

---

## EDC 31: Wilderness Plantation

**Grid reference:** [NS 59604 72548]

**Site type:** Artificial quarry works

**Site ownership:** Not known

**Current use:** Disused

**Field surveyor:** Sarah Arkley & Mike Browne

**Current geological designations:** None

**Date visited:** 6th April 2009

### Site map

(Figure 31) Wilderness Plantation Location Map

### Summary description

Disused sand and gravel quarry and completed landfill site.

Type locality of the Wilderness Till Formation, overlying older sand and gravel deposits of the Cadder Sand and Gravel Formation from which a radiocarbon dated (27 550 years Before Present) woolly rhinoceros humerus bone was found in 1963 close to Balmuirdy Road.

After some searching the type exposure was relocated, although largely degraded and overgrown, the critical contact with the underlying sand and gravels is now obscured but can be re-exposed.

Exposures of till found at the top of the degraded face are hard reddish brown, generally fine-grained with scattered boulders and other smaller clasts. There are no sedimentary structures in the till, but a fabric (glaciotectonic) is observed.

Samples of the underlying sands are visible towards the edge of the face where rabbits have exploited them for burrows.

### EDC 31: Stratigraphy and rock types

**Age:** Quaternary Formation: Wilderness Till Formation

**Rock type:** Glacial deposits: diamicton

**Age:** Quaternary Formation: Cadder Sand and Gravel Formation

**Rock type:** Sand and Gravel

### Assessment of site value

#### Access and safety

#### Aspect/Description

**Road access and parking** Parking possible for a few cars by the side of the bonded warehouses south of the site

**Safety of access** A track heads northwards towards the River Kelvin from where the sections can be accessed.

**Safety of exposure** Exposures are only visible in the upper quarter of the face; the rest has been covered by fallen material and forms a steep slippery slope. The area at the base of the sections is very wet and smells, it is likely a contaminated site, a deep green pool sits at the bottom of part of the section.

**Permission to visit** No permission sought

**Current condition** Possible contaminated site

**Current conflicting activities** None known

**Restricting conditions** Smell

**Nature of exposure** Degraded quarry face

## **Culture, heritage & economic**

**Historic, archaeological & literary associations.** Rating: 0.

**Aesthetic landscape** Landscaped landfill site, view across the Kelvin valley. Rating: 2.

**History of earth sciences** None known. Rating: 0.

**Economic geology** Site was worked for sand and gravel for decades. Rating: 5.

## **EDC 31: Geoscientific merit**

EDC 31: Wilderness Plantation, Buchley. Geoscientific merit.

Total Geoscientific merit score 32

## **Current site value**

**Community.** Rating: 5.

**Education.** Rating: 6.

## **Fragility and potential use of the site**

**Fragility** Weathering/Erosion, Natural overgrowing, Dumping

**Potential use** Research, Higher/Further Education, School

## **Geodiversity value**

This site is the type locality for the Wilderness Till Formation, a glacial deposit which stretches across much of Central Scotland. Glaciotectonic structures at and around the contact between the till and the underlying sand and gravel worthy of re-excavation and academic research. As a site with a dated woolly rhinoceros bone it is also important in the understanding of Quaternary ice age events in central Scotland Rating: 6

## **Photographs**

(Photo 195) View looking westwards across the former sand and gravel pit and landfill site at Wilderness Plantation.

(Photo 196) View towards main section of the Wilderness Till Formation overlying the Cadder Sand and Gravel Formation. Access to the site is not easy; the section is degraded and slips into stagnant pools beneath. Despite this, it is a very important site, showing the relationship between these units, and with some clearing of the main face could be improved greatly. Looking SW.

(Photo 197) View along the main face which since being actively quarried has become degraded. Only the reddish consolidated glacial till of the Wilderness Till Formation is visible towards the top of the section, the underlying deposits of the Cadder Sand and Gravel Formation can no longer be seen. Looking WSW.

(Photo 198) Small exposure of sand near the base of the quarry face, thought to belong to the Cadder Sand and Gravel Formation which underlies the Wilderness Till Formation. Typically such deposits of sand make good dwelling places for rabbits. Looking east.

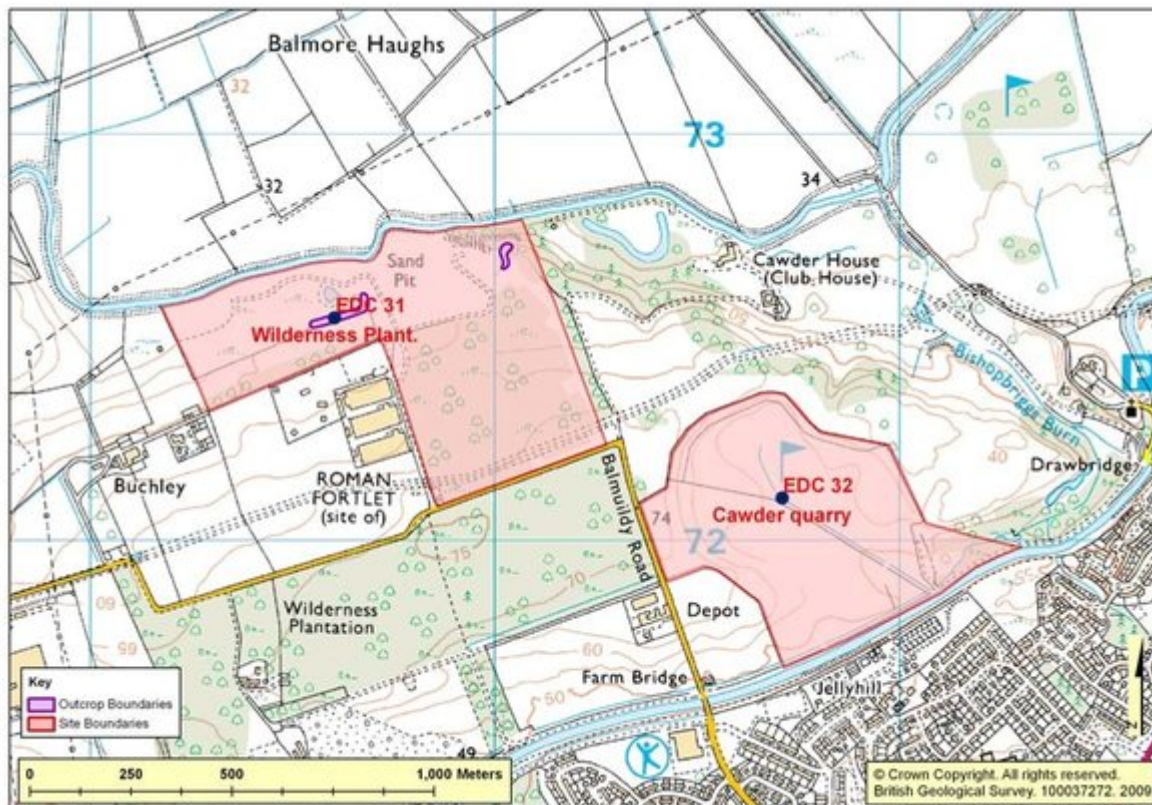
(Photo 199) View along the main face. The reddish consolidated glacial till belonging to the Wilderness Till Formation is visible in the upper part of the section. The degraded slope below the exposure is steep and slippery. Looking East.

(Photo 200) The Wilderness Till Formation is a hard, reddish brown, sandy, silty glacial till with isolated boulders and smaller stones. Note the inclined shear joints dipping to the west in this part of the section. The material was laid down beneath the ice sheet which covered the area during the Dimlington Stadial, approximately 27,500-13,500 years before present. At its maximum the ice is thought to have been over 1 km thick in Central Scotland. Looking south.

(Photo 201) Close-up of the Wilderness Till Formation, showing fractures in the over- consolidated glacial till.

(Photo 202) Close-up of the Wilderness Till Formation, showing the nature of the matrix of the glacial till; sandy with scattered gravel.

## Bibliography



(Figure 31) Wilderness Plantation location map.

GeoScientific Merit	Rarity	Quality	Literature/ Collections	1st
Litho Stratigraphy	6	6	2	<input checked="" type="checkbox"/>
Sedimentology	5	4	2	<input type="checkbox"/>
Igneous/Mineral/ Metamorphic Geology	0	0	0	<input type="checkbox"/>
Structural Geology	1	2	0	<input type="checkbox"/>
Palaeontology	0	0	0	<input type="checkbox"/>
Geomorphology	2	2	0	<input type="checkbox"/>

EDC 31: Wilderness Plantation, Buchley. Geoscientific merit.



(Photo 195) View looking westwards across the former sand and gravel pit and landfill site at Wilderness Plantation.



(Photo 196) View towards main section of the Wilderness Till Formation overlying the Cadder Sand and Gravel Formation. Access to the site is not easy; the section is degraded and slips into stagnant pools beneath. Despite this, it is a very important site, showing the relationship between these units, and with some clearing of the main face could be improved greatly. Looking SW.



*(Photo 197) View along the main face which since being actively quarried has become degraded. Only the reddish consolidated glacial till of the Wilderness Till Formation is visible towards the top of the section, the underlying deposits of the Cadher Sand and Gravel Formation can no longer be seen. Looking WSW.*



*(Photo 198) Small exposure of sand near the base of the quarry face, thought to belong to the Cadher Sand and Gravel Formation which underlies the Wilderness Till Formation. Typically such deposits of sand make good dwelling places for*

*rabbits. Looking east.*



*(Photo 199) View along the main face. The reddish consolidated glacial till belonging to the Wilderness Till Formation is visible in the upper part of the section. The degraded slope below the exposure is steep and slippery. Looking East.*



*(Photo 200) The Wilderness Till Formation is a hard, reddish brown, sandy, silty glacial till with isolated boulders and smaller stones. Note the inclined shear joints dipping to the west in this part of the section. The material was laid down beneath the ice sheet which covered the area during the Dimlington Stadial, approximately 27,500-13,500 years before present. At its maximum the ice is thought to have been over 1 km thick in Central Scotland. Looking south.*



*(Photo 201) Close-up of the Wilderness Till Formation, showing fractures in the over- consolidated glacial till.*



*(Photo 202) Close-up of the Wilderness Till Formation, showing the nature of the matrix of the glacial till; sandy with scattered gravel.*