# EDC 29: Inchbelle Quarry, Kirkintilloch

**Grid reference:** [NS 66172 75159]

**Site type:** Artificial quarry works

**Site ownership:** Tarmac Limited

**Current use:** In current use

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

**Current geological designations:** None

**Date visited:** 2nd April 2009

## Site map

(Figure 29) Inchbelle Quarry Location Map

## Summary description

Active sand and gravel quarry. Areas previously worked are now used for landfill.

Thin unit, few m thick. Typically loose rounded gravel at surface underlain by laminated sand. The contact between the two units can be observed in some low faces along the northern edge of the quarry, although these are rapidly being lost under landfill.

Good views across to the hills

Tarmac have plans to expand to the east, it would be good if a representative face could remain exposed for future generations to observe.

## EDC 29: Stratigraphy and rock types

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

**Rock type:** Gravel, sand and silt

## Assessment of site value

### Access and safety

#### Aspect/Description

**Road access and parking** On entry call into the site office. Approach site from the west for the sand and gravel quarry (the eastern entrance is for the landfill site).

**Safety of access** As this is a working quarry, prior warning of a visit (to the quarry manager) would be advisable and all visitors should follow the required site health and safety regulations. Plenty of parking is available next to the site office. Be aware of quarry vehicles at all times and wear all appropriate PPE.

**Safety of exposure** Working faces are generally low (less than 2 m high). Areas of uncompacted wet sediment exist adjacent to some areas of landfill.

**Permission to visit** Permission given from the site office (Tarmac)

**Current condition** Low, poor quality exposures

**Current conflicting activities** Working quarry

**Restricting conditions** As these are working faces, which are being landfilled following extraction, it is currently unknown what exposures will ultimately remain.

**Nature of exposure** Low degraded quarry faces

### Culture, heritage & economic

**Historic, archaeological & literary associations** None known. Rating: 0.

**Aesthetic landscape** Nice valley, views to Kilsyth Hills. Rating: 3.

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

**Economic geology** Sand and gravel quarry, low quality aggregate. Rating: 3.

## EDC 29: Geoscientific merit

EDC 29: Inchbelle Quarry, Kirkintilloch. Geoscientific merit.

Total Geoscientific merit score 25

### Current site value

**Community**. Rating: 0.

**Education**. Rating: 4.

### Fragility and potential use of the site

**Fragility** None

**Potential use** None

## Geodiversity value

The sand and gravel deposits exposed in this site are an important part of East Dunbartonshire's glacial history. Many similar quarries existed in the past but almost all are now degraded and overgrown. Rating: 4.

## Photographs

(Photo 179) Panorama across the active area of the quarry, with the Campsie Fells and Kilsyth Hills in the distance. The quarry is exploiting the glaciofluvial sand and gravels belonging to the Broomhouse Formation. Across the area the deposit is only a few metres thick and is generally composed of gravels overlying a unit of sand.

(Photo 180) The contact between the gravel and underlying sand unit can be clearly seen in small sections at the north-eastern edge of the quarry (partly infilled). The sand is generally medium- to coarse-grained and displays very gently dipping layers to the east. These layers are seen to be truncated by the erosive base of the gravels. Approx 70 cm of gravel is seen in this section, and the ill-defined bedding suggests a transport direction towards the east. Looking NW.

(Photo 181) Exposures in the upper gravel unit, seen along the north eastern edge of an area which is partly infilled. The section displays up to 4 m of sandy gravel. Looking ENE.

(Photo 182) Close-up of the gravel unit seen in the figure above. The gravels are fairly poorly sorted, generally ranging between 5 cm and 15 cm in diameter mixed with medium- to coarse-grained sand. All the clasts are rounded to well rounded and are of various lithologies. Looking NNW.

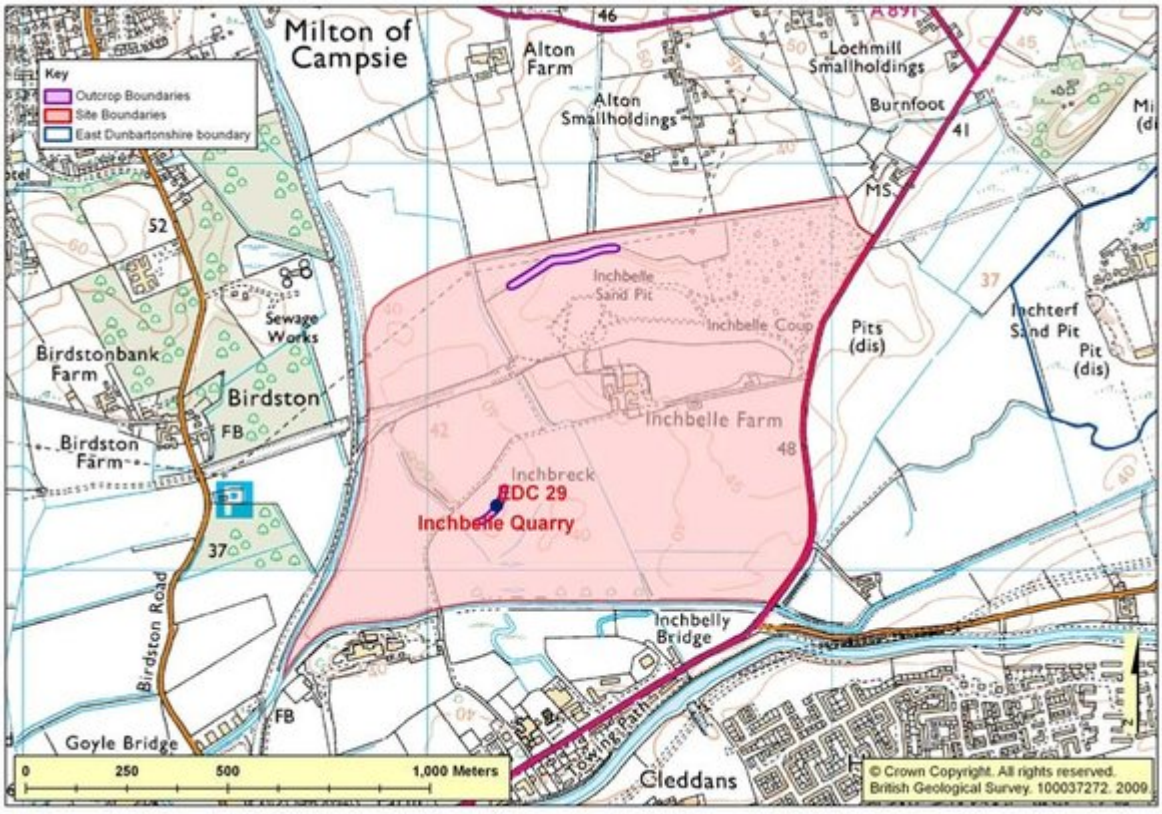
(Photo 183) Exposure in the lower sand unit at the southern edge of the active quarry (the upper gravel unit has been removed). On this visit approximately 1m of bedded medium- to coarse-grained sand with fine gravel was exposed. Looking east.

(Photo 184) Close-up of the lower sand unit, displaying the structure in the sand. The cross-sets suggest an easterly transport direction. Looking south.

(Photo 185) View looking ENE towards Bar Hill. As the sand and gravel is only a few metres thick here, areas become worked-out fairly quickly. The quarry owners, thinking ahead, have plans to expand to the area southeast of Inchbelle Farm (middle distance). The superficial geological map suggests there are further sand and gravel deposits here. Worked areas will be landfilled or landscaped accordingly, although will probably leave no exposures for future reference.

(Photo 186) Areas previously quarried are now being infilled, and remaining sections at the edges will be permanently covered. Preserving these sections would allow people to see a rarely exposed part of the stratigraphy, which is part of the glacial history of the area. Looking SE.

**Bibliography**




*(Figure 29) Inchbelle Quarry location map.*

| GeoScientific Merit | Rarity | Quality | Literature/ Collections | 1st |
|---|---|---|---|---|
| Litho Stratigraphy | 6 | 3 | 0 | ☑ |
| Sedimentology | 4 | 4 | 0 | ☐ |
| Igneous/Mineral/ Metamorphic Geology | 0 | 0 | 0 | ☐ |
| Structural Geology | 0 | 0 | 0 | ☐ |
| Palaeontology | 0 | 0 | 0 | ☐ |
| Geomorphology | 4 | 4 | 0 | ☐ |

*EDC 29: Inchbelle Quarry, Kirkintilloch. Geoscientific merit.*

*(Photo 179) Panorama across the active area of the quarry, with the Campsie Fells and Kilsyth Hills in the distance. The quarry is exploiting the glaciofluvial sand and gravels belonging to the Broomhouse Formation. Across the area the deposit is only a few metres thick and is generally composed of gravels overlying a unit of sand.*

*(Photo 180) The contact between the gravel and underlying sand unit can be clearly seen in small sections at the north-eastern edge of the quarry (partly infilled). The sand is generally medium- to coarse-grained and displays very gently dipping layers to the east. These layers are seen to be truncated by the erosive base of the gravels. Approx 70 cm of gravel is seen in this section, and the ill-defined bedding suggests a transport direction towards the east. Looking NW.*

*(Photo 181) Exposures in the upper gravel unit, seen along the north eastern edge of an area which is partly infilled. The section displays up to 4 m of sandy gravel. Looking ENE.*

*(Photo 182) Close-up of the gravel unit seen in the figure above. The gravels are fairly poorly sorted, generally ranging between 5 cm and 15 cm in diameter mixed with medium- to coarse-grained sand. All the clasts are rounded to well*

*rounded and are of various lithologies. Looking NNW.*

*(Photo 183) Exposure in the lower sand unit at the southern edge of the active quarry (the upper gravel unit has been removed). On this visit approximately 1m of bedded medium- to coarse-grained sand with fine gravel was exposed. Looking east.*

*(Photo 184) Close-up of the lower sand unit, displaying the structure in the sand. The cross-sets suggest an easterly transport direction. Looking south.*

*(Photo 185) View looking ENE towards Bar Hill. As the sand and gravel is only a few metres thick here, areas become worked-out fairly quickly. The quarry owners, thinking ahead, have plans to expand to the area southeast of Inchbelle Farm (middle distance). The superficial geological map suggests there are further sand and gravel deposits here. Worked areas will be landfilled or landscaped accordingly, although will probably leave no exposures for future reference.*

*(Photo 186) Areas previously quarried are now being infilled, and remaining sections at the edges will be permanently covered. Preserving these sections would allow people to see a rarely exposed part of the stratigraphy, which is part of the glacial history of the area. Looking SE.*