

UNIREM LIMITED

GSJ - Swords Roundabout Interceptor Report

NOVEMBER 2015

Swords Roundabout Interceptor Report.

Report Date: 5th March, 2015



INITIAL MEETING

On the 07.10.2014 a meeting was held at an oil interceptor on the main swords roundabout located at junction 4 on the M1 motorway. In attendance was Damien Breen and Kevin McGrath of GSJ Maintenance Ltd and Tom Eustace of Unirem Limited.

Background:

The covers of the three chambers were removed and an initial inspection of the unit commenced. The initial visual inspection showed that oil was present in all three chambers, the majority being in chamber 1. The odour of spilled fuel was present in all chambers.

Contents were removed from chamber 1 and sent for analysis. The concentration of total petroleum hydrocarbon (TPH) in the contents was so great that it was impossible to get a parts per million reading from it, rather when measured it was found to contain 29% spilled oil by volume.

After an appropriate concentration / dilution using pentane as the solvent, the sample extract was analysed by Gas Chromatogram utilising a flame Ionisation Detector. A wide spectrum of oils in the C10 to C40 range were found in the sample. (see attached graph).



NANOBITE BOOM FITTED

A 3 meter NanoBite boom was placed floating in the water and secured to the chamber lid in chamber 1.

Second Visit

On the 05.02.2015, Tom Eustace of Unirem and staff revisited the interceptor. The lids were removed from the chambers and an initial inspection was made. No oil slick and no odour was present in any chamber

On lowering a sample bottle into the chamber and removing contents from the interceptor the sample contained within was seen to be crystal clear, containing no visible sign of oil and no odour.

On examining the sample in some detail, no oil was present as no oil stains appear on the glass container at the oil water interface.





VISUAL INSPECTION

The contents were allowed to settle for five minutes and then visually examined again. Once more no oil was seen on the surface of the water, no odour of petroleum was present and no oil film coated the glass.





Analytical Results

When analysed by an independent test laboratory the water was found to contain only 611 micrograms per liter (ug/l) which converts into .661 of 1 part per million (ppm). This converts into less than 1% by volume of content.

In summary between October and February 99% of the spilled oil / fuel was eradicated in situ within the interceptor.





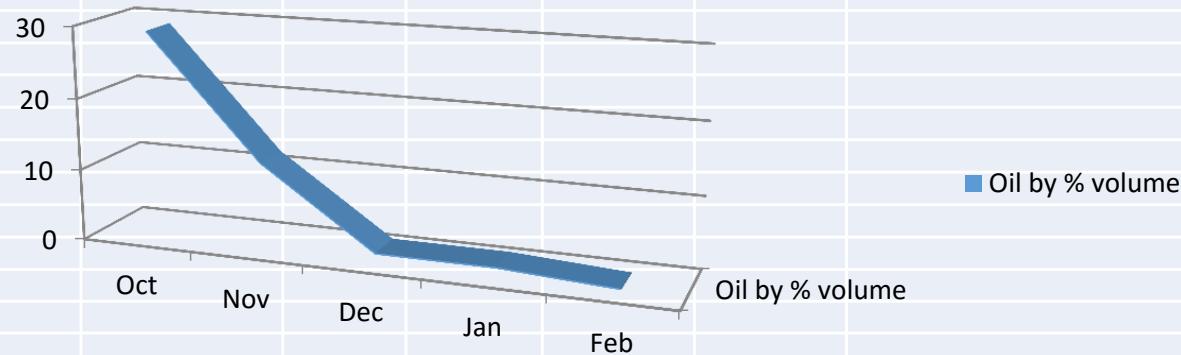
**UNIREM
LIMITED**

GSJ OIL WATER SEPARATOR CASE STUDY

Swords Roundabout Interceptor

Oil by % volume	Oct	Nov	Dec	Jan	Feb
	29	12	1	1	0.06

Oil by % volume



On 07.10.2014 the interceptor held 29% by volume mixed oils

On 05.02.2015 the interceptor held .06% by volume mixed oils

Sample analysis carried out by Eurofins labs and Fitz Scientific



eurofins

Tom Edwards
Comed Enviroinvest Ltd
Paradise Place
William Street
Drogheda
Louth
R34251 RC C1 IRELAND

PO Number None Supplied



AR-14-AH-011337-01

Reported on 17/10/2014

Reported by Maxine Bryan, ASM

Page 1 of 1

Certificate Of Analysis

Sample number
Analysis Started on
Your sample reference

322-2014-00011601
07/10/2014
Interceptor on M1 at Swords Round
about
Water/ Oil compartment 1
2-10-14

Received on

07/10/2014

Your sample code

None supplied

Please see attached reports

Unless stated, all results are expressed on a sample as received basis.
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Key:

cfu colony forming units
< denotes less than
> denotes greater than
~ estimated value

www.eurofins.com

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Ireland
Registered in Republic of Ireland No: 469953
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Client Name:	Eurofins Ireland
Sample Point:	Interceptor on M1 at Swords Round about/Water- Oil compartment 12-10-14
Date Sampled:	N/A
Date of Analysis:	10/10/2014 08:01
Sample/Report Reference:	491-2014-00112846

Qualitative Interpretation of Chromatogram

The opinions and interpretations indicated below are outside the scope of UKAS accreditation

Physical characteristics

sample is colourless,with very strong odour of polish/detergent, with no solids, and a very thick layer of black oil film.

Interpretation of Chromatogram

The chromatogram is indicative of gas oil and mineral oil present in the sample.

Additional information

Weight of the sample received is approximately 0.64Kg, of which 29% of it is oil.

* Due to this being a trace analysis this amount of oil cannot be quantified and the results are therefore qualitative.

Method Statement

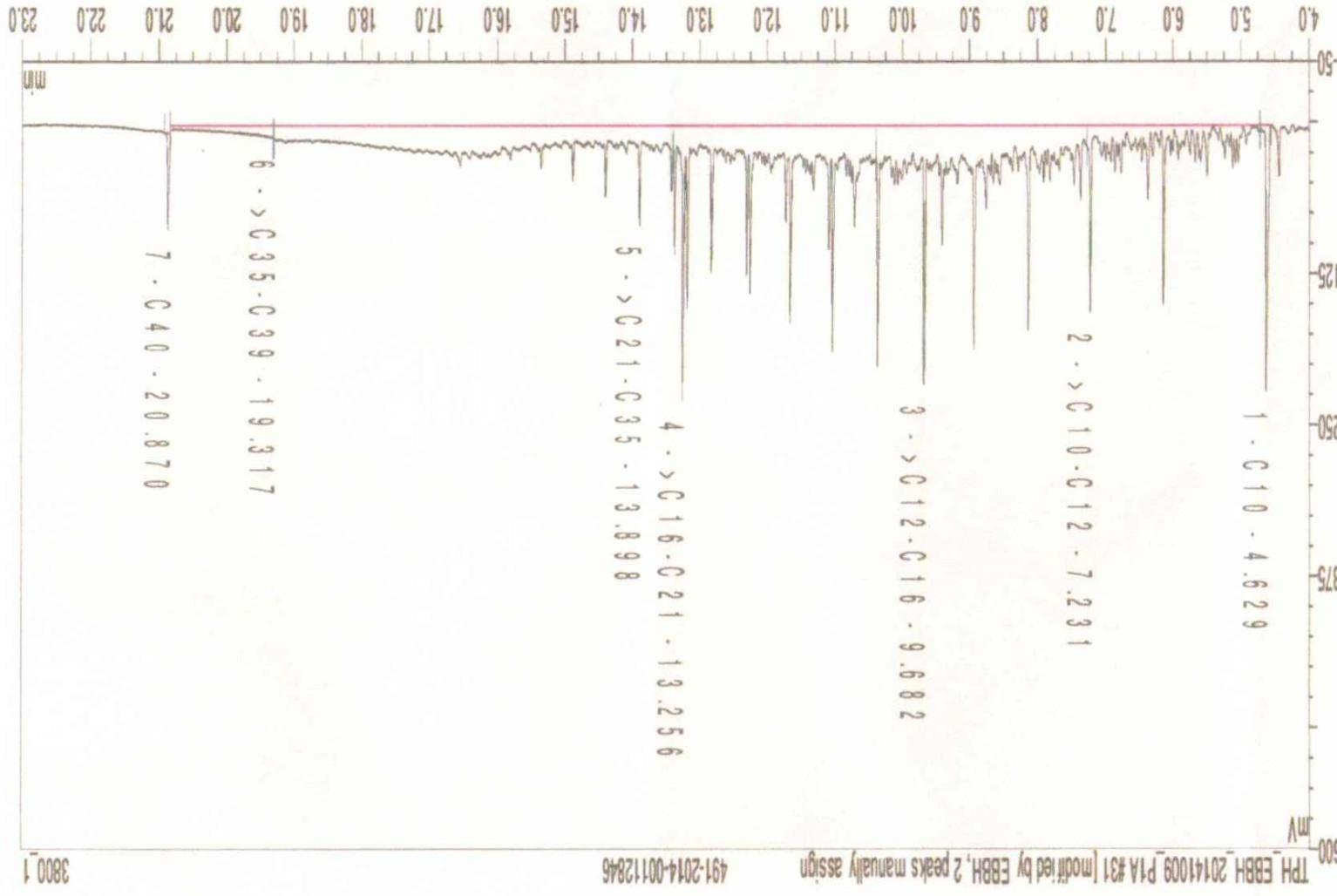
The sample was liquid/liquid extracted using pentane as the solvent. After an appropriate concentration or dilution the sample extract was analysed by Gas Chromatogram utilising a Flame Ionisation Detector. This method detects pentane extractable hydrocarbons between n-alkane C10 and C40.

A UKAS accredited testing laboratory No.1111

Authorised signature

Murray Jackman
Senior Scientist
Date: 13/10/2014

29% oil by volume Comparative 1 C10-C40.



TPH_EBB_20141009_P1A#1 [modified by EBB, 2 peaks manually assign]



Monitoring and Testing Services

A copy of this certificate is available on www.fitzsci.ie

Customer	From FitzSci Lr. Ireland Talbot Business Park Monkstown Road Co. Louth	<i>Lab Report Ref. No.</i> 1717/001/01 <i>Date of Receipt</i> 05/02/2015 <i>Sampled On</i> 05/02/2015 <i>Date Testing Commenced</i> 05/02/2015 <i>Received or Collected</i> Delivered by Customer <i>Condition on Receipt</i> Acceptable <i>Date of Report</i> 27/02/2015 <i>Sample Type</i> Other
Customer PO	Water Sample - 05/02/15	
Customer Ref	Ref 2	
Ref 3		

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
TPH (>C10-40)	188	GC-FID	61.99	ug/L	

Signed: Aoife Harmon
Aoife Harmon - Technical Supervisor

Acc. : Accredited Parameters by ISO 17025:2005

PVL - Parametric Value Limit as per EU (Drinking water) Regulations (SI 122/2014)

For bacterial analysis a result of 0 means none detected in volume examined

All organic results are analysed as received and all results are corrected for dry weight at 104 °C

Results shall not be reproduced, except in full, without the approval of FitZ Scientific

Results contained in this report relate only to the samples tested (P) : Presumptive Results

** : The test result for this parameter may be invalid as it has exceeded the recommended holding time (BS EN ISO 5667-3:2012)

Date : 27/02/2015

UNIREM LIMITED

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