

Table 1 provides a summary of the EPA monitoring points for the Rangers Valley Feedlot. This table has been reproduced from Section 2 of Environmental Protection Licence No. 3864. Click on the EPA number to view the monitoring results collected (if available).

**Table 1: Summary of EPA Monitoring Points**

EPA No.	Type of monitoring point	Type of discharge point	Description of location
EPA Monitoring Point 2	Surface water quality monitoring		Surface water monitoring point (S2) at Cam Creek causeway on Deepwater Road at "Nant Park" labelled as EPA Point 2 on map titled Environmental Monitoring Points - Location of Surface Water Monitoring points dated 1 <sup>st</sup> May 2007. See Fig 1 - 250832A1/10.
EPA Monitoring Point 3	Surface water quality monitoring		Surface water monitoring point (S3) at grassed waterway in Old 2 paddock labelled as EPA Point 3 on map titled Environmental Monitoring Points - Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.
EPA Monitoring Point 4	Surface water quality monitoring		Surface water monitoring point (S4) at Cam Creek bridge on Rangers Valley Road labelled as EPA Point 4 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.
EPA Monitoring Point 5	Surface water quality monitoring		Surface water monitoring point (S5) at Severn River Bridge on the Yarraford Road labelled as EPA Point 5 on map titled Environmental Monitoring Points - Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.
EPA Monitoring Point 6	Surface water quality monitoring		Surface water monitoring point (S6) at Severn River Bridge on the Emmaville Road labelled as EPA Point 6 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

<b>EPA No.</b>	<b>Type of monitoring point</b>	<b>Type of discharge point</b>	<b>Description of location</b>
EPA Monitoring Point 7	Surface water quality monitoring		Surface water monitoring point (S7) at Beardy Waters causeway on the Haul Rd (2 <sup>nd</sup> causeway) - upstream of confluence with Severn River, labelled as EPA Point 7 on map titled Env MP -Location of Surface Water MP dated 1st May 2007. (Fig 1).
EPA Monitoring Point 8	Surface water quality monitoring		Surface water monitoring point (S8) at Severn River causeway on the Haul Road (first causeway) labelled as EPA Point 8 on map titled Environmental Monitoring Points - Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.
10	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal pond and spillway servicing Pivot 3A and 3B including pump labelled as EPA Point 10 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2 250832A1/10.
EPA Monitoring Point 11	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Final effluent holding pond (on eastern side of the feedlot, known as E2) including spillway and irrigation pumps labelled as EPA Point 11 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2. 250832A1/10.
13	Wet weather discharge. Discharge quality monitoring.	Wet weather discharge. Discharge quality monitoring	Spillway for effluent holding pond known as W2 (on western side of feedlot) labelled as EPA Point 13 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2 250832A1/10.
14	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal pond and spillway servicing Pivot 1 and located in the paddock Bottom Swamp including pump labelled as EPA Point 14 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. see Fig 2 250832A1/10.

<b>EPA No.</b>	<b>Type of monitoring point</b>	<b>Type of discharge point</b>	<b>Description of location</b>
EPA Monitoring Point 20	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent holding pond (on western side of feedlot, known as W4) including spillway and irrigation pump labelled as EPA Point 20 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. see Fig 2 250832A1/10.
22	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal pond and spillway servicing Rye East and Rye West known as W5 including pump labelled as EPA Point 22 on map titled Env MPs-Location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2 250832A1/10.
EPA Monitoring Point 24	Manure quality monitoring. Mass monitoring.		Manure stockpile and composting area containing screened and unscreened manure and labelled as EPA Point 24 on map titled Env MPs-Location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2 250832A1/10.
EPA Monitoring Point 26	Discharge quality monitoring.		Dam located in the bottom corner of "Washpool Road" (13) paddock labelled as EPA Point 26 on map titled Env MPs-Location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2 250832A1/10.
EPA Monitoring Point 27	Soil quality monitoring. Mass monitoring.		Effluent utilisation area known as Pivot 1 labelled as EPA Point 27 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.
EPA Monitoring Point 28	Soil quality monitoring. Mass monitoring.		Effluent utilisation area known as Pivot 3A labelled as EPA Point 28 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.
EPA Monitoring Point 29	Soil quality monitoring. Mass monitoring.		Effluent utilisation area known as Pivot 3B labelled as EPA Point 29 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.
EPA Monitoring Point 30	Soil quality monitoring. Mass monitoring.		Effluent utilisation area known as Rye East labelled as EPA Point 30 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

<b>EPA No.</b>	<b>Type of monitoring point</b>	<b>Type of discharge point</b>	<b>Description of location</b>
EPA Monitoring Point 31	Soil quality monitoring. Mass monitoring.		Effluent utilisation area known as Rye West labelled as EPA Point 31 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.
EPA Monitoring Point 34	Groundwater quality monitoring.		Groundwater monitoring bore (34 located in corner paddock) labelled as EPA Point 34 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 35	Groundwater quality monitoring.		Groundwater monitoring bore (35 located in the laneway north of Rye East paddock) labelled as EPA Point 35 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 36	Groundwater quality monitoring.		Groundwater monitoring bore (36 located between ponds W3 and W4) labelled as EPA Point 36 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 38	Groundwater quality monitoring.		Groundwater monitoring bore (38 located on eastern point of effluent pond E2) labelled as EPA Point 38 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 40	Groundwater quality monitoring.		Groundwater monitoring bore (40 located on adjoining fence line between Pivot 3A/3B) on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 41	Groundwater quality monitoring.		Groundwater monitoring bore (41 below EPA point 14 in paddock Bottom Swamp) labelled as EPA Point 41 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 42	Groundwater quality monitoring.		Groundwater monitoring bore (42 located in laneway between Pivot 1 and effluent pond E2) labelled as EPA Point 42 on map titled Env MP-Location of piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3

EPA No.	Type of monitoring point	Type of discharge point	Description of location
EPA Monitoring Point 43	Soil quality monitoring. Mass monitoring		Utilisation area identified as the 'solid utilisation areas as identified on drawing No 19045-05 as quoted in the consent conditions' on map titled "Map 1 - Rangers Valley Cattle Station" submitted with a letter to the EPA on 25 October 2006.
EPA Monitoring Point 44	Groundwater quality monitoring.		Groundwater monitoring bore (44 located in the north eastern grassed area of the paddock known as Old 2) labelled as EPA point 44 on map titled Env MP-Location of Peizometer MP dated 1 <sup>st</sup> May 2007. see Fig 3. 250832A1/10.
EPA Monitoring Point 45	Groundwater quality monitoring.		Groundwater monitoring bore (45 located on eastern boundary of the paddock known as "Donnellys Elect" labelled as EPA point 45 on map Titled Env MP location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 46	Groundwater quality monitoring.		Groundwater monitoring bore (46 located in paddock known as "Oaks Road") labelled as EPA point 46 on map Titled Env MP-location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 47	Groundwater quality monitoring.		Groundwater monitoring bore (47 located in paddock known as Horse" labelled as EPA point 47 on map Titled Env MP-location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
48	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal Pond One and spillway servicing Pivot 2c located in the paddock known as Spillway including pump labelled as EPA Point 48 on map Titled Environmental Monitoring Points-location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2

EPA No.	Type of monitoring point	Type of discharge point	Description of location
49	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal Pond Two and spillway servicing Pivot 2B and located in paddock known as Pivot 2B including pump labelled as EPA Point 49 on map Titled Env MP-location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2
50	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Effluent quality and volume monitoring. Wet weather discharge. Discharge quality monitoring. Discharge to utilisation area.	Terminal Pond 3 and spillway servicing Pivot 2B and 2C located in the paddock known as "wally's" including pump labelled as EPA Point 50 on map Titled Env MP-location of Effluent MP dated 1 <sup>st</sup> May 2007. Fig 2
EPA Monitoring Point 51	Soil quality monitoring. Mass monitoring		Effluent utilisation area known as Pivot 2B labelled as EPA Pont 51 on map titled "Rangers Valley Cattle Station" Site Plan date 30.07.03
EPA Monitoring Point 52	Soil quality monitoring. Mass monitoring		Effluent utilisation known as Pivot 2C labelled as EPA Point 52 on map titled "Rangers Valley Cattle Station Site Plan date 30.07.03
EPA Monitoring Point 53	Groundwater quality monitoring.		Groundwater monitoring bore (53 located west of Terminal Pond 1 in the paddock known as spillway) labelled as EPA point 53 on map Titled Env MP-location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 54	Groundwater quality monitoring.		Groundwater monitoring bore (54 located north of Terminal Pond Two in the paddock known as Pivot 2b) labelled as EPA point 54 on map Titled Env MP location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3
EPA Monitoring Point 55	Groundwater quality monitoring.		Groundwater monitoring bore (55 located south of Terminal Pond Three in the paddock known as Wallys) labelled as EPA point 55 on map Titled Env MP-location of Piezometer MP dated 1 <sup>st</sup> May 2007. see Fig 3

EPA No.	Type of monitoring point	Type of discharge point	Description of location
EPA Monitoring Point 56	Groundwater quality monitoring.		Groundwater monitoring bore (56 located south of the northern holding pond N1 in the paddock known as Irrigation 1) labelled as EPA point 56 on map titled Env MP dated 1 <sup>st</sup> May 2007. see Fig 3. 250832A1/10
EPA Monitoring Point 57	Effluent Quality and Volume monitoring. Discharge to utilisation area.		Effluent holding pond (known as N1) irrigation pump labelled as EPA point 57 on map titled Env MP- Location of Effluent MP dated 1 <sup>st</sup> May 2007. see Fig 2. 250832A1/10.

## EPA MONITORING POINT 2

Surface water monitoring point (S2) at Cam Creek causeway on Deepwater Road at "Nant Park" labelled as EPA Point 2 on map titled Environmental Monitoring Points - Location of Surface Water Monitoring points dated 1<sup>st</sup> May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 2)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L		22	79	49	
Nitrate	mg/L		<1	2	<1.0	
Total Kjeldahl Nitrogen	mg/L		2	<1	6	
pH	-		7.29	8.00	7.77	
Conductivity	µS/cm		322	657	631	
SAR	-		<1	2	2	
Phosphorus (Reactive)	mg/L	<b>DRY</b>	<0.1	<0.1	<0.1	<b>DRY</b>
Nitrogen (Total)	mg/L		2	1	6	
Suspended Solids	mg/L		12	<10	14	
Calcium	mg/L		31	36	40	
Potassium	mg/L		1	6	3	
Magnesium	mg/L		20	26	30	
Sodium	mg/L		32	78	60	
Phosphorus (Total)	mg/L		<1	<1	<1	
Nitrogen (Ammonia)	mg/L		0.1	<1	<0.1	

# Collected during pond overflow event.



## EPA MONITORING POINT 3

Surface water monitoring point (S3) at grassed waterway in Old 2 paddock labelled as EPA Point 3 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 3)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	43	28	33	43	
Nitrate	mg/L	<1.0	<1.0	3	<1.0	
Total Kjeldahl Nitrogen	mg/L	27	46	8	20	
pH	-	7.05	6.97	7.52	7.38	
Conductivity	µS/cm	352	255	359	632	
SAR	-	<1	<1	<1	<1	
Phosphorus (Reactive)	mg/L	13	0.2	<0.1	<0.1	<b>DRY</b>
Nitrogen (Total)	mg/L	27	46	9	20	
Suspended Solids	mg/L	340	520	13	1120	
Calcium	mg/L	9	13	17	20	
Potassium	mg/L	99	84	84	100	
Magnesium	mg/L	6	9	10	16	
Sodium	mg/L	9	9	8	15	
Phosphorus (Total)	mg/L	8	9	1	2	
Nitrogen (Ammonia)	mg/L	6.1	0.1	<1	33	

# Collected during pond overflow event.

## EPA MONITORING POINT 4

Surface water monitoring point (S4) at Cam Creek bridge on Rangers Valley Road labelled as EPA Point 4 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 4)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	130	48	140	80	130
Nitrate	mg/L	<1.0	<1.0	2	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	4	2	2	6	6
pH	-	8.00	7.76	8.29	7.81	7.42
Conductivity	µS/cm	891	462	870	730	732
SAR	-	2	2	2	2	3
Phosphorus (Reactive)	mg/L	1.5	0.3	0.2	<0.1	<1.0
Nitrogen (Total)	mg/L	4	2	2	7	6
Suspended Solids	mg/L	35	10	<10	15	11
Calcium	mg/L	43	35	51	45	24
Potassium	mg/L	15	8	9	7	7
Magnesium	mg/L	42	23	41	32	32
Sodium	mg/L	91	56	96	72	88
Phosphorus (Total)	mg/L	1	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	0.1	0.2	<1	<0.1	0.2

# Collected during pond overflow event.

## EPA MONITORING POINT 5

Surface water monitoring point (S5) at Severn River Bridge on the Yarraford Road labelled as EPA Point 5 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 5)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	<1.0	3.9	13	21	32
Nitrate	mg/L	<1.0	<1.0	<1	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	2	2	<1	7	<1
pH	-	7.25	7.26	7.69	7.60	7.64
Conductivity	µS/cm	90.8	64.5	130	161	263
SAR	-	1	<1	1	1	1
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	<0.1	<1.0
Nitrogen (Total)	mg/L	3	2	<1	7	<1
Suspended Solids	mg/L	<10	<10	<10	<10	11
Calcium	mg/L	5	4	6	8	9
Potassium	mg/L	3	1	2	2	3
Magnesium	mg/L	3	2	4	6	11
Sodium	mg/L	12	9	18	18	21
Phosphorus (Total)	mg/L	<1	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	0.1	<1	<0.1	0.2

# Collected during pond overflow event.

## EPA MONITORING POINT 6

Surface water monitoring point (S6) at Severn River Bridge on the Emmaville Road labelled as EPA Point 6 on map titled Environmental Monitoring Points -Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 6)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	<1.0	6.6	30	19	26
Nitrate	mg/L	1.0	<1.0	<1	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	2	2	<1	6	<1
pH	-	7.78	7.57	8.31	8.20	8.35
Conductivity	µS/cm	176	115	241	322	427
SAR	-	<1	<1	<1	<1	<1
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	<0.1	<1.0
Nitrogen (Total)	mg/L	2	2	<1	6	<1
Suspended Solids	mg/L	12	10	<10	<10	11
Calcium	mg/L	12	9	18	23	19
Potassium	mg/L	4	2	2	2	3
Magnesium	mg/L	13	7	18	24	34
Sodium	mg/L	14	11	21	20	20
Phosphorus (Total)	mg/L	<1	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	0.1	<1	<0.1	0.2

# Collected during pond overflow event.

## EPA MONITORING POINT 7

Surface water monitoring point (S7) at Beardy Waters causeway on the Haul Rd (2<sup>nd</sup> causeway) - upstream of confluence with Severn River, labelled as EPA Point 7 on map titled Env MP -Location of Surface Water MP dated 1st May 2007. See Fig 1.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 7)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	15	6.8	12	18	9.9
Nitrate	mg/L	1.5	<1.0	<1	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	1	2	<1	6	<1
pH	-	8.34	8.25	8.52	8.45	8.62
Conductivity	µS/cm	277	256	337	389	361
SAR	-	<1	<1	<1	<1	<1
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	<0.1	<1.0
Nitrogen (Total)	mg/L	2	2	<1	6	<1
Suspended Solids	mg/L	<10	10	<10	<10	11
Calcium	mg/L	20	23	27	29	17
Potassium	mg/L	3	2	2	3	3
Magnesium	mg/L	29	18	30	35	32
Sodium	mg/L	17	13	20	18	15
Phosphorus (Total)	mg/L	<1	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	2	0.1	<1	<0.1	0.2

# Collected during pond overflow event.

## EPA MONITORING POINT 8

Surface water monitoring point (S8) at Severn River causeway on the Haul Road (first causeway) labelled as EPA Point 8 on map titled Environmental Monitoring Points - Location of Surface Water MP dated 1st May 2007. See Fig 1 - 250832A1/10.

### SURFACE WATER ANALYSIS RESULTS (EPA POINT 8)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Chloride	mg/L	<1.0	<1.0	14	8.5	16
Nitrate	mg/L	<1.0	<1.0	<1	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	2	2	<1	6	<1
pH	-	7.91	7.64	8.48	8.40	8.43
Conductivity	µS/cm	205	116	279	282	351
SAR	-	<1	<1	<1	<1	<1
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	<0.1	<1.0
Nitrogen (Total)	mg/L	2	2	<1	6	<1
Suspended Solids	mg/L	10	12	<10	<10	12
Calcium	mg/L	13	10	21	20	15
Potassium	mg/L	3	2	2	2	2
Magnesium	mg/L	15	6	23	22	29
Sodium	mg/L	14	11	19	19	16
Phosphorus (Total)	mg/L	<1	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	<0.1	<1	<0.1	0.2

# Collected during pond overflow event.

## EPA MONITORING POINT 11

Final effluent holding pond (on eastern side of the feedlot, known as E2) including spillway and irrigation pumps labelled as EPA Point 11 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2 - 250832A1/10.

### EFFLUENT ANALYSIS RESULTS (EPA POINT 11)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	54	37	41	68	26
Chloride	mg/L	410	310	460	530	960
Nitrate	mg/L	<1.0	<1.0	<1	<1.0	480
Phosphorus (Reactive)	mg/L	90	8.0	39	14	51
pH	-	7.87	8.04	8.09	7.99	7.97
Conductivity	µS/cm	2630	2450	2800	3260	4960
SAR	-	2	2	3	3	3
Phosphorus (Total)	mg/L	55	53	48	59	88
Nitrogen (Total)	mg/L	106	99	88	28	422
TKN	mg/L	106	99	88	28	396
Suspended Solids	mg/L	428	553	153	350	11
Calcium	mg/L	46	39	34	65	71
Potassium	mg/L	489	493	564	687	1080
Magnesium	mg/L	74	56	56	72	120
Sodium	mg/L	85	96	120	140	200

# Collected during pond overflow event.

## EPA MONITORING POINT 20

Effluent holding pond (on western side of feedlot, known as W4) including spillway and irrigation pump labelled as EPA Point 20 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2 - 250832A1/10.

### EFFLUENT ANALYSIS RESULTS (EPA POINT 20)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	0.4	3	2	0.2	9.8
Chloride	mg/L	460	350	360	380	960
Nitrate	mg/L	<1.0	41	5	6.7	480
Phosphorus (Reactive)	mg/L	32	25	19	10	20
pH	-	8.99	7.72	8.72	8.08	8.83
Conductivity	µS/cm	2170	1940	1990	2390	3090
SAR	-	3	2	2	2	3
Phosphorus (Total)	mg/L	18	30	28	34	15
Nitrogen (Total)	mg/L	28	26	21	16	14
TKN	mg/L	28	17	20	15	4
Suspended Solids	mg/L	222	94	100	39	11
Calcium	mg/L	17	37	24	46	21
Potassium	mg/L	443	404	409	455	541
Magnesium	mg/L	45	42	43	53	53
Sodium	mg/L	110	87	92	100	110

# Collected during pond overflow event.



## EPA MONITORING POINT 24

Manure stockpile and composting area containing screened and unscreened manure and labelled as EPA Point 24 on map titled Env MPs- Location of Effluent MP dated 1<sup>st</sup> May 2007. See Fig 2 250832A1/10.

### MANURE ANALYSIS RESULTS (EPA POINT 24)

Sampled		19-Mar-13	10-Sept-13	10-Sept-13	9-Dec-13	9-Dec-13
Obtained		10-Apr-13	13-Sept-13	22-Oct-13	12-Dec-13	12-Dec-13
Published		8-May-13	12-Feb-14	12-Feb-14	23-Jan-14	23-Jan-14
Pollutant	Unit of measure	Screened Result	Unscreened Result	Screened Result	Unscreened Result	Screened Result
Moisture	%	30.5	27.4	46.3	23.8	36.4
Nitrate	mg/kg	<200	<200	<200	<200	<200
Nitrogen (Total)	mg/kg	25,000	18800	45000	23700	25000
pH	-	7.51	7.27	6.89	8.63	8.78
Calcium	mg/kg	18,000	13700	16100	20000	21300
Phosphorus (Total)	mg/kg	9,100	2280	2770	9720	8660
Organic Carbon	%	35.0	18.5	31.4	35.8	39.2
Potassium	mg/kg	14,000	12400	16900	16600	17400
Magnesium	mg/kg	6,100	5390	7110	7630	7620
Sodium	mg/kg	2,100	1950	2450	2540	2820
Conductivity	µS/cm	8,430	8610	10900	3970	3520
SAR	-	15	3	3	4	4
Sulphur	mg/kg	4,000	3260	4570	5250	5730
Chloride	mg/kg	7,900	27	37	21	25
Zinc	mg/kg	230	180	200	260	250

## EPA MONITORING POINT 26

Dam located in the bottom corner of "Washpool Road" (13) paddock labelled as EPA Point 26 on map titled Env MPs-Location of Effluent MP dated 1st May 2007. See Fig 2 - 250832A1/10.

### EFFLUENT ANALYSIS RESULTS (EPA POINT 26)

Sampled		11-Sep-12	19-Mar-13	10-Sept-13		
Obtained		26-Sep-12	10-Apr-13	22-Oct-13		
Published		09-Oct-12	8-May-13	14-Nov-13		
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	<1	2	12		
Chloride	mg/L	260	80	140		
Nitrate	mg/L	1.9	<1.0	<1.0		
Phosphorus (Reactive)	mg/L	3.8	7.4	1.6		
pH	-	7.83	7.64	7.90		
Conductivity	µS/cm	967	618	946		
SAR	-	2	1	2		
Phosphorus (Total)	mg/L	6	7	5		
Nitrogen (Total)	mg/L	11	7	13		
TKN	mg/L	11	7	13		
Suspended Solids	mg/L	128	23	16		
Calcium	mg/L	15	18	19		
Potassium	mg/L	153	127	154		
Magnesium	mg/L	16	16	20		
Sodium	mg/L	57	31	46		

\* Collected during pond overflow event.

## EPA MONITORING POINT 27

Effluent utilisation area known as Pivot 1 labelled as EPA Point 27 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

### SOIL ANALYSIS RESULTS (EPA POINT 27 - PIVOT 1)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7.79	8.66
Nitrogen (Total)	mg/kg	Dumas (Leco)	473	<300
Nitrogen (Nitrate)	mg/kg	7B1	10	<1
Phosphorous (Colwell)	mg/kg	9B1	208	18
Organic Carbon	%	6A1	0.6	0.2
Conductivity	µS/cm	3A1	0.08	0.14
Chloride	mg/kg	5A1	7	64
Cation Exchange Capacity	cmol(+)/kg	15D3	9.54	11
Exchangeable Sodium	cmol(+)/kg	15D3	0.11	0.81
Exchangeable Potassium	cmol(+)/kg	15D3	0.48	1.29
Exchangeable Calcium	cmol(+)/kg	15D3	6.46	4.95
Exchangeable Magnesium	cmol(+)/kg	15D3	2.49	3.95
Exchangeable Sodium Percentage	%	15D3	1.2	7.4
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 28

Effluent utilisation area known as Pivot 3A labelled as EPA Point 28 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

### SOIL ANALYSIS RESULTS (EPA POINT 28 - PIVOT 3A)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7.46	9.19
Nitrogen (Total)	mg/kg	Dumas (Leco)	1450	1620
Nitrogen (Nitrate)	mg/kg	7B1	3	<1
Phosphorous (Colwell)	mg/kg	9B1	21	<0.5
Organic Carbon	%	6A1	0.7	0.2
Conductivity	µS/cm	3A1	0.05	0.22
Chloride	mg/kg	5A1	20	44
Cation Exchange Capacity	cmol(+)/kg	15D3	6.61	20.4
Exchangeable Sodium	cmol(+)/kg	15D3	0.1	4.65
Exchangeable Potassium	cmol(+)/kg	15D3	0.62	0.23
Exchangeable Calcium	cmol(+)/kg	15D3	4.38	7.5
Exchangeable Magnesium	cmol(+)/kg	15D3	1.51	8.03
Exchangeable Sodium Percentage	%	15D3	1.5	22.8
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 29

Effluent utilisation area known as Pivot 3B labelled as EPA Point 29 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

### SOIL ANALYSIS RESULTS (EPA POINT 29 - PIVOT 3B)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7.23	7.7
Nitrogen (Total)	mg/kg	Dumas (Leco)	1840	1080
Nitrogen (Nitrate)	mg/kg	7B1	4	<1
Phosphorous (Colwell)	mg/kg	9B1	46	1
Organic Carbon	%	6A1	0.8	0.4
Conductivity	µS/cm	3A1	0.06	0.11
Chloride	mg/kg	5A1	22	24
Cation Exchange Capacity	cmol(+)/kg	15D3	7.09	19.7
Exchangeable Sodium	cmol(+)/kg	15D3	0.09	0.78
Exchangeable Potassium	cmol(+)/kg	15D3	0.68	0.41
Exchangeable Calcium	cmol(+)/kg	15D3	4.73	12.5
Exchangeable Magnesium	cmol(+)/kg	15D3	1.6	5.96
Exchangeable Sodium Percentage	%	15D3	1.2	4
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 30

Effluent utilisation area known as Rye East labelled as EPA Point 30 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

### SOIL ANALYSIS RESULTS (EPA POINT 30 - RYE EAST)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7.56	8.05
Nitrogen (Total)	mg/kg	Dumas (Leco)	365	811
Nitrogen (Nitrate)	mg/kg	7B1	<1	<1
Phosphorous (Colwell)	mg/kg	9B1	65	1
Organic Carbon	%	6A1	0.8	0.3
Conductivity	µS/cm	3A1	0.08	0.17
Chloride	mg/kg	5A1	44	126
Cation Exchange Capacity	cmol(+)/kg	15D3	8.83	22.9
Exchangeable Sodium	cmol(+)/kg	15D3	0.16	1.04
Exchangeable Potassium	cmol(+)/kg	15D3	1.26	0.39
Exchangeable Calcium	cmol(+)/kg	15D3	5.4	14.4
Exchangeable Magnesium	cmol(+)/kg	15D3	2.01	7.08
Exchangeable Sodium Percentage	%	15D3	1.8	4.5
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 31

Effluent utilisation area known as Rye West labelled as EPA Point 31 on map titled "Rangers Valley Cattle Station Site Plan" dated 30.07.03.

### SOIL ANALYSIS RESULTS (EPA POINT 31 - RYE WEST)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7	7.41
Nitrogen (Total)	mg/kg	Dumas (Leco)	668	1220
Nitrogen (Nitrate)	mg/kg	7B1	1	<1
Phosphorous (Colwell)	mg/kg	9B1	53	1
Organic Carbon	%	6A1	0.6	0.3
Conductivity	µS/cm	3A1	0.07	0.12
Chloride	mg/kg	5A1	27	98
Cation Exchange Capacity	cmol(+)/kg	15D3	5.57	22.8
Exchangeable Sodium	cmol(+)/kg	15D3	0.08	0.72
Exchangeable Potassium	cmol(+)/kg	15D3	0.77	0.38
Exchangeable Calcium	cmol(+)/kg	15D3	3.47	16.2
Exchangeable Magnesium	cmol(+)/kg	15D3	1.24	5.54
Exchangeable Sodium Percentage	%	15D3	1.5	3.2
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 34

Groundwater monitoring bore (34 located in corner paddock) labelled as EPA Point 34 on map titled Env MP-Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 34)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	0.1	3.1			
Nitrogen (nitrate)	mg/L	72	27			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	7.67	7.57			
Conductivity	µS/cm	1240	1090			
Phosphorus (total)	mg/L	<1	1			
Nitrogen (total)	mg/L	17	11			
Suspended Solids	mg/L	<10	286			



## EPA MONITORING POINT 35

Groundwater monitoring bore (35 located in the laneway north of Rye East paddock) labelled as EPA Point 35 on map titled Env MP-Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 35)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	0.2			
Nitrogen (nitrate)	mg/L	8.4	<1.0			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	6.69	6.68			
Conductivity	µS/cm	1190	1330			
Phosphorus (total)	mg/L	2	<1			
Nitrogen (total)	mg/L	5	2			
Suspended Solids	mg/L	1720	150			

## EPA MONITORING POINT 36

Groundwater monitoring bore (36 located between ponds W3 and W4) labelled as EPA Point 36 on map titled Env MP-Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 36)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	38	35			
Phosphorus (Reactive)	mg/L	1.2	<1.0			
pH	-	8.16	8.11			
Conductivity	µS/cm	3240	3290			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	8	8			
Suspended Solids	mg/L	<10	<10			

## EPA MONITORING POINT 38

Groundwater monitoring bore (located on eastern point of effluent pond E2) labelled as EPA Point 38 on map titled Env MP-Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 38)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	160	160			
Phosphorus (Reactive)	mg/L	1.5	<1.0			
pH	-	6.50	6.31			
Conductivity	µS/cm	1030	1730			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	34	36			
Suspended Solids	mg/L	16	<10			

## EPA MONITORING POINT 40

Groundwater monitoring bore (40 located on adjoining fence line between Pivot 3A/3B) on map titled Env MP-Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 40)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	39	35			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	7.38	7.42			
Conductivity	µS/cm	1220	1200			
Phosphorus (total)	mg/L	<1	<1.0			
Nitrogen (total)	mg/L	8	9			
Suspended Solids	mg/L	11	23			

## EPA MONITORING POINT 41

Groundwater monitoring bore (41 below EPA point 14 in paddock Bottom Swamp) labelled as EPA Point 41 on map titled Env MP Location of piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 41)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	48	40			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	7.00	6.89			
Conductivity	µS/cm	2910	2910			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	10	9			
Suspended Solids	mg/L	31	19			

## EPA MONITORING POINT 42

Groundwater monitoring bore (42 located in laneway between Pivot 1 and effluent pond E2) labelled as EPA Point 42 on map titled Env MP- Location of piezometer MP dated 1<sup>st</sup> May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 42)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	85	40			
Phosphorus (Reactive)	mg/L	14	<1.0			
pH	-	6.70	6.62			
Conductivity	µS/cm	2530	2560			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	21	10			
Suspended Solids	mg/L	15	10			

## EPA MONITORING POINT 43

The following tables are a summary of the analysis results of the soil quality in the utilisation areas identified as the 'solid utilisation areas as identified on drawing No 19045-05 as quoted in the consent conditions' on map titled "Map 1 - Rangers Valley Cattle Station" submitted with a letter to the EPA on 25 October 2006 (EPA Point 43).

Monitoring has been undertaken at Special Frequency 7, in accordance with the frequency required in accordance with Section M2 of Environmental Protection Licence No. 3864.

### SOIL ANALYSIS RESULTS (DONNELLYS SOUTH)

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.42	7.35
Nitrogen (Total)	mg/kg	896	943
Nitrogen (Nitrate)	mg/kg	2	<1
Phosphorous (Colwell)	mg/kg	30	<0.5
Organic Carbon	%	0.9	0.4
Conductivity	µS/cm	0.03	0.04
Chloride	mg/kg	4	9
Cation Exchange Capacity	cmol(+)/kg	7.69	18.3
Exchangeable Sodium	cmol(+)/kg	0.01	0.23
Exchangeable Potassium	cmol(+)/kg	0.43	0.34
Exchangeable Calcium	cmol(+)/kg	5.41	11.9
Exchangeable Magnesium	cmol(+)/kg	1.85	5.86
Exchangeable Sodium Percent	%	0.2	1.3
Aggregate Stability (Emerson)	-	3(3)	4
Phosphorus Sorption Capacity	PSC mg/kg	78	148

**SOIL ANALYSIS RESULTS (REILLYS)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	7.22	7.87
Nitrogen (Total)	mg/kg	1080	1040
Nitrogen (Nitrate)	mg/kg	2	2
Phosphorous (Colwell)	mg/kg	25	50
Organic Carbon	%	0.4	0.2
Conductivity	$\mu$ S/cm	0.06	0.04
Chloride	mg/kg	35	11
Cation Exchange Capacity	cmol(+)/kg	5.38	16.2
Exchangeable Sodium	cmol(+)/kg	0.17	0.36
Exchangeable Potassium	cmol(+)/kg	0.15	0.44
Exchangeable Calcium	cmol(+)/kg	3.92	10
Exchangeable Magnesium	cmol(+)/kg	1.14	5.37
Exchangeable Sodium Percent	%	3.2	2.2
Aggregate Stability (Emerson)	-	3(2)	4
Phosphorus Sorption Capacity	PSC mg/kg	25	104



### SOIL ANALYSIS RESULTS (MORRIES)

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.63	8.26
Nitrogen (Total)	mg/kg	1500	1290
Nitrogen (Nitrate)	mg/kg	12	<1
Phosphorous (Colwell)	mg/kg	37	2
Organic Carbon	%	1.1	0.3
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	6	<0.5
Cation Exchange Capacity	cmol(+)/kg	13.1	26.1
Exchangeable Sodium	cmol(+)/kg	0.13	0.86
Exchangeable Potassium	cmol(+)/kg	0.23	0.39
Exchangeable Calcium	cmol(+)/kg	9.79	17.7
Exchangeable Magnesium	cmol(+)/kg	2.92	7.14
Exchangeable Sodium Percent	%	1	3.3
Aggregate Stability (Emerson)	-	3(2)	3(3)
Phosphorus Sorption Capacity	PSC mg/kg	70	125

**SOIL ANALYSIS RESULTS (BOTTOM SWAMP)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	7.05	7.83
Nitrogen (Total)	mg/kg	1620	471
Nitrogen (Nitrate)	mg/kg	<1	<1
Phosphorous (Colwell)	mg/kg	46	2
Organic Carbon	%	1.0	0.4
Conductivity	μS/cm	0.03	0.03
Chloride	mg/kg	1	<0.5
Cation Exchange Capacity	cmol(+)/kg	11.4	16
Exchangeable Sodium	cmol(+)/kg	0.11	0.73
Exchangeable Potassium	cmol(+)/kg	0.38	0.23
Exchangeable Calcium	cmol(+)/kg	7.59	10.3
Exchangeable Magnesium	cmol(+)/kg	3.35	4.82
Exchangeable Sodium Percent	%	0.9	4.5
Aggregate Stability (Emerson)	-	3(2)	3(4)
Phosphorus Sorption Capacity	PSC mg/kg	91	140

**SOIL ANALYSIS RESULTS (No 36)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	5.73	7.66
Nitrogen (Total)	mg/kg	1820	1130
Nitrogen (Nitrate)	mg/kg	17	7
Phosphorous (Colwell)	mg/kg	193	7
Organic Carbon	%	0.4	0.4
Conductivity	$\mu$ S/cm	0.05	0.1
Chloride	mg/kg	<0.5	3
Cation Exchange Capacity	cmol(+)/kg	5.81	23.2
Exchangeable Sodium	cmol(+)/kg	0.05	0.52
Exchangeable Potassium	cmol(+)/kg	0.25	0.43
Exchangeable Calcium	cmol(+)/kg	4.2	14.6
Exchangeable Magnesium	cmol(+)/kg	1.32	7.66
Exchangeable Sodium Percent	%	0.8	2.2
Aggregate Stability (Emerson)	-	3(1)	4
Phosphorus Sorption Capacity	PSC mg/kg	9	145

**SOIL ANALYSIS RESULTS (TOP TIP)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.28	7.49
Nitrogen (Total)	mg/kg	1210	1440
Nitrogen (Nitrate)	mg/kg	2	<1
Phosphorous (Colwell)	mg/kg	78	1
Organic Carbon	%	0.8	0.1
Conductivity	µS/cm	0.03	0.06
Chloride	mg/kg	4	14
Cation Exchange Capacity	cmol(+)/kg	5.71	12.9
Exchangeable Sodium	cmol(+)/kg	0.04	0.28
Exchangeable Potassium	cmol(+)/kg	0.42	0.28
Exchangeable Calcium	cmol(+)/kg	4.24	8.53
Exchangeable Magnesium	cmol(+)/kg	1.01	3.79
Exchangeable Sodium Percent	%	0.7	2.1
Aggregate Stability (Emerson)	-	3(3)	4
Phosphorus Sorption Capacity	PSC mg/kg	20	132

**SOIL ANALYSIS RESULTS (OATS)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.41	7.33
Nitrogen (Total)	mg/kg	1430	1390
Nitrogen (Nitrate)	mg/kg	19	2
Phosphorous (Colwell)	mg/kg	159	2
Organic Carbon	%	0.7	0.1
Conductivity	$\mu$ S/cm	0.07	0.08
Chloride	mg/kg	1	9
Cation Exchange Capacity	cmol(+)/kg	6.82	13.8
Exchangeable Sodium	cmol(+)/kg	0.04	0.24
Exchangeable Potassium	cmol(+)/kg	0.25	0.29
Exchangeable Calcium	cmol(+)/kg	5.57	9.69
Exchangeable Magnesium	cmol(+)/kg	0.96	3.61
Exchangeable Sodium Percent	%	0.6	1.7
Aggregate Stability (Emerson)	-	4	5
Phosphorus Sorption Capacity	PSC mg/kg	<1	139

**SOIL ANALYSIS RESULTS (DONNELLYS NORTH)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.49	7.62
Nitrogen (Total)	mg/kg	1680	1160
Nitrogen (Nitrate)	mg/kg	9	<1
Phosphorous (Colwell)	mg/kg	73	1
Organic Carbon	%	0.8	0.2
Conductivity	µS/cm	0.04	0.03
Chloride	mg/kg	8	5
Cation Exchange Capacity	cmol(+)/kg	7.28	11.5
Exchangeable Sodium	cmol(+)/kg	0.02	0.13
Exchangeable Potassium	cmol(+)/kg	0.22	0.18
Exchangeable Calcium	cmol(+)/kg	5.43	7.72
Exchangeable Magnesium	cmol(+)/kg	1.61	3.46
Exchangeable Sodium Percent	%	0.2	1.1
Aggregate Stability (Emerson)	-	3(1)	5
Phosphorus Sorption Capacity	PSC mg/kg	39	119

### SOIL ANALYSIS RESULTS (CREEK)

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.37	7.15
Nitrogen (Total)	mg/kg	779	589
Nitrogen (Nitrate)	mg/kg	11	2
Phosphorous (Colwell)	mg/kg	62	2
Organic Carbon	%	0.9	0.2
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	4	2
Cation Exchange Capacity	cmol(+)/kg	8.56	8.61
Exchangeable Sodium	cmol(+)/kg	0.07	0.09
Exchangeable Potassium	cmol(+)/kg	0.25	0.15
Exchangeable Calcium	cmol(+)/kg	6.75	6.13
Exchangeable Magnesium	cmol(+)/kg	1.49	2.25
Exchangeable Sodium Percent	%	0.9	1
Aggregate Stability (Emerson)	-	5	4
Phosphorus Sorption Capacity	PSC mg/kg	39	110

### SOIL ANALYSIS RESULTS (CROUCHES)

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.05	7.48
Nitrogen (Total)	mg/kg	1030	1280
Nitrogen (Nitrate)	mg/kg	25	4
Phosphorous (Colwell)	mg/kg	83	1
Organic Carbon	%	0.5	0.3
Conductivity	μS/cm	0.07	0.05
Chloride	mg/kg	3	3
Cation Exchange Capacity	cmol(+)/kg	8.25	18.5
Exchangeable Sodium	cmol(+)/kg	0.07	0.3
Exchangeable Potassium	cmol(+)/kg	0.37	0.22
Exchangeable Calcium	cmol(+)/kg	6.07	12.9
Exchangeable Magnesium	cmol(+)/kg	1.75	5.03
Exchangeable Sodium Percent	%	0.9	1.6
Aggregate Stability (Emerson)	-	4	4
Phosphorus Sorption Capacity	PSC mg/kg	56	148



**SOIL ANALYSIS RESULTS (TOP GRANTS)**

Parameter	Unit	Annual Return 2012 - 2013	
		0-30 cm	60-90 cm
pH	-	6.65	7.19
Nitrogen (Total)	mg/kg	2290	833
Nitrogen (Nitrate)	mg/kg	2	1
Phosphorous (Colwell)	mg/kg	32	1
Organic Carbon	%	0.6	0.2
Conductivity	µS/cm	0.03	0.02
Chloride	mg/kg	4	5
Cation Exchange Capacity	cmol(+)/kg	7.38	17.2
Exchangeable Sodium	cmol(+)/kg	0.05	0.17
Exchangeable Potassium	cmol(+)/kg	0.26	0.16
Exchangeable Calcium	cmol(+)/kg	5.43	12
Exchangeable Magnesium	cmol(+)/kg	1.65	4.83
Exchangeable Sodium Percent	%	0.6	1
Aggregate Stability (Emerson)	-	3(1)	5
Phosphorus Sorption Capacity	PSC mg/kg	45	124

## EPA MONITORING POINT 44

Groundwater monitoring bore (44 located in the north eastern grassed area of the paddock known as Old 2) labelled as EPA point 44 on map titled Env MP-Location of Peizometer MP dated 1st May 2007. See Fig 3 - 250832A1/10.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 44)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	4.3	4.4			
Phosphorus (Reactive)	mg/L	1.0	<1.0			
pH	-	7.15	7.04			
Conductivity	µS/cm	582	574			
Phosphorus (total)	mg/L	<1	<1.0			
Nitrogen (total)	mg/L	2	3			
Suspended Solids	mg/L	16	17			

## EPA MONITORING POINT 45

Groundwater monitoring bore (45 located on eastern boundary of the paddock known as "Donnellys Elect" labelled as EPA point 45 on map titled Env MP location of Piezometer MP dated 1st May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 45)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	15	22			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	7.15	7.24			
Conductivity	µS/cm	335	332			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	4	4			
Suspended Solids	mg/L	13	<10			

## EPA MONITORING POINT 46

Groundwater monitoring bore (46 located in paddock known as "Oaks Road") labelled as EPA point 46 on map Titled Env MP-location of Piezometer MP dated 1<sup>st</sup> May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 46)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	12	18			
Phosphorus (Reactive)	mg/L	1.4	<1.0			
pH	-	7.53	7.52			
Conductivity	µS/cm	1010	990			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	3	6			
Suspended Solids	mg/L	12	22			

## EPA MONITORING POINT 47

Groundwater monitoring bore 47 located in paddock known as "Horse" labelled as EPA point 47 on map Titled Env MP-location of Piezometer MP dated 1<sup>st</sup> May 2007. See Fig 3.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 47)

Sampled		25-Oct-12	12-Apr-13			
Obtained		DRY	DRY			
Published						
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L					
Nitrogen (nitrate)	mg/L					
Phosphorus (Reactive)	mg/L					
pH	-	DRY	DRY			
Conductivity	µS/cm					
Phosphorus (total)	mg/L					
Nitrogen (total)	mg/L					
Suspended Solids	mg/L					

## EPA MONITORING POINT 51

### SOIL ANALYSIS RESULTS (EPA POINT 51 - PIVOT 2B)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	7.25	7.52
Nitrogen (Total)	mg/kg	Dumas (Leco)	1120	979
Nitrogen (Nitrate)	mg/kg	7B1	10	3
Phosphorous (Colwell)	mg/kg	9B1	100	4
Organic Carbon	%	6A1	0.7	0.2
Conductivity	µS/cm	3A1	0.13	0.09
Chloride	mg/kg	5A1	58	71
Cation Exchange Capacity	cmol(+)/kg	15D3	7.04	11.5
Exchangeable Sodium	cmol(+)/kg	15D3	0.1	0.27
Exchangeable Potassium	cmol(+)/kg	15D3	1.24	0.26
Exchangeable Calcium	cmol(+)/kg	15D3	3.97	7.99
Exchangeable Magnesium	cmol(+)/kg	15D3	1.73	2.93
Exchangeable Sodium Percentage	%	15D3	1.4	2.4
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 52

### SOIL ANALYSIS RESULTS (EPA POINT 52 - PIVOT 2C)

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2012 - 2013	
			0-30cm	60-90cm
pH	-	4A1	6.86	7.73
Nitrogen (Total)	mg/kg	Dumas (Leco)	722	1150
Nitrogen (Nitrate)	mg/kg	7B1	7	<1
Phosphorous (Colwell)	mg/kg	9B1	52	1
Organic Carbon	%	6A1	0.8	0.4
Conductivity	μS/cm	3A1	0.06	0.13
Chloride	mg/kg	5A1	34	109
Cation Exchange Capacity	cmol(+)/kg	15D3	9.66	21.9
Exchangeable Sodium	cmol(+)/kg	15D3	0.13	0.84
Exchangeable Potassium	cmol(+)/kg	15D3	0.68	0.36
Exchangeable Calcium	cmol(+)/kg	15D3	6.22	13.5
Exchangeable Magnesium	cmol(+)/kg	15D3	2.62	7.16
Exchangeable Sodium Percentage	%	15D3	1.4	3.9
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	N.A.	N.A.
Aggregate Stability (Emerson)	EAT	-	N.A.	N.A.

## EPA MONITORING POINT 53

Groundwater monitoring bore 53 located west of Terminal Pond 1 in the paddock known as spillway labelled as EPA point 53 on map Titled Env MP-location of Piezometer MP dated 1st May 2007. See Fig 3. 250832A1/10.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 53)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	<1.0	<1.0			
Phosphorus (Reactive)	mg/L	1.0	<1.0			
pH	-	7.38	7.35			
Conductivity	µS/cm	536	479			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	1	<1			
Suspended Solids	mg/L	<10	<10			



## EPA MONITORING POINT 54

Groundwater monitoring bore 54 located north of Terminal Pond Two in the paddock known as Pivot 2b labelled as EPA point 54 on map titled Env MP location of Piezometer MP dated 1st May 2007. See Fig 3. 250832A1/10.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 54)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	22	27			
Phosphorus (Reactive)	mg/L	1.3	<1.0			
pH	-	6.85	6.82			
Conductivity	µS/cm	480	412			
Phosphorus (total)	mg/L	<1	<1			
Nitrogen (total)	mg/L	5	5			
Suspended Solids	mg/L	30	75			

## EPA MONITORING POINT 55

Groundwater monitoring bore 55 located south of Terminal Pond Three in the paddock known as "Wallys" labelled as EPA point 55 on map titled Env MP-location of Piezometer MP dated 1st May 2007. See Fig 3. 250832A1/10.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 55)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	<0.1	<0.1			
Nitrogen (nitrate)	mg/L	<1.0	<1.0			
Phosphorus (Reactive)	mg/L	1.0	<1.0			
pH	-	7.28	7.25			
Conductivity	µS/cm	469	452			
Phosphorus (total)	mg/L	<1	<1.0			
Nitrogen (total)	mg/L	1	<1			
Suspended Solids	mg/L	<10	14			

## EPA MONITORING POINT 56

Groundwater monitoring bore (56 located south of the northern holding pond N1 in the paddock known as Irrigation 1) labelled as EPA point 56 on map titled Env MP dated 1st May 2007. See Fig 3. 250832A1/10.

### GROUNDWATER ANALYSIS RESULTS (EPA POINT 56)

<b>Sampled</b>		<b>25-Oct-12</b>	<b>12-Apr-13</b>			
<b>Obtained</b>		<b>23-Nov-12</b>	<b>26-Apr-13</b>			
<b>Published</b>		<b>30-Nov-12</b>	<b>8-May-13</b>			
<b>Pollutant</b>	<b>Unit of measure</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>	<b>Result</b>
Nitrogen (ammonia)	mg/L	0.2	<0.1			
Nitrogen (nitrate)	mg/L	17	22			
Phosphorus (Reactive)	mg/L	<1.0	<1.0			
pH	-	7.11	7.48			
Conductivity	µS/cm	835	825			
Phosphorus (total)	mg/L	<1	<1.0			
Nitrogen (total)	mg/L	6	5			
Suspended Solids	mg/L	35	11			

## EPA MONITORING POINT 57

Effluent holding pond (known as N1) irrigation pump labelled as EPA point 57 on map titled Env MP- Location of Effluent MP dated 1st May 2007. See Fig 2 - 250832A1/10.

### EFFLUENT ANALYSIS RESULTS (EPA POINT 57)

Sampled		11-Dec-12	19-Mar-13	11-June-13	10-Sept-13	9-Dec-13
Obtained		20-Dec-12	10-Apr-13	26-June-13	22-Oct-13	12-Dec-13
Published		27-Dec-12	8-May-13	9-July-13	14-Nov-13	23-Jan-14
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	2.8	31	10	5.8	1.2
Chloride	mg/L	250	230	240	250	310
Nitrate	mg/L	<1.0	<1.0	33	4.7	<1.0
Phosphorus (Reactive)	mg/L	56	32	32	6.1	17
pH	-	8.22	7.91	7.77	8.17	8.45
Conductivity	µS/cm	1570	1750	1670	1690	1810
SAR	-	2	2	2	2	3
Phosphorus (Total)	mg/L	20	32	31	18	17
Nitrogen (Total)	mg/L	15	39	29	15	7
TKN	mg/L	15	39	21	14	6
Suspended Solids	mg/L	75	44	28	155	11
Calcium	mg/L	30	48	44	31	23
Potassium	mg/L	269	268	258	275	255
Magnesium	mg/L	50	47	47	49	52
Sodium	mg/L	77	2	81	86	99

\* Collected during pond overflow event.