



# [ ] Certificate of Testing

of radiological samples issued by  
 Dstl Environmental Sciences Department  
 for Job Number : 006/10



Administration	
Laboratory Address	Dstl Environmental Sciences Department Radiochemistry Laboratory Institute of Naval Medicine Crescent Road, Alverstoke Gosport, Hants, PO12 2DL Tel 023 92768164 Fax 023 92768150
Customer Name:	R Brown
Customer Address:	Bld34, Alverstoke
Date of Receipt:	Date of Testing:

Analysis and Reporting	
Analysis Type and Technical Comments:	These soil samples have been analysed by Gamma Spectrometry. The reporting units are Bq/kg for the samples marked with * and Bq for all other samples.
Reporter:	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  <p>Matthew Simpson            cn=Matthew Simpson, c=GB, o=DSTL,            ou=ESD, email=msimpson1@dstl.gov.uk            2010.02.01 11:25:43 Z</p> </div> <div style="width: 30%;">           Countersigner:  </div> <div style="width: 30%;">           Digitally signed by Terry Gingell            DN: cn=Terry Gingell, o=Dstl, ou=ESD,            email=tgingell@dstl.gov.uk, c=GB            Date: 2010.01.26 19:29:12 Z         </div> </div>

**Information**

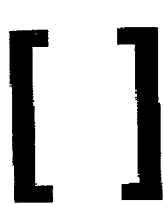
The reported uncertainty is calculated from both the counting and preparation. The confidence level is 95% (k factor = 1.96). It provides traceability of measurement to recognised national standards and to the units realised by the National Physical Laboratory or other recognised National Standards Laboratory. This certificate may not be reproduced other than in full, except with the prior approval of the issuing laboratory.



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Sample Analysis Reference No.	Customer's Reference	<sup>40</sup> K	<sup>60</sup> Co	<sup>137</sup> Cs	<sup>208</sup> Tl	<sup>212</sup> Pb	<sup>214</sup> Pb	<sup>214</sup> Bi	<sup>226</sup> Ra	<sup>228</sup> Ac	<sup>234</sup> Th	<sup>235</sup> U	Sample mass (g)
0b006001	S007	<392	<40	<35	<32	<66	47217±2937	38899±2424	25154±1730	<128	<1039	<251	8.62
0b006002	S022	<207	<22	<20	<21	<33	13239±828	13102±821	12380±854	<76	<684	<140	9.79
0b006003	S026	<264	<30	<22	<24	<38	18343±1145	17442±1090	17254±1723	<72	<668	<272	17.83+5.35
0b006004	S034	<177	<19	<18	<19	<33	11221±703	11264±707	10455±859	<6	<608	<124	0.41
0b006005	S042	<157	<16	<14	<14	<20	7228±455	7189±454	6418±478	<48	<425	<95	0.11
0b006006	S048	<465	<62	<55	<56	<97	89160±5542	87224±5423	89321±6058	<135	<1565	<365	7.25+3.46
0b006007	S067	<265	<25	<21	<22	<37	19054±1189	18584±1161	20305±1583	<67	<627	<154	<0.01
0b006008	S083	<997	<97	<90	<87	<458	140711±8744	147398±9161	84584±5471	<294	<3207	<544	10.20
0b006009	S085	Not analysed											
0b006010	S007 *	600±98	<2	<4	13±6	33±7	73±14	84±12	125±68	35±11	<138	<8	-
0b006011	S022 *	293±56	<2	<3	6±3	18±4	673±44	572±43	816±80	21±6	<156	<7	-
0b006012	S026 *	196±24	<1	<2	5±2	11±2	45±6	4±5	60±20	15±3	<54	<2	-
0b006013	S034 *	310±34	<1	<2	7±2	20±3	58±6	57±7	74±26	25±6	<70	<3	-
0b006014	S042 *	309±37	<1	<2	7±2	16±3	121±10	119±12	181±95	25±9	<96	<4	-
0b006015	S048 *	307±50	<3	3±2	5±3	19±4	611±40	576±38	668±134	17±7	<162	<7	-
0b006016	S067 *	323±37	<1	<2	9±2	21±3	75±8	70±7	111±32	22±5	<84	<4	-
0b006017	S083 *	319±34	<1	3±1	5±3	12±2	101±8	93±8	232±40	16±4	<67	<3	-
0c006rad	S007 unopened	<556	<51	<51	<49	<114	63148±3836	53536±3258	64308±4360	<198	<1929	<439	-
0C006grt	Dirt from handling*	<221	<4	<8	<13	<22	6091±437	5771±436	8095±1399	<512	<831	<28	-





# Certificate of Testing

of radiological samples issued by  
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for Job Number : 016/10



Administration	
Laboratory Address	Dstl Environmental Sciences Department Radiochemistry Laboratory Institute of Naval Medicine Crescent Road, Alverstoke Gosport, Hants, PO12 2DL Tel 023 92768164 Fax 023 92768150
	Customer Name: R Brown Customer Address: Bld34, Alverstoke
Date of Receipt:	Date of Testing:

Analysis and Reporting	
Analysis Type and Technical Comments:	These soil samples have been analysed by Gamma Spectrometry. The reporting units are Bq/kg.
Reporter: 	Digitally signed by Terry Gingell DN: cn=Terry Gingell, o=Dstl, ou=ESD, email=tgingell@dstl.gov.uk, c=GB Date: 2010.02.24 11:53:20 Z
	Countersigner:  Digitally signed by Terry Gingell DN: cn=Terry Gingell, o=Dstl, ou=ESD, email=tgingell@dstl.gov.uk, c=GB Date: 2010.02.24 11:51:43 Z

Information
The reported uncertainty is calculated from both the counting and preparation. The confidence level is 95% (k factor = 1.96). It provides traceability of measurement to recognised national standards and to the units realised by the National Physical Laboratory or other recognised National Standards Laboratory. This certificate may not be reproduced other than in full, except with the prior approval of the issuing laboratory.





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# Certificate of Testing


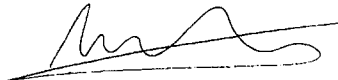
of radiological samples issued by  
Dstl Environmental Sciences Department  
for Job Number : 148/10



## Administration

Laboratory Address	<b>Dstl Environmental Sciences Department Radiochemistry Laboratory</b> Institute of Naval Medicine Crescent Road, Alverstoke Gosport, Hants, PO12 2DL Tel 023 92768164 Fax 023 92768150	Customer Name:	Guy Hitchins
		Customer Address:	Entec UK Ltd (Gosforth)
Date of Receipt:	27/04/10	Date of Testing:	05/05/10

## Analysis and Reporting

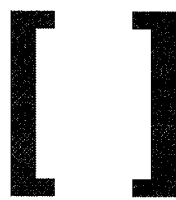
Analysis Type and Technical Comments:	These soil samples have been analysed by Gamma Spectrometry. The result quoted for <sup>226</sup> Ra is only an estimate and not covered by the UKAS accreditation. The reporting units are Bq/kg. * These results (5, 8, 9) are estimates as they were too large to re-pot (and weigh) and 9 was not counted on the normal geometry for samples of this type.		
Reporter:		Countersigner:	
	Digitally signed by Alison Boler DN: cn=Alison Boler, o=DSTL, ou=ESD, email=acboler@dstl.gov.uk, c=GB Date: 2010.05.20 11:56:34 +01'00'		Matthew Simpson cn=Matthew Simpson, c=GB, o=DSTL, ou=ESD, email=msimpson1@dstl.gov.uk 2010.05.20 11:48:54 +01'00'

## Information

The reported uncertainty is calculated from both the counting and preparation. The confidence level is 95% (k factor = 1.96). The certificate is issued in accordance with the requirements of the United Kingdom Accreditation Service as specified in the UKAS Accredited Standard and UKAS regulations. It provides traceability of measurement to recognised national standards and to the units realised by the National Physical Laboratory or other recognised National Standards Laboratory. This certificate may not be reproduced other than in full, except with the prior approval of the issuing laboratory. The \* denotes the <sup>226</sup>Ra result is only an estimate based on the activity of the daughter products and the deconvolution of the spectral peaks and therefore not covered by the UKAS accreditation.



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Sample Analysis Reference No.	Customer's Reference	<sup>40</sup> K	<sup>60</sup> Co	<sup>137</sup> Cs	<sup>208</sup> Tl	<sup>212</sup> Pb	<sup>214</sup> Pb	<sup>214</sup> Bi	<sup>226</sup> Ra*	<sup>228</sup> Ac	<sup>234</sup> Th	<sup>235</sup> U	<sup>241</sup> Am
10c148001	Sand/ Gravel SO88	<1359	<332	<139	<147	<303	460730±27913	397789±24107	559548±34705	<498	<12340	<429	<1591
10c148002	Sand/ Gravel SO89	<5650	<1428	<471	<500	<991	2288229±138607	2009921±121757	2668240±165185	<1710	<63002	<1342	<5018
10c148003	Sand/ Gravel SO90	<756	<236	<81	<85	197±114	391651±24328	352057±21869	449664±28222	<242	<6938	<230	<908
10c148004	Sand/ Gravel SO91	<1259	<163	<63	<90	215±114	171997±10426	151529±9192	194528±13021	<304	<5907	<247	<899
10c148005*	Clinker SO92	<211	<18	<18	<21	<43	37728±2343	39316±2441	396677±2582	<589	<1417	<53	<183
10c148006	Sand/ Gravel SO93	<404	<115	<59	<34	<81	125836±7809	115491±7167	146731±9309	<102	<10524	<98	<1071
10c148007	Sand/ Gravel SO94	613±267	<233	<39	<42	<91	155492±9660	148038±9197	153807±9611	<142	<3458	<115	<451
10c148008*	Clinker SO95	<147	28±15	<13	<15	<29	25719±1598	24047±1495	29073±1919	<48	<1193	<42	<140
10b148009*	Clinker SO96	<121	<15	<13	<15	<31	17904±1099	18929±1162	17940±1242	<50	<537	<33	<56
10c148010	Sand/ Gravel SO97	<3994	<382	<327	<343	<647	1517861±91940	1208317±73207	1646278±100084	<1225	<23152	<995	<3556
10c148011	Sand/ Gravel SO98	<2239	<1319	<424	<209	1465±266	1949357±118065	1650286±99955	2220948±135056	<597	<15248	<534	<2086
10c148012	Sand/ Gravel SO99	<869	<317	<89	<96	204±120	476924±28888	425660±25784	544536±33378	506±207	<5943	<249	<2015
10c148013	Sand/ Gravel SO100	777±455	<167	<51	<56	145±75	151665±9423	156838±9744	142972±9182	<112	<3951	<130	<516
10c148014	Sand/ Gravel SO101	411±138	<4	<7	<15	44±18	617±56	572±65	<404	<45	<800	<26	<92
10c148015	Sand/ Gravel SO102	<346	<38	<34	<37	<79	59790±3626	57031±3459	64066±4198	<107	<4498	<93	<340
10b148016	Sand/ Gravel SO103	<1412	<206	<112	<107	<190	188076±11675	175195±10879	212023±13977	<319	<4247	<280	<551
10b148017	Sand/ Gravel SO104	<627	<212	<54	<5	<106	105401±6540	103080±6398	115913±7684	<204	<2043	<136	<553
10b148018	Sand/ Gravel SO105	323±176	<50	<26	<30	<53	66837±4097	63780±3910	71138±4515	<92	<1260	<70	<326