

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 1 st 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 1 st 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 1 st 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 1 st 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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	81			81
Nitrate	mg/L	<0.005			<0.005
Total Kjeldahl Nitrogen	mg/L	0.5			0.7
pH	-	8.3			7.7
Conductivity	µS/cm	810			820
SAR	-	2.9			3.1
Phosphorus (Reactive)	mg/L	0.041	DRY	DRY	0.22
Nitrogen (Total)	mg/L	0.5			0.7
Suspended Solids	mg/L	<10			<5
Calcium	mg/L	51			44
Potassium	mg/L	5.0			9.0
Magnesium	mg/L	36			31
Sodium	mg/L	110			110
Phosphorus (Total)	mg/L	0.06			0.1
Nitrogen (Ammonia)	mg/L	<0.005			<0.005

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure		Result	Result	Result
Chloride	mg/L				
Nitrate	mg/L				
Total Kjeldahl Nitrogen	mg/L				
pH	-				
Conductivity	µS/cm				
SAR	-				
Phosphorus (Reactive)	mg/L				
Nitrogen (Total)	mg/L	DRY	DRY	DRY	DRY
Suspended Solids	mg/L				
Calcium	mg/L				
Potassium	mg/L				
Magnesium	mg/L				
Sodium	mg/L				
Phosphorus (Total)	mg/L				
Nitrogen (Ammonia)	mg/L				

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	130	120	93	130
Nitrate	mg/L	0.21	0.066	<0.005	1.5
Total Kjeldahl Nitrogen	mg/L	2.1	3.3	2.1	6.3
pH	-	8.1	8.2	7.2	8.0
Conductivity	µS/cm	990	890	720	1000
SAR	-	2.7	2.9	2.0	2.7
Phosphorus (Reactive)	mg/L	0.78	1.1	2.1	0.24
Nitrogen (Total)	mg/L	2.3	3.4	2.1	7.8
Suspended Solids	mg/L	12	450	28	13
Calcium	mg/L	63	59	44	59
Potassium	mg/L	19	29	29	31
Magnesium	mg/L	43	39	27	38
Sodium	mg/L	110	120	70	110
Phosphorus (Total)	mg/L	0.9	1.6	3.0	0.3
Nitrogen (Ammonia)	mg/L	0.16	0.42	0.099	3.1

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	26	31	25	35
Nitrate	mg/L	<0.005	<0.005	0.006	0.008
Total Kjeldahl Nitrogen	mg/L	0.7	0.5	0.7	0.4
pH	-	8.3	7.9	7.6	8.2
Conductivity	µS/cm	300	300	320	520
SAR	-	1.9	2.0	1.5	2.3
Phosphorus (Reactive)	mg/L	0.010	0.009	0.068	0.043
Nitrogen (Total)	mg/L	0.7	0.5	0.7	0.4
Suspended Solids	mg/L	6	6	8	<5
Calcium	mg/L	16	17	17	27
Potassium	mg/L	2.3	3.7	4.6	2.8
Magnesium	mg/L	11	12	12	21
Sodium	mg/L	40	43	33	67
Phosphorus (Total)	mg/L	<0.05	0.06	0.06	<0.05
Nitrogen (Ammonia)	mg/L	0.047	<0.005	0.018	0.017

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	21	22	21	38
Nitrate	mg/L	<0.005	<0.005	<0.005	<0.005
Total Kjeldahl Nitrogen	mg/L	0.6	0.4	0.7	0.8
pH	-	8.5	8.4	8.0	8.2
Conductivity	µS/cm	440	340	370	480
SAR	-	0.81	0.81	0.67	1.2
Phosphorus (Reactive)	mg/L	0.005	0.10	0.18	0.034
Nitrogen (Total)	mg/L	0.6	0.5	0.7	0.8
Suspended Solids	mg/L	<5	630	<5	<5
Calcium	mg/L	34	26	25	31
Potassium	mg/L	3.0	3.3	6.0	5.6
Magnesium	mg/L	32	25	24	27
Sodium	mg/L	28	25	20	39
Phosphorus (Total)	mg/L	<0.05	0.1	0.2	0.05
Nitrogen (Ammonia)	mg/L	<0.005	<0.005	0.013	<0.005

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	18	20	13	28
Nitrate	mg/L	0.006	<0.005	<0.005	<0.005
Total Kjeldahl Nitrogen	mg/L	0.4	0.4	0.6	0.5
pH	-	8.4	8.6	8.4	8.5
Conductivity	µS/cm	470	370	300	450
SAR	-	0.72	0.61	0.53	1.2
Phosphorus (Reactive)	mg/L	0.01	0.037	0.098	0.026
Nitrogen (Total)	mg/L	0.4	0.4	0.6	0.5
Suspended Solids	mg/L	<5	330	<5	<5
Calcium	mg/L	34	26	23	31
Potassium	mg/L	2.7	2.6	4.3	5.6
Magnesium	mg/L	39	33	21	27
Sodium	mg/L	26	20	15	39
Phosphorus (Total)	mg/L	<0.05	0.06	0.1	0.05
Nitrogen (Ammonia)	mg/L	0.009	<0.005	<0.005	0.014

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	20	21	20	27
Nitrate	mg/L	0.02	0.088	0.068	0.072
Total Kjeldahl Nitrogen	mg/L	0.5	0.4	0.8	0.6
pH	-	8.7	8.6	8.3	8.5
Conductivity	µS/cm	450	360	320	420
SAR	-	0.74	0.73	0.72	0.83
Phosphorus (Reactive)	mg/L	<0.005	0.045	0.23	0.016
Nitrogen (Total)	mg/L	0.6	0.5	0.9	0.6
Suspended Solids	mg/L	<5	6	6	<5
Calcium	mg/L	32	26	23	27
Potassium	mg/L	2.8	2.7	7.5	4.1
Magnesium	mg/L	36	30	20	28
Sodium	mg/L	26	23	20	26
Phosphorus (Total)	mg/L	0.06	0.07	0.2	0.08
Nitrogen (Ammonia)	mg/L	0.031	<0.005	0.025	0.007

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	57	25	11	11
Chloride	mg/L	510	490	430	520
Nitrate	mg/L	<0.05	<0.05	<0.025	<0.005
Phosphorus (Reactive)	mg/L	28	25	22	13
pH	-	8.3	8.1	8.0	8.2
Conductivity	µS/cm	3,900	3,700	2800	3400
SAR	-	3.2	4.0	3.1	3.5
Phosphorus (Total)	mg/L	62	63	31	48
Nitrogen (Total)	mg/L	190	100	39	74
TKN	mg/L	190	100	39	74
Suspended Solids	mg/L	520	1,900	100	480
Calcium	mg/L	20	65	47	54
Potassium	mg/L	8.8	730	540	590
Magnesium	mg/L	13	79	61	61
Sodium	mg/L	45	200	140	160

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	0.13	1.4	0.95	0.011
Chloride	mg/L	240	190	95	370
Nitrate	mg/L	<0.005	<0.05	<0.05	<0.005
Phosphorus (Reactive)	mg/L	6.9	11	12	7.1
pH	-	9.1	8.5	7.7	9.4
Conductivity	µS/cm	1,500	1,400	690	2100
SAR	-	3.3	3.0	1.3	4
Phosphorus (Total)	mg/L	13	15	11	15
Nitrogen (Total)	mg/L	15	9.5	5.4	16
TKN	mg/L	15	9.5	5.4	16
Suspended Solids	mg/L	65	340	24	140
Calcium	mg/L	23	28	19	29
Potassium	mg/L	300	270	140	370
Magnesium	mg/L	30	30	14	33
Sodium	mg/L	100	130	30	130

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		13-Sept-17	13-Sept-17	19-Mar-18	19-Mar-18
Obtained		26-Sept-17	26-Sept-17	29-Mar-18	29-Mar-18
Published		17-Oct-17	17-Oct-17	4-Apr-18	4-Apr-18
Pollutant	Unit of measure	Unscreened Result	Screened Result	Unscreened Result	Screened Result
Moisture	%	24.0	18.8	28.8	20.8
Nitrate	mg/kg	7.58	7.98	620	532
Nitrogen (Total)	mg/kg	2.40	1.10	2.06	2.11
pH	-	7.28	7.91	8.31	8.52
Calcium	mg/kg	111	94.7	2.68	2.78
Phosphorus (Total)	mg/kg	0.78	0.39	0.86	0.99
Organic Carbon	%	24.2	10.1	28.9	29.7
Potassium	mg/kg	2.02	1.38	1.83	2.24
Magnesium	mg/kg	0.63	0.48	0.94	123
Sodium	mg/kg	0.43	0.23	27.5	0.64
Conductivity	µS/cm	10.2	5.90	5.50	6.68
SAR	-			27.5	28.6
Sulphur	mg/kg	1113	555	200	213
Chloride	mg/kg	15050	32150	13500	15300
Zinc	mg/kg	238	148	252	262

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		12-Sept-16	13-Mar-17	13-Sept-17	19-Mar-18
Obtained		26-Sept-16	22-Mar-17	26-Sept-17	29-Mar-18
Published		10-Oct-16	30-Mar-17	17-Oct-17	4-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	0.53	0.22	<0.005	2.2
Chloride	mg/L	43	110	91	78
Nitrate	mg/L	<0.05	0.39	<0.005	<0.005
Phosphorus (Reactive)	mg/L	4.0	1.0	1.3	5.2
pH	-	7.6	7.4	8.6	7.6
Conductivity	µS/cm	360	730	600	560
SAR	-	1.0	2.4	1.6	1.2
Phosphorus (Total)	mg/L	4.0	4.3	7.2	6.4
Nitrogen (Total)	mg/L	5.3	11	13	8.7
TKN	mg/L	5.3	11	13	8.7
Suspended Solids	mg/L	30	780	270	140
Calcium	mg/L	9.6	17	19	17
Potassium	mg/L	50	120	82	85
Magnesium	mg/L	8.5	13	15	12
Sodium	mg/L	18	55	38	28

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 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.92	7.55
Nitrogen (Total)	mg/kg	Dumas (Leco)	1266	509
Nitrogen (Nitrate)	mg/kg	7B1	24.5	10.0
Phosphorous (Colwell)	mg/kg	9B1	194	16.8
Organic Carbon	%	6A1	0.64	0.31
Conductivity	µS/cm	3A1	0.13	0.10
Chloride	mg/kg	5A1	5.80	23.0
Cation Exchange Capacity	cmol(+)/kg	15D3	8.88	8.95
Exchangeable Sodium	cmol(+)/kg	15D3	0.29	0.64
Exchangeable Potassium	cmol(+)/kg	15D3	0.62	1.44
Exchangeable Calcium	cmol(+)/kg	15D3	5.68	3.51
Exchangeable Magnesium	cmol(+)/kg	15D3	2.28	3.35
Exchangeable Sodium Percentage	%	15D3	3.26	7.19
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	343	342
Aggregate Stability (Emerson)	EAT	-	7.4	4.0

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 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.87	6.47
Nitrogen (Total)	mg/kg	Dumas (Leco)	487	1344
Nitrogen (Nitrate)	mg/kg	7B1	6.15	31.7
Phosphorous (Colwell)	mg/kg	9B1	5.39	147
Organic Carbon	%	6A1	0.13	0.64
Conductivity	µS/cm	3A1	0.09	0.20
Chloride	mg/kg	5A1	31.0	91.5
Cation Exchange Capacity	cmol(+)/kg	15D3	15.3	7.88
Exchangeable Sodium	cmol(+)/kg	15D3	1.07	0.33
Exchangeable Potassium	cmol(+)/kg	15D3	0.45	1.48
Exchangeable Calcium	cmol(+)/kg	15D3	7.29	4.06
Exchangeable Magnesium	cmol(+)/kg	15D3	6.49	2.00
Exchangeable Sodium Percentage	%	15D3	6.96	4.21
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	327	304
Aggregate Stability (Emerson)	EAT	-	4.5	6.0

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 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.50	6.68
Nitrogen (Total)	mg/kg	Dumas (Leco)	1032	588
Nitrogen (Nitrate)	mg/kg	7B1	6.62	3.58
Phosphorous (Colwell)	mg/kg	9B1	48.4	7.84
Organic Carbon	%	6A1	0.49	0.34
Conductivity	µS/cm	3A1	0.07	0.14
Chloride	mg/kg	5A1	25.8	83.1
Cation Exchange Capacity	cmol(+)/kg	15D3	6.94	17.5
Exchangeable Sodium	cmol(+)/kg	15D3	0.25	1.00
Exchangeable Potassium	cmol(+)/kg	15D3	0.98	0.46
Exchangeable Calcium	cmol(+)/kg	15D3	3.66	10.1
Exchangeable Magnesium	cmol(+)/kg	15D3	2.04	5.97
Exchangeable Sodium Percentage	%	15D3	3.60	5.71
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	347	747
Aggregate Stability (Emerson)	EAT	-	2.6	24.1

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 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.77	7.29
Nitrogen (Total)	mg/kg	Dumas (Leco)	1256	704
Nitrogen (Nitrate)	mg/kg	7B1	6.99	3.50
Phosphorous (Colwell)	mg/kg	9B1	9.65	7.57
Organic Carbon	%	6A1	0.62	0.21
Conductivity	µS/cm	3A1	0.10	0.24
Chloride	mg/kg	5A1	57.2	178
Cation Exchange Capacity	cmol(+)/kg	15D3	8.00	22.5
Exchangeable Sodium	cmol(+)/kg	15D3	0.27	1.27
Exchangeable Potassium	cmol(+)/kg	15D3	1.55	0.24
Exchangeable Calcium	cmol(+)/kg	15D3	4.43	13.4
Exchangeable Magnesium	cmol(+)/kg	15D3	1.75	7.61
Exchangeable Sodium Percentage	%	15D3	3.32	5.65
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	244	611
Aggregate Stability (Emerson)	EAT	-	7.7	20.7

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 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.48	6.53
Nitrogen (Total)	mg/kg	Dumas (Leco)	1123	582
Nitrogen (Nitrate)	mg/kg	7B1	3.78	3.33
Phosphorous (Colwell)	mg/kg	9B1	77.8	8.67
Organic Carbon	%	6A1	0.57	0.31
Conductivity	µS/cm	3A1	0.09	0.17
Chloride	mg/kg	5A1	48.0	128
Cation Exchange Capacity	cmol(+)/kg	15D3	5.82	18.3
Exchangeable Sodium	cmol(+)/kg	15D3	0.25	0.93
Exchangeable Potassium	cmol(+)/kg	15D3	1.52	0.36
Exchangeable Calcium	cmol(+)/kg	15D3	2.79	12.1
Exchangeable Magnesium	cmol(+)/kg	15D3	1.26	4.87
Exchangeable Sodium Percentage	%	15D3	4.22	5.12
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	290	638
Aggregate Stability (Emerson)	EAT	-	0.3	18.6

EPA MONITORING POINT 51

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.60	6.63
Nitrogen (Total)	mg/kg	Dumas (Leco)	980	631
Nitrogen (Nitrate)	mg/kg	7B1	6.53	3.62
Phosphorous (Colwell)	mg/kg	9B1	102	10.9
Organic Carbon	%	6A1	0.78	0.19
Conductivity	µS/cm	3A1	0.17	0.15
Chloride	mg/kg	5A1	99.8	89.9
Cation Exchange Capacity	cmol(+)/kg	15D3	7.41	11.2
Exchangeable Sodium	cmol(+)/kg	15D3	0.34	0.57
Exchangeable Potassium	cmol(+)/kg	15D3	2.16	0.39
Exchangeable Calcium	cmol(+)/kg	15D3	2.99	7.29
Exchangeable Magnesium	cmol(+)/kg	15D3	1.90	2.96
Exchangeable Sodium Percentage	%	15D3	4.62	5.11
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	332	450
Aggregate Stability (Emerson)	EAT	-	3.8	12.6

EPA MONITORING POINT 52

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2017 - 2018	
			0-30cm	60-90cm
pH	-	4A1	6.52	6.91
Nitrogen (Total)	mg/kg	Dumas (Leco)	1264	624
Nitrogen (Nitrate)	mg/kg	7B1	19.7	6.67
Phosphorous (Colwell)	mg/kg	9B1	130	8.67
Organic Carbon	%	6A1	0.75	0.33
Conductivity	μS/cm	3A1	0.20	0.16
Chloride	mg/kg	5A1	133	115
Cation Exchange Capacity	cmol(+)/kg	15D3	9.96	16.9
Exchangeable Sodium	cmol(+)/kg	15D3	0.35	0.98
Exchangeable Potassium	cmol(+)/kg	15D3	1.97	0.23
Exchangeable Calcium	cmol(+)/kg	15D3	4.77	9.83
Exchangeable Magnesium	cmol(+)/kg	15D3	2.86	5.83
Exchangeable Sodium Percentage	%	15D3	3.53	5.80
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	376	496
Aggregate Stability (Emerson)	EAT	-	8.6	5.0

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.38	<0.005	0.031
Nitrogen (nitrate)	mg/L	40.2	42	37	37
Phosphorus (Reactive)	mg/L	0.15	0.18	0.092	0.32
pH	-	7.9	7.8	7.8	7.7
Conductivity	µS/cm	1520	1300	1,300	1400
Phosphorus (total)	mg/L	0.33	0.2	0.09	0.1
Nitrogen (total)	mg/L	42	42	37	47
Suspended Solids	mg/L	142	76	10	95

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.012	<0.005	0.025
Nitrogen (nitrate)	mg/L	6.14	5.7	5.5	4.9
Phosphorus (Reactive)	mg/L	0.16	0.27	0.12	0.26
pH	-	8.0	7.9	7.9	7.9
Conductivity	µS/cm	5040	4400	5,000	5200
Phosphorus (total)	mg/L	0.19	0.2	0.1	0.1
Nitrogen (total)	mg/L	6.7	5.8	6.7	6.1
Suspended Solids	mg/L	41	17	<5	44

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	0.15	0.009	<0.005	<0.005
Nitrogen (nitrate)	mg/L	279	18	42	38
Phosphorus (Reactive)	mg/L	0.08	0.16	0.10	0.27
pH	-	7.0	6.7	6.8	6.8
Conductivity	µS/cm	473	930	1700	1500
Phosphorus (total)	mg/L	0.14	0.1	0.1	0.1
Nitrogen (total)	mg/L	21.7	19	44	47
Suspended Solids	mg/L	78	16	6	16

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.041	0.006	<0.005
Nitrogen (nitrate)	mg/L	12	15	16	15
Phosphorus (Reactive)	mg/L	0.07	0.17	0.041	0.32
pH	-	7.3	7.3	7.4	7.4
Conductivity	µS/cm	1460	1400	1700	1500
Phosphorus (total)	mg/L	0.12	0.06	<0.05	0.05
Nitrogen (total)	mg/L	14.8	15	16	18
Suspended Solids	mg/L	56	19	10	10

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L			0.009	0.049
Nitrogen (nitrate)	mg/L			3.9	1.8
Phosphorus (Reactive)	mg/L			0.037	0.24
pH	-	DRY	DRY	7.2	7.3
Conductivity	µS/cm			2800	2100
Phosphorus (total)	mg/L			<0.05	0.07
Nitrogen (total)	mg/L			4.5	2.8
Suspended Solids	mg/L			26	27

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		14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	0.041	0.020	0.011
Nitrogen (nitrate)	mg/L	0.43	0.93	11	7.2
Phosphorus (Reactive)	mg/L	0.04	0.16	0.015	0.3
pH	-	6.7	6.8	6.8	6.8
Conductivity	µS/cm	2840	2300	2600	1800
Phosphorus (total)	mg/L	0.11	<0.05	<0.05	<0.05
Nitrogen (total)	mg/L	1.5	2.4	11	8.3
Suspended Solids	mg/L	114	33	<5	24

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 (BEARDY)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.14	6.45
Nitrogen (Total)	mg/kg	832	257
Nitrogen (Nitrate)	mg/kg	4.54	3.41
Phosphorous (Colwell)	mg/kg	88.3	15.9
Organic Carbon	%	0.88	0.21
Conductivity	µS/cm	0.04	0.06
Chloride	mg/kg	23.3	10.7
Cation Exchange Capacity	cmol(+)/kg	4.95	15.5
Exchangeable Sodium	cmol(+)/kg	0.17	1.57
Exchangeable Potassium	cmol(+)/kg	0.21	0.25
Exchangeable Calcium	cmol(+)/kg	3.27	7.08
Exchangeable Magnesium	cmol(+)/kg	1.29	6.55
Exchangeable Sodium Percent	%	3.51	10.2
Phosphorus Sorption Capacity	PSC mg/kg	54.6	76.2
Aggregate Stability (Emerson)	-	3b	2

SOIL ANALYSIS RESULTS (BOTTOM GRANTS)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.46	6.50
Nitrogen (Total)	mg/kg	1651	477
Nitrogen (Nitrate)	mg/kg	7.36	3.98
Phosphorous (Colwell)	mg/kg	187	7.57
Organic Carbon	%	0.81	0.20
Conductivity	μ S/cm	0.08	0.06
Chloride	mg/kg	22.8	7.20
Cation Exchange Capacity	cmol(+)/kg	7.61	16.3
Exchangeable Sodium	cmol(+)/kg	0.16	0.75
Exchangeable Potassium	cmol(+)/kg	0.71	0.21
Exchangeable Calcium	cmol(+)/kg	4.55	9.64
Exchangeable Magnesium	cmol(+)/kg	2.19	5.73
Exchangeable Sodium Percent	%	2.05	4.60
Phosphorus Sorption Capacity	PSC mg/kg	317	519
Aggregate Stability (Emerson)	-	5.92	21.4

SOIL ANALYSIS RESULTS (MIDDLE OAKS)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.96	6.77
Nitrogen (Total)	mg/kg	1277	488
Nitrogen (Nitrate)	mg/kg	5.04	5.24
Phosphorous (Colwell)	mg/kg	205	5.93
Organic Carbon	%	0.60	0.16
Conductivity	μS/cm	0.06	0.07
Chloride	mg/kg	8.30	7.10
Cation Exchange Capacity	cmol(+)/kg	5.01	14.1
Exchangeable Sodium	cmol(+)/kg	0.08	0.56
Exchangeable Potassium	cmol(+)/kg	0.24	0.19
Exchangeable Calcium	cmol(+)/kg	3.38	8.02
Exchangeable Magnesium	cmol(+)/kg	1.30	5.33
Exchangeable Sodium Percent	%	1.61	3.98
Phosphorus Sorption Capacity	PSC mg/kg	311	478
Aggregate Stability (Emerson)	-	4.1	12.2

SOIL ANALYSIS RESULTS (OLD 2)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.88	6.23
Nitrogen (Total)	mg/kg	1172	581
Nitrogen (Nitrate)	mg/kg	3.52	3.53
Phosphorous (Colwell)	mg/kg	58.3	7.84
Organic Carbon	%	0.67	0.49
Conductivity	μ S/cm	0.06	0.05
Chloride	mg/kg	26.0	9.20
Cation Exchange Capacity	cmol(+)/kg	5.86	15.2
Exchangeable Sodium	cmol(+)/kg	0.13	0.43
Exchangeable Potassium	cmol(+)/kg	0.42	0.19
Exchangeable Calcium	cmol(+)/kg	3.65	9.21
Exchangeable Magnesium	cmol(+)/kg	1.64	5.40
Exchangeable Sodium Percent	%	2.28	2.84
Phosphorus Sorption Capacity	PSC mg/kg	231	639
Aggregate Stability (Emerson)	-	9.1	19.9

SOIL ANALYSIS RESULTS (OLD 3)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.19	6.35
Nitrogen (Total)	mg/kg	1127	564
Nitrogen (Nitrate)	mg/kg	25.0	14.5
Phosphorous (Colwell)	mg/kg	48.7	10.3
Organic Carbon	%	0.51	0.24
Conductivity	µS/cm	0.10	0.08
Chloride	mg/kg	27.2	8.70
Cation Exchange Capacity	cmol(+)/kg	6.81	17.4
Exchangeable Sodium	cmol(+)/kg	0.15	0.45
Exchangeable Potassium	cmol(+)/kg	0.26	0.19
Exchangeable Calcium	cmol(+)/kg	4.93	11.7
Exchangeable Magnesium	cmol(+)/kg	1.46	4.98
Exchangeable Sodium Percent	%	2.16	2.60
Phosphorus Sorption Capacity	PSC mg/kg	197	451
Aggregate Stability (Emerson)	-	7.2	24.7

SOIL ANALYSIS RESULTS (OLD 4)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.15	6.74
Nitrogen (Total)	mg/kg	1345	573
Nitrogen (Nitrate)	mg/kg	6.24	3.60
Phosphorous (Colwell)	mg/kg	118	7.30
Organic Carbon	%	0.63	0.17
Conductivity	µS/cm	0.09	0.06
Chloride	mg/kg	12.7	4.40
Cation Exchange Capacity	cmol(+)/kg	6.78	18.6
Exchangeable Sodium	cmol(+)/kg	0.13	0.92
Exchangeable Potassium	cmol(+)/kg	0.27	0.24
Exchangeable Calcium	cmol(+)/kg	5.53	10.4
Exchangeable Magnesium	cmol(+)/kg	0.83	6.99
Exchangeable Sodium Percent	%	1.97	4.96
Phosphorus Sorption Capacity	PSC mg/kg	70.7	114
Aggregate Stability (Emerson)	-	7	5

SOIL ANALYSIS RESULTS (PINES)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.33	6.99
Nitrogen (Total)	mg/kg	1685	414
Nitrogen (Nitrate)	mg/kg	3.67	3.41
Phosphorous (Colwell)	mg/kg	204	12.3
Organic Carbon	%	0.90	0.10
Conductivity	μS/cm	0.07	0.05
Chloride	mg/kg	27.8	5.90
Cation Exchange Capacity	cmol(+)/kg	9.45	9.72
Exchangeable Sodium	cmol(+)/kg	0.14	0.69
Exchangeable Potassium	cmol(+)/kg	0.55	0.34
Exchangeable Calcium	cmol(+)/kg	6.75	5.25
Exchangeable Magnesium	cmol(+)/kg	1.48	3.48
Exchangeable Sodium Percent	%	3.30	3.58
Phosphorus Sorption Capacity	PSC mg/kg	92.0	112
Aggregate Stability (Emerson)	-	3b	3b

SOIL ANALYSIS RESULTS (PIVOT 2A)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.47	6.62
Nitrogen (Total)	mg/kg	1239	833
Nitrogen (Nitrate)	mg/kg	33.9	6.72
Phosphorous (Colwell)	mg/kg	102	7.57
Organic Carbon	%	0.61	0.39
Conductivity	μS/cm	0.14	0.06
Chloride	mg/kg	5.50	3.50
Cation Exchange Capacity	cmol(+)/kg	8.16	18.0
Exchangeable Sodium	cmol(+)/kg	0.14	0.59
Exchangeable Potassium	cmol(+)/kg	0.17	0.21
Exchangeable Calcium	cmol(+)/kg	6.12	11.1
Exchangeable Magnesium	cmol(+)/kg	1.73	6.13
Exchangeable Sodium Percent	%	1.70	3.25
Phosphorus Sorption Capacity	PSC mg/kg	369	714
Aggregate Stability (Emerson)	-	8.8	18.2

SOIL ANALYSIS RESULTS (RIVER)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.69	6.35
Nitrogen (Total)	mg/kg	1279	372
Nitrogen (Nitrate)	mg/kg	6.80	3.38
Phosphorous (Colwell)	mg/kg	26.7	6.48
Organic Carbon	%	0.79	0.30
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	20.2	3.10
Cation Exchange Capacity	cmol(+)/kg	5.49	17.4
Exchangeable Sodium	cmol(+)/kg	0.12	0.42
Exchangeable Potassium	cmol(+)/kg	0.40	0.31
Exchangeable Calcium	cmol(+)/kg	3.55	8.83
Exchangeable Magnesium	cmol(+)/kg	1.41	7.79
Exchangeable Sodium Percent	%	2.23	2.43
Phosphorus Sorption Capacity	PSC mg/kg	268	522
Aggregate Stability (Emerson)	-	8.7	31.4

SOIL ANALYSIS RESULTS (SUGARLOAF)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.28	6.02
Nitrogen (Total)	mg/kg	1536	688
Nitrogen (Nitrate)	mg/kg	5.13	25.6
Phosphorous (Colwell)	mg/kg	288	7.30
Organic Carbon	%	0.63	0.24
Conductivity	µS/cm	0.05	0.10
Chloride	mg/kg	13.2	4.70
Cation Exchange Capacity	cmol(+)/kg	6.16	17.2
Exchangeable Sodium	cmol(+)/kg	0.15	0.37
Exchangeable Potassium	cmol(+)/kg	0.45	0.29
Exchangeable Calcium	cmol(+)/kg	4.15	11.3
Exchangeable Magnesium	cmol(+)/kg	1.39	5.21
Exchangeable Sodium Percent	%	2.43	2.13
Phosphorus Sorption Capacity	PSC mg/kg	546	587
Aggregate Stability (Emerson)	-	4.9	15.7

SOIL ANALYSIS RESULTS (TOP SWAMP)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.49	6.80
Nitrogen (Total)	mg/kg	2120	645
Nitrogen (Nitrate)	mg/kg	22.3	6.63
Phosphorous (Colwell)	mg/kg	263	9.77
Organic Carbon	%	1.05	0.26
Conductivity	µS/cm	0.15	0.11
Chloride	mg/kg	37.7	65.9
Cation Exchange Capacity	cmol(+)/kg	11.8	19.1
Exchangeable Sodium	cmol(+)/kg	0.24	1.16
Exchangeable Potassium	cmol(+)/kg	1.12	0.22
Exchangeable Calcium	cmol(+)/kg	6.72	10.8
Exchangeable Magnesium	cmol(+)/kg	3.75	6.93
Exchangeable Sodium Percent	%	1.99	6.06
Phosphorus Sorption Capacity	PSC mg/kg	614	659
Aggregate Stability (Emerson)	-	10.4	21.1

SOIL ANALYSIS RESULTS (WASHPOOL RD)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	5.53	6.14
Nitrogen (Total)	mg/kg	1187	430
Nitrogen (Nitrate)	mg/kg	10.4	3.59
Phosphorous (Colwell)	mg/kg	181	12.8
Organic Carbon	%	0.66	0.17
Conductivity	µS/cm	0.07	0.06
Chloride	mg/kg	27.8	<2.0
Cation Exchange Capacity	cmol(+)/kg	5.23	14.8
Exchangeable Sodium	cmol(+)/kg	0.14	0.38
Exchangeable Potassium	cmol(+)/kg	0.50	0.22
Exchangeable Calcium	cmol(+)/kg	3.11	9.07
Exchangeable Magnesium	cmol(+)/kg	1.48	5.12
Exchangeable Sodium Percent	%	2.61	2.56
Phosphorus Sorption Capacity	PSC mg/kg	420	770
Aggregate Stability (Emerson)	-	1.2	4.0

SOIL ANALYSIS RESULTS (WASHPool RIVER)

Parameter	Unit	Annual Return 2017 - 2018	
		0-30 cm	60-90 cm
pH	-	6.93	4.51
Nitrogen (Total)	mg/kg	1152	427
Nitrogen (Nitrate)	mg/kg	4.29	6.46
Phosphorous (Colwell)	mg/kg	225	12.7
Organic Carbon	%	0.71	0.14
Conductivity	µS/cm	0.09	0.13
Chloride	mg/kg	25.7	71.3
Cation Exchange Capacity	cmol(+)/kg	5.17	9.75
Exchangeable Sodium	cmol(+)/kg	0.24	2.21
Exchangeable Potassium	cmol(+)/kg	0.40	0.28
Exchangeable Calcium	cmol(+)/kg	2.88	0.80
Exchangeable Magnesium	cmol(+)/kg	1.63	6.28
Exchangeable Sodium Percent	%	4.66	22.7
Phosphorus Sorption Capacity	PSC mg/kg	426	429
Aggregate Stability (Emerson)	-	5.6	2.3

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.007	0.020	<0.005
Nitrogen (nitrate)	mg/L	0.63	0.86	0.70	0.81	0.77
Phosphorus (Reactive)	mg/L	0.10	0.10	0.17	0.053	0.3
pH	-	7.2	7.1	7.1	7.2	7.2
Conductivity	µS/cm	625	618	550	610	610
Phosphorus (total)	mg/L	0.14	0.16	0.1	0.2	0.1
Nitrogen (total)	mg/L	1.2	1.6	0.8	2.3	1.1
Suspended Solids	mg/L	53	46	49	58	30

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.054	0.040	<0.005
Nitrogen (nitrate)	mg/L	3.59	5.78	6.9	11	3.9
Phosphorus (Reactive)	mg/L	0.04	0.04	0.13	0.020	0.24
pH	-	7.3	7.2	7.1	7.4	7.2
Conductivity	µS/cm	392	461	380	430	370
Phosphorus (total)	mg/L	0.08	0.08	0.08	<0.05	<0.05
Nitrogen (total)	mg/L	4.1	12.7	7.0	11	4.6
Suspended Solids	mg/L	32	44	55	11	20

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.024	0.052	0.009
Nitrogen (nitrate)	mg/L	5.10	6.77	8.3	9.2	9.3
Phosphorus (Reactive)	mg/L	0.03	0.04	0.11	0.01	0.2
pH	-	7.6	7.6	7.5	7.7	7.5
Conductivity	µS/cm	1480	1430	1300	1400	1300
Phosphorus (total)	mg/L	0.06	0.07	<0.05	<0.05	<0.05
Nitrogen (total)	mg/L	5.6	8.5	8.9	9.7	11
Suspended Solids	mg/L	20	24	50	6	11

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		DRY	DRY	4-Apr-17	DRY	DRY
Published				26-Apr-17		
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L			0.040		
Nitrogen (nitrate)	mg/L			0.40		
Phosphorus (Reactive)	mg/L			0.14		
pH	-	DRY	DRY	6.6	DRY	DRY
Conductivity	µS/cm			140		
Phosphorus (total)	mg/L			0.3		
Nitrogen (total)	mg/L			2.1		
Suspended Solids	mg/L			260		

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.040	0.010	0.013
Nitrogen (nitrate)	mg/L	0.18	0.05	0.40	0.13	0.04
Phosphorus (Reactive)	mg/L	0.03	0.03	0.11	0.014	0.22
pH	-	7.5	7.3	7.5	7.6	7.5
Conductivity	µS/cm	517	631	530	580	570
Phosphorus (total)	mg/L	0.05	0.07	<0.05	<0.05	<0.05
Nitrogen (total)	mg/L	0.5	0.23	0.7	0.4	0.2
Suspended Solids	mg/L	23	10	15	10	53

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.12	0.072	0.064
Nitrogen (nitrate)	mg/L	3.27	4.04	1.8	1.9	2
Phosphorus (Reactive)	mg/L	0.07	0.07	0.19	0.049	0.31
pH	-	6.9	6.8	6.8	6.9	6.8
Conductivity	µS/cm	613	625	570	620	600
Phosphorus (total)	mg/L	0.12	0.23	0.08	<0.05	0.08
Nitrogen (total)	mg/L	3.9	8.9	2.3	2.4	2.5
Suspended Solids	mg/L	55	155	68	11	36

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.034	0.059	<0.005
Nitrogen (nitrate)	mg/L	0.14	0.07	0.01	0.056	0.053
Phosphorus (Reactive)	mg/L	0.07	0.04	0.15	0.036	0.24
pH	-	7.4	7.4	7.3	7.5	7.3
Conductivity	µS/cm	485	494	450	480	510
Phosphorus (total)	mg/L	0.17	0.17	0.08	0.06	0.1
Nitrogen (total)	mg/L	<0.3	0.81	0.2	0.4	0.3
Suspended Solids	mg/L	168	110	89	21	240

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		13-Apr-16	14-Oct-16	21-Apr-17	11-Oct-17	13-Apr-18
Obtained		11-May-16	24-Oct-16	4-Apr-17	20-Oct-17	17-Apr-18
Published		6-Jun-16	7-Nov-16	26-Apr-17	24-Oct-17	20-Apr-18
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.05	<0.05	0.023	0.099	0.027
Nitrogen (nitrate)	mg/L	4.76	6.19	9.4	11	16
Phosphorus (Reactive)	mg/L	0.03	0.04	0.10	0.018	0.22
pH	-	7.2	7.0	7.0	7.2	7.1
Conductivity	µS/cm	1470	1470	1500	1800	1500
Phosphorus (total)	mg/L	0.07	0.09	<0.05	<0.05	<0.05
Nitrogen (total)	mg/L	5.3	8.2	10	12	19
Suspended Solids	mg/L	72	44	27	8	16

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		13-Sept-17	18-Dec-17	19-Mar-18	19-Jun-18
Obtained		26-Sept-17	3-Jan-18	29-Mar-18	21-Jun-18
Published		17-Oct-17	8-Jan-18	4-Apr-18	2-Jul-18
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	33	6.8	2.7	5.2
Chloride	mg/L	280	310	310	340
Nitrate	mg/L	<0.05	3.1	<0.025	1.6
Phosphorus (Reactive)	mg/L	39	24	34	24
pH	-	8.2	8.0	7.7	7.8
Conductivity	µS/cm	2,300	2,100	2100	2400
SAR	-	2.5	3.2	2.6	2.8
Phosphorus (Total)	mg/L	55	38	41	45
Nitrogen (Total)	mg/L	80	26	31	25
TKN	mg/L	80	22	31	24
Suspended Solids	mg/L	130	890	280	110
Calcium	mg/L	69	49	61	65
Potassium	mg/L	360	410	400	380
Magnesium	mg/L	48	50	52	53
Sodium	mg/L	110	130	120	130

Collected during pond overflow event.