

1-7-97 CMC

- called Ray Roder NA 8:40
- called Eric Christensen (414) 963 9211 8:45 LM/NA
- called Ray Roder 3:15
 - Informal Ray that Department's milestones had not been met, Source Remediation, Creek Sampling.
 - Ray ~~thought~~ did not know why White Water Associates did not deliver me a report. He understood that they had contacted me to let me know that it would be early December not that that report was going delivered. He will check with WWA to find out status.
 - I informed Ray that I would prepare a compliance schedule for the project that would include Source Remediation, Investigation Report, Military Creek Sampling Plan, Sediment Sampling. That if the compliance schedule was not followed the Department would enter into an elevated level of enforcement.
 - Ray will follow-up.



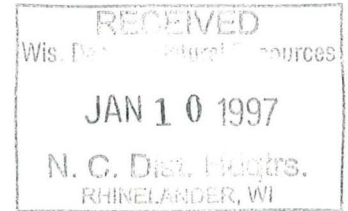
COLEMAN ENGINEERING CO.

OF IRON MOUNTAIN

Civil Engineering • Environmental Engineering
Geotechnical Engineering • Land Surveying • Test Drilling
Construction Quality Control • Materials Laboratory Testing

Principals:
James R. Foley
John R. Garske
James J. Strigel
Michael L. DesRosier

January 9, 1997



Mr. Scott Watson
Wisconsin Department of Natural Resources
North Central District Headquarters
107 Sutcliff
Box 818
Rhinelander, Wisconsin 54501

Re: C M Christiansen Co.
Former Pole Treatment Site
Phelps, Wisconsin

Dear Mr. Watson:

This letter is in response to your recent statement to C M Christiansen Co.'s legal counsel indicating that the project is not proceeding fast enough and will thus require a Wisconsin Department of Natural Resources (WDNR) imposed schedule. As advised in November, we intended to prepare a document that would provide WDNR an update of the site investigation activities. We also understood the date for submission of the update was flexible and we expect to provide it to you by the end of the month. The contents of the report are described below:

- Drawings showing site investigation borings, hand augers and groundwater wells.
- Soil and groundwater laboratory analytical results in tabular form.
- Site hydrogeological characteristics with geologic cross-sections and a groundwater flow diagram.
- Soil and groundwater horizontal zone of impact drawings.
- A summary of the on-going treatability box study.

It should also be noted that the treatability study is not complete and thus we can not perform an evaluation of remedial measures at this time. We estimate that data collection for the box study will not be complete until the spring of 1997. C M Christiansen Co. is aware of and progressing towards satisfying WDNR's desire to undertake some type of remedial activities this year.

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Page -2-
January 9, 1996

Should you have any questions or comments, please feel free to contact me at this office.

Sincerely,

COLEMAN ENGINEERING COMPANY
OF IRON MOUNTAIN


Mark A. Gregory
Environmental Scientist

MAG/al

cc: C M Christian Co. - E. Christiansen
Reinhart, Boerner, Van Deuren, Norris
& Rieselbach, S.C. - R. Roder
White Water Assoc. - B. Premo

CEC Project #E-95042-A14C

CMC

1-10-97

Eric Christensen

(1)

I discussed w/ eric that we did not meet adequate milestones of investigation or remediation.

I told eric I was putting a compliance schedule together with milestones in it to compel C.M.C. to move project along.

He asked if this was an enforcement action. I said no it was intended to be good clear communications to set a schedule, but if CMC missed a compliance date the DWR would not hesitate to move into an elevated enforcement including a possible referral to DOJ.

Eric asked if they missed a date for unavoidable reasons would that be acceptable. I said there may be an unavoidable circumstance, but CMC must need to run things on a parallel basis and must move things along more aggressively. If they do not the DWR would likely enforce. I had a lot of experience with these projects and CMC was not moving along at an adequate pace.

Eric asked about Coleman, indicating that they may look at other firms for remediation. I said Coleman's work looked good, but it was not progressing at an acceptable pace. I did not know about Whole Water because I have not seen any technical material from them.

(2)

LMC

1-10-87

I said it was good project management to keep consultants on their toes, but that changing terms would not be an excuse not to meet the schedule.

I will share via fax the draft schedule w/ ente. But I can not promise that I will take all their comments in to modification.

1-13-97

①

CMC

Kreitlow, Janish

- Discussed minimum requirements of Military Creek Investigation
- T.J. • Human Health & Ecological Risk Assessment
 - Because of high furan/dioxin levels 2378 CMC note this must establish a human health risk and ecological should not } risk is not present. We need to have this require additional documented in the file if we pursue a Sampling no action alternative for military creek sediments
 - Need a Sediment transport Mechanisms
 - PCP analysis
 - Flow Monitoring
 - Stream Velocities
 - Water Depths
 - 1 year period on QTRly basis to provide idea of how much sediment transport is occurring.
 - CMC needs to demonstrate no scouring of contaminated sediments for worst case scenario
 - Sediment sampling for PCP: Dioxin/Furans binch intervals define extent of military creek
 - Biological testing PCP might be chronic level to benthic organisms.

(2)

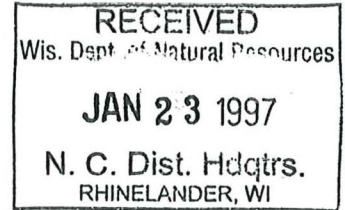
Our Bottom line ~~is~~ is for CMC to conduct remainder of DNR Military Creek Investigation Work Plan or prepare an approvable equivalent work Plan.

We agreed to extend the Military Creek Investigation report due date from August to September.

- I will contact Chuck Warzecha, Division of Health to coordinate the Risk assessment. I want Chuck to run that portion of the requirements.

REINHART | BOERNER | VAN DEUREN
NORRIS & RIESELBACH, S.C.

ATTORNEYS AT LAW



January 20, 1997



SENT VIA FACSIMILE

M. Scott Watson
Wisconsin Dept. of Natural Resources
North Central District Headquarters
P.O. Box 818
107 Sutliff Avenue
Rhineland, WI 54501-0818

Dear Scott:

Re: Project Scheduling for C.M.
Christiansen Company Pole
Dipping Site

Enclosed is a proposed, revised Project Schedule for the above described site. The proposed Schedule does not eliminate any activity which was in your proposed schedule. However, the Schedule breaks into parts the remediation work and provides different actual or target completion dates for several of the milestones included in your schedule. The reasons for these changes are summarized below.

We believe that the establishing of a "compliance" schedule is an unnecessary exercise. The Company has cooperated with the Department in undertaking an extensive investigation which not surprisingly had to proceed in successive phases. No one anticipated that the Box Study would take this long to complete. The Box Study was commenced as expected in 1996 and was expected to be completed by sometime in October of that year. However, the biological activity which we had hoped would produce a faster remedy has not developed under the conditions originally designed into the study. As a consequence, the study and interpretation of data is not now complete and will not be until May, 1997. Even now that we are nearing the end of the Box Study, we cannot predict with absolute certainty when it will be done: the forces of nature proceed at their own pace. This is why we have characterized several of the milestones in the Schedule as "target dates" (See Activities 3, 5, 6, 8, 9, 10 and 11.)

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January 20, 1997

Page 2

I am perplexed at the rush to establish a schedule by January 21, 1997. A commitment of this magnitude by the Company cannot be fairly devised without the input of the Company *ab initio* and more project specific considerations need to be brought to bear than appears to be at the heart of the Department's Draft Compliance Schedule.

We also question what the justification may be for imposing a Schedule. I understand from our conversation on Thursday, the 16th, that the schedule is premised solely on the goal of starting and finishing all field work at the Site by the end of the 1997 construction season. In our judgment, this premise makes the milestones arbitrary. As a consequence, we have provided the rationale for the changes and additions which we (the joint venture of White Associates/Coleman Engineering and I) have made to the Department's Draft Compliance Schedule.

The Site Investigation Report completion date in the Draft Compliance Schedule (February 1, 1997) simply is not achievable under the current circumstances. We had anticipated providing to you an update on the investigation but not the full report by essentially the same date on which you have the full report due. Those circumstances which prevented us from having a full report at this time have not changed simply because of the preparation of your draft schedule. We believe that March 15, 1997 is a realistic and achievable date for the completion of the Site Investigation Report. In light of the comparatively short interval between the update on the Investigation Report as compared to the complete SIR, we believe now that it would be a waste of resources to provide an update report as previously offered.

Activity Number 2 is the same in description and date as you provided in your schedule.

Activity Number 3 has been expanded to include the providing of the Box Study Report which should be available by June 30, 1997. I indicate that it *should be* available by this date because, as already noted, the Box Study and data interpretation is not now complete and probably will not be complete until at least May, 1997. Obviously, the Remedial Action Option Report ("RAOR") cannot be

January 20, 1997

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completed until the Box Study is complete. Therefore, we need June 30, 1997 as a "target date for completion."

Remediation in 1997 should not include groundwater. While the extent of contamination in the soils has now been adequately defined, the same cannot be said for the extent of groundwater: additional water quality testing will be needed in both the upper and lower wetland areas. Since the water quality information from the wetland areas and the evaluation of the totality of the water quality data available will not be accomplished until well into 1997, we have added two more activities, Nos. 9 and 10 with completion dates in 1998.

We have added a remedial action plan for soils only ("RAP for Soils") due on July 31, 1997 so that the specifics of the option selected through the RAOR can be modified based on Department comments.

The start of remedial action for the source area (heavily impacted soils) is slated for September 1, 1997. The one month from submittal of the RAP for Soils until start of the field work will permit not only the identification/selection of subcontractors but also the necessary effort to obtain appropriate financing for whatever remedial option or combination is selected. Since this activity is limited to the impacted vadose zone soils, the time between start of the work and the likely on-set of difficult fall weather conditions should not cause concern that this phase of the remedy can be completed in 1997.

We changed Activity No. 8 from a construction completion report to merely completion of the work in light of the September 1, 1997 start date and the relative insignificance of a completed Construction Documentation Report. Moreover, in consideration of what may prove to be separable soil and groundwater remedies, we saw no point in doing a construction documentation report for each medium. As a consequence, we have created Activity No. 11 with a completion date in 1998, dependent upon the completion date for construction of the groundwater remedy.

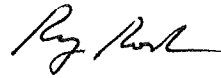
January 20, 1997

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If you have any questions about any of the items, please do not hesitate to call.

Thank you for your consideration of the above.

Sincerely,



Raymond M. Roder

MADISON\15832RMR:EW

Enc.

cc Eric Christiansen (w/enc.)
Philip Christiansen (w/enc.)
Bette Premo (w/enc.)
Michael Des Rosier (w/enc.)

C.M. CHRISTIANSEN CO. PROJECT SCHEDULE

NO.	ACTIVITY	CODE REFERENCE	DATE
1	Site Investigation Report Completion	NR 716.15	3/15/97
2	Military Creek Investigation Plan Completion	NR 716.07, 716.07, 716.11, 716.13	3/15/97
3	Box Study Report and Remedial Action Option Report	NR 716.15, 722.07, 722.11, 722.13	6/30/97*
4	Military Creek Investigation Start		7/01/97
5	Remedial Action Plan (Soils)		7/31/97*
6	Remedial Action (Soil) Start		9/01/97*
7	Military Creek Investigation Report Completion	NR 716.15	10/30/97
8	Soil Remediation Construction Completion		10/30/97*
9	Remedial Action Plan (Groundwater)		4/01/98*
10	Remedial Action (Groundwater, if necessary) start		6/01/98*
11	Remedial Construction Documentation	NR 724.15	9/01/98*

*Indicates target completion date based on information presently available regarding site conditions and/or study results; as milestones of activities are met, revised target completion dates may be established for subsequent dependent activities.

C.M. CHRISTIANSEN CO.

ERIC R. CHRISTIANSEN
VICE PRESIDENT

PHELPS:

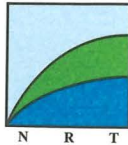
P.O. BOX 100
PHELPS, WI 54554

TEL: (715) 545-2333
FAX: (715) 545-2334

MILWAUKEE:

5501 N. SANTA MONICA
MILWAUKEE, WI 53217

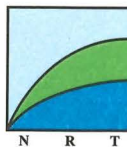
TEL & FAX: (414) 963-9211
EMAIL: ERC@EXEPC.COM



**Natural
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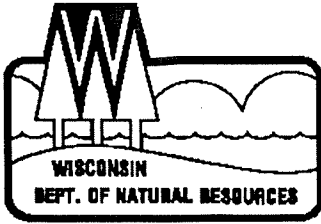
Laurie J. Parsons, P.E.
Senior Environmental Engineer/Associate



**Natural
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Robert J. Karnauskas, P.G., P.H.G.
President/Principal Hydrogeologist



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Scott Humrickhouse, Acting Regional
Director

West Central Region Headquarters
1300 W. Clairemont Avenue
PO Box 4001
Eau Claire, Wisconsin 54702-4001
TELEPHONE 715-839-3700
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TTY 715-839-2786

January 30, 1997

Mr. Raymond M. Roder
Reinhart, Boerner, Van Deuren,
Norris & Rieselbach, S.C.
7617 Mineral Point Road
P.O. Box 2020
Madison, WI 53701-2020

SUBJECT: Project Schedule for C.M. Christiansen Company
Pole Dipping Site in Phelps, Wisconsin

Dear Ray:

I have been asked by Department staff in our Northern Region to respond to your letter, dated January 20, 1997, in which you proposed a revised project schedule for the C.M. Christiansen ("CMC") site in Phelps, Wisconsin, and indicated that you and your client believe that establishing a compliance schedule would be an unnecessary exercise. Although DNR staff are willing to compromise to some extent on the deadlines for some of the tasks listed in the proposed project schedule, the Department firmly believes that an enforceable schedule must be established for the reasons outlined in this letter.

The Department intends to establish an enforceable compliance schedule to compel a more timely response to the environmental impacts associated with the CMC site. Several important tasks, that were included in CMC's Site Investigation Work Plan which was conditionally approved by the Department on April 26, 1995, and which were discussed at the January 30, 1996 meeting between the Department and CMC, have not been accomplished. As of the date of this letter, CMC has not completed a full site investigation report, an interim action, a remedial action plan (in spite of the fact that under the schedule proposed in the RI Work Plan by CMC's consultant, Coleman Engineering, all of these tasks should have been completed by now). CMC has also not completed an investigation of Military Creek. These tasks are critical to assure that additional environmental harm is not taking place at the C.M. Christiansen site and to assure restoration of the existing environmental impacts.

After reviewing your comments on Department's January 13, 1996 draft compliance schedule, Department staff have modified the schedule to incorporate as many of your comments as were appropriate and in the best interest of the project. The Department proposes the following compliance schedule for the C.M. Christiansen Project:

C.M. Christiansen Project Compliance Schedule

No.	Activity	Code Reference	Compliance Date
1	Site Investigation Report Completion	716.15	March 1, 1997
2	Military Creek Investigation Plan Completion	716.07, 716.09, 716.11, 716.13	March 15, 1997
3	Soil Remedial Action Options Report Completion	722.07, 722.09, 722.11, 722.13	April 30, 1997
4	Soil Remedial Design Report Completion	724.05, 724.09, 724.11, 724.13	June 14, 1997
5	Military Creek Investigation Start		July 1, 1997
6	Interim Remedial Action Implementation	708.11	July 1, 1997
7	Free Product Removal Implementation	708.13	August 2, 1997 ✓
8	Soil Remedial Construction Start		August 16, 1997 ✓
9	Soil Remediation Construction Completion		October 30, 1997 ?
10	Military Creek Investigation Report Completion	716.15	October 30, 1997
11	Military Creek & Groundwater Remedial Action Options Report Completion	722.07, 722.09, 722.11, 722.13	February 1, 1998
12	Groundwater Remedial Action Plan	724.05, 724.09, 724.11, 724.13	April 1, 1998
13	Groundwater Remedial Action Start		June 1, 1998
14	Remedial Construction Documentation	724.15	September 1, 1998
15	Remedial Construction Documentation Completion	724.15	October 30, 1998

Site Investigation Report

The Department is concerned that the Site Investigation Report, which was originally approved by the Department for submittal on September 26, 1995, is long overdue. The Department received repeated promises from CMC. First, the report was promised to be submitted in November of 1996, then December of 1996, then January 1997. CMC is now proposing that the report will be further delayed. Our proposed compliance schedule calls for the submittal of the Site Investigation Report by March 1, 1997. The report must comply with applicable sections of NR 716.15 and depict the extent and degree of contamination on the site.

Military Creek Investigation

Again the Department is concerned that despite our efforts to coordinate an investigation of Military Creek, CMC has not to date submitted an investigation plan or implemented any investigation of the Creek. In May 1996, Department staff met with CMC's consultant to discuss the Department's October 1995 Military Creek Sampling Plan and to discuss the minimum requirements for a Military Creek assessment. It was the Department's understanding that CMC's consultant would submit an alternative plan in June 1996, that would be based on the Department's minimum requirements. In a July 1996 discussion with your consultant, it was our understanding that a Military Creek sampling plan had been submitted to CMC for their approval in June. It was further our understanding, from the public information meeting held in Phelps, that an alternative plan had been submitted to CMC and was being reviewed.

The investigation of Military Creek is critical to determine if a remedial action in the Creek is required. Whereas the Department is optimistic that preliminary data may indicate that a no-action or a limited action alternative may be appropriate, the additional data requirements are mandatory to determine and support that course of action. In outline format those requirements include:

- determine sediment transport mechanics
 - flow monitoring
 - stream velocities
 - water depths
- determine scouring potential for worst case conditions
- PCP, dioxan/furans sampling of sediment cores at six inch intervals
- benthic organism biological testing for chronic levels of PCP
- human health & ecological risk assessment

More to it

Soil Remedial Action Options Report

It is CMC's responsibility to manage the investigation and remedial action in a timely manner. With a contaminant as complex as pentachlorophenol, your consultant should be looking at an array of remedial alternatives, including biological and non-biological actions. There is no reason to rely exclusively on a "Box Study" to evaluate the potential for source remediation. Several other chemical parameters and evaluation techniques can be used to evaluate the degradation potential of the site contaminants. If necessary, tests and/or pilot studies can be run in parallel instead of sequentially while the Box Study is being completed.

Interim Action & Free Product Recovery

The potential for surface transport of contamination due to erosion still exists at site and must be eliminated. Free product should be removed from the groundwater to the extent practicable.

For all of the reasons outlined above, the Department plans to issue an administrative order to CMC to require compliance with the proposed schedule (subject to the force majeure provision that we plan to include). If CMC is interested in signing a consent order in which it agrees to the schedule that we are proposing, we would be willing to structure the order as a consent order. However, if CMC is not interested in signing a consent order, a unilateral order will be issued.

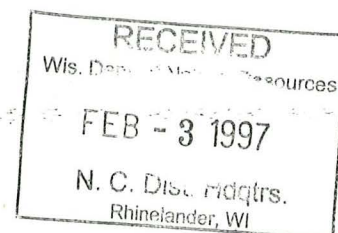
Should you have any questions concerning the proposed compliance schedule, please contact me at (715) 839-2785 and I will set up a meeting or a conference call with Scott Watson, the Department's project manager, and Michelle DeBrock-Owens, the Region's environmental enforcement specialist, so that we can discuss the schedule. If CMC is interested in trying to negotiate a consent order, please let me know by February 14, 1997. Thank you.

Sincerely,



Linda Meyer
Staff Attorney
Bureau of Legal Services

cc: Gary Kulibert - NOR/Rhineland
→ Scott Watson - NOR/Rhineland
Michelle DeBrock-Owens - NOR/Rhineland
Mark Giesfeldt - RR/3



REINHART | BOERNER | VAN DEUREN
NORRIS & RIESELBACH, S.C.

ATTORNEYS AT LAW

February 6, 1997



Linda Meyer
WDNR, Bureau of Legal Services
West Central Region Headquarters
1300 W. Clairemont Avenue
P.O. Box 4001
Eau Claire, WI 54702-4001

Dear Linda:

Re: C.M. Christiansen Co. ("C.M.C.
Co.") Pole Dipping Site in Phelps

Effective on today's date, responsibility for the file in the above matter has been transferred from Reinhart, Boerner, Van Deuren, Norris & Rieselbach, s.c. to Whyte Hirschboeck Dudek, S.C. ("WHD"), including representing C.M.C. Co. on the matters raised in your letter to me dated January 30, 1997 (the "Letter"). I am advised that you will be contacted by Attorney Elizabeth Rich of WHD with respect to the Letter by next Friday, February 14, 1997 at the latest -- once she has received and reviewed the file.

If you have any questions about or during the transition, I request that you direct them to Eric R. Christiansen (414) 963-9211.

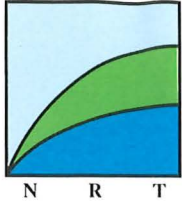
Thank you for your consideration of the above.

Sincerely,

Raymond M. Roder

MADISON\16336RMR:EW

cc Scott Watson
Eric R. Christiansen
Elizabeth Rich



**Natural
Resource
Technology, Inc.**

April 11, 1997
(1226)

Mr. Scott Watson
Wisconsin Department of Natural Resources
107 Sutliff Avenue
P.O. Box 818
Rhineland, WI 54501

RE: C. M. Christiansen Company, Ecological Risk Assessment Work Plan, Military Creek Sediment Investigation, Phelps, Wisconsin

Dear Mr. Watson:

This work plan is submitted on behalf of C. M. Christiansen Company (CMC) in response to the requirements contained in the Wisconsin Department of Natural Resources (WDNR) letter of January 30, 1997 to conduct an ecological risk assessment for sediments in Military Creek. The general approach involves a comparison of the sediment quality in stream sediments associated with the CMC site to the local background sediments. Sediment quality will be assessed through an evaluation of the potential ecological risks associated with the compounds of concern in the sediments. Natural Resource Technology, Inc. (NRT) will use this risk-based approach to evaluate if sediments associated with the CMC site are candidates for remedial action.

OVERVIEW

The work plan follows sediment strategies consistent with United States Environmental Protection Agency (U.S.EPA, 1995) and WDNR (1995) guidance on ecological risk assessment. The key components of this strategy are incorporated into the discussion below. Consistent with this guidance, this work plan proposes a phased approach to the sediment evaluation. The components of the first phase include the following work elements:

- Task 1: Collection and review of readily available data and information on the local setting.
- Task 2: Site reconnaissance that will include a description of the characteristics of Military Creek near the site (site characterization) and a visual delineation of impacted sediments.
- Task 3: Collection and chemical analysis of sediment samples.

If necessary, a second phase of field investigation may be conducted which builds on the initial field reconnaissance to evaluate ecological effects and characterize risk relative to background, based on an expression of effects.

SCOPE OF ASSESSMENT

Task 1: Data Review

Available information on Military Creek, its biological resources, and previous sediment work conducted has been obtained and compiled from state agencies and previous consultants so that there is no unnecessary duplication of effort. Data collected by WDNR and/or others has been reviewed and evaluated with respect to data quality, appropriateness of conclusions drawn, and data collection needs relative to the project objectives. These documents include the following:

Kreitlow, Jim, October 1, 1992. Memorandum Re: *Sediment Sampling on Military Creek*

Khazae, Charlene, March 21, 1994. Memorandum Re: *C. M. Christiansen Data Summaries.*

Amrhein, Jim, July 22, 1994. Memorandum Re: *Dioxin Results from North Twin Lake.*

Kreitlow, Jim, September 16, 1994. Memorandum Re: *Collection of Minnows in Military Creek and North Twin Lake (Caged Fish Study).*

Kreitlow, Jim, October 7, 1994. Memorandum Re: *Summary of the September 22, 1994 Field Sampling (Caged Fish Study Military Creek and North Twin Lake).*

Janisch, Tom, April, 1995. *Evaluation of Sediment Quality in Military Creek Associated with the Site Assessment for the C. M. Christiansen Wood Treating Facility.* Contaminants and Sediments Unit, Bureau of Water Resources Management.

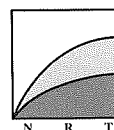
Janisch, Tom, June 8, 1995. *Background Information and Proposed Sampling and Monitoring Plan for the Sediments and Water of Military Creek Associated with the C. M. Christiansen Wood Treating Facility.* Contaminants and Sediments Unit, Bureau of Water Resources Management.

WDNR, October 1995. *Work Plan for Supplementary Characterization and Investigation of Contaminated Sediments in Military Creek and North Twin Lake and Floodplain Soils Associated with Military Creek.* Sediment Management and Remediation Techniques Program, Bureau of Water Resources Management.

Janisch, Tom, et.al., November 6, 1995. Memorandum Re: *October 9 - 11, 1995 Sampling of the C. M. Christiansen Wood Treating Facility at Phelps, Wisconsin by Janisch, Kreitlow, Amrhein and Boheim.*

Wisconsin State Laboratory of Hygiene (WSLOH), December 21, 1995. *Acute and Chronic Toxicity Test Results for Military Creek Sediments, Tested October 3 - November 1995.*

Janisch, Tom, March 5, 1996. Memorandum Re: *SLOH Analytical Results from Military Creek Floodplain Soil Samples and North Twin Lake Sediment Sample. Received from SLOH 03/01/96. Samples Collected 10/10-11/95.*



The available files have also included miscellaneous data summaries concerning the study area. These data will be reviewed in further detail prior to conducting the site reconnaissance. In addition, NRT conducted a conference call on March 28, 1997, with Mr. Tom Janisch, WDNR and author of a number of the documents listed above, to discuss the goals and practical details of the sediment investigation and to receive input from WDNR.

Task 2: Site Characterization Activities

The site characterization activities will be conducted to obtain background information on the environmental setting to aid in the selection of sediment and surface water sampling locations and to identify possible environmental stresses to the creek. Observations will be made in the field on flow, flood plain, morphology, bathymetry, the presence of upstream or downstream control structures or discharges. Other observations that will be made during the site characterization in the initial field investigation include:

- approximate water velocity;
- water depth;
- approximate current patterns;
- the presence of hydrocarbon, sheens, etc.
- the presence and type of aquatic vegetation or woody debris; and,
- the presence of undercut banks and areas of scouring.

Sediment characteristics will be observed by collecting surficial sediment samples with a ponar grab sampler. Characteristics observed will include sediment type, macroinvertebrate presence, and the presence of obvious wood treating residuals such as oily sediments, sheens, or discoloration of sediment or gravel in the stream beds.

The observations regarding the extent of the visually impacted sediment materials will be used to aid in the selection of optimal surface water and sediment sampling locations for this investigation. This effort will help to ensure that the analytical results provide an accurate representative of the various degrees of potential impacts on sediment materials. The recommended sediment sample locations will be discussed with WDNR for concurrence prior to performing Task 3.

Task 3: Sediment Sampling and Analysis

Previous Sampling Results

Sediment data was gathered by WDNR in 1992 and 1993 in support of a screening site inspection. In 1992, WDNR collected three grab samples (plus one reference) and analyzed them for PCP and dioxin/furans. In 1993, WDNR collected four two foot cores (plus one reference) and determined the PCP concentrations and dioxin/furan concentrations for the homogenized two foot interval for each sample. WDNR has characterized the dioxin "fingerprint" to be that consistent with production of PCP.

In 1995, toxicity tests were performed by WDNR on five samples plus a reference site using five different tests. Acute tests were performed with *Daphnia magna* (48 h), *Ceriodaphnia dubia* (48 h), *Hyallela azteca* (10 d). Acute toxicity test results indicate no toxicity to *Ceriodaphnia dubia* or *Daphnia magna*. There is no available information regarding the acute *Hyallela azteca* tests.

Chronic toxicity conclusively occurred in *Daphnia magna* exposed to sediments from only one site adjacent to the CMC facility.

In addition, 1995 samples from two target sites and a reference area were collected and analyzed for health of the benthic community. The preliminary results of the benthic community structure analysis indicated a depauperate community with low taxa richness. Since the upstream, reference site was also depauperate and had a low taxa richness, the effects on the benthic community could be either due to contamination or from the existing habitat or water quality conditions. Further, there was an event prior to sampling which could have covered the existing organisms, decreasing their numbers. The appropriateness of similar biological testing will be discussed following the results of the chemical testing described below.

Sample Location Determinations

Five sediment core samples will be collected from Military Creek to provide the current distribution of total organic carbon (TOC), PCP and dioxins/furans in Military Creek sediments. Concentrations of PCP and dioxins/furans will be assessed to determine whether they are at levels which could cause effects to the benthic community (based on sediment quality values). Due to the low mobility of dioxins/furans in soils and sediments, only six samples will initially be analyzed for dioxins/furans by the laboratory. These six samples will represent a cross section of the sediment types and depths observed during sample collection and will also be from the areas previously identified as those most likely to exhibit impacts. Following receipt of the laboratory analytical results, NRT will evaluate the dioxin/furan concentrations and determine the Toxicity Equivalent Factor (TEF) for each sample. Based on the PCP and six initial dioxin/furan TEF results, NRT will discuss with WDNR the need for analysis of some of the remaining sediment samples for dioxins/furans.

The locations of the five sediment cores are shown in Figure 1. These locations are approximate and could change based on either the Task 2: Site Characterization or conditions in the stream at the time of sampling (e.g., absence soft sediments, presence of a sheen). Actual sampling locations will be established using global positioning system (GPS) or standard surveying techniques.

Sample Collection Methods

Samples will be collected using a hand corer or by pushing a core tube directly into the sediments by hand. The core samples will be collected to refusal, retrieved, and cut into one foot sections. Each one foot section will be homogenized in a stainless steel bowl with a stainless steel spoon.

There will be four cores plus one reference sample core taken. Assuming an average core length of 3-4 feet, there will be 14-18 samples (including a duplicate and matrix spike sample) for each parameter from non-reference areas. The reference area will have only one sample, homogenized over its entire length analyzed.

Equipment Decontamination

All equipment will be decontaminated by rinsing off all sediment, cleaning with Alconox, rinsing with creek water, rinsing with methanol, and rinsing with creek water. Following equipment

decontamination, the methanol will be collected in a container and disposed of properly. The reference sample will be collected and processed prior to any other samples to avoid cross contamination.

Sample Labeling and Custody

Sample jars will be identified according to the following protocol:

MC-xx97-S-yy-z

where xx = date of sampling; yy = station number; and z = sample depth below sediment/water interface.

Samples will be accompanied by a chain of custody form. The custody form will be initiated by the persons collecting the samples. The forms will be signed off by sample homogenizers (if different from those collecting the samples) and the laboratory person receiving the samples. The chain of custody form will indicate which sample jars are to be analyzed for dioxin/furan, PCP and TOC.

Health & Safety Plan

NRT will develop a Health and Safety Plan for personnel working at the site during all field activities. This plan will be a separate document and will be available upon request if review of the document is required. Personnel will read and be familiar with the plan prior to the commencement of field work. NRT will provide subcontractors with a copy of the project Health and Safety Plan and will conduct a briefing on-site prior to commencement of work.

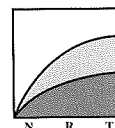
LABORATORY ANALYSIS

Laboratory Analytical Procedures

Samples will be analyzed for dioxins/furans by high resolution GC/MS using method 8280. Samples will be analyzed for PCP using method 8270. TOC will be analyzed by a combustion method, likely 415.1 (there are no standardized method for TOC in sediments).

Analysis (Method)	Approx. # of Samples	Sample Volume	Preservation	Approx. Method Detection Limit	Holding Time
dioxin/furan (8280)	6-18	One 8oz jar	Cool to < 4°C	0.5 - 1 µg/kg	30 days to extraction & 40 days to analysis
PCP (8270)	18	One 8oz jar	Cool to < 4°C	330 µg/kg	7 days to extraction & 40 days to analysis
TOC (415.1)	18	One 4 oz jar	Cool to < 4°C	1,000 mg/kg	28 days to extraction & 40 days to analysis

Based on the dioxin/furan or PCP analytical results, NRT may request that the laboratory freeze portions of any samples at -20° C so that sample holding time may be extended up to one year from sample collection date. This request may be made based on review of the initial dioxin/furan results or on client or WDNR feedback.



QA/QC Samples

A method blank, duplicate sample and matrix spike sample will be analyzed for each parameter, as appropriate. Measurement quality objectives (MQOs) are as follows:

Parameter	Method	Units	Precision	Accuracy	Completeness
dioxin/furan	8280	µg/kg	50%	NA	90%
PCP	8270	µg/kg	50%	60-120 %	90%
TOC	combust	mg/kg	25%	75-125%	90%

REPORTING

Site Characterization

The site characterization information will be considered in conjunction with the laboratory results to possibly identify the habitats and ecological receptors of particular concern. It will also include an evaluation of how closely sediment, biological, and habitat characteristics from the reaches of the Military Creek proximate to the site match their respective upstream background and downstream conditions in terms of: depositional characteristics, flow characteristics, and stream morphology. To the extent possible, habitat and biota will be evaluated.

Ecological Effects Assessment

The ecological effects assessment consists of a comparison of sediment concentrations at the site and background areas to risk-based guidelines and criteria. Comparison will be made with sediment guidelines developed by the National Oceanic and Atmospheric Administration [NOAA; Long and Morgan, 1990], organic carbon-based sediment quality criteria developed by EPA [1993], and/or sediment quality guidelines developed by the Ontario Ministry of the Environment [Persaud et al., 1993].

Ecological Risk Characterization

The risk characterization will summarize and integrate the Site Characterization and Ecological Effects Assessment into a quantitative and qualitative expression of risk. As appropriate, methods may be used to evaluate whether potential ecological risk at the site is greater than potential risk at background. Other factors such as practicality, cost, engineering feasibility and risk due to remediation will be important in the decision making process.

Documentation

Following completion of the field investigation and receipt of analytical results, a report will be prepared which documents all of the activities conducted at the site. Analytical results will be summarized on tables showing the parameters detected and observed concentrations. As appropriate, these results will be compared with existing sediment quality guidelines discussed above. Graphical presentations will be used to supplement the report narrative and support interpretative conclusions. Also, other appropriate illustrations which may be appended to the report include historical aerial photographs, maps, and photographs.



Mr. Scott Watson
April 11, 1997
Page 7

All raw data from field collection activities will be included in order to document the work performed. Appendices will also include relevant boring logs, analytical data, etc. performed in previous investigations which support interpretations or conclusions.


PROJECT SCHEDULE

The data review will be completed during WDNR review of this work plan. It is anticipated that the site reconnaissance will be completed following the spring snow melt, by May 15, 1997 after which NRT will seek concurrence with WDNR concerning sampling locations. Following agreement on sample locations, NRT will begin sediment sampling within 30 days. Laboratory turnaround on the analysis of the samples is expected to be four weeks. A final report would be issued to WDNR within six weeks after receipt of the analytical results.

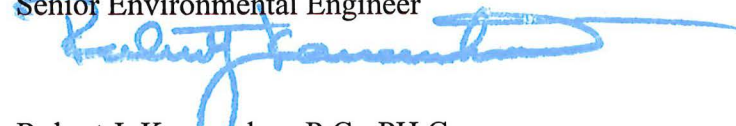
We appreciate your continued confidence in NRT and the opportunity to provide you with our services. We encourage you to contact us if any questions arise during your review.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.



Laurie J. Parsons, P.E.
Senior Environmental Engineer



Robert J. Karnauskas, P.G., PH.G.
Principal Hydrogeologist

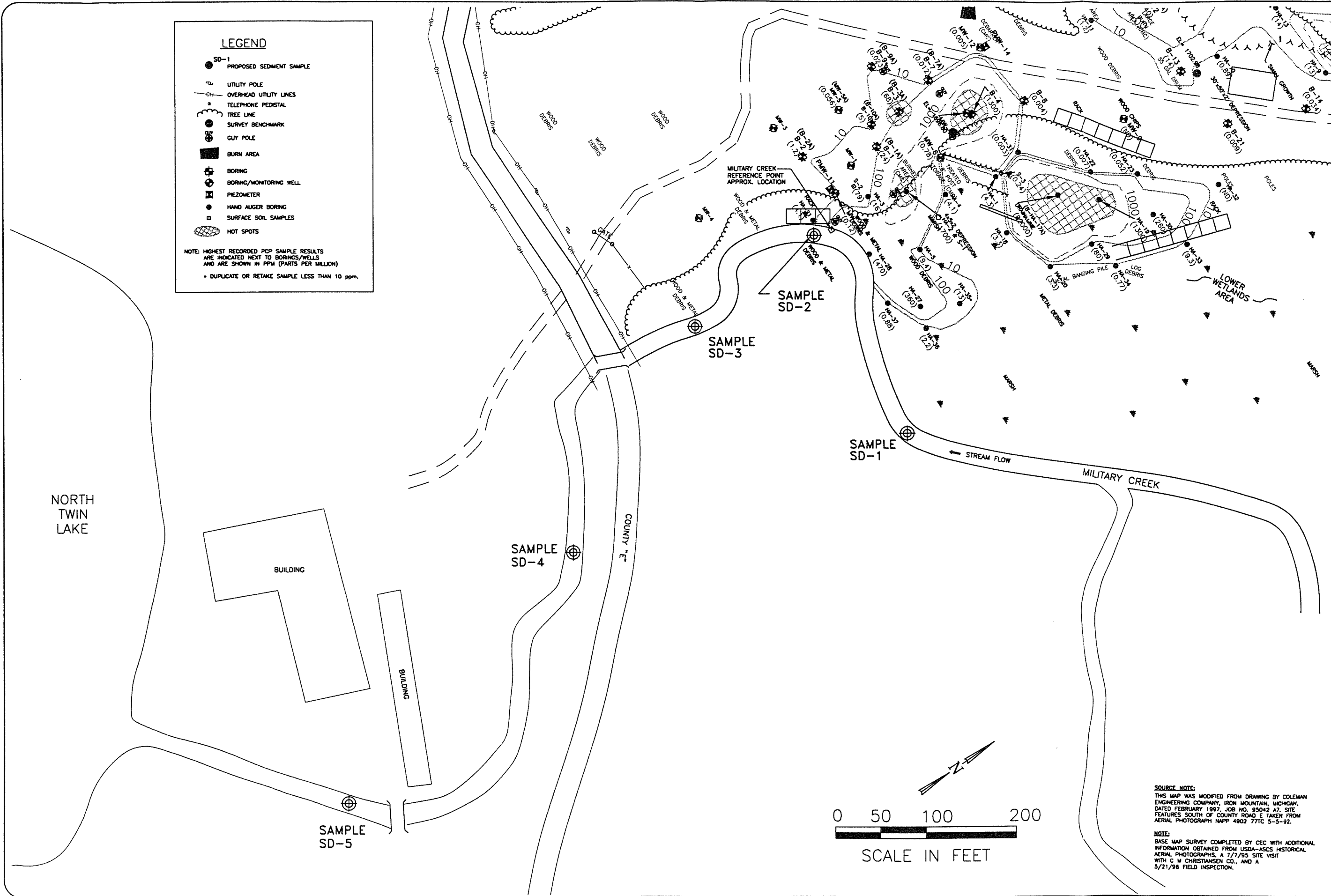
cc Ms. Jennifer Buzecky, Whyte Hirschboeck Dudek, S.C.
Mr. Eric Christiansen, C. M. Christiansen Company

[1226sedimentworkplan]

LEGEND

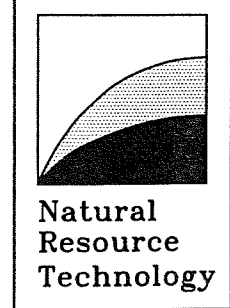
- SD-1 PROPOSED SEDIMENT SAMPLE
- UTILITY POLE
- OVERHEAD UTILITY LINES
- TELEPHONE PEDISTAL
- TREE LINE
- SURVEY BENCHMARK
- GUY POLE
- BURN AREA
- ⊕ BORING
- ⊕ BORING/MONITORING WELL
- ⊕ PIEZOMETER
- HAND AUGER BORING
- SURFACE SOIL SAMPLES
- HOT SPOTS

NOTE: HIGHEST RECORDED PCP SAMPLE RESULTS ARE INDICATED NEXT TO BORINGS/WELLS AND ARE SHOWN IN PPM (PARTS PER MILLION)
 * DUPLICATE OR RETAKE SAMPLE LESS THAN 10 ppm.



DRAWN BY:	TAS	DATE:	4/1/97
CHECKED BY:	EPK	DATE:	4/8/97
APPROVED BY:	RJK	DATE:	4/10/97
AUTOCAD FILE: 1226-B01.DWG			

PROPOSED SEDIMENT SAMPLING LOCATIONS
 MILITARY CREEK INVESTIGATION WORK PLAN
 C.M. CHRISTIANSEN COMPANY
 FORMER POLE TREATMENT FACILITY
 PHELPS, WISCONSIN



PROJECT NO.	1226/SED
DRAWING NO.	1226-B01
FIGURE NO.	1

SOURCE NOTE:
 THIS MAP WAS MODIFIED FROM DRAWING BY COLEMAN ENGINEERING COMPANY, IRON MOUNTAIN, MICHIGAN, DATED FEBRUARY 1997, JOB NO. 95042 A7, SITE FEATURES SOUTH OF COUNTY ROAD E TAKEN FROM AERIAL PHOTOGRAPH NAPP 4902 77TC 5-5-92.

NOTE:
 BASE MAP SURVEY COMPLETED BY CEC WITH ADDITIONAL INFORMATION OBTAINED FROM USDA-ASCS HISTORICAL AERIAL PHOTOGRAPHS, A 7/7/95 SITE VISIT WITH C M CHRISTIANSEN CO., AND A 5/21/98 FIELD INSPECTION.

CM Christensen

- ① a PM should work with Michelle and Linda Meyer to prepare an order based on my January 97 letter time schedule

The schedule remains consistent w/ ^{follow-up} negotiations. I would be happy to verbally brief you on your stuff ~~about~~ ^{on} the details of the schedule? Tests

- ② Tom Jarvis should be sent a copy of NRT April 11, 97 letter and consulted

- ③ R:R should expect to get a contact from the head of the Twin Lake Riparian Society. He has been very interested in this project and ~~is~~ has requested to be kept up to date. He has been very helpful ~~in~~ with public information issues.

Scott

1110 hrs
7/10/97

Eric Christiansen 715/545-2333

Re: C.M. Christiansen Co.

Returned call to Christiansen, who had called regarding a possible site visit w/ Don Miller to Weisenberger site near Wausau. I explained to Christiansen that I was waiting to hear from Miller; Christiansen said he had spoken w/ Miller this morning. Miller will be unavailable all next week, but Miller had called Wendy Anderson (ANR Proj. Mgr. for Weisenberger), and Anderson is supposed to call me on Monday (7/14) to arrange a visit for me & Christiansen. Anderson told Miller that Nat. Res. Tech. could not visit the site.

Christiansen said he would be available on 7/14, 7/15, or 7/16, but would have to be in Milwaukee at 1900 hrs on 7/16. ~~But~~ I said that I would be in Spooner on 7/14, but was available 7/15 & 7/16. I said I would try to contact Anderson on 7/14, then call Christiansen to let him know what was scheduled. Christiansen said he would be in Milwaukee on 7/14 (414/963-9211). I said if 7/15 or 7/16 don't work, I would be open the entire next week; Christiansen said he would also be open that week.

I then told Christiansen that I had looked over NRT's RAOR; I was waiting to hear from Miller regarding waste code issues. Christiansen said that he had spoken w/ NRT, and they are

1/10 hrs.
7/10/97

(2)

getting a little nervous. (afraid they may run out of time in the construction season, especially if they ~~use~~ ^{go} the bioremediation route). Christiansen said NRT is working on a letter to me which describes ~~the~~ NRT's concerns, so that the concerns can be documented in the file. Christiansen said the letter might be mailed in a day or two.

Christiansen said that he and NRT also want to schedule a meeting at the CMC site; I explained that I also want to visit the site. I suggested that we schedule the CMC visit when/if we meet next week.

IMPORTANT MESSAGE

FOR Chris Soari

DATE 11-14 TIME _____ A.M.
P.M.

M Susan Johnson

OF Koch

PHONE 612 437-0513

FAX AREA CODE NUMBER EXTENSION
 MOBILE AREA CODE NUMBER TIME TO CALL

TELEPHONED	PLEASE CALL →	
CAME TO SEE YOU	WILL CALL AGAIN	
WANTS TO SEE YOU	RUSH	
RETURNED YOUR CALL	WILL FAX TO YOU	

MESSAGE Site, Invoice
Fueling site

SIGNED _____

- Eric available 14, 15, 16 am/early pm
- Don Miller not available
wk of 14th
- Told E & I was waiting for call
back from Don re: waste codes
- E talked to Don, will have Wendy
call me directly on Mon - I will call
her Mon am or from Spooner pm
- Wendy said NRT can't come to
site (~~conf~~, trade secrets)
- Told E & I'd looked over RAOR,
only minor comments. May be
discuss @ site or on cont-call
- NRT is nervous (time slipping away)
will be sending me letter to that effect.
- E in Milw. on Mon (7/14) 4/4/.



COLEMAN ENGINEERING CO.

OF IRON MOUNTAIN

Civil Engineering • Environmental Engineering
Geotechnical Engineering • Land Surveying • Test Drilling
Construction Quality Control • Materials Laboratory Testing

Principals:
James R. Foley
John R. Garske
James J. Strigel
Michael L. DesRosier

July 10, 1997

Mr. Hank Switzer
Michigan Department of Environmental Quality
Waste Management Division
1990 U.S. 41 South
P.O. Box 190
Marquette, MI 49855



Re: Treatability Study

Dear Mr. Switzer:

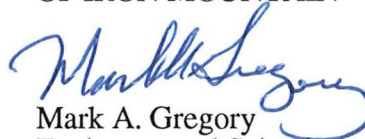
On June 4, 1996 Coleman Engineering Company requested permission to conduct a Treatability Box Study at our Iron Mountain, Michigan, facility. On June 5, 1996, the Department acknowledged and approved our request to conduct the Box Study.

In accordance with the approval, we are hereby notifying the Department that the Treatability Study is complete, has been decommissioned and that the unused samples have been returned to the generator. Refer to the attached shipping record which documents return of the samples.

Should you have any questions, please feel free to contact me at this office.

Sincerely,

COLEMAN ENGINEERING COMPANY
OF IRON MOUNTAIN


Mark A. Gregory
Environmental Scientist

MAG/pb

CEC Project #E-95042-A15

cc: CM Christiansen Co. - E. Christiansen
Whyte, Hirschboeck, Dudek - E. Gamsky Rich
Wisconsin Dept. of Natural Resources - C. Saari
White Water Associates - B. Premo

635 Industrial Park Drive - P.O. Box 607
Iron Mountain, Michigan 49801
(906) 774-3440
FAX: (906) 774-7776

Office Also Located At:
205 N. Harrison Street
Ironwood, Michigan 49938
(906) 932-5048
FAX: (906) 932-3213

TREATABILITY SAMPLE TRANSPORTATION RECORD

To: C.M. Christiansen Co.
Former Pole Treatment Facility
CTH E, P.O. Box 100
Phelps, Wisconsin 54554
Telephone: (715) 546-2333
WIR# 000 009 787

From: Coleman Engineering Company
635 Industrial Park Drive
Iron Mountain, Michigan 49801
Telephone: (906) 774-3440
MID# 985 603 810

Purpose of Transportation: Returned unused sample to the generator

Sampler and Transporter: Coleman Engineering Company, 635 Industrial Park Dr.,
Iron Mountain, MI 49801

Sample Information:

Item No.	Sample Descriptions	No. of Containers	Approx. wt, lbs
1	Soil impacted with wood preservative, PCP/Diesel Fuel - Unused treatability Samples	6	232 lbs

Comments: All 6 containers transferred into a labeled on-site 55 gallon drum

Transported by: Coleman Engineering Company
635 Industrial Park Drive
Iron Mountain, Michigan 49801

Delivered to: C.M. Christiansen Co.
4700 CTH "E"
Phelps, Wisconsin 54554

I hereby certify that the above described samples were returned to the generator and placed into a on-site labeled 55-gallon drum.

Robert H. Werner
Robert H. Werner, Engineering Technician

6/25/77
Date

Note: This document must be maintained as a record for three (3) years after completion of the treatability study.

#2

18-JUL-1997 13:41:32.86

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC
CC: DEBROMM
Subj: CM CHRISTIANSEN

Chris, I need you to determine one other bit of info for me. Who owns the property? Is it CM Christiansen Company or Mr. Phil Christiansen himself? Does it say in any of the reports? We need to know for the Order.

Thanks. Michelle

MAIL>

#6

18-JUL-1997 11:24:34.62

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC
CC: DEBROMM
Subj: JULY 23

Chris, since you mentioned that you would be at the Rhinelander office on the 23rd, I took the opportunity to have Linda here as well. She is going to be in the area so she's going to stop by on the 23rd at 9:00 to discuss the Order and hopefully finalize it. Is this ok with you? Also, as I mentioned in an earlier e-mail you will need to determine the specific schedule for the site activities. Can you have that ready for the 23rd?

Talk to you later. Have fun at Weisenberger.

Michelle

MAIL>

#4

17-JUL-1997 18:37:08.89

NEWMAIL

From: DNRVAX::MEYERLL "Linda Meyer, LS/5, 608-266-7588"
To: DNRNC::DEBROMM
CC: BRULE::SAARIC,MEYERLL
Subj: CM Christiansen Order

I would be available to meet with you and Chris on July 23 in Rhinelander. Let me know what time you are intending to talk about this order. I'll try to be there.

I have stored a new version of the order on the central office pcommon drive and the J drive under the same name (CMC_LLM.ORD). After I stored my first revision, I found a note in my file that Scott and I had agreed to add a force majeure paragraph to the proposed order. We had also agree to change the description of Activity No. 3 in the schedule to read "Soil Remedial Action Options Report Draft" which was to be due on April 30, 1997.

Since CMC's lawyers have repeatedly told us that an order is unnecessary, I hope that they are in fact working on the listed activities and are meeting the deadlines as they arrive. Chris, do you know what they have done to date and

Press RETURN for more...

MAIL>

#4

17-JUL-1997 18:37:08.89

NEWMAIL

whether they are on schedule? We'll need that information for our meeting on July 23 if we intend to try to finalize the order at that time.

MAIL>

#2

17-JUL-1997 13:56:20.56

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC
CC: DEBROMM
Subj: CHRISTIANSEN

Chris, I will be glad to meet with you on July 23, 1997 to discuss the Christiansen order. I will continue to work with Linda up to that time. Maybe we can speak with her on that day.

I'm glad you are going to see Weisenberger. Please talk with Don Miller he can update you on how the waste should be handled at the Christiansen site.

What I need from you is for you to take a look at the schedule in the Order and delete what has already been done and determine if the dates are reasonable for the activities that need to be completed.

See you on the 23rd!

Michelle

MAIL>

#873

17-JUL-1997 09:35:16.64

MAIL

From: DNRVAX::MEYERLL "Linda Meyer, LS/5, 608-266-7588"
To: BRULE::SAARIC
CC: DNRNC::DEBROMM,MEYERLL
Subj: RE: CM Christiansen

Chris, I will store the revised order on the central office pccommon drive (the N drive) to make it a little easier for you to access it. It is my understanding that the hazardous waste program does not issues orders (at least not very many of them) and it is more likely that a direct referral to the Department of Justice would be called for if we decide to pursue enforcement of hazardous waste violations in this case.

If we choose to seek cleanup of the contamination caused by the alleged hazardous waste violations under the authority of the hazardous substance spill statute (which we have the authority to do, since the definition of hazardous substance is broad enough to include hazardous waste), we would not cite hazardous waste statutes and rules in the order. The order should only cite the spill statute and the NR 700 rules that are applicable. The findings of fact in the order should mention the

Press RETURN for more...

MAIL>

#873

17-JUL-1997 09:35:16.64

MAIL

contamination from the pole treatment "depression" that was used in the summer of 1971 only if we do not intend to refer that operation as a hazardous waste violation. We have to choose between proceeding under the spill statute or under the hazardous waste statutes; we can't do both for the same violation.

MAIL>

#1 17-JUL-1997 08:46:27.79
From: BRULE::SAARIC "Chris Saari, WI DNR - Brule, 715/372-4866"
To: DNRNC::DEBROMM
CC: DNRVAX::MEYERLL, SAARIC
Subj: CM Christiansen

NEWMAIL

Michelle,

I'm sorry it's taken me so long to get back to you, but I've been swamped lately. I read Linda's note regarding the order, but I don't have access to the J: drive, so you'll have to fill me in on the changes.

As far as I can tell, the only other issue we have to settle is in regard to the waste code language. I had spoken with Don Miller last week, and Don told me that he was going to check with the Haz Waste attorney about when RCRA actually took effect. Don said that he would then talk to you about what he found out. I haven't heard back from Don on that issue, so I'm not sure where we are at.

I will be in Rhinelander on Wednesday (7/23), so if you want to sit down and

Press RETURN for more...

MAIL>

#1 17-JUL-1997 08:46:27.79
try to finish this off, let me know. I will be out tomorrow in a contested case hearing, and in Wausau (Marathon City) to look at the Weisenberger site with Eric Christiansen on Tuesday (7/22). Thanks.

NEWMAIL

MAIL>

MAIL>

#6

16-JUL-1997 17:12:22.96

NEWMAIL

From: DNRVAX::MEYERLL "Linda Meyer, LS/5, 608-266-7588"
To: DNRNC::DEBROMM
CC: BRULE::SAARIC,MEYERLL
Subj: RE: CM CHRISTIANSEN

I finally found the time to review the draft CMC order. I have typed my suggested changes into the document and will store it on the J drive under the name CMC_LLM.ORD. I think that my suggested changes will be self-explanatory but if you have questions, give me a call. I have one question for you regarding proposed finding of fact #8. Did the NOV that was issued on August 14, 1994 identify Mr. Christiansen as the RP or did it identify C.M. Christiansen Company as the RP. It is an important distinction. If the letter was addressed to Mr. Christiansen as President of C.M. Christiansen Company, we should characterize that NOV as notice to the company that CMC was responsible under s. 292.11, Stats. (not as notice to Mr. Christiansen that he was responsible). I've suggested rewording finding of fact #8 based on the assumption that the NOV gave notice to the company of its responsibility. If that is not the case, please call me so that we can discuss this issue further.

MAIL>

#1

16-JUL-1997 10:59:37.97

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC
CC: DEBROMM
Subj: CM CHRISTIANSEN

Chris have you had a chance to talk with Linda or do you have any comments on the CM Christiansen Order? Don Miller tells me he has been taling with you ablut the waste. I think we have most of the answers we need now for putting the correct wording into the Order, but I don't want to do anything until we talk first.

Thanks. Michelle

MAIL>

#10

26-JUN-1997 10:59:17.75

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC
CC: DEBROMM
Subj: CM CHRISTIANSEN

Chris, I understand that you had the opportunity to talk with Eric Christiansen in Milwaukee. That's good. I hope your discussions with him went well.

On the Order itself I need a decision made as to whether we should be using the Haz Waste language in the Order or not. I talked to Linda Meyer on Wed and she was going to try and look at our first draft. What I need from you is to work with Linda next week if she has questions on the Order. I'll be on vacation all of next week and I don't want my being gone the cause for delaying it any further. I mentioned to Linda that she will see the highlighted HW info because we hadn't decided yet what language to use. I will put the draft Order out on Rhinelander's common drive for you to pull off. This is the same draft I sent to Linda. Please delete it off the common drive once you retrieve it. It's called CMC_2.ORD.

Press RETURN for more...

MAIL>

#10

26-JUN-1997 10:59:17.75

NEWMAIL

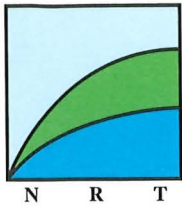
You can let linda know what has been decided about the HW language and what they have already done on the schedule and what changes we'll have to make to the schedule.

I'll be in the rest of today and Friday and then I won't be back until July 7th.

If you have any questions, please let me know.

Thanks. Michelle

MAIL>



Natural Resource Technology, Inc.



July 15, 1997
(1226)

Mr. Chris Saari
Northern Region
Wisconsin Department of Natural Resources
Highway 2, PO Box 125
Brule, WI 54820

RE: Site Transfer Status and Update
Former Wood Treating Facility, C.M. Christiansen Company, Phelps, Wisconsin
Ref: WID998639035

Dear Mr. Saari:

Representatives for C.M. Christiansen Company (CMC) have informed us that project review of the above referenced site was transferred from Mr. Scott Watson of the Rhinelander office to yourself. On behalf of CMC, Natural Resource Technology, Inc. (NRT) has prepared this letter to highlight key items discussed in our last meeting with Mr. Watson, held on March 21, 1997, and to briefly summarize the status of the project.

In our meeting we reviewed the results of the *Site Investigation Report*, dated February 28, 1997, prepared by Coleman Engineering, reviewed the status and direction of soil remediation options, discussed the Military Creek sediment investigation issues, and discussed an overall schedule for the project. The following specific points were discussed:

- Site Investigation Results: NRT summarized the site investigation results and noted our interpretation of the iso-concentration contours for soil impacts would be slightly different than Coleman's depiction. Some of the soil data used to develop the contours presented in the Site Investigation Report were collected below the water table and may reflect impacted groundwater rather than unsaturated soil impacts. In addition, identification of source areas would be revised to better reflect historical process areas. To this end, revised drawings delineating the estimated extent of soil impacts were submitted with the *Soil Remediation Options Report*, dated April 30, 1997.
- Soil Remediation Options/Source Control: We discussed the scope of the remedial evaluation and indicated it would include other options for soil remediation/source control, in addition to the feasibility of biological treatment. Coleman had completed bench scale testing, previously referred to as a "box study" designed to evaluate biological treatment, although the method of treatment (in-situ versus above ground) had not been developed at that time. The soil remedial options report would focus on "hot spot" removal, including free product and areas with highest concentrations of pentachlorophenol (PCP).

We agreed that PCP occurrences in wetlands would be addressed pending an evaluation of whether sediment migration into Military Creek is a concern. The high organic carbon content of the wetland soils would likely bind the organic constituents, making them unavailable. Under these circumstances, damaging the wetlands to conduct a remediation may not be an appropriate response action.

Mr. Chris Saari, WDNR
July 15, 1997
Page 2

- Soil/Waste Characterization for Remedial Purposes: Pertinent to our evaluation of remedial options, NRT confirmed that the primary compound of concern was PCP. DRO and dioxin/furan compounds may need to be evaluated as part of the remedial effort but additional investigation of these compounds is not necessary at this time. Remedial efforts would be conducted consistent with NR 700 to the extent applicable, and management of investigation/remedial wastes would be subject to characteristic determination per NR 605. Mr. Watson indicated the WDNR hazardous waste representative, Mr. Don Miller, was consulted with respect to this determination. However, according to Mr. Watson, any on-site remediation would require a variance under NR 680.
- Military Creek Investigation: A work plan for the Military Creek investigation would be submitted for WDNR review and would include a phased process for evaluating presence or absence of compounds of interest first, followed by recommendations for subsequent work activities, if warranted.
- Schedule: The project schedule discussed included submitting the Military Creek Work Plan by April 11 and completing the associated sampling work within the summer of 1997. Secondly, NRT would complete an evaluation and plan for commencement of source control activities within the 1997 construction season.

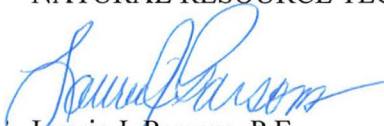
Since the meeting, the Creek Investigation Work Plan was submitted on April 11, 1997 and the Source Control/Soil Remedial Options Report was submitted on April 30. Previously it was our understanding that the WDNR wished to review the referenced documents and provide input, prior to beginning the work. In the interest of proceeding in a timely fashion, CMC authorized NRT to perform the site reconnaissance portion of the Military Creek Investigation Work Plan which was completed during the week of June 2. We expect to submit an update to the Military Creek sediment sampling plan to the WDNR prior to performing additional work related to the creek.


We understand you will be scheduling a visit and meeting at the CMC property in the near future at which time we look forward to discussing the Soil Remediation Options Report, Creek Investigation status, and general direction of this project.

We trust this summary will facilitate the project transfer and encourage you to contact us if any questions arise during your review of the project status or above referenced documents.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.


Laurie J. Parsons, P.E.
Senior Environmental Engineer


Robert J. Karnauskas, P.G., PH.G.
President/Principal Hydrogeologist

cc: Ms. Elizabeth Gamsky Rich, Whyte Hirschboeck Dudek, S.C.
Mr. Eric Christiansen, C. M. Christiansen Company

[1226wdnr-CS1.ltr]



0900hrs
07/21/97

Mark Gregory, Coleman Engineering
Re: C.M. Christiansen Co.

Gregory called to discuss the project. Gregory explained Coleman's past work for CMC, and mentioned that CMC has failed to pay the remainder of their bill. According to Gregory, CMC hasn't paid because CMC feels that Coleman didn't do an adequate job on the site investigation. Gregory said he had spoken with Scott Watson about the Site Investigation report, and according to Gregory, Watson said the report was acceptable, although a written approval wasn't prepared. Watson suggested that Gregory also speak with Saari about the site.

Saari explained to Gregory that, based on a cursory review of the report, it appears that Coleman did an acceptable investigation.

Gregory then asked if it would be ok to have Jack Polich from Coleman's Ironwood office stop in Brule to look through the file. Saari said it would be ok, as long as Polich called ahead of time to make an appointment.

1330hrs
7/29/97

①

Laurie Parsons, NRT 414/523-9000
Re: C.M. Christensen

Parsons returned my call. Parsons questioned whether I had a chance to speak with Don Miller regarding the hazardous waste issue. I explained that I hadn't spoken with Miller since I met with Parsons, but that I had received a copy of a letter discussing POP listing at another site. This letter should address the hazardous waste issue at CMC, and I will get Parsons a copy as soon as possible.

I also explained that I hadn't spoken yet with Air Management regarding thermal desorption; Parsons said she had not yet, either.

We then discussed the schedule which had been formalized by Linda Meyer in Jan. 97. I explained that my meeting with Michelle ~~DeBrook~~ DeBrook mainly involved revising the schedule to reflect current conditions. I further said that I wasn't sure how the DNR would present the schedule to CMC (i.e. another letter from Meyer, or an Order, etc.) Parsons said that both her firm and CMC were concerned about an Order, especially since it seems that things will move along. I explained that, even though it sounds like progress will be made, the DNR may still need to formalize the schedule into an Order.

1330 hrs
7/29/97

(2)

in case CMC (Phil) decides the project costs too much, and he's going to stop paying for cleanup.

Parsons and I then discussed several lesser topics, including:

- 1) Are some of the wetland-impacted areas really wetlands?
- 2) Parsons wants to come up with a plan to manage the drums of investigative waste before winter.
- 3) I asked for an update on the reconns. conducted for the sediment sampling plan. (Parsons said wood debris in the creek may hamper sampling)
- 4) I also discussed the possibility of conducting full soil remediation vs. an interim action, and ~~the~~ suggested that NRT start looking at calculating an RCL
- 5) Parsons then asked about the issue of groundwater remediation; we agreed that soil remediation should occur first, and groundwater looked at afterwards.

I then told Parsons that I would try to discuss all of these issues with Eric Christiansen when I visit the site on Aug. 1. I also said that if any questions come up from our discussions, they should be forwarded to me after Aug. 8, as I will be in training from Aug. 4-8.

DATE: July 30, 1997

FILE COPY

FILE REF: 4400

TO: Tom Janisch - WT/2

FROM: Chris Saari - NOR Brule *CAS*

SUBJECT: Sediment Sampling Plan for Military Creek at the C.M. Christiansen Wood Treating Facility, Phelps, Vilas County

In response to Scott Watson's acceptance of a position in the Northern Region's Water Program, I have been assigned as the Remediation & Redevelopment project manager for the above named site. The attached *C.M. Christiansen Company, Ecological Risk Assessment Work Plan, Military Creek Sediment Investigation, Phelps, Wisconsin*, prepared by Natural Resource Technology, Inc., was included in the material I received from Scott for this project. I apologize for not forwarding this material to you sooner, but I did not realize until recently that the Department had not yet commented on this work plan.

After reviewing this project file, it appears that you have already done much work on the sediment issues at this site. It also sounds like NRT consulted with you in preparing this work plan. I would appreciate any comments you could provide on NRT's proposal. Based on discussions and correspondence with NRT, Task 2 of the work plan has already been completed. NRT has stated that an update of their site reconnaissance activities will be provided to the Department in the near future. In the event that you are not copied on that update, I will forward a copy to you once I receive it. NRT has indicated to me that they are interested in proceeding with the proposed investigation as soon as possible after we provide comments back to them.

I would be very interested in discussing this proposal with you. I will be in training from August 4 - 8, but I should be available the following week. I can be reached at 715/372-4866, or by e-mail at brule::saaric (saaric@dnr.state.wi.us). Thanks.

#2

31-JUL-1997 10:09:25.49

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC, DNRVAX::MEYERLL
CC: DEBROMM
Subj: CM ORDER

Chris and Linda, I have made all the changes and I have put a clean draft out on the J:drive and my common drive. It's called CM_M02.ORD. Linda, I thought you did a great job with the schedule and I had no further comments. Please make one last review and if it's a go, I'll send it around for signatures.

Thanks. Michelle

MAIL>

#1

29-JUL-1997 15:23:40.06

NEWMAIL

From: DNRVAX::MEYERLL "Linda Meyer, LS/5, 608-266-7588"
To: DNRNC::DEBROMM
CC: BRULE::SAARIC,MEYERLL
Subj: CM Christiansen Consent Order

I have stored a revised version of the CM Christiansen consent order on the errfiles drive (Z drive) under the name CMC_LLM.ORD. I redlined the new wording that I added and lined-through wording that I think that we should delete (in order to make this consent order more acceptable to the company), except that I did not redline the changes to the compliance dates in the chart under par. 1 of the order portion because so many of the dates have been changed. Let me know if you have corrections to the compliance schedule or any questions about any of the other changes that I have suggested. Thanks.

MAIL>

*My revisions saved as CMC_CAS.ORD on
e:\UST & DNRNC\PCOMMON.*

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

In the Matter of the Alleged)
Discharge of a Hazardous Substance) ORDER No. 94-NCEE-001
on Property Located at 1 Lake Street,)
County Highway E, Town of Phelps,)
Vilas County, Wisconsin)

FINDINGS OF FACT, CONCLUSIONS OF LAW AND CONSENT ORDER

The following constitutes a summary of the Findings of Fact and Conclusions of Law which the Department of Natural Resources ("the Department") bases Order No. 94-NCEE-001 ("this consent order").

FINDINGS OF FACT

1. C.M. Christiansen Company ("CMC") owns property located at 1 Lake Street, in Phelps, Section 35, T42N, R11E, Vilas County, Wisconsin ("the Site"). P.C. Christiansen is President and Chief Executive Officer and operated C.M. Christiansen Company at the Site.
2. The Site is a ~~wood treatment (pole dipping) facility that is no longer operating.~~ The Site operated from 1954 until 1981 and discharged hazardous substances throughout these years. Wooden poles were dipped into a 5% pentachlorophenol solution with number two fuel oil as the carrier. The poles were allowed to soak in the solution for 24 hours. The poles were treated by being submerged into a large vat after which they drip-dried over the tank or were removed and stacked to dry along the side of the tank on the adjacent area. The vat residues were removed and on occasion disposed of on the ground. Other residual materials, including some vat sludges and wood products, were occasionally burned.
3. CMC has owned the Site since the time of the original discharge.
4. The following table describes the analytical results of selected soil samples collected at the site, as reported in the *Site Investigation Report (Volumes I and II)*, C.M. Christiansen Co. Pole Treatment Facility, Phelps, Wisconsin, prepared by Coleman Engineering Company (CEC) and dated February 1997:

Sample ID	B-4001	B-4001 DUP	MW-13001	HA-2001	HA-7001	HA-7002	HA-17002	S-1001
Depth (feet)	7.5 - 9	7.5 - 9	2.5 - 4.5	2 - 2.8	0.1 - 0.8	1.3 - 2	2.4 - 3.2	0.3 - 0.6
PCP (mg/Kg)	1.50	1,300	1,200	1,700	11,000	44,000	82,000	750
Total PAH (ug/Kg)	2,806	1,900	4,800	153,000	1,765,000	169,700	1,232,000	90,400
Total Dioxins and Furans (ng/Kg)	NA	182,285	NA	NA	NA	NA	NA	NA

Footnotes:

PCP - concentration of pentachlorophenol
Total PAH - total concentration of polynuclear aromatic hydrocarbons
Total Dioxins and Furans - total concentration of chlorinated dioxin and furan isomers
mg/Kg - milligrams per kilogram, equivalent to parts per million
ug/Kg - micrograms per kilogram, equivalent to parts per billion
ng/Kg - nanograms per kilogram, equivalent to parts per trillion
B-XXXX - soil boring sample
MW-XXXX - monitoring well boring sample
HA-XXXX - hand auger boring sample
S-XXXX - surface soil sample
DUP - duplicate sample
NA - not analyzed

5. CEC's February 1997 *Site Investigation Report* also contained analytical results of groundwater sampling, portions of which are described in the following table:

Sample ID	MW-6001	MW-7001	MW-6	MW-7	MW-7	PMW-11	MW-13	NR 140 ES
Date	9/14/95	9/14/95	12/15/95	12/15/95	7/24-25/96	7/24-25/96	7/24-25/96	
PCP (ug/L)	1,300	960	32	5,200	FP	820	350	1
Total Dioxins and Furans (ng/L)	NA	453.924	NA	NA	FP	NA	NA	NS

Footnotes:

PCP - concentration of pentachlorophenol
Total Dioxins and Furans - total concentration of chlorinated dioxin and furan isomers
ug/L - micrograms per liter, equivalent to parts per billion
ng/L - nanograms per liter, equivalent to parts per trillion
MW - monitoring well sample
PMW - piezometer sample
NR 140 ES - s. NR 140.10, Wis. Adm. Code, Enforcement Standard
NS - no standard established
FP - free product
NA - not analyzed
Note: MW-6001 and MW-7001 refer to MW-6 and MW-7, respectively

6. The Department has collected sediment samples from Military Creek, which borders the site to the east. The following table describes the analytical results of samples collected adjacent to, and downstream from, the site on two occasions:

Sample ID	G-1-92	G-2-92	G-3-92	G-4-92	S-21	S-22	S-23 ²⁵ DUP	S-24 ²³
Date	9/28/92	9/28/92	9/28/92	9/28/92	9/28/93	9/28/93	9/28/93	9/28/93
PCP (ug/Kg)	<20	50	640	30	4004*	2457*	2976*	152*

Footnotes:

PCP - concentration of pentachlorophenol

ug/Kg - micrograms per kilogram, equivalent to parts per billion

* - The original PCP analyses were reported on a wet-weight basis; for consistency purposes, the results listed in the table have been converted to a dry-weight basis.

** - Sample S-25 was a duplicate of sample S-22.

7. On June 11, 1986, the Department collected a yellow perch, two burbot, a creek chub and a common shiner from Military Creek for pentachlorophenol analysis. Tissue samples from the yellow perch and one of the burbots each contained 250 parts per billion pentachlorophenol.
8. Several important tasks, that were included in CMC's Site Investigation Work Plan which was conditionally approved by the Department on April 26, 1995, and which was discussed at a January 30, 1996 meeting between the Department and CMC, have not been accomplished. CMC has not completed an interim action, a remedial action plan nor an investigation of Military Creek.

CONCLUSIONS OF LAW

1. Pentachlorophenol and its by-products and its carrier diesel fuel are "hazardous substances" as defined by s. 292.01(5), Wis. Stats.
2. CMC possessed or controlled a hazardous substance which was discharged, and caused the discharge of a hazardous substance, under s. 292.11(3), Wis. Stats., and is required to take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands or waters of the state.
3. Under s. 292.11(7)(c), Wis. Stats., the Department has the authority to issue special orders (including consent orders) to the person possessing or controlling a hazardous substance that has been discharged, or who caused the discharge, to fulfill the duty imposed by s. 292.11(3), Wis. Stats., and chs. NR 700 to 726, Wis. Adm. Code."
4. This consent order is necessary to accomplish the purposes of s. 292.11, Wis. Stats., and chs. NR 700 to 726, Wis. Adm. Code, and is enforceable through prosecution by the Attorney

General under ss. 299.95 and 299.97, Wis. Stats., and ch. NR 728, Wis. Adm. Code.

CONSENT ORDER

Based on the foregoing Findings of Fact and Conclusions of Law, the Department orders, and CMC agrees, that:

1. CMC shall conduct the activities listed below in compliance with the following schedule, except as provided in paragraph 5 of this consent order:

No	Activity	Code Reference	Compliance Date
1	Submittal of Revised Source Control Soil Remedial Action Options Report	724.05, 724.09, 724.11, 724.13	Within 30 days after CMC receives DNR comments on the draft report
2	Submittal of Update to Military Creek Sediment Sampling Plan	716.07, 716.09, 716.11, 716.13	Within 30 days after the effective date of this consent order
3	Military Creek Sampling Start		Within 30 days after CMC receives DNR comments on Military Creek Investigation Plan and Updated Sediment Sampling Plan
4	Start Interim or Final Remedial Action Implementation	708.11	Within 30 days after CMC receives DNR approval of Revised Source Control Soil Remedial Action Options Report

5	Free Product Removal Implementation	708.13	Within 30 days after CMC receives DNR approval of Revised Source Control Soil Remedial Action Options Report
6	Final Soil Remedial Construction Start (assuming that only an interim action is taken in 1997)		June 1, 1998
7	Final Soil Remediation Construction Completion (assuming that only an interim action is taken in 1997)		August 30, 1998
8	Submittal of Draft Military Creek Investigation Report	716.15	Within 5 months after the start of Military Creek sediment sampling
9	Submittal of Final Military Creek Investigation Report	716.15	Within 30 days after CMC receives DNR comments on draft report
10	Submittal of Military Creek & Groundwater Remedial Action Options Report	722.07, 722.09, 722.11, 722.13	Within 60 days after CMC receives DNR approval of Final Military Creek Investigation Report
11	Submittal of Military Creek & Groundwater Remedial Action Plan	724.05, 724.09, 724.11, 724.13	Within 30 days after CMC receives DNR comments on Remedial Action Options Report

12	Military Creek & Groundwater Remedial Action Start		Within 60 days after CMC receives DNR comments on Military Creek & Groundwater Remedial Action Plan
13	Submittal of Draft Remedial Construction Documentation Report	724.15	Within 60 days after completion of construction
14	Submittal of Final Remedial Construction Documentation Report	724.15	Within 30 days after CMC receives DNR comments on Draft Remedial Construction Documentation Report

NOTIFICATION OF SAMPLING

2. CMC shall notify the Department, in writing, at least fifteen (15) calendar days prior to any sampling performed under any work plan required by this consent order.

REPORTING

3. ~~Except in those months when a plan or report is submitted to the Department pursuant to paragraph 1,~~ CMC shall submit written monthly progress reports to the Department by the tenth (10th) of each month following the effective date of this consent order. These monthly progress reports shall:
 - a. Describe the actions which have been taken toward achieving compliance with this Order during the preceding month.
 - b. Include tabulated results of sampling, testing, an updated groundwater contour map if groundwater sampling has been conducted during the preceding month and all other data generated during the preceding month.
 - c. The following additional information shall be submitted every third month:
 - (1) Summary Tables for all historical groundwater quality and elevation data related to each well.

- (2) Graphs of all historical groundwater chemistry data related to each monitoring well. At a minimum, these graphs shall be drawn depicting ch. NR 140, Wis. Adm. Code, Preventive Action Limit and Enforcement Standard Exceedances for the compounds of concern.
 - (3) Evaluation of the effectiveness of the site investigation and the remedial action and recommendations for improvements
4. CMC shall mail or deliver two (2) copies of each report, plan or other submittal required by this consent order to the following address:

Wisconsin Department of Natural Resources
Brule Area Headquarters
Attn: Chris Saari
6250 South Ranger Road
P.O. Box 125
Brule, WI 54820
5. CMC shall perform all of the work required under this consent order within the time limits set forth herein, unless performance is delayed by events that constitute a force majeure. For purposes of this consent order, a "force majeure" is an event arising from causes beyond the control of CMC or any entity controlled by CMC, including its contractors and subcontractors, which delays or prevents performance of any work required by this Order. Increases in cost or changes in economic circumstances do not constitute a force majeure. However, an event that would otherwise constitute a force majeure shall be deemed a force majeure even though such an event also results in increased costs or changed economic circumstances. CMC shall notify the Department in writing no later than ten (10) calendar days after any event that CMC contends is a force majeure. If the Department agrees that a delay is attributable to a force majeure, the time period for performance under this consent order shall be extended by adding the time period attributable to the force majeure to the deadlines specified in this consent order.
6. The Department retains the right to amend or supplement this consent order by issuing a subsequent administrative order, if such action is necessary for the protection of public health, safety or welfare, or the environment. If the Department issues a subsequent order to CMC, CMC will have the right to contest the provisions of the new order under ch. 227, Wis. Stats.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____ Date _____
Brenda B. Hagman, Director
Office of Environmental Enforcement
Bureau of Law Enforcement

STIPULATION AND WAIVER

C.M. Christiansen Company stipulates to the issuance of this consent order and waives further notice of its hearing rights, waives its statutory right to demand a hearing before the Department regarding this consent order and waives its right to challenge this consent order in circuit court under ss. 227.52 and 227.53, Wis. Stats., or under any other provision of law. C.M. Christiansen Company further stipulates that this consent order is enforceable under ss. 299.95 and 299.97, Wis. Stats., as soon as it is signed by the Department. The undersigned hereby certifies that he/she is authorized to sign this Stipulation and Waiver on behalf of C.M. Christiansen Company.

By _____ Date _____
Name: _____
Title: _____

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

In the Matter of the Alleged)
Discharge of a Hazardous Substance) ORDER NO. 94-NCEE-001
on Property located at 1 Lake Street,) FACILITY ID
County Highway E, in the Town of Phelps,)
Vilas County, Wisconsin)

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

The following constitutes a summary of the Findings of Fact and Conclusions of Law which the Department of Natural Resources (the "Department") bases Order No. 94-NCEE-001 (the "Order").

FINDINGS OF FACT

1. C.M. Christiansen Company ("CMC") owns property located at 1 Lake Street, SW of Section 35 and SE of Section 35 T42N R11E, Phelps, Vilas County, Wisconsin (the "Site"). P.C. Christiansen is President and Chief Executive Officer and operated C.M. Christiansen Company at the Site.
2. The Site is a non-operational pole dipping facility. The Site operated from 1954 until 1981 and discharged hazardous substances throughout these years. Wooden poles were dipped into a 5% pentachlorophenol solution with number two fuel oil as the carrier. The poles were allowed to soak in the solution for 24 hours. The poles were treated by being submerged into a large vat after which they drip-dried over the tank or were removed and stacked to dry along the side of the tank on the adjacent area. The vat residues were removed and on occasion disposed of on the ground. Other residual materials, including some vat sludges and wood products, were occasionally burned.
3. CMC has owned the Site since the time of the original discharge.

Property owned by CMC

4. The following table describes the analytical results of selected soil samples collected at the site, as reported in the *Site Investigation Report (Volumes I and II)*, C.M. Christiansen Co. Pole Treatment Facility, Phelps, Wisconsin, prepared by Coleman Engineering Company (CEC) and dated February 1997:

Sample ID	B-4001	B-4001 DUP	MW-13001	HA-2001	HA-7001	HA-7002	HA-17002	S-1001
Depth (feet)	7.5 - 9	7.5 - 9	2.5 - 4.5	2 - 2.8	0.1 - 0.8	1.3 - 2	2.4 - 3.2	0.3 - 0.6
PCP (mg/Kg)	1.50	1,300	1,200	1,700	11,000	44,000	82,000	750
Total PAH (ug/Kg)	2,806	1,900	4,800	153,000	1,765,000	169,700	1,232,000	90,400
Total Dioxins and Furans (ng/Kg)	NA	182,285	NA	NA	NA	NA	NA	NA

Footnotes:

PCP - concentration of pentachlorophenol
 Total PAH - total concentration of polynuclear aromatic hydrocarbons
 Total Dioxins and Furans - total concentration of chlorinated dioxin and furan isomers
 mg/Kg - milligrams per kilogram, equivalent to parts per million
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 B-XXXX - soil boring sample
 MW-XXXX - monitoring well boring sample
 HA-XXXX - hand auger boring sample
 S-XXXX - surface soil sample
 DUP - duplicate sample
 NA - not analyzed

5. CEC's February 1997 *Site Investigation Report* also contained analytical results of groundwater sampling, portions of which are described in the following table:

Sample ID	MW-6001	MW-7001	MW-6	MW-7	MW-7	PMW-11	MW-13	NR 140 ES
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PCP (ug/L)	1,300	960	32	5,200	FP	820	350	1
Total Dioxins and Furans (ng/L)	NA	453.924	NA	NA	FP	NA	NA	NS

Footnotes:

PCP - concentration of pentachlorophenol
 Total Dioxins and Furans - total concentration of chlorinated dioxin and furan isomers
 ug/L - micrograms per liter, equivalent to parts per billion
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 PMW - piezometer sample
 NR 140 ES - s. NR 140.10, Wis. Adm. Code, Enforcement Standard
 NS - no standard established
 FP - free product
 NA - not analyzed
 Note: MW-6001 and MW-7001 refer to MW-6 and MW-7, respectively

6. The Department has collected sediment samples from Military Creek, which borders the site to the east. The following table describes the analytical results of samples collected adjacent to, and downstream from, the site on two occasions:

Sample ID	G-1-92	G-2-92	G-3-92	G-4-92	S-21	S-22	S-23	S-24
Date	9/28/92	9/28/92	9/28/92	9/28/92	9/28/93	9/28/93	9/28/93	9/28/93
PCP (ug/Kg)	<20	50	640	30	4004*	2457*	2976*	152*

Footnotes:

PCP - concentration of pentachlorophenol

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* - The original PCP analyses were reported on a wet-weight basis; for consistency purposes, the results listed in the table have been converted to a dry-weight basis.

7. On June 11, 1986, the Department collected a yellow perch, two burbot, a creek chub and a common shiner from Military Creek for pentachlorophenol analysis. Tissue samples from the yellow perch and one of the burbot each contained 250 parts per billion pentachlorophenol.
8. Several important tasks, that were included in CMC's Site Investigation Work Plan which was conditionally approved by the Department on April 26, 1995, and which was discussed at a January 30, 1996 meeting between the Department and CMC, have not been accomplished. CMC has not completed an interim action, a remedial action plan nor an investigation of Military Creek.

CONCLUSIONS OF LAW

1. Pentachlorophenol and its by-products and its carrier diesel fuel are "hazardous substances" as defined by s. 144.01(4m), Wis. Stats.
2. CMC possessed or controlled a hazardous substance which was discharged, and caused the discharge of a hazardous substance, under s. 292.11(3), Wis. Stats., and is required to take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands or waters of the state.
3. Under s. 292.11(7)(c), Wis. Stats., the Department has the authority to issue Special Orders to the person possessing or controlling a hazardous substance that has been discharged, or who caused the discharge, to fulfill the duty imposed by s. 292.11(3), Wis. Stats., and chs. NR 700 to 726, Wis. Adm. Code.
4. This Order is necessary to accomplish the purposes of s. 292.11, Wis. Stats., and chs. NR 700 to 726, Wis. Adm. Code, and is enforceable through prosecution by the Attorney

General under ss. 299.95 and 299.97, Wis. Stats., and ch. NR 728, Wis. Adm. Code.

ORDER

Based on the foregoing Findings of Fact and Conclusions of Law, the Department orders, and CMC agrees to:

1. Conduct the activities listed below in compliance with the following schedule, except as provided in para. 5 of this Order:

No	Activity	Code Reference	Compliance Date
1	Site Investigation Report Completion	716.15	March 1, 1997
2	Military Creek Investigation Plan Completion	716.07, 716.09, 716.11, 716.13	March 15, 1997
3	Soil Remedial Action Options Report Draft Completion	722.07, 722.09, 722.11, 722.13	April 30, 1997
4	Soil Remedial Report Completion	724.05, 724.09, 724.11, 724.13	June 14, 1997
5	Military Creek Investigation Start		July 1, 1997
6	Interim Remedial Action Implementation	708.11	July 1, 1997
7	Free Product Removal Implementation	708.13	August 2, 1997
8	Soil Remedial Construction Start		August 16, 1997
9	Soil Remediation Construction Completion		October 30, 1997
10	Military Creek Investigation Report Completion	716.15	October 30, 1997
11	Military Creek & Groundwater Remedial Action Options Report Completion	722.07, 722.09, 722.11, 722.13	February 1, 1998
12	Groundwater Remedial Action Plan	724.05, 724.09, 724.11, 724.13	April 1, 1998

13	Groundwater Remedial Action Start		June 1, 1998
14	Remedial Construction Documentation	724.15	September 1, 1998
15	Remedial Construction Documentation Completion	724.15	October 30, 1998

NOTIFICATION OF SAMPLING

2. Notify the Department, in writing, at least fifteen (15) calendar days prior to any sampling performed under any work plan required by this Order.

REPORTING

3. Submit written monthly progress reports to the Department by the tenth (10th) of each month following the effective date of this Order. These monthly progress reports shall:
 - a. Describe the actions which have been taken toward achieving compliance with this Order during the preceding month.
 - b. Include tabulated results of sampling, testing, an updated groundwater contour map if groundwater sampling has been conducted during the preceding month and all other data generated during the preceding month.
 - c. The following additional information shall be submitted every third month:
 - (1) Summary Tables for all historical groundwater quality and elevation data related to each well.
 - (2) Graphs of all historical groundwater chemistry data related to each monitoring well. At a minimum, these graphs shall be drawn depicting ch. NR 140, Wis. Adm. Code, Preventive Action Limit and Enforcement Standard Exceedances for the compounds of concern.
 - (3) Evaluation of the effectiveness of the site investigation and the remedial action and recommendations for improvements

4. Mail or deliver copies of each report, plan or other submittal required by this Order to the following address:

Wisconsin Department of Natural Resources
Brule Area Headquarters
Attn: Chris Saari
6250 South Ranger Road
P.O. Box 125
Brule, WI 54820
(2 copies)

5. CMC shall perform all of the work required under this Order within the time limits set forth herein, unless performance is delayed by events that constitute a force majeure. For purposes of this Order, a "force majeure" is an event arising from causes beyond the control of CMC or any entity controlled by CMC, including its contractors and subcontractors, which delays or prevents performance of any work required by this Order. Increases in cost or changes in economic circumstances do not constitute a force majeure. However, an event that would otherwise constitute a force majeure shall be deemed a force majeure even though such an event also results in increased costs or changed economic circumstances. CMC shall notify the Department in writing no later than ten (10) calendar days after any event that CMC contends is a force majeure. If the Department agrees that a delay is attributable to a force majeure, the time period for performance under this Order shall be extended by adding the time period attributable to the force majeure to the deadlines specified in the Order.

8/1/97 C.M. Christiansen Co. Meeting

- Eric & Elizabeth would like to meet w/ Michelle & Linda re: schedule vs. Consent Order
 - talk to Michelle & Linda, check on availability
- Wisconsin Electric will be running a natural gas line along CTH E (adjacent to site), to be completed by winter 1998. This would be available for use w/ thermal desorption (significant cost savings over propane).
- Need to talk w/ AM re: air permitting of thermal desorption (HCl & dioxins)

VILAS COUNTY NEWS-REVIEW

Wednesday, July 30, 1997

Natural gas plan OK'd for Vilas

The Public Service Commission of Wisconsin (PSCW) recently approved Wisconsin Electric's plans to bring natural gas service to portions of Vilas and Iron counties in northern Wisconsin.

Survey work for final routing and permitting of the 354 miles of new pipe will begin immediately. The company expects to connect the first of more than 4,800 customers to the new system in 1998.

"This project has been in the works for more than three years, and we are all pleased to see it approved," said Bob Frohlich, manager of territory development for Wisconsin Electric.

The first step in the project will be the construction of a seven-mile pipeline to transport gas from

Watersmeet, Mich., to the Michigan-Wisconsin border at Land O' Lakes. From there, gas pipelines will be extended to the towns of Boulder Junction, Land O' Lakes, Manitowish Waters, Phelps, Conover, Plum Lake, Presque Isle, St. Germain and Winchester in Vilas County; and the town of Mercer in Iron County.

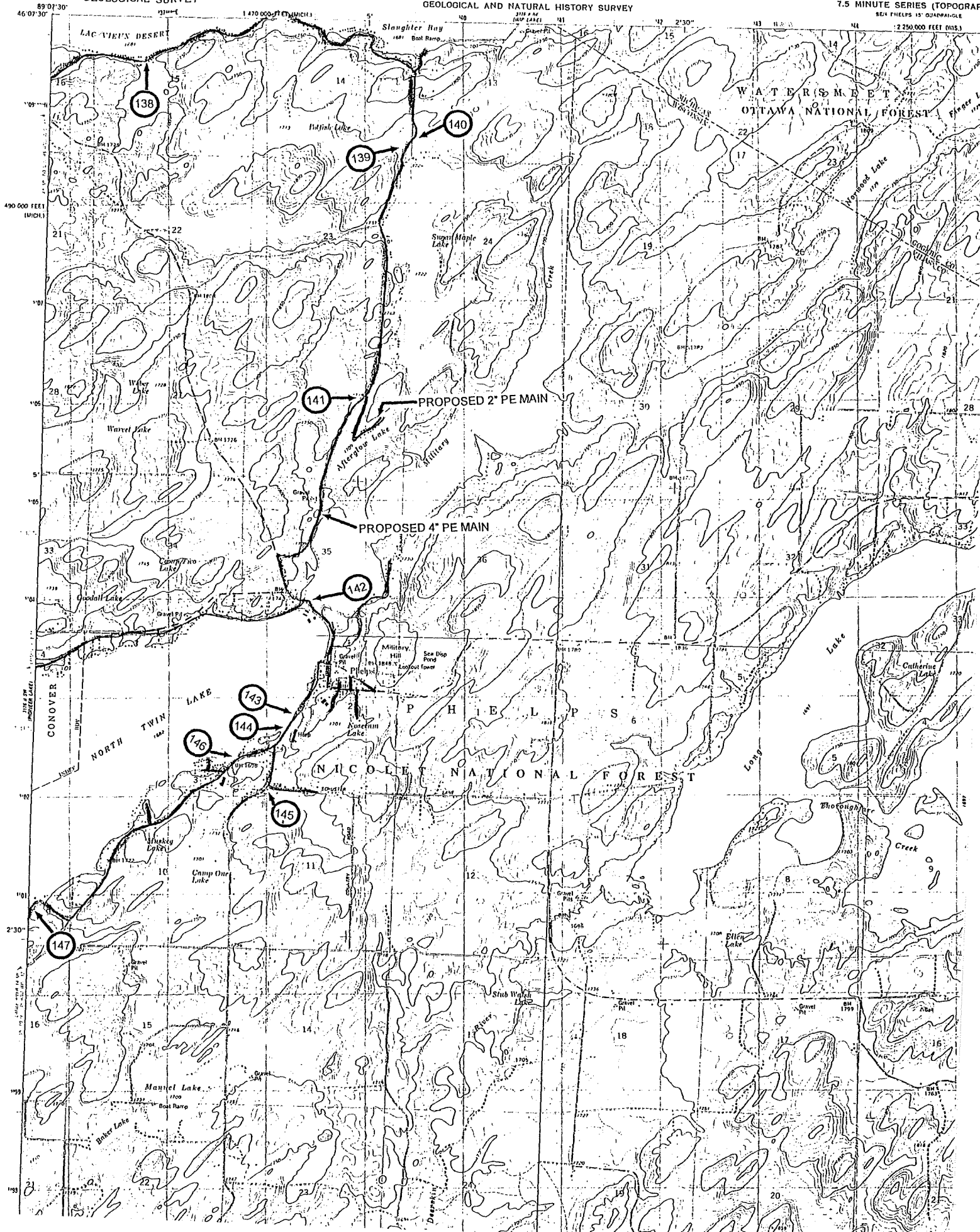
"By the beginning of the 1998 heating season, we anticipate that thousands of new customers will be able to enjoy the benefits of lower cost, cleaner burning natural gas," said Frohlich.

"Along with being less expensive and cleaner than competing fuels, natural gas is delivered 24 hours a day, seven days a week directly to customers' appliances, no matter

how much snow is in the driveway," Frohlich continued. "Better yet, with natural gas, customers only pay for the fuel they use, and pay for it after they use it.

"We've held a number of town meetings throughout this area and customers are anxious for natural gas to get here," Frohlich adds. "You may see Wisconsin Electric employees surveying along roadsides and in right-of-ways over the next few months. We plan to begin laying pipe as soon as we possibly can."

Customer with questions about natural gas service can call Wisconsin Electric at 1-(800) 932-6769.





State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William H. Smith, Regional Director

Northern Region Headquarters
PO Box 818, 107 Sutliff Ave.
Rhinelander, WI 54501-0818
TELEPHONE 715-365-8900
FAX 715-365-8932
TDD 715-365-8957

August 5, 1997

Ms. Laurie Parsons
Natural Resources Technologies
2317 W. Paul Rd.
Pewaukee, WI 53072



SUBJECT: CM Christiansen PCP Variance Request

Dear Ms. Parsons:

I have enclosed a copy of the Rudy Weisenberger Tie and Lumber variance to treat and store hazardous waste Pentachlorophenol contaminated soil at the Marathon City site which you requested. Also enclosed is a copy of Delta Environmental's request for the variance.

Please note that in order for the Department to issue a variance the requestor must justify that this is a "hardship" for them. This must not only be a financial hardship, but could be the amount of time it would take to obtain a license, for example. Second, since Weisenberger is a state managed and paid for cleanup there were no fees paid for the review, nor was financial responsibility for closure required. For the Christiansen site, fees of \$1,200 per unit requested will be required for review of the variance, as required by Ch. NR 680.45, Table XII Wis. Adm. Code. As we discussed on the phone yesterday, we will work with the facility on the financial responsibility within reason. Essentially, the Department needs assurance that these waste activities will be closed out to the extent that NR700 requires for this project.

If you have any questions, please call me at 715/365-8980.

Sincerely,

Don Miller
Waste Management Specialist

c. Gary LeRoy, Spooner
Chris Saari, Brule



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William H. Smith, District Director

Brule Area Headquarters
6250 South Ranger Road
P.O. Box 125
Brule, WI 54820-0125
TELEPHONE 715-372-4866
TELEFAX 715-372-4836

August 12, 1997

FILE COPY

MR MARK A GREGORY
COLEMAN ENGINEERING CO
635 INDUSTRIAL PARK DRIVE
PO BOX 607
IRON MOUNTAIN MI 49801

Re: C.M. Christiansen Company

Dear Mr. Gregory:

Enclosed please find photocopies of the materials which you requested from the Department's file for the above mentioned site. As I indicated to you earlier, there will be a charge for the Department's time, materials and postage involved with reproducing and forwarding this material to you:

Time: 1.5 hours @ \$10.00 per hour = \$15.00

Copies: 128 copies @ \$0.10 per copy = \$12.80

Postage: \$3.00

Total Amount Due: \$30.80

Please return a check for the Total Amount Due to me at the address listed at the top of the letter, within 30 days of the date of this letter. The check should be made out to the Wisconsin Department of Natural Resources.

If you have any questions concerning this letter or the project in general, please do not hesitate to write or call me at 715/372-4866.

Sincerely,

Christopher A. Saari
Hydrogeologist

#3

12-AUG-1997 12:48:51.22

NEWMAIL

From: DNRNC::DEBROMM
To: BRULE::SAARIC, DNRVAX::MEYERLL
CC: DEBROMM
Subj: CM CHRISTIANSEN

Two points of discussion:

1) I think we should use what the consultants identify as the contaminated property if we agree with it. In the plat book the Company land could be described as follows - West 1/2 and SE 1/4 of the SE 1/4 and the NE 1/4 of the SW 1/4 of Sec. 35, T.41-42N-R.11E. The company does not own the entire south 1/2 of section 35.

2) Linda, you may just want to give Ms. Rich a call and explain to her that we are looking at negotiating a Consent Order. I don't think we need a meeting with them. I think Linda's letter from the beginning of this year is very clear. We will try a Consent Order and if that doesn't work, we could go to an Administrative Order.

Press RETURN for more...

MAIL>

#3

12-AUG-1997 12:48:51.22

NEWMAIL

The Order is in Madison being reviewed as I write this.

Michelle

MAIL>

#3

20-AUG-1997 09:34:43.18

NEWMAIL

From: DNRVAX::MEYERLL "Linda Meyer, LS/5, 608-266-7588"
To: DNRVAX::DRUCKS
CC: DNRNC::DEBROMM, BRULE::SAARIC,MEYERLL
Subj: CM Christiansen Co. Wood Treating Facility in Phelps, WI

I am sending this e-mail to give you a little background information on a spill case in which the Department is proposing to issue a consent order or unilateral order that establishes an enforceable schedule for the completion of a cleanup at the site. CM Christiansen Co. (CMC) or its attorney (Elizabeth Rich) may contact the Secretary's Office to complain that DNR staff are being unreasonable in demanding an order. Ms. Rich has argued to DNR staff that we should not jeopardize good relations with the company (which has, since February of 1997, finally made progress toward site cleanup) by issuing an order.

You should be aware that the Department first became aware of contamination from this wood treating facility in the summer of 1986. A notice of violation was sent in August, 1994, and an enforcement conference was held in that same month because CMC had not made any progress toward investigating and cleaning

Press RETURN for more...

MAIL>

#3

20-AUG-1997 09:34:43.18

NEWMAIL

up the contamination. It wasn't until April of 1995 that DNR staff were able to conditionally approve of a site investigation work plan submitted by CMC. Even though DNR staff met with company representatives in January of 1996 to push for action, CMC had still not submitted a report on their site investigation as of January of 1997. Northern Region staff had told the company in the fall of 1996 that because the company was not making satisfactory progress toward cleanup the site, DNR would issue either a consent order (if the company was willing to agree to a proposed schedule) or a unilateral order that would create an enforceable schedule. Finally, in March of 1997, CMC submitted a report on the site investigation that they had conducted and in April of 1997, CMC also submitted a draft soil remedial action options report (dealing with remediation of soil contamination on the wood treating facility itself) and a proposed plan to investigate contamination in Military Creek (which runs along the eastern boundary of the facility). CMC's attorney argues that now that CMC has shown its willingness to move forward on this matter, an order is not needed and would "derail" the company's cooperative efforts to resolve this matter (although it has never been explained why an order with a schedule that has been developed with input from CMC's consultant would "derail" their efforts).

Press RETURN for more...

MAIL>

#3

20-AUG-1997 09:34:43.18

NEWMAIL

It seems to me and other DNR staff who have worked on this case that it took the threat of an order to motivate CMC to take action, and it will probably

take the threat of enforcement action pursuant to a schedule established in an order to keep them on track in the future. Without an enforceable schedule, we will likely find ourselves once again considering the issuance of an order in the future while this contamination remains unaddressed for another year or two.

If you would like to see a copy of the proposed consent order, please let me know and I will provide you with one. If you have any questions, please give me a call. Thanks.

MAIL>



FILE REF: 3200

DATE: August 26, 1997

TO: Chris Saari - NOR / Brule

FROM: Tom Janisch - WT/2

Tom Janisch

SUBJECT: Review of the NRT's April 11, 1997 Ecological Risk Assessment Work Plan For Military Creek Sediment Investigation, C. M. Christiansen Site.

Summary

A summary of the main comments are below. For more details, see the discussions below.

- a) The proposed work plan components equate with a screening level ecological risk assessment (SERA). The results of the SERA will be used to determine whether or not a definitive risk assessment needs to be done for the site.
- b) Based on the results of Task 2 of NRT's Work Plan and previous sampling results available for Military Creek, we will need to discuss the best sampling locations for Task 3 as NRT has indicated in the Work Plan.
- c) Because we believe toxicologically significant levels of PCP may be present in sediments at levels less than the proposed method detection limit of 330 mg/kg, we recommend that an analytical method be used that achieves a lower detection limit.
- d) We recommend that the additional parameters of diesel range organics (DRO) and particle size be analyzed for in a representative number of sediment samples.
- e) Other comments are made on equipment decontamination procedures and information to be collected during the characterization work (e.g. measurement of corer penetration into the sediments and the length of sediments in the retrieved core tube). These and other comments need to be considered and factored into the Task 3 activities.

Review Comments

We have reviewed the above Work Plan and have the following comments.

1) Screening Level Ecological Risk Assessment

Based on the scope of work outlined in the Work Plan, a more appropriate designation for the study would be a screening level ecological risk assessment (SERA). A SERA uses conservative assumptions and simple assessment models (e.g. the comparison of measured contaminants in site sediments to existing sediment quality guidelines) to eliminate contaminants that could not cause significant effects to any endpoint, endpoints that could not be significantly exposed to any contaminant, and pathways that could not serve as significant routes of exposure.

As defined by Suter (1993), *"the results of a screening assessment serve as the hazard definition phase of the assessment and guide the planning of measurement and estimation activities for definitive risk assessments of the chemicals, routes, and endpoints that were retained by the screen."* NRT's indication of the need to discuss the appropriateness of bioassays and benthic community evaluations after a review of the results of the chemical testing of the sediments related to the SERA fits this tiered assessment approach (i.e. perform the SERA and then determine if a definitive risk assessment needs to be done using guidance such as recently put out by EPA for conducting ecological risk assessments).

2) Sediment Sampling Site Locations

Based on the results of NRT's Task 2, Site Characterization Activities, we will be interested to discuss the locations of the sediment sample sites in the creek with them. Figure No. 1 attached to the Work Plan gives some tentative sampling sites. Based on our work at the site and our past chemical and biological test results, some of our preliminary recommendations in regard to sampling locations are:

a) The NRT Figure 1 has the tentative location for sample site SD-5 in a segment of the creek that has a cobble and sand bottom with generally no soft sediments present. This hard bottom type extends approximately 700 feet upstream of the creek juncture with the lake to the first bend in the creek upstream. Since the bottom type in this reach would not be expected to sequester any significant levels of site contaminants due to lack of soft sediments, the sampling site should be moved upstream into a reach that does have soft sediment deposits.

b) One of the results from our toxicity testing of surface sediment samples collected in October, 1995 was the identification of significant toxicity to both the water column (*Daphnia magna*) and benthic (*Chironomus tentans*) test organisms exposed to sediments from site MC-3 (see location on the attached map). Since we did not

have the funding available to do concurrent chemical testing of the sediment at the time of the toxicity testing, it would be useful if one of the cored sites for the present study could be taken in the area of MC-3. Site factors may have changed the distribution of any chemicals responsible for the past observed toxicity but it is the one identified "hot spot" we have and chemical testing of the segments of the core collected in this area would be useful.

c) We would concur with the approach for analyzing the sediment samples for dioxins/furans, i.e. analyzing an initial six segments and making decisions for further segment analysis based on the results of the initial six. Analyzing three segments for two cores to get an idea of dioxin/furan concentrations from surface to deeper strata in the sediments is one recommended approach for selecting segments for analysis.

3) Task 2: Site Characterization Activities

Based on the listing, a number of observations will be made of site characteristics related to the creek during Task 2. One of the observations we would be looking for would be the relative locational area, extent, and depth of soft sediment in the creek at the reference site and from the creek segment adjacent to the site and downstream to below the County Highway E bridge. Sediment depth would be found by pushing a rod or probe into the sediments to the point of resistance and measuring the penetration. We have done some limited probing in association with our work at the site. The probing may have been done and left unstated for the Task 2 activities listing. It is indicated that depositional characteristics will be reported under site characterization on page 6 of the work plan. If the probing was not done during the Task 2, provisions should be made for doing it during the Task 3 site activities.

4) Reporting

a) Although unstated, I assume the standard documentation of field activities and observations will be maintained in a field logbook or on field sheets that will be made available to the Department when the sampling results are reported. One of the observations we are interested in is the measurement of the depth of penetration of the corer into the sediments and the length of the retrieved sediments in the core tube.

b) Other information that should be recorded based on observations of the retrieved cores include presence of visible strata, colors, odors, relative proportions of sand, silt, and clay fractions, presence of organic matter plant detritus, visible macroinvertebrates, and water depth at the sampling location.

c) A description of the coring device (e.g. diameter of core tube) used to collect the samples should be included in the final report.

5) Equipment Decontamination

- a) Our standard procedure would be to have all the sampling equipment laboratory cleaned prior to bringing it to the field. Equipment that needs to be reused at each sampling site would be cleaned with the steps outlined in the NRT's Work Plan. The exception would be that along with mixing the Alconox soap solution for cleaning with deionized water, the deionized water would also be used for rinsing steps in the field rather than using creek water as specified in NRT's Work Plan. Our recommendation would be to use deionized water for all field rinsing steps rather than site water.
- b) The Work Plan indicates that 6 core segments will be analyzed for dioxins/furans. Depending on the core sections that will be analyzed, two to four different cores from as many sampling locations could be involved. In order to prevent cross contamination from sample site to sample site, the ideal situation would be to have enough cleaned, aluminum rapped cores at the start of the sampling such that they would only be used at one sample site and not have to be field cleaned for reuse.
- c) If possible, the recommendation would be to use stainless steel core tubes rather than plastic for sampling for dioxins/furans. However, core tubes of some hard, inert plastic that is chemical and temperature resistant should be appropriate.

6. Laboratory Analysis

- a) The approximate detection limits given for Dioxins/furans and PCP in the Work Plan would at first seem a high. I'm assuming the detection limits are expressed on a dry weight basis.

Dioxins

We would normally request detection limits of 0.5 to 1.0 ng/kg (ppt) be achieved for each of the seventeen 2,3,7,8 substituted congeners of dioxin and furan for sediment and fish tissue sampling and analysis rather than the 0.5 to 1.0 ug/kg (ppb) proposed in the NRT Work Plan. The need for the low detection limits are generally related to the need know what are the lowest levels of the 2,3,7,8-TCDD form that may be present in sediment and fish tissue from a site. However, from the literature it has generally been demonstrated that analysis of PCP product manufactured in the United States has not been found to have any detectable amounts of 2,3,7,8-TCDD in it. The manufactured PCP product does have in it large amounts of the higher chlorinated hexa-, hepta, and octa- dioxins and furans. Given the analytical results we do have from the Department's previous sampling of Military Creek sediments, we generally

know these higher chlorinated forms are present and in relatively large concentrations especially above the County Highway E bridge. At all the sites the Department analyzed and detected these compounds, they were generally present at concentrations that exceeded 0.5 to 1.0 ug/kg, therefore the detection levels proposed in NRT's sampling plan would appear to be sufficient to meet the objectives of the sampling.

PCP

The proposed detection limit for PCP in the Work Plan is 330 ug/kg. It would be useful to help judge the adequacy of the detection limit if sediment criteria or guidelines related to protection of biological endpoints were available to compare this value against. The only two guide-line type of values I'm aware of are from the State of Washington Sediment Quality Standards that apply to an estuarine habitat and values I derived for another wood treatment site in the past. The Washington sediment standards are established at a level that will result in no adverse effects, including no acute or chronic adverse effects on biological resources and no significant health risk to humans. This level is established at 360 ug/kg.

The sediment guideline values for PCP that I derived were based on the protection of the chronic water quality in NR 105 for PCP. The guidelines are applied to the pore water where benthic macroinvertebrates would be exposed. These sediment values to protect water quality criteria are based on a partitioning model of the PCP moving from the sediment TOC to the pore water. A number of assumptions are involved in using the model, mainly the pH of the system. Based on the TOC content of the sediments, the table below contains the PCP guidelines for the protection of benthic macroinvertebrates from chronic toxicity levels. Depending on the flows and circulations characteristics in the surface waters overlying the sediments and the amount of dilution of PCP released from the sediment pore water to the overlying surface water, the below guidelines may also have pertinency to protecting organisms in the water column over the sediments from PCP toxicity.

Estimated PCP Levels in Sediment Based Related to TOC Content to Prevent Chronic Toxicity Levels in Sediment Pore Water.

% TOC	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
PCP ug/kg	71	142	285	427	569	712	854	996	1,139	1,281	1,424

Based on the above it may be possible to have levels of PCP in sediments that result in chronic toxicity in the pore water when the TOC levels are less than 2.5%. Our recommendation would be to use an alternative analytical method that achieves a

lower detection limit for PCP. Toxicologically significant levels of PCP of less than 330 ug/kg of PCP may be present in sediment and need to be taken into account in doing the risk assessment.

b) To help characterize sediments at sites, we typically do particle size analysis on the samples along with TOC analysis. Our recommendation is that a representative number of samples be analyzed for particle size fractions.

c) Diesel oils were apparently used as a carrier during the wood treatment operations at the site. The floodplain sampling we did in October of 1995 did not have any detects of diesel range organics (DROs). However as a check in the creek sediments, we would recommend that a representative number of samples be analyzed for DROs during the Task 3 sampling and analysis.

7. Ecological Effects Assessment

The Work Plan mentions that ecological effects assessment will consist of comparison of sediment concentrations at the site and background areas to risk-based guidelines and criteria. Except for the guidelines for PCP discussed in comment 6 above, there is little other available sediment quality values available relating biological effects to PCP levels in sediments that I'm aware of, other than some site specific studies in the literature.

There are no guidelines available that I'm that I'm aware of that relates the levels of the 2,3,7,8- substituted forms of dioxins/furans in sediments to biological effects to, e.g. toxicity to benthic invertebrates. Water column studies have generally shown that the higher chlorinated forms (hexa- and higher) are much less toxic than lower chlorinated forms. Studies have demonstrated that dioxins and furans can be mobilized by sediment dwelling organisms. *Chironomus* larvae and *Hexagenia* nymphs, which are important fish and predacious food organisms, have the ability to bioaccumulate various dioxins and furans. High levels of accumulation in these insects could result in food chain biomagnification. Caged fish studies and feral fish collections from Military Creek have generally shown that dioxins and furans are not accumulating in fish tissues.

8. Reporting

In discussions of past sampling results for the site, some issues have been brought up but never fully resolved. To help bring closure to these issues as they relate to the sediments and water quality, it would be useful if NRT would discuss in their report their interpretations and conclusions related to these past issues. Two particular issues are:

a) The Department's September, 1993 on land soil sampling showed significant levels of a number of chlorinated pesticides. Only low levels were detected for two pesticides in the concurrent sampling of the Military Creek sediments. The concern would be that if high levels were found on land, there is the potential that at some time in the past, high levels were transported to the creek and ended up in some sediment deposits. Christiansen's consultant raised a point in the past that the detections of chlorinated pesticides were actually false positive reading based on the interference during the analysis by chlorodiphenyl ethers. This issue may have been dealt with and resolved in the past. In regard to the sediments and water issues at the site, the inclusion of a discussion of the technical issues related to the analytical method that leads to false positive readings for chlorinated pesticides should be included in NRT's report. This would make a final statement on this issue and possibly remove it from any future concern from the water/sediment perspective.

b) Although NRT's report will focus on the ecological aspects of the potential contaminants of concern for the site, it would be useful if NRT's discussion could touch upon the level of risks to humans who may be exposed to the contaminants in the creek sediments or water principally from dermal contact.

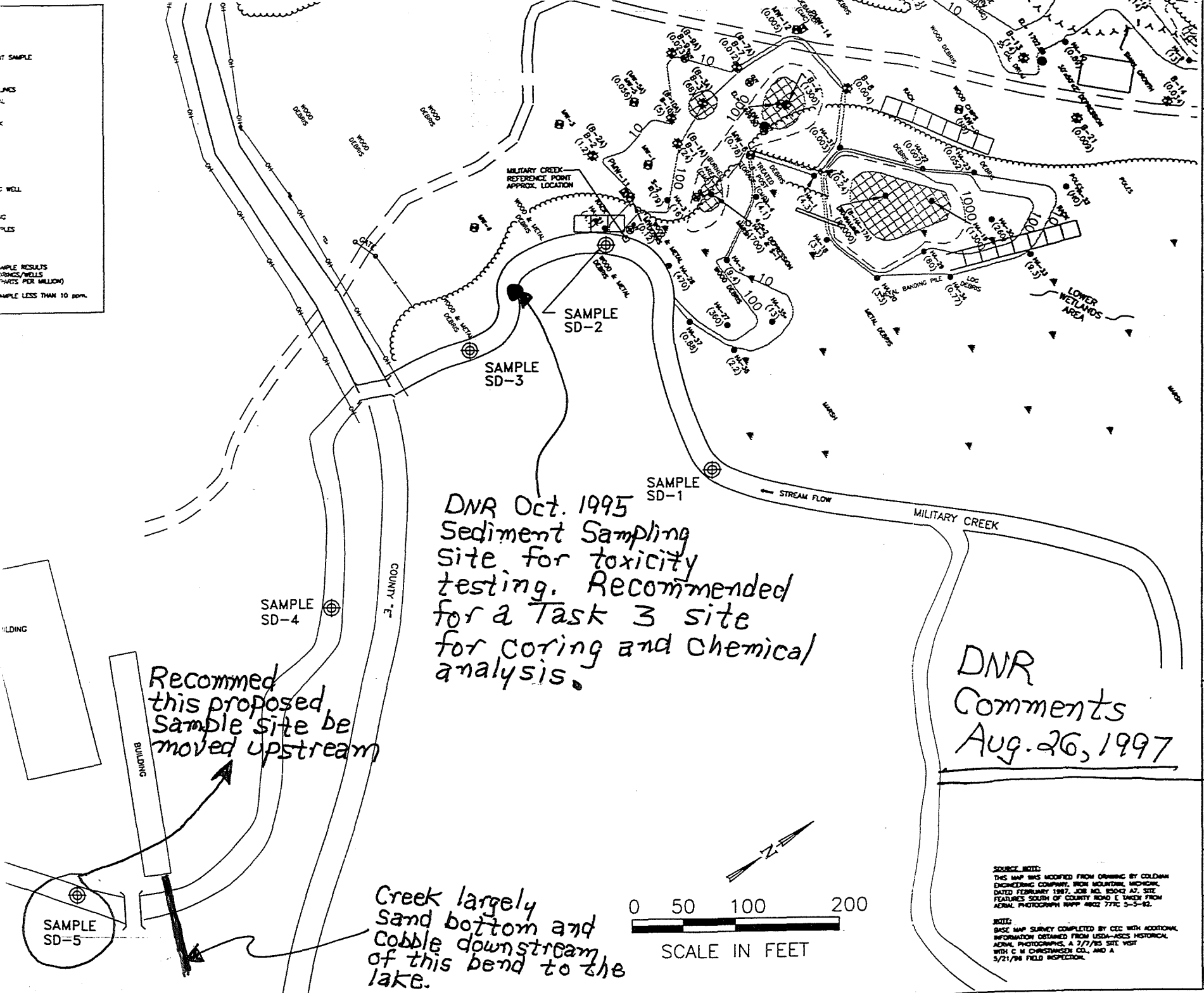
9. Task 3 Field Sampling Activities

When the sampling plan and sampling sites have been finalized, we would be interested in receiving prior notice as to when the sediment sampling will take place. If scheduling allows, we would like to be on site to observe the sampling activities.

If you should have any questions or would want to discuss the above comments, please call me at 608-266-9268. I think most of the issues that are raised in the above comments can be resolved such the Task 3 Field activities can be completed yet this sampling season.

cc: Duane Schuettpelz - WT/2
Lee Liebenstein - WT/2
Jim Amrhein - FH/2
Tom Bashaw - NOR/Rhineland
Jim Kreitlow - NOR/Rhineland

AT SAMPLE
 UNCS
 WELLS
 RESULTS
 PARTS PER MILLION
 SAMPLE LESS THAN 10 ppm.



DNR Oct. 1995
 Sediment Sampling
 site for toxicity
 testing. Recommended
 for a Task 3 site
 for coring and chemical
 analysis.

Recommended
 this proposed
 sample site be
 moved upstream

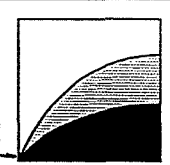
Creek largely
 sand bottom and
 cobble downstream
 of this bend to the
 lake.

DNR
 Comments
 Aug. 26, 1997

SOURCE NOTE:
 THIS MAP WAS MODIFIED FROM DRAWING BY GOLDMAN
 ENGINEERING COMPANY, FROM MILITARY WETLANDS
 DATED FEBRUARY 1987, JOB NO. 85042 AS SITE
 FEATURES SOUTH OF COUNTY ROAD E TAKEN FROM
 AERIAL PHOTOGRAPH 84PP 4822 77C 5-3-82.

NOTE:
 BASE MAP SURVEY COMPLETED BY CEC WITH ADDITIONAL
 INFORMATION OBTAINED FROM USGS-ASCS HISTORICAL
 AERIAL PHOTOGRAPHS, A 7/7/85 SITE VISIT
 WITH C. M. CHRISTIANSEN CO., AND A
 5/21/96 FIELD INSPECTION.

DATE: 4/1/97	DRAWN BY: TAS	PROPOSED SEDIMENT SAMPLING LOCATIONS MILITARY CREEK INVESTIGATION WORK PLAN C.M. CHRISTIANSEN COMPANY FORMER POLE TREATMENT FACILITY PHELPS, WISCONSIN
DATE: 4/8/97	CHECKED BY: EPK	
DATE: 4/10/97	APPROVED BY: RJK	
AUTOCAD FILE: 1226-B01.DWG		PROJECT NO. 1226/SED
		DRAWING NO. 1226-B01
		FIGURE NO. 1



Natural
 Resource
 Technology



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William H. Smith, District Director

Brule Area Headquarters
6250 South Ranger Road
P.O. Box 125
Brule, WI 54820-0125
TELEPHONE 715-372-4866
TELEFAX 715-372-4836

August 28, 1997

FILE COPY

MR ERIC R CHRISTIANSEN
VICE PRESIDENT
CM CHRISTIANSEN CO
PO BOX 100
PHELPS WI 54554

Re: Environmental Contamination at the Former Pole Treatment Facility, C.M. Christiansen Company
(Case #02-64-000068), Phelps, Wisconsin

Dear Mr. Christiansen:

The Department has completed our review of the *Soil Remedial Action Options Report* (the report), prepared for the above named site by Natural Resource Technology, Inc. (NRT), and dated April 30, 1997. The report describes alternatives for interim soil remedial actions at the site. The following comments are based on my review of the report, as well as conversations I have had with you, Laurie Parsons of NRT, Elizabeth Rich of Whyte Hirschboeck Dudek S.C., and Department staff.

1. In Section 2.2 of the report, NRT identifies pentachlorophenol (PCP) as the "primary contaminant of select interest", and the remainder of the report focuses on potential remedial options for PCP. The Department would like to point out, however, that consistent with chs. NR 140, NR 716, NR 720, and NR 722, Wis. Adm. Code, all previously-detected contaminants of concern, including polynuclear aromatic hydrocarbons, volatile organic compounds, and dioxins/furans, will need to be addressed in the remedial planning process. I realize that, due to the nature of the contamination at the site, remedial actions directed at PCP contamination will also likely address the other contaminants of concern, but I feel that this issue needed to be raised.
2. As I have discussed with NRT, it would be advisable for you to begin the process of determining site specific soil cleanup standards for the contaminants of concern, as discussed in s. NR 720.19, Wis. Adm. Code. The determination of these standards must be protective of all potential pathways of concern.
3. Section 3.1 of the report describes the proposed designation of PCP-impacted soil under a D037 hazardous waste classification, per s. NR 608.05, Wis. Adm. Code. However, after discussing this issue with Department staff, it appears that a modification to NRT's proposed waste code designation may be necessary. Based on the definition of the F027 hazardous waste listing and the reported age of the PCP releases at this site, it may not be appropriate to apply the F027 listing to in-place media contaminated with PCP. However, any PCP-impacted media which is actively managed through excavation or extraction will become F027 listed hazardous waste. This issue is more thoroughly discussed in a July 9, 1997 letter written by the Department regarding a different PCP-contaminated site; a copy of that letter has previously been supplied to NRT. If you believe that the F027 waste code designation is inappropriate for actively managed wastes at the C.M. Christiansen site, you can submit written documentation of your waste determination to the Department for consideration.



4. According to Section 3.3 of the report, NRT intends to remove free product during excavation activities as a source control measure. Further information on the separation, collection and disposal of free product will need to be provided to the Department in the interim/final soil remedial action work plan.
5. Section 3.3 of the report also indicates that an estimated 10% of the excavated material will be debris, and will be disposed of as rubble. However, depending on the nature of the debris, it may be necessary to handle this material as a hazardous waste, and treat or dispose of the waste accordingly.
6. Sections 3.3.3 and 4.3 discuss the collection, treatment and disposal of water generated during excavation and treatment activities. NRT should begin the planning process for obtaining any necessary treatment variances and WPDES permit(s) for these activities.
7. Section 4.1 of the report indicates that excavation and on-site treatment of soil is the recommended approach. However, as we have discussed, your company has not made a final decision between the use of medium temperature thermal desorption or biological treatment. Several issues still need to be resolved before a choice can be made between the two options. These issues include potential air emissions problems associated with thermal desorption, and the potentially open-ended time frame associated with biological treatment. We are willing to work with you to try to resolve these issues in a timely manner.
8. You have previously informed me of your company's desire to perform the selected remedial action option only once, if possible, in the interest of timeliness and cost effectiveness. Consequently, we also discussed the possibility of your proceeding with a full soil remediation, rather than an interim soil remedial action. A decision will have to be made shortly as to which direction you intend to pursue. The Department realizes that this decision is directly related to your decision regarding item 7 above. The issue of when remediation of the upper wetlands area will occur is also dependent on this decision.
9. I noted that the report makes no mention of the final disposal location for excavated soil once treatment has been completed. It is the Department's understanding that this decision will be based in part on the selected treatment option, as well as other site specific factors.

The Department realizes that the interrelated nature of many of the issues discussed above will complicate your decision-making process. If you need assistance from myself or other Department staff in trying to resolve these issues, please do not hesitate to write or call me at 715/372-4866.

Sincerely,



Christopher A. Saari
Hydrogeologist

cc: Laurie Parsons - NRT
Elizabeth Rich - Whyte Hirschboeck Dudek S.C.
Michelle Owens - DNR Rhinelander
Linda Meyer - LS/5
Gary Kulibert - DNR Rhinelander
Don Miller - DNR Rhinelander

CORRESPONDENCE/MEMORANDUM

DATE: August 7, 1997

TO: Gary Kulibert - NR

CC: Dale Ziege - RR/3

FROM: Kim White - RR/3 *KAW*

SUBJECT: Status of Superfund Site Assessment Monitoring Wells in Northern Region



Before Bill Ramsey left the Department, he compiled a comprehensive list, by Region, of monitoring wells identified in the Superfund program which had outlived their intended use and needed to be either abandoned or their ownership transferred.

There were only three sites identified in the Northern Region at which action needed to be taken regarding the monitoring wells. The three sites are **Lincoln Wood Products, C.M. Christenson,** and **Antigo Old City Landfill.** It was decided by your staff that ownership for the monitoring wells at these three sites should be transferred. In case these monitoring wells have not yet been transferred, I am enclosing a form which may be used by your staff to expedite the process.

I am in the process now of compiling a list of sites to be included in the Round 2 abandonment process. I will be submitting this list to EPA and its contractor in a couple of weeks to ensure funds will still be available under this contract to abandon the remaining wells. Additionally, I will be leaving the Department in early September, and I want to have this project finished before I leave. So, please notify me as soon as possible if there have been any other sites identified in your region which have monitoring wells which need to be abandoned.

C.M. CHRISTIANSEN CO.

C.M. CHRISTIANSEN, FOUNDER

MANUFACTURERS & DISTRIBUTORS

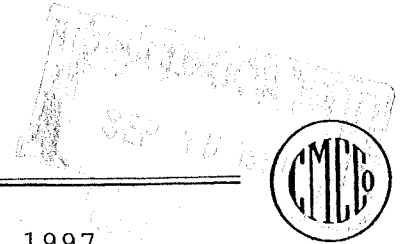
(715)545-2333

• VILAS COUNTY •

FAX 715-545-2334

P O Box 100

PHILIPS • WISCONSIN 54554



September 11, 1997

Christopher A. Saari, Hydrogeologist
STATE OF WISCONSIN
DEPT OF NATURAL RESOURCES
P O Box 125
Brule, WI 54820-0125

Dear Mr. Saari:

As Chief Executive Officer of a "For Profit" Wisconsin Corporation, representing a most legitimate, successful business of over 95 years here in Vilas County, I declare the situation of our old Pole Division to be grossly unfair. Quite relatively unrealistic and without good practical reason. It is certainly a backward step to real progress up here in the North of the State of Wisconsin.

We were all getting along just fine here with the undisturbed lands at the bottom of what you feel might be a problem. No one died, got hurt or sick because of the C.M.C.Co. legitimate and very competitive business activities on the lands in question. We have all carried "high-tech" too far during the past decade. Hopefully, neither your department of State Government nor I, will be accused in the future of wasting valuable funds or resources in chasing dead or dying horses. I feel we are doing that now and it must be stopped.

No one has the real, factual and uncontested answers at this point. Nature will supply it all if we have patience, as it has done over the centuries of the past. We can't stop that and that is good. Man was put on earth to create waste of many resources, but nature always has the healing power and means to correct all problems when given time.

Where did our raw oil supply originate? From the earth. We, as humans "can neither create nor destroy" a non-renewable resource. "We can only change the form thereof." This is what we are all doing in many ways.

Saari, WDNR

9/11/97

Page 2

I, for one, say it is no "big deal" here for reasons stated above, so let's be very practical - save a lot of time, money and try to be realistically productive now. Many things lie ahead for us to do to meet the requirements of realism and import during the years ahead - even for the foreseeable future that lies in the hands of the generation to follow - our "Baby Boomers".

Sincerely,

C. M. CHRISTIANSEN CO.



P. C. Christiansen
President & CEO

PCC/ms

P.S. Not many who know or live in Metropolitan areas, such as Milwaukee, Madison, the Fox River Valley, etc. have ever heard of Phelps, Vilas County. You "can't compare 'Apples with Oranges'". What is good for the goose is NOT always good for the gander. Our neighbors are far apart and we like it that way. This is not at all bad, for many reasons, including social.



P.C.C.

Copy: E.R.Christiansen



C.M. CHRISTIANSEN CO.

PHELPS:

P.O. Box 100
PHELPS, WI 54554
TEL: (715) 545-2333
FAX: (715) 545-2334



MILWAUKEE:

5501 N. SANTA MONICA BLVD.
MILWAUKEE, WI 53217
TEL & FAX: (414) 963-9211
EMAIL: ERC@EXECPC.COM

ERIC R. CHRISTIANSEN
VICE PRESIDENT

September 12, 1997

Mr. Christopher A. Saari
Wisconsin Dept. of Natural Resources
Box 125
Brule, WI 54820-0125

Re: Your letter of August 28, 1997

Dear Mr. Saari:

Thank you for your recent comments regarding our *Soil Remediation Action Options Report* dated April 30, 1997. Be assured we will consider very carefully the many important issues you have raised, and will be back to you as soon as we can.

Unfortunately, however, we now appear to be dealing with the most unwelcome prospect of a potential Consent Order – about which we will have more to say in several days. Suffice to say for the moment that we have directed all of our energies in that direction and will not be able to respond to your comments until that question is off the table.

As I have said all along, we are interested in cooperating with WDNR to achieve a mutually satisfactory resolution to the many complex and cutting edge concerns presented by the Poleyard site. In fact, I have publicly committed to this on numerous occasions. FYI, enclosed is a summary of remarks I made at the June meeting of the North & South Twin Lakes Riparian Association – to be printed in their next newsletter. I do not view the prospect of a Consent Order to be consistent with the spirit of cooperation I refer to in these remarks.

Regarding your letter, I note in passing that we are particularly concerned about several waste classification issues you have raised and with which we may have some serious disagreement. These issues could have enormous cost implications for us and we will need some time to address them properly.

Very truly yours,

Eric R. Christiansen,
Vice President

cc: PC Christiansen
Elizabeth Gamsky Rich
Laurie Parsons

Update on C.M. Christiansen Co. Pole Yard

Eric R. Christiansen presented a brief report on the environmental remediation in progress at the former C.M. Christiansen Co. Pole Yard on County Highway E next to Military Creek. Eric is the grandson of the founder of the company, and the nephew of Phil Christiansen, President. The following is Eric's summary of his remarks:

CMC Co. and its environmental consultants are working with the Wisconsin DNR to address environmental concerns at this site. The site was used from the late 1950s to the late 1970s to treat utility company poles with pentachlorophenol, a wood preservative also known as "penta" and "PCP." Penta is still in active use as a wood preservative today. The penta used by CMC Co. was in a concentration of 5% penta & 95% No. 2 fuel oil. CMC Co. has spent several hundred thousand dollars of its own money to investigate the site over the past few years.

Based on its investigation, CMC Co. has submitted a proposal to WDNR that identified two possible methods for cleaning up the Pole Yard soil containing penta. These alternatives are (1) thermal treatment, using a portable (semi-trailer mounted) unit similar to that used elsewhere for soil containing petroleum products; or (2) bio-remediation, using bacteria in an elaborate compost pile to attempt to degrade the penta using natural processes. Thermal treatment would probably take from a few weeks to several months; bio-remediation would likely take years. There are advantages and disadvantages to both alternatives, including cost, probability of ultimate success, permits and permit variances required from other WDNR departments, aesthetics for the surrounding area, and so forth.

Reasonable people can, and do, differ on the best approach to sites like the CMC Co. Pole Yard. Because of soil conditions and other factors unique to the CMC Co. Pole Yard, and because of the difficulty and lack of experience (nationwide) in dealing with penta sites in general, it is difficult to predict which method would be preferable here. CMC Co. will make the best choices it can based upon the ecological and economic advice of its experts. However, most likely the specifics of the approach will be arrived at through discussions between CMC Co.'s scientists and WDNR's scientists. CMC Co. is committed to working together with WDNR to achieve an acceptable result in as quick a time-frame as makes practical sense.

Regarding Military Creek, CMC Co.'s scientific experts advise that there does *not* appear to be any impact on water or plant & animal life in the Creek or flowing into North Twin Lake. Penta is a fairly heavy, stable material that (in its fuel oil suspended form) does not migrate very quickly. This is good news for the Creek. Working together with WDNR, CMC Co. expects to undertake additional investigation relating to Military Creek in 1997.

WHYTE HIRSCHBOECK DUDEK S.C.

Law Offices

ELIZABETH GAMSKY RICH
DIRECT DIAL (414) 274-3945
EGR@WHDLAW.COM

Suite 2100
111 East Wisconsin Avenue
Milwaukee, Wisconsin 53202

September 22, 1997

(414) 273-2100
Fax: (414) 223-5000

VIA FACSIMILE - 608-267-3579

OFFICES IN MILWAUKEE, MADISON,
MENOMONEE FALLS, WISCONSIN,
AND ZURICH, SWITZERLAND

Ms. Linda Meyer
State of Wisconsin
Department of Natural Resources
Box 7921
Madison, WI 53707-7921

RECEIVED
SEP 23 1997
**BUREAU OF
LEGAL SERVICES**

Re: C.M. Christiansen Site--Draft Consent Order No. 94-NOEE-001

Dear Linda:

I received on September 2, 1997, the above-referenced draft consent order. As I indicated to you when you first advised me that the draft order would be issued, I was very surprised and disappointed by the DNR's decision to initiate stepped enforcement at this site. The purpose of this letter is to request that the Department reconsider its decision in this regard, and allow C.M. Christiansen Company (herein referred to as "CMC") to continue to implement the proactive, environmentally responsible investigation and remediation that is already well underway.

As you know, my personal involvement with this site began shortly before you and I met in Madison and conducted a telephone conference with Scott Watson and Michelle DeBrock-Owens on February 20, 1997, regarding the status of the project and your letter of January 30, 1997. At that time, the DNR had expressed concern that the site investigation and remediation had not moved as quickly as the DNR might have wished; importantly, however, no violations of applicable laws at the site have ever been alleged. At that meeting and a follow-up meeting on March 21, 1997 involving Natural Resource Technology ("NRT") and Scott Watson, CMC committed to meeting the following deadlines for the first three tasks specified in your January 1997 letter:

- Site Investigation Report Completion by March 1, 1997;
- Military Creek Investigation Plan Completion by April 11, 1997; and
- Soil Remedial Action Options Report Completion by April 30, 1997.

Ms. Linda Meyer
September 22, 1997
Page 2

All of these deadlines were met by the company in a timely fashion. I know you are aware of this, and that, in your words, you have been "impressed" by CMC's progress at the site since last February.

It is possible, however, that you are not aware of the full extent of the work which has been undertaken and completed since our February meeting. Following is a partial summary of this work in the form of a chronology detailing significant events which have occurred since last February:

- 3/1/97 CMC submitted a comprehensive, multi-volume Site Investigation Report to DNR
- 3/21/97 NRT meeting with Scott Watson regarding project goals and status
- 3/26/97 NRT received from Tom Janisch of the DNR a substantial amount of information regarding Military Creek, some of which had not previously been provided to CMC
- 4/11/97 Submission of Military Creek Investigation Plan to DNR
- 4/30/97 Submission of Remedial Action Options Report to DNR
- 5/97 NRT left message with Scott Watson to confirm his receipt of Military Creek Investigation Plan and Remedial Action Options Report and to solicit preliminary comments on both documents; NRT did not receive a return call
- 6/5/97 NRT reconnaissance of Military Creek
- 6/3/97 CMC notified by DNR that Scott Watson would be replaced by Chris Saari as project manager
- 7/15/97 NRT correspondence to Chris Saari to provide summary of project status and to re-affirm NRT's understanding that CMC

Ms. Linda Meyer
September 22, 1997
Page 3

was not to proceed without DNR's review and comment on the documents submitted in April, 1997

- 7/22/97 Tour of Weisenberger site (a DNR-managed PCP site where bio-remediation is being attempted) attended by CMC, NRT, and Chris Saari
- 7/30/97 NRT telephone conference with Chris Saari to determine DNR response to issues raised by NRT regarding air emissions from thermal treatment of soil at the site and DNR policy regarding PCP-containing wastes.
- 8/1/97 Meeting at CMC site attended by Eric Christiansen, Elizabeth Rich, and Chris Saari
- 8/4/97 NRT telephone conference with Don Miller of the DNR to discuss variance procedures and management of site investigation waste
- 8/28/97 DNR comments on April 30 Remedial Action Options Report submitted to CMC
- 8/29/97 DNR draft consent order submitted to CMC's counsel

I think it is apparent from the foregoing that CMC has moved very promptly to fulfill and exceed its legal obligations with respect to environmental issues at this site. I am sure you are aware that the DNR insisted that the Military Creek Investigation Plan and the Soil Remediation Options Report be reviewed and approved before CMC could implement them. Both documents were submitted in April; yet no comments were received until the end of August. This comment should not be interpreted as a criticism of DNR. I understand that the reason for the delay was the change in project managers for the site. I'm sure you understand, however, that the delay was attributable solely to the DNR's actions, and that any criticism of CMC for failure to take additional action is unwarranted.

Ms. Linda Meyer
September 22, 1997
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Perhaps the most troubling aspect of the draft consent order is the apparent lack of a legal basis for issuing it. As you are well aware, the DNR's authority to issue administrative orders is a part of the stepped enforcement process, which is a sequence of escalating steps to gain compliance with state laws. DNR policy dictates that DNR staff must try to resolve violations at the lowest possible level. See DNR Environmental Enforcement Handbook ("Handbook"), page 10-3. The Handbook states that state law authorizes the DNR to issue administrative orders to gain compliance. According to the Handbook, "[Administrative orders] are used when *violations* can be resolved using a straightforward (technical) approach *but the violator will not take voluntary action.*" (Emphasis supplied.) See Handbook at page 60-4. In this case, voluntary action has been taken; CMC has conducted an extensive investigation at a cost in excess of \$250,000. No violation has occurred, so stepped enforcement is clearly inappropriate.

Although the draft consent order does not allege that any violations of law have occurred, it does indicate that three "important tasks" have not been accomplished: an interim action, a remedial action plan, and an investigation of Military Creek. Quite frankly, I was astounded that the DNR cited these matters as the basis for the consent order, particularly in light of the delays in DNR response to the submissions CMC made last April. I note, however, that this language, which appears as item #8 in the Findings of Fact, was taken almost verbatim from your letter of January 30, 1997. Perhaps, then, you are not aware of the following considerations relevant to each of the referenced "tasks":

(1) Interim Action. The interim action in question involves free product removal and source control, as discussed in the Remedial Action Options Report (RAOR) submitted to the DNR on April 30, 1997. It should be noted that some free product removal has already occurred and was completed on or about August 22, 1997. The RAOR proposed to address source material, including soils with higher concentrations of PCP and product encountered in the MW 7 area, by excavation and de-watering in that area. We await DNR's comments on and approval of that proposal. As indicated in Mr. Saari's letter of August 28, numerous additional matters remain to be addressed by the DNR before the interim action can be accomplished. I have summarized them here because I think this issue illustrates the point I have attempted to make several times: that this is a complex site that does not lend itself to "one size fits all", inflexible compliance schedules. Following is a partial summary of the matters which need to be addressed before the interim action can be started:

Ms. Linda Meyer
September 22, 1997
Page 5

- Following DNR approval of the RAOR CMC needs to prepare and submit an application for a variance for treatment of a hazardous waste, and needs to obtain DNR approval of the application. I note, in passing, that at the aforementioned Weisenberger site, the DNR submitted a variance application to itself on June 19, 1996. The DNR did not issue a notice of conditional approval to itself until March 27, 1997. I can't imagine that CMC would fare any better.
- CMC needs to select a remedial option for the site. Before doing so, CMC needs the DNR's input regarding air emissions issues associated with the thermal treatment option. (I note, in passing, that this input was first requested during the March 21 meeting with DNR; again in the April 30 report to DNR; and on several subsequent occasions. The DNR's August 28 correspondence indicated that the input would be provided at an unspecified future date.)
- Based on Mr. Saari's August 28 letter, it appears that the DNR is raising new issues regarding waste characterization, which will need to be addressed before any action, interim or otherwise, can be implemented.

(2) Remedial Action Plan. As indicated above, CMC was instructed by the DNR not to proceed with a Remedial Action Plan until the DNR had an opportunity to comment on the RAOR. The RAOR was submitted in a timely fashion, but no DNR response was received until August 28. Moreover, it appears that the DNR is attempting to participate in CMC's waste determinations with respect to both the on-site debris and the appropriate waste codes for waste generated at the site. Although the DNR's authority for doing so is unclear, we are willing to discuss our rationale with the DNR and are prepared to listen to any concerns the DNR might have in that regard. We need to resolve any issues regarding waste characterization before selection of a remedial action option and development of a remedial action plan.

(3) Military Creek Investigation. CMC submitted its Military Creek Investigation Plan in a timely fashion on April 11, 1997. To date, no comments have been received from the DNR on the plan. We recognize that one of the reasons for this is that CMC indicated to the DNR, in a meeting on August 1, that CMC was considering issuance of an update to the April plan. In June, NRT conducted a reconnaissance of the

Ms. Linda Meyer
September 22, 1997
Page 6

creek, which was authorized by CMC in an effort to address the creek investigation in a proactive fashion. CMC, in consultation with NRT, was at that time considering taking the creek investigation in a new direction. Unfortunately, when we received word in late August that issuance of the draft consent order was imminent, CMC was no longer in a position to submit its proposal to DNR. Rather, the company was forced to direct its limited resources to paying legal fees associated with responding to the consent order and taking only DNR-mandated actions.

Linda, I think it is apparent that the proposed consent order is without legal basis and will serve no useful purpose. It represents an unnecessary distraction for a company which had been taking a very responsible approach to compliance with Wisconsin's environmental laws. Moreover, it contravenes the DNR's own guidelines for when enforcement is appropriate, and sends a message to the regulated community that parties whose compliance efforts are prompt and comprehensive will be treated no differently than recalcitrant parties.

I strongly urge the DNR to withdraw the draft consent order, and to allow CMC to continue the investigative and remedial work it has begun in accordance with a mutually agreeable timetable. Please call me to discuss this.

Very truly yours,



Elizabeth Gamsky Rich

lmb

1100 hrs.
10/7/97

Linda Meyer & Michelle Owens
Re: CM Christiansen

- Linda asked me to review chronology as prepared by Elizabeth Rich (9/22/97). My only concern was summary of 7/30/97 conversation between myself & Laurie Parsons, NRT
 - Also discussed (1) Interim Action (p.4) free product recovery on or about 8/22/97; I explained that I had no knowledge of this action
 - We ^(P) need to talk to Air (Neal Baudhuin) to check on status of NRT's checking on air emissions questions
 - Sounds like much of what Rich has asserted is actually on NRT's shoulders to find out
 - Linda will revise Consent Order to Admin. Order, then give CMC/Rich one more chance to accept Consent Order
 - Call Neal B., see if anyone from NRT has checked on air emissions
- (probably give them until 10/15 to decide) ~~JK~~

1140 hrs
10/7/97

Neal Baudhuin, NOR Rhinelander 715/365-8958
Re: CM Christensen

- Neal spoke with Laurie Parsons, NRT, on 9/30/97
- Neal said Dust Coatings, Inc, does not have an approval specifically allowing PCP to be treated, but this may be able to be added relatively easily w/ change in permit. (Laurie mentioned Dust Coatings specifically)
- Dioxin formation temp-dependent
- HCR shouldn't be a problem, air emission-wise
- Could possibly be a viable option; off-hand, he didn't know of anything that would rule out this technology, but he needs to check w/ people in Central Office first
- Neal thought he might have answers to these questions by end of week

PHONE CONVERSATION RECORD

DATE: 11/7/97

TIME: 0908 hrs.

CONVERSED WITH: Laurie Parsons
Natural Resource Technologies
414/523-9000

SUBJECT/PROJECT: O.M. Christiansen

UNIQUE ID#: #02-69-00068

Parsons had been seeking permission from Christiansens & Elizabeth Rich to call me, and had finally received the ok. to call and give me an update.

Parsons said NRT did some work at the site this week. The barrels of investigative waste (mainly soil, some water) were moved to a lean-to building owned by Christiansen near North Twin Lake. Parsons said she had spoken with Steve Ohm, WW staff in NOR, about disposing some of the barrel water at the Eagle River WWTP, but the FOZZ waste listing question caused too many transportation & disposal problems. The barrels will now sit for the winter in the building. NRT is working on setting up secondary containment for the drums. NRT is also looking into using carbon to treat the water prior to a WPDDES discharge on-site.

Parsons then mentioned that Eric Christiansen had a set amount of money for the project, and this money ~~is~~ now being used on

Signature: Christopher Schaar

(please write legibly)

-over-

legal fees (i.e. draft Consent Order).

Parsons then said she has spoken with Neal Baudhain, AM, regarding permitting of a thermal desorption unit. Parsons said she was given names of contacts in central office to speak to regarding air issues.

Parsons said that C.M.C. is leaning towards thermal desorption, but the company feared that the Consent Order was "not flexible enough" to deal with the thermal treatment option (i.e. the thermal plant may be delayed in reaching the site - they would then possibly be out of compliance with the Order). I tried to explain that those types of situations could probably be dealt with using our enforcement discretion; Parsons said she would pass that on to C.M.C. & Rich.

Parsons also said that NRT performed some test pits at the hot-spot near the lower wetland, to determine if the previous 80,000 ppm PCP detect may be from a sludge layer. NRT hopes to determine the depth of this contamination, as well as perform a treatability characterization of this area. Using this information, NRT will then re-evaluate and revise the Soil Remediation Action Options Report in time to meet the deadline in whatever agreement DNR & CMC reach. Parsons also mentioned proposing changes to the Code references in the schedule to make the references more applicable.

I then asked Parsons about the free product recovery mentioned in Rich's 9/22/97 letter. Parsons said Coleman Engineering had bailed some free product into containers, and NRT arranged to have this waste brought to the Vilas County Clean Sweep. Parsons said there was probably only 10 gallons of product; she also said Don Miller had oked this disposal method.

We then discussed the issue of F-listing the waste. Parsons suggested that maybe F032 would be more appropriate than F027, based on other sites she has worked on. I said that the waste code listing

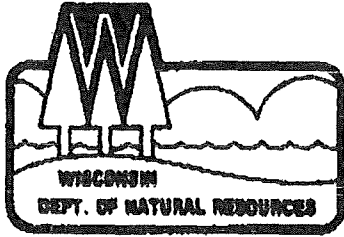
section of my 8/28/97 letter was probably poorly worded. What I was trying to across to CMC was the waste code listing as it was explained to me, and that DNR Hazardous Waste staff would have the final say on the listing. Parsons then said that the listing could have a huge impact on the contaminated debris (concrete, wood, etc.) at the site.

Parsons then said that NRT convinced CMC to let them at least collect groundwater samples from the MW-10/PMW-11 well nest. These wells were sampled this week, mainly to see if the deeper well continues to ~~be~~ show concentrations higher than the water table well.

I asked if the recent sampling results would be made available to me. Parsons said she would talk to CMC & Rich to get approval to send these to me; Parsons didn't think it would be a problem to send the results out.

I then asked if the barrel storage area would be checked periodically; Parsons said it would. I suggested that Parsons talk with Don Miller about relocating the barrels; Parsons said she had already done so, and that she would probably follow-up with a call to Miller and a short note to Miller and me describing the barrel relocation.

W



**Wisconsin Department of Natural Resources
Bureau for Remediation & Redevelopment (RR/3)
101 S Webster Street
Madison, WI 53707-7921**

TELEFAX COVER SHEET

FAX # (608)-267-7646

Date: 12/3/97

To: Chris Saari

Agency/Company: _____

Fax Number: (715) 372-4836

Subject: GAO Survey - C.M. Christianson

Comments:

W

Post-it® Fax Note	7671	Date	12/5/97	# of pages	8
To	John Burnett	From	Chris Saari		
Co./Dept.	RR/3	Co.	Brule		
Phone #		Phone #	715/372-4866		
Fax #	608/267-7646	Fax #			

From: John Burnett

Phone Number: (608) 266-2632

Number of Pages 9 (Including Cover Sheet)

U.S. General Accounting Office

GAO Survey of NPL-Eligible Sites: States, Territories, and Tribes**Introduction**

The U.S. General Accounting Office (GAO) is an agency that examines issues for the U.S. Congress. We are conducting a review of contaminated sites that are considered "NPL-eligible." That is, after a site inspection by the U.S. Environmental Protection Agency (EPA), these sites are found to be eligible for placement on the National Priorities List (NPL), also known as Superfund. As part of our review we are sending surveys to all states, territories, and Indian tribes to request information on the individual sites located in their jurisdictions. We are assessing the likelihood that sites will be placed on the NPL and the activities that are occurring to mitigate contamination at these sites.

This questionnaire asks about 1 of 3,000 NPL-eligible sites nationwide (as of October 8, 1997). Please make a reasonable effort to answer the questions. Because we are also sending a similar survey to U.S. EPA, we are especially interested in the information that they may not have on this site. If you cannot provide an answer to a question, check the box that indicates information is not available. It is not necessary to consult with U.S. EPA since they are also providing site information to us. Please have the most appropriate staff fill out each survey.

Your response within 21 days of receiving this survey will help us avoid costly follow-ups. If the self-addressed business-reply envelope is missing, please return the questionnaire to the following address:

U.S. General Accounting Office
Attn: Rosemary Torres Lerma
200 West Adams, Suite 700
Chicago, IL 60606

If you have any questions, please call Rosemary Torres Lerma at (312) 220-7644.

Thank you for your assistance.

Site name and location:

C.M. CHRISTIANSEN COMPANY
COUNTY E (LAKE ST.)
PHELPS WI 54554

CERCLIS #: WID988639035 GAO #: 2308-A

1. Please fill out the following in case we need to contact the person completing this survey.

Name: Chris Saari

State/Terr.: WI (2-letters) or Tribe: _____

Agency/Dept. Natural Resources

Phone: (715) 372-4866

Please note: Because we don't know whose information is most current, we are also asking U.S. EPA's regional office for answers to Questions 2-6, 10-12, 14, and 19. So, if you do not have the information for those questions, there is no need to contact U.S. EPA for the answers.

Effects of site's contamination

2. How does contamination at this site affect groundwater? (Check one.)

1. Actual contamination
2. Potential contamination
3. No potential or actual contamination identified
4. Need more information to answer
5. Other (Please explain.)

3. How does contamination at this site affect *drinking water* (surface water or groundwater sources)? (Check one.)

- 1. Actual contamination
- 2. Potential contamination
- 3. No potential or actual contamination identified
- 4. Need more information to answer
- 5. Other (Please explain.)

Site conditions

4. Are there any residents or regular employees within 0.5 miles of the site? (Check one.)

- 1. Residents only
- 2. Employees only
- 3. Both residents and employees
- 4. Neither residents nor employees
- 5. Need more information to answer
- 6. Other (Please explain.)

5. Do your state's/territory's/tribe's records and/or your knowledge of the site indicate that this site's contamination contributes to any of the following? (Check one for each row.)

(Check one for each row.)	Yes (1)	No (2)	Uncertain (3)	Other (Please explain.) (4)
Drinking water				
a. Residents are advised not to use their wells.		X		
b. Residents are advised to use filtered water.		X		
c. Residents are advised to use bottled water.		X		
d. Water supply is temporarily changed.		X		
e. Water supply is permanently changed.		X		

(Check one for each row.)	Yes (1)	No (2)	Uncertain (3)	Other (Please explain.) (4)
Other uses of water				
f. Livestock drink contaminated water.		X		
g. Crops are irrigated with contaminated water.		X		
h. Fish could be unsafe to eat.				Fish tissue samples have detected penta-chlorophenol.
i. Fish, plants, or animals are sick/dying.			X	
j. Recreation is stopped or restricted (e.g., fishing, swimming).			X	
k. Residents, workers, etc., use water that fails to meet water quality standards (e.g., for bathing, watering vegetable gardens, or landscaping).		X		
Soil/air				
l. Residents/others should avoid exposure to contaminated dust or other particulates on some days.				Direct contact hazard is present, but site access is restricted.
m. Residents are advised not to let children play/dig in their yards.		X		
n. Fences/barriers/signs are erected to keep residents or others out of contaminated areas.	X			
o. Obnoxious odors are present.		X		
Other conditions				
p. Trespassers, including children, may come into direct contact with contaminants.	X			
q. Workers or other legitimate visitors may come into direct contact with contaminants.	X			
r. Institutional restrictions are necessary because of the site's contamination (for example, a deed restriction limits the property to industrial use or a legal limit is placed on well depth).				Not at this time, but possible in the future.
s. Residents/community have concerns about contamination or potential health effects from this site.	X			

State/territorial/tribal activities

6. Has your state/territory/tribe overseen or funded any of the following activities at this site? (Check all that apply.)

1. No state/territorial/tribal program actions taken yet
--> Skip to Question 8.
2. Investigating/Assessing site
3. Removing waste from the site
4. Taking other interim actions to mitigate the site's contamination
5. Constructing final cleanup
6. Other (Please specify.)

7. Under what state/territorial/tribal program did the above activities (reported in Question 6) occur? (Check all that apply.)

1. Potentially responsible party (PRP) activity under an enforcement program
2. PRP activity under a voluntary cleanup program
3. PRP activity under another state/territorial/tribal program
4. Activity funded by state/territory/tribe
5. Activity funded by U.S. EPA
6. Other (Please specify.)

8. Do you expect to begin any *future* on-site cleanup activities (removal or remediation) at this site, either by the PRP or by your state/territory/tribe? (Check one.)

1. No
2. Yes--> a. In what calendar year? (Check one.)
 1. 1997
 2. 1998
 3. 1999
 4. 2000-2003
 5. 2004-2009
 6. 2010 or later
 7. Don't know
3. Too early to tell
4. Other (Please explain.)-

Site risk

9. Please rate the *current risk* to human health and the environment posed by this site. (Check one.)

1. Very high risk
2. High
3. Average
4. Low
5. Very low risk
6. Too early to tell/Need more information to answer
7. Other (Please explain.)

10. Please rate the *potential risk* to human health and the environment posed by this site if it is not cleaned up. (Check one.)

1. Very high risk
2. High
3. Average
4. Low
5. Very low risk
6. Too early to tell/Need more information to answer
7. Other (Please explain.)

Status of cleanup

11. As of September 30, 1997, will more cleanup be needed at this site to protect human health or the environment? (Check one.)

1. Definitely yes
2. Probably yes
3. Uncertain
4. Probably no
5. Definitely no
6. Cannot say; depends on future spread of contamination
7. Too early to tell/Need more information to answer
8. Other (Please explain.)

12. Is cleanup currently under way that will complete all remediation needed at this site to protect human health and the environment? (Check one.)

1. Yes
2. No
3. Cleanup is under way but it is too early to tell if more will be needed
4. Other (Please explain.)

PRP Involvement

13. If you expect participation by PRP(s) in this site's cleanup, under what program(s) would this activity occur? (Check all that apply.)

1. Do not expect PRP participation
2. State/territorial/tribal voluntary cleanup
3. State/territorial/tribal enforcement (using an order, decree, or other legal agreement)
4. Other state/territorial/tribal program (solid waste, water resources, etc.)
5. U.S. EPA program
6. Too early to tell/Need more information to answer
7. Other (Please specify.)

14. Which one of the following *best* describes involvement of PRPs at this site? (Check one.)

1. No PRP likely (orphan site, etc.)
-->(Skip to Question 16.)
2. PRP(s) identified, but viability is uncertain
3. PRP(s) identified, but cooperation is uncertain
4. PRP(s) will participate in site's cleanup, but extent of participation uncertain
5. PRP(s) likely to clean up all or almost all of site's contamination
6. PRP(s) have already begun final cleanup and are expected to fund all or almost all of it
7. Too early to tell/Need more information to answer
8. Other (Please specify.)

15. To what extent is the cooperation of this site's PRP(s) better or worse because of the possibility of the site's inclusion on the NPL? (Check one.)

1. No viable PRP known
2. Much better
3. Better
4. No impact
5. Worse
6. Much worse
7. Too early to tell/Need more information to answer
8. Other (Please explain.)

16. If you do not have a PRP who is likely to fund cleanup at this site, do you anticipate funding problems if your state/territory/tribe must pay for the cleanup? (Check one.)

1. Does not apply: PRP(s) likely to fund cleanup
2. Definitely yes
3. Probably yes
4. Uncertain
5. Probably no
6. Definitely no
7. Too early to tell/Need more information to answer
8. Other (Please explain.)

Opinions on site's placement on NPL

17. Considering your state's/territory's/tribe's environmental cleanup programs (legal authority, funding, and personnel), do you think this site will eventually be placed on the NPL? (Check one.)

1. Definitely yes
2. Probably yes
3. Uncertain
4. Probably no
5. Definitely no
6. Contamination no longer qualifies site for placement on the NPL.
7. Too early to tell/Need more information to answer
8. Other (Please explain.)

18. Which of the following best describes your state's/territory's/tribe's departmental position on NPL listing for this site? (Check one.)

1. Support
2. Neutral
3. Oppose
4. Contamination no longer qualifies site for placement on the NPL
5. Too early to tell/Need more information to answer
6. Other (Please explain.)

19. In your professional opinion, which *one* of the following seems to be the *most likely* outcome for this site? (Check only one.)

1. Cleanup as an NPL site
2. No NPL listing, but U.S. EPA conducts or oversees cleanup (RCRA, removal, etc.)
3. No NPL listing, but our state/territory/tribe conducts or oversees cleanup (enforcement, voluntary cleanup, state-funded cleanup, etc.)
4. No cleanup conducted because not needed to protect human health and the environment
5. Further cleanup action is needed, but will not be conducted (due to limited resources, other priorities, etc.).
6. Too early to tell/Need more information to answer
7. Other (Please describe.)

20. In what calendar year do you expect the construction of final cleanup remedy will be completed? (Check one.)

1. 1997
2. 1998
3. 1999
4. 2000-2003
5. 2004-2009
6. 2010 or later
7. Cleanup remedy already completed
8. Cleanup remedy not needed to protect human health and the environment
9. Too early to tell/Need more information to answer
10. Other (Please explain.)

Sources of Information

21. Considering your answers to all survey questions, what is the most approximate calendar year of the most recent information that you provided for this site? (*Check one.*)

1. 1990 or earlier
2. 1991
3. 1992
4. 1993
5. 1994
6. 1995
7. 1996
8. 1997
9. Other (*Please explain.*)

22. Please consider the information sources that you used to complete this survey and indicate the category below that most closely fits your situation. (*Check one.*)

1. Used site records only; no other experience with this site
2. Used my own knowledge of this site and site records as needed
3. Other (*Please explain.*)

23. Thank you for your assistance with this survey. You may use the space below to add comments.

PHONE CONVERSATION RECORD

DATE: 12/12/97
TIME: 0905 hrs.

CONVERSED WITH: Chris Krein
Burkett & Associates Real Estate
715/479-3090

SUBJECT/PROJECT: C.M. Christiansen

UNIQUE ID#.: 02-64-000068

Krein had called after talking with Chuck Weister in Rhinelanders. Weister suggested that Krein contact me.

Krein said his company has a 5 acre parcel for sale in the very NW corner of the SW quarter of Sec. 35, T42N, R11E. Krein said a potential buyer had concerns about possible groundwater contamination from the CMC site. Krein asked about groundwater flow in the area, and whether contamination existed on other portions of CMC property.

I explained to Krein that groundwater at the site flows S-SSE, towards Military Cr. & North Twin Lk. I also said that the only contamination I was aware of in this area was centered around the former pole dipping site.

Krein asked if the potential purchaser could call me with additional questions. I said that would be OK.

Signature: Christopher Adams
(please write legibly)