

12th September 2013

Simon Devine
Taylor Wimpey Manchester Limited
George Wimpey House
1 Lumsdale Road
Stretford
Manchester
M32 0UT

Dear Simon

**RE: NX131 PLOT 20 VALIDATION REPORT – ENGPJ/196311 CALDERSTONES PARK
PHASE 3 OFF PENDLE DRIVE CLITHEROE BB7 9**

Validation testing within the rear garden of Plots 15 was undertaken on 12th September 2013 by an engineer from NX Consulting Limited. We confirm that a 600mm cover system was present comprising up to 200mm of topsoil, validated by WSP Group on behalf of John Reilly Construction, overlying 400mm+ of subsoils.

The contractor confirmed that materials used are those sourced from Harbour Lane, Warton. A copy of the WSP Validation letter is appended to this document.

Subsoils comprise 'site won' cohesive soils validated as chemically suitable for use by NX Consulting, as bulk upfill within garden areas.

To date NX Consulting have conducted 2no validation tests of the cover system soils and the Warton topsoil, within Plot 1 & 8 in line with the agreed remediation strategy with Ribble Valley Council. We can confirm that all concentrations fall below remedial target values agreed with the NHBC and Urban Vision.

We can therefore, confirm that Plot 15 has been completed in line with the agreed remediation methodology agreed with Ribble Valley Council and the NHBC and is considered suitable for occupation.

Please do not hesitate to call if you have any queries.

Yours sincerely
for and on behalf of NX Consulting Limited

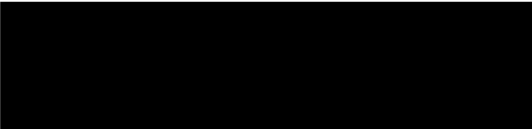

Mark Newton
(Managing Director)



Plate 1 – Plot No 1



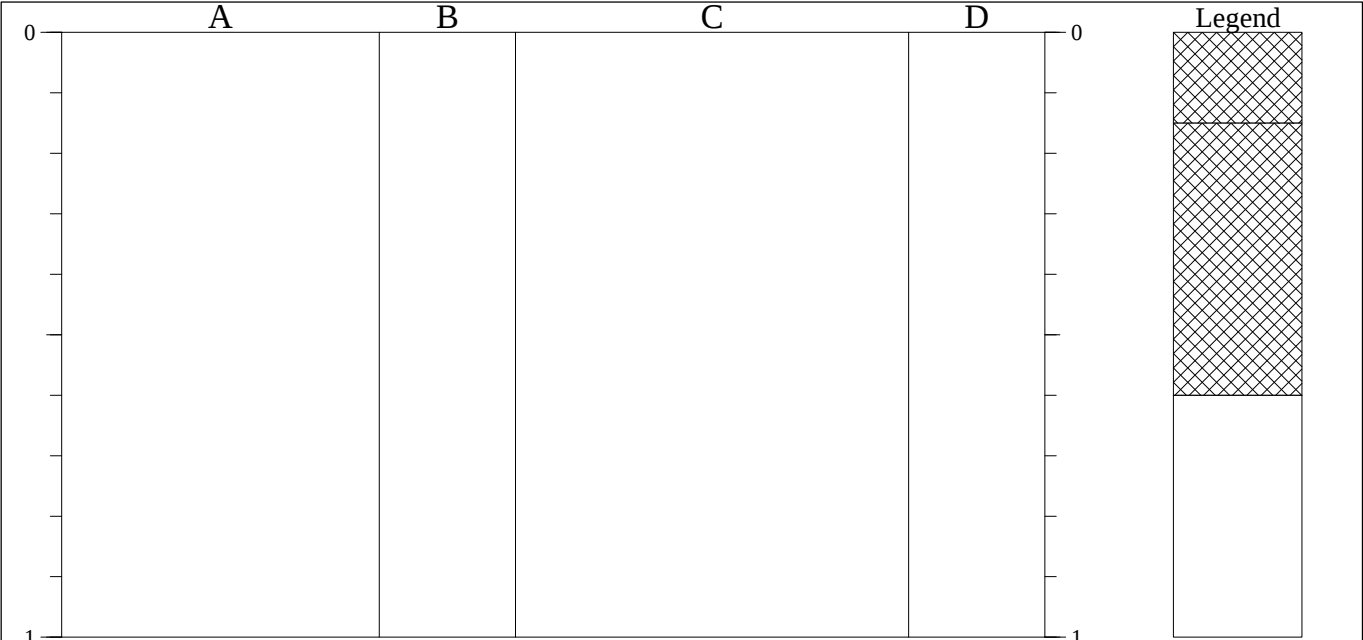
Plate 2 – Plot No 15 Rear Garden



Plate 3 – Plot No 15 Cover System Depth & Arisings

TRIAL PIT LOG

Project Calderstones Phase 3				TRIAL PIT No Plot 15
Job No NX131	Date 12-09-13	Ground Level (m)	Co-Ordinates ()	
Contractor Geoventures Limited				Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests	
0.00-0.15		Turf over brown slightly organic clay with some fine to coarse brick, slate and cement gravel. Occasional rootlets (Imported WSP Validated Topsoil from Warton Site).				
0.15-0.60		Site Won Made Ground: Soft to firm brown grey slightly organic clay with some fine to coarse angular gravel of brick, slate, sandstone, mudstone, concrete. Occasional brick cobbles.				
0.60		Trial pit ended at 0.60m.				

Shoring/Support: None Stability: Good			GENERAL REMARKS No visual or olfactory evidence of hydrocarbon or solvent contamination. No groundwater recorded.

All dimensions in metres Scale 1:12.5	Client Taylor Wimpey Manchester Limited	Method/ Plant Used	Logged By MN
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21 September 2012

Dave Spruce
John Reilly Civil Engineering Ltd
Millennium House
Euxton Lane
Euxton, Chorley
Lancashire,
PR7 6AE

Dear Dave,

**Harbour Lane, Warton
Topsoil Stockpile**

WSP Environmental Limited (WSPE) attended the Harbour Lane, Warton site on 13 September 2012 at the request of John Reilly Civil Engineering Ltd., to sample a topsoil stockpile with an approximate volume of 2,000m³. The sampling consisted of eight samples obtained from random depths and locations within the stockpile to achieve a testing frequency 1 sample per 250m³. The samples were submitted to a laboratory for a standard suite of analysis to demonstrate that the topsoil is suitable for use as imported topsoil to residential gardens.

The topsoil is derived from the Harbour Lane site and was observed during our site visit to be dark brown organic topsoil.

The test results are attached as Appendix A to this letter and all determinands are within typical residential importation screening values. As a result, WSPE recommend that the Harbour Lane topsoil is generally suitable for use as topsoil at residential developments, subject to checking with site specific criteria for the acceptance of imported topsoil.

We trust that this letter and its attachments are suitable for use as supporting evidence of the quality of the topsoil.

Yours sincerely

Andrew Moore
Associate Director
DDI: 0161 886 2548

Appendix A Chemical Analysis Results

WSP Environmental UK

The Victoria
150-182 The Quays
Salford
Manchester
M50 3SP
Tel: +44 (0)161 886 2400
Fax: +44 (0)16 1886 2402
<http://www.wspgroup.com>
Reg. No: 1152332

WSP Group plc
Offices worldwide

APPENDIX A
CHEMICAL ANALYSIS RESULTS



WSP Environmental
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP
Attention : Andrew Moore

CERTIFICATE OF ANALYSIS

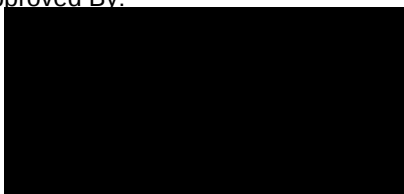
Date:	20/09/2012 16:56		
Customer:	H_WSP_MAN		
Sample Delivery Group (SDG):	120914-48	Report No.:	195032
Your Reference:	34419		
Location:	Harbour Lane, Warton		

We received 8 samples on Thursday September 13, 2012 and 8 of these samples were scheduled for analysis which was then completed on Thursday September 20, 2012. Accredited laboratory tests are defined in the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with data sections alone.

All chemical testing (unless subcontracting) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan
Operations Manager

ALcontrol Laboratories is a trading division of ALcontrol UK Limited

Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291



SOLID

Component	LOD									
		Customer Sample Ref.	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4
		Depth (m)	0.2	1.2	0.2	1.2	0.3	1.2	0.2	1.8
		Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
		Date Sampled	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012
		Date Received	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15
		SDG Ref	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48
		Lab Sample No.(s)	6183994	6183997	6183998	6183999	6184001	6184002	6184003	6184005
		AGS Reference	ES	ES	ES	ES	ES	ES	ES	ES
		Units	Method							

MISC

pH	1	pH Units M	TM133	6.66	7.01	6.56	6.85	6.93	7.29	8.06	6.57
Arsenic	<0.6	mg/kg M	TM181	8.34	8.92	9.4	11.2	7.72	6.88	8.11	8.24
Cadmium	<0.02	mg/kg M	TM181	0.135	0.145	0.14	0.136	0.119	0.11	0.149	0.0956
Chromium	<0.9	mg/kg M	TM181	31.1	30.8	32.9	30.8	29.8	26.6	25.7	28.2
Copper	<1.4	mg/kg M	TM181	16.8	15.1	16	15.4	13.5	10.2	14.8	15.6
Lead	<0.7	mg/kg M	TM181	73.3	41.4	35.6	42.2	31.8	25.4	33.8	29.5
Mercury	<0.14	mg/kg M	TM181	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Nickel	<0.2	mg/kg M	TM181	17.5	16.8	19.2	17.3	17.7	14.9	16.8	17.2
Selenium	<1	mg/kg *	TM181	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	<1.9	mg/kg M	TM181	74.9	60.2	53.7	75.7	46.3	37	70.4	51.6
Water Soluble Sulphate as SO4 2:1 Extract	<0.008	g/l M	TM243	0.0086	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Soil Organic Matter (SOM)	<0.35	% *	TM132		3.81						

PAH by GCMS

Naphthalene-d8 % recovery**		%	TM218	102	96.5	107	98.9	115	111	93.7	98.2
Acenaphthene-d10 % recovery**		%	TM218	102	97.2	108	98.6	114	110	93.9	99.5
Phenanthrene-d10 % recovery**		%	TM218	101	96.6	104	96.9	112	108	93.8	99.2
Chrysene-d12 % recovery**		%	TM218	94.7	83.3	95.6	88.5	102	101	82.4	86.5
Perylene-d12 % recovery**		%	TM218	102	87	90.8	93.9	108	110	87.3	92.2
Naphthalene	<0.009	mg/kg M	TM218	0.0288	0.0281	0.341	0.0231	0.0335	0.0286	0.0368	0.0161
Acenaphthylene	<0.012	mg/kg M	TM218	<0.012	0.018	0.018	<0.012	<0.012	<0.012	0.0274	<0.012
Acenaphthene	<0.008	mg/kg M	TM218	<0.008	0.0167	0.0118	<0.008	0.0198	<0.008	0.058	0.0243
Fluorene	<0.01	mg/kg M	TM218	<0.01	0.015	0.034	<0.01	0.0308	<0.01	0.0397	0.0238
Phenanthrene	<0.015	mg/kg M	TM218	0.103	0.0907	1.96	0.0608	0.155	0.0829	0.431	0.0955
Anthracene	<0.016	mg/kg M	TM218	0.028	<0.016	0.0626	<0.016	0.138	<0.016	0.148	0.0271
Fluoranthene	<0.017	mg/kg M	TM218	0.236	0.124	0.447	0.16	0.172	0.168	1.07	0.11
Pyrene	<0.015	mg/kg M	TM218	0.203	0.1	0.376	0.147	0.14	0.146	0.993	0.0998
Benz(a)anthracene	<0.014	mg/kg M	TM218	0.114	0.0566	0.411	0.1	0.0778	0.107	0.473	0.0737
Chrysene	<0.01	mg/kg M	TM218	0.125	0.0527	1.07	0.101	0.0822	0.105	0.486	0.0612
Benzo(b)fluoranthene	<0.015	mg/kg M	TM218	0.214	0.0828	0.915	0.162	0.115	0.187	0.727	0.109
Benzo(k)fluoranthene	<0.014	mg/kg M	TM218	0.0728	0.0246	0.259	0.0641	0.0492	0.0723	0.271	0.0406
Benzo(a)pyrene	<0.015	mg/kg M	TM218	0.173	0.0564	0.429	0.139	0.0827	0.143	0.598	0.0814
Indeno(1,2,3-cd)pyrene	<0.018	mg/kg M	TM218	0.114	0.039	0.324	0.083	0.0535	0.0878	0.356	0.0552
Dibenzo(a,h)anthracene	<0.023	mg/kg M	TM218	0.0315	<0.023	0.225	<0.023	<0.023	<0.023	0.1	<0.023
Benzo(g,h,i)perylene	<0.024	mg/kg M	TM218	0.152	0.0515	0.393	0.108	0.0724	0.111	0.439	0.0666
PAH, Total Detected USEPA 16	<0.118	mg/kg	TM218	1.59	0.738	7.28	1.15	1.22	1.24	6.25	0.885

TPH CWG (S)

GRO Surrogate % recovery**		%	TM089	85	79	83	92	82	80	83	103
GRO >C5-C12	<0.044	mg/kg	TM089	<0.044	0.571	<0.044	0.252	<0.044	0.278	<0.044	0.107
Methyl tertiary butyl ether (MTBE)	<0.005	mg/kg *	TM089	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aliphatics >C5-C6	<0.01	mg/kg	TM089	<0.01	0.0161	<0.01	0.0161	<0.01	0.0144	<0.01	<0.01
Aliphatics >C6-C8	<0.01	mg/kg	TM089	<0.01	0.0335	<0.01	0.0268	<0.01	0.0249	<0.01	<0.01
Aliphatics >C8-C10	<0.01	mg/kg	TM089	<0.01	0.138	<0.01	0.0389	<0.01	0.0511	<0.01	<0.01
Aliphatics >C10-C12	<0.01	mg/kg	TM089	<0.01	0.141	<0.01	0.0402	<0.01	0.055	<0.01	<0.01
Aliphatics >C12-C16	<0.1	mg/kg	TM173	3.3	8.27	<0.1	8.51	6.5	6.69	9.6	8.15
Aliphatics >C16-C21	<0.1	mg/kg	TM173	4.53	4.92	<0.1	5.75	3.08	3.68	8.15	3.52
Aliphatics >C21-C35	<0.1	mg/kg	TM173	16.2	12.6	7.78	11.8	10.6	11.8	35	13.7
Aliphatics >C35-C44	<0.1	mg/kg	TM173	3.79	<0.1	<0.1	<0.1	<0.1	1.63	15.9	<0.1
Total Aliphatics >C12-C44	<0.1	mg/kg	TM173	27.8	25.8	7.78	26.1	20.1	23.8	68.6	25.3
Aromatics >EC5-EC7	<0.01	mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics >EC7-EC8	<0.01	mg/kg	TM089	<0.01	0.0563	<0.01	0.0657	<0.01	0.038	<0.01	0.0862
Aromatics >EC8-EC10	<0.01	mg/kg	TM089	<0.01	0.0938	<0.01	0.0348	<0.01	0.0563	<0.01	<0.01
Aromatics >EC10-EC12	<0.01	mg/kg	TM089	<0.01	0.0938	<0.01	0.0268	<0.01	0.0367	<0.01	<0.01
Aromatics >EC12-EC16	<0.1	mg/kg	TM173	22.5	16.7	1.75	15.7	14.2	12	15.7	14.8
Aromatics >EC16-EC21	<0.1	mg/kg	TM173	7.43	7.38	3.39	6.05	4.89	4.11	15.8	5.52
Aromatics >EC21-EC35	<0.1	mg/kg	TM173	45.6	42.9	34.6	35.9	35.8	28.4	88.8	50.7
Aromatics >EC35-EC44	<0.1	mg/kg	TM173	17.7	18.2	15.1	14.9	12.4	8	53	17.4
Aromatics >EC40-EC44	<0.1	mg/kg	TM173	6.66	6.12	6.66	5.				

SOLID

			Customer Sample Ref.	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4
			Depth (m)	0.2	1.2	0.2	1.2	0.3	1.2	0.2	1.8
			Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
			Date Sampled	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012	13/09/2012
			Date Received	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15	13/09/2012 14:15
			SDG Ref	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48	120914-48
			Lab Sample No.(s)	6183994	6183997	6183998	6183999	6184001	6184002	6184003	6184005
			AGS Reference	ES	ES	ES	ES	ES	ES	ES	ES
Component	LOD	Units	Method								
Total Aromatics >EC12-EC44	<0.1	mg/kg	TM173	93.3	85.2	54.8	72.6	67.3	52.5	173	88.4
Total Aliphatics >C5-35	<0.1	mg/kg	TM173	24.1	26.1	7.78	26.2	20.1	22.3	52.8	25.4
Total Aromatics >C5-35	<0.1	mg/kg	TM173	75.6	67.2	39.7	57.8	54.9	44.6	120	71.1
Total Aliphatics & Aromatics >C5-35	<0.1	mg/kg	TM173	99.7	93.3	47.5	84	75.1	66.9	173	96.5
Total Aliphatics & Aromatics >C5-C44	<0.1	mg/kg	TM173	121	112	62.6	98.9	87.5	76.6	242	114
VOC MS (S)											
Benzene	<0.009	mg/kg M	TM116	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Toluene	<0.005	mg/kg M	TM116	<0.005	0.0621	<0.005	0.0241	<0.005	0.0677	<0.005	0.079
Ethylbenzene	<0.004	mg/kg M	TM116	<0.004	<0.004	<0.004	<0.004	<0.004	0.00601	<0.004	<0.004
p/m-Xylene	<0.014	mg/kg *	TM116	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
o-Xylene	<0.01	mg/kg M	TM116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert-amyl methyl ether	<0.015	mg/kg	TM116	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015