



NKC Geotech Ltd

engineering geologist specialising in the investigation and treatment of disused mineworkings

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Coal Mining Risk Assessment



Land at rear of Isfryn, Queen Street, Rhos

Blueprint
Office 3K4
Redwither Business Tower
Wrexham LL13 9XT

2212
26 May 2022



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Site

A proposed residential development of one dwelling on vacant land at the rear of Isfryn, Queen Street, Rhos, Wrexham.

Risk Assessment by

Neil Catlow B.Sc F.G.S Engineering geologist.

Summary of relevant mining information

CIRIA Special Publication C758D 'Abandoned Mineworkings Manual'

Coal Authority Report 51003135901001 dated 25th May 2022

Ordnance Survey 1:2500 First Edition 1875

Geological Survey 1:10560 plans

Previous Nkc Geotech Ltd investigations in the vicinity

8718 dated July 1987 and October 1990: Clwyd Alyn Housing development 500m north-west.

1613 dated May 2016: Bonc Wen residential development 250m west.

Assessment of risk that coal mining poses to the proposed development

Geology

The site lies on Carboniferous Westphalian rocks that form the Wrexham Coalfield, dipping to the east at 1 in 8. These rocks are predominantly shales and sandstones containing seams of coal upto 3.0m in thickness at vertical intervals typically varying from 4.0m to 20.0m. The coal seams are of economic importance and given an identity when they are of sufficient quality and thickness to justify extraction by mining from the surface or at depth from mineshafts. The local coal seams relevant to the site are:

Crank Coal (also known as Red Coal), occasionally worked in Rhos and outcropping west of the site, estimated to be at a depth of 24m by the Coal Authority.

Fireclay Group, a collective name for a composite seam upto 7m in total thickness which includes associated ironstones and thin coal seams sometimes individually known locally as the Stone Coal, Firedamp Coal and New Coal.

Nant Coal, of poor quality not usually mined locally in Rhos, estimated to be at a depth of 40m.

Yard Coal, 0.9m thick and extensively mined at an estimated depth of 82m by Ponciau Colliery.

Wall & Bench Coal, two high quality coal seams separated by a layer of shale 300mm thick and consequently extensively worked as an upper 'wall' and lower 'bench' at a recorded depth of 102m by Ponciau Colliery.

Llwyneinion Half Yard Coal, only 400mm thick but mined principally for the underlying fireclays. This is the lowest coal seam to be mined in the region and at 200m, too deep to be worked under the site.

Coal mining in Rhos was recorded in 1547 in the Main Coal north of the site, but the greatest extraction within 90m of the surface took place in the period 1750 to 1850. Until the 1887 Mines Act there was no statutory requirement to make and preserve plans of mineworkings, and mining prior to 1887 is consequently only recorded on royalty plans of variable accuracy.

Past underground coal mining

There are plans of workings of the Brandie Colliery in the Crank Coal and of the 'Ponkey' Colliery in the underlying Yard Coal and Wall & Bench Coals, abandoned in 1860 and 1862 respectively. Brandie Colliery workings were predominantly south of Rhos, whereas Ponciau Colliery worked west of the site down to the furnaces on the former Gittins premises below Gutter Hill.

A consequence of the historic shallow mining is that there is probably in the order of upto 2m of shale fill on the site.



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Present underground coal workings

There is no current coal mining within 20km of the site.

Future underground coal workings

There are no current coal mining proposals within 20km of the site.

Recorded mine entries on or within 20m of the site boundary

There are no recorded mine entries within 20m of the site although there are many shallow shafts in Rhos. The nearest shaft is Shaft 329346-433, a Ponciau Colliery coal pit with a possible depth in the order of 100m. The shaft is indicated by the Coal Authority as lying 21m south of the site, a safe distance from the proposed building.

Coal mining geology

The Coal Authority have no records of any damage caused by geological faults.

Past opencast mining

There are no former opencast coal mining sites within 200m of the site.

Present opencast mining

There are no former opencast sites within 2km of the site.

Future opencast mining

There are no proposed opencast coal mining sites within 2km of the site.

Mine gas emissions

There are no recorded mine gas emissions within the site boundary.

Faults

There are no known geological faults on the site.

Surface hazards

There are no recorded previous subsidence incidents due to coal mining activity.

Mitigation measures

An intrusive investigation of the site will be required to determine the precise geology and prove the depth of the Brandie Colliery shallow mineworkings in the Crank Coal by drilling a minimum of 3 holes to 30m depth using water flush techniques.

A site specific Coal Authority Permit will be required before any intrusive investigation work is carried out

For Nkc Geotech Ltd

Neil Catlow, B.Sc, F.G.S



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Site Plan

scale 1:1000 @ A4

