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Our Ref: CP/CP/O00762  
Your Ref: ABP-311735-21

22<sup>nd</sup> November 2021

An Bord Pleanála  
64 Marlborough Street  
Dublin 1  
By email to [bord@pleanala.ie](mailto:bord@pleanala.ie) and post

**Re: Our Client(s): Maura O'Grady**

Dear Sirs,

Please see attached additional Submission prepared by Michael Duffy with reports and appendix documents.

Yours faithfully,

Sadleir Lynch Pierse  
Solicitors LLP

<b>AN BORD PLEANÁLA</b>	
LDG- _____	
ABP- _____	
23 NOV 2021	
Fee: € _____	Type: _____
Time: _____	By: <u>post</u>



# Submission of Ms. Maire O'Grady

## to a Section 5 referral

### ABP-311735-21 (Clare County Council R21-57)

#### Background:

The subject oil distribution depot has been in operation since approximately 2001. This became a major concern for the Applicant and her family in September 2020 following a significant oil spill at the depot. Prior to that there was not much interest in what was happening in this location. The business evolved and most people assumed that there was whatever official oversight as required. This clearly is not the case.

The fundamental questions regarding this matter have been included with the application to the Planning Authority which has since referred the matter to the Board. The questions posed are procedural planning matters but, in my Client's opinion, the Statute is clear and should not need referring in the first instance and definitely should not be troubling the Board. It is telling that the Planning Authority did not make its own decision on the referral. My Client wishes to provide some background information to provide context to her application.

#### Timeline of Events:

Date	Issue	Action
08 September 2020	Significant oil spillage to adjacent stream which was immediately reported to Clare County Council.	Promised to deal with it urgently
09 September 2020	Applicant & Brother attended at the offices of CCC to make formal complaint.	Individuals associated with the oil business had been informed of the complaint
15 September 2020	Mr. Feeney CCC Engineer	Stated that CCC do not test water and that applicant could get water tested herself.
17 September 2020	Applicant's Solicitor wrote to CCC stating that, among other things, there was no concrete base or interceptor tank	CCC acknowledged receipt of complaint
29 September 2020	Interceptor tank delivered to the site.	
01 October 2020	Mr. Feeney CCC Engineer	By email to my Solicitor stating "If your client has concerns with regard to their Health, we recommend they contact a Health Care Professional".
01 October 2020	Applicant observed 10 loads of concrete delivered to the site.	
02 October 2020	Interceptor tank installed	
07 October 2020	Applicant took water samples and sent to two different labs for analysis	Samples showed hydrocarbon contamination.



13 November 2020	CCC Planning Department	Stated it would not be taking any action as the depot was there for 7 years.
18 November 2020	Mr. Feeney CCC Engineer	Sent email saying that the Environment Section investigation was completed.
25 November 2020	Applicant sent copy of all correspondence to EPA	EPA did not visit the site
01 February 2021	Applicant took water samples and sent to two different labs for analysis	Both labs reported hydrocarbons in water and confirmed that there is no safe level for hydrocarbons in drinking water. The applicant's home is supplied from an on-site well.
26 February 2020	EPA informed applicant that it had closed its file after passing complaint to CCC to be dealt with by them.	
03 March 2021	Applicant again complained to CCC planning Department and Chief Fire Officer regarding hydrocarbons in the water supply	
29 March 2021	MR. Feeney CCC Engineer responded by asking who took water samples	Applicant responded with details requested.
05 April 2021	Applicant contacted Michael Duffy Chartered Engineer	Compiled Report. Made FOI & AIE requests
06 May 2021	CCC response	Provided a site plan and details of a recent application for a Dangerous Substance Licence
03 June 2021	Applicant wrote to the Chief Fire Officer stating concerns regarding application for the Dangerous Substance Licence. Applicant risk assessment be carried out.	No response to this request.
05 July 2021	Applicant engaged water testing (with chain of evidence).	Result show high presence of hydrocarbons in groundwater.
14 July 2021	Applicant received advice from Counsel via her Solicitor	Recommended section 5 declaration in advance of proceedings
03 September 2021	Section 5 application made to CCC Planning Department	Referred to ABP
12 September 2021	CCC sent unsigned site inspection report.	
20 September 2021	EPA wrote to Applicant stating it had corresponded with CCC but that it had not reverted.	



### Health & Environmental Concerns:

1. The Applicant is concerned about where the waste associated with the business was disposed over the last 20 years.
2. The Applicant regularly witnessed large oil hoses being dragged across tanks when filling trucks.
3. The subject site is in close proximity to a passing stream with flows to an adjacent lake. The Applicant's water supply is from a well in close proximity to the site. This site is within a European Site which has never been considered with respect to impacts from this development.
4. Under certain weather conditions oil vapours from the facility are overwhelming around the Applicant's home particularly when trucks are loading and unloading. These vapours can be sensed within the Applicant's home during the night when deliveries are being carried out.
5. The subject site is within the Slieve Aughty Mountains Special Protection Area **Site Code 004168**. The Special Conservation interest is the Hen Harrier and Merlin Falcon. There was no environmental impact assessment or appropriate assessment carried out regarding any of the development including the recent works on this site. It is unconscionable that such a business can be allowed to operate without any proper oversight.
6. Where is the unauthorised interceptor discharging to?
7. There is no section 4 discharge licence for this business premises.
8. Members of the Applicant's family have suffered unexplained medical issues for many years. That will be dealt with in a different forum but there is clearly a serious environmental issue associated with this unauthorised depot which should be stopped forthwith.





### Site Conditions:

Burrenside Oil has no Planning Permission for this business. It is only 45m from the Applicant's home and potable water well. Burrenside Oil has no Environmental Impact Assessment, Natura Impact Statement, Section 4 Waste Licence, Fire Certificates or Building Commencement Notice. They have been selling diesel, petrol and kerosene without a Dangerous Substance Licence. Members of the public also visit the site to fuel cars, vans, jeeps and tractors.

### Water:

The groundwater, surfacewater and tap-water (private drinking water well) of Maire O Grady showed the presence of Petroleum Hydrocarbons. An Independent Company took water samples in July 2021 with a verifiable chain of evidence and the borehole water sample showed the presence of **170 ug/l** total petroleum hydrocarbons. See Water Results July 2021.

### Interceptor:

Burrenside Oil installed an Interceptor Tank on October 2, 2020 without Planning Permission. A waste licence is required to discharge waste from an Oil Depot under the Water Pollution Act 1977. Section 7 of the Planning and Development Act 2000 requires that where applicable "A planning authority shall enter in the register a licence under the [Local Government \(Water Pollution\) Act, 1977](#) in respect of discharges from a development. As they are discharging waste (from interceptor & spills) they need a waste licence. Other Oil depots have Section 4 licences e.g. McCormack Fuel in Sligo and Sligo Fuel Sales Ltd. Burrenside Oil have no Section 4 Licence. Planning permission for an Interceptor Tank would require an EIS and NIS.

### Concrete Base:

A number of loads of concrete were poured over the base of the site in autumn 2020 following the Applicant's complaint to the Council. Prior to this, there was mud, gravel and grass on the base of site. Oil spills simply percolated into the ground impacting on groundwater and surfacewater. There are no drip trays present onsite or any provisions for dealing with spills.

### Vaporiser:

In order to sell petrol a vaporiser is needed. They do not have a Vaporiser. They have no vaporisers in the plan of the site for the Dangerous Substance Licence Application.

### Tank Capacity:

Tank capacity is 159,000 litres. This exceeds 3500 litres therefore it is not exempt development and therefore requires planning permission.

### Roads:

The weight of fuel tankers going back and forth is causing the road to split and need to be resurfaced every year. This has cost the taxpayer hundreds of thousands of euro over the past 20 years. Burrenside are supplying large volumes of oil over a wide area from this unauthorised depot.



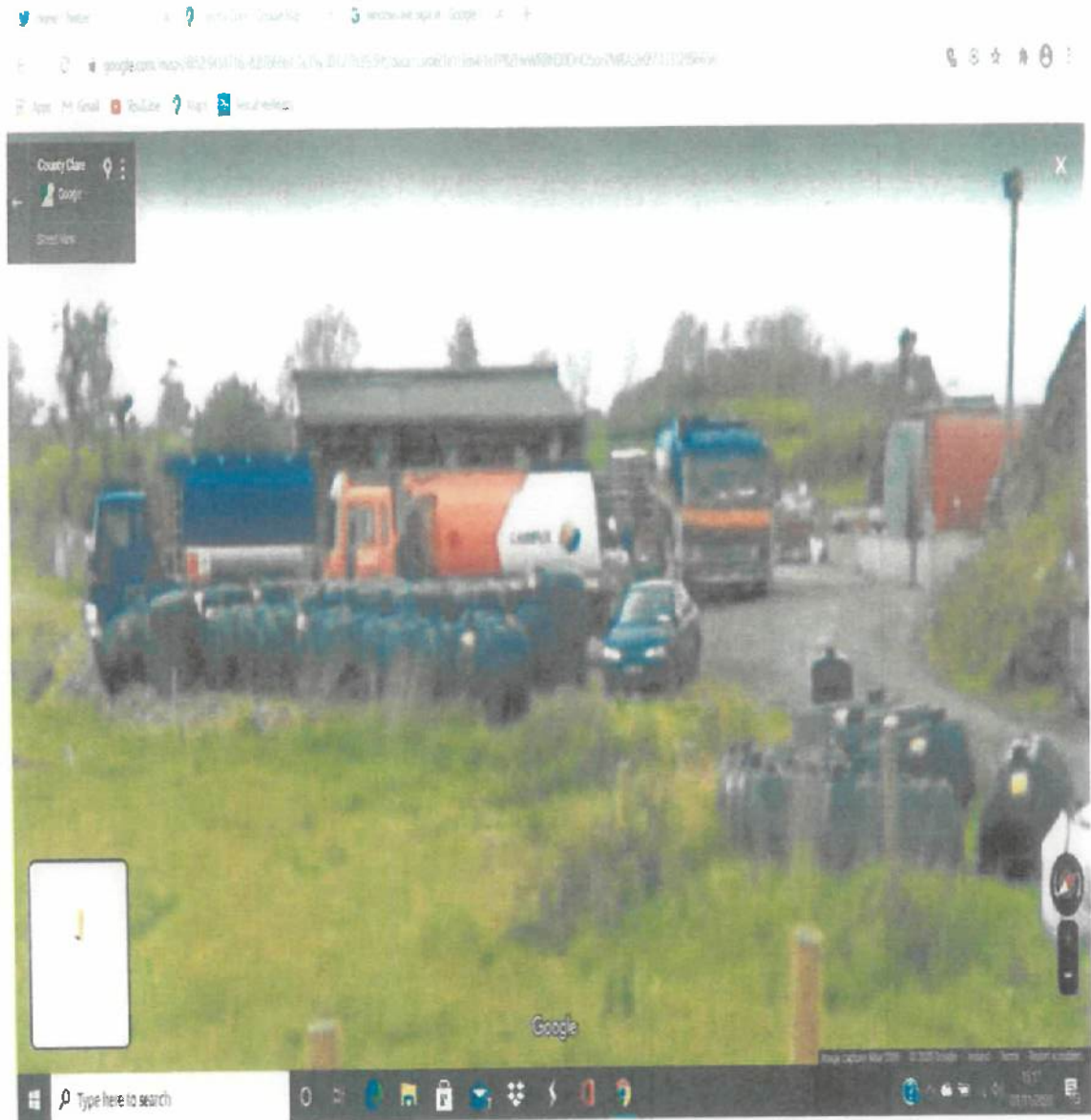
### Bunding around the Oil Tanks

The Bunding was only constructed in 2020 The Bunding walls and the concrete base of the bunding are still not completed. This leads to spills going into the ground and groundwater. See image taken from Google Maps 2021. The Bunding did not have Planning Permission, EIS or NIS.





The following images of Burrenside Oil from Google Maps 2009 showing Site including Grass, little concrete on ground, gravel on ground. Note the boggy, rushes, wetland. This land has many drains surrounding it. Slated Cowshed housing cows on Site behind Campus lorry.

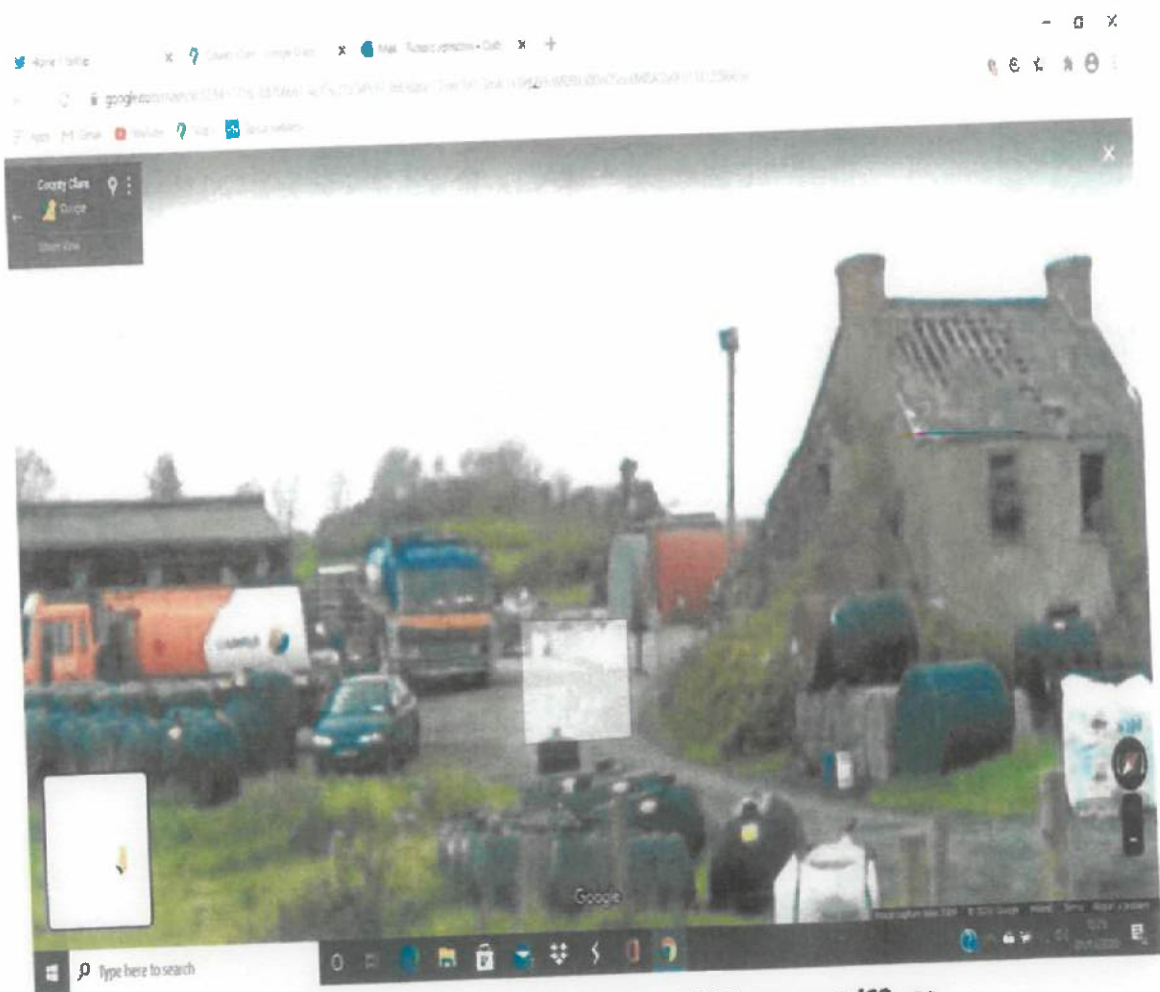


**New oil tanks some for replacement of old or leaking tanks**





**Entrance to Depot in used by articulated trucks often in the middle of the night**



**Prior to Demolition of Farmhouse which was a pre'63 use**







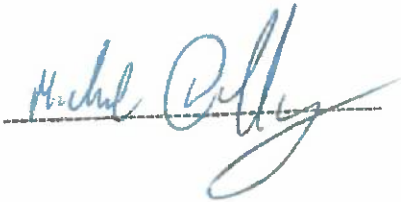
Overview of Location with Applicants property identified

#### Appendix A:

1. Copy of Applicants observations in her own words.
2. Google Map image showing no bunding on Northern or Western side of storage tanks.
3. Copy of unsigned Clare County Council Environmental Inspection Report CRM 014839. *It is noteworthy that this report, while providing some photos does not show the northern or western sides on the non-bunded tanks.*
4. Copy of entire application for Dangerous Substances Licence with no accompanying documentation.
5. For comparison copy of Clare County Council Environmental Inspection Report dated 18/7/05 on a similar enterprise in west Clare which was closed down.
6. Copy of Burrenside oil advertising including the sale of petrol from this location.
7. Copy correspondence from CCC Building Control re, fire certs and commencement notice.
8. Copy correspondence from environmental section.
9. List of CCC section 4 discharge licences.



Given the on-going serious concerns associated with the operation of this unauthorised depot the Applicant would appreciate as prompt a response as possible from the Board so that she can progress the matter to a final conclusion.

A handwritten signature in blue ink, appearing to read 'Michael Duffy', written over a horizontal dashed line.

**Michael J Duffy BE  
Civil Engineer  
Kilfenora,  
Co. Clare.  
(086) 2557258**

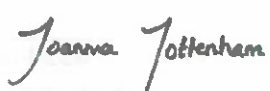

Michael Duffy BE CEng MIEI

Agent on behalf of Applicant Maire O'Grady.



<b>Maura O'Grady</b>
<b>At Crusheen, Co. Clare</b>
<b>Hydrogeological Assessment, Interpretation of Hydrochemistry Results and Treatment Recommendations</b>
Minerex Work Item A1
Minerex Doc. Ref: 3333 – Hydrogeological assessment, interpretation of hydrochemistry results and treatment recommendations (Rev 0)
Date: Tuesday 5 May 2021

<p><b>Document submitted by:</b> Minerex Environmental Limited Water and Soil Services Taney Hall, Dundrum, Dublin 14, Ireland Tel.: 01-2964435 Email: <a href="mailto:cecil.shine@minerex.ie">cecil.shine@minerex.ie</a> Website: <a href="http://www.minerex.ie">www.minerex.ie</a></p>	<p><b>Document To:</b> Maura O'Grady Ballygassan Crusheen Co. Clare V95 YN34</p>
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<b>Prepared by :</b>	<b>Reviewed by :</b>
	
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Dewatering Team Lead	Technical Director
Covid-19 Compliance Marshall	Covid-19 Lead Compliance Officer Covid-19 Compliance Marshall



**Groundwater Report**

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

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<b>Appendix</b>	<b>Title</b>	<b>Pages</b>	<b>Minerex Document Reference</b>
Appendix A	ALS Water Sample Results, Certificate of analysis	12 x A4	3333-032
Appendix B	CLS Water Sample Results, Certificate of analysis	6 x A4	3333-033
Appendix C	Subsoil Permeability Map	1 x A4	3333-008
Appendix D	Groundwater Recharge Map	1 x A4	3333-008
Appendix E	Photos provided by Maura O'Grady	1 x A4	3333-008

## Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

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### **WORK AND REPORT LIMITATIONS**

***IMPORTANT: This section should be read before reliance is placed on any of the opinions, advice, interpretations, conclusions or recommendations in the following report.***

1. Minerex Environmental Limited (MEL) has prepared this document for the sole use of its client in accordance with the work authorised.
2. No warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by MEL. However, MEL does carry Professional Indemnity (PI) Insurance.
3. This report may not be relied upon by any other party without the prior and express written permission from MEL.
4. Interpretations contained in this report are derived from available information of the site conditions, the likely environmental responses and the experience of the company.
5. MEL has prepared this report in line with best current practice and with all reasonable professional judgement, skill, care and diligence in consideration of the limits imposed by materials, equipment and methodologies used, and the time constraints and resources devoted to it as agreed with the client.
6. The interpretative basis of the conclusions contained in this report should be taken into account in any future use of this report. If the scope of the works includes drilling, pitting, sampling, or interpretation of such information, the client's attention is drawn to the fact that special risks occur whenever hydrogeological and related disciplines are applied to identify subsurface conditions.
7. The environmental, geological, geotechnical, geochemical, hydrological and hydrogeological conditions etc that MEL interprets to exist between sampling points may differ from those that actually exist. Trial pitting and drilling, for example, exposes the subsoils over typically <1% of a site and in sites with long histories with several owners and business practices, interpretations and interpolations can be very different to the actual site conditions. Even a comprehensive sampling and testing programme, implemented in accordance with a professional Standard of Care considering Industry Standard Guidance, may fail to detect certain conditions only discovered later on.
8. Also, the passage of time, natural occurrences, and activities in the adjacent sites to the site which MEL reports on to a Client, may substantially alter the discovered conditions at any time after the Site Investigations are carried out by MEL.
9. Changes in the legislation, industry standards and guidance may cause opinion, advice, conclusions and recommendations set out in MEL reports to become out of date, inappropriate or incorrect. Once a report has been issued to a Client, MEL will have no obligation to advise the Client of any such changes, or their repercussions.
10. While MEL endeavours to take reasonable effort to assess data in hand at the time of writing and give the best advice possible, MEL will accept no responsibility for how the information within this report is interpreted and used. Where elements of this report are based upon information provided by others, it is assumed that all the relevant information has been supplied to MEL in full and is reliable, accurate and representative.
11. It should always be assumed that MEL has not independently verified any information provided by others. MEL, its agents, directors, owners, employees, and contractors therefore will not be held responsible for any loss (reputation, financial, technical or otherwise) occurring from the use of this report, however caused.

## Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

### 1. Purpose of this document, Client & site location, description of the work

Minerex Environmental Ltd. (Minerex or MEL) has been approached by Maura O' Grady (MEL Client) to generate a report analysing data provided by the client associated with Hydrocarbon contamination of a water well, tap water and a stream located in Crusheen, Co. Clare. The location of the site is Maura O Grady's private residence, situated in Crusheen, co. Clare (See Location map 1 & 2). Burrenside Oil depot is located on the opposite side of the road to the O'Grady residence. The house and farm animals receive a water supply from two private wells which are located on the property.

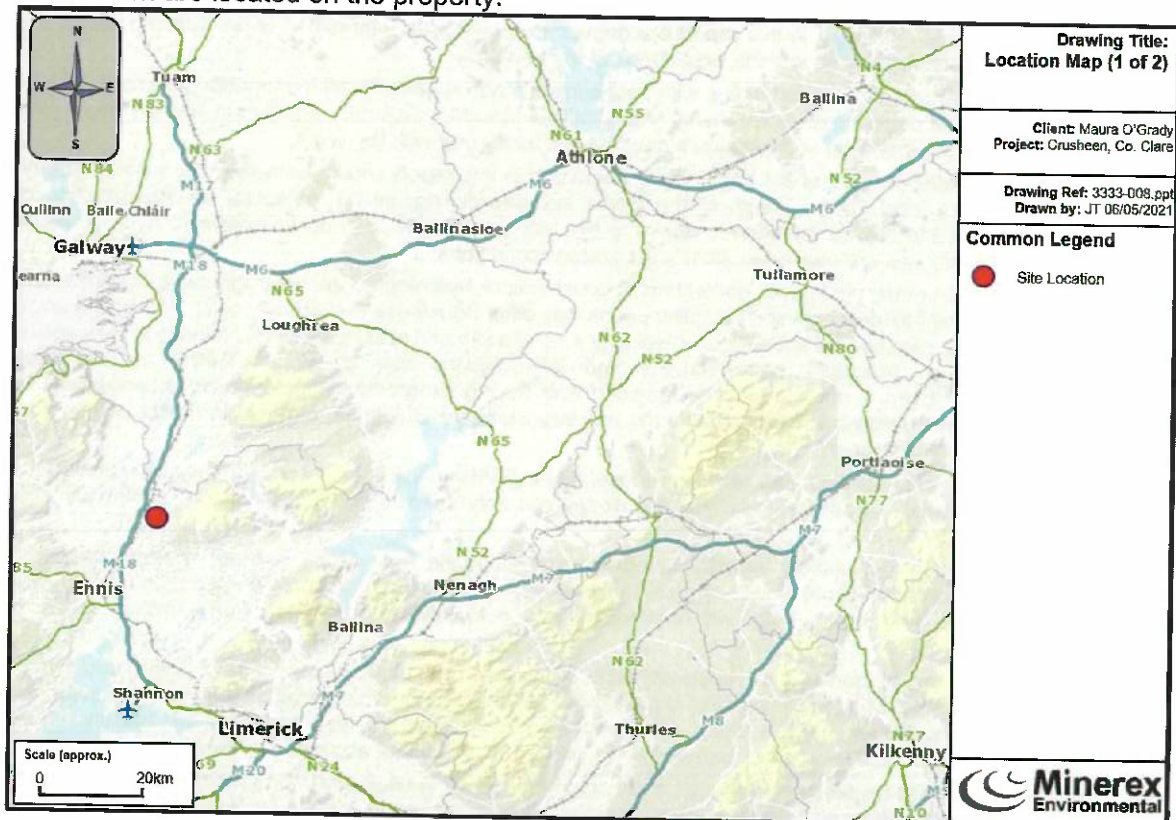


Figure 1: Location Map 1

Water to the house is supplied by a well which is located on the garden lawn approximately 40metres from the stream which runs adjacent to Burrenside Oil depot. The well was drilled in 2011/12 and is estimated to be over 200ft according to the client. The farm animals receive a supply of drinking water from the pumphouse well, which is a karst spring well. This well was dug in approximately 1970 and has a pumphouse adjacent to the well. The stream runs approximately 40metres from this well. There are also a number of wells outside the confines of the client's property. These consist of both group water scheme wells and private wells (See Figure 5).

The following information was provided by the client; diesel flow across the ground at the Burrenside Oil fuel depot was observed on September 8, 2020. The client noted that the depot was installed with no planning permission. The location of the depot is less than 40 metres from the client's house and private borehole, situated on bogland and spillages were observed by



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the client soaking into the ground. The client notes that the Fuel depot has no impermeable barrier to ground or groundwater and that no clean-up operation was observed.

Water samples were taken on 7 October 2020 and on 10 February 2021. The samples were taken from three locations; The Pumphouse well, Taps from within the client's house and a stream which runs adjacent to the fuel depot. Results from these sampling events have been analysed by accredited laboratories and the results are interpreted within this report.

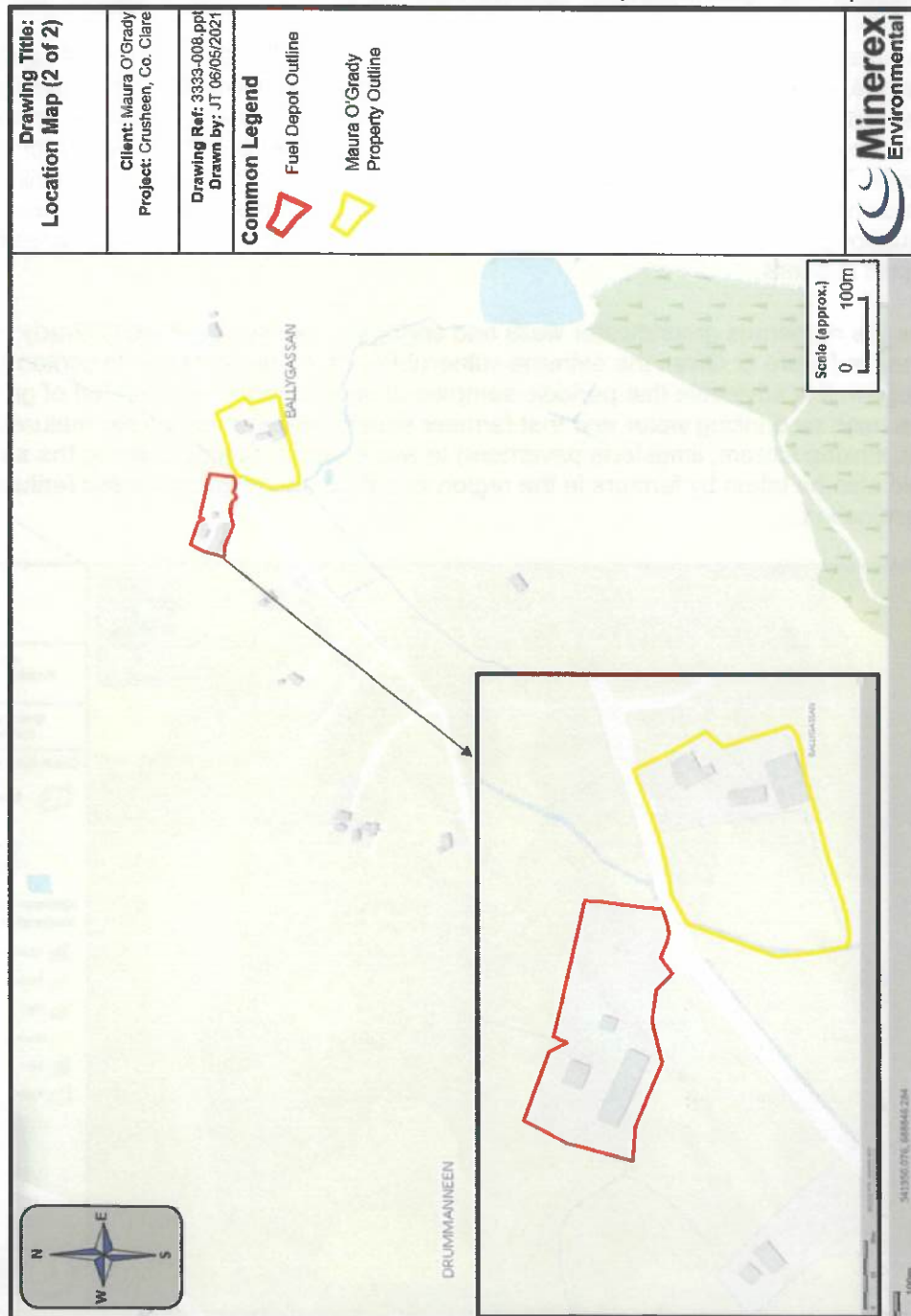


Figure 2: Location Map 2

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### 2. Site Geology and Environmental Vulnerability

The O'Grady residence is located on predominantly raised peat sediment. Till derived from Limestones lies to the west of the property. The bedrock is Tubber Limestone which consists of crinoidal cherty limestone containing some dolomite (Figure 6). This geology is typical of the karst landscape. The subsoil permeability in this location is moderate and groundwater recharge is 159mm/yr (Recharge coefficient 22.50%).

Groundwater is most at risk where subsoils are absent or thin and in areas of karstic limestone, where surface streams sink underground at swallow holes. Groundwater vulnerability maps are based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays) and the presence of karst features. The O'Grady residence is situated in an area of groundwater vulnerability classified as Rock near surface or karst and extreme groundwater vulnerability. This is determined by the subsoil permeability, depth to bedrock, Groundwater Karst Data Sinking streams and Teagasc subsoils.

There are numerous groundwater wells and springs in the vicinity of the O'Grady residence as outlined in Figure 5. Given the extreme vulnerability of the groundwater to contamination in the region, it is advisable that periodic samples of groundwater are analysed of groundwater that is used as drinking water and that farmers should fence of any karstic features (swallow holes, sinking stream, limestone pavement) to avoid animal faeces entering the aquifer. Care should also be taken by farmers in the region to not spread slurry on karstic features to avoid contamination.

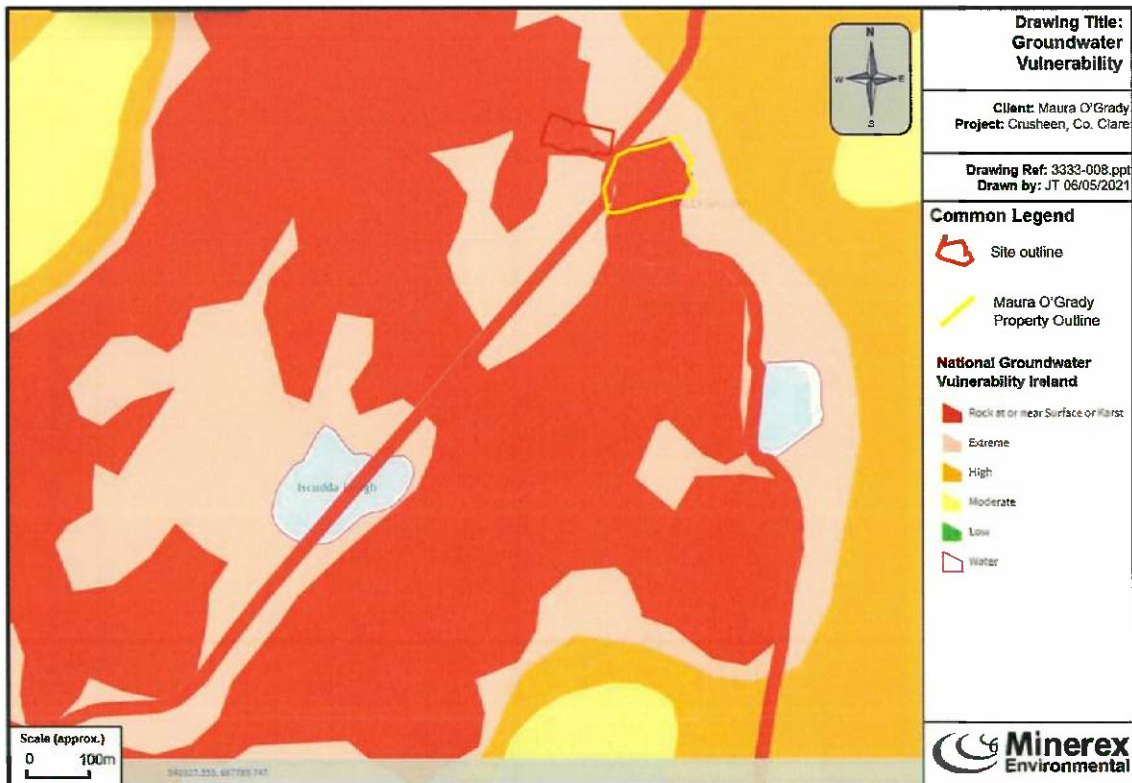


Figure 3: Groundwater Vulnerability

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The O'Grady Residence and Burrenside oil depot also lies within the confines of a Special Protection Area which is called the Slieve Aughty Mountains SPA [004168]. This SPA is aimed at restoring favourable species numbers of Hen Harrier and Merlin. The SPA is part of the EU Birds Directive (2009/147/EC), which is included in the Natura 2000 ecological network, set up under the Habitats Directive 92/43/EEC. Article 6 is one of the most important articles in the habitats directive as it defines how Natura sites are managed and protected.

**Paragraphs 6(1) and 6(2)** require that, within Natura 2000, Member States:

- Take appropriate conservation measures to maintain and restore the habitats and species for which the site has been designated to a favourable conservation status;
- Avoid damaging activities that could significantly disturb these species or deteriorate the habitats of the protected species or habitat types.

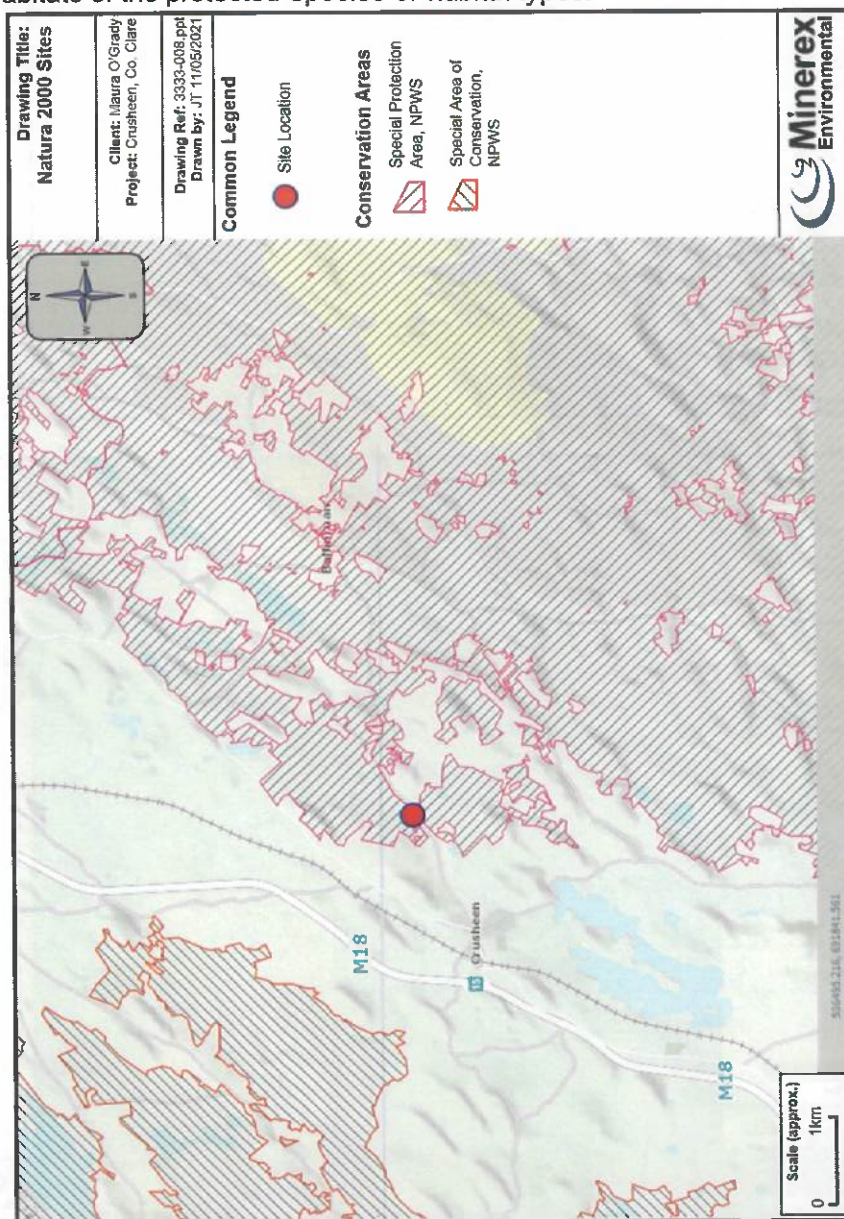


Figure 4: Natura 2000 Sites in Crusheen Locality

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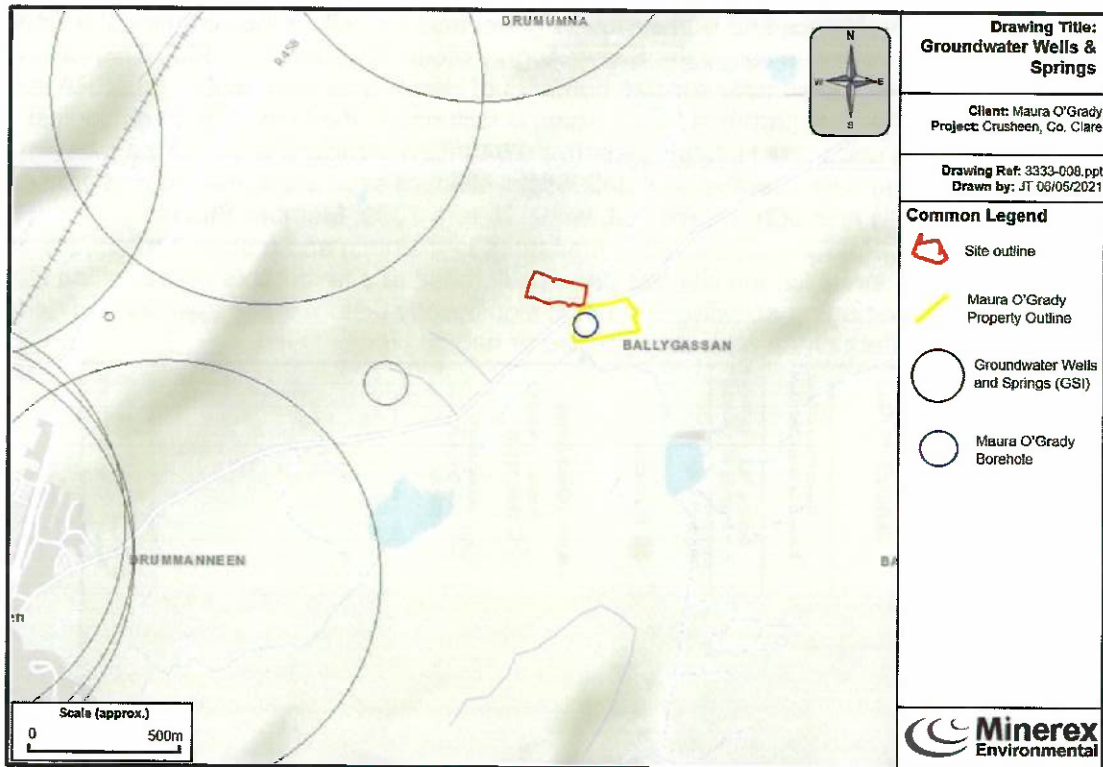


Figure 5: Groundwater Wells and Springs

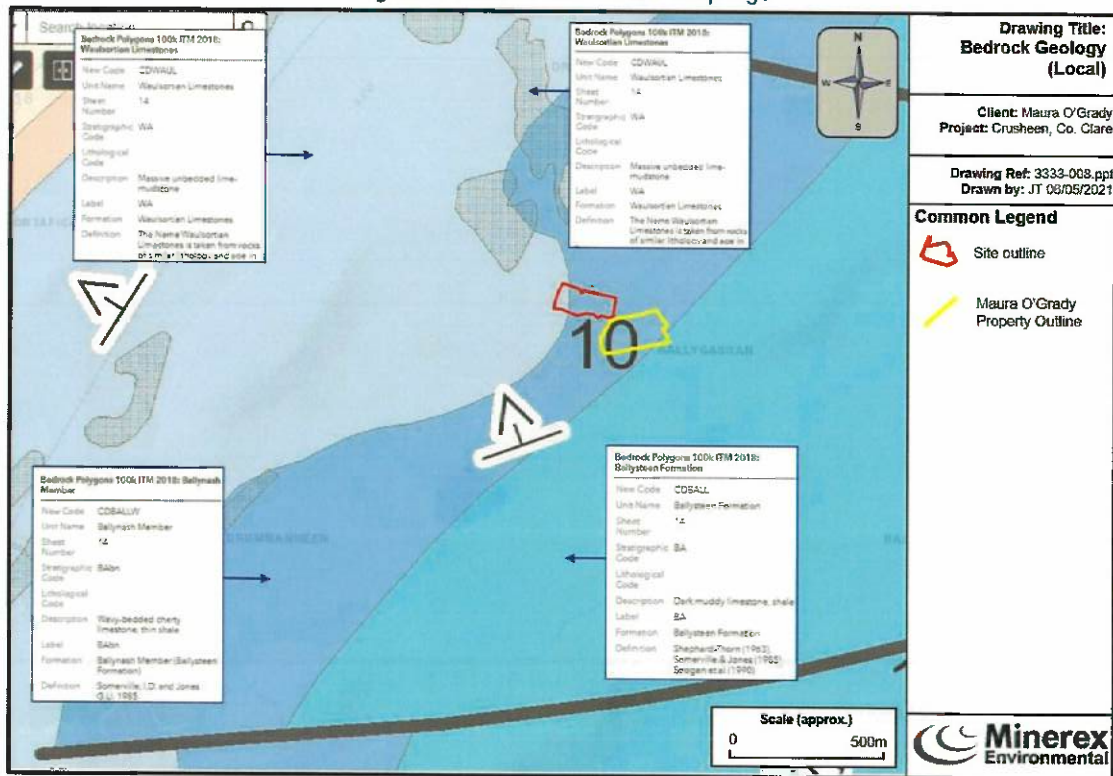


Figure 6: Bedrock Geology

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### 3. Water Sampling Results

The current European Drinking Water Regulations (S.I. No. 122 of 2014) defines no limit for Total Petroleum Hydrocarbons in Drinking Water and hence the results have been compared to current European Union Environmental Objectives (Groundwater) (Amendment) Regulations 2016 S.I. No. 366/2016. However, it is noted that petroleum hydrocarbons are present on the list of Dangerous Substances Directive 76/464/EEC LIST I and LIST II and also on the Groundwater Directive 80/68/EEC. Historic Drinking Water regulations such as the Irish Drinking Water Regulations, 1988 (S.I. No. 81 of 1988), defined a limit of 10ug/l TPH in drinking water (See Figure 8).

Water samples were taken on 7 October 2020 and on 10 February 2021 from three locations at Maura O'Grady's private residence; The Pumphouse well, Taps from within the client's house and a stream which runs adjacent to the Burrenside Oil fuel depot. Results from these sampling events are shown in Figure 7.

#### October 2020 Water Sample Results

All sampling locations on 7 October 2020 showed elevated petroleum hydrocarbons above the 10ug/l EPA interim guidance values (2004) for groundwater. The samples taken in the stream showed significant exceedances in regulatory limits for the all hydrocarbon ranges. The pumphouse borehole and tap water samples showed exceedances hydrocarbons in the C8-C40 and C5-C44 carbon ranges but not of the C4-C12 carbon range. This is a potential indication of evaporation of the C4-C12 range at this location or in transport to this location given high volatility and low solubility of this carbon range. The surface water samples showed hydrocarbon presence of up to 4.7 times the 10ug/l limit. The pumphouse well showed elevated hydrocarbons of up to 6.5 times the limit and the tap water samples showed elevated hydrocarbons of up to 4.4 the limit.

Water samples were not analysed for Polycyclic aromatic hydrocarbons (PAH).

#### February 2021 Water Sample Results

The samples taken on 10 February 2021 did not show elevated hydrocarbons with respect to EPA guidance values in all sampling locations. Surface water and tap water sample results did not show hydrocarbon presence above the limit of detection of the analytical technique (10ug/l). Results from the pumphouse well show elevated hydrocarbons up to 9.4 times the 10ug/l EPA guidance values.

Results showed no presence of polycyclic aromatic hydrocarbons in the samples analysed at the 0.1ug/l detection limit. The EPA guidance for groundwater (2004) shows a limit of 0.7ug/l for Benzo(a)pyrene (PAH). The European Drinking Water Regulations (S.I. No. 122 of 2014) gives a limit for PAH which is 0.10ug/l.

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Parameter	Units	Sampling Date	EPA Interim Guideline Values (IGV's) 2004		S.I. No. 9 of 2010 European Communities Environmental Objectives (Groundwater) Regulations, 2010		S.I. No. 366 of 2016 European Communities Environmental Objectives (Groundwater) (Amendment) Regulations, 2016		Surface Water		Pumphouse Water		Tap Water	
			water	soil	gas	2020 Sampling	2021 Sampling	2020 Sampling	2021 Sampling	2020 Sampling	2021 Sampling	2020 Sampling	2021 Sampling	2020 Sampling
PRO (>C4 - C12)	ug/l	07 October 2020	water						18	<10				<10
Extractable Hydrocarbons (C8 - C40)	ug/l	07 October 2020	water						47	65				38
TPH (>C5 - C44)	ug/l	07 October 2020	water		10ug/l				32	60				44
EH >C10 - C20	ug/l	10 February 2021	water							<10				<10
EH >C20 - C40	ug/l	10 February 2021	water							<10				<10
EH >C6 - C10	ug/l	10 February 2021	water							<10				<10
EH >C6 - C40	ug/l	10 February 2021	water		10ug/l					<10				<10
Naphthalene	ug/l	10 February 2021	water							<10				<10
Acenaphthylene	ug/l	10 February 2021	water							<10				<10
Acenaphthene	ug/l	10 February 2021	water							<10				<10
Fluorene	ug/l	10 February 2021	water							<10				<10
Phenanthrene	ug/l	10 February 2021	water							<10				<10
Anthracene	ug/l	10 February 2021	water							<10				<10
Fluoranthene	ug/l	10 February 2021	water							<10				<10
Pyrene	ug/l	10 February 2021	water							<10				<10
Benzo(a)anthracene	ug/l	10 February 2021	water							<10				<10
Chrysene	ug/l	10 February 2021	water							<10				<10
Benzo(b)fluoranthene	ug/l	10 February 2021	water							<10				<10
Benzo(k)fluoranthene	ug/l	10 February 2021	water							<10				<10
Benzo(a)pyrene	ug/l	10 February 2021	water							<10				<10
Indeno(1,2,3-cd)pyrene	ug/l	10 February 2021	water							<10				<10
Dibenz(a,h)anthracene	ug/l	10 February 2021	water							<10				<10
Benzo(ghi)perylene	ug/l	10 February 2021	water							<10				<10
PAH, Total of 16	ug/l	10 February 2021	water							<10				<10

Figure 7: Sampling Results

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**Table 3.1: Interim Guideline Values for Characterisation List of Parameters**

PARAMETER	List I or List II	Drinking Water Standards (units)	GSI Trigger Values	EQSs for Surface Waters	Interim Guideline Value	Source of Interim GVs
<b>CORE PARAMETERS or NATURAL SUBSTANCES</b>						
<i>Physicochemical-Microbiological</i>						
Coliforms (faecal)		0 counts per 100ml	0 counts per 100ml		0 counts per 100ml	B, I
Coliforms (total)		0 counts per 100ml	0 counts per 100ml		0 counts per 100ml	B, I
Electrical Conductivity		1500 µS/cm		1000µS/cm	1000µS/cm	K
Temperature		25°C			25°C	B
TOC		No abnormal change			No abnormal change	-
Colour					No abnormal change	A
pH (pH units)		≥ 6.5 and ≤ 9.5			≥ 6.5 and ≤ 9.5	A
<i>Inorganic</i>						
Alkalinity					No abnormal change	-
Ammonia (as ammonium)	II	0.30 mg/l	0.15 mg/l	0.02 NH <sub>3</sub>	0.15 mg/l	I
Bicarbonate		No abnormal change			No abnormal change	-
Calcium		200 mg/l			200 mg/l	B
Carbonate		No abnormal change			No abnormal change	-
Chloride		250 mg/l	30 mg/l	250 mg/l	30 mg/l	I
Dissolved Oxygen		No abnormal change			No abnormal change	-
Hardness (as CaCO <sub>3</sub> )		200 mg/l			200 mg/l	G
Iron		0.2 mg/l		1.0 mg/l	0.2 mg/l	A
Magnesium		50 mg/l			50 mg/l	B
Manganese		0.05 mg/l		0.3 mg/l	0.05 mg/l	A
Nitrate (as NO <sub>3</sub> )		50 mg/l	25 mg/l	50 mg/l	25 mg/l	I
Nitrite (as NO <sub>2</sub> )	II	0.1 mg/l		0.2 mg/l	0.1 mg/l	A
Orthophosphate		0.03 mg/l			0.03 mg/l	F
Potassium		12 mg/l	5 mg/l		5 mg/l	I
Sodium		150 mg/l			150 mg/l	B
Sulphate mg/l		250 mg/l		200 mg/l	200 mg/l	K
<i>Metals</i>						
Aluminium		0.2 mg/l		0.2 mg/l	0.2 mg/l	A, K
Arsenic and its compounds	II	0.01 mg/l		0.025mg/l*	0.01 mg/l	A
Boron	II	1.0 mg/l		2.0 mg/l	1.0 mg/l	A
Cadmium and its compounds	I	0.005 mg/l		0.005 mg/l	0.005 mg/l	A, K
Chromium and its compounds	II	0.05 mg/l		0.03 mg/l*	0.03 mg/l*	J
Copper and its compounds	II	2.0 mg/l		0.03 mg/l*	0.03 mg/l*	J
Mercury and its compounds	I	0.001 mg/l		0.001 mg/l	0.001 mg/l	A, K
Nickel and its compounds	II	0.02 mg/l		0.05 mg/l*	0.02 mg/l	A
Zinc and its compounds	II	5.0 mg/l		0.1 mg/l*	0.1 mg/l*	J
<i>Organics</i>						
TON mg/l		No abnormal change			No abnormal change	-
Total Hydrocarbons to include mineral oil by GC** mg/l	I	0.01 mg/l		0.01 mg/l	0.01 mg/l	B, K
** TPH by Gas Chromatography: This analysis can serve as a 'catch-all' and will present results for the general term 'Gasoline Range Organics' and the separate 'BTEX' parameters including MTBE. 'Diesel Range Organics' (DRO) should also be specified in order to determine mineral oil concentration.						

Figure 8: Excerpt from 1993 EPA publication 'TOWARDS SETTING GUIDELINE VALUES FOR THE PROTECTION OF GROUNDWATER IN IRELAND'.

#### **4. Effects of Hydrocarbons on Human Health**

The World Health Organisation does not have a guideline value for the maximum allowable concentration Total Petroleum Hydrocarbons in drinking water. It states that taste and odour will in most cases be detectable at concentrations below those concentrations of concern for health, particularly with short-term exposure.

According to the publication 'Total Petroleum Hydrocarbons' by Kuppusamy et al (2020), exposure to hydrocarbons via direct (breathing contaminated air, direct contact with skin) or indirect contact (bathing in contaminated water, eating contaminated food) causes severe health issues in humans. The effects depend mainly on the type of site on which oil is spilled (land, river, ocean). Another contributing factor is the level of exposure and kind of oil encountered. Once hydrocarbons are discharged into the surrounding environment, they can bioaccumulate in food chains which results in the disruption of 'biochemical and physiological in many ingested organisms and causing a wide array of disorders, and most important are carcinogenesis, mutagenesis, and impaired reproductive capacity in exposed populations.

Health disorders include skin and eye irritation, breathing and neurologic problems, and stress. TPHs have a strong impact on mental health and induce physical/physiological effects, and they are potentially toxic to genetic, immune, and endocrine systems. Even though the long-term effects of TPHs in humans are not fully understood yet, certain symptoms may persist for some years of post-exposure period. Thus, health protection in TPHs-exposed individuals is a matter of serious concern. Health risk assessments have the greatest impact in enabling the detection of any potential exposure-related harmful effects either at the time of exposure or for prolonged periods following the exposure.... On the other hand, spilled fractions are consumed by organisms and can enter the human food chain. Once TPHs enter the human body, they often take months to produce a disease, and in severe cases, it leads to death. Thus, post-impact assessments on TPHs contamination are important in determining the long-term human health effects on impacted communities.

As of now, majority of crude oil spills are due to technological disasters and are reported in many geographical areas with high population density including Mediterranean Europe, North Africa, North America, etc., and many investigations focused on providing epidemiological information from these parts of the globe (Lin et al. 2015). The adverse health disorders associated with exposure to oil products or TPHs include hematopoietic, hepatic, renal, and pulmonary abnormalities, changes in cognitive functions, psychological problems, damage to reproductive and respiratory systems, cancer, and several general health problems. The toxicity of individual fractions has also been established to a certain extent. The best example is benzene, present both in crude oil and gasoline, that has been identified as a causative agent of leukemia in humans. This hydrocarbon is also known for its activity of lowering white blood cells in humans, leading to immune suppression and increased susceptibility to infections. Studies have also identified the link between benzene exposure (even at ppb level) and disorders like terminal leukemia, Hodgkin's lymphoma, and other blood and immune dysfunctions in people upon early-age exposure (5–15 years) to benzene. Thus, the environmental impacts of TPHs are mainly negative due to their toxicity and contributing to various illnesses in humans.

No specific medical tests are available to confirm whether a person has been exposed to TPHs or not. However, there are certain indirect methods to confirm the TPH exposure. For example, the presence of breakdown products of n-hexane, benzene, and phenol in urine or detection of benzene in inhaled air confirms the exposure to gasoline or TPH fraction



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containing benzene. Kerosene or gasoline can also be determined by its smell in breath or on clothing. Ethylbenzene can be measured in blood, urine, breath, and some tissue specimens of exposed individuals. The main constraints of these detection tests are as follows: firstly, unavailability of the tests at the physicians or clinics; and secondly, the tests cannot determine exactly what is the compound exposed to since TPHs present in the body could be from the exposure to several different compounds. It is certainly difficult to conclude on the long-term effects of TPHs because there are relatively few studies that focused on human health effects.' (Kuppusamy et al, 2020)

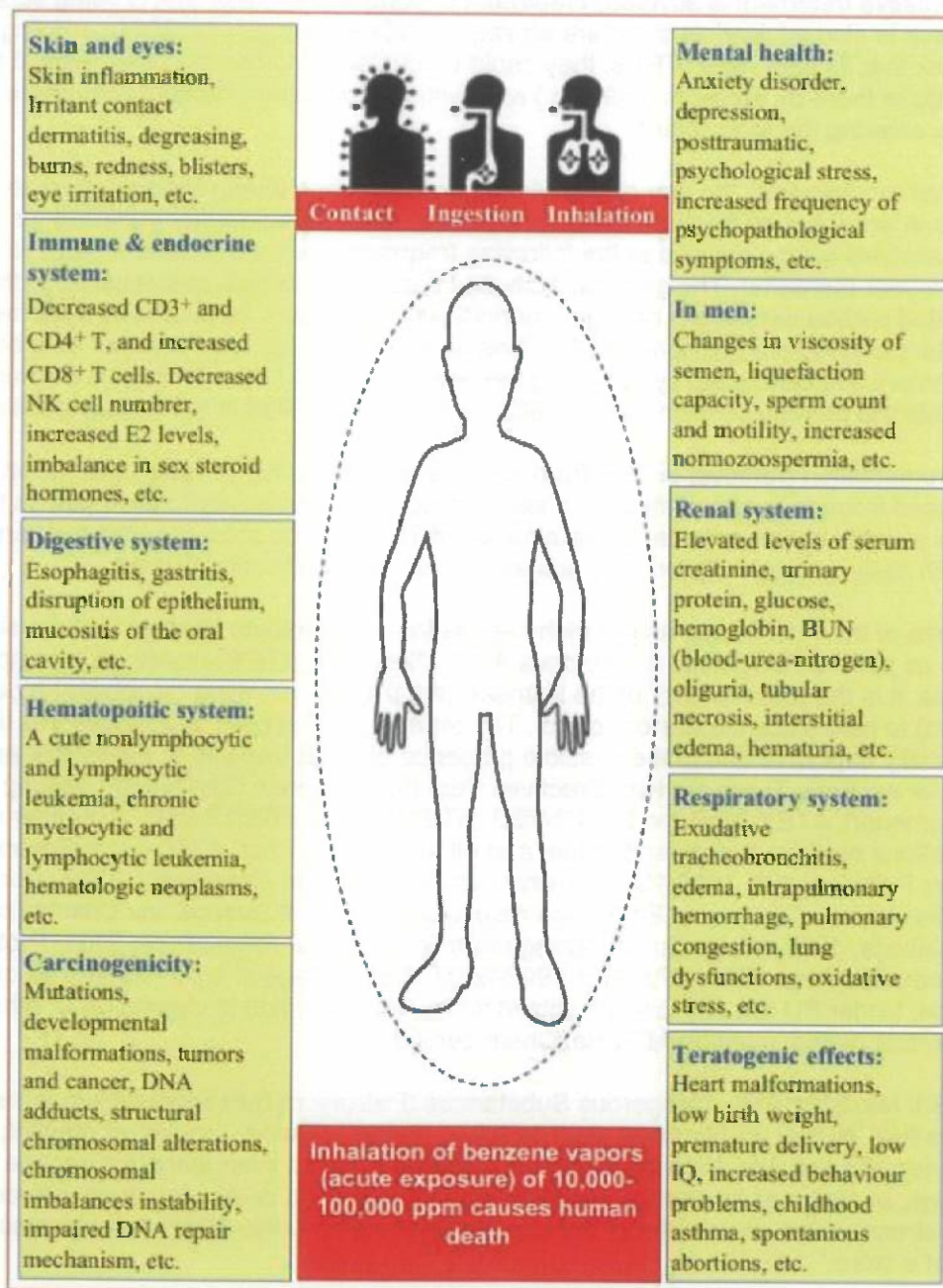


Figure 9: Potential impacts of TPHs on human health

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### **5. Groundwater and Drinking Water Remediation and Treatment and Safe Storage of Fuels/Oil**

Given the threat of TPHs on human health treatment, treatment of water is advised from both the sources (borehole providing drinking water to the house and the pumphouse well which provides drinking water for animals). Although the house drinking water showed no TPH presence in the 2021 sampling, the risk of further oil contamination is considered high and so preventative treatment is advised. Treatment of pumphouse water that is being supplied to livestock is also advised as there are elevated TPH's showing in the 2021 sampling and there is a risk that if cattle ingest TPHs, they could be subjected to health issues. Also, if these animals or there by products (milk etc.) are destined for human consumption, there is risk of TPH's entering the food chain.

Minerex recommends the use of granular activated carbon (GAC) filter canisters to remove TPH's in water bound for both human and animal use. Periodic water sampling for TPH and PAH analysis is also advised at the following frequency; every 6 months for first year and then once a year thereafter. The granular activated carbon will require maintenance in that the activated carbon will require changing periodically. Generally, in household systems, two canisters of GAC are positioned in line; one as a primary filter and a second as a backup filter. Maintenance is conducted by removing the primary carbon filter, moving the backup carbon filter into the primary position, and installing a new carbon filter in the backup position.

Well remediation (removal of TPH from wells) is also an option but given this report has been produced from desk-based studies, a site visit would be necessary to ascertain as to whether this is a viable option as wider contamination of TPH may be present within the karst aquifer, in such case well remediation may actually worsen the well contamination.

In terms of the Fuel Depot, as per Irish Legislation, A Petroleum Storage Licence should be in place as per the Dangerous Substances Act 1972 (DSA). ATEX regulations also apply to Fuel Depots. It is the responsibility of the licensee (the person operating / managing a petrol station) to hold a licence to store petrol. The term "ATEX" applies to atmospheres that are potentially explosive due to the possible presence of dusts vapours or gases that are likely to ignite or explode. There are two Directives from the European Commission dealing with this phenomenon; ATEX Directive 2014/34/EU, ATEX Directive 1999/92/EC. A number of further regulations apply to the storage of fuel and oil; Air Pollution Act, 1987, Local Government (Water Pollution) Act, 1977-1990, Environmental Protection Agency Act, 1992 (Control of Volatile Organic Compound Emissions resulting from Petrol Storage and Distribution) Regulations, 1997, Water Quality (Dangerous Substances) Regulations, 2001, Protection of Groundwater Regs 1999, EPA Acts 1992-2003. Any haulage of fuels requires an operator's licence. Under EU law any driver involved in the transportation of chemicals, or other dangerous goods, must be ADR/HazChem certified.

The S.I. No. 313/1979 - Dangerous Substances (Petroleum Bulk Stores) Regulations, 1979. States that 'all practicable steps shall be taken by the licensee or owner to prevent, by the provision of a suitable drainage system connected to an oil interceptor, the escape (by leakage, seepage or otherwise) of petroleum below ground or into any drain, sewer, canal, lake, stream, river, sea or inlet of the sea, or other watercourse, ditch or public place from any part of a store.'

Without a site inspection Minerex cannot recommend any steps to be undertaken at the Fuel

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depot but recommends that its client (Maura O'Grady) confirms with the depot that it holds all of the appropriate licences is adhering to all appropriate legislation. It is also recommended that the client queries as to whether appropriate planning permission has been sought from Clare County Council. If no permission has been sought, Clare County Council should be notified and will act as the decision maker to any further actions.

Minerex also recommends that NPWS and the EPA are made aware of the oil spillage given that the site is located in an SPA.

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## Appendix A



**Ms Thomas:**  
**ALS Life Sciences (Ireland)**  
**Carrigeen Business Park**  
**Clonmel South Tipperary**

**ALS Environmental Ltd**  
Unit 11  
Silkwood Park  
Janes Hill  
Off Albert Drive  
Wakefield  
WF5 9TG  
T: +44 (0)1924 818100  
F: +44 (0)1924 818101  
[www.alsenvironmental.co.uk](http://www.alsenvironmental.co.uk)

24 February 2021

**Test Report: WAK/1989815/2021**

Dear Ms Thomas

Analysis of your sample(s) received on 11 February 2021 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)1924 818100 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed:



Name: L. McComb

Title: Organic Chemistry Manager



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## Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

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### Report Summary

**Ms Rosemary Thomas**   
**ALS Life Sciences (Ireland)**   
**Carrigeen Business Park**   
**Clonmel**   
**South Tipperary**



ANALYSED BY



Date of Issue: **24 February 2021**

Report Number: **WAK/1989815/2021**

Issue **1**

This issue replaces  
all previous issues

Job Description: **General Analysis**

Job Location: **M\_POG-223110221**

Number of Samples  
included in this report **5**

Job Received: **11 February 2021**

Number of Test Results  
included in this report **46**

Analysis Commenced: **15 February 2021**

Signed: 

Name: **L. McComb**

Date: **24 February 2021**

Title: **Organic Chemistry Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This test report is not a statement of conformity to any specification or standard.

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## Groundwater Report

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Certificate of Analysis		ANALYSED BY	
			
Report Number:	WAK/1989815/2021	Issue	1
Laboratory Number:	20132243	Sample	1 of 5
Sample Source:	ALS Life Sciences (Ireland)		
Sample Point Description:	ALS Clonmel Raw		
Sample Description:	4349078 Stream		
Sample Matrix:	Surface Water		
Sample Date/Time:	10 February 2021		
Sample Received:	11 February 2021		
Analysis Complete:	24 February 2021		

Test Description	Result	Units	Analysis Date	Accreditation	Method
EH >C10 - C20	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C20 - C40	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C10	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C40	<10	ug/l	17/02/2021	N Cov	GEO35

Analyst Comments for 20132243: No Analyst Comment

This issue replaces all previous issues.  
 Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.  
 Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG).  
 F = Data supplied by customer.  
 For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.  
 US=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: 	Name: L. McComb	Date: 24 February 2021
	Title: Organic Chemistry Manager	

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Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



## Certificate of Analysis

ANALYSED BY



Report Number: **WAK/1989815/2021**  
Laboratory Number: **20132244**  
Sample Source: **ALS Life Sciences (Ireland)**  
Sample Point Description: **ALS Clonmel Raw**  
Sample Description: **4349079 Borehole**  
Sample Matrix: **Ground Water**  
Sample Date/Time: **10 February 2021**  
Sample Received: **11 February 2021**  
Analysis Complete: **24 February 2021**

Issue **1**  
Sample **2** of **5**

Test Description	Result	Units	Analysis Date	Accreditation	Method
EH >C10 - C20	73	ug/l	17/02/2021	N Cov	GEO35
EH >C20 - C40	21	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C10	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C40	94	ug/l	17/02/2021	N Cov	GEO35

Analyst Comments for 20132244: No Analyst Comment

This issue replaces all previous issues.  
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F = Data supplied by customer.  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.  
VS=Insufficient sample For soil/sediment samples: AR=As received, DW=Dry weight.

Signed:

Name: **L. McComb** Date: **24 February 2021**  
Title: **Organic Chemistry Manager**

### ALS Environmental Ltd



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Maura O'Grady at Crusheen, Co. Clare


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Certificate of Analysis		ANALYSED BY	
			
Report Number:	WAK/1989815/2021	Issue	1
Laboratory Number:	20132245	Sample	3 of 5
Sample Source:	ALS Life Sciences (Ireland)		
Sample Point Description:	ALS Clonmel		
Sample Description:	4349080 Tap		
Sample Matrix:	Drinking Water		
Sample Date/Time:	10 February 2021		
Sample Received:	11 February 2021		
Analysis Complete:	24 February 2021		

Test Description	Result	Units	Analysis Date	Accreditation	Method
EH >C10 - C20	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C20 - C40	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C10	<10	ug/l	17/02/2021	N Cov	GEO35
EH >C6 - C40	<10	ug/l	17/02/2021	Y Cov	GEO35

Analyst Comments for 20132245: No Analyst Comment

This issue replaces all previous issues.  
 Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.  
 Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG).  
 F = Data supplied by customer.  
 For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.  
 IS=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: 	Name: L. McComb	Date: 24 February 2021
	Title: Organic Chemistry Manager	




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## Certificate of Analysis



UKAS  
TESTING  
1314

ANALYSED BY



Report Number:	WAK/1989815/2021	Issue	1
Laboratory Number:	20132246	Sample	4 of 5
Sample Source:	ALS Life Sciences (Ireland)		
Sample Point Description:	ALS Clonmel Raw		
Sample Description:	4349081 Stream		
Sample Matrix:	Surface Water		
Sample Date/Time:	10 February 2021		
Sample Received:	11 February 2021		
Analysis Complete:	24 February 2021		

Test Description	Result	Units	Analysis Date	Accreditation	Method
Naphthalene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Acenaphthylene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Acenaphthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Fluorene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Phenanthrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(a)anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Chrysene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(b)fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(k)fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(a)pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Indeno(123cd)pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Dibenzo(ah)anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(ghi)perylene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
PAH, Total of 16	<0.10	ug/l	19/02/2021	N Cov	GEO81

**Analyst Comments for 20132246:**

This sample has been analysed for Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(123cd)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, PAH, Total of 16 outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to the nature of sample matrix.

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F = Date supplied by customer.  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.  
US=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: 	Name: <b>L. McComb</b>	Date: <b>24 February 2021</b>
	Title: <b>Organic Chemistry Manager</b>	


# Groundwater Report




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## Certificate of Analysis



**ANALYSED BY**



Report Number:	WAK/1989815/2021	Issue	1
Laboratory Number:	20132247	Sample	5 of 5
Sample Source:	ALS Life Sciences (Ireland)		
Sample Point Description:	ALS Clonmel Raw		
Sample Description:	4349082 Borehole		
Sample Matrix:	Ground Water		
Sample Date/Time:	10 February 2021		
Sample Received:	11 February 2021		
Analysis Complete:	24 February 2021		

Test Description	Result	Units	Analysis Date	Accreditation	Method
Naphthalene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Acenaphthylene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Acenaphthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Fluorene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Phenanthrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(a)anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Chrysene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(b)fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(k)fluoranthene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(a)pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Indeno(123cd)pyrene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Dibenzo(ah)anthracene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
Benzo(ghi)perylene	<0.10	ug/l	19/02/2021	Y Cov	GEO81
PAH, Total of 16	<0.10	ug/l	19/02/2021	N Cov	GEO81

**Analyst Comments for 20132247:**

This sample has been analysed for Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(123cd)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, PAH, Total of 16 outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to the nature of sample matrix.

**ALS Environmental Ltd**

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F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.

IS=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: 	Name: <b>L. McComb</b>	Date: <b>24 February 2021</b>
	Title: <b>Organic Chemistry Manager</b>	

# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



## ANALYST COMMENTS FOR REPORT WAK/1989815/2021

Issue 1

This issue replaces all previous issues

Date of Issue: 24 February 2021

Sample No	Analysis Comments
20132243	
20132244	
20132245	
20132246	This sample has been analysed for Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno (123cd)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, PAH, Total of 16 outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to the nature of sample matrix.
20132247	This sample has been analysed for Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno (123cd)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, PAH, Total of 16 outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to the nature of sample matrix.

Signed:

Name: L. McComb

Date: 24 February 2021

Title: Organic Chemistry Manager

**Groundwater Report**

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

---



**DETERMINAND COMMENTS FOR REPORT WAK/1989815/2021**

**Date of issue: 24 February 2021**

**ISSUE 1**

This issue replaces all previous issues

Sample No	Description	Determinand	Comments

Signed:

Name: L. McComb

Date: 24 February 2021

Title: Organic Chemistry Manager

**Groundwater Report**

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

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# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



## Appendix B



Complete Laboratory Solutions  
[Tel] 091 574355  
[Fax] 091 574356  
[Email] services@cls.ie  
[web] www.cls.ie

### CERTIFICATE OF ANALYSIS

Client : Brendan Slevin  
Brendan Slevin & Associates  
No 7 The Mill Courtyard  
Bridge St  
Gort

Report No. : 427680  
Date of Receipt : 07/10/2020  
Start Date of Analysis : 07/10/2020  
Date of Report : 28/10/2020  
Order Number :  
Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1087211	Tap 07.10.2020	PRO Water (C5-C12) by GC-FID	I,R	<10	ug/l
		Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	I,R	38 **Unknown pattern	ug/l
		TPH (>C5 - C44) by GC-FID	I,R	44 **Unknown pattern	ug/l



Approved by:

Laura Finnegan  
Environmental  
Scientist

See below for test specifications and accreditation status.  
This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.  
est. is an estimated count.  
CLS will test food, water and swabs samples within 24 hours of receipt.  
Where samples have been taken by the Client, results apply to the samples as received.



## Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



**Complete Laboratory Solutions**  
 [Tel] 091 574355  
 [Fax] 091 574356  
 [Email] [services@cls.ie](mailto:services@cls.ie)  
 [web] [www.cls.ie](http://www.cls.ie)

In-House Test	Specification	Measurement of Uncertainty	17021	GMP/FDA	ISO*
PRO Water (C5-C12) by GC-FID	CLS 148	+/- 29.7ug/l @ 200ug/l	Yes	No	Yes
Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	CLS 147	+/- 26.37@200ug/l	Yes	No	Yes
TPH (>C5 - C44) by GC-FID	CLS 193	0	Yes	No	Yes

\*Analysis carried out in a GMP approved, FDA Inspected facility (MedPharma site only).  
 \*\*Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1087211	Tap 07.10.2020	Good condition	07/10/2020

# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



Complete Laboratory Solutions  
[Tel] 091 574355  
[Fax] 091 574356  
[Email] [services@cls.ie](mailto:services@cls.ie)  
[web] [www.cls.ie](http://www.cls.ie)

## CERTIFICATE OF ANALYSIS

Client : Brendan Slevin  
Brendan Slevin & Associates  
No 7 The Mill Courtyard  
Bridge St  
Gort

Report No. : 427681  
Date of Receipt : 07/10/2020  
Start Date of Analysis : 07/10/2020  
Date of Report : 28/10/2020  
Order Number :  
Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1087212	Pump House 07.10.2020	PRO Water (C5-C12) by GC-FID	I,R	<10	ug/l
		Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	I,R	65 **Unknown pattern	ug/l
		TPH (>C5 - C44) by GC-FID	I,R	60 **Unknown pattern	ug/l



Approved by:

Laura Finnegan  
Environmental  
Scientist

See below for test specifications and accreditation status.  
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est. is an estimated count.  
CLS will test food, water and swabs samples within 24 hours of receipt.  
Where samples have been taken by the Client, results apply to the samples as received.

# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



**Complete Laboratory Solutions**  
 [Tel] 091 574355  
 [Fax] 091 574356  
 [Email] [services@cls.ie](mailto:services@cls.ie)  
 [web] [www.cls.ie](http://www.cls.ie)

In-House Test	Specification	Measurement of Uncertainty	17025	GMP/FDA*	ISO**
PRO Water (C5-C12) by GC-FID	CLS 148	+/- 29.7ug/l @ 200ug/l	Yes	No	Yes
Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	CLS 147	+/- 26.37@200ug/l	Yes	No	Yes
TPH (>C5 - C44) by GC-FID	CLS 193	0	Yes	No	Yes

\*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).  
 \*\*Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1087212	Pump House 07.10.2020	Good condition	07/10/2020

# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



Complete Laboratory Solutions  
[Tel] 091 574355  
[Fax] 091 574356  
[Email] [services@cls.ie](mailto:services@cls.ie)  
[web] [www.cls.ie](http://www.cls.ie)

## CERTIFICATE OF ANALYSIS

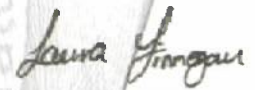
Client : Brendan Slevin  
Brendan Slevin & Associates  
No 7 The Mill Courtyard  
Bridge St  
Gort

Report No. : 427682  
Date of Receipt : 07/10/2020  
Start Date of Analysis : 07/10/2020  
Date of Report : 28/10/2020  
Order Number :  
Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1087213	Drain 07.10.2020	PRO Water (C5-C12) by GC-FID	I,R	18	ug/l
		Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	I,R	47 **Unknown pattern	ug/l
		TPH (>C5- C44) by GC-FID	I,R	32 **Unknown pattern	ug/l



Approved by:



Laura Finnegan  
Environmental  
Scientist

See below for test specifications and accreditation status.  
This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.  
est. is an estimated count.  
CLS will test food, water and swabs samples within 24 hours of receipt.  
Where samples have been taken by the Client, results apply to the samples as received.

# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



**Complete Laboratory Solutions**  
 [Tel] 091 574355  
 [Fax] 091 574356  
 [Email] [services@cls.ie](mailto:services@cls.ie)  
 [web] [www.cls.ie](http://www.cls.ie)

In-House Test	Specification	Measurement of Uncertainty	1702	GMP/FDA	ISO**
PRO Water (C5-C12) by GC-FID	CLS 148	+/- 29.7ug/l @ 200ug/l	Yes	No	Yes
Extractable Hydrocarbons Water (C8-C40, Diesel Range and Lube Oil) by GC-FID	CLS 147	+/- 26.37@200ug/l	Yes	No	Yes
TPH (>C5 - C44) by GC-FID	CLS 193	0	Yes	No	Yes

\*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).  
 \*\*Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1087213	Drain 07.10.2020	Good condition	07/10/2020

Page 2 of 2 of Report 427682

Complete Laboratory Solutions,  
 Ros Muc, Connemara,  
 Co. Galway

Complete Laboratory Solutions,  
 MedPharma Division,  
 Unit 3a, Small Business Park, Mervue, Galway

Symbol Reference - I:17025 accredited; S:Subcontracted; R:Analysis carried out in Ros Muc; M:Analysis carried out in MedPharma; F:Field test; O:Tested outside hold time.

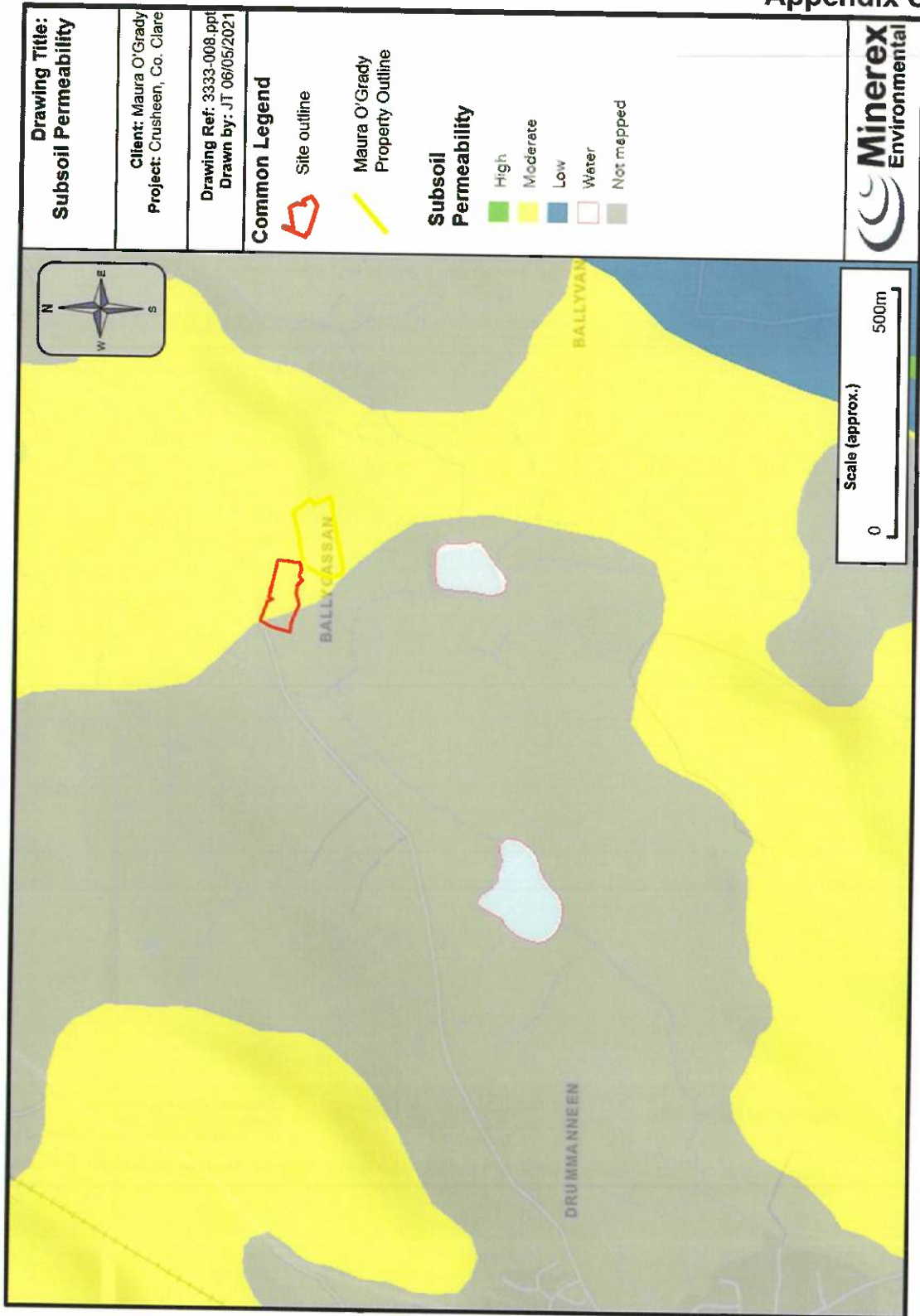
# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)



## Appendix C

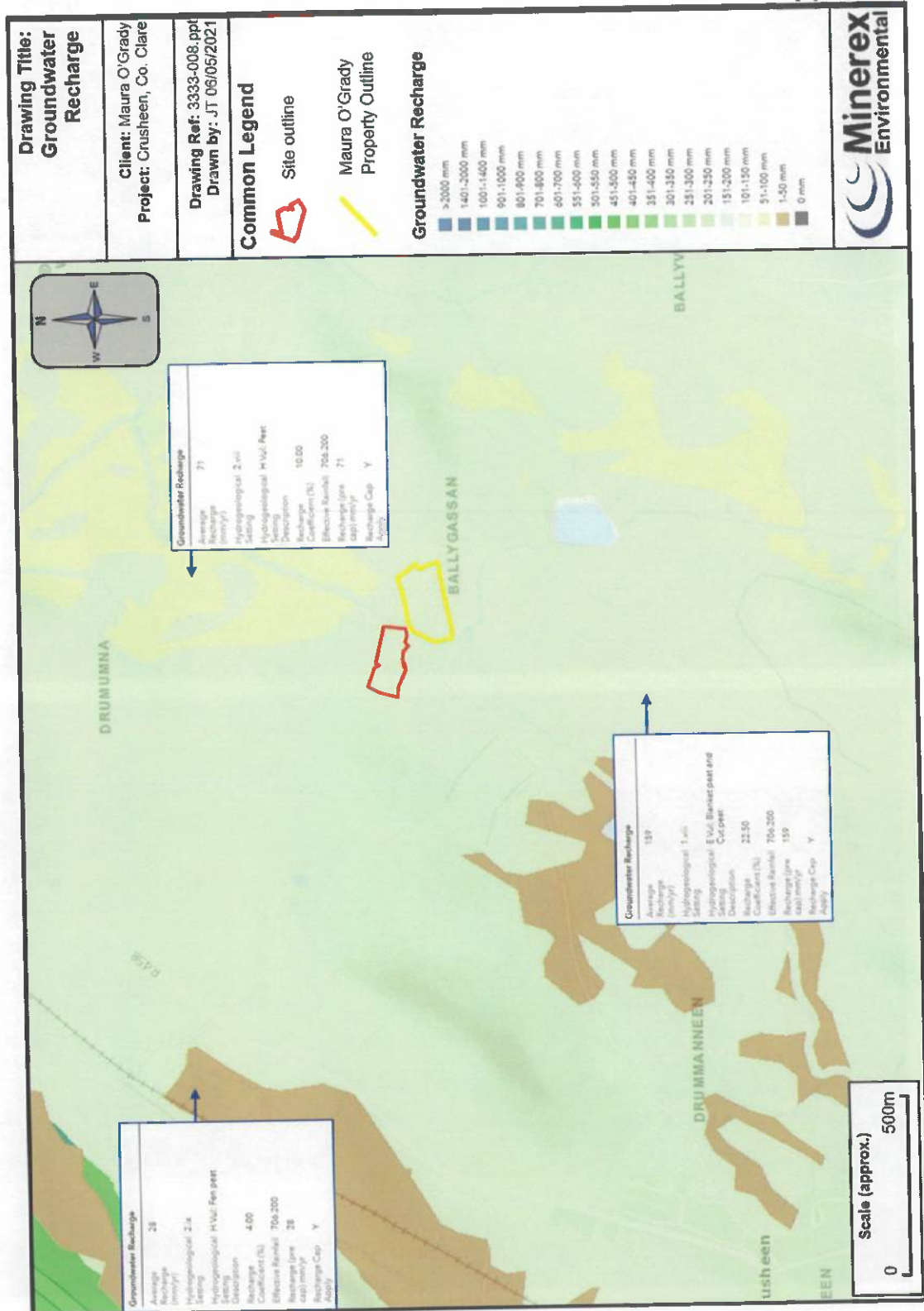


# Groundwater Report

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

## Appendix D

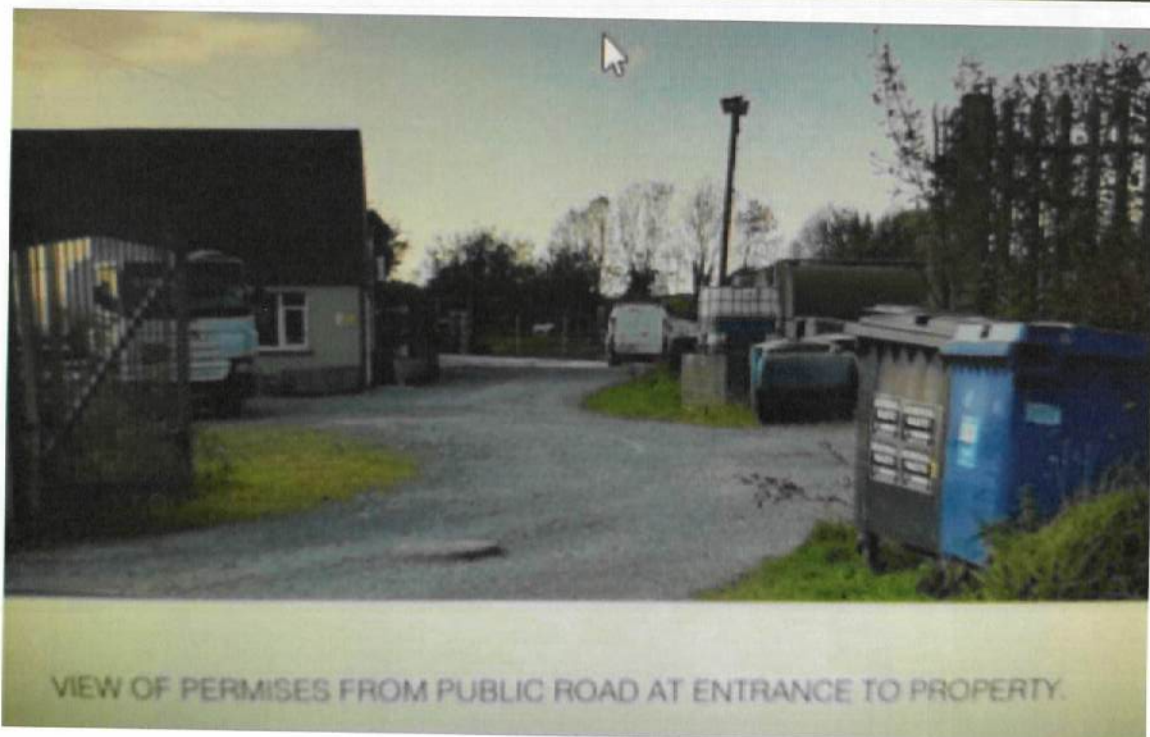


**Groundwater Report**

Maura O'Grady at Crusheen, Co. Clare

Minerex Doc Ref: 3333 - Groundwater Report - Rev 0)

**Appendix E**





## **Appendix Documents**

Missing Bunding Wall – Drumumna Google Maps

(note Typing Error it should be new concrete works in 2020 not 2021)

Missing Bunding Wall from another angle

Installation of Interceptor Tank

Petrol Screenshot

Dangerous Substance Licence Application

Plan of Site Taken from DSL Application

Objection to Dangerous Substance Licence Application

Water Results July 2021

Water Results ALS Oct 2021

Email received regarding Installation of an Interceptor Tank

Email received regarding lack of Fire Certificate

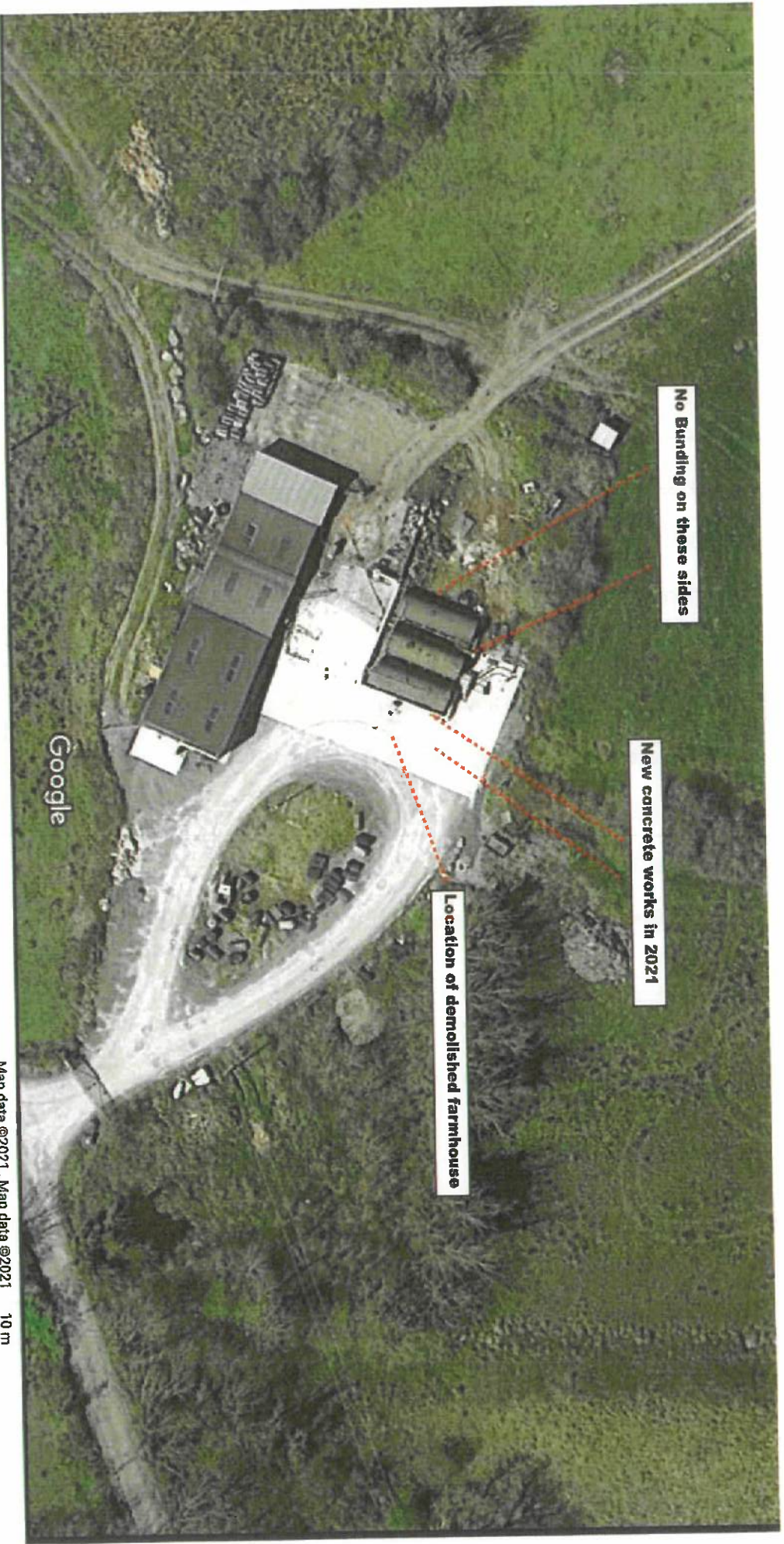
Enforcement Complaint Form Submitted regarding Interceptor Tank

Current Section 4 Water Pollution Licences in Co Clare

Oil Depot Specifications – Moyasta Case

**Drumnumma**

Burreside Oil Depot Drumnumma, Crusheen, Co. Clare.



Map data ©2021, Map data ©2021 10 m



Google Maps 2021 Missing Bunding Walls

See all photos + Add to



Edit & Create Share



Type here to search



10°C Light rain 18:20 15/11/2021

Installation of an Interceptor Tank on October 2, 2020 at 4:46pm

**BURRENSIDE OIL**



[HOME HEATING OIL](#) [COMMERCIAL FUELS](#) [AGRICULTURAL FUELS](#) [PRODUCTS](#) [ABOUT US](#)

 **085 982 7444**

# Burrenside Oil Delivering Value Locally

 **Express Enquiry**

NAME

EMAIL

EXPRESS ENQUIRY

COMPANY

**SEND**

## Commercial & Industrial Fuels

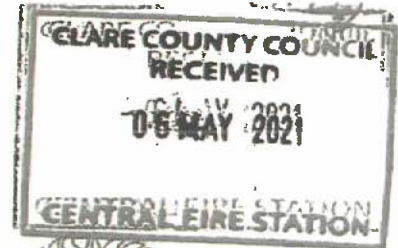
Burrenside Oil delivers high quality Commercial Fuels at competitive rates to a wide range of areas across including all of Co. Clare and areas within Limerick and Galway

We supply Low Sulphur Mark Gas Oil, Road Diesel, Kerosene and Unleaded Petrol to customers in commercial industries such as Construction, Transport, Haulage and Manufacturing as well as many Factories, Schools, Hospitals and local businesses on a daily basis

As a locally run business, we put our selves on hand and getting to know our customers and therefore understanding their needs. Our personal approach to providing an efficient service, and our supportive team, has helped us to create strong relationships with our commercial customers. This has developed over the years thanks to our flexible approach to finding the best products and services to meet your business needs.



Clare County Council  
 Central Fire Station,  
 New Road,  
 Ennis  
 Co. Clare



**DANGEROUS SUBSTANCES (FLAMMABLE LIQUIDS AND FUELS  
 DISTRIBUTION AND COMMERCIAL SUPPLY STORES) REGULATIONS, 2019**

SCHEDULE 2 Form of Application for a first licence/an amended licence/a renewal of a licence or a transfer of a licence for a Distribution and Commercial Supply Store.

1. Applicant/Licensee/Owner or Operator: Name and address/registered office of the company, firm or person:

BURRENSIDE OIL, DRUMMNA, CRUSHEEN,  
 CO. CLARE

2. Location of the Distribution and Commercial Supply Store:

Address: CRUSHEEN

County: CLARE

Place or townland: DRUMMNA

Ordinance Survey Map reference:

3. Name of licensee/owner or operator (if application is for transfer of a licence or Certificate of Operation):

BURRENSIDE OIL

4. Particulars of plans accompanying this application:

5. Maximum quantity of category or categories of flammable liquids stored or to be stored at the store:

Category I:

..... litres in container stores  
 ..... litres in underground tanks  
 ..... litres in above-ground tanks

Category 2:

..... litres in container stores  
..... litres in underground tanks  
..... litres in above-ground tanks

Category 3:

..... litres in container stores  
..... litres in underground tanks  
159,000 litres ..... litres in above-ground tanks

Other Fuels (State units of measurement)

Name: .....  
quantity in container stores .....  
quantity in underground tanks .....  
quantity in above-ground tanks .....

Name: .....  
quantity in container stores .....  
quantity in underground tanks .....  
quantity in above-ground tanks .....

Name: .....  
quantity in container stores .....  
quantity in underground tanks .....  
quantity in above-ground tanks .....

6. This licence application must be accompanied by a risk assessment and drawings as laid out in Regulation 12 and Schedule 5 of the Dangerous Substances (Flammable Liquids and Fuels Distribution and Commercial Supply Stores) Regulations, 2019.

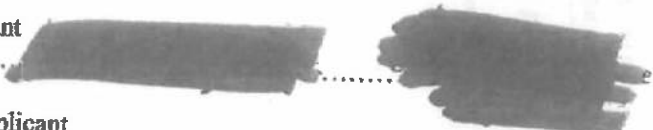
7. Fee Enclosed €..... Payments should be made payable to Dublin City Council

8. Remarks:

.....  
.....  
.....

9. I hereby certify that the information supplied above is true to the best of my knowledge and belief.

Signature of applicant



Postal address of applicant

Dunamara, Dublin Co. Clare

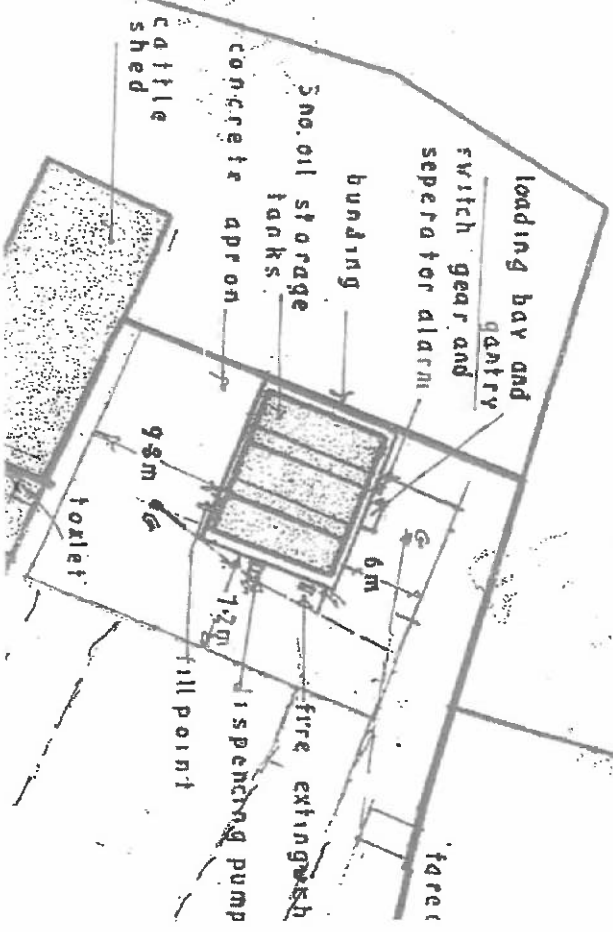
Date of application 6/5/21

745

1531

CLARE COUNTY COUNCIL  
 RECEIVED  
 06 MAY 2021  
 CENTRAL FIRE STATION

1.94





CATTLE SHED

FARM MACHINERY

12 300

9 300

1 300

1 800

T.L.

CONCRETE APRON

200 BUND WALL

9 800

12 100

FILL POINT  
gully

CLARE COUNTY COUNCIL  
RECEIVED  
06 MAY 2021  
CENTRAL FIRE

DISPENSING PUMP

10 700

gully

FIR

23000 L  
white  
diesel

55000 L  
green  
diesel

53000 L  
res  
kerosene

30000 L  
kerosene

## **Objection to Dangerous Substance Licence Application**

### **Burrenside Oil -Dangerous Substance Licence**

Inbox

**Maura O Grady** <mauraogrady14@gmail.com>

Tue, Jun  
1, 3:33  
PM

to Chiefexecutive, akelly

Dear Mr Adrian Kelly and Mr Pat Dowling,

I am writing to express serious Concerns at the Dangerous Substance Licence Application provided by Burrenside Oil. Burrenside Oil does not even have a Fire Safety Certificate despite having up to 159,000 litres diesel and kerosene etc on site.

1. There was no Risk Assessment in Burrenside Oil's Application. I will need to see this.

In March, I sent the Fire Office a copy of my water results which shows Petroleum Hydrocarbons contamination in the water. The Dangerous Substance Regulations was introduced to prevent risk to Human Health and the Environment arising from flammable liquids. It had a

"purpose of prevention of risk arising from the storage of flammable liquids and fuels, and to seek to limit as far as possible the consequences for human health and the environment" Source S.I. No. 631/2019 - Dangerous Substances (Flammable Liquids & Fuels Distribution & Commercial Supply Stores) Regulations 2019

"risk of injury" means risk of injury either to people, property or damage to the environment where environmental pollution is an associated hazard from flammable liquids and fuels (or vapours of flammable liquids and fuels) because of ignition, fire, explosion, spillage, escape or leakage, while keeping, dispensing, selling, supplying or conveying such flammable liquids and fuels;" Source S.I. No. 631/2019 - Dangerous Substances (Flammable Liquids & Fuels Distribution & Commercial Supply Stores) Regulations, 2019

- Why was no risk assessment done on the danger to Human Health this fuel depot poses?
- Why was no risk assessment done on this fuel depot in a Residential area not zoned for fuel depots?
- Why was no risk assessment done on the danger to Water Quality this fuel depot poses?
- Why was no risk assessment done on the danger to Air Quality this fuel depot poses?
- Why was no risk assessment done on the danger to the Slieve Aughty Specially Protected Area posed? ·Why was no risk assessment done on the danger to the Hen Harrier, Merlin Falcon and other habitats?
- Why was no risk assessment done on the Fire Dangers this fuel depot poses?

**I need to see a copy of the above Risk Assessments.**

2. I request that a Report on Burrenside Oil detailing all of the above risks and a Detailed Report on the Site itself is undertaken by the Fire & Building Control Department

3. Why are the **Streams omitted** on the Maps of Burrenside Oil. These Streams form part of the local water supply. Why did the Fire Officer not query this?

4. **All Reports and Correspondence on the Burrenside Oil Distribution Depot from the Fire and Buildings Control Office**

5. **All Monitoring Records of the Burrenside Oil Distribution Depot written by the Fire & Building Control Department**

6. **Any Certificates issued by the Fire & Building Control Department to Burrenside Oil Distribution Depot**

**Diesel, Kerosene and Petrol are notorious Carcinogens and have serious effects on the Human Immune System. I do not want to be exposed to these chemicals in the water and air. I am shocked at all of the above.**

Thanks

Maire O Grady

T.E. LABORATORIES LIMITED

Trading as



Loughmartin Business Park, Tullow, Co. Carlow  
Phone: 059-9152881 Fax: 059-9152886

**CERTIFICATE OF ANALYSIS**

Page 1 of 2

**Project Description:** Analysis of Aqueous Sample

**Attention:** Ms Maura O'Grady  
Mr. David English

**Lab ID:** 15316

**Company:** Everpure Analysis Ltd  
**Address:** Drumbiggle Road  
Ennis  
Co. Clare.

**Date Sampled:** 18/06/2021

**Certificate No:** L/21/1041

**Date Rec'd:** 21/06/2021

**Issue Date:** 29/06/2021

**Our Ref:** 11173 & 21-13141

**Project Summary:** One sample was analysed for a range of determinands.  
Please see page 2 for results. Terms & Conditions and methods  
used are outlined in the attached appendix.

**No. of Pages:** Results page 2-3 plus 4 page appendix

A handwritten signature in black ink, appearing to read "Mark Bowkett".

Mr. Mark Bowkett  
Managing Director

A handwritten signature in black ink, appearing to read "Breda Moore".

Ms Breda Moore  
Technical Manager


**ANALYSIS OF AQUEOUS SAMPLE.**

Date Sampled: 18/06/2021  
 Date Received: 21/06/2021  
 Date Analysis Commenced: 22/06/2021  
 Our Ref: 11173 & 21-13141  
 Certificate No: L/21/1041

	Sample ID	Sample 2
<b>Determinand</b>	<b>Lab id</b>	<b>15316</b>
TPH/GC-FID (ug/l) ##	++	170

Results expressed as mg/l (ppm)  
 unless stated otherwise

\*\* = INAB Accredited Tests    ++ = Subcontracted Tests    n/a = Non-INAB Accredited Tests

The above results relate only to the sample tested  
 This report should not be regenerated except in full and with the consent of T.E. Laboratories Ltd.

#: Analysis of metals are performed on the filtered sample.

## TPH and Mineral Oil result is based on analysis of cold extract with DCM as solvent.



ALS Environmental Ltd  
Torrington Avenue  
Coventry  
CV4 9GU

**Ms Thomas**  
**ALS Life Sciences (Ireland)**  
**Carrigeen Business Park**  
**Clonmel South Tipperary**

T: +44 (0)24 7642 1213  
F: +44 (0)24 7685 6575  
www.alsenvironmental.co.uk

18 October 2021

**Test Report: COV/2213532/2021**

Dear Ms Thomas

Analysis of your sample(s) received on 13 October 2021 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed:

Name: A. Zunzunegui

Title: Organics Chemistry Manager



# Report Summary

ANALYSED BY

**Ms Rosemary Thomas**  
**ALS Life Sciences (Ireland)**  
**Carrigeen Business Park**  
**Clonmel**  
**South Tipperary**



Date of Issue: **18 October 2021**

Report Number: **COV/2213532/2021**

Issue **1**

This issue replaces  
all previous issues

**Job Description:** General Analysis

**Job Location:** M\_MB-532131021

**Number of Samples**  
included in this report **2**

**Job Received:** **13 October 2021**

**Number of Test Results**  
included in this report **8**

**Analysis Commenced:** **15 October 2021**

Signed:

**Name:** **A. Zunzunegui**

**Date:** **18 October 2021**

**Title:** **Organics Chemistry Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No. 02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

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**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

Page 1 of 6

# Certificate of Analysis

ANALYSED BY



Report Number: **COV/2213532/2021**  
Laboratory Number: **20947444**  
Sample Source: **ALS Life Sciences (Ireland)**  
Sample Point Description: **ALS Clonmel**  
Sample Description: **4711137 Stream Water**  
Sample Matrix: **Drinking Water**  
Sample Date/Time: **11 October 2021**  
Sample Received: **13 October 2021**  
Analysis Complete: **18 October 2021**

Issue **1**  
Sample **1** of **2**

Test Description	Result	Units	Analysis Date	Accreditation	Method
EH >C10 - C20	<10	ug/l	18/10/2021	N Cov	GEO35
EH >C20 - C40	<10	ug/l	18/10/2021	N Cov	GEO35
EH >C6 - C10	<10	ug/l	18/10/2021	N Cov	GEO35
EH >C6 - C40	<10	ug/l	18/10/2021	Y Cov	GEO35

Analyst Comments for 20947444: No Analyst Comment

This issue replaces all previous issues  
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.  
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG),  
F = Data supplied by customer.  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.  
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **A. Zunzunegui**

Date: **18 October 2021**

Title: **Organics Chemistry Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

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# Certificate of Analysis

ANALYSED BY



Report Number: **COV/2213532/2021**  
Laboratory Number: **20947445**  
Sample Source: **ALS Life Sciences (Ireland)**  
Sample Point Description: **ALS Clonmel**  
Sample Description: **4711138 Tap Water**  
Sample Matrix: **Drinking Water**  
Sample Date/Time: **11 October 2021**  
Sample Received: **13 October 2021**  
Analysis Complete: **18 October 2021**

Issue 1  
Sample 2 of 2

Test Description	Result	Units	Analysis Date	Accreditation	Method
EH >C10 - C20	37	ug/l	18/10/2021	N Cov	GEO35
EH >C20 - C40	10	ug/l	18/10/2021	N Cov	GEO35
EH >C6 - C10	<10	ug/l	18/10/2021	N Cov	GEO35
EH >C6 - C40	48	ug/l	18/10/2021	Y Cov	GEO35

Analyst Comments for 20947445: No Analyst Comment

This issue replaces all previous issues

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.

US=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **A. Zunzunegui**

Date: **18 October 2021**

Title: **Organics Chemistry Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

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**ANALYST COMMENTS FOR REPORT COV/2213532/2021**

**Issue 1**

This issue replaces  
all previous issues

**Date of Issue: 18 October 2021**

**Sample No**

20947444

20947445

**Analysis Comments**

Signed:

Name: **A. Zunzunegui**

Date: **18 October 2021**

Title: **Organics Chemistry Manager**




**DETERMINAND COMMENTS FOR REPORT COV/2213532/2021**

**ISSUE 1**

**Date of Issue: 18 October 2021**

This issue replaces  
all previous issues

Sample No	Description	Determinand	Comments
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Signed: 	Name: <b>A. Zunzunegui</b>	Date: <b>18 October 2021</b>
	Title: <b>Organics Chemistry Manager</b>	



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**Email received regarding Installation of an Interceptor Tank**

**Cyril Feeney <cfeeney@clarecoco.ie>**

Fri, Oct 2,  
2020,  
5:29 PM

to me

A Chara,

Your email has been forwarded to me by the Chief Executive for direct reply.

A member of our Environment staff re-inspected the site on the evening of the 1<sup>st</sup> October 2020. During that inspection we did not find any evidence of contamination. We are aware from discussions with the operator of the site that a petrol interceptor was being installed today October 2<sup>nd</sup> 2020.

The Planning Dept and Building Control (Fire Dept) are also carrying out their own separate inspections.

The Environment Section will complete their report in the coming weeks and we will revert to you then with our findings.

I am in receipt of correspondence from your solicitor and I have replied directly to her addressing her queries.

Mise le meas

**Cyril Feeney, BE CEng MICE EUR ING CDipAF.**

**Senior Engineer, Water Services and Environment Section.**

**Clare County Council, Buttermarket Building, Drumbiggle Road, Ennis, Co. Clare, V95 RR72.**

## **Email received regarding lack of Fire Certificate**

**From:** Kieran Greene <[KGreene@clarecoco.ie](mailto:KGreene@clarecoco.ie)>  
**Date:** Monday, May 31, 2021  
**Subject:** Burrenside Oil, Drumumna, Crusheen, Co. Clare  
**To:** "mauraogrady14@gmail.com" <[mauraogrady14@gmail.com](mailto:mauraogrady14@gmail.com)>  
**Cc:** Mary Walshe <[mwalshe@clarecoco.ie](mailto:mwalshe@clarecoco.ie)>, Moira McMahon <[MMcMahon@clarecoco.ie](mailto:MMcMahon@clarecoco.ie)>

Maura,

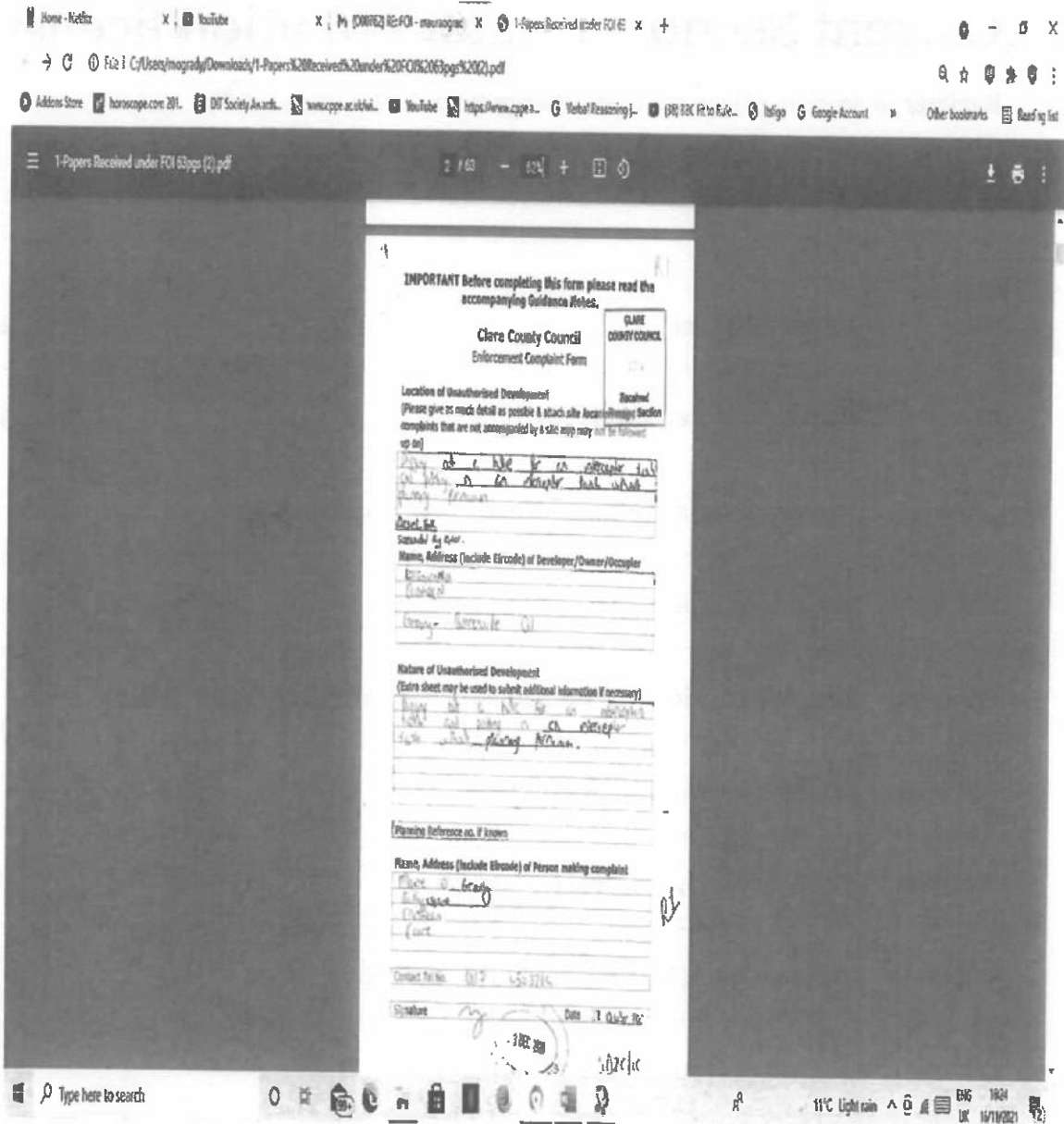
In response to your request for details pertaining to (a) Commencement Notice and (b) Fire Safety Certificate for Burrenside Oil, Drumumna, Crusheen, Co. Clare please note the following:

- Building Control have no record of a Commencement Notices being submitted for this facility.
- Building Control have no record of a Fire Safety Certificate being submitted for this facility.

Regards

**Kieran Greene CEng MIEI**  
**Assistant Chief Fire Officer,**  
**Fire and Building Control Department**  
**Clare County Council, Central Fire Station, New Road, Ennis, Co. Clare, V95 CD74**  
**T: 065 6846261 | E: [kgreene@clarecoco.ie](mailto:kgreene@clarecoco.ie) | W: [www.clarecoco.ie](http://www.clarecoco.ie)**

# Enforcement Complaint Form Submitted regarding Interceptor Tank



Enforcement Complaint Form regarding Interceptor Tank Insertion filled out at 12:50pm on October 2, 2020 before Interceptor Tank went in

# Current Section 4 water pollution licenses

Register of section 4 licences to discharge trade effluent to waters.

LOCAL GOVERNEMENT WATER POLLUTION ACT 1977 (as amended)		
Licence No.	Licence Holder	Date of Issue of licence
WP 004	Radisson Hotel, Ennis Rd ,Limerick	02/06/1983 14/09/1
WP 062	Dromoland Castle Hotel,Newmarket on Fergus.	22/03/1
WP 074	Beckman Coulter	21/06/1
WP 080	Lough Derg Holiday Village, Carrownakilla, Killaloe	10/08/1
WP 082	Cragganowen Project, Kilkishen	14/09/1
WP 084	Doolin Hostel, Ballyvarra, Doolin	15/12/1
WP 085	Killimer Dock Services Ltd., Killimer,Kilrush	23/06/1
WP 086	Belbridge House Hotel, Spanish Point	27/02/1
WP 087	DAA, Shannon Airport, Shannon	19/12/1
WP 088	Raheen District Hospital,Tuamgraney.	28/09/1
WP 091	Clare Inn, Dromoland,Newmarket on Fergus	07/11/1
WP 092	O'Connor's Public House, Fischer St , Doolin.	07/09/1



WP 095	Sealyons Seafood Ltd.,Carrigaholt	22/03/
WP 096	The Armada Hotel , Spanish Point.	08/08/
WP 099	Burren Castle Hotel - Whites, Lisdoonvarna	13/05/
WP 101	Liscannor Caravan Park ,Liscannor	27/10/
WP 115	Cois Na Sionna, O'Briensbridge	22/08/
WP 116	Doolin Holiday Homes ,Boherboy, Doolin	22/10/
WP 117	Kilmaley Voluntary Housing , Kilmaley	22/07/
WP 119	Barry's Shop , Ardnacrusha.	27/09/
WP 120	Rahona Lodge Caravan Park, Carrigaholt	10/11/
WP 124a	Tim Crowe, Ministers Cross, Sixmilebridge,	14/03/
WP 125	Doolin Hotel, Teergonean, Doolin	10/09/
WP 126	Riverdale Housing Development,Teergonean, Doolin	10/09/
WP 127	Ailwee Caves Ltd., Ballyvaughan	08/01/
WP 128	The Rock Shop, Dereen, Liscannor	10/09/
WP 131	Knocklisheen Asylum Seekers Centre, Knockalisheen, Meelick	16/01/
WP 136	Linnanes Bar, New Quay ,Burren	12/04/
WP 140	Martin Corbett, Lisheen, Ballynacally	20/10/

WP 141	Burren Forts, Caherconnell, Carron	22/05/
WP 143	Tullagower Quarries, Kilrush	10/01/
WP 144	ESB Ardnacrusha	10/04/
WP 145	McGraths Quarry O'Callaghans Mills	12/04/
WP 147	Bespoke Developments, Ballyvarra, Doolin	13/07/
WP 149	Bespoke Developments, Coogyulla, Doolin	29/09/
WP 150	Doolin Farmhouse Cottages, Doonmacphelim,Doolin	29/09/
WP 151	Cliffs of Moher Visitors Centre	21/11/
WP 152	The Lahinch Golf and Leisure Club, Lahinch	05/01/
WP 155	James & Carol Cullinan (Gsthouse),Doolin.	25/03/
WP 156	Ryan Bros (Ennis) Toonagh Quarry, Ennis	21/12/
WP 157	Olivia English, Sancta Maria Nursing Home, Cratloe	25/10/
WP 163	Bobby O'Connell & Sons Ardnacrusha	31/05/
WP 165	Ballyea National School ,Ballyea	18/11/
WP 167	St Dominic Savico Nursing Home,Liscannor	01/01/
WP 168	East Clare Golf Holiday Village Ltd.	30/11/
WP 171	East Clare Golf Club	30/10/

WP 172	Kevin & Trea Heapes, Querrin, Kilkee.	08/09/
WP 173	Roadstone Wood Ltd, Bunratty Co Clare	31/05/
WP 175	Bruach na Sionna, O'Briens Bridge, Co. Clare	19/12/
WP 176	Ken Nagle, Doolin Camping & Caravan Park, Ballaghline, Doolin.	19/03/
WP 178	Republic Land Development, C/O Seamus Danaher, Springhill, Blackwater, Ardnacrusha, Co Clare	02/03/
WP 181	Jim Bolton, Jim Bolton Sand & Gravel, Faheymore, O'Briensbridge.	17/03/
WP 182	St. Joseph's Secondary School, Spanish Point, Co. Clare	08/08/

Page last reviewed: 30/03/21

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**Current Section 4 Discharge Licences in Co Clare**

A/O Planning Dept.

Date: 18/07/05

Re: P05-1108 Marrinan: Retention and completion of diesel oil storage depot at Baunmore, Moyasta.  
Site inspected: 7<sup>th</sup> July 2005.

1. Bunding

- (i) It is not clear with the application whether there are individual internal bunds proposed within the concrete structure already in place. This should be clarified.
- (ii) If the external structure is to be used as a bund for all tanks within its confines: the concrete used in the construction of any bund has to be compact, reinforced and impermeable concrete so that its integrity can withstand tank leak and collapse and prevent the escape of oil/fuel and water. Impermeability is referred to by the EPA as material (other than metallic) that in the period of use, the liquid penetrates less than  $\frac{2}{3}$  of the material thickness. During an inspection of the site, from a visual perspective, part of the concrete wall at the east facing side of the current structure, was somewhat defaced with an underlying layer of concrete which looked uncompacted. The engineers report accompanying this application refers to the integrity of the current structure simply as follows:  
"from a structural viewpoint the depot is in a very good state of repair". It is not indicated how this assessment was made. The condition of the east does not look to be in a proper state of repair. Taking the worse case scenario entire tank collapse resulting in the discharging of all contents of all tanks into the bund, the bund must also be capable to retain the hydraulic load of water that may be used in the situation of fire fighting.
- (iii) The integrity and water tightness of the bunding structure and its resistance to penetration of water or materials that will be stored within the bund, must be tested. This could include a hydrostatic test if deemed necessary and must be carried out in a safe manner. If not considered safe, necessary or practicable it should be clearly stated why and instead a detailed inspection and structural survey should be carried out by a qualified person with a certification of such supplied.
- (iv) Regarding the possibility of an oil spill or leak within the bund, it is proposed that the bund be pumped out by mobile receptacles and disposed of off site.
- Where/how is pumping to be facilitated?
  - Is there a pumping port proposed?
  - How is bund wastewater to be collected within the bund? E.g. Ground may need to be sloped towards a sump for collection of rainwater, condensate or small spillages. These would then need to be pumped out as required by using submersible pump with a specification compatible with the product within the depot.
- (v) Where there is more than one tank within the bund the capacity should be sufficient to accommodate 110% of the largest tank's maximum capacity or 25% of the total maximum capacities of all tanks, whichever is the greatest. The additional bund volume compensates for loss of capacity due to accumulated rainwater and also provides some limited margin of safety in the event of tank overflowing. The bund configuration should be such that the

additional 10% bund capacity results in sufficient wall height of at least 250mm remaining above the surface of the spilled oil.

- (vi) The bund/concrete wall structure should be protected with crash barrier from possible vehicle impact when approaching and turning. There are no proposals for such

## 2. Tanks

- (i) During inspection of the site 6 fuel tanks were counted on site: 4 metal cylindrical tanks, 1 plastic tank, 1 skip also present. Require leak proofness and pressure testing certification for all the tanks intended to be used in the depot and associated pipework.
- (ii) Where certification is sought for provisions of 2. (i) tanks identification must be in place prior to testing indicating an identification number, capacity and details of fuel within and last inspection date.
- (iii) Details are required of anti-corrosion measures to be in place on all tanks intended to be used within the depot including materials to be used between the tank and plinths on which tanks are to sit. This is to be an intervening damp proof membrane to protect against rust. All ports and dispensers of fuel to be leakproof and sealed.
- (iv) What is the intention of remainder of tanks on site that are not to be used within the depot?
- (v) Details of venting of all tanks is required. Venting should be dispersed to within the bund area.
- (vi) Clarify where are the delivery pipes to tanks for re-stocking purposes?
- (vii) Details of any arm system to be put in place to guard against overfilling of tank is required.

## 3. Interceptor

- (i) Details of the proposed interceptor is required including size, capacity, area to be drained etc.
- All surface areas within the premises, on which vehicles are refueled, where fuel or oil is delivered to fuel storage tanks and where there is any risk of fuel or oil being spilled, shall be provided with a suitable and adequate drainage system designed and graded for draining storm water, fuel and oil run-off, into an adequately sized oil interceptor. In this regard the interceptor should be:
    - suitably designed and constructed for the purpose for which it is intended. It must be of suitable grading to withstand weight of vehicles that are to be used at the depot such that there shall be no cracks or fractures of the hardstand.
    - vented in a safe manner
    - maintained so as to retain for recovery and for safe disposal any oil and fuel conveyed to it by drainage.
    - sized to make provision for retention of maximum spillage likely to occur.
    - With adequate pipe dimension to and from the interceptor to allow for adequate retention time within the interceptor to allow for separation
    - Class 1 full retention interceptor is required
- Provide details to address all the above requirements.

- (ii) Provide details of the standard of discharge from the interceptor.

- (iii) All wastes collected within the interceptor shall be collected and disposed of by a licensed person(s) in accordance with the relevant National Legislation. (i.e. Waste Management Act, 1996 and regulations made thereunder).
- (iv) An alarm or shut-off valve shall be in place on the interceptor to prevent the discharge of oil or fuel from the interceptor. In this regard the oil separator should be fitted with an alarm system to provide visual and audible signal when the level of oil reaches 90% of the oil storage volume under static liquid conditions.
- (v) An inspection sump after the interceptor shall be installed to enable visual inspection of the discharge from this unit.
- (vi) Schedule of interceptor maintenance through out the year.

**Other issues:**

3. On plan provided with this application, there is provision for a percolation area. It is not referred to with text as to what is its purpose.
4. Provision of adequate lighting over the entire facility is not addressed.
5. Security at site against trespassing and vandalism must be addressed.
6. What spill clean up materials/ protocol is proposed for the site in the case of an emergency where fuel may potentially be emitted into the environment.
7. The Planning Authority have serious reservations regarding proximity of the facility and the potential risk associated with its location to the shellfish production area at Poulnasharry Bay. This site is approx. 0.2 miles (350m) from the foreshore and within the catchment of a shellfish production area. It is proposed in this application that there is to be a discharge from the interceptor to a surface water. This shellfish production area is monitored on a regular basis by the Department of the Marine who designate the shellfish water based upon results obtained through sampling of shellfish flesh (these are filter feeders). If during an incident, fuel product from this oil depot entered this environment it would have significant impact to the quality of the waters in Poulnasharry Bay due to the drainage characteristics of the area which typically drain towards the Bay and the Extreme vulnerability of the groundwater. This would in turn greatly effect the shellfish production business in that particular area. Currently Poulnasharry Bay is categorised as Class A, which refers to shellfish that are harvested for direct human consumption. Lower classes require a purification process.

Tracey Duffy

Date: 18/07/05