Leo Dickson & Sons, Inc
5226 Bonny Hill Road
Bath, NY 14810

November 9, 2020

Dear Mackenzie Osypian:

Please find attached the additional information that was requested to deem the 2019 annual report acceptable to the department.

Please call or email me with questions or comments. I will be out of the office Monday November 23 – November 27th. I will return on Monday November 30th.

Best Regards,

Mary Rayeski

ATTACHMENT A

Approved Waste Sources

1) Stabilized biosolids generated from the following sources may be accepted for land application contingent on meeting the requirements of this permit.

- Addison, NY Village of: WWTP
- Bath, NY Village of: WWTP
- Canisteo, NY Village of: WWTP
- Castile NY Village of: WWTP
- Cayuga Heights NY Village of: WWTP
- Conesus Lake County Sewer District, NY WWTP
- Dryden, NY Village of: WWTP
- Knoxville, PA Borough of: WWTP
- Montour Falls, NY Village of: WWTP
- Nelson Township, PA: WWTP
- Alfred, NY Village of: WWTP
- Dansville, NY Village of: WWTP
- Dundee, NY Village of: WWTP
- Elkland Borough, PA: WWTP
- Lawrence Borough Authority, PA: WWTP
- Perry, NY Village of: WWTP
- Sabinsville, PA Village of: WWTP
- Trumansburg, NY Village of: WWTP
- Owego, NY Town of: WWTP
- Warsaw, NY Village of: WWTP
- Watkins Glen, NY Village of: WWTP
- Waverly, NY Village of: WWTP
- Wayland, NY Village of: WWTP
- Westfield, PA Borough of: WWTP
- Whitney Point, NY Town of WWTP
- Nunda, NY Village of: WWTP
- Portville, NY Village of: WWTP
- Hornell, NY City of: WWTP Backwash Collection Lagoon Sludge

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2) Food Processing Waste Generated at:

- LePrino Foods - Waverly, PA
- Dietrichs Foods (Dairy Farmers of America) - Middlebury Center, PA
- Upstate (formally Kraft Foods) - Campbell, NY
- Kraft Foods - Lowville, NY
- Kraft Foods - Avon, NY
- Quest - Kerry Bio Science in Norwich NY
- Rejected raw milk load - independent haulers loads rejected by Kraft in Campbell

Leo Dickson & Sons, Inc Permit Dated 10/1/2019
Attachment A
Approved Waste Sources

	Received
Addison, NY Village of WWTP	0
Bath, NY Village of WWTP	0
Canisteo, NY Village of WWTP	22.61 tons
Castile NY Vilage of WWTP	0
Cayuga Heights NY Village of WWTP	51.46 tons
Conesus Lake County District	0
Dryden, NY Village of WWTP	40.46 tons
Knoxville, Pa Borough of WWTP	0
Montour Falls, NY Village of WWTP	0
Nelson Township, PA WWTP	0
Alfred, NY Village of WWTP	0
Dansville, NY Village of WWTP	0
Dundee, NY Village of WWTP	0
Elkland Borough, PA WWTP	0
Lawrence Borough Authority, PA WWTP	0
Perry, NY Village of WWTP	157.21 tons
Sabinsville, PA Village of WWTP	0
Trumansburg, NY Village of WWTP	0
Owego, NY Town of WWTP	120.82 tons
Warsaw, NY Village of WWTP	16.06 tons
Watkins Glen, NY Village of WWTP	55.48 tons
Waverly, NY Village of WWTP	38.98 tons

Wayland, NY Village of WWTP	0 tons
Westfield, PA Borough of WWTP	0 tons
Whitney Point, NY Town of WWTP	0 tons
Nunda, NY Village of WWTP	0 tons
Portville, NY Village of WWTP	0 tons
Hornell, NY City of WWTP Backwash Collection Lagoon Sludge	0 tons

Food Processing Waste Generated at:

Leprino Foods - Waverly	0 tons/gallons
Dietrichs Foods (DFA)	100.44 Tons Sludge 384167 gallons waste water
Upstate	815.76 tons sludge
Kraft Foods Lowville, NY	0 ton/gallons
Kraft Foods Avon, NY	0 tons/gallons
Quest- Kerry Bio Science Norwich, NY	92717 gallons
Rejected raw milk loads	0 tons/gallons

Date	Source	Source	Tons	Gallons	Distination	
10/9/2019	Dietricks	Roll off	6.17		P2	
10/11/2019	Dietricks	Liquid from Lagoon		20000.00	P2	
10/11/2019	Dietricks	Roll off	10.54		P2	
10/12/2019	Dietricks	Liquid From Lagoon		31500.00	P2	
10/14/2019	Dietricks	Liquid from Lagoon		30677.00	P2	
10/16/2019	Dietrics	Liquid from Lagoon		27842.00	P2	
10/17/2019	Dietricks	Liquid from Lagoon		17754.00	P2	
10/18/2019	Dietricks	Liquid from Lagoon		15053.00	P2	
10/31/2019	DFA	sludge	10.5		P2	
10/31/2019	DFA	sludge	10.5		P2	
11/8/2019	DFA	waste water		24,605.00	P2	
11/9/2019	DFA	waste water		18,714.00	p2	
11/10/2019	DFA	waste water		6,065.00	P2	
11/12/2019	DFA	Sludge	10.11		W8	
11/16/2019	DFA	waste water		7000.00	P2	
11/26/2019	DFA dewatered	DFA	9.02		P2	
11/27/2019	DFA dewatered	DFA	15.45		P2	
12/5/2019	DFA	waste water		13,300.00	P2	
12/5/2019	DFA	waste water		19,800.00	P2	
12/6/2019	DFA	waste water		12,464.00	P2	
12/7/2019	DFA	waste water		32,618.00	P2	
12/10/2019	DFA	dewatered	15.32		P2	
12/17/2019	DFA	Dewatered	12.83		P2	
12/27/2019	DFA	waste water		19230.00	P2	
12/28/2019	DFA	waste water		13770.00	P2	
12/31/2019	DFA	waste water		20259.00	P2	
12/31/2019	DFA	waste water		7029.00	P2	
1/2/2020	DFA	waste water		26822.00	P2	
1/10/2020	DFA	waste water		6,233.00	P2	
1/11/2020	DFA	waste water		13,432.00	P2	
			100.44	384,167.00		

Date	Source	Source	Tons	Gallons	Distination	
10/18/2019	Kerry Bio Science	Liquid		7000	P2	
10/25/2019	Kerry Bio Science	waste water		7,000.00	P2	
11/6/2019	Kerry Bio Science	waste water		14,000.00	P2	
11/7/2019	Kerry Bio Science	waste water		10,000.00	P2	
11/9/2019	Kerry Bio Science	waste water		7,000.00	P2	
11/12/2019	Kerry Bio Science	waste water		6,417.00	P2	
11/19/2019	Kerry	waste water		14,000.00	P2	
12/5/2019	Kerry Bio Science	waste water		7,000.00	P2	
12/5/2019	Kerry Bio Science	waste water		6,300.00	P2	
12/11/2019	Kerry Bio Science	waste water		7,000.00	P2	
12/16/2019	Kerry Bio Science	waste water		7,000.00	P2	

- 92,717.00

Date	Source	Source	Tons	Gallons	Distination
1/21/2019	Upstate	Roll Off	13.63		P2
1/22/2019	Upstate	Roll Off	11.45		P2
1/23/2019	Upstate	Sidedump	21.14		P2
1/24/2019	Upstate	Roll Off	17.88		P2
1/25/2019	Upstate	Roll Off	19.01		P2
1/25/2019	Upstate	Sidedump	24.76		P2
1/26/2019	Upstate	Roll Off	12.23		P2
1/30/2019	Upstate	Sidedump	18.88		P2
2/4/2019	Upstate	Sidedump	19.85		P2
2/5/2019	Upstate	Sidedump	11.91		P2
2/7/2019	Upstate	Sidedump	15.03		P2
2/8/2019	Upstate	Roll Off	18.87		P2
2/8/2019	Upstate	Sidedump	16.22		P2
2/11/2019	Upstate	SD	20.58		P2
2/12/2019	Upstate	SD	16.05		P2
	Upstate	RO	21.44		P2
2/14/2019	Upstate	SD	25.37		P2
	Upstate	RO	16.79		P2
2/15/2019	Upstate	SD	24.47		P2
	Upstate	SD	13.69		P2
2/16/2019	Upstate	RO	12.28		P2
2/19/2019	Upstate	RO	17.24		P2
	Upstate	SD	22.21		P2
2/20/2019	Upstate	RO	16.8		P2
2/21/2019	Upstate	RO	16.8		P2
	Upstate	SD	23.98		P2
2/22/2019	Upstate	RO	15.51		P2
2/25/2019	Upstate	RO	15.54		P2
2/25/2019	Upstate	RO	15.54		P2
2/26/2019	Upstate	RO	14.39		P2
2/27/2019	Upstate	RO	17		P2
	Upstate	SD	22.25		P2
2/28/2019	Upstate	RO	16.23		P2

3/1/2019	upstate	SD	15.8		P2	
	Upstate	RO	12.32		P2	
3/5/2019	Upstate	RO	16.57		P2	
	upstate	SD	18.35		P2	
	Upststate	RO	15.64		P2	
3/8/2019	Upstate	RO	13.69		P2	
3/9/2019	Upstate	SD	24		P2	
3/11/2019	Upstate	RO	13.47		P2	
3/12/2019	Upstate	SD	21.11		P2	
	Upstate	RO	16.49		P2	
3/13/2019	Upstate	SD	19		P2	
	Upstate	RO	14.62		P2	
	Upstate	RO	12.63		P2	
3/14/2019	Upstate	SD	17.05		P2	

815.76 -

Date	Source	Source	Tons	Gallons	
10/15/2019	Perry	sludge	53.48		P1B
10/17/2019	Perry	sludge	52.17		P1B
10/18/2019	Perry	sludge	51.56		W6
10/18/2019	Cayuga Hgts	sludge	18.45		W6
10/18/2019	Watkins Glen	sludge	19.02		W6
10/21/2019	Waverly	sludge	18.87		W6
10/23/2019	Dryden	sludge	8.06		W6
10/30/2019	Cayuga Hgts	sludge	16.08		W6
10/30/2019	Owego	sludge	15.88		W6
1/15/1900	Dryden WWTP	Biosolids Sludge	15.23		W8
11/13/2019	Watkins Glen	Biosolids Sludge	18.81		W8
11/15/2019	Warsaw	Biosolids Sludge	16.06		W8
11/18/2019	Owego Village	sludge	28.8		w8
11/19/2019	Watkins Glen	sludge	17.65		w8
11/19/2019	Owego Village	sludge	46.17		w8
11/20/2019	Owego Village	sludge	29.97		w8
11/25/2019	Canisteo Sludge	Canisteo Sludge	11.98		upper LWR Pad
11/26/2019	Canisteo Sludge	Canisteo Sludge	10.63		upper LWR Pad
12/9/2019	Dryden	dewatered	17.17		LWR Pad
12/9/2019	Cayuga Hgts	dewatered	16.93		LWR Pad
12/10/2019	Avon	dewatered	22.29		LWR Pad
12/10/2019	Waverly	dewatered	20.11		LWR Pad

525.37 -

Date	Source	Source	Tons	Gallons		
12/10/2019	Avon	dewatered	22.29	Steuben County Landfill		

22.29 -

Date	Source	Source	Tons	Gallons		
11/25/2019	Canisteo Sludge	Canisteo Sludge	11.98		upper LWR Pad	Storage
11/26/2019	Canisteo Sludge	Canisteo Sludge	10.63		upper LWR Pad	Storage

22.61 -

Date	Source	Source	Tons	Gallons		
10/18/2019	Cayuga Hgts	sludge	18.45		W6	Land Applied
10/30/2019	Cayuga Hgts	sludge	16.08		W6	Land Applied
12/9/2019	Cayuga Hgts	dewatered	16.93		LWR Pad	Storage

51.46 -

Date	Source	Source	Tons	Gallons		
10/23/2019	Dryden	sludge	8.06		W6	Land Applied
1/15/1900	Dryden WWTP	Biosolids Sludge	15.23		W8	Land Applied
12/9/2019	Dryden	dewatered	17.17		LWR Pad	Storage

40.46 -

Date	Source	Source	Tons	Gallons		
10/30/2019	Owego	sludge	15.88		W6	Land Applied
11/18/2019	Owego	sludge	28.8		w8	Land Applied
11/19/2019	Owego	sludge	46.17		w8	Land Applied
11/20/2019	Owego	sludge	29.97		w8	Land Applied

120.82 -

Date	Source	Source	Tons	Gallons		
10/15/2019	Perry	sludge	53.48		P1B	Land Applied
10/17/2019	Perry	sludge	52.17		P1B	Land Applied
10/18/2019	Perry	sludge	51.56		W6	Land Applied

157.21 -

Date	Source	Source	Tons	Gallons		
11/15/2019	Warsaw	Biosolids Sludge	16.06		W8	Land Applied

16.06 -

Date	Source	Source	Tons	Gallons		
10/21/2019	Waverly	sludge	18.87		W6	Land Applied
12/10/2019	Waverly	dewatered	20.11		LWR Pad Storag	Storage

38.98 -

Date	Source	Source	Tons	Gallons		
10/18/2019	Watkins Glen	sludge	19.02		W6	Land Applied
11/13/2019	Watkins Glen	Biosolids Sludge	18.81		W8	Land Applied
11/19/2019	Watkins Glen	sludge	17.65		w8	Land Applied

55.48 -

Section 2.

ATTACHMENT A

Approved Waste Sources

1) Stabilized biosolids generated from the following sources may be accepted for land application contingent on meeting the requirements of this permit.

- Addison, NY Village of: WWTP
- Bath, NY Village of: WWTP
- Canisteo, NY Village of: WWTP
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- Nelson Township, PA: WWTP
- Alfred, NY Village of: WWTP
- Dansville, NY Village of: WWTP
- Dundee, NY Village of: WWTP
- Elkland Borough, PA: WWTP
- Lawrence Borough Authority, PA: WWTP
- Perry, NY Village of: WWTP
- Sabinsville, PA Village of: WWTP
- Trumansburg, NY Village of: WWTP
- Owego, NY Town of: WWTP
- Warsaw, NY Village of: WWTP
- Watkins Glen, NY Village of: WWTP
- Waverly, NY Village of: WWTP
- Wayland, NY Village of: WWTP
- Westfield, PA Borough of: WWTP
- Whitney Point, NY Town of WWTP
- Nunda, NY Village of: WWTP
- Portville, NY Village of: WWTP
- Hornell, NY City of: WWTP Backwash Collection Lagoon Sludge

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2) Food Processing Waste Generated at:

- LePrino Foods - Waverly, PA
- Dietrichs Foods (Dairy Farmers of America) - Middlebury Center, PA
- Upstate (formally Kraft Foods) - Campbell, NY
- Kraft Foods - Lowville, NY
- Kraft Foods - Avon, NY
- Quest - Kerry Bio Science in Norwich NY
- Rejected raw milk load - independent haulers loads rejected by Kraft in Campbell

POTW
Source Names, Mailing Address
Operators Name
Phone Number

Avon WWTP
74 Genesee Street
Avon, NY 14414
avaonwwtp@gmail.com

Canisteo WWTP
8 Green Street
Canisteo, NY 14823

Cayuga Heights WWTP
836 Henshaw Road
Ithaca, NY 14850
607-273-4461
rich@cayugaheights.com

DFA
Middlebury Center, Pa 16935
570-376-2001
Matt Slater
slater@dfamilk.com

Dryden
Po Box 820
Dryden, NY 13053
boxerlovers@gmail.com

Owego WWTP
1319 Main Street
Apalachin, NY 13732
625-3921
Tyson Stiles
stiles@townof owego.com

Watkins Glen WWTP
303 N Franklin Street
Watkins Glen, NY 14891
607-535-7621

Upstate Niagra
Main Street
Campbell, NY

John Istler

Warsaw WWTP
Warsaw, NY 14569
585-786-8575

Kerry Bio Science,
158 State Highway 320
Norwich, NY 13815
315-802-5879

Perry WWTP
46 N Main Street
Perry, NY 14530

Waverly WWTP
32 Ithaca Street
Waverly, NY 14892
607-565-8106
khazen@villageofwaverly.com

Section 3.

-> Field spreading Data

-> crops Grown

Land Application	2019				
Leo Dickson & Sons					
Date	Type	source	Amount / Gallons	Field	Acres
1/2/2019	P1	P1	136,000.00	H3	52.2
1/3/2019	P1	P1	119,000.00	H3	52.2
1/3/2019	P2	P2	25,500.00	H3	52.2
1/4/2019	P1	P1	144,500.00	ST6	25.3
1/5/2019	P1	P1	127,500.00	ST6	25.3
1/10/2019	p1	p1	16,800.00	L2	24.8
1/14/2019	P1	P1	102,000.00	H3	52
1/15/2019	p1	p1	56,000.00	H3	52.2
1/16/2019	p1	p1	21,000.00	P1B	17.5
1/16/2019	p1	p1	4,200.00	J2	22.5
1/16/2019	Dairy	Dairy	68,000.00	P1B	17.5
1/17/2019	Dairy	Dairy	51,000.00	J2	22.5
1/17/2019	Dairy	Dairy	68,000.00	J2	22.5
1/16/2019	Dairy	Dairy	102,000.00	P1B	17.5
2/4/2019	P1	P1	85,500.00	St6	25.3
2/4/2019	P1	P1	18,000.00	R 7	10.8
1/5/2019	Dairy	Dairy	9,000.00	C7	5.5
2/5/2019	p1	p1	9,000.00	C7	5.5
9/19/2019	P1	P1	27,000.00	R10	15.2
2/6/2019	P1	P1	72,000.00	R11	32.9
2/7/2019	P1	P1	27,000.00	R11	32.9
2/7/2019	P1	P1	18,000.00	R4	15
2/8/2019	P1	P1	4,500.00	R5A	23.9
2/8/2019	P1	P1	25,500.00	R5A	23.9
2/11/2019	P1	P1	204,000.00	F2	28.1
2/14/2019	P1	P1	178,500.00	F2	28.1
2/15/2019	P1	P1	102,000.00	F2	28.1
2/15/2019	P1	P1	85,000.00	H1	20.5
2/16/2019	P1	P1	110,500.00	F2	28.1
2/16/2019	P1	P1	68,000.00	F1	11.9

2/18/2019	P1	P1	85,000.00	J4	15.4
2/18/2019	P1	P1	102,000.00	P1B	17.5
2/19/2019	P1	P1	20,000.00	U3	9.5
2/19/2019	P1	P1	34,000.00	U2	14.3
2/19/2019	P1	P1	34,000.00	M1	5.8
2/20/2019	P1	P1	102,000.00	F2	28.1
2/20/2019	P1	P1	38,000.00	U1	16
2/22/2019	P1	P1	127,500.00	N1	22.2
2/22/2019	P1	P1	34,000.00	A3	7.6
2/23/2019	P1	P1	42,500.00	H1	20.5
2/23/2019	P1	P1	51,000.00	L2	24.8
2/23/2019	P1	P1	42,500.00	H3	52.2
2/26/2019	P1	P1	93,500.00	L2	24.8
3/9/2019	P1	P1	34,000.00	H3	52.2
3/11/2019	P1	P1	34,000.00	N1	22.2
2/26/2019	P1	P1	42,500.00	L2	24.8
2/26/2019	P1	P1	17,000.00	L1	16.2
2/26/2019	P1	P1	34,000.00	H1	20.5
3/12/2019	P1	P1	42,500.00	F1	11.9
3/12/2019	P1	P1	25,500.00	ST5	25.8
3/13/2019	Dairy	Dairy	42,500.00	R3	8.2
3/13/2019	P1	P1	34,000.00	L1	16.2
3/14/2019	P1	P1	25,500.00	R3	8.2
3/14/2019	Dairy	Dairy	17,000.00	R3	8.2
3/15/2019	P1	P1	51,000.00	ST5	25.8
3/16/2019	P1	P1	34,000.00	ST5	25.8
3/17/2019	P1	P1	42,500.00	ST15	5.1
3/18/2019	P1	P1	85,000.00	ST6	25.3
3/19/2019	P1	P1	68,000.00	ST6	25.3
3/20/2019	P1	P1	153,000.00	ST5	25.8
3/21/2019	P1	P1	51,000.00	ST8	13.8
3/23/2019	P1	P1	86,500.00	St 5	27.5
3/24/2019	P1	P1	82,500.00	St 5	27.5
3/25/2019	P1	P1	86,500.00	St 5	27.5

3/26/2019	P1	P1	86,500.00	St 5	27.5
3/27/2019	P1	P1	31,500.00	St 6	21.4
3/27/2019	Dairy	Dairy	42,500.00	St 6	21.4
3/27/2019	P1	P1	17,000.00	St 6	21.4
3/28/2019	P1	P1	51,000.00	St 6	21.4
3/27/2019	P1	P1	16,000.00	L1	16.2
4/1/2019	P1	P1	31,500.00	H1	20.5
4/2/2019	P1	P1	17,700.00	H1	20.5
4/2/2019	P1	P1	101,100.00	H3	52.2
4/3/2019	P1	P1	153,900.00	L1	16.2
4/4/2019	P1	P1	110,500.00	L1	16.2
4/5/2019	P1	P1	95,000.00	L1	16.2
4/6/2019	P1	P1	65,000.00	M1	5.8
4/8/2019	P1	P1	73,500.00	K1	41.4
4/9/2019	P1	P1	85,000.00	K1	41.4
4/10/2019	P1	P1	42,500.00	K1	41.4
4/11/2019	P1	P1	8,500.00	H3	52.2
4/12/2019	P1	P1	22,500.00	H3	52.2
4/16/2019	P1	P1	22,500.00	O1	17.6
4/16/2019	P1	P1	34,000.00	K1	41.4
4/16/2019	P1	P1	22,500.00	O2	12
4/17/2019	Dairy	Dairy	22,500.00	E3	32.4
4/17/2019	Dairy	Dairy	8,500.00	C7	5.5
4/18/2019	P1	P1	13,000.00	H3	52.2
4/18/2019	P1	P1	17,000.00	D1	29.2
4/19/2019	P1	P1	127,500.00	D1	29.2
4/22/2019	P1	P1	27,000.00	K1	41.4
4/23/2019	P1	P1	34,000.00	H1	20.5
4/23/2019	P1	P1	34,000.00	H3	52.2
4/24/2019	P1	P1	42,000.00	H3	52.2
4/25/2019	P1	P1	51,000.00	o1	17.6
4/25/2019	p1	p1	51,000.00	o2	12
4/26/2019	p1	p1	42,000.00	N1	22.2
4/26/2019	P1	P1	42,000.00	K1	41.4

4/26/2019	P1	P1	42,000.00	o1	17.6
4/30/2019	P1	P1	36,000.00	St5	27.5
5/1/2019	P1	P1	31,500.00	ST18	11.4
5/2/2019	p1	p1	22,000.00	ST5	27.5
5/2/2019	Dairy	Dairy	22,000.00	st16	11.6
5/3/2019	p1	p1	76,500.00	o1	17.6
5/4/2019	p1	p1	25,000.00	o2	12
5/8/2019	P2	P2	161,500.00	F19	12.1
5/9/2019	P2	P2	153,000.00	K1	41.4
5/21/2019	P2	P2	127,500.00	K1	41.4
5/22/2019	P2	P2	127,500.00	G3	28
5/23/2019	P2	P2	127,500.00	H1	20.5
5/24/2019	P2	P2	86,000.00	L2	24.8
5/30/2019	P2	P2	43,000.00	L2	24.8
5/31/2019	P2	P2	68,600.00	L2	24.8
6/3/2019	P2	p2	86,000.00	L2	24.8
6/4/2019	p2	p2	86,000.00	G1	11.3
6/5/2019	P2	P2	15,000.00	H2B	6.1
6/5/2019	P2	P2	40,000.00	G3	28
6/6/2019	Dairy	Dairy	20,000.00	S5	10.7
6/6/2019	Dairy	Dairy	20,000.00	S1	6.6
6/7/2019	Dairy	Dairy	35,000.00	S1	6.6
6/7/2019	Dairy	Dairy	59,500.00	K2	14
6/7/2019	Dairy	Dairy	43,000.00	Sugar 3	20.5
6/8/2019	Dairy	Dairy	94,600.00	Sugar 1	6.1
6/9/2019	Dairy	Dairy	59,500.00	Sugar 2	13.2
6/10/2019	Dairy	Dairy	17,000.00	Sugar 1	6.1
6/11/2019	P2	P2	43,000.00	U3	9.5
6/11/2019	P2	P2	43,000.00	U2	14.3
6/12/2019	P2	P2	17,800.00	U2	14.3
6/12/2019	LWR Outflow	Lwr Out Flow	17,200.00	U3	9.5
6/12/2019	P2	P2	42,500.00	H2C	15.4
6/13/2019	P2	P2	34,000.00	U3	9.5
06/19/19	P1	P1	102,000.00	Q3	11.6

6/27/2019	P1	P1	68,800.00	R6W	15.8
6/27/2019	Dairy	Dairy	25,800.00	R6W	15.8
6/27/2019	LWR Outflow	Lwr Out Flow	8,600.00	R6W	15.8
6/28/2019	P2	P2	43,000.00	R5A	23.9
6/28/2019	LWR Outflow	Lwr Out Flow	8,600.00	R5A	23.9
6/28/2019	Dairy	Dairy	17,200.00	R5A	23.9
6/28/2019	P2	P2	8,600.00	R12	10.3
6/30/2019	P2	P2	68,800.00	R5A	23.9
6/30/2019	P2	P2	8,600.00	R12	10.3
6/30/2019	P2	P2	68,800.00	R5A	23.9
6/30/2019	Dairy	Dairy	17,200.00	R5A	23.9
7/2/2019	P2	P2	17,200.00	R12	10.3
7/2/2019	P2	P2	8,600.00	R5A	23.9
7/2/2019	P2	P2	43,000.00	C10A	6.6
7/2/2019	P2	P2	17,200.00	C13	6.8
7/2/2019	Diary	Dairy	16,000.00	C11	4.8
7/3/2019	Dairy	Dairy	24,000.00	C11	4.8
7/5/2019	P2	P2	40,000.00	C13	6.8
7/8/2019	P2	P2	55,400.00	B9	33.6
7/9/2019	P2	P2	17,200.00	R4	15
7/10/2019	Dairy	Dairy	17,200.00	R4	15
7/10/2019	LWR Outflow	LWR Out Flow	17,200.00	R4	15
7/10/2019	P2	P2	43,000.00	R4	15
7/11/2019	P2	P2	81,000.00	B9	33.6
7/15/2019	P2	P2	80,000.00	B9	33.6
7/16/2019	P1	P1	16,000.00	F12	21
7/16/2019	P1	P1	16,000.00	F13	9.3
7/19/2019	LWR Outflow	Lwr Out Flow	17,000.00	E4	11.5
7/19/2019	P1	P1	24,000.00	E4	11.5
7/25/2019	P1	P1	16,000.00	U3	9.5
7/25/2019	P1	P1	8,000.00	E6	14.3
7/25/2019	P1	P1	8,000.00	U2	14.3
7/26/2019	P1	P1	8,000.00	U3	9.5
7/27/2019	P1	P1	8,000.00	U1	16

7/27/2019	P1	P1	8,000.00	U3	9.5
7/29/2019	P1	P1	24,000.00	K1	41.4
8/2/2019	Dairy	Dairy	8,000.00	K1	41.4
8/2/2019	LWR Outflow	Lwr Out Flow	16,000.00	K1	41.4
8/7/2019	LWR Outflow	Lwr Out Flow	8,000.00	K1	41.4
8/7/2019	Dairy	Dairy	8,000.00	K1	41.4
8/10/2019	Dairy	Dairy	30,000.00	K1	41.4
8/13/2019	P2	P2	80,000.00	E6	14.3
8/14/2019	P2	P2	32,000.00	H2B	6.1
8/15/2019	P2	P2	16,000.00	H2B	6.1
8/15/2019	Dairy	Dairy	16,000.00	H2B	6.1
8/21/2019	Dairy	Dairy	9,000.00	Q9	7.7
8/21/2019	Dairy	Dairy	9,000.00	Q9	7.7
8/21/2019	LWR Outflow	Lwr Out Flow	9,000.00	Q9	7.7
8/21/2019	P2	P2	9,000.00	Q7	8.5
8/22/2019	P2	P2	18,000.00	Q7	8.5
8/22/2019	Dairy	Dairy	9,000.00	Q7	8.5
8/22/2019	LWR Outflow	Lwr Out Flow	9,000.00	Q7	8.5
8/23/2019	Dairy	Dairy	18,000.00	Q9	7.7
8/23/2019	P2	P2	18,000.00	Q9	7.7
8/24/2019	Dairy	Dairy	18,000.00	Q10	9.6
8/24/2019	P2	P2	36,000.00	Q10	9.6
8/26/2019	P1	P1	24,000.00	R12	10.3
8/26/2019	Dairy	Dairy	8,000.00	R6E	12.3
8/26/2019	P1	P1	8,600.00	R6W	15.8
8/26/2019	Dairy	Dairy	24,000.00	R6E	12.3
8/26/2019	P1	P1	32,000.00	Q9	7.7
8/26/2019	P2	P2	8,000.00	Q7	8.5
8/27/2019	P1	P1	8,000.00	R12B	7.2
8/27/2019	P1	P1	8,600.00	R12B	7.2
8/27/2019	LWR Outflow	Lwr Out Flow	8,000.00	R12B	7.2
8/29/2019	LWR Outflow	Lwr Out Flow	8,000.00	R12B	7.2
8/30/2019	P1	P1	40,000.00	J1	19.5
8/30/2019	LWR Outflow	Lwr Out Flow	8,000.00	J1	19.5

8/31/2019	LWR Outflow	Lwr Out Flow	16,000.00	J1	19.5
9/7/2019	Dairy	Dairy	45,000.00	Q5	19.3
9/13/2019	P2	P2	56,000.00	U1	16
9/14/2019	P2	P2	48,000.00	U1	16
9/14/2019	Dairy	Dairy	24,000.00	U1	16
9/16/2019	P2	P2	64,000.00	U1	16
9/16/2019	Dairy	Dairy	16,000.00	U1	16
9/17/2019	P2	P2	16,000.00	Q9	7.7
9/17/2019	P2	P2	80,000.00	Q7	8.5
9/17/2019	P2	P2	24,000.00	U1	16
9/19/2019	P1	P1	144,000.00	R10	15.2
9/20/2019	P1	P1	56,000.00	Q4	14.6
9/20/2019	P1	P1	40,000.00	R10	15.2
9/20/2019	Dairy	Dairy	16,000.00	R10	15.2
9/21/2019	P1	P1	72,000.00	Q4	14.6
9/21/2019	Dairy	Dairy	24,000.00	Q4	14.6
9/23/2019	P1	P1	42,000.00	Q4	14.6
9/24/2019	P1	P1	120,000.00	U1	16
9/25/2019	P1	P1	112,000.00	U1	16
9/26/2019	P1	P1	88,000.00	U1	16
9/27/2019	P1	P1	88,000.00	R3	8.2
9/28/2019	P1	P1	16,000.00	R10	15.2
10/1/2019	P1	P1	20,000.00	R10	15.2
10/2/2019	P1	P1	16,000.00	R10	15.2
10/3/2019	P1	P1	16,000.00	Q7	8.5
10/4/2019	P1	P1	48,000.00	U2	14.3
10/10/2019	P1	P1	44,000.00	U3	9.5
10/11/2019	P2	P2	16,000.00	J 2	22.5
10/11/2019	P2	P2	40,000.00	J 4	15.5
10/11/2019	P2	P2	44,000.00	U2	14.3
10/12/2019	P2	P2	8,000.00	J 4	15.5
10/16/2019	P2	P2	48,000.00	J4	15.4
10/15/2019	Perry	sludge	53.48	P1B	17.5
10/17/2019	Perry	sludge	52.17	P1B	17.5

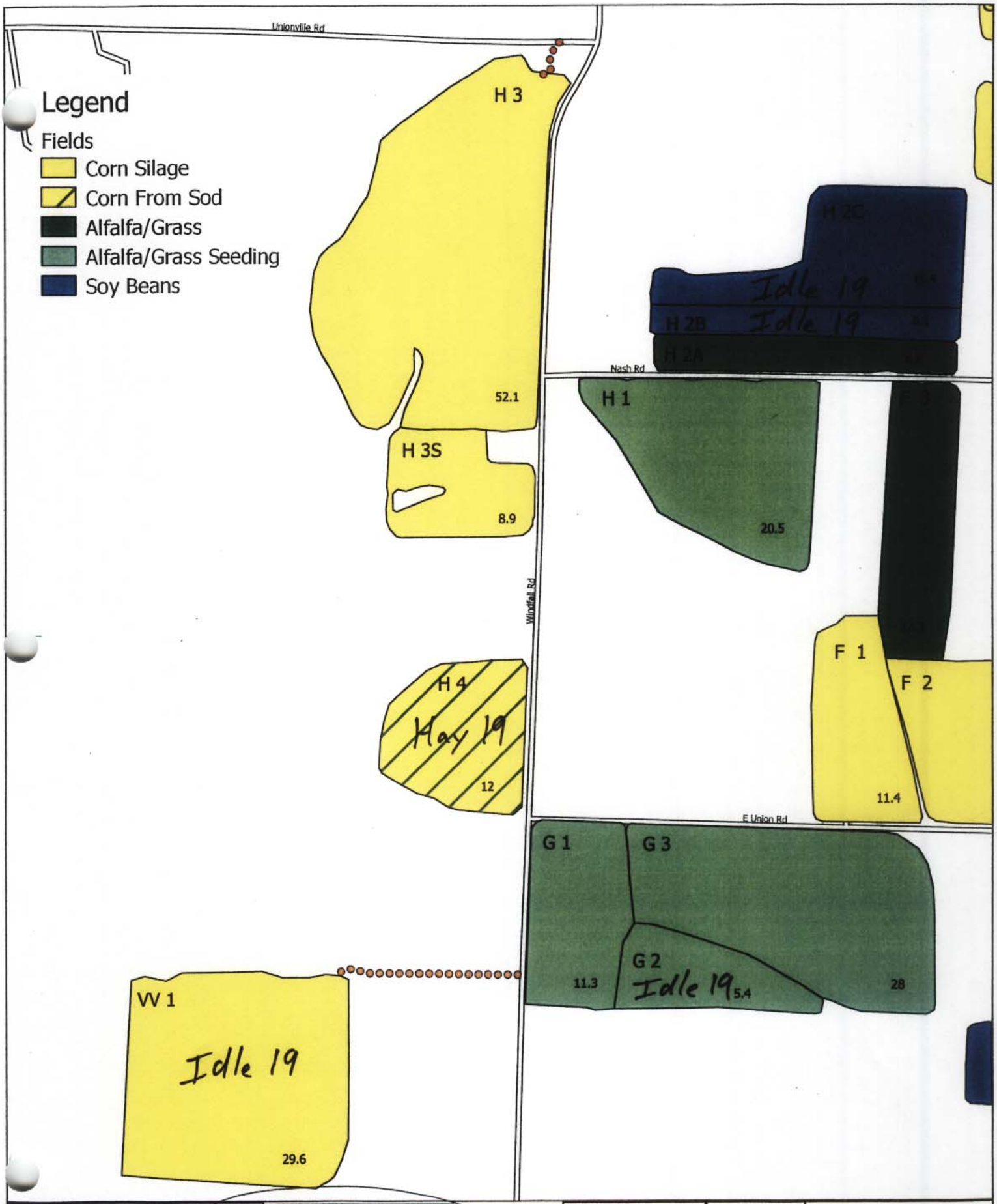
10/18/2019	Perry	sludge	51.56	W6	25
10/18/2019	Cayuga Hgts	sludge	18.45	W6	25
10/18/2019	P2	P2	58000	H3	52.2
10/18/2019	Watkins Glen	Watkins glen	19.02	W6	25
10/21/2019	Waverly	sludge	18.87	W6	25
10/21/2019	Pile by LWR	Sludge	62.00	W6	25
10/21/2019	P2	P2	80,000.00	J1	19.5
10/22/2019	P2	P2	48,000.00	J1	19.5
10/23/2019	Pile by LWR	pile by LWR	20.00	J1	19.5
10/23/2019	Dairy	Dairy	8,600.00	Spears 7	13.3
10/23/2019	Dryden	sludge	8.06	W6	25
10/24/2019	Dairy	Dairy	57,200.00	Spears 7	13.3
10/25/2019	Dairy	Dairy	56,000.00	H3	52.2
10/25/2019	Pile by LWR	pile by LWR	50.00	J1	19.5
10/28/2019	Dairy	Dairy	56,000.00	H3	52.2
10/30/2019	P2	P2	48,000.00	H3	52.2
10/30/2019	Cayuga Hgts	sludge	16.08	W6	25
10/30/2019	Owego	sludge	15.88	W6	25
11/4/2019	P2	P2	50,000.00	H3	52.2
11/5/2019	P2	P2	80,000.00	H3	52.2
11/6/2019	P2	P2	40,000.00	H3	52.2
11/7/2019	P2	P2	40,000.00	H3	52.2
11/11/2019	P2	P2	60,000.00	O1	17.6
11/12/2019	P2	P2	56,000.00	O1	17.6
11/12/2019	P2	P2	48,000.00	N1	22.2
11/14/2019	P2	P2	40,000.00	N1	22.2
11/15/2019	Dairy	Dairy	40,000.00	L2	24.8
11/15/2019	p2	p2	16,000.00	N1	22.2
11/12/2019	Dryden WWTP	Biosolids Sludge	17.81	W8	10.8
11/13/2019	Watkins Glen	Biosolids Sludge	18.81	W8	10.8
11/15/2019	Warsaw	Biosolids Sludge	16.06	W8	10.8
11/18/2019	P2	P2	32,000.00	L2	24.8
11/18/2019	Dairy	Dairy	16,000.00	L2	24.8
11/19/2019	P2	P2	4,300.00	L1	16.2

11/19/2019	P2	P2	4,300.00	L2	24.8
11/19/2019	P2	P2	72,000.00	L2	24.8
11/20/2019	P1	P1	64,000.00	F19	12.1
11/20/82019	P1	P1	24,000.00	L1	16.2
11/21/2019	P1	P1	104,000.00	R11	32.9
11/22/2019	P1	P1	24,000.00	U2	14.3
11/18/2019	Owego	sludge	28.8	w8	10.8
11/19/2019	Watkins Glen	sludge	17.65	w8	10.8
11/19/2019	Owego	sludge	46.17	w8	10.8
11/20/2019	Owego	sludge	29.97	w8	10.8
11/22/2019	P1	P1	24,000.00	Spears 7	13.3
11/22/2019	Dairy	Dairy	16,000.00	Spears 3	9.3
11/25/2019	Diary	Dairy	20,000.00	U1	16
11/25/2019	Dairy	Dairy	20,000.00	U2	14.3
11/25/2019	compost pile by lwr	compost pile by lwr	20.00	w8	10.8
11/26/2019	Dairy	Dairy	20,000.00	c6	7.6
11/26/2019	P1	P1	20,000.00	U2	14.3
11/27/2019	compost pile by lwr	compost pile by lwr	50.00	w8	10.8
11/27/2019	Dairy	Dairy	20,000.00	U2	14.3
12/6/2019	Dairy	Dairy	20,000.00	Z1A	50.3
12/7/2019	Dairy	Dairy	25,000.00	Z1A	50.3
12/9/2019	Dairy	Dairy	32,000.00	Z1A	50.3
12/10/2019	Dairy	Dairy	40,000.00	ST21N	17.3
12/10/2010	Dairy	Dairy	4,000.00	ST3	25.2
12/10/2019	Dairy	Dairy	4,300.00	Z1A	50.3
12/11/2019	Dairy	Dairy	20,000.00	ST21S	24
12/11/2019	Dairy	Dairy	4,000.00	ST4	34.9
12/12/2019	Dairy	Dairy	20,000.00	ST 21S	24
12/12/2019	Dairy	Dairy	22,000.00	ST 4	34.9
12/13/2019	Dairy	Dairy	54,000.00	ST 4	34.9
12/16/2019	Dairy	Dairy	64,000.00	ST 4	34.9
12/20/2019	Dairy	Dairy	80,000.00	ST4	34.9
12/21/2019	Dairy	Dairy	40,000.00	ST4	34.9
12/23/2019	Dairy	Dairy	96,000.00	ST4	34.9

12/24/2019	Dairy	Dairy	24,000.00	ST4	34.9
12/26/2019	Dairy	Dairy	24,000.00	ST4	34.9
12/27/2019	P2	P2	10,400.00	N1	22.2
			12,638,830.84		

b)

Fall 2018 rye was sown as a cover crop and as a grain crop. The cover crop rye was killed in the spring 2019 and planted to either soybeans or corn. Rye for grain is harvested in summer, some fields get seeded down to alfalfa and grass. Spring 2019: alfalfa and grass seedings in early spring, corn and soybeans are planted in spring. Corn for silage is harvested in early fall, corn for grain is harvested in fall to late fall. Soybeans are harvested in early to mid fall. Fall 2019: rye for cover crop and for grain is sown for 2020.



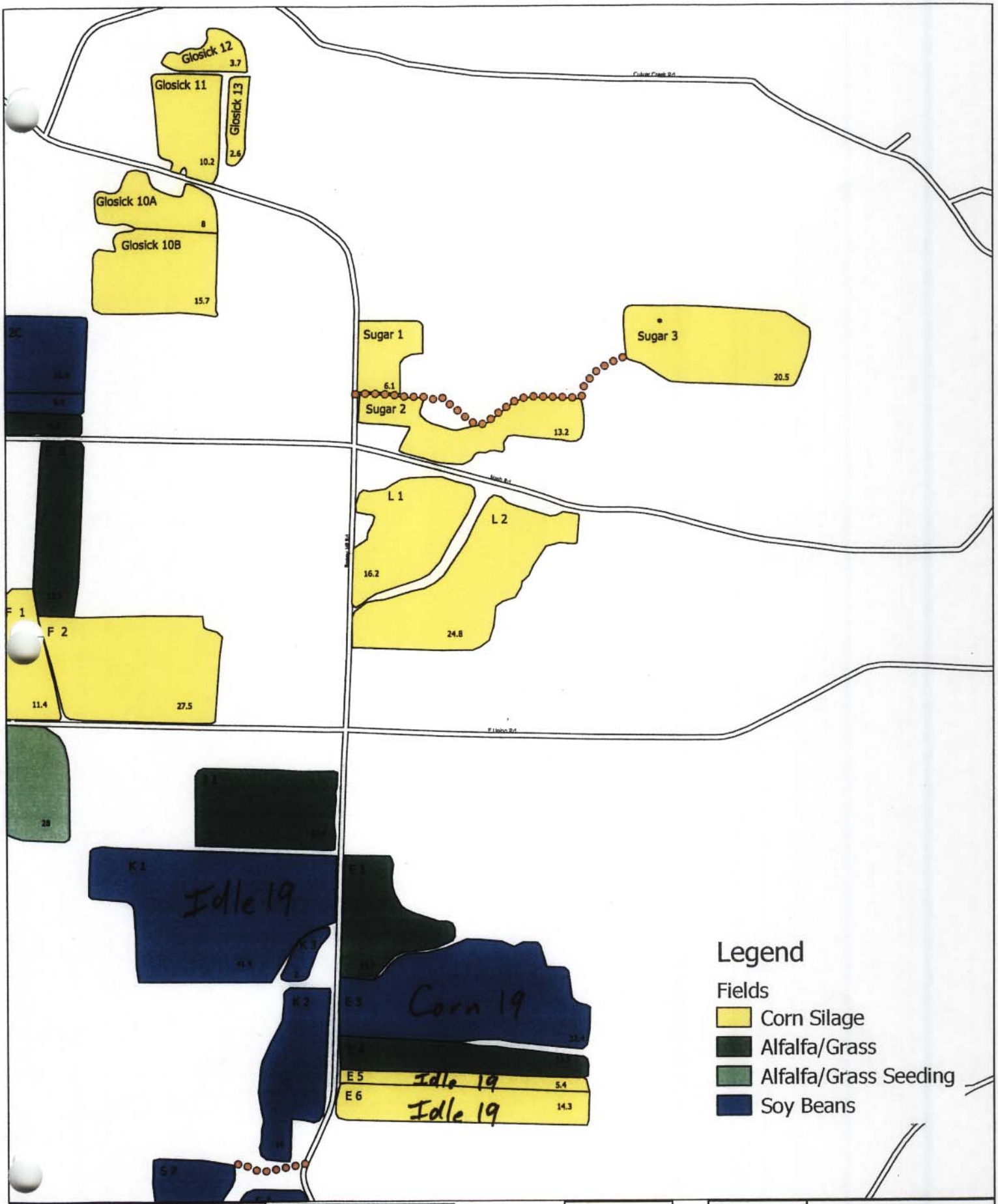
Leo Dickson & Sons
Farm # 953
Map#: 2
04-24-2019

2019 Color Crop Maps

0 500

N

Western New York CROP MANAGEMENT



Leo Dickson & Sons
Farm # 953
Map#: 3
04-24-2019

2019 Color Crop Maps

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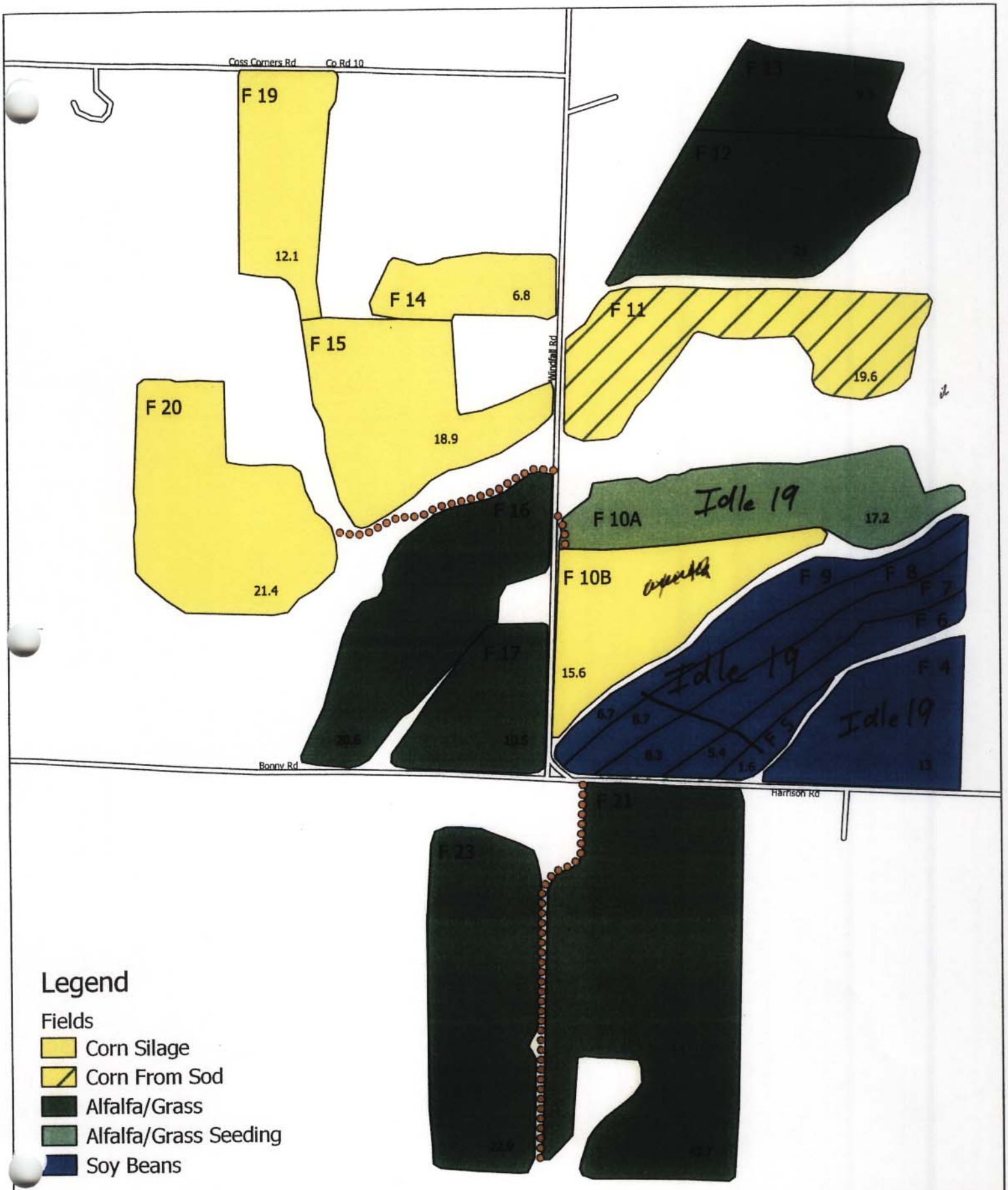
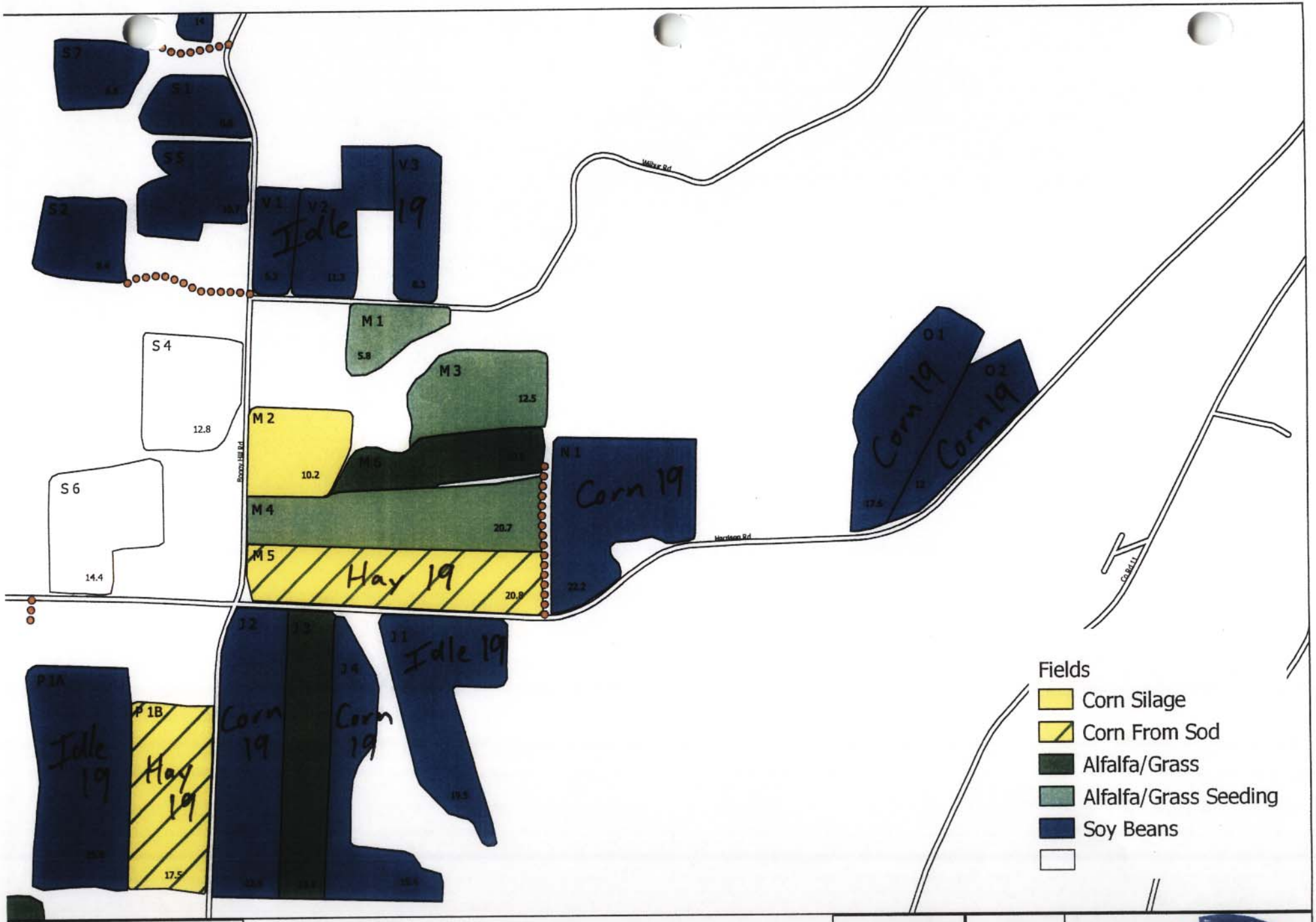
N

Western New York CROP MANAGEMENT

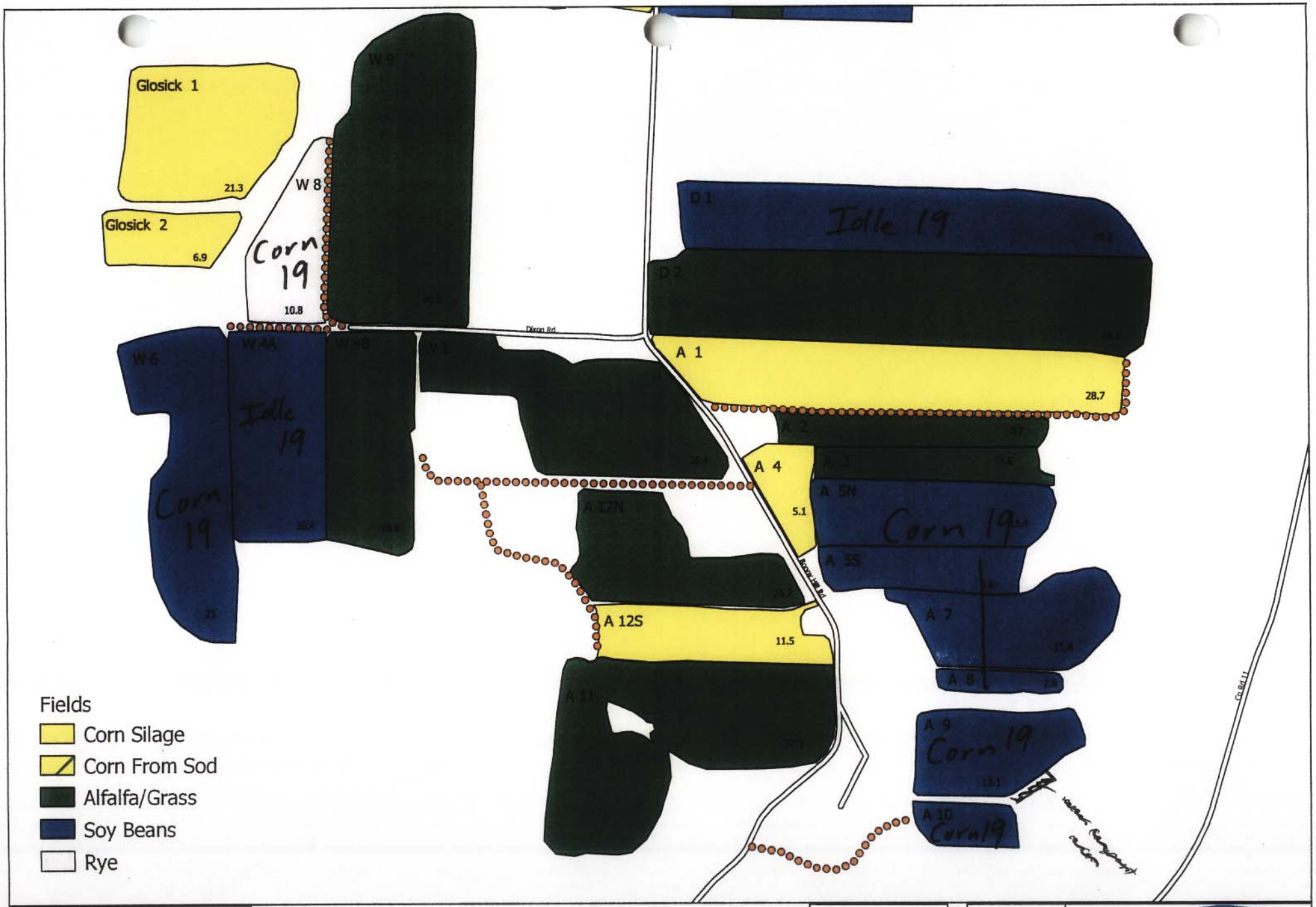


Leo Dickson & Sons Farm # 953 Map#: 5 04-23-2019	2019 Color Crop Maps	0 500	N

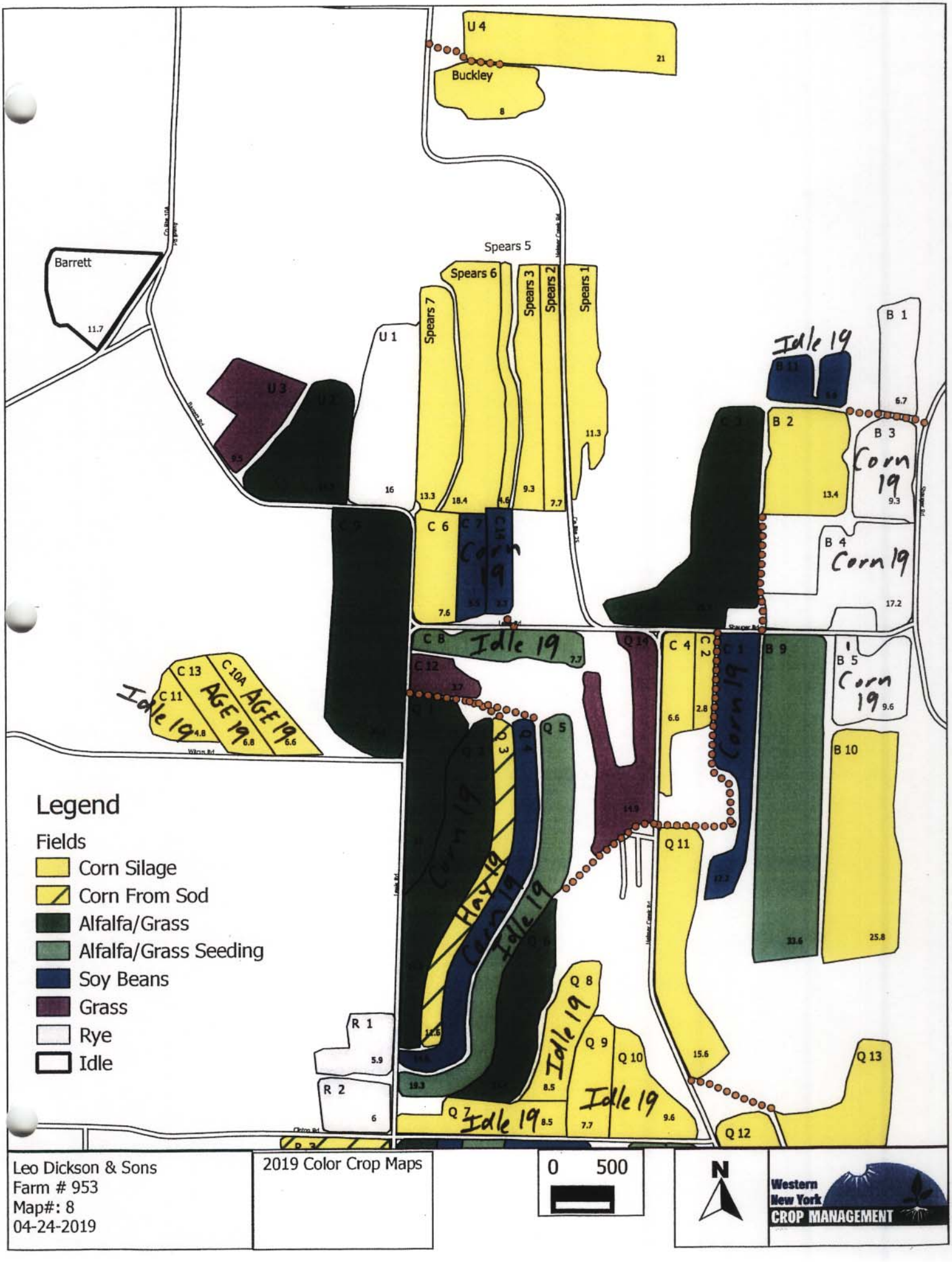
Western New York CROP MANAGEMENT

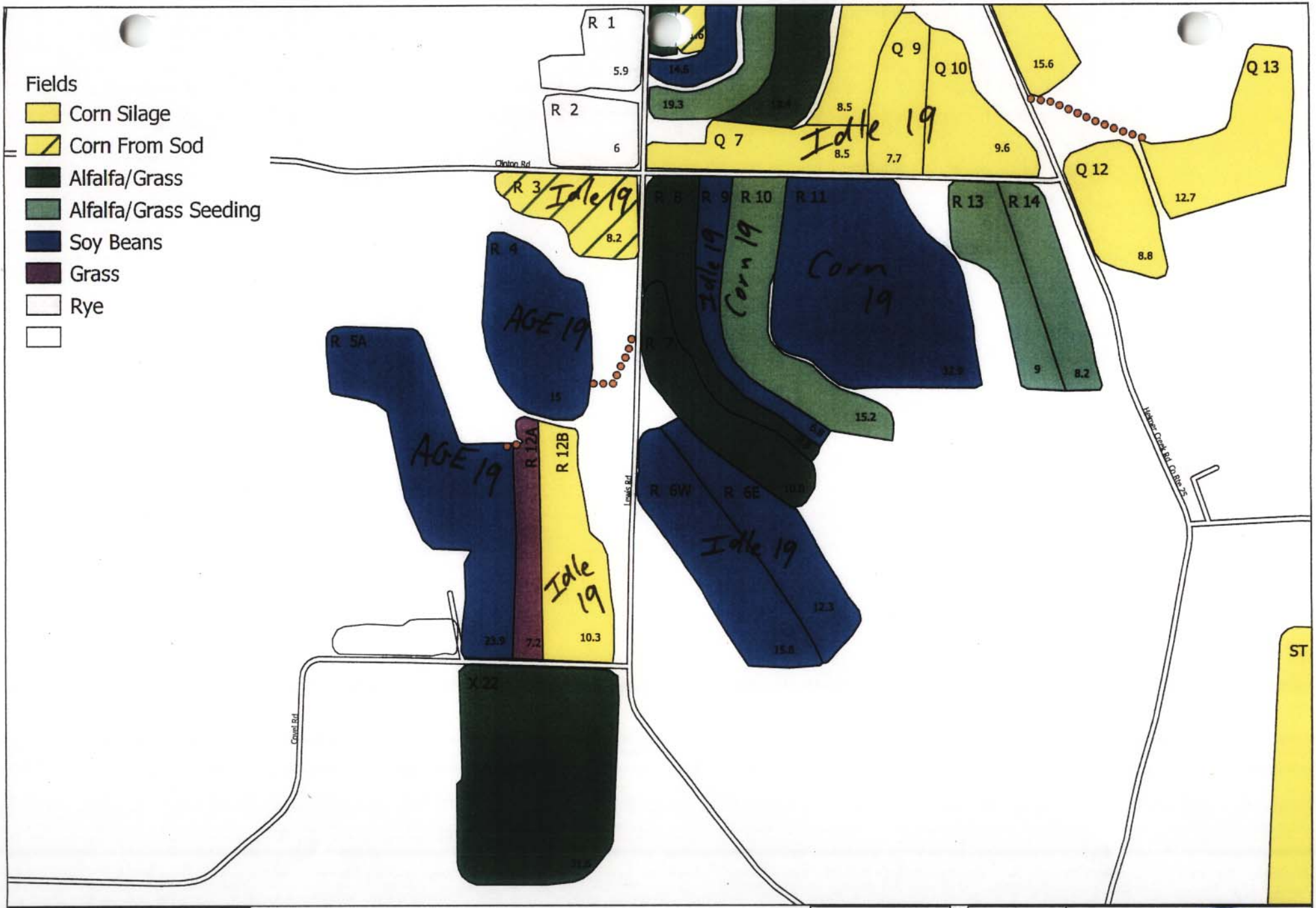


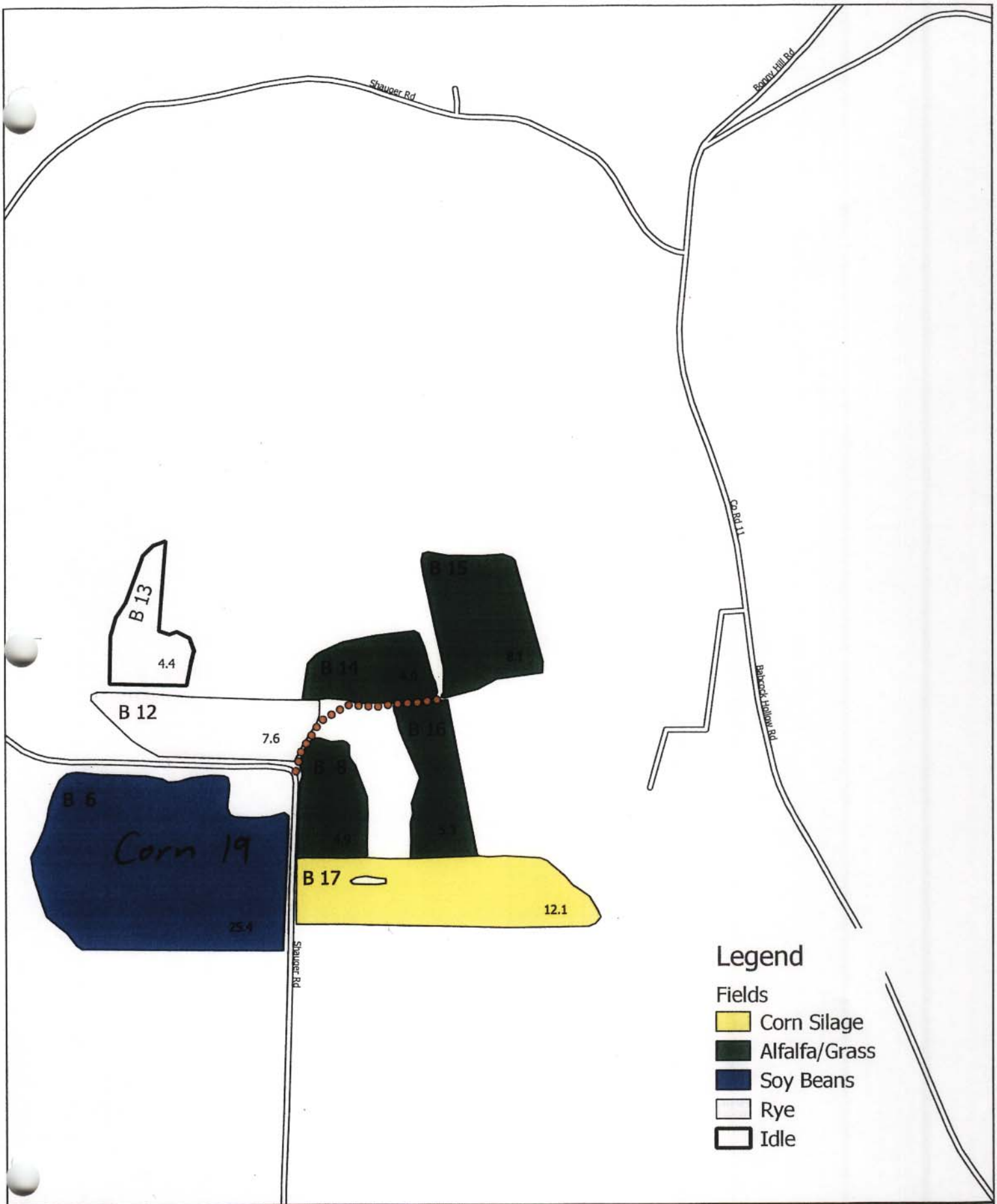
Leo Dickson & Sons
Farm #953
Map #6
04-23-2019



Leo Dickson & Sons
Farm #953
Map #7
04-24-2019


U 4
21
Buckley
8
Barrett
11.7
Spears 5
Spears 6
Spears 3
Spears 2
Spears 1
Spears 7
U 1
U 3
U 2
16
13.3
18.4
4.6
9.3
7.7
11.3
B 1
Idle 19
B 11
6.7
B 2
B 3
Corn 19
13.4
9.3
B 4
Corn 19
17.2
C 6
C 7
C 5
7.6
C 8
Idle 19
7.7
C 12
C 13
C 10A
AGE 19
C 11
Idle 19
4.8
6.8
6.6
Q 14
C 4
C 2
C 1
B 9
B 5
Corn 19
9.6
6.6
2.8
Q 5
Q 3
Q 4
Corn 19
B 10
Q 11
14.9
Hay 19
Corn 19
Idle 19
33.6
25.8
Q 8
Idle 19
Q 9
Q 10
Q 13
15.6
R 1
5.9
R 2
6
19.3
8.5
Q 7
Idle 19
8.5
Idle 19
7.7
9.6
Q 12
Legend
Fields
Corn Silage
Corn From Sod
Alfalfa/Grass
Alfalfa/Grass Seeding
Soy Beans
Grass
Rye
Idle
Leo Dickson & Sons
Farm # 953
Map#: 8
04-24-2019
2019 Color Crop Maps
0
500
N
Western New York
CROP MANAGEMENT


Fields
Corn Silage
Corn From Sod
Alfalfa/Grass
Alfalfa/Grass Seeding
Soy Beans
Grass
Rye
R 1
5.9
R 2
6
Clinton Rd
R 3
Idle 19
8.2
R 4
AGE 19
15
R 5A
AGE 19
23.9
R 12A
7.2
R 12B
Idle 19
10.3
X 22
Covel Rd
Lewis Rd
Q 7
Idle 19
19.3
8.5
Q 9
Q 10
8.5
7.7
9.6
15.6
Q 13
12.7
Q 12
8.8
R 6
R 9
R 10
R 11
Idle 19
Corn 19
Corn 19
15.2
R 13
R 14
9
8.2
R 6W
R 6E
Idle 19
12.3
15.8
Harper Creek Rd Co Rte 25
ST
Leo Dickson & Sons
Farm #953
Map #9
04-24-2019
0
500 ft
N
Western New York
CROP MANAGEMENT



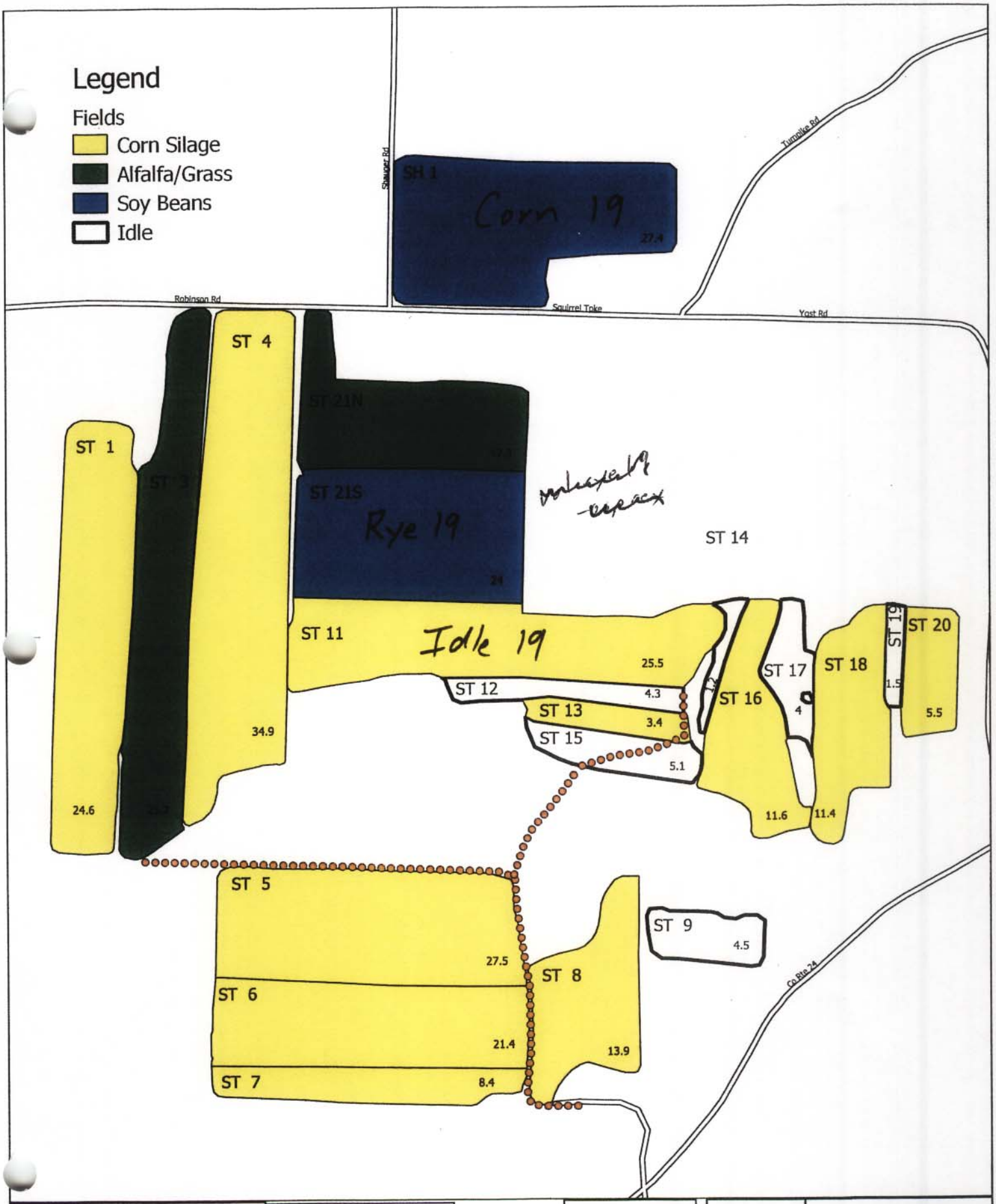
Leo Dickson & Sons
Farm # 953
Map#: 10
04-24-2019

2019 Color Crop Maps

0 500

N

Western New York CROP MANAGEMENT



Leo Dickson & Sons Farm # 953 Map#: 12 04-24-2019	2019 Color Crop Maps

Legend

Water

CMAWaterFeatures

CMAWaterPoints

- (TO) Tile Outlet
- (R) Tile Riser

CMAPolyWater

- Pond
- Wetland

CMALinearWater

- Concentrated Flow
- Ditch
- Intermittent Stream
- Perenial Stream
- (W) Wells

FieldFeatures

- Laneways
- FieldSplits

ManureSetbacks

- Manure Restriction Area. 100 ft. setback if topdressed, 15' if incorporated, 35' if on hay.
- No Manure Spreading 100ft.
- Food Waste Setback 200ft.

OtherFieldPolygons

- Buildings
- Manure Storage

Fields

- Field
- Pasture

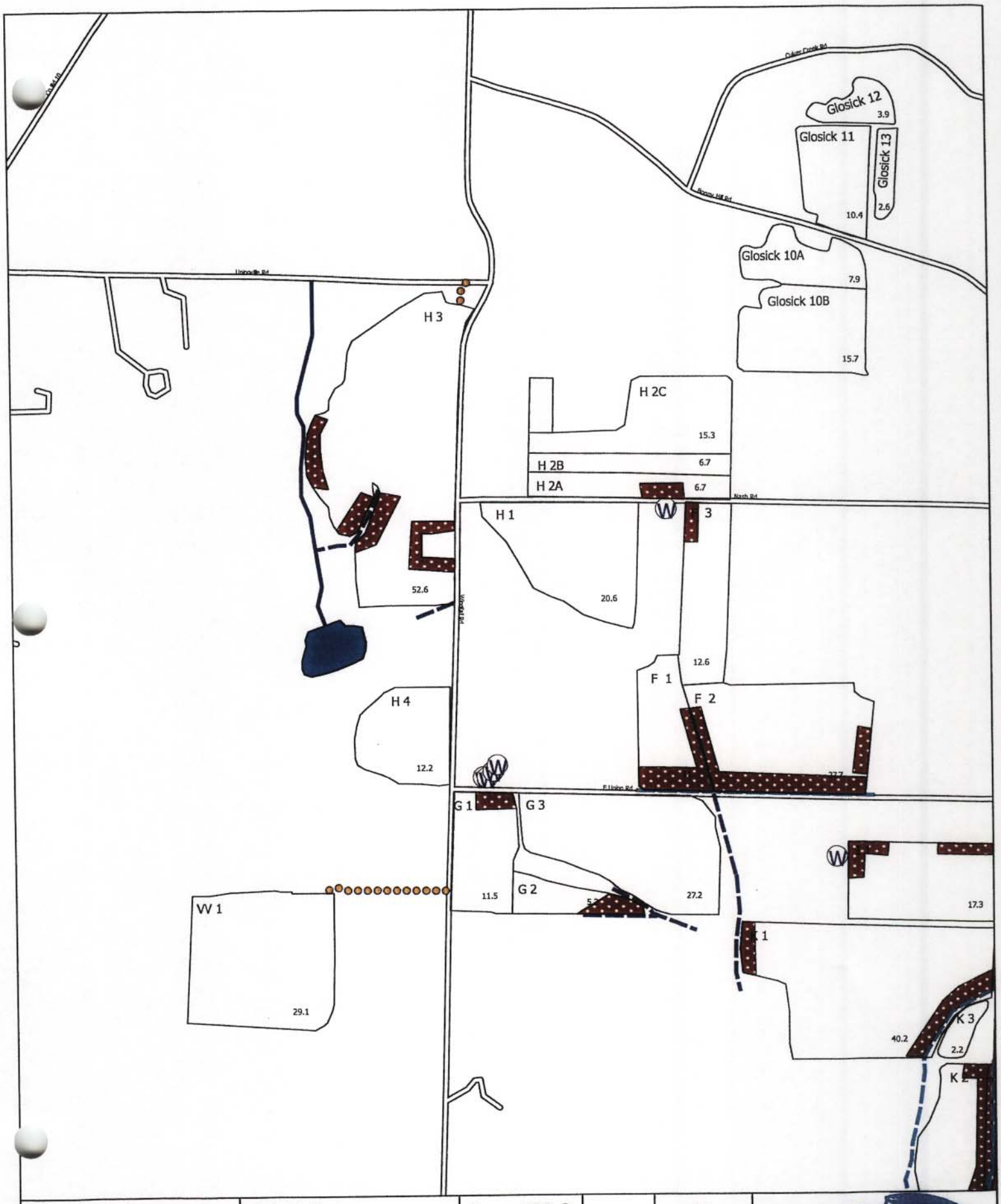
VegetativeBuffers

- Vegetative Buffer

Leo Dickson & Sons Farm #953 02-20-2015	Map Legend	500 ft

N

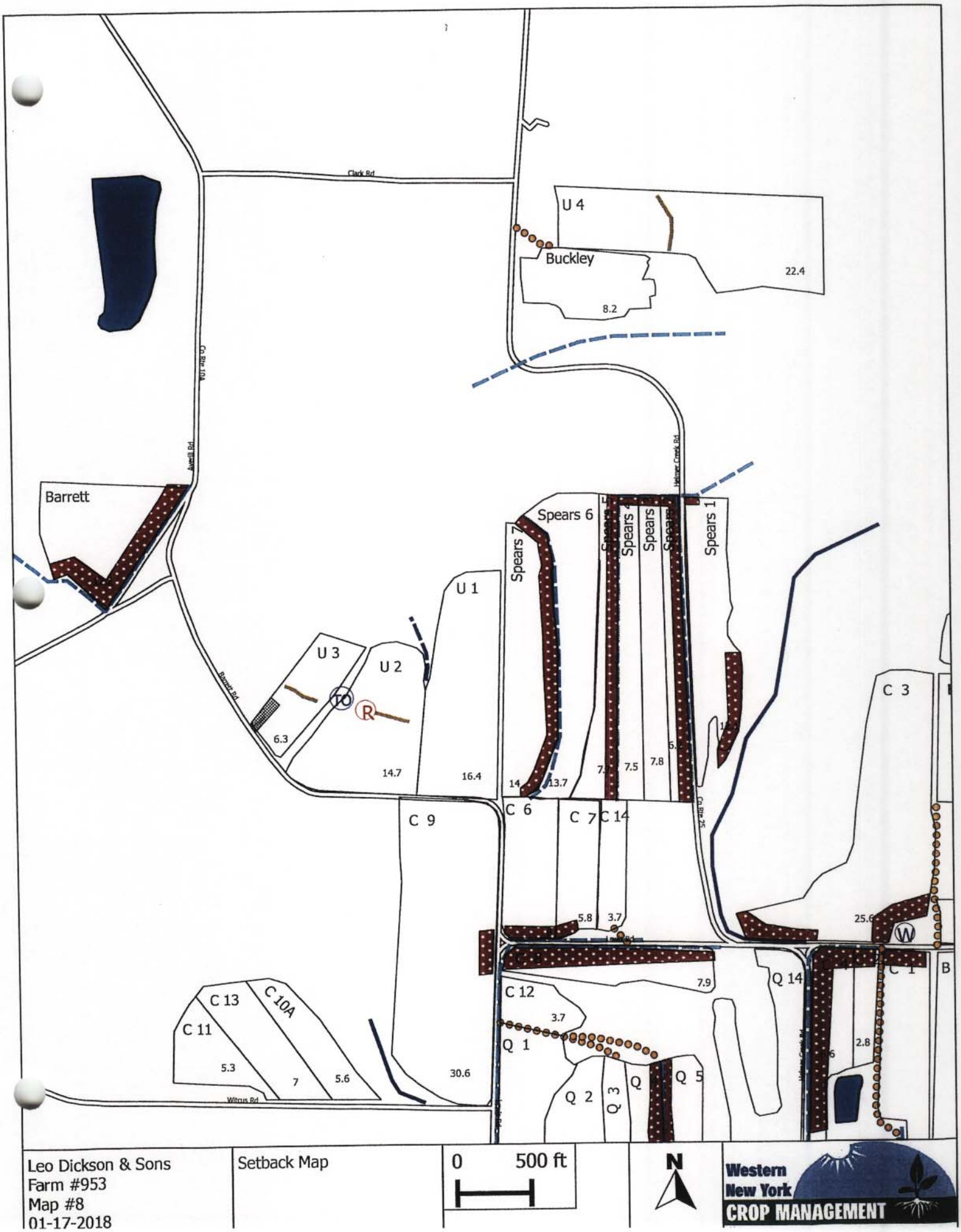
Western New York CROP MANAGEMENT

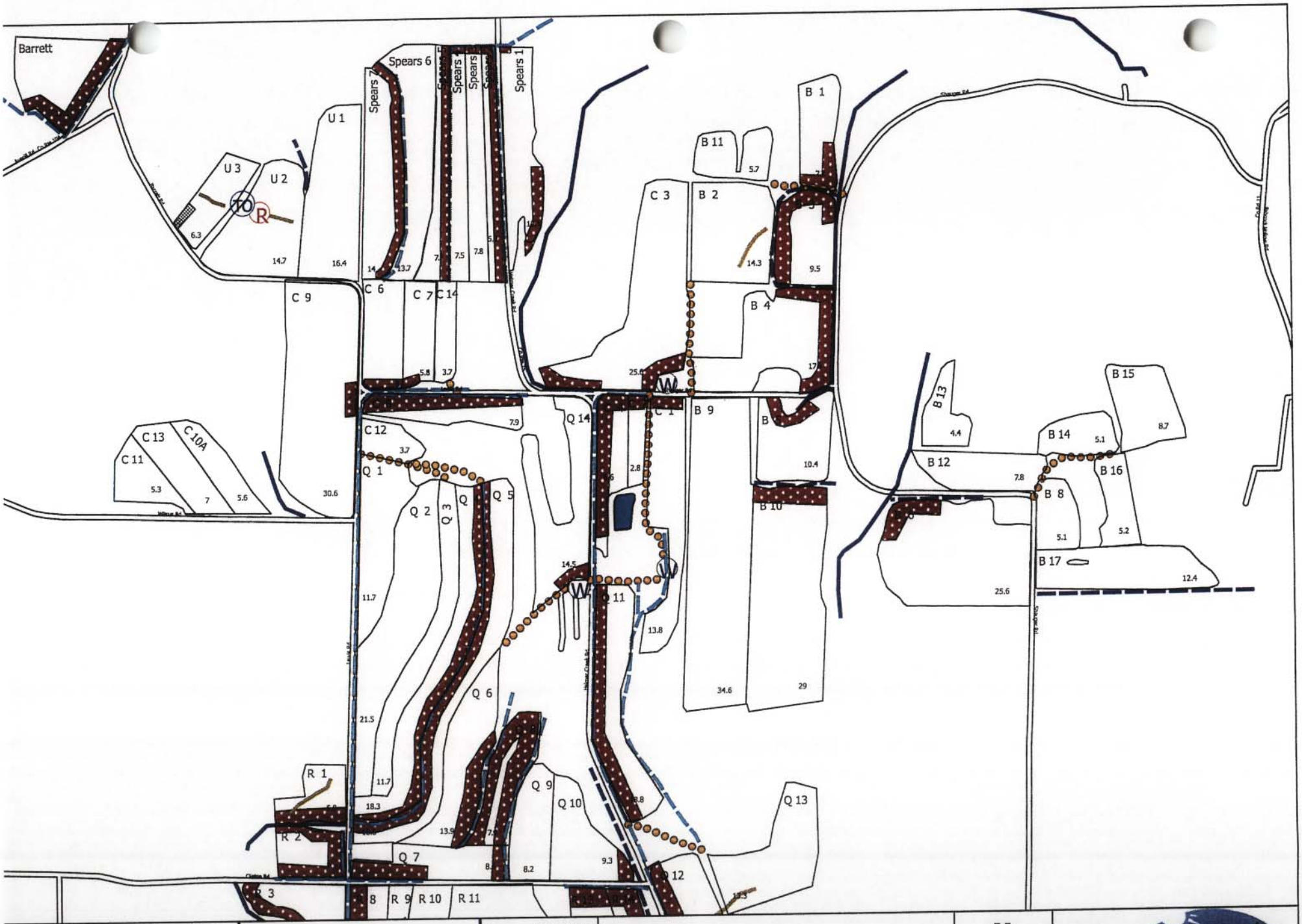

Culver Creek Rd
Glosick 12
3.9
Glosick 11
Glosick 13
2.6
10.4
Boggy Hill Rd
Glosick 10A
7.9
Glosick 10B
15.7
Unionville Rd
H 3
H 2C
15.3
H 2B
6.7
H 2A
6.7
Nash Rd
H 1
3
20.6
52.6
Wood Rd
12.6
F 1
F 2
H 4
12.2
E Union Rd
G 1
G 3
11.5
G 2
27.2
17.3
VV 1
29.1
K 1
K 3
40.2
2.2
K 2
Leo Dickson & Sons
Farm #953
Map #4
01-17-2018
Setback Map
0
500 ft
N
Western
New York
CROP MANAGEMENT


Cross Corners Rd Co Rd 10
F 19
12.5
F 14
6.8
F 15
F 20
18.9
F 16
22.2
F 17
20.8
10.5
Bonny Rd
Woodhill Rd
F 13
9.3
F 12
21.4
F 11
20
F 10A
17.6
F 10B
15.6
6.7
9.2
8.6
6.3
2
F 9
F 8
F 7
F 6
F 5
F 4
13.2
Harrison Rd
21
F 23
23.9
42.2
S 7
6.9
S 2
8.9
S 6
14.9
P 1A
P 1B
25.7
W 9
Glosick 1
Leo Dickson & Sons
Farm #953
Map #5
01-17-2018
Setback Map
0
500 ft
N
Western
New York
CROP MANAGEMENT


Nash Rd
E Hohn Rd
Wilcox Rd
Hardcox Rd
17.1
25.1
17.3
K 1
K 3
40.2
2.2
K 2
1
3
32.2
13.2
5
6.1
6
13
S 7
6.9
S 1
6.8
S 5
S 2
8.9
V 3
5.5
8.5
M 1
6
M 3
12.4
M 2
10.1
10.8
N 1
S 4
S 6
M 4
20.1
M 5
O 1
O 2
16.8
11.4
Leo Dickson & Sons
Farm #953
Map #6
01.17.2019
Setback Map
0
500 ft
N
Western
New York
CROP MANAGEMENT

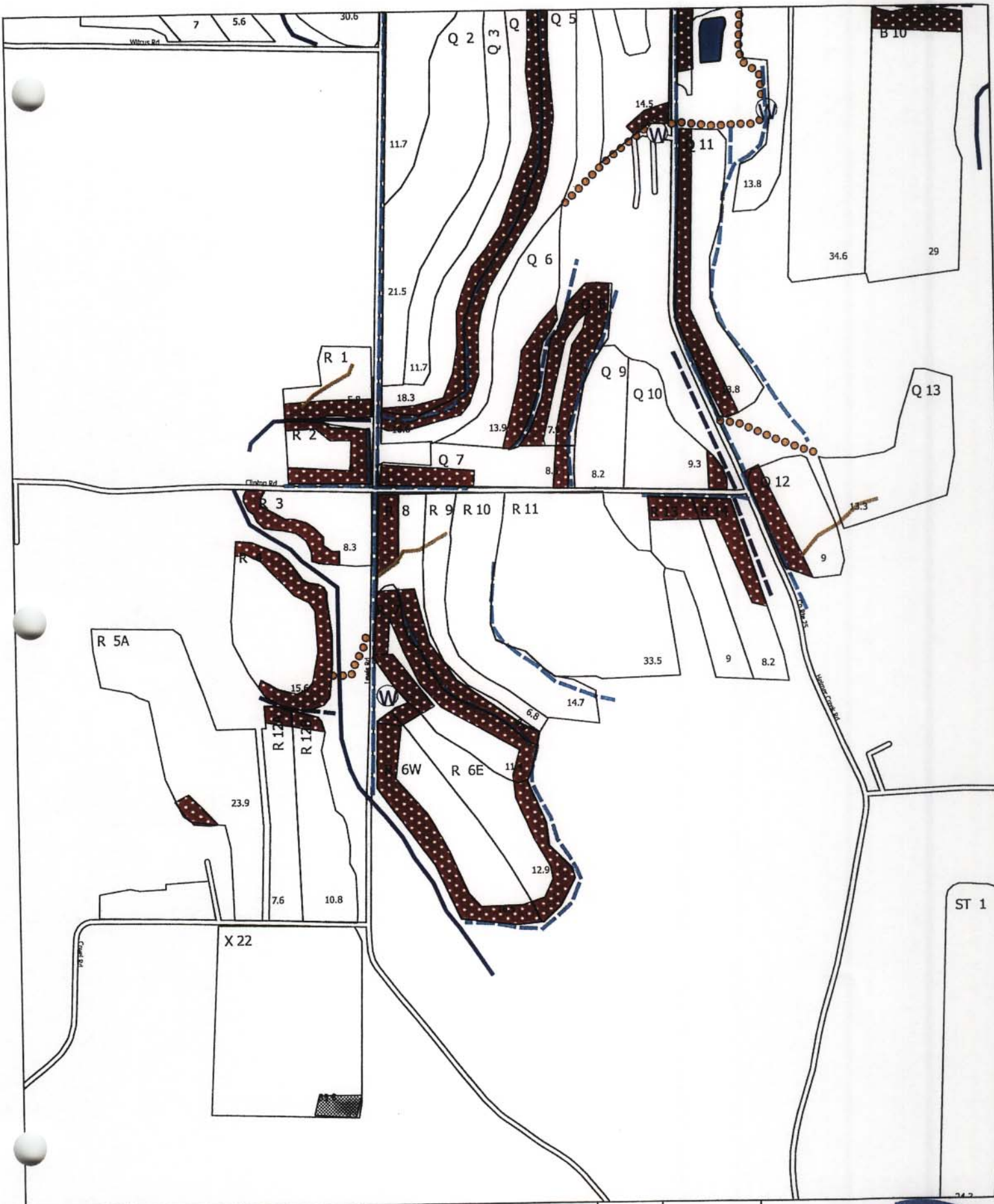

F 16
F 10A
17.6
F 10B
F 9
F 8
F 7
F 6
F 4
F 17
15.6
6.7
9.2
8.6
6.3
2
F 5
13.2
10.5
S 6
M 3
12.4
M 2
10.8
10.1
N 1
M 4
20.1
M 5
21.4
21
F 23
23.9
42.2
P 1A
P 1B
25.7
18.8
J 2
J 3
J 4
J 1
22.4
15.6
15.6
W 9
Glosick 1
W 8
Glosick 2
41.8
W 6
W 4B
W 1
29.2
45.5
29.1
A 2
8.3
A 3
6.9
5N
16.1
A 12N
20.3
20.8
5S
10.1
25.1
A 12S
A 7
14.7
A 8
3.6
A 11
37.8
9
13.3
4.4
B 1
Leo Dickson & Sons
Farm #953
Map #7
01-17-2018
Setback Map
0
500 ft
N
Western
New York
CROP MANAGEMENT


Clark Rd
U 4
Buckley
22.4
8.2
Co Rte 10A
Averill Rd
Helmer Creek Rd
Barrett
Spears 6
Spears 7
Spears 5
Spears 4
Spears 3
Spears 2
Spears 1
U 1
U 3
U 2
TO
R
Bancroft Rd
6.3
14.7
16.4
14
13.7
7.5
7.8
C 3
C 9
C 6
C 7
C 14
5.8
3.7
25.6
W
C 13
C 10A
C 11
5.3
7
5.6
30.6
C 12
3.7
7.9
Q 14
C 1
B
Q 1
Q 2
Q 3
Q
Q 5
2.8
Witcus Rd
Leo Dickson & Sons
Farm #953
Map #8
01-17-2018
Setback Map
0
500 ft
N
Western
New York
CROP MANAGEMENT



Leo Dickson & Sons
Farm #953
Map #9
01-17-2018

Setback Map



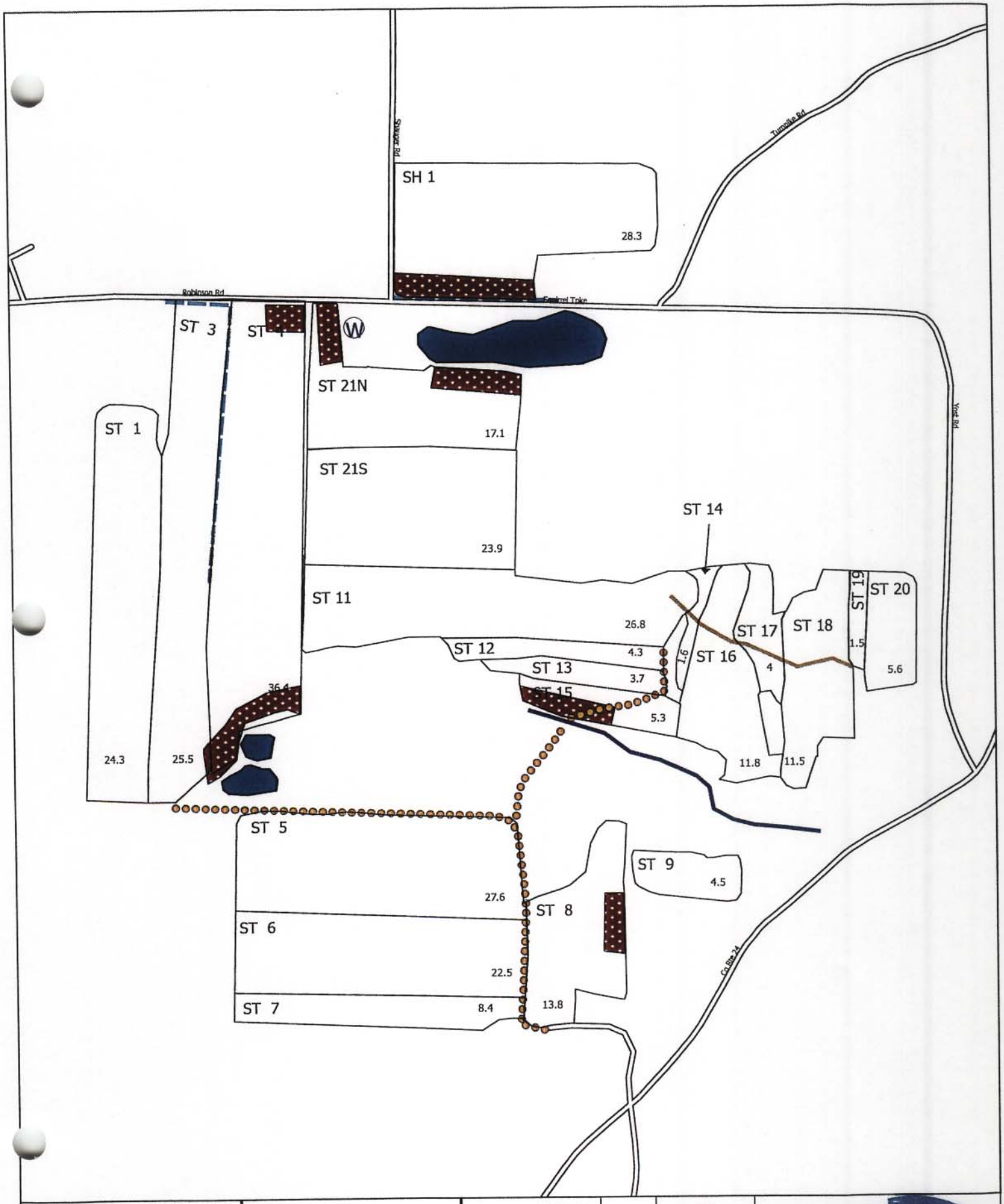
Leo Dickson & Sons
Farm #953
Map #10
01-17-2018

Setback Map

0 500 ft

N

Western New York CROP MANAGEMENT



Leo Dickson & Sons
Farm #953
Map # 11
01-17-2018

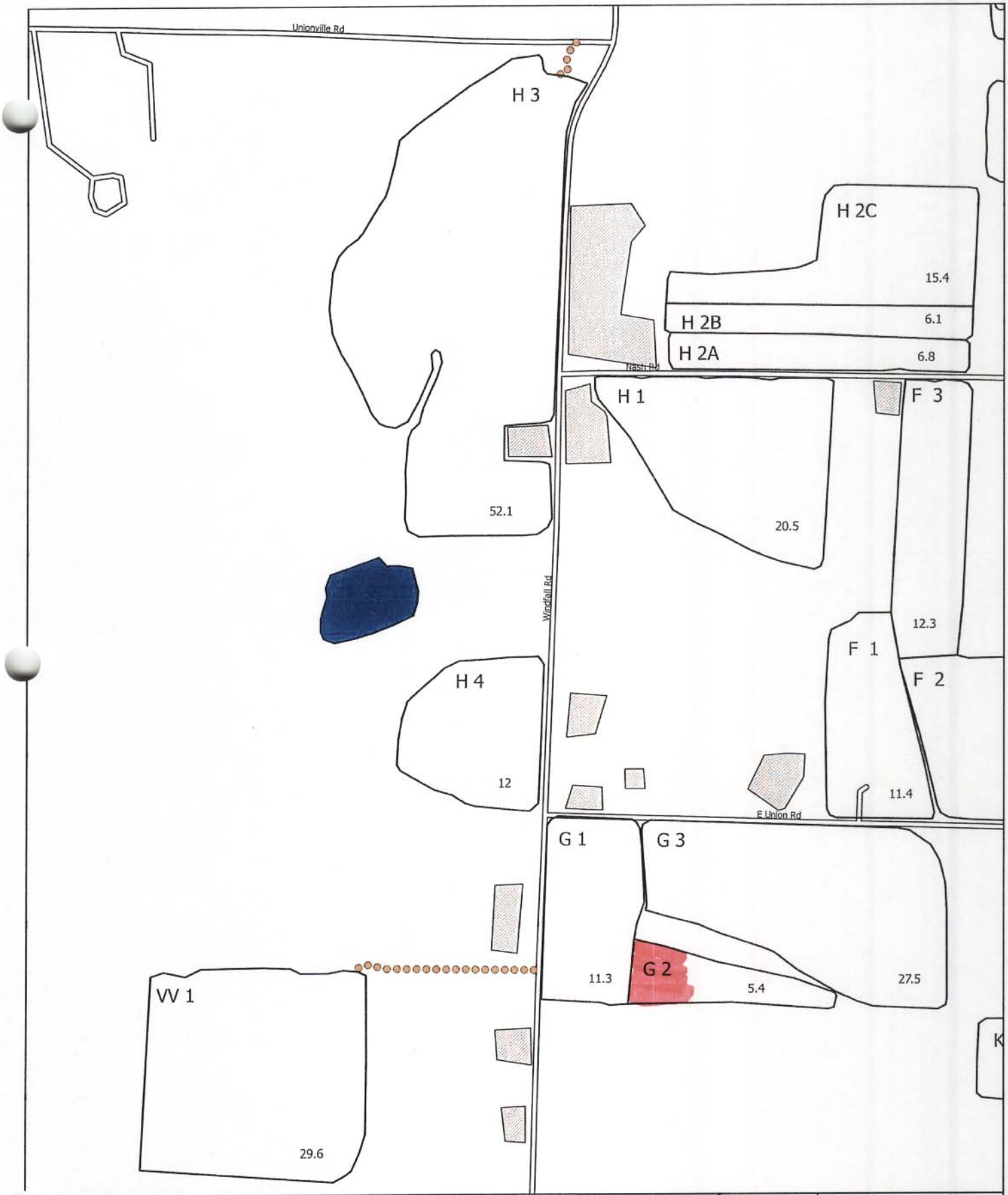
Setback Map

Very High P-Index (Red fields) Narrative:

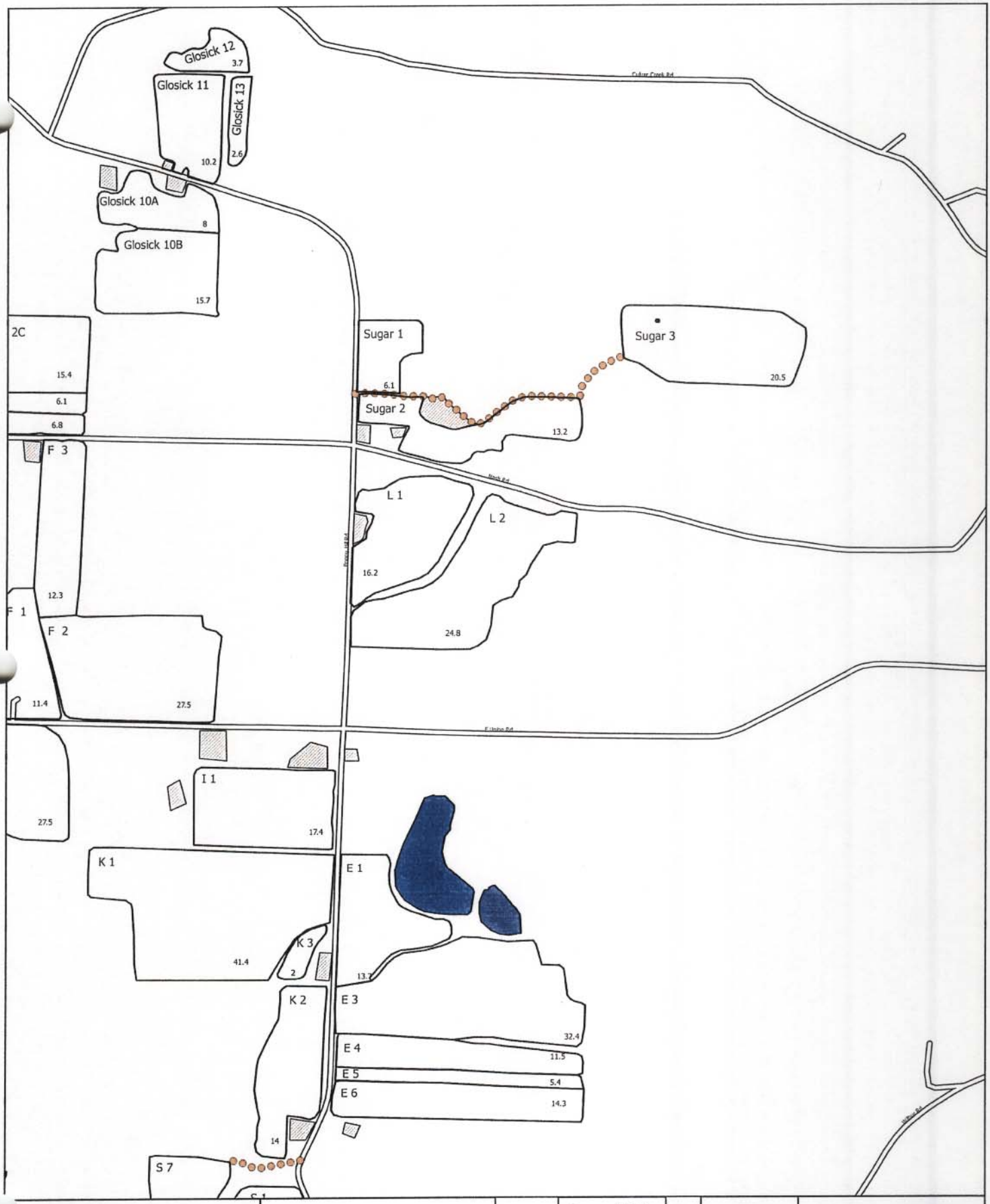
Spring 2019 Very High P-Index fields:

A1 29.1 acres	C4 6.4 acres		
A2 8.3 acres	D1 29.2 acres	M3 10.3 acres	
A3 6.9 acres	D2 45.5 acres	M5 21.4 acres	
		P1A 25.7 acres	46 fields: 794.3 acres
A5N 16.1 acres	F4 13.2 acres		
A5S 10.1 acres	F5 2.0 acres	Q4 18.3 acres	
A7 14.7 acres	F6 6.3 acres	Q6 13.9 acres	
A11 38.6 acres	F7 8.6 acres		
A12N 18.4 acres	F9 9.1 acres	Q11 15.6 acres	
	F10A 17.7 acres	Q13 13.3 acres	
B2 14.3 acres	F10B 15.6 acres	R1 5.8 acres	
	F11 21.2 acres	R9 6.8 acres	
	F14 5.8 acres		
	F15 18.9 acres		
B10 29.0 acres	F16 20.8 acres		
	F20 22.2 acres	W4A 20.3 acres	
B14 5.1 acres	F21 42.2 acres	W4B 20.8 acres	
B16 4.5 acres	G2 5.4 acres		
B17 12.4 acres		W8 11.7 acres	
C1 13.8 acres		W9 41.8 acres	
C3 25.6 acres		X22 31.6 acres	

Spring 2019 had 46 fields for a total of 794.3 acres. Spring manure recommendations for the spring of 2019 (after soil samples were pulled in fall 2018) indicated that fields D1, G2, Q11, R9, X22 (88.6 acres) needed to be added to very high P-Index list and fields B9, F3, J1, W1 (94.8 acres) be removed from the very high P-Index list. With these additions and subtractions, the new total is 794.3 acres. New soil samples were pulled in the winter of 2019 for roughly one-third of the fields and will change the very high P-Index list for 2020.

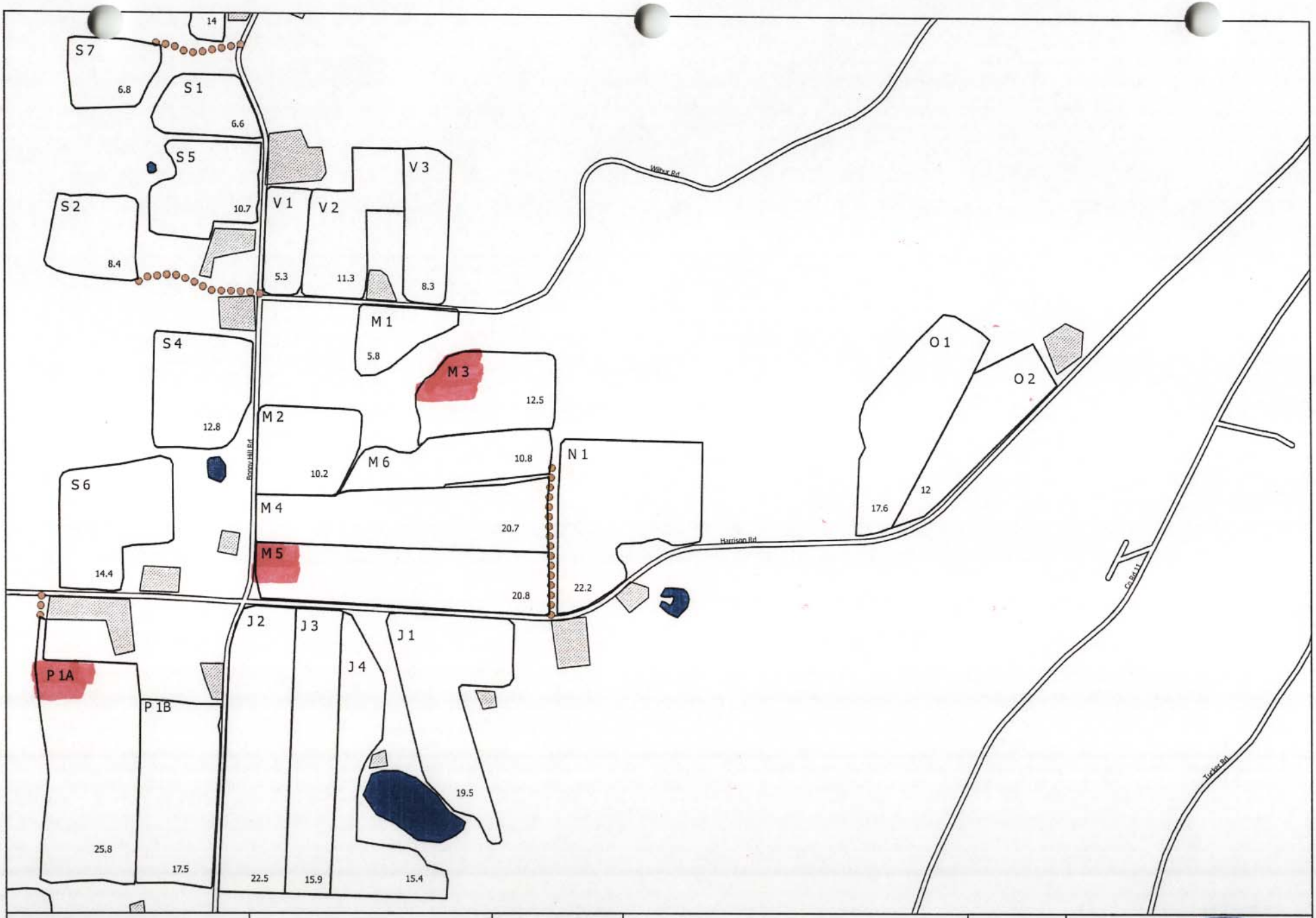


eo Dickson & Sons
Farm #953
Map#: 2
05-10-2018



Leo Dickson & Sons
Farm #953
Map#: 3
05-10-2018

eo Dickson & Sons
Farm #953
Map#: 5
05-10-2018

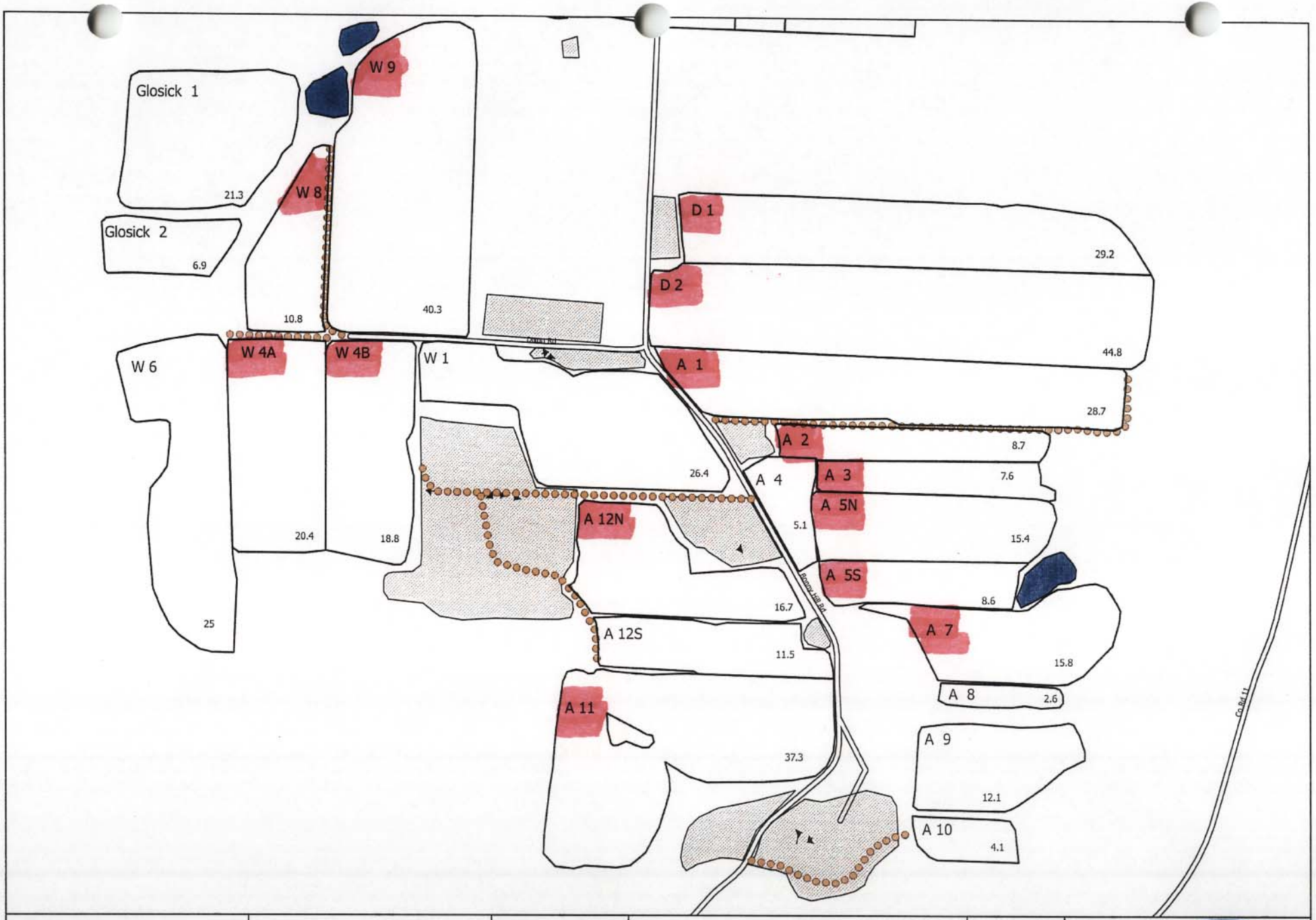


Leo Dickson & Sons
Farm #953
Map #6
05-10-2018

0 500 ft

N

Western New York CROP MANAGEMENT

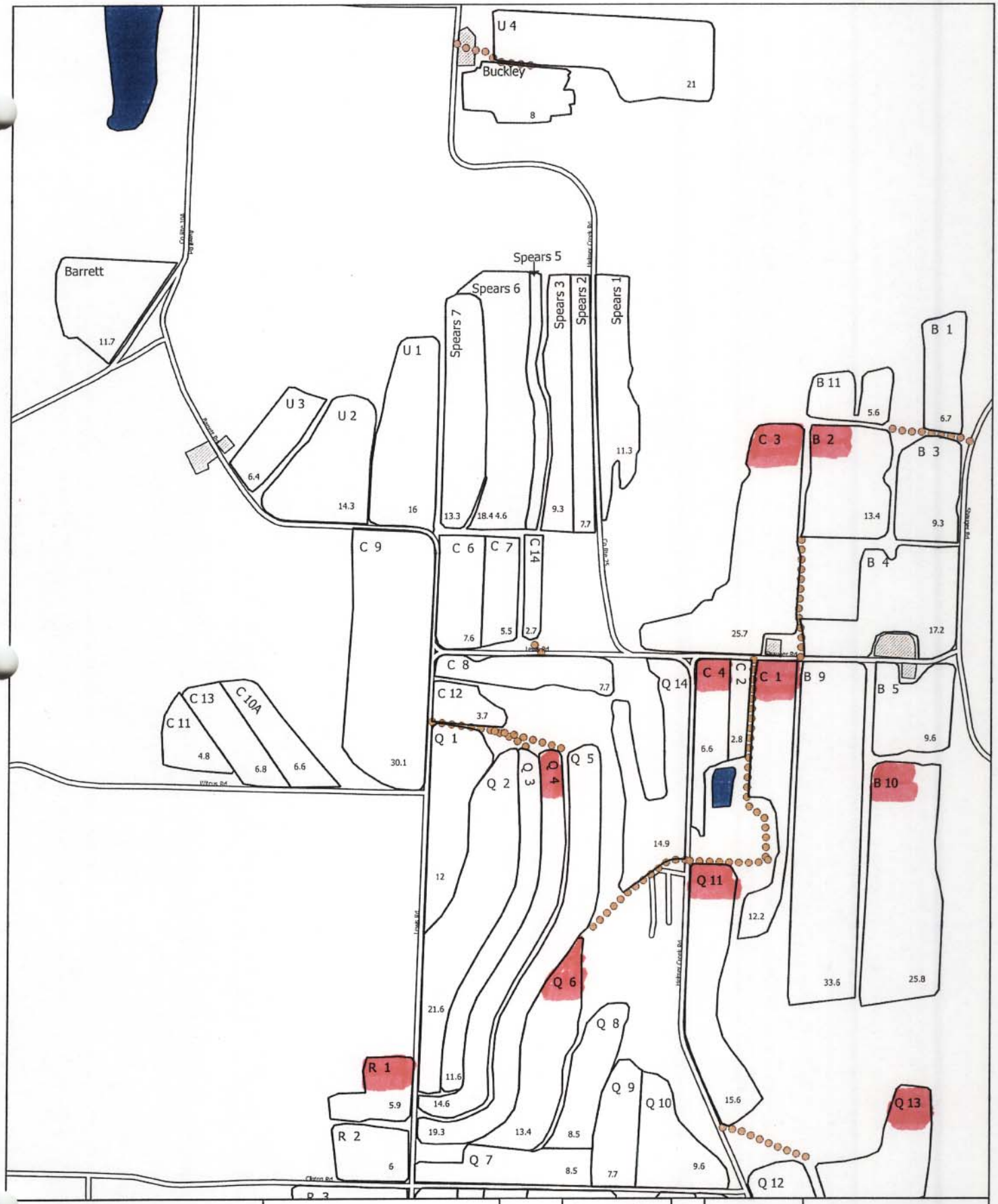


Leo Dickson & Sons
Farm #953
Map #7
05-10-2018

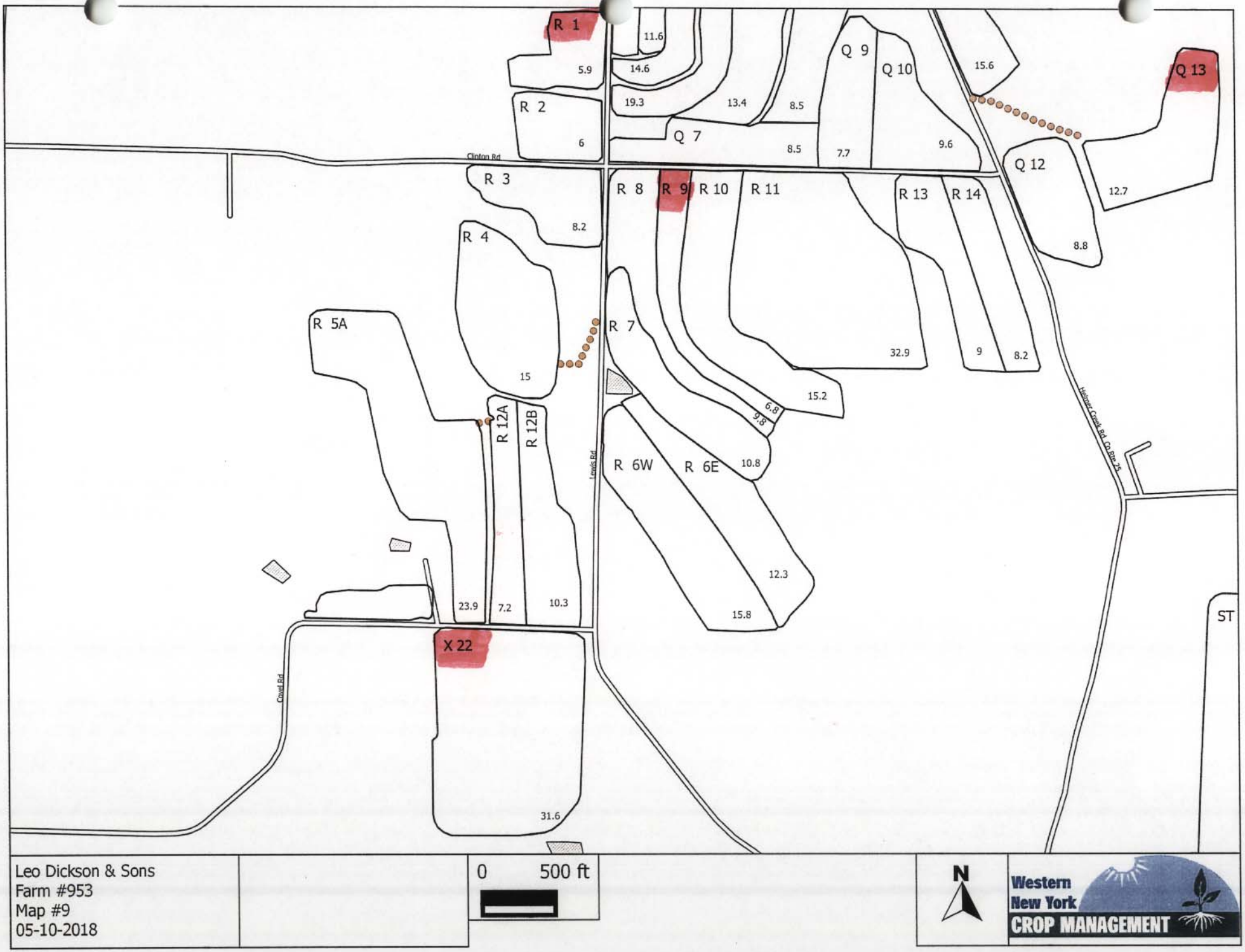
0 500 ft

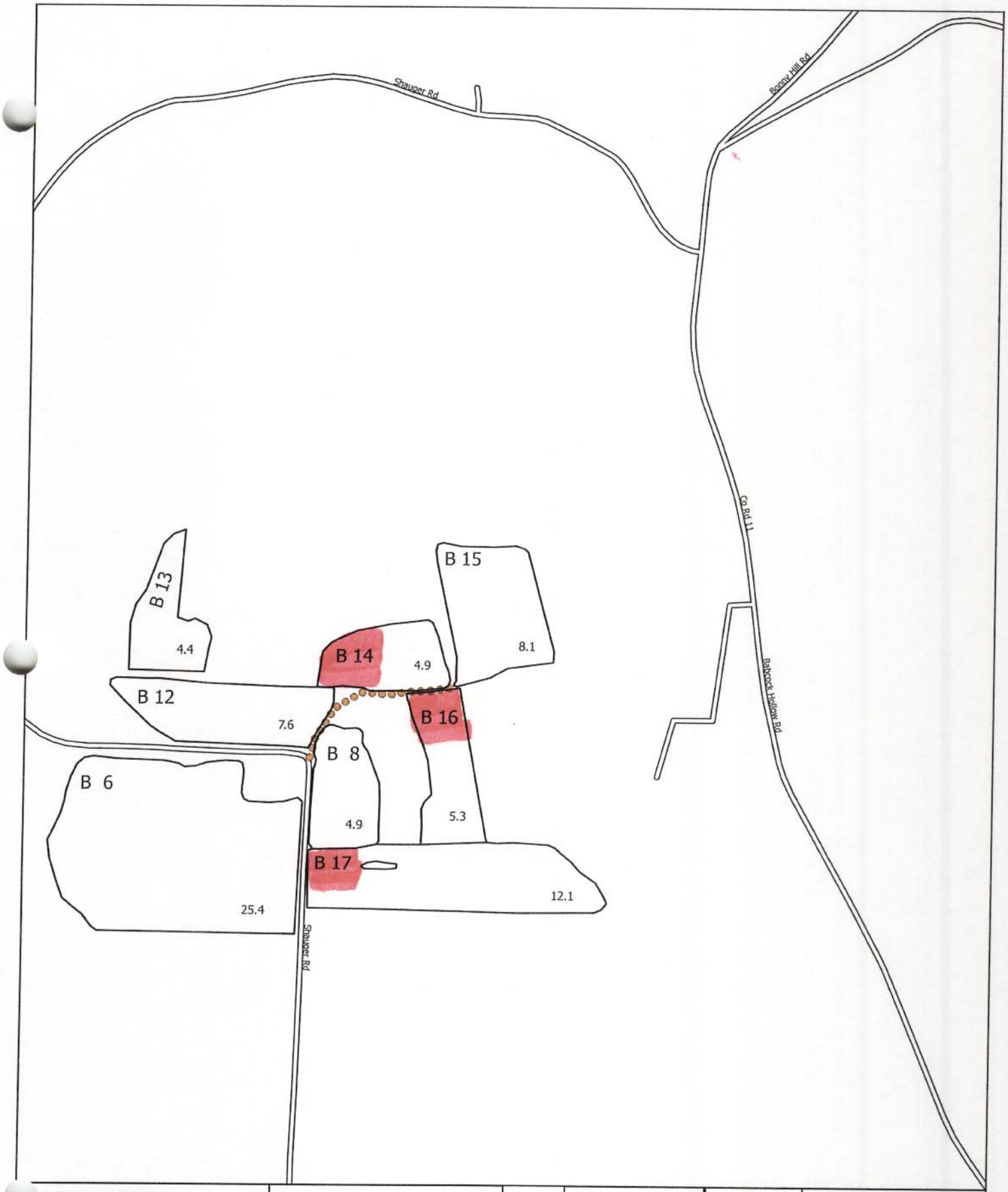
N

Western New York CROP MANAGEMENT



Leo Dickson & Sons
Farm #953
Map#: 8
05-10-2018


R 1
5.9
11.6
14.6
19.3
13.4
8.5
Q 9
Q 10
15.6
Q 13
R 2
6
Q 7
8.5
7.7
9.6
Q 12
12.7
8.8
Clinton Rd
R 3
8.2
R 4
R 8
R 9
R 10
R 11
R 13
R 14
R 5A
15
R 7
32.9
9
8.2
15.2
6.8
9.8
R 12A
R 12B
Lewis Rd
R 6W
R 6E
10.8
Hoover Creek Rd Co Rte 25
12.3
15.8
23.9
7.2
10.3
X 22
ST
Cowl Rd
31.6
Leo Dickson & Sons
Farm #953
Map #9
05-10-2018
0
500 ft
N
Western
New York
CROP MANAGEMENT

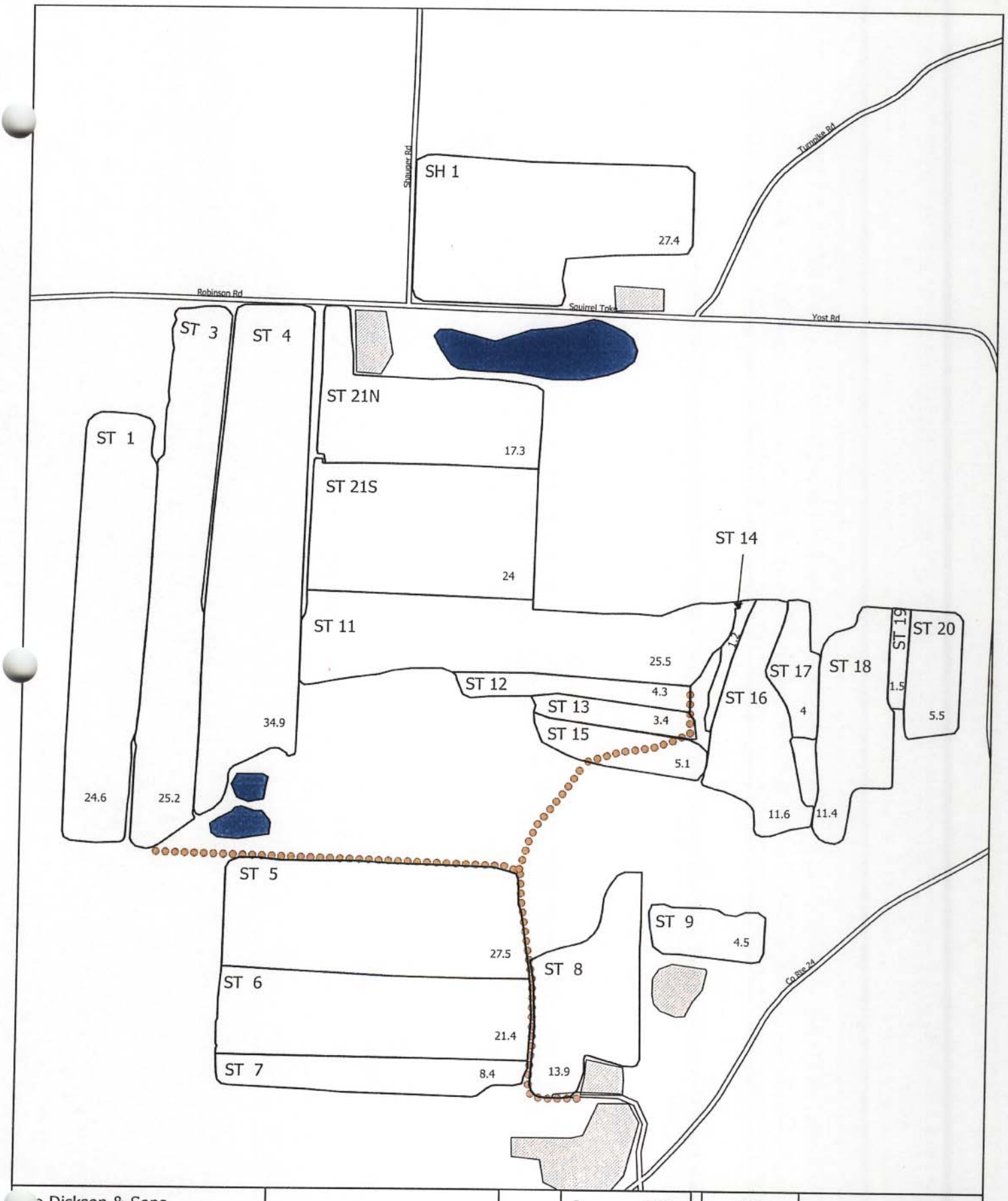


o Dickson & Sons
Farm #953
Map#: 10
05-10-2018

0 500

N

Western New York CROP MANAGEMENT



o Dickson & Sons
arm #953
Map#: 12
05-10-2018

Nitrogen Credits from Manure/Food Waste

There are primarily 2 forms of N in manure/food waste: inorganic (ammonium) N and organic N. Ammonium N is readily available when applied for plant growth, however, part of it may be lost because ammonium is rapidly converted to ammonia gas. When manure/food waste is spread on the surface of the soil, ammonia enters the air or "volatilizes." Ammonia N losses are minimized with injection or incorporation, within 1 day captures 65%, with decreasing % as each day goes by. After 5 days there is no ammonia N left to capture. Organic N is more stable and slowly released. The organic N breaks down over time, some the first year after application, some in the following years. Repeated application to the same field results in an accumulation of a slow release manure N source. A decay or mineralization series is commonly used to estimate the rate of N availability from stable organic N over the years following application. A decay series of 35, 12, and 5% in years 1, 2, and 3 is used to estimate the rate of decomposition of organic N in manures in New York. This decay series is built into our recommendation software so we can adjust nitrogen fertilizer recommendations. For this report I used just the manure/food waste analysis for ease of computations and clarity in the reports.

Typical Crop Nutrient Removal for Phosphorus and Potassium

Crop (units)	Per unit of yield		Typical yield/A	Removal for given yield	
	P_2O_5	K_2O		P_2O_5	K_2O
Corn (bu)	0.4	0.3	150 (bu)	60	45
Corn silage (T)[1]	5.0	11.0	25 (T)	125	275
Grain sorghum (bu)	0.6	0.8	125 (bu)	75	100
Forage sorghum (T)[1]	3.0	10.0	15 (T)	45	150
Sorghum/sudangrass[1]	7.0	7.0	15 (T)	105	105
Alfalfa (T)[2,3]	15.0	50.0	5 (T)	75	250
Red Clover (T)[2,3]	15.0	40.0	3.5 (T)	55	140
Trefoil (T)[2,3]	15.0	40.0	3.5 (T)	55	140
Cool-season grasses (T)[2,3]	15.0	50.0	4 (T)	60	200
Bluegrass (T)[2,3]	10.0	30.0	2.5 (T)	25	75
Rye	1.0	1.8	60 (bu)	60	110

Nutrients Supplied per Acre by 10,000 gallons typical Liquid Manure Incorporated:

120 lbs N 110 lbs P2O5 220 lbs K2O

Section 4 & 9.

Material	source	nutrients (lbs/1000 gal)				metals (mg/kg)					
		Amm N	Org N	P	K	Cd	Cr	Cu	Pb	Ni	Zn
Manure (Effluent)	P-1	4.4	0.7	2.8	8						
Food waste (Spread)	P-2	2.1	9.4	13.6	4.2						
Food waste/manure (Corner)	P-3	4.3	1	0.9	10.7						
Food waste/manure (Irrigation)	P-4	3.5	1.1	2.7	5.9						
Manure (raw)	Main Barn	7.7	8.5	11.8	20.9						
CH4 Mix Pit	CH4 Mix	20.8	49.3	75.9	7.2						

Material	source	nutrients (lbs/ton)				metals (mg/Kg)					
		Amm N	Org N	P	K	Cd	Cr	Cu	Pb	Ni	Zn
Dewater food waste (red)	Kraft roll off	0.5	20.5	26	6.5						
Dewater food waste (black)	Kraft side dump	1.3	28.2	17.4	3.8						
LWR Pile	Compost	21.2	3.2	17.8	3						
Composite Biosolids	Municipal	12.8	0.59	22.15	1.03						

Material	source	nutrients (lbs/ gal)				metals (mg/kg)				
		Nitrogen	lbs/1000 gal	P	K	Cd	Cr	Pb	Ni	Zn
Manure	P-1	0.0044	4.3	0.0028	0.008					
Food waste	P-2	0.0021	1.7	0.0136	0.0042					
Foodwaste/ma	P-3	0.0027	2.7	0.001	0.0124					
Food waste/ma	P-4	0.0016	1.6	0.0012	0.0057					
CH4 Mix Pit		0.0308	30.8	0.0759	0.0072					
Dewater food	Kraft roll off	29.5		17.4	3.8	lbs/ton				
Dewater food	Kraft side dump	20.8		26	6.5	lbs/ton				

LIQUID WASTE				2019 resulting nutrient loading (lbs/acre)								
Field ID	Spreadable acres	Total gallons applied	Hydraulic loading (gal/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 gallons applied	WS-2 gallons applied	WS-3 gallons applied
A1	26	0	0.00	0.00	0.00	0.00						
A2	7.3											
A3	6											
A4	0.2											
A5N	13.9											
A5S	7.7	0	0.00	0.00	0.00	0.00						
A7	13	0										
A8	3.6	0										
A9	10.1	0										
A 11	28.4	0	0.00	0.00	0.00	0.00						
A 12	12	0	0.00	0.00	0.00	0.00						
B1	4.4	0										
B2	14.3	0										
B3	3.6	0	0.00	0.00	0.00	0.00						
B4	11.4	0	0.00	0.00	0.00	0.00	P2			0		0
B5	6.8	0										
B6	21.9	0	0.00	0.00	0.00	0.00						
B7		0										
B8	5.1	0										
B9	33.9	216400	6383.48	17.24	6.38	0.00	P2			216400		
B 10	25.6	0										
B 11	5.7											

Field ID	Spreadable acres	Total gallons applied	Hydraulic loading (gals/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 gallons applied	WS-2 gallons applied	WS-3 gallons applied
B 12	7.8	0	0.00	0.00	0.00	0.00				0		
B 13	4.4	0										
B 14	5.1	0										
B 15	8.7	0										
B 16	4.5	0										
B 17	12.4	0	0.00	0.00	0.00	0.00						
C1	12.2	0										
C2	1.9	0										
C3	20.2	0										
C4	0.7	0										
C6	5.8	0										
C7	5	0										
C8	1.4	0										
C9	26.8	0	0.00	0.00	0.00	0.00						
C 10A	5.6	43000	7678.57	16.13	104.43	55.29	P2			43000		
C 11	5.3	0	0.00	0.00	0.00	0.00				0		
C 12	3.7	0										
C 13	7	57200	8171.43	17.16	111.13	58.83	P2			57200		
D1	26	0	0.00	0.00	0.00					0		
D2	40.9	0	0.00	0.00	0.00	0.00						
E1	10.1	0										
E3	16.9	0	0.00	0.00	0.00	0.00	P1			0		
E4	11.5	0	0.00	0.00	0.00	0.00						
E5	5.4	0	0.00									
E6	11.3	88000	7787.61	17.98	98.27	5.66	P1	P2		8000	80000	
F1	5.7	0	0.00	0.00	0.00	0.00	P2			0		
F2	17.3	0	0.00	0.00	0.00	0.00	P2	CH4	P1	0	0	0
F3	10.6	0	0.00	0.00	0.00	0.00						
F4	10.8	0	0.00	0.00	0.00	0.00	P2	CH4		0	0	
F5	2	0	0.00									
F6	6.3	0	0.00									
F7	8.6	0	0.00									
F8	9.2	0	0.00									
F9	9.1	0	0.00									
F 10A	17.7	0	0.00									

Field ID	Spreadable acres	Total gallons applied	Hydraulic loading (gals/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 gallons applied	WS-2 gallons applied	WS-3 gallons applied
F 10B	15.6	0	0.00	0.00	0.00	0.00						
F 11	18.8	0	0.00									
F 12	21.4	0	0.00	0.00	0.00	0.00				0		
F 13	7.5	0	0.00	0.00	0.00	0.00				0		
F 15	16	0	0.00	0.00	0.00	0.00						
F 16	17.7	0	0.00									
F 17	8.7	0	0.00	0.00	0.00	0.00						
F 19	12.5	161500	12920.00	27.13	175.71	54.26	P2			161500		
F 20	19.3	0	0.00	0.00	0.00	0.00						
F 21	40.4	0	0.00									
F 22		0										
F 23	20.9	0	0.00	0.00	0.00	0.00				0		
G1	9.3	85000	9139.78	19.19	124.30	38.39	P2			85000	0	
G2	3.2	0	0.00									
G3	27.2	167500	6158.09	12.93	83.75	25.86	P2			167500		
H1	20.6	372200	18067.96	65.26	117.43	26.00	P2	P1		127500	244700	
H2A	4.5	0	0.00	0.00	0.00	0.00				0		
H2B	6.7	79000	11791.04	19.75	134.57	39.49	P2	P1		63000	16000	
H2C	15.3	42500	2777.78	5.83	37.78	11.67	P2			42500		
H3	40.2	922500	22947.76	71.86	186.06	132.62	P1	P2	CH4	437000	460000	25500
H4	12.2	0	0.00									
I1	12.1	0	0.00	0.00	0.00	0.00						
J1	13	128000	9846.15	20.68	133.91	41.35	P2			128000		
J2	22.4	16000	714.29	3.14	2.00	8.71	P2			16000	0	0
J3	15.6	0	0.00									
J4	12.8	96000	7500.00	15.75	102.00	31.50	P2			96000		
K1	33.3	584500	17552.55	57.86	140.12	111.38	P1	P2		304000	280500	
L1	4.7	28300	6021.28	24.39	26.74	11.16	P2	P1		4300	24000	
L2	15.2	651700	42875.00	129.35	398.51	314.55	P2	P1		391900	259800	
M1	5.5	0	0.00	0.00	0.00	0.00						
M2	7.5	0	0.00									
M3	10.3	0	0.00									
M4	18.9	0	0.00	0.00	0.00	0.00				0		
M5	21.4	0	0.00	0.00	0.00	0.00						
M6	12.3	0	0.00	0.00	0.00	0.00				0		

Field ID	Spreadable acres	Total gallons applied	Hydraulic loading (gals/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 gallons applied	WS-2 gallons applied	WS-3 gallons applied
N1	19.1	194400	10178.01	21.37	138.42	42.75	P2			194400	0	
O1	16.8	634000	37738.10	92.39	451.52	180.21	P2	LWR		538000	96000	
O2	11.4	0	0.00	0.00	0.00	0.00	CH4			0		
P 1A	24.5	0	0.00	0.00	0.00	0.00						
P 1B	11.8	0										
Q1	11.7	0	0.00	0.00	0.00	0.00						
Q2	21.5	0	0.00	0.00	0.00	0.00	P2	P1	CH4	0	0	0
Q3	11.7	0	0.00									
Q4	3.3	0	0.00									
Q5	3.4	0	0.00	0.00	0.00	0.00						
Q6	8.1	0	0.00	0.00	0.00	0.00	P2			0		
Q7	2.1	139000	66190.48	176.24	725.33	339.52	P1	P2	LWR	25000	105000	9000
Q8	0	0										
Q9	8.2	75000	9146.34	31.27	70.39	57.41	P1	P2	LWR	32000	34000	9000
Q 10	8	54000	6750.00	19.35	67.50	36.90	P1	P2		18000	36000	
Q 11	4.3	0										
Q 12	5.9	0										
Q 13	13.3	0										
Q 14	13.5	0										
R1	2.6	0										
R2	0.4	0										
R3	4	0	0.00	0.00	0.00	0.00						
R4	7.2	94600	13138.89	28.07	120.40	54.23	P2	LWR	P1	60200	17200	17200
R 5A	19.2	232200	12093.75	22.66	135.27	44.97	P2	LWR	P1	189200	8600	34400
R 6	14.2	8600	605.63	2.66	1.70	4.85	LWR			8600		
R7	1.3	0										
R8	1.2	0	0.00	0.00	0.00	0.00						
R9	6.8	0	0.00	0.00	0.00	0.00						
R 10	14.7	0	0.00	0.00	0.00	0.00						
R 11	34.5	0	0.00	0.00	0.00	0.00	P4	P1		0	0	
R 12A	10.3	30076	2920.00	6.13	39.71	12.26	P2			30076		
R 12B	9.7	28324	2920.00	6.13	39.71	12.26	P2			28324		
R 13	6.9	0	0.00	0.00	0.00	0.00						
R 14	3.5	0	0.00	0.00	0.00	0.00						
ST1	24.3	0	0.00	0.00	0.00	0.00	P2	P1		0	0	

Field ID	Spreadable acres	Total gallons applied	Hydraulic loading (gals/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 gallons applied	WS-2 gallons applied	WS-3 gallons applied
ST2	5.5	0										
ST3	32.7	0	0.00	0.00	0.00	0.00						
ST4	16.4	518000	31585.37	126.91	145.07	232.76	P2	P1		86000	432000	
ST5	27.6	0	0.00	0.00	0.00	0.00	P2			0		
ST6	22.5	0	0.00	0.00	0.00	0.00	P2	P1		0	0	
ST7	8.4	0	0.00	0.00	0.00	0.00	P2			0		
ST8	11	0	0.00	0.00	0.00	0.00	P2	CH4		0	0	
ST9	4.5	0	0.00	0.00	0.00	0.00	CH4			0		
ST 11	26.8	0	0.00	0.00	0.00	0.00				0		
ST 12	4.3	0	0.00							0		
ST 13	3.7	0	0.00	0.00	0.00	0.00				0		
ST 14	1.6	0	0.00									
ST 15	1.9	0	0.00	0.00	0.00	0.00						
ST 16	11.8	0	0.00	0.00	0.00	0.00	P2`	CH4	P1	0	0	0
ST 17	4	0	0.00	0.00	0.00	0.00	CH4			0	0	
ST 18	9.1	0	0.00	0.00	0.00	0.00	CH4	P2		0	0	
ST 19	5.1	0	0.00	0.00	0.00	0.00						
ST 20	5.6	0	0.00	0.00	0.00	0.00	CH4	P2	P1	0	0	0
U1	16.4	496000	30243.90	46.10	174.24	210.44	P1	P2		360000	136000	
U2	14.6	0	0.00	0.00	0.00	0.00						
V2	7.3	140800	19287.67	48.07	226.81	93.50	P1	P2		24000	116800	
V3	6.9	154200	22347.83	47.03	244.99	92.20	P2	P1	LWR	121000	16000	17200
W1	19.3	0	0.00	0.00	0.00	0.00						
W4A	17.3	0	0.00									
W4B	20.5	0	0.00									
W6	21.4	0	0.00	0.00	0.00	0.00	P1			0		
W8	9	0	0.00									
W9	38.8	0	0.00	0.00	0.00	0.00						
X22	33.8	0	0.00	0.00	0.00	0.00				0		

Material	source	nutrients (lbs/ ton)				metals (mg/kg)				
		Amm N	Org N	P	K	Cd	Cr	Pb	Ni	Zn
Bath	Sludge Cake	15.5	0	13	1.4					
LWR Pile	Compost	21.2	3.2	17.8	3					
Municipal	Composite Biosolids	12.8	0.59	22.15	1.03					
Dewater food	Kraft roll off	0.5	20.5	26	6.5					
Dewater food	Kraft side dump	1.3	28.2	17.4	3.8					

Field ID	Spreadable acres	Total tons applied	Hydraulic loading (tons/acre)	N	P	K	Waste source #1	Waste source #2	Waste source #3	WS-1 tons applied	WS-2 tons applied	WS-3 tons applied
J1	13	70	5.38	80.23	70.00	7.54	LWR Pile			70		
P1B	11.8	105.65	8.95	76.34	198.32	9.22	Composite			105.65		
W6	21.4	209.92	9.81	58.94	204.67	15.81	Composite	LWR Pile		147.92	62	
W8	9	237.57	26.40	158.75	550.85	42.51	Composite	LWR Pile		167.57	70	

	Calculated nutrient levels (lbs/ acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
A1				Corn		60	100					90	407.7	11/2/2016
A2				AGT								182.4	438	1/13/2017
A3				AGT								181	485	1/13/2017
A4				Corn		60	100					66.7	267	1/13/2017
A5N				Corn								102.4	549	1/13/2017
A5S				Corn								77.1	413.2	1/13/2017
A7				Corn								106.7	492.3	1/13/2017
A8				Corn								31	188	4/17/2019
A9				Corn								26.4	353.4	4/17/2019
A 11				AGT								146.7	447.2	1/13/2017
A 12N				AGT								248	910	1/13/2017
A 12S				Corn		60	100					79.3	322.1	1/13/2017
B1				Rye								12.1	55.3	4/17/2019
B2				Corn		60	100					105	317.5	12/29/2017
B3		2	36	Corn								2	36	4/17/2019
B4		-41.1	-44.7	Corn		60	100					18.9	55.3	4/17/2019
B5				Soy								4.9	101.3	1/13/2017
B6		18.5	226.7	Corn		60	100					78.5	326.7	1/13/2017
B7												404.7	669	4/17/2013
B8				AGT								61.4	344.2	11/18/2015
B9		-19.82	-155.1	AGE		75	250	17.24	6.38	0		48.8	94.9	4/17/2019
B 10				Corn		60	100					178	219.1	1/13/2017
B 11				Corn								116.6	289.9	12/11/2015
B 12				Corn								65	171.2	1/13/2017
B 13		101.6	765.6	Idle								101.6	765.6	4/10/2013
B 14				AGT								271	378.2	1/13/2017
B 15				AGT								52.2	151	1/13/2017
B 16				AGT								220	183.2	11/29/2017

	Calculated nutrient levels (lbs/acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
B 17				Corn		60	100					179.7	274.3	11/29/2017
C1				Corn		60	100					114	89.4	4/17/2019
C2				Corn		60	100					96	108	1/13/2017
C3				AGT								144	279	1/13/2017
C4				Corn		60	100					88.4	117	1/13/2017
C6				Corn		60	100					53	98.6	1/13/2017
C7				Corn								54.5	129	1/13/2017
C8				Rye								44.6	272.4	4/17/2019
C9				AGT								105.6	282.6	1/13/2017
C 10A		36.93	-93.41	AGE		75	250	16.13	104.43	55.29		7.5	101.3	1/13/2017
C 11		23.5	96.7	Idle								23.5	96.7	1/13/2017
C 12				Grass								38.3	65.4	1/13/2017
C 13		71.63	-117.47	AGE		75	250	17.16	111.13	58.83		35.5	73.7	1/13/2017
D1		119.5	565	Idle								119.5	565	11/29/2017
D2				AGT								105.1	274.3	11/29/2017
E1				AGT								46.3	246.7	11/2/2016
E3		12.5	224	Corn		60	100					72.5	324	4/17/2019
E4		50.8	222	AGT								50.8	222	1/13/2017
E5				Idle								29.8	130.8	4/17/2019
E6		128.07	104.26	Idle				17.98	98.27	5.66		29.8	98.6	11/29/2017
F1		-24.3	-21.7	Corn		60	100					35.7	78.3	4/17/2019
F2		8.8	32.6	Corn		60	100					68.8	132.6	4/17/2019
F3				AGT								76.2	74.6	4/17/2019
F4		171.8	137.2	Idle								171.8	137.2	4/17/2019
F5				Idle								186.5	161.1	11/29/2017
F6				Idle								186.5	161.1	11/29/2017
F7				Idle								186.5	161.1	11/29/2017
F8				Idle								186.5	161.1	11/29/2017

	Calculated nutrient levels (lbs/acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
F9				Rye								186.5	161.1	11/29/2017
F 10A				Corn		60	100					1044	103.2	11/29/2017
F 10B				Idle								114.7	56.2	11/2/2016
F 11				AGT								264.5	48.9	11/29/2017
F 12		116.9	48.9	AGT								116.9	48.9	11/29/2017
F 13		116.9	48.9	AGT								116.9	48.9	11/29/2017
F 15				Corn								145.3	49	11/2/2016
F 16				AGT								70.5	51.6	4/17/2019
F 17				AGT								61.9	82.9	4/17/2019
F 19		168.41	15.06	Corn		60	100	27.13	175.71	54.26		52.7	60.8	11/2/2016
F 20				Corn								145.5	50.7	11/2/2016
F 21				AGT								153.1	121.6	4/17/2019
F 22														
F 23		44.3	96.7	AGT								44.3	96.7	4/17/2019
G1		133.4	-85.41	AGE		75	250	19.19	124.3	38.39		84.1	126.2	11/29/2017
G2				Idle								82.9	133.5	4/17/2019
G3		55.15	-147.64	AGE		75	250	12.93	83.75	25.86		46.4	76.5	11/29/2017
H1		93.03	2.4	AGE		75	250	65.26	117.43	26		50.6	226.4	1/28/2019
H2A				AGT		75	250					64.4	144.6	1/28/2019
H2B		205.17	290.79	Idle				19.75	134.57	39.49		70.6	251.3	11/2/2016
H2C		108.38	262.97	Idle				5.83	37.78	11.67		70.6	251.3	11/2/2016
H3		141.36	113.72	Corn		60	100	71.86	186.06	132.62		15.3	81.1	4/17/2019
H4				AGT								100	47	4/17/2019
I1				AGT		75	250					30.1	124.3	11/29/2017
J1		175.41	249.35	Idle				20.68	133.91	41.35		41.5	208	1/28/2019
J2		-13.9	65.21	Corn		60	100	3.14	2	8.71		44.1	156.5	1/28/2019
J3				AGT								48.3	171.2	1/28/2019
J4		50	48.5	Corn		60	100	15.75	102	31.5		8	117	1/28/2019

	Calculated nutrient levels (lbs/acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
K1		142.12	262.38	Idle				57.86	140.12	111.38		2	151	4/17/2019
L1		-19.66	-1.34	Corn		60	100	24.39	26.74	11.16		13.6	87.5	4/17/2019
L2		345.11	261.55	Corn		60	100	129.35	398.51	314.55		6.6	47	4/17/2019
M1		63	78.3	Idle								63	78.3	1/28/2019
M2				Corn		60	100					64	69.1	1/13/2017
M3				Idle								118	219	1/13/2017
M4		72.4	242.1	AGE								72.4	242.1	1/13/2017
M5				AGT								93.3	181.4	1/13/2017
M6		49.5	191	AGT								49.5	191	1/13/2017
N1		86.72	194.05	Corn		60	100	21.37	138.42	42.75		8.3	251.3	1/28/2019
O1		406.52	476.81	Corn		60	100	92.39	451.52	180.21		15	396.6	4/15/2019
P 1A				Idle								196.6	257.7	1/13/2017
P 1B		184.02	-52.98	AGT		75	250	76.34	198.32	9.22		60.7	187.8	1/13/2017
Q1				AGT								58.4	104.1	11/29/2017
Q2		39.3	51	Corn		60	100					99.3	151	1/13/2017
Q3				AGT								37.8	90	1/13/2017
Q4				Corn		60	100					92	103	1/13/2017
Q5		132.5	282.6	Corn								132.5	282.6	1/13/2017
Q6		84	27	AGT		75	250					159	277	1/13/2017
Q7		759.63	439.02	Idle				176.24	725.33	339.52		34.3	99.5	4/17/2019
Q8				Idle								60.6	104	10/16/2015
Q9		125.19	175.31	Idle				31.27	70.39	57.41		54.8	117.9	4/17/2019
Q 10		131.9	220.1	Idle				19.35	67.5	36.9		64.4	183.2	4/17/2019
Q 11				Corn		60	100					86	135.4	1/16/2019
Q 12				Corn		60	100					58.5	53.5	11/29/2017
Q 13				Corn		60	100					136.8	74.6	1/16/2019
Q 14				Grass								73.5	104.1	10/16/2015

	Calculated nutrient levels (lbs/acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
R1				Rye		60	110					435.2	44.3	4/17/2019
R2				Rye		60	110					17.7	82.9	4/17/2019
R3				AGT								20.7	76.5	11/29/2017
R4		87.1	-153.37	AGE		75	250	28.07	120.4	54.23		41.7	42.4	4/17/2019
R 5A		71.77	-108.33	AGE		75	250	22.66	135.27	44.97		11.5	96.7	1/13/2017
R 6		20.7	76.85	Idle				2.66	1.7	4.85		19	72	4/17/2019
R7				AGT								10.9	69.1	4/17/2019
R8		56.2	103.2	AGT								56.2	103.2	11/29/2017
R9				Idle								398	483.1	4/17/2019
R 10				Corn		60	100					73.4	121.6	4/17/2019
R 11		6.3	12.5	Corn		60	110					66.3	122.5	4/17/2019
R 12A		-8.29	7.16	Grass		50	100	6.13	39.71	12.26		2	94.9	11/29/2017
R 12B		50.51	97.96	Idle				6.13	39.71	12.26		10.8	85.7	11/29/2017
R 13		47.9	174	AGE								47.9	174	1/13/2017
R 14		60	287	AGE								60	287	1/13/2017
ST1		-50.2	-7.9	Corn		60	100					9.8	92.1	1/28/2019
ST2												7.8	190.6	1/28/2019
ST3				AGT								14.8	110.5	11/29/2017
ST4		87.07	188.96	Corn		60	100	126.91	145.07	232.76		2	56.2	4/17/2019
ST5		-24.9	283.8	Corn		60	100					35.1	383.8	1/28/2019
ST6		-51.4	46.4	Corn		60	100					8.6	146.4	1/28/2019
ST7		-52.4	78.6	Corn		60	100					7.6	178.6	1/28/2019
ST8		-47.9	124.6	Corn		60	100					12.1	224.6	12/20/2017
ST9				Idle										
ST 11		15.3	195.2	Idle								15.3	195.2	11/29/2017
ST 12				Idle								8.5	199.8	4/10/2013
ST 13		-58	17	Corn		60	100					2	117	1/28/2019
ST 14				Idle								4.5	244.8	4/10/2013

	Calculated nutrient levels (lbs/acre)				N	P	K	2019 Nutrient loading (lbs/acre)			Soil test nutrient levels (lbs/acre)			Soil test date
Field ID	N	P	K	crop grown	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	crop nutrient uptake (lb/acre)	N	P	K	N	P	K	
ST 15				Idle								6.9	282.6	4/10/2013
ST 16		-51.4	106.2	Corn		60	100					8.6	206.2	11/29/2017
ST 17		8.6	206.2	Idle								8.6	206.2	11/29/2017
ST 18		-53.5	66.6	Corn		60	100					6.5	166.6	1/28/2019
ST 19				Idle								12.9	231	4/10/2013
ST 20		-56.6	-7.9	Corn		60	100					3.4	92.1	1/28/2019
U1		165.84	206.34	Rye		60	110	46.1	172.24	210.44		53.6	105.9	1/28/2019
U2				AGT								92	312.9	1/28/2019
V2		233.51	260.1	Idle				48.07	226.81	93.5		6.7	166.6	1/28/2019
V3		252.99	1878.2	Idle				47.03	244.99	92.2		8	1786	1/28/2019
W1				AGT								6.9	92.1	4/17/2019
W4A				Corn								229.1	852	11/29/2017
W4B				AGT								440.3	829	11/29/2017
W6		217.07	244.41	Corn		60	100	58.94	204.67	15.81		72.4	328.6	4/17/2019
W8		586.95	411.81	Corn		60	100	158.75	550.85	42.51		96.1	469.3	4/17/2019
W9				AGT								120.5	263.2	11/29/2017
X22		87.9	113.3	AGT								87.9	113.3	4/17/2019

Section 5.

Western New York CROP MANAGEMENT

Soil Test Report

Leo Di[illegible]on & Sons

Saturday, [illegible]27, 2019

FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
A 1	360	7	11/2/2016	6.4	6.9	3.8	90	VH	407.7	VH	3061	282	9.4	6.2	68.4	12.6	5.4	18	MH	6.8	MH	8
A 2	360	7	1/13/2017	6.7	7	3.4	182.4	VH	438	VH	4228	307	12.5	5	66.7	10.3	6.5	12	M	7.6	MH	10.5
A 3	360	7	1/13/2017	6.6	7	3.1	181	VH	485	VH	4008	315	12.5	5.5	63.9	10.6	6.0	16	MH	7.6	MH	12.2
A 4	360	7	1/13/2017	6.7	7	3	66.7	VH	266.9	VH	2869	331	9.6	4	63.5	14.4	4.4	11	M	3.9	M	6.3
A 5N	360	7	1/13/2017	6.5	6.7	2.9	102.4	VH	549.4	VH	3224	296	11.2	7	60	11.2	5.4	14	MH	6.1	MH	8.4
A 5S	360	7	1/13/2017	6.1	6.6	3.2	77.1	VH	413.2	VH	2567	260	12.1	4.9	46.4	9.1	5.1	13	MH	6.1	MH	5.1
A 7	360	7	1/13/2017	6.7	6.9	3.5	106.7	VH	492.3	VH	3718	339	11.8	6	63.9	12.1	5.3	11	M	9.1	MH	18.2
A 8	360	7	4/17/2019	5.3	6.2	3.5	30.9	H	187.8	H	1954	171	15.2	1.8	30.2	4.9	6.2	26	MH	4.7	MH	2.3
A 9	360	7	4/17/2019	5.7	6.4	2.9	26.4	H	353.4	VH	1347	174	12.1	4.2	29.8	6.3	4.7	14	MH	2.5	M	4.2
A 10		7	4/17/2019	5.7	6.3	2.8	26.7	H	305.6	VH	1646	191	13.7	3.2	29.7	6	5.0	15	MH	2.4	M	4.4
A 11	360	7	1/13/2017	6.1	6.9	3.1	146.7	VH	447.2	VH	4142	300	11.3	5.6	72.6	11.1	6.5	18	MH	9.7	MH	18.8
A 12N	360	7	1/13/2017	6.6	7	4.4	248.3	VH	910	VH	5788	489	17.8	7.2	61.4	11.4	5.4	23	MH	19.4	VH	13.7
A 12S	360	7	1/13/2017	6.1	6.8	2.5	79.3	VH	322.1	VH	2960	294	10.4	4.5	60.4	12	5.0	15	MH	5.5	MH	16.8
B 1	360	8	4/17/2019	5.9	6.7	1.7	12.1	M	55.3	L	1719	153	8.6	1.1	49.1	7.8	6.3	13	MH	1.6	L	1.6
B 2	360	8	12/29/2017	6.9	7.1	2.3	105	VH	317.5	VH	4194	234	11.4	4	72.7	8.7	8.4	12	M	3.4	M	3.9
B 3	360	8	4/17/2019	5.5	6.4	2.8	2	L	36	VL	765	100	10.3	0.6	25.4	4.4	5.8	18	MH	1.5	L	1.2
B 4	360	8	4/17/2019	6.2	6.8	2.5	18.9	MH	55.3	L	1678	146	7.3	1.2	56.9	8.8	6.5	14	MH	2.1	M	3
B 5	360	8	1/13/2017	5.4	6.6	1.8	4.9	L	101.3	M	1245	233	9.4	1.7	36.5	10.6	3.4	14	MH	1.8	M	3
B 6	360	10	1/13/2017	6.6	7	2.2	78.5	VH	326.7	VH	2943	258	9.7	4.8	64	11.2	5.7	18	MH	2.8	M	2.6
B 8	360	10	11/18/2015	6.3	6.8	2.5	61.4	VH	344.2	VH	2477	174	9.1	5.4	59.9	8.3	7.2	10	M	2.1	M	3
B 9	360	8	4/17/2019	6.4	6.8	3.1	48.8	VH	94.9	M	1959	203	8	1.8	57.4	10.9	5.3	11	M	1.7	L	2.9

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
B 10	360	8	1/13/2017	6.8	7	2.3	178	VH	219.1	VH	4321	249	11.9	2.7	71.7	8.9	8.1	17	MH	5	MH	4.2
B 11	360	8	1/13/2017	6	6.7	3.1	97.6	VH	362	VH	3460	196	12	4.3	58.8	7	8.4	28	MH	11.4	H	6.2
B 12	360	10	1/13/2017	6.1	6.8	2	65	VH	171.2	H	2640	196	9.2	2.7	62.1	9.1	6.8	13	MH	3.2	M	3.1
B 13	360	10	4/10/2013	6.9	7	3.3	101.6	VH	765.6	VH	3359	272	10.7	10.1	64.6	10.8	6.0	27	MH	4	MH	3.5
B 14	360	10	1/13/2017	7.2	0	2.6	270.9	VH	378.2	VH	6321	282	14.2	3.8	83.1	8.3	10.0	22	MH	8.6	MH	7.2
B 15	360	10	1/13/2017	6.2	6.9	1.8	52.2	VH	151	H	2798	191	8.2	2.7	72.7	10	7.3	16	MH	2.6	M	2
B 16	360	10	11/29/2017	6.7	7	2.7	220	VH	183.2	VH	5252	246	13.9	1.9	72.5	7.5	9.7	17	MH	5.8	MH	4.3
B 17	360	10	11/29/2017	6.9	7	2.4	179.7	VH	274.3	VH	4559	287	12.3	3.2	72.4	9.8	7.4	17	MH	4.7	MH	4.9
Barrett		8	10/21/2015	6.4	6.7	4	2	L	35.1	VL	2194	325	10	0.6	49.8	13.6	3.7	8	M	1	L	0.7
Buckley		8	10/21/2015	5.4	6	2.9	2	L	141.8	H	996	140	15.8	1.3	19	3.9	4.9	13	MH	1.8	M	0.9
Bunk Filter			6/27/2016	7.4	0	2.6	52	VH	812.5		3934	355	10.5	10.9	75	14.1	5.3	12	M	2	M	1.4
C 1	360	8	4/17/2019	6.9	7.1	2.5	114	VH	89.4	LM	3535	271	9.9	1.4	72.6	11.5	6.3	13	MH	2.8	M	2.5
C 2	360	8	1/13/2017	6.6	7	2.9	95.7	VH	107.8	M	3105	256	9.7	1.7	67.1	11.2	6.0	13	MH	3.2	M	2.4
C 3	360	8	1/13/2017	6.8	7.1	2.6	144	VH	278.9	VH	3612	298	10.8	3.7	68	11.6	5.9	14	MH	4.9	MH	3.8
C 4	360	8	1/13/2017	6.9	7	2.5	88.4	VH	117	M	3720	273	10.4	1.7	72.6	11.1	6.5	24	MH	5.6	MH	5
C 6	360	8	1/13/2017	6.4	6.8	2	53	VH	98.6	LM	2711	167	9.1	1.7	64.1	8	8.0	11	M	1.7	L	2.2
C 7	360	8	1/13/2017	6.4	6.9	2.5	54.5	VH	128.9	MH	2801	210	8.3	2.3	72.3	10.9	6.6	13	MH	2	M	2.1
C 8	360	8	4/17/2019	6.6	6.8	2.5	44.6	VH	272.4	VH	2412	269	8.6	4.6	62.2	13.2	4.7	14	MH	3.6	M	14.6
C 9	360	8	1/13/2017	6.5	6.9	2.7	105.6	VH	282.6	VH	3617	231	11.2	3.6	65.7	8.8	7.5	15	MH	3.6	M	3.5
C 10A	360	8	1/13/2017	5.9	6.5	2.3	7.5	M	101.3	M	1865	234	11.6	1.3	38.3	8.6	4.5	14	MH	1.2	L	1.8
C 11	360	8	1/13/2017	6.5	6.8	2.8	23.5	H	96.7	LM	2554	241	8.7	1.7	64.5	11.9	5.4	11	M	1.5	L	1.9
C 12	360	8	1/13/2017	6.4	6.7	2.4	38.3	H	65.4	L	2561	271	10.4	1	53.6	10.9	4.9	10	M	1.5	L	1.5

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
C 13	360	8	1/13/2017	6.2	6.6	2.5	35.5	H	73.7	L	2213	184	10.7	1.1	46.8	7.4	6.3	12	M	1.7	L	1.6
C 14		8																				
D 1	360	7	11/29/2017	6.3	6.7	3.3	119.5	VH	565	VH	4147	387	14.2	5.6	57.8	11.3	5.1	34	H	11.6	H	11.6
D 2	360	7	11/29/2017	6.6	6.8	2.5	105.1	VH	274.3	VH	3159	265	10.1	3.9	65	11.1	5.9	17	MH	8.1	MH	8.1
E 1	360	3	11/2/2016	6.5	7	2.3	46.3	VH	246.7	VH	2625	255	9.1	3.9	62.4	11.8	5.3	15	MH	3.6	M	5.9
E 3	360	3	4/17/2019	6.4	6.7	3.6	72.5	VH	324	VH	2450	220	10.4	4.5	52	9	5.8	18	MH	3.9	M	7.2
E 4	360	3	1/13/2017	6.3	6.8	2.4	50.8	VH	222	VH	1831	193	7.9	4.1	55.3	10.4	5.3	26	MH	7.4	MH	5.4
E 5	360	3	4/17/2019	6.4	6.7	2.8	29.8	H	130.8	MH	1606	198	8.7	2.3	46.4	9.8	4.7	14	MH	1.5	L	2
E 6	360	3	11/29/2017	6.1	6.9	2.7	29.8	H	98.6	LM	2164	265	7.4	2	66.7	15.1	4.4	17	MH	2.5	M	4.8
EV 1N		14	12/23/2016	6.6	6.8	3.1	29.7	H	340.5	VH	2679	403	10	4.9	58.2	16.9	3.4	19	MH	4.3	MH	8.3
EV 1S		14	4/9/2014	6.3	6.9	3.3	18.5	MH	126.2	MH	2910	420	9.3	2	66.3	18.7	3.5	14	MH	3.6	M	1.4
EV 2		14	12/23/2016	6.1	6.7	2.9	19.5	MH	189.6	H	1453	372	9.2	3	40.9	16.9	2.4	17	MH	3.7	M	6.3
EV 3		14	12/23/2016	5.7	6.6	2.2	13	M	146.4	H	819	251	8.8	2.5	30.9	12.1	2.6	18	MH	3.6	M	3.8
F 1	360	2	4/17/2019	6.2	6.8	3.5	35.7	H	78.3	L	2083	215	8.2	1.5	58.3	11.1	5.3	11	M	1.8	M	2
F 2	360	3	4/17/2019	6.5	7	2.3	68.8	VH	132.6	MH	2394	189	8.1	2.4	65.6	10	6.6	13	MH	1.6	L	5.1
F 3	360	3	4/17/2019	6.7	7	2.7	76.2	VH	74.6	LM	2652	240	8.4	1.4	68.4	12.1	5.7	12	M	2.4	M	3.3
F 4	360	5	4/17/2019	7.1	0	3.1	171.8	VH	137.2	H	4491	136	10.6	1.9	83.3	5.7	14.6	13	MH	2.7	M	3
F 5	360	5	11/29/2017	6.8	7.1	1.4	186.5	VH	161.1	H	4867	240	12.8	1.9	73.5	8	9.2	20	MH	4.7	MH	4.5
F 6	360	5	11/29/2017	6.8	7.1	1.4	186.5	VH	161.1	H	4867	240	12.8	1.9	73.5	8	9.2	20	MH	4.7	MH	4.5
F 7	360	5	11/29/2017	6.8	7.1	1.4	186.5	VH	161.1	H	4867	240	12.8	1.9	73.5	8	9.2	20	MH	4.7	MH	4.5
F 8	360	5	11/29/2017	6.8	7.1	1.4	186.5	VH	161.1	H	4867	240	12.8	1.9	73.5	8	9.2	20	MH	4.7	MH	4.5
F 9	360	5	11/29/2017	6.8	7.1	1.4	186.5	VH	161.1	H	4867	240	12.8	1.9	73.5	8	9.2	20	MH	4.7	MH	4.5

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
F 10A	360	5	11/29/2017	7.2	0	3.3	1043.9	VH	103.2	M	12713	346	17.4	0.9	86	8.3	10.4	34	H	13.7	H	10.3
F 10B	360	5	11/2/2016	6.7	7	2.9	114.7	VH	56.2	L	4928	220	12.9	0.7	74	7.3	10.1	12	M	3.4	M	4.9
F 11	360	5	11/29/2017	6.6	7.1	2.9	264.5	VH	48.9	L	6509	258	16.6	0.5	72.9	6.6	11.0	19	MH	6.9	MH	5.5
F 12	360	5	11/29/2017	6.5	6.7	2.4	116.9	VH	48.9	L	3967	205	11.4	0.7	69.7	7.7	9.1	15	MH	4	MH	3.4
F 13	360	5	11/29/2017	6.5	6.7	2.4	116.9	VH	48.9	L	3967	205	11.4	0.7	69.7	7.7	9.1	15	MH	4	MH	3.4
F 14		5	11/2/2016	6.7	6.9	2.4	105.4	VH	56.2	L	3881	158	10.5	0.9	74.5	6.6	11.3	11	M	1.6	L	1.5
F 15	360	5	11/2/2016	6.4	6.9	2.9	145.3	VH	48.9	L	4117	202	10.3	0.8	79.2	8.4	9.4	14	MH	3.6	M	3.9
F 16	360	5	4/17/2019	6.4	6.9	2.9	70.5	VH	51.6	L	3544	200	9.4	0.9	77.1	9.2	8.4	13	MH	2.7	M	2.7
F 17	360	5	4/17/2019	6.1	6.7	3.1	61.9	VH	82.9	LM	2448	282	10.3	1.3	52.4	11.5	4.6	10	M	2.7	M	3.3
F 19	360	5	11/2/2016	7	0	3	52.7	VH	60.8	L	2512	278	7.8	1.3	70.7	15	4.7	16	MH	1.8	M	2.9
F 20	360	5	11/2/2016	7	0	2.9	145.5	VH	50.7	L	4881	229	12.1	0.7	78.2	8.1	9.7	14	MH	3.2	M	4.1
F 21	360	5	4/17/2019	6.9	7.2	2.7	153.1	VH	121.6	MH	3410	179	9.3	2	75.2	8.3	9.1	13	MH	3.3	M	5.6
F 23	360	5	4/17/2019	6	6.7	2.8	44.3	VH	96.7	M	1837	188	9	1.7	49.1	9	5.5	14	MH	2.1	M	5.5
G 1	360	2	11/29/2017	6.8	7.2	1.7	84.1	VH	126.2	MH	3277	195	9.4	2	72.4	8.9	8.1	15	MH	2.3	M	4.1
G 2	360	2	4/17/2019	6.3	6.7	3	82.9	VH	133.5	MH	2815	193	10.6	1.9	56.5	7.8	7.2	11	M	7.4	MH	6.7
G 3	360	2	12/29/2017	6.6	7	2.6	46.4	VH	76.5	L	3155	260	9.8	1.2	67.5	11.3	6.0	16	MH	1.8	M	4.3
Glosick 1		7	4/17/2019	5.8	6.4	3	4	L	74.6	L	1018	205	11.2	1.1	27.1	7.8	3.5	15	MH	1.3	L	5.1
Glosick 2		7	4/17/2019	5.8	6.5	2.7	2.7	L	78.3	L	964	210	10	1.2	29.6	9	3.3	15	MH	1.3	L	5.3
Glosick 10A		3	1/2/2017	5.6	6.5	3	2	L	103.2	M	1453	243	11	1.4	34.4	9.4	3.7	13	MH	1.5	L	0.9
Glosick 10B		3	1/2/2017	5.6	6.5	3.1	2	L	73.7	L	1298	200	10.5	1.1	33.5	8.2	4.1	11	M	1.1	L	0.7
Glosick 11		3	1/2/2017	5.5	6.3	3.2	2	L	104.1	M	891	157	12.1	1.3	23.5	5.6	4.2	12	M	1.5	L	0.8
Glosick 12		3	1/2/2017	5.4	6.3	3.8	2	L	56.2	L	1204	195	12.7	0.7	26.4	6.6	4.0	11	M	0.9	L	0.4

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
Glosick 13		3	1/2/2017	5.2	6	3.6	2	L	99.5	LM	538	196	15.2	1	14.8	5.5	2.7	15	MH	1.4	L	0.6
H 1	360	2	1/28/2019	6.4	6.9	3.3	50.6	VH	226.4	VH	1766	220	6.8	4.9	63.4	13.9	4.6	23	MH	2.5	M	1.5
H 2A	360	2	1/28/2019	6.8	7.2	2.7	64.4	VH	144.6	H	3211	269	9.6	2.2	69.3	11.8	5.9	19	MH	2.3	M	3.8
H 2B	360	2	11/2/2016	6.8	7.1	2.9	70.6	VH	251.3	VH	3182	300	9.9	3.7	66.9	12.7	5.3	17	MH	2	M	4.6
H 2C	360	2	11/2/2016	6.8	7.1	2.9	70.6	VH	251.3	VH	3182	300	9.9	3.7	66.9	12.7	5.3	17	MH	2	M	4.6
H 3	360	2	4/17/2019	5.5	6.5	2.4	15.3	MH	81.1	LM	964	148	9.7	1.3	30.4	6.6	4.6	14	MH	1.9	M	3.4
H 3S	360	2	4/17/2019	5.8	6.6	2.8	24.2	H	50.7		1293	146	9	0.9	38.8	7.1	5.5	14	MH	2.2	M	2.9
H 4	360	2	4/17/2019	6.8	7	3.6	100	VH	47	L	4171	260	11.3	0.7	72.9	9.7	7.5	12	M	2	M	2.6
I 1	360	3	11/29/2017	6.2	6.5	2.5	30.1	H	124.3	H	1882	262	11.8	1.6	38	9.4	4.0	12	M	2.9	M	6
J 1	360	6	1/28/2019	6.6	7.2	2.8	41.5	VH	208	VH	2835	303	9.5	3.2	63.4	13.4	4.7	19	MH	3.9	M	8.3
J 2	360	6	1/28/2019	6.4	7	2.5	44.1	VH	156.5	H	2974	293	7.7	3	81.1	15.9	5.1	25	MH	2.7	M	7.6
J 3	360	6	1/28/2019	6.5	6.8	3.1	48.3	VH	171.2	H	3288	287	10.6	2.4	64.3	11.4	5.6	22	MH	3.1	M	4.1
J 4	360	6	1/28/2019	5.9	6.7	2.6	8	M	117	M	1281	157	7.9	2.2	43.8	8.6	5.1	21	MH	1.7	L	1.5
K 1	360	3	4/17/2019	5.2	5.9	3	2	L	151	H	61	97	15.3	1.5	9.5	2.9	3.3	17	MH	1	L	0.9
K 2		3	4/17/2019	5.2	6.3	2.4	2	L	137.2	MH	151	102	10.7	1.9	15.1	4.3	3.5	20	MH	1.1	L	0.9
K 3		3																				
L 1	360	3	4/17/2019	6.4	6.5	3.4	13.6	MH	87.5	LM	1664	276	11.4	1.2	36	10.2	3.5	14	MH	1.6	L	5.9
L 2	360	3	4/17/2019	6.3	6.4	3.6	6.6	M	47	L	2042	384	13.6	0.6	34.8	11.7	3.0	16	MH	1.3	L	5.8
M 1	360	6	1/28/2019	6.6	6.8	2.5	63	VH	78.3	L	3342	202	9.9	1.2	70	8.8	8.0	20	MH	3.5	M	5.5
M 2	360	6	1/13/2017	6.5	6.9	2.1	64	VH	69.1	L	3010	236	9.5	1.2	66.4	10.5	6.3	10	M	3.8	M	3.2
M 3	360	6	1/13/2017	6.5	6.8	2.8	118	VH	219.1	VH	3653	269	11.3	2.8	65.3	10	6.5	18	MH	9.9	MH	7.5
M 4	360	6	1/13/2017	6.4	7	1.8	72.4	VH	242.1	VH	2965	287	7.8	4.5	80.1	15.5	5.2	20	MH	5.2	MH	4.5

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
M 5	360	6	1/13/2017	6.8	7	2.4	93.3	VH	181.4	VH	3147	318	9.8	2.7	67	13.6	4.9	14	MH	4.9	MH	5.2
M 6	360	6	1/13/2017	5.8	6.6	2.2	49.5	VH	190.6	H	2235	195	11	2.6	46.1	7.6	6.1	17	MH	5.9	MH	5.6
N 1	360	6	1/28/2019	5.6	6.5	3.1	8.3	M	251.3	VH	1429	203	11	3.3	34	8	4.3	24	MH	2	M	3.2
O 1	360	6	4/17/2019	5	6.3	4.4	15	MH	396.6	VH	1186	198	13.1	4.3	25.3	6.5	3.9	38	H	8.5	MH	8.9
O 2	360	6	4/17/2019	5.2	6.3	3.9	22.4	H	335.9	VH	1181	191	13	3.7	25.5	6.3	4.0	34	H	5.4	MH	6.9
P 1A	360	6	1/13/2017	7.1	0	2.8	196.6	VH	257.7	VH	5202	271	12.6	2.9	78.9	9.1	8.7	19	MH	9.6	MH	11
P 1B	360	6	1/13/2017	6.4	6.8	2.2	60.7	VH	187.8	VH	3304	310	10.8	2.6	63.2	12.1	5.2	19	MH	6	MH	5.1
Q 1	360	8	11/29/2017	6.2	6.9	2.7	58.4	VH	104.1	M	2984	291	8.9	1.8	70.9	13.8	5.1	13	MH	2.2	M	3.5
Q 2	360	8	1/13/2017	6.8	6.9	2.5	99.3	VH	151	H	3451	207	9.8	2.3	72	9	8.0	28	MH	4	MH	5.2
Q 3	360	8	1/13/2017	6.6	6.7	2.4	37.8	H	90	LM	2515	233	8.3	1.7	66.4	11.9	5.6	18	MH	2.2	M	3.2
Q 4	360	8	1/13/2017	6.6	6.9	2.5	92	VH	103	M	3390	224	10.1	1.6	69	9.4	7.3	22	MH	4.6	MH	5.6
Q 5	360	8	1/13/2017	6.5	6.9	2.6	132.5	VH	282.6	VH	4450	300	13.3	3.1	65.6	9.5	6.9	34	H	4.5	MH	2.6
Q 6	360	8	1/13/2017	6.8	6.9	1.8	158.9	VH	277	VH	4851	265	13.1	3.1	71.7	8.6	8.3	16	MH	4.2	MH	2.3
Q 7	360	8	4/17/2019	6.4	7.2	2.9	34.3	H	99.5	LM	2847	205	7.1	2.2	85.5	12.4	6.9	10	M	5.2	MH	3.8
Q 8	360	8	10/16/2015	6.5	6.9	3	60.6	VH	104.1	M	3594	179	10.5	1.5	69.3	7.3	9.5	13	MH	3.3	M	3.5
Q 9	360	8	4/17/2019	6	6.8	2.3	54.8	VH	117.9	M	2090	151	8.1	2.2	59.8	8.2	7.3	11	M	3.1	M	1.7
Q 10	360	9	4/17/2019	6.2	6.9	2.2	64.4	VH	183.2	H	2133	186	7.2	3.8	68.3	11.2	6.1	9	M	2.1	M	1.2
Q 11	360	8	1/16/2019	6.6	6.9	3.1	86	VH	135.4	MH	2318	165	7.6	2.6	68	9.4	7.2	17	MH	2.9	M	1.4
Q 12	360	9	11/29/2017	6.4	6.8	2.9	58.5	VH	53.5	L	3193	276	10.3	0.9	64.5	11.3	5.7	15	MH	2.1	M	1.6
Q 13	360	9	1/16/2019	6.8	7	3.1	136.8	VH	74.6	L	4011	188	10.7	1.1	74.7	7.5	10.0	17	MH	2.8	M	2.2
Q 14	360	8	10/16/2015	6.6	7	3.1	73.5	VH	104.1	M	4514	293	12.8	1.2	69.1	9.6	7.2	18	MH	3.4	M	2.3
R 1	360	8	4/17/2019	7.1	0	2.9	435.2	VH	44.3	VL	6214	164	13.7	0.6	85.2	5.2	16.4	14	MH	4.9	MH	3.4

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
R 2	360	9	4/17/2019	6	6.8	3.2	17.7	MH	82.9	LM	1639	138	7.2	1.8	56.5	8.4	6.7	10	M	1.2	L	1.2
R 3	360	9	11/29/2017	6.2	6.9	1.6	20.7	H	76.5	L	1900	198	6.7	1.8	67.5	12.7	5.3	10	M	1.4	L	2.1
R 4	360	9	4/17/2019	6	6.7	2	41.7	VH	42.4	VL	2341	196	9.8	0.8	53.7	8.6	6.2	11	M	1.7	L	0.9
R 5A	360	9	1/13/2017	6	6.7	1.8	11.5	M	96.7	LM	1843	303	9.4	1.6	46.7	13.5	3.5	14	MH	1.5	L	2.2
R 6E	360	9	4/17/2019	6.5	7	2.6	19.2	MH	71.9	L	2336	255	8.2	1.4	63.6	13.1	4.9	15	MH	2.2	M	2.5
R 6W	360	9	4/17/2019	6.5	7.1	2.9	18.9	MH	73.7	L	1991	238	7.4	1.6	62.9	13.7	4.6	13	MH	1.7	L	2.3
R 7	360	9	4/17/2019	6.4	6.9	2.7	10.9	M	69.1	L	1764	220	6.5	1.7	65.6	14.4	4.6	10	M	0.8	L	1.2
R 8	360	9	11/29/2017	6.5	7	2.2	56.2	VH	103.2	M	2776	219	9	1.7	66.1	10.3	6.4	13	MH	2.1	M	2.6
R 9	360	9	4/17/2019	7.2	0	2.8	398	VH	483.1	VH	5307	284	12.6	5.4	80.3	9.5	8.5	16	MH	12.8	H	6.6
R 10	360	9	4/17/2019	6.3	6.9	3.3	73.4	VH	121.6	MH	2577	215	7.9	2.3	71	11.6	6.1	20	MH	7.6	MH	7.1
R 11	360	9	4/17/2019	6.2	6.6	3.9	66.3	VH	122.5	MH	2380	193	11.1	1.7	47.7	7.5	6.4	15	MH	7.8	MH	7.2
R 12A	360	9	11/29/2017	5.8	6.8	2	2	L	94.9	LM	1628	251	7.7	1.9	52.9	13.9	3.8	12	M	1.4	L	1.7
R 12B	360	9	11/29/2017	5.9	6.8	2.1	10.8	M	85.7	LM	1991	289	8.4	1.6	55.4	14.5	3.8	16	MH	1.8	M	2.1
R 13	360	9	1/13/2017	6	6.8	2	47.9	VH	174	H	2203	245	8.7	2.9	57.5	12	4.8	18	MH	7.2	MH	4.2
R 14	360	9	1/13/2017	6.2	6.9	2.9	59.9	VH	287	VH	3254	280	9.5	4.3	70.7	12.4	5.7	30	H	4.6	MH	4.4
S 1		6	1/28/2019	6.1	6.6	3	9.1	M	151.9	H	1571	253	10.1	2.2	39.4	10.6	3.7	20	MH	1.2	L	3.1
S 2		6	1/28/2019	5.9	6.6	2.6	2	L	161.1	H	869	191	8.7	2.8	32.3	9.5	3.4	23	MH	1.3	L	3.9
S 4		6	4/10/2013	6.1	6.7	3	3.5	L	251.3	VH	1118	162	7.9	4.6	40.7	8.9	4.6	15	MH	0.8	L	0.8
S 5		6	1/28/2019	5.3	6.1	3.6	2	L	210.8	VH	124	128	13.2	2.3	11.8	4.3	2.7	32	H	1.1	L	3
S 6		6	4/10/2013	6.2	6.7	3.3	7.7	M	178.6	VH	2418	327	10.6	2.5	50.6	12.9	3.9	16	MH	0.5	L	3.6
S 7		6	1/28/2019	5.8	6.6	3.3	8.9	M	82.9	LM	2273	119	10.6	1.2	48.4	5	9.7	23	MH	1.7	L	1.2
Sam A			11/29/2017	5.8	6.8	2.3	5.9	LM	65.4		1184	289	7	1.5	47.1	17.3	2.7	14	MH	1.5	L	3.7

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
Sam B	A		11/29/2017	5.4	6.9	2.2	2	L	89.4		999	217	5.3	2.6	57.1	17.5	3.3	14	MH	1.4	L	2.5
Sam B	B		11/29/2017	5.4	6.7	2	2	L	98.6		1030	195	7.7	2	40	10.9	3.7	13	MH	1.7	L	2.1
Sam Dick A		13	11/29/2017	5.8	6.8	2.3	5.9	LM	65.4	L	1184	289	7	1.5	47.1	17.3	2.7	14	MH	1.5	L	3.7
Sam Dick B		13	11/29/2017	5.4	6.9	2.2	2	L	89.4	LM	999	217	5.3	2.6	57.1	17.5	3.3	14	MH	1.4	L	2.5
Sam Dick C		13	1/13/2017	5.1	6.6	2.1	2	L	104.1	M	620	167	8.1	2	29.6	9	3.3	16	MH	1.5	L	3.1
Sam Dick D		13	1/13/2017	5.5	6.3	2.2	2	L	108.7	MH	976	251	12.6	1.3	23.6	8.4	2.8	20	MH	1.5	L	2.7
Sam Dick E		13	1/13/2017	5	6.4	1.8	2	L	81.1	LM	683	165	10.5	1.2	23.6	6.8	3.5	15	MH	1.2	L	1.2
SH 1		12	4/17/2019	6.9	7	5	239.5	VH	442.6	VH	4153	513	12.9	4.9	64	16.5	3.9	21	MH	11	H	3.8
Spears 1		8	1/16/2019	6.4	6.8	3.1	22.7	H	117	M	2631	381	9.9	1.8	57.8	16.1	3.6	18	MH	2.6	M	3.5
Spears 2		8	1/16/2019	6.3	6.8	2.6	3.6	L	87.5	LM	2027	332	8.6	1.6	54.5	16.1	3.4	17	MH	1.4	L	1.1
Spears 3		8	1/16/2019	5.9	6.6	3.3	11.3	M	121.6	MH	1506	279	10	1.8	38.5	11.8	3.3	23	MH	15.8	H	3.4
Spears 5		8	1/16/2019	5.5	6.6	3.3	3.4	L	117.9	M	994	188	8.8	2	34.2	9.2	3.7	21	MH	2.2	M	2
Spears 6		8	1/16/2019	5.3	6.4	2.5	2	L	140	MH	401	182	10.2	2	19.8	7.7	2.6	20	MH	1.7	L	0.8
Spears 7		8	4/17/2019	6.2	6.9	3.2	20.4	H	331.3	VH	1852	301	7.4	6.5	60	17.2	3.5	32	H	3.5	M	6.4
ST 1	360	12	1/28/2019	5.7	6.6	2.5	7	M	172.2	H	1553	233	10	2.5	39.4	9.9	4.0	29	MH	1.2	L	2.4
ST 2	360	9	1/28/2019	6.1	6.8	2.3	10.7	M	119.7	M	1983	202	8.1	2.2	57.4	10.7	5.4	21	MH	1.4	L	2.5
ST 3	360	12	11/29/2017	5.8	6.7	2.1	14.8	MH	110.5	M	1764	196	8.9	1.9	48.1	9.5	5.1	15	MH	1.6	L	3.2
ST 4	360	12	4/17/2019	5.9	6.7	2.4	2	L	56.2	L	1207	164	7.8	1.2	43.2	9.2	4.7	10	M	0.7	L	0.9
ST 5	360	12	1/28/2019	5.9	6.7	2.8	35.1	H	383.8	VH	2173	207	10	5.5	49.6	8.9	5.6	22	MH	3.9	M	5.1
ST 6	360	12	1/28/2019	5.8	6.5	2.1	8.6	M	146.4	H	1295	143	10.3	2.1	33.9	6	5.7	21	MH	1.6	L	3.9
ST 7	360	12	1/28/2019	5.8	6.6	2.6	7.6	M	178.6	H	1195	146	9	2.9	36.9	7.1	5.2	21	MH	1.5	L	3.9
ST 8	360	12	12/20/2017	5.8	6.4	2.2	12.1	M	224.6	VH	1859	179	12.7	2.6	34.8	6	5.8	16	MH	2.3	M	5.7

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FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
ST 9	360	12																				
ST 11	360	12	11/29/2017	5.7	6.7	3.1	15.3	MH	195.2	H	1666	249	9.1	3.2	45.4	11.7	3.9	22	MH	3	M	5.2
ST 12	360	12	4/10/2013	6.1	6.8	3.6	8.5	M	199.8	H	1982	279	8.5	3.4	54.5	13.9	3.9	20	MH	1.5	L	2.3
ST 13	360	12	1/28/2019	5.7	6.6	2.5	2	L	117	M	1245	258	9.5	1.9	36	11.5	3.1	20	MH	1.3	L	1.3
ST 14	360	12	4/10/2013	5.6	6.6	3.5	4.5	L	244.8	VH	867	293	9.2	3.9	30.4	13.4	2.3	19	MH	4	MH	0.3
ST 15	360	12	4/10/2013	6	6.7	4.5	6.9	M	282.6	VH	1791	336	9.7	4.2	44.4	14.5	3.1	17	MH	2.6	M	0.3
ST 16	360	12	11/29/2017	5.8	6.6	2.3	8.6	M	206.2	VH	991	189	8.9	3.4	33.6	9.1	3.7	20	MH	2.5	M	3.8
ST 17	360	12	11/29/2017	5.8	6.6	2.3	8.6	M	206.2	VH	991	189	8.9	3.4	33.6	9.1	3.7	20	MH	2.5	M	3.8
ST 18	360	12	1/28/2019	5.6	6.7	2.5	6.5	M	166.6	H	1285	162	8	3.1	43.4	8.8	4.9	22	MH	2.1	M	4.6
ST 19	360	12	4/10/2013	6.4	7	3.7	12.9	M	231	VH	2897	282	7.7	4.4	80.2	15.5	5.2	23	MH	2.2	M	3.1
ST 20	360	12	1/28/2019	5.7	7	2.4	3.4	L	92.1	LM	2054	188	5.7	2.5	83.4	14.1	5.9	18	MH	1.9	M	2.5
ST 21N		12	1/28/2019	5.6	6.8	2.4	2	L	133.5	H	687	184	5.9	3.4	42.4	13.4	3.2	23	MH	1.3	L	3.9
ST 21S		12	12/11/2015	6.2	6.6	2.2	11.7	M	138.1	H	1207	198	9.2	2.2	36.4	9.2	4.0	15	MH	1.7	L	4.8
Sugar 1		3	9/12/2017	6.5	6.8	3	12.6	M	78.3	LM	2462	310	8.8	1.4	61.9	14.9	4.2	7	M	2.7	M	1.6
Sugar 2		3	9/12/2017	5.6	6.5	2.5	2	L	53.5	L	903	176	9.7	0.9	29.4	7.9	3.7	8	M	1	L	0.7
Sugar 3		3	9/12/2017	5.5	6.7	2.5	2	L	48.9	L	1	98	5.5	1.5	24.3	8.2	3.0	12	M	1	L	0.6
T 1		1	1/16/2019	6.4	7	2.4	6.2	M	76.5	L	1365	349	5.2	2.3	69.6	28.1	2.5	17	MH	1.2	L	5.7
T 2		1	1/16/2019	6.7	6.7	2.8	5.9	LM	47	L	1379	439	6.8	1.2	53.8	27	2.0	16	MH	0.9	L	0.7
T 3		1	1/16/2019	6.4	6.8	2.4	4.5	L	89.4	LM	1385	367	7.7	1.8	47.3	19.8	2.4	18	MH	1.5	L	3.4
T 4		1	1/16/2019	6.5	6.8	2	3.3	L	55.3	L	1266	362	6.5	1.4	53.4	23.3	2.3	17	MH	0.9	L	0.6
T 5		1	1/16/2019	6.4	6.9	3.1	2.8	L	64.5	L	1542	367	6.7	1.5	58	22.7	2.6	15	MH	1.4	L	3.7
T 6		1	1/28/2019	6.4	7.2	2.8	6.2	M	87.5	LM	2182	379	6.7	2	74.3	23.7	3.1	20	MH	1.1	L	1

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T 7		1	1/28/2019	6.5	7.1	2.4	3.7	L	67.3	L	2010	467	8.6	1.2	54.4	22.5	2.4	19	MH	1	L	2
T 8		1	1/28/2019	6.4	6.9	2.6	4.6	L	79.2	LM	1453	358	6.6	1.9	57.2	22.7	2.5	17	MH	0.9	L	4.9
T 9		1	1/28/2019	6.5	6.9	2.7	4.7	L	85.7	LM	2246	465	9.1	1.5	55.6	21.1	2.6	18	MH	1.2	L	2.9
T 10		1	1/28/2019	6.5	6.8	2.2	6.3	M	82.9	LM	2223	407	8.8	1.5	57.4	19.3	3.0	18	MH	1.1	L	4.3
T 11		1	1/28/2019	6.6	7	2.9	5.1	LM	94.9	LM	2484	448	9.4	1.6	58.5	19.9	2.9	21	MH	1.1	L	3.5
T 12		1	1/28/2019	6.4	6.7	2.5	7.4	M	110.5	M	1764	381	9.6	1.7	44.4	16.5	2.7	17	MH	1.1	L	3.3
T 13		1	1/28/2019	6.2	6.9	2.7	4	L	96.7	LM	2069	432	7.9	1.9	60.3	22.7	2.7	18	MH	1.2	L	4.3
T 14		1	1/28/2019	6.7	7.1	2.5	5.5	LM	104.1	M	2117	492	8.6	1.8	56.5	23.7	2.4	15	MH	1	L	0.7
T 15		1	1/28/2019	6.4	6.9	3	4.1	L	128.9	MH	2246	503	8.6	2.3	59.4	24.3	2.4	22	MH	1.1	L	7
T 16		1	1/16/2019	7	0	2.4	8	M	83.8	LM	2377	475	8.5	1.5	62.2	23.2	2.7	17	MH	1.2	L	3.3
T 17		1	1/28/2019	6.3	7.1	3.6	2	L	126.2	MH	3759	558	10.1	1.9	75.3	22.9	3.3	19	MH	1.9	M	2.5
Tucker 1		11	12/29/2017	6.5	6.9	3.1	9.7	M	175.8	VH	2068	432	8.8	3	54.6	20.5	2.7	19	MH	1.9	M	3.1
Tucker 2		11	12/29/2017	6.4	7	2.7	11.4	M	117	M	1112	329	4.8	3.7	67.3	29	2.3	14	MH	1.3	L	1.4
Tucker 3		11	12/29/2017	6.2	6.9	1.8	3.9	L	69.1	L	1356	305	6.2	1.8	58.2	20.7	2.8	15	MH	1	L	2.3
Tucker 4		11	12/29/2017	6	6.8	2	4.4	L	64.5	L	678	233	6	1.7	41.5	16.6	2.5	11	M	0.9	L	2.8
Tucker 5		11	12/29/2017	6.1	6.9	2.3	4.9	L	79.2	LM	1243	315	6.1	2.1	56.4	21.8	2.6	16	MH	1.6	L	5.3
Tucker 6		11	12/29/2017	6	6.9	2.8	6.1	M	74.6	L	1113	291	5.7	2.1	55.7	21.3	2.6	13	MH	1.3	L	1.7
U 1	360	8	1/28/2019	6.5	7.2	2.3	53.6	VH	105.9	M	3069	274	9.9	1.6	64.8	11.7	5.5	17	MH	2.8	M	2.2
U 2	360	8	1/28/2019	6	6.7	2.5	2.3	L	94	LM	2031	267	9.6	1.5	49.2	11.8	4.2	20	MH	1.2	L	1
U 3		8	1/28/2019	6	6.8	2.5	36.4	H	137.2	MH	2273	289	8.9	2.3	57.3	13.6	4.2	19	MH	2.2	M	1.6
U 4		8	10/21/2015	5.4	6.3	2.7	2	L	119.7	M	885	143	12	1.5	23.5	5.2	4.5	13	MH	1.6	L	1
V 1		6	1/28/2019	5.7	6.2	3	2	L	147.3	H	1239	205	14.1	1.6	24.2	6.2	3.9	30	H	1.3	L	3.6

Soil tests are performed by Spectrum Analytic using Mehlic III chemistry and converted to Morgan equivalent. All relevant tests are reported in lbs/acre.

Key: OM = Organic Matter CEC = Cation Exchange Capacity P = Phosphorus K = Potassium MG = Magnesium Ca = Calcium S= Sulphur B = Boron Zn = Zinc Cu = Copper Ca_MG = Calcium_Magnesium Ratio

FieldName	Split	Map	SampleDate	pH	BPH	OM	P	Plev	K	KLev	Ca	Mg	CEC	KSat	CaSat	MgSat	BCaMg	S	SLe	Zn	ZnLe	Cu
V 2	360	6	1/28/2019	5.8	6.5	3.1	6.7	M	166.6	H	1639	176	11.1	2.2	36.8	6.9	5.3	24	MH	1.4	L	4.8
V 3	360	6	1/28/2019	6	6.4	1.8	8	M	178.6	H	1615	182	12.3	2.1	32.8	6.4	5.1	22	MH	1.4	L	4.7
VA 1		4	12/29/2017	5.6	6.8	1.2	14.7	MH	141.8	H	1243	188	6.8	3.1	50	11.8	4.2	11	M	3	M	4
VV 1		2	11/18/2015	6	6.7	1.9	12.9	M	74.6	L	1719	140	8.5	1.4	49.2	7.2	6.8	11	M	1	L	4.8
W 1	360	7	4/17/2019	5.9	6.7	3.1	6.9	M	92.1	LM	882	169	7.3	1.9	38.7	10.1	3.8	14	MH	1	L	4.6
W 4A	360	7	11/29/2017	6.6	7	3.2	229.1	VH	852	VH	5752	422	17.3	6.9	62.9	10.1	6.2	36	H	9.4	MH	13
W 4B	360	7	11/29/2017	7	0	3	440.3	VH	829	VH	7297	515	19.3	6.1	69.8	11.1	6.3	47	VH	15.3	H	19
W 6	360	7	4/17/2019	6.2	6.7	3.3	72.4	VH	328.6	VH	2430	236	10.5	4.5	51.5	9.6	5.4	16	MH	4.8	MH	6.8
W 8	360	7	4/17/2019	6.1	6.8	2.3	2	L	51.6	L	1408	226	7.1	1.2	51.7	13.5	3.8	11	M	0.6	L	0.6
W 9	360	7	11/29/2017	6.7	7	2.7	120.5	VH	263.2	VH	4396	289	12.5	3.1	69.2	9.7	7.1	18	MH	5.9	MH	10.1
X 21		8	4/10/2013	5.9	6.7	3.5	2	L	128		1791	370	9.7	2	44.7	16	2.8	15	MH	0.9	L	0.1
X 22		9	4/17/2019	6.7	6.9	2.5	87.9	VH	113.3	MH	2743	207	8.5	2	69.5	10.5	6.6	10	M	2.1	M	2.3
Y 1		4	12/29/2017	5	6.6	1.8	2	L	53.5	L	559	104	7.6	1.2	29.9	6.1	4.9	15	MH	1.4	L	1.3
Y 2		4	12/29/2017	4.9	6.5	1.5	2	L	40.6	VL	511	97	8.7	0.8	25.3	5	5.1	16	MH	1.4	L	0.5
Y 3		4	12/29/2017	5.2	6.8	2	2	L	51.6	VL	1018	119	6.1	1.4	50.3	8.7	5.8	17	MH	2.1	M	0.5
Z 1A		11	5/3/2016	6.1	6.7	2.5	2	L	128.9	H	1279	274	8.4	2.3	41.2	13.7	3.0	15	MH	0.9	L	3.4
Z 1B		12	5/3/2016	6.2	6.8	2.5	3.1	L	190.6		1593	358	8.2	3.4	48.9	18.3	2.7	15	MH	1.3	L	7.9

Soil tests are performed by Spectrum Analytic using Mehlic III chemistry and converted to Morgan equivalent. All relevant tests are reported in lbs/acre.

Key: OM = Organic Matter CEC = Cation Exchange Capacity P = Phosphorus K = Potassium MG = Magnesium Ca = Calcium S= Sulphur B = Boron Zn = Zinc Cu = Copper Ca_MG = Calcium_Magnesium Ratio

Heavy Metal Soil Analyses for 2019/2020

NOTE: All units are mg/kg

Field	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdeunm	Nickel	Selenium	Zinc	
A 1	<3.0	<3.0	20.44	91.27	16.9	<0.2	<3.0	20.62	<3.0	90.76	1st batch
A 2	0.76	0.17	2.91	7.28	1.62	<0.2	0.22	2.51	<0.01	31.72	
A 7	<3.0	<3.0	11.01	54.13	11.51	<0.2	<3.0	13.44	<3.0	85.55	1st batch
A 12S	<3.0	<3.0	10.07	41.89	13.09	<0.2	<3.0	12.03	<3.0	84.5	1st batch
B 4	0.84	0.1	2.75	3.29	1.74	<0.2	0.15	2.42	<0.01	25.44	
B 6	<3.0	<3.0	8.9	29.06	15.19	<0.2	<3.0	9.29	<3.0	85.91	1st batch
B 9	0.71	0.11	2.81	4.49	1.7	<0.2	0.16	2.14	<0.01	31.76	
B 10	<3.0	<3.0	11.08	26.72	12.22	<0.2	<3.0	13.87	<3.0	68.09	1st batch
C 1	0.65	0.04	2.47	2.54	1.4	<0.2	0.04	1.92	<0.01	23.51	
C 3	<3.0	<3.0	11.81	24.14	13.77	<0.2	<3.0	14.37	<3.0	80.3	1st batch
C 9	<3.0	<3.0	9.06	21.71	9.66	<0.2	<3.0	11.06	<3.0	65.54	1st batch
D 2	0.68	0.05	2.51	5.76	1.44	<0.2	0.05	1.99	<0.01	27.89	
E 1	<3.0	<3.0	8.88	52.81	14.31	<0.2	<3.0	20.52	<3.0	62.99	1st batch
E 6	0.58	0.03	2.43	2.46	1.31	<0.2	0.01	2.07	<0.01	21	
F 1	0.67	0.03	2.38	2.12	1.36	<0.2	0.05	1.91	<0.01	20.34	
F 3	0.78	0.02	2.46	3.53	1.55	<0.2	0.04	1.87	<0.01	21.26	
F 11	0.59	0.04	2.22	4.36	1.52	<0.2	0.08	1.66	<0.01	23	
F 12	0.67	0.02	2.01	2.53	1.26	<0.2	0.05	1.61	<0.01	18.53	
F 15	<3.0	<3.0	7.46	35.25	10.05	<0.2	<3.0	8.67	<3.0	61.11	1st batch
F 16	0.58	0.03	2	2.12	1.4	<0.2	0.03	1.69	<0.01	19.87	
F 23	0.89	0.02	2.54	4.04	1.6	<0.2	0.04	2.05	<0.01	23.21	
G 1	0.62	0.03	2.26	2.92	1.35	<0.2	0.03	1.74	<0.01	21.23	
H 1	0.57	0.02	2.34	3.29	1.28	<0.2	0.06	1.81	<0.01	21.65	
H 4	0.67	0.04	2.37	2.06	1.48	<0.2	0.01	1.93	<0.01	22.37	
I 1	0.55	0.02	2.16	2.87	0.99	<0.2	<0.01	1.66	<0.01	18.62	
J 3	0.63	0.02	2.55	3.03	1.63	<0.2	0.02	2.06	<0.01	25.41	
M 4	<3.0	<3.0	10.59	36.16	9.82	<0.2	<3.0	12.45	<3.0	76.67	1st batch
M 6	0.66	0.03	2.52	4.29	1.25	<0.2	0.06	1.93	<0.01	26.31	
P 1A	<3.0	<3.0	11.63	49.67	13.19	<0.2	<3.0	12.19	<3.0	85.44	1st batch
Q 4	<3.0	<3.0	10.99	36.64	13.95	<0.2	<3.0	12.38	<3.0	83.12	1st batch
Q 6	<3.0	<3.0	11.29	23.44	12.96	<0.2	<3.0	13.45	<3.0	78.92	1st batch
Q 11	0.62	0.02	2.52	1.79	1.53	<0.2	0.03	1.96	<0.01	22.18	
R 5A	<3.0	<3.0	12.73	19.46	11.18	<0.2	<3.0	14.59	<3.0	67.13	1st batch
ST 1	0.83	0.03	2.71	2.65	1.7	<0.2	0.05	1.91	<0.01	27.9	
ST 3	0.91	0.02	2.71	3.55	1.69	<0.2	0.03	5.11	<0.01	23.84	
ST 4	0.66	0.01	2.73	2.9	1.46	<0.2	0.03	2.09	<0.01	24.09	
W 1	0.46	0.04	2.58	9.24	1.48	<0.2	0.15	1.83	<0.01	30.68	
W 9	0.65	0.03	2.55	5.04	1.37	<0.2	0.07	1.8	<0.01	23.19	

Soil Analysis Report

Western New York CROP MANAGEMENT

Report To	Prepared For	
WNY CROP MANAGEMENT ASSOCIATION 5242 CURTIS RD WARSAW, NY 14569	LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810	Sampled 05-29-2020 Tested 06-03-2020

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
1177674-A 2360	A06447	6.5	6.9	3.8	560 V	157 G	137 M	1804 G	10.4	3.3	9.7	65.2	10 M		6.3 G		9.0 L		806
1177675-B 4360	A06448	6.2	7.0	3.1	287 V	86 M	92 M	1226 H	5.5	3.4	12.4	84.2	12 M		3.8 M		4.1 G		723
1177676-B 9360	A06449	6.9	7.1	2.1	662 V	229 G	98 M	2285 H	11.4	4.3	6.3	74.9	14 M		8.8 G		6.2 L		645
1177677-C 1360	A06450	7.0		2.8	350 V	53 L	147 M	2039 H	10.2	1.1	10.6	75.2	12 M		3.8 M		3.3 L		605
1177678-D 2360	A06451	6.5	7.0	3.1	483 V	141 G	149 M	1587 G	9.4	3.2	11.6	63.3	11 M		5.9 G		9.9 G		877
1177679-E 6360	A06452	6.3	7.0	2.8	68 G	56 L	134 G	998 G	4.8	2.5	20.3	77.2	11 M		1.5 L		4.4 G		669
1177680-F 1360	A06453	5.9	6.8	2.6	179 V	67 M	93 M	934 G	6.7	2.1	10.1	52.1	10 M		1.4 L		2.2 G		807
1177681-F 3360	A06454	6.9	7.1	2.5	349 V	62 L	128 M	1709 H	8.8	1.5	10.7	73.2	10 M		2.3 M		4.3 L		662
1177682-F 11360	A06455	6.3	6.8	3.4	596 V	27 L	114 M	2186 H	11.5	0.5	7.3	71.3	12 M		5.4 G		5.6 L		765
1177683-F 12360	A06456	6.6	6.9	3.0	482 V	26 L	97 M	1871 H	9.7	0.6	7.3	72.1	10 M		2.7 M		4.1 L		754
1177684-F 16360	A06457	6.4	6.8	3.1	355 V	34 L	98 M	1819 G	10.0	0.7	7.2	68.1	11 M		3.0 M		3.1 M		829

* *Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm*
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	As mg/Kg	Cd mg/Kg	Cr-total mg/Kg	Cu mg/Kg	Pb mg/Kg	Hg mg/Kg	Mo mg/Kg	Ni mg/Kg	Se mg/Kg	Zn mg/Kg
1177674-A 2360	A06447	.76	.17	2.91	7.28	1.62	< 0.2	.22	2.51	< 0.01	31.72
1177675-B 4360	A06448	.84	.1	2.75	3.29	1.74	< 0.2	.15	2.42	< 0.01	25.44
1177676-B 9360	A06449	.71	.11	2.81	4.49	1.7	< 0.2	.16	2.14	< 0.01	31.76
1177677-C 1360	A06450	.65	.04	2.47	2.54	1.4	< 0.2	.04	1.92	< 0.01	23.51
1177678-D 2360	A06451	.68	.05	2.51	5.76	1.44	< 0.2	.05	1.99	< 0.01	27.89
1177679-E 6360	A06452	.58	.03	2.43	2.46	1.31	< 0.2	.01	2.07	< 0.01	21
1177680-F 1360	A06453	.67	.03	2.38	2.12	1.36	< 0.2	.05	1.91	< 0.01	20.34
1177681-F 3360	A06454	.78	.02	2.46	3.53	1.55	< 0.2	.04	1.87	< 0.01	21.26
1177682-F 11360	A06455	.59	.04	2.22	4.36	1.52	< 0.2	.08	1.66	< 0.01	23
1177683-F 12360	A06456	.67	.02	2.01	2.53	1.26	< 0.2	.05	1.61	< 0.01	18.53
1177684-F 16360	A06457	.58	.03	2	2.12	1.4	< 0.2	.03	1.69	< 0.01	19.87

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HID:4233-0189-2661-0013

Soil Analysis Report

Western New York CROP MANAGEMENT

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WNY CROP MANAGEMENT ASSOCIATION 5242 CURTIS RD WARSAW, NY 14569	LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810	Sampled 05-29-2020 Tested 06-03-2020

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
1177685-F 23360	A06458	6.0	6.7	3.0	210 V	67 L	128 M	1143 G	9.0	1.6	10.5	47.8	10 M		2.3 M		7.1 G		723
1177686-G 1360	A06459	6.8	7.0	2.7	324 V	88 M	106 M	1656 H	8.6	2.2	9.0	72.1	11 M		2.2 M		4.9 M		726
1177687-H 1360	A06460	6.4	6.9	2.8	294 V	130 G	123 M	1150 G	6.7	4.2	13.5	64.4	17 M		2.9 M		4.2 G		709
1177688-H 4360	A06461	6.5	6.8	2.9	280 V	27 L	108 M	1752 G	9.5	0.6	8.3	69.2	9 L		1.5 L		2.7 M		723
1177689-I 1360	A06462	6.2	7.0	2.2	123 H	53 L	111 M	920 G	4.4	2.6	18.6	78.8	8 L		1.4 L		5.1 G		740
1177690-J 3360	A06463	6.7	7.0	2.6	325 V	73 M	134 M	1454 G	8.0	2.0	12.2	67.8	9 L		2.6 M		3.7 L		764
1177691-M 6360	A06464	5.8	6.5	3.0	407 V	96 M	80 M	894 M	10.1	2.0	5.8	33.0	9 L		4.2 G		5.2 G		853
1177692-Q 11360	A06465	6.3	6.8	2.8	260 V	147 G	97 M	1454 G	8.9	3.6	8.0	61.4	13 M		2.2 M		2.3 G		747
1177693-ST 3360	A06466	5.8	6.6	2.9	101 H	56 L	95 M	875 M	8.9	1.4	7.8	36.9	9 L		1.3 L		3.3 G		813

* *Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm*
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	As mg/Kg	Cd mg/Kg	Cr-total mg/Kg	Cu mg/Kg	Pb mg/Kg	Hg mg/Kg	Mo mg/Kg	Ni mg/Kg	Se mg/Kg	Zn mg/Kg
1177685-F 23360	A06458	.89	.02	2.54	4.04	1.6	< 0.2	.04	2.05	< 0.01	23.21
1177686-G 1360	A06459	.62	.03	2.26	2.92	1.35	< 0.2	.03	1.74	< 0.01	21.23
1177687-H 1360	A06460	.57	.02	2.34	3.29	1.28	< 0.2	.06	1.81	< 0.01	21.65
1177688-H 4360	A06461	.67	.04	2.37	2.06	1.48	< 0.2	.01	1.93	< 0.01	22.37
1177689-I 1360	A06462	.55	.02	2.16	2.87	.99	< 0.2	< 0.01	1.66	< 0.01	18.62
1177690-J 3360	A06463	.63	.02	2.55	3.03	1.63	< 0.2	.02	2.06	< 0.01	25.41
1177691-M 6360	A06464	.66	.03	2.52	4.29	1.25	< 0.2	.06	1.93	< 0.01	26.31
1177692-Q 11360	A06465	.62	.02	2.52	1.79	1.53	< 0.2	.03	1.96	< 0.01	22.18
1177693-ST 3360	A06466	.91	.02	2.71	3.55	1.69	< 0.2	.03	5.11	< 0.01	23.84

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Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
1177694-ST 4360	A06467	5.9	6.5	3.3	186 V	136 M	87 M	846 M	10.1	2.9	6.3	31.4	17 M		1.8 M		3.4 G		790
1177695-W 1360	A06468	6.1	6.7	4.0	710 V	234 G	114 M	1878 G	12.0	4.2	7.0	58.8	11 M		11.6 H		11.3 M		851
1177696-W 9360	A06469	6.5	6.8	2.7	381 V	103 M	137 M	1431 G	8.4	2.6	11.9	63.6	13 M		3.8 M		7.6 G		792
1177697-ST 1360	A06470	5.6	6.6	3.0	109 H	77 M	90 M	873 M	8.9	1.9	7.4	36.8	11 M		1.8 M		3.4 G		765

* *Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm*
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	As mg/Kg	Cd mg/Kg	Cr-total mg/Kg	Cu mg/Kg	Pb mg/Kg	Hg mg/Kg	Mo mg/Kg	Ni mg/Kg	Se mg/Kg	Zn mg/Kg	
1177694-ST 4360	A06467	.66	.01	2.73	2.9	1.46	< 0.2	.03	2.09	< 0.01	24.09	
1177695-W 1360	A06468	.46	.04	2.58	9.24	1.48	< 0.2	.15	1.83	< 0.01	30.68	
1177696-W 9360	A06469	.65	.03	2.55	5.04	1.37	< 0.2	.07	1.8	< 0.01	23.19	
1177697-ST 1360	A06470	.83	.03	2.71	2.65	1.7	< 0.2	.05	1.91	< 0.01	27.9	

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HID:4233-0189-2661-0013

Soil Analysis Report

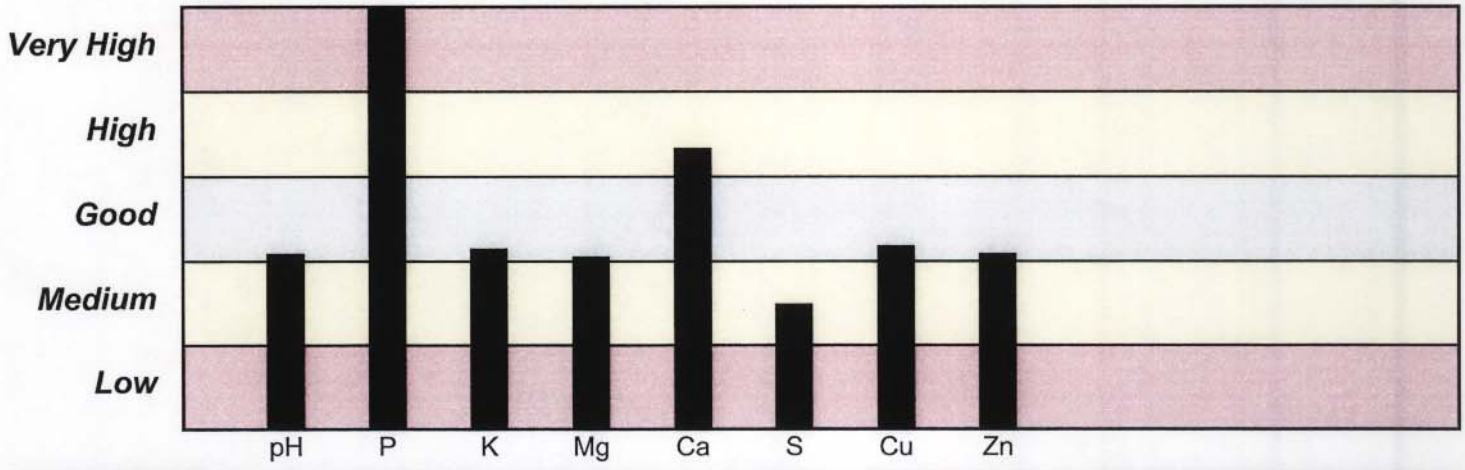
Western New York CROP MANAGEMENT

WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175079-A 1360	Sampled	01-30-2020
Lab Number	G37810	Tested	02-04-2020
Acres	28.7		

Analysis		*Result*	*Optimal*	*Analysis*		*Result*	*Optimal*
Soil pH		6.3	6.2-7.0	Sulfur	m3-ppm	15	20-40
Buffer pH		7.1		Copper	m3-ppm	10.2	Varies
Organic Matter	%	3.3		Zinc	m3-ppm	4.7	3.9-10.9
CEC		7.1		Selenium	mg/Kg	< 3.0	
K Saturation	%	4.5	2.0-4.0	Arsenic	mg/Kg	< 3.0	
Mg Saturation	%	15.7	10-20	Cadmium	mg/Kg	< 3.0	
Ca Saturation	%	79.9	50-70	Chromium-Total	mg/Kg	20.44	
K/Mg Ratio		1.0		Lead	mg/Kg	16.90	
Ca/Mg Ratio		10.0		Mercury	mg/Kg	< 0.2	
Phosphorus	m3-ppm	441	50-80	Molybdenum	mg/Kg	< 3.0	
Potassium	m3-ppm	146	130-220	Nickel	mg/Kg	20.62	
Magnesium	m3-ppm	151	140-280	Copper	mg/Kg	91.27	
Calcium	m3-ppm	1505	900-1400	Zinc	mg/Kg	90.76	
				Aluminum	m3-ppm	921	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

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HID:4233-0949-7061-0001

Soil Analysis Report

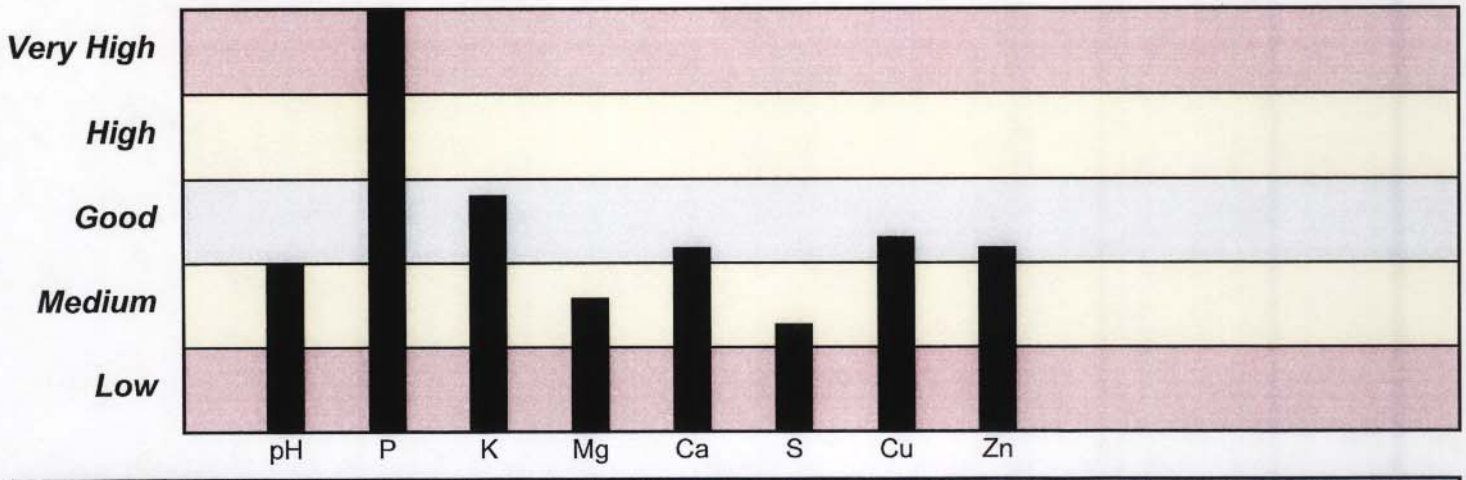
Western New York CROP MANAGEMENT

WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175085-A 7360	Sampled	01-30-2020
Lab Number	G37816	Tested	02-04-2020
Acres	15.8		

Analysis		Result	Optimal	Analysis		Result	Optimal
Soil pH		6.2	6.2-7.0	Sulfur	m3-ppm	13	20-40
Buffer pH		6.7		Copper	m3-ppm	11.8	Varies
Organic Matter	%	3.1		Zinc	m3-ppm	5.4	3.9-10.9
CEC		10.6		Selenium	mg/Kg	< 3.0	
K Saturation	%	4.6	2.0-4.0	Arsenic	mg/Kg	< 3.0	
Mg Saturation	%	9.0	10-20	Cadmium	mg/Kg	< 3.0	
Ca Saturation	%	52.5	50-70	Chromium-Total	mg/Kg	11.01	
K/Mg Ratio		1.7		Lead	mg/Kg	11.51	
Ca/Mg Ratio		11.4		Mercury	mg/Kg	< 0.2	
Phosphorus	m3-ppm	464	50-80	Molybdenum	mg/Kg	< 3.0	
Potassium	m3-ppm	225	150-240	Nickel	mg/Kg	13.44	
Magnesium	m3-ppm	131	170-310	Copper	mg/Kg	54.13	
Calcium	m3-ppm	1487	1400-2000	Zinc	mg/Kg	85.55	
				Aluminum	m3-ppm	929	



Recommendations

Yr	Crop	CaCO3	N	P2O5	K2O	Mg	S	B	Cu	Fe	Mn	Zn

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Soil Analysis Report

Western New York CROP MANAGEMENT

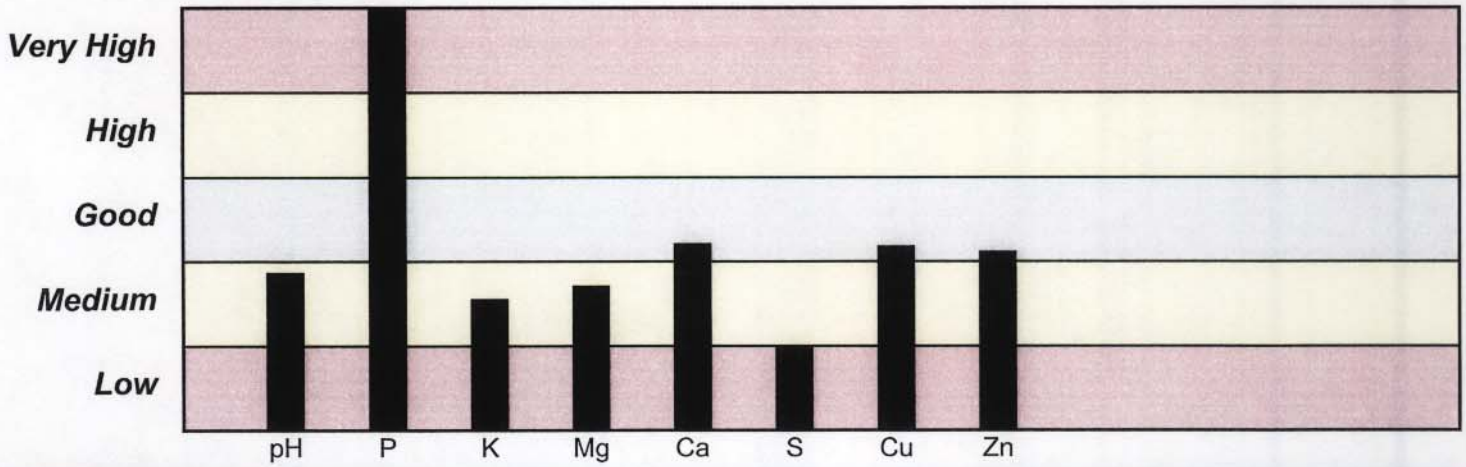
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175088-A 12S360	Sampled	01-30-2020
Lab Number	G37819	Tested	02-04-2020
Acres	11.5		

Analysis		Result	Optimal
Soil pH		6.1	6.2-7.0
Buffer pH		6.7	
Organic Matter	%	2.8	
CEC		10.4	
K Saturation	%	2.4	2.0-4.0
Mg Saturation	%	9.7	10-20
Ca Saturation	%	53.5	50-70
K/Mg Ratio		0.8	
Ca/Mg Ratio		10.8	
Phosphorus	m3-ppm	486	50-80
Potassium	m3-ppm	115	150-240
Magnesium	m3-ppm	138	160-310
Calcium	m3-ppm	1490	1400-2000

Analysis		Result	Optimal
Sulfur	m3-ppm	10	20-40
Copper	m3-ppm	10.6	Varies
Zinc	m3-ppm	4.9	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	10.07	
Lead	mg/Kg	13.09	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	12.03	
Copper	mg/Kg	41.89	
Zinc	mg/Kg	84.50	
Aluminum	m3-ppm	1025	



Recommendations

Yr	Crop	CaCO3	N	P2O5	K2O	Mg	S	B	Cu	Fe	Mn	Zn

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Soil Analysis Report

Western New York CROP MANAGEMENT

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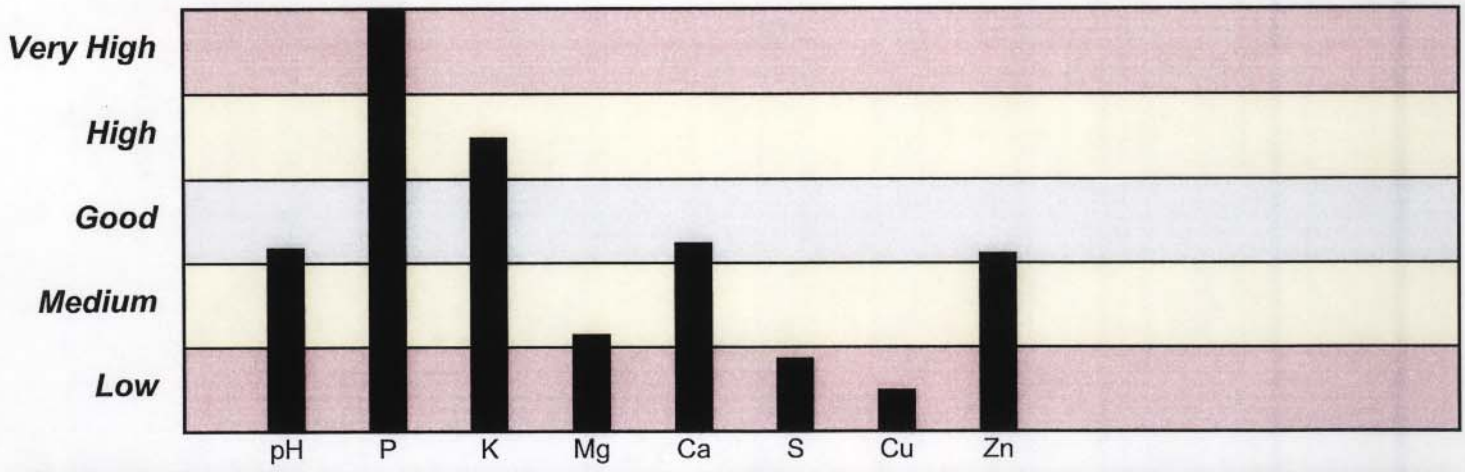
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175090-B 6360	Sampled	01-30-2020
Lab Number	G37821	Tested	02-04-2020
Acres	25.4		

Analysis		Result	Optimal
Soil pH		6.4	6.2-7.0
Buffer pH		6.6	
Organic Matter	%	4.1	
CEC		13.4	
K Saturation	%	5.1	2.0-4.0
Mg Saturation	%	6.0	10-20
Ca Saturation	%	53.1	50-70
K/Mg Ratio		2.9	
Ca/Mg Ratio		17.3	
Phosphorus	m3-ppm	669	50-70
Potassium	m3-ppm	319	170-260
Magnesium	m3-ppm	110	210-360
Calcium	m3-ppm	1903	1800-2500

Analysis		Result	Optimal
Sulfur	m3-ppm	9	20-40
Copper	m3-ppm	3.8	Varies
Zinc	m3-ppm	4.9	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	8.90	
Lead	mg/Kg	15.19	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	9.29	
Copper	mg/Kg	29.06	
Zinc	mg/Kg	85.91	
Aluminum	m3-ppm	1013	



Recommendations

Yr	Crop	CaCO3	N	P2O5	K2O	Mg	S	B	Cu	Fe	Mn	Zn

Soil Analysis Report

Western New York CROP MANAGEMENT

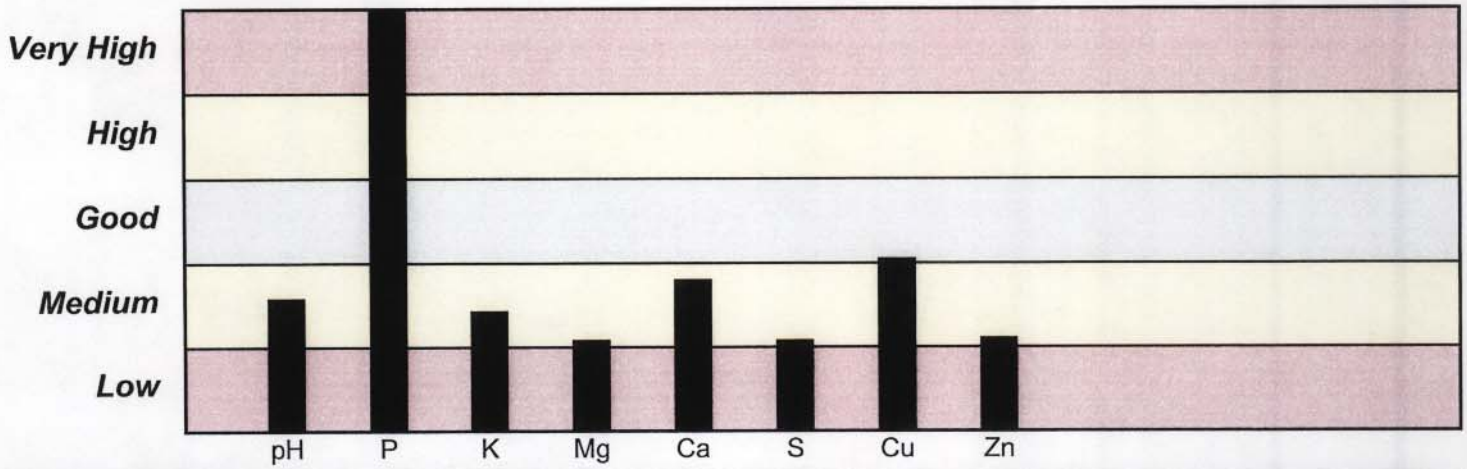
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175092-B 10360	Sampled	01-30-2020
Lab Number	G37823	Tested	02-04-2020
Acres	25.8		

Analysis		*Result*	*Optimal*
Soil pH		5.8	6.2-7.0
Buffer pH		6.6	
Organic Matter	%	3.1	
CEC		10.4	
K Saturation	%	2.2	2.0-4.0
Mg Saturation	%	6.1	10-20
Ca Saturation	%	45.4	50-70
K/Mg Ratio		1.2	
Ca/Mg Ratio		14.4	
Phosphorus	m3-ppm	280	50-80
Potassium	m3-ppm	105	150-240
Magnesium	m3-ppm	87	160-310
Calcium	m3-ppm	1257	1400-1900

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	11	20-40
Copper	m3-ppm	0.6	Varies
Zinc	m3-ppm	2.0	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	11.08	
Lead	mg/Kg	12.22	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	13.87	
Copper	mg/Kg	26.72	
Zinc	mg/Kg	68.09	
Aluminum	m3-ppm	848	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Soil Analysis Report

Western New York CROP MANAGEMENT

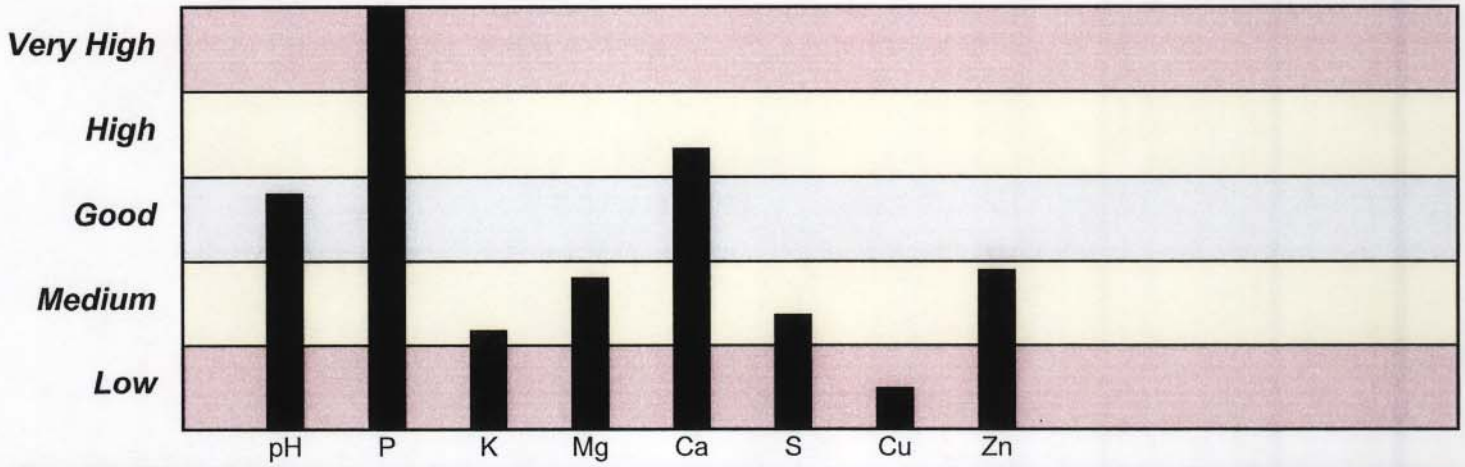
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175099-C 3360	Sampled	01-30-2020
Lab Number	G37830	Tested	02-04-2020
Acres	25.7		

Analysis		*Result*	*Optimal*
Soil pH		6.9	6.2-7.0
Buffer pH		7.2	
Organic Matter	%	2.8	
CEC		12.4	
K Saturation	%	1.7	2.0-4.0
Mg Saturation	%	10.2	10-20
Ca Saturation	%	73.6	50-70
K/Mg Ratio		0.6	
Ca/Mg Ratio		14.1	
Phosphorus	m3-ppm	466	50-70
Potassium	m3-ppm	96	160-260
Magnesium	m3-ppm	173	200-350
Calcium	m3-ppm	2440	1700-2300

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	14	20-40
Copper	m3-ppm	3.7	Varies
Zinc	m3-ppm	3.7	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	11.81	
Lead	mg/Kg	13.77	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	14.37	
Copper	mg/Kg	24.14	
Zinc	mg/Kg	80.30	
Aluminum	m3-ppm	633	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Soil Analysis Report

Western New York CROP MANAGEMENT

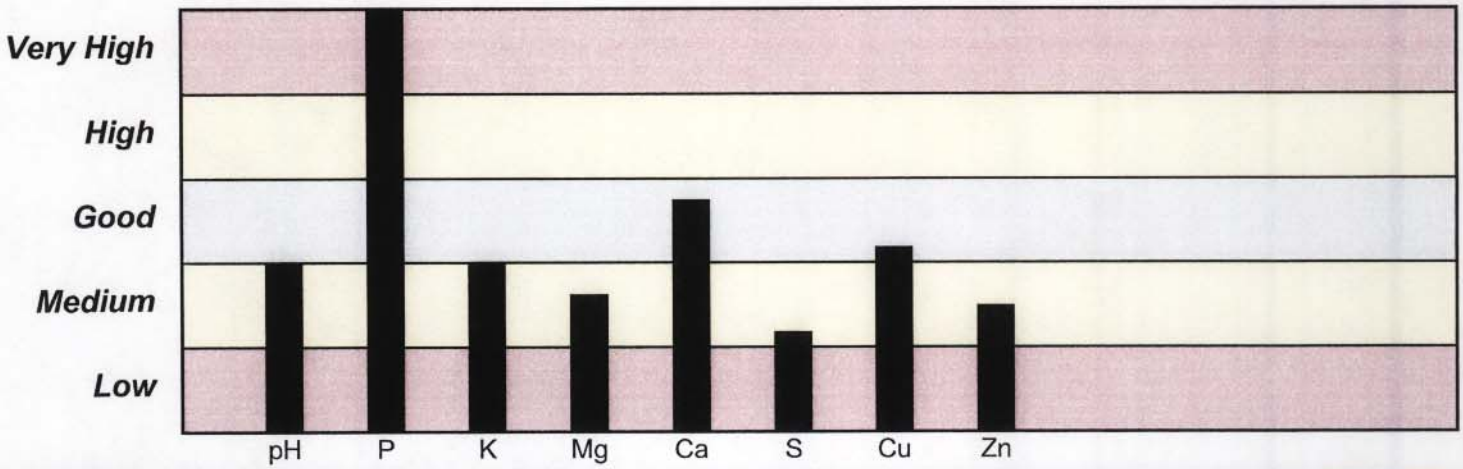
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175103-C 9360	Sampled	01-30-2020
Lab Number	G37834	Tested	02-04-2020
Acres	30.1		

Analysis		*Result*	*Optimal*
Soil pH		6.2	6.2-7.0
Buffer pH		6.9	
Organic Matter	%	2.3	
CEC		7.1	
K Saturation	%	3.9	2.0-4.0
Mg Saturation	%	11.9	10-20
Ca Saturation	%	67.2	50-70
K/Mg Ratio		1.1	
Ca/Mg Ratio		11.1	
Phosphorus	m3-ppm	257	50-80
Potassium	m3-ppm	130	130-220
Magnesium	m3-ppm	115	140-280
Calcium	m3-ppm	1271	900-1400

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	12	20-40
Copper	m3-ppm	4.0	Varies
Zinc	m3-ppm	2.8	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	9.06	
Lead	mg/Kg	9.66	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	11.06	
Copper	mg/Kg	21.71	
Zinc	mg/Kg	65.54	
Aluminum	m3-ppm	772	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

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HID:4233-0949-7061-0001

Soil Analysis Report

Western New York CROP MANAGEMENT

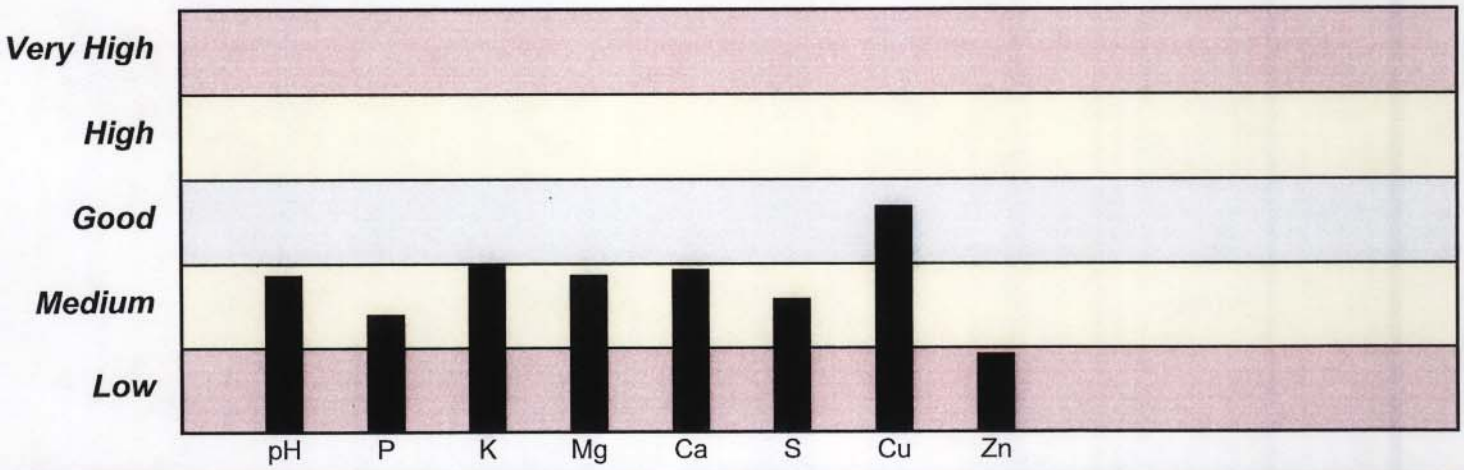
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175109-E 1360	Sampled	01-30-2020
Lab Number	G37840	Tested	02-04-2020
Acres	13.7		

Analysis		*Result*	*Optimal*
Soil pH		6.1	6.2-7.0
Buffer pH		6.7	
Organic Matter	%	2.9	
CEC		8.4	
K Saturation	%	3.5	2.0-4.0
Mg Saturation	%	12.2	10-20
Ca Saturation	%	41.7	50-70
K/Mg Ratio		1.0	
Ca/Mg Ratio		6.7	
Phosphorus	m3-ppm	36	50-80
Potassium	m3-ppm	136	140-230
Magnesium	m3-ppm	140	150-290
Calcium	m3-ppm	939	1000-1600

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	16	20-40
Copper	m3-ppm	5.5	Varies
Zinc	m3-ppm	1.6	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	8.88	
Lead	mg/Kg	14.31	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	20.52	
Copper	mg/Kg	52.81	
Zinc	mg/Kg	62.99	
Aluminum	m3-ppm	890	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

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Soil Analysis Report

Western New York CROP MANAGEMENT

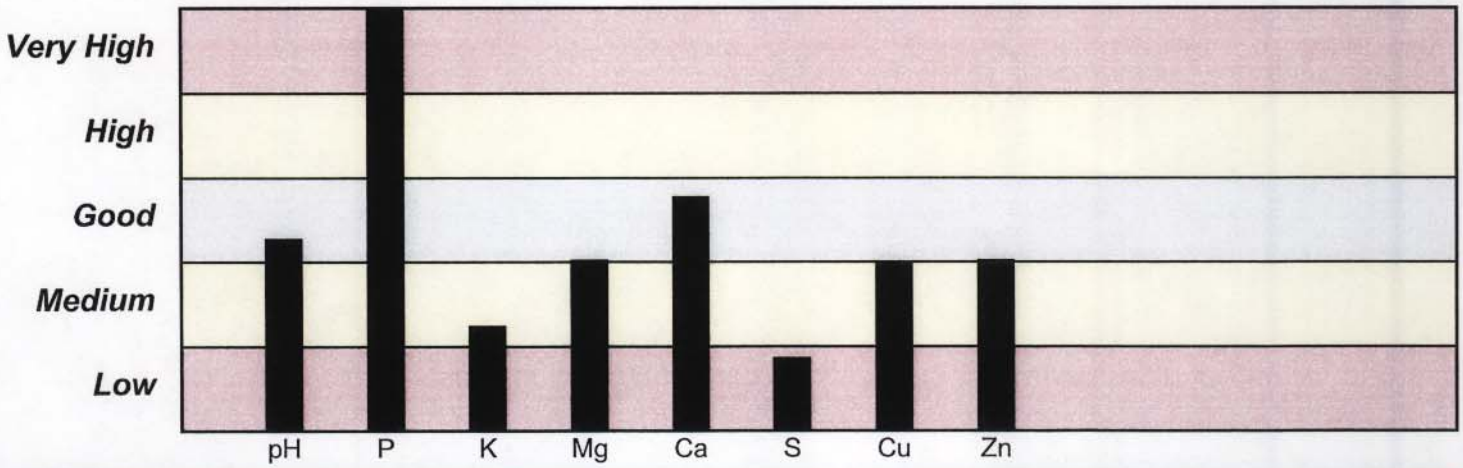
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175113-F 15360	Sampled	01-30-2020
Lab Number	G37845	Tested	02-04-2020
Acres	18.9		

Analysis		*Result*	*Optimal*
Soil pH		6.5	6.2-7.0
Buffer pH		7.0	
Organic Matter	%	3.2	
CEC		10.8	
K Saturation	%	1.8	2.0-4.0
Mg Saturation	%	12.1	10-20
Ca Saturation	%	64.2	50-70
K/Mg Ratio		0.5	
Ca/Mg Ratio		10.4	
Phosphorus	m3-ppm	477	50-80
Potassium	m3-ppm	92	150-240
Magnesium	m3-ppm	178	170-320
Calcium	m3-ppm	1846	1400-2000

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	9	20-40
Copper	m3-ppm	8.9	Varies
Zinc	m3-ppm	4.3	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	7.46	
Lead	mg/Kg	10.05	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	8.67	
Copper	mg/Kg	35.25	
Zinc	mg/Kg	61.11	
Aluminum	m3-ppm	691	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

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Soil Analysis Report

Western New York CROP MANAGEMENT

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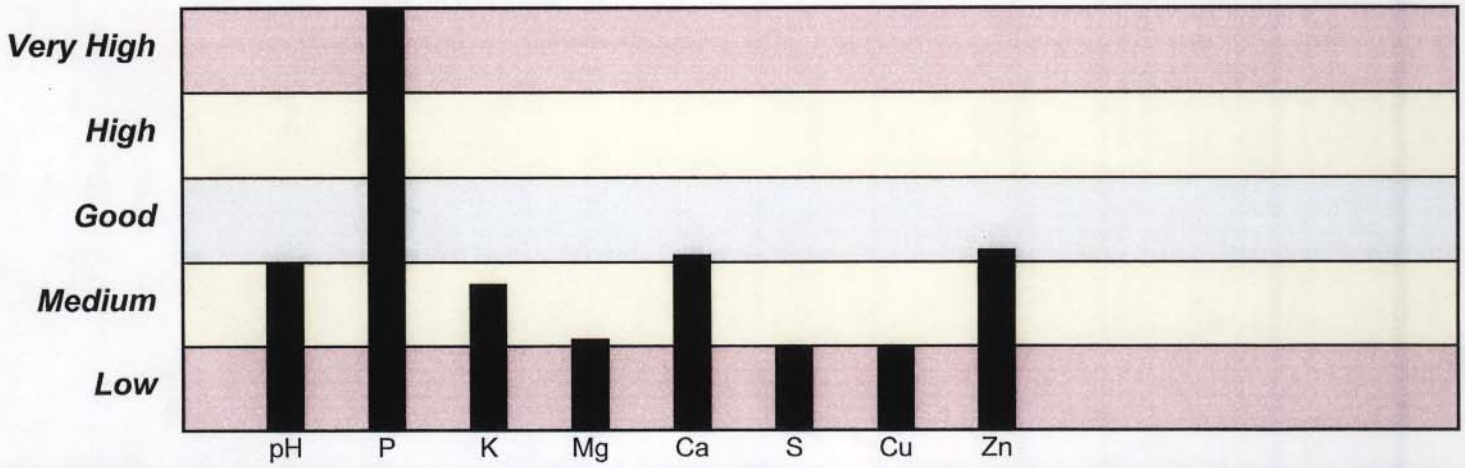
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175124-M 4360	Sampled	01-30-2020
Lab Number	G37856	Tested	02-04-2020
Acres	20.7		

Analysis		*Result*	*Optimal*
Soil pH		6.2	6.2-7.0
Buffer pH		6.6	
Organic Matter	%	2.2	
CEC		11.4	
K Saturation	%	2.5	2.0-4.0
Mg Saturation	%	5.8	10-20
Ca Saturation	%	49.7	50-70
K/Mg Ratio		1.5	
Ca/Mg Ratio		16.9	
Phosphorus	m3-ppm	596	50-80
Potassium	m3-ppm	133	150-250
Magnesium	m3-ppm	90	180-330
Calcium	m3-ppm	1517	1500-2100

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	10	20-40
Copper	m3-ppm	9.2	Varies
Zinc	m3-ppm	5.0	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	10.59	
Lead	mg/Kg	9.82	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	12.45	
Copper	mg/Kg	36.16	
Zinc	mg/Kg	76.67	
Aluminum	m3-ppm	1089	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Soil Analysis Report

Western New York CROP MANAGEMENT

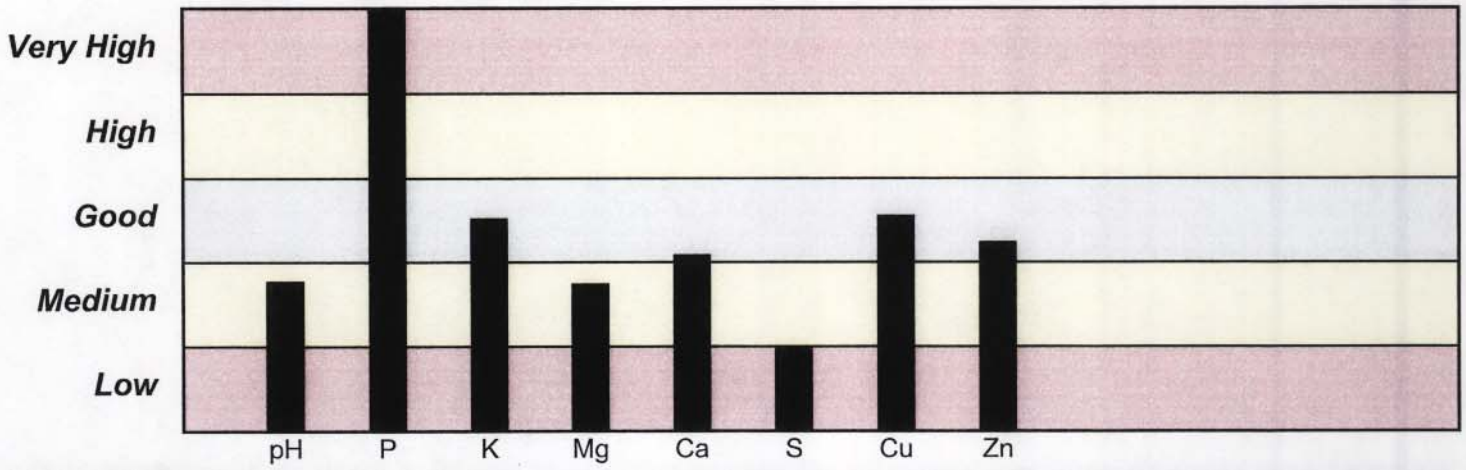
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175127-P 1A360	Sampled	01-30-2020
Lab Number	G37859	Tested	02-04-2020
Acres	25.8		

Analysis		*Result*	*Optimal*
Soil pH		6.0	6.2-7.0
Buffer pH		6.7	
Organic Matter	%	3.9	
CEC		10.4	
K Saturation	%	4.1	2.0-4.0
Mg Saturation	%	10.0	10-20
Ca Saturation	%	51.3	50-70
K/Mg Ratio		1.4	
Ca/Mg Ratio		10.1	
Phosphorus	m3-ppm	462	50-80
Potassium	m3-ppm	199	150-240
Magnesium	m3-ppm	141	160-310
Calcium	m3-ppm	1421	1400-1900

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	10	20-40
Copper	m3-ppm	14.6	Varies
Zinc	m3-ppm	5.8	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	11.63	
Lead	mg/Kg	13.19	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	12.19	
Copper	mg/Kg	49.67	
Zinc	mg/Kg	85.44	
Aluminum	m3-ppm	959	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Soil Analysis Report

Western New York CROP MANAGEMENT

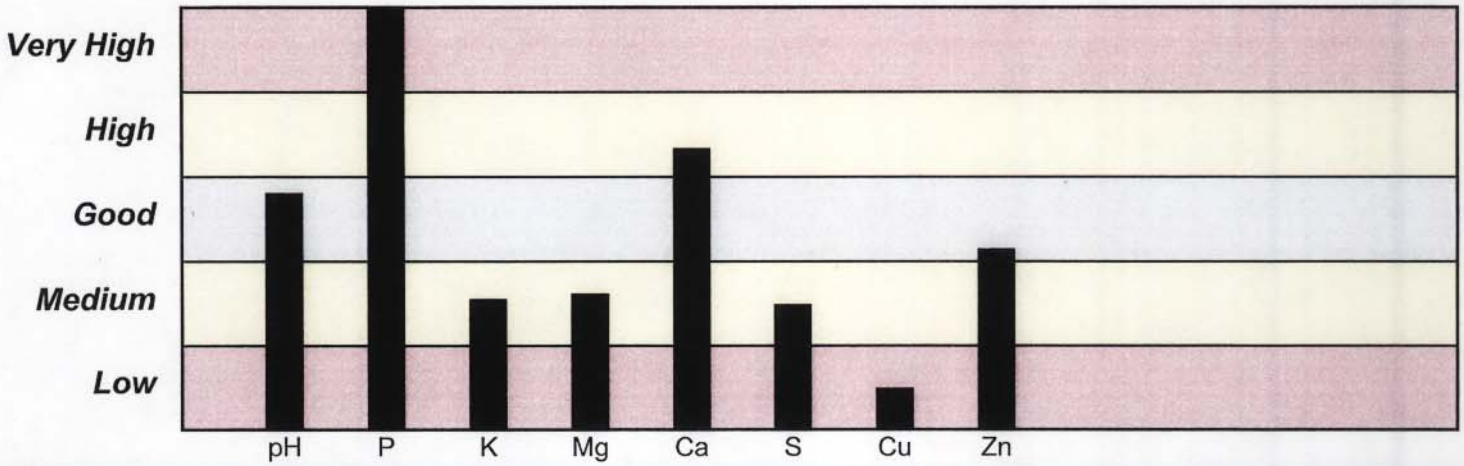
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175131-Q 4360	Sampled	01-30-2020
Lab Number	G37863	Tested	02-04-2020
Acres	14.6		

Analysis		*Result*	*Optimal*
Soil pH		6.9	6.2-7.0
Buffer pH		7.2	
Organic Matter	%	2.6	
CEC		11.9	
K Saturation	%	2.2	2.0-4.0
Mg Saturation	%	9.0	10-20
Ca Saturation	%	74.3	50-70
K/Mg Ratio		0.8	
Ca/Mg Ratio		16.2	
Phosphorus	m3-ppm	551	50-80
Potassium	m3-ppm	122	160-250
Magnesium	m3-ppm	146	190-340
Calcium	m3-ppm	2367	1600-2200

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	15	20-40
Copper	m3-ppm	4.6	Varies
Zinc	m3-ppm	5.0	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	10.99	
Lead	mg/Kg	13.95	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	12.38	
Copper	mg/Kg	36.64	
Zinc	mg/Kg	83.12	
Aluminum	m3-ppm	629	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Soil Analysis Report

Western New York CROP MANAGEMENT

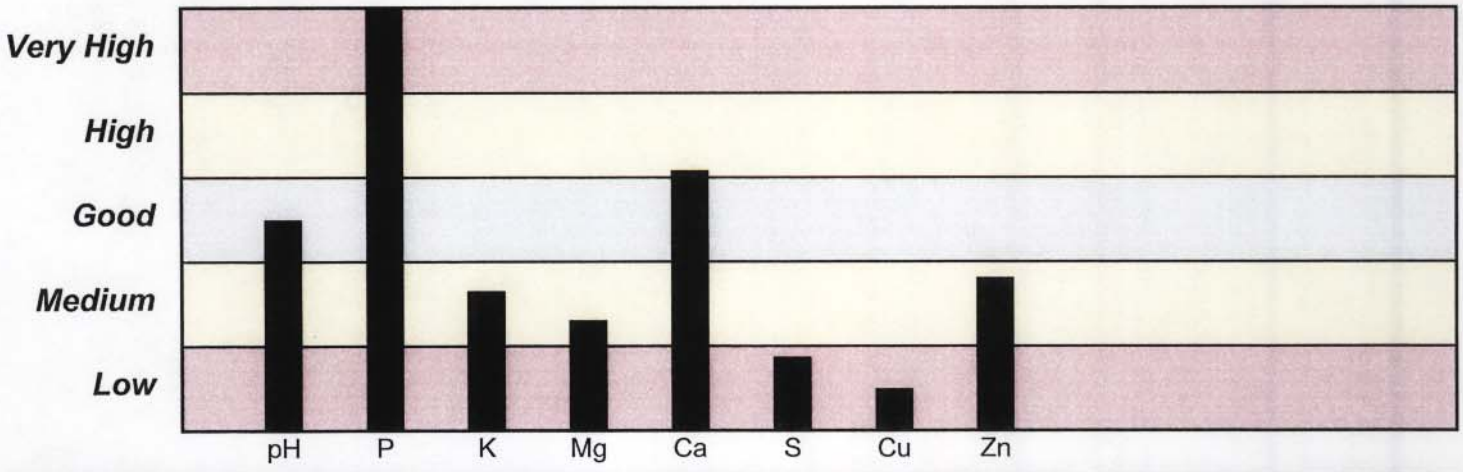
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175133-Q 6360	Sampled	01-30-2020
Lab Number	G37865	Tested	02-04-2020
Acres	13.4		

Analysis		*Result*	*Optimal*
Soil pH		6.7	6.2-7.0
Buffer pH		7.2	
Organic Matter	%	2.5	
CEC		9.9	
K Saturation	%	2.6	2.0-4.0
Mg Saturation	%	7.4	10-20
Ca Saturation	%	71.9	50-70
K/Mg Ratio		1.2	
Ca/Mg Ratio		18.9	
Phosphorus	m3-ppm	370	50-80
Potassium	m3-ppm	120	140-240
Magnesium	m3-ppm	101	160-300
Calcium	m3-ppm	1908	1300-1900

Analysis		*Result*	*Optimal*
Sulfur	m3-ppm	9	20-40
Copper	m3-ppm	3.6	Varies
Zinc	m3-ppm	3.5	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	11.29	
Lead	mg/Kg	12.96	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	13.45	
Copper	mg/Kg	23.44	
Zinc	mg/Kg	78.92	
Aluminum	m3-ppm	654	



Recommendations

Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:4233-0949-7061-0001

Soil Analysis Report

Western New York CROP MANAGEMENT

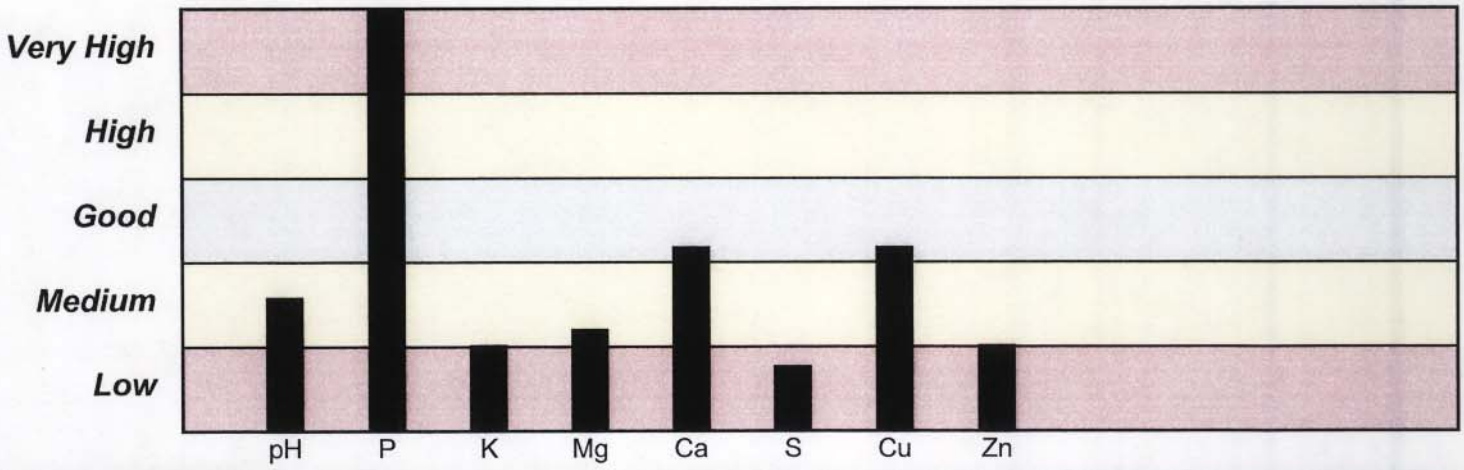
WNY CROP MANAGEMENT ASSOCIATION
5242 CURTIS RD
WARSAW, NY 14569

Prepared For
LEO DICKSON & SONS 5226 BONNY HILL RD. BATH, NY 14810

Sample Information			
Sample	1175136-R 5A360	Sampled	01-30-2020
Lab Number	G37868	Tested	02-04-2020
Acres	23.9		

Analysis		Result	Optimal
Soil pH		5.8	6.2-7.0
Buffer pH		6.7	
Organic Matter	%	2.0	
CEC		8.5	
K Saturation	%	1.8	2.0-4.0
Mg Saturation	%	7.8	10-20
Ca Saturation	%	48.1	50-70
K/Mg Ratio		0.8	
Ca/Mg Ratio		12.0	
Phosphorus	m3-ppm	243	50-80
Potassium	m3-ppm	71	140-230
Magnesium	m3-ppm	91	150-290
Calcium	m3-ppm	1093	1000-1600

Analysis		Result	Optimal
Sulfur	m3-ppm	8	20-40
Copper	m3-ppm	1.5	Varies
Zinc	m3-ppm	1.8	3.9-10.9
Selenium	mg/Kg	< 3.0	
Arsenic	mg/Kg	< 3.0	
Cadmium	mg/Kg	< 3.0	
Chromium-Total	mg/Kg	12.73	
Lead	mg/Kg	11.18	
Mercury	mg/Kg	< 0.2	
Molybdenum	mg/Kg	< 3.0	
Nickel	mg/Kg	14.59	
Copper	mg/Kg	19.46	
Zinc	mg/Kg	67.13	
Aluminum	m3-ppm	762	



Recommendations												
Yr	*Crop*	*CaCO3*	*N*	*P2O5*	*K2O*	*Mg*	*S*	*B*	*Cu*	*Fe*	*Mn*	*Zn*

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:4233-0949-7061-0001

Section 10.

Western New York CROP MANAGEMENT

Field Key — Leo Dickson & Sons

Tuesday, January 28, 2020
2020 CropYear

Alfalfa/Grass

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
A 2	360	8.7	7		7	1/13/2017	6.7	182.4	VH	438	VH	3.4
A 3	360	7.6	7		7	1/13/2017	6.6	181	VH	485	VH	3.1
A 11	360	37.3	8		7	1/13/2017	6.1	146.7	VH	447.2	VH	3.1
A 12N	360	16.7	5		7	1/13/2017	6.6	248.3	VH	910	VH	4.4
B 8	360	4.9	5	Estes	10	11/18/2015	6.3	61.4	VH	344.2	VH	2.5
B 9	360	33.6	2	Estes	8	4/17/2019	6.4	48.8	VH	94.9	M	3.1
B 14	360	4.9	5	Estes	10	1/13/2017	7.2	270.9	VH	378.2	VH	2.6
B 15	360	8.1	5	Estes	10	1/13/2017	6.2	52.2	VH	151	H	1.8
B 16	360	5.3	5	Estes	10	11/29/2017	6.7	220	VH	183.2	VH	2.7
C 3	360	25.7	4		8	1/13/2017	6.8	144	VH	278.9	VH	2.6
C 9	360	30.1	5		8	1/13/2017	6.5	105.6	VH	282.6	VH	2.7
C 10A	360	6.6	1		8	1/13/2017	5.9	7.5	M	101.3	M	2.3
D 2	360	44.8	6		7	11/29/2017	6.6	105.1	VH	274.3	VH	2.5
E 1	360	13.7	5	Dudley	3	11/2/2016	6.5	46.3	VH	246.7	VH	2.3
E 4	360	11.5	4	Dudley	3	1/13/2017	6.3	50.8	VH	222	VH	2.4
F 3	360	12.3	5		3	4/17/2019	6.7	76.2	VH	74.6	LM	2.7
F 12	360	21	6		5	11/29/2017	6.5	116.9	VH	48.9	L	2.4
F 13	360	9.3	6		5	11/29/2017	6.5	116.9	VH	48.9	L	2.4
F 16	360	20.6	4		5	4/17/2019	6.4	70.5	VH	51.6	L	2.9
F 17	360	10.5	5		5	4/17/2019	6.1	61.9	VH	82.9	LM	3.1
F 21	360	43.7	8		5	4/17/2019	6.9	153.1	VH	121.6	MH	2.7
F 23	360	22.9	4	Smucker	5	4/17/2019	6	44.3	VH	96.7	M	2.8
G 1	360	11.3	2		2	11/29/2017	6.8	84.1	VH	126.2	MH	1.7
G 2	360	5.4	2		2	4/17/2019	6.3	82.9	VH	133.5	MH	3
H 1	360	20.5	2	Polmiteer	2	1/28/2019	6.4	50.6	VH	226.4	VH	3.3
H 2A	360	6.8	5	Polmiteer	2	1/28/2019	6.8	64.4	VH	144.6	H	2.7
I 1	360	17.4	5		3	11/29/2017	6.2	30.1	H	124.3	H	2.5
J 3	360	15.9	8		6	1/28/2019	6.5	48.3	VH	171.2	H	3.1
K 3		2	1	Andy's Yard	3							
M 4	360	20.7	2		6	1/13/2017	6.4	72.4	VH	242.1	VH	1.8
Q 1	360	12	6		8	11/29/2017	6.2	58.4	VH	104.1	M	2.7
Q 6	360	13.4	6		8	1/13/2017	6.8	158.9	VH	277	VH	1.8

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
R 4	360	15	1		9	4/17/2019	6	41.7	VH	42.4	VL	2
R 5A	360	23.9	1		9	1/13/2017	6	11.5	M	96.7	LM	1.8
R 7	360	10.8	4		9	4/17/2019	6.4	10.9	M	69.1	L	2.7
R 8	360	9.8	6		9	11/29/2017	6.5	56.2	VH	103.2	M	2.2
R 13	360	9	1		9	1/13/2017	6	47.9	VH	174	H	2
R 14	360	8.2	1		9	1/13/2017	6.2	59.9	VH	287	VH	2.9
Sam Dick A		11.8	6		13	11/29/2017	5.8	5.9	LM	65.4	L	2.3
Sam Dick B		10.2	6		13	11/29/2017	5.4	2	L	89.4	LM	2.2
ST 3	360	25.2	6	Stewart	12	11/29/2017	5.8	14.8	MH	110.5	M	2.1
ST 21N		17.3	4	Giles	12	1/28/2019	5.6	2	L	133.5	H	2.4
T 8		4.7	5	Haight	1	1/28/2019	6.4	4.6	L	79.2	LM	2.6
T 10		4.3	5	Haight	1	1/28/2019	6.5	6.3	M	82.9	LM	2.2
T 12		3	5	Haight	1	1/28/2019	6.4	7.4	M	110.5	M	2.5
T 13		3.5	5	Haight	1	1/28/2019	6.2	4	L	96.7	LM	2.7
U 2	360	14.3	5		8	1/28/2019	6	2.3	L	94	LM	2.5
W 1	360	26.4	5		7	4/17/2019	5.9	6.9	M	92.1	LM	3.1
W 4B	360	18.8	4		7	11/29/2017	7	440.3	VH	829	VH	3
W 9	360	40.3	6		7	11/29/2017	6.7	120.5	VH	263.2	VH	
X 22		31.6	4		9	4/17/2019	6.7	87.9	VH	113.3	MH	2.5
		813.3										

Alfalfa/Grass Seeding

C 11	360	4.8	1		8	1/13/2017	6.5	23.5	H	96.7	LM	2.8
C 13	360	6.8	1		8	1/13/2017	6.2	35.5	H	73.7	L	2.5
E 3	360	32.4	1	Dudley	3	4/17/2019	6.4	72.5	VH	324	VH	3.6
G 3	360	28	1		2	12/29/2017	6.6	46.4	VH	76.5	L	2.6
M 1	360	5.8	1		6	1/28/2019	6.6	63	VH	78.3	L	2.5
M 3	360	12.5	1		6	1/13/2017	6.5	118	VH	219.1	VH	2.8
Q 4	360	14.6	1		8	1/13/2017	6.6	92	VH	103	M	2.5
Q 5	360	19.3	1		8	1/13/2017	6.5	132.5	VH	282.6	VH	2.6
R 10	360	15.2	1		9	4/17/2019	6.3	73.4	VH	121.6	MH	3.3
ST 1	360	24.6	1	Stewart	12	1/28/2019	5.7	7	M	172.2	H	2.5
		164										

Corn from Sod

F 11	360	19.6	1		5	11/29/2017	6.6	264.5	VH	48.9	L	2.9

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
H 4	360	12	1	Polmiteer	2	4/17/2019	6.8	100	VH	47	L	3.6
M 5	360	20.8	1		6	1/13/2017	6.8	93.3	VH	181.4	VH	2.4
M 6	360	10.8	1		6	1/13/2017	5.8	49.5	VH	190.6	H	2.2
P 1B	360	17.5	1		6	1/13/2017	6.4	60.7	VH	187.8	VH	2.2
Q 3	360	11.6	1		8	1/13/2017	6.6	37.8	H	90	LM	2.4
R 3	360	8.2	1		9	11/29/2017	6.2	20.7	H	76.5	L	1.6
		100.5										

Corn Silage

A 12S	360	11.5	3		7	1/13/2017	6.1	79.3	VH	322.1	VH	2.5
B 1	360	6.7	1	Estes	8	4/17/2019	5.9	12.1	M	55.3	L	1.7
B 3	360	9.3	2	Estes	8	4/17/2019	5.5	2	L	36	VL	2.8
B 4	360	17.2	4	Estes	8	4/17/2019	6.2	18.9	MH	55.3	L	2.5
B 5	360	9.6	2	Estes	8	1/13/2017	5.4	4.9	L	101.3	M	1.8
B 10	360	25.8	2	Estes	8	1/13/2017	6.8	178	VH	219.1	VH	2.3
B 11	360	5.6	1	Estes	8	1/13/2017	6	97.6	VH	362	VH	3.1
B 12	360	7.6	1	Estes	10	1/13/2017	6.1	65	VH	171.2	H	2
Buckley		8	2		8	10/21/2015	5.4	2	L	141.8	H	2.9
C 2	360	2.8	2		8	1/13/2017	6.6	95.7	VH	107.8	M	2.9
C 4	360	6.6	2		8	1/13/2017	6.9	88.4	VH	117	M	2.5
EV 2		20.5	1	Eagle Valley Road	14	12/23/2016	6.1	19.5	MH	189.6	H	2.9
EV 3		30.2	1	Eagle Valley Road	14	12/23/2016	5.7	13	M	146.4	H	2.2
F 10B	360	15.6	3		5	11/2/2016	6.7	114.7	VH	56.2	L	2.9
F 14		6.8	4		5	11/2/2016	6.7	105.4	VH	56.2	L	2.4
F 15	360	18.9	4		5	11/2/2016	6.4	145.3	VH	48.9	L	2.9
F 19	360	12.1	4		5	11/2/2016	7	52.7	VH	60.8	L	3
F 20	360	21.4	3		5	11/2/2016	7	145.5	VH	50.7	L	2.9
Glosick 1		21.3	5	Glosick	7	4/17/2019	5.8	4	L	74.6	L	3
Glosick 2		6.9	5	Glosick	7	4/17/2019	5.8	2.7	L	78.3	L	2.7
Glosick 10A		8	4	Glosick	3	1/2/2017	5.6	2	L	103.2	M	3
Glosick 10B		15.7	4	Glosick	3	1/2/2017	5.6	2	L	73.7	L	3.1
Glosick 11		10.2	3	Glosick	3	1/2/2017	5.5	2	L	104.1	M	3.2
Glosick 12		3.7	3	Glosick	3	1/2/2017	5.4	2	L	56.2	L	3.8
Glosick 13		2.6	3	Glosick	3	1/2/2017	5.2	2	L	99.5	LM	3.6
L 1	360	16.2	2		3	4/17/2019	6.4	13.6	MH	87.5	LM	3.4
L 2	360	24.8	2		3	4/17/2019	6.3	6.6	M	47	L	3.6

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
Q 2	360	21.6	2		8	1/13/2017	6.8	99.3	VH	151	H	2.5
Q 7	360	8.5	1		8	4/17/2019	6.4	34.3	H	99.5	LM	2.9
Q 8	360	8.5	1		8	10/16/2015	6.5	60.6	VH	104.1	M	
Q 12	360	8.8	2		9	11/29/2017	6.4	58.5	VH	53.5	L	2.9
Q 13	360	12.7	3		9	1/16/2019	6.8	136.8	VH	74.6	L	3.1
R 1	360	5.9	1		8	4/17/2019	7.1	435.2	VH	44.3	VL	2.9
R 2	360	6	1		9	4/17/2019	6	17.7	MH	82.9	LM	3.2
S 1		6.6	1		6	1/28/2019	6.1	9.1	M	151.9	H	3
S 2		8.4	1		6	1/28/2019	5.9	2	L	161.1	H	2.6
S 5		10.7	1		6	1/28/2019	5.3	2	L	210.8	VH	3.6
S 7		6.8	1		6	1/28/2019	5.8	8.9	M	82.9	LM	3.3
Sam Dick C		5.4	6		13	1/13/2017	5.1	2	L	104.1	M	2.1
Sam Dick D		11.2	6		13	1/13/2017	5.5	2	L	108.7	MH	2.2
Sam Dick E		8.7	5		13	1/13/2017	5	2	L	81.1	LM	1.8
Spears 1		11.3	1		8	1/16/2019	6.4	22.7	H	117	M	3.1
Spears 2		7.7	2		8	1/16/2019	6.3	3.6	L	87.5	LM	2.6
Spears 3		9.3	2		8	1/16/2019	5.9	11.3	M	121.6	MH	3.3
Spears 5		4.6	1		8	1/16/2019	5.5	3.4	L	117.9	M	
Spears 6		18.4	2		8	1/16/2019	5.3	2	L	140	MH	2.5
Spears 7		13.3	2		8	4/17/2019	6.2	20.4	H	331.3	VH	3.2
ST 4	360	34.9	2	Stewart	12	4/17/2019	5.9	2	L	56.2	L	2.4
ST 5	360	27.5	2	Stewart	12	1/28/2019	5.9	35.1	H	383.8	VH	2.8
ST 6	360	21.4	2	Stewart	12	1/28/2019	5.8	8.6	M	146.4	H	2.1
ST 7	360	8.4	2	Stewart	12	1/28/2019	5.8	7.6	M	178.6	H	2.6
ST 8	360	13.9	2	Stewart	12	12/20/2017	5.8	12.1	M	224.6	VH	2.2
ST 11	360	25.5	1	Stewart	12	11/29/2017	5.7	15.3	MH	195.2	H	3.1
ST 13	360	3.4	2	Stewart	12	1/28/2019	5.7	2	L	117	M	2.5
ST 16	360	11.6	2	Stewart	12	11/29/2017	5.8	8.6	M	206.2	VH	2.3
ST 18	360	11.4	2	Stewart	12	1/28/2019	5.6	6.5	M	166.6	H	2.5
ST 20	360	5.5	2	Stewart	12	1/28/2019	5.7	3.4	L	92.1	LM	2.4
Sugar 1		6.1	3		3	9/12/2017	6.5	12.6	M	78.3	LM	3
Sugar 2		13.2	3		3	9/12/2017	5.6	2	L	53.5	L	2.5
Sugar 3		20.5	3		3	9/12/2017	5.5	2	L	48.9	L	
T 1		16.9	4	Haight	1	1/16/2019	6.4	6.2	M	76.5	L	2.4
T 2		3.9	4	Haight	1	1/16/2019	6.7	5.9	LM	47	L	2.8

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
T 3		2.3	4	Haight	1	1/16/2019	6.4	4.5	L	89.4	LM	2.4
T 5		3.5	4	Haight	1	1/16/2019	6.4	2.8	L	64.5	L	3.1
T 7		5.4	4	Haight	1	1/28/2019	6.5	3.7	L	67.3	L	2.4
T 9		4.2	4	Haight	1	1/28/2019	6.5	4.7	L	85.7	LM	2.7
T 11		3.9	4	Haight	1	1/28/2019	6.6	5.1	LM	94.9	LM	2.9
T 15		6	4	Haight	1	1/28/2019	6.4	4.1	L	128.9	MH	3
T 16		2.3	4	Haight	1	1/16/2019	7	8	M	83.8	LM	2.4
Tucker 1		11.1	1	Tucker	11	12/29/2017	6.5	9.7	M	175.8	VH	3.1
Tucker 2		6.1	1	Tucker	11	12/29/2017	6.4	11.4	M	117	M	2.7
Tucker 3		9.8	1	Tucker	11	12/29/2017	6.2	3.9	L	69.1	L	1.8
Tucker 4		11.2	1	Tucker	11	12/29/2017	6	4.4	L	64.5	L	2
Tucker 5		10.1	1	Tucker	11	12/29/2017	6.1	4.9	L	79.2	LM	2.3
Tucker 6		5.7	1	Tucker	11	12/29/2017	6	6.1	M	74.6	L	2.8
U 4		21	2	Lee	8	10/21/2015	5.4	2	L	119.7	M	2.7
VA 1		7.1	1		4	12/29/2017	5.6	14.7	MH	141.8	H	1.2
VV 1		29.6	1	Kobza	2	11/18/2015	6	12.9	M	74.6	L	1.9
Y 1		6.4	1	Lehman	4	12/29/2017	5	2	L	53.5	L	1.8
Y 2		14.4	1	Lehman	4	12/29/2017	4.9	2	L	40.6	VL	1.5
Y 3		3.3	1	Lehman	4	12/29/2017	5.2	2	L	51.6	VL	2
Z 1A		50.3	1	Savona Hill	11	5/3/2016	6.1	2	L	128.9	H	2.5
Z 1B			1	Savona Hill	12	5/3/2016	6.2	3.1	L	190.6		2.5
		977.8										

Grass

C 12	360	3.7	12		8	1/13/2017	6.4	38.3	H	65.4	L	2.4
Q 14	360	14.9	12		8	10/16/2015	6.6	73.5	VH	104.1	M	3.1
R 12A	360	7.2			9	11/29/2017	5.8	2	L	94.9	LM	2
T 4		3.4	11	Haight	1	1/16/2019	6.5	3.3	L	55.3	L	2
T 6		4.8	11	Haight	1	1/28/2019	6.4	6.2	M	87.5	LM	2.8
T 14		4.4	11	Haight	1	1/28/2019	6.7	5.5	LM	104.1	M	2.5
T 17		2.6	11	Haight	1	1/28/2019	6.3	2	L	126.2	MH	3.6
U 3		9.5	9		8	1/28/2019	6	36.4	H	137.2	MH	2.5
		50.5										

Idle

B 13	360	4.4		Estes	10	4/10/2013	6.9	101.6	VH	765.6	VH	3.3

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
Barrett		11.7	4		8	10/21/2015	6.4	2	L	35.1	VL	4
EV 1N		29.5	1	Eagle Valley Road	14	12/23/2016	6.6	29.7	H	340.5	VH	3.1
EV 1S			1	Eagle Valley Road	14	4/9/2014	6.3	18.5	MH	126.2	MH	3.5
ST 9	360	4.5		Stewart	12							
ST 12	360	4.3		Stewart	12	4/10/2013	6.1	8.5	M	199.8	H	3.6
ST 14	360	1.2		Stewart	12	4/10/2013	5.6	4.5	L	244.8	VH	3.5
ST 15	360	5.1		Stewart	12	4/10/2013	6	6.9	M	282.6	VH	4.5
ST 17	360	4		Stewart	12	11/29/2017	5.8	8.6	M	206.2	VH	2.3
ST 19	360	1.5		Stewart	12	4/10/2013	6.4	12.9	M	231	VH	3.7

66.2

Rye

C 8	360	7.7	1		8	4/17/2019	6.6	44.6	VH	272.4	VH	2.5
E 5	360	5.4	1	Dudley	3	4/17/2019	6.4	29.8	H	130.8	MH	2.8
E 6	360	14.3	1	Dudley	3	11/29/2017	6.1	29.8	H	98.6	LM	2.7
F 5	360	1.6	1		5	11/29/2017	6.8	186.5	VH	161.1	H	1.4
F 6	360	5.4	1		5	11/29/2017	6.8	186.5	VH	161.1	H	1.4
F 7	360	8.3	1		5	11/29/2017	6.8	186.5	VH	161.1	H	
F 8	360	8.7	1		5	11/29/2017	6.8	186.5	VH	161.1	H	1.4
F 9	360	6.7	1		5	11/29/2017	6.8	186.5	VH	161.1	H	1.4
F 10A	360	17.2	1		5	11/29/2017	7.2	######	VH	103.2	M	3.3
K 2		14	1		3	4/17/2019	5.2	2	L	137.2	MH	2.4
Q 9	360	7.7	1		8	4/17/2019	6	54.8	VH	117.9	M	2.3
Q 10	360	9.6	1		9	4/17/2019	6.2	64.4	VH	183.2	H	2.2
R 6E	360	12.3	1		9	4/17/2019	6.5	19.2	MH	71.9	L	2.6
R 6W	360	15.8	1		9	4/17/2019	6.5	18.9	MH	73.7	L	2.9
R 12B	360	10.3	1		9	11/29/2017	5.9	10.8	M	85.7	LM	2.1

145

Soy Beans

A 1	360	28.7	1		7	11/2/2016	6.4	90	VH	407.7	VH	3.8
A 4	360	5.1	1		7	1/13/2017	6.7	66.7	VH	266.9	VH	3
A 5N	360	15.4	1		7	1/13/2017	6.5	102.4	VH	549.4	VH	2.9
A 5S	360	8.6	1		7	1/13/2017	6.1	77.1	VH	413.2	VH	
A 7	360	15.8	1		7	1/13/2017	6.7	106.7	VH	492.3	VH	3.5
A 8	360	2.6	1		7	4/17/2019	5.3	30.9	H	187.8	H	3.5

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
A 9	360	12.1	1		7	4/17/2019	5.7	26.4	H	353.4	VH	2.9
A 10		4.1	1		7	4/17/2019	5.7	26.7	H	305.6	VH	2.8
B 2	360	13.4	1	Estes	8	12/29/2017	6.9	105	VH	317.5	VH	2.3
B 6	360	25.4	1	Estes	10	1/13/2017	6.6	78.5	VH	326.7	VH	2.2
B 17	360	12.1	1	Estes	10	11/29/2017	6.9	179.7	VH	274.3	VH	2.4
C 1	360	12.2	1		8	4/17/2019	6.9	114	VH	89.4	LM	2.5
C 6	360	7.6	1		8	1/13/2017	6.4	53	VH	98.6	LM	2
C 7	360	5.5	1		8	1/13/2017	6.4	54.5	VH	128.9	MH	2.5
C 14		2.7	1		8							
D 1	360	29.2	1		7	11/29/2017	6.3	119.5	VH	565	VH	3.3
F 1	360	11.4	1		2	4/17/2019	6.2	35.7	H	78.3	L	3.5
F 2	360	27.5	1		3	4/17/2019	6.5	68.8	VH	132.6	MH	2.3
F 4	360	13	1		5	4/17/2019	7.1	171.8	VH	137.2	H	3.1
H 2B	360	6.1	1	Polmiteer	2	11/2/2016	6.8	70.6	VH	251.3	VH	2.9
H 2C	360	15.4	1	Polmiteer	2	11/2/2016	6.8	70.6	VH	251.3	VH	2.9
H 3	360	52.1	1	Polmiteer	2	4/17/2019	5.5	15.3	MH	81.1	LM	2.4
H 3S	360	8.9	1	Polmiteer	2	4/17/2019	5.8	24.2	H	50.7	L	2.8
J 1	360	19.5	1		6	1/28/2019	6.6	41.5	VH	208	VH	2.8
J 2	360	22.5	1		6	1/28/2019	6.4	44.1	VH	156.5	H	2.5
J 4	360	15.4	1		6	1/28/2019	5.9	8	M	117	M	2.6
K 1	360	41.4	1		3	4/17/2019	5.2	2	L	151	H	3
M 2	360	10.2	1		6	1/13/2017	6.5	64	VH	69.1	L	2.1
N 1	360	22.2	1	Makitra	6	1/28/2019	5.6	8.3	M	251.3	VH	3.1
O 1	360	17.6	1		6	4/17/2019	5	15	MH	396.6	VH	4.4
O 2	360	12	1		6	4/17/2019	5.2	22.4	H	335.9	VH	3.9
P 1A	360	25.8	1		6	1/13/2017	7.1	196.6	VH	257.7	VH	2.8
Q 11	360	15.6	1		8	1/16/2019	6.6	86	VH	135.4	MH	3.1
R 9	360	6.8	1		9	4/17/2019	7.2	398	VH	483.1	VH	2.8
R 11	360	32.9	1		9	4/17/2019	6.2	66.3	VH	122.5	MH	3.9
SH 1		27.4	1	Bowblis	12	4/17/2019	6.9	239.5	VH	442.6	VH	5
ST 21S		24	1	Giles	12	12/11/2015	6.2	11.7	M	138.1	H	2.2
U 1	360	16	1		8	1/28/2019	6.5	53.6	VH	105.9	M	2.3
V 1		5.3	1		6	1/28/2019	5.7	2	L	147.3	H	3
V 2	360	11.3	1		6	1/28/2019	5.8	6.7	M	166.6	H	3.1
V 3	360	8.3	1		6	1/28/2019	6	8	M	178.6	H	1.8

FieldName	FieldSplit	Acres	Yr	Name	Map	SampleDate	pH	P	Plevel	K	KLeve	OM
W 4A	360	20.4	1		7	11/29/2017	6.6	229.1	VH	852	VH	3.2
W 6	360	25	1		7	4/17/2019	6.2	72.4	VH	328.6	VH	3.3
W 8	360	10.8	1		7	4/17/2019	6.1	2	L	51.6	L	2.5

725.3

3043

Western New York CROP MANAGEMENT

FallManureRecs

Leo Di(on & Sons

Tuesday, Jan' y 28, 2020

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComments
B 9	33.6	8	Alfalfa/Grass	2	M	L	L						
B 13	4.4	10	Idle		M	L	L						
Barrett	11.7	8	Idle	4	M	L	L						
C 10A	6.6	8	Alfalfa/Grass	1	M	L	L						
EV 1N	29.5	14	Idle	1	M	L	L						
EV 1S		14	Idle	1	M	L	L						
G 1	11.3	2	Alfalfa/Grass	2	M	L	L						
H 1	20.5	2	Alfalfa/Grass	2	M	L	L						
K 3	2	3	Alfalfa/Grass	1	M	-	-						
M 4	20.7	6	Alfalfa/Grass	2	M	H	H						
R 4	15	9	Alfalfa/Grass	1	M	M	M						
R 5A	23.9	9	Alfalfa/Grass	1	M	L	L	Yes	Yes				
R 13	9	9	Alfalfa/Grass	1	M	M	M						
R 14	8.2	9	Alfalfa/Grass	1	M	M	M						
ST 9	4.5	12	Idle		M	-	-						
ST 12	4.3	12	Idle		M	L	L						
ST 14	1.2	12	Idle		M	L	L						
ST 15	5.1	12	Idle		M	L	L						
ST 17	4	12	Idle		M	L	L						
ST 19	1.5	12	Idle		M	L	L						
	217									0	0		

1. No Manure (P-Index)

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComments
A 1	28.7	7	Soy Beans	1	M	VH	VH						No manure recommended
A 2	8.7	7	Alfalfa/Grass	7	M	VH	VH						No manure recommended
A 3	7.6	7	Alfalfa/Grass	7	M	VH	VH						No manure recommended
A 5N	15.4	7	Soy Beans	1	M	VH	VH						No manure recommended
A 5S	8.6	7	Soy Beans	1	M	H	H	Yes	Yes				No manure recommended
A 7	15.8	7	Soy Beans	1	M	VH	VH						No manure recommended
A 11	37.3	7	Alfalfa/Grass	8	M	VH	VH						No manure recommended
A 12N	16.7	7	Alfalfa/Grass	5	M	VH	VH						No manure recommended
A 12S	11.5	7	Corn Silage	3	M	H	H						No manure recommended
B 2	13.4	8	Soy Beans	1	M	VH	VH						No manure recommended
B 6	25.4	10	Soy Beans	1	M	H	H						No manure recommended
B 10	25.8	8	Corn Silage	2	M	VH	VH						No manure recommended
B 14	4.9	10	Alfalfa/Grass	5	M	L	VH						No manure recommended
B 16	5.3	10	Alfalfa/Grass	5	M	M	VH						No manure recommended
B 17	12.1	10	Soy Beans	1	M	VH	VH						No manure recommended
C 1	12.2	8	Soy Beans	1	M	VH	VH						No manure recommended
C 3	25.7	8	Alfalfa/Grass	4	M	VH	VH						No manure recommended
C 4	6.6	8	Corn Silage	2	M	VH	VH						No manure recommended
D 1	29.2	7	Soy Beans	1	M	VH	VH						No manure recommended
D 2	44.8	7	Alfalfa/Grass	6	M	VH	VH						No manure recommended
F 4	13	5	Soy Beans	1	M	VH	VH						No manure recommended
F 5	1.6	5	Rye	1	M	M	VH						No manure recommended
F 6	5.4	5	Rye	1	M	M	VH						No manure recommended

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
F 7	8.3	5	Rye	1	M	M	VH						No manure recommended
F 9	6.7	5	Rye	1	M	VH	VH						No manure recommended
F 10A	17.2	5	Rye	1	M	VH	VH						No manure recommended
F 10B	15.6	5	Corn Silage	3	M	L	VH						No manure recommended
F 11	19.6	5	Corn from Sod	1	M	VH	VH						No manure recommended
F 14	6.8	5	Corn Silage	4	L	VH	VH						No manure recommended
F 15	18.9	5	Corn Silage	4	M	VH	VH						No manure recommended
F 20	21.4	5	Corn Silage	3	M	VH	VH						No manure recommended
F 21	43.7	5	Alfalfa/Grass	8	M	L	VH						No manure recommended
G 2	5.4	2	Alfalfa/Grass	2	M	VH	VH						No manure recommended
J 1	19.5	6	Soy Beans	1	M	M	M						No manure recommended
M 2	10.2	6	Soy Beans	1	M	H	H						No manure recommended
M 3	12.5	6	Alfalfa/Grass Seeding	1	M	L	VH						No manure recommended
M 5	20.8	6	Corn from Sod	1	M	VH	VH						No manure recommended
P 1A	25.8	6	Soy Beans	1	M	VH	VH						No manure recommended
Q 4	14.6	8	Alfalfa/Grass Seeding	1	M	VH	VH						No manure recommended
Q 6	13.4	8	Alfalfa/Grass	6	M	VH	VH						No manure recommended
Q 11	15.6	8	Soy Beans	1	M	VH	VH						No manure recommended
Q 13	12.7	9	Corn Silage	3	M	VH	VH						No manure recommended
R 1	5.9	8	Corn Silage	1	M	VH	VH						No manure recommended
R 9	6.8	9	Soy Beans	1	M	VH	VH						No recommended manure
SH 1	27.4	12	Soy Beans	1	M	VH	VH						No manure recommended

FieldName	cres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	E ;enc y Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions	SpreadingComment
W 4A	20.4	7	Soy Beans	1	M	VH	VH						No manure recommended
W 4B	18.8	7	Alfalfa/Grass	4	M	VH	VH						No manure recommended
W 9	40.3	7	Alfalfa/Grass	6	M	VH	VH						No manure recommended
X 22	31.6	9	Alfalfa/Grass	4	M	VH	VH						No manure recommended
	835.6									0	0		

Alfalfa/Grass

B 8	4.9	10	Alfalfa/Grass	5	M	L	H			12000		Any Seaso	Split apply after a cutting
B 15	8.1	10	Alfalfa/Grass	5	M	L	L			12000		Any Seaso	Split apply after a cutting
C 9	30.1	8	Alfalfa/Grass	5	M	L	H			6000		Summer	Split apply after a cutting
E 1	13.7	3	Alfalfa/Grass	5	M	H	H			15000		Summer	Split apply after a cutting
E 4	11.5	3	Alfalfa/Grass	4	M	H	H			15000		Summer	Split apply after a cutting
F 3	12.3	3	Alfalfa/Grass	5	M	L	H			12000		Any Seaso	Split apply after a cutting
F 12	21	5	Alfalfa/Grass	6	M	L	M			15000		Any Seaso	Split apply after a cutting
F 13	9.3	5	Alfalfa/Grass	6	M	L	M			15000		Any Seaso	Split apply after a cutting
F 16	20.6	5	Alfalfa/Grass	4	M	H	H			7000		Summer	Split apply after a cutting
F 17	10.5	5	Alfalfa/Grass	5	M	L	L			15000		Any Seaso	Split apply after a cutting
F 23	22.9	5	Alfalfa/Grass	4	M	L	M			12000		Any Seaso	Split apply after a cutting
H 2A	6.8	2	Alfalfa/Grass	5	M	L	L			15000		Any Seaso	Split apply after a cutting
I 1	17.4	3	Alfalfa/Grass	5	M	H	H			14000		Any Seaso	Split apply after a cutting
J 3	15.9	6	Alfalfa/Grass	8	M	H	H			12000		Summer	Split apply after a cutting
Q 1	12	8	Alfalfa/Grass	6	M	H	H			6000		Summer	Split apply after a cutting
R 7	10.8	9	Alfalfa/Grass	4	M	M	M			12000		Any Seaso	Split apply after a cutting
R 8	9.8	9	Alfalfa/Grass	6	M	H	H			15000		Summer	Split apply after a cutting
Sam Dick A	11.8	13	Alfalfa/Grass	6	M	M	L			15000		Any Seaso	Split apply after a cutting

FieldName	cres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	E ;enc y Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
Sam Dick B	10.2	13	Alfalfa/Grass	6	M	M	M			15000		Any Seaso	Split apply after a cutting
ST 3	25.2	12	Alfalfa/Grass	6	M	H	H			15000		Any Seaso	Split apply after a cutting
ST 21N	17.3	12	Alfalfa/Grass	4	L	M	M			12000		Any Seaso	Split apply after a cutting
T 8	4.7	1	Alfalfa/Grass	5	M	M	M			15000		Any Seaso	Split apply after a cutting
T 10	4.3	1	Alfalfa/Grass	5	M	M	M			15000		Any Seaso	Split apply after a cutting
T 12	3	1	Alfalfa/Grass	5	M	M	M			15000		Any Seaso	Split apply after a cutting
T 13	3.5	1	Alfalfa/Grass	5	M	L	L			15000		Any Seaso	Split apply after a cutting
U 2	14.3	8	Alfalfa/Grass	5	M	L	L			15000		Any Seaso	Split apply after a cutting
W 1	26.4	7	Alfalfa/Grass	5	M	M	M			12000		Any Seaso	Split apply after a cutting
	358.3									4457600	0		

Alfalfa/Grass Seeding

C 11	4.8	8	Alfalfa/Grass Seeding	1	M	L	L	Yes	Yes	15000		Any Season	Injected food waste
C 13	6.8	8	Alfalfa/Grass Seeding	1	M	L	L	Yes	Yes	15000		Any Season	Injected food waste
E 3	32.4	3	Alfalfa/Grass Seeding	1	M	H	H			4000		Any Season	Injected food waste
G 3	28	2	Alfalfa/Grass Seeding	1	M	H	H			15000		Any Season	Injected food waste
M 1	5.8	6	Alfalfa/Grass Seeding	1	M	H	H	Yes	Yes	10000		Any Season	Injected food waste
Q 5	19.3	8	Alfalfa/Grass Seeding	1	M	H	M			15000		Any Season	Injected food waste
R 10	15.2	9	Alfalfa/Grass Seeding	1	M	L	L			15000		Any Season	Injected food waste
ST 1	24.6	12	Alfalfa/Grass Seeding	1	M	L	L			15000		Any Season	Injected food waste

FieldName	cres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	E ;enc y Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
	136.9									1668100	0		

Corn from Sod

H 4	12	2	Corn from Sod	1	M	M	L			8000		Any Season	Injected food waste
M 6	10.8	6	Corn from Sod	1	M	H	H			8000		Any Season	Injected food waste
P 1B	17.5	6	Corn from Sod	1	M	H	H			8000		Any Season	Injected food waste
Q 3	11.6	8	Corn from Sod	1	M	L	L			8000		Any Season	Injected food waste
R 3	8.2	9	Corn from Sod	1	M	L	L			8000		Any Season	Injected food waste
	60.1									480800	0		

Corn Silage

B 1	6.7	8	Corn Silage	1	M	L	L			15000		Any Seaso	Injected food waste
B 3	9.3	8	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
B 4	17.2	8	Corn Silage	4	M	M	M			15000		Any Seaso	Injected food waste
B 5	9.6	8	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
B 11	5.6	8	Corn Silage	1	M	L	H			10000		Any Seaso	Injected food waste
B 12	7.6	10	Corn Silage	1	M	M	H			9000		Any Seaso	Injected food waste
Buckley	8	8	Corn Silage	2	M	M	M			15000		Any Seaso	Surface apply
C 2	2.8	8	Corn Silage	2	M	L	H			11000		Any Seaso	Injected food waste
EV 2	20.5	14	Corn Silage	1	M	H	H			18000		Any Seaso	Surface Apply
EV 3	30.2	14	Corn Silage	1	M	H	H			20000		Any Seaso	Surface Apply
F 19	12.1	5	Corn Silage	4	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
Glosick 1	21.3	7	Corn Silage	5	M	M	M			15000		Any Seaso	Surface Apply
Glosick 2	6.9	7	Corn Silage	5	M	M	M			15000		Any Seaso	Surface Apply
Glosick 10A	8	3	Corn Silage	4	M	H	L			15000		Any Seaso	Surface Apply
Glosick 10B	15.7	3	Corn Silage	4	M	H	L			15000		Any Seaso	Surface Apply
Glosick 11	10.2	3	Corn Silage	3	M	H	L			15000		Any Seaso	Surface Apply
Glosick 12	3.7	3	Corn Silage	3	M	H	L			15000		Any Seaso	Surface Apply
Glosick 13	2.6	3	Corn Silage	3	M	H	L			15000		Any Seaso	Surface Apply
L 1	16.2	3	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
L 2	24.8	3	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
Q 2	21.6	8	Corn Silage	2	L	M	H			9000		Any Seaso	Injected food waste
Q 7	8.5	8	Corn Silage	1	M	M	M			15000		Any Seaso	Injected food waste
Q 8	8.5	8	Corn Silage	1	M	H	H			11000		Any Seaso	Injected food waste
Q 12	8.8	9	Corn Silage	2	M	H	H			13000		Any Seaso	Injected food waste
R 2	6	9	Corn Silage	1	M	M	M			15000		Any Seaso	Injected food waste
S 1	6.6	6	Corn Silage	1	M	M	M			15000		Any Seaso	Surface Apply
S 2	8.4	6	Corn Silage	1	M	M	M			15000		Any Seaso	Surface Apply
S 5	10.7	6	Corn Silage	1	M	M	M			15000		Any Seaso	Surface Apply
S 7	6.8	6	Corn Silage	1	M	M	M			15000		Any Seaso	Surface Apply
Sam Dick C	5.4	13	Corn Silage	6	M	M	L			15000		Any Seaso	Surface Apply
Sam Dick D	11.2	13	Corn Silage	6	M	M	L			15000		Any Seaso	Surface Apply
Sam Dick E	8.7	13	Corn Silage	5	M	M	L			15000		Any Seaso	Surface Apply
Spears 1	11.3	8	Corn Silage	1	M	H	H			15000		Any Seaso	Surface Apply
Spears 2	7.7	8	Corn Silage	2	M	M	M			15000		Any Seaso	Surface Apply
Spears 3	9.3	8	Corn Silage	2	M	M	M			15000		Any Seaso	Surface Apply

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
Spears 5	4.6	8	Corn Silage	1	M	M	M			15000		Any Seaso	Surface Apply
Spears 6	18.4	8	Corn Silage	2	M	M	L			15000		Any Seaso	Surface Apply
Spears 7	13.3	8	Corn Silage	2	M	H	H			15000		Any Seaso	Surface Apply
ST 4	34.9	12	Corn Silage	2	L	L	L			15000		Any Seaso	Injected food waste
ST 5	27.5	12	Corn Silage	2	M	M	M			15000		Any Seaso	Injected food waste
ST 6	21.4	12	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
ST 7	8.4	12	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
ST 8	13.9	12	Corn Silage	2	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
ST 11	25.5	12	Corn Silage	1	M	L	L			15000		Any Seaso	Injected food waste
ST 13	3.4	12	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
ST 16	11.6	12	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
ST 18	11.4	12	Corn Silage	2	M	L	L			15000		Any Seaso	Injected food waste
ST 20	5.5	12	Corn Silage	2	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
Sugar 1	6.1	3	Corn Silage	3	M	H	M			15000		Any Seaso	Surface Apply
Sugar 2	13.2	3	Corn Silage	3	M	H	L			15000		Any Seaso	Surface Apply
Sugar 3	20.5	3	Corn Silage	3	M	H	M			15000		Any Seaso	Surface Apply
T 1	16.9	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply
T 2	3.9	1	Corn Silage	4	M	L	L	Yes	Yes	15000		Any Seaso	Surface Apply
T 3	2.3	1	Corn Silage	4	M	L	L			15000		Any Seaso	Surface Apply
T 5	3.5	1	Corn Silage	4	M	L	L			15000		Any Seaso	Surface Apply
T 7	5.4	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply
T 9	4.2	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply
T 11	3.9	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply
T 15	6	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply

FieldName	.cres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	E ;enc y Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow	SpreadingComment
T 16	2.3	1	Corn Silage	4	M	M	M			15000		Any Seaso	Surface Apply
Tucker 1	11.1	11	Corn Silage	1	M	H	H			15000		Any Seaso	Surface Apply
Tucker 2	6.1	11	Corn Silage	1	M	H	M			15000		Any Seaso	Surface Apply
Tucker 3	9.8	11	Corn Silage	1	M	H	M			15000		Any Seaso	Surface Apply
Tucker 4	11.2	11	Corn Silage	1	M	H	M			15000		Any Seaso	Surface Apply
Tucker 5	10.1	11	Corn Silage	1	M	H	M			15000		Any Seaso	Surface Apply
Tucker 6	5.7	11	Corn Silage	1	M	H	H			15000		Any Seaso	Surface Apply
U 4	21	8	Corn Silage	2	M	L	L			15000		Any Seaso	Surface Apply
VA 1	7.1	4	Corn Silage	1	M	H	H	Yes	Yes	15000		Any Seaso	Surface Apply
VV 1	29.6	2	Corn Silage	1	M	L	L			15000		Any Seaso	Surface Apply
Y 1	6.4	4	Corn Silage	1	M	H	H	Yes	Yes	20000		Any Seaso	Surface Apply
Y 2	14.4	4	Corn Silage	1	M	L	L	Yes	Yes	20000		Any Seaso	Surface Apply
Y 3	3.3	4	Corn Silage	1	M	L	H			20000		Any Seaso	Surface Apply
Z 1A	50.3	11	Corn Silage	1	M	H	H			15000		Any Seaso	Surface Apply
Z 1B		12	Corn Silage	1	-	L	L			15000		Any Seaso	Surface Apply
	852.6									12856000	0		

Grass

C 12	3.7	8	Grass	12	M	L	H			15000		Any Seaso	Split apply after a cutting
Q 14	14.9	8	Grass	12	M	H	H			3000		Summer	Split apply after a cutting
R 12A	7.2	9	Grass		M	M	M			15000		Any Seaso	Split apply after a cutting
T 4	3.4	1	Grass	11	M	L	L			15000		Any Seaso	Split apply after a cutting
T 6	4.8	1	Grass	11	M	M	M			15000		Any Seaso	Split apply after a cutting
T 14	4.4	1	Grass	11	M	M	M			15000		Any Seaso	Split apply after a cutting
T 17	2.6	1	Grass	11	M	M	M			15000		Any Seaso	Split apply after a cutting

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow	SpreadingComment
U 3	9.5	8	Grass	9	M	M	M			15000		Summer	Split apply after a cutting
	50.5									578700	0		

Rye

C 8	7.7	8	Rye	1	M	H	H			22000		Fall/Summer	Injected food waste (split apply before and after rye)
E 5	5.4	3	Rye	1	M	H	H			22000		Any Season	Injected food waste (split apply before and after rye)
E 6	14.3	3	Rye	1	M	H	H			22000		Fall/Summer	Surface apply (split apply before and after rye)
F 8	8.7	5	Rye	1	M	M	H			22000		Any Season	Injected food waste (split apply before and after rye)
K 2	14	3	Rye	1	M	H	H			22000		Any Season	Surface Apply (split apply before and after rye)
Q 9	7.7	8	Rye	1	M	L	H			22000		Any Season	Injected food waste (split apply before and after rye)
Q 10	9.6	9	Rye	1	M	H	H			13000		Fall/Summer	Injected food waste (split apply before and after rye)
R 6E	12.3	9	Rye	1	M	M	L			22000		Any Season	Injected food waste (split apply before and after rye)
R 6W	15.8	9	Rye	1	M	M	M			22000		Any Season	Injected food waste (split apply before and after rye)
R 12B	10.3	9	Rye	1	M	M	M			22000		Any Season	Injected food waste (split apply before and after rye)
	105.8									2241200	0		

Soybeans

A 4	5.1	7	Soy Beans	1	M	H	H			5000		Fall/LateSp	Surface apply manure only
A 8	2.6	7	Soy Beans	1	M	M	M			15000		Any Seaso	Injected food waste

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
A 9	12.1	7	Soy Beans	1	M	M	M			15000		Any Seaso	Injected food waste
A 10	4.1	7	Soy Beans	1	M	H	H	Yes	Yes	15000		Any Seaso	Surface Apply
C 6	7.6	8	Soy Beans	1	M	H	H			15000		Any Seaso	Injected food waste
C 7	5.5	8	Soy Beans	1	M	H	H			15000		Any Seaso	Injected food waste
C 14	2.7	8	Soy Beans	1	M	-	-			15000		Any Seaso	Surface Apply
F 1	11.4	2	Soy Beans	1	M	M	M			15000		Any Seaso	Injected food waste
F 2	27.5	3	Soy Beans	1	M	H	H			6000		Any Seaso	Injected food waste
H 2B	6.1	2	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
H 2C	15.4	2	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
H 3	52.1	2	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
H 3S	8.9	2	Soy Beans	1	M	M	L			12000		Any Seaso	Injected food waste
J 2	22.5	6	Soy Beans	1	M	H	H			15000		Any Seaso	Injected food waste
J 4	15.4	6	Soy Beans	1	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
K 1	41.4	3	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
N 1	22.2	6	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
O 1	17.6	6	Soy Beans	1	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
O 2	12	6	Soy Beans	1	M	M	M			15000		Any Seaso	Injected food waste
R 11	32.9	9	Soy Beans	1	M	H	H			8000		Any Seaso	Injected food waste
ST 21S	24	12	Soy Beans	1	L	M	M			15000		Any Seaso	Surface Apply
U 1	16	8	Soy Beans	1	M	H	H			11000		Any Seaso	Injected food waste
V 1	5.3	6	Soy Beans	1	M	L	M	Yes	Yes	15000		Any Seaso	Surface Apply
V 2	11.3	6	Soy Beans	1	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
V 3	8.3	6	Soy Beans	1	M	L	L	Yes	Yes	15000		Any Seaso	Injected food waste
W 6	25	7	Soy Beans	1	M	H	H			4000		Any Seaso	Injected food waste

FieldName	Acres	Map	Crop	Yr	LI	P Pindex	D Pindex	Winter Spreading	Emergency Spreading	Allowable Gallons Per Acre	Allowable Tons Per Acre	Season: If Field Conditions Allow...	SpreadingComment
W 8	10.8	7	Soy Beans	1	M	L	L			15000		Any Seaso	Injected food waste
	425.8									5492500	0		
	3043									27,774,900	0.0		

Manure 14,415,900 1,002.4 acres
Food Waste 13,359,000 988 acres

Section 6 & 7.

Village of Warsaw WWTF

Warsaw WWTF
240 Purdy Ave.
Warsaw, NY 14569

Phone: 585-786-8575
Fax: 585-786-8575

Fax Transmittal Form

To DICKSON ENVIRONMENTAL
Name:
Organization Name/Dept:
CC:
Phone number: 607-776-7997
Fax number: 607-776-4217

From GARY BOGERT - CHIEF OPERATOR
Warsaw WWTF
Phone: 585-786-8575
Fax: 585-786-8575
Email: warsawwwtf@yahoo.com

Date sent: 5/16/2018
Time sent: 8:47 Am
Number of pages including cover (5)

Message: HI DICKSON ENVIRONMENTAL; THIS IS OUR 1ST PART 360 FOR 2018

SINCERELY GARY
CHIEF OPERATOR

Client:	Village of Warsaw	**Service Request:**	R1803677
Project:	Village of Warsaw WWTF	**Date Collected:**	04/24/18 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	04/24/18 16:11
Sample Name:	Drying Beds	**Units:**	ug/Kg
Lab Code:	R1803677-003	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result		MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1221	18000	U	18000	100	05/10/18 06:57	5/2/18	
Aroclor 1232	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1242	**39000**		8600	100	05/10/18 06:57	5/2/18	
Aroclor 1248	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1254	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1260	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1262	8600	U	8600	100	05/10/18 06:57	5/2/18	
Aroclor 1268	8600	U	8600	100	05/10/18 06:57	5/2/18	

Surrogate Name		% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	D	0 *	22 - 128	05/10/18 06:57	D
Tetrachloro-m-xylene	D	0 *	14 - 119	05/10/18 06:57	D

Client:	Village of Warsaw	**Service Request:**	R1803677
Project:	Village of Warsaw WWTF	**Date Collected:**	04/24/18 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	04/24/18 16:11
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1803677-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**5.9**	mg/Kg	2.6	1	04/27/18 13:42	04/25/18	
Cadmium, Total	6010C	**2.1**	mg/Kg	1.3	1	04/27/18 13:42	04/25/18	
Chromium, Total	6010C	**40.2**	mg/Kg	2.6	1	04/27/18 13:42	04/25/18	
Copper, Total	6010C	**845**	mg/Kg	5.2	1	04/27/18 13:42	04/25/18	
Lead, Total	6010C	**68**	mg/Kg	13	1	04/27/18 13:42	04/25/18	
Mercury, Total	7471B	**3.90**	mg/Kg	0.081	1	04/26/18 17:21	04/25/18	
Molybdenum, Total	6010C	**20.9**	mg/Kg	6.5	1	04/27/18 13:42	04/25/18	
Nickel, Total	6010C	**15**	mg/Kg	10	1	04/27/18 13:42	04/25/18	
Potassium, Total	6010C	**1110**	mg/Kg	520	1	04/27/18 13:42	04/25/18	
Selenium, Total	6010C	**7.9**	mg/Kg	2.6	1	04/27/18 13:42	04/25/18	
Zinc, Total	6010C	**1050**	mg/Kg	5.2	1	04/27/18 13:42	04/25/18	

Client:	Village of Warsaw	**Service Request:**	R1803677
Project:	Village of Warsaw WWTF	**Date Collected:**	04/24/18 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	04/24/18 16:11
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1803677-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	ASTM D6919-09	**1320**	mg/Kg	13	10	05/08/18 08:05	05/07/18	
Nitrate as Nitrogen	9056A	26 U	mg/Kg	26	1	05/07/18 11:57	05/07/18	
Nitrite as Nitrogen	9056A	26 U	mg/Kg	26	1	05/07/18 11:57	05/07/18	
Nitrogen, Total Kjeldahl (TKN)	351.2 Modified	**25300**	mg/Kg	910	20	05/07/18 11:31	05/03/18	
Phosphorus, Total	365.1 Modified	**8230**	mg/Kg	130	10	05/03/18 15:58	04/30/18	

Client:	Village of Warsaw	**Service Request:**	R1803677
Project:	Village of Warsaw WWTF	**Date Collected:**	04/24/18 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	04/24/18 16:11
Sample Name:	Drying Beds	**Basis:**	As Received
Lab Code:	R1803677-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
pH	9045D	**6.61**	pH Units	-	1	04/28/18 08:25	NA	
Solids, Total Volatile	SM20 2540 G	**44.7**	Percent	1.0	1	05/03/18 15:00	NA	
Total Solids	ALS SOP	**38.2**	Percent	-	1	05/03/18 15:00	NA	

Client:	Village of Warsaw	**Service Request:**	R1808951
Project:	Village of Warsaw WWTF/09/18/2018	**Date Collected:**	09/18/18 08:30
Sample Matrix:	Sludge, Solid	**Date Received:**	09/18/18 14:15
Sample Name:	Drying Beds	**Units:**	ug/Kg
Lab Code:	R1808951-003	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1221	150 U	150	1	09/26/18 13:09	9/20/18	
Aroclor 1232	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1242	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1248	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1254	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1260	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1262	75 U	75	1	09/26/18 13:09	9/20/18	
Aroclor 1268	75 U	75	1	09/26/18 13:09	9/20/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	22 - 128	09/26/18 13:09	
Tetrachloro-m-xylene	59	14 - 119	09/26/18 13:09	

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1808951
Project:	Village of Warsaw WWTF/09/18/2018	**Date Collected:**	09/18/18 08:30
Sample Matrix:	Sludge, Solid	**Date Received:**	09/18/18 14:15
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1808951-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**6.1**	mg/Kg	2.3	1	09/25/18 20:03	09/24/18	
Cadmium, Total	6010C	**2.2**	mg/Kg	1.1	1	09/25/18 20:03	09/24/18	
Chromium, Total	6010C	**42.0**	mg/Kg	2.3	1	09/25/18 20:03	09/24/18	
Copper, Total	6010C	**860**	mg/Kg	42	10	09/28/18 12:29	09/26/18	
Lead, Total	6010C	**69**	mg/Kg	11	1	09/25/18 20:03	09/24/18	
Mercury, Total	7471B	**2.92**	mg/Kg	0.074	1	09/27/18 15:39	09/26/18	
Molybdenum, Total	6010C	**20.5**	mg/Kg	5.6	1	09/25/18 20:03	09/24/18	
Nickel, Total	6010C	**17.4**	mg/Kg	9.0	1	09/25/18 20:03	09/24/18	
Potassium, Total	6010C	**1100**	mg/Kg	450	1	09/25/18 20:03	09/24/18	
Selenium, Total	6010C	**8.0**	mg/Kg	2.3	1	09/25/18 20:03	09/24/18	
Zinc, Total	6010C	**1180**	mg/Kg	45	10	09/27/18 13:57	09/24/18	

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1808951
Project:	Village of Warsaw WWTF/09/18/2018	**Date Collected:**	09/18/18 08:30
Sample Matrix:	Sludge, Solid	**Date Received:**	09/18/18 14:15
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1808951-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	ASTM D6919-09	**142**	mg/Kg	12	10	09/24/18 19:08	09/24/18	
Nitrate as Nitrogen	9056A	**1060**	mg/Kg	23	1	09/28/18 03:28	09/27/18	
Nitrite as Nitrogen	9056A	**71**	mg/Kg	23	1	09/28/18 03:28	09/27/18	
Nitrogen, Total Kjeldahl (TKN)	351.2 Modified	**24700**	mg/Kg	840	20	09/27/18 14:09	09/26/18	
Phosphorus, Total	365.1 Modified	**9890**	mg/Kg	230	20	09/26/18 14:44	09/26/18	

Client:	Village of Warsaw	**Service Request:**	R1808951
Project:	Village of Warsaw WWTF/09/18/2018	**Date Collected:**	09/18/18 08:30
Sample Matrix:	Sludge, Solid	**Date Received:**	09/18/18 14:15
Sample Name:	Drying Beds	**Basis:**	As Received
Lab Code:	R1808951-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
pH	9045D	**6.26**	pH Units	-	1	09/24/18 18:15	NA	H
Solids, Total Volatile	SM20 2540 G	**42.0**	Percent	1.0	1	09/25/18 16:02	NA	
Total Solids	ALS SOP	**43.4**	Percent	-	1	09/25/18 16:02	NA	

Village of Warsaw Waste Water Treatment Facility

240 Purdy Avenue
Warsaw, NY 14569

Phone: 585-786-8575
Fax: 585-786-8575
Email: warsawwwtf@yahoo.com

Fax Transmittal Form

To Dickson Environmental

Name:
Organization Name/Dept:
CC:
Phone number: 607-776-7997
Fax number: 607-776-4217

From Gary Bogert—Chief Operator

Warsaw WWTF

Phone: 585-786-8575
Fax: 585-786-8575
Email: warsawwwtf@yahoo.com

Date sent: 10/01/2018
Time sent: 10:10am
Number of pages 5 **including cover page:**

Message: Hi Dickson Environmental; This is our Second Part 360 for 2018.

Sincerely Gary Bogert
Chief Operator

Village of Warsaw Waste Water Treatment Facility

240 Purdy Avenue
Warsaw, NY 14569

Phone: 585-786-8575
Fax: 585-786-8575
Email: warsawwwtf@yahoo.com

Fax Transmittal Form

To Dickson Environmental

Name:
Organization Name/Dept:
CC:
Phone number: 607-776-7997
Fax number: 607-776-4217

From Gary Bogert—Chief Operator

Warsaw WWTF

Phone: 585-786-8575
Fax: 585-786-8575
Email: warsawwwtf@yahoo.com

Date sent: 06/03/2019
Time sent: 10:35am
Number of pages 5 **including cover page:**

Message: Hi Dickson Environmental; This is our First Part 360 for 2019.

Sincerely Gary Bogert
Chief Operator

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1904304
Project:	Village of Warsaw WWTF/05/14/2019	**Date Collected:**	05/14/19 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	05/14/19 17:00
Sample Name:	Drying Beds	**Units:**	ug/Kg
Lab Code:	R1904304-003	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1221	210 U	210	1	05/21/19 10:17	5/17/19	
Aroclor 1232	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1242	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1248	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1254	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1260	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1262	110 U	110	1	05/21/19 10:17	5/17/19	
Aroclor 1268	110 U	110	1	05/21/19 10:17	5/17/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	11 *	22 - 128	05/21/19 10:17	*
Tetrachloro-m-xylene	12 *	14 - 119	05/21/19 10:17	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1904304
Project:	Village of Warsaw WWTF/05/14/2019	**Date Collected:**	05/14/19 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	05/14/19 17:00
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1904304-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	3.6	mg/Kg	3.0	1	05/16/19 13:49	05/15/19	
Cadmium, Total	6010C	2.9	mg/Kg	1.5	1	05/16/19 13:49	05/15/19	
Chromium, Total	6010C	47.4	mg/Kg	3.0	1	05/16/19 13:49	05/15/19	
Copper, Total	6010C	1060	mg/Kg	6.0	1	05/16/19 13:49	05/15/19	
Lead, Total	6010C	79	mg/Kg	15	1	05/16/19 13:49	05/15/19	
Molybdenum, Total	6010C	21.8	mg/Kg	7.5	1	05/16/19 13:49	05/15/19	
Nickel, Total	6010C	17	mg/Kg	12	1	05/16/19 13:49	05/15/19	
Potassium, Total	6010C	1320	mg/Kg	600	1	05/16/19 13:49	05/15/19	
Selenium, Total	6010C	9.6	mg/Kg	3.0	1	05/16/19 13:49	05/15/19	
Zinc, Total	6010C	1350	mg/Kg	60	10	05/17/19 23:01	05/15/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1904304
Project:	Village of Warsaw WWTF/05/14/2019	**Date Collected:**	05/14/19 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	05/14/19 17:00
Sample Name:	Drying Beds	**Basis:**	Dry
Lab Code:	R1904304-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	ASTM D6919-09	**16**	mg/Kg	16	10	05/30/19 03:09	05/28/19	
Nitrate as Nitrogen	9056A	**1390**	mg/Kg	31	1	05/29/19 03:01	05/28/19	
Nitrite as Nitrogen	9056A	31 U	mg/Kg	31	1	05/29/19 03:01	05/28/19	
Nitrogen, Total Kjeldahl (TKN)	351.2 Modified	**30800**	mg/Kg	1900	20	05/17/19 11:47	05/16/19	
Phosphorus, Total	365.1 Modified	**8220**	mg/Kg	600	20	05/21/19 12:13	05/20/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Village of Warsaw	**Service Request:**	R1904304
Project:	Village of Warsaw WWTF/05/14/2019	**Date Collected:**	05/14/19 07:30
Sample Matrix:	Sludge, Solid	**Date Received:**	05/14/19 17:00
Sample Name:	Drying Beds	**Basis:**	As Received
Lab Code:	R1904304-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
pH	9045D	6.37	pH Units	-	1	05/16/19 17:10	NA	H
Solids, Total Volatile	SM20 2540 G	47.7	Percent	1.0	1	05/19/19 10:30	NA	
Total Solids	ALS SOP	31.9	Percent	-	1	05/19/19 10:30	NA	

PennState Extension

PA DEP Lab ID # 14-00588

Agricultural Analytical Services Laboratory
The Pennsylvania State University
111 Ag Analytical Svcs Lab
University Park, PA 16802

(814) 863-0841 aaslab@psu.edu www.aasl.psu.edu

Analysis Report for Use of Biosolids on Cropland

Matt Slater
Dairy Farmers of America
72 Milk Plant Rd
Middlebury Center PA 16935

Lab Sample ID:	**E19844**
Date Received:	11/14/2019
Date Sampled:	11/13/2019
Report Date:	12/9/2019
Sample type:	Grab
County:	Tioga
Customer Sample ID:	Pressed Sludge

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 21.1 C	— % —					% (dry weight basis)						
7.2	11.22	76.24	9.48	9.00	0.49	3.10	0.46	0.37	4.43	0.53	0.23	2.31

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]
						mg/kg (dry weight basis)					
114.1	4.49	< 0.96	11.0	14.4	< 4.8	0.34	< 2.9	3.9	< 4.8	85.8	< .36

NR-Not Requested One dry ton of this material is equivalent to 2137 gallons of wet material or 8.9 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	9.48	0.53	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	7.10	1.61	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.55		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	MG/PS	11/21/2019	9:43:28
As	3050B + 6010	MG/PS	11/21/2019	9:43:28
Se	3050B + 6010	MG/PS	11/21/2019	9:43:28
Hg	7473	MG	11/19/2019	11:43:04
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	2.323	2.323	2.323	0.476	2.323	2.323	2.323	2.323	2.323
Analyte conc. in sample/ digest (mg/L except Hg)	0.023	0.000	0.075	0.018 ug	0.013	0.020	-0.013	0.010	0.447
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis					Sample Receipt
Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:	

ID: E19844

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	Acceptable	Pollutant Limit	Acceptable-increased monitoring	Ceiling Limit	Exceeds ceiling limits
As	4.49	0	41		75	
Cd	< 0.96	0	39		85	
Cu	14.4	0	1500		4300	
Pb	< 4.8	0	300		840	
Hg	0.34	0	17		57	
Mo	< 2.9	0	75			
Ni	3.9	0	420			
Se	< 4.8	0	100			
Zn	85.8	0	2800		7500	
PCB[1]	< .36	0	4		8.6	

MICROBAC®

Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

Project Name: Annual Sludge Cake Testing

Project / PO Number: N/A
Received: 12/14/2017
Reported: 01/02/2018

Analytical Testing Parameters

Client Sample ID: Belt Press
Sample Matrix: Solid
Lab Sample ID: J7L1087-01
Collected By: SW-Client
Collection Date: 12/13/2017 15:30

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Lab
Method: Calculation							
Nitrogen, Total as N (Calc)	**2430**	669	mg/kg dry		12/19/17 1145	12/19/17 1437	
Method: EPA 351.2, Rv 2							
Total Kjeldahl Nitrogen (TKN)	**2430**	669	mg/kg dry		12/18/17 1615	12/19/17 1305	NY
Method: EPA 365.3, Rv 1978							
Phosphorus - Total as P	**4370**	1670	mg/kg dry	**M1, R1**	12/19/17 1156	12/19/17 1610	NY
Method: SM2540 G-1997							
Percent Solids	**14.9**		% by Weight		12/18/17 1536	12/19/17 1100	NY
Method: SM4500-NO3 F-2000							
Nitrate as N (calc)	<33.5	33.5	mg/kg dry		12/19/17 1411	12/19/17 1437	
Nitrate-Nitrite as N	<33.5	33.5	mg/kg dry		12/19/17 1145	12/19/17 1437	NY
Nitrite as N	**7.27**	0.167	mg/kg dry	**B**		12/19/17 1411	NY

Analyses Subcontracted to: Microbac Laboratories, Inc. - Ohio Valley

Metals by 6010	Result	RL	Units	Note	Prepared	Analyzed
Method: SW6010C						
Potassium, Total	**3980**	255	mg/kg DRY		12/19/17 0828	12/19/17 1753

Percent Solids	Result	RL	Units	Note	Prepared	Analyzed
Method: D2216						
Percent Solids	**14.9**	1.00	weight %			12/20/17 0814

Laboratory
NY: Microbac Laboratories, Inc., New York Division

Definitions

B:	Target analyte is detected in the method blank at or above the reporting limit.
M1:	Matrix spike recovery is above acceptance limits.
MDL:	Minimum Detection Limit
R1:	Duplicate RPD is outside acceptance criteria.
RL:	Reporting Limit

- All sample temperatures upon receipt were 8.4 °C, exceeding the regulatory guidelines of 0-6 °C for chemistry samples.

Microbac Laboratories, Inc. - Ohio Valley

VA ID: 460187	Commonwealth of Virginia (VELAP)
NJ DEP ID: OH004	New Jersey Department of Environmental Protection
NY Lab ID No.: 10861	New York State Department of Health
PA DEP ID: 68-01670	Pennsylvania Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Brenna Murray

Brenna Murray
Project Manager
Reported: 01/02/2018 14:55

Microbac Laboratories, Inc
2369 Elmira St. Suite C
Sayre, PA 18840
Phone: (570) 888-0169

Microbac Laboratories, Inc.
CHAIN OF CUSTODY

Client Information		Billing/Invoice:
Name:		
Address:		
Contact:		
Phone:		
Project:		
Quote ID:		PO#:
Rush TAT Bus. Days: <2 2-5 5-7 7-10		Date Req.:
Carbon Copy: Yes		
Email Results: Yes		
Fax Results: Yes		

Analysis Requested: whole wet; TN, TP metals

Receiving Info (Lab Use Only)	
Ice:	(YES) NO
Cooler:	(YES) NO
Sample Temp:	8.4
Cooler Seal:	YES NO
Pickup:	YES NO
Dropoff:	C W
Accepted?	YES NO
Container Material	
Container Size (In Ml)	
Preservative	

Sample Information

#	Description/Location	Date	Time	Initial	Matrix Type	whole wet	TN, TP metals	Comments/Field Data
1	Belt Press x3	12/13/17	3:30 pm	SW	G / Solid	1	1	
2								
3								
4								
5								
6								
7								
8								

	Print Name and Company	Signature	Date/Time
Sampled:			12/13/17 3:30
Received:			12-14-17 10:50
Received:			12-14-17 11:30
Received:			12-14-17 15:20

Comments: 12/14/17 left vm for Dan regarding the hold time ~~EMP~~ 12-14-17 14:20

Microbac Laboratories (MLI) may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to another accredited laboratory. By signing this document you are attesting that you have been informed by Microbac of the intent to subcontract and are in agreement with this action.

WWT Plant Sludge $36/TON

Approval #: 190604

STEUBEN COUNTY
DEPARTMENT OF PUBLIC WORKS
SOLID WASTE DIVISION
3 EAST PULTENEY SQUARE
BATH, NEW YORK 14810

APPLICATION FOR DISPOSAL OF AN
INDUSTRIAL WASTE STREAM
BATH LANDFILL – SITE NO. 51S21

FOR COUNTY USE	
☑ APPROVED	☐ DISAPPROVED
DATE: 4 June 2019	DATE SENT TO DEC: 4 June 2019

Please Note: A copy of the approved application must accompany each load.

SEND INVOICE TO: Village of Canisteo · 8 Green St. Canisteo, NY. 14823

Company Generating Waste	Address of Generator	Telephone No.
Village of Canisteo Sewer Plant	2440 Dunning Road Canisteo, N.Y. 14523	607 - 698 - 2886
Representative of Generator	**Address of Generator**	**Telephone No.**
Rich Dunning		607 - 968 - 4245

Description of Process Producing Waste (generator must notify County of any changes to process)
Canisteo has a small SBR plant that treats a flow of 150,000 gallons per day of domestic waste water.

Expected Annual Waste Production: 360 Tons/Year

Waste Hauled In: ☑ Roll-Off ☐ Dump Truck ☐ Compactor Truck ☐ Other

Waste Composition
Average Percent Solids 20%

Physical State: ☑ Sewage Sludge ☑ Stabilized ☐ Un-stabilized ☐ Industrial Sludge ☐ Solid

Description of Waste
1) SBR Facility aerobically digested, stabilized sludge.
2)
3)
4)

Is An Analysis of Waste Attached?	Was EPA Toxicity Test Conducted on Waste?	Material is:
☑ Yes ☐ No	☐ Yes ☑ No If Yes, Attach Results	☐ Hazardous ☑ Non-Hazardous

Detail All Hazardous and Nuisance Problems Associated with the Waste. List Necessary Safety, Handling, and Disposal Precautions.
No known Hazardous or nuisance problem associated with this waste

Name of Waste Transporter	Address	NYSDEC Permit No.	Telephone No.
Leo Dick Son & Sons	5226 Bonny Hill Bath, NY. 14810	8A195	607 776 7997

CERTIFICATION
I hereby affirm under penalty of perjury that information provided in this form and attached statements exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Signature and Title of Representative of Waste Generator	Date
R J D	4 / 24 / 2019
Signature and Title of Representative of Steuben County	**Date**
Steve Arndt, Ass't Commissioner	6/4/19

LSL Life Science Laboratories, Inc.

Chris Bertram
Village of Canisteo WWTP
WWTP Office & Lab
8 Green St.
Canisteo, NY 14823

Phone: (607) 698-2886
FAX: (607) 698-2243

Laboratory Analysis Report
Prepared For
Village of Canisteo WWTP

LSL Project ID: **1905900**

Receive Date/Time: 04/29/19 11:10

LSL Central Lab
5854 Buttermut Drive
East Syracuse, NY 13057
Tel. (315) 445-1900
Fax (315) 445-1104
NYS DOH ELAP #10248

LSL North Lab
131 St. Lawrence Avenue
Waddington, NY 13694
Tel. (315) 388-4476
Fax (315) 388-4061
NYS DOH ELAP #10900

LSL Finger Lakes Lab
16 N. Main St., PO Box 424
Wayland, NY 14572
Tel. (585) 728-3320
Fax (585) 728-2711
NYS DOH ELAP #11667

LSL Southern Tier Office
Cuba, NY
Tel. (585) 209-4032

LSL MidLakes Office
Canandaigua, NY
Tel. (585) 728-3320

Reviewed by: David J. Prichard *Date:* 5/16/19

David J. Prichard, Director of Tech. Services

A copy of this report was sent to:

Date Printed: 5/15/19

- - LABORATORY ANALYSIS REPORT - -

Village of Canisteo WWTP Canisteo, NY

Sample ID: Sludge **LSL Sample ID:** 1905900-001

Location:

Sampled: 04/29/19 10:15 **Sampled By:** CB

Sample Matrix: SHW Dry Wt, Sludge

Analytical Method / Analyte	Result	Units	Prep Method	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 1311 TCLP Extraction						
TCLP Non-Volatile Extraction					5/9/19	EP
(1) EPA 6010C TCLP Metals			EPA 3010A			
Please refer to the next page						MT
(1) EPA 7470A TCLP Mercury			EPA 7470A			
Please refer to the next page						EP
(1) EPA 9012B Reactive Cyanide			SW846 Ch.7, Sec. 7.3			
Reactive Cyanide	< 50	mg/kg			5/1/19	JJC
This analysis is not certifiable by the NYS DOH ELAP.						
(1) EPA 9034 Reactive Sulfide			SW846 Ch.7, Sec. 7.3			
Reactive Sulfide	<50	mg/kg			4/30/19	HKB
As per NELAC regulation disclosure of the following condition is required: The result of the laboratory control sample was less than the established limit.						
This analysis is not certifiable by the NYS DOH ELAP.						
(1) Modified SM 2540 B-97,-11 Total Solids						
Total Solids @ 103-105 C	24	%			4/30/19	MM2
The NYS DOH ELAP does not offer certification for this method in this matrix.						
(1) SW846 Ch.7, Sec. 7.3 Reactivity Distillation						
Reactivity Distillation				4/30/19	4/30/19	HKB

Analysis performed at: *(1) LSL Central Lab, (2) LSL North Lab, (3) LSL Finger Lakes Lab*

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse , NY 13057 (315) 445-1900

Analytical Results

StateCertNo: 10248

CLIENT: Life Science Labs-LIMS
Project: Village of Canisteo WWTP
W Order: 1905900
Matrix: SLUDGE

Lab ID: 1905900-001A
Client Sample ID: *Sludge*

Collection Date: 04/29/19 10:15
Date Received: 04/29/19 11:10

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TCLP MERCURY			**SW7470A**		**(SW7470A)**	
Mercury	ND		0.00040	mg/L	1	05/13/19 15:06
NOTES:						
Tthe associated matrix spike / matrix spike duplicate recovery was outside the method specified control limits.						
TCLP METALS BY ICP			**SW6010C**		**(SW3010A)**	
Arsenic	ND		0.50	mg/L	1	05/14/19 15:56
Barium	ND		0.50	mg/L	1	05/14/19 15:56
Cadmium	ND		0.10	mg/L	1	05/14/19 15:56
Chromium	ND		0.50	mg/L	1	05/14/19 15:56
Lead	ND		0.50	mg/L	1	05/14/19 15:56
Selenium	ND		0.20	mg/L	1	05/14/19 15:56
Silver	ND		0.50	mg/L	1	05/14/19 15:56

Qualifiers:

- * Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits

Print Date: 05/15/19 8:58 **Project Supervisor:** Admin

Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

1905900

Canisteowwtp

5693

LSL Central Lab
5854 Butternut Drive
E. Syracuse, NY 13057
p) 315-445-1105
f) 315-445-1301

LSL North Lab.
131 St. Lawrence Ave.
Waddington, N.Y. 13694
p) 315-388-4476
f) 315-388-4061

LSL Finger Lakes Lab
16 N. Main St.
Wayland, NY 14572
p) 585-728- 3320
f) 585-728-2711

LSL Midlakes Drop Off
493 S. Main St.
Canandaigua, NY 14424
p) 585-728- 3320

LSL Southern Tier Office
24 West Main St.
Cuba, NY 14727
p) 585-209-4032

Turnaround Time

Normal	Pre-Authorized				
14 DAY [X]	Next Day* [ ]	3-Day * [ ]	2-Day * [ ]	7-Day* [ ]	*Additional Charges may apply

Report Address: #5693

Name: Chris Bertram
Company: **Village of Canisteo WWTP**
Street: 8 Green St.
City/State: Canisteo, NY Zip: 14823
Phone: 607-698-2886 Fax: 607-698-2243
Email: canisteolab@empireaccess.net

Date Needed or Special Instructions:

Authorization or P.O. #

Client Project ID/Client Site ID

ALL SAMPLES MUST BE KEPT IN REFRIGERATOR AND DELIVERED TO LAB ON ICE.

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Pres. Check	LSL ID#
Sludge	4-24-14	10:15	GrAB	SHW	N/P	1	gc32oz.	TS, Reactive Cn & Sulfide, 8 TCLP RCRA Metals		001A
								~~Sample Pick Up Fee: $15.00~~ jms		

LSL use only:

Received On Ice (Yes) or No — Samples Received On Ice

Sample Temp: 10.5°

Containers this C-O-C (1)

Custody Transfers		Date	Time
Sampled By: Chris Bertram	Received By:		
Relinquished By:	Received By:		
Relinquished By:	Received for Lab By: Jordan Shisler	4-24-14	11:10
Shipment Method:	Received Intact: Y N		

***** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY*****

Business and receiving hours vary by location. Please call local lab or 585-728-3320 for more info.

Canisteo, WWTP second and 4th week

MICROBAC®

Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9D1518

Yaws Environmental

John McGrath
951 East Shore Drive
Ithaca, NY 14850

Project Name: TCLP Testing

Project / PO Number: N/A
Received: 04/24/2019
Reported: 05/15/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Cayuga Heights	J9D1518-01	Solid	Grab		04/24/19 13:25	04/24/19 15:27

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9D1518

Analytical Testing Parameters

Client Sample ID:	Cayuga Heights		
Sample Matrix:	Solid		
Lab Sample ID:	J9D1518-01	**Collection Date:**	04/24/2019 13:25

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

General Parameters	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Method: ASTM D2216-10									
Percent Solids	**28.4**		1.00	% by Weight	1	**Y1**	05/07/19 1355	05/08/19 0916	KMG
Method: EPA 1030									
Ignitability of Solids	<2.2		2.2	mm/sec	1			05/03/19 0000	CSH

Inorganics	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Method: EPA 9045D				**Method Notes:** H4					
pH	**6.9**			pH Units	1	**Y**	05/01/19 1034	05/01/19 1453	AWE
Method: NA				**Method Notes:** H4					
Temperature	**22.8**			°C	1		05/01/19 1034	05/01/19 1453	AWE
Method: SW-846 7.3.3.2									
Reactive Cyanide	<10.0		10.0	mg/kg	1	**Y**	05/07/19 1217	05/08/19 1527	APH
Method: SW-846 7.3.4.1									
Reactive Sulfide	<100		100	mg/kg	1	**Y**	05/07/19 1520	05/09/19 1605	APH

Polychlorinated Biphenyls - GC/ECD	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Method: EPA 8082A									
Aroclor-1016 (PCB-1016)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1221 (PCB-1221)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1232 (PCB-1232)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1242 (PCB-1242)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1248 (PCB-1248)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1254 (PCB-1254)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Aroclor-1260 (PCB-1260)	<58.1		58.1	ug/kg dry	1		05/01/19 1223	05/03/19 1525	ECL
Surrogate: 2,4,5,6-Tetrachloro-m-xylene	26.6	Limit: 29-133		% Rec	1	**AC**	05/01/19 1223	05/03/19 1525	ECL
Surrogate: Decachlorobiphenyl (BZ-209)	52.3	Limit: 50-125		% Rec	1		05/01/19 1223	05/03/19 1525	ECL

TCLP Metals - AA	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Method: EPA 7470A									
Mercury	<0.00200		0.00200	mg/L	1		05/02/19 0837	05/03/19 1117	KEH

TCLP Metals - ICP	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Method: EPA 6010C									
Arsenic	<0.200		0.200	mg/L	1	**Q7**	05/06/19 0606	05/07/19 1730	PDM

MICROBAC

Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9D1518

Client Sample ID:	Cayuga Heights		
Sample Matrix:	Solid		
Lab Sample ID:	J9D1518-01	**Collection Date:**	04/24/2019 13:25

TCLP Metals - ICP	Result	MDL	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Barium	**0.384**		0.100	mg/L	1		05/06/19 0606	05/07/19 1730	PDM
Cadmium	<0.0200		0.0200	mg/L	1		05/06/19 0606	05/07/19 1730	PDM
Chromium	<0.0500		0.0500	mg/L	1		05/06/19 0606	05/07/19 1730	PDM
Lead	<0.200		0.200	mg/L	1		05/06/19 0606	05/07/19 1730	PDM
Selenium	<0.350		0.350	mg/L	1		05/06/19 0606	05/07/19 1730	PDM
Silver	<0.100		0.100	mg/L	1		05/06/19 0606	05/07/19 1730	PDM

Definitions

AC:	T-M-X surrogate failed low but greater than 10%
H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
MDL:	Minimum Detection Limit
Q7:	CCV recovery is above acceptance limits. However there is no impact on the reported value.
RL:	Reporting Limit
Y:	This analyte is not on the laboratory's current scope of accreditation.
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.6°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH	
10861	New York State Department of Health
Microbac Laboratories, Inc., New York Division	
NY Lab ID No.: 10795	New York State Department of Health

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9D1518

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Shannon Weeks

Customer Relationship Coordinator

Reported: 05/15/2019 10:09

MICROBAC

3821 Buck Drive Cortland, NY 13045 607.753.3403	2389 Elmira Street, Suite C Sayre, PA 18840 570.888.0189	1620 North Main Avenue Scranton, PA 18508 570.348.0775	4359 Linglestown Road Harrisburg, PA 17112 717.651.9700

CHAIN OF CUSTODY RECORD

Number

Instructions on back

TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C) 6p. 6

Therm ID

Holding Time

Samples Received on Ice? Yes No N/A

Custody Seals Intact? Yes No N/A

Lab Report Address

Client Name: YAWS LAB

Address:

City, State, Zip:

Contact:

Telephone No.:

Invoice Address

Client Name:

Address:

City, State, Zip:

Contact:

Telephone No.:

Turnaround Time

[ ] Routine (5 to 7 business days)
[ ] RUSH* (notify lab)

(needed by)

Report Type

[ ]Results Only [ ]Level 1 [ ]Level 2 [ ]Level3 [ ]Level 4 [ ]EDD

Send Report via: [ ] Mail [ ] Fax [ ] e-mail (address)

Send Invoice via: [ ] Mail [ ] Fax [ ] e-mail (address)

Project:

Location:

PO No.:

Compliance Monitoring? [ ] Yes [ ] No
( ) Agency/Program

Sampled by (PRINT):

Sampler Signature:

Sampler Phone No.:

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	TCLP	RCRA(8)	METALS	PH	REACTIVE	CYANIDE	SULFIDES	IGNITABILITY	% SOLIDS	PCB		Additional Notes
	Cayuga Heights	4/24/2019	13:25	3	S	Grab		X	X	X	X	X	X	X	X	X	X		

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive

Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

Per Mike RCRA8 Metals is all that is required. (on)

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	4/24/19		4-24-19 15:27
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev.12/26/2017

Page of

Yaws Environmental

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

June 14, 2019

Ms. Cindy Cameron
Camden Group Inc.
9008 State Route 13
Camden, NY 13316

RE: Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Dear Ms. Cameron:
Enclosed are the analytical results for sample(s) received by the laboratory on May 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rachel D Christner

Rachel Christner
rachel.christner@pacelabs.com
724-850-5611
Project Manager

Enclosures

cc: Mr. David Coish, Camden Group Inc.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30296840001	SLUDGE- Dryden	Solid	05/22/19 10:00	05/30/19 09:25

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30296840001	**SLUDGE- Dryden**	EPA 8082A	CWB	10	PASI-PA
		EPA 6010C	CTS	7	PASI-PA
		EPA 7470A	KAS	1	PASI-PA
		ASTM D2974-87	VAK	1	PASI-PA
		EPA 1010	CMR	1	PASI-PA
		EPA 9045D	ZMH	1	PASI-PA
		EPA 9014	PAS	1	PASI-PA
		SM 4500S2F-00	PAS	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Sample: SLUDGE- Dryden **Lab ID: 30296840001** Collected: 05/22/19 10:00 Received: 05/30/19 09:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.
Comments: • Sample received past holding time for pH and Reactive Sulfide. The client gave approval to proceed with the analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546								
PCB-1016 (Aroclor 1016)	ND	ug/kg	300	185	1	05/31/19 18:40	06/05/19 00:43	12674-11-2	P1
PCB-1221 (Aroclor 1221)	ND	ug/kg	300	266	1	05/31/19 18:40	06/05/19 00:43	11104-28-2	P1
PCB-1232 (Aroclor 1232)	ND	ug/kg	300	273	1	05/31/19 18:40	06/05/19 00:43	11141-16-5	P1
PCB-1242 (Aroclor 1242)	ND	ug/kg	300	219	1	05/31/19 18:40	06/05/19 00:43	53469-21-9	P1
PCB-1248 (Aroclor 1248)	ND	ug/kg	300	173	1	05/31/19 18:40	06/05/19 00:43	12672-29-6	P1
PCB-1254 (Aroclor 1254)	ND	ug/kg	300	160	1	05/31/19 18:40	06/05/19 00:43	11097-69-1	P1
PCB-1260 (Aroclor 1260)	ND	ug/kg	300	171	1	05/31/19 18:40	06/05/19 00:43	11096-82-5	P1
PCB, Total	ND	ug/kg	2700	1700	1	05/31/19 18:40	06/05/19 00:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	34-114		1	05/31/19 18:40	06/05/19 00:43	877-09-8	
Decachlorobiphenyl (S)	90	%	38-139		1	05/31/19 18:40	06/05/19 00:43	2051-24-3	
6010C MET ICP, TCLP	Analytical Method: EPA 6010C Preparation Method: EPA 3005A Leachate Method/Date: EPA 1311; 06/12/19 12:31 Initial pH: 7.49; Final pH: 4.95								
Arsenic	**0.031**	mg/L	0.025	0.010	1	06/13/19 15:04	06/14/19 10:29	7440-38-2	1c
Barium	**0.070**	mg/L	0.050	0.0034	1	06/13/19 15:04	06/14/19 10:29	7440-39-3	1c
Cadmium	ND	mg/L	0.015	0.0017	1	06/13/19 15:04	06/14/19 10:29	7440-43-9	1c
Chromium	ND	mg/L	0.025	0.0017	1	06/13/19 15:04	06/14/19 10:29	7440-47-3	1c
Lead	ND	mg/L	0.12	0.12	5	06/13/19 15:04	06/14/19 11:54	7439-92-1	1c
Selenium	ND	mg/L	0.040	0.027	1	06/13/19 15:04	06/14/19 10:29	7782-49-2	1c
Silver	ND	mg/L	0.030	0.0072	1	06/13/19 15:04	06/14/19 10:29	7440-22-4	1c
7470 Mercury, TCLP	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Leachate Method/Date: EPA 1311; 06/12/19 12:31 Initial pH: 7.49; Final pH: 4.95								
Mercury	ND	ug/L	1.0	0.030	1	06/13/19 18:23	06/14/19 13:45	7439-97-6	1c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**84.7**	%	0.10	0.10	1		06/11/19 15:33		
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010								
Flashpoint	**>200**	deg F	60.0		1		06/12/19 18:18		
9045D pH Soil	Analytical Method: EPA 9045D								
pH in water at 25 degrees C	**6.5**	Std. Units	2.0	2.0	1		05/30/19 21:10		H3
733C S Reactive Cyanide	Analytical Method: EPA 9014 Preparation Method: SW-846 7.3.3.2								
Cyanide, Reactive	ND	mg/kg	6.5	2.6	1	06/03/19 20:26	06/04/19 20:49		
734S Reactive Sulfide	Analytical Method: SM 4500S2F-00 Preparation Method: SW-846 7.3.4.2								
Sulfide, Reactive	ND	mg/kg	65.1	65.1	1	06/03/19 20:26	06/03/19 20:30		H3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 347267
QC Batch Method: EPA 7470A
Associated Lab Samples: 30296840001

Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury TCLP

METHOD BLANK: 1688944 Matrix: Water
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	1.0	0.030	06/14/19 13:35	

METHOD BLANK: 1687051 Matrix: Water
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	1.0	0.030	06/14/19 13:38	

LABORATORY CONTROL SAMPLE: 1688945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1	.88J	88	80-120	

MATRIX SPIKE SAMPLE: 1688947

Parameter	Units	30296843001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.6	104	75-125	

SAMPLE DUPLICATE: 1688946

Parameter	Units	30296843001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	ND	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 347184
QC Batch Method: EPA 3005A
Associated Lab Samples: 30296840001

Analysis Method: EPA 6010C
Analysis Description: 6010C MET TCLP

METHOD BLANK: 1688567 Matrix: Water
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.025	0.010	06/14/19 10:14	
Barium	mg/L	ND	0.050	0.0034	06/14/19 10:14	
Cadmium	mg/L	ND	0.015	0.0017	06/14/19 10:14	
Chromium	mg/L	ND	0.025	0.0017	06/14/19 10:14	
Lead	mg/L	ND	0.025	0.025	06/14/19 11:39	
Selenium	mg/L	ND	0.040	0.027	06/14/19 10:14	
Silver	mg/L	ND	0.030	0.0072	06/14/19 10:14	

METHOD BLANK: 1687051 Matrix: Water
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.025	0.010	06/14/19 10:18	
Barium	mg/L	ND	0.050	0.0034	06/14/19 10:18	
Cadmium	mg/L	ND	0.015	0.0017	06/14/19 10:18	
Chromium	mg/L	ND	0.025	0.0017	06/14/19 10:18	
Lead	mg/L	ND	0.050	0.049	06/14/19 11:43	
Selenium	mg/L	ND	0.040	0.027	06/14/19 10:18	
Silver	mg/L	ND	0.030	0.0072	06/14/19 10:18	

LABORATORY CONTROL SAMPLE: 1688568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.5	0.48	96	80-120	
Barium	mg/L	0.5	0.52	103	80-120	
Cadmium	mg/L	0.5	0.51	103	80-120	
Chromium	mg/L	0.5	0.50	101	80-120	
Lead	mg/L	0.5	0.51	101	80-120	
Selenium	mg/L	0.5	0.51	101	80-120	
Silver	mg/L	0.25	0.25	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1688570 1688571

Parameter	Units	30296843001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	0.5	0.5	0.54	0.57	106	113	75-125	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1688570 1688571

Parameter	Units	30296843001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.22	0.5	0.5	0.73	0.76	101	107	75-125	4	20	
Cadmium	mg/L	ND	0.5	0.5	0.54	0.57	108	114	75-125	5	20	
Chromium	mg/L	ND	0.5	0.5	0.49	0.51	97	103	75-125	6	20	
Lead	mg/L	ND	0.5	0.5	0.54	0.57	106	112	75-125	6	20	
Selenium	mg/L	ND	0.5	0.5	0.57	0.61	113	120	75-125	6	20	
Silver	mg/L	ND	0.25	0.25	0.28	0.28	113	113	75-125	0	20	

SAMPLE DUPLICATE: 1688569

Parameter	Units	30296843001 Result	Dup Result	RPD	Max RPD	Qualifiers
Arsenic	mg/L	ND	ND		20	
Barium	mg/L	0.22	0.22	1	20	
Cadmium	mg/L	ND	ND		20	
Chromium	mg/L	ND	ND		20	
Lead	mg/L	ND	ND		20	
Selenium	mg/L	ND	ND		20	
Silver	mg/L	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 345112
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Associated Lab Samples: 30296840001

METHOD BLANK: 1679081 Matrix: Solid
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	ND	16.7	10.3	06/03/19 12:45	
PCB-1221 (Aroclor 1221)	ug/kg	ND	16.7	14.8	06/03/19 12:45	
PCB-1232 (Aroclor 1232)	ug/kg	ND	16.7	15.2	06/03/19 12:45	
PCB-1242 (Aroclor 1242)	ug/kg	ND	16.7	12.2	06/03/19 12:45	
PCB-1248 (Aroclor 1248)	ug/kg	ND	16.7	9.6	06/03/19 12:45	
PCB-1254 (Aroclor 1254)	ug/kg	ND	16.7	8.9	06/03/19 12:45	
PCB-1260 (Aroclor 1260)	ug/kg	ND	16.7	9.5	06/03/19 12:45	
Decachlorobiphenyl (S)	%.	79	38-139		06/03/19 12:45	
Tetrachloro-m-xylene (S)	%.	77	34-114		06/03/19 12:45	

LABORATORY CONTROL SAMPLE: 1679082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	166	124	75	61-105	
PCB-1260 (Aroclor 1260)	ug/kg	166	129	78	70-100	
Decachlorobiphenyl (S)	%.			77	38-139	
Tetrachloro-m-xylene (S)	%.			73	34-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1679083 1679085

Parameter	Units	30297102004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	ND	377	377	794	659J	210	175	24-137		25	M6
PCB-1260 (Aroclor 1260)	ug/kg	ND	377	377	4700	4320	1240	1140	19-156	9	25	M6
Decachlorobiphenyl (S)	%.						83	68	38-139			
Tetrachloro-m-xylene (S)	%.						86	62	34-114			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 346703
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 30296840001

SAMPLE DUPLICATE: 1686462

Parameter	Units	30296740003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.6	12.7	1	20	

SAMPLE DUPLICATE: 1686463

Parameter	Units	30296740004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.1	7.6	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 346845
QC Batch Method: EPA 1010
Analysis Method: EPA 1010
Analysis Description: 1010 Flash Point, Closed Cup
Associated Lab Samples: 30296840001

METHOD BLANK: 1687055
Matrix: Water
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Flashpoint	deg F	>200	60.0		06/12/19 11:19	

SAMPLE DUPLICATE: 1687056

Parameter	Units	30298178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Flashpoint	deg F	>200	>200			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 344974
QC Batch Method: EPA 9045D
Associated Lab Samples: 30296840001

Analysis Method: EPA 9045D
Analysis Description: 9045D pH

SAMPLE DUPLICATE: 1678348

Parameter	Units	30296840001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH in water at 25 degrees C	Std. Units	6.5	6.5	0	10	H3

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 345280
QC Batch Method: SW-846 7.3.3.2
Analysis Method: EPA 9014
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 30296840001

METHOD BLANK: 1680119
Matrix: Solid
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide, Reactive	mg/kg	ND	1.0	0.40	06/04/19 20:43	

LABORATORY CONTROL SAMPLE: 1680120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	99.2	ND	0	0-8	

SAMPLE DUPLICATE: 1680121

Parameter	Units	30297175001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide, Reactive	mg/kg	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

QC Batch: 345279
QC Batch Method: SW-846 7.3.4.2
Analysis Method: SM 4500S2F-00
Analysis Description: 734S Reactive Sulfide
Associated Lab Samples: 30296840001

METHOD BLANK: 1680116
Matrix: Solid
Associated Lab Samples: 30296840001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Reactive	mg/kg	ND	10	10	06/03/19 20:30	

LABORATORY CONTROL SAMPLE: 1680117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	200	44.0	22	0-52	

SAMPLE DUPLICATE: 1680118

Parameter	Units	30297175001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Reactive	mg/kg	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

1c	Insufficient sample received from client to perform the TCLP extraction per EPA method requirements. The data was reported with client approval.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
P1	Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DRYDEN WWTP-5/22
Pace Project No.: 30296840

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30296840001	SLUDGE- Dryden	EPA 3546	345112	EPA 8082A	345165
30296840001	SLUDGE- Dryden	EPA 3005A	347184	EPA 6010C	347302
30296840001	SLUDGE- Dryden	EPA 7470A	347267	EPA 7470A	347299
30296840001	SLUDGE- Dryden	ASTM D2974-87	346703		
30296840001	SLUDGE- Dryden	EPA 1010	346845		
30296840001	SLUDGE- Dryden	EPA 9045D	344974		
30296840001	SLUDGE- Dryden	SW-846 7.3.3.2	345280	EPA 9014	345381
30296840001	SLUDGE- Dryden	SW-846 7.3.4.2	345279	SM 4500S2F-00	345380

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY — Lab Sample Receipt Number or MTJL Log-in

WO# : 30296840

30296840

Company: Village of Dryden WWTP

Billing Information: Camden Group

Address: Wall St Dryden, NY

Report To: Cindy

Email To: info@camdengroupusa.com Boxertoves1673@Gmail.

Copy To: David

Site Collection Info/Address:

Customer Project Name/Number:

State / County/City / Time Zone Collected: PT MT CT ET

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Phone: / Email:

Site/Facility ID #:

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #:

DW PWS ID #:

Quote #:

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____

RUSH: Same Day / Next Day 2 Day 3 Day 4 Day / 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line:

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present		N	NA
Collector Signature Present		N	NA
Bottles Intact		N	NA
Correct Bottles		N	NA
Sufficient Volume		N	NA
Samples received on Ice	Y	N	NA
VOA - Headspace Acceptable		N	NA
USDA Regulated Soils		N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

JLB | JLB

Customer Sample ID	Matrix*	Comp/Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Cont	TCLP RCRA METALS	Ph	REACTIVITY	IGNITABILITY	%SOLIDS	PCBs	LAB USE ONLY: Lab Sample # / Comment
SLUDGE - Dryden	SL	G	5-28-19	1000				1	X	X	X	X	X	X	001

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [✓] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) NA

Packing Material Used: Bubble Bag

LAB Tracking #: 7753 3697 1130

Radiation sample(s) screened (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y (N) NA

Therm ID#: 11

Cooler 1 Temp Upon Receipt: 4.0 °C

Cooler 1 Therm Corr. Factor: 0 °C

Cooler 1 Corrected Temp: 4.0 °C

Comments: JLB 05/30/19

Trip Blank Received: Y (N) NA

HCL MeOH TSP Other

NonConformance(s): YES / NO

Page _____ of _____

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
DNC OR	5-29-19 1100	PACE	5/29/19 11:00
PACE	5/29/19 17:00	PACE	05/30/19 0425

F-ALL-C-010-rev.00 05Jul2018

MICROBAC

Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Waverly WWTP

Doug Kinsley
424 Cayuta Avenue
Waverly, NY 14892

Project Name: Biosolids/Sludge 360 Series

Project / PO Number: N/A
Received: 05/15/2019
Reported: 06/25/2019

Analytical Testing Parameters

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

Anions by Ion Chromatography	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 9056A									
Nitrite as N	<18.5			18.5	mg/kg dry			05/17/19 0623	CAS
Nitrate as N	<27.8			27.8	mg/kg dry			05/17/19 0623	CAS

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: ASTM D2216-10									
Percent Solids	21.6			1.00	% by Weight	Y1	05/23/19 1325	05/24/19 0910	KMG

Inorganics	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 350.1, Rv 2									
Ammonia as N	16700			1110	mg/kg dry	Y1	05/24/19 0738	05/28/19 1200	TB
Method: EPA 9045D				**Method Notes:** H4					
pH	6.4				pH Units	H4		05/22/19 1518	AWE
Method: SM2540 G-1997				**Method Notes:** AC					
Total Volatile Solids - TVS	79.0				%	Y1	05/22/19 1829	05/28/19 0000	ADG

Pesticides - GC/ECD	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 8081B									
4,4'-DDD [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
4,4'-DDE [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
4,4'-DDT [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Aldrin [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
alpha-BHC [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
alpha-Chlordane [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
beta-BHC [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
delta-BHC [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Dieldrin [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Endosulfan I [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Endosulfan II [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Endosulfan Sulfate [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Endrin [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Endrin Aldehyde [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL

CERTIFICATE OF ANALYSIS

S9E0327

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Pesticides - GC/ECD	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Endrin Ketone [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
gamma Chlordane [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
gamma-BHC (Lindane) [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Heptachlor [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Heptachlor epoxide [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Methoxychlor [2C]	<8.75			8.75	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Toxaphene [2C]	<175			175	ug/kg dry		05/16/19 1405	05/20/19 1910	ECL
Surrogate: 2,4,5,6-Tetrachloro-m-xylene [2C]		78.8	Limit: 28-130		% Rec		05/16/19 1405	05/20/19 1910	ECL
Surrogate: Decachlorobiphenyl (BZ-209) [2C]		46.8	Limit: 24-131		% Rec		05/16/19 1405	05/20/19 1910	ECL

Polychlorinated Biphenyls - GC/ECD	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 8082A									
Aroclor-1016 (PCB-1016)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1221 (PCB-1221)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1232 (PCB-1232)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1242 (PCB-1242)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1248 (PCB-1248)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1254 (PCB-1254)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Aroclor-1260 (PCB-1260)	<87.5			87.5	ug/kg dry		05/16/19 1410	05/20/19 1653	ECL
Surrogate: 2,4,5,6-Tetrachloro-m-xylene		62.9	Limit: 26-138		% Rec		05/16/19 1410	05/20/19 1653	ECL
Surrogate: Decachlorobiphenyl (BZ-209)		50.3	Limit: 20-125		% Rec		05/16/19 1410	05/20/19 1653	ECL

Semivolatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 8270D				**Method Notes:** D1					
Phenol	18300			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
bis(2-Chloroethyl) ether	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Chlorophenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
1,3-Dichlorobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
1,4-Dichlorobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzyl alcohol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
1,2-Dichlorobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Methylphenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
bis(2-Chloroisopropyl) ether	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
3-,4-Methylphenol	319000			36400	ug/kg dry	D3	05/21/19 1330	05/25/19 0040	SCB
n-Nitrosodipropylamine	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Hexachloroethane	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Nitrobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Isophorone	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Nitrophenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4-Dimethylphenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Semivolatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
bis(2-Chloroethoxy)methane	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzoic acid	<66200			66200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4-Dichlorophenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
1,2,4-Trichlorobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Naphthalene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Chloroaniline	<3640			3640	ug/kg dry	Q3	05/21/19 1330	05/22/19 2248	SCB
Hexachlorobutadiene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Chloro-3-methylphenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Methylnaphthalene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Hexachlorocyclopentadiene	<16600			16600	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4,6-Trichlorophenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4,5-Trichlorophenol	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Chloronaphthalene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Nitroaniline	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Dimethyl phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,6-Dinitrotoluene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Acenaphthylene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
3-Nitroaniline	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4-Dinitrophenol	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Acenaphthene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Nitrophenol	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2,4-Dinitrotoluene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Dibenzofuran	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Diethyl phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Fluorene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Chlorophenyl phenylether	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Nitroaniline	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
2-Methyl-4,6-dinitrophenol	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Diphenylamine/n-Nitrosodiphenyl amine	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
4-Bromophenyl phenyl ether	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Hexachlorobenzene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Pentachlorophenol	<18200			18200	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Phenanthrene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Anthracene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Di-n-butyl phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Fluoranthene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Pyrene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Butyl benzyl phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
bis(2-Ethylhexyl)phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
3,3'-Dichlorobenzidine	<7280			7280	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzo(a)anthracene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Chrysene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Di-n-octyl phthalate	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzo(b)fluoranthene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Semivolatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Benzo(k)fluoranthene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzo(a)pyrene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Indeno(1,2,3-cd) pyrene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Dibenz(a,h) anthracene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Benzo(g,h,i)perylene	<3640			3640	ug/kg dry		05/21/19 1330	05/22/19 2248	SCB
Surrogate: 2-Fluorophenol		75.5	Limit: 25-121		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: 2-Fluorophenol		70.4	Limit: 25-121		% Rec		05/21/19 1330	05/22/19 2248	SCB
Surrogate: Phenol-d5		80.5	Limit: 24-113		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: Phenol-d5		79.2	Limit: 24-113		% Rec		05/21/19 1330	05/22/19 2248	SCB
Surrogate: Nitrobenzene-d5		77.0	Limit: 23-120		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: Nitrobenzene-d5		75.6	Limit: 23-120		% Rec		05/21/19 1330	05/22/19 2248	SCB
Surrogate: 2-Fluorobiphenyl		88.0	Limit: 30-115		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: 2-Fluorobiphenyl		78.6	Limit: 30-115		% Rec		05/21/19 1330	05/22/19 2248	SCB
Surrogate: 2,4,6-Tribromophenol		189	Limit: 19-122		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: 2,4,6-Tribromophenol		105	Limit: 19-122		% Rec		05/21/19 1330	05/22/19 2248	SCB
Surrogate: p-Terphenyl-d14		92.0	Limit: 18-137		% Rec	S3	05/21/19 1330	05/25/19 0040	SCB
Surrogate: p-Terphenyl-d14		99.6	Limit: 18-137		% Rec		05/21/19 1330	05/22/19 2248	SCB

Total Metals - AA	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 7471A									
Mercury	2.03			1.13	mg/kg dry		05/23/19 0725	05/24/19 1402	KEH

Total Metals - ICP	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 6010C									
Arsenic	<3.55			3.55	mg/kg dry		05/24/19 1125	05/29/19 2009	PDM
Cadmium	0.437			0.355	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Chromium	15.5			0.888	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Copper	216			3.55	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Lead	14.9			3.55	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Molybdenum	<10.7			10.7	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Nickel	10.2			7.11	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Potassium	3120			178	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Selenium	4.15			3.55	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM
Zinc	404			3.55	mg/kg dry		05/24/19 1125	05/28/19 1716	PDM

Volatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 8260C									
Benzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Bromobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Bromochloromethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Bromodichloromethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Bromoform	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Bromomethane	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
n-Butylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
sec-Butylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
tert-Butylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Carbon tetrachloride	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Chlorobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Chlorodibromomethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Chloroethane (Ethyl chloride)	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Chloroform	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Chloromethane	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
2-Chlorotoluene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
4-Chlorotoluene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2-Dibromo-3-chloropropane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2-Dibromoethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Dibromomethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,3-Dichlorobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2-Dichlorobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,4-Dichlorobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Dichlorodifluoromethane	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1-Dichloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2-Dichloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
cis-1,2-Dichloroethene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
trans-1,2-Dichloroethene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1-Dichloroethene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2-Dichloropropane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
2,2-Dichloropropane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,3-Dichloropropane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
trans-1,3-Dichloropropene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,3-Dichloropropene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1-Dichloropropene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
cis-1,3-Dichloropropene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Ethylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Hexachlorobutadiene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Isopropylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
p-Isopropyltoluene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Methylene chloride	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Methyl t-butyl ether (MTBE)	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Naphthalene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
n-Propylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Styrene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1,1,2-Tetrachloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1,2,2-Tetrachloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Client Sample ID:	Screw Press Sludge		
Sample Matrix:	Solid	**Collected By:**	DK-Client
Lab Sample ID:	S9E0327-01	**Collection Date:**	05/15/2019 9:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Tetrachloroethene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Toluene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2,3-Trichlorobenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1,1-Trichloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,1,2-Trichloroethane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Trichloroethene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Trichlorofluoromethane	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2,3-Trichloropropane	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,3,5-Trimethylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
1,2,4-Trimethylbenzene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Vinyl chloride	<13100			13100	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
o-Xylene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
m-,p-Xylene	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Xylenes	<6530			6530	ug/kg dry		05/23/19 1649	05/24/19 2002	JDS
Surrogate: 4-Bromofluorobenzene		99.0	Limit: 74-121		% Rec		05/23/19 1649	05/24/19 2002	JDS
Surrogate: Dibromofluoromethane		96.1	Limit: 80-120		% Rec		05/23/19 1649	05/24/19 2002	JDS
Surrogate: 1,2-Dichloroethane-d4		98.4	Limit: 80-120		% Rec		05/23/19 1649	05/24/19 2002	JDS
Surrogate: Toluene-d8		100	Limit: 81-117		% Rec		05/23/19 1649	05/24/19 2002	JDS

Analyses Subcontracted to: Test America - Nashville

351.2 Nitrogen, Total Kjeldahl	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: 351.2									
Kjeldahl Nitrogen as N	56000			2200	mg/Kg dry	Y2	05/21/19 1033	05/22/19 1835	DRR

365.4 Phosphorus, Total	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: 365.4									
Phosphorus, Total	16000			2200	mg/Kg dry	Y2	05/21/19 1033	05/22/19 2001	MSP

Results in bold have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S9E0327

Definitions

AC:	TS was in hold
D1:	Dilution was performed due to matrix interference.
D3:	Dilution was performed due to high target analyte concentration.
H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
Q3:	LCS recovery is below acceptance limits. The reported value is estimated.
RL:	Reporting Limit
S3:	Surrogate was diluted out.
Y1:	Accreditation is not offered by the accrediting body for this analyte.
Y2:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 14.5°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH	
10861	New York State Department of Health
Test America - Nashville	
NY Lab ID No:11342	New York State Department of Health
PA DEP ID: 68-00540	Pennsylvania Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz

Renee Lantz
Customer Relationship Specialist
Reported: 06/25/2019 12:09

3821 Buck Drive
Cortland NY 13045
Phone:(607)753-3403 Fax:(607)753-3415
NY #10795, EPA #NY00935

Microbac Laboratories, Inc.
CHAIN OF CUSTODY

Client Information		Billing/Invoice
Name:	Waverly WWTP	
Address:	424 Cayuta Ave	
	Waverly , NY 1489	
Contact:	Doug Kinsley	
Phone:		
Project:	Form 43	
Quote ID:		PO#:
Rush TAT Bus. Days:	<1 2-3 5-7 7-10	Date Req.:
Carbon Copy:	Yes	
Email Results:	Yes	
Fax Results:	Yes	

Analysis Requested: NYS 364

Receiving Info (Lab Use Only)

Ice:	YES	NO
Cooler:	YES	NO
Sample Temp:	1.9	
Cooler Seal:	YES	NO
Pickup:	YES	NO
Dropoff:	C	W
Accepted?	YES	NO

Container Material: 1000 G NP

Container Size(in ML):

Preservative:

Sample Information					Matrix Type	Number of Containers for Analysis Requested	Comments/Pl
	Description/Location	Date	Time	Initial			
1	Screw press Sludge	5/15/19	0930	DK	SO G	2	
2							
3							
4							
5							
6							
7							
8							

	Print Name and Company	Signature	Date/Time
Sampled:	Devon Sallome		5/15/19 11:45
Received:	Renee Lantz-MI		5/15/19 1145
Received:			
Received:			

Comments: TCLP Metal Analysis already completed

Microbac Laboratories (MNY) may be unable to perform a portion of the requested tests in which case we will subcontract the analysis to another accredited laboratory.
By signing this document you are attesting that you have been informed of MNY's subcontracting practices and are in agreement with this action.

S 9 E 0 3 2 7
Waverly WWTP

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26251580
Date Sampled: 10/22/19
Date Received: 10/30/2019
Date Mailed: 11/1/2019
Statement ID: P1
Kind: Manure, Liquid (090)
Description: P1

Dicksons Environmental Serv Inc
5226 Bonny Hill Road
Bath, NY 14810

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.086 %	1.7	7.1
Ammonium Nitrogen	.059 %	1.2	4.9
Organic Nitrogen	.027 %	.5	2.2
Phosphorus (P)	.006 %	.1	.5
Phosphate Equivalent (P205)	.013 %	.3	1.0
Potassium (K)	.132 %	2.6	10.9
Potash Equivalent (K20)	.159 %	3.2	13.2
Total Solids	.96 %		
Density	1.00 kg/l	62.18 Lbs/CuFt	8.31 Lbs/Gal

Printed copies also sent to:

These Recs are used for 2020 crop + spread recs for Spring 2020

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26251590
Date Sampled: 10/22/19
Date Received: 10/30/2019
Date Mailed: 11/1/2019
Statement ID: P2
Kind: Misc. - Liquid (076)
Description: P2

Dicksons Environmental Serv Inc
5226 Bonny Hill Road
Bath, NY 14810

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.259 %	5.2	21.0
Ammonium Nitrogen	.018 %	.4	1.5
Organic Nitrogen	.241 %	4.8	19.5
Phosphorus (P)	.077 %	1.5	6.3
Phosphate Equivalent (P205)	.177 %	3.5	14.3
Potassium (K)	.044 %	.9	3.6
Potash Equivalent (K20)	.053 %	1.1	4.3
Total Solids	5.35 %		
Density	.97 kg/l	60.70 Lbs/CuFt	8.11 Lbs/Gal

Printed copies also sent to:

These Recs are used for Spring Spread recommendations for 2020

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26251600
Date Sampled: 10/22/19
Date Received: 10/30/2019
Date Mailed: 11/1/2019
Statement ID: P3
Kind: Manure, Liquid (090)
Description: P3

Dicksons Environmental Serv Inc
5226 Bonny Hill Road
Bath, NY 14810

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.220 %	4.4	18.4
Ammonium Nitrogen	.054 %	1.1	4.6
Organic Nitrogen	.165 %	3.3	13.9
Phosphorus (P)	.182 %	3.6	15.2
Phosphate Equivalent (P205)	.416 %	8.3	34.9
Potassium (K)	.149 %	3.0	12.5
Potash Equivalent (K20)	.179 %	3.6	15.0
Total Solids	5.23 %		
Density	1.01 kg/l	62.80 Lbs/CuFt	8.39 Lbs/Gal

Printed copies also sent to:

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26251610
Date Sampled: 10/22/19
Date Received: 10/30/2019
Date Mailed: 11/1/2019
Statement ID: P4
Kind: Manure, Liquid (090)
Description: P4

Dicksons Environmental Serv Inc
5226 Bonny Hill Road
Bath, NY 14810

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.018 %	.4	1.5
Ammonium Nitrogen	.009 %	.2	.7
Organic Nitrogen	.009 %	.2	.7
Phosphorus (P)	.002 %	.0	.2
Phosphate Equivalent (P205)	.005 %	.1	.4
Potassium (K)	.053 %	1.1	4.4
Potash Equivalent (K20)	.064 %	1.3	5.3
Total Solids	.46 %		
Density	.98 kg/l	61.07 Lbs/CuFt	8.16 Lbs/Gal

Printed copies also sent to:

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26942080
Date Sampled: 08/10/20
Date Received: 8/13/2020
Date Mailed: 8/18/2020
Statement ID: MANURE P1
Kind: Cattle-Liquid <3 Mo (080)
Description: MANURE P1

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.105 %	2.09	8.66
Ammonium Nitrogen	.018 %	.36	1.47
Organic Nitrogen	.087 %	1.74	7.19
Phosphorus (P)	.008 %	.15	.63
Phosphate Equivalent (P205)	.017 %	.35	1.44
Potassium (K)	.098 %	1.96	8.10
Potash Equivalent (K20)	.118 %	2.36	9.75
Total Solids	.68 %		
Density	.99 kg/l	61.94 Lbs/CuFt	8.28 Lbs/Gal
pH	7.8		

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Agronomy Services

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Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26942100
Date Sampled: 08/10/20
Date Received: 8/13/2020
Date Mailed: 8/18/2020
Statement ID: MANURE P3
Kind: Cattle-Liquid <3 Mo (080)
Description: MANURE P3

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.241 %	4.83	20.09
Ammonium Nitrogen	.037 %	.74	3.08
Organic Nitrogen	.204 %	4.09	17.01
Phosphorus (P)	.178 %	3.55	14.80
Phosphate Equivalent (P205)	.407 %	8.14	33.91
Potassium (K)	.127 %	2.54	10.56
Potash Equivalent (K20)	.153 %	3.05	12.72
Total Solids	4.49 %		
Density	1.00 kg/l	62.31 Lbs/CuFt	8.33 Lbs/Gal
pH	7.6		

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Agronomy Services

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Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26942110
Date Sampled: 08/10/20
Date Received: 8/13/2020
Date Mailed: 8/18/2020
Statement ID: MANURE P4
Kind: Cattle-Liquid <3 Mo (080)
Description: MANURE P4

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.063 %	1.26	5.17
Ammonium Nitrogen	.013 %	.26	1.09
Organic Nitrogen	.050 %	.99	4.09
Phosphorus (P)	.003 %	.06	.24
Phosphate Equivalent (P205)	.007 %	.13	.55
Potassium (K)	.078 %	1.56	6.41
Potash Equivalent (K20)	.094 %	1.88	7.72
Total Solids	.52 %		
Density	.99 kg/l	61.57 Lbs/CuFt	8.23 Lbs/Gal
pH	7.9		

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 26942120
Date Sampled: 08/10/20
Date Received: 8/13/2020
Date Mailed: 8/18/2020
Statement ID: MAIN DAIRY LAGOON
Kind: Cattle-Liquid <3 Mo (080)
Description: MAIN DAIRY LAGOON

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.282 %	5.64	23.83
Ammonium Nitrogen	.122 %	2.44	10.30
Organic Nitrogen	.160 %	3.21	13.54
Phosphorus (P)	.056 %	1.12	4.75
Phosphate Equivalent (P205)	.129 %	2.58	10.88
Potassium (K)	.256 %	5.11	21.57
Potash Equivalent (K20)	.308 %	6.15	25.99
Total Solids	6.10 %		
Density	1.01 kg/l	63.17 Lbs/CuFt	8.44 Lbs/Gal
pH	7.7		

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Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S0J0266

Dickson Environmental Services, Inc.

Phil Dickson
5226 Bonny Hill Rd
Bath, NY 14810

Project Name: Group A Testing

Project / PO Number: N/A
Received: 10/06/2020
Reported: 10/31/2020

Analytical Testing Parameters

Client Sample ID: P1
Sample Matrix: Wastewater
Lab Sample ID: S0J0266-01

Collected By: Client
Collection Date: 10/05/2020 15:00

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 160.4								
Total Volatile Solids - TVS	7060		100	mg/L			10/12/20 1656	ADG
Method: EPA 350.1, Rv. 2 (1993)								
Ammonia as N	263		16.0	mg/L		10/12/20 0608	10/13/20 1248	TB
Method: EPA 351.2, Rv. 2 (1993)								
Total Kjeldahl Nitrogen (TKN) as N	722		40.0	mg/L		10/14/20 1116	10/15/20 1239	ADG
Method: EPA 365.4								
Phosphorus - Total as P	244		50.0	mg/L		10/14/20 1123	10/16/20 1646	ADG
Method: NA								
Temperature	17.8			°C	**H4**	10/15/20 1624	10/15/20 1721	APH
Method: SM 4500-H+ B-2011								
pH	8.4			S.U.	**H4, Y1**	10/15/20 1624	10/15/20 1721	APH

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CERTIFICATE OF ANALYSIS

S0J0266

Client Sample ID:	P2		
Sample Matrix:	Wastewater	**Collected By:**	Client
Lab Sample ID:	S0J0266-02	**Collection Date:**	10/05/2020 15:00

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 160.4								
Total Volatile Solids - TVS	47800		200	mg/L			10/12/20 1656	ADG
Method: EPA 350.1, Rv. 2 (1993)								
Ammonia as N	970		40.0	mg/L		10/12/20 0608	10/13/20 1250	TB
Method: EPA 351.2, Rv. 2 (1993)								
Total Kjeldahl Nitrogen (TKN) as N	2150		100	mg/L		10/14/20 1116	10/15/20 1241	ADG
Method: EPA 365.4								
Phosphorus - Total as P	1110		125	mg/L		10/14/20 1123	10/16/20 1646	ADG
Method: NA								
Temperature	17.6			°C	**H4**	10/15/20 1624	10/15/20 1721	APH
Method: SM 4500-H+ B-2011								
pH	5.0			S.U.	**H4, Y1**	10/15/20 1624	10/15/20 1721	APH

Client Sample ID:	P3		
Sample Matrix:	Wastewater	**Collected By:**	Client
Lab Sample ID:	S0J0266-03	**Collection Date:**	10/05/2020 15:00

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 160.4								
Total Volatile Solids - TVS	61900		1000	mg/L			10/12/20 1656	ADG
Method: EPA 350.1, Rv. 2 (1993)								
Ammonia as N	673		40.0	mg/L		10/12/20 0608	10/13/20 1251	TB
Method: EPA 351.2, Rv. 2 (1993)								
Total Kjeldahl Nitrogen (TKN) as N	2240		100	mg/L		10/14/20 1116	10/15/20 1242	ADG
Method: EPA 365.4								
Phosphorus - Total as P	12000		1250	mg/L		10/14/20 1123	10/16/20 1658	ADG
Method: NA								
Temperature	17.6			°C	**H4**	10/15/20 1624	10/15/20 1721	APH
Method: SM 4500-H+ B-2011								
pH	7.9			S.U.	**H4, Y1**	10/15/20 1624	10/15/20 1721	APH

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CERTIFICATE OF ANALYSIS

S0J0266

Client Sample ID:	P4		
Sample Matrix:	Wastewater	**Collected By:**	Client
Lab Sample ID:	S0J0266-04	**Collection Date:**	10/05/2020 15:00

Analyses Subcontracted to: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 160.4								
Total Volatile Solids - TVS	650		100	mg/L			10/12/20 1656	ADG
Method: EPA 350.1, Rv. 2 (1993)								
Ammonia as N	101		10.0	mg/L		10/12/20 0608	10/13/20 1253	TB
Method: EPA 351.2, Rv. 2 (1993)								
Total Kjeldahl Nitrogen (TKN) as N	122		10.0	mg/L		10/14/20 1116	10/15/20 1244	ADG
Method: EPA 365.4								
Phosphorus - Total as P	23.1		5.00	mg/L		10/14/20 1123	10/16/20 1647	ADG
Method: NA								
Temperature	17.8			°C	**H4**	10/15/20 1624	10/15/20 1721	APH
Method: SM 4500-H+ B-2011								
pH	8.5			S.U.	**H4, Y1**	10/15/20 1624	10/15/20 1721	APH

*Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.*

Definitions

°C:	Degrees Celsius
H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
MCL:	US EPA Maximum Contaminant Level
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
S.U.:	Standard Units
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH 10861	New York State Department of Health
Microbac Laboratories, Inc., Sayre Division NY Lab ID No.: 11216	New York State Department of Health

MICROBAC®

Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S0J0266

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Shannon Weeks

Shannon Weeks
Customer Relationship Coordinator
Reported: 10/31/2020 09:47

MICROBAC

3821 Buck Drive	2369 Elmira Street, Suite C	1620 North Main Avenue	4359 Linglestown Road
Cortland, NY 13045	Sayre, PA 18840	Scranton, PA 18508	Harrisburg, PA 17112
607.753.3403	570.888.0169	570.348.0775	717.651.9700

CHAIN OF CUSTODY RECORD

Number

Instructions on back

TO BE COMPLETED BY MICROBAC

Lab Report Address

Client Name: Dickson Census

Address: 5224 Bonny Hill Rd

City, State, Zip: Bath, NY 14801

Contact: Mary Rayeski

Telephone No.: 607-776-7997

Invoice Address

Client Name: Same as other

Address:

City, State, Zip:

Contact:

Telephone No.:

Turnaround Time

[ ] Routine (5 to 7 business days)
[ ] RUSH* (notify lab)

(needed by)

Report Type

[ ]Results Only [ ]Level 1 [ ]Level 2 [ ]Level3 [ ]Level 4 [ ]EDD

Temperature Upon Receipt (°C) 5.2
Therm ID 51

Holding Time

Samples Received on Ice? Yes No N/A

Custody Seals Intact? Yes No N/A

Send Report via: [ ] Mail [ ] Fax [X] e-mail (address) maryrayeski@gmail.com

Send Invoice via: [ ] Mail [ ] Fax [ ] e-mail (address)

Project:

Location:

PO No.:

Compliance Monitoring? [ ] Yes [ ] No
( ) Agency/Program

Sampled by (PRINT):

Sampler Signature:

Sampler Phone No.:

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	*	Additional Notes
	P1	10/5/20	3:00pm	1	WW	G	U	Group A	
	P2	10/5/20	3:00pm	1	WW	G	U	Group A	
	P3	10/5/20	3:00pm	1	WW	G	U	Group A	
	P4	10/5/20	3:00pm	1	WW	G	U	Group A	
							U		

* Total Solids
NH_3, NO_2, NO_3
PH, phos, TKN
TVS, cl/hard.

Dickson Environmental Services, Inc.
PM: Shannon Weeks

S0J0266

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive

Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

SAMPLES MUST BE RETURNED ON ICE

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Mary Rayeski			10/6/2020 1440
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	10/6/2020 1600		
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
			10/6/2020 1600

Page 5 of 5

rev.12/26/2017

Agro-One
Agronomy Services

730 Warren Rd. Ithaca, NY 14850
Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 27246600
Date Sampled: 11/06/20
Date Received: 11/16/2020
Date Mailed: 11/17/2020
Statement ID: P1
Kind: Manure, Liquid (090)
Description: P1

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.050 %	1.00	4.11
Ammonium Nitrogen	.028 %	.56	2.33
Organic Nitrogen	.022 %	.44	1.78
Phosphorus (P)	.009 %	.18	.74
Phosphate Equivalent (P205)	.021 %	.41	1.69
Potassium (K)	.086 %	1.72	7.10
Potash Equivalent (K20)	.104 %	2.07	8.56
Total Solids	.34 %		
Density	.99 kg/l	61.81 Lbs/CuFt	8.26 Lbs/Gal
pH	8.1		

Agro-One
Agronomy Services

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MANURE ANALYSIS REPORT

Sample Number: 27246610
Date Sampled: 11/06/20
Date Received: 11/16/2020
Date Mailed: 11/18/2020
Statement ID: P2
Kind: Manure, Liquid (090)
Description: P2

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.295 %	5.89	24.64
Ammonium Nitrogen	.042 %	.84	3.49
Organic Nitrogen	.253 %	5.05	21.15
Phosphorus (P)	.098 %	1.95	8.15
Phosphate Equivalent (P205)	.223 %	4.47	18.68
Potassium (K)	.031 %	.63	2.63
Potash Equivalent (K20)	.038 %	.76	3.17
Total Solids	5.35 %		
Density	1.00 kg/l	62.55 Lbs/CuFt	8.36 Lbs/Gal
pH	4.4		

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MANURE ANALYSIS REPORT

Sample Number: 27246620
Date Sampled: 11/06/20
Date Received: 11/16/2020
Date Mailed: 11/17/2020
Statement ID: P3
Kind: Manure, Liquid (090)
Description: P3

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.048 %	.95	3.92
Ammonium Nitrogen	.018 %	.36	1.49
Organic Nitrogen	.030 %	.59	2.43
Phosphorus (P)	.016 %	.32	1.32
Phosphate Equivalent (P205)	.037 %	.74	3.03
Potassium (K)	.098 %	1.97	8.07
Potash Equivalent (K20)	.118 %	2.37	9.72
Total Solids	1.21 %		
Density	.98 kg/l	61.44 Lbs/CuFt	8.21 Lbs/Gal
pH	8.0		

Agro-One
Agronomy Services

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Telephone: 800.344.2697 Fax: 607.257.1350

MANURE ANALYSIS REPORT

Sample Number: 27246630
Date Sampled: 11/06/20
Date Received: 11/16/2020
Date Mailed: 11/17/2020
Statement ID: P4
Kind: Manure, Liquid (090)
Description: P4

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.014 %	.29	1.20
Ammonium Nitrogen	.006 %	.12	.50
Organic Nitrogen	.008 %	.17	.70
Phosphorus (P)	.002 %	.04	.15
Phosphate Equivalent (P205)	.004 %	.08	.34
Potassium (K)	.066 %	1.31	5.49
Potash Equivalent (K20)	.079 %	1.58	6.62
Total Solids	.54 %		
Density	1.00 kg/l	62.55 Lbs/CuFt	8.36 Lbs/Gal
pH	8.2		

Agro-One
Agronomy Services

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MANURE ANALYSIS REPORT

Sample Number: 27246640
Date Sampled: 11/06/20
Date Received: 11/16/2020
Date Mailed: 11/18/2020
Statement ID: MAIN STORAGE DAIRY MANURE
Kind: Manure, Liquid (090)
Description: MAIN STORAGE DAIRY MANURE

Components	As Received	Lbs / Ton	Lbs / 1000 Gal
Nitrogen (N)	.445 %	8.90	36.41
Ammonium Nitrogen	.014 %	.28	1.15
Organic Nitrogen	.431 %	8.62	35.25
Phosphorus (P)	.091 %	1.82	7.44
Phosphate Equivalent (P205)	.208 %	4.17	17.04
Potassium (K)	.172 %	3.43	14.03
Potash Equivalent (K20)	.207 %	4.13	16.90
Total Solids	1.87 %		
Density	.98 kg/l	61.20 Lbs/CuFt	8.18 Lbs/Gal
pH	7.8		