

# Historical Tank and Energy Facility Data

## Methodology

### Introduction

Landmark Information Group has recently completed the creation of a database of over 390,000 Historical Tank and Energy Facilities in Great Britain, which have been identified from text on historical Ordnance Survey maps. This database is now available as point data, which can be imported into any standard GIS software and used, in conjunction with Landmark's other datasets, e.g. Historical Land Use Data, as part of the process of identifying potentially contaminated sites under Part IIa of the Environmental Protection Act 1990.

This document details the methodology, analysis and quality assurance involved in the creation of this database.

### Section One: The Base Mapping

The Joint Venture between Ordnance Survey and Landmark undertook the task of creating a digital historical mapping archive of mainland UK based on 1:10 560, 1:10 000, 1:2500 and 1:1250 scale maps. The historical mapping begins with the County Series maps first surveyed in Lancashire in September 1841. The rest of England, Wales and Scotland were surveyed in subsequent years, each county being revised between three and five times prior to 1945. These sheets became known as the County Series because each county was surveyed separately and many of the counties were surveyed to different origins from their neighbours. In 1944/45 the origin was standardised for the whole of Great Britain and mapping was transferred to the National Grid. The result was a new projection and a map naming convention which continued until the introduction of modern digital mapping (OS Land-Line<sup>®</sup>) in the mid-1990s.

*Further details on the Joint Venture are provided in "Historical Data – A Technical Information Leaflet" produced by Ordnance Survey/Landmark.*

### Section Two: Methodology

The HTEF Data was derived from a detailed analysis of the post war 1:2500 and 1:1250 Ordnance Survey historical map data, for England, Scotland and Wales, for fuel related text.

#### Date Ranges:

The date ranges of the maps analysed were as follows:

- A Editions 1943 – 1995
- B Editions 1944 – 1993
- C Editions 1946 – 1996
- D Editions 1951 – 1992
- E Editions 1953 – 1992

#### Categories:

Due to the large variety of historical tank and energy related text it was decided to group the features into easy to understand categories:

- Tanks – unless the use was clearly non-petroleum in nature
- Petrol storage – filling stations, petroleum depots etc
- Potential tank – garages, bus depots etc
- Electricity sub stations
- Electricity related features
- Gas related features
- Gas monitoring
- Oil related features
- Miscellaneous power related features



### The Analysis:

The A Edition maps were analysed first. When an operator found the required text a point would be placed at the centre of the text. Initial research indicated that trying to find the feature associated with the text would result in an unacceptable error rating. By placing the point at the centre of the text we could ensure that the point would always be within 20 – 30 meters of the feature it was describing.

Once a point was placed the following was recorded:

- Map Name (e.g. SX2373NE)
- Map Scale (e.g. 1:1250)
- Map Edition Date (e.g. A Edition 1958)

Subsequent editions were then analysed to see if the feature still existed or new features had been recorded. The following capture rules were followed:

- If the map and text remained the same the date of this edition was amended to the feature.
- If the map had altered but the text remained, the feature was assumed redeveloped and a new point was placed.
- If the text was removed then the point was closed and 'Not Present' was recorded.
- If no map was available (especially in D and E editions) 'No Map' was recorded and the next edition viewed.

### Section Three: Quality Assurance

Once the points had been captured they went through a rigorous two stage Quality Assurance process. Initial QA checked the captured attributes by running each file through a database that ran over fifteen queries, each checking the integrity of the data. The second phase involved a visual QA checking that no text had been missed, ensuring the correct placing of points and that the correct text category had been applied.

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