Drawing Package:

C1.1 Property Ownership and Manure Application Plan

C1.2 Site Plan

BURNS MAENDEL
CONSULTING ENGINEERS LTD.
1331 Princess Ave.
Brandon, Manitoba
R7A 0R4
Tel: (204) 728-7364
Fax: (204) 728-4418

COOL SPRINGS COLONY BARN EXPANSION

SE 24-26-17 WPM
MINNEDOSA, MB

CIVIL DRAWINGS

DWG NO.	DRAWING NAME	REV
C1.1	PROPERTY OWNERSHIP AND MANURE APPLICATION PLAN	A
C1.2	SITE PLAN	A

BUILDING DRAWINGS

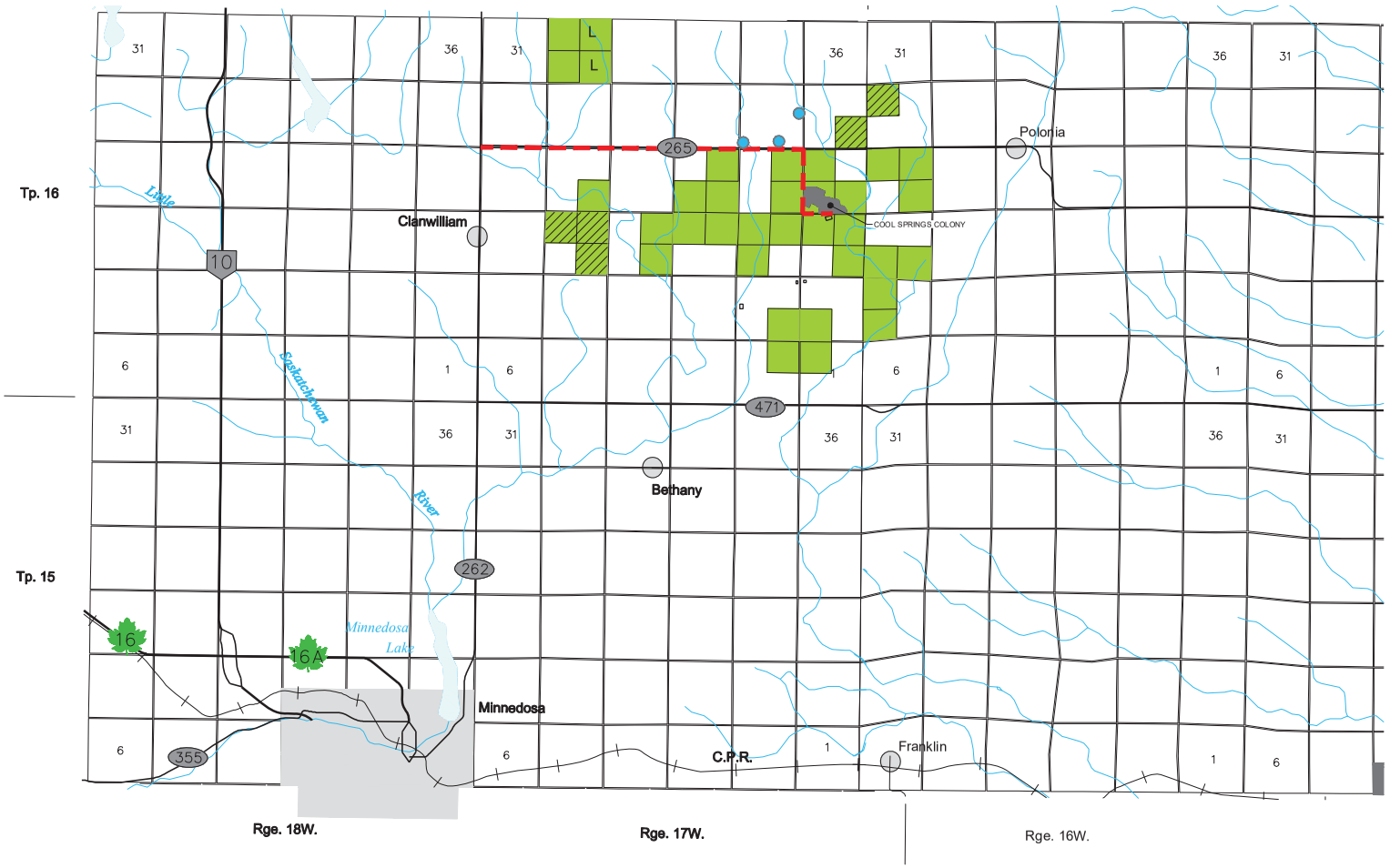
DWG NO.	DRAWING NAME	REV

STRUCTURAL DRAWINGS

DWG NO.	DRAWING NAME	REV

PROJECT DESCRIPTION

DATE	PROJECT NO:
JUNE 21, 2018	BMCE18-067



LEGEND	
OWNED BY COOL SPRINGS COLONY (L INDICATES LEASE PROPERTY)	
SOLID MANURE STORAGE & SPREADING	
TRUCK HAULING ACCESS ROUTE	
RESIDENCE WITHIN 1 MILE OF OPERATION	

NO:	DATE	APP.	BY	REVISIONS
A	JUNE 21, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT

PRELIMINARY
FOR REVIEW AND COMMENT ONLY

DESIGNED BY: --
REVIEWED BY: D.B.
DRAWN BY: J.K.
PROJECT START DATE: JUNE 2018
PLOT SIZE: A1 (594x841)
SCALE: N.T.S

PROJECT NAME:
COOL SPRINGS COLONY
BARN EXPANSION
MINNEDOSA, MB

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Brandon, Manitoba
R7A 0R4
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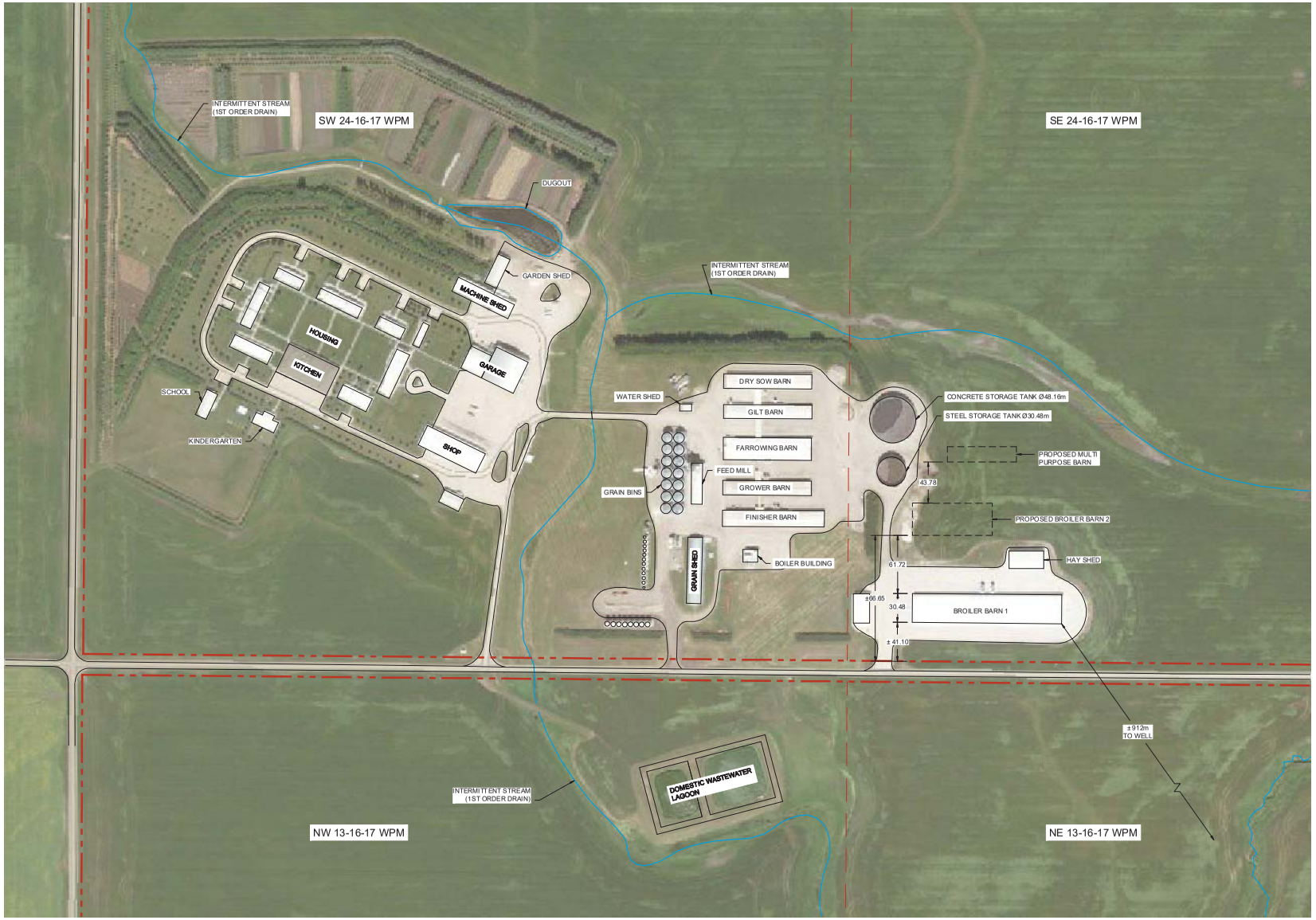
Fax: (204) 728-4418

DRAWING TITLE:
PROPERTY OWNERSHIP AND
MANURE APPLICATIONPLAN

PROJECT NUMBER: BMCE18-067
DRAWING NO: C1.1



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DRAWING TITLE:
SITE PLAN

PROJECT NUMBER: BMCE18-067

DRAWING NO: C1.2

Animal Units Calculator

Clear Form

Print

Schedule A - Animal Unit (A.U.) Worksheet

Animal Unit[1] (Inventory List)

	A.U. Produced by One Livestock		Number of Livestock of Each Type	A.U. for Each Livestock Type
Dairy				
Milking Cows (including associated livestock)	2.00	X	4	= 8
Beef				
Beef Cows[2], inc. associated livestock	1.250	X	0	= 0
Backgrounder[3]	0.500	X	0	= 0
Summer pasture/replacement heifers[3]	0.625	X	0	= 0
Feedlot Cattle[4]	0.769	X	0	= 0
Hogs				
Sows, farrow to finish	1.250	X	575	= 718.75
Sows, farrow to weanling	0.250	X	0	= 0
Sows, farrow to nursery	0.313	X	0	= 0
Weanlings	0.033	X	0	= 0
Grower/finishers	0.143	X	0	= 0
Boars (artificial insemination operations)	0.200	X	0	= 0
Chickens				
Broilers	0.0050	X	96000	= 480
Roasters	0.0100	X	0	= 0
Layers	0.0083	X	500	= 4.15
Pullets	0.0033	X	0	= 0
Broiler Breeder Pullets	0.0033	X	0	= 0
Broiler Breeder Hens	0.0100	X	0	= 0
Turkeys				
Broilers (Ducks)[5]	0.017	X	400	= 6.8
Heavy Toms	0.020	X	0	= 0
Heavy Hens	0.010	X	0	= 0
Horses (PMU)				
Mares, including associated livestock	1.333	X	0	= 0
Sheep				
Ewes, including associated livestock	0.200	X	0	= 0
Feeder Lambs	0.063	X	0	= 0

Other livestock or operation type - please inquire with your local Manitoba Agriculture, Food and Rural Development office.

[1] One animal unit is defined as the number of livestock required to excrete 73 kg (160 lbs) of nitrogen in a 12 month period.

[2] Do not include calves or replacement heifers; e.g. for 100 cow calf pairs with 30 replacement heifers, simply enter 100.

[3] Weaned calves; do not include cow numbers.

[4] Cattle on finishing rations intended for slaughter.

[5] AU value of 0.017 for ducks was obtained from Amy Johnston (204-619-4704), Poultry Specialist at MB Ag via phone call on June 8. She said for the other calculators (manure production, water requirement) to treat the ducks as broiler turkeys.

Water Requirement Calculator

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 **	4	25	30	120
Bison	-	8	10	-
Horses				
Horses	-	8	11	-
Hogs				
Sow (Farrow/wean)	575	6.5		3,738
Dry Sow/Boar	-	4		-
Feeder	-	3		-
Nursery (33 lb.)	-	2		-
Chickens				
Broilers	96,000	0.035		3,360
Roasters/Pullets	-	0.04		-
Layers	500	0.055		28
Breeders	-	0.07		-
Turkeys				
Turkey Growers (Ducks)	400	0.13		52
Turkey Heavies	-	0.16		-
Sheep/Goats				
Sheep/Goats	-	2		-
Ewes/Does	-	3		-
Lambs/Kids (90 lb.)		1.6		-
		TOTAL (IG/day)		7,297
	***	TOTAL with 10% wash water		8,027

* 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.

Enter this number on page 7 of Application Form.

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

Unit Conversions		
Total per day	Total per year	Unit
8,027	2,929,746	IG
33,172	12,107,839	litres
0.033	12	cubic decametres (dam^3)

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)

150 people × 275 L/p/d
= 41250 L/d (9074 Ig/d)
= 15 056 250 L/y (3 311 905 Ig/y) →

Conversion Factor: 1 IGPM = 4.546 l/m

Total per day	Total per year	Unit
17,101	6,241,651	Ig
74,422	27,164,089	L
0.074	27.1	dam^3

Well Information Report

2018 Jun 18

WELL INFORMATION REPORT

Manitoba

Well PID: 80399
Location: NE13-16-17W
UTMX:451458.3 UTMY:5579915.1 XY Accuracy:UNKNOWN
Owner: COOL SPRING COLONY
Driller: M & M Drilling Rivers Ltd.
Well Name: WELL NO.3
Date Completed: 1995 Jun 09
Well Use: PRODUCTION
Water Use: Domestic
Well Status: UNKNOWN Aquifer: SAND AND GRAVEL

REMARKS:
160 FT W OF N/S RD ALLOW + APPROX 2300 FT S OF E/W RD ALLOW, OVERNITE SWL=48.33 FT, PUMP TEST STARTED AFTER WELL HAD BEEN PUMPED AND NOT FULL RECOVERED, TIME DRAWDOWN + RECOVERY BOTH GAVE T=15,840 IGPD/FT, EC=1000, FE=1, SPEC CAP=6.9 IGPM/FT @ 30 MINS, PUMP TEST DATA FILE

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	2	SOIL
2.0	20	TILL, STONY, BROWN
20.0	22	TILL, GREY
22.0	32	SAND
32.0	46	TILL, GREY
46.0	50	SAND AND GRAVEL
50.0	53	TILL, GREY
53.0	58	TILL, BROWN
58.0	82.9	TILL, GREY, BOULDER AT 83 FEET
82.9	200.9	TILL, STONY, GREY
200.9	309.8	SHALE, ODANAH, FRACTURED LAYERS

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	195.9	casing	5.0			INSERT	PVC
195.9	295.8	perforations	5.0			SAW CUT	PVC
179.9	295.8	gravel pack	5.0	8.0		PEA SIZE	GRAVEL
0.0	179.9	casing grout	5.0	8.0			

Top of Casing: 2.0 ft. above ground

PUMPING TEST
Date : Pumping 60.0 Imp. gallons/minute
Water level before test : 55.0 ft below ground
Water level at end of test : 64.0 ft below ground

Test duration : hours, 30 minutes

Water temperature : ?? degrees F

REMARKS

160 FT W OF N/S RD ALLOW + APPROX 2300 FT S OF E/W RD ALLOW, OVERNITE SWL=48.33 FT, PUMP TEST STARTED AFTER WELL HAD BEEN PUMPED AND NOT FULL RECOVERED, TIME DRAWDOWN + RECOVERY BOTH GAVE T=15,840 IGPD/FT, EC=1000, FE=1, SPEC CAP=6.9 IGPM/FT @ 30 MINS, PUMP TEST DATA FILE

Manure Production Calculator

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) (FxGxH)	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	3.6	400	4	5,760.00	35,884.8
			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	2.3	400.00	575	529,000.00	3,295,670.0
	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				-	0.0

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	1.23	400	96,000	129,403	
	Broiler breeder hens [7]		2.3				-	
	Broiler breeder pullets [6]		0.99				-	
	Roasters – floor [6]		1.16				-	
	Layers – cage [8]		2.33	2.33	400	500	1,277	7,953.9
	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 ***(Ducks**) [6]	Table 3, pg 85, FPGs for Poultry 2000	2.83	2.83	400	400	1,241	
	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 colum 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

[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/ft^3

[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/ft^3

[8] Manure removed from barn at 90% moisture content with a density of 59 lb/ft^3

[9] Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

Manure Application Field Characteristics Table

MANURE APPLICATION FIELD CHARACTERISTICS TABLE

	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1	NW 07-16-16 W	Rosedale	O	150	8m, Order 3 drain	146	3t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
2	SW 07-16-16 W	Rosedale	O	150	8m, Order 3 drain	147	3t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
3	SE 18-16-16 W	Rosedale	O	198	N/A	198	3t	31	Rural Agricultural Area	Agricultural General (AG)
4	SW 18-16-16 W	Rosedale	O	162	8m, Order 3 drain	159	3t	31	Rural Agricultural Area	Agricultural General (AG)
5	NE 19-16-16 W	Rosedale	O	150	8m, swamp	135	5w	20	Rural Agricultural Area	Agricultural General (AG)
6	NW 19-16-16 W	Rosedale	O	70	8m, swamp	66	3t(8)2tw(1)5w(1)	20	Rural Agricultural Area	Agricultural General (AG)
7	SE 19-16-16 W	Rosedale	O	70	8m, swamp	51	3t	20	Rural Agricultural Area	Agricultural General (AG)
8	NW 30-16-16 W	Rosedale	O	140	8m, swamp, Order 3 drain	132	2t(8)2tw(10)5w(1)	22	Rural Agricultural Area	Agricultural General (AG)
9	NW 01-16-17 W	Minto-Odanah	O	135	8m, swamp, Order 3 drain	129	3t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
10	NE 02-16-17 W	Minto-Odanah	O	160	N/A	160	3t(7)2tw(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
11	SE 11-16-17 W	Minto-Odanah	O	150	N/A	150	3t(7)2tw(2)5w(1)	9	Rural Agricultural Area	Agricultural General (AG)
12	SW 12-16-17 W	Minto-Odanah	O	155	8m, swamp	150	3t(7)2tw(2)5w(1)	9	Rural Agricultural Area	Agricultural General (AG)
13	NE 13-16-17 W	Minto-Odanah	O	140	8m, swamp, Order 3 drain	133	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
14	NW 13-16-17 W	Minto-Odanah	O	135	8m, swamp	133	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
15	SE 13-16-17 W	Minto-Odanah	O	145	8m, swamp, Order 3 drain	140	3t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
16	NE 14-16-17 W	Minto-Odanah	O	160	N/A	160	2t(8)2tw(1)5w(1)	40	Rural Agricultural Area	Agricultural General (AG)
17	NW 14-16-17 W	Minto-Odanah	O	160	N/A	160	2t(7)2tw(2)5w(1)	40	Rural Agricultural Area	Agricultural General (AG)
18	SW 14-16-17 W	Minto-Odanah	O	160	N/A	160	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
19	NE 15-16-17 W	Minto-Odanah	O	160	N/A	160	2t(7)2w(2)5w(1)	12	Rural Agricultural Area	Agricultural General (AG)
20	NW 15-16-17 W	Minto-Odanah	O	160	N/A	160	2t(7)2w(2)5w(1)	12	Rural Agricultural Area	Agricultural General (AG)
					Total Net Acreage for Manure Application:	2829				

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

	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1	NE 16-16-17 W	Minto-Odanah	O	140	N/A	140	3t(7)2tw(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
2	SE 16-16-17 W	Minto-Odanah	O	145	8m, swamp, Order 3 drain	142	3t(7)2tw(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
3	NE 17-16-17 W	Minto-Odanah	O	155	8m, swamp	151	2t(8)2tw(10)5w(1)	18	Rural Agricultural Area	Agricultural General (AG)
4	NW 17-16-17 W	Minto-Odanah	O	70	8m, swamp	68	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
5	SE 17-16-17 W	Minto-Odanah	O	70	8m, swamp	65	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
6	SE 20-16-17 W	Minto-Odanah	O	100	8m, swamp, Order 3 drain	96	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
7	NE 22-16-17 W	Minto-Odanah	O	155	8m, swamp	144	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
8	SE 22-16-17 W	Minto-Odanah	O	155	8m, swamp	154	2t(8)2tw(1)5w(1)	43	Rural Agricultural Area	Agricultural General (AG)
9	SW 22-16-17 W	Minto-Odanah	O	160	N/A	160	2t(7)2w(2)5w(1)		Rural Agricultural Area	Agricultural General (AG)
10	NE 23-16-17 W	Minto-Odanah	O	75	8m, swamp	74	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
11	SE 23-16-17 W	Minto-Odanah	O	160	N/A	160	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
12	NW 24-16-17 W	Minto-Odanah	O	80	8m, swamp, Order 3 drain	72	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
13	SE 24-16-17 W	Minto-Odanah	O	155	8m, Order 3 drain	152	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
14	SW 24-16-17 W	Minto-Odanah	O	100	N/A	100	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
15	SE 25-16-17 W	Minto-Odanah	O	160	8m, swamp	159	2t(8)2tw(10)5w(1)		Rural Agricultural Area	Agricultural General (AG)
16	NE 32-16-17 W	Minto-Odanah	L	110	8m, swamp	80	3t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
17	NW 32-16-17 W	Minto-Odanah	O	140	8m, swamp	129	2t(8)2tw(1)5w(1)		Rural Agricultural Area	Agricultural General (AG)
18	SE 32-16-17 W	Minto-Odanah	L	120	8m, swamp	100	2t(8)2tw(1)5w(1)	13	Rural Agricultural Area	Agricultural General (AG)
19	SW 32-16-17 W	Minto-Odanah	O	150	8m, swamp	135	2t(8)2tw(1)5w(1)	13	Rural Agricultural Area	Agricultural General (AG)
20										

Total Net Acreage for Manure Application: 2281

Total = 5110 ac

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).

Crop Rotation Table

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	**Acreage**	**Historical Yield**	**Units**	**Source of Yield Information**
Canola (L-130, L-140)	1548	44.2	bu/ac	MASC Variety Yield Data for
CPS Wheat (AAC Penhold)	737	87.6	bu/ac	RMs of Minto-Odanah and Rosedale,
Feed Barley (Conlon)	1312	78.2	bu/ac	considering 10 year average yield for
Red Spring Wheat(AAC Brandon)	1513	64.8	bu/ac	specified variety.
Total Net Acreage for Manure Application	5110			

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.

Manure Application Field Soil Sample Results

Spreading Confirmation Sheet

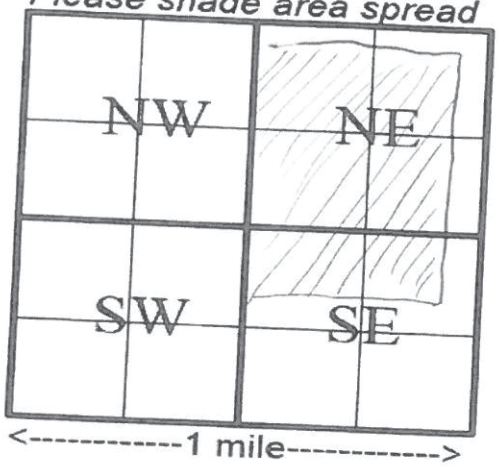
CHICKEN

- Spreading Confirmation Sheet must be submitted AFTER spreading to confirm manure application details.
- Subsequent plan will not be registered unless Spreading Confirmation Sheets for all applied fields are received.

Operation Name COOLSPRING COLONY

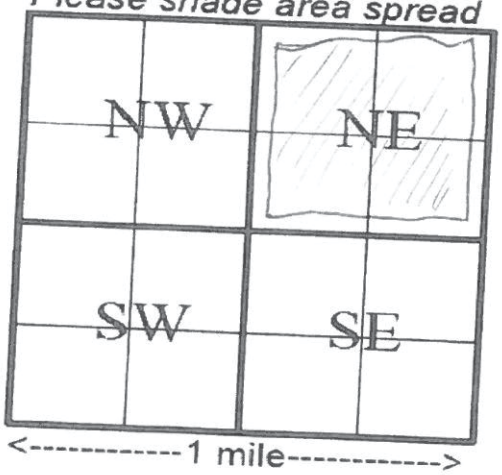
MMP Receipt # 2018-4291-5

Please shade area spread



Legal Description	E½ 17-16-17
Field ID (optional)	22
Area Spread (ac)	300
Application Date (Month/Day/Year)	OCT 26 / 2017
Application Rate* Imp gal/ac **or** ton/ac	5 TON
Manure Analysis**	32.9 lb/1000 Imp gal avail N **or** lb/ton
	18.3 lb/1000 Imp gal P_2O_5 **or** lb/ton
Proposed Crop	CANOLA

Please shade area spread



Legal Description	NE 30-16-16
Field ID (optional)	4
Area Spread (ac)	160
Application Date (Month/Day/Year)	OCT 26 / 2017
Application Rate* gal/ac (imp) **or** ton/ac	4.5 TON
Manure Analysis**	32.9 lb/1000 Imp gal avail N **or** lb/ton
	18.3 lb/1000 Imp gal P_2O_5 **or** lb/ton
Proposed Crop	CANOLA

* To convert US gallons to Imperial gallons, multiply US gal by 0.83 (i.e. Imp gal = US gal X 0.83)
** To convert manure phosphorus (P) to phosphate (P_2O_5), multiply P by 2.3 (i.e. P_2O_5 = P X 2.3)

If manure was not applied to any fields, state the reason in the space provided below:

Signature Blaine Sanft

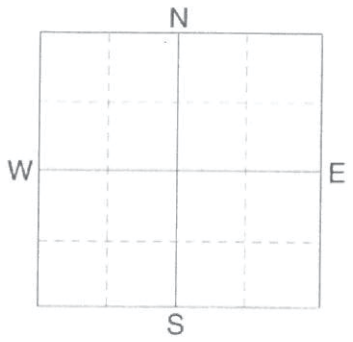
Date NOV 15 / 2017

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **4**
SAMPLE ID **NW 30-16-16**
FIELD NAME
COUNTY **16**
TWP **16** RANGE
SECTION **30** QTR **NW** ACRES **0**
PREV. CROP **Canola-bu**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427701** BOX # **0**
LAB # **NW84929**

Date Sampled **09/12/2017** Date Received **09/26/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
Nitrate 0-6" / 6-24"	24 lb/ac / 18 lb/ac	********			
Nitrate 0-24''	42 lb/ac				
Phosphorus Olsen	22 ppm	**********	**********	**********	**********
Potassium	190 ppm	**********	**********	**********	**********
Chloride 0-24''	20 lb/ac	********			
Sulfur 0-6"	24 lb/ac	**********	**********	**********	
Sulfur 6-24"	54 lb/ac	**********	**********	**********	**********
Boron	0.5 ppm	*******			
Zinc	2.60 ppm	**********	**********	**********	**********
Iron	121.0 ppm	**********	**********	**********	**********
Manganese	22.2 ppm	**********	**********	**********	**********
Copper	1.84 ppm	**********	**********	**********	**********
Magnesium	387 ppm	**********	**********	**********	**********
Calcium	2441 ppm	**********	**********	**********	**********
Sodium	29 ppm	****			
Org.Matter	4.1 %	**********	**********	**********	
Carbonate(CCE)	0.6 %	****			
Sol. Salts 0-6"	0.29 mmho/cm	********			
Sol. Salts 6-24"	0.22 mmho/cm	*****			

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	151	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	20	Broadcast
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.1 6-24" 6.4		16.0 meq	(65-75) 76.1	(15-20) 20.1	(1-7) 3.0	(0-5) 0.8	(0-5)

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

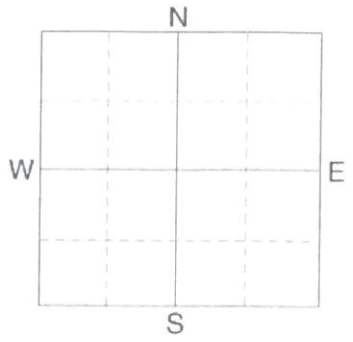
Crop 1: ** Chloride yield data is limited for this crop. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **15**
SAMPLE ID **S1/2 18-16-16**
FIELD NAME
COUNTY **16**
TWP **16** RANGE
SECTION **18** QTR **S1/2** ACRES **0**
PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427702** BOX # **0**
LAB # **NW84934**

Date Sampled **09/12/2017** Date Received **09/26/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" 14 lb/ac 6-24" 6 lb/ac 0-24" 20 lb/ac Nitrate		****			
Olsen Phosphorus	31 ppm	**********	**********	**********	**********
Potassium	203 ppm	**********	**********	**********	**********
0-24" Chloride	20 lb/ac	********	**		
0-6" 18 lb/ac 6-24" 30 lb/ac Sulfur		**********	**********	**********	
Boron	0.6 ppm	********	**		
Zinc	3.02 ppm	**********	**********	**********	**********
Iron	91.8 ppm	**********	**********	**********	**********
Manganese	13.3 ppm	**********	**********	**********	**********
Copper	1.66 ppm	**********	**********	**********	**
Magnesium	329 ppm	**********	**********	**********	***
Calcium	2334 ppm	**********	**********	**********	**********
Sodium	33 ppm	*****			
Org.Matter	4.0 %	**********	**********	*****	
Carbonate(CCE)	0.1 %	*			
0-6" 0.3 mmho/cm 6-24" 0.38 mmho/cm Sol. Salts		********	**********		

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	173	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.0 6-24" 7.5		15.1 meq	(65-75) 77.4	(15-20) 18.2	(1-7) 3.5	(0-5) 1.0	(0-5)

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

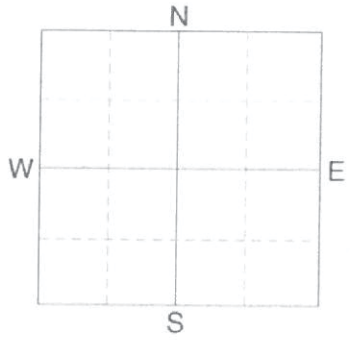
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **10**
SAMPLE ID **19-16-16**
FIELD NAME
COUNTY **16**
TWP **16** RANGE
SECTION **19** QTR ACRES **0**
PREV. CROP **Barley**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427717** BOX # **0**
LAB # **NW89881**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" 6-24" Nitrate	4 lb/ac 12 lb/ac	***			
0-24" Nitrate	16 lb/ac				
Olsen Phosphorus	20 ppm				
Potassium	210 ppm				
0-24" Chloride	20 lb/ac				
0-6" 6-24" Sulfur	18 lb/ac 60 lb/ac				
Boron	0.5 ppm				
Zinc	2.87 ppm				
Iron	83.1 ppm				
Manganese	10.7 ppm				
Copper	1.45 ppm				
Magnesium	402 ppm				
Calcium	2699 ppm				
Sodium	25 ppm				
Org.Matter	3.9 %				
Carbonate(CCE)	0.0 %				
0-6" 6-24" Sol. Salts	0.3 mmho/cm 0.51 mmho/cm				

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	194	
P_2O_5	15	Band *
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.3 6-24" 7.3		17.5 meq	(65-75) 77.1	(15-20) 19.2	(1-7) 3.1	(0-5) 0.6	(0-5)

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

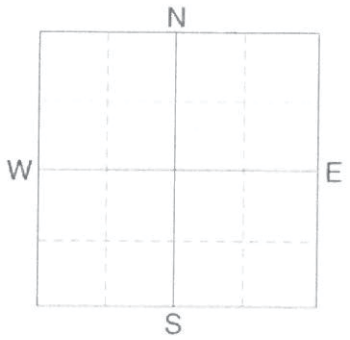
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **6**
SAMPLE ID **SE22-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **22** QTR **SE** ACRES **0**
PREV. CROP **Barley**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427718** BOX # **0**
LAB # **NW89882**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
Nitrate 0-6" 6-24"	14 lb/ac 18 lb/ac	******			
Nitrate 0-24''	32 lb/ac				
Phosphorus Olsen	43 ppm				
Potassium	305 ppm				
Chloride 0-24''	48 lb/ac				
Sulfur 0-6"	20 lb/ac				
Sulfur 6-24"	72 lb/ac				
Boron	0.9 ppm				
Zinc	7.87 ppm				
Iron	105.5 ppm				
Manganese	7.4 ppm				
Copper	1.81 ppm				
Magnesium	503 ppm				
Calcium	3869 ppm				
Sodium	33 ppm	*****			
Org.Matter	6.8 %				
Carbonate(CCE)	0.3 %	**			
Sol. Salts 0-6"	0.45 mmho/cm	******	*****		
Sol. Salts 6-24"	0.44 mmho/cm	******	****		

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	178	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.4 6-24" 7.5		24.5 meq	(65-75) 79.1	(15-20) 17.1	(1-7) 3.2	(0-5) 0.6	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

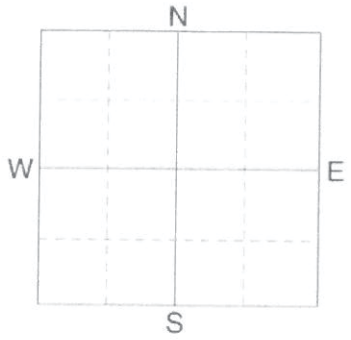
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **1**
SAMPLE ID **S32-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **32** QTR **S** ACRES **0**
PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427719** BOX # **0**
LAB # **NW89883**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
Nitrate	0-6" 20 lb/ac 6-24" 12 lb/ac 0-24" 32 lb/ac	******			
Phosphorus	Olsen 13 ppm	******	******	******	**
Potassium	152 ppm	******	******	******	******
Chloride	0-24" 24 lb/ac	********	***		
Sulfur	0-6" 26 lb/ac 6-24" 42 lb/ac	******	********	****	
Boron	0.7 ppm	******	****		
Zinc	2.50 ppm	******	******	******	******
Iron	114.2 ppm	******	******	******	******
Manganese	16.0 ppm	******	******	******	******
Copper	0.81 ppm	******	******	******	
Magnesium	360 ppm	******	******	******	****
Calcium	3196 ppm	******	******	******	******
Sodium	21 ppm	***			
Org.Matter	4.6 %	******	******	******	
Carbonate(CCE)	0.6 %	****			
Sol. Salts	0-6" 0.58 mmho/cm 6-24" 0.53 mmho/cm	******	******	**	

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	161	
P_2O_5	33	Band *
K_2O	13	Band *
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.5 6-24" 7.2		19.5 meq	(65-75) 82.1	(15-20) 15.4	(1-7) 2.0	(0-5) 0.5	(0-5)

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

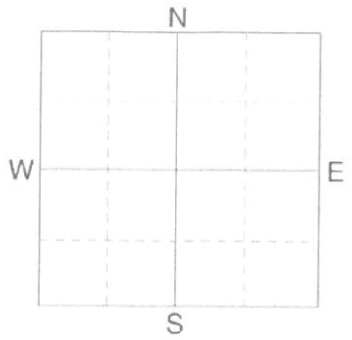
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **22**
SAMPLE ID **NE17-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **17** QTR **NE** ACRES **0**
PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427720** BOX # **0**
LAB # **NW89884**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
Nitrate 0-6"	9 lb/ac	****			
Nitrate 6-24"	12 lb/ac				
Nitrate 0-24"	21 lb/ac				
Phosphorus Olsen	18 ppm	******	******	******	******
Potassium	240 ppm	******	******	******	******
Chloride 0-24"	40 lb/ac	******	******	******	
Sulfur 0-6"	30 lb/ac	******	******	******	
Sulfur 6-24"	102 lb/ac	******	******	******	******
Boron	0.8 ppm	******	*****		
Zinc	2.03 ppm	******	******	******	******
Iron	41.6 ppm	******	******	******	******
Manganese	2.9 ppm	******	******	******	**
Copper	0.99 ppm	******	******	******	
Magnesium	567 ppm	******	******	******	******
Calcium	3831 ppm	******	******	******	******
Sodium	22 ppm	***			
Org.Matter	6.1 %	******	******	******	******
Carbonate(CCE)	0.3 %	**			
Sol. Salts 0-6"	0.34 mmho/cm	******	**		
Sol. Salts 6-24"	0.41 mmho/cm	******	****		

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	172	
P_2O_5	19	Band *
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.2		24.6 meq	(65-75) 77.9	(15-20) 19.2	(1-7) 2.5	(0-5) 0.4	(0-5)
6-24" 7.9							

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

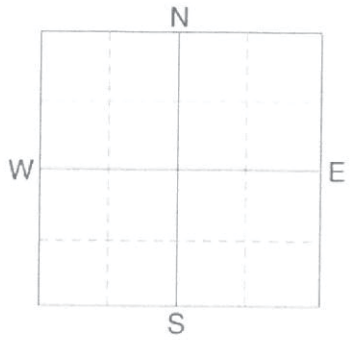
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **12**
SAMPLE ID **N15-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **15** QTR **N** ACRES **0**
PREV. CROP **Barley**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427721** BOX # **0**
LAB # **NW89878**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" 6-24" Nitrate	11 lb/ac 18 lb/ac	******			
0-24" Nitrate	29 lb/ac				
Olsen Phosphorus	12 ppm	******	******	******	
Potassium	265 ppm	******	******	******	******
0-24" Chloride	48 lb/ac	******	******	******	**
0-6" 6-24" Sulfur	20 lb/ac 72 lb/ac	******	******	**	
		******	******	******	******
Boron	0.6 ppm	*******	**		
Zinc	3.41 ppm	******	******	******	******
Iron	101.7 ppm	******	******	******	******
Manganese	12.1 ppm	******	******	******	******
Copper	1.27 ppm	******	******	******	**
Magnesium	442 ppm	******	******	******	******
Calcium	3234 ppm	******	******	******	******
Sodium	25 ppm	****			
Org.Matter	6.1 %	******	******	******	******
Carbonate(CCE)	0.2 %	*			
0-6" 6-24" Sol. Salts	0.23 mmho/cm 0.47 mmho/cm	******	******		

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	181	
P_2O_5	39	Band *
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.0 6-24" 7.4		20.6 meq	(65-75) 78.3	(15-20) 17.8	(1-7) 3.3	(0-5) 0.5	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

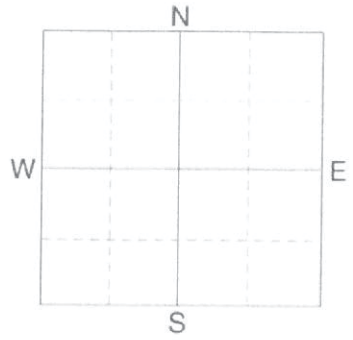
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **13**
SAMPLE ID **N14-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **14** QTR **N** ACRES **0**
PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB R0K 0H0

REF # **19427722** BOX # **0**
LAB # **NW89879**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" 13 lb/ac 6-24" 24 lb/ac 0-24" 37 lb/ac Nitrate		*******			
Olsen Phosphorus	40 ppm	*******	*******	*******	*******
Potassium	268 ppm	*******	*******	*******	*******
0-24" Chloride	64 lb/ac	*******	*******	*******	*******
0-6" 24 lb/ac 6-24" 54 lb/ac Sulfur		*******	**********	*****	
Boron	0.7 ppm	*******	*****		
Zinc	5.80 ppm	*******	*******	*******	*******
Iron	75.1 ppm	*******	*******	*******	*******
Manganese	5.6 ppm	*******	*******	*******	*******
Copper	0.88 ppm	*******	*******	*******	
Magnesium	332 ppm	*******	*******	*******	***
Calcium	2986 ppm	*******	*******	*******	*******
Sodium	24 ppm	****			
Org.Matter	7.2 %	*******	*******	*******	*******
Carbonate(CCE)	0.3 %	**			
0-6" 0.19 mmho/cm 6-24" 0.18 mmho/cm Sol. Salts		****			
		****			

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	156	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.0 6-24" 7.7		18.5 meq	(65-75) 80.8	(15-20) 15.0	(1-7) 3.7	(0-5) 0.6	(0-5)

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

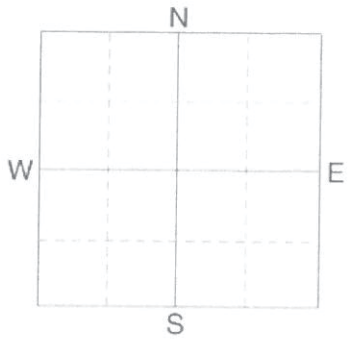
Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **16+17**
SAMPLE ID **S11+12-16-17**
FIELD NAME
COUNTY **17**
TWP **16** RANGE
SECTION **11** QTR **SEC 12 S** ACRES **0**
PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB **R0K 0H0**

REF # **19427723** BOX # **0**
LAB # **NW89880**

Date Sampled **09/28/2017** Date Received **09/30/2017** Date Reported **6/11/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	5 lb/ac	***			
6-24" Nitrate	12 lb/ac				
0-24" Nitrate	17 lb/ac				
Olsen Phosphorus	9 ppm	**********	**		
Potassium	217 ppm	**********	**********	**********	**********
0-24" Chloride	20 lb/ac	********	**		
0-6" Sulfur	20 lb/ac	**********	**********	**	
6-24" Sulfur	60 lb/ac	**********	**********	**********	**********
Boron	0.5 ppm	********	**		
Zinc	0.62 ppm	**********	**********		
Iron	64.3 ppm	**********	**********	**********	**********
Manganese	11.8 ppm	**********	**********	**********	**********
Copper	0.85 ppm	**********	**********	**********	
Magnesium	461 ppm	**********	**********	**********	**********
Calcium	3389 ppm	**********	**********	**********	**********
Sodium	17 ppm	**			
Org.Matter	4.1 %	**********	**********	**********	
Carbonate(CCE)	0.4 %	**			
0-6" Sol. Salts	0.44 mmho/cm	**********	**********		
6-24" Sol. Salts	0.46 mmho/cm	**********	**********		

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	176	
P_2O_5	44	Band *
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	2	Band (Trial)
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.7 6-24" 7.8		21.4 meq	(65-75) 79.1	(15-20) 17.9	(1-7) 2.6	(0-5) 0.3	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (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 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Manure Management Plan

LIVESTOCK MANURE AND MORTALITIES MANAGEMENT REGULATION

Manure Management Plan

Manitoba Sustainable Development

Section A – Operation Information

Name of Operation COOL SPRING COLONY

Legal Name of Operation (if different)

Affiliate (legal name) ☑ Not Applicable

Mailing Address BOX 1015

MINNEDOSA, MB Postal Code R0J 1E0

Location of Operation SW 24-16-17 W MINTO

Qtr. Sec. Twp. Rge. E/W PM or River Lot/Parish Rural Municipality

Civic Address

Date Operation Established JUNE 1, 1986

Date Last Expanded (if applicable)

Name of Contact Person JOSH WALDNER

Contact Numbers 204-867-7243 204-865-2363 204-865-2215

Business Residence Cellular Facsimile

Email

Owner (legal name) COOL SPRING COLONY

Mailing Address BOX 1015

MINNEDOSA, MB Postal Code R0J 1E0

Contact Numbers

Business Residence Cellular Facsimile

Email

Preferred Correspondence ☑ Email ☐ Fax ☐ Mail

Submit completed plan to:

By mail: Environmental Approvals Branch,.
Manitoba Sustainable Development,
160-123 Main Street (Box 80), Winnipeg MB R3C 1A5

By fax: 204-948-2420

By email: mmpregistration@gov.mb.ca

For Department Use Only

Proprietary (confidential) information will be protected in accordance with Manitoba law.
Personal information is collected under the authority of *The Environment Act*, the Livestock Manure and Mortalities Management Regulation, and will be used to issue receipts, for surveys, administration and enforcement purposes. Information collected is protected by the privacy provisions of *The Freedom of Information and Protection of Privacy Act*.

Section B - Animal Unit Inventory

Livestock Species and Type[1]	A.U. Produced by One Livestock		Number of Livestock of Each Type	A.U. for Each Livestock Type
Eg. Beef – Feedlot Cattle	*.769*	X	*500*	*385*
Broilers	.0050	X	60000	300
		X		0
		X		0
		X		0
		X		0
		X		0

[1] Refer to Animal Unit Worksheet –Schedule A and retain for your records. If additional room is required, the operator may choose to submit a copy of Schedule A. **USE ONLY CATEGORIES LISTED IN THE WORKSHEET**. For a copy of Schedule A, refer to the livestock program website at: www.gov.mb.ca/conservation/envprograms/livestock

Section C – Manure Storage Systems Information[1]

Form of livestock manure stored	☐ Liquid manure (pumped as liquid; 0-5% dry matter) ☐ Semi-solid (paste like; 5-25% dry matter) ☑ Solid (handled with loader; over 25% dry matter)

Location of central manure storage facilities

Legal description of the location(s):	G.P.S. Coordinates (Decimal Degrees) (if available)	Anticipated Storage Time (months)	Construction Permit Number(s)[2] or Registration Number(s)[3] for Storage

Location of solid manure field storage **(complete only if you have field storage)**

Field Storage Site #1 : Legal Location: 17-16-7	Anticipated Storage Duration (months) 22
Field Storage Site #2 : Legal Location: 36-16-16	Anticipated Storage Duration (months) 22
Field Storage Site #3 : Legal Location:	Anticipated Storage Duration (months)

[1] Use additional pages as necessary
[2] A construction permit has been required by Manitoba Sustainable Development for construction of earthen manure storage structures since 1994 and for all other types of constructed manure storage structures since 1998. You may inquire about your permit number at your Manitoba Sustainable Development regional office (see last page).
[3] Registration numbers will be issued by Manitoba Sustainable Development for earthen manure storage structures built before 1994 and all other constructed storage structures built prior to 1998.

Section D – Manure Information for Land Application

Total Volume of Manure to be Land Applied

Liquid manure:		☐ Imp. gals.	
Semi-solid manure:		☑ Imp. gals.	☐ Tons ☐ Cubic feet
Solid manure:	2000	☑ Tons	☐ Cubic feet

If no manure is to be applied, check here: ☐

Manure Analysis #1 – Livestock Species & Type: Chicken's (Broiler) 300 A. U.

Total Nitrogen	32.9	☐ lbs/1000 Imp. gals.	☑ lbs/ton
NH_4		☐ lbs/1000 Imp. gals.	☑ lbs/ton
Total P	18.3	**P_2O_5** (P x 2.3)	☐ lbs/1000 Imp. gals. ☑ lbs/ton
% Dry Matter	898.6		

The nutrient values stated above are:
☑ Actual. (Attach laboratory analysis report)
☐ Estimated. (Indicate source of information) _____

Manure Analysis #2 – Livestock Species & Type: _____

Total Nitrogen		☐ lbs/1000 Imp. gals.	☐ lbs/ton
NH_4		☐ lbs/1000 Imp. gals.	☐ lbs/ton
Total P		**P_2O_5** (P x 2.3)	☐ lbs/1000 Imp. gals. ☐ lbs/ton
% Dry Matter			

The nutrient values stated above are:
☐ Actual. (Attach laboratory analysis report)
☐ Estimated. (Indicate source of information) _____

Manure Analysis #3 – Livestock Species & Type: _____

Total Nitrogen		☐ lbs/1000 Imp. gals.	☐ lbs/ton
NH_4		☐ lbs/1000 Imp. gals.	☐ lbs/ton
Total P		**P_2O_5** (P x 2.3)	☐ lbs/1000 Imp. gals. ☐ lbs/ton
% Dry Matter			

The nutrient values stated above are:
☐ Actual. (Attach laboratory analysis report)
☐ Estimated. (Indicate source of information) _____

Earliest anticipated manure application starting date[1]: 9/1/2017
(Month / Day / Year)

[1]This is the earliest date the first spread of manure will occur on this plan (plan year begins August 15th and ends August 14th of the following year).

NOTE: At least one manure nutrient analysis or estimate is required for each manure form per livestock species.
If manure is to be treated, please complete and attach Schedule B – Manure Treatment
If manure is to be transferred to another party, please complete and attach Schedule C – Transfer of Manure or Effluent to a Second Party. For copies of Schedules B and C refer to the livestock program website at:
www.gov.mb.ca/conservation/envprograms/livestock

Section E - Field Application Summary

(Use additional pages as necessary)

ALL information below must be completed for each field listed BEFORE any manure spreading occurs.

Legal Land Description	NW 30-16-16	SE 25-16-17	SE 26-16-17	17-16-17
Field ID (optional)				
Legal Owner's Name and Phone	COOL SPRING COLONY	COOL SPRING COLONY	COOL SPRING COLONY	COOL SPRING COLONY
Land: Own, Lease, or Agreement	Own	Own	Own	Own
Field Size [1] (acres)	160	160	160	400
Soil Class and Subclass [2]	2t(8)2tw(10)5w(1)	2t(8)2tw(10)5w(1)	2t(8)2tw(10)5w(1)	2t(8)2tw(10)5w(1)
Proposed Crop	canola	canola	canola	canola
Is the Proposed Crop Grazed?	No	No	No	No
0 – 6 inch (15 cm) depth soil phosphorus (P) in ppm [3]	22ppm			
0 – 24 inch (60 cm) depth soil nitrate (NO_3^--N) in lbs/acre [3]	42lbs			
Target Yield (bus/acre, lbs/acre, tons/acre)	55	50	50	50
Crop Nitrogen Recommendation [4] (lbs N/acre)	150	155	155	155
Crop Removal of Phosphate [5] (lbs P_2O_5/acre)	40	40	40	40
Manure Application Rate (Imp. gal/acre or tons/acre)	4.5 ton			
* if using multi-year P_2O_5 rate, select the # equal to multiple of years [6]	2			
Manure Analysis #1, #2, or #3 (from Section D)	1	1	1	1
Application Start Date (month / day / year)	6/1/2017	6/1/2017	6/1/2017	6/1/2017
Application Method - Select the corresponding letter [7]	C	C	C	C
Non manure Nitrogen Fertilizer (lbs N/acre)	0	0	0	0
Non manure Phosphate Fertilizer (lbs P_2O_5/acre)	0	0	0	0
Manure Applicator – Name, Phone, Licence # [8]				

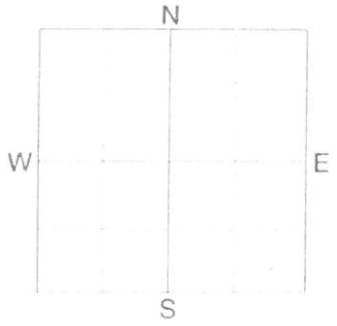
[1] Indicate only the available acres for manure spreading (exclusive of setbacks from surface water courses, etc.).
[2] Must list correct Agricultural Capability Class and Subclass as determined by Published Manitoba Soil Survey Report or electronic data distributed by Manitoba Land Initiative website. Use the worst class manure will be spread on.
[3] As shown on the soil analysis report appended to this form. If soil analysis reports are not available at the time of submitting the form, they **must** be forwarded to Manitoba Sustainable Development 14 days **before** application of manure to allow for processing.
[4] Indicate the recommended nitrogen (N) application rate suggested by the soil fertility guide or soil analysis report, whichever is lower.
[5] Indicate the crop removal rate of phosphate (P_2O_5) as determined by the most appropriate source of information.
[6] When soil test phosphorus levels are 60 ppm to 179 ppm manure may be applied at a rate of up to 5 times the annual crop removal rate of P_2O_5. Schedule D must be completed when using a multi-year option.
[7] Choose one of the following and put the corresponding letter on the form: **A**. Broadcast and incorporate after 2 days, **B**. Broadcast + Incorporate after 3 days. **C**. Broadcast and incorporate within 2 days. **D**. Broadcast and no incorporation. **E**. Broadcast and no incorporation on forages. **F**. Injection. **G**. Irrigation and incorporation within 3 days. **H**. Irrigation and no incorporation.
[8] As of January 1, 2008 Commercial and Off-farm Manure Applicators must be trained and Licenced with Manitoba Agriculture.

Redfern FARM SERVICES

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

SOIL TEST REPORT

FIELD ID **4**
SAMPLE ID **NW 30-16-16**
FIELD NAME
COUNTY **16**
TWP **16** RANGE
SECTION **30** QTR **NW** ACRES **0**
PREV. CROP **Canola-bu**



SUBMITTED FOR:
COOL SPRING COLONY

SUBMITTED BY: **RE3021**
REDFERN FARM-CARBERRY
629 4TH STREET
BOX 930
CARBERRY, MB **R0K 0H0**

REF # **19427701** BOX # **0**
LAB # **NW84929**

Date Sampled **09/12/2017** Date Received **09/26/2017** Date Reported **9/28/2017**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" 6-24" Nitrate	24 lb/ac 18 lb/ac	********			
0-24" Nitrate	42 lb/ac				
Olsen Phosphorus	22 ppm				
Potassium	190 ppm				
0-24" Chloride	20 lb/ac	********			
0-6" 6-24" Sulfur	24 lb/ac 54 lb/ac				
Boron	0.5 ppm	********			
Zinc	2.60 ppm				
Iron	121.0 ppm				
Manganese	22.2 ppm				
Copper	1.84 ppm				
Magnesium	387 ppm				
Calcium	2441 ppm				
Sodium	29 ppm	****			
Org Matter	4.1 %				
Carbonate(CCE)	0.6 %	****			
0-6" 6-24" Sol. Salts	0.29 mmho/cm 0.22 mmho/cm	********			

1st Crop Choice		
Canola-bu		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	151	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B	1	Broadcast
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0	

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 6.1 6-24" 6.4		16.0 meq	(65-75) 76.1	(15-20) 20.1	(1-7) 3.0	(0-5) 0.8	(0-5)

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 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Section F -Certification of Manure Management Plan

This plan must be certified by the person who prepares it. Select the appropriate box.

Plan prepared by:

☐ **Operator**

I hereby certify the information contained in this plan is true and believe this plan complies with the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) of The Environment Act.

_____ Date: _____

Signature of the operator

☑ **Other**[1]

I hereby certify the information contained in this plan is true and believe this plan complies with the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) of The Environment Act.

I meet the requirements to prepare manure management plans in accordance with Section 13(7) of M.R. 42/98.

BLAINE SANGSTER

Name of person preparing the plan on behalf of the operator

Address: 629 4TH AVE.

CARBERRY, MB R0K 0H0

Contact number: 204-570-0319

MIA #[2]/CCA #: 26200

Blaine Sangster Digitally signed by Blaine Sangster DN: cn=Blaine Sangster, o=Redfern Farm Services, ou=, email=bsangster@redfern.ca, c=CA Date: 2017.06.16 15:38:03 -05'00' Date: June 16/17

Signature Blaine Sangster

[1]Must meet the requirements to prepare manure management plans as per Section 13(7) of M.R. 42/98.
[2]If exempt from registration with MIA for the purposes of preparing manure management plans, enter 0000.

Certain livestock operations in Manitoba are required under Section 13(1) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) of *The Environment Act*, to submit an annual manure management plan to Manitoba Sustainable Development. The plan must be submitted by **July 10** for fertilization programs beginning in the fall, or by **February 10** for fertilization programs beginning in the spring. Late submissions are subjected to $100 (+ 5% GST) administration fee.

Note: Confirmation of manure spreading including legal land description, actual application rates, analysis of manure, field maps, manure applicator licence # (if applicable), must be submitted after manure is spread. Additional plans will not be registered unless this information is received by Manitoba Sustainable Development.

Forms and other relevant information can be accessed online at
http://www.gov.mb.ca/conservation/envprograms/livestock

REPORTING FORM
MONITORING WELL SAMPLING

Note: This form should be used to report manure storage facility monitoring well results. If you are reporting source water results, please refer to Information Bulletin 2004-01E.

Facility Reference Number (permit or registration #): 4291-LS

Name of Operation: Coolspring colony

Mailing Address: box 1015

minnedosa m.b. Postal Code ROJ-1EO

Location of Operation: SW 24-16-17

Qtr Sec Twp Rge E/WPM or River Lot/Parish

Rural Municipality: MINTO/ODANAH

Name of Contact: Josh Waldner

Contact Numbers: 204 867-7243

Business Residence Cellular Facsimile

Sampling Date: dec 14 2017

Well #	Water Depth To Top Of Well Casing (inches)	Ground Surface To Top Of Well Casing (inches)	Depth Of Water Level To Ground Surface (inches)

REMEMBER TO ATTACH ANALYTICAL RESULTS!

Please submit form and analytical results to: Technical Review Officer, Manitoba Conservation and Water Stewardship, 1007 Century Street, Winnipeg, MB R3H 0W4 Fax (204) 948-2420, SourceWater@gov.mb.ca

Proprietary (confidential) information will be protected in accordance with Manitoba law.
Personal information is collected under the authority of *The Environment Act*, the *Livestock Manure and Mortalities Management Regulation*, and will be used for administration and enforcement purposes. Information collected is protected by the privacy provisions of *The Freedom of Information and Protection of Privacy Act.* If you have any questions, contact the Access & Privacy Coordinator, Box 85, 200 Saulteaux Crescent, Winnipeg MB R3J 3W3; 1-204-945-4170.

BLAINE SANGSTER 204-834-3356

12 - 1329 Niakwa Rd. E.
Winnipeg, Manitoba R2J 3T4
Tel: (204) 255-97
Fax: (204) 255-9
Toll Free: 1 800 6

L2035531-COFC

Chain of Custody / Analytical Request Form
CHEMISTRY INFO: (204) 255 9739
MICRO INFO: (204) 255 9740 OR (204) 255 9737

WORK ORDER NO:

FOR LABORATORY USE
Sample Condition Upon Re TABLE
☐ Frozen ☐ Cold ☐ Ambient ☐ Broken ☐ Leakage ☐ Incorrect Sample Container
COMMENT: 16.4

LAB NO.: L2035531
DATE RECEIVED: 14/12/17
TIME RECEIVED: 2:10
BY: AAL

Date Sampled: 14 DEC 17 Time: 10 : 00 A.M. ☒ P.M. ☐
Date Required:

Location: Cool Spring Colony (Town, Community, City)
Submitter's Name Printed: COOL SPRING COLONY
Sample Submitted By: BLAINE SANGSTER

Community Code Number:
Rural Municipality/LGC/UVD: RM Minto-Odanah

SAMPLE TYPE
DRINKING WATER
☐ Untreated Well
☐ Treated Well
☐ Treated Municipal
☐ Non-Treated Municipal
☐ Water-Surface-Raw
☐ Water-Surface-Treated

NON-DRINKING WATER
☐ Sewage/Waste Water
☐ Lake/River
☐ Swimming Pool
☐ Whirl Pool
☐ Other

PLEASE PRINT & PRESS FIRMLY

NOTES & CONDITIONS
1. Quote number must be provided to insure proper pricing.
2. Failure to properly complete all portions of this form may delay analysis.
3. ALS's liability limited to cost of analysis.

SERVICE REQUESTED
☐ REGULAR ☐ PRIORITY (50% SURCHARGE) ☐ EMERGENCY (100% SURCHARGE)

PURPOSE OF TEST
☐ Private ☐ Real Estate ☐ Water Main

LAB NUMBER	SAMPLE IDENTIFICATION
	COOL SPRING

ALS CUSTOMER #: QUOTE #:

REPORT TO BE SENT TO
NAME: BLAINE SANGSTER
COMPANY: REDFERN FARM SERVICES
ADDRESS: BOX 930
CITY/TOWN: CARBERRY / PROV.: MB
POSTAL CODE: R0K0H0
PHONE: 204 834 3356
BY: MAIL ☐ FAX ☒ 204-834-3558 (FAX NUMBER)
PICKUP ☐ E-MAIL ☒ bsangster@redferns.ca (EMAIL ADDRESS)

CC
NAME:
ADDRESS:
CITY/TOWN: / PROV.:
POSTAL CODE:
PHONE:
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
PICKUP ☐ E-MAIL ☐ (EMAIL ADDRESS)

Analyses required FOR MANURE MANAGEMENT WA7

BILLING ADDRESS SAME AS REPORT TO ☒
NAME:
COMPANY:
ADDRESS:
CITY/TOWN: / PROV.:
POSTAL CODE:

PAYMENT PARTICULARS
☒ INVOICE NEEDED / CLIENT'S P.O. NO. CARBERRY
☐ INTERAC
☐ CHEQUE
☐ VISA / MASTERCARD
Subtotal $
G.S.T. $
Total $
* OUR POLICY IS NOT TO ACCEPT SAMPLES FROM THE PRIVATE CITIZEN WITHOUT PREPAYMENT

SAMPLING INSTRUCTIONS ON REVERSE SIDE

Manitoba Technology Centre Ltd.
Part of the **ALS Laboratory Group**
12 - 1329 Niakwa Rd. E., Winnipeg, MB Canada R2J 3T4
Phone: +1 204 255 9720 Fax: +1 204 255 9721 **www.alsglobal.com**
A Campbell Brothers Limited Company

SUBMITTER COPY

ENTERED IN LIMS BY:

Redfern Farm Services - Carberry
ATTN: BLAINE SANGSTER
PO Box 930
Carberry MB R0K 0H0

Date Received: 14-DEC-17
Report Date: 19-DEC-17 11:23 (MT)
Version: FINAL

Client Phone: 204-834-3356

Certificate of Analysis

Lab Work Order #: L2035531
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc: RM MINTO ODANAH

Hua Wo
Chemistry Laboratory Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2035531-1 COOL SPRING Sampled By: BS on 14-DEC-17 @ 10:00 Matrix: WATER							
Manure Monitoring Well							
Ammonia by colour							
Ammonia, Total (as N)	2.28		0.10	mg/L		16-DEC-17	R3915830
Chloride in Water by IC							
Chloride (Cl)	3.1		1.0	mg/L		15-DEC-17	R3915716
Conductivity							
Conductivity	1240		1.0	umhos/cm		15-DEC-17	R3914970
Nitrate in Water by IC							
Nitrate (as N)	<0.040	DLM	0.040	mg/L		15-DEC-17	R3915716
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		19-DEC-17	
Nitrite in Water by IC							
Nitrite (as N)	<0.020	DLM	0.020	mg/L		15-DEC-17	R3915716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL-IC-N-WP	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
EC-WP	Water	Conductivity	APHA 2510B
Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.			
NH3-COL-WP	Water	Ammonia by colour	APHA 4500 NH3 F
Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroprusside and measured colourmetrically.			
NO2+NO3-CALC-WP	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-N-WP	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-WP	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

ALS Environmental

Quality Control Report

Workorder: L2035531 Report Date: 19-DEC-17

Client: Redfern Farm Services - Carberry
PO Box 930
Carberry MB R0K 0H0
Contact: BLAINE SANGSTER

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-WP	Water							
Batch R3915716								
WG2685039-2 LCS								
Chloride (Cl)			100.7		%		90-110	15-DEC-17
WG2685039-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	15-DEC-17
EC-WP	Water							
Batch R3914970								
WG2686091-8 LCS								
Conductivity			99.6		%		90-110	15-DEC-17
WG2686091-6 MB								
Conductivity			<1.0		umhos/cm		1	15-DEC-17
NH3-COL-WP	Water							
Batch R3915830								
WG2685831-6 LCS								
Ammonia, Total (as N)			99.0		%		85-115	16-DEC-17
WG2685831-5 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	16-DEC-17
NO2-IC-N-WP	Water							
Batch R3915716								
WG2685039-2 LCS								
Nitrite (as N)			101.1		%		90-110	15-DEC-17
WG2685039-1 MB								
Nitrite (as N)			<0.010		mg/L		0.01	15-DEC-17
NO3-IC-N-WP	Water							
Batch R3915716								
WG2685039-2 LCS								
Nitrate (as N)			101.1		%		90-110	15-DEC-17
WG2685039-1 MB								
Nitrate (as N)			<0.020		mg/L		0.02	15-DEC-17

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Manitoba Agriculture Land Base Calculator

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%	0	447	630	539	121	3	2.3	14%	0	0.53%	0
Nursing Sow	Liquid Uncovered Earthen	30%	0	539	539	539	21	15.2	6.5	20%	0	0.63%	0
Nursing Litter	Liquid Uncovered Earthen	30%	0	3.1	13.6	8	21	15.2	0	n/a	0	n/a	0
Live Cull Sow	Liquid Uncovered Earthen	30%	0	630	630	630	14	26.1	2.3	14%	0	0.46%	0
Bred Gilt	Liquid Uncovered Earthen	30%	0	340	447	394	121	3	2.3	14%	0	0.53%	0
Gilts (Purchased)	Liquid Uncovered Earthen	30%	0	290	340	315	28	13.0	3.2	16%	0	0.46%	0
Boars (Purchased)	Liquid Uncovered Earthen	30%	0	270	660	465	365	1	2.5	14%	0	0.46%	0
Weanlings	Liquid Uncovered Earthen	30%	0	13.6	61.6	38	52	6.9	0.7	20%	0	0.64%	0
Growers/Finishers	Liquid Uncovered Earthen	30%	0	61.6	280	171	112	3	2.8	16%	0	0.46%	0
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%	0	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%	0	n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0
Sows, farrow to finish	Liquid Uncovered Earthen	30%	575	n/a	n/a	n/a	365	1	n/a	n/a	163083	n/a	86242

Last Revised April 13, 2016

Species	Type	Storage Type	Volatilization	Animal Numbers	Weight In (lb)	Weight Out (lb)	Average Animal Wt (lb)	Days per Cycle (Days)	Cycles per Year	Rate of Gain (lb/day)	Days Place is Occupied per Year (days)	N Excreted Per Herd Adjusted for Storage N Loss (lb N/yr/herd)	P2O5 Excreted Per Herd Per Year (lb P2O5/year)
Cow Calf	Mature Cows (>2 years old)	Field Storage	40%	0	1375	1375	1375	365	1.0		365	0.0	0.0
Cow Calf	Bred Heifer (14 mo - 2 years)	Field Storage	40%	0	926	1238	1082	280	1.0	1.42	280	0.0	0.0
Cow Calf	Replacement Heifers (7 mo-14 mo)	Field Storage	40%	0	581	926	754	225	1.0	1.53	225	0.0	0.0
Cow Calf	Unweaned Calves (0-7 mo)	Field Storage	40%	0	86	581	334	210	1.0	2.35	210	0.0	0.0
Cow Calf	Bulls	Field Storage	40%	0	2100	2200	2150	365	1.0		365	0.0	0.0
Cow Calf	Mature Cows and Bred Heifers, plus associated livestock	Field Storage	40%	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.0	0.0
Feeder	Feedlot Cattle - long keep	Field Storage	40%	0	581	1300	941	240	1.0	2.99	240	0.0	0.0
Feeder	Feedlot Cattle - short keep	Field Storage	40%	0	975	1300	1138	116	1.0	2.80	116	0.0	0.0
Feeder	Backgrounders - pasture	Field Storage	40%	0	793	975	884	105	1.0	1.73	105	0.0	0.0
Feeder	Backgrounders - confined	Field Storage	40%	0	500	793	647	180	1.0	1.62	180	0.0	0.0

Last Revised January 21, 2015

Type	Storage Type	Volatilization	Animal Numbers	Average Animal Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles per Year	N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd)	P2O5 Excreted per Herd Per Year (lb/yr/herd)
Lactating Cows	Liquid Uncovered Earthen	30%		1420	365	1	0	0
Dry Cows	Liquid Uncovered Earthen	30%		1440	365	1	0	0
Calves, 0-3 months	Liquid Uncovered Earthen	30%		183	365	1	0	0
Calves, 4-13 months	Liquid Uncovered Earthen	30%		543	365	1	0	0
Replacements, >13 months	Liquid Uncovered Earthen	30%		1030	365	1	0	0
Mature Cows, plus associated livestock	Liquid Uncovered Earthen	30%	4	n/a	n/a	n/a	1043	554

Last revised August 20, 2014

Sheep/Operation Type	Storage Type	Volatilization	Animal Numbers	Weight In lb	Weight Out lb	Ave Weight lb	Days on Feed	Cycles per Year	N Excreted per Flock adjusted for Loss lb/flock/yr	P2O5 Excreted Per Flock lb/flock/yr
Ewes	Field Storage	40%	0	120	170	145	365	1	0	0
Replacement Ewes	Field Storage	40%	0	45	80	63	210	1	0	0
Rams	Field Storage	40%	0	100	200	150	365	1	0	0
Lambs	Field Storage	40%	0	8	45	27	70	1.4	0	0
Ewes, plus assoc livestock	Field Storage	40%	0	n/a	n/a	n/a	n/a	n/a	0	0
Feeder	Field Storage	40%	0	45	100	73	365	1	0	0

Species / Commodity	Type of Operation	Storage Type	Volatilization	Bird Places	Weight In (lb)	Weight Out (lb)	Average Weight (lb)	Days on Feed	Cycles per Year	N Excreted Adjusted for N Loss lb/flock/yr	P2O5 Excreted lb/flock/yr
Chickens	Broilers	Field Storage	40%	96000	0.05	4.36	2.20	33	7.4	29748	33115
Chickens	Broiler Breeder Pullets	Field Storage	40%	0	0.05	4.40	2.23	140	2	0	0
Chickens	Broiler Breeder Hens	Field Storage	40%	0	4.40	8.67	6.53	273	1	0	0
Eggs	Layer Pullets	Liquid Covered	10%	0	0.05	3.04	1.54	133	2	0	0
Eggs	Layer Hens	Liquid Covered	10%	500	3.03	3.74	3.38	355	1	615	469
Eggs	Breeder Pullets	Liquid Covered	10%	0	0.05	3.04	1.54	133	2	0	0
Eggs	Breeder Hens	Liquid Covered	10%	0	3.03	3.74	3.38	351	1	0	0
Turkey	Broiler Hens (0-9 wks)	Field Storage	40%	400	0.06	12.39	6.22	63	4	271	287
Turkey	Hens (0-11 wks)	Field Storage	40%	0	0.06	16.46	8.26	77	3.5	0	0
Turkey	Heavy Hens (0-14 wks)	Field Storage	40%	0	0.06	21.19	10.62	98	3	0	0
Turkey	Light Toms (0-12 wks)	Field Storage	40%	0	0.06	21.19	10.62	84	3	0	0
Turkey	Toms (0-13 wks)	Field Storage	40%	0	0.06	26.84	13.45	91	3	0	0
Turkey	Heavy Toms (0-15 wks)	Field Storage	40%	0	0.06	30.29	15.18	105	2.5	0	0
Turkey	Breeding Hen Growers (0-30 wks)	Field Storage	40%	0	0.06	26.95	13.51	210	1	0	0
Turkey	Breeding Hens (30-60 wks)	Field Storage	40%	0	26.95	24.95	25.95	210	1	0	0
Turkey	Breeding Tom Grower (0-18 wks)	Field Storage	40%	0	0.06	33.92	16.99	126	2	0	0
Turkey	Breeding Tom Grower (0-30 wks)	Field Storage	40%	0	0.06	50.89	25.47	210	1	0	0
Turkey	Breeding Tom (30-60 wks)	Field Storage	40%	0	50.89	61.86	56.38	210	1	0	0

Crop	Removal P2O5	Removal N	Uptake N	Units	Yield	Units	Acreage	Removal P2O5 (lb)	Removal N (lb)	Uptake N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu	78.2	bu/ac	1312	43091	99520	142612
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	44.2	bu/ac	1548	71158	132054	218265
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
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		bu/ac		-	-	-
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	72.3	bu/ac	2250	95978	244013	343244
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
						Total Acres	5110	210228	475587	704121
						Estimated Average Removal/Uptake (lb/ac)		41.1	93.1	137.8
						Acres in Hanover and La Broquerie				
						Proportion in Hanover or La Broquerie	0%			
						Additional Acres				
						Crop Planned on Additional Acres				
						Total Acreage	5110			

***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.

Last revised December 18, 2017

Note: Spring Wheat yield calculated as weighted average of AAC Penhold and AAC Brandon varieties, based on acreage.
Yield data from MASC Variety Data for RMs of Minto-Odanah and Rosedale, taken as 2007-2017 yield average.

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Gestating Sow	0	0
	Nursing Sow	0	0
	Nursing Litter	0	0
	Live Cull Sows	0	0
	Bred Gilts	0	0
	Gilts	0	0
	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	163083	86242
Beef	Mature Cows (>2 years old)	0	0
	Bred Heifer (14 mo - 2 years)	0	0
	Replacement Heifers (7 mo-14 mo)	0	0
	Unweaned Calves (0-7 mo)	0	0
	Bulls	0	0
	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	Lactating cow	0	0
	Dry cow	0	0
	Calf, 0-3 months	0	0
	Calf, 4-13 months	0	0
	Replacements, >13 months	0	0
	Mature Cows, plus assoc livestock	1043	554
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	29748	33115
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	615	469
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	271	287
	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	**194760**	**120667**

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

Nutrients Excreted	lbs
Nitrogen	194760
P2O5	120667
Crop Nutrient Use	**lb/ac**
Crop N Uptake	137.8
Crop P2O5 Rmoval	41.1
Operation P2O5 Credit	82.3
Land Available	5110
Land Base Requirements	**acres**
Acres for Nitrogen Uptake	**1413**
Acres for Phosphorus Removal	**1467**
Phosphorus Balance	**acres**
Acres for Phosphorus Balance	**2933**

Last revised Dec 18, 2017

Note: "Acres for Phosphorus Removal" used as "Acres required for two times crop P_2O_5 removal" on page 14/27
Note: "Acres for Phosphorus Balance" used as "Acres required for one times crop P_2O_5 removal" on page 14/27

Conservation Data Centre Report

Shane Unrau

From: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>
Sent: Thursday, June 7, 2018 8:21 AM
To: Shane Unrau
Subject: Cool Spring Colony - Barn Expansion

Shane

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's rare species database and found no occurrences at this time for your area of interest.

The information provided in this letter is based on existing data known to the Manitoba Conservation Data Centre 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 in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present; in many areas, comprehensive surveys have never been completed. Therefore, this information should be regarded neither as a final statement on the occurrence of any species of concern, nor as a substitute for on-site surveys for species as part of environmental assessments.

Because the Manitoba CDC's 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 pass before it is utilized.

Third party requests for products wholly or partially derived from Biotics 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 Biotics data, as follows as: Data developed by the Manitoba Conservation Data Centre; Wildlife & 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 please contact me directly at (204) 945-7747.

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

-----Original Message-----
From: +WPG969 - Form Submissions (FIN)
Sent: June-06-18 11:17 AM
To: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by WWW Information Request () on Wednesday, June 6, 2018 at 11:17:13

DocumentID: Manitoba_Conservation

Project Title: Cool Spring Colony - Barn Expansion

Date Needed: asap

Name: Shane Unrau

Company/Organization: Burns Maendel Consulting Engineers

Address: 1331 Princess Avenue

City: Brandon

Province/State: MB

Phone: 204-728-7364

Email: s.unrau@bmce.ca

Project Description: Proposing to expand current farm capacity, construction of a chicken barn and a multi-use barn.

Information Requested: Requesting a 'Conservation Data Centre Report' identifying any rare species in the vicinity of the project location.

Format Requested: PDF report and/or map, data in Excel, sent by email

Location: SW 24-16-17 W
RM of Minto
Whitemud Watershed, bordering on Little Saskatchewan River Watershed

action: Submit
