

22nd April 2008

Peter McAllister
Environment Health and Safety Manager
Alcoa Manufacturing (GB) Ltd.
Waunarlwydd
Swansea
SA1 1XH

Our Ref: AG/JC/64-C13152_3

Dear Peter

Re: Interim Update on PPC Remediation, Alcoa Manufacturing (GB) Ltd

Introduction

This letter provides a brief interim update on the current status of the PPC Permit Surrender remedial works at the site. The works have been undertaken by Soilfix Ltd (Soilfix) in general accordance with the Draft PPC Surrender Remediation Action Plan (RAP) Ref.: 64-C12564_1, November 2007. It should be noted that the works are ongoing and as such this update provides only a summary based on currently available information.

PPC Remediation

Table 1 summarises the work which has been undertaken in each Zone to date, and the current status of that Zone. Draft figures (where available) showing the extent of the excavation and the location of validation samples, are appended to this letter.

Table 1: Summary of PPC Remedial Works				
Zone	Primary PPC Contaminant of Concern	Remedial Target	Remedial Approach	Current Status
1 – Ingot Plant Dross Shelter	Ammonia in soils underlying the footprint of the dross shelter.	Below MCERTS detection limit (<40mg/kg).	Excavation of soil and bedrock underlying the footprint of the Dross Shelter.	The soils and bedrock were excavated to a depth of between 0.5m and <2.0m below the original ground level. Contaminated soils have been disposed off-site. The excavation backfilled with site derived soil to approximately 0.5m below original ground level, as agreed with Alcoa.
2 – Ingot Plant Tank Farm	Dissolved phase hydrocarbons in groundwater in BH2_03.	1mg/l.	In-situ injection of Regenesi ORC Advanced™ followed by groundwater monitoring.	The most recent round of monitoring indicates that the dissolved phase concentration has reduced to below the remedial target.
7 – Hot Mill Sub-Station	Elevated Extractable Petroleum	EPH C10-40 7,713mg/kg.	Hand excavation of visually impacted ballast.	Visually contaminated ballast has been removed and disposed off site. The underlying soils have been

Table 1: Summary of PPC Remedial Works

	Hydrocarbons (EPH C10-40) associated with localised hydrocarbon staining close to three transformer bases.			validated to below remedial targets.
8 – Compressor Drainage	Localised elevated hydrocarbons in soils underlying a compressor drainage pipe.	EPH C10-40 7,713mg/kg.	Hand excavation of contaminated soils.	Excavation is complete and soils at the sides and bases have been validated to below hydrocarbon remedial targets. The excavation has been backfilled with imported material.
9 – IBC Storage Area	Elevated hydrocarbons in the shallow soils adjacent to an open oil/water interceptor.	EPH C10-40. 7,713mg/kg.	Disposal of water within the interceptor, removal of interceptor and excavation of adjacent soils.	The interceptor and surrounding soils have been excavated. The base, north, east and west sides have been validated and are below the remedial target. However, the southern side of the excavation noted to contain frequent tarry deposits, considered to be unrelated to PPC activities. Further remediation for PPC purposes is considered unnecessary. The excavation has been backfilled to ground level with imported soil.
10 – Cold Mill Sub-Station	Shallow ballast impacted with hydrocarbons around the bases of three transformers in the south of the compound, relating to a localised oil leak.	EPH C10-40 7,713mg/kg	Hand excavation of shallow impacted ballast to approximately 0.15m below original ground level.	Soils underlying the ballast have been validated to below remedial targets. No re-instatement is required.
	Shallow soils on an earth embankment impacted with hydrocarbons.	EPH C10-40 7,713mg/kg	Excavation of shallow soils to a depth of approximately 0.25m.	The shallow soils have been excavated. Initial validation did record recorded localised failures, although no visual evidence of petroleum based hydrocarbons remained. Additional excavation was undertaken and the most recent validation samples are below remedial targets. No re-instatement is required.
12 – Cold Mill Tank Farm Embankment	Shallow soils visibly impacted by hydrocarbons.	EPH C10-40 7,713mg/kg	Excavation of shallow soils to a depth of approximately 0.2m below original ground level.	Visually impacted soils have been excavated. The remaining soils have been validated to below remedial targets. No re-instatement is required.
Cold Mill Tank Farm Bund	Free phase hydrocarbons underlying the Cold Mill Tank Farm. This contamination is not related to PPC activities, but Alcoa wishes	Removal of visible free phase hydrocarbons.	Recovery of free phase hydrocarbons from trenches where possible, and delineation and excavation of the hydrocarbon impacted soils.	The free phase hydrocarbons were noted to be collecting at the base of the granular Made Ground, on top of the lower permeability alluvial clay. Delineation trial pits indicated that there were no visual observations of free phase hydrocarbons in the underlying clay. The Made Ground was excavated to a depth of up to

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	to remove the free phase hydrocarbons in this area.			2.7m below the existing ground level and the underlying natural clay validated. The excavation was backfilled with imported soil to a level acceptable to Alcoa.
Zone 13 – Effluent Treatment Plant (ETP)	Total and hexavalent chromium in soils underlying the ETP.	Total chromium: 392mg/kg Hexavalent chromium: below MCERTS laboratory reporting limit (<5mg/kg)	Demolition of the ETP building and excavation of contaminated soils underlying and immediately adjacent to the footprint.	The ETP and associated tanks and structures were demolished by Penny Demolition Ltd. Following removal of the floor slab the area was sheeted to prevent rainwater ingress. The chromium contamination was visually identifiable by green staining in the granular Made Ground. By the end of March, approximately 900m ³ of chromium and hexavalent chromium contaminated soils has been excavated and disposed off-site. Excavation works are ongoing and final validation is awaited.
Zone 13 – Localised Oil Leak	Localised hydrocarbon contamination on an earth embankment.	EPH C10-40 7,713mg/kg.	Excavation of the impacted soils.	The soils on the embankment have been excavated to a depth of approximately 0.5m below ground level. The remaining soils have been validated to below remedial targets.
Zone 15 – Lacquer Storage	Localised hydrocarbons, PAHs, SVOCs and VOCs in the shallow gravel dressing south of the tanks, with a localised deeper impact at the east end of the tanks.	Various	Excavation of impacted soils.	The gravel dressing and shallow soils have been excavated to a depth of approximately 0.3m bgl in an area to the south of the tanks. approximately 39m long and 5.75m. Deeper excavations were undertaken at the east end of the tank farm and around the sump at the western end. The majority of contamination has been removed, although localised residual contamination remains beneath structures at the eastern end of the tank farm. The deeper excavations have been reinstated to the original ground level with imported soils.
Zone 16 – Waste Drum Storage Compound	Localised hydrocarbon and chlorinated solvent impact in shallow unsurfaced soils around the waste drum storage compound.	Various	Excavation of impacted soils.	The soils around the compound have been excavated in a strip between approximately 1.0m and 2.6m around the waste drum storage compound, to depths of between 0.7m and 0.9m below original ground level. The base and sides of the excavation have been validated to below remedial targets. The excavation has been reinstated to the original ground level with imported soils.
Zone 17 – Disused Cooling Tower Area	Localised hydrocarbon impact in shallow soils	EPH C10-40 7,713mg/kg	Excavation of impacted soils.	Impacted soils were excavated to a depth of approximately 0.6m below the original ground level. The sides and base of the excavation have been validated to below remedial targets. The excavation has been backfilled to original ground level with imported soils.

Waste

Table 2 provides initial information on the volumes of waste generated in each Zone, its classification and the disposal route. Generally, laboratory analysis indicated that the excavated soil was unsuitable for re-use on site, and the majority has been disposed off-site at a licensed hazardous waste management facility. Final information on the volumes of waste generated and the disposal routes will be provided in the Validation Report on completion of the works.

Table 2: Summary of Waste and Recycled Materials

Zone	Waste Stream	Approximate Volume	Disposal Location
1 – Ingot Plant Dross Shelter	Non-Hazardous	490m ³	Pwllfawatkin Landfill, Rhy Dy Fro, Pontardawe, Swansea, West Glamorgan, SA8 4RX
	Crushed Concrete	408m ³	Crushed concrete stockpiled on site
	Liquid waste (rainwater collecting within excavation)	Information awaited from Soilfix	Disposed to foul sewer under Alcoa's discharge consent
2 – Ingot plant Tank farm	In-situ technique, no waste generated	Not Applicable	Not Applicable
7 - Hot Mill Sub-Station	Hazardous	Information awaited from Soilfix	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
8 – Compressor Drainage	Hazardous	4m ³	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
9 – IBC Storage Area	Hazardous	16.5m ³	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
	Interceptor liquid	Information awaited from Soilfix	Disposed to foul sewer under Alcoa's discharge consent, via Soilfix's water treatment unit
10 – Cold Mill Sub-Station	Hazardous	Information awaited	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
12 – Cold Mill Tank Farm Embankment	Hazardous	12m ³	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
Cold Mill Tank Farm Bund	Hazardous	660m ³	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
	Liquid waste (free phase product)	Information awaited from Soilfix	Information awaited from Soilfix
	Liquid waste (water)	Information awaited from Soilfix	Disposed to foul sewer under Alcoa's discharge consent, via Soilfix's water treatment unit.
13 - Effluent Treatment Plant	Hazardous	Approximately 900m ³ to the end of March 2008. Final volumes are awaited.	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
	Crushed Concrete from ETP building	Approximately 543m ³ .	Stockpiled on site.

Table 2: Summary of Waste and Recycled Materials

	Liquid waste	Information awaited from Soilfix	Information awaited from Soilfix
	Metal waste from ETP building	Information awaited from Soilfix	Information awaited from Soilfix
Zone 13 – Localised Oil Leak	Hazardous	Information awaited from Soilfix	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
Zone 15 – Lacquer Storage	Hazardous	Information awaited from Soilfix	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
Zone 16 – Waste Drum Storage Compound	Hazardous	78.5m ³ .	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG
	Liquid waste	Information awaited from Soilfix.	Disposed to foul sewer under Alcoa's discharge consent, via Soilfix's water treatment unit.
Zone 17 – Disused Cooling Tower Area	Hazardous	Approximately 15.5m ³ .	Hills Parkgate Farm, Mopes Lane, Purton, Swindon, SN5 9HG

Backfill Material

Where required by Alcoa, excavations have been backfilled with material derived from an area of the site where previously excavated natural soils have historically been deposited (believed to have derived from the excavation of the large mill basements). These soils generally comprise sandy gravelly clay with sandstone cobbles.

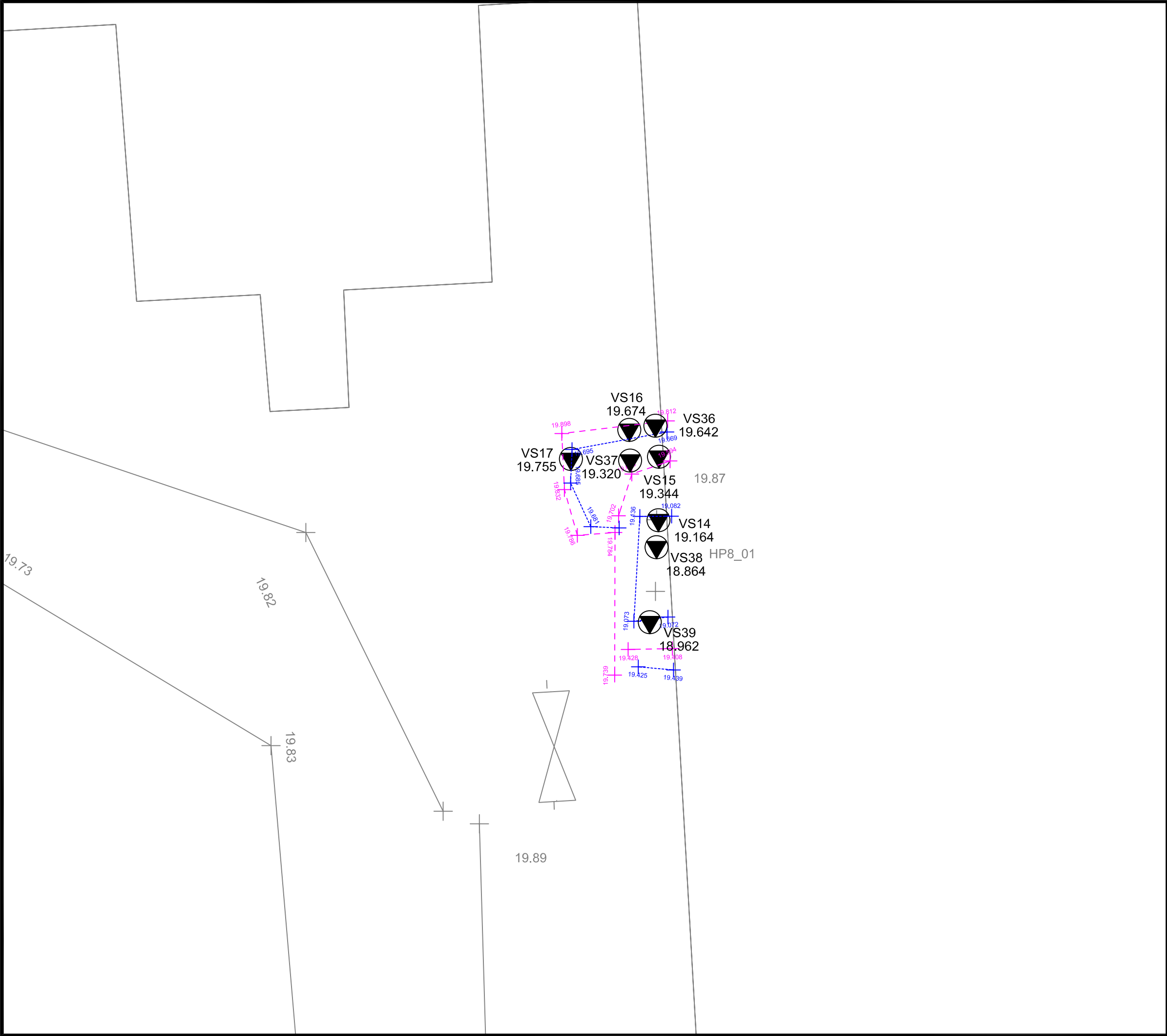
Samples of the backfill material were collected by Soilfix prior to its excavation and transportation to the various Zones. The results of the analysis were provided to ENVIRON for approval, with reference to the targets for backfill material provided in the RAP. Alcoa does not require the excavations to be backfilled to an engineering specification.

We trust this summary provides the information you require at this stage, but please do not hesitate to contact me if you require any further details.

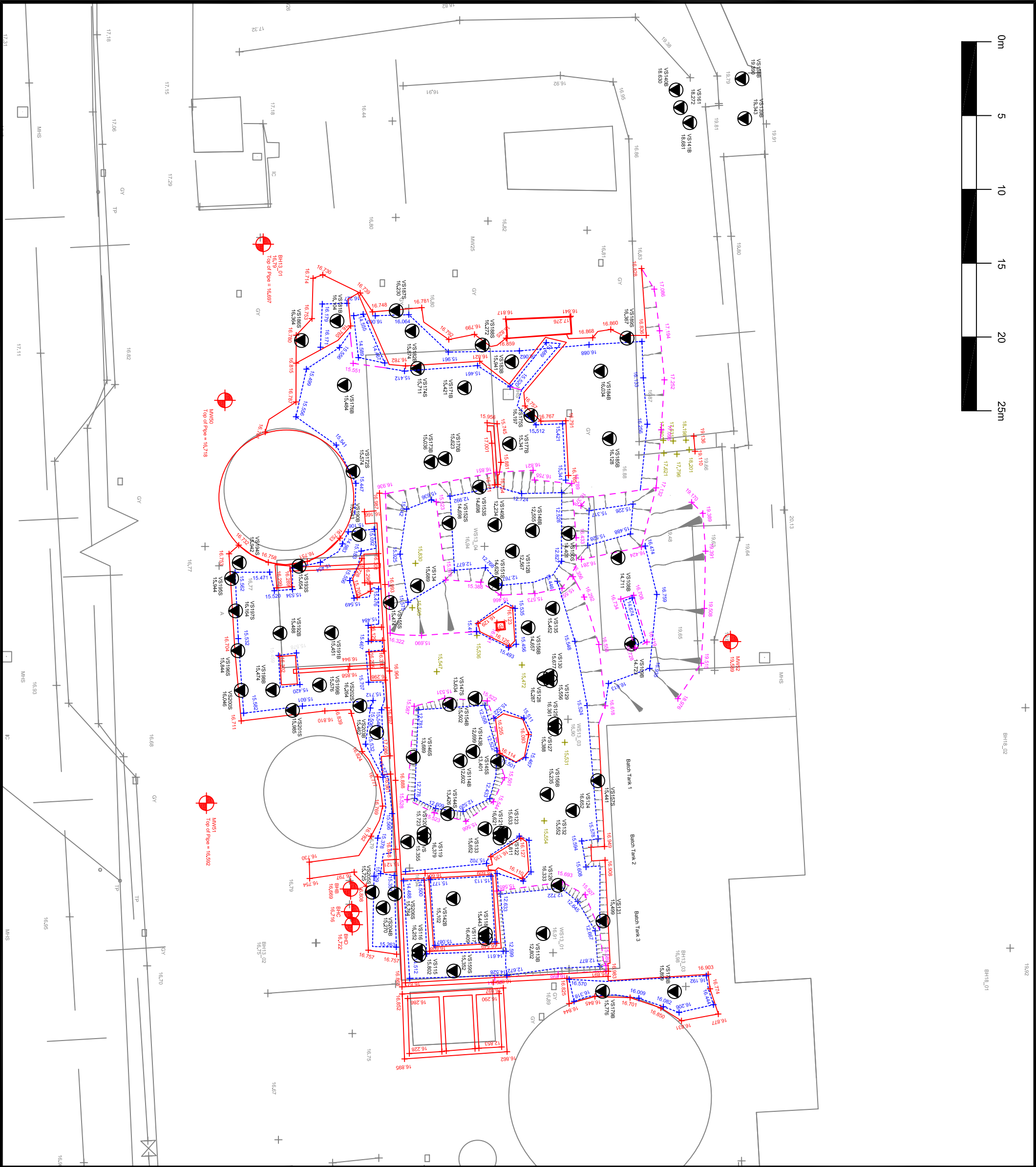
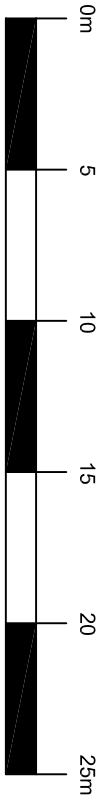
Yours sincerely



Joanne Cutler
Senior Consultant



	FIRST ISSUE		11th Feb 2008
Rev.	Description		Date
<div><div><div>Soilfix</div><div><div>Soilfix Limited</div><div>Unit 10 St Martins Ind. Park Avonmouth, Bristol BS11 0RS</div><div>T: +44 (0) 117 982 0025 F: +44 (0) 117 982 0026 www.soilfix.co.uk</div></div></div></div>			
Site Address:			
Alcoa Works Waunarlwydd Swansea			
Title:			
As-Dug Survey Compressor Drainage - Zone 8			
Client:			
Environ UK Limited			
Drawn: CT	Checked: GE	Appvd: GE	A3
Scale: 1:100	Dwg No: D082/20	Contract: C082ENV	Rev:



VS42
18.044

Validation Sample Location

Top of Excavation

Bottom of Excavation

Edge of Concrete

Rev.	Description	Date
	FIRST ISSUE	17th April 2008

soilfix

Soilfix Limited
Unit 10
St Martins Ind. Park
Avonmouth, Bristol
BS11 0RS
T: +44 (0) 117 982 0025
F: +44 (0) 117 982 0026
www.soilfix.co.uk

Site Address:

Alcoa Works
Waurarhydd
Swansea

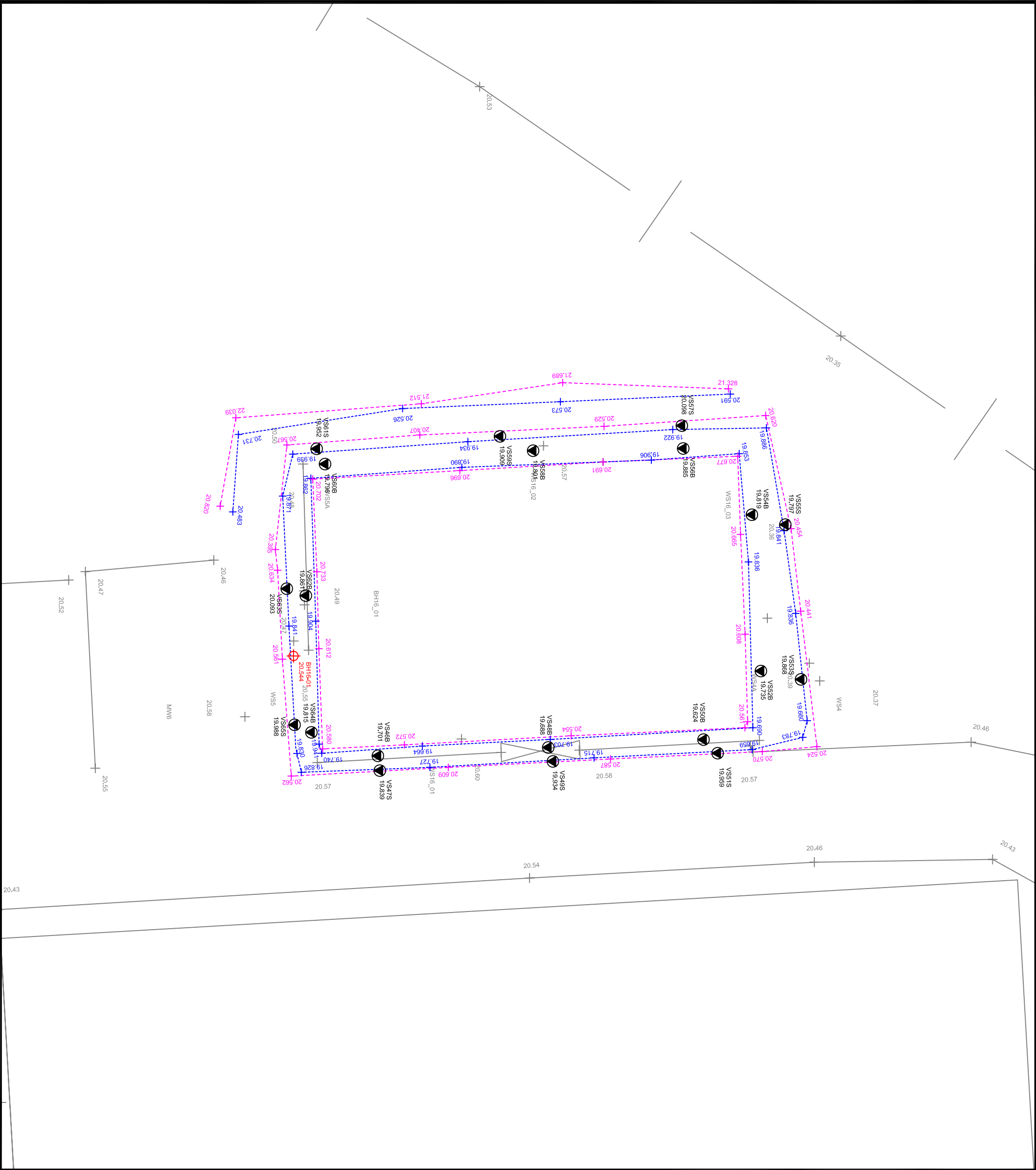
Title:

As Dug Survey Effluent Treatment Plant - Zone 13

Client:

Environ UK Limited

Drawn: CT	Checked: GE	Appvtd: GE	A3
Scale: 1:250	Dwg No: D082/25	Contract: C082ENV	Rev: A



Legend

- Validation Sample Location
- Top of Excavation
- Bottom of Excavation

Rev.	Description	Date
	FIRST ISSUE	25nd Feb 2008

Soilfix Limited
Unit 10
St Martins Ind. Park
Avonmouth, Bristol
BS11 0RS

T: +44 (0) 117 982 0025
F: +44 (0) 117 982 0026
www.soilfix.co.uk



Site Address:

Alcoa Works
Waunarlwydd
Swansea

Title:

As-Dug Survey Waste Drum Storage Compound - Zone 16

Client:

Environ UK Limited

Drawn:	Checked:	Appvtd:	A3
CT	GE	GE	
Scale:	Dwg No:	Contract:	
1:200	D082/21	C082ENV	Rev: