

Soil Monitoring Data December 2014

Point 14

Published: (CARGILL TO INSERT WEB PUBLICATION DATE)								
Licensee: Cargill Newcastle								
EPL no.: 5810								
EPA Point ID	Date of Sampling	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units of Measure	December 2014		
						Min Value	Mean Value	Max Value
14 – Surface	01/12/14	12/12/14	pH	Yearly	pH	5.8	6.6	8.5
			Available Phosphorus (Bray)*	Yearly	mg/kg	<1.0	2.6	6.0
			Available Phosphorus (Colwell)**	Yearly	mg/kg	27	59.2	119
			Phosphorus as P (total)	3-Yearly	mg/kg	201	422	783
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	552.7	1,110
			TKN	3-Yearly	mg/kg	86	2,347	4,130
			Nitrate as N	3-Yearly	mg/kg	6.8	15.8	45.5
			Nitrogen as N (total)	3-Yearly	mg/kg	870	2,363	4,140
			Nitrogen Oxides	3-Yearly	mg/kg	6.8	15.9	45.7
			Chloride	Yearly	mg/kg	30	212	380
			Conductivity	Yearly	µS/cm	122	424	814
			Exchangeable Calcium	Yearly	meq/100g	3.7	6.7	12.1
			Exchangeable Magnesium	Yearly	meq/100g	0.4	0.8	1.8
			Exchangeable Potassium	Yearly	meq/100g	<0.1	0.1	0.2
			Exchangeable Sodium	Yearly	meq/100g	0.1	0.1	0.3
			Cation Exchange Capacity	Yearly	meq/100g	4.6	7.7	12.6
Moisture Content	Yearly	%	5.0	10.8	18.0			
14 – Sub-surface	01/12/14	12/12/14	pH	Yearly	pH	7.1	8.0	8.5
			Available Phosphorus (Bray)*	Yearly	mg/kg	<1.0	1.9	3.7
			Available Phosphorus (Colwell)**	Yearly	mg/kg	14	28.3	52.0
			Phosphorus as P (total)	3-Yearly	mg/kg	147	196	265
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	350	745
			TKN	3-Yearly	mg/kg	370	812	1270
			Nitrate as N	3-Yearly	mg/kg	3.2	5.8	8.8
			Nitrogen as N (total)	3-Yearly	mg/kg	380	817	1280
			Nitrogen Oxides	3-Yearly	mg/kg	3.2	5.9	8.9

			Chloride	Yearly	mg/kg	20	122	150
			Conductivity	Yearly	µS/cm	134	235	441
			Exchangeable Calcium	Yearly	meq/100g	3.7	7.2	14
			Exchangeable Magnesium	Yearly	meq/100g	0.3	0.4	0.8
			Exchangeable Potassium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Exchangeable Sodium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Cation Exchange Capacity	Yearly	meq/100g	4.1	7.9	14.7
			Moisture Content	Yearly	%	5.1	6.7	7.6

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						Min Value	Mean Value	Max Value
15 – Surface	01/12/14	12/12/14	pH	Yearly	pH	8	8.1	8.3
			Available Phosphorus (Bray)*	Yearly	mg/kg	1.6	2.0	2.4
			Available Phosphorus (Colwell)**	Yearly	mg/kg	3	8.3	16
			Phosphorus as P (total)	3-Yearly	mg/kg	163	192.0	224
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	340	540.0	739
			TKN	3-Yearly	mg/kg	910	1,237	1,870
			Nitrate as N	3-Yearly	mg/kg	3.2	5.3	7.7
			Nitrogen as N (total)	3-Yearly	mg/kg	920	1,243	1,880
			Nitrogen Oxides	3-Yearly	mg/kg	3.3	5.4	7.9
			Chloride	Yearly	mg/kg	20	30.0	40
			Conductivity	Yearly	µS/cm	76	102	149
			Exchangeable Calcium	Yearly	meq/100g	4	6.7	11.7
			Exchangeable Magnesium	Yearly	meq/100g	0.2	0.5	0.9
			Exchangeable Potassium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Exchangeable Sodium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Cation Exchange Capacity	Yearly	meq/100g	4.6	7.4	12.8
Moisture Content	Yearly	%	3.2	8.2	17			
15 – Sub-surface	01/12/14	12/12/14	pH	Yearly	pH	8.6	8.7	8.8
			Available Phosphorus (Bray)*	Yearly	mg/kg	1	1.1	1.2
			Available Phosphorus (Colwell)**	Yearly	mg/kg	<2	4.0	8
			Phosphorus as P (total)	3-Yearly	mg/kg	69	91.7	108
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	301	402	543
			TKN	3-Yearly	mg/kg	240	307	400
			Nitrate as N	3-Yearly	mg/kg	1	1.6	2
			Nitrogen as N (total)	3-Yearly	mg/kg	240	307	400
			Nitrogen Oxides	3-Yearly	mg/kg	1	1.6	2
			Chloride	Yearly	mg/kg	10	20.0	30

			Conductivity	Yearly	μS/cm	66	73.3	78
			Exchangeable Calcium	Yearly	meq/100g	5.2	6.0	7.6
			Exchangeable Magnesium	Yearly	meq/100g	0.2	0.2	0.2
			Exchangeable Potassium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Exchangeable Sodium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Cation Exchange Capacity	Yearly	meq/100g	5.4	6.3	7.9
			Moisture Content	Yearly	%	2.7	4.6	6.5

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						Min Value	Mean Value	Max Value
16 – Surface	01/12/14	12/12/14	pH	Yearly	pH	7.4	7.8	8.1
			Available Phosphorus (Bray)*	Yearly	mg/kg	6.3	17.0	30.6
			Available Phosphorus (Colwell)**	Yearly	mg/kg	25	44.7	64
			Phosphorus as P (total)	3-Yearly	mg/kg	166	301	382
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	291	353
			TKN	3-Yearly	mg/kg	1,030	1,643	2,040
			Nitrate as N	3-Yearly	mg/kg	5	9.9	13.8
			Nitrogen as N (total)	3-Yearly	mg/kg	1,040	1,650	2,040
			Nitrogen Oxides	3-Yearly	mg/kg	5.3	10.1	14.1
			Chloride	Yearly	mg/kg	40	303	520
			Conductivity	Yearly	µS/cm	129	340	529
			Exchangeable Calcium	Yearly	meq/100g	5.7	8.7	12.9
			Exchangeable Magnesium	Yearly	meq/100g	0.5	0.8	1.1
			Exchangeable Potassium	Yearly	meq/100g	<0.1	0.1	0.1
			Exchangeable Sodium	Yearly	meq/100g	<0.1	0.1	0.2
			Cation Exchange Capacity	Yearly	meq/100g	6.8	9.8	14.4
Moisture Content	Yearly	%	5	12.2	17.1			
16 – Sub-surface	01/12/14	12/12/14	pH	Yearly	pH	8.5	8.7	9.0
			Available Phosphorus (Bray)*	Yearly	mg/kg	2.9	7.0	12.3
			Available Phosphorus (Colwell)**	Yearly	mg/kg	2.0	10.0	16.0
			Phosphorus as P (total)	3-Yearly	mg/kg	110	186	270
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	416	749
			TKN	3-Yearly	mg/kg	410	737	940
			Nitrate as N	3-Yearly	mg/kg	1.0	2.2	3.7
			Nitrogen as N (total)	3-Yearly	mg/kg	410	737	940
			Nitrogen Oxides	3-Yearly	mg/kg	1.0	2.2	3.7
			Chloride	Yearly	mg/kg	30.0	127	190

			Conductivity	Yearly	μS/cm	100	166	232
			Exchangeable Calcium	Yearly	meq/100g	5.8	8.9	13.2
			Exchangeable Magnesium	Yearly	meq/100g	0.2	0.4	0.6
			Exchangeable Potassium	Yearly	meq/100g	<0.1	<0.1	<0.1
			Exchangeable Sodium	Yearly	meq/100g	<0.1	0.1	0.1
			Cation Exchange Capacity	Yearly	meq/100g	6.2	9.5	14.1
			Moisture Content	Yearly	%	4.8	8.0	11.3

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						Min Value	Mean Value	Max Value
17 – Surface	01/12/14	12/12/14	pH	Yearly	pH	7.4	7.7	8
			Available Phosphorus (Bray)*	Yearly	mg/kg	6.9	27.7	49
			Available Phosphorus (Colwell)**	Yearly	mg/kg	36	59	81
			Phosphorus as P (total)	3-Yearly	mg/kg	386	500	555
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	582	831
			TKN	3-Yearly	mg/kg	2,850	3,357	3,890
			Nitrate as N	3-Yearly	mg/kg	0.7	16.6	44.5
			Nitrogen as N (total)	3-Yearly	mg/kg	2,870	3,373	3,890
			Nitrogen Oxides	3-Yearly	mg/kg	0.8	16.9	44.7
			Chloride	Yearly	mg/kg	200	232	300
			Conductivity	Yearly	µS/cm	162	288	386
			Exchangeable Calcium	Yearly	meq/100g	4.9	10.0	13.8
			Exchangeable Magnesium	Yearly	meq/100g	0.8	1.0	1.1
			Exchangeable Potassium	Yearly	meq/100g	0.1	0.2	0.2
			Exchangeable Sodium	Yearly	meq/100g	0.1	0.4	1
			Cation Exchange Capacity	Yearly	meq/100g	6.3	11.6	16
Moisture Content	Yearly	%	12.3	31.7	46.5			
17 – Sub-surface	01/12/14	12/12/14	pH	Yearly	pH	7.5	8.1	8.6
			Available Phosphorus (Bray)*	Yearly	mg/kg	1.6	16.5	30.7
			Available Phosphorus (Colwell)**	Yearly	mg/kg	6	42.0	86
			Phosphorus as P (total)	3-Yearly	mg/kg	165	218	272
			Phosphorus Sorption Capacity	3-Yearly	mg P sorbed/kg soil	<250	447	718
			TKN	3-Yearly	mg/kg	450	857	1210
			Nitrate as N	3-Yearly	mg/kg	1.5	2.7	4.3
			Nitrogen as N (total)	3-Yearly	mg/kg	450	857	1210
			Nitrogen Oxides	3-Yearly	mg/kg	1.5	2.7	4.3
			Chloride	Yearly	mg/kg	20	85.0	150

			Conductivity	Yearly	μS/cm	118	547	2,070
			Exchangeable Calcium	Yearly	meq/100g	<0.1	8.0	9.7
			Exchangeable Magnesium	Yearly	meq/100g	<0.1	0.3	0.4
			Exchangeable Potassium	Yearly	meq/100g	<0.1	0.1	0.1
			Exchangeable Sodium	Yearly	meq/100g	0.1	0.2	0.6
			Cation Exchange Capacity	Yearly	meq/100g	6	8.5	10.3
			Moisture Content	Yearly	%	6.1	15.7	23.5