

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 st 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.

EPA No.	Type of monitoring point	Type of discharge point	Description of location
EPA Monitoring Point 7	Surface water quality monitoring		Surface water monitoring point (S7) at Beardy Waters causeway on the Haul Rd (2 nd 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.

EPA No.	Type of monitoring point	Type of discharge point	Description of location
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 1st 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 1st 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 1st 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.

EPA No.	Type of monitoring point	Type of discharge point	Description of location
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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 "Donnelly's Elect" labelled as EPA point 45 on map Titled Env MP location of Piezometer MP dated 1 st 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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 st 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 1st May 2007. See Fig 1 - 250832A1/10.

SURFACE WATER ANALYSIS RESULTS (EPA POINT 2)

Sampled		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	36	60	45	5
Nitrate	mg/L	<0.05	0.2	0.009	<0.005
Total Kjeldahl Nitrogen	mg/L	1.1	1.2	0.7	1.1
pH	-	7.9	7.7	7.4	7.2
Conductivity	µS/cm	450	744	480	130
SAR	-	1.5	2.4	2.1	0.7
Phosphorus (Reactive)	mg/L	0.088	0.065	0.13	0.23
Nitrogen (Total)	mg/L	1.1	1.3	0.7	1.1
Suspended Solids	mg/L	<5	16	10	14
Calcium	mg/L	26	16	26	8.2
Potassium	mg/L	4.4	1.8	4.0	4.8
Magnesium	mg/L	17	33.6	17	5.2
Sodium	mg/L	39	84.9	57	9.8
Phosphorus (Total)	mg/L	0.11	0.18	0.1	0.3
Nitrogen (Ammonia)	mg/L	<0.05	0.06	0.024	0.008

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure		Result	Result	Result
Chloride	mg/L	37		23	13
Nitrate	mg/L	<0.05		2.1	<0.05
Total Kjeldahl Nitrogen	mg/L	18		4.8	5.7
pH	-	7.3		6.8	6.9
Conductivity	µS/cm	410		260	250
SAR	-	0.5		0.48	0.5
Phosphorus (Reactive)	mg/L	4.0	DRY	1.4	5.6
Nitrogen (Total)	mg/L	18		7.1	5.7
Suspended Solids	mg/L	370		290	240
Calcium	mg/L	17		7.0	8.0
Potassium	mg/L	56		43	46
Magnesium	mg/L	10		4.3	4.9
Sodium	mg/L	10		6.6	7.7
Phosphorus (Total)	mg/L	3.1		2.2	7.4
Nitrogen (Ammonia)	mg/L	0.79		0.84	1.4

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	55	63	70	28
Nitrate	mg/L	0.16	0.2	2.8	0.02
Total Kjeldahl Nitrogen	mg/L	1.5	3.2	3.0	2.0
pH	-	7.9	7.8	7.5	8.0
Conductivity	µS/cm	570	776	540	380
SAR	-	1.8	2.1	1.7	2.1
Phosphorus (Reactive)	mg/L	0.79	0.93	0.83	0.59
Nitrogen (Total)	mg/L	1.5	3.2	5.8	2.0
Suspended Solids	mg/L	18	40	30	130
Calcium	mg/L	29	50	34	18
Potassium	mg/L	10	12.9	16	11
Magnesium	mg/L	19	33.7	19	13
Sodium	mg/L	52	77.7	50	49
Phosphorus (Total)	mg/L	0.81	1.25	1.4	0.7
Nitrogen (Ammonia)	mg/L	<0.05	0.17	0.060	0.044

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	12	19.0	17	3
Nitrate	mg/L	0.06	<0.1	0.006	0.01
Total Kjeldahl Nitrogen	mg/L	1.3	0.8	0.7	1.0
pH	-	7.3	7.6	7.3	6.8
Conductivity	µS/cm	100	282	190	47
SAR	-	1.0	1.4	1.5	0.7
Phosphorus (Reactive)	mg/L	0.032	<0.036	0.015	0.077
Nitrogen (Total)	mg/L	1.3	0.85	0.7	1.0
Suspended Solids	mg/L	<5	10	16	16
Calcium	mg/L	4.0	16	8.6	1.8
Potassium	mg/L	2.5	2.5	3.6	3.0
Magnesium	mg/L	2.4	11.6	5.7	1.1
Sodium	mg/L	10	30.0	24	4.7
Phosphorus (Total)	mg/L	0.06	0.12	<0.05	0.1
Nitrogen (Ammonia)	mg/L	<0.05	0.11	0.036	0.055

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	8.0	12.0	12	7
Nitrate	mg/L	0.23	0.4	<0.005	0.10
Total Kjeldahl Nitrogen	mg/L	1.1	0.6	0.6	1.2
pH	-	7.8	8.2	8.3	7.4
Conductivity	µS/cm	160	294	350	130
SAR	-	0.4	0.6	0.57	0.7
Phosphorus (Reactive)	mg/L	0.14	0.1	0.079	0.21
Nitrogen (Total)	mg/L	1.2	0.69	0.6	1.3
Suspended Solids	mg/L	17	9	<5	35
Calcium	mg/L	11	24	26	7.6
Potassium	mg/L	2.4	2.0	2.6	4.8
Magnesium	mg/L	8.3	18.7	25	5.6
Sodium	mg/L	7.6	14.9	17	10
Phosphorus (Total)	mg/L	0.16	0.13	0.1	0.3
Nitrogen (Ammonia)	mg/L	<0.05	0.08	0.009	0.042

Collected during pond overflow event.

EPA MONITORING POINT 7

Surface water monitoring point (S7) at Beardy Waters causeway on the Haul Rd (2nd 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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	7.0	9	11	4
Nitrate	mg/L	0.23	0.3	<0.005	0.092
Total Kjeldahl Nitrogen	mg/L	1.0	0.6	0.6	0.9
pH	-	8.0	8.4	8.4	7.6
Conductivity	µS/cm	170	377	380	150
SAR	-	0.4	0.5	0.53	0.5
Phosphorus (Reactive)	mg/L	0.13	0.10	0.093	0.28
Nitrogen (Total)	mg/L	1.1	0.57	0.6	1.0
Suspended Solids	mg/L	23	10	<5	29
Calcium	mg/L	12	31	28	10
Potassium	mg/L	2.3	2.0	2.6	4.4
Magnesium	mg/L	9.5	28.9	28	8.1
Sodium	mg/L	7.2	15.1	17	8.1
Phosphorus (Total)	mg/L	0.14	0.11	0.1	0.4
Nitrogen (Ammonia)	mg/L	<0.05	0.07	0.018	0.033

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	8.0	9	12	7
Nitrate	mg/L	0.20	0.2	0.01	0.081
Total Kjeldahl Nitrogen	mg/L	1.1	0.6	0.6	1.1
pH	-	7.8	8.5	8.4	7.5
Conductivity	µS/cm	160	352	360	150
SAR	-	0.5	0.5	0.58	0.7
Phosphorus (Reactive)	mg/L	0.11	0.8	0.082	0.24
Nitrogen (Total)	mg/L	1.1	0.61	0.7	1.2
Suspended Solids	mg/L	17	15	<5	36
Calcium	mg/L	10	30	27	8.2
Potassium	mg/L	2.5	2.0	2.8	4.8
Magnesium	mg/L	8.1	26.8	25	6.2
Sodium	mg/L	8.4	14.6	18	11
Phosphorus (Total)	mg/L	0.12	0.11	0.1	0.3
Nitrogen (Ammonia)	mg/L	<0.05	0.09	0.027	0.046

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	19	65.7	9.4	14
Chloride	mg/L	110	413	400	240
Nitrate	mg/L	<0.05	0.5	<0.2	<0.05
Phosphorus (Reactive)	mg/L	14	9	20	20
pH	-	7.5	8.1	8.0	7.9
Conductivity	µS/cm	1100	3220	2,600	1,900
SAR	-	1.5	2.7	3.4	2.9
Phosphorus (Total)	mg/L	14	49.3	36	27
Nitrogen (Total)	mg/L	53	131	34	31
TKN	mg/L	53	130	34	31
Suspended Solids	mg/L	400	563	78	140
Calcium	mg/L	42	88	44	37
Potassium	mg/L	130	536	530	400
Magnesium	mg/L	25	62.3	56	37
Sodium	mg/L	51	134	150	100

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	3.2	0.67	1.1	0.15
Chloride	mg/L	130	174	190	49
Nitrate	mg/L	<0.05	0.3	0.01	<0.05
Phosphorus (Reactive)	mg/L	12	8	8.7	5.3
pH	-	7.6	8.0	8.3	7.1
Conductivity	µS/cm	950	1210	1,400	420
SAR	-	1.7	2.2	2.9	1.3
Phosphorus (Total)	mg/L	13	12.4	11	5.8
Nitrogen (Total)	mg/L	14	22.2	12	5.6
TKN	mg/L	14	22.2	12	5.6
Suspended Solids	mg/L	57	191	69	77
Calcium	mg/L	27	34	28	10
Potassium	mg/L	140	218	250	73
Magnesium	mg/L	18	28.4	26	8.0
Sodium	mg/L	47	71.5	89	24

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 1st May 2007. See Fig 2 250832A1/10.

MANURE ANALYSIS RESULTS (EPA POINT 24)

Sampled		12-Dec-16	12-Dec-16	13-Mar-17	13-Mar-17
Obtained		14-Dec-16	14-Dec-16	22-Mar-17	22-Mar-17
Published		30-Dec-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Unscreened Result	Screened Result	Unscreened Result	Screened Result
Moisture	%	40.4	38.5	70.3	31.4
Nitrate	mg/kg	230	<200	142	108
Nitrogen (Total)	mg/kg	20100	22700	19300	18000
pH	-	8.40	8.52	7.34	7.09
Calcium	mg/kg	18000	26000	22500	24100
Phosphorus (Total)	mg/kg	6200	11000	8100	8400
Organic Carbon	%	24.8	28.4	53.5	42.3
Potassium	mg/kg	14000	23000	44100	35900
Magnesium	mg/kg	6500	9100	6600	7400
Sodium	mg/kg	2100	4300	0.47	0.41
Conductivity	µS/cm	4130	7760	11400	10100
SAR	-	3	6	28.2	21.6
Sulphur	mg/kg	3800	6200	937	1466
Chloride	mg/kg	5400	12000	9800	7500
Zinc	mg/kg	200	280	124	130

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		15-Sept-15	15-Mar-16	12-Sept-16	13-Mar-17
Obtained		30-Oct-15	17-Mar-16	26-Sept-16	22-Mar-17
Published		5-Nov-15	5-Apr-16	10-Oct-16	30-Mar-17
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	0.8	<0.1	0.53	0.22
Chloride	mg/L	43	53	43	110
Nitrate	mg/L	<1.0	<1.0	<0.05	0.39
Phosphorus (Reactive)	mg/L	4.9	4.0	4.0	1.0
pH	-	7.50	7.6	7.6	7.4
Conductivity	µS/cm	360	440	360	730
SAR	-	1	1	1.0	2.4
Phosphorus (Total)	mg/L	7	8	4.0	4.3
Nitrogen (Total)	mg/L	6	14	5.3	11
TKN	mg/L	6	14	5.3	11
Suspended Solids	mg/L	36	290	30	780
Calcium	mg/L	10	11	9.6	17
Potassium	mg/L	54	78	50	120
Magnesium	mg/L	8	9	8.5	13
Sodium	mg/L	18	22	18	55

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 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	7.29	7.74
Nitrogen (Total)	mg/kg	Dumas (Leco)	1060	-
Nitrogen (Nitrate)	mg/kg	7B1	15	12
Phosphorous (Colwell)	mg/kg	9B1	230	8
Organic Carbon	%	6A1	1.9	0.2
Conductivity	µS/cm	3A1	0.11	0.12
Chloride	mg/kg	5A1	40	77
Cation Exchange Capacity	cmol(+)/kg	15D3	9.08	8.96
Exchangeable Sodium	cmol(+)/kg	15D3	0.25	1.41
Exchangeable Potassium	cmol(+)/kg	15D3	0.86	0.59
Exchangeable Calcium	cmol(+)/kg	15D3	5.87	4.00
Exchangeable Magnesium	cmol(+)/kg	15D3	2.12	2.95
Exchangeable Sodium Percentage	%	15D3	2.7	15.8
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	<1	26
Aggregate Stability (Emerson)	EAT	-	3(4)	2(3)

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 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	5.64	6.95
Nitrogen (Total)	mg/kg	Dumas (Leco)	1020	-
Nitrogen (Nitrate)	mg/kg	7B1	57	21
Phosphorous (Colwell)	mg/kg	9B1	126	1
Organic Carbon	%	6A1	3.0	0.3
Conductivity	µS/cm	3A1	0.14	0.13
Chloride	mg/kg	5A1	24	18
Cation Exchange Capacity	cmol(+)/kg	15D3	7.10	19.7
Exchangeable Sodium	cmol(+)/kg	15D3	0.22	1.18
Exchangeable Potassium	cmol(+)/kg	15D3	0.68	0.30
Exchangeable Calcium	cmol(+)/kg	15D3	4.56	11.8
Exchangeable Magnesium	cmol(+)/kg	15D3	1.64	6.46
Exchangeable Sodium Percentage	%	15D3	3.1	6.0
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	8	57
Aggregate Stability (Emerson)	EAT	-	3(1)	3(4)

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 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	6.68	6.79
Nitrogen (Total)	mg/kg	Dumas (Leco)	1230	-
Nitrogen (Nitrate)	mg/kg	7B1	23	2
Phosphorous (Colwell)	mg/kg	9B1	118	1
Organic Carbon	%	6A1	2.4	0.5
Conductivity	µS/cm	3A1	0.09	0.14
Chloride	mg/kg	5A1	21	137
Cation Exchange Capacity	cmol(+)/kg	15D3	6.10	17.7
Exchangeable Sodium	cmol(+)/kg	15D3	0.14	1.12
Exchangeable Potassium	cmol(+)/kg	15D3	1.11	0.62
Exchangeable Calcium	cmol(+)/kg	15D3	3.35	10.2
Exchangeable Magnesium	cmol(+)/kg	15D3	1.50	5.80
Exchangeable Sodium Percentage	%	15D3	2.4	6.3
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	5	72
Aggregate Stability (Emerson)	EAT	-	5	3(4)

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 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	6.99	7.28
Nitrogen (Total)	mg/kg	Dumas (Leco)	868	-
Nitrogen (Nitrate)	mg/kg	7B1	4	<1
Phosphorous (Colwell)	mg/kg	9B1	137	3
Organic Carbon	%	6A1	1.6	0.3
Conductivity	µS/cm	3A1	0.07	0.15
Chloride	mg/kg	5A1	24	123
Cation Exchange Capacity	cmol(+)/kg	15D3	7.84	19.1
Exchangeable Sodium	cmol(+)/kg	15D3	0.15	1.08
Exchangeable Potassium	cmol(+)/kg	15D3	1.37	0.36
Exchangeable Calcium	cmol(+)/kg	15D3	4.54	11.4
Exchangeable Magnesium	cmol(+)/kg	15D3	1.79	6.17
Exchangeable Sodium Percentage	%	15D3	2.0	5.7
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	4	54
Aggregate Stability (Emerson)	EAT	-	4	2(1)

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 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	6.46	6.63
Nitrogen (Total)	mg/kg	Dumas (Leco)	760	-
Nitrogen (Nitrate)	mg/kg	7B1	1	<1
Phosphorous (Colwell)	mg/kg	9B1	72	4
Organic Carbon	%	6A1	1.1	0.7
Conductivity	µS/cm	3A1	0.06	0.11
Chloride	mg/kg	5A1	21	146
Cation Exchange Capacity	cmol(+)/kg	15D3	5.88	17.9
Exchangeable Sodium	cmol(+)/kg	15D3	0.17	0.55
Exchangeable Potassium	cmol(+)/kg	15D3	1.11	0.30
Exchangeable Calcium	cmol(+)/kg	15D3	3.30	13.1
Exchangeable Magnesium	cmol(+)/kg	15D3	1.30	3.99
Exchangeable Sodium Percentage	%	15D3	3.0	3.1
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	13	71
Aggregate Stability (Emerson)	EAT	-	4	2(2)

EPA MONITORING POINT 51

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	7.17	6.82
Nitrogen (Total)	mg/kg	Dumas (Leco)	987	-
Nitrogen (Nitrate)	mg/kg	7B1	22	5
Phosphorous (Colwell)	mg/kg	9B1	87	2
Organic Carbon	%	6A1	1.0	0.7
Conductivity	µS/cm	3A1	0.14	0.11
Chloride	mg/kg	5A1	82	110
Cation Exchange Capacity	cmol(+)/kg	15D3	7.62	17.0
Exchangeable Sodium	cmol(+)/kg	15D3	0.30	0.78
Exchangeable Potassium	cmol(+)/kg	15D3	1.64	0.28
Exchangeable Calcium	cmol(+)/kg	15D3	3.76	11.5
Exchangeable Magnesium	cmol(+)/kg	15D3	1.92	4.39
Exchangeable Sodium Percentage	%	15D3	4.0	1.6
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	7	59
Aggregate Stability (Emerson)	EAT	-	3(4)	2(1)

EPA MONITORING POINT 52

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2015 - 2016	
			0-30cm	60-90cm
pH	-	4A1	6.67	7.23
Nitrogen (Total)	mg/kg	Dumas (Leco)	1110	-
Nitrogen (Nitrate)	mg/kg	7B1	17	3
Phosphorous (Colwell)	mg/kg	9B1	315	10
Organic Carbon	%	6A1	2.3	0.2
Conductivity	μS/cm	3A1	0.12	0.05
Chloride	mg/kg	5A1	63	18
Cation Exchange Capacity	cmol(+)/kg	15D3	10.6	10.7
Exchangeable Sodium	cmol(+)/kg	15D3	0.24	0.34
Exchangeable Potassium	cmol(+)/kg	15D3	1.56	0.48
Exchangeable Calcium	cmol(+)/kg	15D3	6.31	6.33
Exchangeable Magnesium	cmol(+)/kg	15D3	2.50	3.57
Exchangeable Sodium Percentage	%	15D3	2.2	3.1
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	<1	27
Aggregate Stability (Emerson)	EAT	-	2(1)	2(2)

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.16	<0.05	<0.05
Nitrogen (nitrate)	mg/L	35.0	41.3	23.7	40.2
Phosphorus (Reactive)	mg/L	0.37	0.13	0.13	0.15
pH	-	7.8	7.8	7.9	7.9
Conductivity	µS/cm	1370	1410	1420	1520
Phosphorus (total)	mg/L	0.15	0.43	0.18	0.33
Nitrogen (total)	mg/L	35	41.3	23.7	42
Suspended Solids	mg/L	16	328	38	142

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained					
Published					
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L				
Nitrogen (nitrate)	mg/L				
Phosphorus (Reactive)	mg/L				
pH	-	DRY	DRY	DRY	DRY
Conductivity	µS/cm				
Phosphorus (total)	mg/L				
Nitrogen (total)	mg/L				
Suspended Solids	mg/L				

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.09	<0.05	<0.05
Nitrogen (nitrate)	mg/L	5.2	6.48	4.20	6.14
Phosphorus (Reactive)	mg/L	0.53	0.20	0.18	0.16
pH	-	8.2	8.1	8.1	8.0
Conductivity	µS/cm	4600	4750	4670	5040
Phosphorus (total)	mg/L	0.24	0.26	0.56	0.19
Nitrogen (total)	mg/L	5.7	7.0	4.9	6.7
Suspended Solids	mg/L	47	102	420	41

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.09	<0.05	0.15
Nitrogen (nitrate)	mg/L	30.3	22.3	11.8	279
Phosphorus (Reactive)	mg/L	0.26	0.13	0.10	0.08
pH	-	6.7	6.8	6.7	7.0
Conductivity	µS/cm	1190	1660	1450	473
Phosphorus (total)	mg/L	0.14	0.15	0.18	0.14
Nitrogen (total)	mg/L	30.3	22.4	12.6	21.7
Suspended Solids	mg/L	15	38	52	78

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	<0.05	<0.05
Nitrogen (nitrate)	mg/L	13.8	14.5	11.9	12
Phosphorus (Reactive)	mg/L	0.19	0.07	0.06	0.07
pH	-	7.4	7.3	7.4	7.3
Conductivity	µS/cm	1650	1670	1660	1460
Phosphorus (total)	mg/L	0.08	0.07	0.68	0.12
Nitrogen (total)	mg/L	13.8	14.5	11.9	14.8
Suspended Solids	mg/L	8	22	35	56

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)

Sampled		30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.05	
Nitrogen (nitrate)	mg/L	7.2	9.35	5.53	
Phosphorus (Reactive)	mg/L	0.08	0.04	0.03	
pH	-	7.1	7.1	7.1	DRY
Conductivity	µS/cm	3360	3530	3420	
Phosphorus (total)	mg/L	0.06	0.06	0.09	
Nitrogen (total)	mg/L	7.7	9.3	6.3	
Suspended Solids	mg/L	29	97	752	

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 1st May 2007. See Fig 3.

GROUNDWATER ANALYSIS RESULTS (EPA POINT 42)

Sampled	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16	
Obtained	1-May-15	29-Oct-15	11-May-16	24-Oct-16	
Published	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16	
Pollutant	29-Oct-14	Result	Result	Result	Result
Nitrogen (ammonia)	20-Jan-15	<0.05	<0.05	<0.05	<0.05
Nitrogen (nitrate)	21-Jan-15	0.7	0.38	0.50	0.43
Phosphorus (Reactive)	29-Oct-14	0.07	0.04	0.03	0.04
pH	20-Jan-15	6.9	6.8	6.8	6.7
Conductivity	21-Jan-15	2870	2830	2870	2840
Phosphorus (total)	29-Oct-14	0.06	0.30	1.25	0.11
Nitrogen (total)	20-Jan-15	1.9	2.0	2.7	1.5
Suspended Solids	21-Jan-15	93	837	965	114

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 (BOTTOM SWAMP)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.23	7.11
Nitrogen (Total)	mg/kg	1430	-
Nitrogen (Nitrate)	mg/kg	3	<1
Phosphorous (Colwell)	mg/kg	85	6
Organic Carbon	%	1.4	0.5
Conductivity	µS/cm	0.04	0.03
Chloride	mg/kg	5	7
Cation Exchange Capacity	cmol(+)/kg	8.39	11.2
Exchangeable Sodium	cmol(+)/kg	0.10	0.61
Exchangeable Potassium	cmol(+)/kg	0.40	0.15
Exchangeable Calcium	cmol(+)/kg	5.57	7.10
Exchangeable Magnesium	cmol(+)/kg	2.32	3.31
Exchangeable Sodium Percent	%	1.2	5.5
Phosphorus Sorption Capacity	PSC mg/kg	16	44
Aggregate Stability (Emerson)	-	3(4)	2(1)

SOIL ANALYSIS RESULTS (BOTTOM TIP)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	5.70	6.84
Nitrogen (Total)	mg/kg	734	-
Nitrogen (Nitrate)	mg/kg	2	<1
Phosphorous (Colwell)	mg/kg	41	1
Organic Carbon	%	1.1	0.4
Conductivity	μS/cm	0.02	0.04
Chloride	mg/kg	7	3
Cation Exchange Capacity	cmol(+)/kg	3.75	16.0
Exchangeable Sodium	cmol(+)/kg	0.05	0.74
Exchangeable Potassium	cmol(+)/kg	0.11	0.21
Exchangeable Calcium	cmol(+)/kg	2.95	9.20
Exchangeable Magnesium	cmol(+)/kg	0.64	5.82
Exchangeable Sodium Percent	%	1.4	4.6
Phosphorus Sorption Capacity	PSC mg/kg	11	62
Aggregate Stability (Emerson)	-	2(1)	3(2)

SOIL ANALYSIS RESULTS (CREEK)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.14	6.55
Nitrogen (Total)	mg/kg	946	-
Nitrogen (Nitrate)	mg/kg	11	14
Phosphorous (Colwell)	mg/kg	112	1
Organic Carbon	%	1.9	0.6
Conductivity	μS/cm	0.05	0.05
Chloride	mg/kg	2	18
Cation Exchange Capacity	cmol(+)/kg	7.83	8.55
Exchangeable Sodium	cmol(+)/kg	0.08	0.16
Exchangeable Potassium	cmol(+)/kg	0.34	0.12
Exchangeable Calcium	cmol(+)/kg	5.62	5.77
Exchangeable Magnesium	cmol(+)/kg	1.79	2.50
Exchangeable Sodium Percent	%	1.0	1.9
Phosphorus Sorption Capacity	PSC mg/kg	5	26
Aggregate Stability (Emerson)	-	3(2)	2(1)

SOIL ANALYSIS RESULTS (CROUCHES)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.38	6.70
Nitrogen (Total)	mg/kg	712	-
Nitrogen (Nitrate)	mg/kg	16	22
Phosphorous (Colwell)	mg/kg	248	3
Organic Carbon	%	0.8	0.5
Conductivity	μS/cm	0.08	0.10
Chloride	mg/kg	2	10
Cation Exchange Capacity	cmol(+)/kg	8.34	17.5
Exchangeable Sodium	cmol(+)/kg	0.06	0.42
Exchangeable Potassium	cmol(+)/kg	0.49	0.26
Exchangeable Calcium	cmol(+)/kg	5.95	11.4
Exchangeable Magnesium	cmol(+)/kg	1.84	5.47
Exchangeable Sodium Percent	%	0.7	2.4
Phosphorus Sorption Capacity	PSC mg/kg	<1	69
Aggregate Stability (Emerson)	-	2(1)	3(2)

SOIL ANALYSIS RESULTS (DONNELLYS NTH)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	5.53	6.70
Nitrogen (Total)	mg/kg	1380	-
Nitrogen (Nitrate)	mg/kg	19	2
Phosphorous (Colwell)	mg/kg	77	6
Organic Carbon	%	2.0	0.5
Conductivity	μS/cm	0.05	0.03
Chloride	mg/kg	5	5
Cation Exchange Capacity	cmol(+)/kg	5.08	7.47
Exchangeable Sodium	cmol(+)/kg	0.04	0.12
Exchangeable Potassium	cmol(+)/kg	0.47	0.15
Exchangeable Calcium	cmol(+)/kg	3.53	5.35
Exchangeable Magnesium	cmol(+)/kg	1.04	1.85
Exchangeable Sodium Percent	%	0.8	1.6
Phosphorus Sorption Capacity	PSC mg/kg	10	36
Aggregate Stability (Emerson)	-	3(1)	2(1)

SOIL ANALYSIS RESULTS (DONNELLYS STH)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.13	6.51
Nitrogen (Total)	mg/kg	1290	-
Nitrogen (Nitrate)	mg/kg	11	<1
Phosphorous (Colwell)	mg/kg	74	3
Organic Carbon	%	1.6	0.5
Conductivity	μS/cm	0.06	0.02
Chloride	mg/kg	5	3
Cation Exchange Capacity	cmol(+)/kg	6.34	6.15
Exchangeable Sodium	cmol(+)/kg	0.04	0.10
Exchangeable Potassium	cmol(+)/kg	0.69	0.11
Exchangeable Calcium	cmol(+)/kg	4.07	4.36
Exchangeable Magnesium	cmol(+)/kg	1.54	1.58
Exchangeable Sodium Percent	%	0.6	1.6
Phosphorus Sorption Capacity	PSC mg/kg	<1	30
Aggregate Stability (Emerson)	-	3(3)	2(1)

SOIL ANALYSIS RESULTS (MORRIES)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.38	6.81
Nitrogen (Total)	mg/kg	828	-
Nitrogen (Nitrate)	mg/kg	6	<1
Phosphorous (Colwell)	mg/kg	105	28
Organic Carbon	%	2.5	0.3
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	8	33
Cation Exchange Capacity	cmol(+)/kg	7.66	19.2
Exchangeable Sodium	cmol(+)/kg	0.13	0.35
Exchangeable Potassium	cmol(+)/kg	0.54	0.33
Exchangeable Calcium	cmol(+)/kg	5.19	13.4
Exchangeable Magnesium	cmol(+)/kg	1.79	5.16
Exchangeable Sodium Percent	%	1.7	1.8
Phosphorus Sorption Capacity	PSC mg/kg	2	32
Aggregate Stability (Emerson)	-	3(2)	3(3)

SOIL ANALYSIS RESULTS (No 36)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	5.84	7.03
Nitrogen (Total)	mg/kg	573	-
Nitrogen (Nitrate)	mg/kg	29	1
Phosphorous (Colwell)	mg/kg	82	1
Organic Carbon	%	1.6	0.5
Conductivity	μS/cm	0.11	0.05
Chloride	mg/kg	43	7
Cation Exchange Capacity	cmol(+)/kg	5.52	18.5
Exchangeable Sodium	cmol(+)/kg	0.15	2.7
Exchangeable Potassium	cmol(+)/kg	0.48	0.26
Exchangeable Calcium	cmol(+)/kg	3.61	11.7
Exchangeable Magnesium	cmol(+)/kg	1.28	6.05
Exchangeable Sodium Percent	%	2.7	2.7
Phosphorus Sorption Capacity	PSC mg/kg	1	66
Aggregate Stability (Emerson)	-	5	3(4)

SOIL ANALYSIS RESULTS (OATS)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	5.31	6.53
Nitrogen (Total)	mg/kg	893	-
Nitrogen (Nitrate)	mg/kg	3	<1
Phosphorous (Colwell)	mg/kg	125	5
Organic Carbon	%	1.9	0.3
Conductivity	μS/cm	0.03	0.02
Chloride	mg/kg	4	2
Cation Exchange Capacity	cmol(+)/kg	3.97	12.2
Exchangeable Sodium	cmol(+)/kg	0.04	0.10
Exchangeable Potassium	cmol(+)/kg	0.52	0.36
Exchangeable Calcium	cmol(+)/kg	2.69	8.59
Exchangeable Magnesium	cmol(+)/kg	0.72	3.12
Exchangeable Sodium Percent	%	0.9	0.8
Phosphorus Sorption Capacity	PSC mg/kg	28	54
Aggregate Stability (Emerson)	-	4	3(4)

SOIL ANALYSIS RESULTS (REILLYS)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	5.76	7.81
Nitrogen (Total)	mg/kg	1110	-
Nitrogen (Nitrate)	mg/kg	2	<1
Phosphorous (Colwell)	mg/kg	53	2
Organic Carbon	%	1.6	0.4
Conductivity	μS/cm	0.03	0.05
Chloride	mg/kg	5	2
Cation Exchange Capacity	cmol(+)/kg	7.68	21.2
Exchangeable Sodium	cmol(+)/kg	0.17	1.22
Exchangeable Potassium	cmol(+)/kg	0.35	0.28
Exchangeable Calcium	cmol(+)/kg	4.75	10.7
Exchangeable Magnesium	cmol(+)/kg	2.41	8.99
Exchangeable Sodium Percent	%	2.3	5.8
Phosphorus Sorption Capacity	PSC mg/kg	12	38
Aggregate Stability (Emerson)	-	2(1)	2(1)

SOIL ANALYSIS RESULTS (TOP GRANTS)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.23	6.48
Nitrogen (Total)	mg/kg	1230	-
Nitrogen (Nitrate)	mg/kg	28	23
Phosphorous (Colwell)	mg/kg	52	<1
Organic Carbon	%	1.9	0.6
Conductivity	μS/cm	0.07	0.07
Chloride	mg/kg	9	15
Cation Exchange Capacity	cmol(+)/kg	2.54	17.3
Exchangeable Sodium	cmol(+)/kg	0.13	2.2
Exchangeable Potassium	cmol(+)/kg	0.24	0.18
Exchangeable Calcium	cmol(+)/kg	5.27	10.7
Exchangeable Magnesium	cmol(+)/kg	2.08	6.00
Exchangeable Sodium Percent	%	1.7	2.2
Phosphorus Sorption Capacity	PSC mg/kg	13	57
Aggregate Stability (Emerson)	-	4	3(4)

SOIL ANALYSIS RESULTS (TOP TIP)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.02	6.45
Nitrogen (Total)	mg/kg	1150	-
Nitrogen (Nitrate)	mg/kg	2	<1
Phosphorous (Colwell)	mg/kg	87	5
Organic Carbon	%	2.8	0.6
Conductivity	μS/cm	0.05	0.07
Chloride	mg/kg	16	7
Cation Exchange Capacity	cmol(+)/kg	5.67	11.3
Exchangeable Sodium	cmol(+)/kg	0.05	0.22
Exchangeable Potassium	cmol(+)/kg	0.95	1.37
Exchangeable Calcium	cmol(+)/kg	3.66	6.95
Exchangeable Magnesium	cmol(+)/kg	1.01	2.72
Exchangeable Sodium Percent	%	0.8	2.0
Phosphorus Sorption Capacity	PSC mg/kg	2	44
Aggregate Stability (Emerson)	-	3(3)	3(3)

SOIL ANALYSIS RESULTS (PERKINS 2)

Parameter	Unit	Annual Return 2015 - 2016	
		0-30 cm	60-90 cm
pH	-	6.18	6.48
Nitrogen (Total)	mg/kg	1170	-
Nitrogen (Nitrate)	mg/kg	12	<1
Phosphorous (Colwell)	mg/kg	149	11
Organic Carbon	%	2.5	0.3
Conductivity	μS/cm	0.08	0.05
Chloride	mg/kg	13	17
Cation Exchange Capacity	cmol(+)/kg	6.26	11.0
Exchangeable Sodium	cmol(+)/kg	0.07	0.24
Exchangeable Potassium	cmol(+)/kg	0.76	0.23
Exchangeable Calcium	cmol(+)/kg	3.93	7.50
Exchangeable Magnesium	cmol(+)/kg	1.49	3.05
Exchangeable Sodium Percent	%	1.2	2.2
Phosphorus Sorption Capacity	PSC mg/kg	<1	30
Aggregate Stability (Emerson)	-	3(3)	2(2)

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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	0.09	<0.05	<0.05
Nitrogen (nitrate)	mg/L	4.4	0.7	0.90	0.63	0.86
Phosphorus (Reactive)	mg/L	<0.1	0.21	0.12	0.10	0.10
pH	-	7.30	7.3	7.2	7.2	7.1
Conductivity	µS/cm	531	614	616	625	618
Phosphorus (total)	mg/L	<1	0.12	0.19	0.14	0.16
Nitrogen (total)	mg/L	2	0.7	2.2	1.2	1.6
Suspended Solids	mg/L	52	18	43	53	46

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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	<0.05	<0.05	<0.05
Nitrogen (nitrate)	mg/L	15	2.8	3.32	3.59	5.78
Phosphorus (Reactive)	mg/L	<0.1	0.06	0.03	0.04	0.04
pH	-	7.23	7.2	7.3	7.3	7.2
Conductivity	µS/cm	322	379	376	392	461
Phosphorus (total)	mg/L	<1	0.04	0.04	0.08	0.08
Nitrogen (total)	mg/L	4	2.8	3.3	4.1	12.7
Suspended Solids	mg/L	23	<2	25	32	44

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 1st May 2007. See Fig 3.

GROUNDWATER ANALYSIS RESULTS (EPA POINT 46)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	<0.05	<0.05	<0.05
Nitrogen (nitrate)	mg/L	28	6.1	7.23	5.10	6.77
Phosphorus (Reactive)	mg/L	<0.1	0.08	0.03	0.03	0.04
pH	-	7.64	7.6	7.6	7.6	7.6
Conductivity	µS/cm	1240	1400	1430	1480	1430
Phosphorus (total)	mg/L	<1	0.07	0.05	0.06	0.07
Nitrogen (total)	mg/L	7	6.5	7.2	5.6	8.5
Suspended Solids	mg/L	20	38	34	20	24

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 1st May 2007. See Fig 3.

GROUNDWATER ANALYSIS RESULTS (EPA POINT 47)

Sampled		29-Oct-14	30-Apr-15	11-Nov-15	13-Apr-16	14-Oct-16
Obtained		DRY	DRY	DRY	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	DRY	DRY	DRY
Conductivity	µS/cm					
Phosphorus (total)	mg/L					
Nitrogen (total)	mg/L					
Suspended Solids	mg/L					

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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	0.09	<0.05	<0.05
Nitrogen (nitrate)	mg/L	3.0	0.5	0.11	0.18	0.05
Phosphorus (Reactive)	mg/L	<0.1	0.05	0.04	0.03	0.03
pH	-	7.48	7.5	7.4	7.5	7.3
Conductivity	µS/cm	501	583	604	517	631
Phosphorus (total)	mg/L	<1	0.05	0.07	0.05	0.07
Nitrogen (total)	mg/L	2	0.5	0.6	0.5	0.23
Suspended Solids	mg/L	<10	8	42	23	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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	0.06	<0.05	<0.05
Nitrogen (nitrate)	mg/L	27	4.6	5.53	3.27	4.04
Phosphorus (Reactive)	mg/L	<0.1	0.22	0.06	0.07	0.07
pH	-	6.89	6.9	6.9	6.9	6.8
Conductivity	µS/cm	505	572	577	613	625
Phosphorus (total)	mg/L	<1	0.14	0.09	0.12	0.23
Nitrogen (total)	mg/L	10	5.2	7.2	3.9	8.9
Suspended Solids	mg/L	24	43	54	55	155

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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	0.09	<0.05	<0.05
Nitrogen (nitrate)	mg/L	2.3	0.1	0.05	0.14	0.07
Phosphorus (Reactive)	mg/L	<0.1	0.17	0.07	0.07	0.04
pH	-	7.42	7.5	7.5	7.4	7.4
Conductivity	µS/cm	439	483	483	485	494
Phosphorus (total)	mg/L	<1	0.1	0.27	0.17	0.17
Nitrogen (total)	mg/L	<1	<0.3	0.7	<0.3	0.81
Suspended Solids	mg/L	418	19	1100	168	110

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)

Sampled		29-Oct-14	30-Apr-15	27-Oct-15	13-Apr-16	14-Oct-16
Obtained		20-Jan-15	1-May-15	29-Oct-15	11-May-16	24-Oct-16
Published		21-Jan-15	14-May-15	11-Nov-15	6-Jun-16	7-Nov-16
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.05	<0.05	<0.05	<0.05
Nitrogen (nitrate)	mg/L	44	7.7	6.30	4.76	6.19
Phosphorus (Reactive)	mg/L	<0.1	0.04	0.03	0.03	0.04
pH	-	7.23	7.1	7.2	7.2	7.0
Conductivity	µS/cm	1130	1340	1350	1470	1470
Phosphorus (total)	mg/L	<1	0.04	0.04	0.07	0.09
Nitrogen (total)	mg/L	12	8.1	6.8	5.3	8.2
Suspended Solids	mg/L	142	13	28	72	44

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		12-Sept-16	12-Dec-16	13-Mar-17	20-Mar-17#
Obtained		26-Sept-16	14-Dec-16	22-Mar-17	29-Mar-17
Published		10-Oct-16	30-Dec-16	27-Apr-17	27-Apr-17
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	29	34.4	10	19
Chloride	mg/L	240	264	260	240
Nitrate	mg/L	<0.05	0.5	1.9	<0.05
Phosphorus (Reactive)	mg/L	28	17	22	33
pH	-	7.7	7.9	7.9	7.7
Conductivity	µS/cm	2000	2190	1,900	1,900
SAR	-	2.2	2.3	2.7	2.7
Phosphorus (Total)	mg/L	32	39.4	45	43
Nitrogen (Total)	mg/L	50	63.2	22	49
TKN	mg/L	50	63.2	20	49
Suspended Solids	mg/L	270	207	80	350
Calcium	mg/L	42	62	48	42
Potassium	mg/L	300	337	120	360
Magnesium	mg/L	40	52	13	38
Sodium	mg/L	84	102	55	100

Collected during pond overflow event.