Information Relating to Proposed Maintenance Dredging by Village Creek Harbor Corporation 21 Outer Road, Norwalk, CT

Dredging and Disposal Information

The proposal is to mechanically dredge by clamshell approximately 24,900 cubic yards of material in the vicinity of the Village Creek Harbor Corporation marina and access channel located at 21 Outer Road, Norwalk, CT. Maintenance dredging will be conducted to 7 feet below mean low water (mlw) over an area 192,581 sf. It is proposed to transport the dredged material by barge to either the Western or Central Long Island Sound Disposal Site for disposal, depending on the outcome of the sediment testing. The site conditions and proposed dredging area plans are attached.

Disposal Site Information

The corporation does not have a sufficient area of upland space needed for containing/dewatering the dredged material. There are no landfills in the area that accept dredged material. Also, there are no known upland locations in Norwalk or the surrounding communities that could accommodate the material. Due to the lack of feasible upland disposal sites, Long Island Sound is proposed for disposal.

Potential Contamination Sources

The marina was last permitted to be dredged in March 2011. There have been no spills in the area since then. There is 1 storm drain which services stormwater runoff from the corporation property which surrounds the proposed dredge area. That pipe is a 12" RCP that discharges directly into the northern part of the marina area. See sheet 2 of the plans for the locations of this pipe.

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

An applicant, seeking a permit, license, waiver, certification or similar type of approval from a federal agency which is subject to the New York State Coastal Management Program (CMP), shall complete this assessment form for any proposed activity that will occur within and/or directly affect the State's Coastal Area. This form is intended to assist an applicant in certifying that the proposed activity is consistent with New York State's CMP as required by U.S. Department of Commerce regulations (15 CFR 930.57). It should be completed at the time when the federal application is prepared. The Department of State will use the completed form and accompanying information in its review of the applicant's certification of consistency.

A. **APPLICANT** (please print)

1. Name: Village Creek Harbor Corporation
2. Address: P.O. Box 68
3. Telephone: Area Code ( ) (203) 642-4226

B. **PROPOSED ACTIVITY**

1. Brief description of activity:

   To conduct maintenance dredging of approx. 24,900 cubic yards of sediment to a finished depth of -7 ft at mean low water with disposal of the material at either the Western or Central Long Island Sound Disposal Site.

2. Purpose of activity:

   The purpose of the dredging is to restore safe water depths in the corporation marina and access channel.

3. Location of activity:

Fairfield	Norwalk	21 Outer Road
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: Section 10 & 404

5. Federal application number, if known: Not assigned yet

6. If a state permit/license was issued or is required for the proposed activity, identify the state agency and provide the application or permit number, if known:

   A Connecticut DEEP Certificate of Permission will be required

C. **COASTAL ASSESSMENT** Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

1. Will the proposed activity result in any of the following:	YES	NO
a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)	☐	☑
b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)	☑	☐
c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)	☐	☑
d. Reduction of existing or potential public access to or along coastal waters? (19, 20)	☐	☑
e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10)	☐	☑
f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)	☐	☑
g. Siting of a facility essential to the generation or transmission of energy? (27)	☐	☑
h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)	☑	☐
i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)	☐	☑
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)	☐	☑
k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)	☐	☑
l. Adverse effect upon land or water uses within the State's small harbors? (4)	☐	☑

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:	YES	NO
a. State designated freshwater or tidal wetland? (44)	☐	☑
b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)	☑	☐
c. State designated significant fish and/or wildlife habitat? (7)	☐	☑
d. State designated significant scenic resource or area? (24)	☐	☑
e. State designated important agricultural lands? (26)	☐	☑
f. Beach, dune or barrier island? (12)	☐	☑
g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)	☐	☑
h. State, county, or local park? (19, 20)	☐	☑
i. Historic resource listed on the National or State Register of Historic Places? (23)	☐	☑

3. Will the proposed activity require any of the following:	YES	NO
a. Waterfront site? (2, 21, 22)	☑	☐
b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)	☐	☑
c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)	☐	☑
d. State water quality permit or certification? (30, 38, 40)	☑	☐
e. State air quality permit or certification? (41, 43)	☐	☑

4. Will the proposed activity occur within and/or affect an area covered by a State-approved local waterfront revitalization program, or State-approved regional coastal management program? (see policies in program document*) ☐ YES ☑ NO

D. **ADDITIONAL STEPS**

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.

2. If any of the questions in Section C are answered "YES", then the applicant or agent is advised to consult the CMP, or where appropriate, the local waterfront revitalization program document*. The proposed activity must be analyzed in more detail with respect to the applicable state or local coastal policies. On a separate page(s), the applicant or agent shall: (a) identify, by their policy numbers, which coastal policies are affected by the activity, (b) briefly assess the effects of the activity upon the policy; and, (c) state how the activity is consistent with each policy. Following the completion of this written assessment, the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. **CERTIFICATION**

The applicant or agent must certify that the proposed activity is consistent with the State's CMP or the approved local waterfront revitalization program, as appropriate. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Village Creek Harbor Corporation

Address: P.O. Box 68

Telephone: Area Code ( ) (203) 642-4226

Applicant/Agent's Signature: James Bjork Date: 8-8-16

F. **SUBMISSION REQUIREMENTS**

1. The applicant or agent shall submit the following documents to the New York State Department of State, Office of Coastal, Local Government and Community Sustainability, Attn: Consistency Review Unit, One Commerce Plaza-Suite 1010, 99 Washington Avenue, Albany, New York 12231.

   a. Copy of original signed form.
   b. Copy of the completed federal agency application.
   c. Other available information which would support the certification of consistency.

2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.

3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government. *Revised 10/04/1010*

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form
(ATTACHMENT)
for
VILLAGE CREEK HARBOR CORPORATION
MARINA AND ACCESS CHANNEL DREDGING
21 OUTER ROAD, NORWALK, CT

The policies identified in the following sections are applicable to the proposed activity

POLICY 2 FACILITATE THE SITING OF WATER – DEPENDENT USES AND FACILITIES ON OR ADJACENT TO COASTAL WATERS

The applicant's marina (Village Creek Harbor Corporation), a water-dependent facility, must be located along the coastal shore and in the water in order to fulfill it's basic purpose of berthing recreational boats for the association owners. The proposed dredging is needed to restore water depths in the access channel and marina for it to continue to function. The access channel provides the marina users with easy access to and from Long Island Sound. The marina is compatible with adjacent uses which include other marinas and boating facilities.

POLICY 11 BUILDINGS AND OTHER STRUCTURES WILL BE SITED IN THE COASTAL AREA SO AS TO MINIMIZE DAMAGE TO PROPERTY AND THE ENDANGERING OF HUMAN LIVES CAUSED BY FLOODING AND EROSION

The proposed dredging is not structure related but will be conducted to restore areas around the existing marina docks and access channel to suitable depths for safe navigation and berthing within the marina.

POLICY 12 ACTIVITIES OR DEVELOPMENT IN THE COASTAL AREA WILL BE UNDERTAKEN SO AS TO MIMINIMIZE DAMAGE TO NATURAL RESOURCES AND PROPERTY FROM FLOODING AND EROSION BY PROTECTING NATURAL PROTECTIVE FEATURES INCLUDING BEACHES, DUNES, BARRIER ISLANDS AND BLUFFS

The proposed dredging will not occur in or near any beach, dune, barrier island or bluff area.

POLICY 15 MINING, EXCAVATING OR DREDGING IN COASTAL WATERS SHALL NOT SIGNIFICANTLY INTERFERE WITH THE NATURAL COASTAL PROCESSES WHICH SUPPLY BEACH MATERIALS TO LAND ADJACENT TO SUCH WATERS AND SHALL BE UNDERTAKEN IN A MANNER WHICH WILL NOT CAUSE AN INCREASE IN EROSION OF SUCH LAND

The proposed dredging will remove mainly organic fine grained sediment from a combination of upland runoff and waterborne fines that have settled out of suspension in the marina from Village Creek which carries sediments downstream and into the marina and access channel. This fine grained organic material will continue to build up as the marina and adjacent channel area serves as an accumulation zone for this type of material. The material to be dredged is not a source of replenishment material for any nearby resource areas nor will removal of the sediment cause erosion to any nearby areas.

POLICY 20 ACCESS TO THE PUBLICALLY – OWNED FORESHORE AND TO LANDS IMMEDIATELY ADJACENT TO THE FORESHORE OR THE WATER'S EDGE THAT ARE PUBLICALLY – OWNED SHALL BE PROVIDED IN A MANNER COMPATIBLE WITH ADJOINING USES

The marina, channel and the abutting shoreline properties are privately owned. However, the marina does provide water – related recreational access to the waters of Long Island Sound. Concomitantly, the proposed maintenance dredging will enable the marina to provide adequate water depths for the water – dependent users.

POLICY 21 WATER – DEPENDENT AND WATER – ENHANCED RECREATION WILL BE ENCOURAGED AND FACILITATED, AND WILL BE GIVEN PRIORITY OVER NON – WATER RELATED USES ALONG THE COAST

The proposed dredging is to maintain the water depths within the access channel and marina so it can continue to serve the boating needs of the public. This type of water – related use is encouraged by this policy.

POLICY 22 DEVELOPMENT, WHEN LOCATED ADJACENT TO THE SHORE, WILL PROVIDE FOR WATER – RELATED RECREATION, WHENEVER SUCH USE IS COMPATIBLE WITH REASONABLY ANTICIPATED DEMAND FOR SUCH ACTIVITIES, AND IS COMPATIBLE WITH THE PRIMARY PURPOSE OF THE DEVELOPMENT

The proposed dredging will support the primary use of the marina as a water – related facility that provides recreational opportunities for the general public.

POLICY 28 ICE MANAGEMENT PRACTICES SHALL NOT INTERFERE WITH THE PRODUCTION OF HYDROELECTRIC POWER, DAMAGE SIGNIFICANT FISH AND WILDLIFE AND THEIR HABITATS, OR INCREASE SHORELINE EROSION OR FLOODING

The proposed work does not relate to ice management.

POLICY 30 MUNICIPAL, INDUSTRIAL, AND COMMERCIAL DISCHARGE OF POLLUTANTS, INCLUDING BUT NOT LIMITED TO, TOXIC AND HAZARDOUS SUBSTANCES, INTO COASTAL WATERS WILL CONFORM TO STATE AND NATIONAL WATER QUALITY STANDARDS

The proposed discharge will be the disposal of dredged material at either the Western Long Island Sound Disposal Site (WLDS) or Central Long Island Sound Disposal Site (CLIS), which are regulated by the U. S. Army Corps of Engineers and States of Connecticut and New York. The proposed dredged material will be physically and chemically tested in accordance with federal and state requirements and the sediments to determine whether they are suitable for disposal at that location. The proposed dredged material is not considered to be a toxic or hazardous substance.

POLICY 35 DREDGING AND FILLING IN COASTAL WATERS AND DISPOSAL OF DREDGED MATERIAL WILL BE UNDERTAKEN IN A MANNER THAT MEETS EXISTING STATE PERMIT REQUIREMENTS, AND PROTECTS SIGNIFICANT FISH AND WILDLIFE HABITATS, SCENIC RESOURCES, NATURAL PROTECTIVE FEATURES, IMPORTANT AGRICULTURAL LANDS, AND WETLANDS

See response to Policy 30. Also, the WLDS and CLIS disposal sites are actively monitored by the U. S. Army Corps of Engineers to ensure that permitted dredged

material disposal activities at the sites are protective of significant fish and wildlife habitats near the disposal sites. The proposed dredging activity will be restricted to the less sensitive time of year period to minimize potential impacts to fish and wildlife.

POLICY 38 THE QUALITY AND QUANTITY OF SURFACE WATER AND GROUNDWATER SUPPLIES WILL BE CONSERVED AND PROTECTED, PARTICULARLY WHERE SUCH WATERS CONSTITUTE THE PRIMARY OR SOLE SOURCE OF WATER SUPPLY

The proposed dredging and disposal will not occur in or near any drinking water supplies.

POLICY 40 EFFLUENT DISCHARGED FROM MAJOR STEAM ELECTRIC GENERATING AND INDUSTRIAL FACILITIES INTO COASTAL WATERS WILL NOT BE UNDULY INJURIOUS TO FISH AND WILDLIFE AND SHALL CONFORM TO STATE WATER QUALITY STANDARDS

This application will not involve any electric generating effluent discharge.

POLICY 44 PRESERVE AND PROTECT TIDAL AND FRESHWATER WETLANDS AND PRESERVE THE BENEFITS DERIVED FROM THESE AREAS

The proposed dredging will not occur in or near any tidal or freshwater wetlands nor will the proposed work adversely affect any such wetlands

CENAE–R-P-MAS 30 June 2016

Memorandum Thru:

Ruth M. Ladd, Chief, Policy Analysis and Technical Support Branch

For: Diane M. Ray, Project Manager, CENAE-R-B

Subject: Suitability Determination for Village Creek Harbor Corp., Village Creek, Norwalk, Connecticut, NAE-2001-183.

1. **Summary:**

Based on an evaluation of the data that characterize the material proposed to be dredged, this memorandum addresses the suitability of that material for disposal as proposed in accordance with applicable regulations. The Marine Analysis Section (MAS) finds that the data provide sufficient information to satisfy the evaluation and testing requirements of the appropriate regulations. These sediments are suitable for unconfined open water disposal at the Western Long Island Sound Disposal Site (WLDS) as proposed.

2. **Project Description:**

The applicant is proposing to dredge an area of approximately 190,793 sq. ft. in Norwalk, Connecticut to a depth of -6 ft. MLW. Approximately 24,900 cu. yds. of material will be removed. Village Creek Harbor Corp. proposes to mechanically dredge and dispose of this material at WLDS. This area was last permitted to be dredged 15 years ago.

3. **Sampling and Testing:**

MAS prepared a sampling plan for this project on 11 April 2016. The plan called for 11 cores (S-1 through S-11) to be taken from the project area. On 29 April 2016, MAS created a compositing plan for the sediment chemistry tests using grain size data submitted by the applicant. The samples ranged from 44.5% to 99.7% fines. See the spreadsheets for details. Bulk sediment chemistry analyses were conducted on three composite samples and one individual core; Composite 1 (S-1, S-2, S-4), Composite 2 (S-5, S-6, S-7, S-8), Composite 3 (S-9, S-10, S-11), and S-3, respectively.

<u>Comparison to WLDS Reference Values</u>

Metals: In all of the project sediment samples, the metal concentrations were below or near the means plus twice the standard deviations of the contaminant concentrations found at the WLDS reference site. See the attached spreadsheets for details.

PAHs: In all of the project sediment samples, the PAH concentrations were below or near the means plus twice the standard deviations of the contaminant concentrations found at the WLDS reference site. See the attached spreadsheets for details.

4. **Regulations governing the determination of the suitability of dredged material for open-water disposal:**

The disposal seaward of the high tide line in Long Island Sound of less than 25,000 cubic yards of dredged material from private projects is regulated under Section 404 of the Clean Water Act (CWA).

Subpart G of the Section 404(b)(1) guidelines (40 CFR Section 230.60 and 230.61) describes the procedures for determining the suitability of this material for open-water disposal, including any relevant testing that may be required.

40 CFR 230.60 General Evaluation of Dredged or Fill Material

(a) This subsection states that further testing may not be necessary if it could be determined with the evaluation under paragraph (b) that the sediment is not a carrier of contaminants. Dredged or fill material is most likely to be free from pollutants when it is composed primarily of sand, gravel or other naturally occurring inert material. Based upon our Tier 1 review, the proposed dredge sediment is **not** primarily sand, gravel or other inert material so this subsection does **not** apply.

(b) This subsection states that the site should be evaluated to determine whether it is sufficiently removed from sources of pollution. These factors include records of spills or potential routes of contamination, like outfall pipes. The Norwalk Harbormaster reports that no spills have occurred since the area was last sampled in 2009. The applicant reports that there are no known outfalls in the area.

(c) This subsection states that further testing may not be necessary if certain conditions and circumstances make it unlikely that the dredged material would degrade the disposal site. For the project to meet this exclusion, the material to be dredged and the material at the disposal site must be adjacent to each other **and** composed of the same materials **and** subject to the same sources of contaminants. As the project site is not adjacent to the disposal site, this exclusion does not apply to this project.

(d) This subsection states that further testing may not be necessary if the material to be dredged is constrained, both to reduce contamination within the disposal site and to prevent transport of contaminants beyond the

boundaries of the disposal site. As such constraints in handling are not proposed, this subsection does not apply.

40 CFR 230.61 Chemical, Biological and Physical Evaluation and Testing

(a) This subsection describes the purpose of Part 230.61 and does not give any criteria for the evaluation of sediments.

(b) This subsection states that dredged material may be excluded from testing for water column effects and benthic bioassays if it is determined, by evaluation under 40 CFR Part 230.60, that the likelihood of contamination levels that could exert ecological impacts (as defined in Part 230.61) is acceptably low. Such testing is not needed, as it was determined, based on evaluation under Part 230.61(c), that the likelihood of contamination is low.

(c) This subsection states that an inventory of the concentrations of the contaminants of concern would aid in an environmental assessment of the impact of their disposal on the designated disposal site. Such an inventory was performed at the dredge site. See Section 3 above and the attached spreadsheets for details. The dredged materials should have minimal impact at the disposal site.

CENAE and the federal agencies did not think an analysis of biological community structure was needed for this project.

(d) This subsection states the importance of the disposal of dredged materials on the characteristics of the physical substrate. MAS determined that the likelihood of physical effects from the disposal of the dredged material at the disposal site should be minimal. Although some benthic marine organisms will be buried by the disposal of the project materials, the disposal site should be rapidly re-colonized.

5. Copies of this determination were sent to the CTDEEP and the USEPA. Neither the CTDEEP nor the USEPA responded within the 10 business day review period and their concurrence is assumed.

6. If you have any questions, please contact me at (978) 318-8495 or christopher.l.veinotte@usace.army.mil.

CENAE-R-P
SUBJECT: Suitability Determination for Village Creek Harbor Corp., Village Creek, Norwalk, Connecticut, NAE-2001-183.

VEINOTTE.CHRISTOPHER.L.1264060814

Digitally signed by VEINOTTE.CHRISTOPHER.L.1264060814
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=VEINOTTE.CHRISTOPHER.L.1264060814
Date: 2016.06.30 10:09:10 -04'00'

CHRISTOPHER L. VEINOTTE
Project Manager
Marine Analysis Section

Normalized Pollutant Concentrations
NAE-2001-183
Viilage Creek Harbor Corp

Sample Site	WLDS	Comp S1, S2, S4				Comp S5, S6, S7, S8				Comp S9, S10, S11				S3			
Metals (ppm)	**mean + 2sd**	**Raw Data**	**Qualifier**		**Compare**	**Raw Data**	**Qualifier**		**Compare**	**Raw Data**	**Qualifier**		**Compare**	**Raw Data**	**Qualifier**		**Compare**
Arsenic	10.1	10.8		*	1.0693069	10.1		OK	1	11.5		*	1.1386139	8.5		OK	0.8415842
Cadmium	1.16	0.36		OK	0.3103448	0.58		OK	0.5	0.58		OK	0.5	0.58		OK	0.5
Chromium	67.4	49.3		OK	0.731454	46		OK	0.6824926	49.3		OK	0.731454	46.2		OK	0.6854599
Copper	91.1	113		*	1.2403952	94.9		*	1.0417124	108		*	1.1855104	83.6		OK	0.9176729
Mercury	0.391	0.27		OK	0.6905371	0.19		OK	0.4859335	0.19		OK	0.4859335	0.24		OK	0.6138107
Nickel	37.5	26.4		OK	0.704	24.1		OK	0.6426667	23.8		OK	0.6346667	19.9		OK	0.5306667
Lead	72.6	48.3		OK	0.6652893	35.8		OK	0.4931129	35.9		OK	0.4944904	26.8		OK	0.369146
Zinc	197	134		OK	0.680203	111		OK	0.5634518	114		OK	0.5786802	111		OK	0.5634518
% fines		0				0				0				0			
PAHs (ppb)																	
Fluorene	20	16	3.699422	OK	0.1849711	12	3.7037037	OK	0.1851852	17	5.44	OK	0.272	7	4.3478261	OK	0.2173913
Phenanthrene	132	126	29.132948	OK	0.2207042	93	28.703704	OK	0.2174523	105	33.6	OK	0.2545455	44	27.329193	OK	0.2070393
Anthracene	43	38	8.7861272	OK	0.2043285	26	8.0246914	OK	0.1866207	31	9.92	OK	0.2306977	17	10.559006	OK	0.2455583
Naphthalene	59	18	4.1618497	OK	0.0705398	17	5.2469136	OK	0.0889307	16	5.12	OK	0.0867797	10	6.2111801	OK	0.1052742
Acenaphthylene	46	18	4.1618497	OK	0.090475	21	6.4814815	OK	0.1409018	25	8	OK	0.173913	17	10.559006	OK	0.2295436
Acenaphthene	13	10	2.3121387	OK	0.1778568	6.5	2.0061728	OK	0.154321	9	2.88	OK	0.2215385	6.5	4.0372671	OK	0.310559
Fluoranthene	213	389	89.942197	*	0.4222638	251	77.469136	*	0.3637049	282	90.24	*	0.423662	170	105.59006	OK	0.495728
Pyrene	517	347	80.231214	OK	0.1551861	233	71.91358	OK	0.1390978	259	82.88	OK	0.1603095	166	103.10559	OK	0.1994305
Benzo(a)anthracene	147	118	27.283237	OK	0.1856003	85	26.234568	OK	0.1784664	93	29.76	OK	0.202449	57	35.403727	OK	0.2408417
Chrysene	207	208	48.092486	*	0.2323308	137	42.283951	OK	0.2042703	163	52.16	OK	0.2519807	94	58.385093	OK	0.2820536
Total Benzofluoranthenes	590	323	74.682081	OK	0.1265798	202	62.345679	OK	0.1056706	221	70.72	OK	0.1198644	153	95.031056	OK	0.1610696
Benzo(a)pyrene	356	146	33.757225	OK	0.0948237	100	30.864198	OK	0.0866972	105	33.6	OK	0.094382	72	44.720497	OK	0.1256194
Dibenzo(a,h)anthracene	42	20	4.6242775	OK	0.1101018	21	6.4814815	OK	0.154321	13	4.16	OK	0.0990476	21	13.043478	OK	0.310559
Benzo(g,h,i)perylene	147	135	31.213873	OK	0.2123393	102	31.481481	OK	0.2141597	82	26.24	OK	0.1785034	53	32.919255	OK	0.2239405
Ideno(123-cd)pyrene	179	110	25.433526	OK	0.1420867	76	23.45679	OK	0.1310435	88	28.16	OK	0.1573184	45	27.950311	OK	0.156147
TOC (%)		4.325				3.24				3.125				1.61			
Sum of PAH's		2022				1382.5				1509				932.5			

* = > MEAN + 2SD
ok = < MEAN + 2SD