

## Water Framework Directive Groundwater Monitoring Programme

### Site Information

### Glengar



Glengar PWS is a spring abstracting 419m<sup>3</sup>/day.



Tipperary South

**August 2011**

SITE INFORMATION					
Site Name:	Glengar		County:	Tipperary South	
RBD:	Shannon IRBD		EU Reporting Code:	---	
Easting:	185910		GWB Name:	Slieve Phelim	
Northing:	150830		GWB Code:	IE_SH_G_213	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	2900PUB0202	
Hydrometric Area:	25		Water Level Monitoring Network:	Level	Flow
Townland:	GLENGAR			N	N
Ownership:	Tipperary Co Co				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		N
Site Comments:	---				
SITE DIRECTIONS					
Location and Access Information:	From Cashel drive via the R505 through Dundrum and Cappagh White. Head toward the village of Doon, and just after crossing the river Cahernahallia, take right uphill to the north. At a Tjncn take another right. Drive about 480m and there is a pumphouse on the right hand side. Spring is located down the hill from the pumphouse.				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	Spring	Abstraction Rate (m³/d):	419	Ground Elevation (m OD):	150-160
Borehole Log Available:	---	Total Drilled Depth (m bgl):	n/a	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):	---	Comments on Monitoring Site:	---		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	---				
Scheme Name:	Glengar PWS	Number of Abstraction Points in the Scheme:	1	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	PWS comprises a single spring at Glengar.				

HYDROGEOLOGY								
GEOLOGY	Soil:	Deep poorly drained mineral (AminPD)				Subsoil Permeability:	n/a	
	Subsoil:	Tills (diamictons) (TLPSSs)						
	Bedrock:	Silurian Metasediments and Volcanics						
HYDROGEOLOGY	Aquifer Category:	PI	Vulnerability at Monitoring site:	Extreme	Flow Regime:	Poorly productive		
ZONE OF CONTRIBUTION	Estimated ZOC Size (km <sup>2</sup> ):	0.65	ZOC Delineated By:	TOBIN (CK)	Recharge Estimate (mm/yr):	250		
	ZOC Delineation Comments:	The springs issue at a break in slope just above the river. There is a mapped fault within the vicinity of the springs. ZOC is based on geology, abstraction and topography. There are no available data on the total discharge and the ZOC accounts for 106% increase on current abstraction rate. The ZOC is strongly controlled by very steep topography together with poorly productive rocks.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	28.45	65.28	0	0	0	6.26	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	Ca-HCO <sub>3</sub>		Additional Water Chemistry Information:	Occasional faecal coliform exceedances are reported.				
Alkalinity (mg/l HCO <sub>3</sub> ):	Average:	Range:						
	---	---						
Hardness (mg/l CaCO <sub>3</sub> ):	Average:	Range:						
	---	---						
Conductivity (uS/cm):	Average:	Range:						
	348	35-398						
Monitoring Record Period:	From:	To:						
	2002	2006						
RISK ASSESSMENT								
Pressure (e.g., Nitrates, Phosphates, Abstractions):	---		Typical Contaminants:	---				
Risk Category:	At risk, low confidence		GWB Status:	Good				
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:			
	0.00	0.00	74.09	6.11	19.80			
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 µS/cm) / Drinking Water Test (1,875 µS/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:	Apr 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	

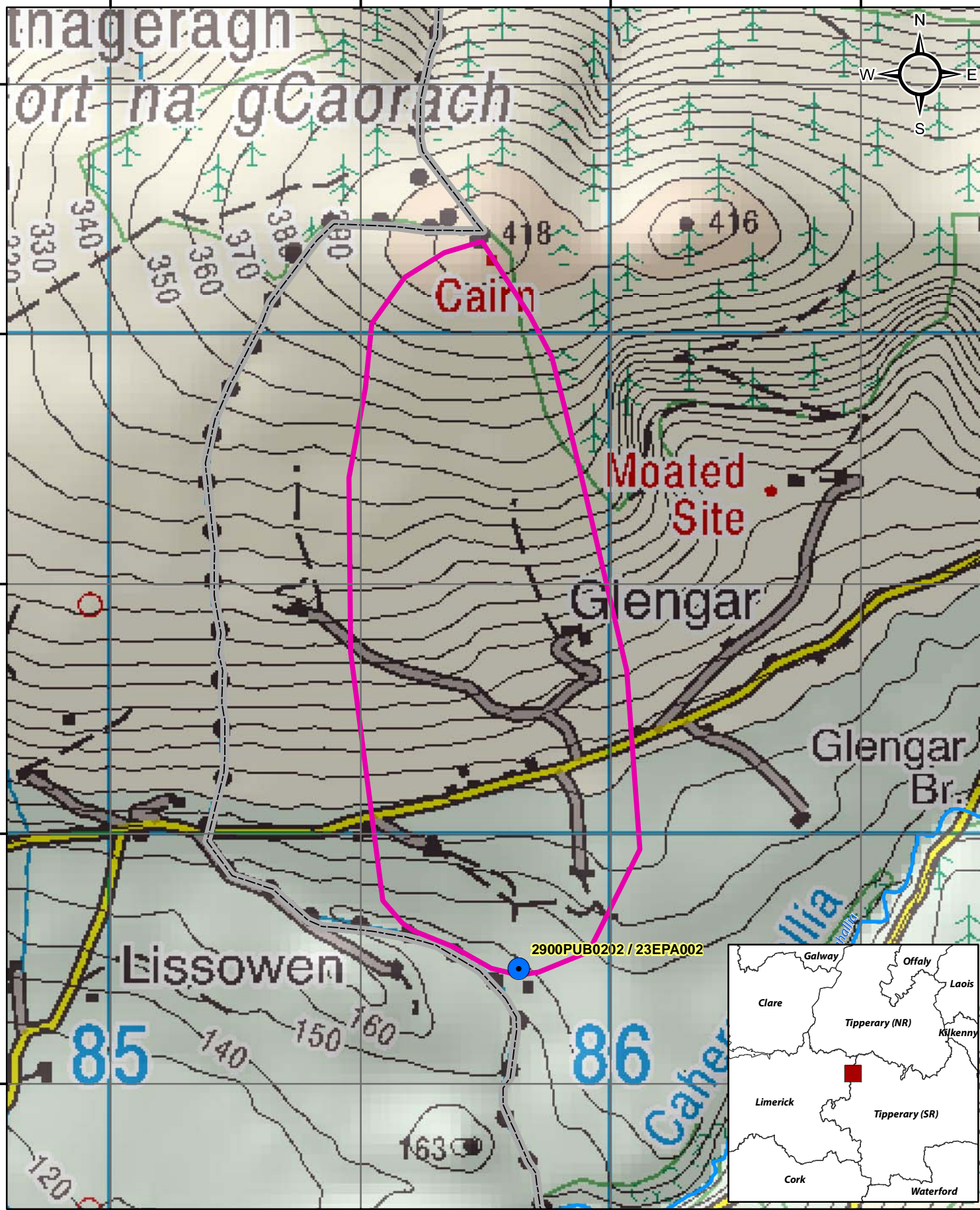


185000




185500

186000

186500



## Location Map for Glengar

-  Abstractions
-  River
-  Zone of Contribution

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0

0.25

0.5

1

km

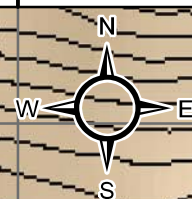


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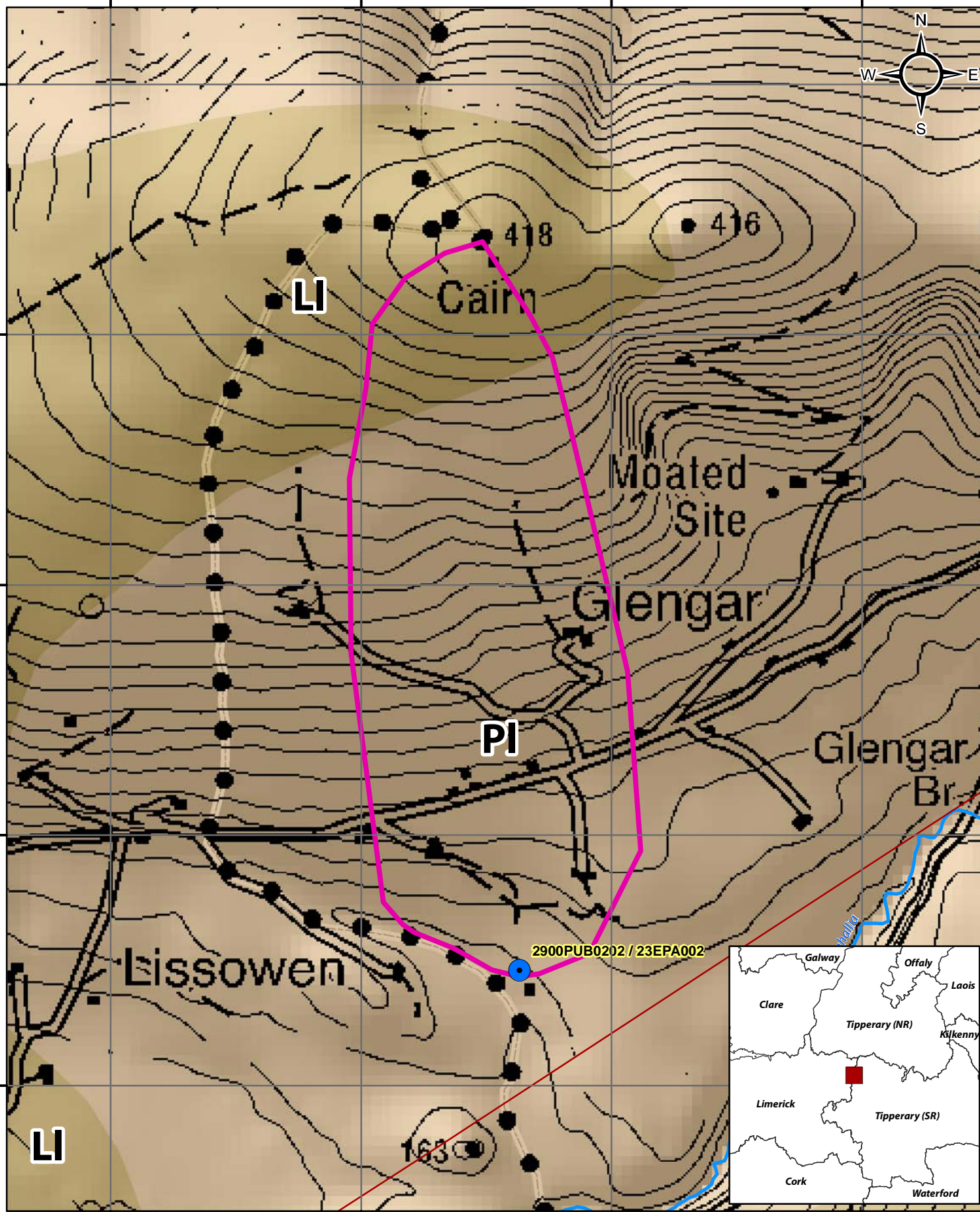
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152000







151500

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150500



## Aquifer Category Map for Glengar

-  Abstractions
-  River
-  Zone of Contribution
-  LI
-  PI
-  Fault

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0.25

0.5

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km

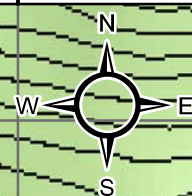


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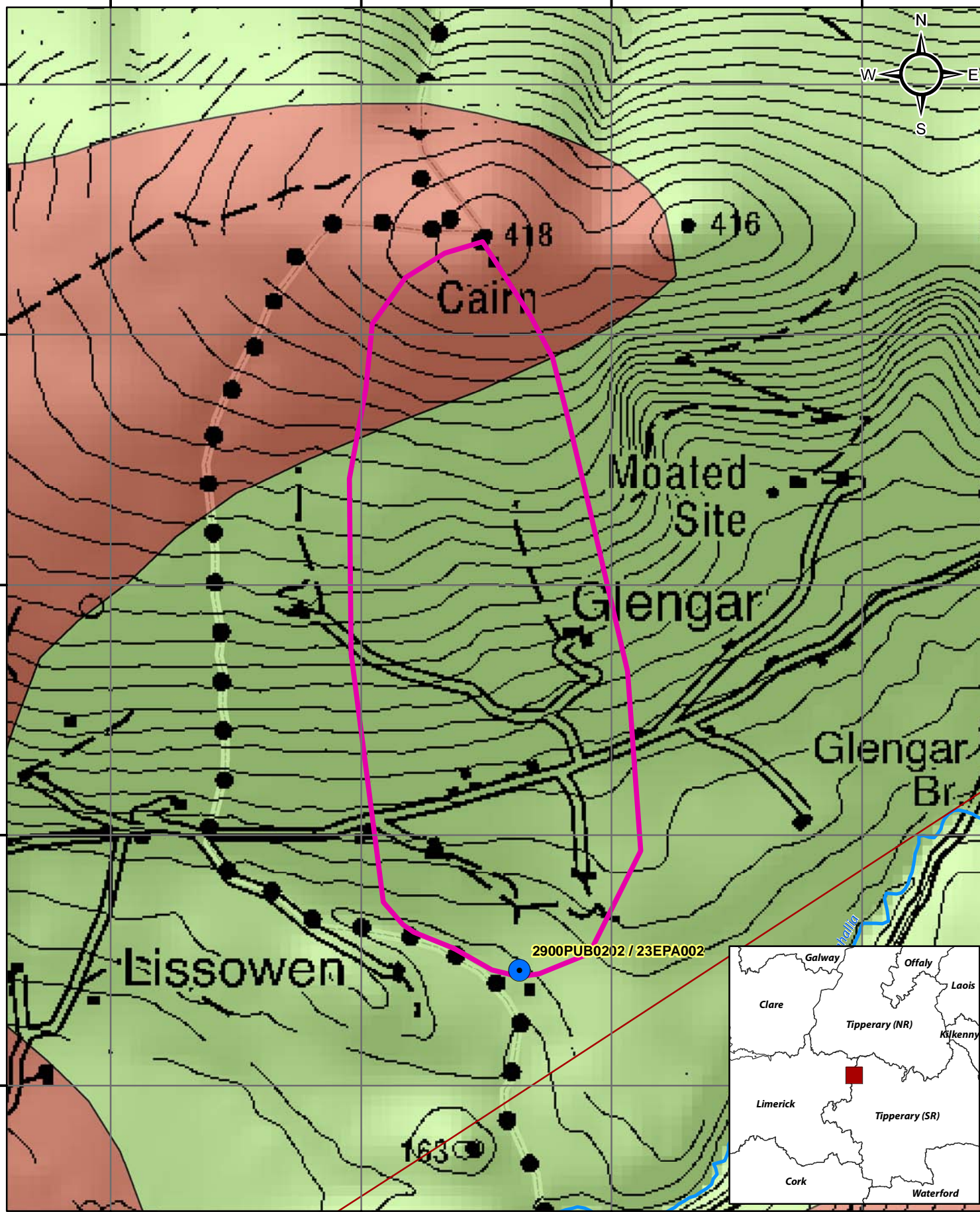
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## Bedrock Map for Glengar

- |  |                      |  |                                      |
|--|----------------------|--|--------------------------------------|
|  | Abstractions         |  | Devonian Old Red Sandstones          |
|  | River                |  | Silurian Metasediments and Volcanics |
|  | Zone of Contribution |  | Fault                                |

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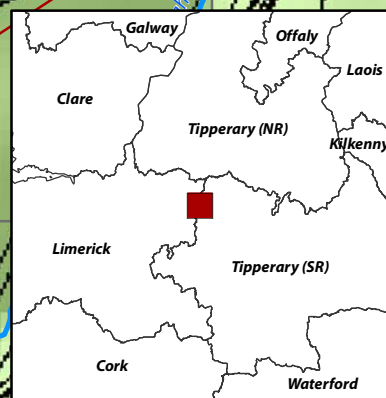
0

0.25

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km



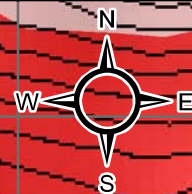


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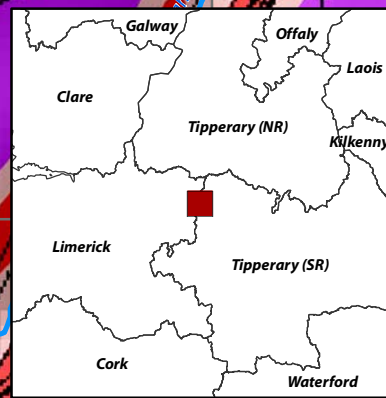
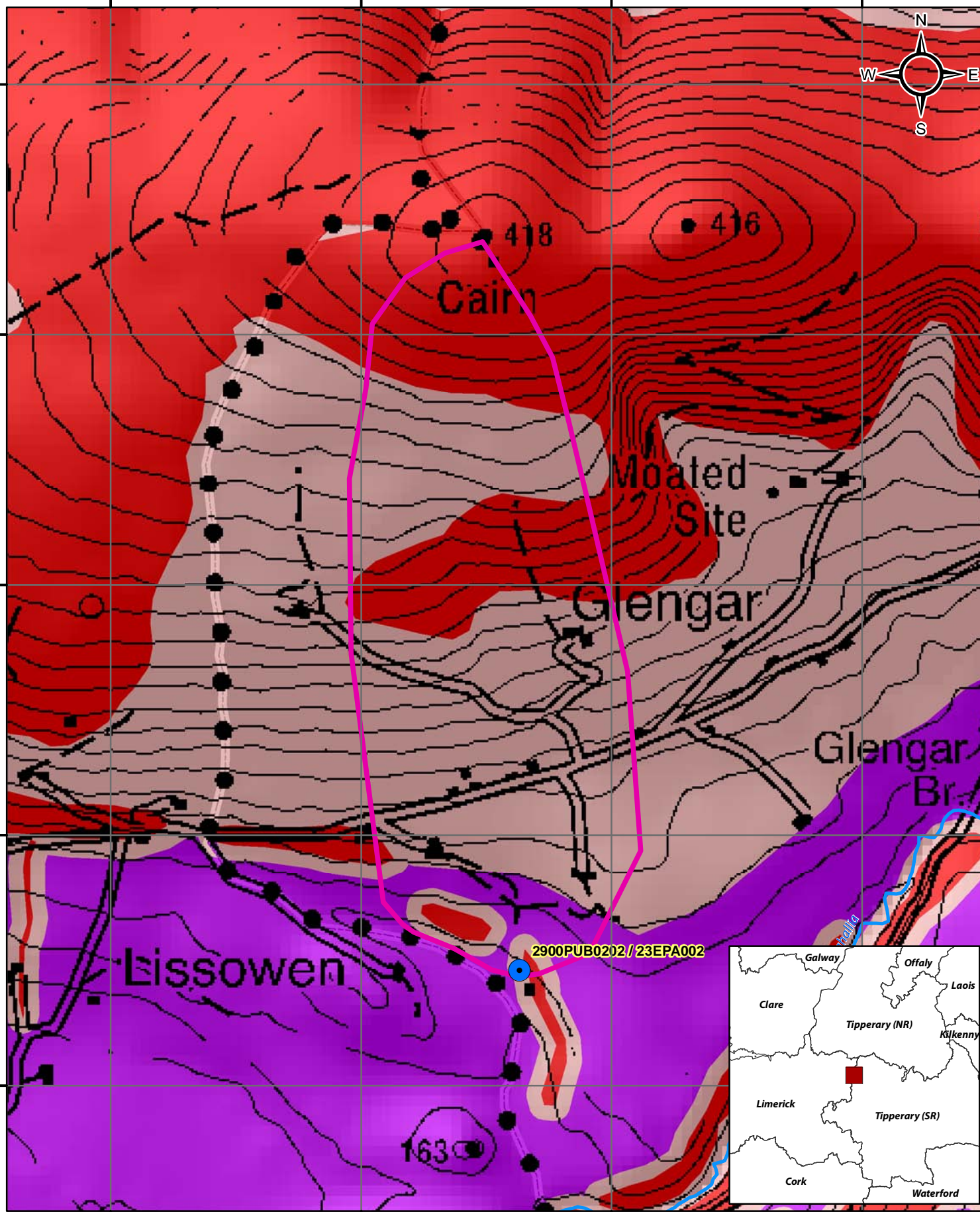
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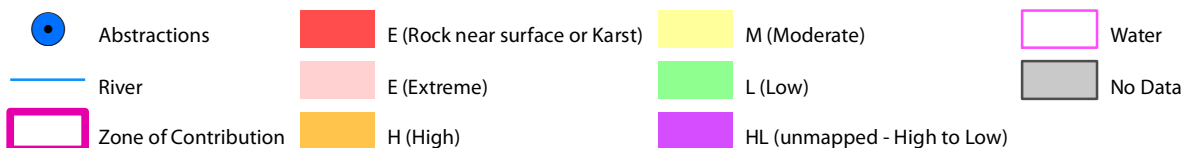
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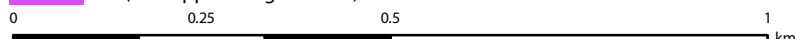
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## Groundwater Vulnerability Map for Glengar



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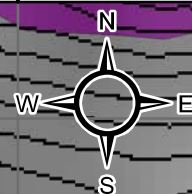


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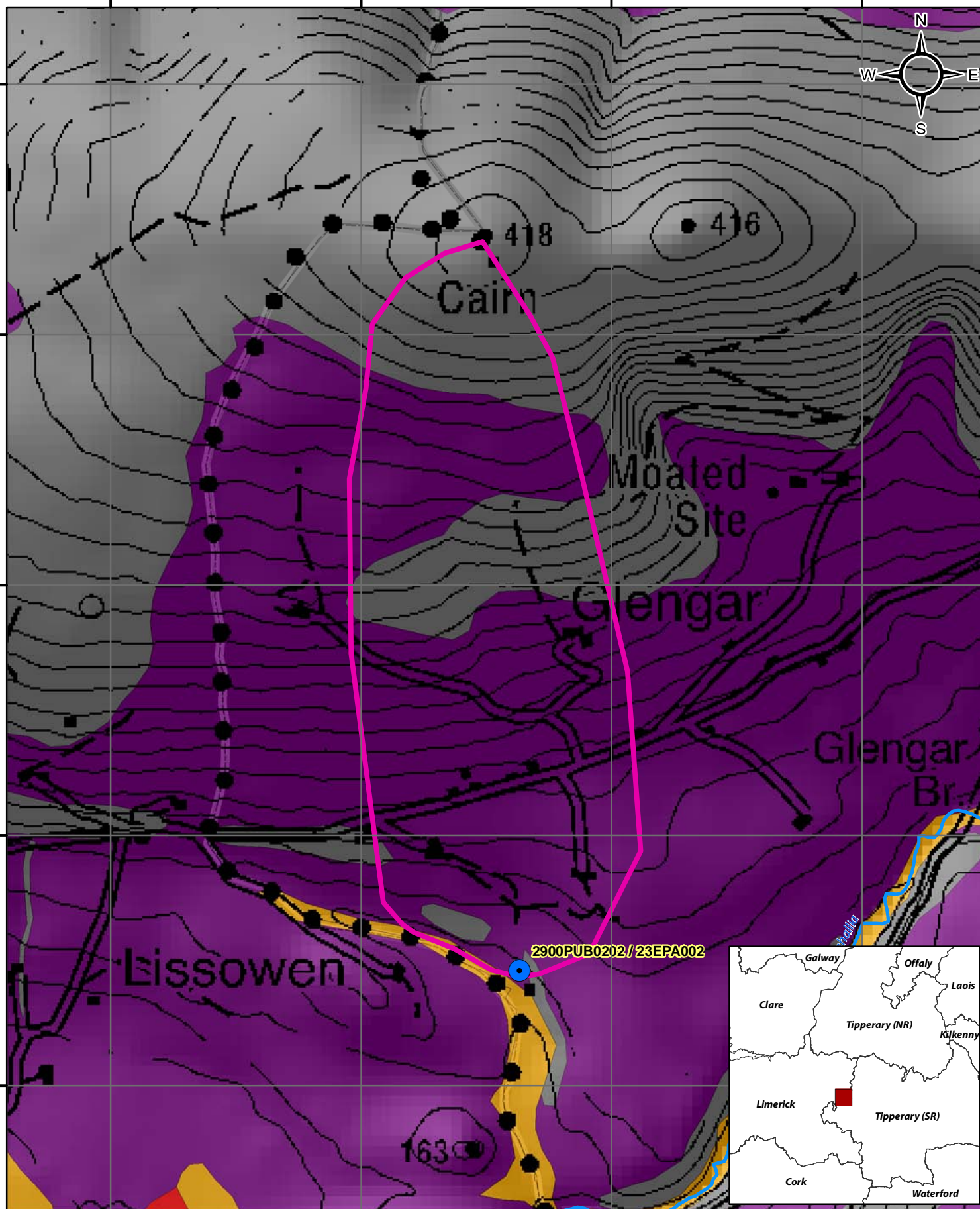
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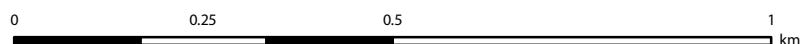
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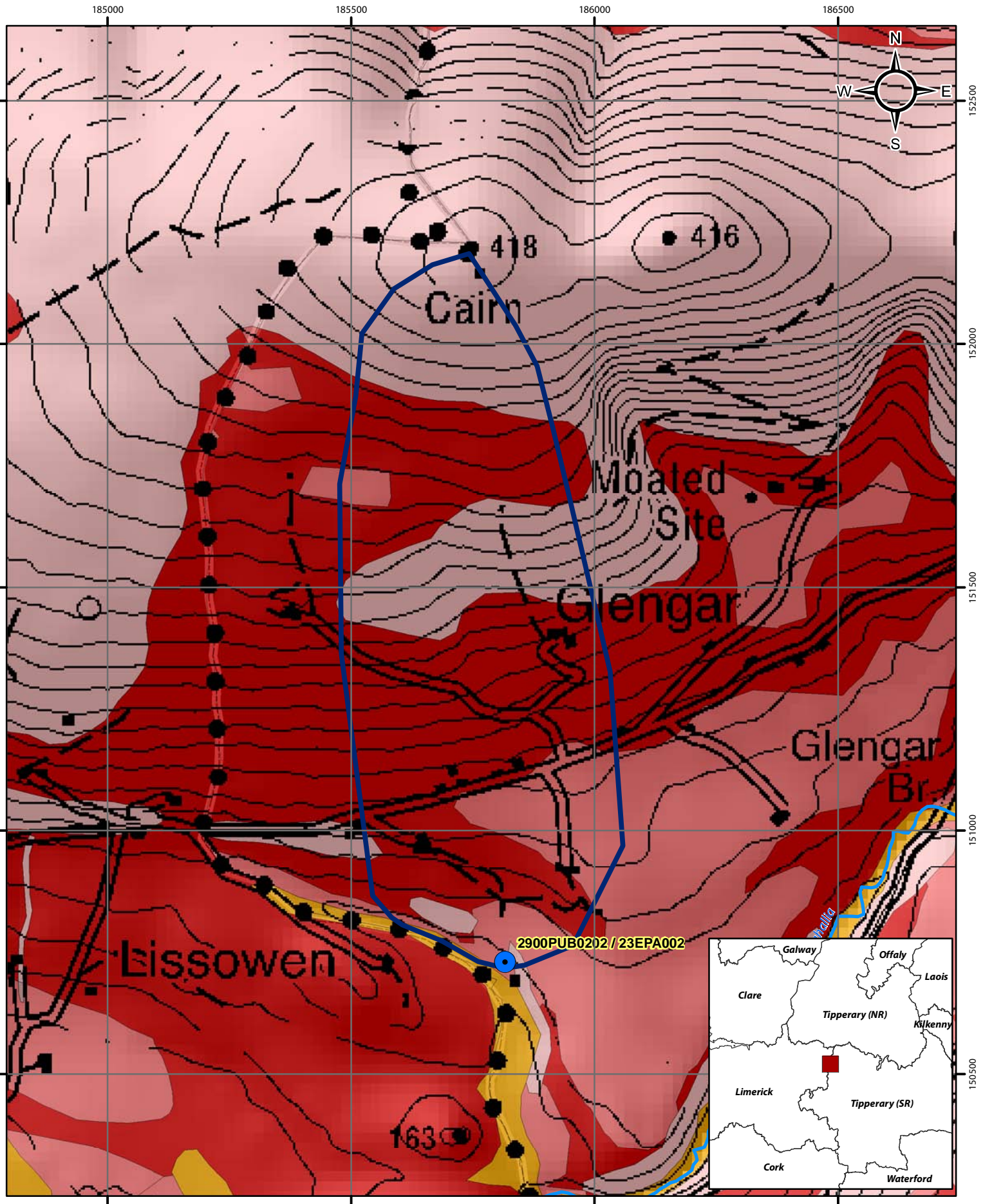
## Subsoils Map for Glengar

- |   |  |   |
|---|--|---|
|  Abstractions         |  Alluvium                   |  Till derived from Devonian sandstones                   |
|  River                |  Bedrock outcrop or subcrop |  Till derived from Lower Palaeozoic sanstones and shales |
|  Zone of Contribution |  |   |

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## Soils Map for Glengar

- |  |                      |  |                                   |  |                                     |
|--|----------------------|--|-----------------------------------|--|-------------------------------------|
|  | Abstractions         |  | Acid Deep Well Drained Mineral    |  | Acid Shallow Poorly Drained Mineral |
|  | River                |  | Acid Deep Poorly Drained Mineral  |  | Mineral Alluvium                    |
|  | Zone of Contribution |  | Acid Shallow Well Drained Mineral |  |                                     |

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0 0.25 0.5 1 km