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LTI–Limno-Tech, Inc.
Environmental Engineering

Facsimile Transmittal - Cover Sheet

TO: Chris Waggoner
FAX NO.: (517)-373-9958

COMPANY: Surface Water Quality Division
Michigan Department of Natural Resources

FROM: Greg Peterson
FAX NO.: (313) 973-1069

PROJECT: JD7

DATE: 9/12/89

4 Pages Following

If you have any problems with this transmission please call (313) 973-8300

Dear Chris:

Attached please find the proposal for the Test Pit Excavation at Allied, as we discussed. Please let me know as soon as possible whether you have any comments on the plan. Thanks

Sincerely
Greg Peterson

2395 Huron Parkway - Ann Arbor, Michigan 48104 - Telephone: 313/973-8300

Canonie Environmental

September 7, 1989

89-135 PR

Mr. Gregory W. Peterson
LTI-Limno-Tech, Inc.
2395 Huron Parkway
Ann Arbor, MI 48104

Proposal
Test Pit Excavation
Former Allied Paper Incorporated Site
Kalamazoo, Michigan

Dear Mr. Peterson:

In response to your request, Canonie Environmental Services Corp. (Canonie) hereby submits to LTI-Limno-Tech, Inc. (LTI), a proposal to perform test pit excavations at the above-referenced site.

The former Allied Paper Incorporated (Allied) site is situated adjacent to Portage Creek in the city of Kalamazoo, Michigan. Process waste was discharged to Bryant Mill Pond, a surface water impoundment created by damming Portage Creek downstream of Allied's waste management operations. At some time during the plant's operation, the waste stream contained concentrations of polychlorinated biphenyls (PCBs), which accumulated in the sludge which settled in the pond. Canonie understands that the sludge varies in thickness between 0 and 12 feet, and contains concentrations of PCBs up to 1,000 mg/kg. The test pit area sludge contains up to 330 mg/kg PCBs, based on analytical data provided by LTI. Canonie understands that the purpose of the excavations is to gather information which may be used in designing a creek diversion and for designing the final site remedial action.

Proposed Activities

Based on our site visit of August 9, 1989 and subsequent telephone discussions, Canonie proposes to excavate two test pits in the area identified on the attached figure. Upon mobilization, Canonie will clear brush and provide a temporary access road from the existing haul road to the test pit site. Approximately 20 cubic yards of clay will be imported from off-site and stockpiled near the test pit site for use as backfill material.

A John Deere 410 (or similar) backhoe/front end loader will be used to excavate the trenches. The first trench will be approximately 10 feet long

by 6 feet wide and will be excavated in the silty sludge overlying a layer of peat described in boring logs supplied by LTI. The peat layer appears to begin 4 to 5 feet below the present ground surface. The excavation will be pumped of free liquid and monitored to qualitatively determine the infiltration rate of water into the excavation and to determine the stability of the excavation walls. The free liquid will be pumped to the second trench, which will be excavated approximately 30 feet away.

The second trench will be approximately 2 feet wide by 10 feet long. Initially, the narrow trench will be excavated to the top of the peat layer and will be used to contain water pumped from the larger excavation. After completion of infiltration monitoring in the first trench, the second trench will be excavated through the peat layer to observe infiltration from below the peat. The width of the second trench will be as narrow as possible so that the inflow of water can be controlled or stopped if the inflow is excessive. Upon completion of the test pitting, the excavations will be backfilled with the excavated sludge or clay.

Canonie also proposes to perform a pilot scale "mud wave" exercise to determine the viability of the technique for use in constructing the creek diversion through the sludge. A small bulldozer (Caterpillar D-4 or similar) will be used to push coarse gravel from a stable access point into the former lagoon sludges. The sludge should be displaced by the gravel, which will be progressively advanced by pushing more gravel out into the sludge. Canonie proposes to use approximately 100 cubic yards of coarse gravel imported from off-site for the pilot test.

Canonie understands that LTI may wish to perform further activities or experiments in the field, such as spreading and seeding excavated sludge. Canonie is prepared to provide any assistance necessary to perform any additional activities.

Health and Safety Plan

Canonie will prepare a site-specific health and safety plan which will identify potential hazards and levels of personal protective equipment to be used at the site. All work performed by Canonie personnel and our subcontractors will be consistent with the requirements of the health and safety plan.

Canonie anticipates that field work will be carried out in modified Level D protective equipment. Workers will be required to wear poly-coated Tyvek (or similar) coveralls, rubber overboots, and nitrile gloves. Canonie does not anticipate that respiratory protection will be required. Personal protective equipment and debris generated during site activities will be bagged each day and left on-site for disposal by others.

Decontamination

Canonie proposes to use an existing temporary decontamination area on-site to clean equipment used during site activities. Canonie understands that a

steam cleaner may be available on-site and proposes to use this equipment for decontamination.

Schedule

Canonie proposes to mobilize to the site on ~~September 18,~~ October 2 9/11/89 1989. Canonie proposes to subcontract the excavating services to Fretco Incorporated, an excavation contracting company operated by Mr. Tom Flanagan. A Canonie field engineer will direct the field investigation and will also operate pumps to dewater excavations.

Canonie estimates that excavation of the two test pits will require two to three days, which includes provision for site access and overnight observation of infiltration into Test Pit 1, if necessary. The mud wave pilot test will require one to two days.

Any additional investigatory activities will be performed as directed by LTI.

Cost Estimate

Canonie proposes that the test pit excavation project be carried out on a time-and-materials basis. The attached Professional Services Agreement (PSA) outlines Canonie's category rates for engineering services. Table 1 summarizes Canonie's estimated daily cost for performing the test pit excavations and mud wave experiment, as well as an estimated cost for mobilization/demobilization.

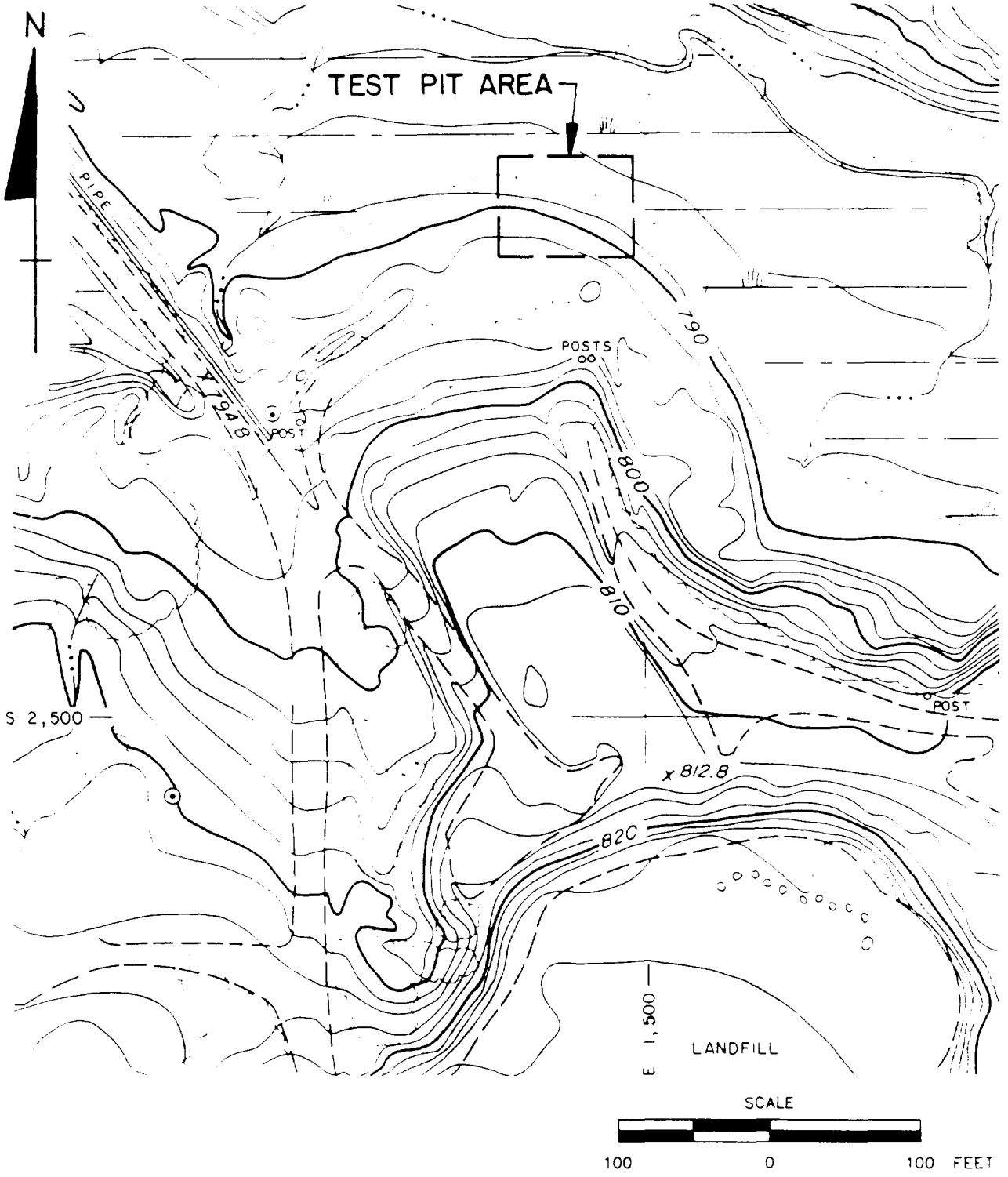
Canonie believes that this proposal addresses LTI's objectives for the test pit excavation project. If the proposal meets your approval, please execute both copies of the enclosed PSAs, and return one copy to Canonie. Canonie looks forward to working with LTI on this important project.

Respectfully submitted,

Charles Rives
Project Manager

CR/tl

Enclosures



PROPOSED TEST PIT LOCATIONS

REFERENCES:
- WILKINS & WHEATON ENVIRONMENTAL SERVICES INC., ALLIED PAPER COMPANY AIR-PHOTO TOPOGRAPHY, 4-5-88.

PREPARED FOR
LTI-LIMNO-TECH, INC.
KALAMAZOO, MI.

Canonie Environmental

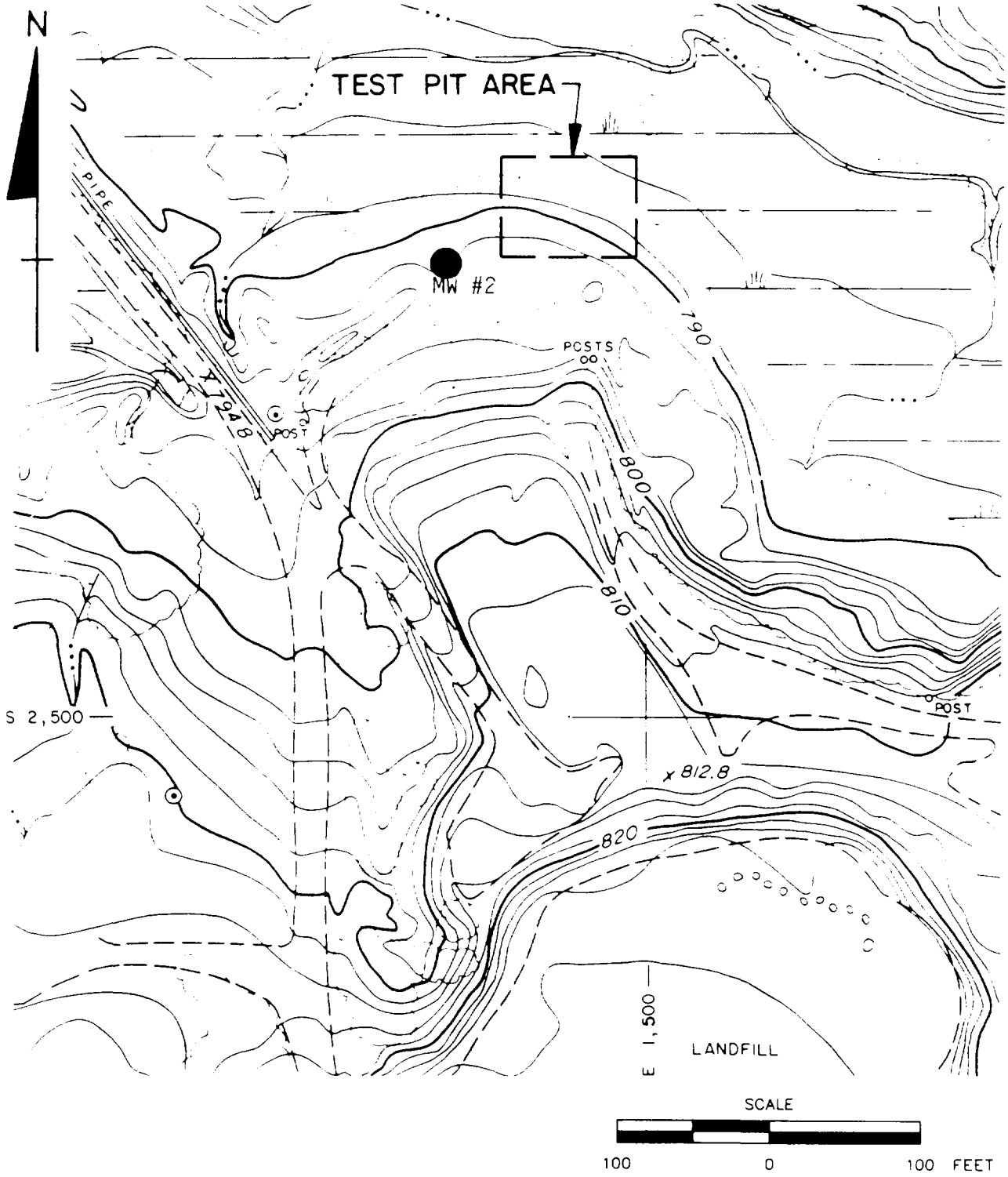
DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
GWB 9-7-89			89-135-A1

No.	DATE	ISSUE NUMBER / REVISIONS	DWN. BY DATE	CK'D BY DATE	AP'D BY DATE
1	9-7-89	ISSUED FOR PROPOSAL	GWB 9-7-89		

DATE: 9-7-89
SCALE: AS SHOWN

FIGURE 1

DRAWING NUMBER 89-135-A1



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PROPOSED TEST PIT LOCATIONS

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FIGURE 1

DRAWING NUMBER 89-135-A1

TABLE 1

COST ESTIMATE
TEST PIT EXCAVATION
FORMER ALLIED PAPER SITE
KALAMAZOO, MICHIGAN

Estimated Mobilization/Demobilization Cost	$ 700
Estimated Daily Cost for Site Activities Includes: Engineer, Backhoe with Operator, Bulldozer, Diaphragm Pump, Compressor, Hose, Health and Safety Expendables, Daily Expenses (Hotel, Project Vehicle, etc)	2,350
Estimated Cost to Perform Mud Wave Experiment Includes: Equipment and Personnel as Above, Gravel	3,675