

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 1 st May 2007. see Fig 2 250832A1/10.
EPA Monitoring Point 24	Manure quality monitoring. Mass monitoring.		Manure stockpile and composting area containing screened and unscreened manure and labelled as EPA Point 24 on map titled Env MPs-Location of Effluent MP dated 1 st May 2007. see Fig 2 250832A1/10.
EPA Monitoring Point 26	Discharge quality monitoring.		Dam located in the bottom corner of "Washpool Road" (13) paddock labelled as EPA Point 26 on map titled Env MPs-Location of Effluent MP dated 1 st 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 "Donnellys 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-14	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-14	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L		67		58
Nitrate	mg/L		1.2		<1.0
Total Kjeldahl Nitrogen	mg/L		<1		1
pH	-		6.83		8.00
Conductivity	µS/cm		444		620
SAR	-		3		2
Phosphorus (Reactive)	mg/L	DRY	0.6	DRY	<0.1
Nitrogen (Total)	mg/L		<1		1
Suspended Solids	mg/L		95		<10
Calcium	mg/L		18		37
Potassium	mg/L		11		7
Magnesium	mg/L		13		24
Sodium	mg/L		60		60
Phosphorus (Total)	mg/L		<1		<1
Nitrogen (Ammonia)	mg/L		<0.1		<0.1

* Collected during pond overflow event.

EPA MONITORING POINT 3

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

SURFACE WATER ANALYSIS RESULTS (EPA POINT 3)

Sampled		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L		21		31
Nitrate	mg/L		<1.0		4.4
Total Kjeldahl Nitrogen	mg/L		17		17
pH	-		6.64		7.60
Conductivity	µS/cm		350		470
SAR	-		<1		<1
Phosphorus (Reactive)	mg/L	DRY	4.0	DRY	6.9
Nitrogen (Total)	mg/L		17		19
Suspended Solids	mg/L		652		600
Calcium	mg/L		13		19
Potassium	mg/L		57		72
Magnesium	mg/L		9		12
Sodium	mg/L		6		19
Phosphorus (Total)	mg/L		6		13
Nitrogen (Ammonia)	mg/L		9.8		2.3

* 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	92	42		140
Nitrate	mg/L	<1.0	1.3		<1.0
Total Kjeldahl Nitrogen	mg/L	<1	<1		2
pH	-	8.23	6.77		8.00
Conductivity	µS/cm	918	329		1000
SAR	-	2	2		2
Phosphorus (Reactive)	mg/L	0.2	1.1	DRY	1.1
Nitrogen (Total)	mg/L	2	<1		2
Suspended Solids	mg/L	<10	50		<10
Calcium	mg/L	52	18		54
Potassium	mg/L	10	9		26
Magnesium	mg/L	41	11		35
Sodium	mg/L	98	35		92
Phosphorus (Total)	mg/L	<1	1		1
Nitrogen (Ammonia)	mg/L	0.2	<0.1		<0.1

* 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	40	48	22	18
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	<1	<1	<1	<1
pH	-	7.88	7.31	8.10	7.90
Conductivity	µS/cm	289	292	230	160
SAR	-	2	2	1	1
Phosphorus (Reactive)	mg/L	<0.1	<0.1	<0.1	<0.1
Nitrogen (Total)	mg/L	<1	<1	<1	<1
Suspended Solids	mg/L	<10	28	<10	<10
Calcium	mg/L	13	11	12	7
Potassium	mg/L	3	4	4	3
Magnesium	mg/L	10	8	8	5
Sodium	mg/L	32	42	23	19
Phosphorus (Total)	mg/L	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	<0.1	<1	<0.1

* 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	32	36	25	17
Nitrate	mg/L	<1.0	<1.0	<1.0	<0.1
Total Kjeldahl Nitrogen	mg/L	<1	<1	<1	1
pH	-	8.35	8.97	8.10	8.20
Conductivity	µS/cm	438	369	370	260
SAR	-	1	1	<1	<1
Phosphorus (Reactive)	mg/L	<0.1	<0.1	<0.1	<0.1
Nitrogen (Total)	mg/L	<1	<1	<1	1
Suspended Solids	mg/L	<10	29	<10	<10
Calcium	mg/L	24	13	24	19
Potassium	mg/L	3	4	5	4
Magnesium	mg/L	27	26	19	14
Sodium	mg/L	31	34	23	17
Phosphorus (Total)	mg/L	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	<0.1	<1	<0.1

* 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	14	26	13	16
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	<1	1	<1	<1
pH	-	8.51	7.45	8.20	8.50
Conductivity	µS/cm	412	377	340	340
SAR	-	<1	<1	<1	<1
Phosphorus (Reactive)	mg/L	<0.1	0.1	<0.1	<0.1
Nitrogen (Total)	mg/L	<1	1	<1	<1
Suspended Solids	mg/L	<10	19	<10	<10
Calcium	mg/L	27	18	24	25
Potassium	mg/L	3	4	4	3
Magnesium	mg/L	32	28	21	21
Sodium	mg/L	22	27	16	18
Phosphorus (Total)	mg/L	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	<0.1	<1	<0.1

* 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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Chloride	mg/L	28	58	16	17
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Total Kjeldahl Nitrogen	mg/L	<1	1	<1	<1
pH	-	8.36	7.43	8.30	8.50
Conductivity	µS/cm	406	443	310	310
SAR	-	<1	2	<1	<1
Phosphorus (Reactive)	mg/L	<0.1	<0.1	<0.1	<0.1
Nitrogen (Total)	mg/L	<1	1	<1	<1
Suspended Solids	mg/L	<10	19	<10	<10
Calcium	mg/L	24	21	22	22
Potassium	mg/L	3	5	4	3
Magnesium	mg/L	27	19	18	18
Sodium	mg/L	26	50	18	19
Phosphorus (Total)	mg/L	<1	<1	<1	<1
Nitrogen (Ammonia)	mg/L	<0.1	<0.1	<1	<0.1

* 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		16-Oct-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	79	39	19	31
Chloride	mg/L	200	160	1000	240
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Phosphorus (Reactive)	mg/L	28	3.6	38	27
pH	-	7.20	7.00	8.20	7.00
Conductivity	µS/cm	2240	1820	8600	2100
SAR	-	2	2	5	2
Phosphorus (Total)	mg/L	34	18	80	34
Nitrogen (Total)	mg/L	84	81	75	62
TKN	mg/L	84	81	75	62
Suspended Solids	mg/L	117	326	850	200
Calcium	mg/L	86	59	70	62
Potassium	mg/L	264	283	1200	320
Magnesium	mg/L	69	47	140	49
Sodium	mg/L	83	64	300	81

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		16-Sept-14	9-Dec-14	2-Mar-15	15-Jun-15
Obtained		24-Oct-14	4-Feb-15	12-Apr-15	29-Jun-15
Published		27-Oct-14	5-Feb-15	12-Apr-15	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	4.4	7.5	2	<0.1
Chloride	mg/L	130	160	240	71
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Phosphorus (Reactive)	mg/L	9.8	8.5	15	12
pH	-	7.62	7.05	8.00	8.00
Conductivity	µS/cm	1280	1250	1800	640
SAR	-	2	3	2	<1
Phosphorus (Total)	mg/L	10	9	25	14
Nitrogen (Total)	mg/L	40	2	16	7
TKN	mg/L	40	2	15	7
Suspended Solids	mg/L	35	116	140	49
Calcium	mg/L	50	29	50	25
Potassium	mg/L	166	208	330	110
Magnesium	mg/L	37	26	35	14
Sodium	mg/L	70	86	82	23

* 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		4-Mar-2015	4-Mar-2015	15-Jun-15	15-Jun-15
Obtained		26-Mar-2015	26-Mar-2015	14-Jul-15	14-Jul-15
Published		12-Apr-2015	12-Apr-2015	15-Jul-15	15-Jul-15
Pollutant	Unit of measure	Unscreened Result	Screened Result	Unscreened Result	Screened Result
Moisture	%	30.5	35.4	50.3	23.4
Nitrate	mg/kg	<200	<200	<200	<200
Nitrogen (Total)	mg/kg	16700	25300	2.5	1.5
pH	-	8.15	8.31	8.67	8.91
Calcium	mg/kg	14000	27000	20000	21000
Phosphorus (Total)	mg/kg	5500	9400	9700	8300
Organic Carbon	%	28.1	29.5	42.5	23.6
Potassium	mg/kg	11000	20000	24000	19000
Magnesium	mg/kg	4200	9600	270	340
Sodium	mg/kg	2000	3000	3100	3000
Conductivity	µS/cm	8220	7130	3910	4000
SAR	-	4	4	6	6
Sulphur	mg/kg	3300	5800	4900	4700
Chloride	mg/kg	8390	9040	9700	5800
Zinc	mg/kg	150	260	230	250

EPA MONITORING POINT 26

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

EFFLUENT ANALYSIS RESULTS (EPA POINT 26)

Sampled		10-Sept-13	18-Mar-14	16-Sept-14	2-Mar-15
Obtained		22-Oct-13	16-Apr-14	24-Oct-14	12-Apr-15
Published		14-Nov-13	14-May-14	27-Oct-14	12-Apr-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	12	170	0.6	<1
Chloride	mg/L	140	560	340	110
Nitrate	mg/L	<1.0	<1.0	<1.0	<1.0
Phosphorus (Reactive)	mg/L	1.6	2.6	1.3	5.9
pH	-	7.90	8.03	8.35	8.10
Conductivity	µS/cm	946	2620	1580	740
SAR	-	2	5	3	2
Phosphorus (Total)	mg/L	5	3	2	9
Nitrogen (Total)	mg/L	13	11	35	11
TKN	mg/L	13	11	35	11
Suspended Solids	mg/L	16	76	52	170
Calcium	mg/L	19	46	30	22
Potassium	mg/L	154	452	237	130
Magnesium	mg/L	20	51	31	17
Sodium	mg/L	46	210	110	40

* 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 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.69	8.97
Nitrogen (Total)	mg/kg	Dumas (Leco)	973	-
Nitrogen (Nitrate)	mg/kg	7B1	19	12
Phosphorous (Colwell)	mg/kg	9B1	234	19
Organic Carbon	%	6A1	1.9	0.4
Conductivity	µS/cm	3A1	0.13	0.12
Chloride	mg/kg	5A1	13	25
Cation Exchange Capacity	cmol(+)/kg	15D3	8.51	6.23
Exchangeable Sodium	cmol(+)/kg	15D3	0.16	0.45
Exchangeable Potassium	cmol(+)/kg	15D3	0.74	1.34
Exchangeable Calcium	cmol(+)/kg	15D3	5.75	2.44
Exchangeable Magnesium	cmol(+)/kg	15D3	1.86	1.99
Exchangeable Sodium Percentage	%	15D3	1.9	7.2
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	-1	52
Aggregate Stability (Emerson)	EAT	-	2(1)	2(2)

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 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	5.23	7.03
Nitrogen (Total)	mg/kg	Dumas (Leco)	1280	-
Nitrogen (Nitrate)	mg/kg	7B1	57	19
Phosphorous (Colwell)	mg/kg	9B1	47	9
Organic Carbon	%	6A1	2.5	0.7
Conductivity	µS/cm	3A1	0.17	0.16
Chloride	mg/kg	5A1	47	27
Cation Exchange Capacity	cmol(+)/kg	15D3	5.21	19.3
Exchangeable Sodium	cmol(+)/kg	15D3	0.20	1.13
Exchangeable Potassium	cmol(+)/kg	15D3	0.58	0.33
Exchangeable Calcium	cmol(+)/kg	15D3	3.39	11.7
Exchangeable Magnesium	cmol(+)/kg	15D3	0.95	6.17
Exchangeable Sodium Percentage	%	15D3	3.9	5.9
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	63	160
Aggregate Stability (Emerson)	EAT	-	3(2)	2(1)

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 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.36	7.38
Nitrogen (Total)	mg/kg	Dumas (Leco)	1110	-
Nitrogen (Nitrate)	mg/kg	7B1	17	5
Phosphorous (Colwell)	mg/kg	9B1	77	2
Organic Carbon	%	6A1	2.0	0.9
Conductivity	µS/cm	3A1	0.10	0.12
Chloride	mg/kg	5A1	11	67
Cation Exchange Capacity	cmol(+)/kg	15D3	6.76	17.5
Exchangeable Sodium	cmol(+)/kg	15D3	0.23	0.90
Exchangeable Potassium	cmol(+)/kg	15D3	1.18	0.40
Exchangeable Calcium	cmol(+)/kg	15D3	3.64	10.5
Exchangeable Magnesium	cmol(+)/kg	15D3	1.72	5.73
Exchangeable Sodium Percentage	%	15D3	3.4	5.1
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	24	160
Aggregate Stability (Emerson)	EAT	-	2(2)	2(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 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.54	7.65
Nitrogen (Total)	mg/kg	Dumas (Leco)	1300	-
Nitrogen (Nitrate)	mg/kg	7B1	6	1
Phosphorous (Colwell)	mg/kg	9B1	87	2
Organic Carbon	%	6A1	2.6	0.9
Conductivity	µS/cm	3A1	0.10	0.21
Chloride	mg/kg	5A1	19	178
Cation Exchange Capacity	cmol(+)/kg	15D3	7.63	20.5
Exchangeable Sodium	cmol(+)/kg	15D3	0.19	1.10
Exchangeable Potassium	cmol(+)/kg	15D3	1.73	0.46
Exchangeable Calcium	cmol(+)/kg	15D3	3.95	12.5
Exchangeable Magnesium	cmol(+)/kg	15D3	1.76	6.48
Exchangeable Sodium Percentage	%	15D3	2.5	5.4
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	18	159
Aggregate Stability (Emerson)	EAT	-	3(3)	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 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.27	6.98
Nitrogen (Total)	mg/kg	Dumas (Leco)	1060	-
Nitrogen (Nitrate)	mg/kg	7B1	2	-1
Phosphorous (Colwell)	mg/kg	9B1	124	2
Organic Carbon	%	6A1	1.8	0.6
Conductivity	µS/cm	3A1	0.07	0.14
Chloride	mg/kg	5A1	6	110
Cation Exchange Capacity	cmol(+)/kg	15D3	5.53	16.1
Exchangeable Sodium	cmol(+)/kg	15D3	0.13	0.70
Exchangeable Potassium	cmol(+)/kg	15D3	1.15	0.27
Exchangeable Calcium	cmol(+)/kg	15D3	3.00	11.2
Exchangeable Magnesium	cmol(+)/kg	15D3	1.26	3.93
Exchangeable Sodium Percentage	%	15D3	2.3	4.3
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	26	162
Aggregate Stability (Emerson)	EAT	-	3(3)	5

EPA MONITORING POINT 51

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.66	7.05
Nitrogen (Total)	mg/kg	Dumas (Leco)	1040	-
Nitrogen (Nitrate)	mg/kg	7B1	8	13
Phosphorous (Colwell)	mg/kg	9B1	151	9
Organic Carbon	%	6A1	1.9	0.8
Conductivity	µS/cm	3A1	0.14	0.19
Chloride	mg/kg	5A1	39	140
Cation Exchange Capacity	cmol(+)/kg	15D3	7.73	12.2
Exchangeable Sodium	cmol(+)/kg	15D3	0.28	0.53
Exchangeable Potassium	cmol(+)/kg	15D3	1.82	0.48
Exchangeable Calcium	cmol(+)/kg	15D3	3.85	8.08
Exchangeable Magnesium	cmol(+)/kg	15D3	1.79	3.09
Exchangeable Sodium Percentage	%	15D3	3.6	4.4
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	9	153
Aggregate Stability (Emerson)	EAT	-	2(1)	5

EPA MONITORING POINT 52

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

Parameter	Unit	Rayment & Higginson Reference	Annual Return 2014 - 2015	
			0-30cm	60-90cm
pH	-	4A1	7.00	7.46
Nitrogen (Total)	mg/kg	Dumas (Leco)	1260	-
Nitrogen (Nitrate)	mg/kg	7B1	6	2
Phosphorous (Colwell)	mg/kg	9B1	97	2
Organic Carbon	%	6A1	2.6	0.8
Conductivity	μS/cm	3A1	0.08	0.16
Chloride	mg/kg	5A1	19	139
Cation Exchange Capacity	cmol(+)/kg	15D3	8.45	20.3
Exchangeable Sodium	cmol(+)/kg	15D3	0.25	1.11
Exchangeable Potassium	cmol(+)/kg	15D3	1.36	0.28
Exchangeable Calcium	cmol(+)/kg	15D3	4.67	12.2
Exchangeable Magnesium	cmol(+)/kg	15D3	2.18	6.71
Exchangeable Sodium Percentage	%	15D3	2.9	5.5
Phosphorus Sorption Capacity	mg/kg	9I1 and 9J1	56	156
Aggregate Stability (Emerson)	EAT	-	2(1)	2(1)

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	3.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	27	4.3	90	35.0
Phosphorus (Reactive)	mg/L	<1.0	<1	<0.1	0.37
pH	-	7.57	8.57	7.64	7.8
Conductivity	µS/cm	1090	1230	1130	1370
Phosphorus (total)	mg/L	1	<1	<1	0.15
Nitrogen (total)	mg/L	11	13	17	35
Suspended Solids	mg/L	286	33	21	16

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13			
Published		8-May-13			
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	0.2			
Nitrogen (nitrate)	mg/L	<1.0			
Phosphorus (Reactive)	mg/L	<1.0			
pH	-	6.68	DRY	DRY	DRY
Conductivity	µS/cm	1330			
Phosphorus (total)	mg/L	<1			
Nitrogen (total)	mg/L	2			
Suspended Solids	mg/L	150			

EPA MONITORING POINT 36

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

GROUNDWATER ANALYSIS RESULTS (EPA POINT 36)

Sampled		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	35	2.4	36	5.2
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	0.53
pH	-	8.11	8.70	8.13	8.2
Conductivity	µS/cm	3290	3950	3810	4600
Phosphorus (total)	mg/L	<1	<1	<1	0.24
Nitrogen (total)	mg/L	8	6	9	5.7
Suspended Solids	mg/L	<10	<10	279	47

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	160	4.3	160	30.3
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	0.26
pH	-	6.31	8.19	7.02	6.7
Conductivity	µS/cm	1730	2060	2060	1190
Phosphorus (total)	mg/L	<1	<1	<1	0.14
Nitrogen (total)	mg/L	36	30	32	30.3
Suspended Solids	mg/L	<10	<10	<10	15

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	35	5.6	68	13.8
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	0.19
pH	-	7.42	8.38	7.41	7.4
Conductivity	µS/cm	1200	1490	1560	1650
Phosphorus (total)	mg/L	<1.0	<1	<1	0.08
Nitrogen (total)	mg/L	9	7	12	13.8
Suspended Solids	mg/L	23	<10	<10	8

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	40	15	39	7.2
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	0.08
pH	-	6.89	8.05	7.17	7.1
Conductivity	µS/cm	2910	3200	3210	3360
Phosphorus (total)	mg/L	<1	<1	<1	0.06
Nitrogen (total)	mg/L	9	7	17	7.7
Suspended Solids	mg/L	19	39	897	29

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		12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	40	23	6.5	0.7
Phosphorus (Reactive)	mg/L	<1.0	<0.1	<0.1	0.07
pH	-	6.62	7.96	6.92	6.9
Conductivity	µS/cm	2560	2910	2570	2870
Phosphorus (total)	mg/L	<1	<1	<1	0.06
Nitrogen (total)	mg/L	10	3	2	1.9
Suspended Solids	mg/L	10	11	1220	93

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 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.48	7.70
Nitrogen (Total)	mg/kg	1160	-
Nitrogen (Nitrate)	mg/kg	4	3
Phosphorous (Colwell)	mg/kg	55	1
Organic Carbon	%	2.1	0.5
Conductivity	µS/cm	0.06	0.06
Chloride	mg/kg	7	26
Cation Exchange Capacity	cmol(+)/kg	4.96	17.4
Exchangeable Sodium	cmol(+)/kg	0.12	0.68
Exchangeable Potassium	cmol(+)/kg	0.61	0.27
Exchangeable Calcium	cmol(+)/kg	2.95	10.2
Exchangeable Magnesium	cmol(+)/kg	1.28	6.32
Exchangeable Sodium Percent	%	2.4	3.9
Phosphorus Sorption Capacity	PSC mg/kg	40	159
Aggregate Stability (Emerson)	-	2(1)	2(1)

SOIL ANALYSIS RESULTS (BOTTOM GRANTS)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	7.21	7.42
Nitrogen (Total)	mg/kg	1390	-
Nitrogen (Nitrate)	mg/kg	5	-1
Phosphorous (Colwell)	mg/kg	163	2
Organic Carbon	%	2.6	0.8
Conductivity	μS/cm	0.07	0.08
Chloride	mg/kg	6	30
Cation Exchange Capacity	cmol(+)/kg	8.01	15.5
Exchangeable Sodium	cmol(+)/kg	0.09	0.79
Exchangeable Potassium	cmol(+)/kg	0.74	0.20
Exchangeable Calcium	cmol(+)/kg	4.94	9.66
Exchangeable Magnesium	cmol(+)/kg	2.24	4.86
Exchangeable Sodium Percent	%	1.1	5.1
Phosphorus Sorption Capacity	PSC mg/kg	15	162
Aggregate Stability (Emerson)	-	2(1)	2(1)

SOIL ANALYSIS RESULTS (MIDDLE OAKS)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.21	6.67
Nitrogen (Total)	mg/kg	823	-
Nitrogen (Nitrate)	mg/kg	2	-1
Phosphorous (Colwell)	mg/kg	95	2
Organic Carbon	%	1.7	0.4
Conductivity	μ S/cm	0.06	0.12
Chloride	mg/kg	10	73
Cation Exchange Capacity	cmol(+)/kg	6.32	12.9
Exchangeable Sodium	cmol(+)/kg	0.21	1.98
Exchangeable Potassium	cmol(+)/kg	0.54	0.17
Exchangeable Calcium	cmol(+)/kg	4.29	7.82
Exchangeable Magnesium	cmol(+)/kg	1.29	2.92
Exchangeable Sodium Percent	%	3.3	15.3
Phosphorus Sorption Capacity	PSC mg/kg	42	132
Aggregate Stability (Emerson)	-	2(1)	1

SOIL ANALYSIS RESULTS (OLD 2)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.22	6.93
Nitrogen (Total)	mg/kg	1530	-
Nitrogen (Nitrate)	mg/kg	4	3
Phosphorous (Colwell)	mg/kg	95	1
Organic Carbon	%	2.8	0.8
Conductivity	μ S/cm	0.05	0.05
Chloride	mg/kg	4	18
Cation Exchange Capacity	cmol(+)/kg	6.16	17.2
Exchangeable Sodium	cmol(+)/kg	0.10	0.40
Exchangeable Potassium	cmol(+)/kg	0.42	0.28
Exchangeable Calcium	cmol(+)/kg	4.12	11.2
Exchangeable Magnesium	cmol(+)/kg	1.52	5.33
Exchangeable Sodium Percent	%	1.6	2.3
Phosphorus Sorption Capacity	PSC mg/kg	28	170
Aggregate Stability (Emerson)	-	2(1)	2(1)

SOIL ANALYSIS RESULTS (OLD 3)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	7.16	6.98
Nitrogen (Total)	mg/kg	986	N.A.
Nitrogen (Nitrate)	mg/kg	11	6
Phosphorous (Colwell)	mg/kg	27	2
Organic Carbon	%	1.2	0.8
Conductivity	μS/cm	0.06	0.06
Chloride	mg/kg	4	4
Cation Exchange Capacity	cmol(+)/kg	8.26	16.3
Exchangeable Sodium	cmol(+)/kg	0.09	0.40
Exchangeable Potassium	cmol(+)/kg	0.21	0.20
Exchangeable Calcium	cmol(+)/kg	6.17	11.5
Exchangeable Magnesium	cmol(+)/kg	1.78	4.23
Exchangeable Sodium Percent	%	1.1	2.4
Phosphorus Sorption Capacity	PSC mg/kg	111	168
Aggregate Stability (Emerson)	-	3(1)	2(1)

SOIL ANALYSIS RESULTS (OLD 4)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.28	8.88
Nitrogen (Total)	mg/kg	744	-
Nitrogen (Nitrate)	mg/kg	6	-1
Phosphorous (Colwell)	mg/kg	102	2
Organic Carbon	%	1.5	0.7
Conductivity	μS/cm	0.04	0.09
Chloride	mg/kg	12	1
Cation Exchange Capacity	cmol(+)/kg	6.82	19.7
Exchangeable Sodium	cmol(+)/kg	0.29	3.55
Exchangeable Potassium	cmol(+)/kg	0.25	0.20
Exchangeable Calcium	cmol(+)/kg	4.36	9.26
Exchangeable Magnesium	cmol(+)/kg	1.92	6.73
Exchangeable Sodium Percent	%	4.2	18.0
Phosphorus Sorption Capacity	PSC mg/kg	75	124
Aggregate Stability (Emerson)	-	2(1)	1

SOIL ANALYSIS RESULTS (PINES)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.20	7.61
Nitrogen (Total)	mg/kg	876	-
Nitrogen (Nitrate)	mg/kg	15	5
Phosphorous (Colwell)	mg/kg	53	6
Organic Carbon	%	1.5	0.5
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	5	3
Cation Exchange Capacity	cmol(+)/kg	6.85	10.6
Exchangeable Sodium	cmol(+)/kg	0.15	0.37
Exchangeable Potassium	cmol(+)/kg	0.17	0.21
Exchangeable Calcium	cmol(+)/kg	4.84	6.84
Exchangeable Magnesium	cmol(+)/kg	1.68	3.17
Exchangeable Sodium Percent	%	2.2	3.5
Phosphorus Sorption Capacity	PSC mg/kg	45	101
Aggregate Stability (Emerson)	-	2(1)	2(1)

SOIL ANALYSIS RESULTS (PIVOT 2A)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.11	7.31
Nitrogen (Total)	mg/kg	730	-
Nitrogen (Nitrate)	mg/kg	24	10
Phosphorous (Colwell)	mg/kg	127	3
Organic Carbon	%	1.5	1.2
Conductivity	μS/cm	0.06	0.07
Chloride	mg/kg	1	1
Cation Exchange Capacity	cmol(+)/kg	5.29	16.1
Exchangeable Sodium	cmol(+)/kg	0.06	0.49
Exchangeable Potassium	cmol(+)/kg	0.26	0.28
Exchangeable Calcium	cmol(+)/kg	3.87	10.3
Exchangeable Magnesium	cmol(+)/kg	1.11	4.99
Exchangeable Sodium Percent	%	1.2	3.0
Phosphorus Sorption Capacity	PSC mg/kg	66	160
Aggregate Stability (Emerson)	-	3(2)	2(1)

SOIL ANALYSIS RESULTS (SUGARLOAF WEST)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.31	6.75
Nitrogen (Total)	mg/kg	1060	-
Nitrogen (Nitrate)	mg/kg	13	38
Phosphorous (Colwell)	mg/kg	123	2
Organic Carbon	%	1.7	0.8
Conductivity	μS/cm	0.06	0.14
Chloride	mg/kg	1	27
Cation Exchange Capacity	cmol(+)/kg	6.58	19.6
Exchangeable Sodium	cmol(+)/kg	0.08	0.55
Exchangeable Potassium	cmol(+)/kg	0.54	0.32
Exchangeable Calcium	cmol(+)/kg	4.35	12.7
Exchangeable Magnesium	cmol(+)/kg	1.62	6.01
Exchangeable Sodium Percent	%	1.1	2.8
Phosphorus Sorption Capacity	PSC mg/kg	18	158
Aggregate Stability (Emerson)	-	3(3)	5

SOIL ANALYSIS RESULTS (SUGARLOAF EAST)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	5.52	7.02
Nitrogen (Total)	mg/kg	655	-
Nitrogen (Nitrate)	mg/kg	59	7
Phosphorous (Colwell)	mg/kg	81	2
Organic Carbon	%	0.8	0.6
Conductivity	μS/cm	0.15	0.08
Chloride	mg/kg	4	14
Cation Exchange Capacity	cmol(+)/kg	4.36	15.0
Exchangeable Sodium	cmol(+)/kg	0.10	0.31
Exchangeable Potassium	cmol(+)/kg	0.20	0.32
Exchangeable Calcium	cmol(+)/kg	3.08	9.96
Exchangeable Magnesium	cmol(+)/kg	0.98	4.36
Exchangeable Sodium Percent	%	2.4	2.0
Phosphorus Sorption Capacity	PSC mg/kg	23	152
Aggregate Stability (Emerson)	-	3(2)	3(1)

SOIL ANALYSIS RESULTS (TOP SWAMP)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	7.13	7.07
Nitrogen (Total)	mg/kg	1340	-
Nitrogen (Nitrate)	mg/kg	23	7
Phosphorous (Colwell)	mg/kg	215	3
Organic Carbon	%	2.3	1.1
Conductivity	µS/cm	0.13	0.12
Chloride	mg/kg	35	69
Cation Exchange Capacity	cmol(+)/kg	11.1	14.0
Exchangeable Sodium	cmol(+)/kg	0.15	0.87
Exchangeable Potassium	cmol(+)/kg	1.06	0.18
Exchangeable Calcium	cmol(+)/kg	6.69	8.26
Exchangeable Magnesium	cmol(+)/kg	3.23	4.71
Exchangeable Sodium Percent	%	1.3	6.2
Phosphorus Sorption Capacity	PSC mg/kg	25	158
Aggregate Stability (Emerson)	-	3(3)	2(1)

SOIL ANALYSIS RESULTS (WASHPOOL ROAD)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.73	7.02
Nitrogen (Total)	mg/kg	845	-
Nitrogen (Nitrate)	mg/kg	3	2
Phosphorous (Colwell)	mg/kg	153	1
Organic Carbon	%	1.7	0.6
Conductivity	μS/cm	0.05	0.07
Chloride	mg/kg	5	21
Cation Exchange Capacity	cmol(+)/kg	4.20	15.5
Exchangeable Sodium	cmol(+)/kg	0.09	0.36
Exchangeable Potassium	cmol(+)/kg	0.43	0.26
Exchangeable Calcium	cmol(+)/kg	2.42	10.3
Exchangeable Magnesium	cmol(+)/kg	1.27	4.66
Exchangeable Sodium Percent	%	2.1	2.3
Phosphorus Sorption Capacity	PSC mg/kg	14	163
Aggregate Stability (Emerson)	-	3(3)	2(1)

SOIL ANALYSIS RESULTS (WASHPool RIVER)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	6.99	7.02
Nitrogen (Total)	mg/kg	1230	-
Nitrogen (Nitrate)	mg/kg	6	-1
Phosphorous (Colwell)	mg/kg	143	7
Organic Carbon	%	2.4	0.5
Conductivity	μS/cm	0.05	0.04
Chloride	mg/kg	5	12
Cation Exchange Capacity	cmol(+)/kg	4.10	2.07
Exchangeable Sodium	cmol(+)/kg	0.06	0.12
Exchangeable Potassium	cmol(+)/kg	0.43	0.36
Exchangeable Calcium	cmol(+)/kg	2.50	1.10
Exchangeable Magnesium	cmol(+)/kg	1.12	0.50
Exchangeable Sodium Percent	%	1.5	5.6
Phosphorus Sorption Capacity	PSC mg/kg	18	66
Aggregate Stability (Emerson)	-	3(2)	2(2)

SOIL ANALYSIS RESULTS (RIVER)

Parameter	Unit	Annual Return 2014 - 2015	
		0-30 cm	60-90 cm
pH	-	8.36	5.77
Nitrogen (Total)	mg/kg	962	618
Nitrogen (Nitrate)	mg/kg	6	2
Phosphorous (Colwell)	mg/kg	5	2
Organic Carbon	%	2.0	0.7
Conductivity	μS/cm	0.10	0.08
Chloride	mg/kg	27	13
Cation Exchange Capacity	cmol(+)/kg	16.5	7.7
Exchangeable Sodium	cmol(+)/kg	1.34	0.67
Exchangeable Potassium	cmol(+)/kg	0.16	0.10
Exchangeable Calcium	cmol(+)/kg	8.78	2.72
Exchangeable Magnesium	cmol(+)/kg	6.22	4.21
Exchangeable Sodium Percent	%	8.1	8.7
Phosphorus Sorption Capacity	PSC mg/kg	117	66
Aggregate Stability (Emerson)	-	2(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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	0.2	<0.1	<0.05
Nitrogen (nitrate)	mg/L	4.3	4.4	23	4.4	0.7
Phosphorus (Reactive)	mg/L	1.0	<1.0	<0.1	<0.1	0.21
pH	-	7.15	7.04	8.44	7.30	7.3
Conductivity	µS/cm	582	574	136	531	614
Phosphorus (total)	mg/L	<1	<1.0	<1	<1	0.12
Nitrogen (total)	mg/L	2	3	2	2	0.7
Suspended Solids	mg/L	16	17	15	52	18

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	15	22	2.7	15	2.8
Phosphorus (Reactive)	mg/L	<1.0	<1.0	<0.1	<0.1	0.06
pH	-	7.15	7.24	8.23	7.23	7.2
Conductivity	µS/cm	335	332	347	322	379
Phosphorus (total)	mg/L	<1	<1	<1	<1	0.04
Nitrogen (total)	mg/L	4	4	3	4	2.8
Suspended Solids	mg/L	13	<10	<10	23	<2

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	12	18	6.7	28	6.1
Phosphorus (Reactive)	mg/L	1.4	<1.0	<0.1	<0.1	0.08
pH	-	7.53	7.52	8.36	7.64	7.6
Conductivity	µS/cm	1010	990	1010	1240	1400
Phosphorus (total)	mg/L	<1	<1	<1	<1	0.07
Nitrogen (total)	mg/L	3	6	4	7	6.5
Suspended Solids	mg/L	12	22	38	20	38

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	<1.0	<1.0	4.9	3.0	0.5
Phosphorus (Reactive)	mg/L	1.0	<1.0	<0.1	<0.1	0.05
pH	-	7.38	7.35	8.40	7.48	7.5
Conductivity	µS/cm	536	479	539	501	583
Phosphorus (total)	mg/L	<1	<1	<1	<1	0.05
Nitrogen (total)	mg/L	1	<1	<1	2	0.5
Suspended Solids	mg/L	<10	<10	<10	<10	8

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	22	27	4.3	27	4.6
Phosphorus (Reactive)	mg/L	1.3	<1.0	<0.1	<0.1	0.22
pH	-	6.85	6.82	8.11	6.89	6.9
Conductivity	µS/cm	480	412	459	505	572
Phosphorus (total)	mg/L	<1	<1	<1	<1	0.14
Nitrogen (total)	mg/L	5	5	5	10	5.2
Suspended Solids	mg/L	30	75	<10	24	43

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	<1.0	<1.0	6.6	2.3	0.1
Phosphorus (Reactive)	mg/L	1.0	<1.0	<0.1	<0.1	0.17
pH	-	7.28	7.25	8.33	7.42	7.5
Conductivity	µS/cm	469	452	428	439	483
Phosphorus (total)	mg/L	<1	<1.0	<1	<1	0.1
Nitrogen (total)	mg/L	1	<1	<1	<1	<0.3
Suspended Solids	mg/L	<10	14	93	418	19

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		25-Oct-12	12-Apr-13	8-Apr-14	29-Oct-14	30-Apr-15
Obtained		23-Nov-12	26-Apr-13	11-Apr-14	20-Jan-15	1-May-15
Published		30-Nov-12	8-May-13	19-May-14	21-Jan-15	14-May-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (ammonia)	mg/L	0.2	<0.1	0.1	<0.1	<0.05
Nitrogen (nitrate)	mg/L	17	22	3.0	44	7.7
Phosphorus (Reactive)	mg/L	<1.0	<1.0	<0.1	<0.1	0.04
pH	-	7.11	7.48	8.32	7.23	7.1
Conductivity	µS/cm	835	825	1110	1130	1340
Phosphorus (total)	mg/L	<1	<1.0	<1	<1	0.04
Nitrogen (total)	mg/L	6	5	9	12	8.1
Suspended Solids	mg/L	35	11	25	142	13

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		16-Jun-14	16-Sept-14	9-Dec-14	2-Mar-2015	15-Jun-15
Obtained		29-Jul-14	24-Oct-14	4-Feb-15	12-May-2015	29-Jun-15
Published		29-Jul-14	27-Oct-14	5-Feb-15	12-May-2015	13-Jul-15
Pollutant	Unit of measure	Result	Result	Result	Result	Result
Nitrogen (Ammonia)	mg/L	16	0.8	0.2	3	35
Chloride	mg/L	270	240	280	290	270
Nitrate	mg/L	<1.0	11	5.3	<1.0	<1.0
Phosphorus (Reactive)	mg/L	3.5	4.3	3.3	23	33
pH	-	8.60	8.98	7.99	8.00	8.00
Conductivity	µS/cm	1930	1770	1750	2200	2300
SAR	-	3	3	4	3	2
Phosphorus (Total)	mg/L	11	5	4	28	44
Nitrogen (Total)	mg/L	19	37	13	23	66
TKN	mg/L	19	26	12	19	65
Suspended Solids	mg/L	16	21	144	110	190
Calcium	mg/L	47	43	38	59	60
Potassium	mg/L	260	223	217	320	340
Magnesium	mg/L	63	60	49	58	54
Sodium	mg/L	130	130	150	140	110

* Collected during pond overflow event.