Exova Jones Environmental

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Exova Catalyst - Head Office
Unit C5
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Attention :	Kevin Smith
Date :	28th November, 2017
Your reference :	UPM
Our reference :	Test Report 17/5910 Batch 32
Location :	W1 - WFD Priority and Haz Substances
Date samples received :	26th October, 2017
Status :	Final report
Issue :	1

Eight samples were received for analysis on 26th October, 2017 of which eight were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Simon Gomery BSc
Project Manager

Client Name: Exova Catalyst - Head Office
Reference: UPM
Location:
Contact: Kevin Smith
JE Job No.: 17/5910

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

Please see attached notes for all abbreviations and acronyms

J E Sample No.	233-241	242	243	244	245	246	247	248			LOD/LOR	Units	Method No.
Sample ID	W1	E1 (1)	E1 (2)	E1 (3)	E1 (4)	E1 (5)	E1 (6)	E1 (7)					
Depth													
COC No / misc													
Containers	V G	P	P	P	P	P	P	P					
Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Dissolved Arsenic	6.6	-	-	-	-	-	-	-			<0.9	ug/l	TM30/PM14
Dissolved Cadmium	<0.03	-	-	-	-	-	-	-			<0.03	ug/l	TM30/PM14
Dissolved Lead	<0.4	-	-	-	-	-	-	-			<0.4	ug/l	TM30/PM14
Dissolved Nickel	2.8	-	-	-	-	-	-	-			<0.2	ug/l	TM30/PM14
Mercury Dissolved by CVAF	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM61/PM38
PAH MS													
Naphthalene	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM4/PM30
Acenaphthylene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Acenaphthene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Fluorene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Phenanthrene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Anthracene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Fluoranthene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Pyrene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Benzo(a)anthracene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Chrysene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Benzo(bk)fluoranthene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Benzo(a)pyrene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Indeno(123cd)pyrene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Dibenzo(ah)anthracene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Benzo(ghi)perylene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
PAH 16 Total	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM4/PM30
PAH Surrogate % Recovery	78	-	-	-	-	-	-	-			<0	%	TM4/PM30
VOC TICs	ND	-	-	-	-	-	-	-				None	TM15/PM10
Low level Benzo(a)pyrene	<0.005										<0.0002	ug/l	
Low level Fluoranthene	<0.0060										<0.0060	ug/l	

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Depth													
COC No / misc													
Containers	V G	P	P	P	P	P	P	P					
Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
VOC MS													
Dichlorodifluoromethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Methyl Tertiary Butyl Ether	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Chloromethane	<0.5	-	-	-	-	-	-	-			<0.5	ug/l	TM128/PM115
Vinyl Chloride	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Bromomethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Chloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Trichlorofluoromethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1-Dichloroethene (1,1 DCE)	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Dichloromethane (DCM)	<2	-	-	-	-	-	-	-			<2	ug/l	TM128/PM115
trans-1-2-Dichloroethene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1-Dichloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
cis-1-2-Dichloroethene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
2,2-Dichloropropane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Bromochloromethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Chloroform	0.18	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1,1-Trichloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1-Dichloropropene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Carbon tetrachloride	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2-Dichloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Benzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Trichloroethene (TCE)	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2-Dichloropropane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Dibromomethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Bromodichloromethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
cis-1-3-Dichloropropene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Toluene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
trans-1-3-Dichloropropene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1,2-Trichloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Tetrachloroethene (PCE)	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,3-Dichloropropane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Dibromochloromethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2-Dibromoethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Chlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1,1,2-Tetrachloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Ethylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
p/m-Xylene	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM128/PM115
o-Xylene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Styrene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Bromoform	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Isopropylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,1,2,2-Tetrachloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Bromobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2,3-Trichloropropane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115

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Sample ID	W1	E1 (1)	E1 (2)	E1 (3)	E1 (4)	E1 (5)	E1 (6)	E1 (7)					
Depth													
COC No / misc													
Containers	V G	P	P	P	P	P	P	P					
Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
VOC MS Continued													
Propylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
2-Chlorotoluene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,3,5-Trimethylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
4-Chlorotoluene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
tert-Butylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2,4-Trimethylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
sec-Butylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
4-Isopropyltoluene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,3-Dichlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,4-Dichlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
n-Butylbenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2-Dichlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2-Dibromo-3-chloropropane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2,4-Trichlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Hexachlorobutadiene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Naphthalene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1,2,3-Trichlorobenzene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Diethyl Ether	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Methyl Iodide	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
3-Chloropropene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Acrylonitrile	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Hexane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Propionitrile	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Methyl Acrylate	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Methacrylonitrile	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM128/PM115
Tetrahydrofuran (THF)	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
1-Chlorobutane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Methyl Methacrylate	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Ethyl Methacrylate	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Trans-1,4-Dichloro-2-butene	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Hexachloroethane	<0.05	-	-	-	-	-	-	-			<0.05	ug/l	TM128/PM115
Nitrobenzene	<0.5	-	-	-	-	-	-	-			<0.5	ug/l	TM128/PM115
Surrogate Recovery Toluene D8	100	-	-	-	-	-	-	-			<0	%	TM128/PM115
Surrogate Recovery 4-Bromofluorobenzene	82	-	-	-	-	-	-	-			<0	%	TM128/PM115
SVOC TICs	ND	-	-	-	-	-	-	-				None	TM16/PM30
Octyl phenol	<100										<100	None	TM16/PM30

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Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Pesticides													
Organochlorine Pesticides													
Aldrin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Alpha-HCH (BHC)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Beta-HCH (BHC)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Chlorothalonil	<2.50 AC	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
cis-Chlordane	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Delta-HCH (BHC)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Dieldrin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Endosulphan I	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Endosulphan II	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Endosulphan sulphate	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Endrin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Gamma-HCH (BHC)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Heptachlor	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Heptachlor Epoxide	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Hexachlorobenzene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Isodrin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
o,p'-DDE	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
o,p'-DDT	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
o,p'-Methoxychlor	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
o,p'-TDE	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
p,p'-DDE	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
p,p'-DDT	<0.02 AA	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
p,p'-Methoxychlor	<0.02 AA	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
p,p'-TDE	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Pendimethalin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Permethrin I	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Permethrin II	<0.02 AA	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Quintozene (PCNB)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Tecnazene	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Telodrin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
trans-Chlordane	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Triadimefon	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Triallate	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Trifluralin	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30

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COC No / misc													
Containers	V G	P	P	P	P	P	P	P					
Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Pesticides													
Organophosphorus Pesticides													
Azinphos ethyl	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Azinphos methyl	<0.05 AB	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Carbophenothion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Chlorfenvinphos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Chlorpyrifos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Chlorpyrifos-methyl	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Diazinon	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Dichlorvos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Disulfoton	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Dimethoate	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Ethion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Ethyl Parathion (Parathion)	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Etrimphos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Fenitrothion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Fenthion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Malathion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Methyl Parathion	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Mevinphos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Phosalone	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Pirimiphos Methyl	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Propetamphos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Triazophos	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Benazolin	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Bentazone	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Bromoxynil	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Clopyralid	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
4 - CPA	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
2,4 - D	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
2,4 - DB	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Dicamba	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Dichloroprop	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Diclofop	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Fenoprop	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Flamprop	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Flamprop – isopropyl	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Ioxynil	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
MCPA	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
MCPB	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Mecoprop	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Picloram	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Pentachlorophenol	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30

Please see attached notes for all abbreviations and acronyms

Client Name: Exova Catalyst - Head Office
Reference: UPM
Location:
Contact: Kevin Smith
JE Job No.: 17/5910

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

J E Sample No.	233-241	242	243	244	245	246	247	248			LOD/LOR	Units	Method No.
Sample ID	W1	E1 (1)	E1 (2)	E1 (3)	E1 (4)	E1 (5)	E1 (6)	E1 (7)					
Depth													
COC No / misc													
Containers	V G	P	P	P	P	P	P	P					
Sample Date	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
Sample Type	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid					
Batch Number	32	32	32	32	32	32	32	32					
Date of Receipt	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017	26/10/2017					
2,4,5 - T	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
2,3,6 - TBA	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Triclopyr	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM42/PM30
Atrazine	<0.01	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Simazine	<0.02 AA	-	-	-	-	-	-	-			<0.01	ug/l	TM149/PM30
Dibutyltin	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM94/PM48
Tributyltin	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM94/PM48
Triphenyltin	<0.1	-	-	-	-	-	-	-			<0.1	ug/l	TM94/PM48
Monuron	<0.05 AB	-	-	-	-	-	-	-			<0.01	ug/l	TM97/PM55
Diuron	0.07 AB	-	-	-	-	-	-	-			<0.01	ug/l	TM97/PM55
Linuron	<0.05 AB	-	-	-	-	-	-	-			<0.01	ug/l	TM97/PM55
Isoproturon	<0.05 AB	-	-	-	-	-	-	-			<0.01	ug/l	TM97/PM55

Please see attached notes for all abbreviations and acronyms

Client Name: Exova Catalyst - Head Office
Reference: UPM
Location:
Contact: Kevin Smith
JE Job No.: 17/5910

SVOC Report : **Liquid**

J E Sample No.	233-241												
Sample ID	W1												
Depth											Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V G												
Sample Date	26/10/2017												
Sample Type	Liquid												
Batch Number	32												
Date of Receipt	26/10/2017										LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol	<1										<1	ug/l	TM16/PM30
2-Methylphenol	<0.5										<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5										<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol	<0.5										<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1										<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol	<0.5										<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1										<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol	<0.5										<0.5	ug/l	TM16/PM30
4-Methylphenol	<1										<1	ug/l	TM16/PM30
4-Nitrophenol	<10										<10	ug/l	TM16/PM30
Pentachlorophenol	<1										<1	ug/l	TM16/PM30
Phenol	<1										<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene	<1										<1	ug/l	TM16/PM30
2-Methylnaphthalene	<1										<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5										<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1										<1	ug/l	TM16/PM30
Di-n-butyl phthalate	<1.5										<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1										<1	ug/l	TM16/PM30
Diethyl phthalate	<1										<1	ug/l	TM16/PM30
Dimethyl phthalate	<1										<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene	<1										<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene	<1										<1	ug/l	TM16/PM30
1,3-Dichlorobenzene	<1										<1	ug/l	TM16/PM30
1,4-Dichlorobenzene	<1										<1	ug/l	TM16/PM30
2-Nitroaniline	<1										<1	ug/l	TM16/PM30
2,4-Dinitrotoluene	<0.5										<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1										<1	ug/l	TM16/PM30
3-Nitroaniline	<1										<1	ug/l	TM16/PM30
4-Bromophenylphenylether	<1										<1	ug/l	TM16/PM30
4-Chloroaniline	<1										<1	ug/l	TM16/PM30
4-Chlorophenylphenylether	<1										<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5										<0.5	ug/l	TM16/PM30
Azobenzene	<0.5										<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane	<0.5										<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether	<1										<1	ug/l	TM16/PM30
Carbazole	<0.5										<0.5	ug/l	TM16/PM30
Dibenzofuran	<0.5										<0.5	ug/l	TM16/PM30
Hexachlorobenzene	<1										<1	ug/l	TM16/PM30
Hexachlorobutadiene	<1										<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1										<1	ug/l	TM16/PM30
Hexachloroethane	<1										<1	ug/l	TM16/PM30
Isophorone	<0.5										<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine	<0.5										<0.5	ug/l	TM16/PM30
Nitrobenzene	<1										<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	107										<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	114										<0	%	TM16/PM30

Client Name: Exova Catalyst - Head Office
Reference: UPM
Location:
Contact: Kevin Smith
JE Job No.: 17/5910

VOC Report : **Liquid**

J E Sample No.	233-241												
Sample ID	W1												
Depth													
COC No / misc													
Containers	V G												
Sample Date	26/10/2017												
Sample Type	Liquid												
Batch Number	32												
Date of Receipt	26/10/2017												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2										<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether	<0.1										<0.1	ug/l	TM15/PM10
Chloromethane	<3										<3	ug/l	TM15/PM10
Vinyl Chloride	<0.1										<0.1	ug/l	TM15/PM10
Bromomethane	<1										<1	ug/l	TM15/PM10
Chloroethane	<3										<3	ug/l	TM15/PM10
Trichlorofluoromethane	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE)	<3										<3	ug/l	TM15/PM10
Dichloromethane (DCM)	<5										<5	ug/l	TM15/PM10
trans-1-2-Dichloroethene	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethane	<3										<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene	<3										<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1										<1	ug/l	TM15/PM10
Bromochloromethane	<2										<2	ug/l	TM15/PM10
Chloroform	<2										<2	ug/l	TM15/PM10
1,1,1-Trichloroethane	<2										<2	ug/l	TM15/PM10
1,1-Dichloropropene	<3										<3	ug/l	TM15/PM10
Carbon tetrachloride	<2										<2	ug/l	TM15/PM10
1,2-Dichloroethane	<2										<2	ug/l	TM15/PM10
Benzene	<0.5										<0.5	ug/l	TM15/PM10
Trichloroethene (TCE)	<3										<3	ug/l	TM15/PM10
1,2-Dichloropropane	<2										<2	ug/l	TM15/PM10
Dibromomethane	<3										<3	ug/l	TM15/PM10
Bromodichloromethane	<2										<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
Toluene	<5										<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
1,1,2-Trichloroethane	<2										<2	ug/l	TM15/PM10
Tetrachloroethene (PCE)	<3										<3	ug/l	TM15/PM10
1,3-Dichloropropane	<2										<2	ug/l	TM15/PM10
Dibromochloromethane	<2										<2	ug/l	TM15/PM10
1,2-Dibromoethane	<2										<2	ug/l	TM15/PM10
Chlorobenzene	<2										<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane	<2										<2	ug/l	TM15/PM10
Ethylbenzene	<1										<1	ug/l	TM15/PM10
p/m-Xylene	<2										<2	ug/l	TM15/PM10
o-Xylene	<1										<1	ug/l	TM15/PM10
Styrene	<2										<2	ug/l	TM15/PM10
Bromoform	<2										<2	ug/l	TM15/PM10
Isopropylbenzene	<3										<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4										<4	ug/l	TM15/PM10
Bromobenzene	<2										<2	ug/l	TM15/PM10
1,2,3-Trichloropropane	<3										<3	ug/l	TM15/PM10
Propylbenzene	<3										<3	ug/l	TM15/PM10
2-Chlorotoluene	<3										<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene	<3										<3	ug/l	TM15/PM10
4-Chlorotoluene	<3										<3	ug/l	TM15/PM10
tert-Butylbenzene	<3										<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene	<3										<3	ug/l	TM15/PM10
sec-Butylbenzene	<3										<3	ug/l	TM15/PM10
4-Isopropyltoluene	<3										<3	ug/l	TM15/PM10
1,3-Dichlorobenzene	<3										<3	ug/l	TM15/PM10
1,4-Dichlorobenzene	<3										<3	ug/l	TM15/PM10
n-Butylbenzene	<3										<3	ug/l	TM15/PM10
1,2-Dichlorobenzene	<3										<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2										<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3										<3	ug/l	TM15/PM10
Naphthalene	<2										<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	106										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	106										<0	%	TM15/PM10

Client Name: Exova Catalyst - Head Office
Reference: UPM
Location:
Contact: Kevin Smith

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
No deviating sample report results for job 17/5910						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 17/5910

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution
AB	x5 Dilution
AC	x250 Dilution

JE Job No: 17/5910

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM15	Modified USEPA 8260. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.				
TM16	Modified USEPA 8270. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM14	Analysis of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for dissolved metals and acidified if required.				
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.				
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM38/TM125	Total Nitogen/Organic Nitrogen by calculation	PM0	No preparation is required.				
TM42	Modified US EPA method 8270. Pesticides and herbicdes by GC-MS	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.				
TM94	Derivatisation and extraction of Organotins. Analysis by GC-MS	PM48	Samples are pretreated and derivatised. The derviatised organotins are then extracted using hexane.				

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Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM97	Determination of specific Uron Herbicides using Reversed Phase High Performance Liquid Chromatography and Mass Spectroscopy detection.	PM55	Liquid samples are passed through a Solid Phase Extraction (SPE) column under vacuum and a solvent of appropriate polarity (Methanol) is used to elute the analytes from the column. Solid samples are extracted with solvent by End over End.				
TM128	Modified USEPA 8260 and 524.2. Quantitative Determination of Volatile Organic Compounds (VOCs) by Purge and Trap GCMS	PM115	Preparation of sample for Trace VOCs by Purge and Trap GCMS				
TM149	Determination of Pesticides by Large Volume Injection on GC Triple Quad MS, based upon USEPA method 8270	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				