

# Remedial Action Selection Report

## Site No. V00178-8

Location:

Stuart Park Complex – Ultralife Battery  
2000 Technology Parkway  
Newark, New York

Prepared for:

Ultralife Corporation  
2000 Technology Parkway  
Newark, New York 14513



LaBella Project No. 209025

January 2010

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## 1.0 Introduction

This Remedial Action Selection (RAS) Report provides an evaluation of several potential remedies and selects a remedy for New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program (VCP) Site #V00178-8, which is located within 2000 Technology Parkway, located in the Village of Newark, Wayne County, New York, hereinafter referred to as "the Site." This RAS/RAWP were prepared in accordance with NYSDEC DER-10 and Section 7.0 of the Voluntary Cleanup Program Guide. A Project Locus Map is included as Figure 1.

The remedial actions were evaluated based on data obtained from a Final Investigation Report prepared by GeoQuest Environmental, Inc. (GeoQuest) dated December 2008. This RAS summarizes the findings of the Final Investigation Report for 2000 Technology Parkway; however, the Final Investigation Report should be referenced for greater details on these activities.

## 2.0 Background

The VCP Site consists of an approximate 14.24-acre portion of a larger (approximate 67-acre) tax parcel. The VCP Site and larger parcel are a manufacturing Site. The VCP Site is improved with one approximate 117,000-square foot building. In addition to the building, property improvements include parking lots, paved access roads, and paved loading/unloading areas. The remainder of the VCP Site consists of grass, landscaped areas, and undeveloped vegetated and wooded land. The facility is located in a zoned industrial park (the Stuart Park Complex) situated in a primarily agricultural/rural and residential area. Figure 2 is an aerial photograph of the Site and illustrates the general Site features. *[Note: As discussed with NYSDEC, the VCP Site boundary will be redefined based on the extent of the remedial work. A survey of the VCP Site boundary will be completed subsequent to the remedial work being completed and will be included in the Final Engineering Report.]*

Storm water runoff from the property (including some roof drains) discharges to two (2) outfalls. Outfall #1 is located on the northern portion of the property and Outfall #2 is located on the eastern portion of the property as shown on Figure 2. Outfall #1 previously received non-contact cooling water; however, the non-contact cooling water consisted only of potable water and was redirected to the sanitary sewer in September 2008. Runoff is directed to the outfalls via a series of on-site catch basins with associated underground conduits, and/or surface channels. Flow from the two (2) outfalls is directed to a wetland area, which eventually joins Marbletown Creek.

GeoQuest conducted an investigation to evaluate the nature and extent of contaminants of concern at the Site. Findings of GeoQuests Final Investigation Report include:

- previous underground wastewater storage vault remedial work was effective and no further remediation was recommended.
- soil types consist of topsoil, fill deposits, buried topsoil, a lacustrine deposit, and a glacial till deposit (no coal or ash was observed within test pits excavated).
- depth to groundwater varied between 0.5 and 6.55-feet below ground surface (BGS) with groundwater flow direction generally to the north.



- volatile organic compounds (VOCs) were not detected in photoionization detector (PID) headspace scans.
- two areas of sediment impacted with polycyclic aromatic hydrocarbons (PAHs) and heavy metals were identified (Outfall #1 and Outfall #2) and the nature and extent of such contaminants were delineated both on and off the defined VCP Site.
- the impacted sediments associated with the two (2) outfalls should be remediated. Specifically, the RI Report indicated that the drainage ditch of Outfall #1 was impacted from the discharge point to 200 ft. downgradient and the drainage ditch of Outfall #2 was impacted from the discharge point to 110 ft. downgradient.

For reference, figures 7 through 12 of the Final Investigation Report have been included in Appendix 1.

In a letter dated May 8, 2009 the NYSDEC approved the Final Investigation Report and requested a RAS Report and a Remedial Action Work Plan.

### 3.0 Objective

Pursuant to discussion with the NYSDEC, the objective of this RAS is to evaluate remedial alternatives and select an alternative to address the impacted sediments referenced above. It should be noted that the use of the Site will remain as is (i.e., industrial manufacturing). Remedial alternatives were evaluated based on the following criteria:

- 1.) *Overall Protection of Public Health and the Environment* - This criterion evaluates exposure and residual risks to human health and the environment during or subsequent to implementation of the alternative.
- 2.) *Compliance with SCGs* - This criterion evaluates whether the remedial alternative will ultimately result in compliance with SCGs, to the extent practicable.
- 3.) *Long-Term Effectiveness and Permanence* - This criterion evaluates if the remedy is effective in the long-term after implementation (e.g., potential rebound). In the event that residual impacts will remain as part of the alternative, then the risks and adequacy/reliability of the controls are also evaluated.
- 4.) *Reduction of Toxicity, Mobility, or Volume with Treatment* - This criterion evaluates the reduction of contaminant toxicity, mobility or volume as a result of the remedial alternative. In addition, the reversibility of the contaminant destruction or treatment is evaluated.
- 5.) *Short-Term Effectiveness* - This criterion evaluates if the remedial alternative protects the community, workers and the environment during implementation.
- 6.) *Implementability* - This criterion evaluates the remedial alternative based on its suitability, implementability at the specific site, and availability of services and materials that will be required.
- 7.) *Cost* - This criterion evaluates the capital, operation, maintenance, and monitoring costs for the remedial alternative. The estimated costs are presented on a present worth basis.

## 4.0 Remedial Action Objectives

Remedial action objectives (RAOs) are medium-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific standards, criteria, and guidance (SCGs) established by NYSDEC and/or New York State Department of Health (NYSDOH).

### Sediment RAOs

The RAOs for sediment used in this RAS are:

- NYSDEC Technical Guidance for Screening Contaminated Sediments (latest revision January 25, 1999).

## 5.0 Development of Remedial Alternatives

This section develops the remedial alternatives being considered for addressing the two (2) areas where impacts to sediment were identified for the Site and recommended in the Final Investigative Report for removal. The remedial alternatives evaluated for these areas are summarized below:

1. **No Action** – The no action alternative is included as a procedural requirement and as a baseline to evaluate other alternatives. Under this alternative, no further remedial or monitoring activities would occur. The outfall sediments would remain virtually as is.

Advantages – Materials are left in-place, and, therefore, will not significantly disturb and/or redistribute/migrate impacts downstream into an active ecosystem. This alternative does not create exposure potential to workers but does not comply with SCGs. In the short-term, additional sedimentation deposits may effectively 'cap' the contaminants and minimize any potential impacts to microorganisms, surface waters, the community, and workers. This alternative would be the most cost-effective.

Disadvantages – In the long-term this alternative allows for the impacts left-in-place to potentially impact the microorganisms, surface waters, the community, and workers through natural redistribution processes as many of the contaminants of concern at the Site are persistent within the environment. The potential also exists for contaminants to diffuse into surface waters.

2. **Removal of Sediment Impacts above SCGs within defined VCP Site Boundary** – Under this alternative, the sediment impacts above SCGs would be removed from the discharge points of the outfalls to approximately 40 ft. downgradient for Outfall #1 and 60 ft. downgradient for Outfall #2. These areas would be backfilled and restored to original condition.

Advantages – Removes sediment contamination above SCGs within the VCP Site Boundary, thus complying with SCGs within the VCP Site Boundary and eliminating the source of potential impacts to microorganisms, the community, the environment, workers, and surface waters. This alternative would be effective in the short and long-term for the removal areas.

Disadvantages – During removal action there is a potential for exposing workers to contaminants, and to inadvertently assist with migration of contaminants. However, a health and safety plan and properly implemented work plan should minimize these issues. The alternative would be more expensive and more difficult to implement than the No Action alternative.

- 3. Removal of Sediment Impacts above SCGs defined in the RI Report** – Under this alternative, the sediment impacts above SCGs would be removed as recommended in the RI Report (which was approved by NYSDEC). The sediment impacts would be removed from the discharge points of the outfalls to approximately 200 ft. downgradient for Outfall #1 and 110 ft. downgradient for Outfall #2. These areas would be backfilled and restored to original condition. This removal extent would warrant expand the VCA Boundary to include the removal areas.

Advantages – Removes all sediment contamination above SCGs with in the defined areas, thus eliminating the full nature and extent of potential impacts to the community, microorganisms, the environment, workers, and surface waters. This would be the most effective and permanent alternative in the short and long-term.

Disadvantages – Significant damage to a pre-existing, vibrant ecosystem could occur in the process of removing contaminated sediments. During removal action there is a potential for exposing workers to contaminants and to inadvertently assist with migration of contaminants. However, a health and safety plan and properly implemented work plan should minimize these issues. This alternative would be the most expensive to implement and would be the most difficult to implement at the Site.

Based on the above evaluation and discussions with NYSDEC and NYSDOH, the selected alternative for the Site is the Removal of Sediment Impacts above SCGs defined in the RI Report. A Remedial Action Work Plan should be developed to detail the implementation of the selected alternative.

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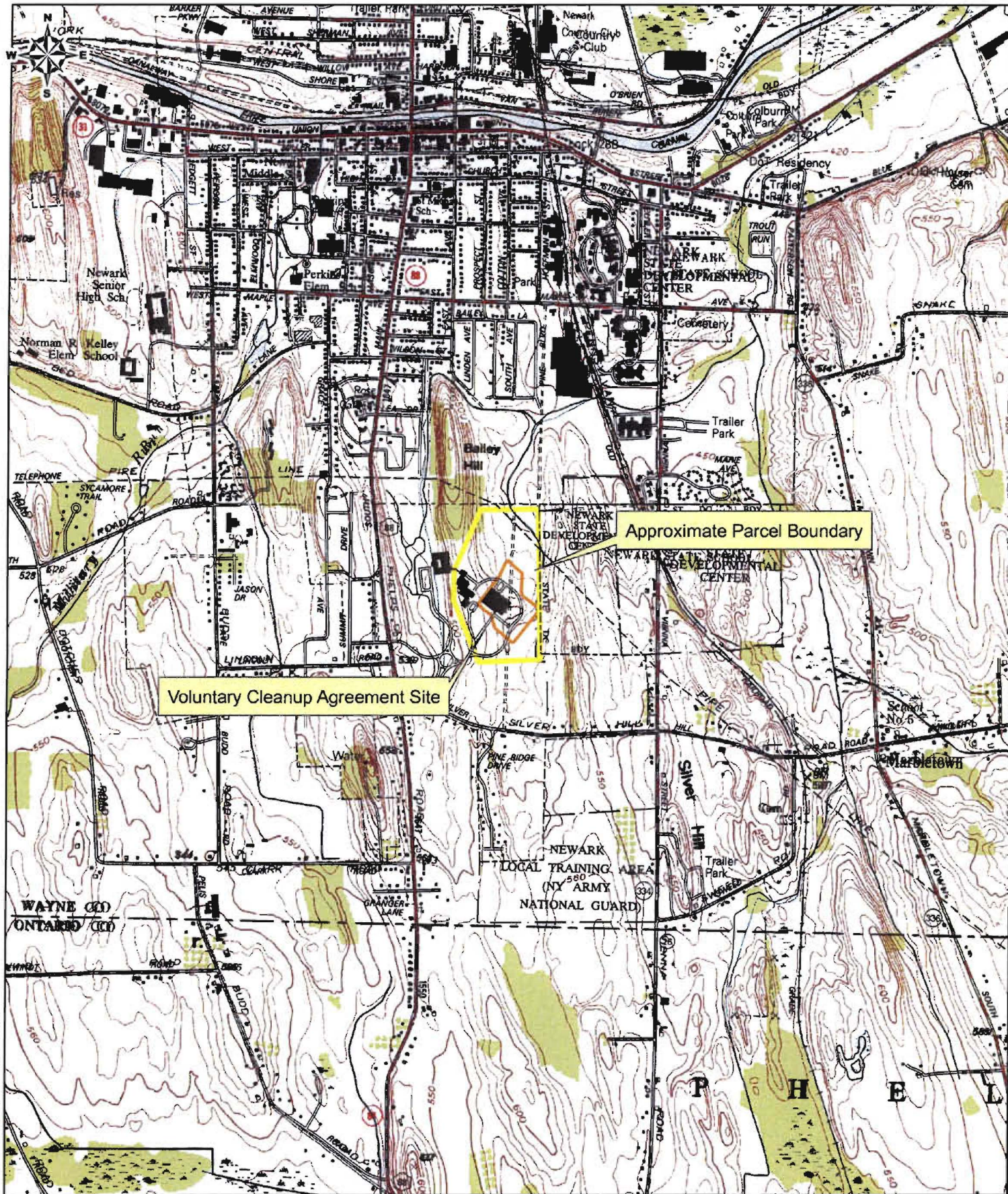
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300 State Street

Rochester, New York 14614

## Figures





V:\labelle Corporation\2009025\Drawings\Fig1\_USGS.mxd - 7/15/2009 @ 11:41:06 AM

PROJECT DRAWING NUMBER  
**[ 209025 ]**  
**[ FIGURE 1 ]**

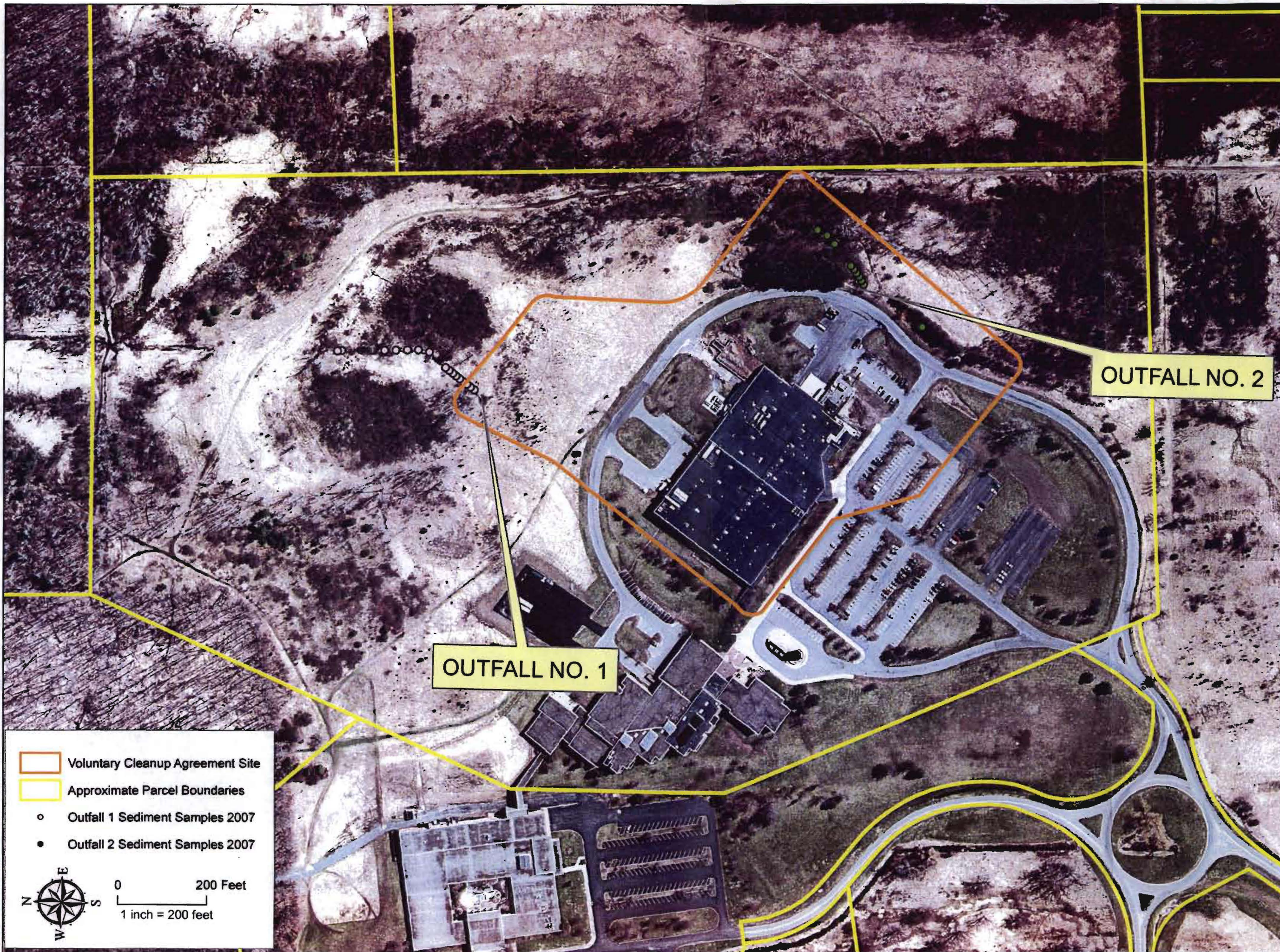
**SITE LOCATION WITH USGS  
 7.5 MINUTE TOPO MAP  
 NEWARK QUAD  
 1:24,438**

|              |                 |
|--------------|-----------------|
| DESIGNED FOR | RCN             |
| REVIEW       | RCN             |
| DATE 5/15/09 | REVIEWED BY DPN |

PROJECT CLIENT  
 Ultralife Batteries  
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Remedial Action Selection Report  
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**DRAWING TITLE**  
Outfall Locations and  
Approximate Parcel Boundaries

|              |           |
|--------------|-----------|
| DESIGNED BY: | RCN       |
| DRAWN BY:    | RCN       |
| CHECKED BY:  | DPN       |
| DATE:        | 3/13/2009 |

PROJECT/DRAWING NUMBER

[ 209025 ]  
[ FIGURE 2 ]



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## **Appendix 1**

Figures from GeoQuest Final Investigation Report



# PHASE 1

| OUTFALL #1 | SED 1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 10.0               | 12.0               |
| COPPER     | 81.8               | --                 |
| MANGANESE  | --                 | 826                |

| OUTFALL #1 | SED 2 (0.0-0.5 FT) | SED 2 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 21.2               | --                 |
| CADMIUM    | 2.1B               | --                 |
| CHROMIUM   | 32.6               | --                 |
| COPPER     | --                 | 56.5               |
| MANGANESE  | --                 | 518                |
| MERCURY    | 0.17B              | --                 |
| NICKEL     | 23.1               | --                 |
| SILVER     | 5.9                | --                 |

| OUTFALL #1 | SED 3 (0.0-0.5 FT) | SED 3 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 7.7                | --                 |
| COPPER     | --                 | 75.2               |
| LEAD       | 36.3               | --                 |
| SILVER     | 1.4B               | --                 |
| ZINC       | --                 | 185                |

| OUTFALL #1 | SED 4 (0.0-0.5 FT) | SED 4 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 32.7               | --                 |
| CADMIUM    | 0.60B              | --                 |
| COPPER     | --                 | 35.9               |
| MANGANESE  | --                 | 478                |

| OUTFALL #1 | SED 5 (0.0-0.5 FT) | SED 5 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 9.0                | 7.8                |
| CADMIUM    | 0.77B              | --                 |
| LEAD       | 40.3               | --                 |
| SILVER     | 1.1B               | --                 |

| OUTFALL #1 | SED 6 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| ARSENIC    | 9.1                |
| LEAD       | 47.0               |

| OUTFALL #1 | SED 7 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| ARSENIC    | 27.4               |
| CADMIUM    | 4.2B               |
| CHROMIUM   | 29.5               |
| SILVER     | 4.9B               |

| OUTFALL #1 | SED 8 (0.0-0.5 FT) | SED 8 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| CADMIUM    | 2.8B               | --                 |
| COPPER     | --                 | 28.0               |
| SILVER     | 3.6B               | --                 |

| OUTFALL #1 | SED 9 (0.0-0.5 FT) | SED 9 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | 14.7               | --                 |
| COPPER     | --                 | 55.7               |
| IRON       | 26,700             | --                 |
| LEAD       | 58.7               | --                 |
| MERCURY    | 0.18B              | --                 |
| MANGANESE  | 617                | --                 |



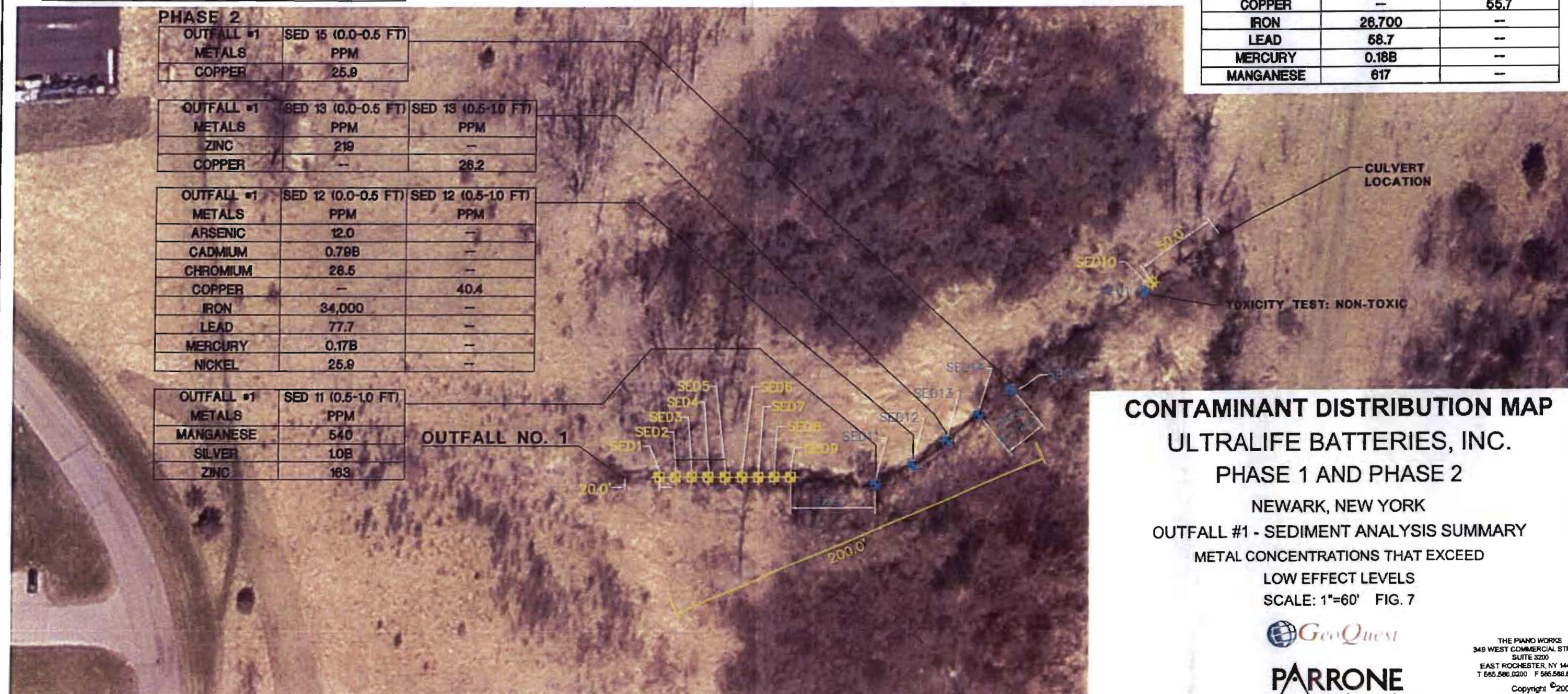
# PHASE 2

| OUTFALL #1 | SED 15 (0.0-0.5 FT) |
|------------|---------------------|
| METALS     | PPM                 |
| COPPER     | 25.9                |

| OUTFALL #1 | SED 13 (0.0-0.5 FT) | SED 13 (0.5-1.0 FT) |
|------------|---------------------|---------------------|
| METALS     | PPM                 | PPM                 |
| ZINC       | 219                 | --                  |
| COPPER     | --                  | 26.2                |

| OUTFALL #1 | SED 12 (0.0-0.5 FT) | SED 12 (0.5-1.0 FT) |
|------------|---------------------|---------------------|
| METALS     | PPM                 | PPM                 |
| ARSENIC    | 12.0                | --                  |
| CADMIUM    | 0.79B               | --                  |
| CHROMIUM   | 28.5                | --                  |
| COPPER     | --                  | 40.4                |
| IRON       | 34,000              | --                  |
| LEAD       | 77.7                | --                  |
| MERCURY    | 0.17B               | --                  |
| NICKEL     | 25.9                | --                  |

| OUTFALL #1 | SED 11 (0.5-1.0 FT) |
|------------|---------------------|
| METALS     | PPM                 |
| MANGANESE  | 540                 |
| SILVER     | 1.0B                |
| ZINC       | 163                 |



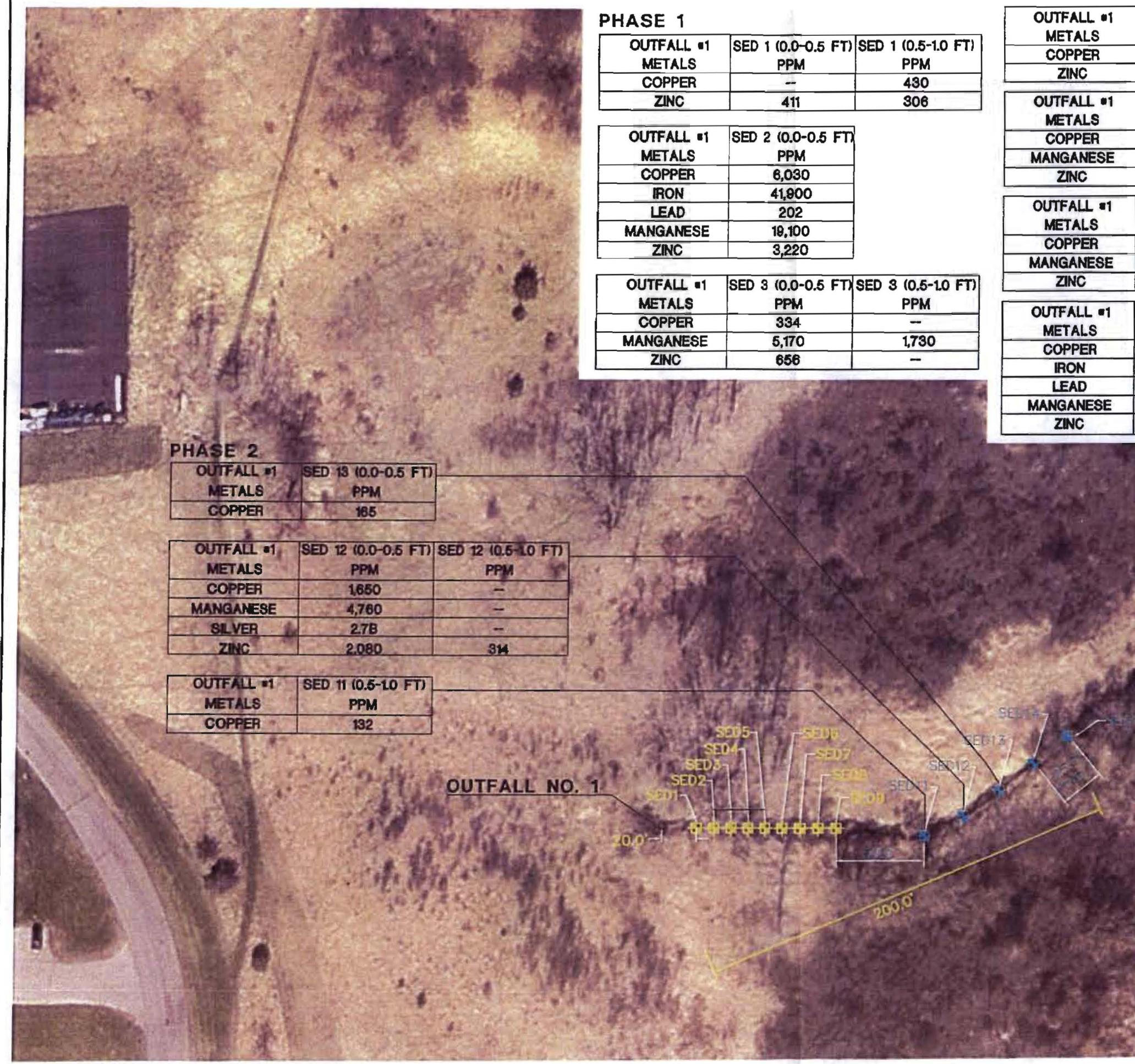
## CONTAMINANT DISTRIBUTION MAP ULTRALIFE BATTERIES, INC. PHASE 1 AND PHASE 2

NEWARK, NEW YORK  
OUTFALL #1 - SEDIMENT ANALYSIS SUMMARY  
METAL CONCENTRATIONS THAT EXCEED  
LOW EFFECT LEVELS  
SCALE: 1"=60' FIG. 7



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**PHASE 1**

| OUTFALL #1 | SED 1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| COPPER     | --                 | 430                |
| ZINC       | 411                | 306                |

| OUTFALL #1 | SED 2 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 6,030              |
| IRON       | 41,900             |
| LEAD       | 202                |
| MANGANESE  | 19,100             |
| ZINC       | 3,220              |

| OUTFALL #1 | SED 3 (0.0-0.5 FT) | SED 3 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| COPPER     | 334                | --                 |
| MANGANESE  | 5,170              | 1,730              |
| ZINC       | 656                | --                 |

| OUTFALL #1 | SED 4 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 952                |
| ZINC       | 503                |

| OUTFALL #1 | SED 5 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 543                |
| MANGANESE  | 2,810              |
| ZINC       | 651                |

| OUTFALL #1 | SED 6 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 280                |
| MANGANESE  | 2,040              |
| ZINC       | 426                |

| OUTFALL #1 | SED 7 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 12,100             |
| IRON       | 40,200             |
| LEAD       | 269                |
| MANGANESE  | 16,400             |
| ZINC       | 6,500              |

| OUTFALL #1 | SED 8 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| ARSENIC    | 35.6               |
| COPPER     | 9,870              |
| IRON       | 57,700             |
| LEAD       | 282                |
| MANGANESE  | 8,010              |
| ZINC       | 6,120              |

| OUTFALL #1 | SED 9 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 2,890              |
| ZINC       | 1,640              |

| OUTFALL #1 | SED 10 (0.0-0.5 FT) |
|------------|---------------------|
| METALS     | PPM                 |
| COPPER     | 126                 |

**PHASE 2**

| OUTFALL #1 | SED 13 (0.0-0.5 FT) |
|------------|---------------------|
| METALS     | PPM                 |
| COPPER     | 165                 |

| OUTFALL #1 | SED 12 (0.0-0.5 FT) | SED 12 (0.5-1.0 FT) |
|------------|---------------------|---------------------|
| METALS     | PPM                 | PPM                 |
| COPPER     | 1,650               | --                  |
| MANGANESE  | 4,760               | --                  |
| SILVER     | 2.78                | --                  |
| ZINC       | 2,080               | 314                 |

| OUTFALL #1 | SED 11 (0.5-1.0 FT) |
|------------|---------------------|
| METALS     | PPM                 |
| COPPER     | 132                 |

**CONTAMINANT DISTRIBUTION MAP**  
**ULTRALIFE BATTERIES, INC.**  
**PHASE 1 AND PHASE 2**

NEWARK, NEW YORK  
OUTFALL #1 - SEDIMENT ANALYSIS SUMMARY  
METAL CONCENTRATIONS THAT EXCEED  
SEVERE EFFECT LEVELS  
SCALE: 1"=60' FIG. 8



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## PHASE 1

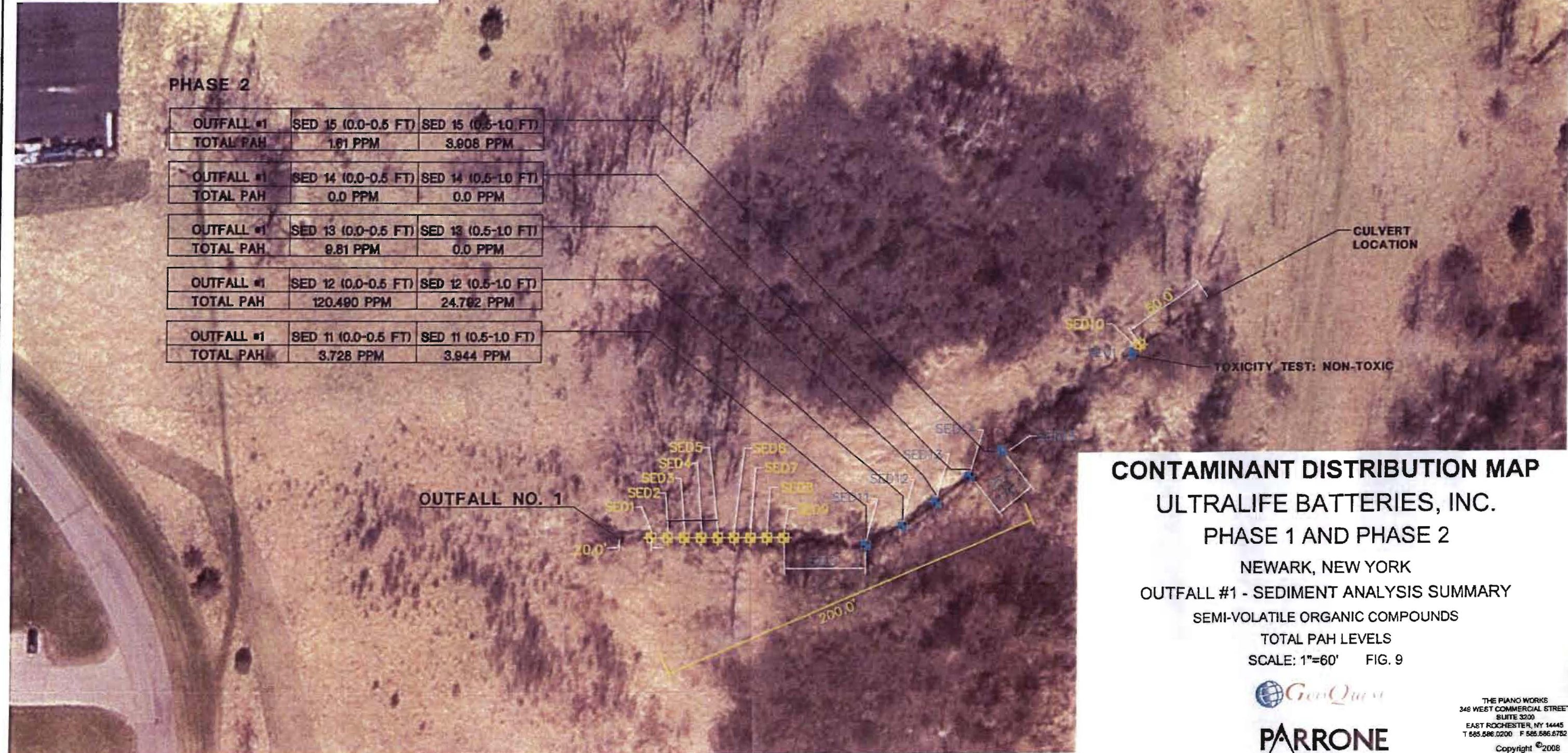
|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #1 | SED 1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
| TOTAL PAH  | 5,141,400 PPM      | 5,806,000 PPM      |
| OUTFALL #1 | SED 2 (0.0-0.5 FT) | SED 2 (0.5-1.0 FT) |
| TOTAL PAH  | 4,403,000          | 260,580 PPM        |
| OUTFALL #1 | SED 3 (0.0-0.5 FT) | SED 3 (0.5-1.0 FT) |
| TOTAL PAH  | 1,810,100 PPM      | 8,314,000 PPM      |
| OUTFALL #1 | SED 4 (0.0-0.5 FT) | SED 4 (0.5-1.0 FT) |
| TOTAL PAH  | 210,170 PPM        | 85,890 PPM         |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #1 | SED 5 (0.0-0.5 FT) | SED 5 (0.5-1.0 FT) |
| TOTAL PAH  | 331,800 PPM        | 3,167 PPM          |
| OUTFALL #1 | SED 6 (0.0-0.5 FT) | SED 6 (0.5-1.0 FT) |
| TOTAL PAH  | 417,000 PPM        | 31,500 PPM         |
| OUTFALL #1 | SED 7 (0.0-0.5 FT) | SED 7 (0.5-1.0 FT) |
| TOTAL PAH  | 877,800 PPM        | 100,370 PPM        |

|            |                     |                     |
|------------|---------------------|---------------------|
| OUTFALL #1 | SED 8 (0.0-0.5 FT)  | SED 8 (0.5-1.0 FT)  |
| TOTAL PAH  | 1,299,200 PPM       | 5,582 PPM           |
| OUTFALL #1 | SED 9 (0.0-0.5 FT)  | SED 9 (0.5-1.0 FT)  |
| TOTAL PAH  | 1,156,700 PPM       | 138,310 PPM         |
| OUTFALL #1 | SED 10 (0.0-0.5 FT) | SED 10 (0.5-1.0 FT) |
| TOTAL PAH  | 3,311 PPM           | 0.047 PPM           |

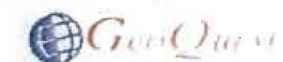
## PHASE 2

|            |                     |                     |
|------------|---------------------|---------------------|
| OUTFALL #1 | SED 15 (0.0-0.5 FT) | SED 15 (0.5-1.0 FT) |
| TOTAL PAH  | 1.61 PPM            | 3,908 PPM           |
| OUTFALL #1 | SED 14 (0.0-0.5 FT) | SED 14 (0.5-1.0 FT) |
| TOTAL PAH  | 0.0 PPM             | 0.0 PPM             |
| OUTFALL #1 | SED 13 (0.0-0.5 FT) | SED 13 (0.5-1.0 FT) |
| TOTAL PAH  | 9.81 PPM            | 0.0 PPM             |
| OUTFALL #1 | SED 12 (0.0-0.5 FT) | SED 12 (0.5-1.0 FT) |
| TOTAL PAH  | 120,490 PPM         | 24,762 PPM          |
| OUTFALL #1 | SED 11 (0.0-0.5 FT) | SED 11 (0.5-1.0 FT) |
| TOTAL PAH  | 3,728 PPM           | 3,944 PPM           |



## CONTAMINANT DISTRIBUTION MAP ULTRALIFE BATTERIES, INC. PHASE 1 AND PHASE 2

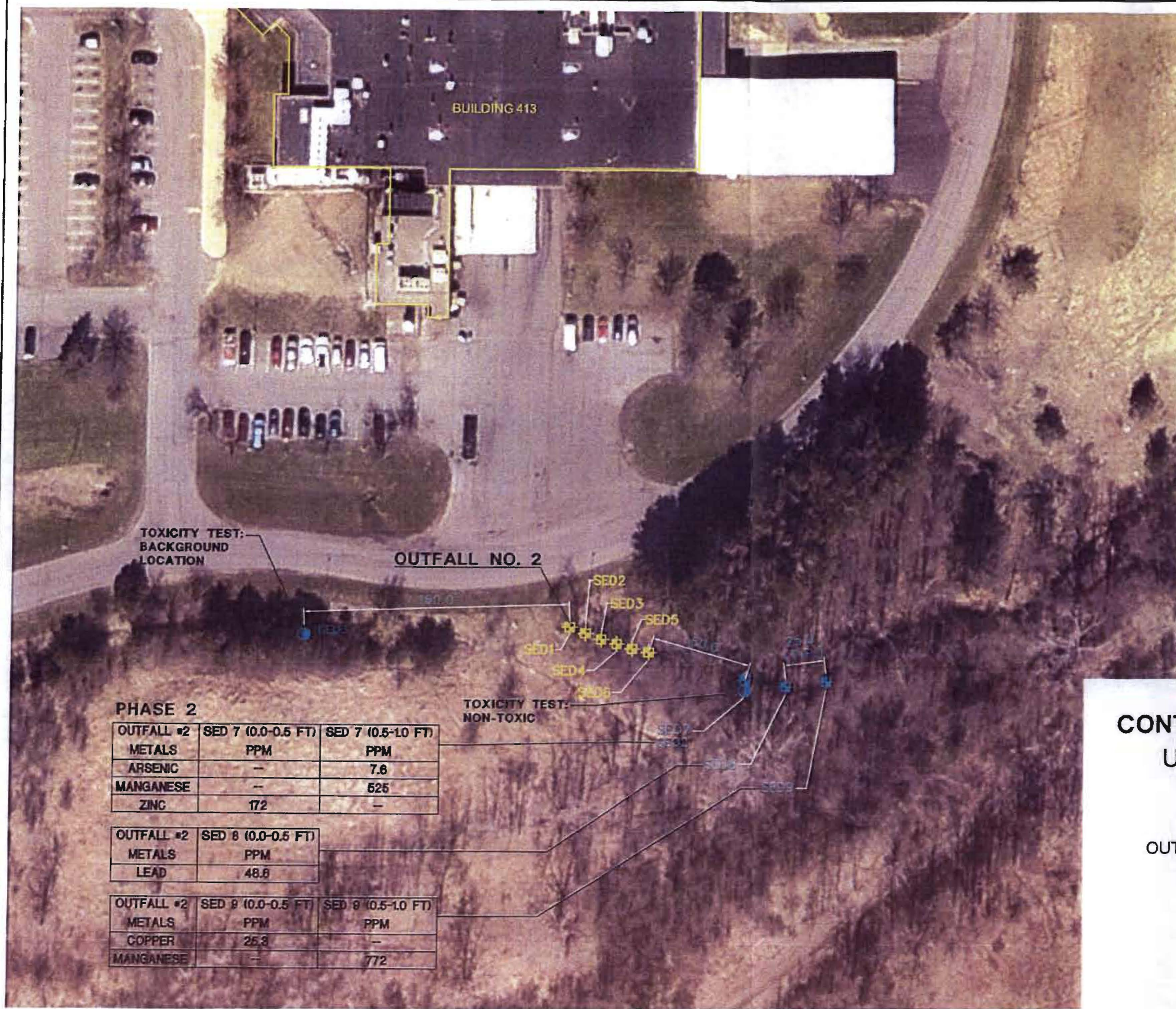
NEWARK, NEW YORK  
OUTFALL #1 - SEDIMENT ANALYSIS SUMMARY  
SEMI-VOLATILE ORGANIC COMPOUNDS  
TOTAL PAH LEVELS  
SCALE: 1"=60' FIG. 9



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# PHASE 1

| OUTFALL #2 | SED 1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ANTIMONY   | 2.3B               | --                 |
| ARSENIC    | 6.8                | --                 |
| CADMIUM    | 1.9B               | 0.82B              |
| CHROMIUM   | 35.0               | --                 |
| COPPER     | 89.9               | 29.5               |
| LEAD       | 76.7               | 41.3               |
| MANGANESE  | 1070               | --                 |
| NICKEL     | 21.5               | --                 |
| SILVER     | 12B                | --                 |

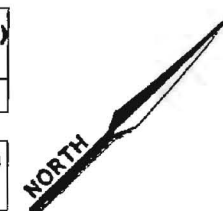
| OUTFALL #2 | SED 2 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| ZINC       | 155                |

| OUTFALL #2 | SED 3 (0.5-1.0 FT) |
|------------|--------------------|
| METALS     | PPM                |
| COPPER     | 16.2               |

| OUTFALL #2 | SED 4 (0.0-0.5 FT) | SED 4 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| COPPER     | --                 | 16.2               |
| MANGANESE  | 616                | 852                |

| OUTFALL #2 | SED 5 (0.0-0.5 FT) | SED 5 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| MANGANESE  | --                 | 496                |
| ZINC       | 156                | --                 |

| OUTFALL #2 | SED 6 (0.0-0.5 FT) | SED 6 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| MANGANESE  | 869                | 838                |
| ZINC       | --                 | 120                |



## PHASE 2

| OUTFALL #2 | SED 7 (0.0-0.5 FT) | SED 7 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ARSENIC    | --                 | 7.6                |
| MANGANESE  | --                 | 525                |
| ZINC       | 172                | --                 |

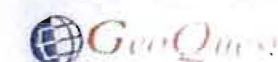
| OUTFALL #2 | SED 8 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| LEAD       | 48.6               |

| OUTFALL #2 | SED 9 (0.0-0.5 FT) | SED 9 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| COPPER     | 25.3               | --                 |
| MANGANESE  | --                 | 772                |

## CONTAMINANT DISTRIBUTION MAP ULTRALIFE BATTERIES, INC. PHASE 1 AND PHASE 2

NEWARK, NEW YORK  
OUTFALL #2 - SEDIMENT ANALYSIS SUMMARY  
METAL CONCENTRATIONS THAT EXCEED

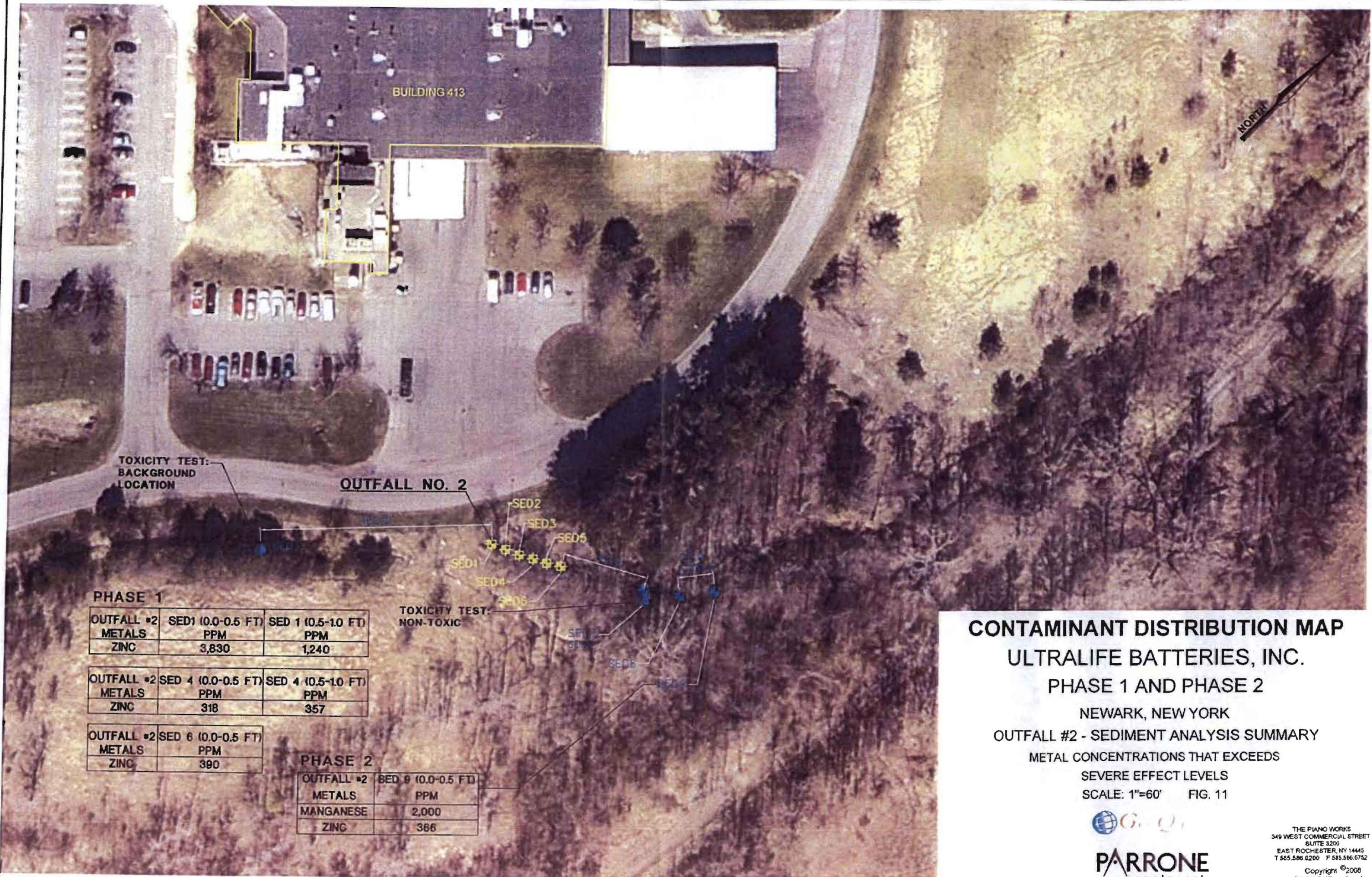
LOW EFFECT LEVELS  
SCALE: 1"=60' FIG. 10



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**PHASE 1**

| OUTFALL #2 | SED1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
|------------|-------------------|--------------------|
| METALS     | PPM               | PPM                |
| ZINC       | 3,830             | 1,240              |

| OUTFALL #2 | SED 4 (0.0-0.5 FT) | SED 4 (0.5-1.0 FT) |
|------------|--------------------|--------------------|
| METALS     | PPM                | PPM                |
| ZINC       | 318                | 357                |

| OUTFALL #2 | SED 6 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| ZINC       | 390                |

**PHASE 2**

| OUTFALL #2 | SED 9 (0.0-0.5 FT) |
|------------|--------------------|
| METALS     | PPM                |
| MANGANESE  | 2,000              |
| ZINC       | 366                |

**CONTAMINANT DISTRIBUTION MAP**  
**ULTRALIFE BATTERIES, INC.**  
**PHASE 1 AND PHASE 2**

NEWARK, NEW YORK  
OUTFALL #2 - SEDIMENT ANALYSIS SUMMARY  
METAL CONCENTRATIONS THAT EXCEEDS  
SEVERE EFFECT LEVELS  
SCALE: 1"=60' FIG. 11



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### PHASE 1

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 1 (0.0-0.5 FT) | SED 1 (0.5-1.0 FT) |
| TOTAL PAH  | 31.600 PPM         | 5.160 PPM          |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 2 (0.0-0.5 FT) | SED 2 (0.5-1.0 FT) |
| TOTAL PAH  | 42.050             | 2.623 PPM          |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 3 (0.0-0.5 FT) | SED 3 (0.5-1.0 FT) |
| TOTAL PAH  | 0.400 PPM          | 0.018 PPM          |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 4 (0.0-0.5 FT) | SED 4 (0.5-1.0 FT) |
| TOTAL PAH  | 13.520 PPM         | 11.940 PPM         |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 5 (0.0-0.5 FT) | SED 5 (0.5-1.0 FT) |
| TOTAL PAH  | 3.070 PPM          | 0.120 PPM          |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 6 (0.0-0.5 FT) | SED 6 (0.5-1.0 FT) |
| TOTAL PAH  | 4.030 PPM          | 1.182 PPM          |

### PHASE 2

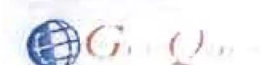
|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 7 (0.0-0.5 FT) | SED 7 (0.5-1.0 FT) |
| TOTAL PAH  | 2.421 PPM          | 0.0 PPM            |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 8 (0.0-0.5 FT) | SED 8 (0.5-1.0 FT) |
| TOTAL PAH  | 2.493 PPM          | 0.451 PPM          |

|            |                    |                    |
|------------|--------------------|--------------------|
| OUTFALL #2 | SED 9 (0.0-0.5 FT) | SED 9 (0.5-1.0 FT) |
| TOTAL PAH  | 61.120 PPM         | 1.730 PPM          |

## CONTAMINANT DISTRIBUTION MAP ULTRALIFE BATTERIES, INC. PHASE 1 AND PHASE 2

NEWARK, NEW YORK  
OUTFALL #2 - SEDIMENT ANALYSIS SUMMARY  
SEMI-VOLATILE ORGANIC COMPOUNDS  
TOTAL PAH LEVELS  
SCALE: 1"=60' FIG. 12



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