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March 12, 2012

VIA ELECTRONIC MAIL

Mr. William Ports
NYS Department of Environmental Conservation
Division of Environmental Remediation
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Re: **Riverkeeper, Inc. Comments on the Proposed Remedial Action Plan for Harbor-at-Hastings Site (Site No. 360022)**

Dear Mr. Ports:

On behalf of our client, Riverkeeper, Inc., (“Riverkeeper”),¹ the Pace Environmental Litigation Clinic, Inc. (“PELC”) respectfully submits the following Comments in response to the Proposed Remedial Action Plan (“PRAP”) for the Former Anaconda Wire and Cable Company Site (“Site”) (Site No. 360022), issued on January 10, 2012. A letter from our technical consultant, Dr. W. Frank Bohlen, Ph.D. (*see* Exhibit 1 for Dr. Bohlen’s curriculum vitae), setting forth his concerns with the PRAP is additionally appended to these Comments. *See* Exhibit 2.

Riverkeeper is particularly concerned with the PRAP’s general lack of clarity regarding the cleanup procedures that will be followed. In the interest of providing an open and transparent dialogue around the Department’s efforts to remediate the site, we want to ensure that the public is well informed as to the particular processes that will be employed during the long-awaited cleanup of the Site.

I. The PRAP Is Unclear As To Where Additional Delineation Sampling and Study Will Be Conducted.

Before dredging and removal activities commence in the deepwater portion of the site, additional delineation sampling must be conducted in order to entirely understand and

¹ Riverkeeper is a member-supported, not-for-profit organization, dedicated to protecting the Hudson River and its tributaries, and to safeguarding the drinking water supply of nine million New York City and Hudson Valley residents.

characterize the full extent of contamination. In particular, paragraph 6 of the proposed remedy provides, “the specific area where fixed sediment resuspension controls can be feasibly deployed will be evaluated during design based on the water depth and velocity conditions. *Alternative designs for fixed resuspension controls will be evaluated to increase the depth of feasible resuspension controls.*”² Paragraph 7 of the proposed remedy – which deals with “removal of sediment from a targeted area outside the northwest extension area in deeper than 15 feet of water” – explains that “[d]uring design, sampling will be performed to determine whether *additional areas of PCBs* greater than 50 ppm exist. Based upon an evaluation of the significance of the distribution of contaminants and the feasibility of removal, *additional areas of sediment may be targeted* for dredging.”³ Taken in conjunction, these two statements suggest that the PRAP fails to define with reasonable specificity the areas where these additional sampling efforts will take place. Particularly, it is not clear whether this sampling will be confined to the immediate vicinity of the northwest extension area, or whether it will appropriately extend downriver to other areas where earlier incomplete and insufficient sampling indicates the possible presence of PCB concentrations.

Definition of the areas to be sampled and the associated extent of the potential dredging are essential elements of efforts to evaluate the potential for resuspension and contaminant dispersion and the need for and type of resuspension controls. Recent experience in the upper Hudson near Fort Edward, New York indicates that the combination of equipment selection and dredging protocols can substantially reduce downstream dispersion and in many cases have the potential to eliminate the need for fixed controls such as silt curtains. This potential should be carefully evaluated with full consideration of complications associated with water depths in excess of 15 feet and/or energetic river and/or tidal flows after specification of the area and associated contaminant mass to be dredged. It does not appear to Riverkeeper that such an evaluation has been conducted to date.

During the Public Meeting on January 26, 2012, held in the Village of Hastings-on-Hudson, DEC Staff (Mr. George Heitzman) explained that during design, additional delineation sampling will be conducted “throughout.” However, it is still unclear where precisely this additional sampling will be conducted, and a thorough explanation should be described in the Record of Decision (“ROD”) for OU-2. DEC Staff further explained that additional sampling will be conducted only in areas where previous sampling results indicated “contiguous or concentrated” concentrations over 50 ppm of PCB, rather than “one hit” concentrations above 50 ppm. Earlier sampling that was conducted in portions of the deepwater site outside the northwest extension area⁴ was incomplete and unable to accurately define the full extent of contamination, so it would be erroneous to base future sampling efforts on what was conducted previously. Extensive additional delineation sampling should be conducted throughout the entire deepwater portion of the site to best understand precisely where these contiguous or concentrated zones exist and to allow accurate definition of the mass of PCB in each zone.

² See Proposed Remedial Action Plan (Jan. 10, 2012), at 9 (emphasis added) (hereinafter “PRAP”).

³ *Id.* (emphasis added).

⁴ See e.g., Haley and Aldrich, Revised Feasibility Study (May 2011), at Appendices C and D.

Because of the ambiguity surrounding the additional delineation sampling, Riverkeeper requests that an Additional Delineation Sampling Workplan be developed to describe with specificity the locations, actions, and timing of the additional delineation sampling to be conducted. In light of the lack of detail in the PRAP concerning additional in-river sampling to be conducted, we believe this Workplan should be publicly noticed and made available for public comment.

II. The Proposed Action Level of 50 ppm for the OU-2 Deepwater Area is Premature, and a More Stringent Action Level Threshold Below 50 ppm Is Necessary to Protect the Benthic Community.

The PRAP indicates that dredging of sediment in the deepwater portion of OU-2 will be conducted in areas defined by PCB concentrations greater than 50 ppm to six feet below the existing bottom. However, the PRAP completely fails to explain the technical rationale for the proposed 50 ppm action level. According to the DER-10, a PRAP must summarize the “alternatives considered and discuss[] the reasons for proposing the remedy,”⁵ which has not been done here with respect to this proposed action level.

During the Public Meeting on January 26, 2012, DEC Staff stated that a 50 ppm action level “struck the right balance,”⁶ given the practical concerns and difficulties with dredging in deeper water. While Riverkeeper understands these concerns, this narrative answer can not suffice as a cogent technical basis to support 50 ppm as the appropriate action level. A satisfactory technical explanation must be made so the public can be informed and properly analyze the bases for selecting an action level that is relatively high.

In addition, on choosing a 50 ppm action level, the PRAP only states that “Targeting deepwater areas with PCBs above 50 ppm reduces the time needed to complete dredging activities when compared to deepwater areas above 1 ppm.”⁷ However, when asked at the Public Meeting about whether NYSDEC calculated or estimated exactly how much longer dredging would take under a more stringent action level, DEC Staff (Mr. William Ports) responded that DEC had not calculated the time. The PRAP should not conclude without technical backup that choosing a higher action level of 50 ppm will reduce the amount of time needed for dredging when the Department has not calculated or estimated any such temporal differences.

The matter of remedial criteria warrants careful elaboration in the ROD for OU-2. Under the NYCRR, the goal of any remedial program for a specific site is to “restore th[e] site to pre-disposal conditions, to the extent feasible. At a minimum, the remedy selected shall eliminate or mitigate all significant threats to the public health and to the environment presented by contaminants disposed at the site through the proper application of scientific and engineering

⁵ N.Y.S. Dep’t of Env’t Conservation, DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION (May 3, 2010), at 144 (emphasis added) (hereinafter “DER-10”).

⁶ See Lizzie Hedrick, *Health, Safety, Site Flooding Major Concerns for Hastings Residents in Waterfront Cleanup*, RIVERTOWNS PATCH, Jan. 27, 2012, available at <http://rivertowns.patch.com/articles/health-safety-major-concerns-for-hastings-residents-in-waterfront-cleanup#video-8981800>.

⁷ PRAP at 14.

principles.”⁸ These words are echoed verbatim in the PRAP as two of its stated goals.⁹ The selection of the higher threshold of 50 ppm, without sufficient technical support and explanation supporting that action level, does not appear consistent with this legal mandate and the PRAP’s stated goals.

While Riverkeeper understands that this higher threshold selection may be based on concerns that dredging will facilitate dispersion and ultimately increase contaminant bio-availability beyond current levels, such concerns must be based on hard data with particular emphasis on the mass of contaminant to be addressed by dredging. In the presence of a small mass – *i.e.*, a discrete area containing less than several pounds of PCBs where that mass is subject to continuing deposition and minimal erosion – the higher threshold of 50 ppm *may* be justified. However, for larger masses, lower thresholds are recommended with 10 ppm being the highest consistent with values used in other sites in the Hudson River and New England when dealing with significant masses of PCB. Because the data available in the PRAP and Revised Feasibility Study (RFS) do not provide sufficient information to properly assess the mass of PCB concentrations throughout the extent of the Site, the public is unable to determine whether the contamination presents “significant” threats to the public health and environment.¹⁰ As a result, the specification of the threshold is at the very least, premature. The present protocols specified in the PRAP do not appear to be sufficient to provide the necessary level of specificity, and the current approach based on sparse sampling and assumptions of costs should be reconsidered. The ROD for OU-2 must provide the basis for quantitative evaluation of the extent of contamination allowing subsequent evaluation and definition of the threshold criteria.

As the Department is aware, on September 8, 2011, Riverkeeper submitted to NYSDEC a position statement for proposed PCB and removal criteria for the offshore areas of the Hastings site prepared by our technical consultant, Dr. W. Frank Bohlen, PhD. *See* Exhibit 3. In that statement, Riverkeeper suggested that sampling should be conducted at sites with PCB concentrations of 10 ppm at the surface (0-6 inches) or 50 ppm on the vertical between 0.5 and 3.0 feet below the sediment-water interface, unless the site was surrounded by a minimum of four (4) other cores spaced around the acre surface centered on the high concentration site. Supplementary sampling should consist of four (4) sediment cores each to six (6) feet below the sediment-water interface with each taken at the midpoint (or some reasoned alternative) of the perimeter boundaries of a one acre square centered on the high concentration site. Each core should to be sectioned and analyzed to determine PCB concentrations over the vertical for the 0-6 inches, 0.5-3.0 feet, and 3.0-6.0 feet segments. These data will be compiled with concentrations on the 0-3 feet interval used for computation of the area weighted average (AWA) concentrations. The data detailing concentrations in the 3-6 feet layer would be retained for informational purposes.

Department Staff apparently propose to reject Riverkeeper’s position statement as a reasonable way to proceed with additional sampling and PCB remediation in the Deepwater areas. Riverkeeper continues to believe that a more stringent action level below 50 ppm is

⁸ 6 NYCRR 375-2.8(a) (2011) (emphasis added).

⁹ *See* PRAP at 7.

¹⁰ *See* 6 NYCRR 375-2.8(a).

necessary to protect the benthic community, and in turn, human health and safety. Dr. Bohlen advises that a lower threshold concentration of 10 ppm for the first six inches of sediment would greatly reduce the potential for the bio-accumulation of PCBs by the local marine biological community. *See* Exhibit 3. Dr. Bohlen's specification of the 10 ppm threshold is based on distributions of higher concentrations of PCBs residing below that level as shown in the May 2011 data set in the Revised Feasibility Study.¹¹ If additional sampling shows that these distributions are very localized or that the deeper sediments contain lower concentrations, then leaving them in place *may* be justified. However, that conclusion cannot be made until a more substantive and robust discussion of the issue supported by data is presented.

First among the nine factors used in selecting a remedy for a site is the "Overall protectiveness of the public health and the environment."¹² Indeed, the PRAP recognizes that "[t]o be selected, the remedy must be *protective of human health and the environment*, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable."¹³ In order to meet the PRAP's stated goal to "eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site,"¹⁴ Riverkeeper believes that DEC *must* consider and adequately study the feasibility of dredging in deepwater areas with a 10 ppm action level for the first six inches below surface ground. This includes additional sampling and study required to properly assess the mass of PCB concentrations. In fact, as DEC Staff explained in the January 26, 2012 Public Meeting, one of the key lessons learned from the GE Site remediation is to "fully characterize" the contamination. As per DEC's own guidance and experience, therefore, DEC is obligated to fully investigate the extent of contamination, which requires more than a superficial examination and testing of potentially contaminated areas.

III. The ROD for OU-2 Should Describe the Equipment or Technology To Be Used for the In-Water Dredging Activities.

In discussing the proposed elements of the cleanup of the OU-2 portion of the site, the PRAP does not describe what types of technology or equipment will be used during the dredging activities. Section 375-1.8(a)(4) of the NYCRR provides that "Remedy selection at a site may consider the use of innovative technologies which are demonstrated to be feasible to meet the remediation requirements."¹⁵ The upriver dredging operations at the GE site provided for several technical advancements in dredging and re-suspension technologies. Even though the PRAP represents the initial stages of the design effort, it would be important to see the use of advanced technologies evaluated in the ROD and implemented at the Hastings site.

¹¹ *See generally* Haley and Aldrich, Revised Feasibility Study (May 2011), at Appendices C and D.

¹² *See* 6 NYCRR 375-1.8(f)(1) (2011).

¹³ *See* PRAP at 7 (emphasis added).

¹⁴ *Id.*

¹⁵ 6 NYCRR 375-1.8(a)(4) (2011).

IV. The DEC Should Consider Effects of Flooding and Sea Level Rise in its Site Design.

The PRAP makes no mention of potential effects on OU-1 and OU-2 due to flooding of the adjoining upland portions of the site. Although some accommodation has been made in the preliminary OU-1 designs for expected long-term sea-level rise (accepting the Army Corps of Engineers' two-foot fill layer recommendation), there is also the matter of direct rainfall, storm surge and/or high river stage effects on OU-1 to consider. Over the past several years this area of the Hudson River has experienced several extreme storm events resulting in standing water on the site. In fact, as several local Hastings-on-Hudson residents attested to at the January 26, 2012 Public Meeting, the area around the Site has experienced several major flood events over the past several years, indicating a possible change in climate conditions and storm patterns that should be accounted for in DEC's evaluation and design.¹⁶ Depending on source, volume, and velocity, such waters have the potential to overwhelm proposed containment/treatment facilities and destabilize portions of the shoreline and/or groundcover. The displacement of any contaminants from these areas may in turn affect portions of the adjoining offshore. The ROD for OU-1 and OU-2 should include efforts to demonstrate the adequacy of proposed designs to effectively armor the site and minimize sensitivity to storm impacts.

V. Conclusion

Generally, the PRAP has done a commendable job of providing the beginnings of a reasonable and effective action plan for remediating the Site, which has for far too long been awaiting cleanup action. However, there still remains deep concern regarding the ambiguity and lack of clarity in the PRAP. Particularly, DEC must clarify exactly where and when the additional delineation sampling will be conducted, as well as undertake a careful evaluation of the mass of contamination over the vertical below six inches in the deepwater portion of the site. If the mass of concentration found is large, DEC should seriously consider choosing a lower action level threshold of 10 ppm for the deepwater dredging in the upper six inches. If DEC ultimately determines that 50 ppm is the appropriate action level threshold, it must provide a comprehensive and detailed justification for that choice, including an explanation of its reasons for eliminating a more protective action level of 10 ppm. DEC should also describe the types of equipment or technology that will be implemented during dredging activities, and must be sure to consider design options that account for climate change, increased flooding and storm surges, and sea level rise.

¹⁶ See, e.g., CBS New York, *NY Suburbs Of Dutchess, Rockland, Westchester Counties Not Spared From Irene's Wrath* (Aug. 28, 2011), available at <http://newyork.cbslocal.com/2011/08/28/ny-suburbs-of-dutchess-rockland-westchester-counties-not-spared-from-irenes-wrath/> (stating that Hurricane Irene caused flooding in Hastings-on-Hudson five feet above its banks, as far inland as the railroad tracks); see also New York State Dep't of Env'tl Conservation, Project Update Fact Sheet (May 2011), at 3, available at http://www.hastingsgov.org/Pages/HastingsNY_Documents/NYDECProject_Update611.pdf (indicating that "[p]arts of the site have been flooded during larger storms.").

Mr. William Ports, NYSDEC
March 12, 2012
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Thank you for your consideration of these Comments. Please do not hesitate to contact the undersigned at the Pace Environmental Litigation Clinic at (914-422-4343) to discuss any of these issues further.

Respectfully submitted,



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Cc: Paul Gallay, Riverkeeper
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EXHIBIT 1

BIOGRAPHY, BIBLIOGRAPHY AND PROFESSIONAL SUMMARY

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EDUCATION

B.S.	1960	University of Notre Dame
Ph.D.	1969	Massachusetts Institute of Technology and Woods Hole Oceanographic Institution

LICENSES AND CERTIFICATION

Hazardous Waste Site Operator and Emergency Response
Training (OSHA 29 CFR 1910.120) May, 1996 (Ref.10/98)

EXPERIENCE

1960-62	U.S. Navy - Engineering Officer
1962-63	Research Assistant, Woods Hole Oceanographic Institution
1963-64	Staff Engineer, Robert Taggart, Inc.
1964-65	Research Assistant, Woods Hole Oceanographic Institution
1965-69	Research Assistant, Massachusetts Institute of Technology
1969-77	Assistant Professor, The University of Connecticut
1977-78	Visiting Investigator, Woods Hole Oceanographic Institution
1980-90	Associate Professor, The University of Connecticut
1985	Visiting Scientist, Virginia Institute of Marine Science
1991-	Professor, The University of Connecticut
1992	Acting Director, Williams College-Mystic Seaport Museum - Maritime Studies Program

PROFESSIONAL SOCIETIES

Member: American Geophysical Union, Estuarine Research
Federation, The Oceanography Society, Marine Technology Society

HONORS OR DISTINCTIONS

WHOI Fellowship 1967-68; Member, Research/Planning Advisory
Committee of the New England River Basins Commission; American
Geophysical Union Visiting Scientist Lecturer 1970-73; Invited
Lecturer 3rd Annual Ocean Disposal Conference, U.S. Army Corps of
Engineers, West Boothbay Harbor, ME; Invited Lecturer 4th Annual
Ocean Disposal Conference, Boston, MA; Associate Editor, Estuaries
1979-84; Invited Lecturer, 40 Mtg. Coastal Engineering Research
Board 1983; Member, NAS/NRC Committee on National Dredging Issues
1983-85; Delegate, 10th U.S./Japan Experts Meeting, Kyoto, Japan,
1984; Member, NAS/NRC Panel, Particulate Wastes in the Ocean,
1987-88. Member NAS/NRC Committee on Contaminated Marine
Sediments 1993-1998. EPA Hazardous Substances Research Center-
South and Southwest Chair Science Advisory Committee. Chairman,
Scientific Advisory Committee 1998-. Member NAS/NRC Committee on
Assessment of Risks from Remediation of PCB-Contaminated
Sediments 1999-2001. Member EPA SAB Contaminated Sediments Science
Panel 2002-03; Member N.Y. Harbor CARP Model Evaluation Group

HONORS AND DISTINCTIONS (continued)

2000-2007; Member Housatonic River Peer Review Panel-Model Evaluation Group 2001-2006.

FIELD OF SPECIALIZATION

Physical Oceanography

RESEARCH INTERESTS

Fluid Mechanics, Turbulence, Sediment Transport Processes, Coastal Monitoring Systems, History of Science

PUBLICATIONS

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EXHIBIT 2

W. FRANK BOHLEN
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Mr. Daniel E. Estrin Esq.
Supervising Attorney
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March 7, 2012

Dear Mr. Estrin:

As discussed I have reviewed the Proposed Remedial Action Plan (PRAP) for the Harbor-at-Hastings Site (Site No.360022) issued by the New York Department of Environmental Conservation, Division of Environmental Remediation. This document deals specifically with the offshore portion of the project area designated OU-2.

Many of the components of the PRAP include a significant design component making it impossible to evaluate the exact nature of the effort until completion of the design. The first element of the proposed remedy (pg.8 of PRAP) indicates that "A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance and monitoring of the remedial program". That seems to cover all aspects of the PRAP although Item 1 is followed by 10 other Items which deal with specific aspects of the plan in more detail. This mix of the general and specific leads to some confusion.

In particular, Items 6 and 7 dealing with dredging beyond the 15ft isobath, or the area in which silt curtains or similar resuspension controls will be utilized, will include a design effort supplemented by additional sampling and study but do not clearly define the area where these efforts will take place. Item 7 speaks first to the "targeted area outside of the northwest extension in deeper water than 15ft" and specifies dredging criteria. This is followed by the statement that "During the design, sampling will be performed to determine whether additional areas of PCBs greater than 50 ppm exist." It is not clear whether this sampling will be confined to the immediate vicinity of the northwest extension or will extend downriver to include other areas where earlier sampling indicated possible elevated PCB concentrations. As discussed during our last meeting with DEC and BP-ARCO and their consultants, this earlier sampling was unable to accurately specify the extent of contamination and the associated mass of PCB.

It is my understanding that this issue of additional sampling was discussed briefly during the Public Hearing held on January 26, 2012 in Hastings with DEC indicating that their evaluations will consider whether available data indicate small ("single hit") or large area contamination. Reviews of previous sampling efforts (*Revised Feasibility Study*, Haley and Aldrich, May,2011; Appendices C and D) indicate that such evaluations will be extremely difficult to accurately realize given the limited spatial density of coring in much of the offshore, deepwater, area. It was for this reason that additional sampling was recommended in my memo of September 2, 2011. This sampling was to be conducted at sites with PCB concentrations of 10 ppm at the surface (0-6in) or 50 ppm on the vertical between 0.5 and 3.0ft below the sediment-water interface unless the site was surrounded by a minimum of four (4) other cores spaced around the acre surface centered on the high concentration site. Supplementary sampling should consist of four (4) sediment cores each to six (6) feet below the sediment-water interface with each taken at the midpoint (or some reasoned alternative) of the perimeter boundaries of a one acre square centered on the high concentration site. Each core to be sectioned and analyzed to

determine PCB concentrations over the vertical for the 0 - 0.5ft, .5-3.0ft, 3.0-6ft segments. These data will be compiled with concentrations on the 0-3ft interval used for computation of the area weighted average concentrations. The data detailing concentrations in the 3-6ft layer would be retained for informational purposes. I suggest that consideration be given to the inclusion of criteria similar to these in the PRAP in order to provide specific guidance for the required offshore sampling.

Definition of the areas to be sampled, and the associated extent of the potential dredging are essential elements of efforts to evaluate the potential for resuspension and contaminant dispersion and the need for and form of resuspension controls. Recent experience in the upper Hudson near Fort Edward, New York indicates that the combination of equipment selection and dredging protocols can substantially reduce downstream dispersion and in many cases have the potential to eliminate the need for fixed controls such as silt curtains. I would expect this potential to be carefully evaluated with full consideration of complications associated with water depths in excess of 15ft and/or energetic river or tidal flows after specification of the area and associated contaminant mass to be dredged. Such an evaluation has not been conducted to date.

With regard to the remedial criteria to be achieved in the areas to be dredged; The PRAP indicates that deepwater dredging will be conducted in areas where "PCB concentrations greater than 50ppm ." exist. Dredging to 6ft below existing bottom is specified. As noted above, in my September, 2011 memo I recommended sampling in deepwater areas where PCB concentrations in excess of 10ppm at the surface (0-6in) or 50ppm on the vertical between 0.5 and 3ft were encountered during previous sampling. The lower threshold concentration for the near-surface was intended to reduce the potential for uptake by the local benthic community and pelagic grazers feeding on these in-fauna. This matter of remedial criteria is an additional area that warrants careful elaboration in the PRAP. The selection of the higher threshold of 50ppm does not appear consistent with the goal of the PRAP to "restore the site to pre-disposal conditions, to the extent feasible". While I understand that this may be based on concerns that dredging will facilitate downstream dispersion and ultimately increase contaminant bio-availability beyond current levels I believe that such concerns must be based on hard data with particular emphasis on the mass of contaminant to be addressed by dredging. In the presence of a small mass, particularly one subject to continuing deposition and minimal erosion, the higher threshold of 50 ppm may be justified. For larger masses however, lower thresholds are recommended with 10 ppm being the highest consistent with values used in other sites in the Hudson River and New England containing significant masses of PCBs.

Finally, the PRAP makes no mention of potential effects on OU-2 due to flooding of the adjoining upland portions of the site (designated OU-1). I understand that some accommodation has been made in the preliminary OU-1 designs for expected long-term sea-level rise. Beyond this however there is the matter of direct rainfall, storm surge and/or high river stage effects on OU-1. Over the past few years this area of the Hudson River has experienced several extreme storm events resulting in standing water on the site. Depending on source, volume and velocity such waters have the potential to overwhelm proposed containment/treatment facilities and

destabilize portions of the shoreline and/or groundcover. The displacement of any contaminants from these areas may in turn affect portions of the adjoining offshore. The PRAP should include efforts to demonstrate the adequacy of proposed designs to effectively armor the site and minimize sensitivity to storm impact.

If you have any questions please don't hesitate to call.

Sincerely,

A handwritten signature in black ink that reads "W. Frank Bohlen." The signature is written in a cursive, slightly slanted style.

W.Frank Bohlen PhD

EXHIBIT 3

Estrin, Prof. Daniel Eric

From: Estrin, Prof. Daniel Eric
Sent: Thursday, September 08, 2011 11:01 AM
To: George Heitzman; William Ports
Cc: Sontchi, Joe P; Lucari, James L; Hardison, Wayne; Scott, Ryan; Daneker, Michael D.; 'Larson, Eric J'; Paul Gallay; Jeremiah Quinlan; Jeremiah Quinlan; Peter Swiderski; Peter Swiderski; Coplan, Prof. Karl S.; Gorrie, Robert Justin; Phillip Musegaas; Bohlen, Walter; Ned Sullivan; Brownell, Richard; Fran Frobel
Subject: Riverkeeper proposal re: Hastings off-shore ("deepwater") PCB cleanup criteria
Attachments: 20110906 Hastings - Rvk proposal re Hastings Offshore PCB removal criteria.pdf

Dear Messrs. Heitzman and Ports:

Attached for your review is a summary of Riverkeeper's proposed PCB sampling and removal criteria for the off-shore areas of the Hastings site, prepared by Dr. Bohlen.

Upon reviewing BP/ARCO's submissions of this week, we suggest that a conference call be scheduled if you think it would be helpful for Riverkeeper to answer questions from you and/or the stakeholders concerning the technical rationale supporting its proposal, and/or to hear Riverkeeper's concerns/objections with BP/ARCO's competing proposal.

Sincerely yours,

Daniel E. Estrin
Supervising Attorney
Pace Environmental Litigation Clinic, Inc.
Adjunct Professor of Law
Pace University School of Law
78 North Broadway
White Plains, New York 10603
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Anaconda Remediation Site Deepwater Sampling and Removal Criteria

Sites in the designated Deepwater Area with PCB concentrations in excess of 10 ppm at the surface (0-6in) or 50 ppm on the vertical between 0.5 and 3.0ft below the sediment water interface must be the subject of additional sampling unless surrounded by a minimum of four (4) core sites spaced over the acre centered on the high concentration site in order to allow accurate specification of an area weighted average (AWA) PCB concentration. Supplementary sampling will consist of four (4) sediment cores each to six (6) feet below the sediment water interface with each taken at the mid-point of the perimeter boundaries of a one acre square centered on the high concentration site. Each core will be sectioned and analyzed to determine PCB concentrations over the vertical for the 0.5ft, .5 – 3.0, 3.0-6.0 ft segments. These data will be compiled with concentrations in the 0-3ft interval used for the computation of the area weighted average concentrations. The data detailing concentrations in the deeper 3.0 to 6.0ft layer will be retained for informational purposes. If this sampling reveals additional sites surrounding the initial high concentration site with PCB concentrations in excess of the above criteria those sites will also be subject to additional sampling.

Sites having AWA concentrations in excess of 10 ppm will be dredged to 3ft and capped with clean stable sediment.

W.Frank Bohlen
September 2, 2011