



January 25, 2006

Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Madison, Wisconsin 53711

submitted via email to:
Harlan.Kuehling@dnr.state.wi.us

RE: NewFields Project No. 0451-002-800
WDNR BRRTs No. 03-28-176509
Work Plan for Supplemental Site Investigation
D.B. Oak Facility, 700-710 Oak Street, Ft. Atkinson, Wisconsin

Dear Mr. Kuehling:

NewFields has prepared this Work Plan for the completion of a supplement site investigation at the above referenced facility. We have prepared this proposal based upon Wisconsin Department of Natural Resource's (WDNR) review of the November 10, 2005 Site Investigation Report, and discussions with the Agency during our December 1, 2005 meeting. The WDNR concurred with the recommendations in our report to collect additional soil samples for TCLP analyses and bench scale testing. The Agency also requested the installation of an additional side gradient well nest and separate deep piezometer. We have also included as part of this scope the inclusion of an evaluation of potential remedial responses. This work plan includes a scope of work and an associated schedule.

1.0 SCOPE OF WORK

In accordance with the recommendations described in our November 2005 Site Investigation Report, and the WDNR's request for additional site work, NewFields recommends the following tasks:

Task 1 –Project Preparation

NewFields will update the site-specific health and safety plan, and make arrangements for drilling and laboratory services needed to complete the project. Additionally, NewFields will update the access agreement with the current property owner, and obtain clearance for buried utilities with the statewide utility identification service (Digger's Hotline) and the current property owner.

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*From a pull site
with an email
from Dave Truener
dated 01/25/06.
effective I replied with
no disagreements.*

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Task 2 – Monitoring Well Installation

Per WDNR's request, NewFields will supervise the installation of one additional well nest and a deep piezometer on the DB Oak property. Water table observation well MW-7 and nested piezometer MW-7A will be installed on the southwest side of the DB Oak property, and deep piezometer MW-3B will be installed adjacent to existing wells MW-3 and MW-3A. Groundwater samples collected from MW-7/MW-7A will be used to further characterize the lateral and vertical extent of groundwater contamination on the southwest portion of the DB Oak property, and samples collected from MW-3B will be used to further characterize the vertical extent of groundwater contamination on the east side of the DB Oak building. Proposed well locations are shown on Figure 1 (attached).

Water table observation well MW-7 and piezometer MW-7A will be installed on the southwest side of the DB Oak property as side gradient monitoring wells. Both wells will be installed in boreholes advanced with 4 ¼ -inch ID hollow stem augers utilizing a truck mounted drill rig. Soil samples will be collected at 2 ½ -foot intervals to a depth of 20 feet, and at 5-foot intervals below 20 feet. Subsurface soil units will be visually classified in accordance with the Unified Soil Classification System and descriptions will be recorded on a field log. Water table observation well MW-7 will be constructed with 2-inch diameter schedule 40 PVC well casing and screen, and installed at a depth between 15 and 20 feet below ground surface (between 7 and 8 feet below the water table) with a 10-foot well screen with 0.010-inch slot size openings. Piezometer MW-7A will be constructed with 2-inch diameter schedule 40 PVC well casing and screen, and installed 25 feet below the shallow wells with 5-foot well screens having 0.010-inch slot size openings. A sand pack will be placed around each well screen as the augers are removed. A bentonite seal will be placed above each sand pack, and the annular space above the seals will be backfilled with bentonite. All wells will be installed with protective well covers. Soil cuttings will be placed in 55-gallon drums, and temporarily stored on-site until arrangements for disposal can be made.¹

Deep piezometer MW-3B will be installed in a six inch diameter borehole advanced by mud rotary with a truck mounted drill rig. Soil samples will be collected at 5-foot intervals below 45 feet. Subsurface soil units will be visually classified in accordance with the Unified Soil Classification System and soil descriptions will be recorded on a field log. Piezometer MW-3B will be constructed with a 2-inch diameter schedule 40 PVC well casing and screen, and installed at a depth between 75 and 80 feet below ground surface (25 to 30 feet below MW-3A) with a 5-foot well screen having 0.010-inch slot size openings. A sand pack will be placed around the well screen, and a bentonite seal will be placed

¹ Two drums containing cuttings from the previous investigation are stored adjacent to the MW-3 well nest. Samples from these drums failed the TCLP analyses as part of the landfill profile tests (the remainder of the drums were certified acceptable for disposal and removed). These disposition of these drums will be resolved as part of this investigation.

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above the sand pack. Bentonite slurry tremied in place will be used to backfill the annular space above the sand pack and seal. The well will be encased in a protective well casing and a bumper post will be installed adjacent to the well. Spent drilling mud will be placed in 55-gallon drums, and temporarily stored on-site until arrangements for disposal can be made.

Task 3 – Well Development and Groundwater Sample Collection

Following well installation, NewFields will develop each well by surging and purging 10-well volumes. In the event that the wells bail dry, five well volumes will be removed. Purge water will be placed in 55 gallon drums, and temporarily stored on-site until arrangements for disposal can be made. The reference elevation of each new well will also be surveyed by NewFields relative to existing site datum. Soil boring logs, well construction forms, and well development forms will be completed for each proposed well. All drilling, well abandonment, well construction, and well development will be completed in accordance with Wisconsin Administrative Code NR 141 requirements.

NewFields will collect groundwater samples from all proposed wells a minimum of one week following well development. Prior to sample collection, groundwater elevations will be measured in all site wells to determine groundwater elevations at the time of sample collection. All samples will be submitted to a Wisconsin certified laboratory and analyzed for VOCs by Method 8260. Groundwater samples will also be analyzed for geochemical indicator parameters (iron, manganese, nitrate, sulfate, and alkalinity), and field measurements for pH, dissolved oxygen, and oxidation-reduction potential. In accordance with WDNR guidance, one duplicate sample and a trip blank will also be analyzed for VOCs.

Task 4 – Soil Sample Collection

Soil samples will be collected from the east side of the DB Oak facility building to develop a waste profile for potential disposal of contaminated soil. Soil borings SB-1, SB-2, SB-3, and SB-4 will be advanced in areas of known soil contamination (Figure 1), and samples will be collected continuously with a split-barrel sampler advanced with small diameter (2¼ -inch ID) hollow stem augers. Soil borings SB-2 and SB-4 will be advanced in areas where the highest concentrations of VOCs were detected during the previous site investigation. Samples collected from shallow depths at these locations will be submitted to a Wisconsin-certified environmental laboratory and analyzed for pH, specific gravity, total solids, free liquids, flash point, reactive sulfide, reactive cyanide, chlorine, TCLP metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), TCLP VOCs, and TLCP SVOCs. Results will be used to develop a waste profile for potential disposal of contaminated soil. Additionally, soil samples will be collected from borings SB-1, SB-2, SB-3, and SB-4 from 10 to 12 and from 13 to 15 feet below ground surface to identify the vertical extent of soil

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contamination in the saturated zone. Proposed soil sample locations are shown on Figure 1 (attached).

Four soil samples will also be collected from shallow depth from borings SB-1, SB-2, SB-3, and SB-4, and submitted to ORIN Remediation Technologies, LLC, in McFarland, Wisconsin for bench scale testing. Grab samples will be collected from areas that yielded the highest VOC concentrations during the previous investigation (SB-2 and SB-4), and from areas that yielded lower VOC concentrations (SB-1 and SB-2). ORIN will perform bench level treatability studies to evaluate different treatment chemistries, and identify the most effective oxidant and dosage to treat affected soils. Results of the bench scale pilot test will be used to design a pilot test, as needed.

Task 5 – Status Report

NewFields will summarize the results of the supplemental hydrogeologic site investigation in a status report. This report will include, but may not be limited to, a description of site activities completed, soil boring logs, well construction forms, well development forms, tabulated field data, and tabulated lab results. Figures showing groundwater elevations and isoconcentration contours will also be included as needed.

The results of the TCLP analyses will also be provided. The soil concentrations will be compared to DNR-established concentration-level thresholds to allow a "contained-out" determination. These thresholds determine if the contaminated soil must be considered hazardous waste. (If the thresholds are not exceeded, the landfill owner-operator will determine if the material can be accepted as solid or special waste.)

This status report will not include an evaluation of remedial responses, but be submitted to the Agency for initial feedback. At that time, NewFields may recommend additional site investigation if further site characterization is needed, or if additional data is needed to evaluate a potential remedial response (e.g. pilot test).

Task 6 – Site Investigation and Evaluation of Potential Remedial Options Report

NewFields will prepare a final report following completion of the hydrogeologic investigation. Per Wisconsin Administrative Code ch. NR 716 requirements, this report will include soil boring logs, well construction forms, well development forms, and site maps showing well locations, groundwater elevations, and isoconcentration contours. Laboratory results for groundwater samples will be tabulated, and laboratory reports will be appended to the report. The report will also include an evaluation of remedial options in accordance with the ch. NR 722 criteria. The range of options will be

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initially screened, and options that obviously cannot be implemented will be excluded. Those retained will be evaluated in accordance with the regulatory criteria, along with detailed cost estimates. Each retained option will be ranked according to a qualified scale, the rankings tabulated and the resultant score listed.

Task 7 – WDNR Meeting (Optional)

Following completion of the Status Report, NewFields will meet with the WDNR to discuss results and subsequent work as needed. Depending on the meeting outcome, additional site investigation may be needed. In that event, a revised scope of work will be submitted to Thomas Industries for review and approval.

3.0 SCHEDULE

Following approval from WDNR, NewFields will make arrangements for well installation. Groundwater samples will be collected a minimum of one week following well development. The status report will be prepared and submitted to the WDNR within six weeks following receipt of the final lab data. The site investigation and remedial alternatives report will be prepared within four weeks of Agency concurrence that the field investigation is complete. The final report will be submitted to the WDNR following review by Thomas Industries.

If you have any questions, please call me at (608) 442-5223, extension 502.

Sincerely,

NewFields



David P. Trainor, P.E., P.G.
Associate

cc: Mark Chiado

FIGURE

