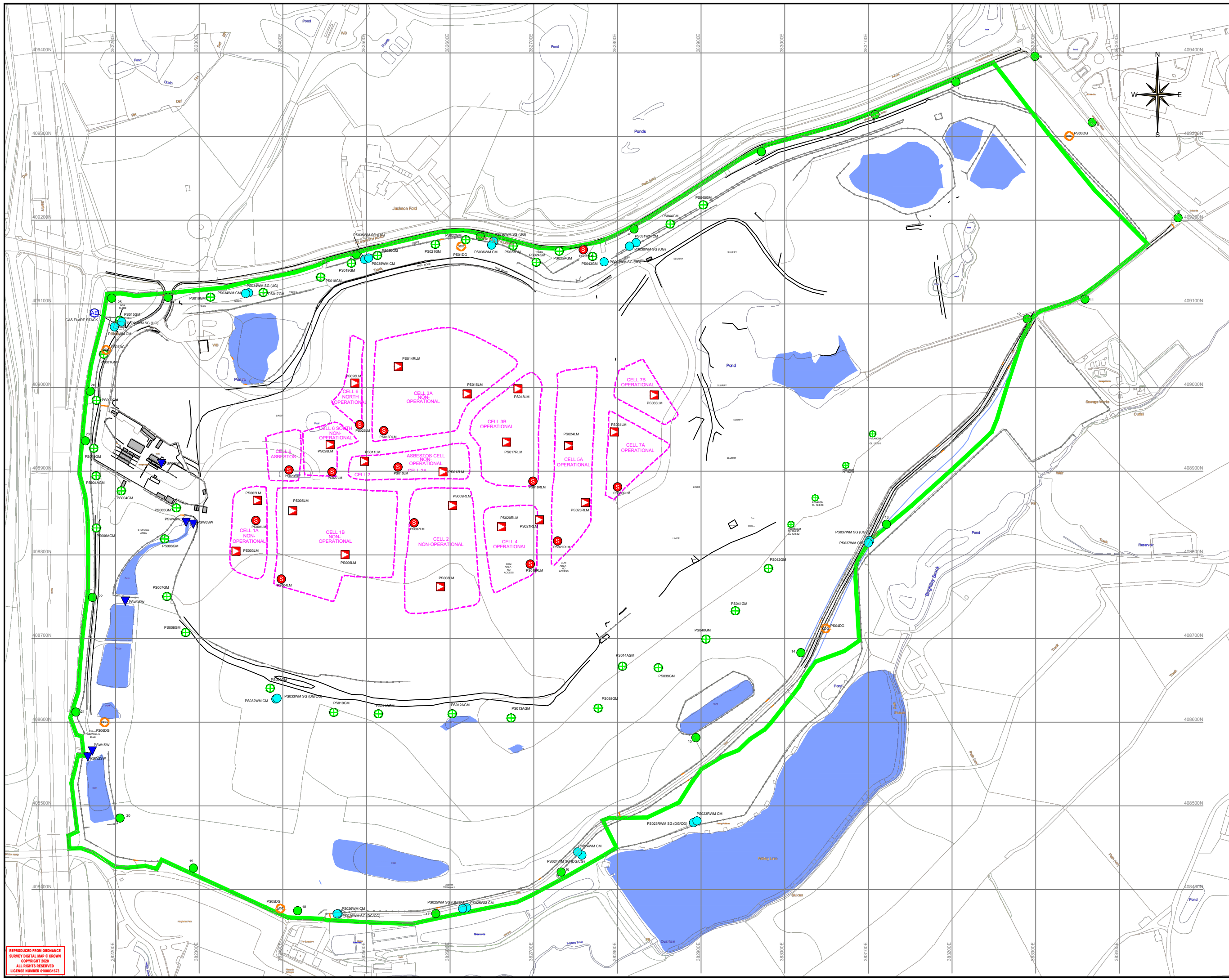
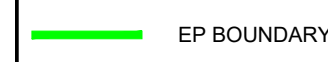
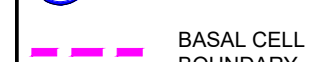
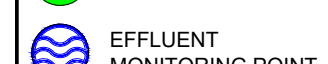
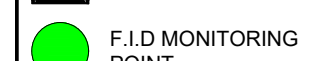
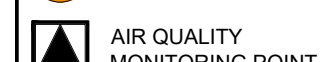
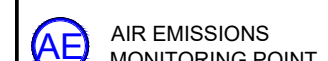
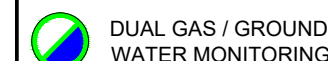


TO BE READ IN CONJUNCTION WITH MEPP TABLES  
FOR IN WASTE GAS MONITORING WELLS SEE  
THE SITE 4000 STANDARD LAYOUT

- BUILDINGS
- WATER
- ROAD
- FENCES
- LEACHATE MONITORING POINT
- LEACHATE SUMP
- PERIMETER GAS MONITORING POINT
- DUAL GAS / GROUND WATER MONITORING
- GROUND WATER MONITORING POINT
- SURFACE WATER MONITORING POINT
- AIR EMISSIONS MONITORING POINT
- DEPOSITIONAL DUST GAUGE
- AIR QUALITY MONITORING POINT
- F.I.D MONITORING POINT
- EFFLUENT MONITORING POINT
- BASAL CELL BOUNDARY
- EP BOUNDARY
- (UG) UP GRADIENT
- (DG) DOWN GRADIENT
- (CG) CROSS GRADIENT
- (US) UP STREAM
- (DS) DOWN STREAM
- DIRECTION OF FLOW



SITE NAME <b>PILSWORTH SOUTH LANDFILL</b>	
DRAWING TITLE <b>MONITORING AND EXTRACTION POINT PLAN</b> PAGE 1 OF 3	
DRAWING NUMBER <b>PWS3000</b>	
TASK NUMBER 16231	
SCALE NTS	REVISION
OIDRN S.Robinson	R/DRN
OIDATE 24/11/2020	R/DATE
O/APP R.James	R/APP
O/DATE 27/11/2020	R/DATE
INFORMATION TAKEN FROM	
SURVEY SERVICES MASTER FILE	PWS082s-Aug2020 RevA
OTHER DRAWINGS	PWS12000 - Sep2020
NO UNAUTHORISED REPRODUCTION OR DISTRIBUTION	



- (UG) UP GRADIENT
- (DG) DOWN GRADIENT
- (CG) CROSS GRADIENT
- (US) UP STREAM
- (DS) DOWN STREAM
- DIRECTION OF FLOW

**Pilsworth South MEPP Tables Permit Variation 012 dated 1<sup>st</sup> June 2020**

Permit Schedule 3, Revised Table S3.1

**Table S3.1 Leachate level limits and monitoring requirements**

Monitoring Point Ref/Description	Limit	Monitoring frequency	Monitoring standard or method
<b>Operational Cells or Phases<sup>1</sup></b>			
PS016RLM, PS017RLM, PS018LM, PS019RLM, PS020RLM, PS021RLM, PS022RLM, PS023RLM, PS024LM, PS025LM, PS026LM, PS027LM, PS028LM, PS029LM, PS030RLM, PS031LM, PS033LM	1.5 metres above cell base	Monthly	As specified in Environment Agency Guidance document TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
On Plan PWS3000			
<b>Non-Operational Cells or Phases<sup>2</sup></b>			
PS001LM, PS002LM, PS003LM, PS004LM, PS005LM, PS006LM, PS007LM, PS008LM, PS009RLM, PS010LM, PS011LM, PS012LM, PS013RLM, PS014RLM, PS015LM	1.5 metres above cell base	Quarterly	
On Plan PWS3000			

<sup>1</sup> Any cells or phases that do not have a final engineered cap agreed in accordance with Permit condition 2.6  
<sup>2</sup> Any cells or phases that have a final engineered cap agreed in accordance with Permit condition 2.6

Permit Schedule 3, Revised Table S3.11

**Table S3.11 Leachate – other monitoring requirements**

Monitoring Point Ref/Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
<b>Operational Cells or Phases<sup>1</sup></b>				
PS016RLM, PS019RLM, PS022RLM, PS025LM, PS027LM, PS029LM, PS030RLM, PS032LM On Plan PWS3000	pH, EC, total alkalinity, ammoniacal nitrogen, chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Quarterly	At leachate compliance point as listed in Table S3.1. As specified in Environment Agency Guidance TGN02 (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2, April 2010, with one sampling point per cell / phase or such other subsequent guidance as may be agreed in writing with the Environment Agency.	None
	Hazardous substances	Annually		
	Depth to base (mAOD)	Annually		
<b>Non-Operational Cells or Phases<sup>2</sup></b>				
PS001LM, PS004LM, PS007LM, PS010LM, PS013RLM On Plan PWS3000	pH, EC, total alkalinity, ammoniacal nitrogen, chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Annually		
	Hazardous substances	Once every four years		
	Depth to base (mAOD)	Annually		

<sup>1</sup> Any cells or phases that do not have a final engineered cap agreed in accordance with Permit condition 2.6  
<sup>2</sup> Any cells or phases that have a final engineered cap agreed in accordance with Permit condition 2.6

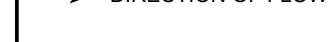
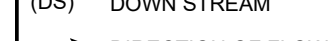
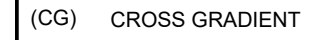
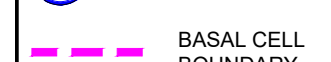
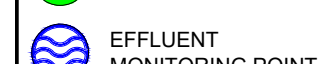
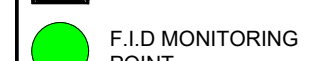
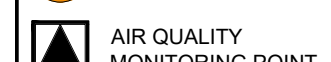
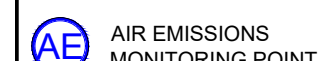
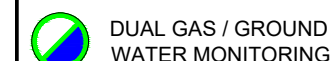
Permit Schedule 3, Revised Table S3.9

**Table S3.9 Groundwater – other monitoring requirements**

Monitoring Point Ref /Description	Parameter	Monitoring frequency	Monitoring standard or method
<b>Sands and Gravels Aquifer</b>			
Up gradient PS001WM SG PS029WM SG PS030WM SG PS034WM SG PS035WM SG PS036WM SG PS037WM SG	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2, April 2010, or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient PSW6SW <sup>1</sup> PS023RWM SG PS024WM SG PS025WM SG PS026WM SG PS033WM SG	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2, April 2010, or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
Groundwater monitoring points PS001WM SG PS023RWM SG PS024WM SG PS025WM SG PS026WM SG PS029WM SG PS030WM SG PS033WM SG PS034WM SG PS035WM SG PS036WM SG PS037WM SG	Base of monitoring point (mAOD)	Annually	After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
<b>Coal Measures Aquifer</b>			
PS023RWM CM PS024WM CM PS025WM CM PS026WM CM PS029WM CM PS031WM CM PS032WM CM PS034WM CM PS035WM CM PS036WM CM PS037WM CM	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2, April 2010, or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Base of monitoring point (mAOD)	Annually	

<sup>1</sup> During active groundwater management

SITE NAME <b>PILSWORTH SOUTH LANDFILL</b>	
DRAWING TITLE <b>MONITORING AND EXTRACTION POINT PLAN PAGE 2 OF 3</b>	
DRAWING NUMBER <b>PWS3000</b>	
TASK NUMBER 16231	
SCALE: NTS	REVISION
OIDRN: S.Robinson	R/IDRN
OIDATE: 24/11/2020	R/IDATE
O/APP: R.James	R/APP
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INFORMATION TAKEN FROM	
SURVEY: SERVICES MASTER FILE	PWS082s-Aug2020 RevA
OTHER DRAWINGS: PWS12000 - Sep/2020	
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Permit Schedule 3, Revised Table S3.4

Table S3.4 Groundwater- emissions limits and monitoring requirements					
Monitoring Point Ref <sup>1</sup>	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
PS024WM SG PS025WM SG PS026WM SG <sup>2</sup>	Ammoniacal nitrogen	1.95 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2, April 2010 or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l			
	Nickel	0.02 mg/l			
	Cadmium	0.00055 mg/l			
	Phenol	0.0005 mg/l			
	Toluene	0.004 mg/l			
	o-xylene	0.003 mg/l			
	M,p-xylene	0.003 mg/l			
Napthalene	0.0005 mg/l				

<sup>1</sup> All monitoring points are as shown on drawing PWS3000  
<sup>2</sup> Emission limits apply after cessation of groundwater pumping

Permit Schedule 3, Revised Table S3.3

Table S3.3 Point source emissions to water (other than sewer) – emissions limits and monitoring requirements						
Monitoring Point Ref & location <sup>1</sup> & <sup>2</sup>	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Surface Water discharge points: PSW1SW PSW2SW	Suspended solids	Site drainage consisting of the run off derived from the Landscape Buffer Zone, restored landfill and water collected within the void created by the former quarry excavation and uncontaminated run off from the Waste Recycling Facility	40 mg/l	Spot sample	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2.1, December 2011
	pH		No less than 6, and no more than 9 pH units	Spot sample	Monthly	
	Oil and Grease		No visible discharge	Observation	Monthly	
	Ammoniacal nitrogen		2.0 mg/l <sup>3</sup>	Spot sample	Monthly	
	Chloride		250 mg/l	Spot sample	Monthly	
PSW1SW	Maximum daily volume		5,000 m <sup>3</sup>			

<sup>1</sup> Monitoring points are as shown on drawing PWS3000  
<sup>2</sup> Receiving waters are an un-named tributary of Long Lodge, itself a tributary of Hollins Brook  
<sup>3</sup> Assessed against a rolling average concentration derived from the three most recent consecutive datasets

Permit Schedule 3, Revised Table S3.12

Table S3.12 Surface water – other monitoring requirements				
Monitoring Point Ref /Description	Parameter	Monitoring Frequency	Monitoring Standard or Method	Other specifications
PSW1SW, PSW2SW, PSW3SW, PSW4SW, PSW5SW	Ammoniacal nitrogen Chloride Suspended solids Visual Oil and Grease pH Electrical conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, December 2011, or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Permit Schedule 3, Revised Table S3.13

Table S3.13 Ambient air - other monitoring requirements					
Monitoring Point Ref /Description	Parameter	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
FID Monitoring locations as shown on drawing PWS3000	Methane in ambient air	10 ppmv	Spot sample	Monthly	Flame Ionisation Detector

Permit Schedule 3, Revised Table S3.7

Table S3.7 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref /Description (1)	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
PS01DG, PS03DG, PS04DG and PS05DG	Deposited particulate	200 mg.m <sup>-2</sup> day <sup>-1</sup>	Monthly	Continuous	In accordance with Agency Guidance M17 – Monitoring of Particulate Matter in ambient air around waste facilities or any subsequent guidance.
PD06DG and PS07DG		None set			

(1) As shown on drawing PWS3000.