

ENVIRONMENTAL ASSESSMENT REPORT

**Petrol Coedpoeth,
High Street, Coedpoeth, Wrexham**

Report No: CP17129 CL 001

March 2017

Client: The Co-Operative Group Ltd

Report Prepared By:



Greg Ross

Report Reviewed By:



James Skinner

Environmental Assessment Report – Petrol Coedpoeth, High Street, Coedpoeth

Environmental Investigation – Summary				
Sitework Completed				
Date investigation completed:	6 th – 7 th February 2017		No. boreholes constructed / maximum depth drilled	
Date of groundwater monitoring visit:	14 th February 2017		No. monitoring wells installed / maximum depth	
Site Sensitivity (based on desk-top information)				
Geology and Hydrogeology	No superficial deposits identified			
	Pennine Lower Coal Measures		Secondary (Class A) Aquifer	
Source Protection Zone:	No		Nearest Surface Water:	River Clywedog 230m SW
Encountered Hydrogeology/Geology				
Groundwater	Strike between 1.7 and 4.0m / Resting between 2.7 and 5.9m. Not continuous across site - groundwater encountered in three boreholes only.			
Soil Stratigraphy	Geological Unit	From	To	Description
	Made Ground	0.0	~1.2	SOFT to FIRM dark brown or black gravelly CLAY OR MEDIUM DENSE brown clayey GRAVEL with occasional large brick fragments.
	Glacial Till	~1.2	~2.5	FIRM to STIFF orange brown grey mottled CLAY with frequent fine gravel
	Pennine Lower Coal Measures	~2.5	>6.0	STIFF to VERY STIFF grey brown friable sandy CLAY OR WEAK to MODERATELY WEAK grey highly weathered MUDSTONE with occasional bands of black coal measures and sub-angular grey gravel.
Results of Environmental Investigation				
Environmental Assessment – Summary of Conclusions:	➤ We have identified low concentrations of petrol range hydrocarbons in shallow Made Ground and underlying shallow soils in BH3. Low concentrations of waste oil range hydrocarbons were identified in a single soil sample from BH4. We detected trace concentrations of various PAH compounds in soil samples obtained from BH2 and BH4. ➤ Elevated concentrations of lead were identified in underlying shallow Made Ground recovered from BH1, BH2, BH4 and BH5. Elevated concentrations of zinc were also reported from BH2 and BH4. ➤ Elevated concentrations of hydrocarbons, generally consistent with waste oil and possibly weathered diesel, were identified in the groundwater sample collected from BH4. No detectable hydrocarbons were identified in the other groundwater samples obtained (BH5 and MW1). ➤ The results of our Generic Quantitative Risk Assessment indicates that the concentrations of hydrocarbons identified in underlying soils and groundwater do not pose a potential long-term risk to future commercial site users. We do not consider offsite residential or environmental receptors to be at significant risk as we have not identified an active migration pathway from the site. On this basis, we consider the site to be suitable for continued commercial use.			
Please refer to our report for our conclusions and recommendations in full. Your attention is drawn to the Notice to Interested Parties included as Attachment One.				

Site Investigation - Summary of Recommendations for Redevelopment Works		
Temporary works - slope stability	Foundation excavations likely to be formed within:	Granular Made Ground / Glacial Till (clay) / Coal Measures (clay / mudstone)
	Likely to remain stable for short periods without support or being battered back	Yes
	Note: We recommend that a detailed inspection of the side slopes be carried out in order to assess fully any support measures required.	
	We encountered weathered bedrock (Lower Pennine Coal Measures units) from around between 0.9m and 2.5m depths under the site. We were able to construct a borehole to a maximum depth of 7.2m using direct-push drilling methods. We consider driven sheet piles are likely to penetrate the underlying soils to sufficient depth to form a support measure for the tank farm excavation, although localised mudstone horizons could be present. Consideration of alternative support measures is recommended.	
Temporary works - De-watering	Anticipated depth to standing groundwater	Variable - ~2.5m - ~5m. Not continuous across site.
	Anticipated permeability	Low
	Dewatering likely to be required?	Possible - below ~3m
	Waste water likely to be impacted with hydrocarbons?	Possibly - impacted groundwater in BH4 only.
Disposal of Excavated Spoil	Soil / leachate samples analysed for compounds within Subadra Waste Acceptance Criteria Suite?	No
	Excavated soils from the site are likely to be classified as?	Non-Haz to Hazardous
	Note: We recommend that we classify all potentially impacted soils prior to disposal. All waste soils and fill must be disposed of at an appropriately licensed disposal site. We have not completed a detailed assessment of underlying Made Ground for the presence of asbestos containing materials although we have not identified detectable asbestos the samples we have submitted for asbestos screening.	
Additional Comments/Recommendations		
Additional comments regarding re-development works:	As with any petrol filling station, additional areas of hydrocarbon impacted soil may be encountered during redevelopment works. In particular these include areas we have been unable to investigate due to the restrictions of working on an operational filling station (i.e. site buildings, petroleum installation and services). We therefore recommend that verification sampling of excavations be undertaken during the site demolition and decommissioning works to confirm no additional contamination is present. The site has been a filling station and garage for several decades. It is therefore The site has been a garage / petrol station since at least the 1960s and we understand that the current petroleum installation dates from before 1988. Given the age of the site we consider it is possible that there could be further abandoned tanks remaining under the forecourt.	
Please refer to our report for our recommendations in full. Your attention is drawn to the Notice to Interested Parties included as Attachment One.		

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Attachment Three:	Chemical Analysis Certificates
Attachment Four:	Environmental Data Report
Attachment Five:	Public Utility Drawings

1 Introduction

1.1 The Purpose of This Assessment

We have been commissioned by The Co-Operative Group Ltd (Coop) to carry out an environmental assessment of their Petrol Coedpoeth site on High Street, Coedpoeth. We understand that Coop propose to redevelop the existing site; replacing the petroleum installation and constructing a larger convenience store.

The purpose of the assessment is predominantly to complete an appraisal of the ground conditions. This was completed to determine whether the quality of soil and/or groundwater underlying the site has been impacted with hydrocarbons associated with past operations and to provide information to assist in waste classification of excavated soils during the redevelopment works. The investigation data is also designed to assist in designing temporary works and permanent foundations for the proposed future petroleum installation.

This assessment has been undertaken in accordance with the guidelines presented in the Environment Agency, 'Model Procedures for the Management of Land Contamination'¹ and Environment Agency Guidance on Requirements for Land Contamination Reports².

All the activities comprising this assessment were carried out in accordance with the procedures set out in our Quality Manual. Your attention is drawn to the Notice to Interested Parties included as Attachment One.

1.2 The Scope of This Assessment

Our assessment of the site was carried out in the following parts:

- Preliminary Risk Assessment comprising a desk based review of site specific information that is readily available in the public domain to develop a conceptual site model and assess potential pollutants, pathways and receptors associated with the site;
- Underground utilities survey of the site using radio detection techniques to identify the location of below ground services at the site;
- A walkover inspection to identify visual signs of pollution or potentially polluting activities;
- An intrusive site investigation comprising five boreholes drilled using our Geoprobe direct-push drilling rig, with three of these completed as groundwater monitoring wells.
- Logging of soil cores and collection of soil samples.
- A return visit to carry out groundwater monitoring and obtain representative groundwater samples from the monitoring wells we installed at the site and from an existing well we encountered;
- Collection of a water sample from the drinking water supply for analysis.
- Chemical analysis of representative soil and groundwater samples to assist with our environmental assessment and to assist with classifying soils that are to be excavated during the proposed development works;
- Provision of this report, including the development of a Conceptual Site Model to assess potential pollutants, pathways and receptors associated with the site and completion of a Generic (Quantitative) Risk Assessment if required;

1.3 Previous Reports Relating to the Site

We do not hold, and have not been provided with any, previous reports relating to the site.

¹ DEFRA and Environment Agency (2004) "Model Procedures for the Management of Land Contamination" Report CLR 11 Environment Agency, Bristol.

² Environment Agency (2005) "Guidance on Requirements for Land Contamination Reports" Version 1.

2 Desk-based Information

2.1 Site Description, Location and Setting

Geographical Location and Description		
Site Description	The site comprises a Texaco branded retail petrol filling station with a combined petrol and diesel forecourt covered with an overhead canopy, jet wash and Co-op branded shop.	
Grid Reference	328080, 351440	Location: The site is located in Coedpoeth, off High Street (A525) and ~5km to the west of Wrexham.
Elevation	~235m Above Ordnance Datum	
Size (approx)	~0.13 Ha	

Table One: Site Location and Setting

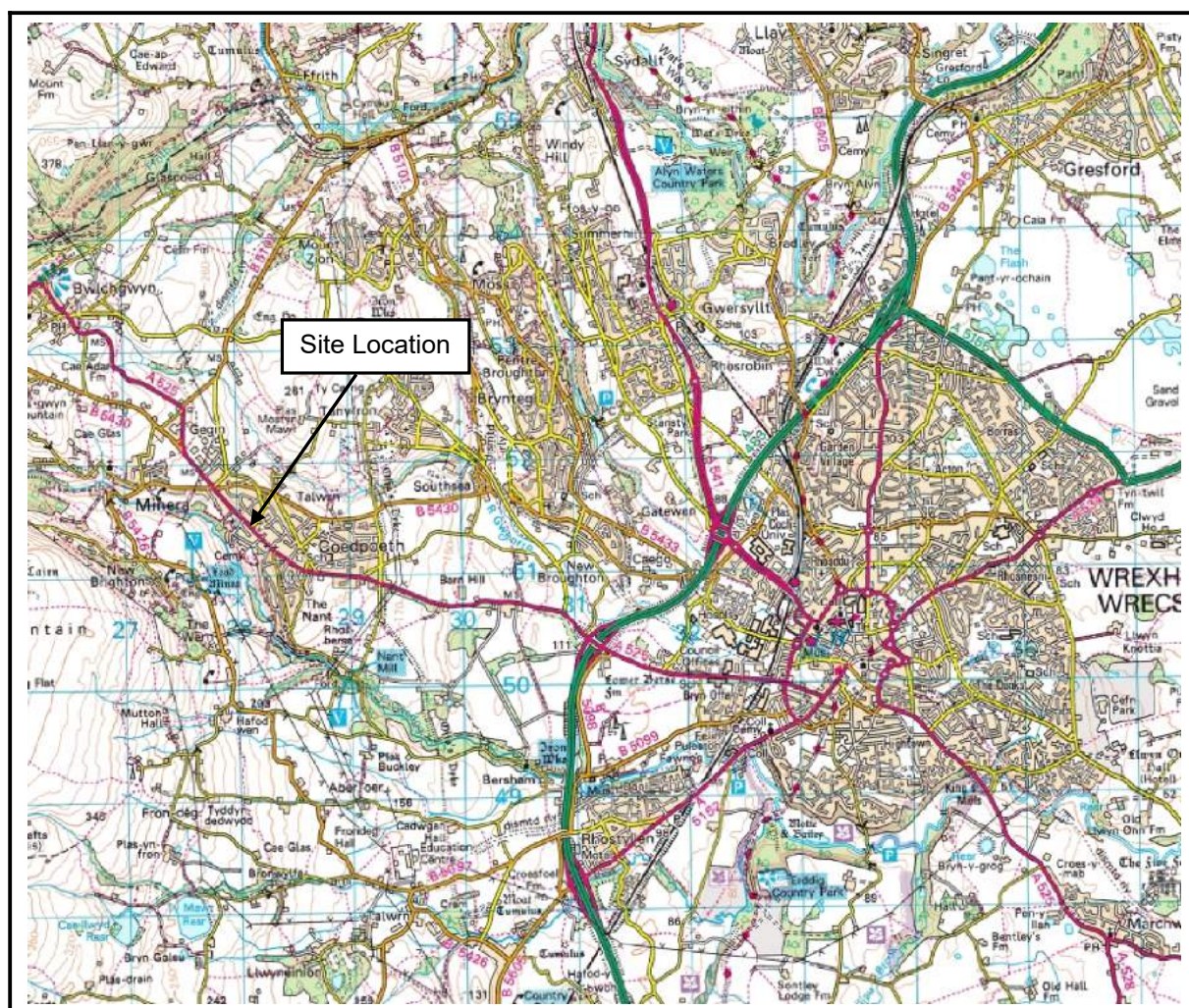


Figure One: Site Location Plan

Direction	Details
North	High Street (A525) forms the northern boundary of the site, with residential properties beyond (~15m).
East	Residential properties with gardens along High Street to the east of the site (~10m).
South	Terraced residential properties with gardens to the immediate south (~20m). Further residential properties beyond, and then a cemetery (~100m).
West	Residential properties to the immediate west (~10m) and further to the west. Industrial unit ~150m west and then woodland.

Table Two: Surrounding Land Use**Figure Two: Aerial Photograph Showing Site Setting**

2.2 Geology, Hydrogeology and Hydrology

Item	Geological Unit	Description	Estimated Thickness	Data Source
Drift Geology	Glacial Till	[Shown present along the north and western edge of the site only] Generally stiff slightly sandy clay with poorly sorted gravels.	~5m (if present)	British Geological Survey (BGS) mapping
Solid Geology	Pennine Lower Coal Measures / Pennine Middle Coal Measures (Undifferentiated)	Comprises interbedded layers of mudstone and siltstone, with sandstone and occasional coal seams and some ironstones.	>50m	
BGS Borehole Data	The BGS holds records for a borehole located ~ 100m north of the site (BGS Ref. SJ25SE974). Geology is described as 'drift geology' to ~24m depths, overlying coal to 30m depth and then layers of shale and ironstone to a depth of ~39m.			

Table Three: Regional Geology

Item	Geological Unit	Environment Agency Aquifer Classification	Data Source
Drift Geology	Glacial Till	Unproductive Strata	Natural Resources Wales / BGS
Solid Geology	Pennine Lower Coal Measures	Secondary Aquifer (Class A)	
BGS Borehole Data	No information regarding groundwater was provided on the available BGS borehole log (BGS ref. SJ25SE974).		BGS Website

Table Four: Regional Hydrogeology

Item	Description	Distance	Direction	Data Source
Surface Water Features	River Clywedog	~230m	W / SW	Ordnance Survey mapping
	Tributary of River Gwenfro	~400m	N	

Table Five: Regional Hydrology

Abstraction	Surface Water			Groundwater		
	Distance	Direction	Purpose	Distance	Direction	Purpose
Nearest	None identified within 1km			None identified within 1km		
Nearest Public Water Supply	None identified within 1km			None identified within 1km		
Source Protection Zone	The site does not lie within a designated Surface Water Protection Zone.					
Data sourced from Envirocheck report						

Table Six: Nearest Surface and Groundwater Abstractions

2.3 Site History

Date	Review of Map – Description of Land Use at Site and in the Immediate Surrounding Area	Potentially Contaminative Land-use	
		On-site	Off-site
1872-1873	The site is shown undeveloped and part of a field. The northern site boundary is formed by High Street. To the north of the site, beyond High Street, are a number of buildings labelled 'The Smelt' (~30m) with an old colliery beyond (~100m). There are a number of 'old shafts - coal and iron' shown within a raised area of mining spoil. Further old shafts are marked to the west and north east (>250m). To the north and west are residential properties and a chapel.	None identified	Coal and iron mine to the north, with associated smelt / smithy
1899	No significant changes.		
1912	No changes to the site, which remains undeveloped. The building to the north of the site is now labelled as a smithy. Residential development of the area to the south and east is now shown.		
1938	[10:000 scale map only] The site is shown developed, with a single building shown in the centre of the plot. There are no significant changes to the surrounding area which remains predominantly residential. The site area remains marked as 'The Smelt'.		
1954	[10:000 scale map only] No significant changes.		
1964 /8	The site is shown as a garage, with a large central building shown. The immediate surrounding area to the south and west has been developed with residential properties. Residential properties are also present to the immediate north east and south east of the site, along High Street. Further residential development is shown to the east.	Garage / petrol station use	Builder's Yard to the north.
1979	The site remains shown as a garage and a canopy is now visible extending from the main building towards High Street. The garage also appears to have been extended slightly to the south. The area to the north and north east (former colliery) has been developed for residential housing, with a builders yard marked off High Street to the immediate north.		
1984/1993	No significant changes visible at the site. The surrounding area continues to be developed for residential use. The builders yard remains marked to the north.		

Table Seven: Historical Maps Review

Date	Application reference	Local Planning Authority – Planning Records (obtained from local planning authority web-site)	Development Approved?
10/02/2012	P/2012/0098	Installation of new refrigeration plant unit and ATM	Granted
2009 - 2016	Various	Various applications for signage	Granted

Table Eight: Summary of Planning Records2.4 Additional Information

Flood Risk Zone	Flood Risk	Data Source
Zone 1	The site is not located in an area considered to be at risk from flooding from rivers, the sea or from reservoir failure. The site is not located in an area considered to be at risk from surface water flooding.	Natural Resources Wales website

Table Nine: Preliminary Flood Risk Assessment

Risk	Description	Data Source
Radon Risk	The site is located in an area where the National Radiological Protection Board have determined that between 10-30% houses exceed the recommended Action Level for radon for existing homes in the UK of 200Bqm ⁻³ (averaged over a year). Radon protective measures are therefore likely to be required in the construction of new dwellings or extensions.	Envirocheck report / UK Radon interactive map
Nearest Landfill	Natural Resources Wales records show that there are no current or past landfill sites within 250m of the site. The site is therefore unlikely to be at-risk of impact from elevated concentrations of hazardous ground gases that are commonly associated with landfill sites e.g. methane or carbon dioxide. As such we do not consider monitoring or assessment are required as part of any future investigation works and no special precautions are likely required to prevent landfill gas infiltration into the current building or future developments at the site.	Envirocheck report / Natural Resources Wales
Risk of Coal Mining	The site is located in an area that is considered to be at potential risk from coal mining. We have been provided with a copy of a Coal Mining Report obtained for the site on behalf of the Coop. The Coal Authority does not consider the site to be in a surface area at risk from underground past or present mining activity, however the property is in an area where coal could be at or close to the surface. This coal may have been worked at some time in the past. The site does not lie within a defined 'development high risk area' and there are no historical mine shafts within 20m of the site boundary. There have not been any claims made to the Coal Authority relating to mining related ground subsidence.	Coal Authority

Table Ten: Landfill, Radon Gas and Coal Mining Risk

3 Investigation Results

3.1 Summary of Site Walkover and review of Petroleum Register

Item	Details	Data		
General Site Information	Buildings	The main site building comprises a brick built structure with a pitched roof. The structure is single storey at the front, with 2 storeys at the rear. The building was in fair condition during our inspection with a number of cracks noted in the brickwork.		
	Canopy	The canopy covers the central dispensing forecourt and was in good condition at the time of our inspection. The canopy clearance height was 3.6m.		
	Site Pavement	The dispensing forecourt area is paved mostly with concrete hard standing. This was in poor condition with many scars and cracks noted across the forecourt as well as staining around the dispensing pumps. Near the site entrance, the forecourt is paved with tarmac which was in fair to poor condition, particularly around manhole chamber lids where the tarmac has begun to degrade. Towards the site exit, the forecourt is block paved and in average condition. The block paving was not sealed and in some cases gaps between the blocks were visible. The rest of the site was covered in tarmac or concrete hard standing, found in fair condition generally. Maintenance was noted in a number of areas across the site around drain and manhole chamber lids .		
Review of Petroleum Installation	Tank information	The Petroleum Licence for the site is issued by Wrexham County Council, with an expiry date shown as the 31 st July 2017.		
		There are five known underground storage tanks, all located in the southern end of the site. We understand that the site was last redeveloped during 1988, but the tanks may have been installed prior to this (information from site manager). In summary:		
		Tank	Contents	Capacity
		One	Unleaded	17,460 litres
		Two	Diesel	34,920 litres
		Three	Disused - decommissioned?	
		Four	Supreme Diesel	17,460 litres
	Five	Unleaded	34,920 litres	
	Tank fills, tank construction, tank testing	The operational tanks (Tank One, Two, Four, and Five) are filled via above ground, offset, fill points located adjacent to the shop building wall. Records suggest the tanks are constructed from single skin steel. There are no records of the tanks being integrity tested. Tank Three is present to the east of the shop building. During our inspection there were no signs that the tank had been permanently decommissioned (no foam / concrete present in the access chambers), but not currently in use.		

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Item	Details	Data
Review of Petroleum Installation	Tank access chambers	Tank access chambers were constructed from brick or concrete. These were found in average condition on the day of our inspection; all found silty with rubble in some of the chambers. Chambers to Tanks One and Three had standing water with a sheen, and there was no visible foam around the cable ducts in the chamber to Tank Two. Rust was visible around the pipework in all chambers.
	Offset fill points	The offset fills were located on a raised concrete curb area adjacent to Tank Five, next to the shop building. Although there was no staining visible around the offset fill points, there was no dedicated drainage or bunding in place around the offset fill points. The offset fills were labelled and locked.
	Fuel supply lines	The underground utilities survey indicated that the fuel supply pipework is constructed from single skin steel. There are no site records relating to any fuel line inspections.
	Pump Islands	There are four pump islands under the central canopy, comprising raised concrete curbs with a tiled surface. The pump islands were in good condition, with no significant cracks in the concrete, but some staining around the pumps.
	Dispensers	Two pump islands contained dual facing, triple nozzle, pump dispensers, while the other two islands contained dual facing double nozzle dispensers. These were in reasonable condition. We understand the pumps were installed in 1993.
	Vents	The vents are located immediately behind the offset fill points. They were all labelled and in good condition. There was no vent labelled to the disused tank - Tank Three.
	Vapour recovery	Vapour recovery systems are active at the site. The vapour recovery system was last tested in November 2016 by Eurotank Environmental Ltd.
Site Drainage	Wet-stock reconciliation	Tank contents are monitored using a Veeder Root TLS 350R system with wet-stock data monitored off-site by third party wet-stock specialist (Fairbanks Environmental Ltd).
	Surface water drainage and discharges	Surface water from the central forecourt area drains to a three stage site interceptor at the north western part of the site via a series of drainage gullies. These are present along the front of the forecourt and in front of the shop. The surface water drainage system at the site appeared to be in poor condition at the time of our visit, with gullies heavily silted and the interceptor blocked. We noted hydrocarbon product in several of the forecourt gullies. There is no dedicated drainage gully around the offset fill point and surface water in this area of the site appears to flow toward the jet wash. We noted the jet wash silt trap was blocked and we were unable to determine the discharge route for drainage from this area of the site. We understand from site staff, that the jet wash drain is always full/flooded and this is due to collapsed drains at the adjacent property.

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Item	Details	Data
Site Drainage	Forecourt interceptor	The forecourt interceptor is a three chamber vented interceptor constructed from GRP. We completed a visual inspection of the chambers. In summary: ➤ Chamber 1 - In poor condition. ~20mm layer of hydrocarbon product covered the entire surface of the chamber. ➤ Chamber 2 - In poor condition. A thin layer of product was visible on the water surface. ➤ Chamber 3 - In average condition. Hydrocarbon sheen noted on the water surface. The interceptor drains in to the foul system which is was blocked at the time of our site visit. Site records indicate that the interceptor was last emptied by John Rome in May 2016.
	Other interceptors	We were unable to determine the discharge route from the jet wash interceptor as this was flooded at the time of our inspection. Interviews with site personnel suggested that the former arrangement of the site included a car wash, which stood in the location of the current shop building. During our walkover within the shop, a number of scars and inconsistencies were noted in the groundwork and it is possible there is a second 'car wash' interceptor underneath the shop.
Site Drainage	Foul	The foul water from the site building discharges to a combined sewer travelling off-site in a north west direction. The main site foul drain is reportedly blocked due to a collapsed drain at the adjacent property.
Other Information	Reported Leaks or Losses	Based on the Fairbanks wet-stock monitoring data we reviewed in the site records, there have been couple of anomalous wet-stock reports (October 2016 -2.69% / April 2016 -8.9%) where readings for diesel did not correlate with sales. There was no explanation of the result given or any corrective action undertaken. The site manager advised that there have not been any significant spills at the site in the past 2 years.
	Abandoned Tanks	The site has been a garage / petrol station since at least the 1960s and we understand that the current petroleum installation dates from before 1988. Given the age of the site we consider it is possible that there could be further abandoned tanks remaining under the forecourt.

Table Eleven: Site Walkover

Item	Details
Petroleum Officer Data Search	The Petroleum Officer provided details regarding the existing petroleum installation at the site, although information held on file was limited. The details received have been summarised in our walkover notes above.

Table Twelve: Information Provided by Petroleum Officer

3.2 Details of our Investigation

Item	Details	Data
Service Clearance	Underground utilities survey	We have carried out a survey using radio detection methods of utilities buried underneath the site. Our survey was suitable for identifying power cables, metallic fuel pipework, surface water and foul water drainage. The technique that we used is unable to detect any plastic pipework or fibre optic cabling present. The results of our survey are included in Attachment Two. We also contacted the various utility providers for information regarding the location of mains services in the site vicinity.
	Service Clearance	Prior to drilling all boreholes locations were subject to a final service check using a Cable Avoidance Tool (CAT) scanner.
Drilling	Drilling method	We completed our investigation between the 6 th and 7 th February 2017 using our Geoprobe direct-push drilling rig.
	Borehole details	We drilled five boreholes to a maximum depth of 7.2m below ground level. Borehole locations are provided in the figure included in Attachment Two.
	Monitoring wells	Three of the five boreholes were completed as groundwater monitoring wells (BH1, BH4 and BH5) to a maximum of 7.2 m depth. We encountered two existing wells at the site (denoted MW1 and MW2), although one of these (MW2) could not be accessed as the holding bolts were rusted shut.
Sampling procedures	Soil	Representative soil samples were recovered from each borehole in sealed liners and logged on site by a suitably qualified technician.
	Groundwater	We returned to the site to complete groundwater monitoring on the 14 th February 2017. Prior to sampling, resting groundwater levels were recorded using an oil / water interface probe. Samples were collected, using disposable bailers, once purging of standing water had been completed.
	Drinking water supply	We obtained a sample of the sites drinking water from the shop building for screening chemical analysis.
	Sample preservation	Sub-samples were preserved in glass jars or bottles and stored in cool boxes during transportation to the laboratory for subsequent analysis.

Table Thirteen: Drilling and Sampling Methodologies

Target / Rationale For Specific Borehole Locations	Location				
	BH1	BH2	BH3	BH4	BH5
Below ground tank farm			✓	✓	✓
Forecourt - fuel pumps / lines			✓	✓	
Forecourt interceptor	✓		✓		
Jet wash					✓
General site coverage	✓	✓			✓

Table Fourteen: Borehole Strategy

3.3 Site Geology

Item	Details		Data							
Geology encountered	Layer I	Made Ground	SOFT to FIRM dark brown or black gravelly CLAY OR MEDIUM DENSE brown clayey GRAVEL with occasional large brick fragments.							
Geology encountered	Layer II	Glacial Till	FIRM to STIFF orange brown grey mottled CLAY with frequent fine gravel							
	Layer III	Lower Pennine Coal Measures	STIFF to VERY STIFF grey brown friable sandy CLAY OR WEAK to MODERATELY WEAK grey highly weathered MUDSTONE with occasional bands of black coal measures and sub-angular grey gravel.							
Borehole	One		Two		Three		Four		Five	
Soil layer	from	to	from	to	from	to	from	to	from	to
Layer I	0.2	1.0	0.2	1.3	0.2	0.9	0.2	1.2	0.2	0.5
Layer II	1.0	2.5	1.3	2.2	-	-	1.2	3.9	0.5	2.7
Layer III	2.5	>6.0	2.2	>6.0	0.9	>5.0	3.9	>6.0	2.7	>7.2

All dimensions in metres below ground level

Table Fifteen: Soil Stratigraphy3.4 Groundwater Monitoring Data

Location	Groundwater Strike (mbgl)	Groundwater Rest Level (mbgl)	Permeability
BH1	~4.0	5.940	Insufficient groundwater encountered in the well to allow sampling for chemical analysis.
BH4	No Strike	5.023	Limited groundwater encountered. Permeability of 0.0288m/day recorded (low).
BH5	~1.8	3.344	Ground water encountered in the well during monitoring visit. Permeability of 0.000529m/day recorded (very low).
MW1	-	2.772	Slow recharge of groundwater noted in well following purging.
MW2	-	-	Unable to access well.
Groundwater Flow Direction		Based on our monitoring data, we have not been able to determine a definitive groundwater flow direction under the site	

Note: m bgl denotes metres below ground level

Table Sixteen: Groundwater Monitoring Data

3.5 Visual and Olfactory Signs of Hydrocarbon Contamination

Location	Soil	Groundwater
BH1	None identified	None noted.
BH2	None identified	Dry - no well installed.
BH3	Hydrocarbon odour noted in Made Ground	Dry - no well installed.
BH4	None identified	Hydrocarbon sheen noted.
BH5	None identified	None noted.
MW1	-	None noted.
MW2	-	Unable to access well

Table Seventeen: Visual and Olfactory Signs of Hydrocarbon Contamination

4 Chemical Analysis Results

4.1 Chemical Analysis Rationale

Analysis	Rationale	No of samples	
		Soil	Water
Total petroleum hydrocarbons (TPH) reported by carbon range	Representative of compounds present in petrol, diesel and lube oils	8	-
Total petroleum hydrocarbons (TPH) reported by carbon range and with aromatic and aliphatic speciation	Representative of compounds present in petrol, diesel and lube oils but with additional information regarding composition of contaminant source.	5	3
Benzene, toluene, ethylbenzene and xylenes (BTEX)	Representative of compounds present in petrol	4	3
Drinking water screen - analysis of tap water sample for TPH and BTEX	To verify quality of water supply	-	1
Polycyclic aromatic hydrocarbons (PAH)	Representative of compounds present in diesel and lube oil	5	3
Metals and Asbestos Screen	Representative of compounds commonly encountered in imported Made Ground.	5	-
Total Organic Carbon (TOC)	Site-specific data used within risk assessment process	3	-
Sulphates and pH	For use in identifying hazardous ground conditions that could impact on the proposed redevelopment.	2	3
Waste Acceptance Criteria (WAC) suite	To assist with the classification of soils for future offsite disposal		
The results of our environmental analysis are summarised in the tables below. Certificates for all chemical analysis completed are included in Attachment Three.			

Table Eighteen: Schedule of Analysis

4.2 Soil Analysis

Total Petroleum Hydrocarbon (TPH) – Reported by Carbon Band	Sample Details and result (mg/kg)							
	BH1	BH2	BH2	BH3	BH3	BH3	BH4	BH5
	3.6m	2.8m	4.8m	1.2m	2.8m	4.2m	5.0m	6.0m
C ₈₋₁₀ TPH Band	<0.5	<0.5	<0.5	7.44	1.13	<0.5	<0.5	<0.5
>C ₁₀₋₁₂ TPH Band	<0.5	<0.5	<0.5	3.03	0.892	<0.5	<0.5	<0.5
>C ₁₂₋₁₆ TPH Band	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.698
>C ₁₆₋₂₁ TPH Band	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
>C ₂₁₋₃₅ TPH Band	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table Nineteen: TPH Analysis Results – Soil

Total Petroleum Hydrocarbon (TPH) – Reported by Carbon Band		Sample Details and Concentration (mg/kg)				
		BH1	BH2	BH3	BH4	BH5
		2.3m	3.7m	0.3m	1.6m	2.5m
Aliphatic Fraction	C ₆₋₈	<2.5	<2.5	12.3	<2.5	<2.5
	>C _{8-C10}	<2.5	<2.5	9.45	<2.5	<2.5
	>C _{10-C12}	<2.5	<2.5	148	<2.5	<2.5
	>C _{12-C16}	<5	<5	46.2	<5	<5
	>C _{16-C21}	<5	<5	15.2	<5	<5
	>C _{21-C35}	<10	<10	<10	<10	<10
Aromatic Fraction	C ₆₋₈	<1	<1	2.47	<1	<1
	>C _{8-C10}	<1	<1	16.8	<1	<1
	>C _{10-C12}	<1	<1	151	<1	<1
	>C _{12-C16}	<2.5	<2.5	19.5	<2.5	<2.5
	>C _{16-C21}	<2.5	<2.5	<2.5	2.68	<2.5
	>C _{21-C35}	<2.5	<2.5	<2.5	4.71	<2.5

Table Twenty: TPH Analysis (ali/aro) Results – Soil

MTBE, BTEX Compounds and Volatile TPH	Sample Details and Result (mg/kg)			
	BH2	BH3	BH4	BH5
	2.0m	0.3m	4.5m	2.5m
MTBE	<0.5	2.41	<0.5	<0.5
Benzene	<0.1	<0.1	<0.1	<0.1
Toluene	<0.1	2.23	<0.1	<0.1
Ethylbenzene	<0.1	1.02	<0.1	<0.1
p+m Xylene	<0.1	2.66	<0.1	<0.1
o Xylene	<0.1	1.02	<0.1	<0.1
C6-C8	<0.5	14.7	<0.5	<0.5
>C8-C10	<0.5	26.1	<0.5	<0.5
>C10-C12	<0.5	21.3	<0.5	<0.5

Table Twenty-one: MTBE, BTEX and Volatile TPH Analysis Results – Soil

Polycyclic Aromatic Hydrocarbon (PAH) Compound	Sample Details and Result (mg/kg)				
	BH1	BH2	BH3	BH4	BH5
	1.2m	1.3m	1.8m	1.1m	6.0m
Naphthalene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	< 0.1	0.13	< 0.1	0.13	< 0.1
Anthracene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	< 0.1	0.31	< 0.1	0.4	< 0.1
Pyrene	< 0.1	0.28	< 0.1	0.44	< 0.1
Benzo(a)anthracene	< 0.1	0.14	< 0.1	0.32	< 0.1
Chrysene	< 0.1	< 0.1	< 0.1	0.26	< 0.1
Benzo(b)fluoranthene	< 0.1	0.16	< 0.1	0.65	< 0.1
Benzo(k)fluoranthene	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Benzo(a)pyrene	< 0.1	< 0.1	< 0.1	0.44	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1	< 0.1	< 0.1	0.42	< 0.1
Dibenzo(ah)anthracene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	< 0.1	< 0.1	< 0.1	0.32	< 0.1
Total PAHs	< 1.6	< 1.6	< 1.6	3.6	< 1.6

Table Twenty-two: PAH Analysis Results – Soil

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Inorganic Element	Sample Details				
	BH1	BH2	BH3	BH4	BH5
	0.5m	0.5m	1.2m	0.5m	0.6m
Arsenic	7	13	13	11	19
Barium	58	138	42	157	107
Beryllium	< 0.5	0.8	0.5	1.3	0.9
Boron (Water Soluble)	< 1	2.9	< 1	1	3.2
Cadmium	2.4	6.8	< 0.2	29.1	2.9
Chromium	9	11	16	11	10
Chromium (Hexavalent)	< 2	< 2	< 2	< 2	< 2
Copper	16	34	15	50	32
Lead	1,860	943	154	891	1,020
Mercury (Total)	< 1	< 1	< 1	< 1	< 1
Nickel	9	13	10	20	13
Selenium	< 3	< 3	< 3	< 3	< 3
Vanadium	11	18	23	20	19
Zinc	992	1,450	51	4,810	525

Table Twenty-three: Heavy Metals Analysis Results – Soil

Analyte	Sample Details				
	BH1	BH2	BH3	BH4	BH5
	0.5m	0.5m	1.2m	0.5m	0.6m
Asbestos Screen	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Table Twenty-four: Asbestos Screening Analysis Results – Soil

Total Organic Carbon (TOC) Content	Sample Details and Results		
	BH1	BH2	BH5
	4.3m	1.3m	7.0m
Total Organic Carbon (TOC) %	0.1	2.3	1.4
Soil Organic Carbon (SOM)%*	0.2	3.9	2.4

* - SOM = Soil Organic Matter. Assumed to comprise 58% TOC - calculated as (TOC) x 1.72

Table Twenty-five: Total Organic Carbon Analysis Results - Soil Samples

4.3 Geotechnical Laboratory Testing - Soil Sampling

Rationale	No of soil samples/tests
Unconsolidated Undrained Triaxial Test: provides the undrained shear strength of cohesive soils.	3
Atterberg Limits: provides information about the plasticity of a cohesive soil.	3
The results of our geotechnical field testing are included on the relevant borehole logs.	

Table Twenty-six: Schedule of Analysis

Analyte	Unit	Sample Details		
		BH5	BH5	BH5
		2.0m	3.2m	3.7m
Bulk Density	Mg/m ³	2.27	2.18	2.16
Dry Density	Mg/m ³	1.97	1.96	1.84
Moisture Content	%	15	11	17
Axial Strain	%	16.2	4.02	13.1
Undrained Shear Strength	kN/m ²	77	160	117

Table Twenty-seven: UU Triaxial Test Results

Analyte	Sample Details and Results (%)		
	BH4	BH5	BH5
	2.5m	1.2m	5.0m
Liquid Limit	50	37	41
Plastic Limit	23	19	19
Moisture Content	24	15	11
Passing 425um Sieve	77	74	100

Table Twenty-eight: Atterberg Test Results

4.4 Groundwater Analysis

Total Petroleum Hydrocarbon (TPH) – Reported by Carbon Band		Sample Details and Concentration (µg/l)		
		BH4	BH5	MW1
		5.0m	3.3m	2.8m
Aliphatic Fraction	C ₆₋₈	<50	<50	<50
	>C ₈ -C ₁₀	<50	<50	<50
	>C ₁₀ -C ₁₂	<50	<50	<50
	>C ₁₂ -C ₁₆	79.3	<50	<50
	>C ₁₆ -C ₂₁	1,810	<50	<50
	>C ₂₁ -C ₃₅	47,800	<50	<50
Aromatic Fraction	C ₆₋₈	<50	<50	<50
	>C ₈ -C ₁₀	<50	<50	<50
	>C ₁₀ -C ₁₂	<50	<50	<50
	>C ₁₂ -C ₁₆	1,810	<50	<50
	>C ₁₆ -C ₂₁	169	<50	<50
	>C ₂₁ -C ₃₅	6,800	<50	<50

Table Twenty-nine: TPH Analysis (ali/aro) Results – Groundwater

MTBE, BTEX Compounds and Volatile TPH Groups	Sample Details and Concentration (µg/l)		
	BH4	BH5	MW1
	5.0m	3.3m	2.8m
MTBE	<50	<50	<50
Benzene	<10	<10	<10
Toluene	<10	<10	<10
Ethyl-benzene	<10	<10	<10
p+m Xylene	<10	<10	<10
o Xylene	<10	<10	<10
TPH C ₆₋₈	<50	<50	<50
TPH >C ₈ -C ₁₀	<50	<50	<50
TPH >C ₁₀ -C ₁₂	<50	<50	<50

Table Thirty: MTBE, BTEX and Volatile TPH Results – Groundwater

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Polycyclic Aromatic Hydrocarbon (PAH) Compound	Sample Details and Concentration (µg/l)		
	BH4	BH5	MW1
Naphthalene	<0.01	<0.01	<0.01
Acenaphthylene	<0.01	<0.01	<0.01
Acenaphthene	<0.01	<0.01	<0.01
Fluorene	<0.01	<0.01	<0.01
Phenanthrene	<0.01	<0.01	<0.01
Anthracene	<0.01	<0.01	<0.01
Fluoranthene	<0.01	<0.01	<0.01
Pyrene	<0.01	<0.01	<0.01
Benzo(a)anthracene	<0.01	<0.01	<0.01
Chrysene	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	<0.01	<0.01	<0.01
Benzo(a)pyrene	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01
Dibenzo(ah)anthracene	<0.01	<0.01	<0.01
Benzo(ghi)perylene	<0.01	<0.01	<0.01
Total PAHs	<0.16	<0.16	<0.16

Table Thirty-one: PAH Analysis Results – Groundwater4.5 Drinking Water Supply Analysis

Total Petroleum Hydrocarbon (TPH), MTBE and BTEX Compounds	Concentration (µg/l) – Tap Sample (Site Shop)
>C ₈ -C ₁₀	<10
>C ₁₀ -C ₁₂	<10
>C ₁₂ -C ₁₆	<10
>C ₁₆ -C ₂₁	<10
>C ₂₁ -C ₃₅	<10
MTBE	<5
Benzene	<1
Toluene	<5
Ethyl-benzene	<5
p+m Xylene	<5
o Xylene	<5

Table Thirty-two: BTEX and MTBE Analysis Results – Tap Sample

5 Conceptual Site Model

5.1 Summary of Investigation Findings

Details	Data
Geology and hydrogeology	We have proved the underlying geology to comprise a variable layer of Made Ground material to a maximum depth of 1.3m, generally overlying a thin layer of stiff grey brown mottled clay with frequent fine gravel that we interpreted to comprise Glacial Till. Underlying the Till we encountered more friable clay or highly weathered grey brown mudstone with occasional coal fragments that we interpreted as units of the Lower Pennine Coal Measures. This was proved to a maximum depth of 7.2m. We encountered groundwater strikes in three of our boreholes at variable depths, ranging between 1.8m and 4.0m. Two boreholes were dry on completion. Resting groundwater levels were recorded between 2.7m and 5.9m depths. We consider the groundwater we encountered to comprise water perched within more sandy or gravelly horizons in the underlying clay. Our investigation data suggests there is no continuous groundwater table under the site. Based on our monitoring data, we have not been able to determine a definitive groundwater flow direction.
Surface water features	As anticipated. No additional data obtained from site.
Site users and neighbours	As anticipated. Residential properties in all directions.
Identified contaminants	We have identified low concentrations of petrol range hydrocarbons in shallow Made Ground and underlying shallow soils in BH3. No detectable hydrocarbons were identified in deeper soil samples from BH3, however. Low concentrations of waste oil range hydrocarbons were identified in a single soil sample from BH4. We detected trace concentrations of various PAH compounds in soil samples obtained from BH2 and BH4. Given the presence of coal fragments in the underlying soils we consider it likely the source of the PAHs identified could well be coal. Elevated concentrations of lead were identified in underlying shallow Made Ground recovered from BH1, BH2, BH4 and BH5. Elevated concentrations of zinc were also reported from BH2 and BH4. We have not detected asbestos fibres in any of the shallow soil (predominantly Made Ground) samples that were screened. Elevated concentrations of hydrocarbons, generally consistent with waste oil and possibly weathered diesel, were identified in the groundwater sample collected from BH4. No detectable hydrocarbons were identified in the other groundwater samples obtained (BH5 and MW1).

Table Thirty-three: Summary of Investigation Findings

5.2 Conceptual Site Model

Contaminant	Pathway	Receptor	Viable Pollutant Linkage?
Low concentrations of total petroleum hydrocarbons identified in two soil samples only. Trace concentrations of PAHs recorded in shallow Made Ground from two borehole locations. Elevated concentrations of waste oil / diesel range fuels identified in groundwater sample recovered from BH4. No other detectable concentrations of hydrocarbons identified other groundwater samples.	Ingestion and dermal contact	Site workers	No - site covered with hard standing; this will act as a barrier and mitigate risk of impact
	Permeation of volatile hydrocarbons into drinking water supply service pipes		No - we have not identified detectable hydrocarbon concentrations in drinking water samples collected from the site
	Volatilisation of contaminants to indoor/outdoor air (either direct from soils or dissolved in groundwater)		Unlikely - only isolated low concentrations of hydrocarbons identified in soils. Low volatility waste oil range hydrocarbons identified in one groundwater sample only .
	Off-site migration of contaminants: volatilisation to indoor/outdoor air (vapours from on-site soils or via lateral migration of dissolved compounds)	Residential properties adjacent to the site	No - Only low concentrations of hydrocarbons identified in underlying soils, predominantly present in shallow Made Ground. Underlying geology predominantly clay and this will limit potential migration of contaminants. No consistent groundwater table identified under the site and therefore no active migration pathway present.
	Downward migration of contaminants to groundwater	Glacial Till - Unproductive Strata. Pennine Lower Coal Measures classified as Secondary (Class A) Aquifer	
	Off-site migration of contaminants dissolved in groundwater leading to direct impact of environmental receptors	River Clywedog - ~230m W No at risk groundwater or surface water abstractions identified.	

Table Thirty-four: Possible Pollutant Linkages

Item	Data
Has our qualitative assessment confirmed that a viable pollutant linkage(s) exist at the site?	Yes
We therefore do not consider further (quantitative) risk assessment to be required at this time. See below for our conclusions and any recommendations relating to the data produced during our investigation.	

Table Thirty-five: Results of Qualitative Risk Assessment

6 Generic Quantitative Risk Assessment

6.1 Summary of Viable Pollutant Linkages to be Assessed

Receptor		Viable Pollutant Linkages Requiring Further Assessment
Human Health	Commercial	Yes
	Residential	No - No continuous groundwater present and therefore no active migration pathway considered present.
Environmental	Surface Water Feature	
	Groundwater Resource	

Table Thirty-six: Summary of Viable Pollutant Linkages

6.2 Generic Acceptance Criteria – Methodologies

Receptor	Generic Risk Assessment Methodology: Human Health
Soil	Generic Acceptance Criteria (GAC) for contaminants in soil have been produced by a number of organisations. We have selected GACs from the following sources in order of preference: ➤ The Environment Agency, in the form of Soil Guideline Values (SGV); ➤ Land Quality Management Ltd (in conjunction with the Chartered Institute of Environmental Health) in the form of Suitable 4 Use Levels (S4UL)¹; and by ➤ Contaminated Land: Applications in Real Environments (CL:AIRE) (in conjunction with the Association of Geotechnical and Geoenvironmental Specialists (AGS) and Environmental Industries Commission (EIC). ➤ Defra (research project SP1010) Category 4 Screening Levels (C4SLs). When selecting GACs we have taken into account site conditions. For example SGVs have been published for SOM of 6% only, so on a site with 1% SOM we have used LQM S4ULs for 1% SOM in preference to the EA SGV for 6% SOM. GACs have been produced for a range of standard land uses: residential (with / without produce), allotments, commercial and public open spaces (residential / parks). For the purpose of this assessment we have considered all potential risks associated with typical retail filling station end use. As the filling station site is covered in hard standing we have excluded from our assessment contaminants where the vapour inhalation pathway contributed less than 1% of total exposure (see LQM/CIEH report) as we consider there to be no significant risk from the pathway. Excluded contaminants include metals and some PAHs. [¹Note: Copyright Land Quality Management Ltd reproduced with permission; Publication Number S4UL3461. All rights reserved].

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Receptor	Generic Risk Assessment Methodology: Human Health
Groundwater	No GACs have been published by regulators for groundwater with respect to the risk to human health. In order to allow us to screen for impacts to human health from impacted groundwater we have generated GACs using the BP RISC software. The CLEA software is not suitable for generating GACs for groundwater, however CLEA parameters have been used where possible within the RISC software. The calculated criteria for hydrocarbon compounds, other than benzene, exceed the relevant solubility limits. The risk assessment trigger level for these compounds can be considered free-phase product (i.e. neat fuel).
Full details of the derivation of our GACs are available on request.	

Table Thirty-seven: GACs: Methodology: Human Health Receptors

Generic Risk Assessment Assumptions
In carrying out our risk assessment we have adhered to the following assumptions: ➤ Contaminants of concern for our risk assessment for soil and/or groundwater are limited to those listed in the tables below. ➤ The results of the chemical analyses carried out on soil and groundwater samples have been used to determine concentrations of these contaminants at the site. ➤ Generic Assessment Criteria for total petroleum hydrocarbons carbon bands is based upon lowest value from published/calculated aliphatic and aromatic concentrations. ➤ The GAC for our assessment of xylene in soil is an average of those published for o-xylene, m-xylene and p-xylene.

Table Thirty-eight: Generic Acceptance Criteria: Assumptions**6.3 Human Health Assessment**

Contaminant		Maximum concentration recorded in soil (mg/kg)	GAC for SOM of 2.5% (mg/kg)	Source of GAC	Does maximum concentration exceed GAC?
			Commercial Land Use		Commercial Land Use
TPH C ₈₋₁₀	Aliphatic	9.45	4,800 **	LQM CIEH S4UL	No
	Aromatic	16.8	8,100 **		No
TPH C ₁₀₋₁₂	Aliphatic	148	23,000 **		No
	Aromatic	151	28,000*		No
TPH C ₁₂₋₁₆	Aliphatic	46.2	82,000*		No
	Aromatic	19.5	37,000		No
TPH C ₁₆₋₃₅	Aliphatic	15.2	1,700,000		No
TPH C ₁₆₋₂₁	Aromatic	2.68	28,000		No
TPH C ₂₁₋₃₅	Aromatic	4.71	28,000		No

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Contaminant	Maximum concentration recorded in soil (mg/kg)	GAC for SOM of 2.5% (mg/kg)	Source of GAC	Does maximum concentration exceed GAC?
		Commercial Land Use		Commercial Land Use
Benzene	<0.1	47	LQM CIEH S4UL	No
Toluene	2.23	110,000 **		No
Ethylbenzene	1.02	13,000 **		No
Xylene	2.66	14,000		No
Acenaphthene	< 0.1	97,000*		No
Acenaphthylene	< 0.1	97,000*		No
Anthracene	< 0.1	640,000		No
Fluorene	< 0.1	68,000		No
Naphthalene	< 0.1	460*		No
Phenanthrene	0.13	22,000		No

Note: * GAC exceeds solubility saturation limit

**GAC exceeds vapour saturation limit

Table Thirty-nine: Results of Generic Risk Assessment - Human Health/Soil

Contaminant	Maximum Concentration Recorded in Groundwater (µg/l)	Generic Acceptance Criteria (µg/l) - Commercial End Use	Does Maximum Concentration Exceed Commercial GAC?
Benzene	<10	210,000	No
Toluene	<10	Free-phase	No
Ethylbenzene	<10	Free-phase	No
Xylene	<10	Free-phase	No
Total Petroleum Hydrocarbons	58,468	Free-phase	No - No free phase hydrocarbons identified in the single impacted well.

Table Forty: Generic Risk Assessment: Human Health – Groundwater

7 Conclusions and Recommendations

Conclusions
The results of our environmental assessment indicate the following: ➤ The site is located in an area of low to moderate environmental sensitivity with respect to underlying groundwater and nearby surface water receptors. The underlying Glacial Till (present as a relatively thin layer of clay only) is classified as Unproductive Strata and the underlying Lower Pennine Coal Measures unit is classified as a Secondary A Aquifer. There is River Clywedog ~230m to the south west. There are residential properties to the immediate south, east and west. ➤ The site has been used as a petrol station and/or garage since at least the early 1960s and possibly from as early as the 1930s. We understand that the site was last redeveloped during 1988, although the current tanks may pre-date this development. ➤ We have proved the underlying geology to comprise a variable layer of Made Ground material to a maximum depth of 1.3m, generally overlying a thin layer of stiff grey brown mottled clay with frequent fine gravel that we interpreted to comprise Glacial Till. Underlying the Till we encountered more friable clay or highly weathered grey brown mudstone with occasional coal fragments that we interpreted as units of the Lower Pennine Coal Measures. This was proved to a maximum depth of 7.2m. ➤ We encountered groundwater strikes in three of our boreholes at variable depths, ranging between 1.8m and 4.0m. Two boreholes were dry on completion. Resting groundwater levels were recorded between 2.7m and 5.9m depths. We consider the groundwater we encountered to comprise water perched within more sandy or gravelly horizons in the underlying clay. ➤ Our investigation data suggests there is no continuous groundwater table under the site. Based on our monitoring data, we have not been able to determine a definitive groundwater flow direction. ➤ We have identified low concentrations of petrol range hydrocarbons in shallow Made Ground and underlying shallow soils in BH3. No detectable hydrocarbons were identified in deeper soil samples from BH3, however. Low concentrations of waste oil range hydrocarbons were identified in a single soil sample from BH4. ➤ We detected trace concentrations of various PAH compounds in soil samples obtained from BH2 and BH4. Given the presence of coal fragments in the underlying soils we consider it likely the source of the PAHs identified could well be coal. ➤ Elevated concentrations of lead were identified in underlying shallow Made Ground recovered from BH1, BH2, BH4 and BH5. Elevated concentrations of zinc were also reported from BH2 and BH4. We have not detected asbestos fibres in any of the shallow soil (predominantly Made Ground) samples that were screened. ➤ Elevated concentrations of hydrocarbons, generally consistent with waste oil and possibly weathered diesel, were identified in the groundwater sample collected from BH4. No detectable hydrocarbons were identified in the other groundwater samples obtained (BH5 and MW1). ➤ The results of our Generic Quantitative Risk Assessment indicates that the concentrations of hydrocarbons identified in underlying soils and groundwater do not pose a potential long-term risk to future commercial site users. We do not consider offsite residential or environmental receptors to be at significant risk as we have not identified an active migration pathway from the site. On this basis, we consider the site to be suitable for continued commercial use.

Table Forty-one: Conclusions

Recommendations	
We make the following recommendations relating to the site:	
➤	As with any petrol filling station, additional areas of hydrocarbon impacted soil may be encountered during redevelopment works. In particular these include areas we have been unable to investigate due to the restrictions of working on an operational filling station (i.e. site buildings, petroleum installation and services). We therefore recommend that verification sampling of excavations be undertaken during the site demolition and decommissioning works to confirm no additional contamination is present.
➤	In order to further investigation the source of the identified waste oil impact in BH4, we recommend that additional soil sampling be completed in this area of the site during the decommissioning works. In the event that localised hydrocarbon impact is identified, we recommend that additional remedial excavation of impacted soils is undertaken to remove the source of the identified impact.
➤	As with any former petrol station site, in order to ensure no potential risks are posed to future site users, we recommend that future buildings are constructed with a hydrocarbon vapour barrier membrane in the floor slab. This will break any potential migration pathway for volatile contaminants to migrate to indoor air.
➤	Hydrocarbons present in shallow soils can permeate standard PVC water supply pipework and leach into drinking water leading to tainting and in extreme cases can pose a risk to human health. We have identified hydrocarbons in soil and water samples. We recommend that water supply pipework be constructed from a hydrocarbon impervious material (e.g. ductile steel or plastic/aluminium composite) and installed within clean fill material as precautionary measure and to protect from possible future impact.
Your attention is drawn to the Notice to Interested Parties included as Attachment One.	

Table Forty-two: Recommendations

8 Recommendations for Redevelopment Works

Based on our site investigation data, we make a number of recommendations relating to temporary works and construction issues at the site. These are contained in the following table.

Item	Details
Side slope stability	Foundation excavations are likely to be formed within shallow granular Made Ground or variable layers of clay overlying weathered mudstone. Excavations should therefore remain stable for short periods without support or being battered back. We recommend that a detailed inspection of the side slopes be carried out in order to assess fully any support measures required.
Foundations in soft ground	We recommend that Made Ground be replaced with suitably compacted inert fill material in the vicinity of proposed foundations to ensure a suitable bearing capacity.
Piling (sheets) into Dense/Hard Ground	We encountered weathered bedrock (Lower Pennine Coal Measures units) from around between 0.9m and 2.5m depths under the site. We were able to construct a borehole to a maximum depth of 7.2m using direct-push drilling methods. We consider driven sheet piles are likely to penetrate the underlying soils to sufficient depth to form a support measure for the tank farm excavation, although localised mudstone horizons could be present. Consideration of alternative support measures is recommended.

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Continued

Item	Details	
Piling (sheets) into Dense/Hard Ground	We encountered weathered bedrock (Lower Pennine Coal Measures units) from around between 0.9m and 2.5m depths under the site. We were able to construct a borehole to a maximum depth of 7.2m using direct-push drilling methods. We consider driven sheet piles are likely to penetrate the underlying soils to sufficient depth to form a support measure for the tank farm excavation, although localised mudstone horizons could be present. Consideration of alternative support measures is recommended.	
De-watering	(Perched) Groundwater was encountered in three of the boreholes we installed at depths ranging from 2.7m to 5.9m below ground level, with two boreholes remaining dry on completion. Recorded permeability of underlying soils was generally low. We consider de-watering of excavations for the new tank farm and interceptors (excavations below ~3m) may be required. Please note, however, that seasonal fluctuations in groundwater level due to extended periods of heavy rain may lead to the presence of groundwater being present at shallow depths under the site.	
Treatment of Wastewater Prior to Discharge	We have identified hydrocarbon impact of underlying groundwater in one borehole (BH4). Any waste water encountered in the vicinity of the existing tank farm or interceptor will require treatment prior to disposal or be removed from site by tanker and disposed of appropriately.	
Waste classification	Chemical analysis results indicate excavated soils that are sent to landfill are likely to be classified as:	Non-hazardous to Hazardous (lead concentrations).
	As with any petrol filling station site areas of soil with greater concentrations of hydrocarbon impact (or other potential contaminants) may be encountered during redevelopment works and lead to a higher classification. We recommend that we classify all potentially impacted soils prior to disposal. All waste soils and fill materials must be disposed of at an appropriately licensed disposal site. A registered waste haulage contractor must transport all waste soils. It is the responsibility of the site owner to ensure that wastes are safely transported and disposed of correctly.	
Asbestos in Made Ground	We undertook asbestos screening of the Made Ground samples, which did not identify any asbestos fragments or fibres. It is possible, but unlikely, that buried asbestos containing material could be encountered in Made Ground.	
Additional below ground tanks	The site has been a filling station and garage for several decades. It is therefore The site has been a garage / petrol station since at least the 1960s and we understand that the current petroleum installation dates from before 1988. Given the age of the site we consider it is possible that there could be further abandoned tanks remaining under the forecourt.	
Protection of construction workers	Construction and maintenance workers, particularly those working on below ground utilities, should be made aware of the potential for hydrocarbon impacted soil, should they encounter it. It is good policy to enforce strict hygiene practices during any below ground works. To minimise potential exposure of workers to potential hydrocarbon contaminants, site clothing should be removed after each working period. A clean area should be made available with washing facilities for use after each shift. Changing and washing areas should be positioned to ensure that no field equipment enters the clean area. Eating, drinking and smoking should be restricted to the clean area.	

Table Forty-three: Temporary Works and Construction Issues

Petrol Coedpoeth, Coedpoeth

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13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT ONE:
NOTICE TO INTERESTED PARTIES**

Client: The Co-operative Group Ltd

Report	CP17129 CL 001
Date	March 2017
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NOTICE TO INTERESTED PARTIES

The purpose of our site assessment is to provide general information on the environmental and/or geotechnical conditions existing at the site and related to soil and/or groundwater. The Client or others specified the scope of the investigation and the validity of our conclusions is limited by the scope of work specified. We are not responsible for any such limitations or omissions.

Where stated in this report, we have used information supplied by third parties. While we have evaluated as far as possible the validity of this information, we cannot guarantee its accuracy in any way whatsoever.

No investigation technique is capable of completely identifying all of the contaminants that might be present in the soil or groundwater under a site. Where specified in our report, we have examined the ground by constructing a number of boreholes and/or trial pits. We recovered samples of soil and/or groundwater from available exposures.

The depth and spacing of our Sampling locations were selected to ensure with a reasonable probability that they would be representative of the actual conditions across the whole site. However, safety considerations relating to existing site infrastructure may have restricted our ability to investigate all potential contaminant sources. Specifically, we were unable to investigate the soil and groundwater condition immediately adjacent to the underground structures and/or buried services. These limitations must be borne in mind when considering the conclusions reached in this report.

Soil is intrinsically variable and the spread of contaminants within the soil is therefore subject to a degree of non-uniformity. For these reasons no sampling technique can completely eliminate the possibility of obtaining samples that are not representative of the actual conditions. Our sampling techniques are intended to reduce the possibility to an acceptable level, within the limits imposed by the scope of the investigation.

Groundwater levels and soil vapour levels that we report were accurate at the time of the investigation. Groundwater and soil vapour levels are variable. Long term monitoring may be required to ensure that the levels recorded during our investigation are representative of long term and possible 'worst case' conditions. In accepting our recommendations and/or conclusions the Client acknowledges that further, more detailed investigation would allow a more accurate assessment of site conditions to be made and that this would reduce any consequential risk to the Client.

This investigation was carried out to assess the significance of contamination resulting from use of the site as identified in this report. Unless we have indicated otherwise, no assessment of the potential impact of any other previous uses has been made. No investigation was carried out to determine whether or not any deleterious or hazardous materials (such as asbestos) have been used in the construction of the buildings present on the site. Unless otherwise stated no investigation or assessment has been made of the presence or otherwise of invasive plant species including but not limited to Japanese Knotweed.

We do not accept any responsibility for the cost of remedial works or other costs incurred in whatever way whatsoever as a result of any omissions, errors or other shortcomings in this report unless we have been given reasonable opportunity to verify ourselves that such faults exist and we have been given a reasonable opportunity to carry out works to remedy such faults ourselves using the most practicable means available to us. We do not accept liability for any consequential losses incurred by you while either we or others carry out any remedial works we deem necessary.

This report has been prepared for the Client, as specified on the cover page of this report. In accepting our recommendations and/or conclusions the Client accepts that the terms of our appointment were as detailed in the Proposal, or Proposals, that we provided to the Client before being appointed and that these terms supersede any other terms and/or conditions set out in any contracts agreed between ourselves and the Client, regardless of when such terms and/or conditions were agreed and/or signed.

Use of, and reliance on, this report by other third parties will be at such third parties own risk, and we are unable to accept any liability or responsibility to third parties.

Neither the whole nor any part of this report, or any reference to it, may be included in any published document circular or statement or published in any way without our prior written approval.

This report and its contents, together with any supporting correspondence or other documentation, remain the property of Subadra Consulting Limited until paid for in full.

Client: The Co-operative Group Ltd		Report	CP17129 CL 001
		Date	March 2017
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Petrol Coedpoeth, Coedpoeth

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13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT TWO:
SITE PLAN AND BOREHOLE LOGS**

Client: The Co-operative Group Ltd

Report	CP17129 CL 001
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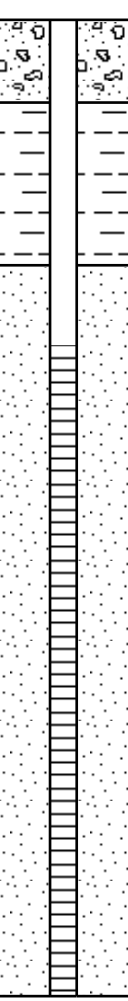
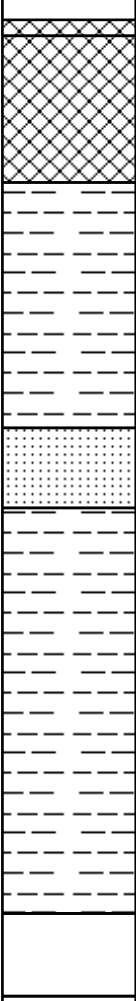
BH1

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13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL
Tel. 01296 739400 Email: consultants@subadra.com

Project Name	Petrol Coedpoeth, Coedpoeth	Date	6th February 2017
Project Code	CP17129	Ground Level	+100.144m ASD
Drilling Method	Geoprobe	Coordinates	328080 351440

Depth (m)	Well	Water Level	Log	Sample	Chemical Analysis	Geotechnical Analysis	SPT 'N' or Su (kPa)	Description
0		At Rest 2.500m		S1@0.5m	Asb/Metals		Su=36@0.5m	0.0m to 0.1m Made Ground Tarmac.
1				S2@1.2m	PAH		Su=36@1.0m	0.1m to 1.0m Made Ground FIRM to STIFF brown CLAY with brick from 0.2-0.3m.
2				S3@2.3m	TPHCWG		Su=120@1.5m Su=120@1.8m Su=144@2.1m Su=150@2.4m	1.0m to 2.5m Till FIRM to STIFF grey brown CLAY with frequent fine gravel.
3				S4@3.1m			Su=150@2.7m Su=144@3.0m Su=120@3.3m	2.5m to 3.0m Pennine Lower Coal Measures MODERATELY WEAK grey highly weathered SANDSTONE.
4				S5@3.6m	TPH		Su=96@3.8m	3.0m to 5.5m Pennine Lower Coal Measures STIFF grey brown friable CLAY with frequent fine gravel.
5				S6@4.3m	TOC		Su=120@4.5m Su=24@5.0m	
6				S7@5.5m			Su=72@5.5m	5.5m to 6.0m Pennine Lower Coal Measures WEAK black COAL.
7								
8								

 Prism.NET www.prismerp.co.uk	Well Diameter	23mm	Depth of Borehole	6.00m
	Well Casing	2.00m	Depth to Groundwater	2.5m
	Well Screen	4.00m	Logged By	WA

BH2**SUBADRA**

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13 Triangle Business Park, Wendover Road
 Stoke Mandeville, Bucks HP22 5BL
 Tel. 01296 739400 Email: consultants@subadra.com

Project Name	Petrol Coedpoeth, Coedpoeth	Date	6th February 2017
Project Code	CP17129	Ground Level	
Drilling Method	Geoprobe	Coordinates	328080 351440

Depth (m)	Well	Water Level	Log	Sample	Chemical Analysis	Geotechnical Analysis	SPT 'N' or Su (kPa)	Description
0		Dry						
				S1@0.5m	Asb/Metals		Su=72@0.8m	0.0m to 0.1m Made Ground Tarmac.
1				S2@1.3m	PAH/TOC		Su=72@1.4m	0.1m to 1.3m Made Ground MEDIUM DENSE grey GRAVEL with firm brown black clay fill and red brick bands.
2				S3@2.0m	BTEX		Su=84@1.8m	1.3m to 2.2m Till FIRM to STIFF light brown mottled grey CLAY with frequent fine gravel.
3				S4@2.8m	TPH		Su=96@2.5m Su=96@2.8m Su=120@3.2m	2.2m to 6.0m Pennine Lower Coal Measures STIFF to VERY STIFF grey CLAY with frequent fine gravel. Coal band at 5.8m - 5.85m.
4				S5@3.7m	TPHCWG		Su=144@3.8m Su=150@4.3m	
5				S6@4.8m	TPH		Su=150@5.0m	
6				S7@5.6m			Su=150@5.5m	
7								
8								

 Prism.NET www.prismerp.co.uk	Well Diameter	No well	Depth of Borehole	6.00m
	Well Casing		Depth to Groundwater	
	Well Screen		Logged By	WA

BH3**SUBADRA**

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

Project Name	Petrol Coedpoeth, Coedpoeth	Date	6th February 2017
Project Code	CP17129	Ground Level	
Drilling Method	Geoprobe	Coordinates	328080 351440

Depth (m)	Well	Water Level	Log	Sample	Chemical Analysis	Geotechnical Analysis	SPT 'N' or Su (kPa)	Description
0		Dry		S1@0.3m	BTEX/TPHCWG/ WAC		Su=48@0.5m	0.0m to 0.1m Made Ground Block Paving.
1				S2@1.2m	Asb/Metals/ TPH		Su=72@1.0m Su=98@1.3m	0.1m to 0.9m Made Ground MEDIUM DENSE brown medium to fine sub-angular GRAVEL with firm brown clay.
2				S3@1.8m	PAH		Su=120@1.8m	0.9m to 5.0m Pennine Lower Coal Measures STIFF grey brown CLAY with frequent fine gravel. From 3.8m Clay becomes more stiff and friable.
3				S4@2.8m	TPH		Su=120@2.6m	
4				S5@3.5m			Su=120@3.5m	
5				S6@4.2m	TPH			
6				S7@5.0m				
7				S8@5.5m				
8								

 Prism.NET www.prismerp.co.uk	Well Diameter	No well	Depth of Borehole	5.00m
	Well Casing		Depth to Groundwater	
	Well Screen		Logged By	WA

BH4

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13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL
Tel. 01296 739400 Email: consultants@subadra.com

Project Name	Petrol Coedpoeth, Coedpoeth	Date	7th February 2017
Project Code	CP17129	Ground Level	+100.016m ASD
Drilling Method	Geoprobe	Coordinates	328080 351440

Depth (m)	Well	Water Level	Log	Sample	Chemical Analysis	Geotechnical Analysis	SPT 'N' or Su (kPa)	Description
0								0.0m to 0.1m Made Ground Tarmac.
				S1@0.5m	Asb/Metals			0.1m to 0.3m Made Ground Concrete.
1				S2@1.1m	PAH		Su=98@1.2m	0.3m to 1.2m Made Ground FIRM brown CLAY.
				S3@1.6m	TPHCWG		Su=120@1.5m	1.2m to 2.4m Till
2							Su=120@1.8m	FIRM to STIFF brown mottled grey slightly sandy CLAY with frequent fine gravel.
				S4@2.5m			Su=120@2.1m	
						Att/pH/ SO4	Su=120@2.4m	
3							Su=144@2.7m	2.4m to 3.9m Till
				S5@3.7m			Su=98@3.0m	STIFF brown mottled grey CLAY with frequent fine gravel.
							Su=144@3.3m	
4							Su=144@3.6m	
				S6@4.5m	BTEX		Su=150@3.9m	3.9m to 6.0m Pennine Lower Coal Measures
5		At Rest 5.100m		S7@5.0m	BTEX/PAH/ pH/SO4/ TPHCWG			WEAK grey brown highly weathered MUDSTONE. Clay grading to highly weather MUDSTONE with COAL MEASURES present from 4.0m - 4.2m and 4.7m - 4.9m.
				S8@5.8m				
6								
7								
8								



Well Diameter	23mm	Depth of Borehole	6.00m
Well Casing	3.00m	Depth to Groundwater	5.1m
Well Screen	3.00m	Logged By	WA

BH5

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13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL
Tel. 01296 739400 Email: consultants@subadra.com

Project Name	Petrol Coedpoeth, Coedpoeth	Date	7th February 2017
Project Code	CP17129	Ground Level	+100.567m ASD
Drilling Method	Geoprobe	Coordinates	328080 351440

Depth (m)	Well	Water Level	Log	Sample	Chemical Analysis	Geotechnical Analysis	SPT 'N' or Su (kPa)	Description
0								0.0m to 0.3m Made Ground Concrete.
1				S1@0.6m	Asb/Metals		Su=76@0.6m Su=98@0.8m	0.3m to 0.5m Made Ground FIRM black gravelly CLAY.
2		Strike 1.800m		S2@1.2m		Att	Su=98@1.2m	0.5m to 2.7m Till STIFF orange brown mottled grey slightly sandy CLAY with frequent fine gravel.
3				S3@1.5m	WAC			
4				S4@2.0m		UU(1)	Su=120@2.0m	
5				S5@2.5m	BTEX/TPHCWG		Su=120@2.4m	
6				S6@3.2m		UU(1)		2.7m to 4.0m Pennine Lower Coal Measures STIFF grey friable CLAY with frequent fine gravel. Highly weathered MUDSTONE present as friable grey CLAY.
7				S7@3.7m	BTEX/PAH/ pH/SO4/ TPHCWG	UU(1)		
8		At Rest 5.000m		S8@5.0m		Att/pH/ SO4		4.0m to 7.2m Pennine Lower Coal Measures MODERATELY WEAK grey highly weathered MUDSTONE. With COAL MEASURES present from 4.0m - 4.6m.
9				S9@6.0m	PAH/TPH			
10				S10@7.0m	TOC			



Well Diameter	23mm	Depth of Borehole	7.20m
Well Casing	3.00m	Depth to Groundwater	5.0m
Well Screen	4.20m	Logged By	WA

Petrol Coedpoeth, Coedpoeth

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Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT THREE:
CHEMICAL ANALYSIS CERTIFICATES**

Client: The Co-operative Group Ltd

Report	CP17129 CL 001
Date	March 2017
Page	Attachment Three - 1

Report No 02674 **astanalysis.co.uk**E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		Duty Reporting Manager

Soil - TPH Banded - 16th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH2	BH3	BH3	BH3	BH4	BH5		
			S5	S4	S6	S2	S4	S6	S7	S9		
			3.6m	2.8m	4.8m	1.2m	2.8m	4.2m	5.0m	6.0m		
C8-10 TPH Band	mg/kg	0.5	<0.5	<0.5	<0.5	7.44	1.13	<0.5	<0.5	<0.5		
>C10-12 TPH Band	mg/kg	0.5	<0.5	<0.5	<0.5	3.03	0.892	<0.5	<0.5	<0.5		
>C12-16 TPH Band	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.698		
>C16-21 TPH Band	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
>C21-35 TPH Band	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		

	Notes:	Method: IH QM:E9.5 based on TNRCC 1005 by GC-FID
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

	Chain of Custody No	14385	Analysed	KC 16/02/2017
	Received	DB 13/02/2017	Reported	KC 16/02/2017
	Prepared		Page	One of One

Report No 02720



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	<i>Katharine Oak</i>
Sample Type	Soil		Duty Reporting Manager

Soil - TPH Ali-Aro - 23rd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH3	BH4	BH5					
			S3	S5	S1	S3	S5					
			2.3m	3.7m	0.3m	1.6m	2.5m					
C6-8 Aliphatic TPH	mg/kg	NA	<2.5	<2.5	12.3	<2.5	<2.5					
>C8-10 Aliphatic TPH	mg/kg	NA	<2.5	<2.5	9.45	<2.5	<2.5					
>C10-12 Aliphatic TPH	mg/kg	NA	<2.5	<2.5	148	<2.5	<2.5					
>C12-16 Aliphatic TPH	mg/kg	NA	<5	<5	46.2	<5	<5					
>C16-21 Aliphatic TPH	mg/kg	NA	<5	<5	15.2	<5	<5					
>C21-35 Aliphatic TPH	mg/kg	NA	<10	<10	<10	<10	<10					
C6-8 Aromatic TPH	mg/kg	NA	<1	<1	2.47	<1	<1					
>C8-10 Aromatic TPH	mg/kg	NA	<1	<1	16.8	<1	<1					
>C10-12 Aromatic TPH	mg/kg	NA	<1	<1	151	<1	<1					
>C12-16 Aromatic TPH	mg/kg	NA	<2.5	<2.5	19.5	<2.5	<2.5					
>C16-21 Aromatic TPH	mg/kg	NA	<2.5	<2.5	<2.5	2.68	<2.5					
>C21-35 Aromatic TPH	mg/kg	NA	<2.5	<2.5	<2.5	4.71	<2.5					

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	Notes:	Method: IH: QM E9.5 based on TNRCC 1005 by GC-FID
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

	Chain of Custody No	14386	Analysed	
	Received	DB 13/02/2017	Reported	KC 23/02/2017
	Prepared		Page	One of One

Report No 02670



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		Duty Reporting Manager

Soil - BTEX and MTBE - 16th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH2	BH3	BH4	BH5						
			S3	S1	S6	S5						
			2.0m	0.3m	4.5m	2.5m						
MTBE ²	mg/kg	0.5	<0.5	2.41	<0.5	<0.5						
Benzene ²	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1						
Toluene ²	mg/kg	0.1	<0.1	2.23	<0.1	<0.1						
Ethylbenzene ²	mg/kg	0.1	<0.1	1.02	<0.1	<0.1						
p+m Xylene ²	mg/kg	0.1	<0.1	2.66	<0.1	<0.1						
o Xylene ²	mg/kg	0.1	<0.1	1.02	<0.1	<0.1						
C6-C8 ²	mg/kg	0.5	<0.5	14.7	<0.5	<0.5						
>C8-C10 ²	mg/kg	0.5	<0.5	26.1	<0.5	<0.5						
>C10-C12 ²	mg/kg	0.5	<0.5	21.3	<0.5	<0.5						

	Notes:	Method: IH QM:E9.4 based on US EPA 5021 by GC-FID
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 Prism.NET www.prismerp.co.uk	Chain of Custody No	14387	Analysed	KC 16/02/2017
	Received	DB 13/02/2017	Reported	KC 16/02/2017
	Prepared		Page	One of One

Report No 02743



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - PAHs - 28th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH3	BH4	BH5					
			S2	S2	S3	S2	S9					
			1.2m	1.3m	1.8m	1.1m	6.0m					
Naphthalene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Acenaphthylene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Acenaphthene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Fluorene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Phenanthrene ^{2,3}	mg/kg	0.1	< 0.1	0.13	< 0.1	0.13	< 0.1					
Anthracene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Fluoranthene ^{2,3}	mg/kg	0.1	< 0.1	0.31	< 0.1	0.40	< 0.1					
Pyrene ^{2,3}	mg/kg	0.1	< 0.1	0.28	< 0.1	0.44	< 0.1					
Benzo(a)anthracene ^{2,3}	mg/kg	0.1	< 0.1	0.14	< 0.1	0.32	< 0.1					
Chrysene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.26	< 0.1					
Benzo(b)fluoranthene ^{2,3}	mg/kg	0.1	< 0.1	0.16	< 0.1	0.65	< 0.1					
Benzo(k)fluoranthene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.20	< 0.1					
Benzo(a)pyrene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.44	< 0.1					
Indeno(1,2,3-cd)pyrene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.42	< 0.1					
Dibenzo(ah)anthracene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1					
Benzo(ghi)perylene ^{2,3}	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.32	< 0.1					
Total PAHs ^{2,3}	mg/kg	2	< 1.6	< 1.6	< 1.6	3.6	< 1.6					



Notes:

Method: Speciated EPA16 PAHs

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



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Chain of Custody No	14388	Analysed	
Received	DB 13/02/2017	Reported	KC 28/02/2017
Prepared		Page	One of One

Report No 02740



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - Metals - CLEA Suite Plus Chromium VI - 28th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH3	BH4	BH5					
			S1	S1	S2	S1	S1					
			0.5m	0.5m	1.2m	0.5m	0.6m					
Arsenic ^{2,3}	mg/kg	0	7	13	13	11	19					
Barium ^{2,3,3}	mg/kg	10	58	138	42	157	107					
Beryllium ^{2,3,3,3}	mg/kg	1	< 0.5	0.8	0.5	1.3	0.9					
Boron (Water Soluble) ^{2,3,3,3,3}	mg/kg	1	< 1	2.9	< 1	1.0	3.2					
Cadmium ^{2,3}	mg/kg	0	2.4	6.8	< 0.2	29.1	2.9					
Chromium ^{2,3}	mg/kg	0	9	11	16	11	10					
Chromium (Hexavalent) ^{2,3,3}	mg/kg	2	< 2	< 2	< 2	< 2	< 2					
Copper ^{2,3}	mg/kg	0	16	34	15	50	32					
Lead ^{2,3}	mg/kg	0	1860	943	154	891	1020					
Mercury (Total) ^{2,3,3}	mg/kg	1	< 1	< 1	< 1	< 1	< 1					
Nickel ^{2,3}	mg/kg	0	9	13	10	20	13					
Selenium ^{2,3,3}	mg/kg	3	< 3	< 3	< 3	< 3	< 3					
Vanadium ^{2,3,3,3}	mg/kg	0	11	18	23	20	19					
Zinc ^{2,3}	mg/kg	0	992	1450	51	4810	525					

Notes:

Method: CLEA metals suite plus Chromium(VI)

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



Chain of Custody No	14384	Analysed	
Received	DB 13/02/2017	Reported	KC 28/02/2017
Prepared		Page	One of One

Report No 02741



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - Asbestos Screen - 28th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH3	BH4	BH5					
			S1	S1	S2	S1	S1					
			0.5m	0.5m	1.2m	0.5m	0.6m					
Asbestos Screen ^{2,3}	N/a		Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					

	Notes:	Method: Asbestos screen
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 www.prismerp.co.uk	Chain of Custody No	14383	Analysed	
	Received	DB 13/02/2017	Reported	KC 28/02/2017
	Prepared		Page	One of One

Report No 02742



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - TOC - 28th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH1	BH2	BH5							
			S6	S2	S10							
			4.3m	1.3m	7.0m							
TOC ^{2,3}	%	0	0.1	2.3	1.4							

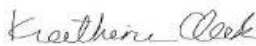
	Notes:	Method: Total organic carbon
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 Prism.NET www.prismerp.co.uk	Chain of Custody No	14389	Analysed	
	Received	DB 13/02/2017	Reported	KC 28/02/2017
	Prepared		Page	One of One

E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																	
Report No:		17-14390		Landfill Waste Acceptance Criteria Limits <table border="1"> <thead> <tr> <th>Inert Waste Landfill</th> <th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th>Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td>3%</td> <td>5%</td> <td>6%</td> </tr> <tr> <td>--</td> <td>--</td> <td>10%</td> </tr> <tr> <td>6</td> <td>--</td> <td>--</td> </tr> <tr> <td>1</td> <td>--</td> <td>--</td> </tr> <tr> <td>500</td> <td>--</td> <td>--</td> </tr> <tr> <td>100</td> <td>--</td> <td>--</td> </tr> <tr> <td>--</td> <td>>6</td> <td>--</td> </tr> <tr> <td>--</td> <td>To be evaluated</td> <td>To be evaluated</td> </tr> </tbody> </table>			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																															
3%	5%	6%																															
--	--	10%																															
6	--	--																															
1	--	--																															
500	--	--																															
100	--	--																															
--	>6	--																															
--	To be evaluated	To be evaluated																															
Site Reference:		Petrol Coedpoeth																															
Project / Job Ref:		CP17129																															
TP / BH No:	BH/S1	Depth (m)	0.30																														
Sample No:		sCP17129.002015																															
Date Sampled:	07/02/2017	Reporting Date:	01/03/2017																														
Determinand	Unit	MDL																															
TOC ^s	%	< 0.1	2.6																														
Loss on Ignition ^s	%	<0.01	8.2																														
BTEXS	mg/kg	<0.05	2.26																														
Sum of PCBs ^s	mg/kg	<0.7	< 0.1																														
Mineral Oil (C10-C40) ^s	mg/kg	<10	< 10																														
Total PAH ^s	mg/kg	<1.7	< 1.7																														
pH ^s	pH Units	+ / - 0.1	9																														
Acid Neutralisation Capacity ^s	mol/kg (+/-)	<1	<1																														
Eluate Analysis			10:1 mg/l	Converted 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)																												
Arsenic ^s			0.04	0.4	0.5	25																											
Barium ^s			0.03	0.3	20	300																											
Cadmium ^s			< 0.0005	< 0.005	0.04	5																											
Chromium ^s			< 0.005	< 0.05	0.5	70																											
Copper ^s			0.01	0.1	2	100																											
Mercury ^s			< 0.0005	< 0.01	0.01	2																											
Molybdenum ^s			0.054	0.54	0.5	30																											
Nickel ^s			< 0.007	< 0.07	0.4	40																											
Lead ^s			0.048	0.48	0.5	50																											
Antimony ^s			0.030	0.30	0.06	5																											
Selenium ^s			0.006	0.06	0.1	7																											
Zinc ^s			0.014	0.14	4	200																											
Chloride ^s			77	767	800	25000																											
Fluoride ^s			< 0.5	< 5	10	500																											
Sulphate ^s			54	543	1000	50000																											
TDS ^s			306	3062	4000	100000																											
Phenol Index ^s			< 0.01	< 0.1	1	-																											
DOC ^s			33.6	336	500	1000																											
Leach Test Information																																	
Sample Mass (kg)			0.17																														
Dry Matter (%)			54.4																														
Moisture (%)			84																														
Results are expressed on a dry weight basis, after correction for moisture content where applicable. Stated limits are for guidance only and Fast Analysis cannot be held responsible for any discrepancies with current legislation U denotes UKAS accredited test S denotes subcontracted test n.d. Result not determined																																	
Released By	<i>Katherine Clark</i>		Kate Clark		Laboratory Manager																												

E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																	
Report No:		17-14390		Landfill Waste Acceptance Criteria Limits <table border="1"> <thead> <tr> <th>Inert Waste Landfill</th> <th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th>Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td>3%</td> <td>5%</td> <td>6%</td> </tr> <tr> <td>--</td> <td>--</td> <td>10%</td> </tr> <tr> <td>6</td> <td>--</td> <td>--</td> </tr> <tr> <td>1</td> <td>--</td> <td>--</td> </tr> <tr> <td>500</td> <td>--</td> <td>--</td> </tr> <tr> <td>100</td> <td>--</td> <td>--</td> </tr> <tr> <td>--</td> <td>>6</td> <td>--</td> </tr> <tr> <td>--</td> <td>To be evaluated</td> <td>To be evaluated</td> </tr> </tbody> </table>			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																															
3%	5%	6%																															
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500	--	--																															
100	--	--																															
--	>6	--																															
--	To be evaluated	To be evaluated																															
Site Reference:		Petrol Coedpoeth																															
Project / Job Ref:		CP17129																															
TP / BH No:	BH5/S	Depth (m)	1.50																														
Sample No:		sCP17129.002033																															
Date Sampled:	07/02/2017	Reporting Date:	01/03/2017																														
Determinand	Unit	MDL																															
TOC ^s	%	< 0.1	0.8																														
Loss on Ignition ^s	%	<0.01	3.6																														
BTEXS	mg/kg	<0.05	< 0.05																														
Sum of PCBs ^s	mg/kg	<0.7	< 0.1																														
Mineral Oil (C10-C40) ^s	mg/kg	<10	< 10																														
Total PAH ^s	mg/kg	<1.7	< 1.7																														
pH ^s	pH Units	+ / - 0.1	8.3																														
Acid Neutralisation Capacity ^s	mol/kg (+/-)	<1	<1																														
Eluate Analysis		10:1 mg/l	Converted 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)																													
Arsenic ^s		< 0.01	< 0.1	0.5	2	25																											
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Molybdenum ^s		0.004	0.04	0.5	10	30																											
Nickel ^s		< 0.007	< 0.07	0.4	10	40																											
Lead ^s		< 0.005	< 0.05	0.5	10	50																											
Antimony ^s		< 0.005	< 0.05	0.06	0.7	5																											
Selenium ^s		< 0.005	< 0.05	0.1	0.5	7																											
Zinc ^s		< 0.005	< 0.05	4	50	200																											
Chloride ^s		11	109	800	15000	25000																											
Fluoride ^s		< 0.5	< 5	10	150	500																											
Sulphate ^s		2	15	1000	20000	50000																											
TDS ^s		97	970	4000	60000	100000																											
Phenol Index ^s		< 0.01	< 0.1	1	-	-																											
DOC ^s		23	230	500	800	1000																											
Leach Test Information																																	
Sample Mass (kg)	0.10																																
Dry Matter (%)	91.2																																
Moisture (%)	9.8																																
Results are expressed on a dry weight basis, after correction for moisture content where applicable. Stated limits are for guidance only and Fast Analysis cannot be held responsible for any discrepancies with current legislation U denotes UKAS accredited test S denotes subcontracted test n.d. Result not determined																																	
Released By			Kate Clark	Laboratory Manager																													

E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Report No:	17-14390
Site Reference:	Petrol Coedpoeth
Project / Job Ref:	CP17129
Date Sampled:	07/02/2017 Reporting Date: 01/03/2017

			Sample Details	
Soil PAHs (EPA 16)	Unit	Detection limit	BH/S1	BH5/S
			0.3m	1.5m
Naphthalene ^s	mg/kg	0.1	0.28	< 0.1
Acenaphthylene ^s	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene ^s	mg/kg	0.1	< 0.1	< 0.1
Fluorene ^s	mg/kg	0.1	< 0.1	< 0.1
Phenanthrene ^s	mg/kg	0.1	< 0.1	< 0.1
Anthracene ^s	mg/kg	0.1	< 0.1	< 0.1
Fluoranthene ^s	mg/kg	0.1	< 0.1	< 0.1
Pyrene ^s	mg/kg	0.1	< 0.1	< 0.1
Benzo(a)anthracene ^s	mg/kg	0.1	< 0.1	< 0.1
Chrysene ^s	mg/kg	0.1	< 0.1	< 0.1
Benzo(b)fluoranthene ^s	mg/kg	0.1	< 0.1	< 0.1
Benzo(k)fluoranthene ^s	mg/kg	0.1	< 0.1	< 0.1
Benzo(a)pyrene ^s	mg/kg	0.1	< 0.1	< 0.1
Indeno(1,2,3,cd)pyrene ^s	mg/kg	0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene ^s	mg/kg	0.1	< 0.1	< 0.1
Benzo(ghi)perylene ^s	mg/kg	0.1	< 0.1	< 0.1
Total	mg/kg	0.1	< 1.6	< 1.6
CLEA Metals				
Arsenic (As) ^s	mg/kg	< 2	7	11
Barium (Ba) ^s	mg/kg	< 5	95	130
Beryllium (Be) ^s	mg/kg	< 0.5	< 0.5	0.8
W/S Boron ^s	mg/kg	< 1	1.5	< 1
Cadmium (Cd) ^s	mg/kg	< 0.2	0.5	0.3
Chromium (Cr) ^s	mg/kg	< 2	8	17
Chromium (hexavalent) ^s	mg/kg	< 2	< 2	< 2
Copper (Cu) ^s	mg/kg	< 4	26	29
Lead (Pb) ^s	mg/kg	< 3	352	141
Mercury (Hg) ^s	mg/kg	< 1	< 1	< 1
Nickel (Ni) ^s	mg/kg	< 3	5	30
Selenium (Se) ^s	mg/kg	< 3	< 3	< 3
Vanadium (V) ^s	mg/kg	< 2	11	15
Zinc (Zn) ^s	mg/kg	< 3	131	71
Asbestos Screen ^s	N/a	N/a	Not Detected	Not Detected

Report No 02765



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - Water Soluble Sulphate - 1st March 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5								
			S4	S8								
			2.5m	5.0m								
W/S Sulphate as SO ₄ (2:1) ^{2,3}	mg/l		31	21								

	Notes:	Method: Water soluble sulphate
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 Prism.NET www.prismerp.co.uk	Chain of Custody No	14391	Analysed	
	Received	DB 13/02/2017	Reported	KC 01/03/2017
	Prepared		Page	One of One

Report No 02667



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		Duty Reporting Manager

Soil - pH - 15th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5								
			S4	S8								
			2.5m	5.0m								
pH	NA	NA	8.3	8.2								

Notes:

Method: pH analysis of soils

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



Chain of Custody No	14392	Analysed	
Received	DB 13/02/2017	Reported	KC 15/02/2017
Prepared		Page	One of One

Report No 02750



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - Atterberg Limits - 28th February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	BH5							
			S4	S2	S8							
			2.5m	1.2m	5.0m							
Liquid Limit	%	NA	50	37	41							
Plastic Limit	%	NA	23	19	19							
Moisture Content	%	NA	24	15	11							
Passing 425um Sieve	%	NA	77	74	100							

	Notes:	Method: Atterberg limits
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 www.prismerp.co.uk	Chain of Custody No	14393	Analysed	
	Received	DB 13/02/2017	Reported	KC 28/02/2017
	Prepared		Page	One of One

Report No 02766E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Soil		

Soil - UU Triaxial - Single Stage - 1st March 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH5	BH5	BH5							
			S4	S6	S7							
			2.0m	3.2m	3.7m							
Length	mm	NA	76.5	78.2	77.9							
Diameter	mm	NA	37.3	37.6	37.3							
Bulk Density	Mg/m3	NA	2.27	2.18	2.16							
Dry Density	Mg/m3	NA	1.97	1.96	1.84							
Moisture Content	%	NA	15	11	17							
Axial Strain	%	NA	16.16	4.02	13.08							
Undrained Shear Strength	kN/m2	NA	77	160	117							

	Notes:	Method: UU Triaxial - Single stage
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

 Prism.NET www.prismerp.co.uk	Chain of Custody No	14394	Analysed	
	Received	DB 13/02/2017	Reported	KC 01/03/2017
	Prepared		Page	One of One

Report No 02773E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	14th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Water		Duty Reporting Manager

Water - TPH Ali-Aro - 1st March 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	MW1							
			5.0m	3.3m	2.7m							
C6-8 Aliphatic TPH	ug/l	NA	<50	<50	<50							
>C8-10 Aliphatic TPH	ug/l	NA	<50	<50	<50							
>C10-12 Aliphatic TPH	ug/l	NA	<50	<50	<50							
>C12-16 Aliphatic TPH	ug/l	NA	79.3	<50	<50							
>C16-21 Aliphatic TPH	ug/l	NA	1810	<50	<50							
>C21-35 Aliphatic TPH	ug/l	NA	47800	<50	<50							
C6-8 Aromatic TPH	ug/l	NA	<50	<50	<50							
>C8-10 Aromatic TPH	ug/l	NA	<50	<50	<50							
>C10-12 Aromatic TPH	ug/l	NA	<50	<50	<50							
>C12-16 Aromatic TPH	ug/l	NA	1810	<50	<50							
>C16-21 Aromatic TPH	ug/l	NA	169	<50	<50							
>C21-35 Aromatic TPH	ug/l	NA	6800	<50	<50							

--	--	--



Notes:

Method: IH: QM E9.5 based on TNRCC 1005 by GC-FID

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



Chain of Custody No	14457	Analysed	
Received	DB 20/02/2017	Reported	KC 01/03/2017
Prepared		Page	One of One

Report No 02701



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	14th February 2017
Project Code	CP17129	Report Approved By	<i>Katharine Clark</i> Duty Reporting Manager
Sample Type	Water		

Water - BTEX and MTBE - 23rd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	MW1							
			5.0m	3.3m	2.7m							
MTBE ²	µg/l	50	<50	<50	<50							
Benzene ²	µg/l	10	<10	<10	<10							
Toluene ²	µg/l	10	<10	<10	<10							
Ethylbenzene ²	µg/l	10	<10	<10	<10							
p+m Xylene ²	µg/l	10	<10	<10	<10							
o Xylene ²	µg/l	10	<10	<10	<10							
C6-C8 ²	µg/l	50	<50	<50	<50							
>C8-C10 ²	µg/l	50	<50	<50	<50							
>C10-C12 ²	µg/l	50	<50	<50	<50							

	Notes:	Method: IH QM:E9.4 based on US EPA 5021 by GC-FID
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

	Chain of Custody No	14455	Analysed	RC 22/02/2017
	Received	DB 20/02/2017	Reported	KC 23/02/2017
	Prepared		Page	One of One

Report No 02748



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	14th February 2017
Project Code	CP17129	Report Approved By	<i>Katharine Clark</i> Duty Reporting Manager
Sample Type	Water		

Water - PAHs - 1st March 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	MW1							
			5.0m	3.3m	2.7m							
Naphthalene	ug/l	NA	<0.01	<0.01	<0.01							
Acenaphthylene	ug/l	NA	<0.01	<0.01	<0.01							
Acenaphthene	ug/l	NA	<0.01	<0.01	<0.01							
Fluorene	ug/l	NA	<0.01	<0.01	<0.01							
Phenanthrene	ug/l	NA	<0.01	<0.01	<0.01							
Anthracene	ug/l	NA	<0.01	<0.01	<0.01							
Fluoranthene	ug/l	NA	<0.01	<0.01	<0.01							
Pyrene	ug/l	NA	<0.01	<0.01	<0.01							
Benzo(a)anthracene	ug/l	NA	<0.01	<0.01	<0.01							
Chrysene	ug/l	NA	<0.01	<0.01	<0.01							
Benzo(b)fluoranthene	ug/l	NA	<0.01	<0.01	<0.01							
Benzo(k)fluoranthene	ug/l	NA	<0.01	<0.01	<0.01							
Benzo(a)pyrene	ug/l	NA	<0.01	<0.01	<0.01							
Indeno(1,2,3-cd)pyrene	ug/l	NA	<0.01	<0.01	<0.01							
Dibenzo(ah)anthracene	ug/l	NA	<0.01	<0.01	<0.01							
Benzo(ghi)perylene	ug/l	NA	<0.01	<0.01	<0.01							
Total PAHs	ug/l	NA	<0.16	<0.16	<0.16							



Notes:

Method: Speciated EPA16 PAHs

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



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Chain of Custody No	14456	Analysed	
Received	DB 20/02/2017	Reported	KC 01/03/2017
Prepared		Page	One of One

Report No 02708



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	14th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Water		Duty Reporting Manager

Water - pH - 23rd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	MW1							
			5.0m	3.3m	2.7m							
pH	NA	NA	6.7	6.7	6.8							

Notes:

Method: pH Analysis

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



Chain of Custody No	14459	Analysed	
Received	DB 20/02/2017	Reported	KC 23/02/2017
Prepared		Page	One of One

Report No 02709



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	14th February 2017
Project Code	CP17129	Report Approved By	 Duty Reporting Manager
Sample Type	Water		

Water - Sulphate - 23rd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			BH4	BH5	MW1							
			5.0m	3.3m	2.7m							
Sulphate	mg/L	NA	<60	<60	<60							

Notes:

Method: Sulphate in water analysis

1. MCerts
2. UKAS 17025
3. Analysis subcontracted



Chain of Custody No	14458	Analysed	
Received	DB 20/02/2017	Reported	KC 23/02/2017
Prepared		Page	One of One

Report No 02698 **astanalysis.co.uk**E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	
Sample Type	Water		Duty Reporting Manager

Water - DW BTEX and MTBE - 22nd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			Tap									
			0.0m									
MTBE ^{2,3}	ug/l	10	< 10									
Benzene ^{2,3}	ug/l	0	< 1									
Toluene ^{2,3}	ug/l	10	< 5									
Ethylbenzene ^{2,3}	ug/l	10	< 5									
p+m Xylene ^{2,3}	ug/l	10	< 10									
o Xylene ^{2,3}	ug/l	10	< 5									

	Notes:	Method: BTEX and MTBE with low LORs
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

	Chain of Custody No	14401	Analysed	
	Received	DB 13/02/2017	Reported	KC 22/02/2017
	Prepared		Page	One of One

Report No 02685



E: lab@astanalysis.co.uk T: 01296 739 423
13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Project Name	Petrol Coedpoeth, Coedpoeth	Sampled	7th February 2017
Project Code	CP17129	Report Approved By	 Duty Reporting Manager
Sample Type	Water		

Water - TPH Banded - 23rd February 2017

Analyte	Unit	Method Detection Limit	Sample Details									
			Tap									
			0.0m									
C8-10 TPH Band	µg/l	10	<10									
>C10-12 TPH Band	µg/l	10	<10									
>C12-16 TPH Band	µg/l	10	<10									
>C16-21 TPH Band	µg/l	10	<10									
>C21-35 TPH Band	µg/l	10	<10									

	Notes:	Method: IH QM:E9.5 based on TNRCC 1005 by GC-FID
		1. MCerts 2. UKAS 17025 3. Analysis subcontracted

	Chain of Custody No	14400	Analysed	RC 22/02/2017
	Received	DB 13/02/2017	Reported	KC 23/02/2017
	Prepared		Page	One of One

Petrol Coedpoeth, Coedpoeth

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT FOUR:
ENVIRONMENTAL DATA REPORT AND HISTORICAL MAPS**

Client: The Co-operative Group Ltd

Report

CP17129 CL 001

Date

March 2017

Page

Attachment Four - 1

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

115337234_1_1

Customer Reference:

CP17129

National Grid Reference:

328080, 351440

Slice:

A

Site Area (Ha):

0.13

Search Buffer (m):

1000

Site Details:

Co-Operative Retail Services Ltd, High Street

Coedpoeth

WREXHAM

LL11 3UF

Client Details:

Mr S Partridge

Subadra Consulting Ltd

Unit 13 Triangle Business Park

Wendover

Bucks

HP22 5BL

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	15
Hazardous Substances	-
Geological	17
Industrial Land Use	24
Sensitive Land Use	29
Data Currency	30
Data Suppliers	35
Useful Contacts	36

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v50.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices	pg 2		16		
Discharge Consents	pg 4			1	6
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 5	1			6
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 6		Yes		
Pollution Incidents to Controlled Waters	pg 6			4	17
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 10				(*2)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 10	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 11		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 11		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 11		Yes	Yes	n/a
Detailed River Network Offline Drainage					n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 15				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 15				2
Local Authority Landfill Coverage	pg 15	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 15				1
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 16				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 17	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 17		2	6	20
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 21	Yes	n/a	n/a	n/a
Mining Instability	pg 21	Yes	n/a	n/a	n/a
Man-Made Mining Cavities	pg 22				3
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 22	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 22	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 22	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 22	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 22	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 23	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 24	1	5	9	33
Fuel Station Entries	pg 28	1			
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty	pg 29				1
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	0	1	328080 351450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	150	1	328150 351600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	216	1	327900 351600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	226	1	327850 351350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	259	1	327800 351444
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	293	1	327800 351300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	311	1	327750 351400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	316	1	327850 351200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	319	1	327800 351250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	323	1	327900 351150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	338	1	327750 351300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	351	1	327800 351200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	359	1	327700 351444
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	359	1	327700 351450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (W)	363	1	327700 351500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	365	1	327900 351100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	381	1	328100 351850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	409	1	327650 351444
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	409	1	327650 351450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	409	1	327900 351050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	430	1	327700 351200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	436	1	328150 351900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	447	1	328200 351900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	454	1	327650 351650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	459	1	327600 351450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	463	1	328450 351750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	464	1	328250 351900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	475	1	328000 350950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	477	1	327850 351000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	478	1	327650 351700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	481	1	328100 351950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	486	1	328150 351950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	496	1	328200 351950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	500	1	327600 351650
1	Contaminated Land Register Entries and Notices Location: Rosebank, Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13NW (NW)	63	2	328001 351478
2	Contaminated Land Register Entries and Notices Location: 1 Smelt Lane, Coedpoeth, Wrexham. LI11 3sn. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	84	2	327981 351405
3	Contaminated Land Register Entries and Notices Location: 2 Smelt Lane, Coedpoeth, Wrexham. LI11 3sn. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	85	2	327978 351412
4	Contaminated Land Register Entries and Notices Location: 7 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	85	2	327981 351402
5	Contaminated Land Register Entries and Notices Location: 3 Smelt Lane, Coedpoeth, Wrexham. LI11 3sn. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	86	2	327975 351419

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Contaminated Land Register Entries and Notices Location: 4 Smelt Lane, Coedpoeth, Wrexham. LI11 3sn. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	87	2	327973 351424
7	Contaminated Land Register Entries and Notices Location: Chalna, Smelt Lane, Coedpoeth, Wrexham. LI11 3sn. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	93	2	327967 351430
8	Contaminated Land Register Entries and Notices Location: 8 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	97	2	327973 351391
9	Contaminated Land Register Entries and Notices Location: 9 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	103	2	327969 351386
10	Contaminated Land Register Entries and Notices Location: Whitesmiths, Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	105	2	327996 351352
11	Contaminated Land Register Entries and Notices Location: Terfynfa, 12, Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (W)	106	2	327954 351418
12	Contaminated Land Register Entries and Notices Location: 15 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	119	2	327982 351346
13	Contaminated Land Register Entries and Notices Location: Glenside, Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 14th August 2015 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	121	2	327949 351384
14	Contaminated Land Register Entries and Notices Location: 16 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	123	2	327978 351344
15	Contaminated Land Register Entries and Notices Location: 17 Smelt Road, Coedpoeth, Wrexham. LI11 3sh. Notice Type: Environmental Protection Act (1990) Part IIa Remediation Statement Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	129	2	327972 351342

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Contaminated Land Register Entries and Notices Location: Bryn Onn, Smelt Road, Coedpoeth, Wrexham. L11 3sh. Notice Type: Environmental Protection Act (1990) Section 78H(7) Remediation Statement - Remediation Work Being Carried Out Reference: Not Supplied Dated: 5th March 2016 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A13SW (SW)	138	2	327938 351370
17	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Coedpoeth Talwrn Road No 2 - S Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0175501 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 28th March 2002 Discharge Type: Unspecified Discharge: Not Supplied Environment: Stream Receiving Water: Stream Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	321	3	328300 351700
18	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Talwrn Road No 2 Cso, Coedpoeth, Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0175501 Permit Version: 2 Effective Date: 29th March 2002 Issued Date: 28th March 2002 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Stream Receiving Water: Trib Of Afon Gwenfro Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	547	3	328490 351830
19	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Coedpoeth Talwrn Road No1 Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0175401 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 28th March 2002 Discharge Type: Unspecified Discharge: Not Supplied Environment: Stream Receiving Water: Stream Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A14NE (E)	698	3	328800 351500
20	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Talwrn Road No 1 Cso, Talwrn, Coed Poeth Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0175401 Permit Version: 2 Effective Date: 29th March 2002 Issued Date: 28th March 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Stream Receiving Water: Trib Of Afon Gwenfro Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A14NE (E)	788	3	328890 351500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	Discharge Consents Operator: Dwr Cymru Welsh Water Property Type: Sewerage Network - Sewers - Water Company Location: Heol Y Fro Combined Sewer Overflow, Heol Y Fro Cso, Coedpoeth, Wrexham, North Wales, LL11 3la Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Eprqp3629gf Permit Version: 1 Effective Date: 12th March 2012 Issued Date: 12th March 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Afon Gwenfro Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NE (E)	792	3	328894 351502
21	Discharge Consents Operator: Clay Colliery Co Ltd Property Type: Coal Extraction, Surface Location: Opencast Workings The Fron Tan Y F, Tan Y Fron Coadpath Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cg0324001 Permit Version: 2 Effective Date: 10th February 1993 Issued Date: 10th February 1993 Revocation Date: 11th October 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Unnamed Trib Of Afon Gwenfro Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	962	3	328950 351900
21	Discharge Consents Operator: Clay Colliery Co Ltd Property Type: Coal Extraction, Surface Location: Opencast Workings The Fron Tan Y F, Tan Y Fron Coadpath Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cg0324001 Permit Version: 1 Effective Date: 22nd January 1992 Issued Date: 22nd January 1992 Revocation Date: 9th February 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Unnamed Trib Of Afon Gwenfro Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	962	3	328950 351900
22	Local Authority Pollution Prevention and Controls Name: Premier Garage Location: High Street, Coedpoeth, WREXHAM, Clwyd, LL11 3UF Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/14(1)V2 Dated: 23rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Automatically positioned to the address	A13SW (S)	0	4	328077 351436
23	Local Authority Pollution Prevention and Controls Name: Jones Automotive ServicesMinera Garage Location: Unit 30, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/1/JAS Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	509	4	327875 351937

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	Local Authority Pollution Prevention and Controls Name: D C Autos Location: Unit 23, Five Crosses Industrial Estate, Minera, Wrexham, LI11 3rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/1/DC Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SW (N)	514	4	327884 351947
23	Local Authority Pollution Prevention and Controls Name: Minera Garage Location: Unit 30, Five Crosses Industrial Estate, Mineraawrexham, LI11 3rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/1/MG Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	552	4	327858 351977
24	Local Authority Pollution Prevention and Controls Name: Minera Tyres And Exhausts Ltd Location: Unit 36, Five Crosses Industrial Estate, Minera, Wrexham, LI11 3rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/1/MTE Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	528	4	327808 351925
25	Local Authority Pollution Prevention and Controls Name: Prospects For Young People Location: Unit K & L Five Crosses Industrial Estate, Minera, Wrexham, LI11 3rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC-PG1-1-1-PYP Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	687	4	327685 352034
25	Local Authority Pollution Prevention and Controls Name: Minera Building Supplies Ltd Location: Five Crosses Industrial Estate, Ruthin Road, Minera, WREXHAM, Clwyd, LI11 3RD Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG3/1(6)V2 Dated: 20th December 2002 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Automatically positioned to the address	A17SE (NW)	721	4	327682 352074
	Nearest Surface Water Feature	A13SW (SW)	234	-	327874 351294
26	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Talwen Road Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Blocked Sewer Incident Date: 10th October 1994 Incident Reference: 21368 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	317	5	328300 351695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewerage Location: Old Farm, TANYFRON Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 8th August 1991 Incident Reference: 2027 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	400	5	328500 351500
28	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Coepoeth Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Afon Clywedog Incident Date: 30th September 1997 Incident Reference: 33738 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	425	5	328000 351000
29	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Coed Poeth, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Accident; Afon Clywedog Incident Date: 20th June 1998 Incident Reference: 36106 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	464	5	328500 351200
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Junction Of Middle Road & Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Accident; Afon Clywedog Incident Date: 15th June 1998 Incident Reference: 36105 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	530	5	328500 351795
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: End Of Heol Penyfelin Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Accident; Afon Clywedog Incident Date: 15th June 1998 Incident Reference: 36105 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	534	5	328500 351800
31	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Up Stream Of Pentre Fron Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 17th April 1991 Incident Reference: 2611 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	538	5	328400 351900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pentre Fron Road, COEDPOETH Authority: Environment Agency, Welsh Region Pollutant: Oils - Fats And Grease Note: Not Supplied Incident Date: 25th October 1995 Incident Reference: 26443 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	621	5	328400 352000
33	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: 5 Crosses, Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Emergency Overflow Incident Date: 16th April 1995 Incident Reference: 23424 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	623	5	327750 352000
34	Pollution Incidents to Controlled Waters Property Type: Cattle Beef Farming: Yards Location: Greenacres Farm, Pentrafron Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Accidental Spillage/Leakage Incident Date: 22nd July 1995 Incident Reference: 25243 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	643	5	327800 352050
35	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Other Location: Wern Cottage, Sewage Treatment Works Authority: Environment Agency, Welsh Region Pollutant: Sewage Sludge Note: Poor Operational Practise Incident Date: 9th August 1994 Incident Reference: 21475 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	678	5	327800 350800
36	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Electric Sub-Station Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Emergency Overflow Incident Date: 15th September 1994 Incident Reference: 21051 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	740	5	328800 351695
36	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Stream, TANYFRON Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 8th September 1994 Incident Reference: 21103 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	742	5	328800 351700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 29th June 1995 Incident Reference: 24676 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	745	5	328805 351695
37	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Other Location: Heol, Pen-Y-Felin, Coed Poeth Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Blocked Sewer Incident Date: 25th May 1991 Incident Reference: 2773 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	751	5	328300 350700
38	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Tanyfron, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Gwenfro; Overflow Incident Date: 18th September 1997 Incident Reference: 33606 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	779	5	328880 351510
39	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Road Adjacent To H K Motors Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Poor Management Control Incident Date: 19th December 1996 Incident Reference: 30792 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	809	5	327250 351450
40	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Lay-By, Coed Y Graig, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Accidental Spillage/Leakage Incident Date: 7th July 1996 Incident Reference: 29137 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	825	5	328800 351000
41	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Pen Y Palmant Farm Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Afon Clywedog; Run-Off Incident Date: 20th January 1998 Incident Reference: 34613 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Weather Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	876	5	327200 351620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Other Location: Nant Mill Pumping Station Authority: Environment Agency, Welsh Region Pollutant: Industrial Solid Waste Note: Poor Operational Practise Incident Date: 2nd August 1991 Incident Reference: 3051 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	995	5	328350 350460
42	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Nant Pumping Station Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Accidental Spillage/Leakage Incident Date: 18th June 1991 Incident Reference: 2826 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	1000	5	328350 350455
	Water Abstractions Operator: Dee Valley Water Plc Licence Number: 24/67/7/0035 Permit Version: 100 Location: Park Day Level Authority: Environment Agency, Welsh Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Speedwell Shaft Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 5th July 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11NE (W)	1027	5	327050 351641
	Water Abstractions Operator: Dee Valley Water Plc Licence Number: 24/67/7/0035 Permit Version: 100 Location: Speedwell Shaft Authority: Environment Agency, Welsh Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Park Day Level Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 5th July 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11SE (W)	1174	5	326890 351325
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 16 West Cheshire Scale: 1:100,000	A13SW (N)	0	5	328080 351444
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (N)	0	1	328080 351444
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A13NW (NE)	0	1	328080 351444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	217	3	327895 351295
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	220	3	327895 351290
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
43	Detailed River Network Lines River Type: Primary River River Name: River Clywedog Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A13SW (SW)	237	5	327873 351289
44	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A13SW (SW)	311	5	327915 351154
45	Detailed River Network Lines River Type: Primary River River Name: River Clywedog Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A13SW (SW)	311	5	327915 351154
46	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (N)	366	5	328023 351832

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A14NW (NE)	411	5	328452 351662
48	Detailed River Network Lines River Type: Primary River River Name: River Clywedog Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	432	5	328064 350986
49	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	432	5	328064 350986
50	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	440	5	328063 350978
51	Detailed River Network Lines River Type: Secondary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	445	5	328038 350974
52	Detailed River Network Lines River Type: Secondary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	447	5	328006 350977

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	448	5	328011 350975
54	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	449	5	327992 350977
55	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	449	5	327992 350977
56	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	466	5	328062 350952
57	Detailed River Network Lines River Type: Primary River River Name: River Clywedog Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	478	5	328067 350940
58	Detailed River Network Lines River Type: Primary River River Name: River Clywedog Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A8NW (S)	493	5	328066 350925

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SE (NE)	498	5	328313 351909
60	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SE (N)	499	5	328097 351969
61	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Not Supplied Hydrographic Area: B10 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SE (NE)	499	5	328317 351907
	Detailed River Network Offline Drainage None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	Historical Landfill Sites Licence Holder: Not Supplied Location: Coedpoeth Name: Rhosberse - Pengelli Avenue Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14132 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6955/0070 BGS Ref: Not Supplied Other Ref: Not Supplied	A9NE (SE)	922	3	328782 350817
63	Licensed Waste Management Facilities (Locations) Licence Number: 37059 Location: Marions House, New Brighton, Minera, Wrexham, LL11 3DS Operator Name: Williams Henry Kingsley Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Vehicle Dismantlers) Licence Status: Modified Issued: 16th February 1993 Last Modified: 28th January 2013 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12SW (W)	837	3	327254 351206
64	Licensed Waste Management Facilities (Locations) Licence Number: 37287 Location: Station House, Old Road, Minera, Wrexham, LL11 3YQ Operator Name: S And K Matthews Skip Hire Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Issued Issued: 29th November 2005 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	867	3	327515 352131
	Local Authority Landfill Coverage Name: Wrexham County Borough Council - Has supplied landfill data		0	6	328080 351444
65	Local Authority Recorded Landfill Sites Location: Rhosberse/Pengelli Avenue, Coedpoeth, Wrexham Reference: 6955/0070 Authority: Wrexham County Borough Council Last Reported Status: Closed Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A9NW (SE)	828	6	328644 350812

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	Registered Waste Treatment or Disposal Sites Licence Holder: H & K Motors Licence Reference: NOW-522-L (L74) Site Location: Marlons House, New Brighton, Minera, Wrexham, Clwyd Operator Location: As Site Address Authority: Environment Agency Wales, North Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st February 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste Batteries Max.Stor Brake/Clutch Fluid Max.Stor Coolant (Water/Ethylene Glycol) M.Stor Fuel Oils Max.Stor Gearbox/Transmissions Max.Stor Int.Combust.Engines Max.Stor Mineral/Lubricating Oils Max.Stor Petrol Max.Stor Scrap Motor Tyres Max.Stor Prohibited Waste Cadmium Compounds Elemental Sodium/Potassium Fine Powdered Waste Liquified Gas / Gas Under Pressure Mercury Compounds Percussive/Explosive Waste Radioactive Wastes Spec.Waste (Epa'90:S62/1996 Regs)N.O.S Waste In Drums/Cont'Rs Waste N.O.S.	A12SW (W)	843	5	327250 351200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Lower Coal Measures Formation And South Wales Lower Coal Measures Formation (Undifferentiated)	A13SW (N)	0	1	328080 351444
67	BGS Recorded Mineral Sites Site Name: Minera Hall Coal Pit Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138293 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NE (N)	136	1	328087 351606
68	BGS Recorded Mineral Sites Site Name: Minera Hall Coal Pit Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138292 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	226	1	327865 351569
69	BGS Recorded Mineral Sites Site Name: Minera Hall Coal Pit Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138291 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	280	1	327855 351645
70	BGS Recorded Mineral Sites Site Name: Minera Hall Coal Pit Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138290 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SW (N)	323	1	328030 351790
71	BGS Recorded Mineral Sites Site Name: Minera Lead Mines, Deep Day Level Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138294 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A8NW (S)	344	1	327959 351096

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	BGS Recorded Mineral Sites Site Name: Old Talwrn Colliery, No. 1 Shaft Location: , Top Talwrn, Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138282 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	425	1	328147 351889
73	BGS Recorded Mineral Sites Site Name: Old Talwrn Colliery, No. 2 Shaft Location: , Top Talwrn, Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138283 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	438	1	328207 351888
74	BGS Recorded Mineral Sites Site Name: Old Talwrn Colliery Shaft Location: , Top Talwrn, Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138284 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Powell Coal (North Wales) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	463	1	328340 351850
75	BGS Recorded Mineral Sites Site Name: Talwrn Brick Works Location: , Coedpoeth, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 198581 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14SW (E)	527	1	328621 351340
76	BGS Recorded Mineral Sites Site Name: Grosvenor New Shaft Location: , The Smelt, Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138281 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SW (N)	542	1	327886 351977
77	BGS Recorded Mineral Sites Site Name: New Minera Lead Mine, Burton'S Shaft Location: , New Brighton, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 184979 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Vein Minerals Positional Accuracy: Located by supplier to within 10m	A8NW (S)	602	1	327854 350860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	BGS Recorded Mineral Sites Site Name: Talwrn Colliery, Upcast Shaft Location: , Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138287 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Powell Coal (North Wales) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14NW (E)	656	1	328755 351527
78	BGS Recorded Mineral Sites Site Name: Talwrn Colliery, Downcast Shaft Location: , Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138288 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Powell Coal (North Wales) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14NE (E)	696	1	328797 351510
78	BGS Recorded Mineral Sites Site Name: Talwrn Colliery, Jack Pit Location: , Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138289 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Powell Coal (North Wales) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14NE (E)	698	1	328797 351525
79	BGS Recorded Mineral Sites Site Name: Pentre'R-From Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138308 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NE (N)	687	1	328213 352143
80	BGS Recorded Mineral Sites Site Name: Penygelli Quarries Location: Penygelli Road, Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 15646 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	719	1	328520 350850
80	BGS Recorded Mineral Sites Site Name: Penygelli Quarries Location: Penygelli Road, Coedpoeth, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 184980 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	764	1	328535 350805

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	BGS Recorded Mineral Sites Site Name: Penygelli Quarries Location: , Coedpoeth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138323 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	726	1	328477 350810
82	BGS Recorded Mineral Sites Site Name: Minera Lead Mines, Meadow Shaft Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138296 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	737	1	327518 350936
83	BGS Recorded Mineral Sites Site Name: The Wern Location: , Coedpoeth, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 184986 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A8SW (S)	755	1	327877 350691
84	BGS Recorded Mineral Sites Site Name: Plas Mostyn Coal Pit Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138285 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	800	1	328460 352172
85	BGS Recorded Mineral Sites Site Name: Pen-Y-Gelli Shaft Location: , Coedpoeth, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 198582 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	813	1	328696 350885
86	BGS Recorded Mineral Sites Site Name: Minera Lead Mines, Roy'S Shaft Location: , Minera, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 138295 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	880	1	327261 351066

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	BGS Recorded Mineral Sites Site Name: Minera Stone Quarry Location: , Adw'R Clawdd, Coedpath, Wrexham, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 197832 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	911	1	328720 350770
88	BGS Recorded Mineral Sites Site Name: Park Day Level Workings Location: , Minera, Wrexham Source: British Geological Survey, National Geoscience Information Service Reference: 198628 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A12NW (W)	930	1	327143 351609
88	BGS Recorded Mineral Sites Site Name: Park Day Level Location: , Minera, Wrexham Source: British Geological Survey, National Geoscience Information Service Reference: 198627 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A12NW (W)	947	1	327128 351621
89	BGS Recorded Mineral Sites Site Name: Minera Stone Quarry Location: , Adwy'R Clawdd, Coedpoth, Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 15647 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	980	1	328835 350790
90	BGS Recorded Mineral Sites Site Name: The Wern Location: , Wrexham, Clwyd Source: British Geological Survey, National Geoscience Information Service Reference: 15649 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Cefn Y Fedw Sandstone Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7SW (SW)	994	1	327378 350713
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SW (N)	0	7	328080 351444
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (N)	0	-	328080 351444
	Mining Instability Mining Evidence: Conclusive Metaliferous Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (N)	0	-	328080 351444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Man-Made Mining Cavities Easting: 327800 Northing: 350800 Distance: 678 Quadrant Reference: A8 Quadrant Reference: NW Bearing Ref: SW Cavity Type: Not supplied Commodity: Not Supplied Solid Geology Detail: No Details Superficial Geology No Details Detail:	A8NW (SW)	678	8	327800 350800
	Man-Made Mining Cavities Easting: 327500 Northing: 350900 Distance: 775 Quadrant Reference: A7 Quadrant Reference: NE Bearing Ref: SW Cavity Type: Not supplied Commodity: Not Supplied Solid Geology Detail: No Details Superficial Geology No Details Detail:	A7NE (SW)	775	8	327500 350900
	Man-Made Mining Cavities Easting: 327200 Northing: 351000 Distance: 964 Quadrant Reference: A7 Quadrant Reference: NW Bearing Ref: SW Cavity Type: Not supplied Commodity: Not Supplied Solid Geology Detail: No Details Superficial Geology No Details Detail:	A7NW (SW)	964	8	327200 351000
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Non Coal Mining Areas of Great Britain Risk: Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	64	1	328002 351407
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	131	1	327942 351377
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	155	1	327921 351367
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NE)	0	1	328080 351444
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NE)	0	1	328080 351444
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	164	1	328228 351334
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	328080 351444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	Contemporary Trade Directory Entries Name: Texaco Location: High Street, Coedpoeth, Wrexham, Clwyd, LL11 3UF Classification: Petrol Filling Stations Status: Active Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	0	-	328076 351436
92	Contemporary Trade Directory Entries Name: Baldock Blinds & Curtains Location: 73, High Street, Coedpoeth, Wrexham, Clwyd, LL11 3UG Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	66	-	328009 351497
93	Contemporary Trade Directory Entries Name: Debi'S Domestic Support Location: 14, Fferm Llidiart Werdd, Coedpoeth, Wrexham, Clwyd, LL11 3PX Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	122	-	328129 351579
93	Contemporary Trade Directory Entries Name: Here2help Location: 14, Fferm Llidiart Werdd, Coedpoeth, Wrexham, Clwyd, LL11 3PX Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	122	-	328129 351579
94	Contemporary Trade Directory Entries Name: D & D James Location: Bryn Myfyr, High Street, Coedpoeth, Wrexham, LL11 3UF Classification: Stainless Steel Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	133	-	328186 351337
95	Contemporary Trade Directory Entries Name: Coedpoeth Cemetery Location: The Lodge, Cemetery Road, Coedpoeth, Wrexham, Clwyd, LL11 3SP Classification: Cemeteries & Crematoria Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (S)	177	-	328111 351244
96	Contemporary Trade Directory Entries Name: Jordan'S Van Centre Location: Ruthin Road, Coedpoeth, Wrexham, Clwyd, LL11 3US Classification: Commercial Vehicle Dealers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	264	-	327884 351652
96	Contemporary Trade Directory Entries Name: G Jones Location: Awel Bur, Old Road, Minera, Wrexham, Clwyd, LL11 3YS Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	281	-	327876 351667
97	Contemporary Trade Directory Entries Name: Metalmin Ltd Location: Salem rd, Coedpoeth, Wrexham, Clwyd, LL11 3SG Classification: Alloys Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	294	-	328370 351318
98	Contemporary Trade Directory Entries Name: E Roberts & Sons Location: Clovelly, Heol Caradoc, Coedpoeth, Wrexham, Clwyd, LL11 3PS Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	297	-	328250 351711
99	Contemporary Trade Directory Entries Name: Super Suds Location: 38, High Street, Coedpoeth, Wrexham, LL11 3SB Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	350	-	328367 351211
100	Contemporary Trade Directory Entries Name: High Street Cars Location: 26, High Street, Coedpoeth, Wrexham, Clwyd, LL11 3SB Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	408	-	328411 351174

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	Contemporary Trade Directory Entries Name: Ron Austin Location: 24, Gwern y Gaseg Road, Coedpoeth, Wrexham, Clwyd, LL11 3RE Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	441	-	327911 351879
102	Contemporary Trade Directory Entries Name: Armon Location: Unit 34, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Frozen Food Processors & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	492	-	327841 351902
102	Contemporary Trade Directory Entries Name: Wrexham Auto Kraft Location: Wrexham, LL11 3RD Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	497	-	327839 351907
102	Contemporary Trade Directory Entries Name: Minera Tyres & Exhausts Ltd Location: Unit 36, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	528	-	327808 351925
103	Contemporary Trade Directory Entries Name: M A P Location: Unit 22, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Gearboxes Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	508	-	327885 351940
103	Contemporary Trade Directory Entries Name: Wrexham Windscreens Ltd Location: Unit 23, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Window Tinting Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	513	-	327881 351944
103	Contemporary Trade Directory Entries Name: T R Ogden Auto Body Repairs Location: Unit 24, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	519	-	327877 351949
103	Contemporary Trade Directory Entries Name: Winston Harris Location: Unit 27, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	535	-	327866 351962
103	Contemporary Trade Directory Entries Name: Wrexham Installations Location: Unit 28-29, Five Crosses Industrial Estate, Minera, WREXHAM, Clwyd, LL11 3RD Classification: Conveyors & Conveyor Belts Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	541	-	327862 351967
103	Contemporary Trade Directory Entries Name: Speed Manufacturing & Trading Ltd Location: Unit 28-29, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Motor Cycle Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	541	-	327862 351967
103	Contemporary Trade Directory Entries Name: Minera Garage Location: Unit 30, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	552	-	327858 351977

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	Contemporary Trade Directory Entries Name: Reclaim Services Location: Unit 50, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Chemicals - Distributors & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	531	-	327765 351900
105	Contemporary Trade Directory Entries Name: A & P Auto Panels Location: Unit 31, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	557	-	327851 351980
105	Contemporary Trade Directory Entries Name: G & R Rewinds Location: Unit A, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Electric Motor Sales & Service Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A18SW (NW)	590	-	327812 351997
105	Contemporary Trade Directory Entries Name: Huws Gray Location: Ruthin Road, Minera, Wrexham, Clwyd, LL11 3RD Classification: Builders' Merchants Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18SW (NW)	611	-	327801 352015
105	Contemporary Trade Directory Entries Name: Site Solutions Engineering Ltd Location: Unit 1, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Engineering Services Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	635	-	327778 352030
106	Contemporary Trade Directory Entries Name: Tony Harrison Location: Tudor Street, Coedpoeth, Wrexham, Clwyd, LL11 3RP Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	598	-	328427 350932
107	Contemporary Trade Directory Entries Name: Industrial Engineering Services Wrexham Ltd Location: Unit 5, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	647	-	327826 352067
107	Contemporary Trade Directory Entries Name: Body Repairs Location: Unit 7,8, Five Crosses Ind Est, Minera, Wrexham, Clwyd, LL11 3RD Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SW (N)	651	-	327844 352078
107	Contemporary Trade Directory Entries Name: Trafford'S Coaches Location: Unit 7-8, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Bus & Coach Operators & Stations Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	652	-	327845 352079
108	Contemporary Trade Directory Entries Name: Cam Gas Location: Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	652	-	327771 352046
108	Contemporary Trade Directory Entries Name: Fat Dubbers Location: Unit G, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	662	-	327702 352016
108	Contemporary Trade Directory Entries Name: A & C Pierce Location: Unit C, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	669	-	327722 352037

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	Contemporary Trade Directory Entries Name: Night & Day Ltd Location: Unit D, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	674	-	327718 352041
108	Contemporary Trade Directory Entries Name: Hammy'S Location: Unit D, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	675	-	327718 352041
108	Contemporary Trade Directory Entries Name: Williams Accident Repairs Location: Unit G, Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	675	-	327695 352027
108	Contemporary Trade Directory Entries Name: C J C Motor Services Location: Unit K-I, Five Crosses Industrial Estate, Minera, Wrexham, LL11 3RD Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	687	-	327687 352036
109	Contemporary Trade Directory Entries Name: Minera Building Supplies Location: Five Crosses Industrial Estate, Minera, Wrexham, Clwyd, LL11 3RD Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	722	-	327682 352075
110	Contemporary Trade Directory Entries Name: Shiny Bikes Location: 7, Heritage Heights, Coedpoeth, Wrexham, Clwyd, LL11 3RJ Classification: Cycle Accessories, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	725	-	328433 350785
111	Contemporary Trade Directory Entries Name: Tomlinsons Dairy Ltd Location: Tomlinsons Dairy, Five Crosses Industrial Estate, Wrexham, LL11 3RD Classification: Dairies Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	813	-	327739 352210
112	Contemporary Trade Directory Entries Name: Ivor Owen & Sons Location: 54, Minera Hall Road, Minera, Wrexham, LL11 3YD Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	818	-	327346 351854
112	Contemporary Trade Directory Entries Name: Ivor Owen & Sons Location: 54, Minera Hall Road, Minera, Wrexham, Clwyd, LL11 3YD Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	820	-	327345 351855
113	Contemporary Trade Directory Entries Name: H K Motors Location: Marion House, New Brighton, Minera, Wrexham, LL11 3DS Classification: Car Breakdown & Recovery Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	904	-	327272 350992
113	Contemporary Trade Directory Entries Name: H K Motors Location: Marion House, New Brighton, Minera, Wrexham, Clwyd, LL11 3DS Classification: Breakdown and Recovery Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	904	-	327272 350992
114	Contemporary Trade Directory Entries Name: North & Mid Wales Pest Control Location: 47, Minera Hall Road, Minera, Wrexham, Clwyd, LL11 3YF Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	915	-	327245 351870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	Contemporary Trade Directory Entries Name: C C Jones Location: 5, Poplar Close, Coedpoeth, Wrexham, Clwyd, LL11 3LZ Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	961	-	328931 350953
116	Fuel Station Entries Name: Co-Op Coedpoeth Location: High Street, Coedpoeth, Wrexham, Clwyd, LL11 3UF Brand: Texaco Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A13SW (S)	0	-	328077 351436

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	Areas of Outstanding Natural Beauty Name: Bryniau Clwyd A Dyffryn Dyfrdwy/Clwydian Range And Dee Valley Multiple Areas: N Total Area (m2): 389277308.58 Designation Date: 22nd November 2011 Source: Natural Resources Wales	A7NE (SW)	626	3	327619 350992

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Flintshire Council - Environmental Health Department Wrexham County Borough Council - Public Protection Department Denbighshire County Council - Public Protection Department	April 2014 April 2016 January 2015	Annual Rolling Update Annually Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 November 2016	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - Welsh Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - Welsh Region Natural Resources Wales	January 2017 November 2016	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Wrexham County Borough Council - Environmental Health Department Flintshire Council - Environmental Health Department Denbighshire County Council - Environmental Health Department	April 2014 April 2016 March 2013	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Wrexham County Borough Council - Environmental Health Department Flintshire Council - Environmental Health Department Denbighshire County Council - Environmental Health Department	April 2014 April 2016 December 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Wrexham County Borough Council - Environmental Health Department Flintshire Council - Environmental Health Department Denbighshire County Council - Environmental Health Department	April 2014 April 2016 December 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	As notified As notified
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	As notified As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency Wales - North Area Natural Resources Wales	January 2017 July 2016	Quarterly Quarterly
Water Abstractions Natural Resources Wales Environment Agency - Welsh Region	April 2016 October 2016	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Welsh Region Natural Resources Wales	January 2017 October 2015	Quarterly Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Environment Agency - Head Office Natural Resources Wales	February 2017 November 2016	Quarterly Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office Natural Resources Wales	November 2016 November 2016	Quarterly Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office Natural Resources Wales	November 2016 November 2016	Quarterly Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	November 2016	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	November 2016	Quarterly
Flood Defences Environment Agency - Head Office	November 2016	Quarterly
Detailed River Network Lines Environment Agency - Head Office	September 2014	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Natural Resources Wales	January 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - North Area	August 2016	Quarterly
Licensed Waste Management Facilities (Locations) Natural Resources Wales Environment Agency Wales - North Area	October 2015 October 2016	Quarterly Quarterly
Local Authority Landfill Coverage Denbighshire County Council - Environmental Health Department Flintshire Council - Environmental Health Department Wrexham County Borough Council	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Wrexham County Borough Council Denbighshire County Council - Environmental Health Department Flintshire Council - Environmental Health Department	June 2003 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency Wales - North Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - North Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - North Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	July 2016	Bi-Annually
Explosive Sites Health and Safety Executive	September 2016	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Denbighshire County Council - Planning Department Wrexham County Borough Council - Planning Department Flintshire Council	February 2016 February 2016 January 2016	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Denbighshire County Council - Planning Department Wrexham County Borough Council - Planning Department Flintshire Council	February 2016 February 2016 January 2016	Annual Rolling Update Annual Rolling Update Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	October 2016	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2017	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2016	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	January 2014	Bi-Annually
Areas of Outstanding Natural Beauty Natural Resources Wales	January 2017	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Denbighshire County Council Flintshire Council Wrexham County Borough Council	January 2017 January 2017 January 2017	Bi-Annually Bi-Annually Bi-Annually
Marine Nature Reserves Natural Resources Wales	January 2017	Bi-Annually
National Nature Reserves Natural Resources Wales	January 2017	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	Not Applicable
Nitrate Vulnerable Zones The National Assembly for Wales - GI Services (Department of Planning & Countryside)	October 2005	Annually
Ramsar Sites Natural Resources Wales	January 2017	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	January 2017	Bi-Annually
Special Areas of Conservation Natural Resources Wales	January 2017	Bi-Annually
Special Protection Areas Natural Resources Wales	January 2017	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Wrexham County Borough Council - Public Protection Department Crown Buildings, P O Box 1297, Wrexham, Clwyd, LL13 8ZE	Telephone: 01978 297038 Fax: 01978 292502 Website: www.wrexham.gov.uk
3	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
4	Wrexham County Borough Council - Environmental Health Department Crown Buildings, P O Box 1297, Wrexham, Clwyd, LL13 8ZE	Telephone: 01978 297038 Fax: 01978 292502 Website: www.wrexham.gov.uk
5	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
6	Wrexham County Borough Council Lampet Street, Guildhall, Wrexham, Clwyd, LL11 1WL	Telephone: 01978 292000 Fax: 01978 292502 Website: www.wrexham.gov.uk
7	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk
8	Peter Brett Associates Caversham Bridge House, Waterman Place, Reading, Berkshire, RG1 8DN	Telephone: 0118 950 0761 Fax: 0118 959 7498 Email: reading@pba.co.uk Website: www.pba.co.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.