

Enviros

Land Remediation at Long Marston

Project Details:

Project Ref:	NS1136
Value:	£400K
Programme:	16 Months
Project Team:	Project Manager, RPA, RPS and HP Monitors

NSG were awarded a contract to carry out the remediation of contaminated land at the Long Marston Storage Area, just outside Stratford upon Avon, Warwickshire. The contract with Enviros Consulting Ltd, involved the surveying of an area of land approximately 4500m² to identify radioactive artefacts and contaminated soil.

The Long Marston Storage facility was formally operated by the Ministry of Defence (MoD) as a maintenance and storage facility. Part of the site was previously used as a burning facility and as such, due to the nature of the burnt materials, the land had become radiologically contaminated. The principle radioisotope of concern was 226Radium in the form of buried luminised dials (commonly used on aircraft control panels) and other discrete items, these

required removal and disposal. Due to possible corrosion the soils surrounding the artefacts were also potentially contaminated and as such required monitoring and removal and disposal.



NSG were the Principal Contractor and as such co-ordinated and managed all health and safety issues on site. NSG Environmental also managed the subcontract services for civil work, sample analysis and waste disposal.

NSG set-up an onsite facility that included offices, welfare facilities, a decontamination room, shower and radiological barrier. An ISO freight container was used for the secure storage of the recovered artefacts.

The work was undertaken under radiological control i.e. the main working area on and around the burning ground was fenced and designated as a "controlled area" as defined under The Ionising Radiations Regulations 1999 (IRR). Personnel gained access to the work area via a mobile change room located at the southern fence line of the burning ground. Appropriate PPE was used (ie Coveralls, Overshoes), all personnel and equipment was monitored coming out of the area.

An initial survey was conducted to identify surface hotspots prior to excavation. The burning ground was surveyed in a systematic manner by gridding the ground in a 5m x 5m pattern. The initial survey was carried out over the entire burning ground and also within a 5m wide perimeter outside the fenced area.

Background concentration in the uncontaminated soils on the site was determined by sampling and gamma spectrometry analysis. Background measurements for monitoring instruments were established at several locations out of the burning ground that were deemed to be uncontaminated.

Once the areas of contamination were defined the excavation and segregation process was carried out in a systematic manner using the 5m x 5m grids. A 10m x 10m area was excavated by removing the material and placing it on the adjacent grid. Once the natural clay level was reached soil samples were removed for analysis. The excavation depth varied within the burning ground due to the differing levels at which the natural clay ground was exposed.



The artefacts that were found during the excavation works were segregated, double bagged, assayed and stored within a 200ltr nominal capacity drum. The drum was securely stored within the ISO freight container. The area around and within the container was classified as a Supervised Area as defined in the IRR 1999.

The excavated material was only replaced following receipt of acceptable clearance analysis results from the samples taken, both from the base of the excavation and also the excavated material. A total of 3804m³ of material was excavated during the site works.



Project Deliverables

- No contamination was recorded on personnel
- No dose uptake was accrued during the work
- It was demonstrated that the clearance criteria for the base material were achieved on all the areas monitored and sampled
- It was demonstrated that the clearance criteria for the infill material was achieved on all infill material both by survey and sample analysis
- A total of 333 ²²⁶Radium contaminated artefacts with a total activity of 90Mbq were recovered from the burning ground and subsequently disposed of
- 73grms of ¹³⁷Caesium contaminated material with a total activity of 106kBq was recovered and disposed of