

GEELONG LEATHER PTY LTD - CULCAIRN

SOIL ANALYSIS 2016/2017

EPA ID LOCATION: 1, 2, 3, 4

EPA LICENSE NUMBER: 3465



Leather Naturally

*Not Tested (NT) No Sample (NS)

ANALYSIS	IRRIGATION SECTOR 1				IRRIGATION SECTOR 2				IRRIGATION SECTOR 3				IRRIGATION SECTOR 4			
	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE
pH - pH units	8.31	8.55	8.45	8.44	6.78	8.19	7.99	7.65	8.1	8.65	7.84	8.20	8.11	8.62	8.37	8.37
Electrical Conductivity µS/cm	170	200	130	166.67	50	120	50	73.33	140	110	140	130.00	160	140	50	116.67
TKN-N - mg/kg	1170	2171	492	1277.67	1191	1092	496	926.33	1077	692	392	720.33	1265	878	491	878.00
Available Phosphorus (Colwell P) - mg/kg	49	90	3	47.33	48	16	16	26.67	51	15	3	23.00	74	33	3	36.67
Emerson Aggregate Class - Class	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Permability - mm/hr	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Exchangeable Calcium - mg/kg	2480	2500	1264	2081.33	670	2180	1310	1386.67	1924	1872	2100	1965.33	1664	1994	1080	1579.33
Exchangeable Magnesium - mg/kg	282	517	612	470.33	59.3	128	439	208.77	139	190	1281	536.67	187	181	421	263.00
Exchangeable Potassium - mg/kg	255	143	150	182.67	131	96.7	30	113.85	140	62.8	30	77.60	163	99.5	30	97.50
Exchangeable Sodium - mg/kg	13.3	27	91.9	44.07	1.5	6.91	15.1	7.84	6.63	15.2	135	52.28	5.46	7.75	40.1	17.77
Available Nitrate - mg/kg	28.8	27.8	5.7	20.77	8.8	7.3	1.1	5.73	23.4	8.2	4.9	12.17	35	21.1	5.7	20.60
Total Nitrogen - %	0.12	0.22	0.05	0.13	0.12	0.11	0.05	0.09	0.11	0.07	0.04	0.07	0.13	0.09	0.05	0.09
Cadnium - mg/kg	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00
Organic Carbon - %	0.69	1.02	0.23	0.65	0.82	0.54	0.31	0.56	0.82	0.31	0.2	0.44	0.91	0.41	0.2	0.51
Total Phosphorus - mg/kg	250	481	143	291.33	269	163	154	195.33	238	130	74.5	147.50	290	180	119	196.33
Chromium - mg/kg	93	313	27	144.33	15	36	29	26.67	20	31	26	25.67	41	57	22	40.00
Chromium VI- mg/kg	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50
Total Sulfur (LECO) - %	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Available Phosphorus (Bray P) - mg/kg	59.7	45.7	33.1	46.17	70.2	47.5	35.4	51.03	70.1	47	30.2	49.10	86.6	57	35.3	59.63
Exchangeable Aluminium - mg/kg	2.7	2.7	2.7	2.70	2.7	2.7	2.7	2.70	2.7	2.7	2.7	2.70	2.7	2.7	2.7	2.70
SAR - SAR Units	0.1	0.1	0.5	0.23	0	0	0.1	0.03	0	0.1	0.3	0.13	0	0	0.2	0.07
Chloride - mg/kg	43.9	43.8	84.1	57.27	42.5	49.5	127	73.00	39.6	38.2	160	79.27	44.6	48.6	118	70.40
CEC - cmol/kg	15.4	17.2	11.9	14.83	4.17	12.2	10.2	8.86	11.1	11.1	21.3	14.50	10.3	11.7	8.91	10.30
ESP - %of ECEC	0.1	0.3	1.4	0.60	0	0.1	0	0.03	0.1	0.3	1.4	0.60	0.1	0.1	0.7	0.30

GEELONG LEATHER PTY LTD - CULCAIRN

SOIL ANALYSIS 2016/2017

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ANALYSIS	IRRIGATION SECTOR 5				IRRIGATION SECTOR 6				IRRIGATION SECTOR 7				IRRIGATION SECTOR 8			
	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE
pH - pH units	6.83	7.11	6.88	6.94	5.45	5.69	6.38	5.84	6.84	7.3	7.24	7.13	6.75	6.01	6.3	6.35
Electrical Conductivity µS/cm	70	30	130	76.67	510	410	560	493.33	570	390	520	493.33	630	290	420	446.67
TKN-N - mg/kg	979	290	397	555.33	3014	666	535	1405.00	1479	699	1079	1085.67	1230	550	459	746.33
Available Phosphorus (Colwell P) - mg/kg	70	3	3	25.33	94	7	3	34.67	56	18	26	33.33	34	3	3	13.33
Emerson Aggregate Class - Class	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Permeability - mm/hr	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Exchangeable Calcium - mg/kg	696	174	1234	701.33	1322	1370	1900	1530.67	1482	2680	1730	1964.00	1020	580	946	848.67
Exchangeable Magnesium - mg/kg	40.9	19.2	648	236.03	206	215	536	319.00	143	232	179	184.67	58.2	137	261	152.07
Exchangeable Potassium - mg/kg	90.1	30	137	85.70	151	30	230	137.00	229	131	213	191.00	138	131	226	165.00
Exchangeable Sodium - mg/kg	7.42	4.38	48.7	20.17	476	555	695	575.33	325	393	315	344.33	267	227	400	298.00
Available Nitrate - mg/kg	21.3	9.6	3	11.30	82.8	28.5	63.2	58.17	222.3	98.7	223.5	181.50	166.1	50.5	41.4	86.00
Total Nitrogen - %	0.1	0.03	0.04	0.06	0.31	0.07	0.06	0.15	0.17	0.08	0.13	0.13	0.14	0.06	0.05	0.08
Cadmium - mg/kg	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00
Organic Carbon - %	0.95	0.14	0.19	0.43	2.89	0.58	0.31	1.26	1.61	0.64	1.18	1.14	1.31	0.38	0.22	0.64
Total Phosphorus - mg/kg	309	86.2	111	168.73	378	104	78	186.67	313	147	207	222.33	236	125	139	166.67
Chromium - mg/kg	10	8	25	14.33	73	26	22	40.33	42	25	26	31.00	36	17	22	25.00
Chromium VI- mg/kg	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50
Total Sulfur (LECO) - %	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Available Phosphorus (Bray P) - mg/kg	87.5	36.6	29.8	51.30	64.8	33.3	32.6	43.57	73.5	38	46	52.50	60.4	34.4	30.7	41.83
Exchangeable Aluminium - mg/kg	2.7	2.7	2.7	2.70	3.5	2.7	2.7	2.97	2.7	2.7	2.7	2.70	3.5	2.7	2.7	2.97
SAR - SAR Units	0.1	0.2	0.4	0.23	4.4	2.6	6.1	4.37	2	2	2.2	2.07	1.6	3.4	5	3.33
Chloride - mg/kg	42	38	33.6	37.87	109	246	102	152.33	81.9	113	71.3	88.73	87.5	39.7	62.9	63.37
CEC - cmol/kg	4.05	1.07	11.9	5.67	9.19	9.38	15.6	11.39	9.41	16.1	10.9	12.14	6.01	4.5	7.88	6.13
ESP - %of ECEC	0.2	0	0.6	0.27	5	8.2	7.1	6.77	2.5	2.9	1.8	2.40	1.3	3.2	5.4	3.30

GEELONG LEATHER PTY LTD - CULCAIRN

SOIL ANALYSIS 2016/2017

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ANALYSIS	IRRIGATION SECTOR 9				IRRIGATION SECTOR 10				IRRIGATION SECTOR 11				IRRIGATION SECTOR 12			
	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE
pH - pH units	5.74	5.33	5.62	5.56	5.72	5.81	6.01	5.85	5.91	6.3	6.09	6.10	6.42	7.47	7.74	7.21
Electrical Conductivity μ S/cm	80	150	270	166.67	70	70	120	86.67	80	110	310	166.67	90	240	260	196.67
TKN-N - mg/kg	1184	592	496	757.33	1084	592	593	756.33	586	489	958	677.67	482	575	377	478.00
Available Phosphorus (Colwell P) - mg/kg	19	3	3	8.33	34	5	16	18.33	18	3	42	21.00	19	4	3	8.67
Emerson Aggregate Class - Class	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Permeability - mm/hr	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Exchangeable Calcium - mg/kg	586	840	1208	878.00	528	628	1100	752.00	346	402	934	560.67	326	1262	1540	1042.67
Exchangeable Magnesium - mg/kg	122	289	661	357.33	66.1	162	364	197.37	83.4	104	346	177.80	54.5	135	349	179.50
Exchangeable Potassium - mg/kg	46.4	30	131	69.13	149	109	197	151.67	63.2	30	199	97.40	90.5	62	30	60.83
Exchangeable Sodium - mg/kg	103	236	469	269.33	48.2	49.8	104	67.33	55.4	155	481	230.47	73.3	166	540	259.77
Available Nitrate - mg/kg	14.6	5.8	4.3	8.23	15.7	6.8	7.3	9.93	13.7	8.8	41.5	21.33	18.2	22.8	9.7	16.90
Total Nitrogen - %	0.12	0.06	0.05	0.08	0.11	0.06	0.06	0.08	0.06	0.05	0.1	0.07	0.05	0.06	0.04	0.05
Cadmium - mg/kg	1	1	1	1.00	1	1	1	1.00	1	1	1	0.30	1	1	1	1.00
Organic Carbon - %	1.13	0.41	0.25	0.60	1.06	0.37	0.29	0.57	0.71	0.39	0.29	0.46	0.69	0.42	0.27	0.46
Total Phosphorus - mg/kg	221	110	86.1	139.03	264	110	108	160.67	173	93	78.2	114.73	159	89	56	101.33
Chromium - mg/kg	30	24	24	26.00	28	20	24	24.00	20	18	19	19.00	23	17	24	21.33
Chromium VI- mg/kg	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50
Total Sulfur (LECO) - %	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Available Phosphorus (Bray P) - mg/kg	41.4	32.5	33.8	35.90	45.3	35.5	31.9	37.57	52.8	35	30.4	39.40	47.2	37.4	32.7	39.10
Exchangeable Aluminium - mg/kg	3.5	28.8	2.7	11.67	2.7	2.7	2.7	2.70	2.7	2.7	2.7	49.10	2.7	2.7	2.7	2.70
SAR - SAR Units	1.3	0.6	7.6	3.17	0.9	0.6	1.4	0.97	1	1.1	9.5	3.87	1.7	1.1	1	1.27
Chloride - mg/kg	66.4	93.3	41	66.90	49.1	56	37.8	47.63	45	97	49.1	63.70	46.4	85.2	90.3	73.97
CEC - cmol/kg	4.27	7.46	12.9	8.21	3.67	4.85	9.2	5.91	2.66	3.14	8.94	4.91	2.41	7.72	11.5	7.21
ESP - %of ECEC	4.1	6.8	8.4	6.43	2	1.4	1.9	1.77	2	7.8	10.2	6.67	3.1	1.8	7.9	4.27

GEELONG LEATHER PTY LTD - CULCAIRN

SOIL ANALYSIS 2016/2017

EPA ID LOCATION: NA

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Leather Naturally

*Not Tested (NT) No Sample (NS)

ANALYSIS	SLUDGE INJECTION AREA 1				SLUDGE INJECTION AREA 1B				SLUDGE INJECTION AREA 2				SLUDGE INJECTION AREA 3			
	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE
pH - pH units	5.22	5.4	6.28	5.63	8.64	8.79	8.43	8.62	5.23	5.4	6.63	5.75	4.56	4.59	5.9	5.02
Electrical Conductivity µS/cm	60	50	210	106.67	140	230	130	166.67	300	230	230	253.33	150	100	210	153.33
TKN-N - mg/kg	982	893	393	756.00	583	1459	379	807.00	1353	477	389	739.67	1278	493	383	718.00
Available Phosphorus (Colwell P) - mg/kg	15	3	3	7.00	22	84	3	36.33	19	3	3	8.33	41	5	3	16.33
Emerson Aggregate Class - Class	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Permeability - mm/hr	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Exchangeable Calcium - mg/kg	434	442	1070	648.67	1864	2520	1822	2068.67	904	1546	1190	1213.33	306	378	1320	668.00
Exchangeable Magnesium - mg/kg	72.7	117	277	155.57	128	418	893	479.67	157	365	321	281.00	46.5	92.1	525	221.20
Exchangeable Potassium - mg/kg	109	76.4	126	103.80	191	179	30	133.33	120	125	58.1	101.03	74.1	58.9	252	128.33
Exchangeable Sodium - mg/kg	19.6	51.6	249	106.73	14.8	42.9	129	62.23	280	296	298	291.33	78.1	57.8	235	123.63
Available Nitrate - mg/kg	16.3	5.1	5.5	8.97	17.2	39.6	17.4	24.73	45.2	20.9	8.4	24.83	20.1	6.5	16.5	14.37
Total Nitrogen - %	0.1	0.09	0.04	0.08	0.06	0.15	0.04	0.08	0.14	0.05	0.04	0.08	0.13	0.05	0.04	0.07
Cadmium - mg/kg	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00	1	1	1	1.00
Organic Carbon - %	1.07	0.35	0.35	0.59	0.43	0.77	0.21	0.47	1.33	0.36	0.21	0.63	1.3	0.45	0.35	0.70
Total Phosphorus - mg/kg	159	93.4	120	124.13	171	370	96	212.33	223	87.4	98.4	136.27	236	108	90.2	144.73
Chromium - mg/kg	69	19	24	37.33	83	115	29	75.67	38	24	20	27.33	41	22	32	31.67
Chromium VI- mg/kg	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50
Total Sulfur (LECO) - %	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Available Phosphorus (Bray P) - mg/kg	40.2	33.7	30.6	34.83	50.6	42.7	32.4	41.90	45.3	31.7	34.5	37.17	57.9	37.2	30.5	41.87
Exchangeable Aluminium - mg/kg	2.7	2.7	2.7	2.70	2.7	2.7	2.7	2.70	2.7	2.7	2.7	2.70	17.2	10.1	2.7	10.00
SAR - SAR Units	0.7	0.8	4.8	2.10	0.1	0.3	0.4	0.27	3.1	2.6	1.5	2.40	2	1.3	4	2.43
Chloride - mg/kg	49.2	56.1	42.4	49.23	41.3	46	195	94.10	256	80.1	112	149.37	58.1	57.5	52.3	55.97
CEC - cmol/kg	3.1	3.48	8.32	4.97	10.9	16.6	16.7	14.73	6.47	11.6	9.24	9.10	2.34	2.97	11.9	5.74
ESP - %of ECEC	0.7	2.4	4.6	2.57	0.2	0.4	1.6	0.73	5	4.9	5.5	5.13	2.1	1.9	3.2	2.40

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Leather Naturally

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ANALYSIS	SLUDGE INJECTION AREA 4				SLUDGE INJECTION AREA 5			
	0-10 cm	10-30 cm	30-60 cm	AVE	0-10 cm	10-30 cm	30-60 cm	AVE
pH - pH units	5.15	4.43	4.49	4.69	5.83	5.2	5.93	5.65
Electrical Conductivity µS/cm	1010	860	780	883.33	240	190	310	246.67
TKN-N - mg/kg	4115	390	570	1691.67	1938	585	385	969.33
Available Phosphorus (Colwell P) - mg/kg	104	4	3	37.00	72	10	3	28.33
Emerson Aggregate Class - Class	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Permeability - mm/hr	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Exchangeable Calcium - mg/kg	1040	592	1806	1146.00	1036	972	1726	1244.67
Exchangeable Magnesium - mg/kg	131	17.3	288	145.43	201	239	371	270.33
Exchangeable Potassium - mg/kg	129	56.6	232	139.20	79.6	91.7	161	110.77
Exchangeable Sodium - mg/kg	849	120	375	448.00	203	302	559	354.67
Available Nitrate - mg/kg	84.9	8.6	30.5	41.33	60.2	14.1	12.6	28.97
Total Nitrogen - %	0.42	0.04	0.06	0.17	0.2	0.06	0.04	0.10
Cadmium - mg/kg	1	1	1	1.00	1	1	1	1.00
Organic Carbon - %	3.13	0.44	0.33	1.30	1.6	0.79	0.37	0.92
Total Phosphorus - mg/kg	434	90.9	93.9	206.27	307	124	84.7	171.90
Chromium - mg/kg	167	17	25	69.67	103	21	25	49.67
Chromium VI- mg/kg	0.5	0.5	0.5	0.50	0.5	0.5	0.5	0.50
Total Sulfur (LECO) - %	NT	NT	NT	#DIV/0!	NT	NT	NT	#DIV/0!
Available Phosphorus (Bray P) - mg/kg	93.3	36.9	31.2	53.80	66.5	37.5	32	45.33
Exchangeable Aluminium - mg/kg	5.8	2.7	4.4	4.30	2.7	5.7	2.7	3.70
SAR - SAR Units	5	0.5	1.8	2.43	2.1	2.5	4.3	2.97
Chloride - mg/kg	255	91.4	51	132.47	60	73.2	86.2	73.13
CEC - cmol/kg	7.38	3.32	12.3	7.67	7.28	7.76	13.3	9.45
ESP - %of ECEC	9.7	1.2	1.9	4.27	3.4	8.2	9.5	7.03