


<b>ENVIRONMENTAL MANAGEMENT SERVICES</b>			
<b>Review of Monitoring Results</b>			
<b>GENERAL</b>			
CLIENT:	<b>METROMIX PTY LTD</b>		
PROJECT NO./LOCATION:	<b>215 - MARRANGAROO</b>		
CONTACT PERSON:	<b>Mr Daniel Lythgo</b>		
<b>SAMPLES</b>			
Type:	<b>Deposited Dust</b>	No of Samples:	<b>3</b>
Sample Period:	<b>17/01/2018 to 21/02/2018</b>	Date Samples despatched:	<b>21/02/2018</b>
Submission Sheet received by Corkery & Co:	<b>No</b>		
Date Received by ALS	<b>21/02/2018</b>	Batch No:	<b>24006437</b>
Results Received by RWC:	<b>15/03/2018</b>		
<b>REVIEW OF RESULTS</b>			Comments
Results Entered/Accepted	<b>Yes</b>		
Comparison with Previous Results	<b>Yes</b>		
Statistical Analysis	<b>Yes</b>		
<b>DISTRIBUTION OF RESULTS</b>			
Result Sheets to Client:	<b>Yes</b>	Result Sheets to Residents:	<b>No</b>
Summary Sheets to Client:	<b>Yes</b>	Summary Sheets to Residents:	<b>No</b>
<b>COMMENTS</b>			
<p>Deposited dust monitoring results for the period from 4 December 2017 to 17 January 2018 indicate that deposited dust levels at point locations MD-2, MD-3 and MD-4 are within approved EPA annual average guideline levels.</p>			
<b>ACTION</b>			
No action is necessary			
<b>SIGNED:</b>	 Mudassar Arsalan		<b>DATE:</b> <b>19-03-18</b>

**METROMIX MARRANGAROO QUARRY  
DUST DEPOSIT GAUGE ANALYSES - PROJECT #215**

SAMPLING PERIOD	MD-2			MD-3			MD-4		
	Insoluble Matter	Ash Content	% Ash	Insoluble Matter	Ash Content	% Ash	Insoluble Matter	Ash Content	% Ash
	4.0 (Annual Av)			4.0 (Annual Av)			4.0 (Annual Av)		
<b>EPA Annual Average Guideline</b>									
18-Jan-11 to 25-Feb-11	0.1	0.1	100	0.2	0.1	50	0.1	0.1	100.0
25-Feb-11 to 31-Mar-11	2.2	1.7	77	4.0	2.9	73	1.4	0.6	42.9
01-Apr-11 to 05-May-11	0.4	0.2	50	0.4	0.2	50	0.6	0.3	50.0
06-May-11 to 06-Jun-11	0.4	0.2	50	0.6	0.4	67	0.5	0.3	60.0
06-Jun-11 to 08-Jul-11	NC	NC	NC	NC	NC	NC	NC	NC	NC
08-Jul-11 to 25-Aug-11	1.1	0.7	64	1.4	1.0	71	0.8	0.5	62.5
25-Aug-11 to 05-Sep-11	0.6	0.4	67	1.1	0.8	73	1.2	0.8	66.7
05-Oct-11 to 01-Nov-11	0.4	0.3	75	0.6	0.3	50	0.4	0.4	100.0
01-Nov-11 to 02-Dec-11	0.9	0.5	56	0.7	0.5	71	0.5	0.4	80.0
02-Dec-11 to 22-Dec-11	11.4	10.1	88.6	1.4	1.0	71.4	0.7	0.6	85.7
22-Dec-11 to 31-Jan-12	2.5	2.0	80.0	0.7	0.6	85.7	0.4	0.3	75.0
31-Jan-12 to 02-Mar-12	1.5	0.8	53.3	0.4	0.3	75.0	0.3	0.3	100.0
02-Mar-12 to 02-Apr-12	1.2	0.6	50.0	0.3	0.3	100.0	0.9	0.5	55.6
02-Apr-12 to 01-May-12	0.2	0.2	100.0	0.2	0.2	100.0	0.4	0.3	75.0
01-May-12 to 31-May-12	0.8	0.6	75.0	0.4	0.2	50.0	0.7	0.6	85.7
31-May-12 to 02-Jul-12	0.7	0.3	42.9	0.6	0.3	50.0	0.5	0.3	60.0
02-Jul-12 to 02-Aug-12	0.2	0.2	100.0	0.4	0.3	75.0	0.4	0.3	75.0
02-Aug-12 to 03-Sep-12	0.4	0.3	75.0	1.3	0.8	61.5	1.2	0.8	66.7
03-Sep-12 to 02-Oct-12	1.3	0.8	61.5	1.0	0.9	90.0	2.0	1.2	60.0
02-Oct-12 to 01-Nov-12	0.5	0.3	60.0	1.4	1.2	85.7	0.8	0.6	75.0
01-Nov-12 to 03-Dec-12	1.7	0.9	52.9	2.2	1.4	63.6	1.2	0.7	58.3
03-Dec-12 to 03-Jan-13	1.0	0.7	70.0	2.0	1.4	70.0	0.7	0.5	71.4
03-Jan-13 to 31-Jan-13	1.7	0.8	47.1	1.2	0.9	75.0	1.3	1.0	76.9
31-Jan-13 to 05-Mar-13	6.7	3.4	50.7	2.6	2.1	80.8	0.6	0.4	66.7
05-Mar-13 to 02-Apr-13	0.5	0.4	80.0	0.3	0.2	66.7	0.3	0.2	66.7
02-Apr-13 to 08-May-13	0.4	0.4	100.0	0.2	0.2	100.0	0.3	0.2	66.7
08-May-13 to 04-Jun-13	0.8	0.6	75.0	0.4	0.4	100.0	0.6	0.4	66.7
04-Jun-13 to 01-Jul-13	0.9	0.5	55.6	0.6	0.3	50.0	0.7	0.3	42.9
01-Jul-13 to 02-Aug-13	1.2	0.9	75.0	0.4	0.3	75.0	0.7	0.3	42.9
02-Aug-13 to 04-Sep-13	3.2	2.8	87.5	0.5	0.5	100.0	0.7	0.5	71.4
04-Sep-13 to 01-Oct-13	1.5	1.3	86.7	1.0	0.8	80.0	1.1	0.6	54.5
01-Oct-13 to 05-Nov-13	1.1	1.0	90.9	1.2	1.0	83.3	1.5	1.2	80.0
05-Nov-13 to 02-Dec-13	1.4	0.9	64.3	0.9	0.6	66.7	1.6	0.9	56.3
02-Dec-13 to 06-Jan-14	0.6	0.3	50.0	1.1	0.6	54.5	1.1	0.8	72.7
06-Jan-14 to 03-Feb-14	0.2	0.2	100.0	0.3	0.3	100.0	1.2	0.7	58.3
03-Feb-14 to 05-Mar-14	1.0	0.4	40.0	1.2	0.6	50.0	1.0	0.5	50.0
05-Mar-14 to 02-Apr-14	0.8	0.5	62.5	0.8	0.5	62.5	0.7	0.4	57.1
02-Apr-14 to 02-May-14	0.5	0.3	60.0	0.4	0.3	75.0	0.5	0.3	60.0
02-May-14 to 02-Jun-14	0.4	0.2	50.0	0.4	0.2	50.0	0.5	0.3	60.0
02-Jun-14 to 01-Jul-14	0.3	0.3	100.0	0.6	0.6	100.0	0.6	0.3	50.0
01-Jul-14 to 07-Aug-14	2.6	2.2	84.6	0.4	0.3	75.0	0.1	0.1	50.0
07-Aug-14 to 02-Sep-14	2.4	2.1	87.5	1.3	1.0	76.9	0.3	0.1	16.7
02-Sep-14 to 01-Oct-14	0.2	0.1	50.0	1.2	0.5	41.7	0.4	0.2	50.0
01-Oct-14 to 03-Nov-14	1.1	0.4	36.4	2.4	1.0	41.7	0.6	0.2	33.3
03-Nov-14 to 02-Dec-14	0.8	0.4	50.0	1.2	0.8	66.7	1.4	0.7	50.0
02-Dec-14 to 05-Jan-15	0.8	0.2	25.0	1.3	0.6	46.2	2.8	1.1	39.3
05-Jan-15 to 02-Feb-15	1.3	0.1	7.7	0.1	0.1	100.0	0.4	0.1	25.0
02-Feb-15 to 02-Mar-15	1.1	0.6	54.5	0.7	0.4	57.1	0.8	0.4	50.0
02-Mar-15 to 01-Apr-15	0.2	<0.1	0.0	0.2	0.1	50.0	0.3	<0.1	0.0
01-Apr-15 to 01-May-15	0.9	0.3	33.3	1.1	0.3	27.3	<0.1	<0.1	
01-May-15 to 01-Jun-15	0.5	0.4	80.0	1.0	0.3	30.0	<0.1	<0.1	
01-Jun-15 to 18-Jul-15†	0.8	0.5	62.5	0.8	0.1	12.5	0.8	0.3	37.5
18-Jul-15 to 3-Aug-15†	0.7	0.4	57.1	<0.1	<0.1		<0.1	<0.1	
03-Aug-15 to 01-Sep-15	0.8	0.5	62.5	0.8	0.4	50.0	0.3	<0.1	0.0
01-Sep-15 to 07-Oct-15	0.4	0.1	25.0	0.1	<0.01	0.0	<0.1	<0.1	
07-Oct-15 to 04-Nov-15	3.8	3.0	78.9	1.5	0.8	53.3	2.0	0.7	35.0
04-Nov-15 to 04-Dec-15	0.2	<0.1	0.0	1.7	0.7	41.2	<0.1	<0.1	
04-Dec-15 to 05-Jan-16	1.1	0.5	45.5	2.1	0.8	38.1	0.1	<0.1	0.0
05-Jan-16 to 01-Feb-16	1.4	0.6	42.9	0.6	0.2	33.3	2.0	0.5	25.0
01-Feb-16 to 03-Mar-16	0.5	0.2	40.0	0.4	0.2	50.0	1.4	0.6	42.9
03-Mar-16 to 01-Apr-16	1.1	0.7	63.6	0.4	0.2	50.0	1.8	0.9	50.0
01-Apr-16 to 01-May-16	0.1	<0.1	0.0	0.2	0.1	50.0	0.9	0.5	55.6
01-May-16 to 31-May-16	0.1	<0.1	0.0	0.2	0.2	100.0	0.9	0.6	66.7
31-May-16 to 30-Jun-16	2.1	1.2	57.1	ND	ND		ND	ND	
30-Jun-16 to 01-Aug-16	2.5	1.9	76.0	2.0	1.4	70.0	0.7	0.4	57.1
01-Aug-16 to 01-Sep-16	1.7	1.3	76.5	0.1	<0.1	0.0	0.5	0.2	40.0
01-Sep-16 to 04-Oct-16	2.0	0.3	15.0	0.2	<0.1	0.0	1.0	0.2	20.0
04-Oct-16 to 02-Nov-16	0.1	<0.1	0.0	0.9	0.6	66.7	<0.1	<0.1	
02-Nov-16 to 05-Dec-16	0.4	<0.1	0.0	2.6	1.9	73.1	<0.1	<0.1	
05-Dec-16 to 10-Jan-17	0.6	0.3	50.0	0.6	0.4	66.7	0.4	<0.1	0.0
10-Jan-17 to 03-Feb-17	0.4	0.1	25.0	0.8	0.4	50.0	0.7	0.5	71.4
03-Feb-17 to 03-Mar-17	0.1	<0.1	0.0	0.3	0.1	33.3	0.7	0.3	42.9
03-Feb-17 to 04-Apr-17	1.0	0.7	70.0	0.1	<0.1	0.0	0.1	<0.1	0.0
04-Apr-17 to 02-May-17	0.4	0.2	50.0	0.8	0.5	62.5	0.7	0.4	57.1
02-May-17 to 02-Jun-17	0.1	<0.01	0.0	0.3	0.2	66.7	0.3	0.2	66.7
02-Jun-17 to 29-Jun-17	0.2	0.1	50.0	0.6	0.4	66.7	0.2	0.1	50.0
29-Jun-17 to 02-Aug-17	0.4	0.2	50.0	0.9	0.7	77.8	0.7	0.5	71.4
02-Aug-17 to 31-Aug-17	0.8	0.3	37.5	1.1	0.9	81.8	1.0	0.5	50.0
31-Aug-17 to 04-Oct-17	0.4	0.2	50.0	0.9	0.8	88.9	1.4	1.0	71.4
04-Oct-17 to 02-Nov-17	0.4	0.1	25.0	0.9	0.7	77.8	3.1	1.2	38.7
02-Nov-17 to 04-Dec-17	0.2	<0.1	50.0	0.5	0.3	60.0	1.1	0.4	36.4
04-Dec-17 to 17-Jan-18	0.7	0.3	42.9	0.8	0.3	37.5	2.5	1.0	40.0
17-Jan-18 to 16-Feb-18	0.7	0.3	42.9	0.9	0.2	22.2	0.8	0.3	37.5
<b>AVERAGE 1</b>	<b>0.5</b>	<b>0.3</b>	<b>39.0</b>	<b>0.7</b>	<b>0.5</b>	<b>56.3</b>	<b>1.1</b>	<b>0.5</b>	<b>46.8</b>
<b>AVERAGE 2</b>	<b>1.1</b>	<b>0.8</b>	<b>54.6</b>	<b>0.9</b>	<b>0.6</b>	<b>61.8</b>	<b>0.9</b>	<b>0.5</b>	<b>53.8</b>
<b>STANDARD DEVIATION 1</b>	<b>0.3</b>	<b>0.2</b>	<b>21.0</b>	<b>0.3</b>	<b>0.3</b>	<b>27.2</b>	<b>0.9</b>	<b>0.4</b>	<b>19.7</b>
<b>STANDARD DEVIATION 2</b>	<b>1.5</b>	<b>1.3</b>	<b>27.2</b>	<b>0.7</b>	<b>0.5</b>	<b>24.6</b>	<b>0.6</b>	<b>0.3</b>	<b>22.7</b>

Units:grams per square metre per month

Note: Dust storms were evident in October 2002 due to drought conditions across NSW.

Av1/SD1 = 12 Month Rolling Average/Standard Deviation

Av2/SD2 = All samples from December 2001 excluding data from period 30 September 2002 to 1 November 2002

\*\*Samples collected in May 2013 did not identify collection location ID. Not included in statistical analysis.

†Samples Collected in July 2015 and August 2015 were outside the 30 day sample collection period. Not included in statistical analysis.

ND: Not determined

ND<sup>1</sup>: Broken by frost

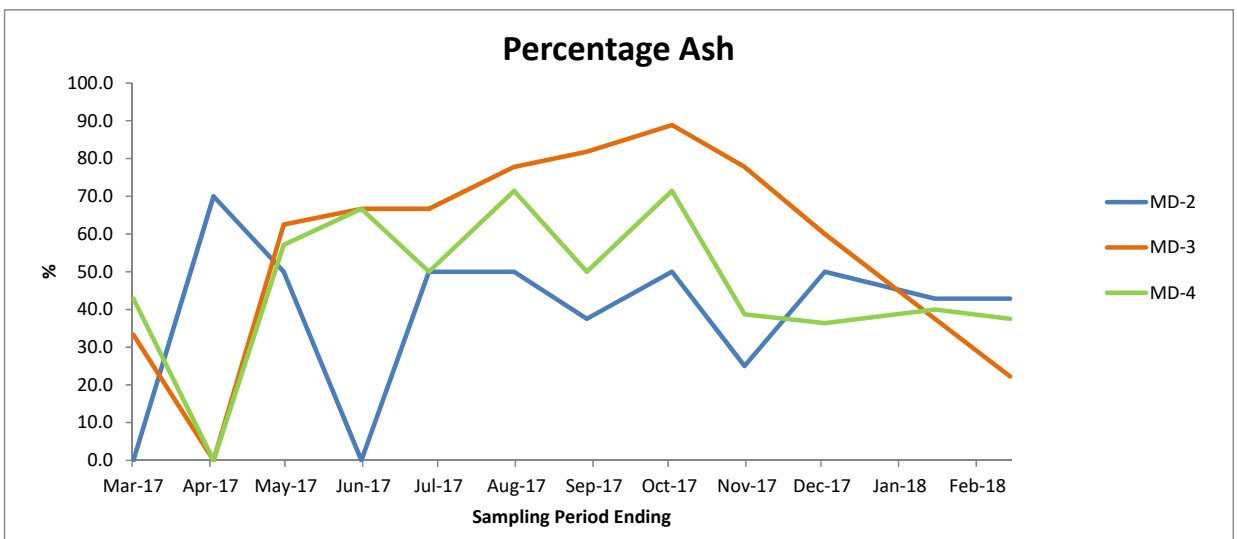
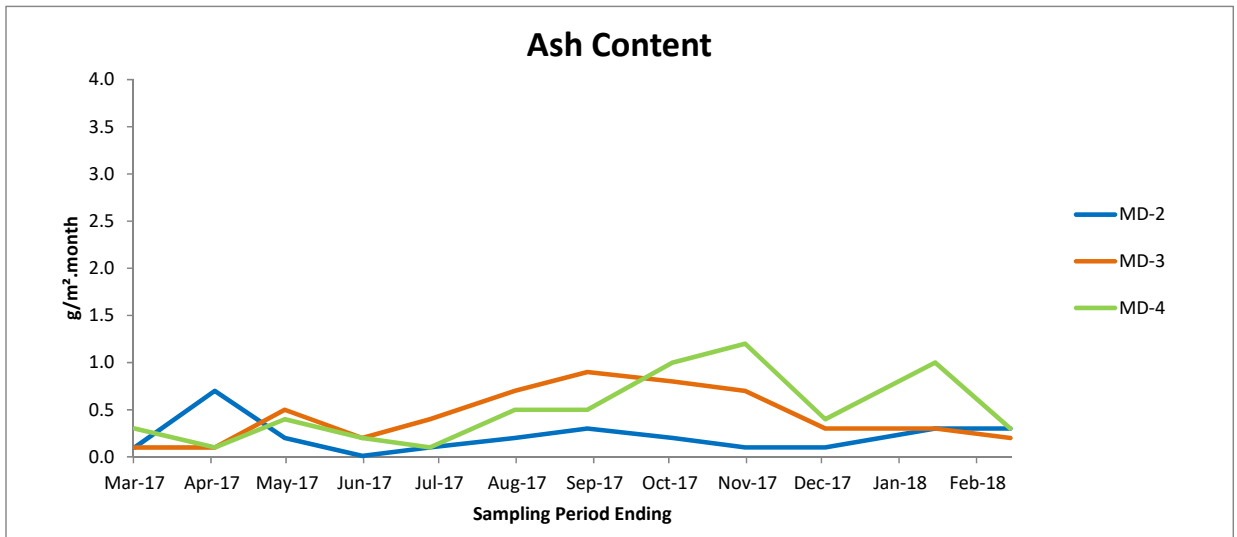
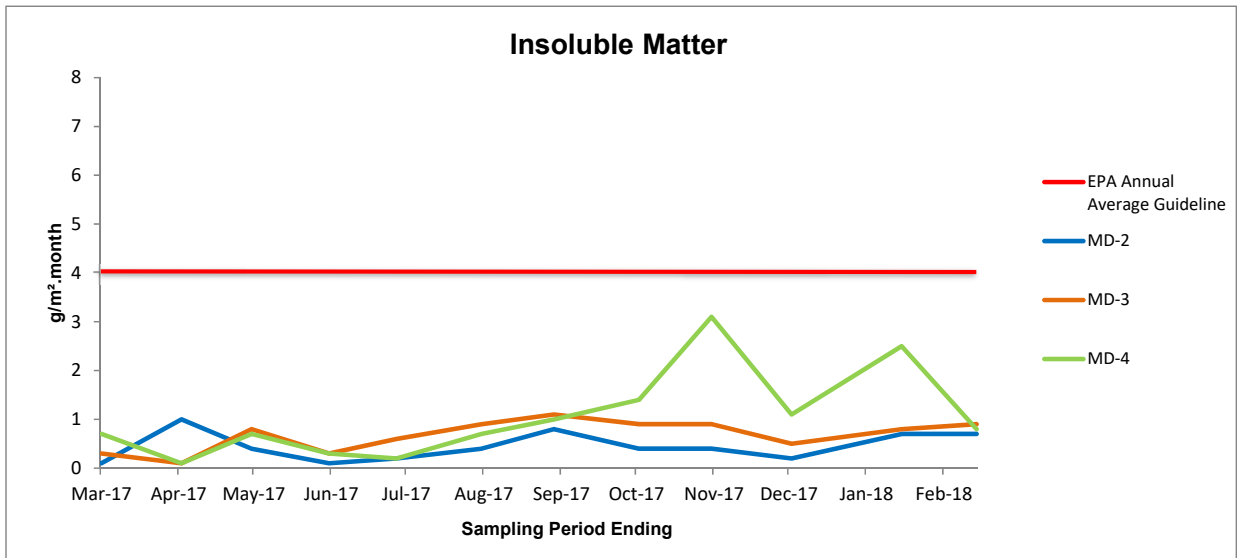
DE: Documentation Error

BD: Below Detection

NC: Not Collected



**METROMIX MARRANGAROO QUARRY  
DUST DEPOSIT GAUGE ANALYSES - PROJECT #215**



## CERTIFICATE OF ANALYSIS

**Work Order** : **24006437**  
**Client** : **R W CORKERY & CO PTY LTD**  
**Contact** : **MR ROB CORKERY**  
**Address** : **P O BOX 239**  
**BROOKLYN NSW, AUSTRALIA 2083**  
**E-mail** : **rob@rwcorkery.com**  
**Telephone** : **0263 625411**  
**Facsimile** : **0263613622**  
**Project** : **Marrangaroo**  
**Order number** :  
**C-O-C number** :  
**Sampler** :  
**Site** :  
**Quote number** :

**Page** : **1 of 3**  
**Laboratory** : **Coal Division Lithgow**  
**Contact** : **Almudena Bryce**  
**Address** : **Unit 2, 16 Donald Street**  
**LITHGOW NSW Australia 2790**  
**E-mail** : **Almudena.Bryce@alsglobal.com**  
**Telephone** : **61-2-6350-7400**  
**Facsimile** : **61-2-6352-3583**  
**QC Level** :  
**Date Samples Received** : **21/02/2018**  
**Issue Date** : **05/03/2018**  
**No. of samples received** : **4**  
**No. of samples analysed** : **4**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 11436

Accredited for compliance with  
ISO/IEC 17025

### Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

*Signatories*  
Stephanie Thompson

*Position*  
Environmental Supervisor

*Accreditation Category*  
Lithgow – Chemical Testing



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
LOR = Limit of reporting  
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Analysis as per AS3580.10.1-2003. Samples passed through a 1mm sieve prior to analysis.**
- **NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.**



**Analytical Results**

Sub-Matrix: DUST (Matrix: AIR)

Client sample ID

				MD2	MD3	MD4	MD5	----
				16-FEB-201810:00	16-FEB-201810:15	16-FEB-201810:20	16-FEB-2018 9:50	----
				24006437-01	24006437-02	24006437-03	24006437-04	----
Compound	CAS Number	LOR	Unit					
<b>EA120: Ash Content</b>								
Ash Content		0.1	g/m <sup>2</sup> .month	0.4	0.7	0.5	0.1	----
Ash Content (mg)		1	mg	7.5	11.6	8.2	2.0	----
<b>Combustible Matter</b>								
Combustible Matter		0.1	g/m <sup>2</sup> .month	0.3	0.2	0.3	0.2	----
Combustible Matter (mg)		1	mg	12.1	15.4	13.0	4.5	----
<b>Total Insoluble Matter</b>								
Total Insoluble Matter		0.1	g/m <sup>2</sup> .month	0.7	0.9	0.8	0.3	----
Total Insoluble Matter (mg)		1	mg	19.6	27.0	21.2	6.5	----