

Water Framework Directive Groundwater Monitoring Programme

Site Information

Coachford Pws (Fr Sheehan Place)



Coachford PWS (Fr. Sheehan Place) is borehole used as a public water supply. The abstraction rate is 431m³/day. A GSI source protection report is available.



Cork

August 2011

SITE INFORMATION					
Site Name:	Coachford Pws (Fr Sheehan Place)		County:	Cork	
RBD:	SWRBD		EU Reporting Code:	IE_SW_G_004_04_010	
Easting:	145530		GWB Name:	Ballinhassig_1	
Northing:	73637		GWB Code:	IE_SW_G_004	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	0500PUB3203	
Hydrometric Area:	19		Water Level Monitoring Network:	Level	Flow
Townland:	COOLACULLIG			N	N
Ownership:	Cork County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		Y
Site Comments:	Coachford PWS (Fr. Sheehan Place) is a 80m deep borehole situated in Dinantian Pure Bedded Limestones and is used as a public water supply. The abstraction rate is 431m³/day. The borehole is included in the operational chemical network. A GSI source re				

SITE DIRECTIONS	
Location and Access Information:	The Coachford Water Supply is situated in Glebe townland just northwest of Coachford village. Borehole 1, by Fr. Sheehan Place lies at the edge of a green field area beside the council houses
Additional Comments:	---

WELL INFORMATION					
Monitoring Point Type:	BH	Abstraction Rate (m³/d):	90	Ground Elevation (m OD):	90
Borehole Log Available:	N	Total Drilled Depth (m bgl):	80	Depth to Bedrock (m bgl):	4.5
Top of Casing (m agl):	---	Upper Casing Diameter (mm):	200	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):	170	Comments on Monitoring Site:	---		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	7				
Scheme Name:	Coachford	Number of Abstraction Points in the Scheme:	2	Source Report Available	Y
Source Report Info:	Source report prepared by GSI.				
Scheme Summary:	The Coachford Water Supply is situated in Glebe town land just northwest of Coachford village. The water supply comprises 2 bored wells just outside the village. One lies at the edge of a green field area beside the council houses (Borehole 1, by Fr. Sheehan's Place), while the other is situated at the side of small road just north of the village, near the old railway terminus (Borehole 2).				

HYDROGEOLOGY							
GEOLOGY	Soil:	Deep well drained mineral (AminDW)				Subsoil Permeability:	Moderate
	Subsoil:	Tills (diamictos) (TDSs)					
	Bedrock:	Devonian Old Red Sandstones					
HYDROGEOLOGY	Aquifer Category:	LI	Vulnerability at Monitoring site:	High	Flow Regime:	Poorly productive	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km ²):	0.11	ZOC Delineated By:	GSI	Recharge Estimate (mm/yr):	571	
	ZOC Delineation Comments:	The GSI delineated a source protection area for the Coachford PWS which includes another borehole within 250m. A ZOC was delineated for Fr Sheehans Place was based on the GSI SPA. The ZOC was delineated based on abstraction, recharge and topography					
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified
	0	10.01	89.99	0	0	0	0
HYDROCHEMISTRY							
Hydrochemical Signature:	Mg-HCO ₃		Additional Water Chemistry Information:	During the monitoring period: The average nitrate concentration was 32 mg/l NO ₃ and the maximum nitrate concentration was 42 mg/l NO ₃ . The average ammonium concentration was 0.024 mg/l N and the maximum ammonium concentration was 0.09 mg/l N. The average molybdate reductive phosphorus (MRP) concentration was 0.014 mg/l P and the maximum MRP concentration was 0.031 mg/l P. The average chloride concentration was 18 mg/l Cl and the maximum chloride concentration was 23 mg/l Cl.			
Alkalinity (mg/l HCO ₃):	Average:	Range:					
	133	99-190					
Hardness (mg/l CaCO ₃):	Average:	Range:					
	167	142-186					
Conductivity (uS/cm):	Average:	Range:					
	338	203-488					
Monitoring Record Period:	From:	To:					
	2007	2010					
RISK ASSESSMENT							
Pressure (e.g., Nitrates, Phosphates, Abstractions):	Diffuse		Typical Contaminants:	Nitrate			
Risk Category:	At risk, high confidence		GWB Status:	Good			
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:		
	0.00	31.89	68.11	0.00	0.00		
OTHER INFORMATION							



Pump House



Borehole



Sampling Point

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 μ S/cm) / Drinking Water Test (1,875 μ S/cm)

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

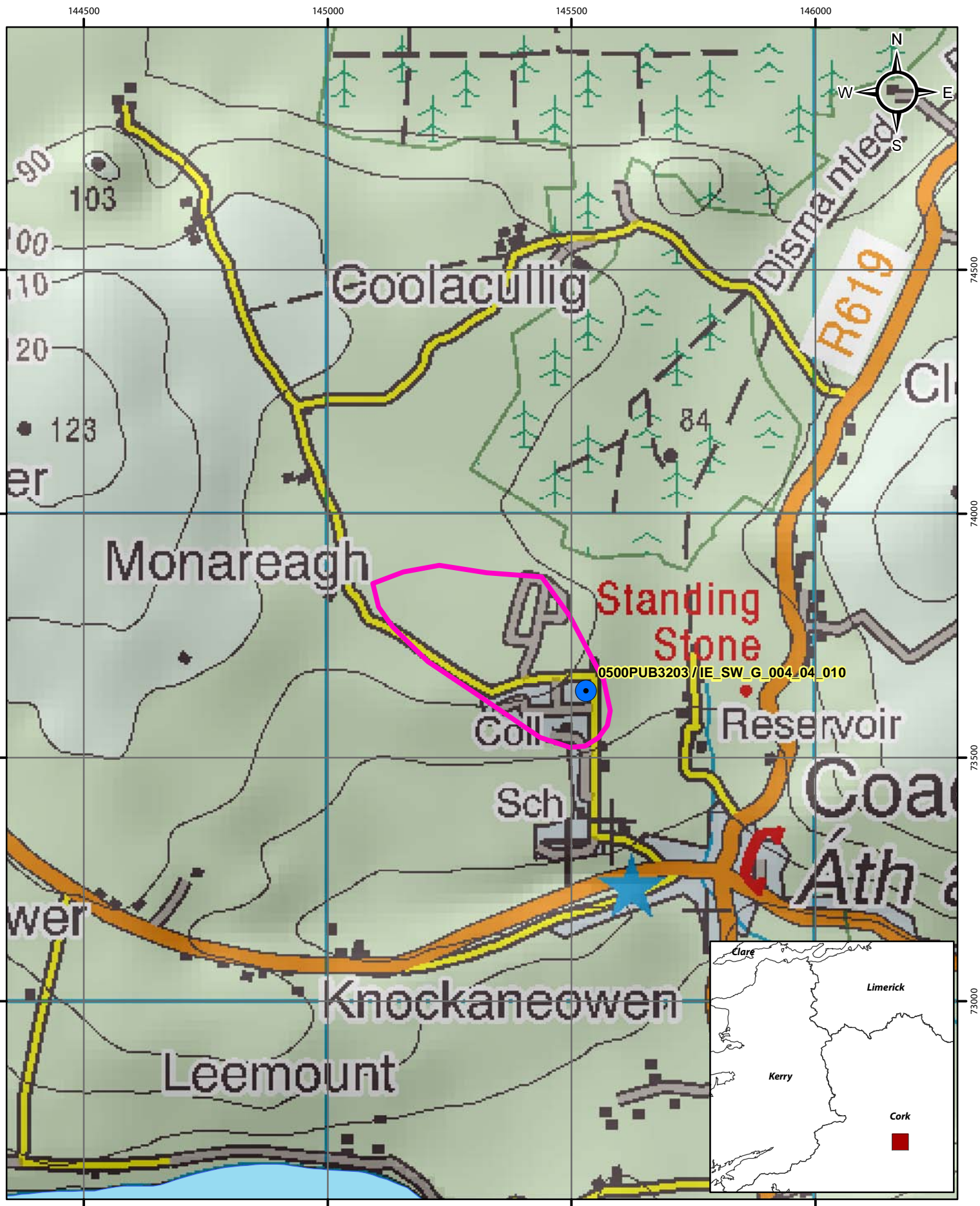
General Downgradient Distances

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.

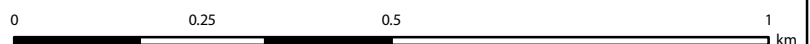
Version 0:	Prepared by	GSI	Date:	
Version 1:	Prepared by	OCM (DC)	Date:	Feb 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	

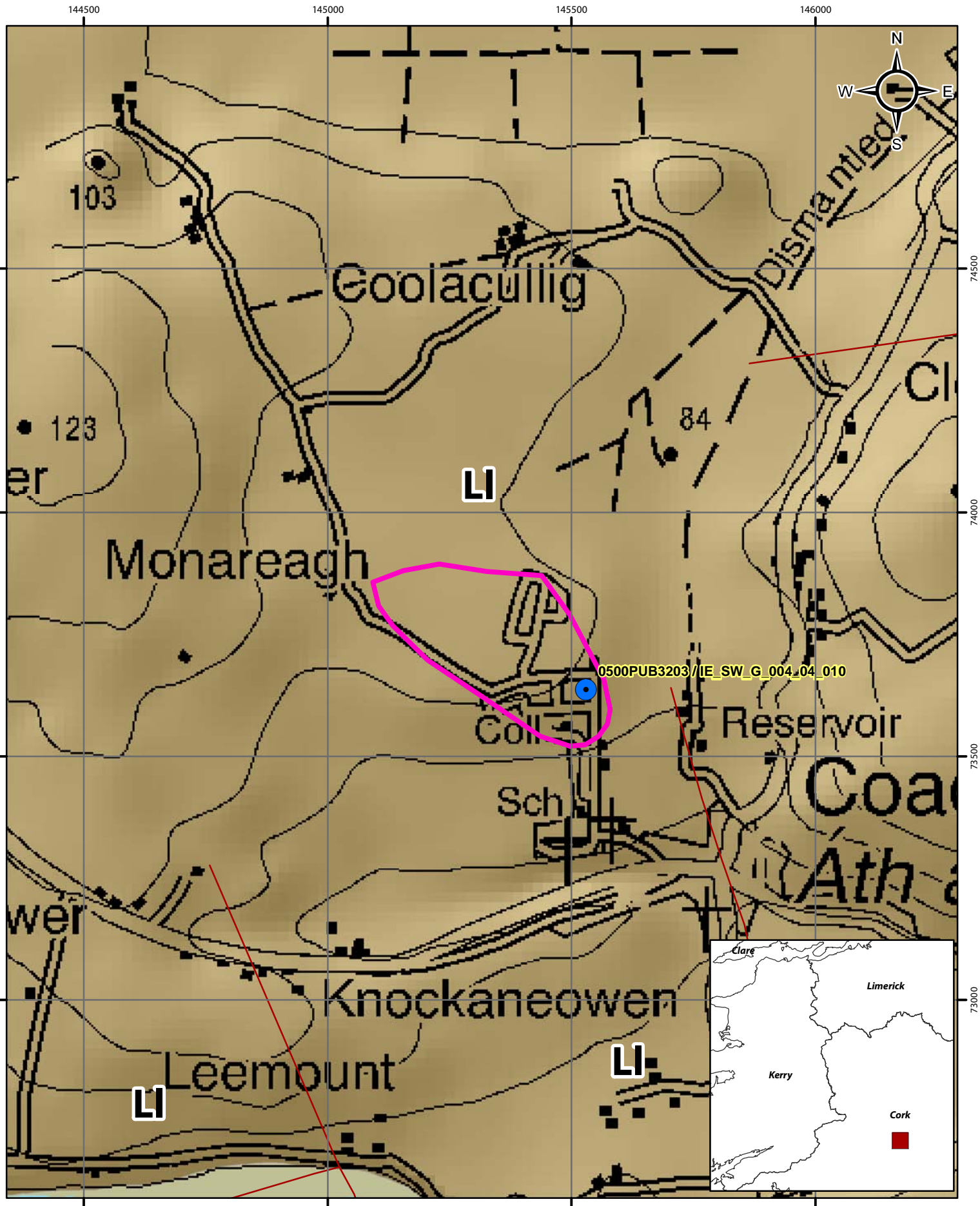


Location Map for Coachford PWS






-  Abstractions
-  River
-  Zone of Contribution

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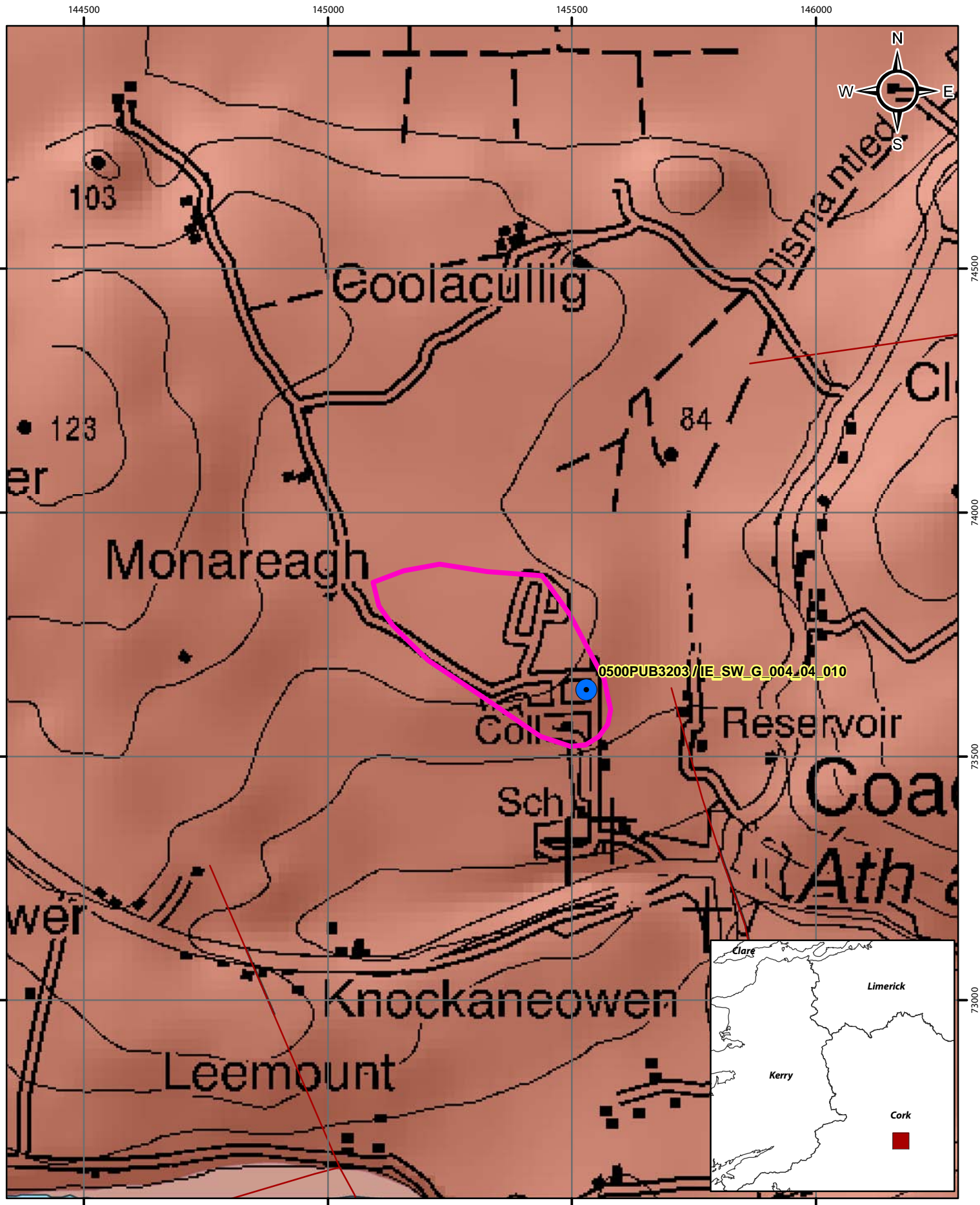


Aquifer Category Map for Coachford PWS

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

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0 0.25 0.5 1 km

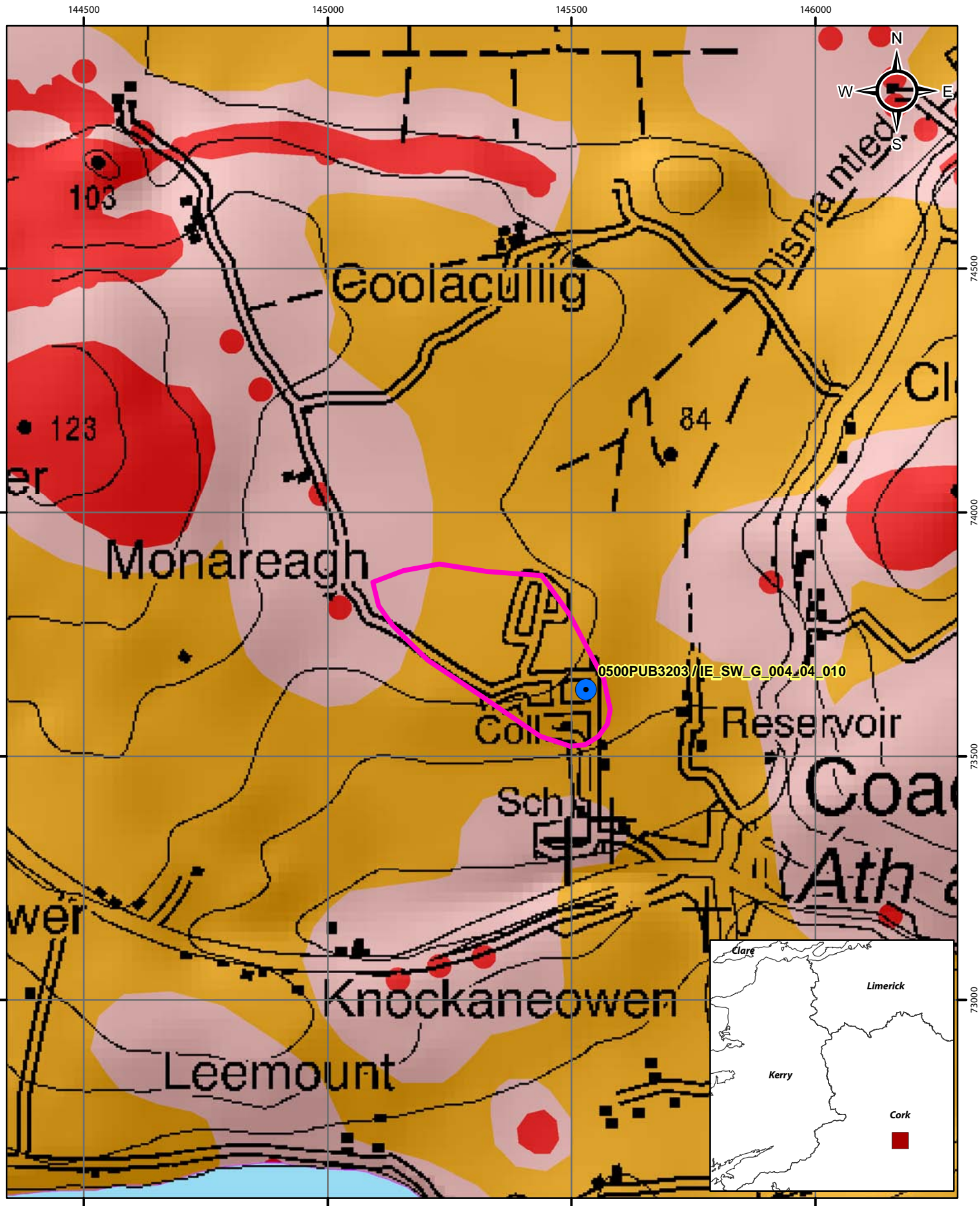


Bedrock Map for Coachford PWS

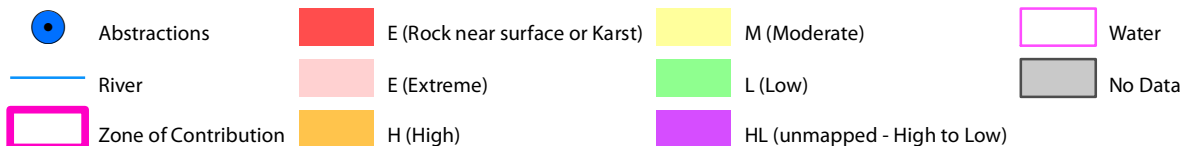
- Abstractions
- River
- Zone of Contribution
- Devonian Old Red Sandstones
- Fault

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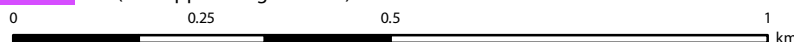
0 0.25 0.5 1 km

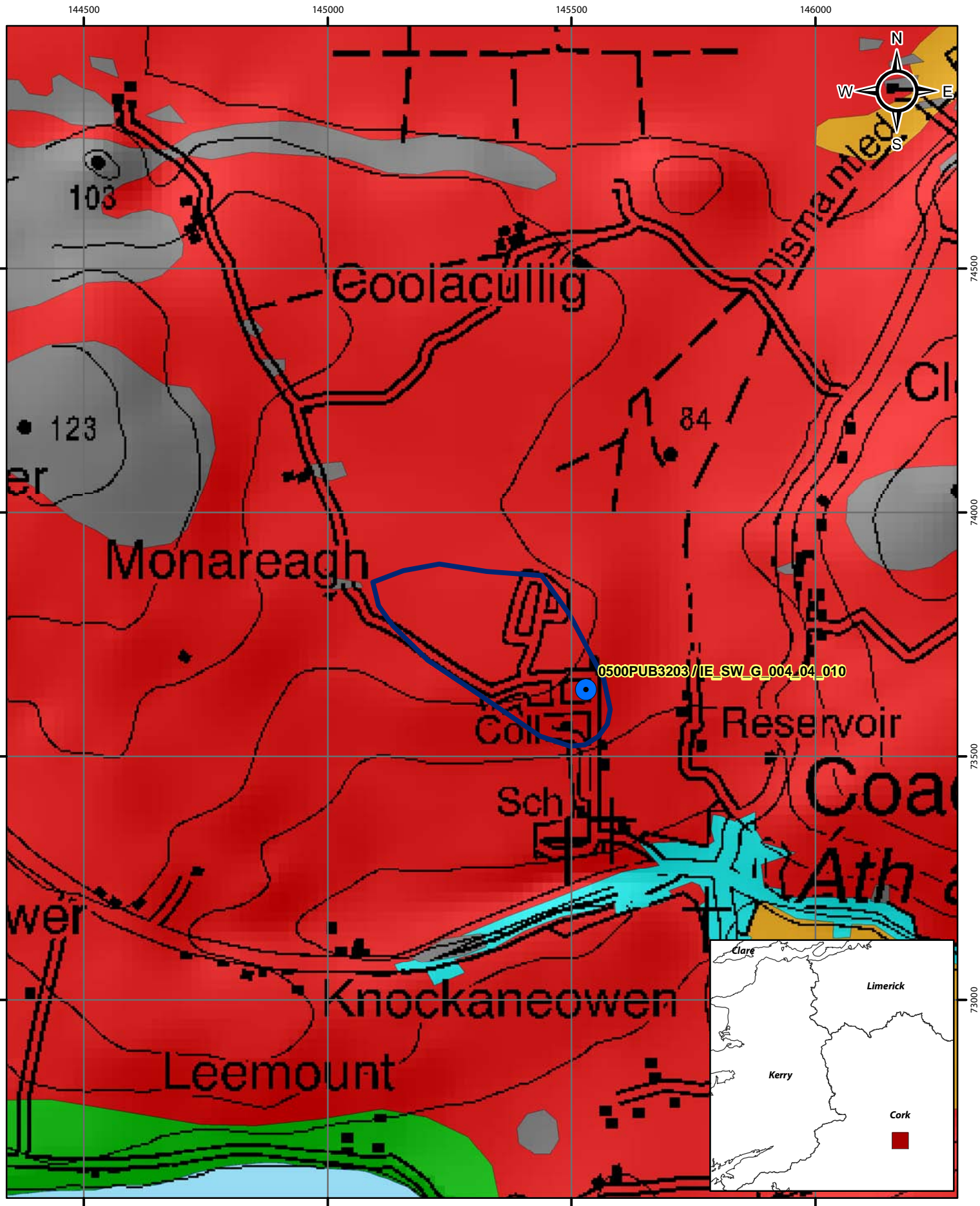


Groundwater Vulnerability Map for Coachford PWS

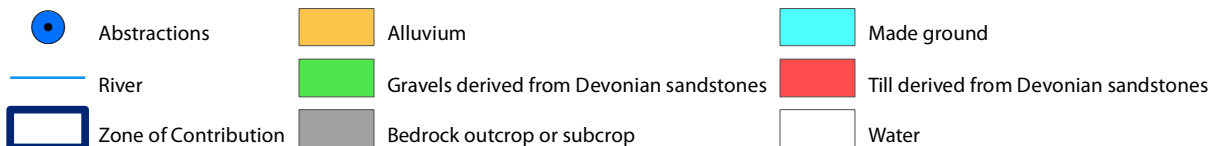


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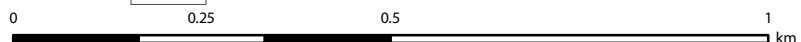


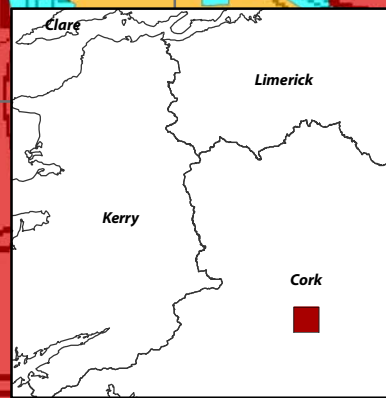
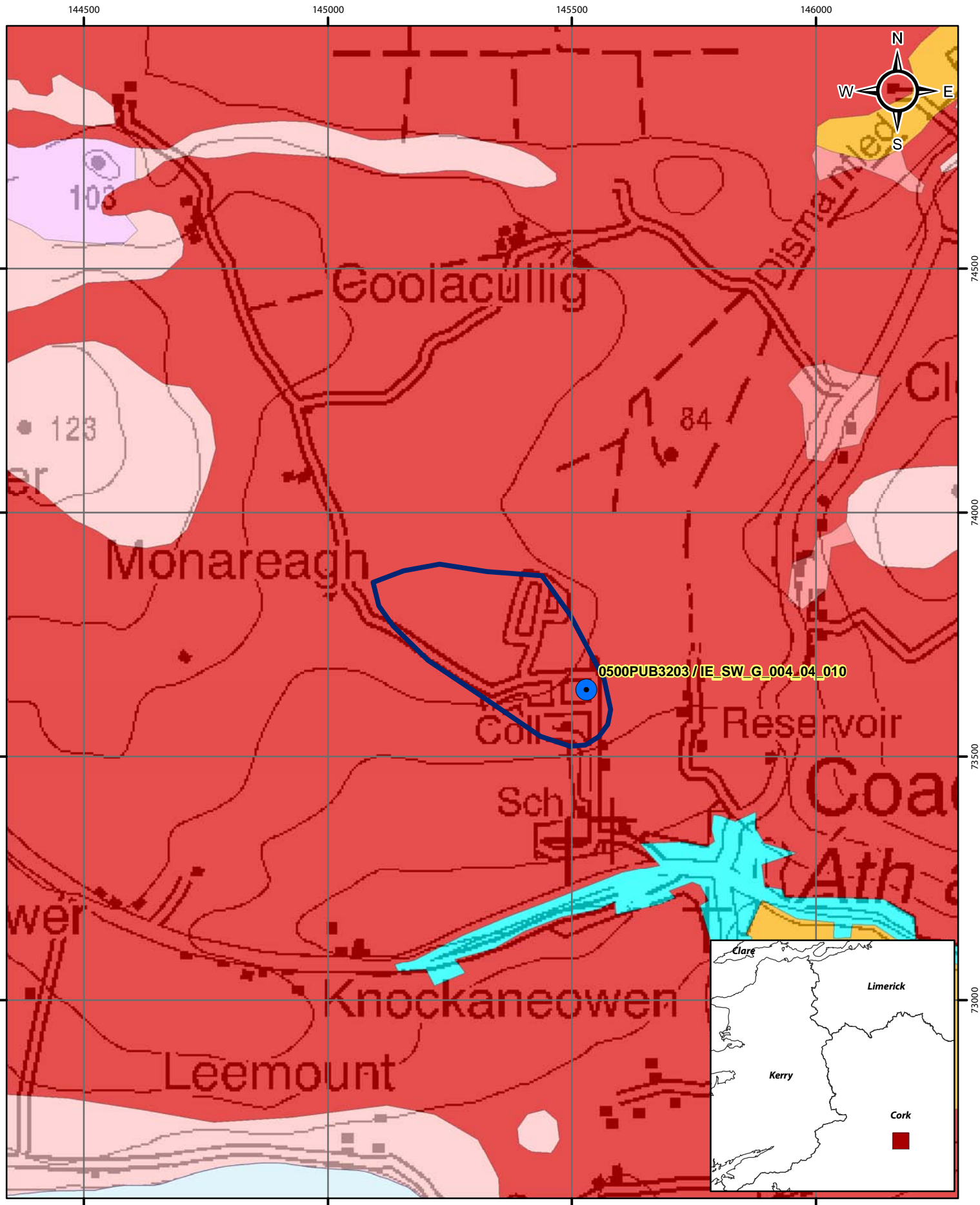


Subsoils Map for Coachford PWS

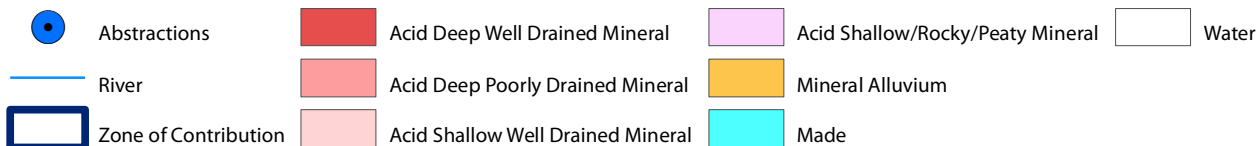


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Soils Map for Coachford PWS



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