November 6, 2015



Mr. Rick Joslin Wisconsin Department of Natural Resources 2984 Shawano Avenue Green Bay, Wisconsin 54313

Re: Status Report and Change Order No 1 Request

Dry Cleaners, Etc. 102 East Cook Street New London, Wisconsin BRRTS # 02-69-552218 Terracon Project No. 58107028

Dear Ms. Sylvester:

On behalf of Dry Cleaners, Etc., Terracon Consultants, Inc. (Terracon), prepared this status report and change order request to document NR 716 site investigation (SI) work performed to date, and present a work plan to delineate the magnitude and extent of the chlorinated volatile organic compound (CVOC) affected soil, groundwater, and air associated with the former Dry Cleaners Etc. property located at 102 East Cook Street, New London, Wisconsin (Figure 1). The SI work was performed in accordance with our proposal/work plan dated November 19, 2008, which was approved on July 2, 2009.

The following sections outline the field work performed to date, present the findings, and discuss the proposed strategy to go forward.

# 1.0 SITE INVESTIGATION PROCEDURES

# 1.1 Direct-Push Soil Sampling

From August 31, 2010, through September 2, 2010, Terracon supervised Probe Technologies as they advanced nine direct-push soil borings (designated as P-2, and P-4 through P-11) to depths ranging from approximately 20 to 34 feet below ground surface (bgs). The boring locations are shown on Figure 2. Soil boring P-9 is located inside the building near the drycleaner equipment, and was converted to a semi-permanent sub-slab vapor monitoring point (VP-1) to assess the vapor pathway. Each of the other eight borings were exterior borings. Boring P-10 was advanced on the adjacent property to the south. Each of the other seven soil borings were advanced within the property boundary. The direct-push soil borings were advanced using standard direct-push sampling techniques and a 4-foot macro core-barrel sampler. Soil samples were physically characterized in general conformance with the Unified Soil

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Classification System (American Society of Testing Materials [ASTM] Method D-2488-09a) and subjected to a volatile organic vapor scan using a photoionization detector (PID). Prior to use, the PID was calibrated per the manufacturer's specifications using isobutylene calibration gas at a concentration of 100 parts per million volume (ppmv). Draft boring logs are attached that show the stratigraphy and PID readings for each boring.

Two or three soil samples from each soil boring were submitted for volatile organic compound (VOC) laboratory analysis by United States Environmental Protection Agency (USEPA) Method 8260B to attempt to determine the vertical extent of impacted soil. The soil samples were collected in laboratory-supplied sample containers, placed on ice, and submitted under chain-of-custody (COC) control to Pace Analytical Services, Inc. (Pace) of Green Bay, Wisconsin.

Soil borings P-2, P-4, P-5, P-8, P-10, and P-11 were converted to temporary groundwater monitoring wells to evaluate groundwater quality. The temporary groundwater monitoring wells were constructed within each boring using 10-foot sections of No. 6-slot, 3/4-inch diameter polyvinyl chloride (PVC) well screen, connected to a 3/4-inch diameter riser pipe that extended above the ground surface. Prior to sampling, the depth to water in each temporary groundwater monitoring well was measured with an electronic water level indicator. Prior to sample collection, groundwater was purged from the temporary wells until relatively sediment free water was observed. Groundwater was purged and samples collected with small-diameter disposable bailers. Terracon submitted six groundwater samples for laboratory analysis of VOCs by USEPA Method 8260B. The soil boring/temporary groundwater monitoring well locations are presented on Figure 2.

### 1.2 Borehole Abandonment

Upon completion of soil and groundwater sampling activities, direct-push soil borings P-2, and P-4 through P-11 were abandoned per Chapter NR 141, Wisconsin Administrative Code (WAC), with 3/8-inch bentonite chips. Boring P-9 was also partially abandoned to allow completion as a sub-slab vapor monitoring point.

# 1.3 Groundwater Monitoring Well Construction and Development

On February 16 and 17, 2011, Terracon supervised M&K Drilling (M&K) during the advancement of four soil borings, with the subsequent construction of four NR 141, WAC-compliant groundwater monitoring wells (MW-1 through MW-4) constructed as water table observation wells (observation wells). M&K used a conventional drill rig and hollow stem auger techniques to complete the wells.

Monitoring well construction included a 2-inch inside-diameter PVC riser pipe coupled to a 10 foot, 0.006-inch slot PVC well screen. Groundwater monitoring well MW-1, located outside the

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building in the southwest corner of the property, was completed to a depth of 35 feet bgs. MW-2 was completed to a depth of 32 feet bgs to the north of the site across the East Cook Street right-of-way. Groundwater monitoring well MW-3, located to the east of the site on the 114 Cook Street property, was completed to a depth of 37 feet bgs. Groundwater monitoring well MW-4 was completed to a depth of 41 feet bgs on the 118 East Beacon Street property southeast of the site.

The monitoring wells were completed in concrete pads with steel bolt-down flush-mount protective cover assemblies. Groundwater monitoring well locations are illustrated on Figure 2. A draft boring log and a well construction form for each monitoring well are attached.

Monitoring wells MW-1 through MW-3 were developed on February 18, 2011, and monitoring well MW-4 was developed on February 24, 2011. Each of the monitoring wells were developed by Terracon per NR 141, WAC, by surging and purging with a bailer. Well development groundwater was disposed in the City of New London's sanitary sewer under permit.

# 1.4 Groundwater Sampling

Groundwater samples were collected from each of the four monitoring wells on February 24, 2011. Prior to collecting samples, the groundwater monitoring well caps were opened and water levels allowed to equilibrate prior to the measurement of down-hole static water levels. Static water levels were measured from a consistent point on each well utilizing a decontaminated electronic water-level indicator. Field parameters including dissolved oxygen (DO), pH, specific conductivity, and oxidation-reduction potential (ORP), were measured with a water quality meter equipped with a down-well sonde prior to, and immediately after, purging. Approximately three well casing volumes of groundwater were purged from each well with a disposable bailer prior to sampling. Samples were carefully collected with the bailer after purging was completed. Terracon originally proposed collecting groundwater samples via low-flow techniques; however, the water table was too deep to use a peristaltic pump.

The sampling and analyses plan included submitting groundwater samples from the four groundwater monitoring wells for laboratory analysis of VOCs by USEPA Method 8260B. The groundwater samples were collected in laboratory-supplied sample containers, placed on ice, and submitted under chain-of-custody (COC) control to Pace for the laboratory analysis.

One trip blank sample was transported with the other collected groundwater samples submitted for laboratory analyses. A duplicate groundwater sample was also collected. The trip blank and duplicate groundwater samples were submitted for Method 8260 VOC laboratory analysis. Sample collection, handling, and storage were performed in accordance with Wisconsin Department of Natural Resources (WDNR) protocol and standard COC requirements.

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# 1.5 Vapor Intrusion Assessment

Terracon attempted to gain access to the residence at 108 East Cook Street, adjacent east of the Dry Cleaners Etc. property to install and sample a sub-slab vapor monitoring point as proposed. However, the property had been foreclosed and was owned by Fannie Mae/Freddie Mac, who would not grant access. As such, the initial vapor intrusion assessment focused solely on the Dry Cleaners Etc. building.

On September 2, 2010, Terracon installed one sub-slab vapor monitoring point (VP-1) in the interior of the Dry Cleaners Etc. building, after completion of soil boring P-9. The vapor monitoring point was installed to evaluate CVOC sub-slab vapor concentrations.

The semi-permanent sub-slab vapor monitoring point VP-1 was installed in soil boring P-9 after partial abandonment with bentonite to a depth of approximately 2 feet below the floor surface. Sand was then placed in the boring to approximately 2 inches below the floor surface. The open end of the vapor probe tube was wrapped with fiberglass screen and the probe placed in the hole so the top of the probe was flush with the floor surface after placing a threaded protective cap seal on the probe. The annular space around the probe was sealed with grout.

A vapor sample was collected from VP-1 on February 24, 2011, concurrent with the groundwater sampling event. Prior to sampling, a helium shroud test was performed to ensure no leakage around the sub-slab probe. To collect a sample, the flush-threaded cap was removed from the vapor probe and a one-hole rubber stopper placed securely into the top of the probe. Tubing was securely placed into the stopper hole. The vapor monitoring point was purged with a PID and then a vapor sample was collected using a 6-liter evacuated Summa canister obtained from Pace. The Summa canister's regulator and restrictor were calibrated to draw the soil gas sample over a 30-minute period. The soil gas sample collected within the Summa canister was submitted to Pace for VOC analysis by USEPA Method TO-15.

# 1.6 Management of Investigation Derived Waste

The soil cuttings generated from the groundwater monitoring well construction were placed into nine labeled 55-gallon drums and staged onsite. The drums were transported to Waste Management's Valley Trail facility in Berlin, Wisconsin, for disposal on April 17, 2014. Groundwater generated from well development and purging was disposed in the City of New London sanitary sewer system under permit.



# 2.0 NR 716 SITE INVESTIGATION RESULTS

# 2.1 Soil Analytical Results

Tetrachloroethene (PCE) was the only VOC detected at concentrations above the analytical limit of detection (LOD). Soil borings P-2 (16'), P-10 (24'), MW-2 (4' and 26') contained PCE at concentrations greater than the soil to groundwater pathway residual contaminant level (RCL) presented in the WDNR RCL Spreadsheet (June 2014). The WDNR RCLs were calculated using the USEPA Regional Screening Level Web Calculator and the Wisconsin default values presented *Soil Residual Contaminant Level Determinations Using the USEPA Regional Screening Level Web Calculator PUB-RR-890, June 2014 update.* Concentrations ranged from 36.2 micrograms per kilogram (μg/kg) at P-10 (24') to 178 μg/kg at MW-2 (26'). PCE was not detected at concentrations above the direct-contact non-industrial RCL. The analytical results are summarized in Table 1.

# 2.2 Groundwater Elevations and Site Hydrogeology

Based on February 24, 2011, data from the observation wells, the groundwater flow pattern at the water table is complex. An apparent northeast-southwest trending groundwater divide is present in the northem part of the site. North of the divide, groundwater flow is to the northwest with a horizontal hydraulic gradient of approximately 0.003 foot per foot (ft/ft). South of the divide groundwater flow is predominately to the southeast, with a horizontal hydraulic gradient of 0.02 foot per foot (ft/ft). The southeasterly flow direction corroborates the flow direction initially determined from the temporary monitoring wells in the field. The temporary monitoring well field data did not identify the groundwater divide, but because the Wolf River lies to the north, a groundwater divide was suspected.

Static water level measurements ranged from 25.82 to 34.37 feet below top of riser in the observation wells. A summary of groundwater elevation data is provided in Table 2. A groundwater contour map is presented on Figure 3.

# 2.3 Groundwater Analytical Results

PCE was reported at concentrations above its Chapter NR 140, WAC, Enforcement Standard (ES) in groundwater from temporary groundwater wells P-5, P-10 and P-11, and in offsite groundwater monitoring wells MW-2, MW-3 and MW-4. PCE was reported at concentrations above its Chapter NR 140, WAC, Preventive Action Limit (PAL) in groundwater from temporary well P-2 and P-8, and onsite groundwater monitoring well MW-1.

Trichloroethene (TCE) was detected in groundwater collected from temporary groundwater wells P-10 and P-11, and groundwater monitoring well MW-3 at concentrations above its ES.





TCE was detected in groundwater from temporary wells P-2 and P-5, and groundwater monitoring well MW-4 at concentrations above the PAL.

No other CVOCs were detected at concentrations above their respective PAL. Groundwater analytical results are summarized in Table 3.

# 2.4 Vapor Analytical Results

PCE and TCE were reported at concentrations above the applicable WDNR vapor risk screening levels at sub-slab sample location VP-1, at concentrations of 9,270 and 740 micrograms per cubic meter ( $\mu$ g/m³), respectively. An air analytical summary table is attached as Table 4, and the location of the sub-slab vapor monitoring point is presented on Figure 2.

# 2.5 Potential Contaminant Migration Pathways and Receptors

Terracon contacted Mr. Mike Pinch of the City of New London Utilities Department to obtain information relative to the locations, depths and construction of underground utility corridors in the general vicinity. The following is a summary of the information obtained from Mr. Pinch:

- Electric Lines: Buried approximately 18-24 inches bgs in steel conduit.
- Water Mains: Buried approximately 5-6 feet bgs in natural ground bedding.
- Water Laterals: Buried approximately 4-6 feet bgs in natural ground bedding.
- Sewer Mains: Buried approximately 6-8 feet bgs in natural ground bedding.
- Sewer Laterals: Buried approximately 4-8 feet bgs in natural ground bedding.

Since groundwater is present at a depth of approximately 25 feet, the utility corridors do not provide a preferential pathway for migration of contaminated groundwater. Since the utility line bedding and backfill material consists of the native sand soil, the utilities likely do not provide a preferential pathway for migration of contaminant vapors.

A request was submitted to the Wisconsin Geological and Natural History Survey (WGNHS) to obtain well construction records for wells located within a 1,200 foot radius of the outermost known edge of the contaminant plume (Public Land Survey System [PLSS] Section 12, Township 22N, Range 14E). There was one well constructor record which listed a location of the southeast quarter, southeast quarter of Section 12, Township 22N, Range 14E. According to the report, the well is cased from ground surface to approximately 20 feet bgs, and is screened from 165-169 feet bgs in the unconsolidated soils. The City of New London has municipal well # 3 located at 1002 West Beacon Street, approximately nine blocks west-southwest of the site. According to the diagram presented by Mr. Pinch, the high capacity well is constructed of 30-inch casing to 112 feet bgs, with a screen from 114-129 feet bgs.





The City of New London provides water via their municipal water supply distribution system. Based on the well records request, there are no private potable wells known to be located within a 1,200-foot radius of the Site.

# 3.0 PROPOSED SCOPE OF SERVICES AND WORK PLAN-CHANGE ORDER NO. 1

Based on the available data, the extent of the dissolved-phase groundwater contaminant plume is not defined offsite. Delineation of the groundwater contaminant plume is necessary to complete the site investigation and evaluate remedial action options. Due to the groundwater contaminant plume extending offsite to the north and southeast beneath or near several residences and other structures, potential vapor intrusion into these structures should be assessed. The extent of the shallow PCE soil contamination at observation well MW-2 also needs to be investigated. Although this contamination is across the street to the north of Dry Cleaners, Etc, there does not appear to be another clear source for this contamination at this time. The property was a residence up until approximately 2001 when the house was removed. The proposed additional scope of services is intended to assess the offsite extent and magnitude of the dissolved-phase groundwater contaminant plume via screening with temporary monitoring wells, assess the extent of impacted soil near monitoring well MW-2, and to screen for potential vapor intrusion issues in the most at-risk structures. In addition, Terracon recommends video inspection of the site sanitary sewer lateral to verify its integrity or whether it potentially could have been a source for contamination to the north.

Due to funding limitations, the Responsible Party intends to proceed with the project in stages. Upon completion of a stage, a reimbursement claim will be prepared and submitted. Upon receipt of reimbursement, Terracon will proceed with the next stage and repeat until the site is closed. Terracon has evaluated the data collected during the direct-push investigation, vapor intrusion assessment, and groundwater monitoring well construction, and recommends the scope of services outlined below as the next stage of site investigation. Future stages may include additional temporary and NR 141, WAC, compliant monitoring well construction, groundwater monitoring, additional vapor intrusion assessment/monitoring, sewer lateral investigation test pit(s), and installation of vapor mitigation system(s), as required.

The scope of services presented in the following sections is recommended.

# 3.1 Direct-Push Soil Borings and Temporary Groundwater Well Installation

In order to further assess the extent of impacted soil near monitoring well MW-2 and the magnitude and extent of the groundwater plume, Terracon proposes to advance direct-push soil borings at seven offsite locations. Three of the borings will be to assess the horizontal and vertical extent of shallow PCE-related soil contamination near MW-2 and the remaining four borings will be completed as temporary groundwater monitoring wells to help define the extent



of the groundwater plume at the water table near monitoring well MW-2, which had the highest PCE concentrations detected in groundwater during the initial site investigation, and southeast (downgradient) of monitoring well MW-4. The proposed direct-push soil borings/temporary well locations are shown on Figure 4. The actual locations may be modified because of the location of utilities and acceptance/denial of access agreements. Specific activities associated with the direct-push soil borings and temporary groundwater monitoring well installation follow.

- Obtain access agreements for four offsite properties. These include:
  - 1. 413 Pearl Street;
  - 2. 412/420 Pearl Street (Public Library);
  - 3. 421 Pearl Street;
  - 4. 121 East Beacon Avenue.

Advance three direct-push borings to depths of approximately 12 feet bgs around existing monitoring well MW-2 to evaluate shallow PCE soil contamination as a potential source area. The proposed boring locations are shown on Figure 4. Soil samples will be continuously collected to the boring terminus with a 4-foot long macro-core sample barrel, logged, and physically characterized in general conformance with the Unified Soil Classification System. Soil samples will be screened for volatile organic vapors with a PID at approximate 2-foot intervals and at changes in stratigraphy. Four soil samples from each boring will be submitted for laboratory analysis of VOCs by USEPA Method 8260B. The soil samples submitted for laboratory analysis will be selected based upon the PID vapor screening results, stratigraphy, and comparison to depths of MW-2 soil samples.

Advance four direct-push soil borings to depths of approximately 32 to 40 feet bgs for the purposes of collecting groundwater samples to evaluate groundwater quality. Three of the borings will be to the north and northwest of monitoring well MW-2 and one boring will be to the southeast of monitoring well MW-4. Soil samples will be continuously collected to the boring terminus with a 4-foot long macro-core sample barrel, logged, and physically characterized in general conformance with the Unified Soil Classification System. Soil samples will be screened for volatile organic vapors with a PID at approximate 2-foot intervals and at changes in stratigraphy. However, soil samples will not be submitted for laboratory analysis. Upon conclusion of soil sampling, each boring will be converted to a temporary monitoring well by placing small-diameter 10-slot PVC screen and riser in the boring. Alternatively, if conditions warrant (e.g. the boring does not stay open), the soil boring will be abandoned and a separate boring will be advanced to the desired depth to collect a screen-point groundwater sample.

Upon conclusion of sampling activities, each of the seven direct-push soil borings will be abandoned in general conformance with Chapter NR 141, WAC.

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A completed abandonment form for each boring will be submitted with the subsequent Status Report (Section 3.6).

A boring log will be prepared for each boring in conformance with NR 716, WAC and submitted with the subsequent Status Report (Section 3.6).

# 3.2 Groundwater Sampling > one round 4 zend wells Terracon will collect a groundwater

Terracon will collect a groundwater sample at each of the four proposed temporary groundwater monitoring well locations upon completion of the temporary well either as a small-diameter PVC screen and riser installed in the borehole or as a screen point sample location. Due to the depth to groundwater each sample will be collected with a small-diameter bailer placed down the temporary groundwater monitoring well or down-rod if a screen point sampler is used. Each temporary well will be developed/purged to the extent practicable prior to collecting a groundwater sample. The samples will be collected in laboratory supplied containers and transported under proper chain-of-custody procedures to a Wisconsin-certified laboratory for analysis of VOCs (USEPA Method 8260B).

Terracon will also collect one round of groundwater samples from the four existing groundwater monitoring wells using low-flow sampling techniques. The NR 141, WAC-compliant monitoring well groundwater sampling will be performed concurrently with sampling the proposed temporary monitoring wells. Due to the depth to groundwater, a dedicated submersible pump will be required for each monitoring well. A flow controller will be used to limit the flow of the submersible pumps to approximately 200 milliliters per minute. A water quality meter with flow-through cell will be used to monitor field parameters during purging.

Prior to purging the monitoring wells, each well will be inspected and water levels will be measured in each of the monitoring wells. The groundwater elevations will be measured to the nearest 0.01-foot using an electronic water level indicator. The monitoring wells will be purged and sampled using low-flow techniques and a water quality meter with a flow-through cell. Monitoring wells will be purged until parameters including temperature; pH; specific conductance; DO; and ORP, are stable (within 10% in three consecutive readings taken 2 minutes or more apart for all parameters). However, if parameters have not stabilized within 1 hour, purging will cease and samples will be collected. After purging, groundwater samples will be collected in laboratory-supplied containers and transported under proper chain-of-custody procedures to a Wisconsin-certified laboratory for analysis of VOCs (USEPA Method 8260B). One sample will be also submitted as a blind duplicate per NR 716.13 (11), WAC for laboratory analysis of VOCs.

# 3.3 Sanitary Sewer Lateral Inspection

In order to assess the potential of the sewer lateral being a source of contamination from historical operations and practices, Terracon proposes to inspect the integrity of the sanitary



sewer lateral at the site. The inspection will be performed via inserting a small-diameter camera into the lateral from an access point inside the building and visually inspecting the lateral for cracks or openings that could leak water into the underlying soil. If the integrity of the lateral appears to have been compromised, Terracon may propose test-pit sampling near the lateral during a future investigation stage.

# 3.4 Vapor Intrusion Assessment and Monitoring

Terracon will also evaluate vapor intrusion for the properties located at 412 South Pearl Street (library), 108 East Cook Street, 114 East Cook Street, and 113 East Beacon Avenue. Based on the vapor intrusion assessment results for these four properties, additional vapor assessment may be necessary at these or other nearby properties in the future. Specific activities associated with vapor intrusion investigation follows:

- Amend the access agreements to allow for vapor intrusion assessment at 412 South Pearl Street (library), and the residences at 113 East Beacon, and 114 East Cook Street.
- Obtain access agreement for the property at 108 East Cook Street if now privately owned. Previously, access permission could not be obtained from the owner at that time, Fannie Mae.
- Install one semi-permanent sub-slab vapor point in the basement of the structure at each of the four above-mentioned properties. Perform one round of vapor sampling from each of the basement sub-slab vapor points including leak testing in conformance with WDNR guidance document RR986 Sub-Slab Vapor Sampling Procedures, prior to collecting samples.

Collect the above-described air samples over a 30-minute period using 6-liter Summa canisters and analyze according to USEPA Method TO-15 for PCE-related compounds (only).

Sub-slab vapor monitoring points will remain in place for future sampling, if necessary. In the future upon site closure by WDNR or at such time that WDNR has determined they are no longer needed, the vapor points will be removed and the hole abandoned with cement.

# 3.5 Investigation Derived Waste

Investigation derived waste generated during this stage of investigation will include approximately two drums of purge water from groundwater sampling. A permit exists to dispose of the purge water into the sanitary sewer; however, that permit may need to be reissued. Terracon proposes to dispose of the purge water (under permit from the City of New London) in a nearby sanitary sewer manhole within Cook Street, which will require certain safety precautions. If the sanitary sewer lateral video inspection verifies the integrity of the



sewer lateral at the subject site, then the water will be disposed down the sanitary sewer within the Dry Cleaners, Etc. building.

# 3.6 Reporting

Reporting elements include semi-annual electronic reporting, offsite results notifications, and preparation of a status report as described in detail below:

- Terracon will complete the required electronic NR 700 semi-annual progress reports for the site. Reporting will be in July for the period of January 1 through June 30 and in January for the period of July 1 through December 31.
- In conformance with NR 716.14 (2), Terracon will provide soil, groundwater, and vapor results to offsite property owners and current site operator following receipt of results from the laboratory. The notification will include a completed Form 4400-249 or equivalent with supporting documentation including a map showing sample locations, a summary table of the results, and a copy of the applicable laboratory report. Terracon will provide results notifications to eight property owners as follows:
  - 1. 102 East Cook Street (site operator not responsible party; groundwater),
  - 2. 108 East Cook Street (vapor),
  - 3. 114 East Cook Street (groundwater, vapor),
  - 4. 412 and 420 South Pearl Street (soil, groundwater, vapor)
  - 5. 413 South Pearl Street (groundwater),
  - 6. 421 South Pearl Street (groundwater),
  - 7. 113 East Beacon Avenue (groundwater, vapor), and
  - 8. 121 East Beacon Avenue (groundwater).

Terracon will prepare a Status Report that will document the additional SI work and results, and provide recommendations for the next stage of investigation. At a minimum, the next stage of investigation will include construction of additional groundwater monitoring wells and implementation of a groundwater monitoring program. Additional investigation or interim action items may also be necessary. The report will present a request for Change Order No. 2, for the additional site investigation scope of work recommended at that time. The report will be completed within 60 days following receipt of soil, groundwater, and air laboratory results from the scope of work proposed in this *Status Report and Request for Change Order No. 1*.

# 3.7 Schedule

Terracon proposes the following approximate schedule for the next stage of site investigation. The schedule is subject to timing of major milestones such as WDNR approval of Change

who are?





Order No. 1 within 60 days of submittal and reimbursement of the DERF claim within 2 years after submittal.

Task	Anticipated Schedule	Anticipated Completion Date*		
Submittal of Status Report and Change Order #1 Request		November 2015		
WDNR Approval of Change Order #1	Within 60 days following submittal	January 2016		
Submittal of DERF Reimbursement Claim #1	Within 45 days following WDNR approval of Change Order #1	February 2016		
Receipt of Reimbursement	Approximately 24 months following submittal of claim	February 2018		
Implementation of Change Order #1 Work Scope-Offsite Access	Within 45 days following receipt of reimbursement	April 2018		
Implementation of Change Order #1 Work Scope-Fieldwork	Within 30 days following receipt of access agreements	May 2018		
Offsite Results Notifications	Within 10 days following receipt of laboratory results	June 2018		
Data Analysis and Submittal of Status Report and Change Order #2 Request	Within 60 days following receipt of laboratory results from fieldwork	August 2018		
WDNR Approval of Change Order #2	Within 60 days following submittal	October 2018		
Submittal of DERF Reimbursement Claim #2	Within 45 days following WDNR approval of Change Order #2	November 2018		

<sup>\*</sup>Anticipated completion date will be contingent upon the schedules of contractor(s), facility, and Terracon; and procurement of access. Weather conditions will also be taken into consideration when scheduling. If the anticipated completion dates listed are not attainable, the schedule will be adjusted based on the anticipated schedule.

# 4.0 COST ESTIMATE

The cost estimate for the proposed scope of additional work is \$30,950.00. Please refer to the attached spreadsheet *Change Order #1 Detailed Cost Summary* for a breakdown of the estimated costs for performing the above-described additional/expanded scope of services. The responsible party has approved the change order costs (see attached signed Cost Estimate). An updated Linking Spreadsheet is also attached that presents the Change Order costs.



We appreciate the opportunity to provide this information to you and we look forward to receiving your letter of concurrence. Please contact us with any questions regarding this request.

Sincerely,

**Tierracon** 

Scott A. Hodgson, P.G. Senior Project Manager

Scott D. Hodgson

Edmund A. Buc, P.E. Senior Project Engineer

SAH/EAB:sah/N:\Projects\2010\58107028\Agreement, Change Orders & Cost Estimates\Change Order #1\WDNR Status.CO1.2015.final.docx

Attachments Figures 1 through 4

Tables 1 through 3

Detailed Cost Breakdown

Client Approval (signed Cost Estimate)

Linking Spreadsheet Draft Boring Logs

Monitoring Well Construction Forms

Copies To: Mr. Paul Zuege

File



#### 5.0 **CERTIFICATIONS**

I, Scott A. Hodgson, P.G., hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Scott D. Hodgson Signature and P.G. number

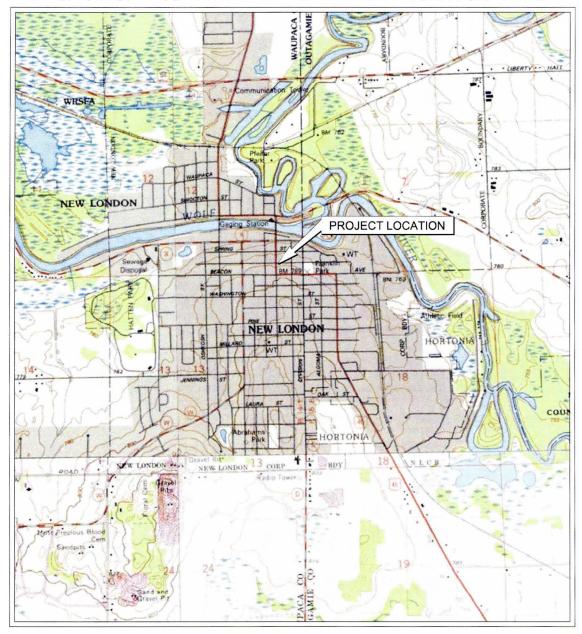
PG-1229

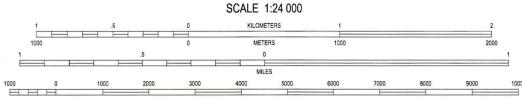
Date 11/6/15

**Project Geologist** 

Title

### UNITED STATES - DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY





CONTOUR INTERVAL 20 FEET NATIONAL GEODETIC VERTICAL DATUM OF 1929

NEW LONDON QUADRANGLE WISCONSIN - WAUPACA COUNTY 1992 7.5 MINUTE SERIES (TOPOGRAPHIC)

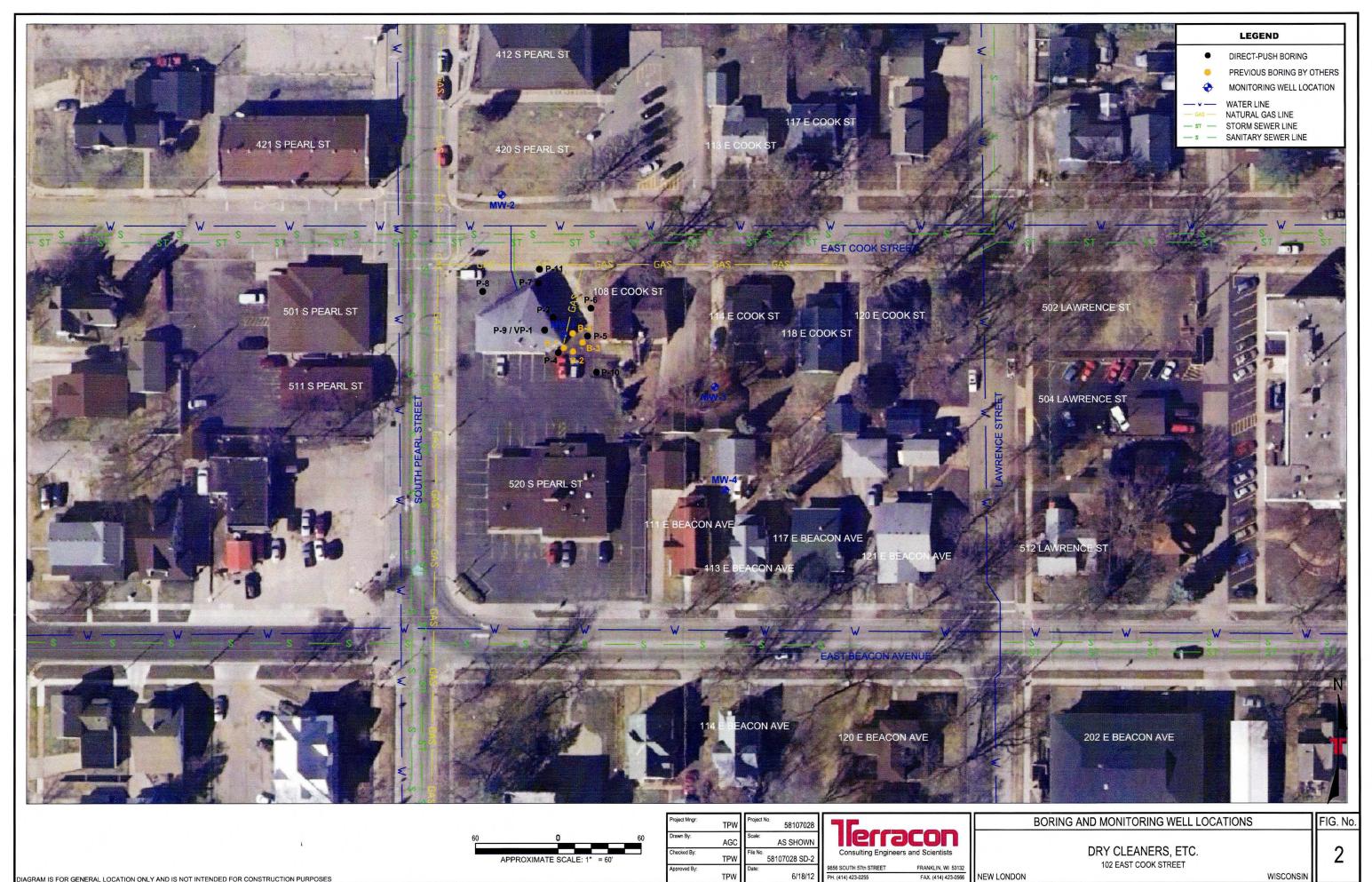
Project Mngr:	SAH
Drawn By:	AJP
Checked By:	SAH
Approved By:	CVH

Project No.	58107028
Scale:	AS SHOWN
File No.	58107028 SL
Date:	10/11/10

Terra Consulting Engineer	
3011B EAST CAPITOL DRIVE	APPLETON, WI 54911
PH. (920) 993-9108	FAX. (920) 993-9108

	SITE LOCATION MAP	
	DRY CLEANERS, ETC. 102 EAST COOK STREET	
NEW LONDON		WISCONSIN

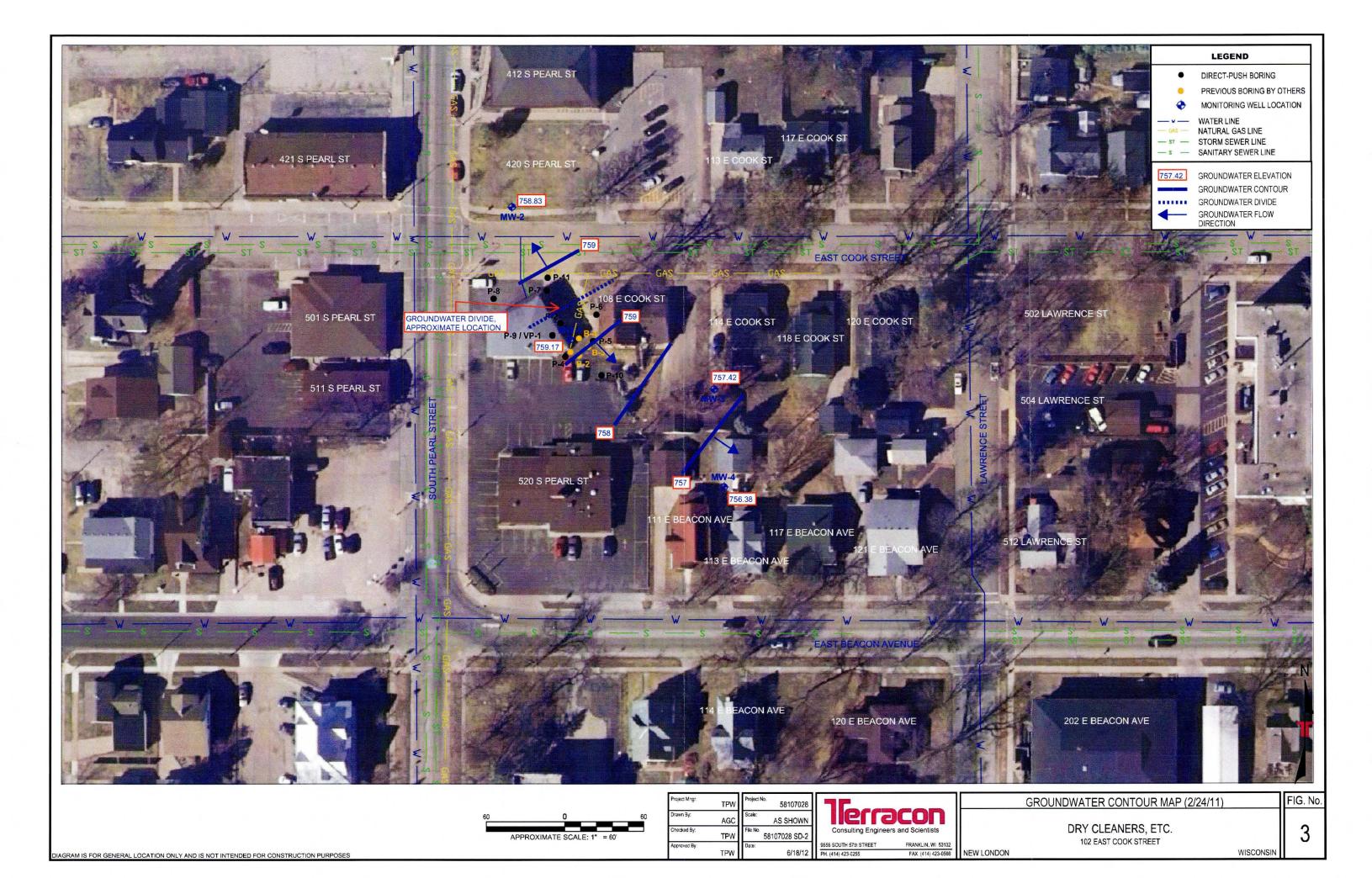
FIG. No.

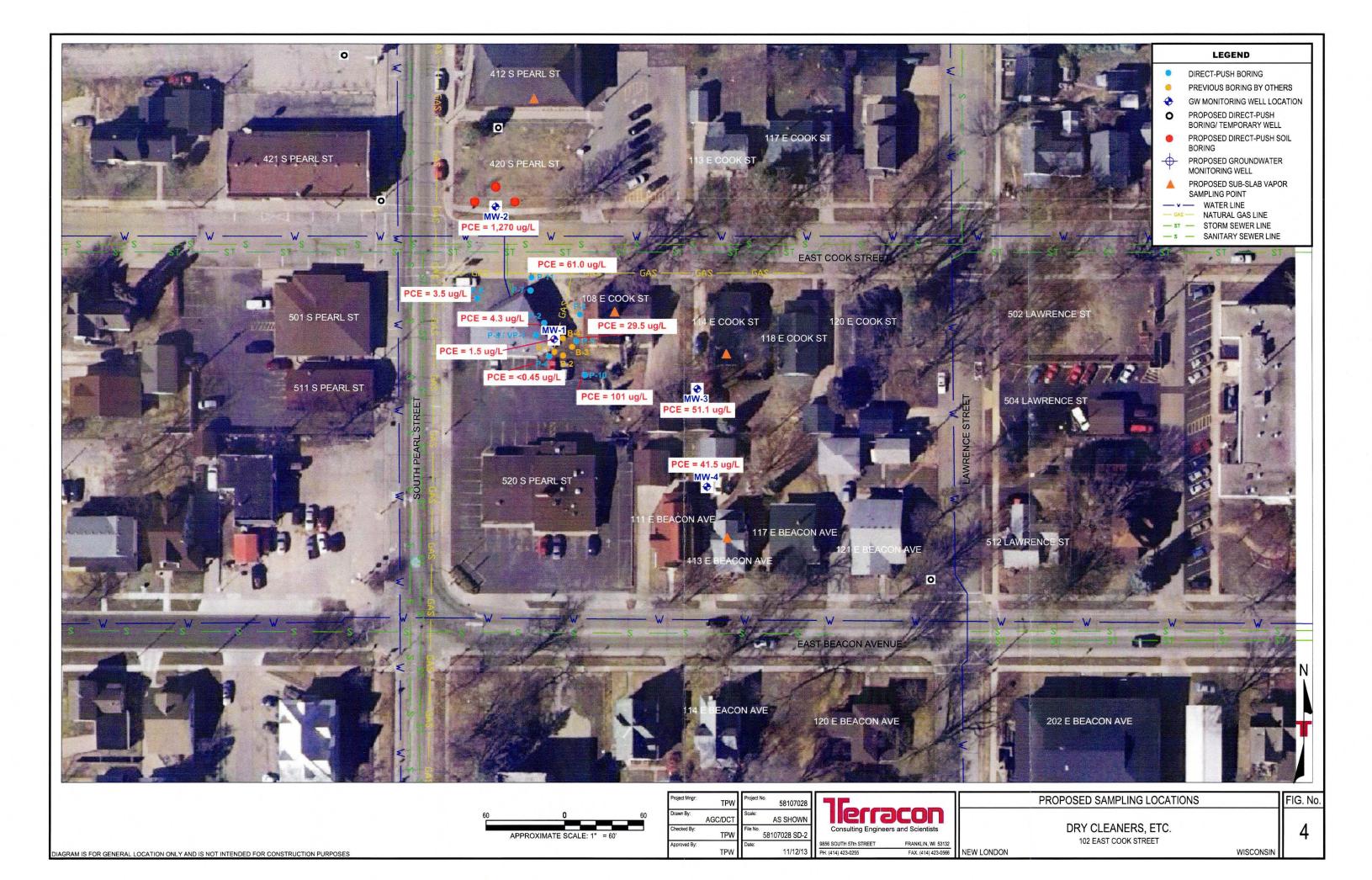


PH. (414) 423-0255

FAX. (414) 423-0566

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES





# TABLE 1 SOIL ANALYTIC TEST RESULTS

Dry Cleaners, Etc. New London, Wisconsin Terracon Project No. 58107028

				Chlorinated Vola	atile Organic Comp	ounds (μg/kg)	
Sample Location	Depth (feet)	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Methylene Chloride
P-2	3	8/31/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-2 P-2	16 26	8/31/2010	<25.0	39.6	<25.0	<25.0	<25.0
F-2	20	8/31/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-4	4	8/31/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-4	14	8/31/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-4	28	8/31/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-5	3	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-5	18	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-5	28	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-6	4	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-6	20	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
		X20 25 304 1 10					
P-7	1.5	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-7	14	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-7	20	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-8	4	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-8	20	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-8	25.5	9/1/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-9	2	9/2/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-9	4	9/2/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-9	14	9/2/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-10	16	9/2/2010	<25.0	<25.0	<25.0	<25.0	<25.0
P-10	24	9/2/2010	<25.0	36.2	<25.0	<25.0	<25.0
D.44		0/0/0040	-05.0	-25.0	-05.0	*05.0	105.0
P-11 P-11	4 25	9/2/2010 9/2/2010	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0
F-11	25	9/2/2010	<b>\25.0</b>	~25.0	~25.0	125.0	123.0
MW-1	2	2/16/2011	<25.0	<25.0	<25.0	<25.0	<25.0
MW-1	27.5	2/16/2011	<25.0	<25.0	<25.0	<25.0	53.3
MW-2	4	2/16/2011	<25.0	73.9	<25.0	<25.0	<25.0
MW-2	26	2/16/2011	<25.0	178	<25.0	<25.0	<25.0
MW-3	3 3 2/17/2011		<25.0	<25.0	<25.0	<25.0	<25.0
MW-3			<25.0	<25.0	<25.0	<25.0	<25.0
1044	•		<b>205.0</b>	<b>-25.0</b>	425.0		<b>435.0</b>
MW-4 MW-4	3 33	2/17/2011 2/17/2011	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0	<25.0 <25.0
50.0530	10001						G.SPA-SS
	undwater Pathway		41.2	4.5	3.6	0.1	2.6
Non-Inc	dustrial Direct-Con	tact RCL	<u>156,000</u>	30,700	<u>1,260</u>	<u>67</u>	<u>60,700</u>

### NOTES:

µg/kg= micrograms per kilogram

Bold Black values indicate compound detected above the listed Soil to Groundwater Pathway RCL

Italicized and Underline values indicate compound detected above the listed Non-industrial Direct Contact RCL

<sup>&</sup>lt;sup>1</sup> Residual Contaminant Levels (RCL) for soil to groundwater pathway per WDNR Soil Residual Contaminant Level (RCL) Spreadsheet (June 2014) which were determined using the US EPA Regional Screening Level Web Calculator in accordance with WDNR Guidance Document PUB-RR-890, June 2014 update.

Non-Industrial Residual Contaminant Levels for Direct Contact per per WDNR Soil Residual Contaminant Level (RCL) Spreadsheet (June 2014) which were determined using the US EPA Regional Screening Level Web Calculator in accordance with WDNR Guidance Document PUB-RR-890, June 2014 update.

# TABLE 2 GROUNDWATER ELEVATIONS

Dry Cleaners, Etc. New London, Wisconsin Terracon Project No. 58107028

Measured Location	Date	Depth to Groundwater	Reference Elevation *	Groundwater Elevation	Screened Interval					
MW-1	2/24/2011	27.80	786.97	759.17	734.15	-	724.15			
MW-2	2/24/2011	25.82	784.65	758.83	737.59	-	727.59			
MW-3	2/24/2011	11 30.02 787.4		757.42	730.62	-	720.62			
MW-4	2/24/2011	34.37	790.75	756.38	726.66	-	716.66			

<sup>\*</sup>Depth to groundwater is measured from the top of the monitoring well riser pipe. Measurements are in feet.

TABLE 3
GROUNDWATER ANALYTIC SUMMARY

Dry Cleaners, Etc. New London, Wisconsin Terracon Project No. 58107028

			Chlorinated	d Volatile Orga	anic Compour	nds (µg/L)	
Sample ID	Sample Date	Chloromethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Methylene Chloride
P-2	8/31/2010	<0.24	<0.83	<u>4.3</u>	<u>0.85</u>	<0.18	<0.43
P-4	8/31/2010	<0.24	<0.83	<0.45	<0.48	<0.18	<0.43
P-5	9/1/2010	<0.24	<0.83	29.5	<u>4.0</u>	<0.18	<0.43
P-8	9/1/2010	1.7	<0.83	<u>3.5</u>	<0.48	<0.18	<0.43
P-10	9/2/2010	<0.24	<0.83	101	13.8	<0.18	<0.43
P-11	9/2/2010	<0.24	<0.83	61.0	11.0	<0.18	<0.43
MW-1	2/24/2011	0.36	<0.83	<u>1.5</u>	<0.48	<0.18	0.49
MW-2	2/24/2011	<0.24	<0.83	1,270	<0.48	<0.18	<u>2.5</u>
MW-3	2/24/2011	<0.24	<0.83	51.1	8.5	<0.18	<0.43
MW-4	2/24/2011	<0.24	<0.83	41.5	<u>3.4</u>	<0.18	<0.43
	NR 140, WAC, PAL <sup>1</sup>	3	<u>7</u>	0.5	<u>0.5</u>	0.02	0.5
	NR 140, WAC, ES <sup>2</sup>	30	70	5	5	0.2	5.0

#### Notes.

<sup>&</sup>lt;sup>1</sup>NR 140, Wisconsin Administrative Code, Preventive Action Limit (PAL)

<sup>&</sup>lt;sup>2</sup>NR 140, Wisconsin Administrative Code, Enforcement Standard (ES)

<sup>&</sup>quot;ug/L" indicates micrograms per liter

<sup>&</sup>quot;-" indicates analyte not tested

# TABLE 4 AIR ANALYTIC TEST RESULTS SUMMARY

Dry Cleaners, Etc. New London, Wisconsin Terracon Project No. 58107028

				Chlori	nated Volati	le Organic (	Compounds	(CVOC)
Sample ID	Sample Date	Sample Type	Units	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
VP-1	2/24/2011	Sub-slab	μg/m³	9,270	740	<86.8	<86.8	<27.9
Sub-slab V	apor Risk Scree	ning Levels - Non-Residential <sup>1</sup>	μg/m³	1,800	88	NE	NE	280

Notes:

6,000 293.3

933.0

μg/m3 = micrograms per cubic meter

<sup>1</sup> Screening value is the Vapor Action Level adjusted for sub-slab to non-residential indoor air by applying an attenuation factor of 10 for comparison with the analytical results.

<u>Bold Values</u> indicate exceedance of applicable non-residential vapor risk screening levels (VRSLs) (sub-slab)

Vapor Risk Screening Levels (VRSLs) (sub-slab)

NE = not established

33.3

How 90

Dry Cleaners Etc--102 East Cook Street, New London, Wisconsin Change Order No. 1: June 2015 BRRTS #02-69-552218

# **Change Order #1 Detailed Cost Summary**

62.00 water and For wasail vocs

\$95/Day \$10/Day \$50/Each \$150/Day \$30/Day \$60/Each

																$\wedge$	_					
															Subcon	tractors						
TASK Description	Unit		Estimated Quantity	Senior Project Manager \$ 99.00	Project Manager/Project Professional II \$ 89.00	Professional	Drafts Person \$ 40.00	Clerical \$ 36.00	Expenses	Terracon Total	Drilling	Plumbing or Drilling Video Contractor	Drum Hauling	Investigative Waste Disposal	GW VOC + Dups \$ 55.00	Soil VOC \$ 55.00	Methane, Ethane, Ethene \$ 59.00	VOC vapor (TC	TCLP-VOC \$ 160.00	Laboratory	Subcontractors Total	TOTAL
1 Temporary Well Installat	ion and G	round	dwater Sar	npling	4 1 5																	
Direct-push Soil Borings and Temporary Well a Installation/Sampling	Eacl	h	1	2	20	0			\$ 190.00	\$ 2,168.00	\$2,842.00				4	16				\$ 880.00	\$ 3,722.0	0 \$ 5,890.0
Groundwater Sampling- Exis NR 141 MWs (4 MWs plus d b 1 round)	sting lup; Eacl	h	1	1	;	3 10		- (c)	\$ 901.00	\$ 2,027.00					5					\$ 275.00	\$ 275.0	0 \$ 2,302.0
2 Sewer Lateral Investigat	ion																					
Sanitary Sewer Lateral Video	o Eacl	h	1	6						\$ 594.00		\$350.00								\$ -	\$ 350.0	0 \$ 944.0
3 Vapor Investigation/Mon	itoring																					
Sub-slab Vapor Point a Installation (4)	Eacl	h	1	2		8			\$ 210.00	\$ 1,120.00										\$ -	\$ -	\$ 1,120.0
Sub-slab Vapor Sampling (1 b round)	Eacl	h	1	1		6			\$ 245.00	\$ 878.00								4		\$ 1,000.00	\$ 1,000.0	0 \$ 1,878.0
4 IDW Disposal									the transfer			7-87				Contract Party						
Purge Water-(permitting and a disposal)	l Eacl	h	1	1		4				\$ 455.00										\$ -	\$ -	\$ 455.0
Project 5 Management/Reporting																						
a Work Plan Development	Eacl	h	1	36				2		\$ 3,636.00										\$ -	\$ -	\$ 3,636.0
Access Permission (7 b properties)	Eacl	h	1	2	1	7		2		\$ 1,783.00										\$ -	s -	\$ 1,783.0
c Project Management	Eacl		1	18				15		\$ 3,390.00										\$ -	\$ -	100 00 00 000 000
Offsite Results Notifications d properties)	(8 Eacl	h	wh1? 2	4	10	6		2		\$ 3,784.00										\$ -	\$ -	\$ 3,784.0
e Data Tabulation and Analysis	s Eacl	h	1	2	11	0 6				\$ 1,544.00										\$ -	\$ -	\$ 1,544.0
Semi-annual Electronic reporting and Status Report Documenting Results With Recommendations for Next f Phase of Site Investigation	Eacl	h	1	6	31	0 5	10	5		\$ 4,224.00										\$ -	\$ -	\$ 4,224.0
ESTIMATED TOTAL				81	120	6 21	10	26	\$1,546.00	\$25,603.00	\$2,842.00	\$350.00								\$ 2,155.00	\$ 5,347.0	0 <b>\$ 30,950.0</b>

Expense Breakdown as follows:		Ex	pense Unit Costs
Item 1a: PID, 2 days	Water Level Indicator	\$21/Day	PID
Item 1b: Dedicated submersible pumps (4); water quality meter rental(includes shipping), and electronic water level indicator, 1 day each	Bailers	\$13/Each	Rotary Hammer Drill
Item 3a: Four sub-slab vapor points and rotary hammer drill remtal, 1 day	Water Quality Meter	\$150/Day	Sub-slab Vapor Point
Item 3b: PID and Air Sampling Kit, 1 day	Low-flow Pump	\$40/Day	Air Sampling Kit
	0.45 um filter	\$15/Each	Magnehelic Gauge
	Dedicated Purge Pump	\$170/Each	Drum
APPROVED BY: Date:	Pump Controller	\$50/Day	

Dry Cleaners Etc.-102 East Cook Street, New London, Wisconsin Change Order No. 1: June 2015 BRRTS #02-69-552218

# Change Order #1 Detailed Cost Summary

						1			,			<u> </u>			Subcon			**	Subconfractors					
										1						Nt.	mber of Anal	yses	<del></del>					
ASK	Description	Unit	Estimated Ouantily	Senior Project Manager \$ 99.00	Project Manager/Project Professional II \$ 89,00	Project Professional \$ 76,00	Drafts Person \$ 40,00	Clerical \$ 36,00	,	Terracon Total	Drilling	Plumbing or Drilling Video Contractor	Drum Hauling	Investigative Waste Dîsposal	GW VOC + Dups \$ 55,00	Soil VOC \$ 55,00	Ethene		TCLP-VOC	Laboratory	Subcontractors Total	JOTAL		
1 .	Temporary Well Installation	and Gro	undwater Sa	pnilqm						3 (2) (2)														
а	Direct-push Soil Borings and Temporary Well Installation/Sampling	Each	1	2	20				\$ 190,00	\$ 2,168.00	\$2,842.00			•	4	12			·	\$ 880,00	\$ 3,722.00	\$ 5,890 <i>.</i>		
1	Groundwater Sampling- Existing NR 141 MWs (4 MWs plus dup; 1 round)	Each	1	1	3	10			\$ 901.00	\$ 2,027.00				and the second s	5					\$ 275.00	\$ 275,00	\$ 2,302		
2	Sewer Lateral Investigation			· · · · · · · · · · · · · · · · · · ·												, , , , , , , , , , , , , , , , , , ,								
a	Sanitary Sewer Lateral Video Inspection	Each	1	6						<b>\$</b> 594.00		\$350,00				· · ·				\$ -	\$ 350,00	<b>\$</b> 944		
	Vapor Investigation/Monitori	ពិធ														·					<u> </u>			
8	Sub-slab Vapor Point Installation (4)	Each		. 2	8				\$ 210,00	\$ 1,120.00						A 4 15 4 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	***************		·	\$ -	\$ -	\$ 1,120		
b	Sub-slab Vapor Sampling (1 round)	Each	1	1 1	6				\$ 245,00	\$ 878,00								4		\$ 1,000.00	\$ 1,000,00	\$ 1,878		
4	IDW Disposal							. ,	<u>, , , , , , , , , , , , , , , , , , , </u>											4				
	Purge Water-(permitting and disposal)	Each	1	1	. 4					\$ 455.00										\$	\$ -	<b>\$</b> 455		
5	Project Management/Reporting																,							
	Work Plan Development	Each		36	i			2		\$ 3,636.00										\$ -	\$ -	\$ 3,636		
b	Access Permission (7 properties)	Each	1	2	17			2	2	\$ 1,783.00			·							\$ -	\$	\$ 1,783		
c	Project Management	Each	1	18	12			15	<u> </u>	\$ 3,390,00										\$ -	\$ -	\$ 3,390		
	Offsite Results Notifications (8 properties)	Each	2	2 4	16			2	2	\$ 3,784.00										\$ -	\$ -	\$ 3,78 <b>4</b>		
е е	Data Tabulation and Analysis	Each		1 2	10	6				\$ 1,544.00										\$ -	\$ -	\$ 1,544		
	Semi-annual Electronic reporting and Status Report Documenting Results With Recommendations for Next Phase of Site Investigation	Each		1 6	30	. 5	10	£		\$ 4,224,00										\$ -	\$ -	\$ 4,224		
-	ESTIMATED TOTAL			81	126	21	10	-	\$1,546.00	***************************************	\$2,842.00	\$350.00					<del></del>		1	\$ 2,155.00		\$ 30,950.		

\*Expense Breakdown as follows:

Item 1a: PID, 2 days
Item 1b: Dedicated submersible pumps (4); water quality meter rental(includes shipping), and electronic water level indicator, 1 day each Item 3a: Four sub-slab vapor points and rotary hammer drill remtal, 1 day

Item 3b: PID and Air Sampling Kit, 1 day

		`	
	E	xpense Unit Costs	
Water Level Indicator	\$21/Day	PID	\$95/Day
Bailers	\$13/Each	Rotary Hammer Drill	\$10/Day
Water Quality Meter	\$150/Day	Sub-slab Vapor Point	\$50/Each
Low-flow Pump	\$40/Day	Air Sampling Kit	\$150/Day
0.45 um filter	\$15/Each	Magnehelic Gauge	\$30/Day
Dedicated Purge Pump	\$170/Each	Drum	\$60/Each
Pump Controller	\$50/Dav	1	

Site Name: Dry Cleaners Etc

BRRTS #: 02-69-552218

Type of Action: Site Investigation 1

# Dry Cleaner En Program

TASKS	BUDGET												
Bid / Budgeted Description	790025400	/ Budgeted Amount	Change Order No 1		INSERT	Total Approved Budget			us Claims olicable)	INSERT	 Invoiced osts	Use	et Remaining -) to indicate st over-run
Consultant Costs					in the second								
Work Plan Development	\$	-	\$	3,636.00	\$ -	\$	3,636.00				\$ 1	\$	3,636.00
Access/Project Management	\$	3,536.25	\$	5,173.00		\$	8,709.25				\$	\$	8,709.25
Site Investigation (Soil; Groundwater, Vapor)	\$	6,455.00	\$	5,241.00		\$	11,696.00				\$	\$	11,696.00
Data Analysis/Report Preparation	\$	4,553.00	\$	9,552.00		\$	14,105.00				\$	\$	14,105.00
Miscellaneous Expenses	\$	3,425.00	\$	1,546.00		\$	4,971.00				\$ -	\$	4,971.00
IDW Disposal			\$	455.00		\$	455.00				\$ -	\$	455.00
						\$					\$ -	\$	- I
						\$	-				\$ -	\$	
						\$	-				\$ -	\$	-
						\$					\$ •	\$	
						\$					\$ -	\$	
Consultant Cost Total	\$	17,969.25	\$	25,603.00	\$ -	\$	43,572.25	\$	-		\$ -	\$	43,572.25
Sub-Contractor Costs												Legation	
Direct Push Soil Borings/MW Construction	\$	10,980.00	\$	2,842.00	\$ -	\$	13,822.00				\$ -	\$	13,822.00
Laboratory	\$	5,305.00	\$	2,155.00		\$	7,460.00				\$ 	\$	7,460.00
Sewer Video	\$	-	\$	350.00		\$	350.00				\$ -	\$	350.00
						\$	-				\$ -	\$	
						\$	-				\$ -	\$	
						\$	-				\$ 	\$	-
						\$	-				\$ -	\$	-
Sub-Contractor Cost Total	\$	16,285.00	\$	5,347.00	\$ -	\$	21,632.00	\$	-		\$ 	\$	21,632.00
DERF ELIGIBLE SUB-TOTALS	\$	34,254.25	\$	30,950.00	\$-	\$	65,204.25	\$		\$-	\$ -	\$	65,204.25

Non-DERF Eligible Expenses							
							\$ -
							\$ -
Non-DERF Cost Total			9	5	- T		\$ -
INVOICE GRAND TOTAL	100		\$	3		##	\$ -

	State of Wisconsin Department of Natural Resources											<b>BOR</b> I 400-122		LOG		<b>RM</b> A	ATION	
			Ro	ute To: Waters	shed/W	astewater	Waste	Manag	ement									
				Remed	diation/I	Redevelopment	Other											
				÷										Pa		of	2	
	ty/Proje			rracon Project	No 5	9107029\	License	/Permit	Monito	oring N	umber		Boring	Numb	er M\	<b>X</b> 7_1		
				f crew chief (first,			Date Dr	rilling S	tarted		Da	te Drilli	ng Con	npleted			ing Method	
	ke Mc	-		,	,			J					Ü	•		i	llow stem	
				Soils & Drillin					/2011				2/16/2	2011		au	ger	
WIU	nique V	Vell No	) <b>.</b>	DNR Well ID N	No.	Common Well Name	Final St	atic Wa Feet ]		el	Surface	e Elevat	ion et MS	г	Во		Diameter inches	
Local	Grid O	rigin	[] (es	timated: ( ) o	or Bori	ng Location					<u> </u>	Local C				8.0	inches	
	Plane	J	_ `	_ ,		E S/C/N	- 1	at <u>4</u> 4			20.4"				1	□ Е		
		of	1.		12,	T 22 N, R 14 E		ng <u>-88</u>			21.6"		Feet	□s	l		Feet W	
Facili	ty ID			County			County C	ode			ity/ or V	Village						
Sar	mple	Γ	T 1	Waupa	ica		09	T	New	Lond	On	1	Soil	Prop	artios		<u> </u>	
	1	-			Soil/D	ock Description								Trop	lucs			
	tt. &	ınts	Feet	,		ologic Origin For						ive					, so	
ber	th A	2̄	h In			h Major Unit		CS	hic	l ma	Œ	pres	ture	. g	icity	(	men!	
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet					ns(	Graphic	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments	
1	24		E	SILTY SAN	D w/t	race gravel - Dark	brown,	+ -			-	0 02	20			1	ш О	
SS	18	2 2 2 3	1.5			ained, soft, poorly		SP-SN	1									
SS S	24 18	3 4	-3.0	SILT w/ clay	/- Red-	-brown, non-plast	ic, moist		Ш		1.5						*Sample submitted	
3	24	5 7 3		- w/ trace gra	avel						<1							
SS	24	3 5 8	<b>-4.5</b>	- W/ trace gr	avei			ML										
4 SS	24 22	11 3 5	6.0								<1							
33	1 22	8	7.5					CVV CV										
5	24	12	E	SAND w/ sil	lt - Red ined. w	d-orange, very fine rell-graded, moist	e to	/ <u>5w-sr</u>	V.		<1							
SS	18	6	9.0			tht brown, very fir	ne to											
6	24	7 5	-	fine-grained,	poorl	y-graded, moist		SP-SN			<1							
ss	22	11	10.5							8								
_ [	4	14 23	E <sub>12.0</sub>			vn, very fine to	4:C-J	SP			_							
7 SS	24 22	5 15	E 12.0	mcumi-gran		oorly-graded, stra 2.0" thick, moist	unea	) Sr			<1							
<i>\</i>	V	22 25	13.5	<u> </u>		L - Brown, sub-re	unded	$\top$										
8 SS	24	9	F	to sub-angula	ar grav	vel (0.25"-0.75"),	medium				<1							
SS	20	19 20	15.0	to coarse-gra	unea s	and, well-graded,	ary											
9	24	22	F , . ]							J	<1							
ss	22	18	16.5					GW										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

- sub-angular gravel (0.5"-1.5")

Signature	Fin	m Terracon Consultants, Inc.	Tel: 414.423.0255
	·	9856 South 57th Street Franklin, Wisco	nsin 53132 Fax: 414.423.0566

Borin	g Numl	er	MW	V-1 Use only as an attachment to Form 4400-	122.						Pag	ge 2	of	2
San	nple									Soil	Prope	rties		
	Length Att. & Recovered (in)	<b>13</b>	se	Soil/Rock Description					စ္ ်					
e r	Att.	uno,	in Fe	And Geologic Origin For	S		l a	ے ا	essiv h	8 T		Ţ.		ents
Number and Type	ngth Sove	Blow Counts	Depth In Feet	Each Major Unit	SCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
an N	Re L		Ğ		Þ	Grap	Well Diagr		St	<u>≱ ပိ</u>	Liquid Limit	Pla Inc	P 2	⊻೭
11 SS	24 18	9	E 21.0	ק SILTY CLAY - Dark brown, slightly stiff, ק	GW CL-M	111		<1						
\ \		14 17	= 21.0	non-plastic, moist	SW	. O.								
12 SS V	24 20	6 7	22.5	SAND w/ trace gravel - Light brown, fine to coarse-grained, well-graded, dry		1.1.1.1.1.1		<1						
	20	7	-	SAND w/ silt - Light brown, very fine to	İ									
13	24	10 8	-24.0	fine-grained, stratified layers of silt				<1						
13 SS V	20	9 11	È	0.25"-1.0" thick, moist										
[		13	25.5											
14 N	24 20	5 10	27.0					<1						
Ν		11 13	F 27.9					<1						*Sample
15 SS V	24 19	5	E <sub>28.5</sub>					-						submitted
33	19	7	E · · ·		-									
HS	72	11	30.0					i						
[]			-31.5											
}			F 31.3											
<u> </u>			E <sub>33.0</sub>	¢										
<b>W</b>														
}			34.5											
]}														
171			36.0	EOB @ 35.5'										
			37.5											
			F 7/.3											
			E -39.0		}									
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State of Wisconsin Department of Natural Resources

# **SOIL BORING LOG INFORMATION**

Form 4400-122 Rev. 7-98

Page   1				<u>K</u> (	<u>oute 10:</u>		wastewater $\square$ /Redevelopment $\square$	Other		ement	ы							
Dry Cleaners Etc. (Terracon Project No. 58107028)   MW-2															_		of	2
Borng Drilled By   Name of crew chief (first, last) and Firm   Date Drilling Started   Date Drilling Completed   Dolling Method hollow stem   M&K Environmental Soils & Drilling   Direction   Bornfall Static Water Level   2/16/2011   Surface Elevation   Bornfall Drilling   Bornfall Static Water Level   Surface Elevation   Bornfall Drilling   Bornfall Static Water Level   Feet MSL   Feet MSL   Surface Elevation   Bornfall Drilling   Bornfall Drilling   Bornfall Static Water Level   Feet MSL   Surface Elevation   Bornfall Drilling   Bornfall Static Water Level   Feet MSL   Surface Elevation   Bornfall Drilling   Bornfall Static Water Level   Feet MSL   Surface Elevation   Bornfall Drilling   Static Water Level   Feet MSL   Surface Elevation   Bornfall Drilling   Surface Elevation   Elevation   Surface Elevation   Elevation   Surface Elevation   Elevation   Surface Elevation   Elevation   Elevation   Surface Elevation   Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation   Surface Elevation					erracon l	Project No.	58107028)	License	Permit/	Monito	ring Nu	mber		Boring	Numb		W-2	
M&K Environmental Soils & Drilling   2/16/2011   2/1								Date Dr	illing S	tarted		Dat	e Drilli	ng Con	npleted			ling Method
Wil Unique Well No.   DNR Well ID No.   Common Well Name   Final Static Water Level   Surface Elevation   Borehole Diameter   Feet MSL   Surface Elevation   Solit Cheek   Surface Elevation   Sulface Elevation   Sul					Soile &	Drilling			2/16	/2011			,	2/16/2	011			
Local Grid Origin   Cestimated:							Common Well Name	Final St			el l	Surface			.011	Во	rehole	Diameter
State Plane	T1	C-110			-4:44.	D.	ning I costing SI		Feet l	MSL		······ ],					8.0	inches
1/4 of   1/4 of Section   1/2, T   22   N, R   1/4   E   Long   -88°   -44°   21.6"   Feet   S   Feet   W			ngın	(e:	sumatea:		_	La	at <u>44</u>	° 23	<u>' _ 2</u>	0.4"	Local C	ma Lo	_	ŗ		Пв
Sample   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Major Unit   SouthRock Description   And Geologic Origin For Each Ma			of	1			т 22 n, r 14 e							Feet				
Sample   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Each Major Unit   Soil/Rock Description   And Geologic Origin For   Each Major Unit   Soil/Rock Description   And	Facili	ty ID				•		1 *	ode			•	'illage					
Solit/Rock Description   Solit/Rock Descript	Sa	mple		T		vv aupaca		107		TTOW	Long	/11		Soil	Prope	erties		
1		_	တ	t		Soil/	Rock Description			į			e e		1			
1	r Se r	Att.	ount	n Fe		And C	eologic Origin For			,	ц	Q	essiv h	5 7		ty		suts
1	d Ty	ngth	0w (	pth.]		Ea	ach Major Unit		၂ ၁	aphi	ell agra	D/FI	ompr	oistu	quid	astici dex	200	) Q
SS		1 24		ļ <u>ă</u>	TOPS	OII	·		n	27.2	ÞΩ	PI	Ŭ \$	Σŏ	<u> </u>	교교	۵	<u> </u>
24   3   4   -3.0   moist   SILTY CLAY - Red-brown, stiff, non-plastic, moist   SILT - Brown, very fine to fine-grained, poorly-graded, moist   SS	ss	24	12	-			and alax Dark brox	T/M	-	<b>***</b>								
SS   V   23   4   -3.0   6   6   6   7   22   3   7   4.5   5   5   7   24   12   16   5   5   5   5   7   24   16   5   5   5   5   7   24   16   5   5   5   5   7   24   16   5   5   5   5   5   5   7   24   16   5   5   5   5   5   5   5   7   24   16   5   5   5   5   5   5   5   5   5	, F	1 24	8	1.5	moist	Siit, Sailti a	uid clay - Dark blov	W11,				_1						
SS   24   3   4.5   5   5   5   5   24   12   5   5   5   5   5   24   12   5   5   5   5   5   5   5   5   5	ss	23	4	-3.0					CL-M			_1						
SS	_ [	1	6	F				/	SP									
A	SS \	24 22	3	E-4.5				/				<1						
SS   24   8   7-5	. [	1	5	E-60					CL-M									
Sand   Sand	SS \		8	E 0.0			uy sum, sugnuy pia	isiic,				<1						
SS	<u> </u>	\	8 12	7.5	SANI	O - Orange-	brown, very fine to		SP									
14	5 SS		12	E	\fine-g	rained, poor	rly-graded, moist	/				<1						
6 SS	/	$\setminus$	14	E 9.0	SANL fine-9	D w/ silt - L rained, strat	ight brown, very fir ified silt lavers 0.2:	ne to 5"-1.0"										
The content of the		24	7	10.5								2.6						
7 SS V 16 32		\	12	Ė														
8 SS V 24 13 5 5 7 15.0 20 23 5 15.0 2.6 SS V 22 9 5 16.5 12 13 13 14 18.0 SILT - Brown, moist	7	24	19	12.0					SD			<1						
8 SS V 24 13	33	10	36	13.5														
9	8	24	13	E								<1						
9 SS V 22 9 16.5 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6	22	20	25	E 15.0														
10 24 84 8 10 11 19.5 SILT - Brown, moist ML	9	24		E <sub>16.5</sub>								2.6						
SS V 24 8 SAND - Light brown, fine to medium grained, poorly-graded, dry	SS	22	12	E			***************************************											
grained, poorly-graded, dry	10	24	4	18.0					ML			<1						
11 - 19.5 grantet, poorly grantet, my	ss	24	10	E 10.5		n	SP											
	L		11					· · · · · · · · · · · · · · · · · · ·			EM EX							

		, ,	
Signature	Firm	Terracon Consultants, Inc.	Tel: 414.423.0255
		9856 South 57th Street Franklin, Wisconsin 53132	Fax: 414.423.0566

# **SOIL BORING LOG INFORMATION SUPPLEMENT** Form 4400-122A

Boring	Numb	er	MW	V-2 Use only as an attachment to Form 4400-	122.						Pa	ge 2	of	2
Sam	ple									Soil	Prop	erties		
,	સ્ત્ર 🗐	S.	t	Soil/Rock Description				<u> </u>	وا		1			
	ed (	ount	n Fe	And Geologic Origin For			_		ssiv	دو		<u>4</u>		uts
Typ.	gth	Blow Counts	Depth In Feet	Each Major Unit	CS	ligi "	II gran	PID/FID	Compressive Strength	istur	hi di	stici	00	<u> </u>
Number and Type	Length Att. & Recovered (in)	Blo	Dep		S O	Graphic Log	Well Diagram	<u>R</u>	Compress Strength	Moisture Content	Liquid	Plasticity Index	P 200	RQD/ Comments
11 SS V	24 19	4 6	E	SAND & GRAVEL - Brown, sub-rounded		76		<1						
33	19	9	F-21.0	to sub-angular gravel (0.25"-0.5"), fine to coarse-grained sand, well-graded, dry	GW									
12	24	11 4	E -22.5	~		,		<1						
12 SS V	20	4 6	F 22.3	medium-grained, well-graded, moist		.O.								
Δ		ģ	E-24.0			, O. C								
13 SS	24 16	8 6	E			. 0.		<1	]		1			
~ [N		7 9 8 6 6	25.5			0 C								
HS []	72	U	Εl	Wet @ 26'				10.9						*Sample
			27.0	<b>Q</b>	SW	. O. C								submitted
KU						, U					Ì			
KN.			E-28.5			, O. C								
			-30.0			a o								
]}			F 30.0			°.0.0								
}}	l		Γ Ι			, O C								
KTI				EOB @ 32'		h N i ki		1						
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State of Wisconsin Department of Natural Resources

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			<u>Rc</u>	ute To:		Vastewater		e Manag	ement								
					Remediation	Redevelopment	Other	: [_]									•
Facilit	y/Proje	ct Nan	ne				License	e/Permit	'Monito	ring N	ımber	1	Boring	Pag Numbe		of	2
Dry	Clear	ners E	etc. (Te		Project No. :										MV	<i>W</i> -3	
		-		f crew ch	ief (first, last) a	and Firm	Date D	rilling S	tarted		Da	te Drilli	ng Con	npleted		1 .	ing Method
	te Mc <i>i</i> zK En			Soils &	b Drilling			2/17	/2011			4	2/17/2	2011		1	llow stem ger
	nique W				Vell ID No.	Common Well Name	ne Final Static Water Level Surface Ele				e Elevat	ion		Во	rehole	Diameter	
Local Cuid Ouisin													t MSI			8.0 inches	
Local Grid Origin ☐ (estimated: ☐ ) or Boring Location ☒  State Plane N, E S/C/N								_at44	° _ 23	<u>'                                    </u>	20.4"	Local G	iria Lo	cation   N	r		□ Е
1/4 of 1/4 of Section 12, T 22 N, R 14 E							Lo	Long <u>-88° 44' 21.6"</u> Feet S						1	Feet W		
Facility ID County							County C	Code	Civil T		-	Village					
Sor	nple		T		Waupaca		69	1	New	Londo	on		Soil	Prope	rtios		
Sai	· ·				Cail/E	Rock Description							3011	Гюре	lucs		
	tt. & d (in	unts	Feet			eologic Origin For						sive					23
lber Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet			ch Major Unit		CS	hic	ram	FID	pres	sture	t id	icity	0	men
Number and Type	Length Att. Recovered (	Blov	Dept			·		ns	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
HS	12		F		CRETE												
1	24	2 6	1.5	TOPS				/									
ss  \	10	7	F			nd clay - Brown. n ked-brown, slightly		+	<b>777</b>								
2	24	8 5	-3.0		lastic, moist		siii,				<1						*Sample
ss	22	6	E	-													submitted
, [\	24	6	<b>⊢4.5</b>		•			CL-M									
$\frac{3}{\text{SS}}$	24 20	4 4	6.0	- w/ t	race gravel a	and sand					<1						
Λ		4 5	E 0.0											i			
ss V	24 24	3	7.5	SANI	O - Orange, v	very fine to fine-gra	ained,				<1						
)   	2.1	6	E	poorly 0.25"-	y-graded, str -1.0" thick, r	atified silt layers											
5	24	6	F9.0		, -						<1						
ss  \	24	7 8	10.5														
6	24	10	E 10.3	_ Lial	ht brown						<1						
ss	24 19	6 8	E 12.0		iit olowii			SP			-						
_ [		9	E														
ss V	24 21	7 11	F 13.5								<1						
Λ		14 16	F														
8 SS	24 17	9 12	15.0								<1						
	17	16 23	E 16.5														
9	24	4	E		- Brown, mo	oist		ML			<1						
ss  \	24	12 15	18.0	SANI	O w/ silt - Li	ght brown, very fir	ne to										
10 1	24	17 4	F	•	rained, poor	ly-graded, dry		SP			<1					·	
10 SS X	20	ż	19.5													L	
I herel	y certif	fy that	the info	rmation o	on this form is	true and correct to the	best of my	knowle	ige.								
Signat	ure					Firm Te	erracon C	onsulta	nts, Ir	ıc.						Tel:	414.423.0255

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

9856 South 57th Street Franklin, Wisconsin 53132

Fax: 414.423.0566

Borin	g Numb	er	MW	V-3 Use only as an attachment to Form 4400-	122.							Pa	ige 2	of	2
San	nple										Soil	Prop	erties		
	Length Att. & Recovered (in)	ıts	eet	Soil/Rock Description						, c				l   	
er /pe	Att ered	Cour	In F	And Geologic Origin For	S	<u>ي</u> .		띭	А	ressi th	nt e		ity		nents
Number and Type	engtl	Blow Counts	Depth In Feet	Each Major Unit	SC	Graphic	Log	Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid I imit	Plasticity Index	700	RQD/ Comments
	기점	<u>m</u> 13		SAND w/ silt - Light brown, very fine to	D	9	<u>                                      </u>		<u>д</u>	S	20	1 -	7 -	<u>~</u>	<u> </u>
11	24	14 7	-21.0		SP				<1						
ss V	21	9 10	Ė		) or										
[		10	-22.5	SILT - Brown, moist		╁∺	:: 	2624	.1						
12 V SS V	24 20	5 7	24.0		ML	Ш			<1						
N		7 9		SAND w/ gravel- Brown, medium to coarse-grained, well-graded, dry	sw	. 0									
13 SS V	24 19	4 8	25.5	SAND & GRAVEL - Brown, sub-angular			Ġ.		<1						
$\Lambda$		13 13	- - -	gravel (<0.25"), fine to coarse-grained sand,	GW										
14 SS	24	4	E-27.0	well-graded, moist			7		<1						
22	20	7 9	28.5	SILT - Brown, stratifications of sand and		1									
15	24	10 6	<u> </u>	gravel 0.25"-1.0" thick, moist	ML				<1						1
ss V	18	7 9	30.0	SAND & GRAVEL - Brown, sub-angular		╁╙									*Sample
HS []	78	13	<b>E</b> . ]	gravel (<0.25"), fine to coarse-grained sand,											submitted
115			31.5	well-graded, wet			•								
<b> {</b> (			E -33.0												
}					GW		3								
}			-34.5												
}			E]				•								
]}			36.0												
13						•		Re X							
				EOB @ 37.5		ļ									
							İ								
								ļ			<u> </u>		l		

State of Wisconsin SOIL BORING LOG INFORMATION Department of Natural Resources Form 4400-122 Rev. 7-98 Watershed/Wastewater Waste Management Route To: Other  $\square$ Remediation/Redevelopment Page 1 of 2 Facility/Project Name License/Permit/Monitoring Number **Boring Number** MW-4 Dry Cleaners Etc. (Terracon Project No. 58107028) Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method hollow stem Mike McArdle M&K Environmental Soils & Drilling 2/17/2011 2/17/2011 auger WI Unique Well No. DNR Well ID No. Common Well Name Final Static Water Level Surface Elevation Borehole Diameter Feet MSL Feet MSL 8.0 inches Local Grid Origin ☐ (estimated: ☐ ) or Boring Location ☒ Local Grid Location 20.4" 44° 23' Lat N. State Plane Ε S/C/N  $\square$  N  $\square$  E -88° 44' 21.6" Feet 
S 1/4 of 1/4 of Section 12. T 22 N, R 14 E Long Feet W Facility ID Civil Town/City/ or Village County County Code Waupaca 69 New London Soil Properties Sample Soil/Rock Description શ્ર 🗓 Blow Counts Depth In Feet Compressive ength Att. Recovered And Geologic Origin For Comments Moisture Content Plasticity Diagram PID/FID Strength Graphic Liquid Each Major Unit Limit P 200 Log Well HS CONCRETE 12 SILTY SAND - Dark brown, very fine to <1 23 12 SS medium-grained, poorly-graded, moist SP-SM 14 16 8 7 SILTY CLAY w/ trace sand - Red-brown, <1 \*Sample 24 SS 19 submitted slightly stiff, slightly plastic, moist 9 7 4.5 <1 3 5 8 SS 18 6.0 15 6 9 <1 7.5 SS 21 16 19 SAND - Red-brown, fine to SP 2 <1 medium-grained, poorly-graded, moist SS 4 20 SILTY CLAY - Red-brown, slightly stiff, 7 10.5 7 slightly plastic, moist SP-SN 3 <1 SILTY SAND - Orange-brown, very fine to SS 21 6 7 9 fine-grained, poorly-graded, moist SILTY SAND - Light brown, very fine to

I hereby certify that the information on this form is true and correct to the best of my knowledge.

layers 0.25"-0.5" thick, dry

medium-grained, well-graded, stratified silt

- very fine to fine-grained, poorly-graded

4

7 9

16

6

12

15 17

16

37

34 40

6

20

16

20

SS

SS

10

SS

-13.5

-15.0

16.5

18.0

19.5

	. 101111 10 11 11 11 11 11 11 11 11 11 11	······································	
Signature	Firm Terra	acon Consultants, Inc.	Tel: 414.423.0255
	9856	South 57th Street Franklin, Wisconsin 53132	Fax: 414.423.0566

SP-SM

SW-SN

<1

<1

<1

<1

	g Numb	er	MW	Use only as an attachment to Form 440	0-122.								ge 2	of	2
San	nple										Soil	Prope	rties		
	Length Att. & Recovered (in)	ts	हु	Soil/Rock Description						ا و					
r pe	Att.	Blow Counts	Depth In Feet	And Geologic Origin For	N N			8	۵	Compressive Strength	8 T		ty		suts
mbe Ty	igth Sove	Š.	l te	Each Major Unit	USC	phi	-n -	Well Diagram	PID/FID	Compres Strength	Moisture Content	Liquid Limit	Plasticity Index	8	) À M
Number and Type	Ler		Del		n s	Graphic	<u> </u>	∑ Dia Ve	PIE	Str.	ဗို ပို	Lig Lin	Plastic Index	P 200	RQD/ Comments
X		15 16	Ē., ]	SILTY SAND - Light brown, very fine to medium-grained, well-graded, stratified silt layers 0.25"-0.5" thick, dry (continued)											
11 SS	24 18	16 9 12	E <sup>21.0</sup>	layers 0.25"-0.5" thick dry (continued)					<1						
SS	18	12 15	-21.0 -22.5	layers 0.25 "0.5" unex, ary (commuca)											
[	.	15 17	E 22.3		CD CA										
12 SS	24 20	3 4	-24.0	- fine to medium-grained	SP-SN SW-SN				<1						
M		4 11 16	F 24.0								1				
13 SS	24 22	5 7	25.5						<1						
SS	22	7 12	- 23.3												
$\Lambda$		13 7	E-27.0												
14 SS \	24 22	7 9	E - 1	SILT - Brown, moist	ML		11-		<1						
-		10 12	E-28.5		IVIL		10	er ster	ļ						
15 SS V	24 23	5	E	coarse-grained, well-graded, stratified silt layers 0.25"-0.5" thick, dry					<i< td=""><td></td><td></td><td></td><td></td><td></td><td></td></i<>						
ss	23	5 6 7	-30.0	layers 0.25"-0.5" thick, dry											
			E I												
16 SS	24 19	4 6	-31.5						<1						
[		9	ΕÍ												
17	24	12 5 6	<del>-33.0</del>						<1						*Sample
17 SS	24 19	6	Εl	W-4 © 241											submitted
$\mathbb{N}$		8 11	-34.5	Wet @ 34'	\$W-SN	<b>∤∷</b> :									
HS ]	72		E												
]}			-36.0												
			E												
<b> </b>			<del>-37.5</del>												
18			39.0					$\blacksquare$							
]}			= 39.0												
1)}			40.5												
KT			F ***	EOB @ 41'			114.								:
				EOB (@ 41											
			}				- }								
															1
			1		ļ										

	of Wisc		ral Reso	ources								<b>BOR</b> 3		L <b>OG</b> ]		<b>RM</b> A	ATION
			Ro	oute To:		Vastewater   Redevelopment	Waste Other	_ ~	ement								
														Pag	re 1	of	1
	ty/Proje						License/	Permit/	Monito	ring N	ımber		Boring	Numb			
					Project No. 5		D-4- D-	11: C			D-	te Drilli	C		P-2		Cora Mada a d
	g Drille n Bend	•	ivame o	or crew ci	niei (first, iast) a	ina ritti	Date Dri	uing Si	tarted		Da	ite Dilli	ng Con	npietea		Dnii	ing Method
	be Tec		ogies, l	Inc.			8/31	/2010				8/31/2	2010		Pu	ish Probe	
WI Unique Well No.   DNR Well ID No.   Common Well Na							Final Sta	tic Wa	ter Leve		Surfac	e Eleva			Во	rehole	Diameter
							Feet MSL Feet MS							2.0	inches		
	Grid On Plane	rıgın	∐ (es	stimated:	i∐) or Boi N,	ring Location 🔯 E S/C/N	Lat 44° 23' 20.4" Local Grid Location										
Suite	1/4	of	1	/4 of Sec	*	T 22 N, R 14 E		g <u>-88</u>		l' 2	21.6"		Feet	□ N S □ :			∐ E Feet □ W
Facili					County		County Co	ode	Civil T		•	Village			·		
					Waupaca		69		New	Lond	on	T					
San	mple											<u> </u>	Soil	Prope	erties		
	% (ii)	l st	eet			lock Description						e					
ي م	- Att	Cour	In F			eologic Origin For		ω	ပ္	=		essi	e +		ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Eac	ch Major Unit		sc	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
<u> </u>	48	<u>B</u>	ă	COM	CDETE			D	<u>5</u> 4	≱ Ä	M	<u> </u>	≱ ඊ	<u> </u>	II II	Ъ.	<u> జీర</u>
PP	25		E	I \	CRETE	ange-brown, fine-g	/	CD									
			-2.5		y graded, mo		ranicu,	SP			<1						
			E	SILT	Y CLAY w/	trace gravel -					<1						*Sample submitted
PP	48 48		<u></u> −5.0	Oran	ge-brown, no	n-cohesive, angular	gravel	CL-MI			<1	į					Submitted
			Ē	(<0.2	5"), soft, mo	ist					<1						
			<u>├</u> 7.5	CANT	T / "I T	11 6			M								
3 PP	48 39		Ē		D w/ silt - Re ed, poorly gra	ed-brown, very fine	to fine-				<1						
PP	39		L <sub>10.0</sub>	~	ou, poorty gr	<i></i>		SP-MI			1						
			Ė	- fine	to medium-	grained					4.6						
4	48		<u>├</u> 12.5	SAN	D & GRAVI	EL - Light brown-gr	ray,	<del> </del>	؋ؼڗ		3.1						
PP	36		-	well	graded, medi	um to coarse graine	d sand,	SP/GF									
			L 15.0	subar	ngular gravel	(0.25"-0.75"), dry		51,01	90°C		6.0						
5	48		E		'w/clay_Pm	own, lean, non-cohe	eive	ML	۲۲۲۲ ۱۱۱۲		6.7						*Sample
PP	36		├ ├─17.5	\dry	w Clay - BIC	Jwii, icali, lion-con	/SIVC, /	IVIL	받았는		6.7						submitted
			F		D & GRAVI	EL - Light brown-gr	ray,	SP/GF	18:0%	M N	6.0			}			

I hereby certify that the information on this form is true and correct to the best of my knowledge

poorly graded, moist

Wet @ 26'

EOB @ 28'

6 PP

7 PP 48 38

40

well graded, medium to coarse grained sand, subangular gravel (0.25"-0.75"), dry

SAND w/ silt - Light brown, fine-grained,

Thereby certify that the information on this	form is the and correct to the best of my knowledge.	
Signature	Firm Terracon Consultants, Inc.	Tel: 414.423.0255
	9856 South 57th Street Franklin, Wisconsin 53	132 Fax: 414.423.0566

SP

5.3

3.1

3.9

4.6

5.3

\*Sample submitted

State of Wisconsin Department of Natural Resources

# **SOIL BORING LOG INFORMATION**

Form 4400-122 Rev. 7-98

			<u>Rc</u>	oute To:		Wastewater		ste Man	agem	ent 🗀	]							
					Remediation	n/Redevelopment	Otl	ner 🗌										
T:0	/D:-	-4 NT					IF to the	<i>T</i> D	·+ 0. f -		- NT-			D	Pag		of	1
	ty/Proje / Clear			erracon	Project No.	58107028)	Lice	nse/Perm	nt/Mo	nitorin	ig Nu	mber		Boring	Numb	er P-∠	1	
					hief (first, last)		Date	Drilling	Starte	ed		Dat	te Drilli	ng Cor	npleted			ling Method
	n Bend be Tec		ogies '	Inc				Q /′	31/20	110				8/31/2	2010		Dı	ısh Probe
	nique W				Well ID No.	Common Well Name	e Final	Static V			S	urface	Elevat		2010	Во		Diameter
<del>- ,</del>	0110		<b>-</b>	<u> </u>				Fee	t MS	L				t MS			2.0	inches
	Grid Oi Plane	ngın	∐ (e:	stimated:	i []) or Bo	oring Location 🖂 E S/C/N		Lat	44°_	23'	2	0.4"	Local C	ind Lo	cation	т		□Е
	1/4	of	1	/4 of Sec	,	T 22 N, R 14 E		Long	88°_	44'		1.6"		Feet				Feet W
Facili	y ID			[	County		County	/ Code	- 1	il Tow			illage					
Sat	nple		1		Waupaca		69		1100	ew Lo	DIGO	11		Soil	Prope	erties		
	1		ļ "		Soil/	Rock Description									l			1
v	Att. 2	ounts	Fee	:	eologic Origin For						_	ssive	63		<b> </b>		nts	
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Ea	ach Major Unit		2	) [공		Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments
		BIC	De D	mone				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5 5	Log	Ö		<u>S</u> %	§ ∑	Liquid Limit	Plastic Index	P 2	<u> </u>
1 PP	48 34		E	TOPS		Red-brown, non-col	necive		<u> </u>									
l			2.5	soft, 1		cca-orown, non-cor	iicsivc,	CL-I	$-\mathcal{U}$			3.1						
2	48		F <sub>50</sub>			l organics - Orange	-brown	11	1	tid 1		3.1						*Sample
PP	36		5.0 -			graded, moist Red-brown, non-col	nesive.	_/ CL-1	MI			17		,				summitted
			-7.5	firm,	moist	,		_/\SP/0	JP &	-0		1.7 2.4						
3 PP	48 44		SAND & GRAVEL - Brown-black, me to coarse- grained sand sub-angular grav					n	9.	١		1.7						
^^			-10.0		5"), dry	sand sub-angular į	graver	$\rfloor \rfloor_{\mathrm{sv}}$	, ,	, O		3.9						
,  -	48		- 12.5			ight brown, fine to		_   sv	۷	.0.		4.6						
PP	40		-12.5	mean	um- grained,	well graded, moist	,		. (	7.		4.0						
			15.0	CANI	D & CDAY	EL - Light brown, 1	Ena ta		6	ο 7 τ		4.6						*Sample submitted
5	48					ubangular gravel ((		),	6	7,5		5.3						
PP	40		17.5	moist			•	SP/0	GP SP⊝S	Ö		5.3				İ		
			- -20.0						); [	7,4								
6 PP	48   36		20.0						þ.C A	, G		3.9						
			22.5	SANI fine-	D w/ silt - Li	ight brown, very fir rly graded, moist	ne to					2.4						
7	48		E		granicu, poo	rry graded, moist						3.9						
PP	36		<b>├</b> 25.0															
			- -27.5					SI	· 🔯			4.6						
8 PP	48 32		E 2/10	Wet (	@ 28'							2.4						*Sample submitted
FF	32		30.0									2.4						Subilifica
	.		- 1	BOD														
				EOB								2.4			<u></u>	<u> </u>		<u> </u>
	-	y that	the info	rmation o	on this form is	true and correct to the l												
Signa	ure						rracon 66 South				ı, Wis	sconsi	n 53132	2				414.423.0255 414.423.0566

State of Wisconsin Department of Natural Resources

### SOIL BORING LOG INFORMATION

	DOIL DOILLIO L	O THEOTOTAL STROLL
	Form 4400-122	Rev. 7-98
Wasta Managament		

			<u>Ro</u>	ute To:	Watershed/\	Wastewater	Waste	Manag	ement								
					Remediation	Redevelopment	Other										
														Pag	e 1	of	1
	ty/Proje						License/	Permit/	Monito	ring Nu	mber		Boring	Numbe			
					Project No.										P-5		
	•	•	Name o	f crew c	hief (first, last)	and Firm	Date Dr	illing S	tarted		Da	te Drilli	ng Con	pleted		Drill	ling Method
	n Bend be Ted		ogies 1	Inc				9/1/	2010				9/1/2	010		Pı	ısh Probe
	nique W				Well ID No.	Common Well Name						Во	Borehole Diameter				
	_						Feet MSL					Fee	t MSI			2.0	inches
	Grid O	rigin	☐ (es	stimated:		ring Location	1.	at 44	° 23	. 2	:0.4"	Local C	rid Loc	cation			
State	Plane			44 0Å	N,	E S/C/N							□ E				
Facili	1/4 tv ID	of	1	/4 of Sec	ction 12,	T 22 N, R 14 E	Long <u>-88° 44' 21.6"</u>   Feet □ S Fee   County Code   Civil Town/City/ or Village						Feet W				
1 40111	., 12				Waupaca		69	,40		Londo	-	mage					
Sar	nple				·····•		1						Soil	Prope	rties		T
	т-				Soil/I	Rock Description											
40	Length Att. & Recovered (in)	Blow Counts	Depth In Feet			eologic Origin For						Compressive Strength					ts
Z per	th A	သိ	h In			ch Major Unit		CS	hic	Lam	E E	pres gth	ture	t id	icity		men
Number and Type	eng Seco	3low	Sept			•		N.S.	Graphic Log	Well Diagram	PID/FID	of ter	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	48		-	TOP	SOIL			<del>  =</del>	34.3	M N		0 07	1				
PP	36		E	SILT	Y SAND - R	Red-brown, fine to 1	medium-	SP-MI								l	
			-2.5		ed, poorly gr				777		<1						*Sample
2	48		F			trace gravel -	1				<1						submitted
PP	43		-5.0 -		ge-brown, no el (<0.25"), n	on-cohesive, sub-ar	iguiai	CL-M									
			- -7.5								<1						
3	48		= ' <sup>.</sup>			ight brown, fine-gra	ained,				<1						
PP	36		10.0	poori	ly graded, mo	oist						İ					
			E								<1					ļ	
4	48		-12.5					SP			<1						
PP	36		E													l	
			_15.0								<1						
5	48		=	SAN	D & GRAV	EL - Light brown-r	ed.	1	٥٧٠		<1						
PP	43		17.5	medi	um to coarse	- grained sand, ang	gular		6.0.5								
			E	grave	el (0.25"-1"),	well graded, mois	t	SP/GI	1.00c		<1						*Sample submitted
6	48		-20.0					SI/GI	10. V		<1						
PP	39		E						0 C								
			-22.5		VCIAV E	Brown, non-cohesiv	za firm	CL-M	(9:03°) (1/1/2)		<1	į		:			
7	48		F 25.0	$\bigcap$ major		orown, non-concerv	/c, mm, /	CL-IVI			<1						
PP	33		-25.0	SAN	D w/ silt - Li	ight brown, very fir	ne to										
			- -27.5		-	l, poorly graded, m	oist	İ			<1					l	
8	48		E 2'	Wet	@ 27.5'			SP			<1						*Sample
PP	43		- -30.0	,												l	submitted
			E								<1						
L	1			EOB	(a) 32'						<1						
T ha	by conti	G, 41 4	the in f			true and somest to the	haat af 1	mov-1s	l las	<u> </u>							<u> </u>
Signa		y mat	me mic	inauon	On unis torm is	true and correct to the	erracon Co										
~						ع السندار	TACON L'C	menite	ıntç ir	IC.						اما	414 423 0255

Thereof terms with mit amornium on a	101111 10 that and 4011401 10 the 0401 01 111, 1110 1114 116.	
Signature	Firm Terracon Consultants, Inc.	Tel: 414.423.0255
	9856 South 57th Street Franklin, Wisconsin 531	.32 Fax: 414.423.0566

	of Wisc		ural Res	ources							<b>BOR</b> 3		LO	<b>G</b> ]		<b>RMA</b> ev. 7-98	ATION
			<u>R</u>	oute To: Watershed/V	Vastewater ☐ /Redevelopment ☐	Waste Other		ement									
				Remediation	Acade velopinem 🗀	Other								D	. 1	- <b>.c</b>	1
Facil	ity/Proje	ct Na	me			License/	Permit	/Monito	ring N	lumber		Borin	o Ni	Pag		of	<u> </u>
				erracon Project No.	58107028)	Liconsor	1 Olimo	TVIOIII CO.		uniou		Doil		******	P-0	5	
				of crew chief (first, last)		Date Dri	illing S	tarted		Da	te Drilli	ng Co	mpl	eted			ing Method
	n Bend		logies,	Ino		9/1/2010						9/1/	201	Λ		Dı	ısh Probe
	Inique V			DNR Well ID No.	Common Well Name					Surfac	e Elevat		201	<u> </u>	В		Diameter
****	· · · ·	, 411 1 11				Feet MSL						et MS	SL				inches
	Grid O	rigin	☐ (e		ring Location	Lat 44° 23' 20.4" Local Grid Location						on					
State	Plane			N,	E S/C/N									□ E			
F31		of	1	/4 of Section 12,	T 22 N, R 14 E			3° 44		$21.6$ " Feet $\square$ S Feet $\square$					Feet W		
racii	ity ID			County   Waupaca		County Co 69	oae	New		-	ишаде						
Sa	mple	1		waupaca		0,5	<del></del>	TICW	Lond		1	So	il Pr	one	erties		<u> </u>
Su		1		Soil/E	Rock Description							50.		орс			
	d (ir	ımts	Feet	1	eologic Origin For						sive						22
y Ser	th A	වි	l In	1	ch Major Unit		S	pic	ue.	l e	ores:	ture	ہ ا	١.,	city	_	nen /
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	100	on major ome		usc	Graphic Log	Well	PID/FID	Compressive Strength	Moisture	ioni,	Limit	Plasticity Index	P 200	RQD/ Comments
1	48	<u> </u>	+-	TOPSOIL			+ -	77. 77.	<i>&gt;</i> -		0 82	~ `			Н П		
PP	36		Ē.,		own, fine-grained, p	oorly		11.34.									
			1.5	graded, moist	own, mic-granicu, p	oony				۱.,							
			= 3.0				SP			<1							
			£ 3.0														
2 PP	48		4.5	CLAY w/ silt - Br	own, tan mottling, f	irm,				<1							
PP	48		F	slightly cohesive,	moist												
			6.0				CL			<1							
			Ė												İ		
			7.5														
3 PP	48		E <sub>9.0</sub>	SAND w/ silt - Br grained, poorly gra	own, very fine to fin	e-				<1	İ						
			F 3.0	granicu, poorty gr	aded, still, illoist						İ						
			F_10.5							<1							
			Ē				SP										
4	48		12.0							<1							
PP	48		Ė														
		]	E 13.5														
			15.0		EL - Brown, fine to call a gravel (0.25"-1"			(°Č°)		<1							
			F	moist	nai giavei (0.23 -1	J,		50.0									
5	48		16.5					(0.00)		<1							
PP	36		E				SP/GP	0.0									1
			18.0					(0)		<1							
			Ė					0.0		••							

I hereby certify that the information on this form is true and correct to the best of my knowledge.

EOB @ 20'

·	· · · · · · · · · · · · · · · · · · ·	
Signature	Firm Terracon Consultants, Inc.	Tel: 414.423.0255
	9856 South 57th Street Franklin, Wisconsin 53132	Fax: 414.423.0566

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State of Wisconsin Department of Natural Resources

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro	ute To:	Watersh					te Mana	gemer	1t								
					Remedia	tion/Red	levelopr	nent 🔲	Othe	r 🗆										
																	Pag		of	1
	ty/Proje			rracon	Project N	In 581	በማበኃዩ	`	Licens	se/Permi	t/Mon	itor	ring Nı	ımber		Boring	Numb	er P-7	,	
					nief (first, la			<u>)                                    </u>	Date I	Orilling :	Started	1		Da	te Drilli	ng Cor	npleted			ling Method
	n Bend									_							Ī.,			
	be Tec				Well ID No.	Co	mmon '	Well Name	Final 9		/201		.1	Surfac	e Elevat	9/1/2	010	Bo		sh Probe Diameter
***	mque **	OH I TO	,,		VCII ID INO.		линон	vv chi i vanic	Feet MSL Fee					et MS	L			inches		
	Grid O	rigin	(es	stimated:	□ ) or					Lat 44° 23' 20.4" Local Gric					Grid Lo	cation	-			
State	Plane	of	1	/4 of Sec		V, E		C/N , R 14 E		ong8		44		21.6"		Foot	N □ S □ :			☐ E Feet ☐ W
Facili		OI	1		County	, <u>I</u>	22 IV	, K 17 L	County		Civi				Village	rect	. ⊔ э			reet 🗀 w
					Waupaca	ì			69		Ne	w l	Londo	on					·	
Sample																Soil	Prope	erties		
	Soil/Rock Description And Geologic Origin For														e					
er VDe	h Atr	Com	In F		An					S	ic		am		ressi	nt nt	_	ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet			Each IV	lajor Ur	ш		SC	Graphic	Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	48	<u>щ</u>	+	ASPF	HALT/CO	NCRE	ETE			<u> </u>			N I	Δ,	8	20		P 1	<u> </u>	20
PP	31		E -1.5	SANI	D w/ silt -			-grained,	poorly	SP										
			E 1.3		d, moist	Ded	1	و المام المام		/				5.6						*Sample submitted
			3.0		Y CLAY sive, stiff,		orown	, sugnuy				$\frac{1}{4}$								
2	48		<u> </u>		, ,					CL-M	4	$\mathcal{U}$		3.5						
PP	48		<del>-4.5</del>											] 3.3						
			E-6.0	CANT	D / 11/	T 1 1 4	,					4		12						
			E		D w/ silt - o fine gra									4.2						
	J		<del>-7.5</del>			•		,,												
PP	48 36		-9.0	- fine	to mediu	m graii	ned			SP-M	п			6.3						
			£							51 -10										
			10.5											7.1						
			Ė.,	- w/ a	ıngular gr	avel (<	(0.25")	)												
4 PP	48 38		12.0		D & GRA						9.00			6.3						
*			E 13.5	graine well-s	ed sand, s graded, m	sub-ang soist	gular g	ravel (0.2	25"-1"),		) <u>(</u>	ō.								
			E		<b>5-</b>							٥		7.1						*Sample
			15.0							SP-/C		0.)								submitted
5	48		16.5								90	٥٢		6.3						
PP	37		- 10.0								9 0	Ö								
			18.0	SANI	D w/ silt -	- Light	brown	very fir	e to fin	e	0.5.7	جد		5.6						
			F 10.6	graine	ed, poorly	grade	d, moi	st		SP										
L	-		19.5	FOR	@ 20'					_				5.6						*Sample
				LOD	w 20															submitted
	•	fy that	the info	rmation o	on this forn	n is true	and con	rect to the l	best of my	y knowle	dge.									
Signa	ture								rracon (											414.423.0255
								985	6 South	o/th Str	et Fr	ank	aın, W	iscons	un 5313	2			rax:	414.423.0566

State of Wisconsin Department of Natural Resources

# **SOIL BORING LOG INFORMATION**

Form 4400-122	Rev. 7-98

		<u>Rc</u>		Watershed/\		ter 🗌 lopment 🔲		te Mana r 🔲	gement								
				Remediation	i/Redeve	iopment 🗀	Otne	T L							1	c	1
Facility/Proj	ect Nan	ne					Licen	se/Permi	t/Monito	oring N	umber		Boring	Pag Numb	_	of	1
				roject No.				- 1111				- 111	_		P-8		
Boring Drill Dan Ben		Name o	of crew chief	f (first, last)	and Firm	l	Date I	Orilling S	started		Da	te Drilli	ng Cor	npleted		Drill	ling Method
Probe Te	chnol								/2010				9/1/2	010			ısh Probe
WI Unique V	Well No		DNR We	ll ID No.	Comm	on Well Name	e Final	Static W		'el	Surfac	e Elevat		r	Bo		Diameter
Local Grid C	Origin	☐ (es	stimated:	) or Bo	ring Loc	ation 🛛	1		MSL		. 1	Local C	t MS rid Lo			2.0	inches
State Plane	Ū	_ `	_	N,	E	S/C/N		Lat4			20.4"			□N			□Е
1/Facility ID	4 of	1	/4 of Sectio	· · · · · · · · · · · · · · · · · · ·	т 22	N, R 14 E	County	ong <u>-8</u>	8° 4	4'	21.6"	/:11aga	Feet	t 🗆 S			Feet W
racility ID			I	unty Jaupaca			69	Code		Londe		mage					
Sample				F			1		1				Soil	Prope	erties		
સ્ત્ર <u>(</u> દ	e e	et		Soil/I	scription						g)				1		
r pe Att.	onno	In Fe			-	Origin For		ω .	l o	E	ے ا	essiv h	e +		Ţ.	ı	ents
Number and Type Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Ea	ich Majoi	Unit		SC	Graphic	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
ヹ ま   当 2 1   48	IM I	Ĭ	LACDUA	LT/CON	Срете			Þ	12 7	≱ä	<u> </u>	2 2	Σŏ		교내	<u> </u>	≥ 3
PP   36		E				ine-grained,	poorly	SP								ı	
		-2.5	graded,	dry				∫ CL-M		<b>1</b>	<1						
2   48		-5.0		CLAY - E			$/\!$	TXV		<1					ı	*Sample	
PP 29		E 3.0	poorly	w/ snt - Or graded, mc	range-o oist	rown, fine-	gramed,				<1					ı	submitted
		7.5									1					ı	
3   48 PP   41		E						SP			1.4					ı	
		10.0									1.4					ı	
4   48		E -12.5				wn, stiff, me	oist				2.8					i	
PP   36		F 12.3	- fine to	medium g	grained						2.6					ı	
		15.0				own, mediu ılar gravel	m to	SP/G	P O C		3.5					i	
5   48		E		0.5"), well				/	) \		2.8					i	
PP   38		E 17.5	SAND	w/ silt - Li	ght bro	wn, fine to	medium				4.2					i	
Ш		-20.0	grained,	, poorly gr	aded, n	101St					7.2					i	
6   48 PP   46		E 20.0									6.3					ı	*Sample submitted
		22.5									5.6					ı	
7   48		E						SP			4.9					i	
PP   36		25.0	Wet @	25 5'							4.9					i	*Sample
		- -27.5	Weille	23.3							4.9					i	submitted
		E 27.3									4.6					i	
		30.0								排	4.6					ı	
		Ė !														į	
			EOB @	32'							4.6						
•	ify that	the info	rmation on	this form is	true and	correct to the	best of my	knowle	dge.								
Signature						Firm Te	rracon (	Consult	ants, L	nc.						Tel:	414.423.0255

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

9856 South 57th Street Franklin, Wisconsin 53132

Fax: 414.423.0566

	of Wisc		ral Resc	urces						<b>BORI</b> 400-122		LOG		<b>RM</b> <i>A</i> ev. 7-98	ATION 8	
			<u>Ro</u>		astewater  Redevelopment	Waste Other		ement								
													Pag	ge 1	of	1
Facili	ty/Proje	ct Nam	ne			License/	Permit/	Monitor	ing Nu	mber	[	Boring	Numb		- 01	
				rracon Project No. 5		_								P-9		
	-	-	Name o	f crew chief (first, last) ar	nd Firm	Date Dri	illing St	arted		Da	te Drilli	ng Con	npleted		Drill	ling Method
	n Bend be Tec		orias I	no			0/2/	2010				9/2/2	010		Push Probe	
WIU	nique W	ell No.	gies, i	DNR Well ID No.	Common Well Name	Final Sta			1 [:	Surface	e Elevat		010	Во		Diameter
							Feet N	MSL				t MSI			2.0	inches
	Grid Or	igin	(es		ing Location 🖂	T.a	at <u>44</u>	° 23	' 2	0.4"	Local G	rid Lo	cation	•		
State	Plane 1/4	o.f	1	,	E S/C/N T 22 N, R 14 E	1	g <u>-88</u>			1.6"		East	N □ S			☐ E Feet ☐ W
Facili		01	1.	County	1 22 N, K 14 E	County Co	ode	Civil To			/illage	reet				reet 🗀 w
	•			Waupaca		69		New J		-	J					
Saı	nple											Soil	Prope	erties		
	% (ii)	S	t	Soil/Re	ock Description						မွ					
r pe	Att.	uno,	n Fe	And Ge	ologic Origin For		\sigma		я	۵	essiv h	re t		\$ <u>-</u>		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Eac	h Major Unit		S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
		BIG	å				5	STATISTICS.	Well Diagr	M	C <sub>O</sub>	დ წ	<u> </u>	Pla	P 2	<u> </u>
1 PP	48 26		E	CONCRETE	C 4 1.			3 7					į			
			F1	SAND w/ silt - Brograined, poorly gra	ded, moist	m				2.9						
			<u></u>	8 F 8						•						
			Εl							2.9						*Sample submitted
			-3				SP									
_	4.0		E <sub>4</sub>							2.						±0 1
PP	48 43		Εl							3.6						*Sample submitted
			F <sup>5</sup>													
			E <sub>-6</sub>	SILTY CLAY - R	ed-brown, slighlty					3.6						
			E	cohesive, stiff, moi	St		5.5			3.6	1					
			<b>├</b> 7													
3	48		E '	SAND w/ silt - Ora	ange-brown, very f	ine to				5.1						
PP	36		Ė ŀ	- Approx. 6" of SII						3.1						
			E-9	- fine to medium g												
			E-10	brown silt	,		SP			3.6						
			Ĕ.,							5.0						
			F 11													
4	48		-12							2.1						
PP	24		E <sub>13</sub>	SAND & GRAVE			<b>†</b>		!					1		
			F 13	coarse grained sand	d, sub-angular grav		SP/GP	201		4.3						
			<u></u> 14	(0.25"-0.5"), moist	1		1	90.C		1 2						*G 1 .

I hereby certify that the information on this form is true and correct to the best of my knowledge

EOB @ 14' (Refusal)

	this form is the difference to the obst of my fallowards.	
Signature	Firm Terracon Consultants, Inc.	Tel: 414.423.0255
	9856 South 57th Street Franklin, Wisconsin 53132	Fax: 414.423.0566

4.3

\*Sample submitted

State of Wisconsin Department of Natural Resources

Signature

# SOIL BORING LOG INFORMATION

Tel: 414.423.0255

Fax: 414.423.0566

Form 4400-122	Rev. 7-98

			<u>Rc</u>	oute To:	Watershed/W	/astewater	Waste	Manag	ement								
					Remediation/	Redevelopment	Other										
														Pac	ge 1	of	1
Facilit	y/Proje	ct Nam	ne				Page 1 of 1    License/Permit/Monitoring Number   Boring Number							<u>•</u>			
					Project No. 5										P-1		
Boring	g Drille	d By:	Name o	of crew ch	nief (first, last) a	nd Firm	Date Dr	illing S	tarted		D	ate Drilli	ng Cor	npleted	Į	Dril	ling Method
	Bend			_					·							1_	
			ogies,		Wall ID XI-	IC	- Fin-1 C4		2010	_1	l CC-		9/2/2	010			ish Probe
WI Unique Well No.   DNR Well ID No.   Common Well Name					e Final St	1				face Elevation Bo				orehole Diameter 2.0 inches			
Local Grid Origin (estimated: ) or Boring Location						Feet MSL				Local Grid Location				2.0	niches		
State Plane N, E S/C/N				L	at <u>4</u> 4	<u>23</u>	3'	20.4'	:			J		□Е			
	1/4	of	1	/4 of Sec	etion 12,	T 22 N, R 14 E	Lor	ıg <u>-88</u>	3° 44	<u>4'</u> :	21.6'	1	Feet	: 🗆 s			Feet W
Facilit	y ID				County	7-11-11-11-11-11-11-11-11-11-11-11-11-11	County C		Civil T		•	Village					
		r	,		Waupaca		69		New	Lond	on						
San	nple												Soil	Prope	erties	1	
	% ( <u>i</u>	र्छ	l s		Soil/R	ock Description						့ မ					
L 8.	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		And Ge	ologic Origin For		S		=	٦	sssiv h	5 T		<u> </u>		ents
ab Z	igth Sove	S .	oth I		Eac	h Major Unit		ပ	Graphic Log	Well Diagram	PID/FID	npre	Moisture Content	uid ii	Plasticity Index	8	) D
Number and Type		Blo	Deg					n s	Grap	Well Diagr	DIG	Compressive Strength	°C ₩	Liquid Limit	Plastic Index	P 200	RQD/ Comments
1 PP	48 29		E	\ASPE					****								
	29		□ □2.5		: Gravel and o		/	SP			2.9	,   .					
L			_			rk brown, very fin	e to fine	SI									
2 PP	48 48		<u>-</u> 5.0		ed, poorly gra		/			捌M	2.9	<b>'</b>					
PP 48 SILTY CLAY - Red-brown, non-cohes stiff, moist				icsive,	CL-M			2.9	,								
, L	40		7.5			1.1.					١.		ļ				
3 PP	48 36	SAND w/ silt - Light brown, fine to medium		36													
			grained, poorly graded, moist		2.9		)										
,  -	48		- -12.5								2.9						
4 PP	24		F 12.3								2.9						
			E -15.0					SP			2.9	•					
L			E								2.1				Ĭ		
			17.5														
			-								2.1						
6	48		20.0								2.1						
PP	36					L - Brown, fine to	coarse										
			<u>-22.5</u>		ed sand, sub-r	ounded gravel		SP/GF			2.1	.					
L.,			F 25 0			rly graded, moist tht brown, very fir	na ta fina		100		<1						
			-25.0	graine	ed, poorly gra	ded, moist	ie to line										
			⊏ 27.5	<i>6</i>	·, p · · ·, g						<1						
8	48		<u> </u>					SP			<1						
PP	37		30.0	Wet @	@ 29.5'			31			_1						
			-		-						<1						
			-32.5								<1						
			F	EOB	<u>@ 34'</u>					(S) <u> </u>	4						
									L	L							<u> </u>
l heret	y certif	y that	the info	rmation o	on this form is tr	ue and correct to the l	best of my l	mowled	ige.								

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Terracon Consultants, Inc.

9856 South 57th Street Franklin, Wisconsin 53132

State of Wisconsin Department of Natural Resources

Signature

# **SOIL BORING LOG INFORMATION**

Tel: 414.423.0255

Fax: 414.423.0566

Form 4400-122	Rev. 7-98

			<u>Rc</u>	oute To: Watershed/W	/astewater	Waste	Manage	ement								
				Remediation/	Redevelopment $\square$	Other										
													Pag	e 1	of	1
Facili	ty/Proje	ct Nan	ne			License/	License/Permit/Monitoring Number Boring Number									
				erracon Project No. 5	58107028)							P-11				
				of crew chief (first, last) a		Date Dri	Date Drilling Started Date Drilling Comp					pleted		Drill	ing Method	
	n Beno															
	be Te					77. 10.		2010				9/2/2	010			sh Probe
WI Unique Well No.   DNR Well ID No.   Common Well Name								;!	Surface	1				Borehole Diameter		
Local Grid Origin (estimated: ) or Boring Location						Feet N	MOL		T	Feet MSL  Local Grid Location				2.0 inches		
State Plane  N, E S/C/N					La	ıt <u>44</u>	<u>° 23</u>	<u>' _ 2</u>	0.4."	Local	IIG DO	□ N				
	1/4	of	1	1/4 of Section 12,	T 22 N, R 14 E	Lon	g <u>-88</u>	° 44	<u>' 2</u>	21.6"		Feet	$\Box$ s		]	∐ E Feet □ W
Facili	ty ID			County		County Co	ode	Civil To		•	/illage					
				Waupaca		69		New :	Londo	n						
Sa	mple										ļ	Soil	Prope	rties		
	જ (દો	<u>s</u>	ಕ	Soil/R	ock Description						رو ا					
. e	Att.	Imo	n Fe	And Ge	ologic Origin For			.	e		ssiv	ø		<sub>2</sub>		nts
Tyr.	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Eac	h Major Unit		CS	phic	II gran	PID/FID	npre	Moisture Content	nid it	Plasticity Index	2	J G
Number and Type	L'en Rec	Blo	Dep				Sn	Graphic Log	Well Diagram		Compressive Strength	Moisture Content	Liquid Limit	Plastic Index	P 200	RQD/ Comments
1 PP	48		<u> </u>	CONCRETE				A 6.4								
PP	29		<u>-2</u>		SAND w/ silt - Dark brown, fine-grai									.		
			E	poorly graded, moi		SP-MI			4.3							
<u>,</u>	48		<del>-</del> 4	CH TY OLAY D	- 1 1		<u> </u>	777		2.9						
PP	42		F	SILTY CLAY - Restiff, moist	ea-brown, non-cor	iesive,				2.9						
			<del>-</del> 6	Stirr, moist			CL-MI			3.6						
			Ē.													
3	48		E-8	SAND w/ silt - Lig	ght brown, fine-gra	ained,		////		3.6						
PP	42		10	poorly graded, mo	ist		SP-MI									
			F 10							4.3				İ		
4	4.0		-12	SAND & GRAVE grained sand, sub-						2.1						
4 PP	48 36		F	moist	rounded graver (~	0.23 ),		50°		2.1						
			-14	- sub-angular grav	el (0,25"-1")		SP/GP	ر در د		2.9						
			E					5.0.								
5	48		F16	CANTO/ -:14 T :-	-1.4 1	.:1		٠٠٠		3.6						
PP	38		18	SAND w/ silt - Lig	gni brown, nne-gra ist	ameu,										
			F 18	poorly graden, me						3.6						
,	4.0		E <sub>20</sub>				i			4.2						
6 PP	48 34		F							4.3			:			
			<u>-</u> 22				SP			3.6						
			E							- 1						
7	48		<del>-24</del>							4.3						
PP 40 Wet @ 25'							5.1									
			E							5.1						
L	4		E-28	EOD @ 201			-			e 1						
	<u></u>			EOB @ 28'						5.1						
here	by certi	fy that	the info	ormation on this form is t	rue and correct to the	best of my k	nowled	lge.								

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Firm Terracon Consultants, Inc.

9856 South 57th Street Franklin, Wisconsin 53132

	Watershed/Wastewater  Remediation/Redevelopment	Waste Management  Other	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 6-97	N
Facility/Project Name	Local Grid Location of Well   ft	N. "吕晓.	Well Name	
ZECO LLC				
Facility License, Permit or Monitoring No		(Check if estimated: O	Wis. Unique Well No. DNR Well ID No. VU 284	0.
Facility ID	St. Planeft.N	ft.E. S/C/N	Date Well Installed 2 /1 6 /2 0	11
Type of Well	Section Location of Waste/Sour	ce 🛮 🗗 F	mmdavv	
Well Code11 / MW	1/4 of 1/4 of Sec. – Location of Well Relative to Wa	T N,R D E	Well Installed By: (Person's Name and Mike Mc Ardle	firm)
Distance Well Is From Waste/Source	u□ Upgradient s□ s	Sidegradient	M&K Environmental & Soils	
A. Protective pipe, top elevation	***************************************	Not Known  1. Cap and lock?	Drilling, LLC ■ Yes□	No
	n. MSL	2. Protective cover	pipe:	
B. Well casing, top elevation ———— C. Land surface elevation ————	ft. MSL	a. Inside diamet b. Length:	ter: $\frac{10}{-1}$ .	
		15.		
D. Surface seal, bottom ft. M	SL or 2 2 th	c. Material:	Steel E	04
12. USCS classification of soil near scre	en:	d. Additional pr	Other Contection?	No
GP□ GM□ GC□ GW□	SW□ SP□ Ø	<b>M</b> \		140
SMO SCO MLO MHO	CL CHU	If yes, describ	e:Bentonite □	30
Bedrock   13. Sieve analysis performed?	Yes □ No	3. Surface seal:	Concrete	01
	otary D 50	4. Material between	Other  mell casing and protective pipe:	
Hollow Stem Ar	uger <b>■</b> 41		Bentonite □	3 0
O	ther 🗆 🧸		None Other □	
15. Drilling fluid used: Water □ 0 2	A :- [] A :- []	5.Annular space se		3 3
Drilling Mud 0 3 N	one 99	bLbs/gal	mud weight Bentonite-sand slurry	3 5
16. Drilling additives used?	Yes ■ No	cLbs/gal	mud weight Bentonite slurry □	31
	1es = 100	d % Bentor	nite Bentonite-cement grout D me added for any of the above	5 0
Describe			Tamanata M	04
17. Source of water (attach analysis):		f. How installe	d: Tremmie pumped□	0 2
-			a. Gravity	08
		6. Bentonite seal:	Bentonite granules□	33
E. Bentonite seal, top ft. M	ISLor1 Oft.	b. 1/4 in. Bento	3/8 in. □ 1/2 in. Bentonite pellets □ nite chips Other □	3 2
F. Fine sand, top ft. N	SL or 0 0 0 ft.  en:  SW   SP   CL   CH    Yes   No  bary   5 0  ager   4 1  ther          Air   0 1  one   9 9  Yes   No  ISL or   1 0 ft.  ISL or   2 1 0 ft.  ISL or   2 3 0 ft.	If yes, describ  3. Surface seal:  4. Material between  5. Annular space se bLbs/gal c	al: Manufacturer, product name & mesi can Materials #40 -60	h size
G. Filter pack, top ft. M	(SLor _2 3 _0 ft	a. Volume add	ded: .45 Ft3	
		/ 8. Filter pack mater	rial: Manufacturer, product name & me	sh size
H. Screen joint, top ft. N	1SL or _2.5 .5 ft	問 / " "	can Materials #35-45	20000
I. Well bottom ft. M	1SL or _3.5 .5 tt	b. Volume add	ded: 2.4 Ft <sup>3</sup> Flush threaded PVC schedule 40	2 3
J. Filter pack, bottom ft. M	1SL or _3 6 _0 ft.	*6. *	Flush threaded PVC schedule 80 □	2 4
j. rater park, bottom it. iv.	ISL or <u>36</u> 0 ft		Other 🗆	
K. Borehole, bottom ft. M	ISL or _3 6 0 ft	10. Screen material:	Schedule 40 pvc Factory cut	11
			Continuous slot	01
L. Borehole, diameter 800 in	. <u>W</u>		Other 🖸	
M. O.D. well casing $\frac{2}{2}$ in	l.	b. Manufacturer c. Slot size:	Johnson Screen 0.0	_ 6 <sub>n</sub> .
N. I.D. well casing 2. 00 in	ı <b>.</b>	d. Slotted length	h: <u>1 0</u>	Oft.
- <del> </del>		11. Dackrili material	(below filter pack): None ■ Other □	14
I hereby certify that the information on th	is form is true and correct to the 1	sect of my knowledge	- Valet Li	******
Signature ( 11 hou) OM	/ Firm		American American and a manifestant in management and a management in management in management in management in	
I WILLY INCO	vicey M&K I	Environmental & Soils	Drilling, LLC	

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281 283, 289, 291, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 291, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

	Watershed/Wastewater  Remediation/Redevelopment	Waste Management  Other	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 6-97
Facility/Project Name	Local Grid Location of Well	y. ¿B w.	Well Name
ZECO LLC	Local Grid Location of Well E	1 Š.: #C W.	1 372.71
Facility License, Permit or Monitoring No		(Check if estimated: D	Wis. Unique Well No. DNR Well ID No. VU 285
Facility ID	St. Planeft.	N	Date Well Installed 2 /1 6 /2 0 1 1 mm d d V V V V
Type of Well	Section Location of Waste/Sou	LLI K	
Well Code11 / MW	1/4 of Sec.		Mike Mc Ardle
Distance Well Is From Waste/Source	Location of Well Relative to V	/aste/5ource Sidegradient	M&K Environmental & Soils
Boundary ft.		Not Known	Drilling, LLC
A. Protective pipe, top elevation	<u> </u>	1. Cap and lock?	■ Yes□ No
The Way 10	ft. MSL	2. Protective cover	100
B. Well casing, top elevation ————		a. Inside diamet	
C. Land surface elevation	- A. MSL	b. Length:	
D. Surface seal, bottom ft. M	SLor QQ Q ft	c. Material:	Steel 04
12. USCS classification of soil near scre	en:	d. Additional p	cotection? Other Was No
GP□ GM□ GC□ GW□	SWO SPO	d. Additional p	
SMO SCO MLO MHO	CL CHC	If yes, describ	e: Bentonite □ 30
Bedrock □		3. Surface seal:	Concrete <b>1</b> 01
13. Sieve analysis performed?	Yes □ No	<b>&amp; \</b>	Other 🗆 🌉
14. Drilling method used: Ro	otary 🗆 5 0	4. Material between	en well casing and protective pipe:
Hollow Stem A			Bentonite □ 30
	ther 🗆 🚨	d. Additional programmers of the second of t	None Other □
		8	
15. Drilling fluid used: Water □ 02	Air 🖰 01	5.Annular space se	SERVICE OF THE SERVIC
Drilling Mud□ 03 N	ione 🕶 99	bLbs/gai	mud weight Bentonite-sand slurry   35
. т. т. т. т. т. т. т. т. т. т. т. т. т.	V W N-	cLbs/gal	mud weight Bentonite slurry D 31
16. Drilling additives used?	Yes ■ No	d% Bento	nite Bentonite-cement grout □ 50
Describe		e. 4.83 ft volu	me added for any of the above  Tremmie $\Box$ 0 4
17. Source of water (attach analysis):		👸 f. How installe	d: Tremmie □ 04 Tremmie pumped□ 02
17. Junice of water (attach analysis).			Cravity 6 8
			a. Bentonite granules□ 3 3
		6. Bentonite seal:	3/8 in. □ 1/2 in. Bentonite pellets □ 3 2
E. Bentonite seal, top ft. h	MSL or 1 U ft.	c Bento	onite chips Other 🗆
F. Fine sand, top ft. h	SLor 0 0 0 ft  en:  SW SP CL CHC  Yes No  No  Notary C 5 0  uger 4 1  ther C SS  Air C 0 1  Ione 9 9  Yes No  MSL or 1 0 ft.  MSL or 1 9 5 ft.	b. 1/4 in. Bento  7. Fine sand materi  a. Volument	al: Manufacturer, product name & mesh size ican Materials #40-60
G. Filter pack, top ft. N	MSL or _12 5 ft	b. Volume ad	
			rial: Manufacturer, product name & mesh size
H. Screen joint, top ft. h	MSL or _21 5 ft	図 / "一	3 2000
I. Well bottom ft. h	VSL or _31 _5 ft	b. Volume ad 9. Well casing:	Flush threaded PVC schedule 40 2 3
			Flush threaded PVC schedule 80 D 24
J. Filter pack, bottom ft. h	MSL or _32 _9 ft	Iohnson Scr 10. Screen material:	Unter Line 2005
K. Barehole, bottom ft. N	MSL or _3 2 0 ft.	10. Screen material:	
and an income the state of the	**************************************	a. Screen types	Factory cut 11
		//A	Continuous slot 🗆 01
L. Borehole, diameter 800 in	n,		Other 🗆 🕌
M. O.D. well casing238 in	n.	b. Manufacture c. Slot size:	Johnson Screen 0.0_ Gm.
		d. Slotted leng	th: 100ft.
N. I.D. well casing $2 - \underline{00}$ in	n.	11. Backfill materia	l (below filter pack): None <b>1</b> 14
			Other 🗆 🎎
I hereby certify that the information on t	his form is true and correct to th	e best of my knowledge.	
Signature // / / // //	/ // Firm		
JWWW LIVELY	M&K	Environmental & Soils	Drilling, LLC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281 283, 289, 291, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 291, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

State of Wisconsin Department of Natural Resources Route to:	Watershed/Wastewater Remediation/Redevelo		ste Management		MONITORING WELL orm 4400-113A	CONSTRUCTION Rev. 6-97	V
Facility/Project Name	Local Grid Location o		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	O E	Well Name	, <del>)  -             -</del>	***************************************
ZECO LLC		f Well [] N. ft[] S	ft	吕짒(	Mw 3		
Facility License, Permit or Monitoring No	Grid Origin Location		Check if estimated	d: 🗖 🕽	Wis. Unique Well No VU 286	DNR Well ID No	>.
Facility ID	St. Plane	ft.N		S/C/N	Date Well Installed	2 /1 7 /2 0	11
Type of Well	Section Location of W			묘	Well Installed By: (P		
Well Code11 / MW	1/4 of 1/ Location of Well Rela				Mike Mc Ard		a tracty
Distance Well Is From Waste/Source	u D Upgradient	s □ Sideg		ı	M&K Environmen		
Boundary ft.	d Downgradient		nown	I	Drilling, LLC		
A. Protective pipe, top elevation	ft. MSI		1. Cap and l 2. Protective		pe:	Yes 🗆	No
B. Well casing, top elevation	ft. MSL		a. Inside o	diameter:		10	0 in.
C. Land surface elevation	ft. MSL		b. Length:	<b>a</b> .		1_1	9 ft.
	SLor <u>0 0 0</u> ft		c. Materia	al:		Steel	0 4
12. USCS classification of soil near scre	en:		um. La la district.		it	Other 🛚	****
GP□ GM□ GC□ GW□	SWO SPO	周日	d. Additio			O Yes	No
SMO SCO MLO MHO	CL CHO	<b>8 8/</b>	ir yes, o	describe:-		Bentonite □	3.0
Bedrock 🗆			3. Surface se	eal:		Concrete	01
13. Sieve analysis performed?	Yes □ No		\			- Other □	200000
14. Drilling method used: Ro	otary D 50		4. Material l	between	well casing and prot	ective pipe:	***************************************
Hollow Stem A					None	Bentonite 🗆	3 0
	ther 🗆 💹			<del></del>	140180	Other 🗆	
15. Drilling fluid used: Water □ 0 2	Air 0 01		5.Annular sp	pace seal:	a. Grant	ular Bentonite 🛛	33
Drilling Mud□ 03 N	7.7		ьп	.bs/gal mi	ud weight Benton	ite-sand slurry	3.5
16. Drilling additives used?	Yes No				ud weight Be		31
16. Drilling additives used:	162 mm 1/40	<b>8</b> 8	d%	Bentonit	e Bentonit	æ-cement grout □	5.0
Describe		8 8	e. <u>0.21</u> Ft	volume	added for any of the		4.4
17. Source of water (attach analysis):		図 図	f. How i	installed:	T,	Tremmie □ emmie pumped□	04
.mr	·	<b>8 8</b>				Gravity	02
		図 閣			a.	•	
			6. Bentonite		, 8 in. □ 1/2 in. Ве	itonite granules□	33 32
E. Bentonite seal, top ft. N	ASL or L U ft.				te chips	Other 🗆	4
F. Fine sand, top ft. N	4SL or _2 3 ,0 ft				Manufacturer, pro n Materials #40 -60	duct name & mesi	
G. Filter pack, top ft. N	MSL or _25_0 ft		b. Volu	me adde	d: .45	Ft <sup>3</sup>	
	* * * ^	/ 】 】			l: Manufacturer, pr n Materials #35-45	oduct name & me	sh size
H. Screen joint, top ft. N	MSL or _27 U ft		/			 Ft <sup>3</sup>	****
I. Well bottom ft. N	MSL or _3.7 _0 ft	AFI.	b. Volu 9. Well casin	ume adde 1g:	Flush threaded PV	<del></del>	2 3
J. Filter pack, bottom ft. N	MSL or _3.7 5 ft.	関制	T_L	son Screen	Flush threaded PV	C schedule 80 □	2 4
		八浬	10. Screen ma		Schedule 40 pvc	Other 🗆	
K. Borehole, bottom ft. N	MSL or _3 7 5 ft		a. Screen	-	Schedule 40 pvc	Factory cut	11
L. Borehole, diameter 8. 00 in	_				C	ontinuous elot □	01
L. Borehole, diameter 2. 10 in	.Eu		* ******			Other 🗆	
M. O.D. well casing $\underline{2}$ . $\underline{38}$ in	n.	'	C. Slot siz		Johnson Screen		_ 6 <sub>in</sub> .
natural natural natural natural natural natural natural natural natural natural natural natural natural natural			d. Slotted	d length:		10	Oft.
N. I.D. well casing $\underline{2}$ . $\underline{00}$ in	ā.		11. Backfill m	naterial (	below filter pack):	None 🔣	14
						— Other □	
I hereby certify that the information on the	ds)form is true and corr	ect to the best o	f my knowledge.				
Signature in the Second	/ // Firm	and the second s					
THEMANT YING	recky	M&K Envi	ronmental & S	Soils Di	rilling, LLC		

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Department of Partiest resources 100 dec 10.	Watershed/Wastewater   Remediation/Redevelopment	Waste Management D Other D	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 6-97	N
Facility/Project Name	Local Grid Location of Well C		Well Name	
ZECO LLC			\$ WARRED #	Y
Facility License, Permit or Monitoring No		(Check if estimated: D	Wis. Unique Well No. DNR Well ID 1 VU 287	VO. -
Facility ID	St. Planeft.	N fl.E. S/C/N		
Type of Well	Section Location of Waste/Sor	urce 🗆 🗆 F	<u> </u>	
Well Code11 / MW	1/4 of 1/4 of Sec. Location of Well Relative to V	,T N,R 🗄 V	Well Installed By: (Person's Name and Mike Mc Ardle	i firm)
Distance Well Is From Waste/Source	u□ Upgradient s□	Sidegradient	M&K Environmental & Soils	
Boundary ft.	**************************************	Not Known  1. Cap and lock?	Drilling, LLC	I No
A. Protective pipe, top elevation		2. Protective cover	pipe:	
B. Well casing, top elevation	ft. MSI	a. Inside diame		$\frac{0}{0}$ in.
C. Land surface elevation	· F ft. MSL	b. Length:		Q ft.
D. Surface seal, bottom ft. M:	SL or <u>0 0 0</u> ft	c. Material:	Steel ■	980000
12. USCS classification of soil near scree	en:   Nil	d. Additional p	Other C	
GP□ GM□ GC□ GW□	SWU SPU			
SMO SCO MLO MHO Bedrock O	Cr CHO	3. Surface seal:	Bentonite	
	Yes □ No		Concrete	
14. Drilling method used: Ro	tary 🗆 5 0	If yes, describ 3. Surface seal: 4. Material between 5. Annular space se	Other C	]
Hollow Stem As	ıger <b>≡ 4</b> 1		Bentonite C	3 0
	ther 🗆 🧶	k i	None Other	1
15. Drilling fluid used: Water□ 0 2	Air D 01	5.Annular space se	al: a. Granular Bentonite	1 33
Drilling Mud□ 03 N	one <b>2</b> 9 9	bLbs/gal	mud weight Bentonite-sand slurry	
16. Drilling additives used?	Yes ■ No		mud weight Bentonite slurry [ nite Bentonite-cement grout [	
		e. 7.59 Ft 3 volu	me added for any of the above	
Describe		f. How installe	d. Tremmie 🗆	
17. Source of water (attach analysis):			Tremmie pumpedL	
			a. Gravity	
	1 0	6. Bentonite seal:	Bentonite granules ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐	
E. Bentonite seal, top ft. M	isr or = 1 tr		onite chips Other	944643865
F. Fine sand, top ft. M	SW   SP   CL   CH   CH   CH   CH   CH   CH   CH	7. Fine sand materi Ameri	al: Manufacturer, product name & me ican Materials #40 -60	sh size
G. Filter pack, top ft. M	ISL or _2 8 = ft	b. Volume ad		
	305		rial: Manufacturer, product name & m ican Materials #35-45	iesh size
H. Screen joint, top ft. M	ISL or _3.0 5 R	b. Volume ad		
I. Well bottom ft. M	ISL or _4 0 ,5 ft.	9. Well casing:	Flush threaded PVC schedule 40	23
J. Filter pack, bottom ft. M	ISL or _41 _0 ft	<b>≣</b> ૣ૽	Flush threaded PVC schedule 80 🗆	
		Iohnson Scr 10. Screen material:	Other C	ı 🖳
K. Borehole, bottom ft. M	ISL or _4 1 _0 ft	a. Screen type:	Factory cut	11
			Continuous slot □	
L. Borehole, diameter 8. <u>.00</u> in	. ***		Other C	1 22
M. O.D. well casing 2. 38 in	<b>(4</b>	b. Manufacture c. Slot size:	Johnson Screen Q.	0_ 6n.
N. I.D. well casing		d. Slotted lengt		<u>0 0</u> ft.
ATT ANALY VY COLD THE CALL CALL CALL CALL CALL CALL CALL CAL	·	*11. Backtill materia	l (below filter pack): None  Other	20000000
I hereby certify that the information of th	is form is true and cornect to the	hest of my knowledge	VIII I	• ••••••
Signature / / / / / / / /	Firm	DESCOUNTY KNOWIEURE.		
TWWW LIWER		Environmental & Soils	Drilling, LLC	

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