BROOKSIDE LABORATORIES, INC.

** MANURE ANALYSIS REPORT **

Ringler Energy
2279 County Rd 156
Cardington, OH 43315

File Number: 58251
Date Received: 10/28/2015
Date Reported: 10/30/2015

Submitted By: Brookside Consultants of Ohio, Inc.

Lab Number	16102
Description	L4-Thurston 10/22-25 DEQ-2-4

	% Dry Basis	% Wet Basis	lbs/ 1000gal
Moisture		95.82	8001.77
Mineral Matter	37.56	1.57	131.11
Lost By Ign (Org M+)	62.44	2.61	217.96
Total Nitrogen	7.82	0.327	27.31
Ammonium-N (NH4-N)	4.62	0.193	16.12
Nitrate-N (NO3-N)		< 0.010	
Organic-N	3.20	0.134	11.19
Phosphorus (P)	3.18	0.133	11.11
Phos. as (P205)	7.30	0.305	25.47
Potassium (K)	1.41	0.059	4.93
Potassium as (K20)	1.70	0.071	5.93
Calcium (Ca)	3.09	0.129	10.77
Magnesium (Mg)	0.91	0.038	3.17
Sodium (Na)	2.03	0.085	7.10
Sulfur (S)	1.44	0.060	5.01

	ppm Dry Basis	ppm Wet Basis	lbs/ 1000gal
Boron (B)	44.98	1.88	0.016
Iron (Fe)	29665.07	1240.00	10.355
Manganese (Mn)	413.88	17.30	0.144
Copper (Cu)	401.91	16.80	0.140
Zinc (Zn)	811.00	33.90	0.283

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Lab Number	16101
Description	L4-Parsons 10-12-15 MOQ-9-1

		% Dry Basis	% Wet Basis	lbs/ 1000gal
Moisture			95.75	8000.72
Mineral Matter		37.65	1.60	133.69
Lost By Ign (Org M+)		62.35	2.65	221.43
Total Nitrogen		9.04	0.384	32.09
Ammonium-N	(NH4-N)	6.33	0.269	22.48
Nitrate-N	(NO3-N)		< 0.010	
Organic-N		2.71	0.115	9.61
Phosphorus	(P)	3.15	0.134	11.20
Phos. as	(P2O5)	7.22	0.307	25.65
Potassium	(K)	1.51	0.064	5.35
Potassium as	(K2O)	1.81	0.077	6.43
Calcium	(Ca)	3.01	0.128	10.70
Magnesium	(Mg)	0.87	0.037	3.09
Sodium	(Na)	2.16	0.092	7.69
Sulfur	(S)	1.44	0.061	5.10

		ppm Dry Basis	ppm Wet Basis	lbs/ 1000gal
Boron	(B)	45.88	1.95	0.016
Iron	(Fe)	28235.29	1200.00	10.027
Manganese	(Mn)	423.53	18.00	0.150
Copper	(Cu)	407.06	17.30	0.145
Zinc	(Zn)	804.71	34.20	0.286

Reviewed by:

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Lab Number	16100
Description	L4-Etgen Cole 10/14-19 MOQ-3-4

		% Dry Basis	% Wet Basis	lbs/ 1000gal
Moisture			97.10	8137.03
Mineral Matter		37.93	1.10	92.18
Lost By Ign (Org M+)		62.07	1.80	150.84
Total Nitrogen		9.24	0.268	22.46
Ammonium-N	(NH4-N)	5.69	0.165	13.83
Nitrate-N	(NO3-N)		< 0.010	
Organic-N		3.55	0.103	8.63
Phosphorus	(P)	2.93	0.085	7.12
Phos. as	(P205)	6.72	0.195	16.34
Potassium	(K)	2.03	0.059	4.94
Potassium as	(K20)	2.45	0.071	5.95
Calcium	(Ca)	2.93	0.085	7.12
Magnesium	(Mg)	0.72	0.021	1.76
Sodium	(Na)	2.62	0.076	6.37
Sulfur	(S)	1.41	0.041	3.44

		ppm Dry Basis	ppm Wet Basis	lbs/ 1000gal
Boron	(B)	54.48	1.58	0.013
Iron	(Fe)	27137.93	787.00	6.595
Manganese	(Mn)	403.45	11.70	0.098
Copper	(Cu)	437.93	12.70	0.106
Zinc	(Zn)	855.17	24.80	0.208

Reviewed by: Luke Bak