/ac		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
	0-24" 14 lb/ac		LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Olsen	15 ppm	*****	N		N		N	
Phosphorus			P ₂ O ₅		P ₂ O ₅		P ₂ O ₅	
Potassium	73 ppm	*****	K ₂ O		K ₂ O		K ₂ O	
Chloride			Cl		Cl		Cl	
Sulfur	0-6" 18 lb/ac	*****	S		S		S	
	6-24" 30 lb/ac		B		B		B	
Boron			Zn		Zn		Zn	
Zinc	3.10 ppm	*****	Fe		Fe		Fe	
Iron			Mn		Mn		Mn	
Manganese			Cu		Cu		Cu	
Copper			Mg		Mg		Mg	
Magnesium			Lime		Lime		Lime	
Calcium			Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
Sodium			Buffer pH				% Ca	% Mg
Org.Matter	3.5 %	*****					% K	% Na
Carbonate(CCE)							% H	
Sol. Salts	0-6" 0.24 mmho/cm	*****	0-6" 7.5					
	6-24" 0.18 mmho/cm		6-24" 8.3					



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

SOIL TEST REPORT

FIELD ID **NW 3-5-11E**
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2330572** BOX # **833**
LAB # **NW44873**

Date Sampled

Date Received **08/23/2018**

Date Reported **8/25/2018**

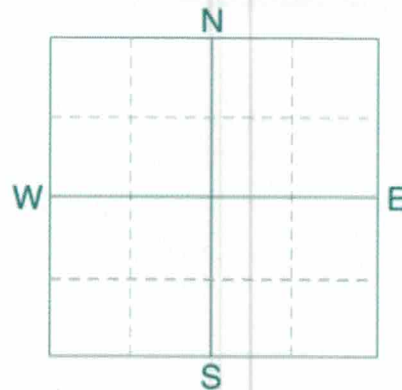
Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice			
Nitrates	0-6"	11 lb/ac	Very	Low	Med	High	YIELD GOAL			YIELD GOAL			YIELD GOAL		
	6-24"	15 lb/ac	*****				SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
	0-24"	26 lb/ac					LB/ACRE APPLICATION			LB/ACRE APPLICATION			LB/ACRE APPLICATION		
							N			N			N		
Olsen	24 ppm	*****					P ₂ O ₅			P ₂ O ₅			P ₂ O ₅		
Phosphorus							K ₂ O			K ₂ O			K ₂ O		
Potassium	69 ppm	*****					Cl			Cl			Cl		
Chloride							S			S			S		
	0-6"	22 lb/ac	*****				B			B			B		
	6-24"	36 lb/ac	*****				Zn			Zn			Zn		
Sulfur							Fe			Fe			Fe		
Boron							Mn			Mn			Mn		
Zinc	2.83 ppm	*****					Cu			Cu			Cu		
Iron							Mg			Mg			Mg		
Manganese							Lime			Lime			Lime		
Copper															
Magnesium															
Calcium															
Sodium															
Org.Matter	3.2 %	*****													
Carbonate(CCE)															
	0-6"	0.14 mmho/cm	***												
	6-24"	0.14 mmho/cm	***												
Sol. Salts															



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

SOIL TEST REPORT

FIELD ID **NE 32-4-11E**
SAMPLE ID **ZABOUVA**
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP **Corn-Grain**



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **11434686** BOX # **0**
LAB # **NW22438**

Date Sampled

Date Received **04/24/2017**

Date Reported **4/16/2018**

Nutrient In The Soil			Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
Nitrate	0-6"	11 lb/ac	V	Low	Med	High	Corn-Grain								
	6-24"	21 lb/ac					YIELD GOAL			YIELD GOAL			YIELD GOAL		
			*****				200 BU								
	0-24"	32 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
Olsen		21 ppm					Band								
			*****				LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
			*****				N	208		N			N		
	Potassium	99 ppm	*****				P ₂ O ₅	15	Band (2x2) *	P ₂ O ₅			P ₂ O ₅		
Chloride							K ₂ O	73	Band *	K ₂ O			K ₂ O		
							Cl			Cl			Cl		
	0-6"	16 lb/ac	*****				S	5	Band (Trial)	S			S		
	6-24"	54 lb/ac	*****				B			B			B		
Sulfur							Zn	0		Zn			Zn		
Boron							Fe			Fe			Fe		
Zinc		5.33 ppm	*****				Mn			Mn			Mn		
Iron							Cu			Cu			Cu		
Manganese							Mg			Mg			Mg		
Copper							Lime			Lime			Lime		
Magnesium															
Calcium							Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)					
Sodium		3.7 %	*****							% Ca	% Mg	% K	% Na	% H	
Org.Matter							0-6" 7.2								
Carbonate(CCE)							6-24" 7.6								
Sol. Salts	0-6"	0.16 mmho/cm	****												
	6-24"	0.16 mmho/cm	****												

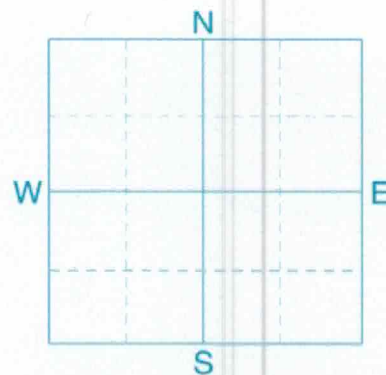
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 80 K2O = 54 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **NE 3-5-11E**
SAMPLE ID
FIELD NAME **Moon Shop**
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2479658** BOX # **2669**
LAB # **NW154257**

Date Sampled

Date Received **10/25/2018**

Date Reported **12/10/2018**

Nutrient In The Soil			Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
0-6" 6-24"	33 lb/ac 51 lb/ac	N	Low	Low	Med	High	Corn-Grain			Alfalfa			Oats				
			YIELD GOAL			YIELD GOAL			YIELD GOAL								
			180 BU			7 Tons			130 BU								
			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES								
Nitrate	0-24"	84 lb/ac	N	Low	Med	High	Band			Band/Maint.			Band				
							LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
							N	132		N	0		N	46			
							P ₂ O ₅	15	Band (2x2) *	P ₂ O ₅	70	Band *	P ₂ O ₅	15	Band (Starter)*		
Potassium	115 ppm	N	Low	Med	High	K ₂ O	56	Band *	K ₂ O	350	Band *	K ₂ O	51	Band *			
						Cl		Not Available	Cl		Not Available	Cl	16	Broadcast			
						S	5	Band (Trial)	S	5	Band (Trial)	S	5	Band (Trial)			
						B	1	Broadcast	B	3	Broadcast	B	1	Broadcast			
Chloride	0-24"	24 lb/ac	N	Low	Med	High	Zn	0		Zn	0		Zn	0			
							Fe	0		Fe	0		Fe	0			
							Mn	0		Mn	0		Mn	0			
							Cu	1	Band	Cu	2	Band	Cu	2	Band		
Sulfur	0-6" 6-24"	28 lb/ac 30 lb/ac	N	Low	Med	High	Mg	0		Mg	0		Mg	0			
							Lime			Lime			Lime				
							Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)							
							0-6" 7.5 6-24" 8.1		11.0 meq	% Ca	% Mg	% K	% Na	% H			
Boron	0.3 ppm	N	Low	Med	High				(65-75) 77.1	(15-20) 19.1	(1-7) 2.7	(0-5) 1.1	(0-5)				
Zinc	2.12 ppm	N	Low	Med	High												
Iron	27.2 ppm	N	Low	Med	High												
Manganese	1.1 ppm	N	Low	Med	High												
Copper	0.3 ppm	N	Low	Med	High												
Magnesium	252 ppm	N	Low	Med	High												
Calcium	1699 ppm	N	Low	Med	High												
Sodium	28 ppm	N	Low	Med	High												
Org.Matter	4.8 %	N	Low	Med	High												
Carbonate(CCE)	0.7 %	N	Low	Med	High												
0-6" 6-24"	0.26 mmho/cm 0.2 mmho/cm	N	Low	Med	High												
Sol. Salts		N	Low	Med	High												

General Comments: Coarse Loams (CEC range = 11 to 20) (Medium)

Crop 1: ** Chloride yield data is limited for this crop. * 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 = 72 K2O = 49 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: ** Chloride yield data is limited for this crop. * 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 = 70 K2O = 350 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

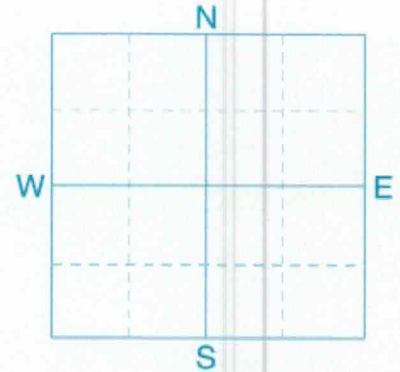
Crop 3: 35 lbs of 0-0-60 = 16 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 33 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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

SOIL TEST REPORT

FIELD ID **SW 3-5-11E**
SAMPLE ID
FIELD NAME **Pasture Quarter**
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
MOONSHADOW

SUBMITTED BY: **TE2698**
RICHARDSON PIONEER-STEINB
34 PIONEER ROAD
STEINBACH, MB **R5G 1W4**

REF # **2479664** BOX # **2644**
LAB # **NW154235**

Date Sampled

Date Received **10/25/2018**

Date Reported **12/10/2018**

Nutrient In The Soil			Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice					
Nitrate	0-6"	26 lb/ac	Very	Low	Med	High	Corn-Grain			Alfalfa			Oats					
	6-24"	57 lb/ac					YIELD GOAL			YIELD GOAL			YIELD GOAL					
			*****	*****	*****	*****	160 BU			7 Tons			130 BU					
	0-24"	83 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES					
							Band			Broadcast/Maint.			Band					
							LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
	Olsen	37 ppm	*****	*****	*****	*****	N	109		N	0		N	47		N	47	
Phosphorus							P ₂ O ₅	15	Band (2x2) *	P ₂ O ₅	70	Broadcast	P ₂ O ₅	15	Band (Starter) *	P ₂ O ₅	15	
Potassium		158 ppm	*****	*****	*****	*****	K ₂ O	26	Band *	K ₂ O	350	Broadcast	K ₂ O	28	Band *	K ₂ O	28	
	0-24"	28 lb/ac	*****	*****	*****	*****	Cl		Not Available	Cl		Not Available	Cl	12	Broadcast	Cl	12	
Chloride	0-6"	30 lb/ac	*****	*****	*****	*****	S	5	Band (Trial)	S	10	Broadcast (Trial)	S	5	Band (Trial)	S	5	
	6-24"	42 lb/ac	*****	*****	*****	*****	B	0		B	2	Broadcast	B	0		B	0	
Sulfur		0.5 ppm	*****	*****	*****	*****	Zn	0		Zn	0		Zn	0		Zn	0	
Boron							Fe	0		Fe	0		Fe	0		Fe	0	
Zinc		2.43 ppm	*****	*****	*****	*****	Mn	0		Mn	0		Mn	0		Mn	0	
Iron		30.0 ppm	*****	*****	*****	*****	Cu	0		Cu	2	Broadcast (Trial)	Cu	1	Band (Trial)	Cu	1	
Manganese		2.6 ppm	*****	*****	*****	*****	Mg	0		Mg	0		Mg	0		Mg	0	
Copper		0.49 ppm	*****	*****	*****	*****	Lime			Lime			Lime			Lime		
Magnesium		399 ppm	*****	*****	*****	*****												
Calcium		3082 ppm	*****	*****	*****	*****												
Sodium		35 ppm	*****	*****	*****	*****												
Org.Matter		4.1 %	*****	*****	*****	*****												
Carbonate(CCE)		1.0 %	*****	*****	*****	*****												
	0-6"	0.2 mmho/cm	*****	*****	*****	*****												
Sol. Salts	6-24"	0.18 mmho/cm	*****	*****	*****	*****												
							Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)								
										% Ca	% Mg	% K	% Na	% H				
							0-6" 7.7		19.3 meq	(65-75) 79.9	(15-20) 17.2	(1-7) 2.1	(0-5) 0.8	(0-5)				
							6-24" 8.1											

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * 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 = 64 K2O = 43 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: ** Chloride yield data is limited for this crop. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 70 K2O = 350 AGVISE Broadcast/Maintenance guidelines will build P & K test levels to the high range over several years and then maintain them.

Crop 3: 26 lbs of 0-0-60 = 12 lbs of Chloride" * 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 = 33 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
corn	720	11.45 wet /4.01 dry	tons/ac	MASC
alfalfa	419	3.68 dry	tons/ac	MASC
Total Net Acreage for Manure Application	1153			

- 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.

1a - Pigs

J & D Grenier Farms

Operation Name:

Operation Type	Storage Type	Volatilization	Animal Numbers (Places)	Average Animal Wt (lb)	N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd)	P2O5 Excreted Per Herd Per Year (lb/yr/herd)
Boars (Purchased)	Liquid Uncovered Earthen	30%		465	0	0
Weanlings	Liquid Uncovered Earthen	30%		38	0	0
Growers/Finishers	Liquid Covered	10%	6294	171	209666	80569
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%		n/a	0	0
Sows, farrow to 28 kg	Liquid Uncovered Earthen	30%		n/a	0	0
Sows, farrow to finish	Liquid Uncovered Earthen	30%		n/a	0	0

Last Revised April 26, 2018

J & D Grenier Farms										
2 - Crop Rotation Operation Name:										
Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P205	N	N	Units				P205 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton	3.68	ton/ac	739	37529	157732	157732
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		bu/ac		-	-	-
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
Corn Silage	12.7	31.2	31.2	lb/ton	4.01	tons/ac	414	21084	51796	51796
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		bu/ac		-	-	-
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu		bu/ac		-	-	-
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
Total Acres							1153	58613	209529	209529
Estimated Average Removal/Uptake (lb/ac)								50.8	181.7	181.7
Acres in Hanover and La Broquerie										
Proportion in Hanover or La Broquerie							0%			
Additional Acres										
Crop Planned on Additional Acres										
Total Acreage							1153			
*Notes: Enter the number of acres that are in the RM's of Hanover or La Broquerie in cell H26. Additional acres include acres for which crop removal or soil data is limited or unavailable.										

3 - Farm Excretion

Operation Name:

J & D Grenier Farms

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Boars	0	0
	Weanlings	0	0
	Growers/finishers	209666	80569
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	0	0
Beef	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Mature Cows, plus assoc livestock	0	0
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	0	0
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
	Breeding Tom (30-60 wks)	0	0
Total		209666	80569

Note:

Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

4 - Land Base Summary

Operation Name:

J & D Grenier Farms

Nutrients Excreted		lbs
Nitrogen		209666
Phosphorus (P2O5)		80569
Crop Nutrient Use		lb/ac
Crop N Uptake		181.7
Crop Phosphorus (P2O5) Removal		50.8
Operation-specific Phosphorus (P2O5) Credit		101.7
Land Available		
		1153
Land Base Required		acres
Acres for Nitrogen		1154
Acres for Phosphorus (P2O5)		792
Phosphorus Balance		acres
Acres for Phosphorus Balance (1X)		1585

Last revised October 16, 2018

1c - Dairy

Operation Name: Moonshadow potential expan.

Type	Storage Type	Volatilization	Animal Numbers	N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd)	P2O5 Excreted per Herd Per Year (lb/yr/herd)
Mature Cows, plus associated livestock	Liquid Uncovered Earthen	30%	2000	521533	276755

Last revised August 20, 2014

Moonshadow potential expan.										
2 - Crop Rotation Operation Name:										
Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N					P2O5	N	
Alfalfa	13.8	58	58	lb/ton	3.68	ton/ac	1689	85774	360500	360500
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		bu/ac		-	-	-
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
Corn Silage	12.7	31.2	31.2	lb/ton	4.01	tons/ac	1461	74404	182789	182789
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		bu/ac		-	-	-
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu		bu/ac		-	-	-
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
Total Acres							3150	160179	543289	543289
Estimated Average Removal/Uptake (lb/ac)								50.9	172.5	172.5
Acres in Hanover and La Broquerie										
Proportion in Hanover or La Broquerie							0%			
Additional Acres										
Crop Planned on Additional Acres										
Total Acreage							3150			
Enter the number of acres that are in the RM's of Hanover or La Broquerie in cell H26. Additional acres include acres for which crop removal or soil data is limited or unavailable.										
*Notes:										

3 - Farm Excretion

Operation Name: Moonshadow potential expan.

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Boars	0	0
	Weanlings	0	0
	Growers/finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	0	0
Beef	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Mature Cows, plus assoc livestock	521533	276755
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	0	0
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
	Breeding Tom (30-60 wks)	0	0
Total		521533	276755

Note:

Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

4 - Land Base Summary

Operation Name:

Moonshadow potential expan.

Nutrients Excreted

lbs

Nitrogen

521533

Phosphorus (P2O5)

276755

Crop Nutrient Use

lb/ac

Crop N Uptake

172.5

Crop Phosphorus (P2O5) Removal

50.9

Operation-specific Phosphorus (P2O5) Credit

101.7

Land Available

3150

Land Base Required

acres

Acres for Nitrogen

3024

Acres for Phosphorus (P2O5)

2721

Phosphorus Balance

acres

Acres for Phosphorus Balance (1X)

5443

Last revised October 16, 2018

Hog operation proposed spread land

NW 4-5-11E

1 mile radius

NW 4-5-11E
Owned

NE 4-5-11E
Agreement

Starting Location

NE 3-5-11E
Agreement

3 km
Buffer

NW 3-5-11E
Agreement

SW 3-5-11E
Agreement

SE 4-5-11E
Agreement

SW 4-5-11E
Agreement

SE 5-11E
Owned

NNW 33-4-11E
Owned

SW 33-4-11E
Owned

NE 33-4-11E
Owned



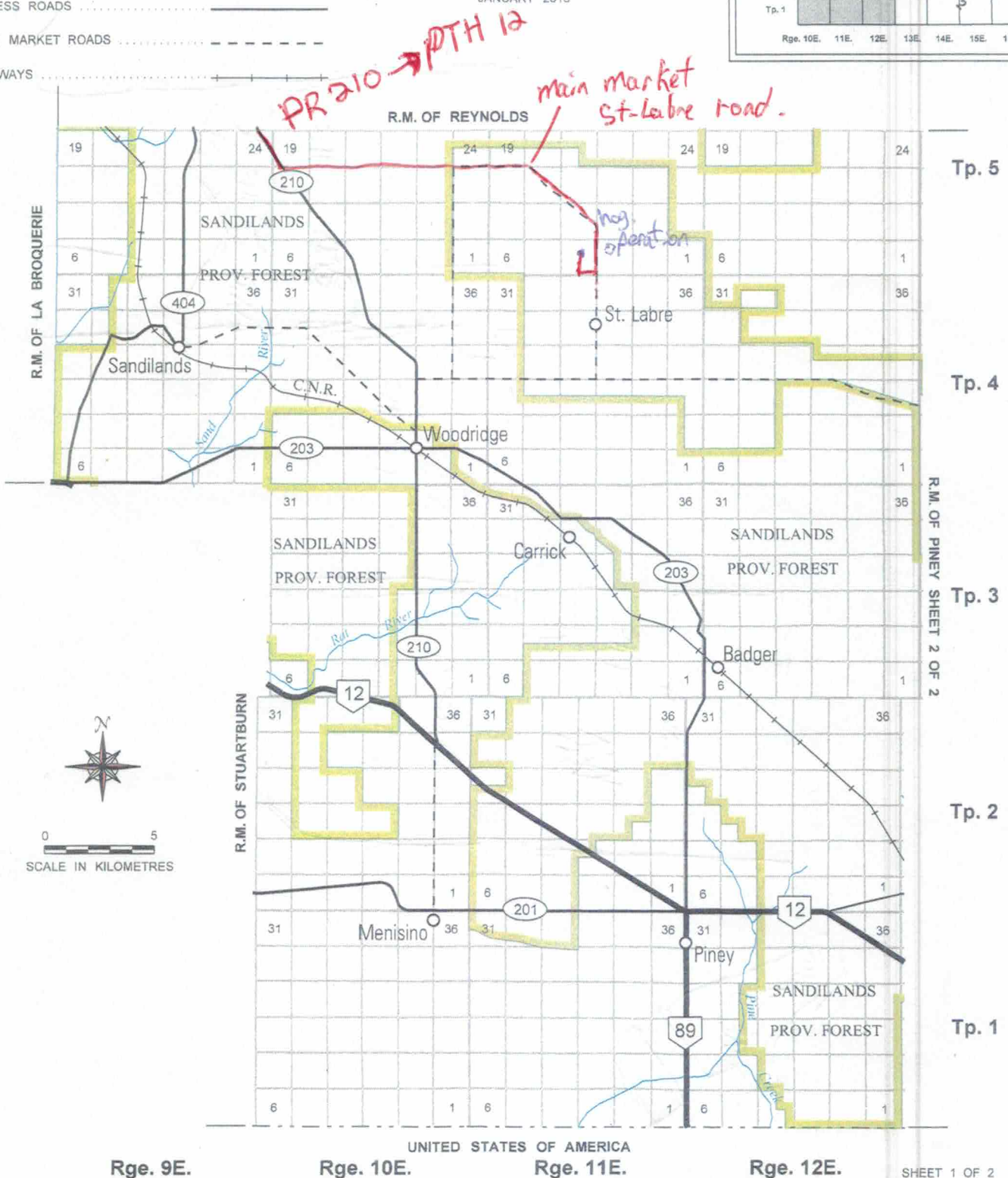
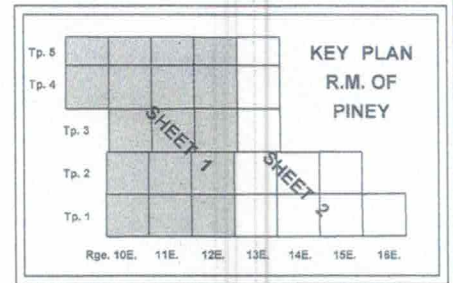
5000 ft

R.M. OF PINEY

LEGEND

- PROVINCIAL TRUNK HIGHWAYS 
- PROVINCIAL ROADS 
- ACCESS ROADS 
- MAIN MARKET ROADS 
- RAILWAYS 

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



From: Murray, Colin (SD) Colin.Murray@gov.mb.ca
Subject: Data request J Grenier SAR NW-04-005-11E1
Date: Apr 5, 2019 at 3:52:53 PM
To: grenierfarm@gmail.com
Cc: Friesen, Chris (SD) Chris.Friesen@gov.mb.ca

Hi Joel

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's (CDC) rare species database for your area of interest. This includes the primary location: NW-04-005-11E1; and a two kilometer radius buffer from the edge of the location boundary.

The search resulted in the following occurrences:
NW-04-005-11E1 (Primary):

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Vertebrate Animal	Vermivora chrysoptera	(Golden-winged Warbler)	S3B	Threatened	Threatened	Threatened

Within 2km of the primary boundary:

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Vertebrate Animal	Vermivora chrysoptera	(Golden-winged Warbler)	S3B	Threatened	Threatened	Threatened

General area records low locational accuracy:

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Invertebrate Animal	Erynnis martialis	(Mottled Dusky Wing)	S1	NA	NA	Endangered

Found in broader area and similar habitat:

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Vertebrate Animal	Ambystoma tigrinum	(Eastern Tiger Salamander)	S3?	NA	Endangered	Endangered

Further information on this ranking system can be found on our website at: <http://www.natureserve.org/conservation-tools/conservation-status-assessment>.

These designations can be found at:

<http://web2.gov.mb.ca/laws/statutes/ccsm/e111e.php>,

<https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html> and

<http://www.sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1>.

Manitoba's recommended setback distances can be found at: https://www.gov.mb.ca/sd/cdc/pdf/mbcdc_bird_setbacks.pdf.

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 CDC staff and others who have shared their data, and reflect 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 [\(204\) 945-7760](tel:204-945-7760).

Colin

Reference screen clip:



Colin Murray
Information Manager
Manitoba Conservation Data Centre
Wildlife and Fisheries Branch
Department of Sustainable Development

200 Saulteaux Crescent
Winnipeg, Manitoba, R3J3W3
204-945-7760
colin.murray@gov.mb.ca
<http://www.gov.mb.ca/sd/cdc/index.html>



-----Original Message-----

From: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>
Sent: April-05-19 8:32 AM
To: Murray, Colin (SD) <Colin.Murray@gov.mb.ca>
Subject: FW: Rare species

For your attention.

Chris Friesen
Coordinator
Manitoba Conservation Data Centre
204-945-7747
chris.friesen@gov.mb.ca
http://www.manitoba.ca/sd/environment_and_biodiversity/cdc/

[index.html](#)

-----Original Message-----

From: Joel Grenier <grenierfarm@gmail.com>

Sent: April-04-19 4:23 PM

To: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>

Subject: Rare species

Hi Chris,

Im looking for information in regards that there are no rare species on my land.

NW 4-5-11E

Let me know if you can help me with that.

Thank you,
Joel Grenier

Use Classes	site area acres (ac.)	site width (ft.)	front yard (ft.)	side yard (ft.)	rear yard (ft.)	Rural Zone					General Development Zone (GD)	Rural - Seasonal Residential Zone (RS)	Rural Commercial / Industrial Zone (RCI)
						Zone 1 (R1)	Zone 2 (R2)	Zone 3 (R3)	Limited Rural (LR)	Limited Rural Buffer (LRB)			
Irrigation dugouts & ponds	2 ac.	200 ft.	125 ft.	10 ft.	10 ft.	Accessory Use	Accessory Use	Accessory Use	C	C	C	C	Accessory Use
Kernel	10 ac.	200 ft.	125 ft.	10 ft.	10 ft.	C	C	C	C	C	C	C	C
Light industrial	(2 ac. GD, RCI) (80 ac. R1, R2, R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	Accessory Use Only	Accessory Use Only	Accessory Use Only	C	C	C	C	P
Livestock; less than 10 A.U.	(2 ac. GD, RCI & RS) (80 ac. R1, R2, R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	Accessory Use	Accessory Use	Accessory Use	C	C	C	C	C
Livestock; operations greater than 10 A.U. to a maximum of 299 A.U. to include animal housing facilities	80 ac.	600 ft.	125 ft.	25 ft.	25 ft.	P (Table 6-6 and 6-7)	P (Table 6-6 and 6-7)	P (Table 6-5)	C (Table 6-5)	C (Table 6-5)	C	C	C
Livestock; new operations greater than 299 A.U. to a maximum of 1200 A.U.	80 ac.	600 ft.	125 ft.	25 ft.	25 ft.	C (Table 6-6)	C (Table 6-6)	C (Table 6-5)	C (Table 6-5)	C (Table 6-5)	C	C	C
Livestock; expanding operations 299 A.U. to a maximum of 1200 A.U.	80 ac.	600 ft.	125 ft.	25 ft.	25 ft.	C (Table 6-6)	C (Table 6-6)	C (Table 6-5)	C (Table 6-5)	C (Table 6-5)	C	C	C
Lumber & building supply establishment	(2 ac. GD, RCI & RS) (80 ac. R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	C	C	C	C	C	C	C	C
Manufacturing facility	(2 ac. GD, RCI) (80 ac. R1, R2, R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	Accessory Use Only	Accessory Use Only	Accessory Use Only	C	C	C	C	C
Marijuana Retailer & Sales	(2 ac. GD, RCI & RS) (80 ac. R1, R2, R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	C	C	C	C	C	C	C	C
Marina	(2 ac. GD, RCI & RS) (80 ac. R1, R2, R3 & LR)	200 ft.	125 ft.	10 ft.	10 ft.	Accessory Use	Accessory Use	Accessory Use	C	C	C	C	P
Medical marijuana growing & production	80 ac.	600 ft.	125 ft.	25 ft.	25 ft.	C	C	C	C	C	C	C	C
Mini-warehouse/self storage	(2 ac. GD, RCI & RS) (80 ac. R3 & LR)	200 ft.	(30 ft. GD) (125 ft. R3, LR, RCI & RS)	10 ft.	10 ft.	Accessory Use Only	Accessory Use Only	Accessory Use Only	P	P	P	P	P
Mobile home park	2 ac.	200 ft.	125 ft.	10 ft.	10 ft.	C	C	C	C	C	C	C	C

Table 6-6: Livestock Operations – Minimum Mutual Setback Requirements (PLUPS +25%)

Number of Animal Units (AUs)	Minimum Setback Requirement (feet)*		
	From Single Residence ³	From designated areas ¹	
	To Earthen Manure Storage	To Buildings / Non-Earthen Manure Storage ²	To Buildings / Non-Earthen Manure Storage ²
10-100	820	410	3,282
101-200	1,230	615	4,922
201-300	1,640	820	6,562
301-400	1,845	923	7,383
401-800	2,050	1,025	8,202
801-1600	2,460	1,230	9,843
1601-3200	2,872	1,435	11,483
3201-6400	3,282	1,640	13,124
6401-12800	3,692	1,845	14,764
>12800	4,102	2,050	16,404
			10,950

¹As measured from the urban buffer around settlement / urban centres as well as rural residential areas as outlined on Map 1 – General Land Use Map of The Rural Municipality of Piney Development Plan, By-law 2009.

²Includes barns and non-earthen manure storage structures such as above or below grade tanks

³Not including residence of the owner or operator of the livestock operation

*Distance to be maintained between two uses, measured from the nearest points of any structure.

[illegible]