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## ELC\_11: Craigs Quarry, Dirleton

### Site information

#### Location and summary description:

Craigs Quarry (infilled since the 1970's) is located to the west of the village of Dirleton, situated off the A198. The site is now known as Craigs Plantation and is used by an archery club. The plantation contains small out crops of porphyritic trachyte, belonging to the Garleton Hills Volcanic Formation and of Carboniferous age.

#### National Grid reference:

Mid-point: [NT 50852 83556]

**Site type:** Disused quarry

**Site ownership:** Archerfield Estate

**Current use:** Tree plantation and archery range (STAFAA)

**Field surveyors:** Sarah Arkley and Eileen Callaghan

**Current geological designations:** None known

**Date visited:** 14th May 2014

**Other designations:** Ancient Woodland site (Dirleton)

### Site map

(Figure 16) Craigs Quarry Location Map. The site boundary includes small areas of rock exposure, with a larger geologically significant area that incorporates the location of the old Craigs Quarry, and access paths to the site.

### Site description

#### Background

Craigs Quarry was abandoned at the beginning of the 20th Century and has been filled in over the years. There is no evidence of the quarry now but there are rock exposures to the north east of the original quarry. The rocks exposed within the site are composed of porphyritic trachyte, a lava flow within the Garleton Hills Volcanic Formation. Historically, rock from this quarry would have been extracted for road metal, but as the rock was an inferior quality to similar rock quarried elsewhere, the quarry was abandoned c.1900.

#### Igneous rocks

The porphyritic trachyte exposed at the site is part of the trachytic lava and tuff sequence which comprise the Bangley Member (the uppermost or youngest part of the Garleton Hills Volcanic Formation). The exposures of porphyritic trachyte at the site vary in height from 1–5 metres (ELC\_11\_P1), and are fractured and weathered (ELC\_11\_P2). Clean faces of the porphyritic trachyte show 3 -4 mm cream/greenish coloured feldspar phenocrysts, which have likely been altered to clay (ELC\_11\_P3).

#### Access and additional information

Craigs Plantation can be accessed via a gate from the A198. There are signs warning that the area is used as an archery target area (ELC\_11\_P4), and there are paths throughout the plantation between targets. The ground is uneven and can be overgrown in places. The John Muir Way crosses to the north of Craigs Plantation and may provide access from the north.

## Stratigraphy and rock types

**Age:** Lower Carboniferous

**Formation:** Garleton Hills Volcanic Formation (Bangley Member) Rock type: Porphyritic trachyte

## Assessment of site: access and safety

**Road access and parking** There is parking in Dirleton and a short walk, approximately 100 metres along the pavement on the A198 to the site entrance.

**Safety of access** Care to be taken when walking along the road side. The infilled quarry and surrounding plantation is uneven under foot but paths make the exposures accessible.

**Safety of exposure** The exposures are between 1–5 metres in height and in some places the rock is very weathered and fractured. Care should be taken when observing the exposure close-up.

**Access** The Scottish Target and Field Archery Association use this site and there is signage to indicate whether the range is in use or not. There is also a contact telephone number displayed (ELC\_11\_P4)

**Current condition** The quarry has been infilled and there is no real indication to deduce that this was a working quarry. The best exposures are further into the plantation away from the road. These can be accessed but in some places the area is overgrown and has been used as a rubbish tip.

**Current conflicting activities** Castlefield Archery Club

**Restricting conditions** The archery range being in use.

**Nature of exposure** Rock faces.

## Assessment of site: culture, heritage & economic value

**Historic, archaeological & literary associations** Archaeological digs have revealed a fort at this location with walls literary associations estimated to be of 1st Century BC in age. Craigs Quarry is shown in OS historic maps of 1854 but by 1895 the quarry is only shown as rock outcrop and not by name.

**Aesthetic landscape** Location of Craigs Quarry on the outskirts of Dirleton, revealing the underlying geology

**History of earth sciences** No known association

**Economic geology** Road metal

## Assessment of site: geoscientific merit

	Rarity	Quality	Literature/collections	Primary interest
Lithostratigraphy				
Sedimentology				

## Site geoscientific value

The site surrounding Craigs Quarry contains sparse exposures of the porphyritic trachyte belonging to the Garleton Hills Volcanic Formation. Exposures of this rock type are also found at nearby Dirleton Castle ([ELC\\_10](#)), Peppercraig Quarry ([ELC\\_3](#)), and Yellowcraigs ([ELC\\_6](#)).

This site is a moderately good example of a porphyritic trachyte lava flow, indicative of Carboniferous volcanic activity, with local significance.

## Assessment of site: current site usage

**Community** The site is frequented members of the Castlefield Archery Club.

**Education** At present the site is rarely visited. Given the quality of other sites in East

Lothian, this site has limited educational potential

## Assessment of site: fragility and potential use of the site

**Fragility** Weathering/erosion, natural overgrowth.

**Potential use** Limited potential

## Geodiversity summary

The site comprises good exposures of porphyritic trachyte, an extrusive volcanic rock, nearby the village of Dirleton. The site is used at present by an archery club which may cause conflicting access to the site. The best exposures are in the north of the site area. This site represents the best outcrop of porphyritic trachyte within East Lothian: other sites within this report have outcrops of this rock but do not have as good access or faces to examine.

## Site photos

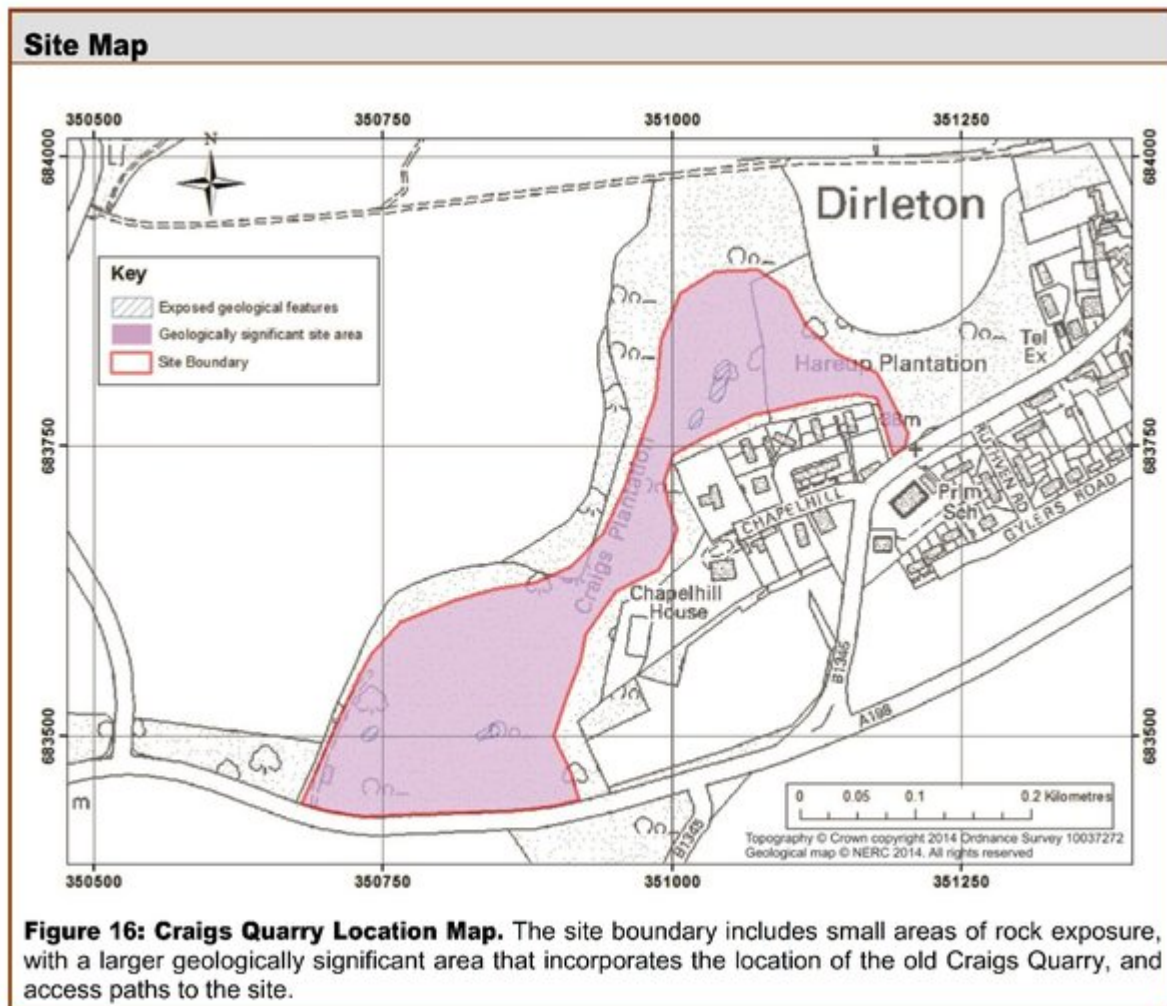
(ELC\_11\_P1) Fractured porphyritic trachyte exposure within the Craigs Plantation. © BGS, NERC.

(ELC\_11\_P2) Exposure of the porphyritic trachyte displaying fissile weathering, creating the illusion of bedding. This type of weathering is typically found near the top of a lava flow. © BGS, NERC.

(ELC\_11\_P3) Close up of the porphyritic trachyte showing greenish-cream coloured feldspar phenocrysts. © BGS, NERC.

(ELC\_11\_P5) Signage within the site © BGS, NERC.

## [References](#)



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*(ELC\_11\_P1) Fractured porphyritic trachyte exposure within the Craigs Plantation. © BGS, NERC.*



*(ELC\_11\_P2) Exposure of the porphyritic trachyte displaying fissile weathering, creating the illusion of bedding. This type of weathering is typically found near the top of a lava flow. © BGS, NERC.*





(ELC\_11\_P3) Close up of the porphyritic trachyte showing greenish-cream coloured feldspar phenocrysts. © BGS, NERC.



(ELC\_11\_P5) Signage within the site © BGS, NERC.