

**WAC TESTS FROM  
PINCHES 2**

13 Feb 2008

A Morris  
Enviroarm Limited  
597 Walsall Road  
Great Wyrley  
Walsall  
WS6 6AE  
Fax Number:

01922 412209

STL Job Reference: L 406981/2007

Dear Mr Smyth

We confirm receipt of your samples on 14 December 2007

Samples Registered: 2  
Site Name: Pinches 2  
Customer Order Number:  
Expected Due Date: 2 January 2008  
Turnaround Time Requested: 10

Please check your registration details carefully on the other sheets in this workbook. We shall assume we have interpreted your requirements correctly unless we hear from you within 24 hours.

Please note that an order number has not been provided for this work. We shall be unable to release results until a valid order number is received.

Should you have any queries on the above samples, please contact me on 02476 584829 referring to the above STL Job reference.

Yours sincerely

Martin Heeks  
Project Manager  
02476 584829  
Martin.Heeks@stl-ltd.com

**Storage and Disposal of Samples**

All samples will be stored in such a way as to avoid as far as is practically possible, deterioration of the samples during storage.

Soil samples will be retained for 30 days after dispatch of the final report. \*

Water samples will be retained for 10 days after dispatch of the final report. \*

\* Unless other instructions are received. A charge may be made for the prolonged storage of samples.

**Severn Trent Laboratories Limited**

STL Midlands, Rayner House, 80 Lockhurst Lane, Coventry, CV6 5PZ.  
Tel: 024 76584800. Fax: 024 76584848 www.stl-ltd.com

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	899551	Mass of Raw Test Portion (MW) kg	0.179
Job Number	406891	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	1 No. Sample	Moisture Content Ratio (MC) %	1.89
Site	LHL - WAC Analysis: Pinches 2	Dry Matter Content Ratio (DR) %	98
Date Sampled	14/12/2007	Leachant Volume (1) (L2) Litre	0.347
Date Received	14/12/2007	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.280
Method of size reduction	Jaw Crusher.	Eluate Volume (2) (VE2) Litre	1.380
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	899552	899553					
pH	8.24	8.19					
Temperature °C	19	20					
Conductivity uS/cm	5330	346					
	mg/l	mg/l	mg/kg	mg/kg	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Arsenic as As	<0.0050	<0.0050	<0.0100	<0.050	0.5	2	25
Barium as Ba	0.065	0.014	0.130	0.22	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<0.0010	0.04	1	5
Chromium as Cr	0.018	0.0037	0.036	0.06	0.5	10	70
Copper as Cu	<0.010	<0.010	<0.020	<0.10	2	50	100
Mercury as Hg	<0.00050	<0.00050	<0.00100	<0.0050	0.01	0.2	2
Molybdenum as Mo	0.023	<0.0020	0.046	<0.05	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<0.20	0.4	10	40
Lead as Pb	<0.010	<0.010	<0.020	<0.10	0.5	10	50
Antimony as Sb	<0.0060	<0.0060	<0.0120	<0.060	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<0.10	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<0.25	4	50	200
Chloride as Cl	35	40	800	635	800	15000	25000
Fluoride as F	0.65	<0.20	1.30	<2.7	10	150	500
Sulphate as SO <sub>4</sub>	220	<24	440	<554	1000	20000	50000
Total Dissolved Solids (TDS)	900	<200	800	<620	4000	60000	100000
Phenol Index	<0.050	<0.050	<0.100	<0.50	1		
Dissolved Organic Carbon (DOC)	24	<5.0	48	<80	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				2.1	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg				<0.10	6		
PCBs (7 congeners) mg/kg				<0.10	1		
Mineral Oil (C10 - C40) mg/kg				44	500		
PAHs mg/kg				64	100		
pH				8.2		>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

Disclaimer : The Landfill Waste Acceptance Criteria limits in this report are provided for guidance only. STL does not take responsibility for any errors or omissions. Data is correct as of 01/05/2005

Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	270
Moisture at 105c	%	1.9

Sample Comments	
899551	Stainless steel sieve used.
899552	
899553	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



Sample Details		Test Values	
Sample Number	899554	Mass of Raw Test Portion (MW) kg	0.179
Job Number	406891	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	2 No. Sample	Moisture Content Ratio (MC) %	1.89
Site	LHL - WAC Analysis: Pinches 2	Dry Matter Content Ratio (DR) %	98
Date Sampled	14/12/2007	Leachant Volume (1) (L2) Litre	0.347
Date Received	14/12/2007	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.280
Method of size reduction	Jaw Crusher.	Eluate Volume (2) (VE2) Litre	1.380
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	899555	899556					
pH	8.24	8.19					
Temperature °C	19	20					
Conductivity uS/cm	5330	346					
	mg/l	mg/l	mg/kg	mg/kg			
Arsenic as As	<0.0050	<0.0050	<0.0100	<0.050	0.5	2	25
Barium as Ba	0.17	0.020	0.34	0.5	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<0.0010	0.04	1	5
Chromium as Cr	0.037	0.0025	0.074	<0.08	0.5	10	70
Copper as Cu	0.016	<0.010	0.032	<0.11	2	50	100
Mercury as Hg	<0.00050	<0.00050	<0.00100	<0.0050	0.01	0.2	2
Molybdenum as Mo	0.023	<0.0020	0.046	<0.05	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<0.20	0.4	10	40
Lead as Pb	<0.010	<0.010	<0.020	<0.10	0.5	10	50
Antimony as Sb	<0.0060	<0.0060	<0.0120	<0.060	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<0.10	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<0.25	4	50	200
Chloride as Cl	15	<2.0	30	<42	800	15000	25000
Fluoride as F	0.70	<0.20	1.40	<2.8	10	150	500
Sulphate as SO <sub>4</sub>	26	<24	52	<243	1000	20000	50000
Total Dissolved Solids (TDS)	280	<200	560	<2122	4000	60000	100000
Phenol Index	<0.050	<0.050	<0.100	<0.50	1		
Dissolved Organic Carbon (DOC)	7.3	<5.0	14.6	<54	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %			0.95		3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg			<0.10		6		
PCBs (7 congeners) mg/kg			<0.10		1		
Mineral Oil (C10 - C40) mg/kg			69		500		
PAHs mg/kg			2.0		100		
pH			8.0			>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	270
Moisture at 105c	%	1.9

Sample Comments	
899554	Stainless steel sieve used.
899555	
899556	

**WAC TESTS FROM  
CHADWICH LANE**



**STL**

27 October 2005

Mr A Morris  
Enviroarm Limited  
597 Walsall Road  
Great Wyrley  
Staffs  
WS6 6AE

**Test Report : EARM/C6224**

Dear Mr Morris

Please find enclosed the results of the analysis carried out on the samples submitted from Chadwich Lane Quarry on 30 September 2005.

I trust you will find these satisfactory but should you have any queries please contact customer services.

Yours sincerely

D Hoque  
CUSTOMER RELATIONS MANAGER



**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	733873	Mass of Raw Test Portion (MW) kg	0.219
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 1	Moisture Content Ratio (MC) %	24.67
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	80
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.307
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0.292
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.450
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria																																																									
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1																																																									
Liquid : Waste Ratio	2:1	8:1	2:1	10:1																																																										
Sample Number	733879	733880			<table border="1"> <thead> <tr> <th>Inert Waste</th> <th>Stable Non- Reactive hazardous waste in non- hazardous</th> <th>Hazardous Waste</th> </tr> </thead> <tbody> <tr> <td>0.5</td> <td>2</td> <td>25</td> </tr> <tr> <td>20</td> <td>100</td> <td>300</td> </tr> <tr> <td>0.04</td> <td>1</td> <td>5</td> </tr> <tr> <td>0.5</td> <td>10</td> <td>70</td> </tr> <tr> <td>2</td> <td>50</td> <td>100</td> </tr> <tr> <td>0.01</td> <td>0.2</td> <td>2</td> </tr> <tr> <td>0.5</td> <td>10</td> <td>30</td> </tr> <tr> <td>0.4</td> <td>10</td> <td>40</td> </tr> <tr> <td>0.5</td> <td>10</td> <td>50</td> </tr> <tr> <td>0.06</td> <td>0.7</td> <td>5</td> </tr> <tr> <td>0.1</td> <td>0.5</td> <td>7</td> </tr> <tr> <td>4</td> <td>50</td> <td>200</td> </tr> <tr> <td>800</td> <td>15000</td> <td>25000</td> </tr> <tr> <td>10</td> <td>150</td> <td>500</td> </tr> <tr> <td>1000</td> <td>20000</td> <td>50000</td> </tr> <tr> <td>4000</td> <td>60000</td> <td>100000</td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td>500</td> <td>800</td> <td>1000</td> </tr> </tbody> </table>	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste	0.5	2	25	20	100	300	0.04	1	5	0.5	10	70	2	50	100	0.01	0.2	2	0.5	10	30	0.4	10	40	0.5	10	50	0.06	0.7	5	0.1	0.5	7	4	50	200	800	15000	25000	10	150	500	1000	20000	50000	4000	60000	100000	1			500	800	1000
Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste																																																												
0.5	2	25																																																												
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0.06	0.7	5																																																												
0.1	0.5	7																																																												
4	50	200																																																												
800	15000	25000																																																												
10	150	500																																																												
1000	20000	50000																																																												
4000	60000	100000																																																												
1																																																														
500	800	1000																																																												
pH	7.96	8.007																																																												
Temperature °C	20	20																																																												
Conductivity uS/cm	543	132.3																																																												
	mg/l	mg/l	mg/kg	mg/kg																																																										
Arsenic as As	<0.05	<0.05	<0.10	<b>&lt;0.5</b>																																																										
Barium as Ba	0.03	0.04	0.06	<b>0.4</b>																																																										
Cadmium as Cd	0.0025	<0.0020	0.0050	<b>&lt;0.021</b>																																																										
Chromium as Cr	<0.01	<0.01	<0.02	<b>&lt;0.1</b>																																																										
Copper as Cu	0.01	<0.01	0.02	<b>&lt;0.1</b>																																																										
Mercury as Hg	<0.0010	<0.0010	<0.0020	<b>&lt;0.010</b>																																																										
Molybdenum as Mo	0.01	0.02	0.02	<b>0.2</b>																																																										
Nickel as Ni	<0.02	<0.02	<0.04	<b>&lt;0.2</b>																																																										
Lead as Pb	<0.05	<0.05	<0.10	<b>&lt;0.5</b>																																																										
Antimony as Sb	<0.0040	<0.0040	<0.0080	<b>&lt;0.040</b>																																																										
Selenium as Se	<0.0020	<0.0020	<0.0040	<b>&lt;0.020</b>																																																										
Zinc as Zn	0.03	0.01	0.06	<b>0.1</b>																																																										
Chloride as Cl	6.0	<2.0	12.0	<b>&lt;27</b>																																																										
Fluoride as F	0.25	0.23	0.50	<b>2.3</b>																																																										
Sulphate as SO <sub>4</sub>	250	<24	500	<b>&lt;617</b>																																																										
Total Dissolved Solids (TDS)	530	98	1060	<b>1701</b>																																																										
Phenol Index	0.50	<0.10	1.00	<b>&lt;1.7</b>																																																										
Dissolved Organic Carbon (DOC)	5.8	2.9	11.6	<b>34</b>																																																										
<b>Waste Analysis</b>																																																														
Total Organic Carbon w/w %				<b>1.5</b>	3%	5%	6%																																																							
Loss on Ignition %							10%																																																							
BTEX mg/kg				<b>&lt;0.10</b>	6																																																									
PCBs (7 congeners) mg/kg				<b>&lt;0.10</b>	1																																																									
Mineral Oil (C10 - C40) mg/kg				<b>73</b>	500																																																									
PAHs mg/kg				<b>7</b>	100																																																									
pH				<b>8.0</b>		>6																																																								
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated																																																							
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated																																																							

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	410

Sample Comments	
733873	
733879	
733880	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



Sample Details		Test Values	
Sample Number	733874	Mass of Raw Test Portion (MW) kg	0.199
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 2	Moisture Content Ratio (MC) %	13.10
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	88
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.327
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0.308
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.315
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		<u>Landfill Waste Acceptance Criteria</u>		
	2:1	8:1	2:1	10:1	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	733881	733882					
pH	8.09	8.176					
Temperature °C	20	19					
Conductivity uS/cm	466	88.8					
	mg/l	mg/l	mg/kg	mg/kg			
Arsenic as As	<0.05	<0.05	<0.10	<0.5	0.5	2	25
Barium as Ba	0.01	0.02	0.02	0.2	20	100	300
Cadmium as Cd	<0.0020	<0.0020	<0.0040	<0.020	0.04	1	5
Chromium as Cr	<0.01	<0.01	<0.02	<0.1	0.5	10	70
Copper as Cu	<0.01	<0.01	<0.02	<0.1	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<0.010	0.01	0.2	2
Molybdenum as Mo	0.01	<0.01	0.02	<0.1	0.5	10	30
Nickel as Ni	<0.02	<0.02	<0.04	<0.2	0.4	10	40
Lead as Pb	<0.05	<0.05	<0.10	<0.5	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<0.040	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<0.020	0.1	0.5	7
Zinc as Zn	0.02	<0.01	0.04	<0.1	4	50	200
Chloride as Cl	9.8	<2.0	19.6	<34	800	15000	25000
Fluoride as F	3.0	0.47	6.0	9	10	150	500
Sulphate as SO <sub>4</sub>	180	<24	360	<515	1000	20000	50000
Total Dissolved Solids (TDS)	480	140	960	1998	4000	60000	100000
Phenol Index	<0.10	<0.10	<0.20	<1.0	1		
Dissolved Organic Carbon (DOC)	2.2	<2.0	4.4	<20	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				0.57	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg				<0.10	6		
PCBs (7 congeners) mg/kg				<0.10	1		
Mineral Oil (C10 - C40) mg/kg				<50	500		
PAHs mg/kg				<2	100		
pH				7.9		>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	340

Sample Comments	
733874	
733881	
733882	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	733875	Mass of Raw Test Portion (MW) kg	0.213
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 3	Moisture Content Ratio (MC) %	21.81
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	82
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.312
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0300
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.376
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	733883	733884					
pH	8.474	8.221					
Temperature °C	19	20					
Conductivity uS/cm	274	87.3					
	mg/l	mg/l	mg/kg	mg/kg	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Arsenic as As	<0.05	<0.05	<0.10	<0.5	0.5	2	25
Barium as Ba	0.01	0.01	0.02	0.1	20	100	300
Cadmium as Cd	<0.0020	<0.0020	<0.0040	<0.020	0.04	1	5
Chromium as Cr	<0.01	<0.01	<0.02	<0.1	0.5	10	70
Copper as Cu	<0.01	<0.01	<0.02	<0.1	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<0.010	0.01	0.2	2
Molybdenum as Mo	0.01	0.01	0.02	0.1	0.5	10	30
Nickel as Ni	<0.02	<0.02	<0.04	<0.2	0.4	10	40
Lead as Pb	<0.05	<0.05	<0.10	<0.5	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<0.040	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<0.020	0.1	0.5	7
Zinc as Zn	<0.01	<0.01	<0.02	<0.1	4	50	200
Chloride as Cl	<0.01	<0.01	<0.02	<20	800	15000	25000
Fluoride as F	0.36	0.30	0.72	3.1	10	150	500
Sulphate as SO <sub>4</sub>	<24	<24	<48	<240	1000	20000	50000
Total Dissolved Solids (TDS)	78	82	156	814	4000	60000	100000
Phenol Index	<0.10	<0.10	<0.20	<1.0	1		
Dissolved Organic Carbon (DOC)	<5.0	<5.0	<10.0	<50	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %			2.8		3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg			<0.10		6		
PCBs (7 congeners) mg/kg			<0.10		1		
Mineral Oil (C10 - C40) mg/kg			<50		500		
PAHs mg/kg			78		100		
pH			8.0			>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	330

Sample Comments	
733875	
733883	
733884	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	733876	Mass of Raw Test Portion (MW) kg	0.201
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 4	Moisture Content Ratio (MC) %	14.30
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	87
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.325
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0.310
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.362
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	733885	733886					
pH	8.44	8.389					
Temperature °C	19	20					
Conductivity uS/cm	185.8	64.9					
	mg/l	mg/l	mg/kg	mg/kg	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Arsenic as As	<0.05	<0.05	<0.10	<0.5	0.5	2	25
Barium as Ba	<0.01	<0.01	<0.02	<0.1	20	100	300
Cadmium as Cd	<0.0020	<0.0020	<0.0040	<0.020	0.04	1	5
Chromium as Cr	<0.01	<0.01	<0.02	<0.1	0.5	10	70
Copper as Cu	<0.01	<0.01	<0.02	<0.1	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<0.010	0.01	0.2	2
Molybdenum as Mo	0.03	<0.01	0.06	<0.1	0.5	10	30
Nickel as Ni	<0.02	<0.02	<0.04	<0.2	0.4	10	40
Lead as Pb	<0.05	<0.05	<0.10	<0.5	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<0.040	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<0.020	0.1	0.5	7
Zinc as Zn	0.02	<0.01	0.04	<0.1	4	50	200
Chloride as Cl	4.3	<2.0	8.6	<24	800	15000	25000
Fluoride as F	0.32	0.29	0.64	3.0	10	150	500
Sulphate as SO <sub>4</sub>	35	<24	70	<259	1000	20000	50000
Total Dissolved Solids (TDS)	88	38	176	469	4000	60000	100000
Phenol Index	<0.10	<0.10	<0.20	<1.0	1		
Dissolved Organic Carbon (DOC)	3.7	<2.0	7.4	<23	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				1.0	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg				<0.10	6		
PCBs (7 congeners) mg/kg				<0.10	1		
Mineral Oil (C10 - C40) mg/kg				<50	500		
PAHs mg/kg				<2	100		
pH				7.8		>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	820

Sample Comments	
733876	
733885	
733886	



**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	733877	Mass of Raw Test Portion (MW) kg	0.192
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 5	Moisture Content Ratio (MC) %	10.45
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	91
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.332
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0.311
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.348
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Liquid : Waste Ratio	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Sample Number	733887	733888					
pH	8.17	8.109					
Temperature °C	20	20					
Conductivity uS/cm	568	117.5					
	mg/l	mg/l	mg/kg	mg/kg			
Arsenic as As	<0.05	<0.05	<0.10	<0.5	0.5	2	25
Barium as Ba	0.03	0.04	0.06	0.4	20	100	300
Cadmium as Cd	0.0020	<0.0020	0.0040	<0.020	0.04	1	5
Chromium as Cr	<0.01	<0.01	<0.02	<0.1	0.5	10	70
Copper as Cu	<0.01	<0.01	<0.02	<0.1	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<0.010	0.01	0.2	2
Molybdenum as Mo	<0.01	<0.01	<0.02	<0.1	0.5	10	30
Nickel as Ni	<0.02	<0.02	<0.04	<0.2	0.4	10	40
Lead as Pb	<0.05	<0.05	<0.10	<0.5	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<0.040	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<0.020	0.1	0.5	7
Zinc as Zn	0.03	0.02	0.06	0.2	4	50	200
Chloride as Cl	7.8	<2.0	15.6	<30	800	15000	25000
Fluoride as F	0.30	0.24	0.60	2.5	10	150	500
Sulphate as SO <sub>4</sub>	260	<24	520	<660	1000	20000	50000
Total Dissolved Solids (TDS)	470	90	940	1576	4000	60000	100000
Phenol Index	<0.10	<0.10	<0.20	<1.0	1		
Dissolved Organic Carbon (DOC)	3.3	<2.0	6.6	<22	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				1.5	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg				<0.10	6		
PCBs (7 congeners) mg/kg				<0.10	1		
Mineral Oil (C10 - C40) mg/kg				<50	500		
PAHs mg/kg				2	100		
pH				8.0		>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	870

Sample Comments	
733877	
733887	
733888	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



**STL**

Sample Details		Test Values	
Sample Number	733878	Mass of Raw Test Portion (MW) kg	0.201
Job Number	C6224	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	Sample 6	Moisture Content Ratio (MC) %	14.93
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	87
Date Sampled	02/10/2005	Leachant Volume (1) (L2) Litre	0.324
Date Received	30/09/2005	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	>95%	Eluate Volume (1) (VE1) Litre	0.312
Method of size reduction	N/A	Eluate Volume (2) (VE2) Litre	1.378
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	733889	733890					
pH	8.10	8.129					
Temperature °C	20	20					
Conductivity uS/cm	540	117.8					
	mg/l	mg/l	mg/kg	mg/kg	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
Arsenic as As	<0.05	<0.05	<0.10	<0.5	0.5	2	25
Barium as Ba	0.02	<0.01	0.04	<0.1	20	100	300
Cadmium as Cd	<0.0020	<0.0020	<0.0040	<0.020	0.04	1	5
Chromium as Cr	<0.01	<0.01	<0.02	<0.1	0.5	10	70
Copper as Cu	<0.01	<0.01	<0.02	<0.1	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<0.010	0.01	0.2	2
Molybdenum as Mo	<0.01	<0.01	<0.02	<0.1	0.5	10	30
Nickel as Ni	<0.02	<0.02	<0.04	<0.2	0.4	10	40
Lead as Pb	<0.05	<0.05	<0.10	<0.5	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<0.040	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<0.020	0.1	0.5	7
Zinc as Zn	0.03	0.01	0.06	0.1	4	50	200
Chloride as Cl	7.6	<2.0	15.2	<30	800	15000	25000
Fluoride as F	0.21	<0.20	0.42	<2.0	10	150	500
Sulphate as SO <sub>4</sub>	230	<24	460	<607	1000	20000	50000
Total Dissolved Solids (TDS)	410	<25	820	<935	4000	60000	100000
Phenol Index	<0.10	<0.10	<0.20	<1.0	1		
Dissolved Organic Carbon (DOC)	6.3	3.7	12.6	42	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %			3.6		3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg			<0.10		6		
PCBs (7 congeners) mg/kg			<0.10		1		
Mineral Oil (C10 - C40) mg/kg			92		500		
PAHs mg/kg			2		100		
pH			9.3			>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Electrical Conductivity*	æS/cm	450

Sample Comments	
733878	
733889	
733890	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



Sample Details		Test Values	
Sample Number	810127	Mass of Raw Test Portion (MW) kg	0.180
Job Number	361241	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	WIF 1	Moisture Content Ratio (MC) %	2.95
Site	CHADWICH LANE	Dry Matter Content Ratio (DR) %	97
Date Sampled	23/11/2007	Leachant Volume (1) (L2) Litre	0.345
Date Received	04/12/2007	Leachant Volume (2) (L8) Litre	1.400
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.282
Method of size reduction	Jaw Crusher.	Eluate Volume (2) (VE2) Litre	1.351
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Liquid : Waste Ratio	<b>2:1</b>	<b>8:1</b>	<b>2:1</b>	<b>10:1</b>	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Sample Number	510128	510129					
pH	8.19	7.53					
Temperature °C	25	25					
Conductivity uS/cm	291	54.1					
	mg/l	mg/l	mg/kg	mg/kg			
Arsenic as As	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	0.5	2	25
Barium as Ba	<0.010	0.038	<0.020	<b>&lt;0.33</b>	20	100	300
Cadmium as Cd	<0.0020	<0.0020	<0.0040	<b>&lt;0.020</b>	0.04	1	5
Chromium as Cr	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	0.5	10	70
Copper as Cu	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	2	50	100
Mercury as Hg	<0.0010	<0.0010	<0.0020	<b>&lt;0.010</b>	0.01	0.2	2
Molybdenum as Mo	<0.010	0.021	<0.020	<b>&lt;0.19</b>	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<b>&lt;0.20</b>	0.4	10	40
Lead as Pb	<0.050	<0.050	<0.100	<b>&lt;0.50</b>	0.5	10	50
Antimony as Sb	<0.0040	<0.0040	<0.0080	<b>&lt;0.040</b>	0.06	0.7	5
Selenium as Se	<0.0020	<0.0020	<0.0040	<b>&lt;0.020</b>	0.1	0.5	7
Zinc as Zn	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	4	50	200
Chloride as Cl	16	5.3	32	<b>70</b>	800	15000	25000
Fluoride as F	0.92	0.26	1.84	<b>3.7</b>	10	150	500
Sulphate as SO <sub>4</sub>	68	<24	136	<b>&lt;311</b>	1000	20000	50000
Total Dissolved Solids (TDS)	240	<200	480	<b>&lt;2064</b>	4000	60000	100000
Phenol Index	<0.050	<0.050	<0.100	<b>&lt;0.50</b>	1		
Dissolved Organic Carbon (DOC)	<5.0	<5.0	<10.0	<b>&lt;50</b>	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				<b>&lt;0.10</b>	3%	5%	6%
Loss on Ignition %				<b>6.4</b>			10%
BTEX mg/kg				<b>&lt;0.10</b>	6		
PCBs (7 congeners) mg/kg				<b>&lt;0.10</b>	1		
Mineral Oil (C10 - C40) mg/kg				<b>&lt;50</b>	500		
PAHs mg/kg				<b>&lt;2.0</b>	100		
pH				<b>8.5</b>		>6	
Acid Neutralisation Capacity (pH4) mol/kg				<b>0.017</b>		To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg				<b>0.0020</b>		To be evaluated	To be evaluated

Waste Acceptance Criteria Testing BS EN 12457-Part 3, 2 Stage Process

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	<b>230</b>
Moisture at 105c	%	<b>2.9</b>

Sample Comments	
510127	Stainless steel sieve used.
510128	
510129	

**Waste Acceptance Criteria Testing BS EN 12457**  
**Part 3, 2 Stage Process**  
**Issue 1**



Sample Details		Test Values	
Sample Number	991268	Mass of Raw Test Portion (MW) kg	0.181
Job Number	407942	Mass of Dried Test Portion (MD) kg	0.176
Sample ID	WIF 6	Moisture Content Ratio (MC) %	1.91
Site	LHL - WAC Analysis: gm sprigg	Dry Matter Content Ratio (DR) %	97.4
Date Sampled	13/05/2008	Leachant Volume (1) (L2) Litre	0.347
Date Received	13/05/2008	Leachant Volume (2) (L8) Litre	1.389
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.279
Method of size reduction	Jaw Crusher.	Eluate Volume (2) (VE2) Litre	1.420
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		<u>Landfill Waste Acceptance Criteria</u>		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/kg) at L:S 10:1		
Liquid : Waste Ratio	2:1	8:1	2:1	10:1			
Sample Number	991269	991270					
pH	8.24	8.19					
Temperature °C	19	20					
Conductivity uS/cm	4789	245					
	mg/l	mg/l	mg/kg	mg/kg	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
Arsenic as As	<0.0050	<0.0050	<0.0100	<0.050	0.5	2	25
Barium as Ba	0.005	0.010	0.100	0.20	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<0.0010	0.04	1	5
Chromium as Cr	0.016	0.0032	0.030	0.06	0.5	10	70
Copper as Cu	<0.010	<0.010	<0.020	<0.10	2	50	100
Mercury as Hg	<0.00050	<0.00050	<0.00100	<0.0050	0.01	0.2	2
Molybdenum as Mo	0.023	<0.0020	0.046	<0.05	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<0.20	0.4	10	40
Lead as Pb	<0.010	<0.010	<0.020	<0.10	0.5	10	50
Antimony as Sb	<0.0060	<0.0060	<0.0120	<0.060	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<0.10	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<0.25	4	50	200
Chloride as Cl	10	20	84	120	800	15000	25000
Fluoride as F	0.65	<0.20	1.30	<2.7	10	150	500
Sulphate as SO <sub>4</sub>	64	<24	128	216	1000	20000	50000
Total Dissolved Solids (TDS)	50	<100	250	<500	4000	60000	100000
Phenol Index	<0.050	<0.050	<0.100	<0.50	1		
Dissolved Organic Carbon (DOC)	20	<5.0	40	<80	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %			1.2		3%	5%	6%
Loss on Ignition %							10%
BTEX mg/kg			<0.10		6		
PCBs (7 congeners) mg/kg			<0.10		1		
Mineral Oil (C10 - C40) mg/kg			37		500		
PAHs mg/kg			15		100		
pH			7.9			>6	
Acid Neutralisation Capacity (pH4) mol/kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/kg						To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/kg	mg/kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	270
Moisture at 105c	%	1.9

Sample Comments	
899551	Stainless steel sieve used.
899552	
899553	



**Waste Acceptance Criteria Testing BS EN 12457  
Part 3, 2 Stage Process  
Issue 3**



Sample Details		Test Values	
Sample Number	11962974	Mass of Raw Test Portion (MW) kg	0.18
Job Number	721864	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	TP1	Moisture Content Ratio (MC) %	2.99
Site	Chadwich Lane	Dry Matter Content Ratio (DR) %	97.1
Job Description	WAC Analysis	Moisture Content @ 105c	2.9
Date Sampled		Leachant Volume (1) (L2) Litre	0.345
Date Received	07/09/2010	Leachant Volume (2) (L8) Litre	1.4
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.233
Method of size reduction	jaw crusher	Eluate Volume (2) (VE2) Litre	1.32
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		<u>Landfill Waste Acceptance Criteria</u>		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/Kg) at L:S 10:1		
Liquid:Waste Ratio							
Sample Number	11962975	11962976					
pH	9.24	8.94					
Temperature °C	10	19					
Conductivity uS/cm	1158	165.8					
	mg/l	mg/l	mg/Kg	mg/Kg	Inert Waste	Stable Non-Reactive hazardous waste in non-hazardous	Hazardous Waste
Arsenic as As	<0.0050	<0.0050	<0.010	<b>&lt;0.050</b>	0.5	2	25
Barium as Ba	0.027	<0.010	0.054	<b>0.036</b>	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<b>&lt;0.0010</b>	0.04	1	5
Chromium as Cr	0.016	<0.0025	0.032	<b>0.021</b>	0.5	10	70
Copper as Cu	0.067	0.013	0.13	<b>0.2</b>	2	50	100
Mercury as Hg	0.001	<0.00050	0.002	<b>0.0013</b>	0.01	0.2	2
Molybdenum as Mo	0.046	<0.0020	0.092	<b>0.061</b>	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<b>&lt;0.20</b>	0.4	10	40
Lead as Pb	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	0.5	10	50
Antimony as Sb	<0.0060	<0.0060	<0.012	<b>&lt;0.060</b>	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<b>&lt;0.10</b>	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<b>&lt;0.25</b>	4	50	200
Chloride as Cl	83.2	4.3	170	<b>150</b>	800	15000	25000
Fluoride as F	1.7	0.5	3.4	<b>6.6</b>	10	150	500
Sulphate as SO4	416	30.1	830	<b>810</b>	1000	20000	50000
Total Dissolved Solids (TDS)	870	99	1700	<b>2000</b>	4000	60000	100000
Phenol Index	<0.15	<0.15	<0.30	<b>&lt;1.5</b>	1		
Dissolved Organic Carbon (DOC)	20.6	5.77	41	<b>77</b>	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				<b>1.1</b>	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/Kg					6		
PCBs (7 congeners) mg/Kg				<b>&lt;0.010</b>	1		
Mineral Oil (C10-C40) mg/Kg				<b>350</b>	500		
PAHs mg/Kg				<b>71</b>	100		
pH				<b>9.2</b>		>6	
Acid Neutralisation Capacity (pH4) mol/Kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/Kg						To be evaluated	To be evaluated

*Disclaimer: Eluate concentrations below the detection limit are assumed to be negligible when calculating mg/kg values. The limits quoted for Waste Acceptance are derived from the Landfill (England and Wales) Regulations 2002 (as amended) and are provided as guidance only. STS does not take responsibility for any errors or omissions with regard to these limits.*

Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/Kg	mg/Kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	1300
Benzene	mg/kg	<0.10
Toluene	mg/kg	<0.10
Ethylbenzene	mg/kg	<0.10
m&p-Xylene	mg/kg	<0.20
o-Xylene	mg/kg	<0.10

Sample Comments	
11962974	stainless steel sieve
11962975	
11962976	

**Waste Acceptance Criteria Testing BS EN 12457  
Part 3, 2 Stage Process  
Issue 1**



Sample Details		Test Values	
Sample Number	12339470	Mass of Raw Test Portion (MW) kg	0.177
Job Number	771818	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	TP1	Moisture Content Ratio (MC) %	0.99
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	99.02
Job Description	WAC Analysis	Moisture Content @ 105c	0.98
Date Sampled		Leachant Volume (1) (L2) Litre	0.348
Date Received	15/04/2011	Leachant Volume (2) (L8) Litre	1.4
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.272
Method of size reduction	jaw crusher	Eluate Volume (2) (VE2) Litre	1.402
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	BS EN 12457-3 Limit Values (mg/Kg) at L:S 10:1		
Liquid:Waste Ratio							
Sample Number	12339471	12339472			Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
pH	9.13	9.46					
Temperature °C	22	21					
Conductivity uS/cm	1083	166.3					
	mg/l	mg/l	mg/Kg	mg/Kg			
Arsenic as As	<0.0050	<0.0050	<0.010	<b>&lt;0.050</b>	0.5	2	25
Barium as Ba	0.036	<0.010	0.072	<b>0.056</b>	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<b>&lt;0.0010</b>	0.04	1	5
Chromium as Cr	0.012	0.004	0.024	<b>0.052</b>	0.5	10	70
Copper as Cu	0.029	0.013	0.058	<b>0.15</b>	2	50	100
Mercury as Hg	<0.00050	<0.00050	<0.0010	<b>&lt;0.0050</b>	0.01	0.2	2
Molybdenum as Mo	0.049	0.01	0.098	<b>0.16</b>	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<b>&lt;0.20</b>	0.4	10	40
Lead as Pb	0.016	<0.010	0.032	<b>0.025</b>	0.5	10	50
Antimony as Sb	0.015	0.01	0.03	<b>0.11</b>	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<b>&lt;0.100</b>	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<b>&lt;0.25</b>	4	50	200
Chloride as Cl	47.6	2	95	<b>91</b>	800	15000	25000
Fluoride as F	1.1	0.6	2.2	<b>6.8</b>	10	150	500
Sulphate as SO4	441	33.5	880	<b>970</b>	1000	20000	50000
Total Dissolved Solids (TDS)	847	110	1700	<b>2200</b>	4000	60000	100000
Phenol Index	<0.15	<0.15	<0.30	<b>&lt;1.5</b>	1		
Dissolved Organic Carbon (DOC)	13.5	4.84	27	<b>62</b>	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				<b>2.2</b>	3%	5%	6%
Loss on Ignition %							10%
BTEX mg/Kg					6		
PCBs (7 congeners) mg/Kg				<b>0.015</b>	1		
Mineral Oil (C10-C40) mg/Kg				<b>&lt;50</b>	500		
PAHs mg/Kg				<b>84</b>	100		
pH				<b>8.4</b>		>6	
Acid Neutralisation Capacity (pH4) mol/Kg						To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/Kg						To be evaluated	To be evaluated

*Disclaimer: Eluate concentrations below the detection limit are assumed to be negligible when calculating mg/kg values. The limits quoted for Waste Acceptance are derived from the Landfill (England and Wales) Regulations 2002 (as amended) and are provided as guidance only. STS does not take responsibility for any errors or omissions with regard to these limits.*

Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/Kg	mg/Kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	<b>880</b>
Benzene	mg/kg	<b>&lt;0.10</b>
Toluene	mg/kg	<b>&lt;0.10</b>
Ethylbenzene	mg/kg	<b>&lt;0.10</b>
m&p-Xylene	mg/kg	<b>&lt;0.20</b>
o-Xylene	mg/kg	<b>&lt;0.10</b>

Sample Comments	
12339470	stainless steel sieve
12339470	
12339471	
12339472	

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**Waste Acceptance Criteria Testing BS EN 12457  
Part 3, 2 Stage Process  
Issue 4**



Sample Details		Test Values	
Sample Number	13141725	Mass of Raw Test Portion (MW) kg	0.175
Job Number	878760	Mass of Dried Test Portion (MD) kg	0.175
Sample ID	TPA	Moisture Content Ratio (MC) %	0.2
Site	Chadwich Lane Quarry	Dry Matter Content Ratio (DR) %	99.8
Job Description	Soil Analysis	Moisture Content @ 105c	0.2
Date Sampled	23/9/2012	Leachant Volume (1) (L2) Litre	0.35
Date Received	24/9/2012	Leachant Volume (2) (L8) Litre	1.4
Particle Size (<4mm)	<=95%	Eluate Volume (1) (VE1) Litre	0.3
Method of size reduction	Jaw Crusher	Eluate Volume (2) (VE2) Litre	1.35
Non-crushable matter	N/A		

Eluate Analysis	Concentration in Eluate		Amount Leached		Landfill Waste Acceptance Criteria		
	2:1	8:1	2:1	10:1	Inert Waste	Stable Non- Reactive hazardous waste in non- hazardous	Hazardous Waste
Liquid:Waste Ratio							
Sample Number	13141739	13141740					
pH	7.03	8.33					
Temperature °C	20	19					
Conductivity uS/cm	264	59.2					
	mg/l	mg/l	mg/Kg	mg/Kg			
Arsenic as As	<0.0050	<0.0050	<0.010	<b>&lt;0.050</b>	0.5	2	25
Barium as Ba	0.01	<0.010	0.02	<b>0.017</b>	20	100	300
Cadmium as Cd	<0.00010	<0.00010	<0.00020	<b>&lt;0.0010</b>	0.04	1	5
Chromium as Cr	0.014	0.006	0.028	<b>0.074</b>	0.5	10	70
Copper as Cu	<0.010	<0.010	<0.020	<b>&lt;0.100</b>	2	50	100
Mercury as Hg	<0.00050	<0.00050	<0.0010	<b>&lt;0.0050</b>	0.01	0.2	2
Molybdenum as Mo	0.002	0.003	0.004	<b>0.028</b>	0.5	10	30
Nickel as Ni	<0.020	<0.020	<0.040	<b>&lt;0.20</b>	0.4	10	40
Lead as Pb	<0.010	<0.010	<0.020	<b>&lt;0.100</b>	0.5	10	50
Antimony as Sb	<0.0060	<0.0060	<0.012	<b>&lt;0.060</b>	0.06	0.7	5
Selenium as Se	<0.010	<0.010	<0.020	<b>&lt;0.100</b>	0.1	0.5	7
Zinc as Zn	<0.025	<0.025	<0.050	<b>&lt;0.25</b>	4	50	200
Chloride as Cl	6.06	<3.00	12	<b>10</b>	800	15000	25000
Fluoride as F	0.2	<0.2	0.4	<b>0.34</b>	10	150	500
Sulphate as SO4	70	3.2	140	<b>150</b>	1000	20000	50000
Total Dissolved Solids (TDS)	321	28	640	<b>780</b>	4000	60000	100000
Phenol Index					1		
Dissolved Organic Carbon (DOC)	3.8	<0.7	7.6	<b>6.5</b>	500	800	1000
<b>Waste Analysis</b>							
Total Organic Carbon w/w %				<b>6.1</b>	3%	5%	6%
Loss on Ignition %				<b>1.6</b>			10%
BTEX mg/Kg					6		
PCBs (7 congeners) mg/Kg					1		
Mineral Oil (C10-C40) mg/Kg					500		
PAHs mg/Kg					100		
pH				<b>8.3</b>		>6	
Acid Neutralisation Capacity (pH4) mol/Kg				<b>0.055</b>		To be evaluated	To be evaluated
Acid Neutralisation Capacity (pH7) mol/Kg				<b>0.0075</b>		To be evaluated	To be evaluated

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Additional Eluate Analysis	Concentration in Eluate		Amount Leached	
	2:1	8:1	2:1	10:1
	mg/l	mg/l	mg/Kg	mg/Kg

Additional Waste Analysis	Units	Result
Conductivity @ 20 C	uS/cm	200

Sample Comments	
13141725	Stainless Steel Sieve
13141739	
13141740	

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