SLIGO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Zion Hill**		
Other names used for site			
TOWNLAND(S)	Ounagh		
NEAREST TOWN	Tobercurry		
SIX INCH MAP NUMBER	31		
NATIONAL GRID REFERENCE	142300 316800 = G 423 168		
1:50,000 O.S. SHEET NUMBER	24	**1/2 inch Sheet No.**	7

Outline Site Description
Hill exposures.

Geological System/Age and Primary Rock Type
Dalradian metamorphic rocks.

Main Geological or Geomorphological Interest
The metamorphic rocks exposed on Zion Hill belong to the Dalradian Ummoon Formation. These pelitic schists (i.e. originally mudstones) have developed very interesting minerals in response to metamorphism. The ridge north of the summit hosts some of the best examples of these minerals including coarse (up to 1cm in size) crystals (or porphyroblasts) of kyanite, staurolite and almandine garnet. Also of interest are the basic metavolcanics of the Newantrim member of the Ummoon Formation exposed on the northwestern slopes of Zion Hill. Originally volcanic, these rocks have been metamorphosed and are now composed predominantly of amphibole minerals. The process of mountain building (or orogenesis) is rarely simple and usually involves more than one phase of deformation, each phase leaving its own mark (e.g. folding, foliation). Where one deformation phase is much more intense than its predecessor all traces of the earlier event may be overprinted by the younger episode. Some of the large metamorphic minerals discussed above contain evidence for phases 2 and 3 of the Grampian Orogeny (phase three occurring approximately 460 million years ago). Analysis of these minerals indicates peak metamorphic temperatures and pressures of 620±30^{o}C and 8±2kbar, respectively, equivalent to conditions approximately 27km below the Earth's surface.

More recently (30,000-10,0000 years ago) ice-sheets from the last glaciation (the Midlandian) left their mark on these rocks by creating roches moutonnées. Roches moutonnées are ice-sculpted rocks produced by abrasion of the bedrock by material carried in the ice. They usually have a smooth slope, in the direction from which the ice flowed and a steep, rougher slope at the downstream end.

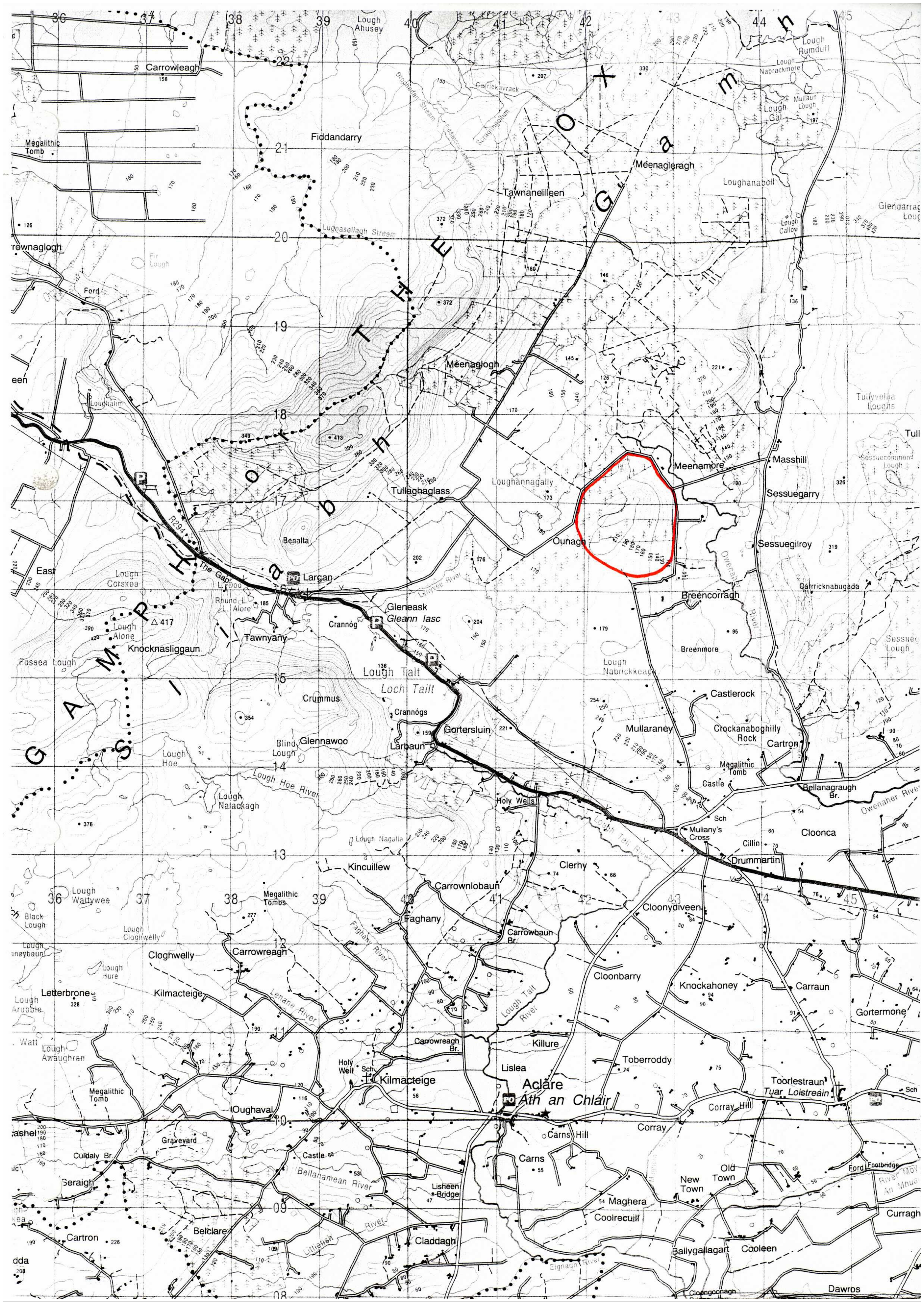
Site Importance
The site is of National importance and is to be proposed for NHA designation under the IGH5 Precambrian theme and the IGH6 Mineralogy theme of the GSI's IGH Programme.

Management/promotion issues
Access is impeded by forestry plantation but site can be reached from sand pit entrance.

View of Zion Hill from Meenamore Wood (left)

Metamorphic rocks on Zion Hill (right) – Conor Mac Dermot

Zion Hill


Carrowleagh
Fiddandarry
Megalithic Tomb
Lough Ahusey
Tawnaneilleen
Meenagleragh
Loughanaboll
Lough Rumduff
Lough Nabrackmore
Lough Gal
Lugnaseliagh Stream
Meenaglogh
Tullaghaglass
Loughannagally
Meenamore
Masshill
Sessuegarry
Sessuegilroy
Ounagh
Breencorragh
Breenmore
Benalta
Largan
Lough Corskea
East
The Gap
Round L.
L. Alore
Lough Alone
Knocknasliggaun
Fossea Lough
Tawnyany
Glenneask
Gleann Iasc
Crannóg
Lough Talt
Loch Tailt
Crummus
Crannógs
Gortersluin
Larbaun
Glennawoo
Blind Lough
Lough Hoe
Lough Hoe River
Lough Nalackagh
Lough Nabrickkeagh
Castlerock
Mullaraney
Crockanaboghilly Rock
Cartron
Megalithic Tomb
Castle
Bellanagraugh Br.
Owenaher River
Holy Wells
Sch
Mullany's Cross
Cillin
Cloonca
Drummartin
Kincuillew
Clerhy
Carrownlobaun
Lough Wattywee
Megalithic Tombs
Faghany
Cloonydiveen
Carrowbaun Br.
Black Lough
Lough Cloghwelly
Cloghwelly
Carrowreagh
Lough Hure
Letterbrone
Kilmacteige
Cloonbarry
Knockahoney
Carraun
Gortermone
Lough Awaughran
Lenane River
Carrowreagh Br.
Killure
Lisiea
Toberroddy
Holy Well
Kilmacteige
Megalithic Tomb
Aclare
Ath an Chláir
Toorlestraun
Tuar Loistreáin
Corray Hill
Oughaval
Corray
Graveyard
Carns Hill
Carns
Culdaly Br.
Castle
Seraigh
Bellanamean River
Lisheen Bridge
Old Town
New Town
Ford
Footbridge
Maghera
Coolrecuill
Curragh
Cartron
Belclare
Claddagh
Ballygallagart
Cooleen
Dawros
Lough Talt River
Owenaher River
Leaffony River
Tullyvellia Loughs
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