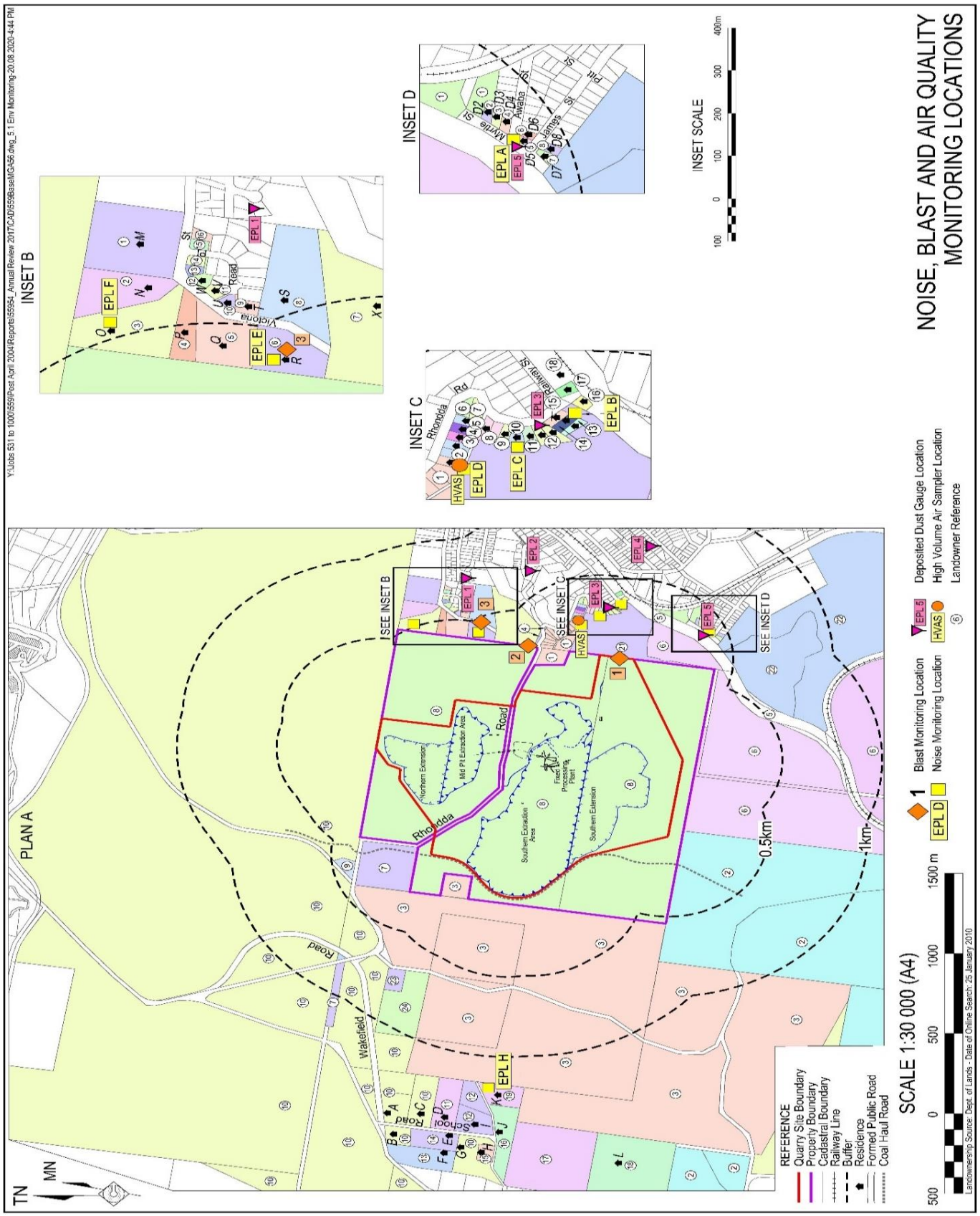
Teralba Quarry
Environmental Monitoring Summary

December 2020

Environmental Protection Licence (EPL):	536
Licensee:	Metromix Pty Limited
Licensee Address:	PO Box 1295 Parramatta, NSW 2124
Premises:	Metromix Pty Limited Teralba Quarry Rhondda Road Teralba, NSW 2284
Licensee Website:	https://www.metromix.com.au/
Licensee Website - Monitoring Results:	https://www.metromix.com.au/resources/#quarry
EPA Public Register:	https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers
Prepared by:	R. W. Corkery & Co.
Sample Period:	December 2020
Data Last Data Received	14 January 2021
Date of Report	25 January 2021

Contents


NOISE, BLAST AND AIR QUALITY MONITORING LOCATIONS
PLAN A
INSET B
INSET C
INSET D
INSET SCALE
SCALE 1:30 000 (A4)
REFERENCE
Quarry Site Boundary
Property Boundary
Cadastral Boundary
Railway Line
Buffer
Residence
Formed Public Road
Coal Haul Road
Blast Monitoring Location
Noise Monitoring Location
Deposited Dust Gauge Location
High Volume Air Sampler Location
Landowner Reference
0.5km
1km
Rhondda Road
Wakefield Road
School Road
Victoria Road
Railway St
Northern Extension
Mid Pit Excavation Area
Southern Excavation Area
Southern Extension
Fines Processing Plant
SEE INSET B
SEE INSET C
SEE INSET D
EPL A
EPL B
EPL C
EPL D
EPL E
EPL F
EPL H
EPL 1
EPL 2
EPL 3
EPL 4
EPL 5
HVAS
TN
MN

Deposited Dust

Sample Period Start: 2/12/2020
Sample Period End: 4/01/2021
Sample Frequency: 30 ± 2 days
Sample Collected By: Metromix - AL
Date Received by Laboratory: 5/01/2021
Date Results Received by Metromix: 14/01/2021

EPA Identification No.	Location	Criteria (g/m^2/month)	Insoluble Solids (g/m^2/month)	Ash Fraction (g/m^2/month)	% Ash Fraction
1	Hillside Crescent	4.0	0.9	0.5	56
8	Rodgers Street	4.0	0.9	0.5	56
9	Rhondda Road	4.0	1.2	0.7	58
11	Myrtle Street	4.0	1.0	0.6	60
23	York Street	4.0	0.9	0.5	56

Comments

All deposited dust results remained below the approved criteria for the sample period.

Deposited Dust - Year to Date

	Rhondda Road			Myrtle Street			Hillside Crescent			Rodgers Street			York Street		
	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash
Units	**g/m^2/month**	**g/m^2/month**		**g/m^2/month**	**g/m^2/month**		**g/m^2/month**	**g/m^2/month**		**g/m^2/month**	**g/m^2/month**		**g/m^2/month**	**g/m^2/month**	
EPA Approved Level	**4.0**			**4.0**			**4.0**			**4.0**			**4.0**		
January	2.6	2.0	77	2.5	2.1	84	4.2	2.9	69	3.3	2.6	79	2.9	2.3	79
February	1.0	0.4	40	0.8	0.4	50	2.7	1.7	63	0.9	0.6	67	1.4	0.9	64
March	0.7	0.3	43	0.6	0.4	67	4.1	2.4	59	1.1	0.7	64	1.2	0.8	67
April	0.5	0.2	40	0.7	0.4	57	5.2	3.9	75	0.8	0.4	50	0.9	0.5	56
May	0.7	0.2	29	1.4	0.5	36	8.7	7.5	86	0.4	0.2	50	0.7	0.4	57
June	0.5	0.2	40	0.3	0.2	67	0.4	0.2	50	0.3	0.2	67	0.7	0.5	71
July	1.1	0.4	36	0.4	0.2	50	2.0	1.6	80	0.3	0.2	67	0.9	0.5	56
August	0.7	0.6	86	0.3	0.3	100	0.4	0.3	75	0.4	0.2	50	0.5	0.5	100
September	0.9	0.6	67.0	1.5	0.7	47.0	0.9	0.6	67.0	0.7	0.5	71.0	1.0	0.7	70.0
October	1.0	4.0	38.0	1.5	0.7	47.0	0.8	0.3	38.0	0.5	0.2	40.0	1.5	0.9	60.0
November	0.9	0.5	56.0	0.9	0.5	56.0	0.8	0.4	50.0	0.9	0.5	56.0	1.3	0.8	62.0
December	1.2	0.7	58	1.0	0.6	60	0.9	0.5	56	0.9	0.5	56	0.9	0.5	56
Annual Average	**1.0**	0.8	50.8	**1.0**	0.6	60.0	**2.6**	1.9	63.9	**0.9**	0.6	59.6	**1.2**	0.8	66.5
Annual Maximum	**2.6**	4.0	86.0	**2.5**	2.1	100.0	**8.7**	7.5	86.2	**3.3**	2.6	78.8	**2.9**	2.3	100.0
Annual Minimum	**0.5**	0.2	28.6	**0.3**	0.2	35.7	**0.4**	0.2	38.0	**0.3**	0.2	40.0	**0.5**	0.4	55.6

Particulate Matter (PM_{10})

Sample Location: EPA 3 - Rodgers Road
Sample Frequency: 6 days

Date Sample Taken (24-hr)	Collected by	Date Results Received	PM_{10} $\mu g/m^3$	Monthly Average Criteria ($\mu g/m^3$)	Annual Average Criteria ($\mu g/m^{3)}$
4/12/2020	CBased - LK	14/12/2020	20	50	
10/12/2020	CBased - JP	15/12/2020	26	50	
16/12/2020	CBased - LK	22/12/2020	15	50	
22/12/2020	CBased - JP	24/12/2020	7	50	
28/12/2020	CBased - LK	5/12/2021	26	50	
Monthly Average			18.8		25/30*

*Project Approval (PA 10_0183) outlines the annual average PM_{10} criteria to be 30µg/m^3. However, EPL 536 Condition R4.5a) requires that the air quality monitoring data is assessed against the Air Impact Assessment Criteria outlined in EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. The most up to date version of this guideline was published in 2017 and outlines the annual average PM_{10} criteria to be 25µg/m^3. Metromix has considered both criteria for its review of particulate matter monitoring.

Comments

All PM_{10} results remained below the approved criteria for the sample period.

Particulate Matter (PM_{10}) - Year to Date - 2020

Date	PM_{10} ($\mu g/m^3$)	Monthly Average ($\mu g/m^3$)	Year to Date Average ($\mu g/m^3$)	24-Hr Criteria ($\mu g/m^3$)	Comments
3/01/2020	NR		NR	50	Time stamp glitch - machine did not run. Make up run conducted on 22 January 2020.
9/01/2020	NR		NR	50	Did not run on scheduled run date. Make up run conducted on 5th February 2020
15/01/2020	15		15.0	50	
21/01/2020	72		43.5	50	
22/01/2020	71		52.7	50	
27/01/2020	40	49.5	49.5	50	
2/02/2020	37		47.0	50	
5/02/2020	9		40.7	50	
8/02/2020	14		36.9	50	
14/02/2020	12		33.8	50	
20/02/2020	14		31.6	50	
26/02/2020	15	16.8	29.9	50	
3/03/2020	7		27.8	50	
9/03/2020	7		26.1	50	
15/03/2020	8		24.7	50	
21/03/2020	24		24.6	50	
27/03/2020	11	11.4	23.7	50	
2/04/2020	13		23.1	50	
8/04/2020	5		22.0	50	
14/04/2020	17		21.7	50	
20/04/2020	16		21.4	50	
26/04/2020	28	15.8	21.8	50	
2/05/2020	9		21.1	50	
8/05/2020	15		20.9	50	
14/05/2020	12		20.5	50	
20/05/2020	14		20.2	50	
26/05/2020	11	12.2	19.8	50	
1/06/2020	13		19.6	50	
7/06/2020	13		19.3	50	
13/06/2020	14		19.1	50	
19/06/2020	8		18.8	50	
25/06/2020	6	10.8	18.3	50	
1/07/2020	13		18.2	50	
7/07/2020	6		17.8	50	
13/07/2020	4		17.4	50	
19/07/2020	12		17.2	50	
25/07/2020	11		17.0	50	
31/07/2020	20	11.0	17.1	50	
6/08/2020	11		16.9	50	
12/08/2020	8		16.7	50	
18/08/2020	4		16.4	50	
24/08/2020	8		16.2	50	
30/08/2020	26	11.4	16.4	50	
5/09/2020	9		16.2	50	
11/09/2020	6		16.0	50	
17/09/2020	23		16.2	50	
23/09/2020	17		16.2	50	
29/09/2020	13	13.6	16.1	50	
5/10/2020	23		16.3	50	
11/10/2020	14		16.2	50	
17/10/2020	25		16.4	50	
23/10/2020	15		16.4	50	
29/10/2020	7	16.8	16.2	50	
4/11/2020	33		16.5	50	
10/11/2020	9		16.4	50	
16/11/2020	21		16.4	50	
22/11/2020	27		16.6	50	
28/11/2020	25	23.0	16.8	50	
4/12/2020	20		16.8	50	
10/12/2020	26		17.0	50	
16/12/2020	15		17.0	50	
22/12/2020	7		16.8	50	
28/12/2020	26	18.8	17.0	50	

Minimum	4
Maximum	72
Average	17.0
Standard Deviation	15.5
24-hr Criteria	50
Number of Exceedences	2
Annual Average Criteria	25/30*
Annual Average Criteria Exceeded	No

*See explanation on previous page.

Water

Water Monitoring

EPL Point 4 - Monthly Monitoring

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
9/12/2020	3:30pm	Metromix - MY	16/12/2020		7.25	1910	6	<5	

EPL Point 5 - Monitoring Daily During Discharge

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50		
No discharge occurred at this location and therefore no monitoring was required									

EPL Point 6 - Monthly Monitoring

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
No discharge occurred at this location and therefore no monitoring was required									

EPL Point 7 - Monthly Monitoring

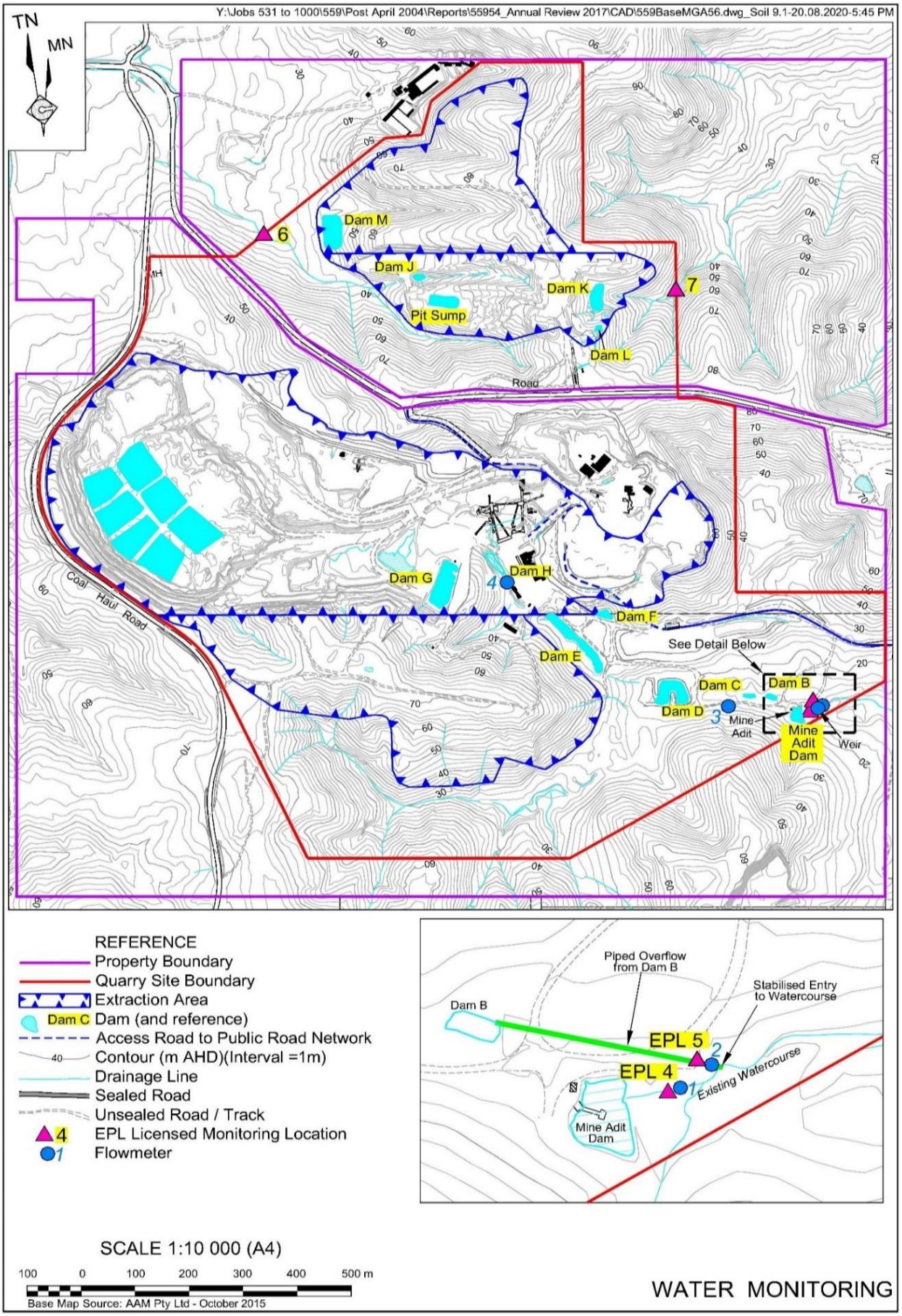
Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
No discharge occurred at this location and therefore no monitoring was required									

Flow Meter Records

EPA Identified Point	Location	Description	Sample Period	Daily Average Flow ML	Monthly Total Flow ML
4	Adit Dam	Adit Dam to Creek (off site)	1/12/2020 to 4/01/2021	2.21	75.09
5	Dam B	Discharge from Dam B (from Quarry)	1/12/2020 to 4/01/2021	N/A	0
4	Adit Dam	Water pumped from Adit Dam to Dam G (processing use)	1/12/2020 to 4/01/2021	N/A	84.8

Comments

All water monitoring results remained within the approved criteria levels during the monitoring period.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TN
MN
Dam M
Dam J
Dam K
Pit Sump
Dam L
Road
Coal Haul Road
Dam G
Dam H
Dam F
Dam E
See Detail Below
Dam C
Dam B
Dam D
Mine Adit
Mine Adit Dam
Weir
REFERENCE
Property Boundary
Quarry Site Boundary
Extraction Area
Dam C Dam (and reference)
Access Road to Public Road Network
Contour (m AHD)(Interval =1m)
Drainage Line
Sealed Road
Unsealed Road / Track
EPL Licensed Monitoring Location
Flowmeter
Piped Overflow from Dam B
Stabilised Entry to Watercourse
EPL 5
EPL 4
Existing Watercourse
Mine Adit Dam
SCALE 1:10 000 (A4)
100 0 100 200 300 400 500 m
Base Map Source: AAM Pty Ltd - October 2015
WATER MONITORING

Water - Year to Date

EPL Point 4 : Monthly Monitoring

	pH	EC	TSS	Oil & Grease	Comments
Units	pH Units	µS/cm	mg/L	mg/L	-
EPL Criterion*	6.5-8.5	NA	<50	10	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	<5	-
January	7.23	2140	9	<5	-
February	7.19	1990	<5	<5	-
March	7.36	2030	29	<5	-
April	7.22	2060	17	<5	-
May	7.16	2140	<5	<5	-
June	7.10	1990	6	<5	-
July	7.35	2010	<5	<5	-
August	6.79	849	<5	<5	-
September	7.12	1900	<5	<5	-
October	7.13	1960	<5	<5	-
November	NA	NA	NA	NA	No monitoring in this month
December	7.25	1910	6	<5	

EPL Point 5 : Monitoring Daily During Discharge

	pH	EC	TSS	Oil & Grease	Comments
Units	pH Units	µS/cm	mg/L	mg/L	-
EPL Criterion*	6.5-8.5	NA	<50	10	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50		-
10/03/2020	7.11	1050	<5	<5	-
11/03/2020	7.10	1010	<5	<5	-
16/03/2020	6.93	1180	<5	<5	-
17/03/2020	6.99	1140	<5	<5	-
19/03/2020	7.07	1140	<5	<5	-
20/03/2020	7.17	1140	<5	<5	-
23/03/2020	7.22	1150	<5	<5	-
25/03/2020	7.09	1130	<5	<5	-
26/03/2020	7.16	934	<5	<5	-
27/03/2020	7.01	1020	<5	<5	-
30/03/2020	6.85	1140	<5	<5	-
31/03/2020	6.75	1190	<5	<5	-
1/04/2020	6.78	1160	<5	<5	-
2/04/2020	6.80	1150	<5	<5	-
3/04/2020	6.94	1150	<5	<5	-
6/04/2020	7.37	1170	<5	<5	-
7/04/2020	7.19	1170	<5	<5	-
8/04/2020	6.91	1170	<5	<5	-
9/04/2020	6.95	1050	<5	<5	-
14/04/2020	6.93	1020	8	<5	-
15/04/2020	6.93	1080	5	<5	-
16/04/2020	6.96	1010	<5	<5	-
17/04/2020	6.74	1100	<5	<5	-
20/04/2020	6.76	1130	<5	<5	-
21/04/2020	6.86	1160	<5	<5	-
22/04/2020	6.88	1120	<5	<5	-
23/04/2020	6.99	1130	<5	<5	-
24/04/2020	7.02	1130	<5	<5	-
27/04/2020	6.95	1180	<5	<5	-
27/07/2020	6.91	792	**71**	10	TSS exceedance due to significant rainfall. Oil and grease at but not over criteria
28/07/2020	6.93	701	**60**	7	TSS exceedance due to significant rainfall.
29/07/2020	6.90	692	**55**	<5	TSS exceedance due to significant rainfall.
30/07/2020	6.92	730	41	<5	-
31/07/2020	6.89	809	40	<5	-
14/08/2020	6.9	870	<5	<5	-
17/08/2020	6.84	874	<5	<5	-
18/08/2020	6.81	866	<5	<5	-
19/08/2020	7.21	1670	13	<5	-
21/08/2020	6.8	833	<5	<5	-
24/08/2020	6.88	826	<5	<5	-
25/08/2020	6.88	843	<5	<5	-
26/08/2020	6.86	852	<5	<5	-
27/08/2020	6.86	926	<5	<5	-
28/08/2020	6.88	832	<5	<5	-
31/08/2020	6.82	928	<5	<5	-
1/09/2020	6.98	909	<5	<5	-
2/09/2020	6.93	877	5	<5	-
3/09/2020	6.91	867	<5	<5	-
4/09/2020	6.97	809	<5	<5	-
7/09/2020	7.62	863	<5	<5	-
8/09/2020	7.03	852	5	<5	-
9/09/2020	6.95	846	<5	<5	-
10/09/2020	7.1	856	<5	<5	-
11/09/2020	7.2	826	<5	<5	-
26/10/2020	7.54	1150	<5	<5	-

Flow Meter Records

EPA Identifier	Location	Description	Date	Monthly Total
4	Adit Dam	Water pumped from Adit Dam to Dam G (processing use)	4/01/2020	61.5
			4/02/2020	74.6
			2/03/2020	78.4
			1/04/2020	94.4
			2/05/2020	92.0
			1/06/2020	0.0
			6/07/2020	0.0
			28/07/2020	16.0
			5/08/2020	14.8
			1/09/2020	56.0
			1/10/2020	80.8
			2/11/2020	70.4
			1/12/2020	80.1
			4/01/2021	84.8

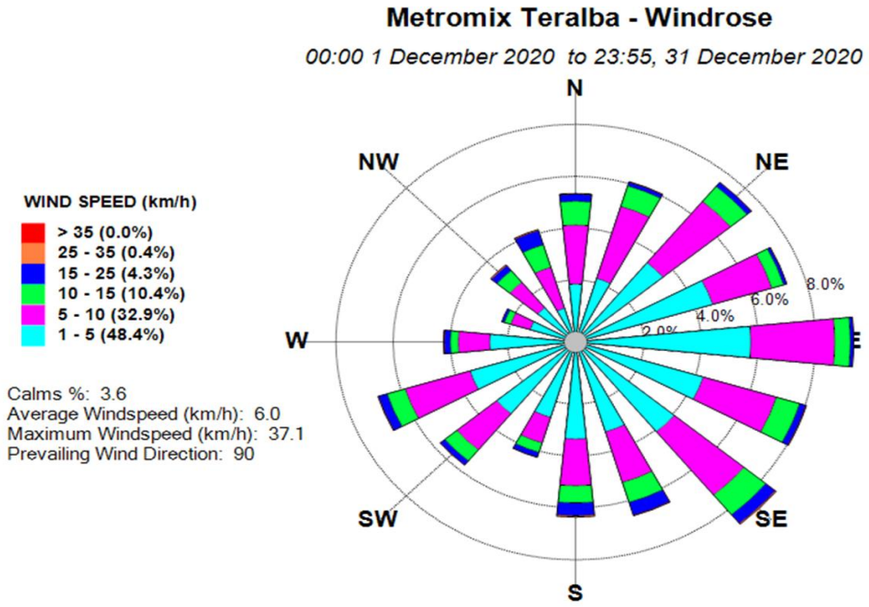
EPA Identified	Location	Description	Date	Monthly Total
5	Dam B	Discharge from Dam B (from Quarry)	6/01/2020	0.0
			4/02/2020	0.0
			2/03/2020	0.0
			1/04/2020	0.2
			2/05/2020	0.1
			1/06/2020	0.0
			6/07/2020	0.0
			5/08/2020	10.0
			1/09/2020	4.0
			1/10/2020	0.0
			2/11/2020	0.0
			1/12/2020	0.0
			4/01/2021	0.0

EPA Identified	Location	Description	Date	Monthly Total
4	Adit Dam	Adit Dam to Creek (off site)	6/01/2020	7.3
			4/02/2020	1.1
			2/03/2020	0.7
			1/04/2020	0.0
			2/05/2020	0.0
			1/06/2020	0.0
			6/07/2020	0.0
			5/08/2020	0.5
			1/09/2020	89.7
			1/10/2020	71.2
			2/11/2020	77.2
			1/12/2020	68.9
			4/01/2021	75.1

Meteorological Conditions

Monitoring Location: Mid-Pit Entrance
Monitoring Frequency: Continuous

Windrose



Monthly Summary

Date	Mean Wind Direction (°)	Mean Wind Speed (km/h)	Daily Rainfall (mm)	Mean Sigma Theta	Max Temperature (°C) at 2m	Min Temperature (°C) at 2m
01/12/20	111.0	6.9	18	30.6	35.4	18.4
02/12/20	125.0	7.2	0	32.7	23.2	19
03/12/20	90.3	4.2	0	30.8	21.4	18
04/12/20	166.0	4.3	0	29.4	29.8	18.2
05/12/20	157.4	5.2	14.2	35.6	28	18
06/12/20	248.8	9.0	3.8	39.7	32.8	20
07/12/20	223.7	6.8	0	31.6	31.4	17.8
08/12/20	190.2	8.0	0	33.9	23.2	15.6
09/12/20	163.5	4.6	0	28.2	26.2	13.8
10/12/20	171.2	6.9	0.2	34.6	29.4	14.4
11/12/20	140.4	8.6	1	40.0	21.0	16.0
12/12/20	120.4	7.0	0	34.1	24.2	17.2
13/12/20	127.0	5.6	0.2	34.5	24.6	17.6
14/12/20	122.6	4.7	1	31.0	23.4	17.6
15/12/20	98.0	5.3	26	33.1	23.1	18.0
16/12/20	73.8	6.2	0.8	27.5	30.6	21.5
17/12/20	112.8	6.1	1.2	23.8	32.8	21.0
18/12/20	203.2	7.9	3.2	27.1	31.2	21.4
19/12/20	149.4	5.3	4.6	39.5	21.6	18.2
20/12/20	195.5	3.8	9.8	33.1	21.9	17.8
21/12/20	148.9	3.0	45.6	33.8	21.2	18.8
22/12/20	257.9	7.8	11.4	39.0	29.0	18.4
23/12/20	199.1	6.2	0	33.6	26.1	15.4
24/12/20	131.5	4.6	0	22.5	28.2	15.8
25/12/20	159.1	6.7	2.4	35.7	23.8	18.5
26/12/20	100.6	5.5	2.2	28.9	26.6	17.6
27/12/20	183.5	6.4	0.6	28.1	33.8	16.6
28/12/20	181.2	10.0	17	35.5	30.2	17.4
29/12/20	186.9	3.9	4.6	35.0	20.8	17.2
30/12/20	173.5	4.0	16.2	34.9	23.7	16.8
31/12/20	167.1	4.2	1.4	41.8	24.2	18.4

Meteorological Conditions - Year to Date

Monitored Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Rainfall (mm)	39.0	236.8	194.0	50.8	72.8	101.8	217.0	46.0	29.4	172.6	45.2	185.4	1384.2
Average Minimum Temperature (°C) at 2m	20.4	19.1	16.8	14.7	11.0	9.4	9.2	8.6	7.6	10.0	15.6	17.8	13.3
Average Maximum Temperature (°C) at 2m	31.1	28.7	25.9	24.8	19.6	18.2	17.4	18.8	30.0	32.5	27.7	26.5	25.1
Average Minimum Temperature (°C) at 10m	20.6	19.5	17.3	15.3	11.8	10.2	10.0	9.1	7.8	11.2	16.1	18.1	13.9
Average Maximum Temperature (°C) at 10m	30.2	27.6	24.9	23.9	19.0	17.6	16.9	18.0	29.0	31.3	26.5	25.6	24.2
Average Sigma Theta	32.1	30.2	29.5	28.2	26.0	27.1	25.0	29.9	28.3	30.9	31.0	32.9	29.3
Average Solar Radiation (W/m^2)	190.0	169.0	152.0	132.0	101.0	90.4	88.1	131.9	167.9	186.0	228.2	185.3	151.8
Average Relative Humidity (%)	71.6	74.0	75.6	65.1	69.0	73.0	72.2	59.9	61.0	70.0	66.0	72.0	69.1

Blasting

Monitoring Frequency: Each Blast
Blast Monitoring Completed By: Orica (Blast 1 to 12)
MAXAM (Blast 13)

Shot #	Day	Month	Time	Location	Location 1		Location 2		Location 3		Comments
					Overpressue dB(L)	Vibration mm/s	Overpressue dB(L)	Vibration mm/s	Overpressue dB(L)	Vibration mm/s	
1	20	January	13:02:02	Stage 1A	108	0.9	104	0.2	NM	NM	
2	13	February	11:21:20	Stage 2A	**122.3**	0.4	109.2	0.2	NM	NM	Exceeded the maximum overpressure criteriea by 2.3 dB(L). Causes of the exceedence was blast design paramaters and overcast low cloud conditions.
3	5	February	11:17:16	Stage 1A	104.9	0.2	NT	NT	NM	NM	
4	16	March	14:32:16	Stage 2A	**116.3**	0.3	110	0.1	NM	NM	Exceeded the overpressure criteriea by 1.3 dB(L). Causes of the exceedence was blast design parameters.
5	11	March	10:57:50	Stage 1A	101	0.2	104	0.2	NM	NM	
6	25	March	14:57:07	Stage 1B	**115.7**	0.2	112.6	0.2	NM	NM	Exceeded the overpressure criteriea by 0.7 dB(L). Causes of the exceedence was blast design parameters.
7	7	April	11:05:00	Stage 1A	NT	NT	NT	NT	NM	NM	
8	22	April	11:50:29	Stage 2A	104.1	0.2	NT	NT	NM	NM	
9	3	June	11:37:14	Stage 2A	100.1	0.3	NT	NT	NM	NM	
10	11	June	12:02:55	Stage 2A	102	0.2	81.97	0.5	NM	NM	
11	1	July	11:00:08	Stage 2A	104.7	0.2	100.6	0.1	NM	NM	
12 & 12B	3	August	14:19:48	Stage 2A	106.6	0.2	103.3	0.2	NM	NM	
13	18	August	12:47:00	Stage 2A	NT	NT	NT	NT	NM	NM	
14A & 14B	1	September	12:27:00	Stage 2A	NT	NT	NT	NT	NM	NM	The trigger parameters for the blast monitors were reduced to 100dBL and 0.13mm/s to assist in obtaining a reading. An additional monitor was placed halfway inbetween Blast monitor 1 (McEwen St) and the blast. This monitor recorded 108.2dBL overpressure and 0.28mm/s vibration. None of the mandatory blast monitors triggered.
15A & 15B	22	September	14:23:00	Stage 2A	82.3	0.6	NT	NT	NM	NM	
16	23	October	15:23:00	Stage 2A	111.8	0.26	106.6	0.79	NM	NM	
17	5	November	13:22:00	Stage 2A	104	0.56	NT	NT	NM	NM	
18	19	November	14:47:00	Stage 2B	NT	NT	NT	NT	NM	NM	The monitors were setup with the followinjg trigger levels - Vibration = 0.13mm/sec, Overpressure = 100dBL
19	20	November	11:05:00	Stage 2A	NT	NT	NT	NT	NM	NM	The monitors were setup with the followinjg trigger levels - Vibration = 0.13mm/sec, Overpressure = 100dBL
20	11	December	14:56:37	Stage 2A	109.1	0.23	104.7	0.12	NM	NM	
21	22	December	11:43:44	Stage 2A	NT	NT	NT	NT	NM	NM	The monitors were setup with the followinjg trigger levels - Vibration = 0.52mm/sec, Overpressure = 110dBL

NT Not Triggered
NM Not Monitored

Blasting Criteria

Parameter	Units of Measure	Limit	
		95% of blasts per year	100% of blasts
Airblast Overpressure (Linear Peak)	decibels (dBL)	115	120
Ground Vibration (Peak Particle Velocity)	millimeters per second (mm/s)	5	10

Comments

Two blasting events occurred during the monitoring period. All blast monitoring results were within the approved criteria with one blasts not triggering the monitor.

Waste Management

Waste Removal Summary

Month	January	February	March	April	May	June	July	August	September	October	November	December
Items	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
General Waste Bin ($10m^3$)												
General Waste Bin ($4.5m^3$)												
General Waste Bin (6m3)												
General Waste Bin ($20m^3$)		1		1	1	1	1	1	1	2		1
Paper & Cardboard Bin ($3m^3$)	2	1	2	1	1	2	1	2	1	2	1	1
Shredded Paper Bin (240L)			3				1					
Co Mingled Recycling (2 x 240 L)	4	4		4	4	4	4	4	4	4	4	4
Tonner Cartridges	23											
Waste Oil (L)		1700		500		1600	1200		1100			2000
Scrap Steel (t)												
Timber (m^3)												
Engine Coolant (L)												
Oil Filters (240L bin)		2							1			
Batteries												
Oily Rags (240L bin)					125							
Aerosols (120L bin)												
Tyres												
Other												
Oily Water (L)						162						
Grease Waste (L)												