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PARE CORPORATION

June 15, 2011

Mr. Orlando Pacheco
Town Administrator
Town of Lancaster
695 Main Street
Lancaster, MA 01523

RE: **MA01561 Bartlet Pond Dam Rehabilitation**
Preliminary Dam Removal Feasibility Study Report
Lancaster, Massachusetts
(PARE Project No.:10177.01)

Dear Mr. Pacheco:

In accordance with our proposal, PARE has completed preliminary feasibility studies (PFS) of the potential existing conditions at the site which may have a significant impact upon the feasibility of a dam removal project for the Bartlet Pond Dam in Lancaster, Massachusetts.

The scope of the PFS included an evaluation of hydrologic and hydraulic impacts of dam removal, a quantification of the volume of sediment within the impoundment area, and characterizations and analyses of the sediment for contamination potential. Each of these studies and their impacts upon the feasibility of dam removal are discussed in more detail in the sections below.

Hydrologic/Hydraulic Impacts

Based upon the hydrologic model developed for the dam as part of the Phase II Evaluation, PARE completed additional flood routings to determine the impact of dam removal upon peak water surface elevations upstream of the dam location as well as within the downstream channel. The hydraulic evaluations considered peak routed elevations for a variety of peak storm flow events through both the conceptual dam breach and the culvert at Route 117 immediately downstream of the dam.

For the purposes of the evaluation, the dam breach was conceptually assumed to consist of a trapezoidal channel created through the dam embankment with an approximately 40-foot wide base at El. 265 and side slopes near 2H:1V. The following table summarizes the results of the hydraulic routings:

Storm Event	Peak Flow (cfs)	Peak Elevation (feet)			
		Existing Dam	Dam Breach	Culvert (Existing)	Culvert (Breach)
1-in*	-	272.0	265.0	263.8	263.8
2-in*	-	272.0	265.0	263.8	263.8
2-year	64	273.3	265.2	263.9	263.9
5-year	170	274.2	265.6	264.1	264.1
10-year	298	274.4	266.1	264.3	264.3
25-year	557	274.9	267.1	264.5	264.5
50-year	932	275.7	268.5	264.7	264.7
100-year	1328	276.4	269.4	264.9	264.9

* Note: Hydrologic model indicated that low flows generated by the 1-inch and 2-inch storm events do not develop sufficient stream flow to be reflected in peak stream flow rates.

The modeled conditions indicate that impacts of dam removal upon downstream flood levels and flow rates appear to be negligible. Given the small storage capacity of the existing dam and impoundment, flood attenuation provided by the impoundment and dam are negligible. As such, flow rates pre- and post- dam removal are not anticipated to be significantly altered as a result of the dam removal. Peak water surface elevations within the former impoundment area post dam removal will be dependent upon actual geometry of the breach. However, based upon the completed routings and assumed breach characteristics, the maximum routed surface elevation will be low enough such that the location would not be considered a dam.

Sediment Quantification

On April 8, 2011, PARE Corporation personnel completed a series of probes and soundings to evaluate the presence and depth of sediment deposits within the limits of the impoundment area. The probes and soundings were completed utilizing weight lines to determine the top of sediment elevation and steel rods driven through sediment deposits to refusal on the apparent natural pond bottom. Each exploration was located by hand held GPS instrumentation with sub meter accuracy. Location of each probe along with top of sediment, bottom of sediment, and thickness of sediment deposit are shown on Figure 2: Sediment Survey.

Based upon this program, sediment deposits averaging approximately 3.5-feet thick were typically observed throughout the entire impoundment area with sediment thickness of between 1 to 2 feet in areas at the upstream end of the pond and isolated areas nearer to the shoreline. Maximum sediment deposit thickness was measured near 4.3 feet and minimum thickness was measured near 1.2 feet. The sediment generally consisted of organic silts with more than 30% fines.

Given the observed sediment thickness, generalized cross sections of the impoundment were developed. Utilizing average end volume calculation methodology, a total volume of roughly 14,000 cubic yards of sediment is estimated to be present within the impoundment area.

Sediment Characterization

The sediment sampling program included two components: a review of available historical land use information for the watershed; and, collection and analysis of a sediment sample from within the impoundment. PARE reviewed Christopher Environmental Associates' report "Wekepeke Land Uses 1830-2008" for information on possible contaminants that could potentially be found in the Bartlett Pond watershed. Based on the information contained within this report, the predominant land use in the Bartlett Pond watershed has historically been and is currently agriculture. The report indicates historic and current use of herbicides, pesticides and fungicides associated with past and current agriculture. Given the prevalence of pesticide, herbicide, and fungicide use in the watershed, it is reasonable to suspect that these contaminants may be present in sediment within the impoundment, and therefore were included in PARE's sediment analysis program.

On April 8, 2011, PARE personnel collected a composite sample of sediment from behind the impoundment. Three core samples were collected at a single location in an area shortly upstream of the primary spillway where sediment appeared to be deepest. Sediment from the three cores was composited into a single sample for analysis. The sample was transported in laboratory-provided glassware with chain-of-custody documentation to New England Testing Laboratory, Inc. (NETL) of North Providence, Rhode Island for chemical and physical analysis. As recommended in Section 9.07(2)(b)(6) of the MA DEP 401 Water Quality Regulations and PARE's desktop due diligence, the sample was analyzed for the following parameters;

- Metals
  - Arsenic
  - Barium
  - cadmium
  - chromium
  - Lead
  - Mercury
  - Selenium
  - Silver
- Polynuclear aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyl (PCBs);
- Extractable petroleum hydrocarbons (EPH);
- Total petroleum hydrocarbons (TPH);
- Volatile organic compounds (VOCs);
- Herbicides and Fungicides;
- Pesticides;
- Total volatile solids;
- Percent water; and
- Grain size analysis.

The results of the sieve analysis indicate that the composite sediment sample is primarily silt with approximately 72.7 percent material passing the #200 sieve.

PARE compared the analytical results to sediment screening criteria established in the MA DEP 401 Water Quality Regulations. After the dam is removed, the upstream brook will rechannelize and mobilize soft sediment. That sediment will be carried downstream and naturally redistributed. That condition would be similar to a dredge condition, and therefore would be jurisdictional under the 401 Water Quality Regulations. Under a dredge condition, the analytical results should be compared to Threshold Effects Concentration (TEC) criteria and Probable Effects Concentration (PEC) criteria as described in the *MA DEP Revised Sediment Screening Values, Interim Technical Update*.

One contaminant, arsenic at 18.9 mg/kg, exceeded its respective TEC value (9.79 mg/kg), but was below its PEC value (33.0 mg/kg). The *MA DEP Revised Sediment Screening Values, Interim*

Technical Update memorandum suggests that sediment contaminated with metals below their PEC values represent a condition of “no significant risk or harm” to the environment. Therefore, it does not appear as though the TEC exceedance for arsenic poses a significant risk at the site or warrant further action or investigation. No (0) other contaminants exceeded their respective TEC or PEC screening values. Results of the analyses are attached in Appendix B: Laboratory Testing Results.

Recommendations / Conclusions

Based upon the completed hydraulic modeling, it appears that minimal changes to flood levels and stream flows within the areas downstream of the dam would result from dam removal; flood levels within the former impoundment area would be directly related to the geometry of the proposed breach. As such, hydraulic and stream flow conditions appear favorable for dam removal.

A significant volume of sediment is present within the impoundment area, with deposits averaging approximately 3.5 feet in thickness and extending across a majority of the impoundment area. Dam removal would require that sediment subject to mobilization from stream flows be either stabilized or removed. Given the observed sedimentation at the site, it is anticipated that sediment removal from the alignment of the proposed/restored stream channel will be required to enable normal flows to pass through the stream channel without eroding sediment. Sediment beyond the restored stream channel could be stabilized in place through a combination of natural revegeation, bioengineering stabilization methods, traditional bank stabilization methods (i.e., riprap), and plantings.

The preliminary evaluation of sediment revealed that the sediment does not represent a significant threat to downstream receptors, in the event that sediment is remobilized, and does not represent a significant exposure risk to humans, in the event that sediment becomes exposed after the dam removal. These areas will, however, require stabilization to minimize and prevent mobilization of the accumulated sediments, and re-vegetation to re-establish wetland conditions.

At a minimum the exposed sediments should be seeded with a native wetland seed mix for initial stabilization. The development of the vegetation within the area should be closely monitored for several years with identified invasive species aggressively removed.

Complete reliance upon natural revegetation and/or wetland seed mix may not result in sufficient plant abundance and diversity within a time frame that would be acceptable to the numerous regulatory authorities with jurisdiction over the project. As such, a program of dense tree and shrub plantings may be necessary to satisfactorily revegetate the area. This type of program would provide the benefit of providing initial site stabilization and deterrence to colonization of the exposed sediments by invasive species. This program would also have a secondary benefits of improved wildlife habitat and site aesthetics.

As part of the planting program, the exposed sediments on the impoundment bottom would be densely planted with indigenous herbaceous, shrub, and/or tree species adapted to the post-removal water regime. Data developed as part of this study suggests that the impoundment bottom will likely support a seasonally flooded to seasonally saturated water regime, and the selected vegetation will need to be adapted to these conditions. In general, native vegetation classified as Facultative Wetland (FACW) or wetter (Reed, 1988) should be considered as suitable plantings. The herbaceous layer is important in that it accounts for the greatest degree of initial stabilization.

The banks of the restored stream channel may be stabilized using bioengineering techniques. These may consist of such elements as protecting the embankment toes with coir logs or armor stone, installing live stakings, or installing erosion control matting over herbaceous seeding. The purpose of these treatments is provide initial scour protection as well as long term embankment protection and improved wildlife habitat.

Follow-up monitoring and maintenance of the restored areas will be necessary to ensure that the areas remain stable, that the selected vegetation is suitable for field conditions, and to prevent colonization by invasive species. A recommended monitoring schedule might consist of three to four visits during the first one or two growing seasons followed by semiannual visits for three more years. This schedule may need to be adjusted depending on the degree, to which control of invasive species may be necessary.

Based upon the results of these evaluations, dam removal appears to remain a feasible alternative for addressing dam safety deficiencies at the Bartlet Pond Dam. Given additional information obtained as part of theses evaluations, the scope of construction activities associated with a dam removal project are anticipated to include:

Phase I: Impoundment Area Restoration

Phase I of the work will restore the natural stream channel and vegetate areas of sediment exposed by draining the impoundment. By restoring the impoundment area prior to dam removal, sediment can be stabilized while limiting the potential for high flows from transporting sediment in the event of significant rainfall events. During the stabilization phase, high flows will be reimpounded, thereby reducing stream flow velocities and sediment transport migration. During Phase I, the dam will remain a jurisdictional structure in accordance with current dam safety regulations.

Phase I of the work may include:

1. Lowering the level of the impoundment through removal of controls at the spillway
2. Restoring a natural stream channel through the impoundment area including excavation of excess sediment, installation of bioengineered and/or traditional bank stabilization measures
3. Planting, seeding, and revegatation of the impoundment area, including monitoring and aggressive removal of invasive species.

Phase II: Dam Removal

Phase II of the work will consist of construction activities to remove the existing dam embankment, primary spillway, and portions of the overflow spillway. Proposed work may be consistent with the dam removal program described in the Phase II Report.

Prior to commencing dam removal activities, additional permitting and coordination will be required. These efforts may include:

1. Additional sediment testing and analysis
2. Environmental permitting (as discussed in detail in the Phase II Report)
3. Public Coordination and Outreach

The attached conceptual opinion of costs presents the conceptual opinion of probable cost from the Phase II Report updated to reflect findings of this preliminary dam removal feasibility study.

We trust that this letter report and attachments provide sufficient information to assist the Town in evaluating the desired course of action to be taken to address dam safety concerns at the Bartlet Pond Dam. If you have any questions or need additional information, please contact me at 508.543.1755 or by email at aorsi@parecorp.com.

Sincerely,

PARE CORPORATION

Allen R. Orsi, P.E.
Senior Project Engineer

J. Matthew Bellisle, P.E.
Senior Vice President

Attachments:

Figure 1: Locus Plan
Figure 2: Sediment Survey Plan
Conceptual Dam Removal Opinion of Probable Cost
Appendix A: Wekepeke Land Use 1830-2008
Appendix B: Laboratory Testing Results

PARE CORPORATION

BARTLET POND DAM

MA01561 / 3-14-147-4

LANCASTER, MASSACHUSETTS

TOWN OF LANCASTER

LOCUS PLAN

JUNE 2011

FIGURE 1

SEDIMENT SURVEY PLAN

SCALE: 1"=60'

NOTES AND LEGEND

1. PLAN DEVELOPED FROM A SURVEY PERFORMED BY PARE PERSONNEL AND AVAILABLE AERIAL IMAGERY FROM MASSGIS. INFORMATION IS PROVIDED FOR REFERENCE PURPOSES ONLY.

TOP EL: 269.7 BOT EL: 266.2 DEPTH: 3.5 FT — SEDIMENT PROBE COMPLETED BY PARE CORPORATION ON APRIL 8, 2011 AND LOCATED BY HAND HELD GPS EQUIPMENT WITH SUBMETER ACCURACY

SS-1 — SEDIMENT SAMPLE LOCATION COLLECTED BY PARE ON APRIL 8, 2011

PARE

PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
10 LINCOLN ROAD, SUITE 103
FOXBORO, MA 02035
508-543-1755

SCALE ADJUSTMENT GUIDE

0" 1"

BAR IS ONE INCH ON ORIGINAL DRAWING.

BARTLET POND DAM

MA01561 / 3-14-147-4

LANCASTER, MASSACHUSETTS

TOWN OF LANCASTER

REVISIONS:

PROJECT NO.:	10177.01
DATE:	April 2011
SCALE:	1"=60'
DESIGNED BY:	ACJ
CHECKED BY:	ARO
DRAWN BY:	JHG
APPROVED BY:	JMB

SEDIMENT SURVEY

FIGURE NO.: 2

PROJECT : Bartlet Pond Dam Removal	PROJECT NUMBER: 10177.01
SUBJECT: Opinion of Probable Cost	
COMPUTATIONS BY: ACJ/ARO	DATE: May/June 2011
CHECK BY: JMB	DATE: June 2011

Conceptual Dam Removal Opinion of Probable Cost

Item	Qty	Unit	Unit Price	Total	Source	Notes
General Bid Items						
Portable Toilets	2	MON	$ 150.00	$ 300.00	Engineers Judgment	
Project Superintendent	40	DAY	$ 460.00	$ 18,400.00		Assume $45/hr labor & $100/d per diem
QC Plans	20	HRS	$ 75.00	$ 1,500.00		
Submittals	20	HRS	$ 75.00	$ 1,500.00		
Schedules	14	HRS	$ 75.00	$ 1,050.00		
Meetings	8	EA	$ 150.00	$ 1,200.00		Assume 2hrs each @ $75/hr
Subtotal				**$ 23,950.00**		
Quality Control						
Proctor Tests	0	TEST	$ 225.00	$ -	Laboratory Quote plus markup	
Concrete Sampling/Testing	0	SET	$ 400.00	$ -	Recent project bids	
Concrete Compression Tests	0	TEST	$ 30.00	$ -	Laboratory Quote plus markup	
Sieve Analyses	0	TEST	$ 100.00	$ -	Laboratory Quote plus markup	
Field Density Testing	0	DAY	$ 500.00	$ -	Recent project bids	
Chemical Soil Tests	10	TEST	$ 1,000.00	$ 10,000.00	Recent project bids	
Chemical Soil Tests	1	TEST	$ 1,000.00	$ 1,000.00	Recent project bids	
Subtotal				**$ 11,000.00**		
Mobilization & Demolition						
Mobilization	1	LS	$ 7,000.00	$ 7,000.00	Engineers Judgment	
Access Improvements	1	DAY	$ 1,400.00	$ 1,400.00	Means Crew B-7	Site Access
Demobilization	1	LS	$ 4,000.00	$ 4,000.00	Engineers Judgment	
Subtotal				**$ 12,400.00**		
Erosion Control						
Hay bales	150	EA	$ 12.00	$ 1,800.00	Mass Weighted Bid Prices 767.8	
Silt Fence	300	LF	$ 8.50	$ 2,550.00	697. Mass WAP	
Turbidity Barrier	40	LF	$ 30.00	$ 1,200.00	Recent project bids	
Subtotal				**$ 5,600.00**		
Dewatering/Control of Water						
Temporary Cofferdam	1	LS	$ 25,000.00	$ 25,000.00	Engineer's Estimate	
Cofferdam Maintenance	1	LS	$ 10,000.00	$ 10,000.00	Engineer's Judgment	
Bypass Piping	1	LS	$ 10,000.00	$ 10,000.00	Engineer's Judgment	
Subtotal				**$ 45,000.00**		
R&D Existing Spillway						
Demolition	150	CY	$ 150.00	$ 22,500.00	Engineer's Estimate	Removal of existing dam
Disposal	300	TON	$ 40.00	$ 12,000.00	Engineer's Estimate	
Earth Excavation & Backfill	200	CY	$ 30.00	$ 6,000.00	Engineer's Estimate	Around existing
Subtotal				**$ 40,500.00**		
Slope Protection						
Armor Stone	100	TON	$ 50.00	$ 5,000.00	Recent Project Costs	3H:1V Sides, 5ft Crest (1 ft High)
Bedding Stone	50	TON	$ 45.00	$ 2,300.00	Recent Project Costs	
Geotextile Filter Fabric	120	SY	$ 8.00	$ 1,000.00	Recent Project Costs	
Subtotal				**$ 8,300.00**		
Stream Channel Restoration						
Stream Channel Creation	2275	TON	$ 60.00	$ 136,500.00		
Sediment Dewatering	1	LS	$ 25,000.00	$ 25,000.00		
Sediment Disposal	1685	CY	$ 50.00	$ 84,259.26		
Bank Stabilization	1300	LF	$ 55.00	$ 71,500.00	Recent Project Costs	Assumes riprapped bank; 50% protected
Subtotal				**$ 317,259.26**		
Planting						
Trees	1600	EA	$ 25.00	$ 40,000.00	New England Wetland Plants Inc Avg	
Shrubs	800	EA	$ 25.00	$ 20,000.00	New England Wetland Plants Inc Avg	
Planting	2400	EA	$ 28.00	$ 67,200.00	10 Means 32 93 43	
Hydroseeding w/mulch and fertilizer	125	MSF	$ 48.00	$ 6,000.00	10 Means 32 92 19.14	
Subtotal				**$ 133,200.00**		

SUBTOTAL	$ 465,000.00	(Rounded to the nearest $1,000)	
Contract Bonds	$ 14,000.00		3% of Project Subtotal
25% Contingency	$ 117,000.00		
CONSTRUCTION SUBTOTAL	**$ 596,000.00**		
Engineering & Design	$ 50,000.00		
Feasibility Study	$ 45,000.00		
Permitting	$ 70,000.00		
Construction Observation	$ 25,000.00		
CONCEPTUAL OPINION OF TOTAL PROJECT COST	**$ 786,000.00**		

APPENDIX A:
Wekepeke Land Use 1830-2008

Christopher Env.ronmental Associates

252 Fort Pond Inn Road, Lancaster, MA 01523 (508) 331-4889 FAX (508) 331-4889 Email: tom.christopher @comcast.net

Wekepeke Land Use 1830-2008

This paper will attempt to describe the changes in land uses and activities along the Wekepeke Brook in Sterling, Massachusetts from the period beginning in 1830 until the present day. The study area described in this paper begins at the headwaters of the Wekepeke in the area of Heywood Basin and extends to Pratt's Junction and MA Route 12. Information was gathered from records available from the Sterling Historical Society, the Clinton Historical Society, the Sholan Farms History, and interviews with Mrs. Karin Valeri of the Sterling Historical Society and Mr. Jody Murray of Upper North Row Road, Sterling, Massachusetts. I have also contributed with my own knowledge as a local resident and as an employee of farms in the area.

In 1830 the roads currently known as Upper and Lower North Row Roads extended from Pratt's Junction on the Leominster-Worcester Road (now MA Route 12) to Westminster and onto Barre and towns west. The Wekepeke Brook provided an important source of water power to residents of the area at this time and formed three separate mill ponds south of Lower North Row Road and west of the Worcester Road. Moving upstream and west from Pratt's Junction each mill provided separate functions within the community beginning with a grist mill owned by G. N. Burpee, a chair and shingle factory owned by E. Burpee, and a sawmill owned by J. Kendall. A store owned by J. Pratt, Jr. was located on the north side of the road.

Traveling west the land use was primarily agriculture owned by different members of the Pratt family and others including the Goodale, Tuttle, Lewis, and Endicott Families on the north side of the road. The town "poor farm" was also located on the north side of the road between the Pratt and Tuttle parcels.

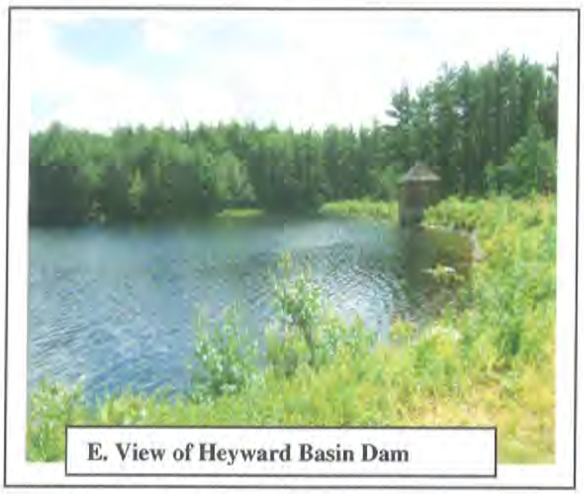
In 1874 to the south of Lower North Row Road, at what is known as the Lynde Basin, was a chair factory owned by J. Lynde. Further west, Wekepeke Brook crosses Upper North Row Road just beyond the junction of what is known as Heywood Road. The Wekepeke has its source from two small un-named brooks draining Rocky Hill to the west and Bee Hill to the east in Leominster. In later years the west source was known as the "Devil's Pulpit" for the water gushing out of several large rock outcroppings slightly up gradient from the base of the hill. The other source captures some drainage from Rocky Hill and additional drainage from the west side Bee Hill. Most of this land was owned by C. Heywood who, in 1837, built a sawmill at the site of the existing dam of Heywood Basin Reservoir. By 1874 this enterprise continued with a house, additional storage buildings, barn and pasture for farm animals.

Adjacent land to the north along the Leominster boundary had been previously acquired by L. M. Hapgood in 1835 and by 1870 Hapgood road connecting the Hapgood parcel traveled past the Heywood property and joined Upper North Row Road. Land to the west of Hapgood road had two other farms, one owned by L. Walker and another by A. Burpee, and extended from the base of Rocky Hill to Upper North Row Road. Both were subsistence type farms and examination of the tax records of the time show small homes, sheds, cattle, swine, chickens, etc. as taxable items.

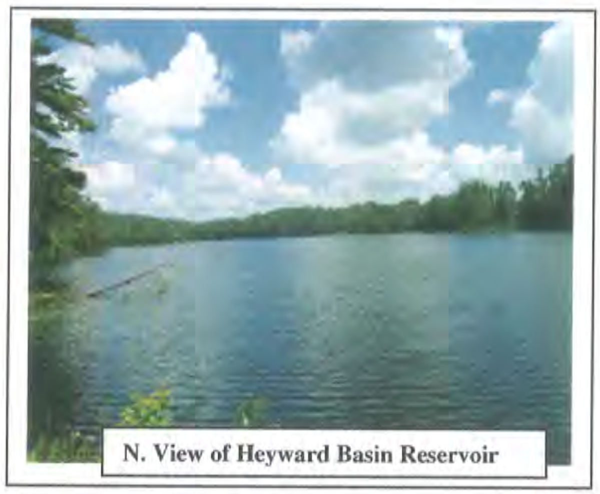
Old stone foundations from these homes can still be found along Hapgood Road if one hunts through the overgrown pastures and forest.

The land along the Wekepeke was beginning to transition slowly from its early owners and away from its manufacturing base as the region approached the turn of the century. The availability of electric power made it possible to locate mills and manufacturing closer to urban centers with better access to roads and rail, and the need for water power on small streams was rapidly disappearing. The mills along the Wekepeke were relatively small, cottage-type industries usually attached to lands also suitable for a broad range of agricultural activities. Forests had been cut down to provide timber for the mills and the land was now more suitable for the production of food crops and dairy products as urban areas began to develop and grow in Clinton, Brookline, Worcester, and Boston. Francis Orr did keep a small electric-powered sawmill on the south side of Lower North Row Road from 1920 until the late 1960's. His son, Clayton Orr, became a caretaker at the Wekepeke Basin for the Town of Clinton and lived in a house on Heywood Road once owned by J. Putnam

In 1880 under the direction of Jonas E. Howe, water superintendent for the Town of Clinton, approximately 200 acres was purchased in Sterling for use as a public water supply for Clinton. The project acquired land from the Lynde, Heywood, Kendall, and Hapgood parcels to build a series of reservoirs that would service the present and future water needs. The location of the reservoirs was at an elevation much higher than the Town of Clinton and it was possible to install a pipe system that was gravity fed. The last dam at the Heywood Basin was constructed around 1926 and was the largest reservoir in the system.



E. View of Heyward Basin Dam



N. View of Heyward Basin Reservoir

By 1890 the land around the Wekepeke was changing dramatically as more intensive agricultural use was developed. The dairy and orchard production along Lower North Row Road grew substantially on farms owned by Homer Beauchene, E. Kendall Haywood, and others. On Upper North Row Road the Hapgood, Willard, Burpee, and Heywood families were also herding dairy cattle for the production of milk, cheese, and butter, however these parcels were eventually purchased by Town of Clinton to become part of the water supply system.

In 1910, at the junction of North Row and Heywood Roads, the Heywood orchard property was purchased by Chester Blodgett and he planted over 1,000 trees, mostly Baldwins and McIntosh, into cultivation. By 1912 pesticide applications intensified as San Jose scale and other insect populations began to thrive in the orchard monocultures, moving from parcel to adjacent parcels.

Sholan Farms Orchard--2009

In 1912, just over the town line in Leominster, Paul Washburn bought the 90 acre Rogers Farm from D. E. Wheeler and two other parcels of 58 and 48 acres to establish the Sholan Farms on the west and east slopes of Bee Hill. This was used as a dairy farm until the 1920's but was converted to vegetable and orchard production shortly thereafter. Vegetables were grown between the rows of fruit trees until they matured to produce fruit. This parcel grew to become the second largest orchard in Massachusetts and a substantial portion of its land area drains directly into the Heywood Basin. Upon the death of Mr. Washburn the farm went through multiple ownerships until it was sold to the Possick family in the early 1990's. It was purchased in 2001 by the City of Leominster and continues to operate as an orchard and farm today.

From 1930 until 1950 parcels were sold along Upper North Row Road, and for the most part, remained in some level of agricultural use. As you cross the Wekepeke, on the north side, the Cunningham family had dairy cows and operated a local slaughter house. Moving west the Ballard family raised chickens, and on the south side, Ephraim Murray had purchased land from Luther Hapgood to grow vegetable crops and eventually maintain a dairy herd.

In 1950 Myrton Baithrow opened a gravel pit on the south side of Upper North Row Road almost adjacent to the Wekepeke, and continued to extract material until the early 1970's. Residential home construction began to expand into the area in the 1980's, particularly in the form of "hobby farms" that kept a few acres for horses to graze. A new barn was constructed by B. Caisse in the area of the spent gravel pit, and he bred and raised many champion Morgan horses. The old Blodgett homestead was sold to the Clements and subsequently Ferguson families and they also kept stables of horses. On the north side of the road horses were kept by the Robinson family.

Today substantial residential development exists on both sides of Lower North Row Road as construction of large three and four bedroom homes has taken place. There are still several open rolling fields that are part of the old early parcels but they are under continual transient ownership, and prime for rapid residential development.

If one were to examine threats to the Wekepeke waters over time it would probably begin at the early mills when glues and other adhesive materials used to fasten chairs may have been toxic compounds. Adverse effects from agriculture are well-known and range from the runoff of animal manures, siltation from exposed soil, to the toxic chemicals used for controlling insects in any form of intensive agriculture. This may still be an issue on the lands that have been or are currently in use for orchard crops, since they have had the most frequent and intense application of pesticides. Formulations applied on these orchard parcels have included chlorinated hydrocarbons, carbamates, organophosphates, and strong fungicides.

Not to be discounted or ignored are the earlier mentioned threats of expanded residential development. From this come an increase in pesticides from lawn fertilizer with its nitrogen and phosphorous loading, increased runoff of hydrocarbons and thermal loading from paved areas, and the potential for pollution from failed septic systems. While this type of development has not arrived *en masse* at Upper North Row Road yet, it is now a prime area for this type of land use.

Development On Lower North Row Road

There have been many changes to this area of the Wekepeke Brook Watershed since 1830, and each change may have had significant effects on the residents of both North Row Roads. If one were to look at the entire timeline of land use, most of the change has been in the form of ownership. For the most part the land has gone from forest, to mill, to field, and now back to forest on many parcels.

Hobby Sheep Farm On Upper North Row Road

This, most likely, will not continue because parcels held in ownership for "the love of the land" by elders are shifting toward younger generations who will need capital to provide for their own financial well-being and security. The likelihood that younger owners will devise ways to live off the land is not realistic and new owners will probably be better equipped to manage money and assets in investment accounts, rather than milking a cow or throwing hay bales.

It will be necessary to consider appropriate planning and zoning tools to protect the waters of the Wekepeke in the years to come.

References:

Atlas of Worcester County, Sterling Map. F. W. Beers. 1870

A Brief History of Sterling, Massachusetts. Sterling Town Committee. 1931.

Land Management of the Wekepeke. Worcester Polytechnical Institute, Department of Civil Engineering. April 1997.

Plan of Sterling Massachusetts Map. Surveyed by Moses Sawyer. 1830.

Sholan Farms History. Friends of Sholan Farms Website. 2008

.*Sterling Vital Records*. Town of Sterling, MA. Commonwealth Press. 1976.

Sterling, Massachusetts—A Pictorial History. Sterling Historical Society. 1981.

Interviews:

Karin Valeri. Sterling Historical Society. Tax Records and details of land ownership. November 22, 2008

Jody Murray, Upper North Row Road, Sterling, MA. Descendant of Ephraim Murray. Details of land use and ownership from 1930-present. November 29, 2008.

Respectfully Submitted,

Thomas J. Christopher
Principal

APPENDIX B:
Laboratory Testing Results

Parameter	CAS No.	Method	Screening Benchmarks					Dam Impoundment Samples	Downstream Samples	Upstream Samples	Impoundment Sample Statistics		
(Important: Units listed by category below)			MCP S1 / GW1	TEC	PEC	TEL	PEL	SS-1			Min	Max	Mean
			Human Health	Freshwater		Marine							
Metals [mg/kg]													
Antimony	7440-36-0	6020A	20.0	NC	NC			NA			0	0	0
Arsenic	7440-38-2	6010B	20.0	9.8	33.0	7.2	41.6	18.9			18.9	18.9	18.9
Barium	7440-39-3	6020A	1,000.0	NC	NC			111			111	111	111
Beryllium	7440-41-7	6020A	100.0	NC	NC			NA			0	0	0
Cadmium	7440-43-9	6010B	2.0	1.0	5.0	0.7	4.2	ND			0	0	0
Chromium (TOTAL)	7440-47-3	6010B	30.0	43.4	111.0	52.3	160.4	28.4			28.4	28.4	28.4
Chromium (III)	7440-47-3		1,000.0	NA	NA			NA			0	0	0
Chromium (VI)	7440-47-3		30.0	NA	NA			NA			0	0	0
Copper	7440-50-8	6010B	NC	31.6	149.0	18.7	108.2	NA			0	0	0
Lead	7439-92-1	6010B	300.0	35.8	128.0	30.2	112.2	28.4			28.4	28.4	28.4
Mercury	7439-97-6	7471A	20.0	0.2	1.1	0.1	0.7	ND			0	0	0
Nickel	7440-02-0	6010B	20.0	22.7	48.6	15.9	42.8	NA			0	0	0
Selenium	7782-49-2	6020A	400.0	NC	NC			ND			0	0	0
Silver	7440-22-4	6020A	100.0	NC	NC	0.7	1.8	15.4			15.4	15.4	15.4
Thallium	7440-28-0	6020A	8.0	NC	NC			NA			0	0	0
Vanadium	7440-62-2	6020A	600.0	NC	NC			NA			0	0	0
Zinc	7440-66-6	6010B	2,500.0	121.0	459.0	124.0	271.0	NA			0	0	0
SVOCs (PAHs)[ug/kg]				NA	NA								
Acenaphthene	83-32-9	8270/8100	4,000.0	*NA*	*NA*	6.7	88.9	ND			0	0	0
Acenaphthylene	208-96-8	8270/8100	1,000.0	*NA*	*NA*	5.9	127.9	ND			0	0	0
Anthracene	120-12-7	8270/8100	1,000,000.0	57.2	845.0			ND			0	0	0
Benz[a]anthracene	56-55-3	8270/8100	700.0	108.0	1,050.0			ND			0	0	0
Benzo[a]pyrene	50-32-8	8270/8100	2,000.0	150.0	1,450.0			ND			0	0	0
Benzo[b]fluoranthene	205-99-2	8270/8100	7,000.0	27.3	13,400.0			ND			0	0	0
Benzo[g,h,i]perylene	191-24-2	8270/8100	1,000,000.0	*NA*	*NA*			ND			0	0	0
Benzo[k]fluoranthene	207-08-9	8270/8100	70,000.0	*NA*	*NA*			ND			0	0	0
Chrysene	218-01-9	8270/8100	70,000.0	166.0	1,290.0	107.8	846.0	ND			0	0	0
Dibenz[a,h]anthracene	53-70-3	8270/8100	700.0	33.0	260.0	6.2	134.6	ND			0	0	0
Dibenzofuran	132-64-9	8270/8100	NC	Na	NA			ND			0	0	0
Fluoranthene	206-44-0	8270/8100	1,000,000.0	423.0	2,230.0	112.8	1,493.5	ND			0	0	0
Fluorene	86-73-7	8270/8100	1,000,000.0	77.4	536.0	21.2	144.4	ND			0	0	0
Indeno[1,2,3-cd]pyrene	193-39-5	8270/8100	7,000.0	*NA*	*NA*			ND			0	0	0
Phenanthrene	85-01-8	8270/8100	10,000.0	204.0	1,170.0	86.7	543.5	ND			0	0	0
Pyrene	129-00-0	8270/8100	1,000,000.0	195.0	1,520.0	152.7	1,397.6	ND			0	0	0
2-Methylnaphthalene	91-57-6	8270/8100	700.0	NC	NC	20.2	201.3	ND			0	0	0
Naphthalene	91-20-3	8270/8100	4,000.0	176.0	561.0	34.6	390.6	ND			0	0	0
Total PAHs			NC	1,610.0	22,800.0	1,684.1	16,770.4	0			0	0	0
PCBs [ug/kg]													
Aroclor-1221		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1232		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1016/1242		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1248		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1254		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1260		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1262		8082A	2,000.0	NA	NA			ND			0	0	0
Aroclor-1268		8082A	2,000.0	NA	NA			ND			0	0	0
Pesticides (ug/kg)													
2,4'-DDD	-	8151a	NC	NC	NC			NA			0	0	0
4,4'-DDD	72-54-8	8151a	4,000.0	NC	NC	1.2	7.8	ND			0	0	0
Sum DDD			NC	4.9	28.0			NA			0	0	0
2,4'-DDE	-	8151a	NC	NC	NC			NA			0	0	0
4,4'-DDE	72-55-9	8151a	3,000.0	NC	NC	2.1	374.2	ND			0	0	0
Sum DDE			NC	3.2	31.3			NA			0	0	0
2,4'-DDT	-	8151a	NC	NC	NC			NA			0	0	0
4,4'-DDT	50-29-3	8151a	3,000.0	NC	NC	1.2	4.8	ND			0	0	0
Sum DDT			NC	4.2	62.9			NA			0	0	0
Total DDTs			NC	5.3	572.0	3.9	51.7	NA			0	0	0
alpha-Chlordane	57-74-97	8081a	NC	0.5	6.0			ND			0	0	0
Aldrin	30-90-02	8081b	40.0	NC	NC	NC	NC	ND			0	0	0
Chlordane	12789-03-6	8081b	700.0	3.2	17.6	2.3	4.8	ND			0	0	0
Dieldrin	60-57-1	8081a	50.0	1.9	61.8	0.7	4.3	ND			0	0	0
Endrin	72-20-8	8081a	8,000.0	2.2	207.0			ND			0	0	0
Endrin aldehyde		8081b	NC	NA	NA			ND			0	0	0
Endrin Ketone		8081b	NC	NA	NA			ND			0	0	0
Endosulfan I	115-29-7	8081b	500.0	NA	NA			ND			0	0	0
Endosulfan II		8081b	NC	NA	NA			ND			0	0	0
Endonsulfan sulfate		8081b	NC	NA	NA			ND			0	0	0
aplha-BHC		8081b	NC	NA	NA			ND			0	0	0
beta-BHC		8081b	NC	NA	NA			ND			0	0	0
delta-BHC		8081b	NC	NA	NA			ND			0	0	0
gamma-BHC/Lindane	-	8081a	NC	2.4	5.0	0.3	1.0	ND			0	0	0
gamma-Chlordane	-	8081a	NC	NA	NA			NA			0	0	0
Heptachlor	76-44-8	8081b	200.0	NA	NA			ND			0	0	0
Heptachlor epoxide	1024-57-3	8081a	90.0	2.5	16.0			ND			0	0	0
Hexachlorobenzene	118-74-1	8081a	700.0	NC	NC			NA			0	0	0
Methoxychlor	72-43-5	8081b	200,000.0	NA	NA			ND			0	0	0
Toxaphene		8081b	NC	NA	NA			ND			0	0	0
Herbicides (ug/kg)													
2,4-D		8151A	NC	NA	NA			ND			0	0	0
2,4,5-TP (Silvex)		8151A	NC	NA	NA			ND			0	0	0
Dicamba		8151A	NC	NA	NA			ND			0	0	0
Dichloroprop		8151A	?	NA	NA			ND			0	0	0
2,4,5 T		8151A	NC	NA	NA			ND			0	0	0
2,4 DB		8151A	NC	NA	NA			ND			0	0	0
Dinoseb		8151A	NC	NA	NA			ND			0	0	0
Dalapon		8151A	NC	NA	NA			ND			0	0	0
Pentachlorophenol	87-86-5	8151A	3,000.0	NA	NA			ND			0	0	0
MCPA		8151A	NC	NA	NA			ND			0	0	0
MCPP		8151A	NC	NA	NA			ND			0	0	0
Picloram		8151A	NC	NA	NA			ND			0	0	0
Acifluorfen		8151A	NC	NA	NA			ND			0	0	0
VPH (mg/kg)													
C5-C8 Aliphatic Hydrocarbons		MADEP	100.0	NC	NC			NA			0	0	0
C9-C12 Aliphatic Hydrocarbons		MADEP	1,000.0	NC	NC			NA			0	0	0
C9-C10 Aromatic Hydrocarbons		MADEP	1,000.0	NC	NC			NA			0	0	0
Unadjusted C5-C8 Aliphatic Hydrocarbons		MADEP	NC	NC	NC			NA			0	0	0
Unadjusted C9-C12 Aliphatic Hydrocarbon		MADEP	NC	NC	NC			NA			0	0	0
VOCs (mg/kg)													
Methyl tert-butyl ether (MTBE)	1634-04-4	MADEP	0.1	NC	NC			ND			0	0	0
Benzene	71-43-2	MADEP	2.0	NC	NC			ND			0	0	0
Toluene	108-88-3	MADEP	40.0	4.5	4.5			ND			0	0	0
Ethylbenzene	100-41-4	MADEP	30.0	NC	NC			ND			0	0	0
m&p-Xylenes	1330-20-7	MADEP	400.0	NC	NC			ND			0	0	0
o-Xylene	95-47-6	MADEP	400.0	NC	NC			ND			0	0	0
EPH (mg/kg)													
C9-C18 Aliphatics		MADEP	1,000.0	NC	NC			ND			0	0	0
C19-C36 Aliphatics		MADEP	3,000.0	NC	NC			ND			0	0	0
C11-C22 Aromatics		MADEP	1,000.0	NC	NC			ND			0	0	0
Total Petroleum Hydrocarbons (mg/kg)		3550C	1,000.0					117			117	117	117
Physical Characteristics													
Total Organic Carbon (%)								7.87					
Percent Water (%)								76.26					
Grain Size Distribution (%)		ASTM D422											
Sieve No. 4								100.00					
Sieve No. 8								98.50					
Sieve No. 30								98.50					
Sieve No. 50								98.50					
Sieve No. 100								93.90					
Sieve No. 200								72.70					

Notes: 1) NA = Not Analyzed
2) ND = Not Detected

Prepared by:
Massachusetts Department of Fish and Game
Division of Ecological Restoration (DER)
Updated July 2009
This table is prepared and offered by DER for the benefit of all parties pursuing river restoration projects within Massachusetts.

NETLAB

REPORT OF ANALYTICAL RESULTS

NETLAB Case Number W0408-23

Prepared for:

Attn: Tim Thies
Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

Report Date: April 18, 2011

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Avenue, North Providence, RI 02904
(401) 353-3420

Total # of Pages: 44

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory	Project #: 10177.01
Project Location: Bartlett Pond, Lancaster, MA	RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
W0408-23

Matrices: ˜ Groundwater/Surface Water x Soil/Sediment ˜ Drinking Water ˜ Air ˜ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A **x**	7470/7471 Hg CAM III B **x**	MassDEP VPH CAM IV A	8081 Pesticides CAM V B **x**	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B **x**	7010 Metals CAM III C	MassDEP EPH CAM IV B **x**	8151 Herbicides CAM V C **x**	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A **x**	6020 Metals CAM III D	8082 PCB CAM V A **x**	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	X Other

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	X Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	X Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	X Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	X Yes No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	X Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	X Yes No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X Yes No[1]

<u>Data User Note</u>: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	X Yes No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes X No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: [signature] **Position:** Laboratory Director

Printed Name: Richard Warila **Date:** 4/18/2011

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on April 8, 2011. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is W0408-23.

Custody records are included in this report.

Site: Bartlet Pond, Lancaster, MA

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
SS#1	4/8/11	Soil	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Total Volatile Solids	NA	2540E
PAHs	3550C	8270D
Pesticides	3541	8081B
Herbicides	8151A	8151A
Volatile Organic Compounds	5035	8260B
Total Petroleum Hydrocarbons	3550C	8100M
EPH	NA	**
PCBs	3541	8082A
Percent Water	NA	Gravimetric
Grain Size*	NA	ASTM C136/C117
Total Metals		
Arsenic	3050B	6010C
Barium	3050B	6010C
Cadmium	3050B	6010C
Chromium	3050B	6010C
Lead	3050B	6010C
Mercury	NA	7471B
Selenium	3050B	6010C
Silver	3050B	6010C

*Analysis subcontracted to Thielsch Engineering

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, USEPA/OSW.

**Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MADEP.

CASE NARRATIVE:

Sample Receipt:

No trip blank or field blank was supplied. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits).

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

EPH:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Herbicides:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Metals:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

An abbreviated compound list was reported per client request.

PCBs:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Pesticides:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Semi-volatile Compounds (PAHs):

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Total Petroleum Hydrocarbons:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Metals:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

SS #1

Parameter	Result	Reporting Limit	Date Analyzed
Percent Water, %	76.26	NA	4/13/11
Volatile Solids, %	7.873	2.106	4/14/11

NA=Not Applicable

Sample: SS #1		Analyst's Initials: NS
Case No. W0408-23		
Date Collected: 4/8/11		
Sample Matrix: Soil		
Subject: TPH		
Prep Method: EPA 3550C	Date Extracted	Date Analyzed
Analytical Method: EPA 8100 M	4/13/11	4/14/11
Compound	Concentration, mg/kg* (ppm)	Reporting Limit
Total Petroleum Hydrocarbons	117	82
Surrogates:		
Compound	% Recovery	Limits
Chlorooctadecane	101	62-151

*Dry Weight Basis

THIELSCH ENGINEERING, INC.

195 Frances Avenue, Cranston, RI 02910
401-467-6454

Sieve Analysis Test Report

Client:	Net Lab Inc	Date Recieved:	4/13/2011
Project:	W0408-23	Date Tested:	4/14/2011
Client Sample I.D. #:	406020	T.E.I. Project #:	74-11-0002-46
Soil Description:	Silty Soil	T.E.I. Sample/Report #:	11-S-101
		Laboratory Technician:	Jason Rapose

Total Moisture Content by Drying (D2216)	
Wet Mass (W):	148.5
Original Dry Mass (D):	33.0
Moisture Loss (W - D):	115.5
% Moisture (100 x (W - D) / D):	**350.0**

Materials Finer than 75 µm Sieve by Washing (C117)	
Dry Mass after wash (Dw):	
Mass of fines lost by wash (D - Dw):	
% -75 µm Sieve (100 x (D - Dw)/D):	

Sieve Analysis of Fine and Coarse Aggregates (C136 /C117)								
	Mass per Sieve		**% Retained per Sieve**		**% Passing**		**Specification %**	
Sieve	Unwashed	Washed	Unwashed	Washed	**Unwashed**	**Washed**	PR	PP
3"	0.0		0.0		**100.0**			
2"	0.0		0.0		**100.0**			
1 1/2"	0.0		0.0		**100.0**			
1"	0.0		0.0		**100.0**			
3/4"	0.0		0.0		**100.0**			
1/2"	0.0		0.0		**100.0**			
3/8"	0.0		0.0		**100.0**			
#4	0.0		0.0		**100.0**			
#8	0.5		1.5		**98.5**			
#16	0.5		1.5		**98.5**			
#30	0.5		1.5		**98.5**			
#50	0.5		1.5		**98.5**			
#100	2.0		6.1		**93.9**			
#200	9.0		27.3		**72.7**			
Pan	33.0		100.0		Calculate Fineness Modulus?		No	
Sub Total	33.0							
Loss on Wash (D - Dw)		0.0						
Total	33.0							

Comments:

Tested By: Jason Rapose	Reviewed by: Wendy Kerkhoff
Cert. #: NICET Level I Cert. # 123709	Laboratory Supervisor
Date: 4/14/2011	Date: 4/14/2011

Results Within Specification Limits: ☐ Results Outside Specification Limits: ☐

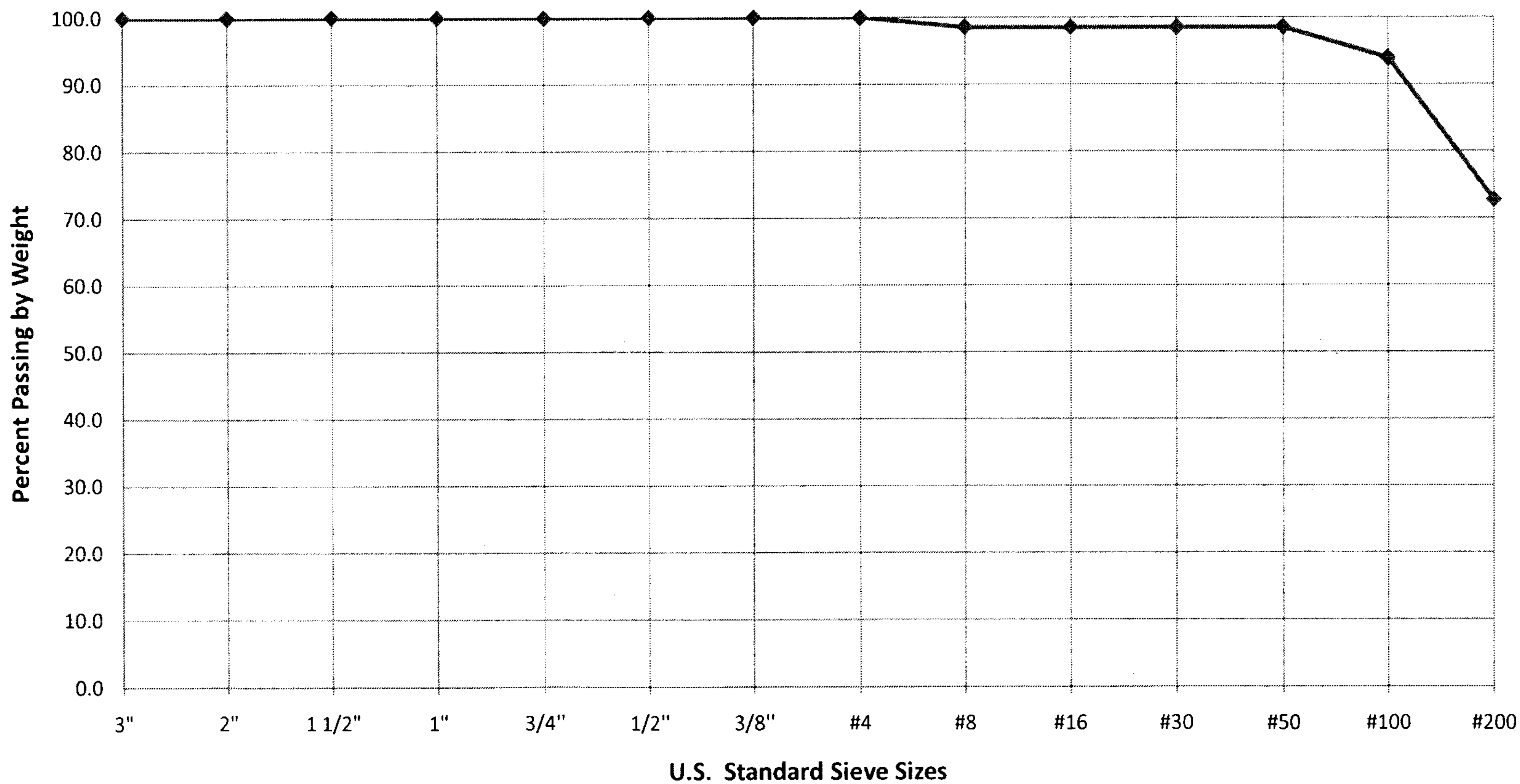
CTS-S-01, Rev. 0
2/11/2011

THIELSCH ENGINEERING, INC

195 Frances Avenue, Cranston, RI 02910

401-467-6454

Grain-Size Distribution Test Report



% Coarse (retained #4)	% Sand (passing #4 to #200)	% Fines (passing #200)
0.0	27.3	72.7

Client:	Net Lab Inc	Date Recieved:	4/13/2011	Soil Description:	Silty Soil
Project:	W0408-23	Date Tested:	4/14/2011		
T.E.I. Project #:	74-11-0002-46	Laboratory Technician:	Jason Rapose	Comments:	
T.E.I. Sample/Report #:	11-S-101				

RESULTS: EXTRACTABLE PETROLEUM HYDROCARBONS

Results for EPH analysis are presented in the following section. Each page is electronically signed.

APPENDIX 3: REQUIRED EPH DATA REPORTING FORMAT/INFORMATION

SAMPLE INFORMATION

Matrix	Aqueous X Soil Sediment Other:
Containers	_X_ Satisfactory __ Broken __ Leaking:
Aqueous Preservatives	X N/A __ pH<2 __ pH>2 Comment:
Temperature	_X Received on Ice X Received at 4 ° C __ Other:
Extraction Method	Water: Soil: Soxhlet

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 98-1		Client ID		SS#1
Method for Target Analytes:		Lab ID		W0408-23
EPH Surrogate Standards		Date Collected		4/8/11
Aliphatic: Chlorooctadecane		Date Received		4/8/11
Aromatic: o-Terphenyl		Date Extracted		4/14/11
EPH Fractionation Surrogates		Date Analyzed		4/15/11
2-Fluorobiphenyl		Dilution Factor		1X
2-Bromonaphthalene		% Moisture (soil)		76.3
RANGE/TARGET ANALYTE		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		40.8	mg/Kg	<40.8
Diesel PAH Analytes	Naphthalene	0.20	mg/Kg	<0.20
	2-Methylnaphthalene	0.20	mg/Kg	<0.20
	Phenanthrene	0.20	mg/Kg	<0.20
	Acenaphthylene	0.20	mg/Kg	<0.20
Other Target PAH Analytes	Acenaphthene	0.20	mg/Kg	<0.20
	Fluorene	0.20	mg/Kg	<0.20
	Anthracene	0.20	mg/Kg	<0.20
	Fluoranthene	0.20	mg/Kg	<0.20
	Pyrene	0.20	mg/Kg	<0.20
	Benzo(a)anthracene	0.20	mg/Kg	<0.20
	Chrysene	0.20	mg/Kg	<0.20
	Benzo(b)fluoranthene	0.20	mg/Kg	<0.20
	Benzo(k)fluoranthene	0.20	mg/Kg	<0.20
	Benzo(a)pyrene	0.20	mg/Kg	<0.20
	Indeno(1,2,3-cd)pyrene	0.20	mg/Kg	<0.20
	Dibenzo(a,h)anthracene	0.20	mg/Kg	<0.20
	Benzo(g,h,i)perylene	0.20	mg/Kg	<0.20
C9-C18 Aliphatic Hydrocarbons[1]		40.8	mg/Kg	<40.8
C19-C36 Aliphatic Hydrocarbons[1]		40.8	mg/Kg	<40.8
C11-C22 Aromatic Hydrocarbons[1,2]		40.8	mg/Kg	<40.8
Aliphatic Surrogate % Recovery				93
Aromatic Surrogate % Recovery				71
Sample Surrogate Acceptance Range				40-140%
Fractionation Surrogate % Recovery				77
Fractionation Surrogate % Recovery				77
Fractionation Surrogate Acceptance Range				40-140%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
[2]C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	X Yes	__ No-Details Attached
Were all performance/acceptance standards for the required QA/QC procedures achieved?	X Yes	__ No-Details Attached
Were any significant modifications made to the EPH method, as specified in Section 11.3?	X No	__ Yes-Details Attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: ______________________ POSITION: Laboratory Director .

PRINTED NAME: Richard Warila DATE: 4/18/2011

APPENDIX 3: REQUIRED EPH DATA REPORTING FORMAT/INFORMATION

SAMPLE INFORMATION

Matrix	Aqueous X Soil Sediment Other:
Containers	___ Satisfactory _ Broken _ Leaking:
Aqueous Preservatives	X N/A _ pH<2 _ pH>2 Comment:
Temperature	___ Received on Ice ___ Received at 4 ° C ___ Other:
Extraction Method	Water: Soil: Soxhlet

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 98-1		Client ID		Method Blank
Method for Target Analytes:		Lab ID		W0408-23
EPH Surrogate Standards		Date Collected		NA
Aliphatic: Chlorooctadecane		Date Received		NA
Aromatic: o-Terphenyl		Date Extracted		4/14/11
EPH Fractionation Surrogates		Date Analyzed		4/15/11
2-Fluorobiphenyl		Dilution Factor		1X
2-Bromonaphthalene		% Moisture (soil)		NA
RANGE/TARGET ANALYTE		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10.0	mg/Kg	<10.0
Diesel PAH Analytes	Naphthalene	0.25	mg/Kg	<0.25
	2-Methylnaphthalene	0.25	mg/Kg	<0.25
	Phenanthrene	0.25	mg/Kg	<0.25
	Acenaphthylene	0.25	mg/Kg	<0.25
Other Target PAH Analytes	Acenaphthene	0.25	mg/Kg	<0.25
	Fluorene	0.25	mg/Kg	<0.25
	Anthracene	0.25	mg/Kg	<0.25
	Fluoranthene	0.25	mg/Kg	<0.25
	Pyrene	0.25	mg/Kg	<0.25
	Benzo(a)anthracene	0.25	mg/Kg	<0.25
	Chrysene	0.25	mg/Kg	<0.25
	Benzo(b)fluoranthene	0.25	mg/Kg	<0.25
	Benzo(k)fluoranthene	0.25	mg/Kg	<0.25
	Benzo(a)pyrene	0.25	mg/Kg	<0.25
	Indeno(1,2,3-cd)pyrene	0.25	mg/Kg	<0.25
	Dibenzo(a,h)anthracene	0.25	mg/Kg	<0.25
	Benzo(g,h,i)perylene	0.25	mg/Kg	<0.25
C9-C18 Aliphatic Hydrocarbons[1]		10.0	mg/Kg	<10.0
C19-C36 Aliphatic Hydrocarbons[1]		10.0	mg/Kg	<10.0
C11-C22 Aromatic Hydrocarbons[1,2]		10.0	mg/Kg	<10.0
Aliphatic Surrogate % Recovery				94
Aromatic Surrogate % Recovery				104
Sample Surrogate Acceptance Range				40-140%
Fractionation Surrogate % Recovery				106
Fractionation Surrogate % Recovery				99
Fractionation Surrogate Acceptance Range				40-140%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
[2]C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? X Yes _ No-Details Attached
Were all performance/acceptance standards for the required QA/QC procedures achieved? X Yes _ No-Details Attached
Were any significant modifications made to the EPH method, as specified in Section 11.3? X No _ Yes-Details Attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: [signature] POSITION: Laboratory Director

PRINTED NAME: Richard Warila DATE: 4/18/2011

Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\1\METHODS\EPHALI1.M (Chemstation Integrator)
Title :
Last Update : Thu Mar 24 10:52:54 2011
Response via : Initial Calibration

Non-Spiked Sample: J041510.D

	Spike Sample	Spike Duplicate Sample
File ID :	J041511.D	J041512.D
Sample :	LES HX 4-14	LESD HX 4-14
Acq Time:	15 Apr 20111 2:28 pm	15 Apr 20111 2:56 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Nonane	0.0	40	19	18	48	44	9	25	30-140
Decane	0.0	40	25	22	62	55	11	25	40-140
Dodecane	0.0	40	29	25	73	63	14	25	40-140
Tetradecane	0.0	40	32	31	81	78	3	25	40-140
Hexadecane	0.0	40	39	38	97	95	2	25	40-140
Octadecane	0.0	40	42	41	106	102	4	25	40-140
Nonadecane	0.0	40	38	34	94	85	10	25	40-140
Eicosane	0.0	40	42	38	106	96	10	25	40-140
Docosane	0.0	40	40	38	100	94	6	25	40-140
Tetracosane	0.0	40	39	37	97	92	5	25	40-140
Hexacosane	0.0	40	38	37	96	92	5	25	40-140
Octacosane	0.0	40	39	37	97	93	5	25	40-140
Triacontane	0.0	40	38	36	96	91	6	25	40-140
Hexatriacontane	0.0	40	39	37	98	93	5	25	40-140

- Fails Limit Check

EPHALI1.M Mon Apr 18 10:30:34 2011

Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\2\METHODS\ARO.M (Chemstation Integrator)
Title :
Last Update : Tue Mar 22 08:56:03 2011
Response via : Initial Calibration

Non-Spiked Sample: F041508.D

	Spike Sample	Spike Duplicate Sample
File ID :	F041509.D	F041510.D
Sample :	LES 4-14 ME	LESD 4-14 ME
Acq Time:	15 Apr 2011 6:18 pm	15 Apr 2011 7:04 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Naphthalene	0.0	40	23	25	58	62	7	25	40-140
2 methyl naphthalene	0.0	40	24	26	61	65	6	25	40-140
acenaphthylene	0.0	40	25	27	63	67	6	25	40-140
Acenaphthene	0.0	40	36	39	90	97	8	25	40-140
fluorene	0.0	40	28	29	70	72	3	25	40-140
phenanthrene	0.0	40	28	30	70	76	8	25	40-140
Anthracene	0.0	40	27	29	68	73	7	25	40-140
Fluoranthene	0.0	40	30	31	75	77	3	25	40-140
Pyrene	0.0	40	34	38	86	95	9	25	40-140
Benzo(a)anthracene	0.0	40	35	35	88	88	0	25	40-140
Chrysene	0.0	40	30	32	74	80	7	25	40-140
Benzo(b)fluoranthene	0.0	40	35	34	88	84	4	25	40-140
Benzo(k)fluoranthene	0.0	40	33	32	82	81	2	25	40-140
Benzo(a)pyrene	0.0	40	30	30	74	74	0	25	40-140
Indeno(123cd)pyrene	0.0	40	25	23	62	57	7	25	40-140
Dibenzo(ah)anthracen	0.0	40	37	41	93	104	10	25	40-140
Benzo(ghi)perylene	0.0	40	31	31	77	79	2	25	40-140

- Fails Limit Check

ARO.M Mon Apr 18 11:17:12 2011

RESULTS: HERBICIDES

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

Sample: SS #1		
Case No. W0408-23		
Date Collected: 4/8/11		
Sample Matrix: Soil		
Subject: Herbicides	Date Extracted	Date Analyzed
Prep Method: EPA 8151A	4/14/11	4/15/11
Method: EPA 8151A		
Compound	Concentration ug/kg* (ppb)	Reporting Limit
2,4-D	N.D.	210
2,4,5-TP (Silvex)	N.D.	210
Dicamba	N.D.	210
Dichloroprop	N.D.	210
2,4,5 T	N.D.	210
2,4 DB	N.D.	210
Dinoseb	N.D.	210
Dalapon	N.D.	210
Pentachlorophenol	N.D.	210
MCPA	N.D.	210
MCPP	N.D.	210
Picloram	N.D.	210
Acifluorfen	N.D.	210
Surrogates:		
Compound	% Recovery	Limits
DCMA	92	30-150

*Dry Weight Basis

Sample: Method Blank		
Case No. W0408-23		
Date Collected: NA		
Sample Matrix: Soil		
Subject: Herbicides	Date Extracted	Date Analyzed
Prep Method: EPA 8151A	4/14/11	4/15/11
Method: EPA 8151A		
Compound	Concentration ug/kg (ppb)	Reporting Limit
2,4-D	N.D.	50
2,4,5-TP (Silvex)	N.D.	50
Dicamba	N.D.	50
Dichloroprop	N.D.	50
2,4,5 T	N.D.	50
2,4 DB	N.D.	50
Dinoseb	N.D.	50
Dalapon	N.D.	50
Pentachlorophenol	N.D.	50
MCPA	N.D.	50
MCPP	N.D.	50
Picloram	N.D.	50
Acifluorfen	N.D.	50
Surrogates:		
Compound	% Recovery	Limits
DCMA	73	30-150

HERBICIDES LABORATORY CONTROL SPIKE AND LCS DUPLICATE RESULTS

Date Extracted: 4/14/2011

Date Analyzed: 4/15/2011

Compound	LCS True Value	LCS Result	Recovery, %	LCSD True Value	LCSD Result	Recovery, %	Recovery QC Limits	RPD, %	RPD QC Limits
Dalapon	1.000	0.435	**44**	1.000	0.461	**46**	40-140	**5.8**	30.0
Dicamba	1.000	0.660	**66**	1.000	0.658	**66**	40-140	**0.3**	30.0
Dichloroprop	1.000	0.697	**70**	1.000	0.659	**66**	40-140	**5.6**	30.0
2,4-D	1.000	0.766	**77**	1.000	0.783	**78**	40-140	**2.2**	30.0
2,4,5-TP (Silvex)	1.000	0.773	**77**	1.000	0.775	**78**	40-140	**0.3**	30.0
2,4,5-T	1.000	0.677	**68**	1.000	0.681	**68**	40-140	**0.6**	30.0
2,4-DB	1.000	0.793	**79**	1.000	0.762	**76**	40-140	**4.0**	30.0
Dinoseb	1.000	0.519	**52**	1.000	0.523	**52**	40-140	**0.8**	30.0

Surrogate		% Recovery	Limits
DCPA	LCS	**82**	30-150
	LCSD	**82**	30-150

METALS RESULTS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Metals Analysis Department certifies that the results included in this section have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

New England Testing Laboratory, Inc.

METALS RESULTS

Case Number: W0408-23
Sample ID: SS #1
Date collected: 4/8/11
Matrix: SOIL
Solids, %: 23.74
Sample Type: Total

Analyst JC/AM

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3050B	6010C	18.9	2.70	2.70	mg/kg	4/12/11	4/14/11
Barium	7440-39-3	3050B	6010C	111	1.35	1.35	mg/kg	4/12/11	4/14/11
Cadmium	7440-43-9	3050B	6010C	ND	1.35	1.35	mg/kg	4/12/11	4/14/11
Chromium	7440-47-3	3050B	6010C	28.4	1.35	1.35	mg/kg	4/12/11	4/14/11
Lead	7439-92-1	3050B	6010C	28.4	1.35	1.35	mg/kg	4/12/11	4/14/11
Mercury	7439-97-6	NA	7471B	ND	0.260	0.260	mg/kg	4/14/11	4/14/11
Selenium	7782-49-2	3050B	6010C	ND	2.70	2.70	mg/kg	4/12/11	4/14/11
Silver	7440-22-4	3050B	6010C	15.4	1.35	1.35	mg/kg	4/12/11	4/14/11

ND indicates not Detected

All results are reported on a dry weight basis.

METALS RESULTS

Sample ID: Preparation Blank
Matrix: SOIL
Solids, %: 100
Sample Type: Total

Analyst JC/AM

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3050B	6010C	ND	0.67	0.67	mg/kg	4/12/11	4/14/11
Barium	7440-39-3	3050B	6010C	ND	0.33	0.33	mg/kg	4/12/11	4/14/11
Cadmium	7440-43-9	3050B	6010C	ND	0.33	0.33	mg/kg	4/12/11	4/14/11
Chromium	7440-47-3	3050B	6010C	ND	0.33	0.33	mg/kg	4/12/11	4/14/11
Lead	7439-92-1	3050B	6010C	ND	0.33	0.33	mg/kg	4/12/11	4/14/11
Mercury	7439-97-6	NA	7471B	ND	0.067	0.067	mg/kg	4/14/11	4/14/11
Selenium	7782-49-2	3050B	6010C	ND	0.67	0.67	mg/kg	4/12/11	4/14/11
Silver	7440-22-4	3050B	6010C	ND	0.33	0.33	mg/kg	4/12/11	4/14/11

ND indicates not Detected

All results are reported on a dry weight basis.

LABORATORY CONTROL SAMPLE RECOVERY

Parameter	True Value	Result	Units	Recovery, %	Internal LCL, %	Internal UCL, %	Date Analyzed
Arsenic	13.3	11.3	mg/kg	85	80	108	4/14/11
Barium	66.7	63.4	mg/kg	95	80	112	4/14/11
Cadmium	66.7	59.2	mg/kg	89	80	110	4/14/11
Chromium	66.7	58.6	mg/kg	88	80	114	4/14/11
Lead	66.7	55.0	mg/kg	82	80	114	4/14/11
Mercury	0.133	0.144	mg/kg	108	80	120	4/14/11
Selenium	13.3	11.2	mg/kg	84	80	111	4/14/11
Silver	33.3	34.4	mg/kg	103	80	120	4/14/11

RESULTS: PCBs

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

Sample: SS #1		Analyst's Initials: NS
Case No.: W0408-23		
Date Collected: 4/8/11		
Sample Matrix: Soil		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3541	4/14/11	4/14/11
Analytical Method: EPA 8082A		
Compound	Concentration ug/kg* (ppb)	Reporting Limit
Aroclor-1221	N.D.	204
Aroclor-1232	N.D.	204
Aroclor-1016/1242	N.D.	204
Aroclor-1248	N.D.	204
Aroclor-1254	N.D.	204
Aroclor-1260	N.D.	204
Aroclor-1262	N.D.	204
Aroclor-1268	N.D.	204
Surrogates:		
Compound	% Recovery	Limits
TCMX	44	39-120
DCBP	55	34-140

*Dry Weight Basis

Sample: Method Blank		Analyst's Initials: NS
Case No.: W0408-23		
Date Collected: NA		
Sample Matrix: Soil		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3541	4/14/11	4/14/11
Analytical Method: EPA 8082A		
Compound	Concentration ug/kg (ppb)	Reporting Limit
Aroclor-1221	N.D.	100
Aroclor-1232	N.D.	100
Aroclor-1016/1242	N.D.	100
Aroclor-1248	N.D.	100
Aroclor-1254	N.D.	100
Aroclor-1260	N.D.	100
Aroclor-1262	N.D.	100
Aroclor-1268	N.D.	100
Surrogates:		
Compound	% Recovery	Limits
TCMX	51	39-120
DCBP	59	34-140

PCB Laboratory Control Spike

Sample Matrix: Soil				
Subject: PCB	Date Extracted			Date Analyzed
Prep Method: EPA 3541	4/14/11			4/14/11
Analytical Method: EPA 8082A				
Compound	Amount Spiked mg/kg	Result mg/kg	Recovery %	Recovery Limits
Aroclor 1016	0.500	0.334	67	46-130
Aroclor 1260	0.500	0.317	63	55-130
Surrogates:				
Compound	% Recovery	Limits		
TCMX	49	39-120		
DCBP	58	34-140		

RESULTS: PESTICIDES

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

Sample: SS #1		Analyst's Initials: NS
Case No.: W0408-23		
Date Collected: 4/8/11		
Sample Matrix: Soil		
Subject: Pesticides	Date Extracted	Date Analyzed
Prep Method: EPA 3541	4/14/11	4/15/11
Analytical Method: EPA 8081B		
Compound	Concentration ug/kg* (ppb)	Reporting Limit
Aldrin	N.D.	10
alpha-BHC	N.D.	10
beta-BHC	N.D.	10
delta-BHC	N.D.	10
gamma-BHC	N.D.	10
alpha-Chlordane	N.D.	10
gamma-Chlordane	N.D.	10
Chlordane	N.D.	204
4,4'-DDD	N.D.	20
4,4'-DDE	N.D.	20
4,4'-DDT	N.D.	20
Dieldrin	N.D.	20
Endosulfan I	N.D.	10
Endosulfan II	N.D.	20
Endosulfan sulfate	N.D.	20
Endrin	N.D.	20
Endrin aldehyde	N.D.	20
Endrin Ketone	N.D.	20
Heptachlor	N.D.	10
Heptachlor epoxide	N.D.	10
Methoxychlor	N.D.	102
Toxaphene	N.D.	10,200
Surrogates:		
Compound	% Recovery	Limits
TCMX	62	43-125
DCBP	41	41-127

*Dry Weight Basis

Sample: Method Blank		Analyst's Initials: NS
Case No.: W0408-23		
Date Collected: NA		
Sample Matrix: Soil		
Subject: Pesticides	Date Extracted	Date Analyzed
Prep Method: EPA 3541	4/14/11	4/15/11
Analytical Method: EPA 8081B		
Compound	Concentration ug/kg (ppb)	Reporting Limit
Aldrin	N.D.	5
alpha-BHC	N.D.	5
beta-BHC	N.D.	5
delta-BHC	N.D.	5
gamma-BHC	N.D.	5
alpha-Chlordane	N.D.	5
gamma-Chlordane	N.D.	5
Chlordane	N.D.	100
4,4'-DDD	N.D.	10
4,4'-DDE	N.D.	10
4,4'-DDT	N.D.	10
Dieldrin	N.D.	10
Endosulfan I	N.D.	5
Endosulfan II	N.D.	10
Endosulfan sulfate	N.D.	10
Endrin	N.D.	10
Endrin aldehyde	N.D.	10
Endrin Ketone	N.D.	10
Heptachlor	N.D.	5
Heptachlor epoxide	N.D.	5
Methoxychlor	N.D.	50
Toxaphene	N.D.	5000
Surrogates:		
Compound	% Recovery	Limits
TCMX	53	43-125
DCBP	45	41-127

Pesticide Laboratory Control Spike

Date Collected: NA				
Sample Matrix: Soil				
Subject: Pesticides	Date Extracted			Date Analyzed
Prep Method: EPA 3541	4/14/11			4/15/11
Analytical Method: EPA 8081B				
Compound	Amount Spiked ng/mL (ppb)	Result ng/mL (ppb)	Recovery %	Recovery Limits
alpha-BHC	40.0	21.2	53	40-140
gamma-BHC	40.0	21.0	53	40-140
beta-BHC	40.0	31.8	80	40-140
delta-BHC	40.0	23.9	60	40-140
Heptachlor	40.0	19.0	48	40-140
Aldrin	40.0	19.2	48	40-140
Heptachlor epoxide	40.0	17.9	45	40-140
trans-Chlordane	40.0	34.8	87	40-140
cis-Chlordane	40.0	18.5	46	40-140
4,4’-DDE	40.0	19.9	50	40-140
Endosulfan I	40.0	19.8	50	40-140
Dieldrin	40.0	27.0	67	40-140
Endrin	40.0	21.7	54	40-140
4,4’-DDD	40.0	48.3	121	40-140
Endosulfan II	40.0	16.9	42	40-140
4,4’-DDT	40.0	34.2	85	40-140
Endrin aldehyde	40.0	27.0	67	40-140
Methoxychlor	40.0	31.0	78	40-140
Endosulfan sulfate	40.0	19.8	50	40-140
Endrin Ketone	40.0	22.0	55	40-140
Surrogates:				
Compound	% Recovery	Limits		
TCMX	66	43-125		
DCBP	52	41-127		

RESULTS: SEMIVOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23

Method: 8270

Matrix: (soil/water/air) SOIL

Sample wt/vol: 20.594 (g/ml) G

Level: (low/med) LOW

% Moisture: 76.26

Concentrated Extract Volume: 1000 (uL)

Injection Volume: 1.0 (uL)

Analyst's Initials:

Client Name: Pare Corporation

Lab Sample ID: SS# 1

Lab File ID: B041320.D

Date Sampled: 4/8/2011

Date Extracted: 4/13/2011

Date Analyzed: 4/13/2011

Dilution Factor: 1.0

CAS NO.	COMPOUND	UNITS: UG/KG	Q
91-20-3	Naphthalene	200	U
91-57-6	2-Methylnaphthalene	200	U
208-96-8	Acenaphthylene	200	U
83-32-9	Acenaphthene	200	U
132-64-9	Dibenzofuran	200	U
86-73-7	Fluorene	200	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

NETLAB

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23

Client Name: Pare Corporation

Method: 8270

Lab Sample ID: SBLK110413

Matrix: (soil/water/air) SOIL

Lab File ID: B041303.D

Sample wt/vol: 20 (g/ml) G

Date Sampled: 4/8/2011

Level: (low/med) LOW

Date Extracted: 4/13/2011

% Moisture: 0

Date Analyzed: 4/13/2011

Concentrated Extract Volume: 1000 (uL)

Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Analyst's Initials:

CAS NO.	COMPOUND	UNITS: UG/KG	Q
91-20-3	Naphthalene	50	U
91-57-6	2-Methylnaphthalene	50	U
208-96-8	Acenaphthylene	50	U
83-32-9	Acenaphthene	50	U
132-64-9	Dibenzofuran	50	U
86-73-7	Fluorene	50	U
85-01-8	Phenanthrene	50	U
120-12-7	Anthracene	50	U
206-44-0	Fluoranthene	50	U
129-00-0	Pyrene	50	U
56-55-3	Benzo(a)anthracene	50	U
218-01-9	Chrysene	50	U
205-99-2	Benzo(b)fluoranthene	50	U
207-08-9	Benzo(k)fluoranthene	50	U
50-32-8	Benzo(a)pyrene	50	U
193-39-5	Indeno(1,2,3-cd)pyrene	50	U
53-70-3	Dibenz(a,h)anthracene	50	U
191-24-2	Benzo(g,h,i)perylene	50	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: New England Testing Lab   Case No.: W0408-23

Lab Code: RI010   Client Name: Pare Corporation

Level: (low/med) LOW

	Sample ID	S1 #	S2 #	S3 #	TOT OUT
01	SBLK110413	65	72	44	0
02	SLCS110413	79	75	57	0
03	SS# 1	78	89	64	0

			QC LIMITS
S1	=	Nitrobenzene-d5	(12-110)
S2	=	2-Fluorobiphenyl	(17-122)
S3	=	Terphenyl-d14	(10-139)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

New England Testing Laboratory, Inc.

Semivolatile Soil Laboratory Control Spike

Date Extracted: 4/13/2011
Date Analyzed: 4/13/2011

	Amount Spiked ug/Kg	Result, ug/Kg	Recovery %	Lower Recovery Limit	Upper Recovery Limit
Naphthalene	2500	2031	81	27	100
2-Methylnaphthalene	2500	1976	79	28	100
Acenaphthylene	2500	1897	76	35	109
Acenaphthene	2500	1895	76	32	108
Dibenzofuran	2500	1910	76	32	111
Fluorene	2500	1949	78	31	116
Phenanthrene	2500	2139	86	41	118
Anthracene	2500	2119	85	30	119
Fluoranthene	2500	1900	76	35	120
Pyrene	2500	2709	108	46	112
Benzo(a)anthracene	2500	2567	103	45	114
Chrysene	2500	1966	79	33	123
Benzo(b)fluoranthene	2500	2405	96	33	122
Benzo(k)fluoranthene	2500	2195	88	34	130
Benzo(a)pyrene	2500	2202	88	37	115
Indeno(1,2,3-cd)pyrene	2500	2553	102	27	143
Dibenz(a,h)anthracene	2500	2496	100	33	137
Benzo(g,h,i)perylene	2500	2363	95	16	152

RESULTS: VOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23
Method: 8260
Matrix: (soil/water) SOIL
Sample wt/vol: 13.2 (g/ml) G
% Moisture 76.26
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: Pare Corporation
Lab Sample ID: SS #1
Lab File ID: C041144.D
Date Sampled: 4/8/2011
Date Analyzed: 4/12/2011
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: UG/KG	Q
75-01-4	Vinyl Chloride	160	U
74-83-9	Bromomethane	160	U
75-00-3	Chloroethane	160	U
67-64-1	Acetone	790	U
75-35-4	1,1-Dichloroethene	160	U
75-15-0	Carbon Disulfide	160	U
75-09-2	Methylene Chloride	160	U
1634-04-4	tert-Butyl methyl ether	160	U
156-60-5	trans-1,2 Dichloroethene	160	U
75-34-3	1,1-Dichloroethane	160	U
78-93-3	2-Butanone	790	U
594-20-7	2,2-Dichloropropane	160	U
156-59-2	cis-1,2-Dichloroethene	160	U
67-66-3	Chloroform	160	U
74-97-5	Bromochloromethane	160	U
71-55-6	1,1,1-Trichloroethane	160	U
563-58-6	1,1-Dichloropropene	160	U
56-23-5	Carbon Tetrachloride	160	U
71-43-2	Benzene	160	U
107-06-2	1,2-Dichloroethane	160	U
79-01-6	Trichloroethene	160	U
78-87-5	1,2-Dichloropropane	160	U
75-27-4	Bromodichloromethane	160	U
74-95-3	Dibromomethane	160	U
108-10-1	4-Methyl-2-pentanone	790	U
106-93-4	Ethylene Dibromide	160	U
10061-01-5	cis-1,3-Dichloropropene	160	U
108-88-3	Toluene	160	U
10061-02-6	Trans-1,3-Dichloropropene	160	U
79-00-5	1,1,2-Trichloroethane	160	U
591-78-6	2-Hexanone	790	U
127-18-4	Tetrachloroethene	160	U
124-48-1	Chlorodibromomethane	160	U
108-90-7	Chlorobenzene	160	U
630-20-6	1,1,1,2-Tetrachloroethane	160	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23
Method: 8260
Matrix: (soil/water) SOIL
Sample wt/vol: 13.2 (g/ml) G
% Moisture 76.26
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: Pare Corporation
Lab Sample ID: SS #1
Lab File ID: C041144.D
Date Sampled: 4/8/2011
Date Analyzed: 4/12/2011
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: UG/KG	Q
100-41-4	Ethylbenzene	160	U
1330-20-7	m & p-Xylene	320	U
95-47-6	o-Xylene	160	U
100-42-5	Styrene	160	U
75-25-2	Bromoform	160	U
98-82-8	Isopropylbenzene	160	U
79-34-5	1,1,2,2-Tetrachloroethane	160	U
108-86-1	Bromobenzene	160	U
96-18-4	1,2,3-Trichloropropane	160	U
95-49-8	2-Chlorotoluene	160	U
103-65-1	n-Propylbenzene	160	U
108-67-8	1,3,5-Trimethylbenzene	160	U
106-43-4	4-Chlorotoluene	160	U
98-06-6	tert-Butylbenzene	160	U
95-63-6	1,2,4-Trimethylbenzene	160	U
135-98-8	sec-Butylbenzene	160	U
99-87-6	p-Isopropyltoluene	160	U
75-87-3	Chloromethane	160	U
75-65-0	tert butyl alcohol	160	U
541-73-1	1,3-Dichlorobenzene	160	U
109-99-9	Tetrahydrofuran	160	U
106-46-7	1,4-Dichlorobenzene	160	U
60-29-7	Diethyl Ether	160	U
104-51-8	n-Butylbenzene	160	U
95-50-1	1,2-Dichlorobenzene	160	U
96-12-8	1,2-Dibromo-3-chloropropane	160	U
120-82-1	1,2,4-Trichlorobenzene	160	U
87-68-3	Hexachlorobutadiene	160	U
91-20-3	Naphthalene	160	U
87-61-6	1,2,3-Trichlorobenzene	160	U

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New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23
Method: 8260
Matrix: (soil/water) SOIL
Sample wt/vol: 10.0 (g/ml) G
% Moisture 0
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: Pare Corporation
Lab Sample ID: VBLK041111
Lab File ID: C041128.D
Date Sampled: 4/8/2011
Date Analyzed: 4/11/2011
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: UG/KG	Q
75-01-4	Vinyl Chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
67-64-1	Acetone	250	U
75-35-4	1,1-Dichloroethene	50	U
75-15-0	Carbon Disulfide	50	U
75-09-2	Methylene Chloride	50	U
1634-04-4	tert-Butyl methyl ether	50	U
156-60-5	trans-1,2 Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	50	U
78-93-3	2-Butanone	250	U
594-20-7	2,2-Dichloropropane	50	U
156-59-2	cis-1,2-Dichloroethene	50	U
67-66-3	Chloroform	50	U
74-97-5	Bromochloromethane	50	U
71-55-6	1,1,1-Trichloroethane	50	U
563-58-6	1,1-Dichloropropene	50	U
56-23-5	Carbon Tetrachloride	50	U
71-43-2	Benzene	50	U
107-06-2	1,2-Dichloroethane	50	U
79-01-6	Trichloroethene	50	U
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	50	U
74-95-3	Dibromomethane	50	U
108-10-1	4-Methyl-2-pentanone	250	U
106-93-4	Ethylene Dibromide	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-88-3	Toluene	50	U
10061-02-6	Trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
591-78-6	2-Hexanone	250	U
127-18-4	Tetrachloroethene	50	U
124-48-1	Chlorodibromomethane	50	U
108-90-7	Chlorobenzene	50	U
630-20-6	1,1,1,2-Tetrachloroethane	50	U

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New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W0408-23
Method: 8260
Matrix: (soil/water) SOIL
Sample wt/vol: 10.0 (g/ml) G
% Moisture 0
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: Pare Corporation
Lab Sample ID: VBLK041111
Lab File ID: C041128.D
Date Sampled: 4/8/2011
Date Analyzed: 4/11/2011
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: UG/KG	Q
100-41-4	Ethylbenzene	50	U
1330-20-7	m & p-Xylene	100	U
95-47-6	o-Xylene	50	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U
98-82-8	Isopropylbenzene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-86-1	Bromobenzene	50	U
96-18-4	1,2,3-Trichloropropane	50	U
95-49-8	2-Chlorotoluene	50	U
103-65-1	n-Propylbenzene	50	U
108-67-8	1,3,5-Trimethylbenzene	50	U
106-43-4	4-Chlorotoluene	50	U
98-06-6	tert-Butylbenzene	50	U
95-63-6	1,2,4-Trimethylbenzene	50	U
135-98-8	sec-Butylbenzene	50	U
99-87-6	p-Isopropyltoluene	50	U
75-87-3	Chloromethane	50	U
75-65-0	tert butyl alcohol	50	U
541-73-1	1,3-Dichlorobenzene	50	U
109-99-9	Tetrahydrofuran	50	U
106-46-7	1,4-Dichlorobenzene	50	U
60-29-7	Diethyl Ether	50	U
104-51-8	n-Butylbenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
87-68-3	Hexachlorobutadiene	50	U
91-20-3	Naphthalene	50	U
87-61-6	1,2,3-Trichlorobenzene	50	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: Bartlet Pond, Lan

Lab Code: RI010 Case No.: W0408-23 SAS No.: Pare C SDG No.: Pare Corp

Level: (low/med) MED

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	LCS041111	98	104	110	0
02	LCSD041111	99	104	106	0
03	VBLK041111	91	98	97	0
04	SS#1	92	91	93	0

			QC LIMITS
SMC1	=	4-Bromofluorobenzene	(70-130)
SMC2	=	Toluene-D8	(70-130)
SMC3	=	1,2-Dichloroethane-D4	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D System Monitoring Compound diluted out

New England Testing Laboratory, Inc.

Volatile Organics LCS and LCSD Duplicate Results

LCS041111

Compound	LCS True Value	LCS Result	Recovery, %	LCSD True Value	LCSD Result	Recovery, %	Recovery QC Limits	Units	RPD, %	RPD Limits
Dichlorodifluoromethane	50	51.95	**104**	50	50.26	**101**	70-130%	ug/L	**3.3**	20.0
Chloromethane	50	47.63	**95**	50	45.94	**92**	70-130%	ug/L	**3.6**	20.0
Vinyl Chloride	50	51.85	**104**	50	50.04	**100**	70-130%	ug/L	**3.6**	20.0
Bromomethane	50	53.11	**106**	50	44.59	**89**	70-130%	ug/L	**17.4**	20.0
Chloroethane	50	46.57	**93**	50	41.44	**83**	70-130%	ug/L	**11.7**	20.0
Trichlorofluoromethane	50	45.36	**91**	50	40.91	**82**	70-130%	ug/L	**10.3**	20.0
1,1-Dichloroethene	50	52.15	**104**	50	49.08	**98**	70-130%	ug/L	**6**	20.0
Carbon Disulfide	50	52.75	**106**	50	48.22	**96**	70-130%	ug/L	**9.0**	20.0
Methylene Chloride	50	50.58	**101**	50	49.07	**98**	70-130%	ug/L	**3.0**	20.0
Acetone	50	50.2	**100**	50	48.48	**97**	70-130%	ug/L	**3.5**	20.0
Trans-1,2-dichloroethene	50	50.21	**100**	50	49.72	**99**	70-130%	ug/L	**1.0**	20.0
Tert-butyl Methyl Ether	50	52.2	**104**	50	50.32	**101**	70-130%	ug/L	**3.7**	20.0
Diisopropyl Ether	50	50.87	**102**	50	47.34	**95**	70-130%	ug/L	**7.2**	20.0
1,1-Dichloroethane	50	51.74	**103**	50	50.1	**100**	70-130%	ug/L	**3.2**	20.0
Ethyl Tery-butyl Ether	50	50.29	**101**	50	47.58	**95**	70-130%	ug/L	**5.5**	20.0
Cis-1,2-dichloroethene	50	51.18	**102**	50	50.69	**101**	70-130%	ug/L	**1.0**	20.0
2,2-Dichloropropane	50	47.9	**96**	50	48.22	**96**	70-130%	ug/L	**0.7**	20.0
Bromochloromethane	50	51.02	**102**	50	49.97	**100**	70-130%	ug/L	**2.1**	20.0
Chloroform	50	51.62	**103**	50	50.48	**101**	70-130%	ug/L	**2.2**	20.0
Carbon Tetrachloride	50	50.27	**101**	50	51.55	**103**	70-130%	ug/L	**2.5**	20.0
1,1,1-Trichloroethane	50	52.95	**106**	50	51.77	**104**	70-130%	ug/L	**2.3**	20.0
2-Butanone	50	57.18	**114**	50	53.61	**107**	70-130%	ug/L	**6.4**	20.0
1,1-Dichloropropene	50	53.96	**108**	50	51.77	**104**	70-130%	ug/L	**4.1**	20.0
Benzene	50	55.49	**111**	50	55.59	**111**	70-130%	ug/L	**0.2**	20.0
Tert-butyl Alcohol	50	48.58	**97**	50	55.62	**111**	70-130%	ug/L	**13.5**	20.0
Tert-amyl Methyl Ether	50	52.37	**105**	50	52.65	**105**	70-130%	ug/L	**0.5**	20.0
1,2-Dichloroethane	50	50.42	**101**	50	53	**106**	70-130%	ug/L	**5.0**	20.0
Trichloroethene	50	52.67	**105**	50	52.3	**105**	70-130%	ug/L	**0.7**	20.0
Dibromomethane	50	56.47	**113**	50	55.56	**111**	70-130%	ug/L	**1.6**	20.0
1,2-Dichloropropane	50	53.49	**107**	50	53.49	**107**	70-130%	ug/L	**0.0**	20.0
Bromodichloromethane	50	51.43	**103**	50	50.89	**102**	70-130%	ug/L	**1.1**	20.0
Cis-1,3-dichloropropene	50	53.41	**107**	50	51.5	**103**	70-130%	ug/L	**3.6**	20.0
2-CEVE	50	53.45	**107**	50	53.02	**106**	70-130%	ug/L	**0.8**	20.0
Toluene	50	53.47	**107**	50	51.85	**104**	70-130%	ug/L	**3.1**	20.0
4-Methyl-2-Pentanone	50	53.95	**108**	50	53.04	**106**	70-130%	ug/L	**1.7**	20.0
Tetrachloroethene	50	53.47	**107**	50	52.84	**106**	70-130%	ug/L	**1.2**	20.0
Trans-1,3-Dichloropropene	50	51.22	**102**	50	49.46	**99**	70-130%	ug/L	**3.5**	20.0
1,1,2-Trichloroethane	50	53.73	**107**	50	51.86	**104**	70-130%	ug/L	**3.5**	20.0
Dibromochloromethane	50	50.74	**101**	50	49.79	**100**	70-130%	ug/L	**1.9**	20.0
1,3-Dichloropropane	50	52.79	**106**	50	51.29	**103**	70-130%	ug/L	**2.9**	20.0
1,2-Dibromoethane	50	52.6	**105**	50	51.52	**103**	70-130%	ug/L	**2.1**	20.0
2-Hexanone	50	52.37	**105**	50	54.25	**109**	70-130%	ug/L	**3.5**	20.0
Chlorobenzene	50	52.97	**106**	50	52.73	**105**	70-130%	ug/L	**0.5**	20.0
Ethylbenzene	50	51.12	**102**	50	49.43	**99**	70-130%	ug/L	**3.4**	20.0
m,p-Xylene	100	101.08	**101**	100	102.77	**103**	70-130%	ug/L	**1.7**	20.0
1,1,1,2-Tetrachloroethane	50	50.2	**100**	50	49.95	**100**	70-130%	ug/L	**0.5**	20.0
o-Xylene	50	48.98	**98**	50	51.35	**103**	70-130%	ug/L	**4.7**	20.0
Styrene	50	48.94	**98**	50	49.97	**100**	70-130%	ug/L	**2.1**	20.0
Bromoform	50	47.84	**96**	50	49.36	**99**	70-130%	ug/L	**3.1**	20.0
Isopropylbenzene	50	48.85	**98**	50	49.26	**99**	70-130%	ug/L	**0.8**	20.0
Bromobenzene	50	49.41	**99**	50	50.97	**102**	70-130%	ug/L	**3.1**	20.0
n-Propylbenzene	50	48.66	**97**	50	49.09	**98**	70-130%	ug/L	**0.9**	20.0
1,1,2,2-Tetrachloroethene	50	46.41	**93**	50	54.41	**109**	70-130%	ug/L	**15.9**	20.0
2-Chlorotoluene	50	50.19	**100**	50	52.65	**105**	70-130%	ug/L	**4.8**	20.0
1,2,3-Trichloropropane	50	46.69	**93**	50	47.54	**95**	70-130%	ug/L	**1.8**	20.0
1,3,5-Trimethylbenzene	50	48.42	**97**	50	49.88	**100**	70-130%	ug/L	**3.0**	20.0
4-Chlorotoluene	50	51.19	**102**	50	53.19	**106**	70-130%	ug/L	**3.8**	20.0
Tert-butylbenzene	50	48.99	**98**	50	48.4	**97**	70-130%	ug/L	**1.2**	20.0
1,2,4-Trimethylbenzene	50	48.76	**98**	50	49.69	**99**	70-130%	ug/L	**1.9**	20.0
Sec-butylbenzene	50	48.56	**97**	50	51.28	**103**	70-130%	ug/L	**5.4**	20.0
p-Isopropyltoluene	50	49.83	**100**	50	49.4	**99**	70-130%	ug/L	**0.9**	20.0
1,3-Dichlorobenzene	50	51.03	**102**	50	50.64	**101**	70-130%	ug/L	**0.8**	20.0
1,4-Dichlorobenzene	50	52.43	**105**	50	52.15	**104**	70-130%	ug/L	**0.5**	20.0
n-Butyl Bezene	50	52.24	**104**	50	51.37	**103**	70-130%	ug/L	**1.7**	20.0
1,2-Dichlorbenzene	50	54.2	**108**	50	53.39	**107**	70-130%	ug/L	**1.5**	20.0
1,2-Dibromo-3-chloropr...	50	51.81	**104**	50	52.83	**106**	70-130%	ug/L	**1.9**	20.0
Hexachlorobutadiene	50	54.92	**110**	50	55.15	**110**	70-130%	ug/L	**0.4**	20.0
1,2,4-Trichlorobenzene	50	55.79	**112**	50	56.36	**113**	70-130%	ug/L	**1.0**	20.0
Naphthalene	50	54.71	**109**	50	55.13	**110**	70-130%	ug/L	**0.8**	20.0
1,2,3-Trichlorobenzene	50	53.36	**107**	50	54.46	**109**	70-130%	ug/L	**2.0**	20.0

W0408-23

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Ave.
North Providence, RI 02904
1-888-863-8522

CHAIN OF CUSTODY RECORD

PROJ. NO.: 10177.01

PROJECT NAME/LOCATION: BARTLET POND LANCASTER, MA

CLIENT: PARE

REPORT TO: tthies@parecorp.com

INVOICE TO: teet

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	RCRA 8	PCBs	PAHs	EPH	TPH	GRAIN SIZE	% H_2O, Volatile Solids	PESTICIDES	ATTACHED LIST OF HERB AND FUNG.	REMARKS
4/8	14:00	X		SS-1			X	4	NONE	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	4/8/11 4:26pm		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
		[signature]	4/8/11 4:28pm

Laboratory Remarks:
Temp. received: 3°C
Cooled ☐

Special Instructions:
List Specific Detection
Limit Requirements:

MCP STANDARD
DET. LIMITS

Turnaround (Business Days) STANDARD

CHEMICAL NAME	CAS NUMBER
[redacted]	87-86-5
DICAMBRA	62610-39-3
2,4-D	94-75-7
DICHLOROPROP	7547-66-2
[redacted]	94-74-6
	93-65-2
	1918-02-1
SILVEX	93-72-1
2,4,5-T	93-76-5
[redacted]	94128-04-8
DINOSEB	89396-94-1
2,4-DB	94-80-4
dalapon	