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APR 20 2001

EXPRESS MAIL-
RETURN RECEIPT REQUESTED

Chemical Land Holdings, Inc.
Two Tower Center Boulevard, Floor 10
East Brunswick, New Jersey 08816
Attn.: Mr. Clifford Firstenberg, Project Manger

Re: Diamond Alkali Superfund Site - Passaic River Study Area
Creel/Angler Survey

Dear Mr. Firstenberg:

This is a follow up to my letter of November 17, 2000 regarding the Chemical Land Holdings, Inc. (CLH) meeting notes transmitted to the Agency by letter dated October 26, 2000. In my November 17, 2000 letter, I provided you with some general comments on CLH's verbal description of its modifications to the Creel/Angler Survey Work Plan. At our meeting on October 4, 2000, and in EPA's November 17, 2000 and January 30, 2001 letters, it was explained that the Agency would provide CLH with any comments we have on CLH's written modifications to the Creel/Angler Survey Work Plan. CLH provided the Agency with such submissions via letters dated October 24th and November 9th.

The following are comments derived from United States Environmental Protection Agency (EPA) and State of New Jersey Department of Environmental Protection review:

**General Comments**

Risk Assessment in Superfund

In general, the proposal for the Creel Angler Survey (CAS) fails to address the basic requirements of a Superfund risk assessment. As outlined in the NCP (Preamble page 8710), the goal is to evaluate cancer risks and non-cancer hazards to the Reasonably Maximally Exposed (RME) Individual, and evaluate cancer risks and non-cancer risks under current and future scenarios. Specific examples from the text where this information is lacking are provided below.

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- The CAS Work Plan (CASWP) in Table 1-2 indicates that the consumption rate will be developed based on the average catch and keep rate, average size (by species), trip duration, parts of fish eaten, fraction of weight of parts eaten by respondent, demographics, and season. Application of average rates as indicated in this document, will result in potential underestimates of exposure and is inconsistent with USEPA Superfund guidance which requires evaluation of the risk to an RME individual at the 90$^{th}$ percentile or above. The more appropriate approach is to evaluate the exposures to the RME individual based on the 90$^{th}$ percentile or above (USEPA Exposure Factors Guidelines in 1992 and USEPA, 1989 RAGS - Part A).

  Evaluation of exposures based on averaging is not appropriate; rather the full distribution of the results of the survey should be provided along with information on the specific percentiles of exposure. This information can then be used by EPA to select appropriate points on the distribution for inclusion in the point estimate and the full distribution can be used in a Monte Carlo Analysis (if a Monte Carlo Analysis is performed);

- Past exposure duration in the workplan is based a proportion of the time that the individual has been fishing within the area. Therefore, under the approach outlined in the CASWP, if an individual is 40 years old and has been fishing in the area for 30 years, but has only fished in three of the last five years, the survey would assume 18 years of exposure (i.e., 3/5 x 30) duration. So, if an individual started fishing at age 10, the information regarding fishing practices and exposures for the 30 years between ages 10 and 40 would not be fully evaluated in the risk assessment and could underestimate exposure duration (e.g., 18 years vs. 30 years). Considering the goal of protecting current and future exposed populations, it would be more appropriate to evaluate the risks to this individual based on the assumption that they fished every year, except for those years that they specifically stated that they did not. Considering that many of these chemicals are bioaccumulative, it is important to evaluate the activities of the angler based on their lifetime of activity;

- Future exposure duration in the CASWP will be based on the application of a method by Price et al. (1998). This proposed methodology is not the methodology used in the risk assessment for the Hudson River. EPA will provide further comments when it has thoroughly reviewed the Price study; and

- On page 1-8, the primary concern of the risk assessment are risks and hazards to the RME individual that may include subsistence populations in addition to avid recreational anglers. The full distribution of fish consumption patterns needs to be developed for evaluation before populations are separated out for specific analysis.

Consumption Rates

CLH suggests in the CASWP that it will define and determine consumption rates and patterns, based on "trips" and a count of the anglers catch at the end of the day. First, while we agree that a "trip" to fishing sites is required for 1) a catch to happen, and 2) consumption to take place,

we do not believe calculating consumption on the basis of "trips" will provide an accurate assessment of consumption, because the angler is not providing sufficiently detailed information on activity patterns.

While it may be useful to document an angler's catch, we do not believe this "snap shot" in time provides adequate information to calculate quantity and duration of consumption. This information can only be obtained through querying the angler.

Based on this approach, CLH's plan to translate the data into a gram per day ingestion rate remains unclear. From Appendix C, it is unclear how consumption by other members of the angler's family be assessed in the calculation of a gram per day ingestion rate based on the questions presented.

A more accurate assessment of consumption would be derived by developing specific questions to ask the angler. For example:

1. How often do you go fishing in a year?
2. How often, when fishing, do you get a catch?
3. What species do you prefer to eat?
4. How many years have you eaten fish/crabs caught by you or a member of your family?
5. How many fish/crabs do you/family members eat at a meal? (Provide specific portion sizes by family member)
6. How many fish/crab meals do you/family members eat a week?
7. How many fish/crab meals did you/family members eat in the last month? (Provide specific for each family member)

While there may be some issues regarding recall bias, we believe this approach will provide better and more accurate information about angler exposure through consumption.

Modeling / Portion Size

It is unclear from the work plan exactly how CLH plans to determine portion size. On the one hand, there is reference to a "portion-size approach model for several portion sizes" (p. 1-12) yet there is no information on the survey form itself that indicates that such models will be used in conversation with the interviewee (Appendix C). In other studies of consumption, interviewers asked anglers what participants ate and how much they ate at the time of the interview. Visual aids were used to help the angler more accurately estimate how big a portion he/she ate at a particular meal.

On the other hand, if these models will not be used on a person by person basis to estimate portion size, but calculated by some other mechanism, that is less appropriate. The use of extrapolation models based on assumptions is a helpful tool when you do not have the opportunity to talk with the study subject. In this case, there will be that opportunity. Therefore, time should be spent on getting this information directly from the angler, rather than through the use of mathematical or extrapolation models. The research should not predetermine and define what a portion is before this information is obtained from the angler. Such an approach for

determining portion size will likely underestimate exposure/risk.

There is also a great deal of discussion in the work plan about using modeling to calculate the exposure of this population. The modeling, as described in this work plan, and applied in this case, will underestimate exposure in this population. This survey project provides the opportunity to collect real time information. Actual estimates of consumption rates, residency questions, sociodemographic influences, etc. can all be explored as part of the survey work.

While modeling can be useful when information is lacking, it seems unnecessary here, when actual data from the exposed population can be collected.

Population

Considerable discussion is presented throughout the work plan regarding population size. It is important to realize that in risk assessment, EPA regulations and guidance require evaluation of cancer risks and non-cancer hazards to the RME and Central Tendency (average) Individual and does not calculate population risks.

Exposure Time Frame

NJDEP's study of the Newark Bay Complex found the preponderance of anglers reporting that they had lived in the area for their entire lives. It would be useful in this study, to ask a similar question and to follow it with a question about how long the angler has eaten fish and crabs from the Study Area. If this is done, then estimates extrapolated from the literature will not be necessary to determine the exposure duration. Real time data can be used in the risk calculation for the exposure duration. Again, estimates, models and literature based data is useful when actual, site-specific data in unavailable. In this case, data can be obtained from the anglers directly.

Counting

The purpose of counting individuals in the survey remains unclear. On page 1-4, the document indicates that there is limited boating activity and boat-based angling is not expected to be a key component of this CAS. On page 3-2 and 3-3, the CAS indicates that the counting will provide an estimate of the population and allows for potential intercept of every angler identified on the river. However, the CAS also indicates that the counting and existence of anglers in boats are not the basis for intercepting individuals. Instead, the plan is to use some statistical random method of selecting anglers for interview.

A more appropriate approach would be to include more intercept teams so that all anglers identified, whether on boat or on land, are interviewed.

These statements raise the following concerns: 1. As stated above, the Superfund program is based on evaluating risks to the RME and CT individual and not a population. Without a specific explanation regarding the planned use of counts, EPA can not comment on whether this approach is appropriate. 2. It sounds as if, there is a high probability that the lower half of the Study Area will not be evaluated, thus reducing the study area by a significant area, i.e., almost

half.

In addition, incorporating the boat count information relating to race and ethnicity of individuals does not provide the level of detail sought for the study as a whole. The characterization of an individual counted on the shore by boat is limited to "white" or "non-white." While this recognizes the difficulty of determining ethnicity from a distance, the imprecision also can lead to misclassifications. Based on a papers by Kirk Pflugh et al. (1999) and Burger et al. (1999), there are significant differences among the white, Latino, and black angling communities in the Study Area and adjacent areas. By designating an angler as only "white" or "non-white" and attempting to overlay this information onto interview data with more specific ethnic identification, it could minimize these distinctions and underestimate consumption. The only appropriate manner for conducting these surveys is by asking individuals to self-identify their identity.

Interviewing

The work plan also describes a stratified random sample to select who will be interviewed and where. CLH suggests that there are only five fishing locations in the Study Area and that they will randomly select which sites to visit on any given interview day. This random methodology appears to be unnecessary. Because the target audience and fishing sites may be limited in size, the goal of the effort should not be to randomly select from within this population, but rather to more accurately characterize this population by interviewing all anglers seen fishing in the Study Area. Randomly selecting who will be interviewed and where seems to be setting up a process that will underestimate the actual number of anglers and possibly consumers in the Study Area.

A more accurate approach is to travel daily to all the sites and look for other sites beyond the pre-selected five sites, so that a more accurate representation of this affected group can be obtained. Additionally, CLH suggests that the Study Area has limited access because of private property and industry. While some parts of the river are private property and industrial, others are simply not, and are easily accessible (e.g., the network of waterfront parks in Harrison and Kearny). Furthermore, during NJDEP's previous survey work, which included this Study Area, NJDEP personnel observed that during meal breaks at the industrial points, workers did come down to the river to fish and crab. If attempts are not made to reach these people as well, an accurate calculation of exposure will not be developed.

If anglers are seen on private property on a number of occasions, CLH should make an attempt to gain access to that private, despite the extra steps it may take to do so.

Finally, in describing the process it will use to interview anglers, CLH describes reinterviewing anglers if they are observed in the field again. We recommend against this. First, it does not add to the database on the number of users in the Study Area, and it does not provide additional information on consumption patterns from within this group. If this information is asked and answered the first time as suggested above, there is no value to a reinterview. However, if the goal of the reinterview is to document how often people catch and keep, CLH can accomplish this through participant observation. This will work if CLH intends to use the same interviewers for the same sites throughout the course of the study, which we recommend. This will allow the interviewer to become familiar with the site and the people, and would eliminate the need to

reinterview.

Future Consumption

It is not clear from the work plan how CLH will take into account the storage/freezing of fish/crabs for either the survey or in the model. Future consumption of frozen fish and crabs must be addressed in the exposure assessment to be consistent with the plans for evaluating current and future cancer risks and non-cancer hazards in the baseline risk assessment.

Pregnant Individuals, Women of Child Bearing Age, Infants, and Minors

The early sections of the report (page 1-7) indicate that pregnant individuals, women of child bearing age, infants exposed to contaminants in breast milk, and young children will be evaluated in the risk assessment. However, in the Pathways Analysis Report the document indicates that the adult will serve as a surrogate for these individuals and in this report, page 1-9, the report indicates that a "hypothetical angler" will be evaluated in the assessment. EPA does not agree that it is appropriate to use the adult as a surrogate for these other categories. Questions in Appendix C will not provide specific information on the amount of fish consumed by these sensitive populations for inclusion in the risk calculations. These inconsistencies are of major concern, since a potentially sensitive population will be excluded from the analysis.

While we recognize the potential limitations of modeling chemical exposures to a fetus and to a nursing infant through breast milk, it is possible to evaluate ingestion of fish by infants, young children, and women of child bearing age, and they must be included in the assessment. It is unclear how the survey question relating to pregnant and nursing women, generally, will be translated to a specific dose to the fetus or child. Moreover, by asking, generally, whether fish is provided to a child under 15, without evaluating portion size, the survey fails to assess the doses to which these individual populations will be exposed, across the range of ages from infant to 15. In addition, because no anglers younger than 18 will be interviewed, the risk to anglers between the age of 15 and 18 cannot be evaluated.

Subsistence Angler

The document indicates that the subsistence angler will be evaluated separately. This a priori determination is not appropriate since it does not give the assessor information on the full range of exposures. A full distribution of the data from the Creel Survey should be included in the assessment so that the risk assessor can fully understand the full range of ingestion patterns. This analysis is necessary before subsistence anglers are separated as a separate population.

Event-by-Event Analysis

In the event that a Monte Carlo Analysis work plan is submitted and approved by the Agency, it should follow the peer-reviewed approach used on the Hudson River site.

The CAS indicates that the Monte Carlo Analysis will be based on an event by event analysis similar to the Hudson River PCB Superfund site risk assessment. As a point of clarification, the event by event analysis approach proposed by CLH here is similar to that proposed to the Agency

by the Responsible Party for the Hudson River study in the early stages of the risk assessment and it was rejected based on the potential to underestimate cancer risks and non-cancer hazards for the angling population.

It also appears from page 1-9, that the exposure assessment will only simulate the exposures of a hypothetical angler without accounting for sharing of fish, etc. This approach will not address risks to non-angling populations i.e., children, infants, adults, etc.

Cooking Losses

The CAS expends considerable effort on collecting data on cooking practices with the expectation that the information on the cooking practices will enable the risk assessor to reduce the exposure point concentration in fish and crab. As discussed in the Hudson River risk assessment, experimental results range considerably, both between various cooking methods and within the same method. Most PCB losses (expressed as percent of Total PCB mass before and after cooking) were between 10 and 40%. Losses as high as 74% were reported in one study while net gains of PCBs were reported in several other studies. The extent of PCB cooking losses has not been well characterized in the published literature for PCBs and other chemicals, and quantitative cooking losses remain uncertain. The chemical losses/gains may be a function of the cooking method (i.e., baking, frying, broiling, etc.), the cooking duration, the temperature during cooking, preparation techniques (trimming or not trimming), the lipid content of the fish, the fish species, the magnitude of the chemical contamination in the raw fish, the reporting methods and/or the homologues present in the fish, and the techniques used for extracting and measuring PCBs or other chemicals, are another factor that could contribute to the observed differences in cooking loss between study.

In this study, considerable information is being collected regarding fish cooking practices for fish and crabs, however, as noted above, there is considerable uncertainty regarding the effects of cooking on concentrations in fish for a variety of chemicals and cooking methods. The work plan fails to address how the data on the cooking practices will be combined with the existing literature on concentrations in fish to estimate the final concentration to which the individual is exposed. Further, the reference provided only addresses concentrations of DDT and PCBs while another major chemical of concern is dioxin which is not described in this article. The report fails to consider that the risk assessment will be evaluating more than one chemical of concern and studies of the impacts of cooking with multiple contaminants in the fish are limited or non-existent. Greater detail on this method for evaluating cooking losses in the analysis will be necessary to determine the feasibility of combining the concentration data with the variety of fish cooking practices identified in the survey.

Data Submittal to EPA

To review the results of the CAS and evaluate its utility in the risk assessment, CLH must submit copies of the raw paper data (e.g., counting sheets, exit interview, missed creel reports), raw electronic data (the STATA data base system), and summary statistical information in electronic and paper form, as well as definitions used in the data base systems. All supporting information should also be included. Upon receipt and review of this information, EPA may determine that additional information is necessary and will request it at that time.

**Specific Comments**

Comments Specific to the Letter Dated October 24, 2000

The brief description presented regarding the expert panel does not provide adequate information. The goals / purposes of this "expert panel" need to be defined along with the selection process for these experts. As previously mentioned in my November 17, 2000 letter, EPA has developed peer-review guidance. This guidance outlines the requirements for an independent peer review panel, identifies procedures for establishing questions and issues to be addressed by the panel, describes the decision process, the scope of the panel, the manner in which panel deliberations are to be conducted and documented, addresses opening the process to the public, and potential conflicts of interest. It is unclear from the current document how the proposed peer-review will address these issues nor the procedure that was used in selecting the experts.

Attachment A to the Letter Dated October 24, 2000

1. Several category headings are confusing. For instance, how does a "Count" differ from a "Counting Run. " The significance of the category "Percentage of Total Anglers Intercepted for Exit Interviews" is questionable, because it is based on the "Total Number of Anglers Catching fish or crabs (including missed creel reports)" as a percentage of "Total Number of Anglers Intercepted for Exit Interviews." A more relevant category would be the number of anglers interviewed as a percentage of the total number of anglers seen on the River or shore.

2. At the meeting with CLH in October 2000, CLH's consultants indicated that the response rate thus far was 90%. However, the data in this document indicates a response rate of 68%.

Revised Creel Angler Study Work Plan

1. We agree that biota move in and out of the study area. This document provides some detail on the movement of the blue-clawed crab from the study area into Newark Bay, as well as upriver of the Study Area. As such, we are concerned that individuals outside of the six mile "operable unit" may consume crabs (and other biota) and therefore be exposed. This was discussed in our previous letter. We regularly conduct analyses of exposure routes that are outside the real property boundaries of an operable unit. For example, at sites with ground water contaminant plumes, we collect data from residential wells downgradient of the real property from which the ground water plume emanates and conduct response actions where residential wells have been contaminated. We analyze the risk of residents utilizing such tap water from activities such as drinking and showering. Organisms that have been contaminated due to their residence and/or migration through the study area that can be consumed by other organisms in other locations, including anglers, must be included in the risk assessment. Thus, if CLH is conducting a survey of anglers that are potentially exposed to fish or other biota that may reside or migrate through the study area, the survey must be representative of all such anglers. This is another reason that similar surveys in other areas of the Newark Bay Complex are important to the risk assessment. Therefore, CLH's unwillingness to include angling locations near the study area, yet beyond the physical boundaries of it, clearly ignores a population of exposed individuals.

Further, the restrictions to the study area are artificial based on the movements of the crabs and fish and the knowledge from the Exposure Factor's Handbook (EFH) that individuals are willing to travel 34 miles for fishing. Since the baseline risk assessment needs to address future use of the river, this approach would likely underestimate the risks.

2. Page 1-4 fails to acknowledge that fish advisories are currently in place as part of the Study Area Setting. Based on our previous discussions and letters on this subject, it is clear that some of the published literature reports that fish advisories bias results of creel surveys and others report that the existence of advisories do not. Apparently, human behavior is extremely difficult to quantify. The existence of the fish advisories should simply be noted. It can also be noted that NJDEP scientists working in the Newark Bay Complex, including the study area, have found that anglers in this area do not seem to change their fishing habits or responses to the survey because of the existence of the advisories. This finding is something that we should explore further because apparently, the utilization of a passive measure such as placement of "no fishing" signs does not do an adequate job of protecting public health.

3. Pages 1-6, 1-13, and 3-3 specifically emphasize quantifying the size of the exposed population. The size of the exposed population (the population risk) is not relevant to baseline risk assessments being developed in conformance with the NCP. Superfund risk assessments are based on exposures to the RME or CT Individual.

4. On page 1-7, it is important to note that the RME is defined as greater than the 90$^{th}$ percentile of the distribution. Also, on page 1-8, the upper percentile for angler consumption rates should be based on the 90$^{th}$ percentile or above.

5. Page 1-8 indicates an "event-by-event" exposure analysis will be developed for the exposure assessment. This is insufficient. Consideration must be given to the potential for individuals to freeze crabs and fish for consumption in the future. The questionnaire simply does not include this potential exposure route. Further, an event-by-event exposure may underestimate fish consumption since information on fish consumption over longer periods is not asked. Further, nothing is asked about consumption during the lifetime that may indicate future activity patterns. The use of models, national probability approaches and/or extrapolation of such information introduces additional uncertainty that could be addressed by simply collecting the information.

6. Please clarify what census data and published information regarding fishing practices near the Study Area CLH proposes to use in determining the existence of subpopulations during data analysis.

7. Page 1-9 suggests there are always cooking losses. However, two studies (Moya et al., 1998 and Ambruster et al., 1987) found no loss, and, in fact, found an increase in concentration. Further, there is also a potential that an individual will consume the pan drippings where the contaminants are supposedly "lost." Pan drippings are commonly incorporated into sauces, for example. Therefore, the assumption that all contaminants are lost during cooking is simply erroneous. Certainly, there may be cases that there is some loss and the risk assessment can therefore evaluate various circumstances (losses, increases, and no changes).

8. On page 1-12, it is unclear how the portion size for an individual is derived from the measured fish/shellfish reported on the interview form in Appendix C. This includes size of fillets, tomale or internal organs. Provide the rationale or explanation as to how the survey will

differentiate between a large person and a small person, a male or female, or a child of 14 versus a child of 2; it simply isn't evident on the form

9. Page 1-12 indicates that the fraction of the fish /shellfish eaten by an individual will be obtained, in part, by using a portion size approach model for several portion sizes. It is unclear whether or not there will be physical models used and whether or not this information is going to be captured. If consumption will be derived by a mathematical or extrapolation model, explain how the portion size data will be generated.

10. On page 1-13, the discussion indicates that a wide variety of cooking methods will be evaluated. It is important to note that there is limited data on the impacts of these cooking practices on the concentrations of contaminants in fish and crabs for a large number of potential contaminants. In the event that information is not available regarding the specific cooking practice, explain how cooking losses will be evaluated in the risk assessment. Also, explain how specific ethnic cooking practices will be addressed in the assessment.

11. On page 2-3, the specialities of the technical team do not include a Social-Scientist. Explain why a Social-Scientist was not included.

12. On page 2-6, explain how "survey drift" will be addressed. The document is unclear as to when datasheets will be excluded from the survey and the procedure for determining that certain data be removed. This should be clarified with a decision tree that describes the procedure for excluding datasheets.

13. On page 3-11 the discussion of identifying individuals by race (i.e., White and Non-White) and then recording race on the Count Form is unclear and subject to significant misclassification errors. Care must be taken in categorizing individuals based on race and ethnicity. For example, in 1976 the Office of Management and Budget of defined Hispanic as "ethnicity" and not race. It is more appropriate to ask individuals to identify their own race and/or ethnicity rather than asking the surveyors/data collectors to identify it. An individual's race and/or ethnicity should not be assumed as indicated in this survey. Since it is unclear how this information will be used in the assessment, consideration should be given to not collecting this information in the survey without specific justification regarding need.

A Social Scientist should be consulted regarding the appropriate definitions of the various populations and the terms that these individuals prefer for their ethnic group.

14. On page 3-21, the fact that the questions are restricted to only a part of this estuarine river is unacceptable; EPA will be considering future exposures in the risk assessment, as well as anglers in other locations on the river, and in the Newark Bay Complex..

15. On page 3-27, the previous concerns regarding race and ethnicity (comment 13) need to be addressed.

16. Chapter 4 discusses a Monte Carlo strategy for evaluating areas for intercepting anglers. It has not yet been determined that a Monte Carlo approach will be used. Therefore, EPA defers its comments regarding a Monte Carlo strategy at this time.

17. On page 4-5, a citation for the STATA program should be provided.

18. Explain how the data collected on an angler's family members will be incorporated into the risk assessment. Explain how portion sizes will be developed for other family members.

19. On pages 5-1 and 5-2, mention is made that "Additional data analysis to support quantification of the fish/crab consumption exposure pathways will be performed as part of the risk assessment" but no details are provided. No information is provided regarding how the data from the survey will be analyzed to develop consumption rates for the risk assessment. It is important that this be presented in this document.

20. On the survey form, the following questions must be incorporated:

- Where else do you fish or crab?
- When did you start fishing or crabbing?
- Why did you throw fish back?
- Do you freeze crabs or fish for later consumption?
- How many people are living in the household? (For use in calculating a Poverty Index Ratio).
- Do you consume the crab butter (hepatopancreas)?

With regards to the educational questions, explain how individuals with no school or only grammar school will be identified.

21. There may be confidentiality issues related to the listing of the phone number. Provide and explain the type of follow-up questions anticipated in follow-up phone calls.

22. On page E-6, explain why these steps are only repeated 30 times.

23. On page E-15, explain why these steps run 5,000 times and not 10,000 times.

24. On page E-20, statistical methods are proposed. Such statistical methods may not adequately capture the tidal nature of the area. The reliance on a purely statistical procedure to select sampling dates/times will not be reflective of the actual angling patterns. There would be some statistical chance that the pre-determined time to conduct the survey could sometimes fall when the tide is moving up the river. However, a better approach would be either to determine during what portion of the tidal cycle anglers prefer to fish, perhaps dependent upon species sought, or to assure that during the course of the investigation all tidal cycles are adequately represented. Without this, the method may underestimate the number of anglers found during the survey.

25. No questions are included in the survey to address an individual that reports that the crab they have caught is not for consumption. If an individual has caught a crab and kept it, and they report that it is not for consumption, it is appropriate to ask why they are keeping it and what its intended use is. The hypothesis provided at the meeting, that the crab would be used as fishing bait, seems inconsistent with other population groups use of crabs. Perhaps the question should be asked regarding the activities in more detail ("Can you tell me specifically what you plan to do with the crab?"). If reported to be used as bait, ask the individual to describe the procedure to prepare the crab for bait and what species they are trying to catch with the crab.

While there is improvement in the survey itself, the process of interviewing and the use of modeling raise serious concerns about the accuracy of the data that will be collected and its

usefulness in calculating an estimate of exposure and cancer risk and non-cancer hazard. Consequently, EPA will not approve the work plan pursuant to the Administrative Order on Consent. As stated in EPA's January 30th letter, EPA will consider information gathered by CLH as part of any risk assessment drafted for the Passaic River, although because of EPA's concerns detailed earlier or listed above, EPA will evaluate it with other sources of information in developing the risk assessment. However, we strongly urge that CLH consider these comments during the completion of its survey work.

Please contact me if you have any further questions.

Sincerely yours,

Sharon J. Jaffess, Remedial Project Manager
Diamond Alkali Superfund Site - Operable Unit Two / Passaic River Study Area
Emergency & Remedial Response Division

cc: Jonathan Berg, NJDEP
Anne Hayton, NJDEP
Kerry Kirk-Phlugh, NJDEP
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