

Apply for deployment of mobile plant for land and/or groundwater remediation or treatment using a mobile plant (MPP2)

About your permit

Permit under which this deployment is taking place

Please specify the type of permit and the permit number (EPR number) that you will operate under. If you have more than one permit, you will need to specify which set of conditions to use to make our determination. Note: you can only select one permit type.

SR2008 No27 Mobile plant for the treatment of soils and contaminated material, substances or products.

Permit number:
EPR/QP3293FY/V004

Name and address of permit holder (operator)

Name Vertase FLI Ltd
Address Number 1 Middlebridge Business Park
Bristol Road, Portishead
Bristol
Postcode BS20 6PN

Who can we talk to regarding this deployment application?

Name of contact Richard Williams
Organisation Vertase FLI Ltd
Address 19 Napier Court
Barlborough Links
Barlborough
Postcode S43 4PZ
Phone number 07950 285847
Email rwilliams@vertasefli.co.uk

Deployment details

Have we been consulted on your Conceptual Site Model/Risk Assessment/Remediation Strategy?

No

Have there been any changes to your proposal since its consultation?

Please note: if your proposal has changed, this may require further assessment and may extend the determination time.

N/A

If you have not received any planning or pre-application advice, would you like this application to be assessed without having remediation targets pre-agreed by us?

Please note it is your responsibility to ensure remediation has been completed to a satisfactory state.

N/A

Have you had any other pre-application advice from us?

No

About the site

Site name and address

Site name	Land north of Bro Tathan Business Park
Address	St Athan
	Barry
	South Wales
Postcode	CF62 4QR (nearest Postcode)
12 digit grid reference	299810 169550

Is your site located within the boundary of another Environmental Permit?

No

Please provide a site plan and ensure the site plan includes all items in the following question.

- File: C-0601 - Operating boundary and location of security fencing (and areas for treated soils re-use).pdf - [Download](#)
- File: D4813_03 PFAS Soil Treatment Areas (Areas of waste soils and contaminated material for remediation by the mobile plant).pdf - [Download](#)
- File: D4813_08 Protected Sites within 1km.pdf - [Download](#)

Please tick to confirm your site plan contains the following:

Operating boundary

Security and access arrangements

Areas of waste soils and contaminated material, substances or products for remediation by the mobile plant

Location/siting of principal plant and equipment

Process, treatment, storage, and quarantine areas

Drainage systems

Location of boundary monitoring points and pollution control units

Potential receptors (i.e. housing, watercourses etc.)

Protected sites (if applicable i.e. SAC, SPA, Ramsar or SSSI within 1km)

Waste types and quantities

Specify the waste types, quantities, contaminants, and European Waste Catalogue (EWC) code for each waste to be treated on site. Also, provide the treatment technologies to be used for each waste.

	What material are you treating?	Quantity (m ³)	Contaminants to be treated	Six digit EWC code	What treatment technology will you be using?
1	Soil	20,900	PFAS, PAHs and TPH	17 05 03*	Stabilisation/solidification
2	Surface water	1000 (approx.)	PFAS, PAHs and TPH	19 13 07*	Activated carbon adsorbtion
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-

Specified activities to be carried out on site

Please supply details of how the specified technology is suitable for treatment

The following contamination sources have been identified on site and listed in the Ramboll 2023 Remediation Strategy:

- Elevated PFAS in soil and groundwater across the site, particularly in the south of the site. The identified source of the PFAS is the Fire Training Area located off-site to the south-east and down hydraulic gradient. Former fire training activities have included use of PFAS-containing firefighting foams.
- Localised elevated concentrations of PAHs and TPH in groundwater in the south. These are also considered to be associated with the off-site fire training area. Free phase hydrocarbons were recorded at one location in the south of the site during sample collection for soil stabilisation trials.

Soils which have been significantly impacted by PFAS, and locally hydrocarbons, in the south of the site will be treated via soil stabilisation methods to reduce leaching into the underlying groundwater and provide betterment of the site condition.

In 2023, CE Geochem, in collaboration with Ramboll, undertook benchtop stabilisation trials to assess the geochemical and geochemical suitability of various mix designs to immobilise PFAS compounds present within impacted site soils.

CE Geochem observed that their results supported the deployment of a Pulverised Activated Carbon (PAC) based mix design as the best available technology for treating the PFAS impacted soils at the Site. CE Geochem recommended that the application of 2wt% PAC, along with either cement (CEMI) or Lime (CaO), be considered the optimum organosorbent application rate for treatment of both made ground and clay at the site.

The addition of cement as a binder and activated carbon is a tried and tested method for stabilising hydrocarbons in soil. As such this method will address the risks posed from all identified contaminants of concern.

Dust suppression equipment will be located next to the treatment area at all times during remediation.

Provide details how residual materials/waste which cannot be treated by the specified technology are to be handled at the site

Soils will be screened prior to treatment. Oversize will be crushed on site to create a recycled aggregate product under the WRAP protocol where appropriate. Materials non-suitable for re-use will be disposed of off-site at a suitable disposable facility.

Deleterious materials (wood, plastic, glass etc) will be screened out of the soils prior to treatment and disposed of off-site at a suitable disposal facility.

Accumulated surface water from treatment areas will be treated on site using a mobile water treatment plant and re-used for dust suppression following testing, or discharged to an onsite foul water drain where available.

Specify the maximum capacities of quarantine facilities to be used for the storage of contaminated materials destined for re-testing, re-processing or off-site disposal.

(Indicate the locations of such quarantine facilities on the site plan)

The quarantine area for PFAS-impacted soils will be 1000m³ initially, however this may expand or decrease depending on project requirements. The majority of impacted soils is planned to be treated in-situ following placement in the fill areas of the site shown on drawing C-0601-Areas of treated soil placement.

For the location of the quarantine facilities, See the 'Tipping Apron' in the drawing D4183_10

Alternatively, upload a copy of this below

- File: D4813_10 Location of Principle Plant and Equipment, Process, Treatment and Storage.pdf - [Download](#)

Activities involving the import of waste

Will your activity involve the import of wastes?

No

Does the site form part of a Cluster project?

No

Please supply details of the procedures to be adopted at the site to ensure that only those materials that are treatable with the specified technology will be accepted.

VertaseFLI will accept soils from within the boundary of the Site as potentially contaminated and requiring treatment only. Shallow perched water, surface water and treatment bed run-off is also accepted as potentially contaminated and requiring treatment before re-use.

Solid materials identified as potentially contaminated include the made ground, topsoil and clay beneath the Site, within the areas and to the depths shown in drawing D4813_03.

VertaseFLI will work together with the earthworks contractor to ensure a Materials Tracking System is used and this will be managed by the Site Manager or Engineers, all of whom are suitably qualified and experienced in earthworks, remediation and dealing with the systems described. The forms and procedures discussed in this and subsequent sections are shown in Appendix C.

Each excavation area/horizon will be recorded on a plan, each being given a unique number (Unique Identification Code – UIC). A stockpiling plan will be kept and accompanying records for temporary storage and general movements (Form ENV-003 Materials Audit). A further plan shall be produced showing the areas of placement and depths of the source material replaced within the excavation. This will enable an absolute audit trail of the material from source excavation to deposition.

Excavation and assignation of treatment methodology will be based upon the site investigation/pre-validation results and degree of contamination, as assessed by the experienced VertaseFLI Engineer. As the material is being excavated, and as general activities are undertaken, Form CON-003, the Site Diary, will be used.

Each time a sample is taken, the relevant line in Form ENV-003 will be completed. Soil sampling methodology will accord with SOP011. The sampling and dispatch date to the laboratory will be recorded, as will the UIC for each sample. When the results for a sample are received, the Laboratory Report number will be added. Then an assessment of the results will be undertaken by a suitably experienced and qualified member of the site staff. Samples are sent to an accredited laboratory for testing.

Should treatment be required the material will be accepted for treatment with the completion of the relevant section of Form ENV-003 (this procedure will ensure that all materials are checked/ assessed before processing to confirm their suitability for treatment).

Upon excavation, any materials deemed unsuitable for treatment or re-use will be quarantined for further testing and will be clearly labelled. Quarantined materials that have been tested and subsequently considered unsuitable for treatment are to be removed from the Site.

A Verification Report will be produced by VertaseFLI showing final fill and recovery locations for each batch of material (denoted by its UIC). The Verification Report will satisfy the requirements of the permit.

Alternatively, upload a copy of this below

- File: App C Forms & SOPs.pdf - [Download](#)

Duration of this deployment

How long do you need this deployment for?

12 months or less

Management supervision

Technically competent manager

This is the person who will be responsible for compliance with the permit for this deployment. See the guidance notes for further details.

Title	Mr
First name	Mike
Last name	Holroyd
Telephone - mobile	07950 285814
Telephone - office	01275 397 600
Email address	mholroyd@vertasefli.co.uk

Nominated competent person

Provide details of the NCP who will be the main contact for the deployment and who will report to the TCM. See the guidance notes for further details.

Title	Miss
First name	Katy
Last name	McKay
Telephone - mobile	07500 016068
Telephone - office	01275 397 600
Email address	kmckay@vertasefli.co.uk

Provide information on the site supervision plan for your technically competent manager. Specify what treatment methods can be operated unsupervised, and provide a justification why this should be the case.

(See 'How to comply with your environmental permit' guidance document for more information)

The Site Manager and Engineers are fully conversant with the requirements set out in the remediation strategy and with the requirements of the Bespoke Environmental Permit and will be supported by a technically competent manager on a weekly basis, as a minimum.

The qualifications of the WAMITAB holder can be found in Appendix B. Mike Holroyd is the identified primary WAMITAB technically competent manager for this project. In his absence, the Site will be supported by other staff of appropriate qualification.

Alternatively, upload a copy of this below

- File: Appendix B - Mike Holroyd WAMITAB.pdf - [Download](#)

Conceptual site model and risk assessment

Please provide a conceptual site model (CSM) which identifies all plausible pollution linkages (source-pathway-receptor relationships) and potential impacts to the local environment which could arise as a result of the proposed treatment activities.

(Further information is available in the MPP2 guidance notes)

Appendix D details the Risk Screening and Environmental Control Measures (Risk Assessment) adopted throughout the works for the proposed treatment options.

Alternatively, upload a copy of this below

- File: App D CSM.pdf - [Download](#)

Pollution control

Please provide details of any site specific measures needed to control/minimise emissions, and prevent pollution of the environment and/or harm to human health resulting from your treatment activities (the potential risks should have been identified in your risk assessment).

Operating processes correctly, as described in previous sections, will control pollution and limit emissions.

Based on VertaseFLI's experience of remediating similar sites, it is proposed that the levels presented below are the targets not to be exceeded at either offsite receptors or at boundary locations.

Species Target Level Method of Determination
VOC's (General) 1 ppm PID
Odour No Nuisance Olfactory
Noise 5 - 10dBA > Background Sound Level Meter
Dust No Nuisance Visual
Surface Water Quality No Deterioration Laboratory Testing and Visual

The proposed monitoring locations are shown on Drawing D4813_07. The proposed monitoring plan table can be found in Appendix E.

Before the commencement of operations, a background study will be undertaken to define the baseline to which results obtained during the works would be compared. The background study will be conducted by the methods described in the following sub-sections.

Procedures for the monitoring requirements and record sheets are shown in Appendix C. For simple, routine monitoring, Form ENV-002 may be used. Implemented mitigation will be recorded on Form CON-003, the Site Diary, the ultimate mitigation implemented being the cessation of activities, if required.

Odour

Due to the nature of the Site, its environment, its site neighbours and the chosen treatment technologies, it is not anticipated that odours will be problematic. However, VertaseFLI staff will undertake monitoring set out in a procedure regarding the recommendations in Environment Agency Technical Guidance Note H4 – 'Odour Management' 2011 and subsequent amendments. The VertaseFLI odour monitoring procedure, SOP020, and record form ENV006 will be used. Form CON-003 may also be used to record odour where odours are detected, and mitigation implementation required.

The olfactory monitoring will be undertaken daily at boundary monitoring locations (EMP1 – EMP6) when the Site is operational.

The VertaseFLI Engineers / Technicians, following the necessary site inductions and toolbox talk, will proactively manage the works to minimise the generation of odours, and such control procedures will include:

- managing excavation works to minimise odour generation as far as reasonably practicable (minimising surface exposure);
- temporarily covering (or infilling) exposed excavations to minimise further odour generation;
- assessing excavated soil material and stockpiles as soon as possible to implement covering (as appropriate) expeditiously to prevent/minimise odour release;
- suspended turning of windrows until prevailing weather conditions are considered more appropriate;
- facing down/blading smooth stockpiles;
- the sheeting of lorries;
- using carbon filtration for air purification (water treatment);
- water treatment plant containerisation; and
- monitoring weather conditions on Site and adapting site work accordingly.

Vapours and Gases

Monitoring during these works using a PID meter will be undertaken primarily for reassurance. VertaseFLI will be responsible for calibration weekly. The PID's will be calibrated with 100ppm isobutylene equivalents such that the value recorded will be in isobutylene equivalents, following SOP003.

Monitoring will be carried out at the same time as olfactory monitoring at the monitoring points previously described. Should results exceed 0.5ppm, then 15-minute surveys will be undertaken. In such cases, the 15-minute average for each location and minimum/maximum concentration will be recorded, together with the time the monitoring was carried out. VOC levels at the boundary shall not exceed 1ppm. In the unlikely event that the boundary limit is exceeded, control and contingency measures will be implemented, these include;

- Use of vapour/odour suppression lances (water/mist only) surrounding the area;
- Use of HDPE liners on stockpiles and treatment beds;
- Minimise stockpile and treatment bed turning;
- Consideration of meteorological conditions; and
- If necessary, ceasing vapour generating activities until such time that control measures/site conditions allow resumption of activities.

Results will be recorded with the odour monitoring on form ENV-006 or in the Site Diary Form CON-003. To ascertain whether excavation works or materials arising from those works may pose boundary vapour/gas issues, PID monitoring will be carried out at and around excavation faces and stockpiles.

Dust, Particulates and Fibres

The trained and competent VertaseFLI Site Engineer shall make a daily assessment of airborne dust using visual means at the boundary monitoring points EMP1 – EMP6.

The 'dust rating', below, will be adopted:

- not noticeable

- slight dust – not likely to be a nuisance offsite
- moderate dust – not likely to be a nuisance offsite
- unacceptable dust – likely to be a nuisance offsite (remedial action required)

The VertaseFLI Site Manager, nominated deputies and all site staff, following the necessary site inductions and toolbox talk, will proactively manage the works to minimise the raising of dust and controlling risk. Such control procedures will include, where appropriate:

- carrying out operations with the potential to generate significant dust away from the sensitive receptors whenever possible;
- using dust suppression spray bars on crushers and maintain a water bowser on Site as required;
- the cleaning of access roads to the Site and internal routes by a road sweeper as necessary;
- suspending some operations during unfavourable weather conditions, i.e., crushing if the wind is blowing towards or beyond site boundaries;
- use of jet-wash/wheel wash facilities;
- the use of tractor and bowser to damp down site haul routes;
- the damping down of spoil and excavations where appropriate;
- the damping down or sheeting of stockpiles as necessary;
- the facing down/blading smooth stockpiles;
- the minimising of drop heights; and
- the sheeting of lorries.

If asbestos is identified and remedial works undertaken to address the contamination, monitoring for asbestos fibres, primarily for reassurance, shall be conducted following the Plan Of Works.

Where there is a risk of fibre generation measures, will be adopted to mitigate the aerial transport of asbestos fibres, such as additional water sprays/dampening. Ordinarily, the mitigation and controls described previously concerning general dust will limit fibre release in any case.

Noise

Noise monitoring will be undertaken to demonstrate compliance with the EA standards of:

- 5dBA above background at receptor – the level below which there is marginal significance
- 10dBA above background at receptor – the level above which complaints are likely

A competent operative will undertake surveys. Data will be recorded using the Form ENV005.

Operations will be conducted as per the standard procedures SOP021.

In order to demonstrate that the remedial activities are not causing an exceedance of the specified/determined limits at the receptor locations, monitoring will be undertaken at the boundary monitoring positions:

- as soon as practically possible after the commencement of treatment activities;
- weekly thereafter; and
- when operations change.

Should the levels be exceeded, further monitoring will be undertaken at the offsite receptors, where practical. If exceedances are determined at the receptor properties themselves, a study will be conducted by way of noise inventory. Each operation and piece of plant associated with the permitted activities will be subject to individual surveys. The sum of the contributing factors will be calculated using BS5228 guidance to determine the Site derived noise increase at the five receptor locations.

Generally, best practicable means will be employed to ensure that the level of noise generated on Site is as low as reasonably practicable (ALARP), thus:

- plant and machinery shall only be operated during the agreed working hours;
- selection of 'low noise' plant;
- insulation, where necessary, of forced ventilation plant and water treatment plant components (using non-flammable foam);
- idle plant shall be switched off;
- plant will be serviced following manufacturers/supplier's guidance and per statutory responsibilities;
- all plant and machinery fitted with adequate silencers not be operated unless in good condition; and
- noisy plant being positioned away from boundaries with sensitive receptors, or behind earth bunds, when possible.

Noise barriers / additional insulation may be installed if management techniques prove ineffective.

Water

The risk to the sensitive receptor, Boverton Brook, via the horizontal and lateral migration of potential contaminants during the treatment process is considered negligible and is reduced further to due to

the distance from the treatment areas and the bunded construction of the soils treatment area design shown in Drawing D4813_10. As part of the process management the Site Manager will make a daily walkover and inspect and record the structural integrity of pads and bunds. Improvements to defects will be immediately actioned in line with the Permit requirements. The capacity of the sump will be carefully reviewed to ensure sufficient capacity if heavy rainfall is forecast.

Spill kits will be available on Site in the event of accidental leakage from site traffic/ delivery of fuel to bowsers etc., outside of the treatment pads. All fuel bowsers will be double bunded and located within the site compound area on an impermeable surface at a distance from manholes, excavations and boreholes etc.

Alternatively, upload a copy of this below

- File: Ap E Monitoring Plan.pdf - [Download](#)
- File: D4813_10 Location of Principle Plant and Equipment, Process, Treatment and Storage.pdf - [Download](#)

Emission monitoring plans

Provide a site specific monitoring plan for any emissions that may be generated by the proposed treatment activities. Monitoring plans must include information on all of the following (when applicable to your process)

Please tick any of the below which are applicable to your process:

Groundwater

Surface water

Air emissions

Noise

Vibrations

Odour

Volatile Organic Compounds

Specify the indicator parameters you propose to use for each of the emissions being monitored and provide a justification on why they are the most appropriate parameters to detect impact and prevent pollution. Depending upon your technology the plan should include both point source and wider (fugitive) emissions monitoring.

(Further information is available in the guidance)

Species Target Level Method of Determination

VOC's (General) 1 ppm PID

Odour No Nuisance Olfactory

Noise 5 - 10dBA > Background Sound Level Meter

Dust No Nuisance Visual

Surface Water Quality No Deterioration Laboratory Testing and Visual

Record Keeping - Commissioning, operating and maintenance

Provide details of commissioning, operating and maintenance including documentation and record-keeping to ensure that emissions from the process do not cause pollution of the environment and harm to human health.

Please refer to Appendix F.

Alternatively, upload a copy of this below

- File: Ap F Commissioning.pdf - [Download](#)

Payment

How do you want to pay for your application fee?

Electronic transfer (eg. BACS)

Supporting documents

Please provide your payment reference

Payment reference EPR/QP3293FY/V004 2058VAN

Amount paid £2,541.00

Declaration

Are you signing the form on behalf of a relevant person?

If you are not a relevant person, but want to sign the application on their behalf, you must include confirmation that you can do this.

Yes

Does your deployment application relate to a standard facility permit?

If your deployment application is being made in relation to a standard facility permit (SRP), you also need to confirm that you are able to meet all relevant criteria of the standard rule set/sets under which you are applying.

I confirm that my activity/activities will fully meet the rules of the permit I have applied under

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement: I may be prosecuted; and if convicted, I may have to pay a fine and/or go to prison. By signing below, you are confirming that you understand and agree with the declaration above.

Title	Dr
First name	Richard
Last name	Williams
On behalf of (if relevant)	Steve Edgar
Today's date (DD/MM/YYYY)	17/12/2024

Add another signature?

No