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Reply to: Seattle Office

August 1, 2013

Ken S. Berg
Manager
Washington Fish and Wildlife Office
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

Laurie K. Beale
Northwest Section
NOAA Office of General Counsel
U.S. Department of Commerce
7600 Sandpoint Way NE
Seattle, WA 98115

Re: Formal Consultation on the State Route 520, Interstate-5 to Medina Bridge
Replacement and HOV Project

Dear Mr. Berg and Ms. Beale:

I am writing to follow up on Mr. Berg's comments in his July 18, 2013 letter to me regarding the USFWS's plans to reinitiate formal consultation for the 520 Bridge Project in July and August, 2013. I presume that this means that NMFS is also planning to reinitiate formal consultation at the same time, but the information that I provide herein is relevant for NMFS regardless.

On behalf of People for an Environmentally Responsible Kenmore (PERK) and Lake Forest Park Stewardship Foundation (LFPSF), I want to begin by saying that we are cautiously optimistic about the plan to reinitiate formal consultation. It is not entirely clear from Mr. Berg's letter whether this so-called "fourth" formal consultation will address the specific issues that I raised in my May 30, 2013 letter, but we do hope that this is the case. PERK and LFPSF would also appreciate being included in the process in some fashion so that we can provide relevant input and information to the Services that is important to their review of the bargaining issues.

As a starting point to our participation, I have enclosed four documents for your review. The first document relates to the *Kenmore Area Sediment and Water Characterization Environmental Evaluation Report* (Ecology Publication No. 13-09-174; May 2013) that was mentioned by Mr.

Ken S Berg
Morey K. Beale
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Berg in his letter. I have enclosed herein, as Attachment A, a comment letter that was prepared by PERK regarding that report.

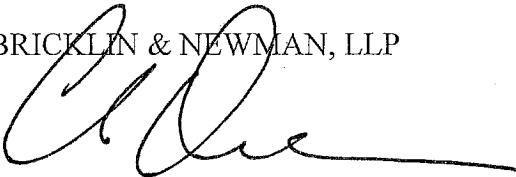
I have also enclosed, as Attachment B, an e-mail from Greg Wingard to Paula Hammond dated December 18, 2012. Mr. Wingard, an environmental consultant, explains that the barging for the SR 520 project is causing ongoing turbidity releases to north Lake Washington in violation of the Washington State Water Quality Criteria for turbidity. He points out that it is a well-known fact that the Kenmore Navigational Channel is not deep enough for the type of heavy barging activity being carried out for the 520 Bridge Project without causing excessive disturbance of lake sediment, contaminating the water column with turbidity above the water quality criteria.

Attachment C is a copy of Waste Action Project's Notice of Intent letter indicating an intention to file suit against Kiewit/General/Manson and others under Section 505 of the Clean Water Act for violations outlined in the enclosed letter dated April 26, 2013. Finally, I have also enclosed, as Attachment D, an e-mail from Derek Poon to Michael Grady dated January 29, 2013 outlining concerns regarding the lack of formal consultation on the barge activity related to the Kenmore site.

If you have any questions about this information or would like more information related to these issues, please do not hesitate to contact me.¹ In the meantime, we appreciate your consideration of these issues and hope that we can be included in the process in August.

Very truly yours,

BRICKLIN & NEWMAN, LLP



Claudia M. Newman

CMN:psc

cc: LFPSF and PERK
Eric Nagle (DOI Solicitor's Office)

¹ I should mention that, pursuant to the Rules of Professional Conduct for lawyers, specifically RPC 4.2, I obtained the consent of Eric Nagle from the DOI Solicitor's Office to send this letter directly to Mr. Berg. Future correspondence between Mr. Berg and me must include Mr. Nagle or be only upon his consent.

July 10, 2013

Maura O'Brien
Washington Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008

Re: *Dioxin in Kenmore Area Sediment & Water Characterization Environmental Evaluation Report*

Dear Ms. O'Brien,

Thank you for the opportunity to submit our comments on the report entitled *Kenmore Area Sediment & Water Characterization Environmental Evaluation Report*¹ (Report) that your agency published in March 2013.

As you are aware, People for Environmentally Responsible Kenmore (PERK) has been actively engaged with Ecology and the City of Kenmore in efforts to ensure that desirable environmental conditions in Kenmore, including adjacent portions of the Sammamish River and north Lake Washington, are maintained for the benefit of current and future residents.

Below, we offer our assessment, conclusions, recommendations, and an Appendix of supportive studies and data - all related to contamination by the dangerous chemical dioxin² of lake sediments in north Lake Washington. To the extent that they differ from the conclusions and recommendations stated in the Report, we would be grateful if you would address them.

Ecology's Report

The Report's *public access areas include Log Boom Park and the motor boat launch areas and limited public access areas included Kenmore Harbor, Kenmore Navigation Channel, Sammamish Navigation Channel, Harbour Village Marina, and Kenmore Industrial Park (KIP)*. The Report states that sediment sampling and chemical analyses were conducted at a "screening level" to (1) *inform planning for dredging of the Kenmore Navigation Channel, and (2) determine whether conditions pose a risk to human health and the environment. The report describes the sampling methods, presents the results of the chemical analyses, and concludes, "Aside from the two private marinas, these results represent a relatively healthy near shore environment and natural background levels."*

¹ <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=20239>

² <http://www.ejnet.org/dioxin/>

Department of Health Consultation (HC)

On June 27, 2013, the Washington Department of Health (DOH) issued a “Health Consultation” (HC)³ that basically supported Ecology’s findings. DOH stated “*the levels of contaminants found in sediments are below levels of health concern. Exposure to sediments in these areas is not expected to cause non-cancer health effects. The estimated cancer risk associated with exposure to the sediments is considered low to insignificant and is based on lifetime exposures (72 to 78 years). Cancer risks are estimated and should not be taken to represent actual or likely risks for the public. The risks could be as low as zero.*”

DOH reached two important conclusions about sediment, groundwater, and surface water:

Conclusion 1: *Touching, breathing, or accidentally eating sediment from public access areas, as well as areas with limited public access, is not expected to harm people’s health.*

Conclusion 2: *Swimming or accidentally ingesting groundwater discharging from the KIP site or surface water tested by the City of Kenmore near Log Boom Park is not expected to harm people’s health.*

PERK’s Perspective on DOH HC and Ecology Report

PERK respects DOH and Ecology for doing yeoman’s labor on these studies under budget constraints, but with all due respect, the sampling parameters, exposure factors, and the Precautionary Principle support very different conclusions from those set forth in your studies. The next section on “Dioxin at Kenmore” provides supportive explanation for the following.

First, DOH was not critical with Ecology’s findings. DOH, by assuming that Ecology’s conclusions on the “levels of contaminants” and their locations accurately reflected Kenmore’s environment, accepted Ecology’s Report data at face value without questioning the data’s uncertainties of which there are many.

Second, Ecology’s health and safety assurances are premature. A “screening level” study for Kenmore, a shoreline community with legacy pollution and continuing commercial activities, requires follow-up studies before health and safety extrapolations. At a minimum, conclusions should adopt a precautionary approach and caveats.

Sampling parameters

PERK submits that given budget constraints, Ecology did not and could not adequately address many important data collection parameters in a screening study. Some key parameters are listed below, with actual sampling done in parenthesis.

³ <http://www.doh.wa.gov/Portals/1/Documents/Pubs/334-333.pdf>

- Sample frequency (one-time major “screening-level” survey without commitment⁴ to follow-up studies).
- Weather (good collection weather only, thus excluding impacts from inclement weather with higher stormwater runoff).
- Sample sites (limited).
- Sample depths (primarily shallow so information from deeper sediment layers are not included), and
- Barging frequencies (zero for several days before sampling so sediment disturbance was minimized).

This list showed that the screening study did not address many potential environmental conditions, such as legacy contamination in deeper sediment layers, sediment and water quality altered by inclement weather, water column or bottom substrate changed by barging-caused sedimentation, or area coverage and statistical powers increased by more sample sites.

Relating sediment depth to exposure, Kenmore samples use the “biologically active layer” as basis to select sample depths. For the Kenmore Channel and other highly managed Lake Washington near shore areas, barge traffic, development projects, and other human impacts have occurred over time. Consequently, sediment is likely disturbed to greater depths than what was monitored in the recent sampling. Deeper samples, therefore, are likely more informative than shallower samples.

If follow-up studies were conducted, dioxin exposure results could be much higher, perhaps by magnitudes, and at locations not currently specified. To be fair, results could also remain unchanged or even have lower exposures. PERK’s dioxin narrative below suggests, however, that at the minimum, some high dioxin levels probably have not been found. At a more significant level, Ecology conclusions were misleading.

Exposure factors

DOH specified that key factors - including

- Dose (how much),
- Duration (how long), and
- How someone comes in contact with the chemicals (touching, ingesting, or breathing in the chemical),

determine if an exposure will cause health effects. After vetting uncertainties of sampling parameters and exposure factors, particularly Dose, the DOH Consultation can only have inconclusive inferences at this time. Again, the dioxin discussion below illustrates this point.

The Precautionary Principle

⁴ A commitment should give “SMART” results - meaning Specific, Measurable, Achievable, Realistic and Time scaled, plus funding.

PERK agrees that with budget constraints, a “screening level” study is realistic. But there is only so much inference a “screening-level” study can provide. By declaring public health and safety conclusions without major caveats, Ecology, Kenmore, and now DOH - despite their fine work, funding commitments, and sincerity - are being unreasonably optimistic on citizen health and safety. Clearly if key exposure factors vary, such as Dose, so will the health effects evaluation. The bottom line is that we need to practice the Precautionary Principle, avoid risky conclusions, address budget realities, and pursue environmental protection and economic outcomes at the same time.

Dioxin at Kenmore

As the evidence provided below demonstrates, the Report’s conclusion that sediment environment in north Lake Washington is healthy and typical of undisturbed areas is grossly misleading. Ecology should either retract or reword the conclusion to indicate that there is substantive evidence to support an alternative conclusion; namely, that dioxin levels in north Lake Washington are unsafe. Moreover, Ecology should modify its recommendations to include special restrictions on sediment management and human activities in north Lake Washington where exposure to dioxin is likely until needed additional sampling and evaluation have been conducted.

Our assessment focuses on one chemical constituent – dioxin/furans (dioxin⁵). In terms of its effects on humans and other living organisms, dioxin is so toxic that one group of scientists describe it as “next to the nuclear catastrophes” in its potential for causing adverse impacts. Dioxins are produced by natural processes, such as volcanic eruptions or forest fires, but most dioxins derive from human activities, including manufacturing of paper pulp and herbicides or pesticides, burning of plastics and toxic waste at high temperatures with waste incinerators or kilns, as well as motor vehicle exhaust.

Dioxin is not the only health risks in sampled chemicals. In the Log Boom Park, the highest assessed risk is not dioxin/furans but the carcinogenic Polynuclear Aromatic Hydrocarbons (cPAH’s), with estimated relative risks greater than Ecology’s 10⁻⁶ (10 to the minus 6) standard.

Dioxin at two private marinas isolated instances?

North Lake Washington has higher concentrations of dioxin than are typical of freshwater and marine environments in rural and urban areas in Puget Sound. Sediment samples collected in the vicinity of two marinas on the western shore of north Lake Washington had dioxin levels that far exceed levels considered safe for human health and ecological function. They confirm a much higher dioxin reading (92.1 ppt) recorded for a composited sediment sample at the Harbour Village Marina in 2011.

⁵ See Footnote #2: <http://www.ejnet.org/dioxin/>

These concentrations would normally trigger regulatory action (i.e., cleanup) by Ecology under the Model Toxics Control Act (Chapter 173-340 WAC). They far exceed the median cleanup level at dioxin/furan-contaminated sites in Washington State (16-24 ppt) and the “cleanup level for dioxin” (11 ppt) proposed by Ecology (2007).⁶ Given the number of people living in the Kenmore area and the existing status of the north Lake Washington ecosystem, the measured dioxin concentrations are high enough to warrant concern. Specifically, even if contamination is restricted to private marinas, there is potential for people to be exposed to elevated levels of dioxin, and for benthic organisms and the fish and birds that prey upon them to be adversely affected. And at this time the boundaries, or lateral limits of dioxin at elevated concentrations have not been defined, or determined to lie solely within the two marinas cited by Ecology.

Ecology implies that dioxin at the two marina sites could not have come from the Navigation Channel, the KIP site, or the Sammamish River because concentrations at the latter locations were significantly lower than those measured at the two marinas. Other than speculating that the high dioxin concentrations may have resulted from a “historic release” and that dioxin contamination is now neither ongoing nor continuous, Ecology does not investigate or confirm the actual sources or causes of the elevated dioxin levels. It is certainly possible that the dioxin may have originated in an adjacent area, such as the KIP or Kenmore Air, but subsequent sedimentation and disturbance at these locations may have obscured the relationship.

Since a very high dioxin concentration was measured at Harbour Village Marina in 2011, why wasn't additional sampling (more samples taken over a greater range of depths) for dioxin performed in this and adjacent areas? Ecology should have used statistical analysis and modeling software to help visualize the spatial distribution of dioxin within north Lake Washington, predicted values at un-sampled locations, and identified potential sources of contamination. A mass balance evaluation would also be useful in calculating the total mass of Mean Toxic Equivalence (TEQ) in sampled sediments within different areas of north Lake Washington.

Again, given results obtained thus far, it is important to collect additional data, conduct the appropriate statistical analyses and modeling, and develop and implement management plans that would reduce dioxin exposure and risk.

Judging dioxin concentration

Ecology compares the dioxin concentration measured in the sediments of North Lake Washington to concentrations of dioxin measured in soil samples collected from urban areas in Seattle. They also compare the results to the state soil cleanup standard for dioxin of 11 ppt.

Ecology's comparisons were not based on statistical analysis, and therefore should be regarded as qualitative. Comparing sediment dioxin concentrations to soil concentrations and standards is inappropriate, since standards for cleanup of contaminated soils can be an order of magnitude higher than those required for sediments.

⁶ Ecology Toxics Cleanup Program. 2007. Background document for the proposed amendments to the Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC.

Furthermore, the physical processes affecting dioxin distribution and exposure in the two media are very different. Sediment transport, deposition, and re-suspension processes in Lake Washington contribute to temporal and spatial variations in residual dioxin concentrations that differ from those of surrounding upland areas. Sediment delivered by the Sammamish River and subsequently stirred up by barge activity in the Kenmore Navigation Channel, for example, may affect, either through dilution or concentration, dioxin levels in other north Lake Washington near shore areas.

Ecology also compares the dioxin TEQ concentration for north Lake Washington with the mean concentration results reported for Puget Sound sediment by DMMP (2009), and concluded that “excluding the two private marina results, the Kenmore dioxin sediment results show very similar dioxin concentrations as found in Puget Sound background.” We believe that this conclusion is unfounded. The two means for the north Lake Washington samples - 12.5 when the two marina values were included (n = 30), and 3.0 (n = 28) when the marina data were excluded - are both significantly different (higher) than the mean (1.4 ppt) calculated for the Puget Sound samples.

The mean dioxin TEQ concentration (12.5 ppt) for the 30 north Lake Washington samples was also significantly higher than mean dioxin values reported for Elliott Bay sediment samples⁷, soil samples collected in vicinity of the Rayonier Mill, and at other locations in Washington State (See Table 1). Additionally, north Lake Washington dioxin levels were higher than concentrations measured in soil samples collected from 2 of 6 urban areas in Seattle (WDOE 2011).⁸ The same study reported a mean dioxin concentration of 1.7 ppt for soils sampled from Washington state parks.

Table 1:

⁷ “Dioxins, Furans, and other Contaminants in Surface Sediment and English Sole Collected from Greater Elliott Bay (Seattle).” See Table 1.

⁸ Urban Seattle Area Soil Dioxin and PAH Concentrations Initial Summary Report. Available at <https://fortress.wa.gov/ecy/publications/publications/1109049.pdf>

Location	Reference	Number of Samples	Range (ng/kg TEQ)	Median (ng/kg TEQ)	75th Percentile (ng/kg TEQ)
Port Angeles, WA	this study				
grid		60	1.13 - 76.26	11.87	17.45
forest		14	4.02 - 40.46	10.61	25.58
upslope		9	0.80 - 5.54	1.82	2.37
road		2	4.04 - 6.50	5.27	6.50
Bellingham, WA	Ecology & Environment 2002				
[Oeser Site background]					
residential (ND=1/2DL)		10	1.48 - 34.76	7.32	11.29
residential (ND=0)		10	0.83 - 22.93	4.78	7.42
open (ND=1/2DL)		10	0.70 - 4.11	2.22	2.75
open (ND=0)		10	0.17 - 2.96	1.16	1.72
Washington State Survey	Rogowski et al. 1999				
urban	Rogowski and Yake 2005	14	0.73 - 21.55	2.74	5.92
forest		8	1.18 - 6.67	3.49	5.60
open		8	0.69 - 5.18	1.47	2.31
Denver, Colorado	USEPA, Region 8, 2001	38	0.21 - 42.71	2.17	7.92
Davis County, Utah	University of Utah (undated)	22	0.32 - 4.47	0.90	1.83
Australia National Survey	Muller et al. 2004				
urban		27	0.11 - 45.33	4.18	10.74
Trondheim, Norway	Andersson and Ottesen 2007	49	0.16 - 12.13	1.51	2.30
	Andersson 2009				
US Survey	USEPA 2007				
rural soils		27	0.21 - 11.69	0.94	2.32
Michigan	Demond et al. 2008				
Jackson/Calhoun Counties					
house perimeter 0-1 inches		194	3-64.1	2.9	5.7
house perimeter 1-6 inches		53	7-31.9	6.8	8.7
garden		124	2-18.5	2.0	4.0
Switzerland					
forest	Schmid et al.	11	2.33-11.95	4.58	6.59

Note: All results are summarized based on 2005 WHO TEFs (Van den Berg et al. 2006), except for Utah results, which are as reported by the authors. Detailed congener results for the Utah samples were unavailable, precluding recalculation of TEQs. The individual sample results for Michigan are not reported, but the authors (Demond et al. 2008) report TEQs based on 2005 WHO TEFs. The statistical parameters for TEQ results for Michigan are as reported by the authors.

Ecology implies that the results of the screening study will inform the design of future sediment studies, as required for permitting of the Kenmore Navigation Channel (KNC). A more extensive and elaborate sampling design involving 'vibracore' sampling method will be used to determine whether material dredged from the KNC can be disposed in open water. The results of the screening level study indicate that dioxin levels in the upper 10 inches of sediment (i.e., the biologically active zone, and the depth of sediment sampled in the KNC), exceed the screening level threshold (4 parts per trillion; ppt) for safe disposal of dredged sediment in open water in Puget Sound established by a state and federal agency task force (the Dredged Material

Management Program [DMMP] Agencies). The DMMP “screening level” standard is meant to protect human and ecological health.

In the north Lake Washington study, dioxin concentrations in 6 of the 8 samples collected in the KNC exceeded the DMMP Screening Level Threshold⁹, and one sample exceeded the DMMP’s Marine Maximum Threshold (10 ppt). Based on the median (4.6 ppt) and mean (5.5 ppt) dioxin concentration values, KNC, an urban area, is contaminated with dioxin to a greater extent than 90 percent of the non-urban areas of Puget Sound.¹⁰

CONCLUSIONS AND RECOMMENDATIONS

Based on the above analysis, PERK draws the following conclusions and recommendations. An appendix is also provided to give relevant information to points made in this letter.

Clearly, KNC sediments are not at “natural background levels” – that is, capable of protecting normal ecological functions and components – as the Ecology Report claims. Ecology’s definition of “natural background,” is warped to produce a desired result, which is to be able to define human caused levels of contamination to be “natural.” This is just manifestly untrue.

The following are our recommendations.

1. Instead of comparing the screening level results to soil concentrations of dioxin, the report should reinterpret and describe the dioxin results in light of the DMMP standards and dioxin levels reported for other areas.
2. Immediate steps should be taken to restrict public use based on the Precautionary Principle, conduct further sampling in order to evaluate the full extent of contamination by dioxin and other carcinogens such as cPAH’s, identify the potential sources of contaminants, and evaluate the risk they pose to human and environmental health.
3. Ecology cites the need to conduct further sampling to identify the dioxin source or sources, subject to the availability of additional funding. They vaguely promise to work together with the City of Kenmore and marina owners on dredge planning and environmental evaluation. Given the unequivocal evidence for elevated levels of dioxin, these assurances are unconvincing. Moreover, a specific plan should be developed and confirmed to determine the source or to clean up the areas where excessive contamination was found.

⁹ The Ecology Report incorrectly states that “the channel results showed ... one occurrence of dioxin exceeding the dredge DMMP screening guidance.”

¹⁰ Dredged Material Management Program Agencies. 2010. Dredged Material Management Program. New Interim Guidelines for Dioxins

4. The source of the dioxins should be identified. DOE should statistically analyze the data and compare it with standards or data collected in other areas, such as Puget Sound.
5. Conduct a spatial analysis of the contamination that would assist in the determination of potential sources, evaluation of non-random variation in contaminant levels, and prediction of contaminant levels in un-sampled areas.
6. Ecology should accelerate efforts to develop Sediment Management Standards (SMS) for dioxin.

In conclusion, PERK requests that Ecology considers merits of above comments. We recognize that follow-up studies require time, effort, and money, and we welcome the opportunity to work with Ecology on our issues and recommendations, including development of sampling and analysis options and funding sources, Please direct future questions to the below signatories.

Thanks for the opportunity to comment.

PERK, People for an Environmentally Responsible Kenmore

Elizabeth Mooney
President, PERK
5934 NE 201st St
Kenmore, WA 98028
206-979-3999

APPENDIX: Studies and data supportive of PERK dioxin narrative

Dioxin concentrations reported Rayonier Mill Port Angeles Study

From: Dioxins, Furans, and other Contaminants in Surface Sediment and English Sole Collected from Greater Elliott Bay (Seattle)

Mean Toxic Equivalent (TEQ) values for dioxins/furans for the 0-2 cm samples from Elliott Bay.

Table 7. TEQs for dioxins/furans in all 30 of the 0-2 cm sediment samples.

TEQs were calculated by multiplying a toxic equivalency factor by each individual result and summing. One-half the reporting limit was used in TEQ calculations if a congener was not detected.

Summary Statistics	Total Dioxins (ng/kg TEQ)	Total Furans (ng/kg TEQ)	Total Dioxin/Furan (ng/kg TEQ)
Mean	7.36	2.33	9.70
Median	5.84	1.81	7.67
Minimum	0.465	0.200	0.665
Maximum	23.3	5.56	26.6
90% CI Upper	9.16	2.85	11.9
90% CI Lower	5.56	1.82	7.44

CI – confidence interval

Conclusion: The mean TEQ concentration for the 30 north Lake Washington samples (12.5 ng/kg) was significantly higher than the mean (9.7 ng/kg) for the 0-2 cm sediment samples collected in Elliot Bay.

From the Kenmore report:

Table 9. Kenmore Area Sediment Results for Dioxin Compared with Ocean Survey Vessel Bold Puget Sound background sediment data -DMMP 2009.

These results are all for sediments. However, the OSV Bold survey was conducted in Puget Sound, a marine setting in Washington. The sample locations were selected to focus on sediments that were outside the influence of known sources. More information on the sampling locations can be found at <http://www.nws.usace.army.mil/Missions/CivilWorks/Dredging/Dioxin/PugetSoundPCBDioxinSurvey.aspx>

Kenmore Area -30 results	0.3 - 71	12.5	5 17%	2	0	13
Kenmore Area without marinas	0.3 - 10	3.03	0 0%	0	0	Not applicable
Puget Sound OSV Bold Samples						
Hood Canal (n=5)	0.65 - 1.15	0.89	0	0	0	0
Outer Sound ¹ (n=15)	0.26 - 1.74	0.74	0	0	0	0
Inner Sound ² (n=30)	0.26 - 11.6	1.91	1	0	0	2
Reference bays ³ (n= 20)	0.24 - 5.15	1.13	0	0	0	1
Total -70 results	0.24 - 11.6	1.42	1 0%			

Ecology Draft April 30, 2013

Conclusion: The mean TEQ concentration for the 30 north Lake Washington samples (12.5 ng/kg and 3.03 ng/kg with and without marina samples included) was significantly higher than the mean for all of the OSV areas sampled. *Non-parametric test should have been run.*

From WDOE. 2011. Urban Seattle Area Soil Dioxin and PAH Concentrations Initial Summary Report. <https://fortress.wa.gov/ecy/publications/publications/1109049.pdf>

p. 1 Dioxin TEQ concentrations ranged from 1.7 to 110 nanograms per kilogram (ng/kg) with an average concentration of 19 ng/kg. The median and nonparametric 90th percentile concentrations were 12 and 46 ng/kg, respectively.

p. 12 Citywide, dioxin TEQ concentrations ranged from 1.66 to 114.65 ng/kg with an average concentration of 19.08 ng/kg. The median and nonparametric 90th percentile concentrations were 11.70 and 46.10 ng/kg, respectively.

Table 1 - Median and Average Carcinogenic PAH and Dioxin Toxicity Equivalent Concentrations

Neighborhood	Median cPAH TEQ in ug/kg	Average cPAH TEQ in ug/kg	Median Dioxin TEQ in ng/kg	Average Dioxin TEQ in ng/kg
Ballard	230	340	22	26
Capitol Hill	170	680	8.1	18
Georgetown	150	240	23	36
Ravenna	67	260	10	15
South Park	81	100	12	12
West Seattle	9.9	54	4.5	7.5
All Areas	84	260	12	19

Non-detected Results = 1/2 Detection Limit

See: <https://fortress.wa.gov/ecy/publications/publications/1109219.pdf>

Rural samples - Dioxin levels in the soils from Washington state parks ranged from 0.15 - 9.4 ppt. The average concentration was 1.7 ppt.

From Anchor report: The dioxin/furan TEQ exceeded the DMMP criteria in some samples. However, suitability for open-water disposal would be determined based on the volume-weighted average of dredged sediment using data collected as part of a full DMMP characterization.

A full DMMP characterization would be necessary to determine suitability for marine open water disposal closer to when dredging would occur.

----- Original Message -----

Subject: Re: Joint Response from WSDOE/WSDOT re Water Quality at the Kenmore Industrial Park
Date: Tue, 18 Dec 2012 13:52:45 -0800
From: Greg Wingard <gwingard@earthlink.net>
To: Hammond, Paula <HammonP@wsdot.wa.gov>
CC: larry.phillips@kingcounty.gov, "Hanson, Allison" <HansonA@wsdot.wa.gov>, "Meredith, Julie" <MeredJL@wsdot.wa.gov>, "Becher, Dave" <BecherD@wsdot.wa.gov>, "Whalen, Suzanne" <WhalenS@wsdot.wa.gov>, jiriussellshomes@gmail.com, gerry.pollet@leg.wa.gov, daveup@comcast.net, chris@pugetsoundkeeper.org, htrim@pugetsound.org, kfit461@ecy.wa.gov, rwar461@ecy.wa.gov, roberto.joseph@epa.gov, "Carpine-Cazzanti, Joy" <CarpinJ@wsdot.wa.gov>, "White, Megan" <WhiteM@wsdot.wa.gov>, "North, Teri" <teno461@ECY.WA.GOV>

All:

Given the chance to review the joint response from Ecology and the Washington State Department of Transportation (WSDOT), to King County Council member Larry Phillips, and additional recent events in Kenmore, I would offer the following response.

From the response below and discussions with community members as well as personal observation, there is no debate as to the fact that the SR 520 project is causing ongoing turbidity releases to north Lake Washington, in violation of the Washington State water quality criteria for turbidity.

The disagreement is primarily over what should be required, and the adequacy of steps taken to date to address this serious, on-going problem.

The root of the problems associated with the ongoing release of turbidity in excess of the water quality criteria is a result of inadequacies in the environmental review for the SR 520 project as it relates to barge and tug use of the Kenmore Navigation Channel. In 1996, the Kenmore Navigation Channel (KNC), was dredged to an operational depth of 20 feet. Currently the depth of the KNC is around half that depth, if not less than half. The result is the KNC through a significant amount of its length is not deep enough for the type of heavy barging activity being carried out by WSDOT and their contractors without causing excessive disturbance of lake sediment, contaminating the water column with turbidity above the water quality criteria.

Everyone involved is aware of this problem, and investigation into dredging of the KNC was started prior to the start up of the SR 520 project in Kenmore as it was generally known it needed to be dredged. It appears the conflict here resulted from a determination that the dredging could not be accomplished within the time line desired for the SR 520 project, and the project would move forward irrespective of the inadequate depth of the KNC.

The joint response from Ecology/WSDOT, when boiled down appears to be little more than a justification for ongoing violation of the Washington State water quality criteria for turbidity.

Most of the corrective measures discussed below have been previously offered to the public as the answers to eliminate this problem. Agency assurances (or denials) happened after a major turbidity incident last March, a major public meeting in July, and again in November. In spite of the assurances, promises and Best Management Practices touted by Ecology/WSDOT the turbidity problem continues unabated, with observations of unacceptable barge/tug caused turbidity this month. So either the contractor is not implementing these measures, or they have been implemented and quite simply are not effective, or protective of waters of the

ATTACHMENT B

state/navigable waters.

Further, it is my understanding that KGM has implemented barging operations after dark. Barge traffic at the site was recently spotted at well after 9pm. This new practice will render the corrective actions outlined below, including the "new" measures ineffective, at best.

The primary request by the community has been for turbidity monitoring of barge and tug operations, with enforcement of the state water quality criteria for turbidity. In the response below, Ecology commits to "...periodic turbidity monitoring as needed...". Please provide copies of any turbidity data from such monitoring, along with the date and time such monitoring occurred, from the date of the response to the date of this request.

The community has noted incidents of turbidity being caused by SR 520 related barge traffic in or adjacent to the KNC since the date of this response. Please provide all incident reports filed by KGM, consistent with Ecology direction as provided on October 5, 2012, consistent with the bullet point in the Ecology/WSDOT response below.

Also please provide the results of the updated bathymetry data confirming the channel depth also as referred to below.

Some information provided in this response is not accurate.

In the response below Ecology/WSDOT indicate that the barges will stay in the deepest part of the KNC, and further out right denies that barges have been, and are in close proximity to Harbor Village Marina (a concern due to dioxin contaminated sediments known to be at that location, as well as the shallow depths at this location). This information from the agencies is not factually accurate. Multiple community members, and I have witnessed SR 520 project barge and tugs in very close proximity to the Harbor Village Marina. Attached are two photographs of one such illustrating this. If the barge would have been much closer it would have been berthing in a slip. For reference the orange buoys visible in the photographs mark the navigation channel.

Ecology indicates below that if its staff observes instances of violations of the Washington State Water Quality Standards (which includes the numeric turbidity criteria), it will take enforcement action to assure vessel compliance with these, and any other environmental laws or regulations. This sounds comforting, but the facts are that Ecology, WSDOT and the community are in agreement that there have been multiple incidents of turbidity criteria exceedences since project start up last March. Further the incidents have continued through this month. To date there has been no enforcement, and further KGM has been allowed to modify operations in such a way as to make it even less likely there could be enforcement (carrying out barging operations after dark, outside of Ecology staff working hours). Further, we are not aware of a single instance of sampling for turbidity related to the barge/tug operations over the entire eight months it has been requested, or in the month since Ecology/WSDOT's joint response.

In conclusion;

Given uncertainties about the exact location of toxins, such as dioxin in north Lake Washington sediment, and the depth to which prop wash from SR 520, tug and barge operations are disturbing lake bottom sediments, the community is understandably concerned. There is further, no tolerance for sediment in the KNC vicinity of Lake Washington being stirred up and redistributed into the water column by SR 520 operations in Kenmore, or for Ecology enabling such discharges.

It is entirely reasonable in the face of witnessing multiple, obvious violations of the water quality criteria for turbidity, for the community to demand that this project implement a turbidity sampling and monitoring program for the remaining life of this project, and maintain a publicly available log of the sample results. This is the least that should be required of WSDOT and its contractors, in

addition to any necessary, and relevant BMP's.

It is also easy enough to determine if barges and tugs are staying in the deepest portion of the KNC, and are not in the vicinity of the Harbor Village Marina. GPS/GIS technology makes assuring this a snap, and is easily doable with off the shelf technology, if not technology currently in place on these vessels. Why hasn't this already been required?

Given the size, complexity, expense, and demonstrated reasonable potential of this project to violate Washington State Water Quality Standards, including specifically the water quality criteria for turbidity, the community needs more than what the response included below offers, and has every reason and right to expect better performance out of the remainder of this project, than what has been observed to date.

Regards,

Greg Wingard
PO Box 4051
Seattle, WA 98194-0051

On 10/15/12 4:02 PM, Hammond, Paula wrote:
Dear Councilmember Phillips:

We would first like to extend our personal thanks to you for your long commitment and leadership on issues of clean water in the Puget Sound region. Yours has been a clear and consistent voice in support of clean water, and we appreciate that support.

This email is a joint response from the Washington State Department of Ecology (Ecology) and the Washington State Department of Transportation (WSDOT) on a number of questions and concerns regarding water quality at the Kenmore Industrial Park (KIP) raised in your email of September 27.

As you noted in your email, both agencies are responsible for ensuring that environmental regulations are followed for this project. As you may know, KIP is permitted as an industrial site, and as such was chosen by WSDOT's contractor Kiewit/General/Manson (KGM) to build pre-cast elements for the SR 520 floating bridge replacement project. In particular, KGM is building anchors and roadway deck components. WSDOT and Ecology coordinated two public information sessions prior to the launch of work in February, 2012 as well as another public open house in July. We have worked hard to provide the latest information to interested citizens. A Web page was added to the WSDOT site dedicated to the Kenmore work to ensure that citizens could access information easily in one location:

<http://www.wsdot.wa.gov/Projects/SR520Bridge/BridgeAndLandings/KenmoreIndPrk.htm>.

Both WSDOT and Ecology have worked individually and in coordination to address concerns raised by Greg Wingard and others about turbidity from vessel operations at the Kenmore site.

Ecology's dedicated water quality inspector has been to the site approximately 10 times since February 2012 for various inspection purposes. He responded immediately to the two complaint calls we received regarding turbidity and has also gone to the site unannounced. During these 10 inspections, turbidity issues were not observed to warrant formal compliance actions from Ecology. Observed violations and documentation by Ecology inspectors is necessary for the agency to proceed with any formal compliance actions.

However, Ecology and WSDOT have confirmed incidents when tugs have disturbed bottom sediments during vessel operations from the vessel's prop wash resulting in turbidity increases in the water column around the vessel. One of the more obvious incidents occurred in March of this year when vessel operations first commenced in the KIP channel.

WSDOT and Ecology both agree that these operations must be conducted in a way that prevents increases in lake turbidity. Toward this end, both agencies recently met on September 21 to develop a set of additional actions, along with actions already underway, that our agencies will either individually or jointly conduct to prevent increases in lake turbidity from vessel operations. Although there is no current regulatory requirement for WSDOT to conduct turbidity monitoring, Ecology will be conducting periodic turbidity monitoring as needed based on the professional judgment of the water quality inspector the agency has assigned to this project.

As previously mentioned, some of the measures to prevent increases in lake turbidity include Best Management Practices (BMPs) for vessel operators that had already been put in place by WSDOT and its contractor KGM at the time of our recent meeting. Among these BMPs:

- avoiding the use of deep draft tugs in the channel whenever possible,
- anchoring barges for movement out of the channel so that the channel does not get tied up with additional traffic,
- regulating the tempo of vessel operations in the channel so as to minimize traffic by even the smaller and shallow draft tugs,
- employing right-sized barges to move the necessary loads and thereby minimize the use of the larger and over-sized barges.

Additional measures that are now being put in place include:

- KGM will follow the direction of Ecology's WQ inspector provided at a meeting on Oct 5, 2012. KGM will log their location via GPS associated with any high turbidity events and take digital photos around their vessels and report these incidents to Ecology's Environmental Response Tracking System (ERTS) at Ecology's NW Regional Office in Bellevue, WA ([425-649-7000](tel:425-649-7000)).
- KGM will be reconfirming bathymetry data (a map that shows the depths of the channel) for the portions of the Kenmore channel where their barges need access to ensure they travel through the deepest parts of the channel as possible.

With respect to concerns about vessel operations in the Harbor Village Marina area, KGM's vessels do not travel in close proximity to Harbor Village Marina as that area is not within their travel route to access the SR-520 construction area. WSDOT expects barge traffic at Kenmore to lessen now that the construction of the gravity anchors at the Kenmore site has been completed. In addition, KGM has mobilized land based cranes, reducing the need to bring large vessel mounted barge cranes to the Kenmore area. On-going and future construction operations at Kenmore include construction of fluke anchors and road deck panels which should require fewer vessel movements. In addition, KGM will be able to access the Lake Washington construction areas from the Medina shoreline which will reduce the need to transport materials and equipment from the Kenmore site.

Ecology for its part will continue to monitor these operations closely through our water quality inspector for these operations. This will be done through a series of both announced and unannounced inspections. Should Ecology observe instances of our Washington State's Water Quality Standards (WAC 173-201A) being violated, it will take appropriate enforcement actions to ensure these vessel operations comply with these standards and all other state environmental laws that apply to these vessel operations.

On behalf of both Ecology and WSDOT, we would like to thank you for your continued care and vigilance for the health and safety of Washington State's citizens and its waters. We hope the actions we are taking as outlined above demonstrate that both of our agencies are dedicated to this same mission.

Sincerely,

Paula J. Hammond, Secretary
Department of Transportation

Ted Sturdevant, Director
Department of Ecology

SMITH & LOWNEY, P.L.L.C.

2317 EAST JOHN STREET
SEATTLE, WASHINGTON 98112
(206) 860-2883, FAX (206) 860-4187

April 26, 2013

Via Certified Mail - Return Receipt Requested

Managing Agent
Kiewit/General/Manson, a Joint Venture
3015 112th Ave. NE, Ste. 100
Bellevue, WA 98004

Via Certified Mail - Return Receipt Requested

Managing Agent
Kiewit Corporation
33455 6th Ave. S.
Federal Way, WA 98003

Via Certified Mail - Return Receipt Requested

Managing Agent
General Construction Company
33455 6th Ave. S.
Federal Way, WA 98003

Via Certified Mail - Return Receipt Requested

Managing Agent
Manson Construction Co.
P.O. Box 24067
Seattle, WA 98124

Re: **NOTICE OF INTENT TO FILE SUIT UNDER THE CLEAN WATER ACT**

Dear Managing Agents:

This sixty day notice of intent to file a citizen suit against Kiewit/General/Manson, a Joint Venture, Kiewit Corporation, General Construction Company, and Manson Construction Co. (collectively, "K/G/M") under Section 505 of the Clean Water Act ("CWA"), 33 USC § 1365, for the violations described below is served on behalf of Waste Action Project, P.O. Box 4832, Seattle, WA 98194, (253) 639-7245. Any response to this letter should be addressed to the undersigned counsel for Waste Action Project at the letterhead address.

K/G/M has violated and continues to violate Sections 301(a) and 404 of the CWA, 33 U.S.C. §§ 1311(a) and 1344, by discharging dredged material to the waters of the United States without the required permit from the United States Army Corps of Engineers. This dredged material has been discharged in the course of tugboat operations in Lake Washington

in and near the Kenmore Navigation Channel, including the areas of Lake Washington in front of the Kenmore Air and Northlake Marina facilities. The tugboat operations support K/G/M activities at the Kenmore Yard, 6423 NE 175th St., Kenmore, WA 98028. Some of the tugboat activities at issue were the subject of notice of violation no. 9652 issued by the Washington Department of Ecology to Kiewit/General/Manson, a Joint Partnership, on December 28, 2012. Specifically, K/G/M operates tugboats in and near the Kenmore Navigation Channel in a manner that results in the disturbance, suspension, and redeposit of lake bottom sediments by tugboat propellers, propeller wash, and hull movement. These tugboat operations are effectively dredging the Kenmore Navigation Channel and surrounding waters, which are not always deep enough for tugboat navigation without sediment disturbance. The disturbance and redeposition of sediment causes significant water quality impacts and degradation, including violation of turbidity water quality criteria. See WAC 173-201A-200(e).

The tugboat operations result in the excavation of sediment from the lake bottom and its redeposit in surrounding locations. This constitutes the discharge of dredged material. See 33 C.F.R. § 323.2(d). A permit from the United States Army Corps of Engineers is required for this discharge. See 33 C.F.R. § 323.3(a) and 33 U.S.C. § 1344. K/G/M has no such permit for this discharge, so it violates the Clean Water Act. See 33 U.S.C. § 1311(a).

K/G/M's violation of the Clean Water Act by the unpermitted discharge of dredged material has taken place on a daily basis since approximately March 2012, including on the following particular dates:

March 3, 2012	June 4, 2012	Sept. 26, 2012
March 4, 2012	June 7, 2012	Sept. 29, 2012
March 8, 2012	June 18, 2012	October 2, 2012
March 19, 2012	June 19, 2012	October 3, 2012
March 21, 2012	June 20, 2012	October 14, 2012
March 25, 2012	June 22, 2012	Nov. 12, 2012
March 28, 2012	June 28, 2012	Nov. 28, 2012
March 29, 2012	June 29, 2012	Nov. 29, 2012
April 2, 2012	July 1, 2012	Dec. 6, 2012
April 8, 2012	July 10, 2012	Dec. 13, 2012
April 9, 2012	July 20, 2012	Dec. 14, 2012
April 10, 2012	July 23, 2012	Dec. 18, 2012
April 11, 2012	July 24, 2012	Dec. 19, 2012
April 12, 2012	July 26, 2012	Dec. 20, 2012
April 13, 2012	August 1, 2012	January 2, 2013
April 16, 2012	August 2, 2012	January 3, 2013
April 18, 2012	August 14, 2012	January 4, 2013
April 21, 2012	August 16, 2012	January 7, 2013
April 25, 2012	Sept. 12, 2012	January 8, 2013
April 30, 2012	Sept. 18, 2012	January 9, 2013
May 3, 2012	Sept. 19, 2012	January 10, 2013
May 25, 2012	Sept. 20, 2012	January 14, 2013

January 22, 2013
January 24, 2013
January 25, 2013
February 7, 2013
February 11, 2013
February 13, 2013
February 15, 2013
February 18, 2013

February 19, 2013
February 27, 2013
February 28, 2013
March 1, 2013
March 6, 2013
March 7, 2013
March 14, 2013
March 16, 2013

March 17, 2013
March 18, 2013
April 6, 2013
April 12, 2013
April 15, 2013
April 16, 2013

The above-described violations reflect only what information currently available to us indicates. These violations are ongoing both because the tugboat operations resulting in the unpermitted discharges are likely to continue and because the discharged dredged material remains in the locations where it has been redeposited while K/G/M continues to have no permit issued under 33 U.S.C. § 1344. We intend to sue for all violations, including those yet to be uncovered and those committed after the date of this notice of intent to sue.

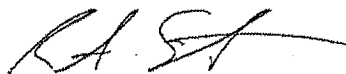
Under Section 309(d) of the CWA, 33 USC § 1319(d), and 40 C.F.R. 19, each of the above-described violations subjects the violator to a penalty of up to \$37,500 per day. In addition to civil penalties, we will seek injunctive relief under Sections 505(a) and (d) of the CWA, 33 USC § 1365(a) and (d), and such other relief as is permitted by law. Also, Section 505(d) of the CWA, 33 USC § 1365(d), permits prevailing parties to recover costs including attorney's fees.

Waste Action Project believes that this NOTICE OF INTENT TO SUE sufficiently states grounds for filing suit. We intend, at the close of the 60-day notice period, or shortly thereafter, to file a citizen suit against Kiewit/General/Manson, a Joint Venture, Kiewit Corporation, General Construction Company, and Manson Construction Co. under Section 505(a) of the Clean Water Act for violations.

During the 60-day notice period, we would be willing to discuss effective remedies for the violations in this letter and settlement terms. If you wish to pursue such discussions in the absence of litigation, we suggest that you initiate those discussions within 10 days of receiving this notice so that a meeting can be arranged and so that negotiations may be completed before the end of the 60-day notice period. We do not intend to delay the filing of a complaint if discussions are continuing when the notice period ends.

Very truly yours,

SMITH & LOWNEY, P.L.L.C.

By: 
Richard A. Smith
Elizabeth Zultoski

Cc (via certified mail, return receipt requested):

Bob Perciasepe, Acting Administrator, U.S. EPA
Dennis McLerran, Region 10 Administrator, U.S. EPA
Ted Sturdevant, Director, Washington Department of Ecology
CT Corporation System, 505 Union Ave. SE, Ste. 120, Olympia, WA 98501
Richard L. Dolmseth, 5209 E. Marginal Way S., Seattle, WA 98134

----- Forwarded message -----

From: **Derek Poon** <derekcpoon@gmail.com>

Date: Tue, Jan 29, 2013 at 3:07 PM

Subject: NOAA did not conduct a Section 7 analysis for Kenmore barging;
so no T&C

To: Michael Grady <michael.grady@noaa.gov>

Cc: Greg Wingard <gwingard@earthlink.net>, Elizabeth Mooney
<elizabeth.mooney@comcast.net>, Janet and Bob Hays

<happyhaze@msn.com>, Ann Hurst <annmhurst@msn.com>, Aaron
Smith <smith.aaron360@gmail.com>, Cindy Beckett

<cindybeckett@comcast.net>, Cleve Steward

<Cleve.Steward@amec.com>, Jirius Isaac <jiriussellshomes@gmail.com>

January 29, 2013

To: Mike Grady, Transportation Branch Chief,
NOAA Fisheries-NWR

FR: Derek Poon, Environmental Consultant for
Kenmore citizens

RE: Reopening of ESA Section 7 specific to
Kenmore

Mike,

Thank you very much for the informative phone conversation we had this morning. Kenmore citizens could now conclusively say that there are no Endangered Species Act (ESA) Section 7 required Terms and Conditions (T&C) for Kenmore barging because the National Oceanic and Atmospheric Administration (NOAA, which includes the National Marine Fisheries Service) has not received a Federal Highway Administration (FHWA) request to "reinitiate" Section 7

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consultation specific to the Kenmore Navigation Channel, and therefore has not prepared, and in fact can not by law, any nondiscretionary T&C.

As you know, Mike, my analysis is based on my experience as a former NOAA and US Environmental Protection Agency (EPA) ESA scientist.

The SR520 Bridge Replacement Project - of which Kenmore barging was a late addition after a formal NOAA ESA evaluation (Consultation/Biological Opinion, or BO) was done in 2011 - was determined by FHWA (The note I saw was dated December 28, 2012 email from Randy Everitt; Attached file) to have ESA effects as "May Affect and Likely to Adversely Affect," or LAA. This LAA determination indicates significant and non-discountable ESA effects and required a BO reinitiation (reopening) and non discretionary T&C. Citizens have not seen any federal T&C applied to Kenmore barging, which has occurred for around one year and will continue for years more.

Don't get me wrong. No one wants to stop the SR520 project. Citizens just want legal environmental protection.

I understand that NOAA cannot do a BO reinitiation regardless of any information NOAA might have from other sources, and irrespective of NOAA's scientific understanding of the issues. FHWA, on 12/28/12 (Attached Randy Everitt letter) stated that FHWA and NOAA are in concert on the SR520 BO and follow up procedures, and all Section 7 and reinitiations have been

followed. You told me today NOAA has not received any new Kenmore information and only one reinitiation took place and it was not for Kenmore. When FHWA evaluated Kenmore as “new information” for around one year of operation and did not file a “reinitiation” request to NOAA, NOAA has to assume the “new information” has no ESA effects, otherwise a “reinitiation” request would have been filed.

The justification for Kenmore Section 7 reinitiation is clear for sedimentation effects alone, with or without consideration of other factors such as dioxin and other chemical effects.

Sedimentation effects are undebated as stated in a letter from Greg Wingard to Paula Hammond of WSDOT, Ecology, and many others (Greg Wingard 12/18/12 email attached). Other evidence such as photos, a January 2nd 2013 official Ecology sedimentation violation citation, and personal testimonies supplement the Wingard letter, as you are already aware.

Dioxin and other chemicals were part of a November 2012 Ecology and Kenmore funded “screen level” sediment and water quality sampling study, and results were shared this month. These data will not have the accompanying study narrative until around March, and did not contradict sedimentation effects in any case. It did, however, reveal dioxin questions that won’t be answered for some time. Moreover, citizens have not received an official response on sample variances, and whether these sampling results apply to normal conditions encountered with actual barging frequencies,

weather conditions, and stormwater runoff.

As you know, dioxin has an ESA effect through food chain and bioaccumulation and is part of the Section 7 evaluation, but dioxin questions do not alter the requirement to reopen Section 7 based on sedimentation alone.

Again, I appreciate your invitation to continue to contact you on ESA questions even though you may be difficult to reach due to your busy schedules. The information you provided to me today was conclusive and I am thankful you are the NOAA manager in charge of the SR520 Section 7 effort.

All the best, and we'll be in touch and I assume actions will be taken to solicit, posthaste, federal non discretionary T&C on Kenmore barging.

Derek Poon, Ph.D.
Environmental Consultant
206-729-9378
derekcpoon@gmail.com