

**Table C2. Method Detection Limit (MDL) analysis using sediment replicates from Sandy Hook Bay.<sup>1</sup>**

Sample ID	Nonane (n-C <sub>9</sub> )	Decane (n-C <sub>10</sub> )	Undecane (n-C <sub>11</sub> )	Dodecane (n-C <sub>12</sub> )	Tridecane (n-C <sub>13</sub> )	Tetradecane (n-C <sub>14</sub> )	Pentadecane (n-C <sub>15</sub> )	Hexadecane (n-C <sub>16</sub> )	Heptadecane (n-C <sub>17</sub> )	Pristane	Octadecane (n-C <sub>18</sub> )	Phytane	Nonadecane (n-C <sub>19</sub> )	Eicosane (n-C <sub>20</sub> )	Heneicosane (n-C <sub>21</sub> )	Docosane (n-C <sub>22</sub> )	Tricosane (n-C <sub>23</sub> )
<b>Sediment MDL Determination Using External Standard Calculations (µg/g, wet wt.)</b>																	
897081109	2.95	4.23	4.52	4.57	4.69	4.96	5.05	5.29	5.87	5.38	5.90	5.61	6.03	5.93	6.16	7.20	6.68
897081110	4.31	3.78	4.39	4.69	4.63	4.92	4.94	4.90	5.32	4.94	5.07	4.96	5.29	5.22	5.30	5.39	5.44
897081111	2.59	3.29	3.90	4.27	4.34	4.60	4.87	5.08	5.63	5.22	5.59	5.33	5.69	5.55	5.83	6.89	6.18
897081112	3.36	3.24	3.70	4.01	4.07	4.23	4.58	4.69	5.19	4.81	5.00	4.90	5.26	5.16	5.31	5.28	5.40
897081113	3.24	3.24	4.20	4.59	4.84	5.15	5.67	5.80	6.35	5.90	6.09	5.94	6.33	6.33	6.52	6.60	6.83
897081114	1.61	2.16	2.59	2.89	3.05	3.36	3.95	4.40	5.12	4.77	5.22	5.02	5.42	5.40	5.57	5.65	5.82
897081115	3.09	3.36	3.42	3.66	3.82	4.06	4.33	4.51	5.08	4.70	5.11	4.88	5.36	5.32	5.50	5.46	5.62
Average	3.02	3.33	3.82	4.10	4.21	4.47	4.77	4.95	5.51	5.10	5.43	5.23	5.63	5.56	5.74	6.07	6.00
Std Dev	0.82	0.63	0.67	0.64	0.63	0.63	0.55	0.49	0.47	0.43	0.44	0.41	0.41	0.43	0.46	0.80	0.58
%RSD or %CV	27.06	19.02	17.46	15.73	14.88	14.07	11.56	9.86	8.53	8.39	8.03	7.82	7.33	7.67	7.99	13.20	9.74
MDL <sup>2</sup>	2.57	1.99	2.09	2.03	1.97	1.98	1.73	1.53	1.48	1.35	1.37	1.29	1.30	1.34	1.44	2.52	1.84

<sup>1</sup> The sediment was collected from Horseshoe Cove, Sandy Hook. The sediment was then mixed into a composite and portions of this composite was used for the MDL analysis. Each sample was with 20 µg of each individual hydrocarbon.

<sup>2</sup> MDL =  $\sigma t$ ; where  $\sigma$  is the standard deviation and  $t$  is the Students t value. For 99% confidence level, 6 degrees of freedom (one-tailed),  $t = 3.143$ .

**Table C2. Continued.**

Sample ID	Tetracosane (n-C <sub>24</sub> )	Pentacosane (n-C <sub>25</sub> )	Hexacosane (n-C <sub>26</sub> )	Heptacosane (n-C <sub>27</sub> )	Octacosane (n-C <sub>28</sub> )	Nonacosane (n-C <sub>29</sub> )	Triacontane (n-C <sub>30</sub> )	n-Hentriacontane (n-C <sub>31</sub> )	Dotriacontane (n-C <sub>32</sub> )	Tetracontane (n-C <sub>33</sub> )	Pentacontane (n-C <sub>35</sub> )	Hexatriacontane (n-C <sub>36</sub> )	Heptatriacontane (n-C <sub>37</sub> )	Octatriacontane (n-C <sub>38</sub> )	Nonatriacontane (n-C <sub>39</sub> )	Tetracontane (n-C <sub>40</sub> )	Total Petroleum Hydrocarbons <sup>2</sup>	
<b>Sediment MDL Determination Using External Standard Calculations (µg/g, wet wt.)</b>																		
897081109	6.19	6.68	6.08	7.46	6.53	12.39	5.79	9.01	5.21	8.07	2.33	2.40	1.30	1.04	0.84	0.71	0.60	464
897081110	5.33	5.77	5.36	6.33	5.39	10.89	5.29	8.79	5.63	4.17	2.55	2.58	1.45	1.33	1.08	0.92	0.81	361
897081111	5.82	6.32	5.60	6.88	5.89	12.37	5.70	8.40	4.78	6.35	3.05	3.46	1.77	1.61	1.39	1.20	1.08	340
897081112	5.26	5.64	5.14	6.34	5.56	11.97	5.46	9.00	5.27	3.68	2.56	2.27	1.68	1.26	1.08	0.92	0.79	341
897081113	6.49	7.04	6.32	7.92	6.07	13.63	6.16	10.22	5.86	10.76	2.68	2.34	1.80	1.50	1.17	1.01	0.91	389
897081114	5.53	5.83	5.36	6.49	5.06	11.13	5.20	8.21	4.36	5.24	2.45	2.56	1.22	1.03	0.82	0.71	0.56	281
897081115	5.41	5.79	5.28	6.45	5.69	10.97	5.40	8.82	5.43	3.77	2.65	2.56	1.65	1.26	1.05	0.90	0.76	323
Average	5.72	6.15	5.59	6.84	5.74	11.91	5.57	8.92	5.22	6.00	2.61	2.59	1.55	1.29	1.06	0.91	0.79	357
Std Dev	0.47	0.54	0.44	0.62	0.48	1.00	0.33	0.65	0.51	2.62	0.23	0.40	0.23	0.22	0.19	0.17	0.18	57.6
%RSD or %CV	8.20	8.73	7.92	9.12	8.35	8.36	6.01	7.24	9.77	43.70	8.66	15.37	14.93	16.74	18.28	18.60	22.78	16.2
MDL <sup>1</sup>	1.47	1.69	1.39	1.96	1.51	3.13	1.05	2.03	1.60	8.25	0.71	1.25	0.73	0.68	0.61	0.53	0.56	181

<sup>1</sup> MDL =  $\sigma t$ ; where  $\sigma$  is the standard deviation and  $t$  is the Students t value. For 99% confidence level, 6 degrees of freedom (one-tailed),  $t = 3.143$ .

<sup>2</sup> Determined from the total peak areas in the chromatogram from n-C<sub>6</sub> to n-C<sub>40</sub> minus any contributions from the internal standard areas.