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Water Framework Directive  
Groundwater Monitoring Programme

Site Information  
**Castlecomer (OLD) Nannys Well**

Castlecomer (OLD) Public Water Supply consists of a spring and is augmented by the Clogh Water Supply. There is a new borehole on the northside of Castlecomer which has not been brought into use.

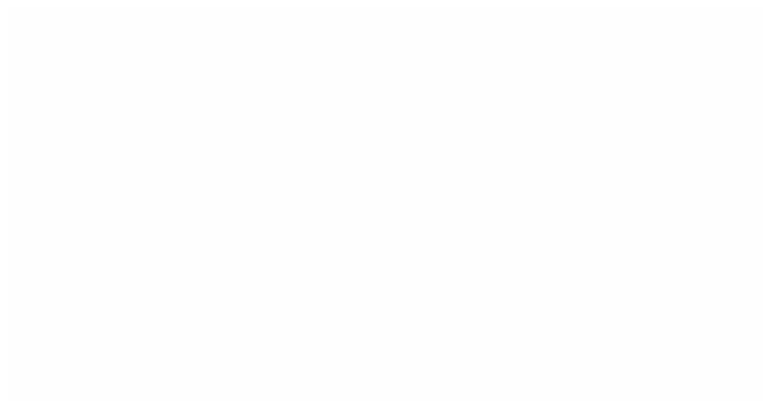


Kilkenny

**August 2011**

SITE INFORMATION					
Site Name:	Castlecomer (OLD) Nannys Well		County:	Kilkenny	
RBD:	SERBD		EU Reporting Code:	---	
Easting:	252087		GWB Name:	Castlecomer	
Northing:	173566		GWB Code:	IE_SE_G_34	
Site Use:	Drinking Water		Drinking Water Code:	1500PUB1004	
Hydrometric Area:	15		Water Level Monitoring Network:	Level	Flow
Townland:	Glenmagoo or Firoda Lr			N	N
Ownership:	Kilkenny County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		N
Site Comments:	Known as Nannys well				
SITE DIRECTIONS					
Location and Access Information:	Access is possible two ways but neither is straightforward. 1. Drive out Ballyragget road 1.5km, take access road to right and walk across fields. 2. Drive out Clogh road 200m and take left taking east side of Castlecomer stream for about 1km. Council have a right of way across stream. No bridge, cannot during high flow.				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	Spring	Abstraction Rate (m³/d):	270	Ground Elevation (m OD):	136.8
Borehole Log Available:	---	Total Drilled Depth (m bgl):	---	Depth to Bedrock (m bgl):	---
Top of Casing (m agl):	---	Upper Casing Diameter (mm):	---	Lower Casing Diameter (mm):	---
Final Borehole Depth (m):	---	Upper Casing Bottom Depth (m bgl) :	---	Lower Casing Bottom Depth (m bgl):	---
Screen Interval (m bgl):	---	Screen Type (PVC,Steel,other):	---	Screen Slot Size (mm):	---
Grout Type (cement,bentonite):	---	Grouted above (m bgl):	---	Grout Volume Injected (m³):	---
Gravel Pack Interval (m bgl):	---	Gravel Pack Volume (m³):	---	Open Hole Interval (m bgl):	---
Potential Yield (m³/day):	295	Comments on Monitoring Site:	A new borehole next to the soccer pitch has not been put into use. A separate ZOC / site folder was prepared for the borehole.		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	---				
Scheme Name:	Castlecomer (Old)	Number of Abstraction Points in the Scheme:	1	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	Castlecomer WS is supplied from a spring (Nannys well). The Clogh WS also contributes to the scheme. The Castlecomer (Old) supply gravity feeds into the town, with chlorination/fluorination provided at treatment house at Love Lane before being pumped to the supply network. Supply from the Castlecomer (Old) supply to the distribution network is limited by the topographic elevation of Nanny's Well.				

HYDROGEOLOGY							
GEOLOGY	Soil:	Deep poorly drained mineral (AminPD)				Subsoil Permeability:	High
	Subsoil:	Glaciofluvial sands and gravels (GCh)					
	Bedrock:	Westphalian Sandstones					
HYDROGEOLOGY	Aquifer Category:	Lg	Vulnerability at Monitoring site:	Extreme	Flow Regime:	Intergranular	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km²):	0.24	ZOC Delineated By:	Tobin (CK)	Recharge Estimate (mm/yr):	600	
	ZOC Delineation Comments:	The spring issues from the base of a slope. Gravels occupy a portion of the valley floor. The ZOC is based on topographic catchment to spring, and a yield of 290m/d - considered to be the maximum safe yield of the spring based on a report by Tobin 2006. Stream to north taken to be hydraulic boundary. Small stream to south is not. Catchment brought back to top of bedrock ridge.					
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified
	16.64	55.19	28.17	0	0	0	0
HYDROCHEMISTRY							
Hydrochemical Signature:	---		Additional Water Chemistry Information:	No known records for untreated water at source spring. Chemistry available for mixed supply, which includes a proportion from Clogh - which itself is mixed groundwater and infiltration gallery water from Dinin River.			
Alkalinity (mg/l HCO3):	Average:	Range:					
	---	---					
Hardness (mg/l CaCO3):	Average:	Range:					
	---	---					
Conductivity (uS/cm):	Average:	Range:					
	---	---					
Monitoring Record Period:	From:	To:					
	---	---					
RISK ASSESSMENT							
Pressure (e.g., Nitrates, Phosphates, Abstractions):	---		Typical Contaminants:	---			
Risk Category:	At risk, high confidence		GWB Status:	Good			
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:		
	0.00	93.82	3.04	0.00	3.14		
OTHER INFORMATION							
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## Data Summary Sheet - July 2011

**Disclaimer:** The data in this document are based on the best available information and understanding at time of writing. Neither the Environmental Protection Agency, nor the individual bodies supplying data for this document and accompanying maps will be responsible for any loss or damage from the use or interpretation of these data.

**Rock Unit Geology Map:** GSI, 2009

**Aquifer Type Map:** GSI, 2009

**Groundwater Vulnerability Map:** GSI, 2009

**Soils & Subsoils Type:** Teagasc, 2007

**Recharge Map:** GSI, 2009

**Impact Potential Map:** EPA, 2009

**Risk Assessment Map:** EPA WFD Risk Assessment, 2006

**Groundwater Body Status:** EPA WFD Status Assessment, 2008

**Water Quality Data:** EPA WFD Monitoring, 2008

### Groundwater Threshold Values

Groundwater threshold values for selected parameters:

Nitrate - General Chemical Test/ Drinking Water Test (37.5 mg/l N03)

Ammonium - Drinking Water Test (0.175 mg/l N) / Surface Water Test (0.065 mg/l N)

Molybdate Reactive Phosphorus (MRP) - Surface Water Test (0.035 mg/l P)

Chloride -Saline/Intrusive Test (24 mg/l) / Drinking Water Test (175 mg/l Cl)

Electrical Conductivity -Saline/Intrusive Test (800  $\mu$ S/cm) / Drinking Water Test (1,875  $\mu$ S/cm)

Further information on groundwater threshold values is contained in the Groundwater Regulations (S.I. No.9 of 2010).

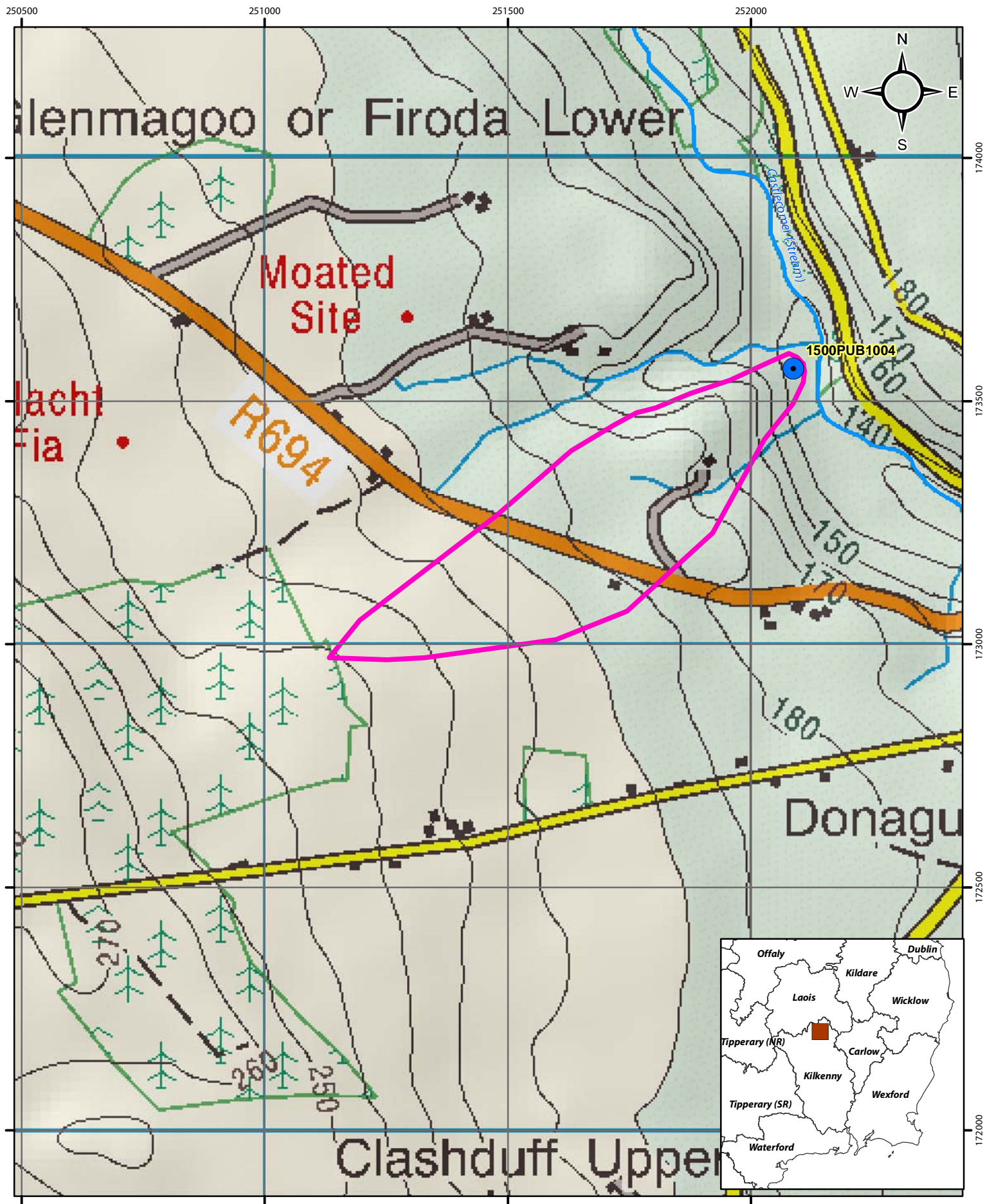
### General Downgradient Distances

General Downgradient Distances (XL) applied to boreholes sourced in bedrock aquifers are constrained to estimate approximate limits based on data at the GSI. In some cases they may be higher or lower depending on local conditions.

Rk, Rkd, Lk	225 m
Lm	150 m
LI, PI	60 m

It is assumed that groundwater downgradient of a spring cannot flow back up to the spring, however a precautionary 30m buffer is generally applied which allows for instances where pumping under dry weather periods may induce a drawdown or where the ground may be sloping toward the spring from the downgradient side.

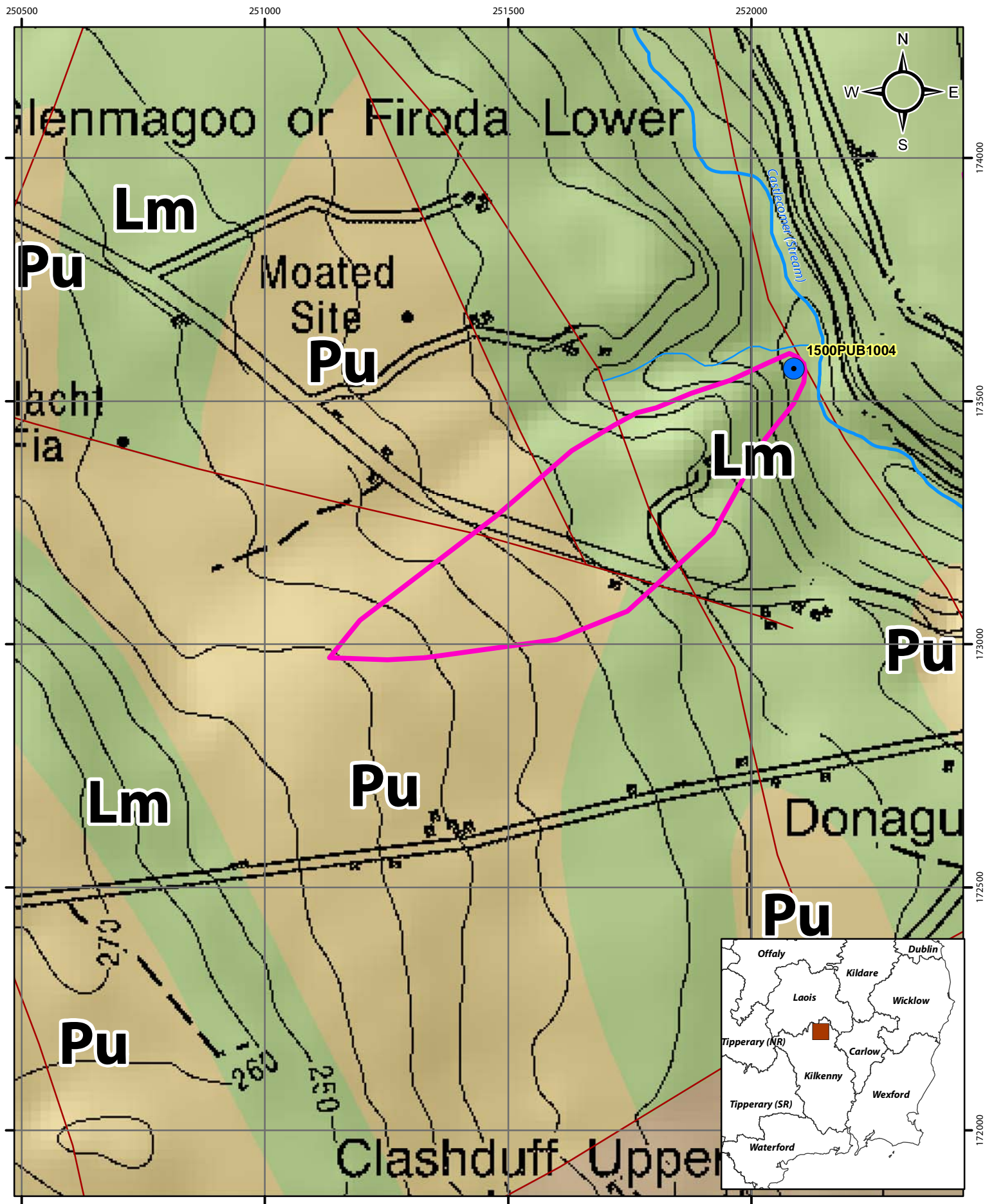
Version 0:	Prepared by		Date:	
Version 1:	Prepared by	Tobin (CK)	Date:	Feb 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	



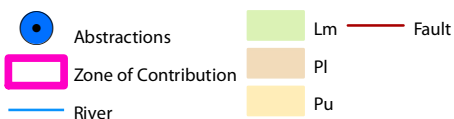
## Location Map for Castlecomer (old)

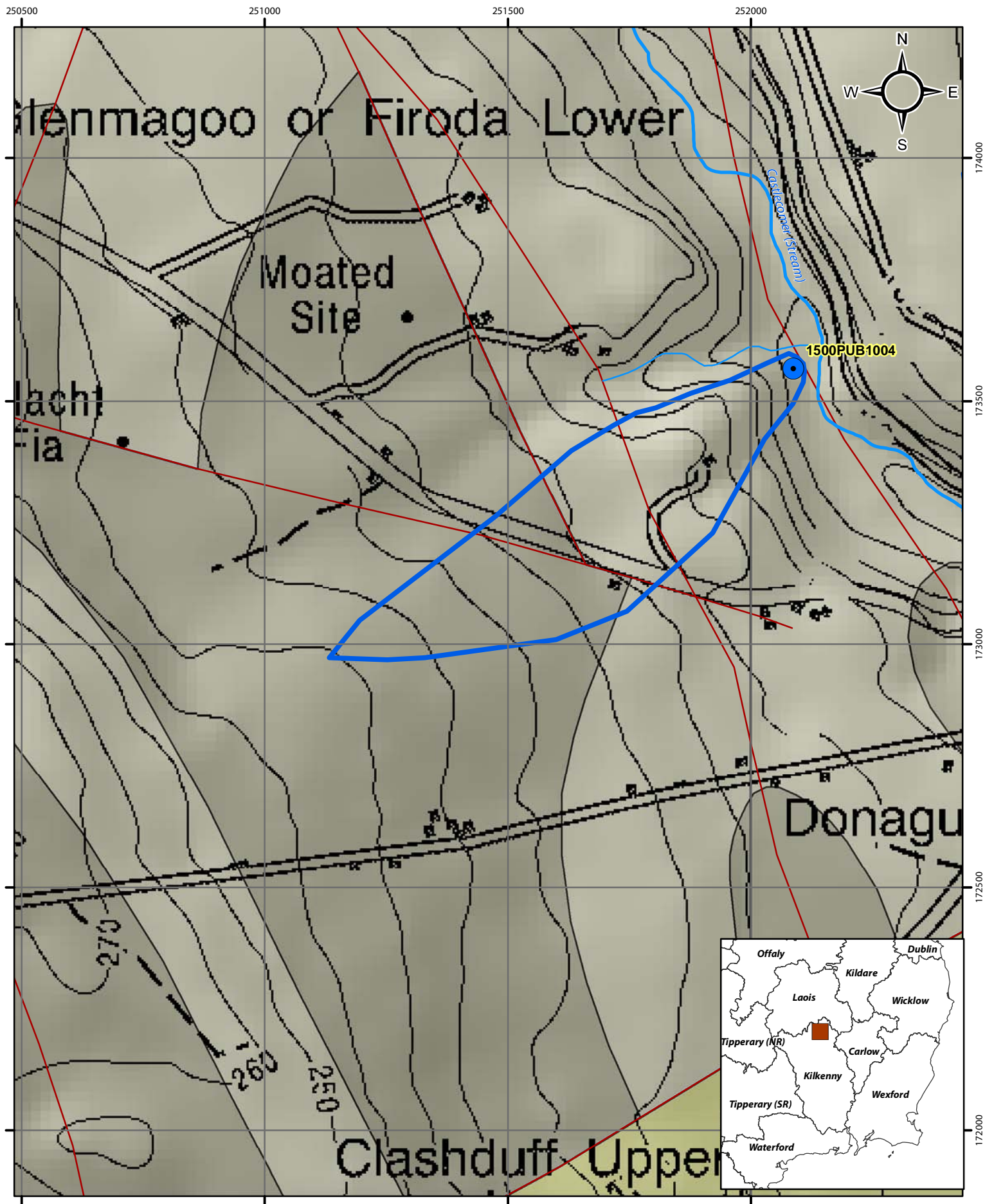
- Abstractions
- Zone of Contribution
- River











## Aquifer Category Map for Castlecomer (old)

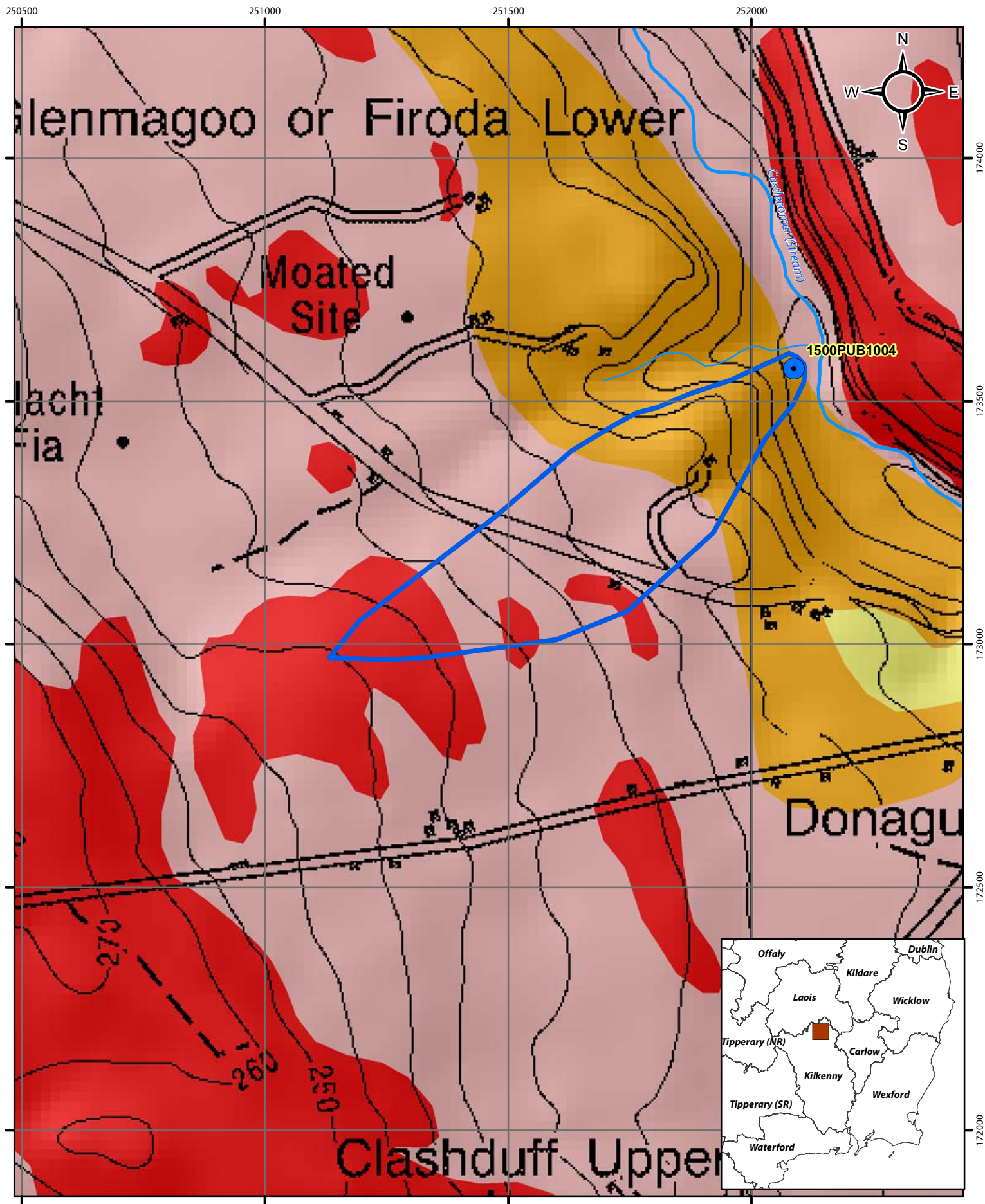




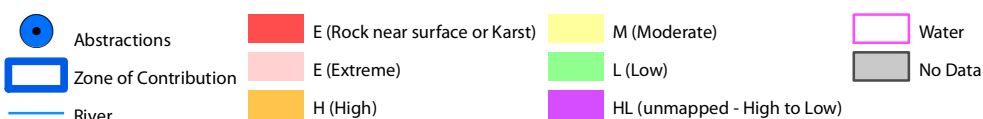
## Bedrock Map for Castlecomer (old)

-  Abstractions
-  Zone of Contribution
-  River
-  Namurian Sandstones
-  Westphalian Sandstones
-  Westphalian Shales
-  Fault

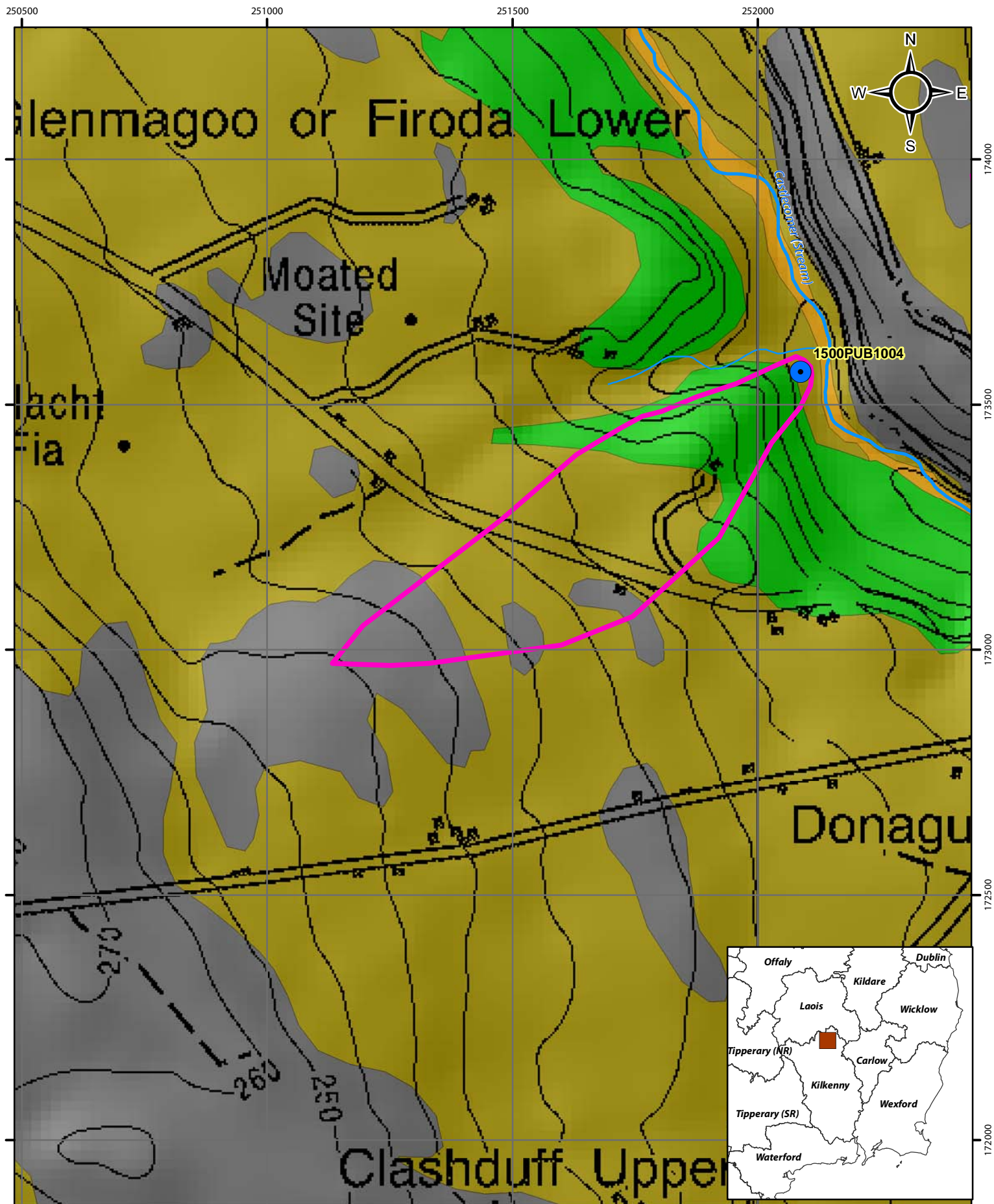




## Groundwater Vulnerability Map for Castlecomer (old)



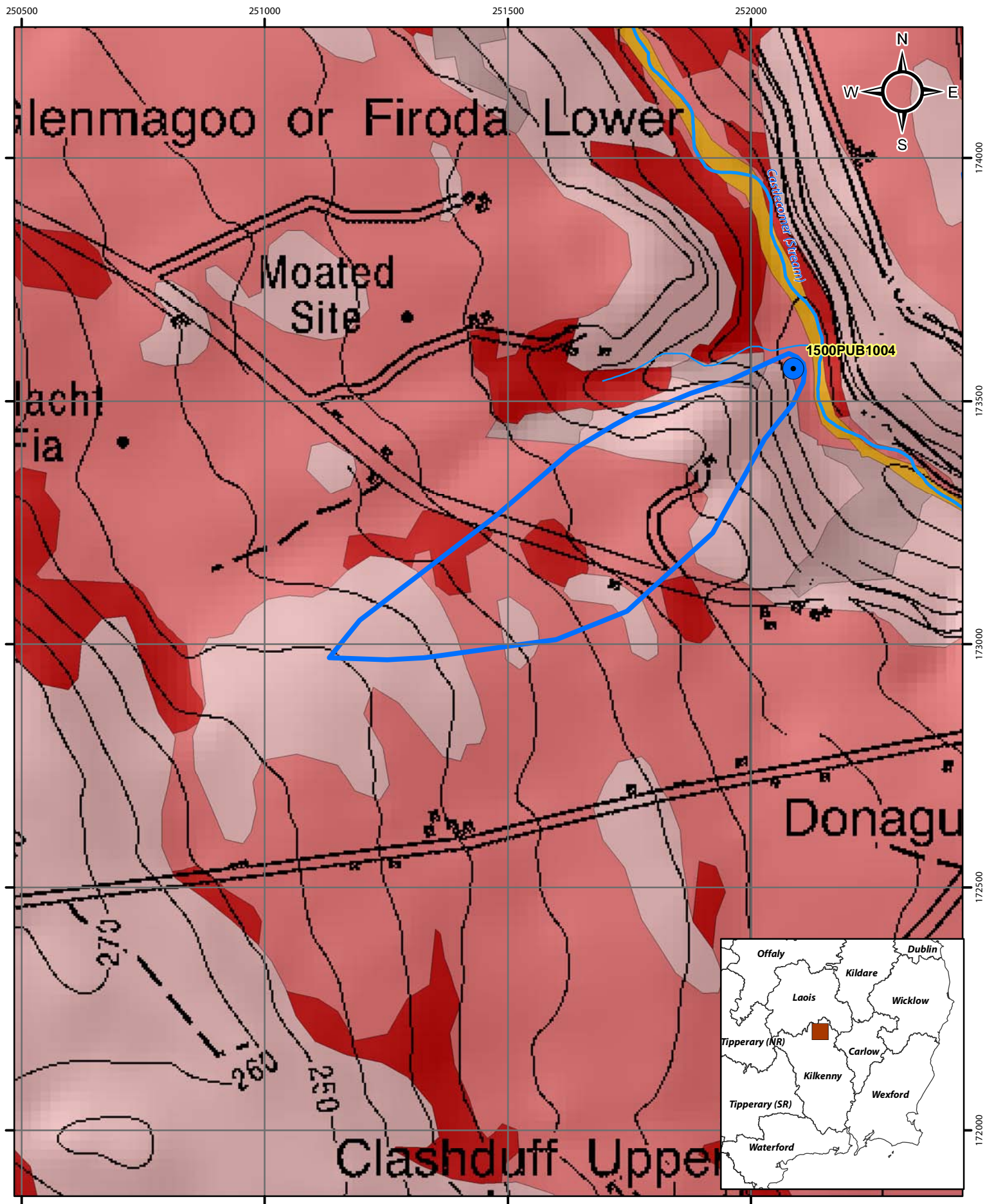




## Subsoils Map for Castlecomer (old)

- Abstractions
- Alluvium
- Bedrock outcrop or subcrop
- Zone of Contribution
- Gravels derived from cherts
- Till derived from Namurian sandstones and shales
- River





## Soils Map for Castlecomer (old)

