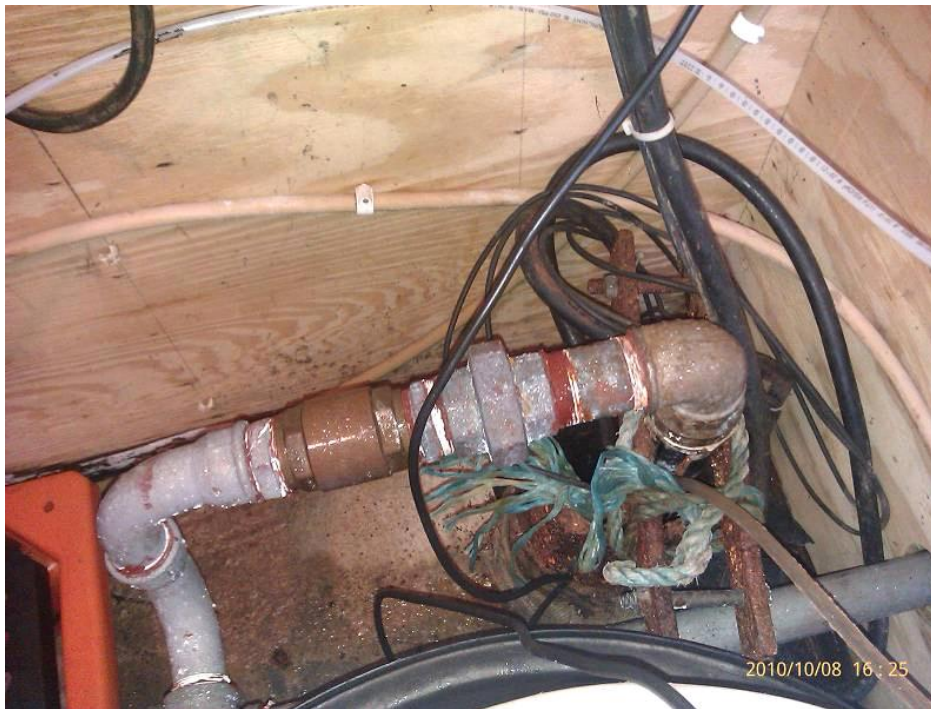


Water Framework Directive Groundwater Monitoring Programme

Site Information

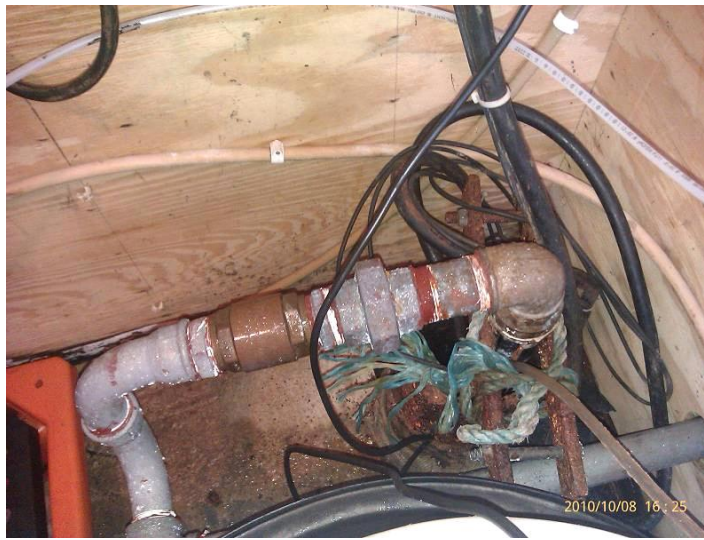
Athlacca



Athlacca PWS is situated in a Regional Fissured (Rf) Aquifer. The source provides 15 m³/day to Athlacca Village.

SITE INFORMATION					
Site Name:	Athlacca		County:	Limerick	
RBD:	Shannon IRBD		EU Reporting Code:	---	
Easting:	134155		GWB Name:	Ballingarry	
Northing:	155272		GWB Code:	IE_SH_G_022	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	1900PUB1007	
Hydrometric Area:	24		Water Level Monitoring Network:	Level	Flow
Townland:	Athlacca			N	N
Ownership:	Limerick County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		N
Site Comments:	---				
SITE DIRECTIONS					
Location and Access Information:	Athlacca borehole is located adjacent to the Athlacca and Dromacommer road, approximately 50m from the Morningstar River.				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	Borehole	Abstraction Rate (m³/d):	15	Ground Elevation (m OD):	49
Borehole Log Available:	---	Total Drilled Depth (m bgl):	---	Depth to Bedrock (m bgl):	---
Top of Casing (m agl):	---	Upper Casing Diameter (mm):	150	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):	steel	Screen Slot Size (mm):	---
Grout Type (cement,bentonite):	not grouted	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:	Uncapped. Difficult to dip (lack of room inside borehole for dipper). No construction details have been located.		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	---				
Scheme Name:	Athlacca PWS	Number of Abstraction Points in the Scheme:	1	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	Single borehole, drilled a long time ago (year not known). There is no reservoir within the scheme.				

HYDROGEOLOGY								
GEOLOGY	Soil:	Shallow well drained mineral (BminSW)					Subsoil Permeability:	High
	Subsoil:	Tills (diamictos) (TLs)						
	Bedrock:	Dinantian (early) Sandstones, Shales and Limestones						
HYDROGEOLOGY	Aquifer Category:	Rf	Vulnerability at Monitoring site:	Extreme		Flow Regime:	Productive fissured bedrock	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km ²):	0.03	ZOC Delineated By:	Tobin (CK/JD)		Recharge Estimate (mm/yr):	340	
	ZOC Delineation Comments:	The ZOC was delineated based on an abstraction rate of 22m ³ /d (i.e. 50% added buffer), and topography.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	8.09	91.91	0	0	0	0	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	Ca-HCO ₃		Additional Water Chemistry Information:	Nitrates appear low with an average of 5mg/l, but the range is 2-27.7mg/l. It may be partially confined. Chlorides are about 24mg/l. Chlorinated onsite.				
Alkalinity (mg/l HCO ₃):	Average:	Range:						
	---	---						
Hardness (mg/l CaCO ₃):	Average:	Range:						
	---	---						
Conductivity (uS/cm):	Average:	Range:						
	627	595-680						
Monitoring Record Period:	From:	To:						
	---	---						
RISK ASSESSMENT								
Pressure (e.g., Nitrates, Phosphates, Abstractions):	Diffuse		Typical Contaminants:	---				
Risk Category:	At risk, high confidence		GWB Status:	Good				
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:			
	0.00	100.00	0.00	0.00	0.00			
OTHER INFORMATION								



Borehole



Borehole housing



Water Treatment House

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 NO₃)

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.

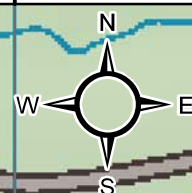
Version 0:	Prepared by		Date:	
Version 1:	Prepared by	Tobin (CK/JD)	Date:	Feb 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	

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Church

Coo

Athlacca North

PO

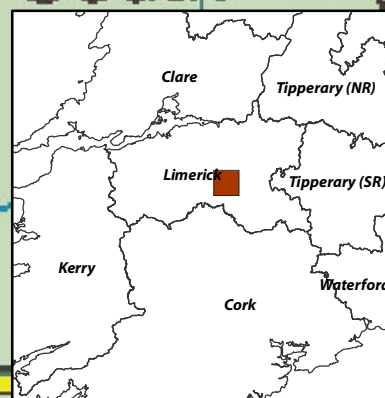
Morningstar

1900PUB1007




Sch

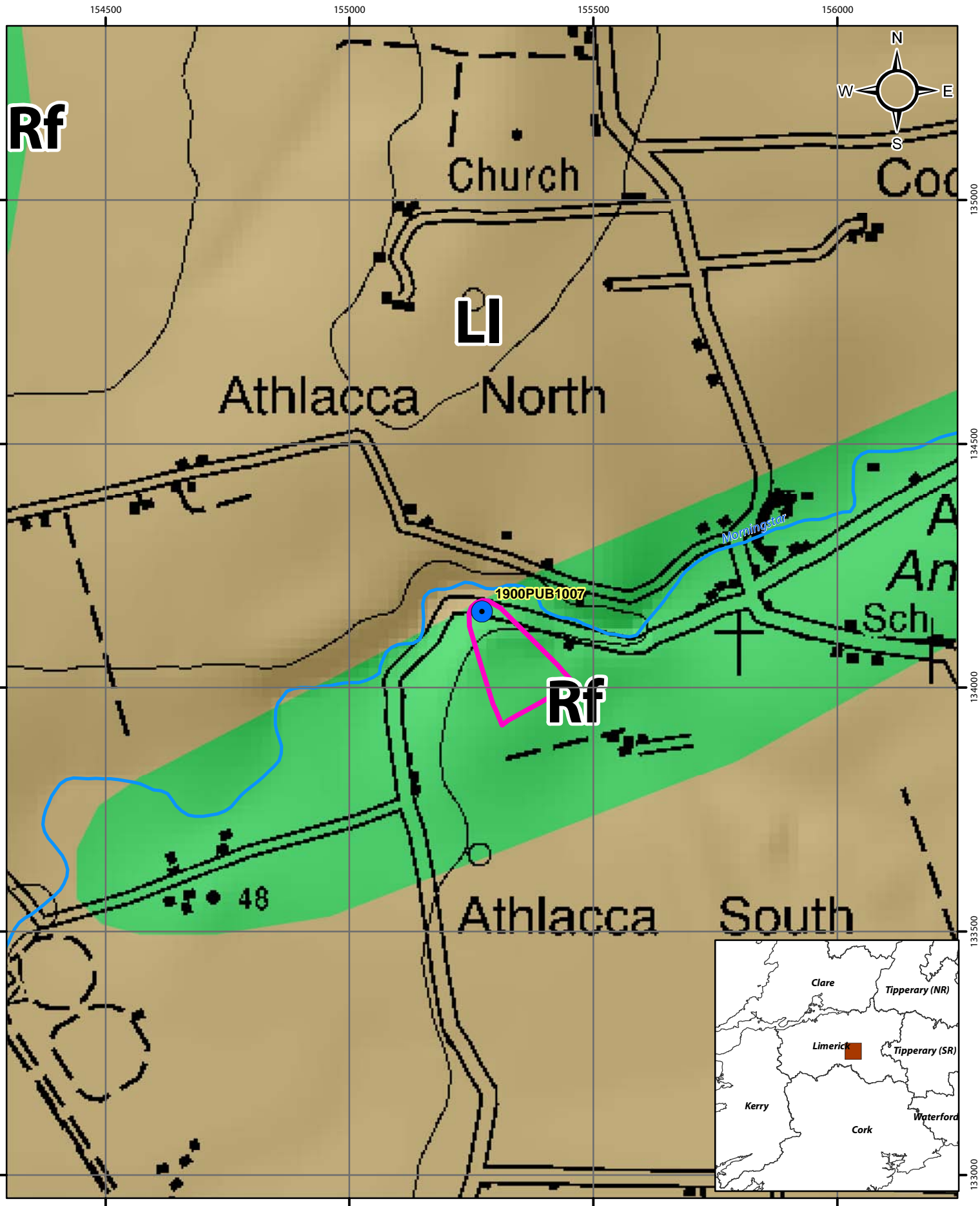
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Athlacca South



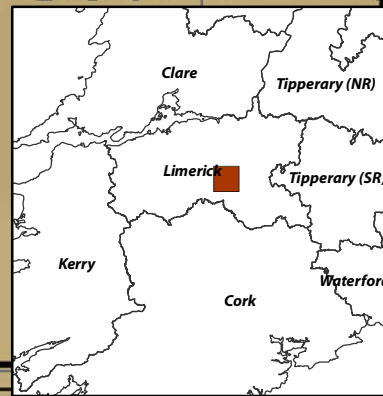
Location Map for ATHLACCA PUB DWS

-  Abstractions
-  Zone of Contribution
-  River



Aquifer Category Map for ATHLACCA PUB DWS

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

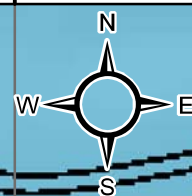


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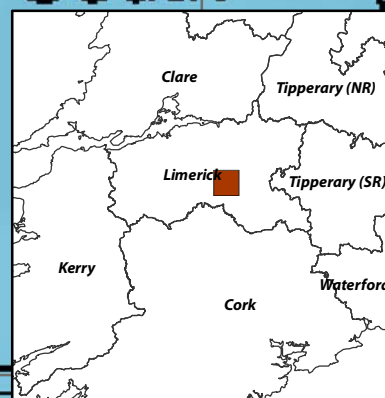
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Bedrock Map for ATHLACCA PUB DWS

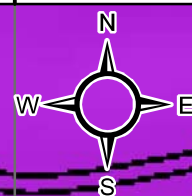
- Abstractions
- Zone of Contribution
- River
- Dinantian (early) Sandstones, Shales and Limestones
- Dinantian Lower Impure Limestones
- Fault

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Athlacca North

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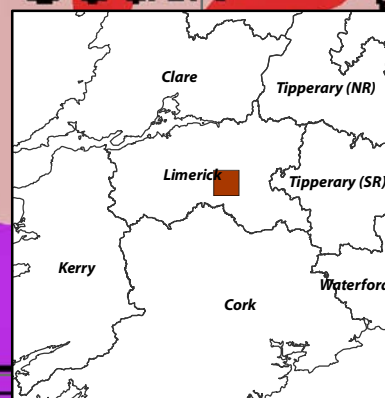
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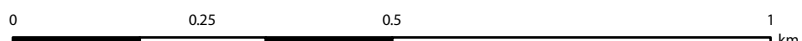
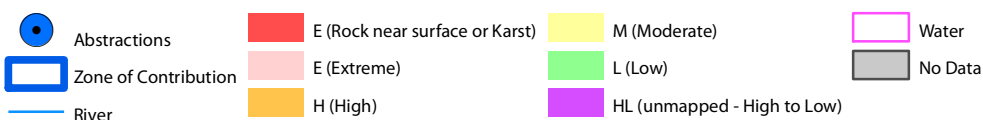
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Groundwater Vulnerability Map for ATHLACCA PUB DWS



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Athlacca North

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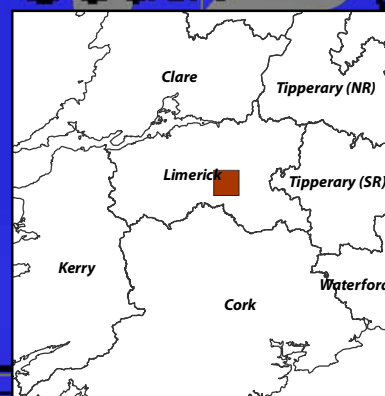
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Subsoils Map for ATHLACCA PUB DWS

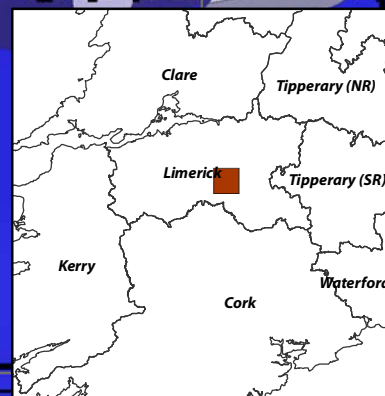
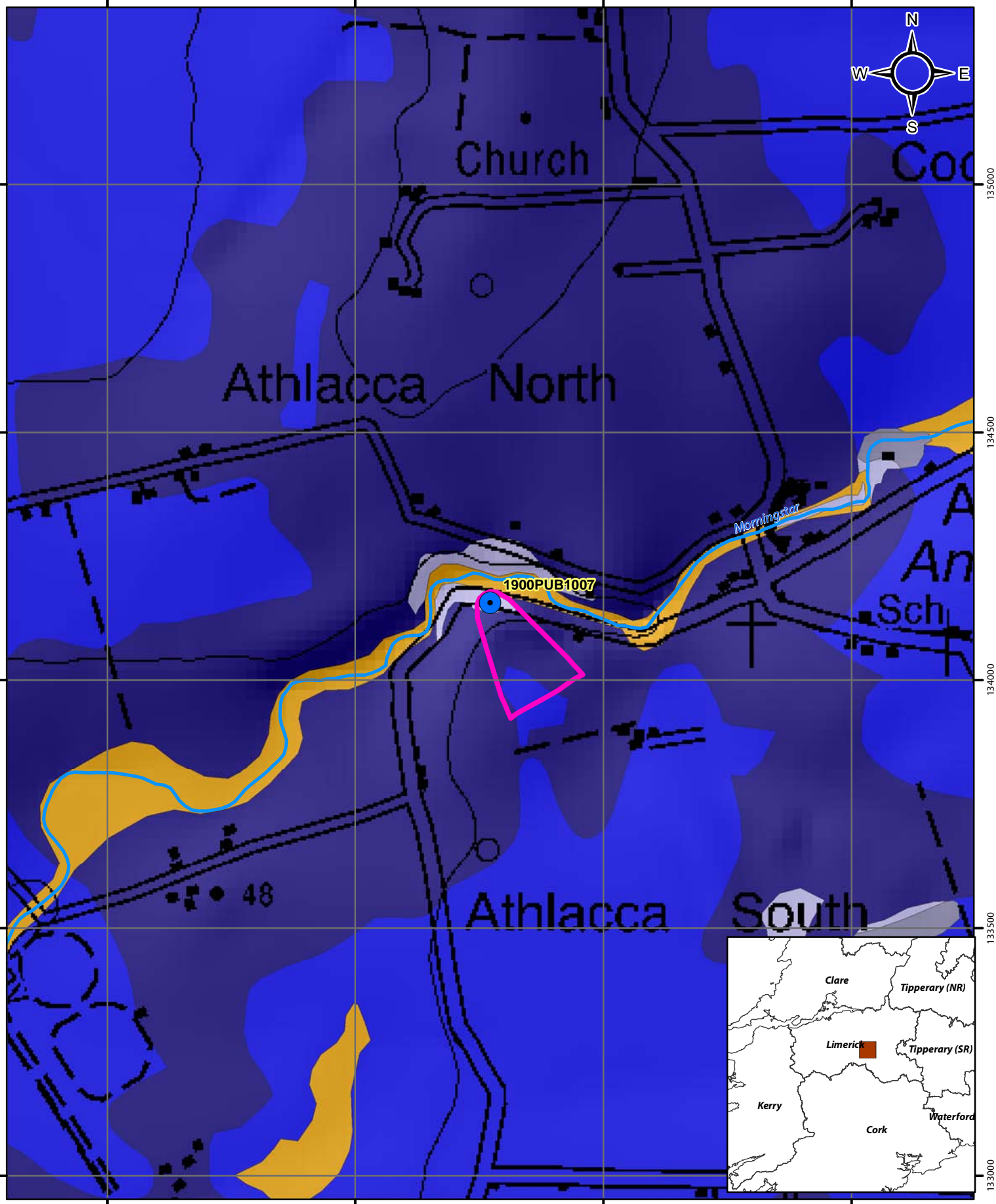
- | | | |
|----------------------|---------------------------------|---------------------------------------|
| Abstractions | Alluvium | Lacustrine sediments |
| Zone of Contribution | Gravels derived from limestones | Till derived from Devonian sandstones |
| River | Bedrock outcrop or subcrop | Till derived from limestones |

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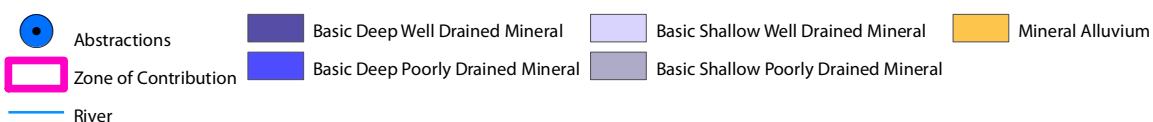
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Soils Map for ATHLACCA PUB DWS



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