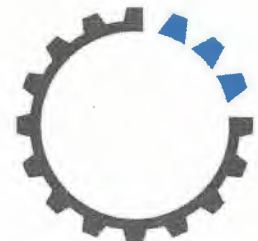


DRAFT REPORT

**Stormwater Management Report  
Roth Steel Facility  
Syracuse, New York**



**RothSteel**

October 2013



## TABLE OF CONTENTS

<b>List of Tables .....</b>	<b>ii</b>
<b>List of Figures.....</b>	<b>ii</b>
<b>List of exhibits.....</b>	<b>ii</b>
1 Introduction and Existing Conditions .....	1
1.1 Facility Operations .....	1
1.2 Existing Stormwater Runoff Patterns .....	2
1.3 Summary of Stormwater Sampling .....	2
2 Proposed Stormwater Management.....	5
2.1 Permitting Considerations .....	5
2.2 Stormwater Collection and Conveyance .....	5
2.3 Stormwater Treatment.....	6
2.4 Stormwater Discharge .....	7
2.5 Ongoing Best Management Practices .....	8
2.6 Proposed Best Management Practices .....	10
2.6 Monitoring.....	11
3 Environmental Investigation Considerations.....	12
4 Conclusions and Recommendations.....	13
4.1 Conclusions.....	13
4.2 Recommendations .....	13
References .....	14

## LIST OF TABLES

---

- 1 Stormwater Analytical Data
- 2 Estimated Discharge Rates for Various Size Storms
- 3 Infiltration Capacity Requirements

## LIST OF FIGURES

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- 1 Site Location Map
- 2 Existing Site Conditions
- 3 Stormwater Sampling Locations
- 4 General Site Plan

## LIST OF EXHIBITS

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- A. New York State Department of Environmental Conservation December 5, 2012 Letter
- B. Analytical Laboratory Data Packages

## 1 INTRODUCTION AND EXISTING CONDITIONS

This Stormwater Management Report was prepared in accordance with Consent Order D7-1015-11-04 (Consent Order) between Roth Steel Corporation and the New York State Department of Environmental Conservation (NYSDEC), dated December 28, 2007. Roth Steel Corporation operates a recycling facility (the Facility) at 800 Hiawatha Boulevard in the City of Syracuse, Onondaga County, New York (Figure 1). Among the requirements of the Consent Order was the development of a plan to manage stormwater at the Facility.

A letter from the New York State Department of Environmental Conservation (NYSDEC) dated December 5, 2012 (Exhibit A) describes the results of a Facility inspection of the Roth Steel Facility conducted by NYSDEC. The letter generally noted and recommended the following:

- The Facility does not have State Pollutant Discharge Elimination System (SPDES) permit coverage for stormwater discharges. Coverage under the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) was not considered by NYSDEC as applicable as the Facility “discharges” to an impaired waterbody on the 303(d) list (Onondaga Lake) and an individual permit would be required. However, the letter noted that coverage under the MSGP may be applicable if certain conditions could be met.
- A number of best management practices (BMPs) were recommended for consideration to address stormwater runoff.
- A water mass balance is to be performed.
- A Facility map showing water drainage should be developed and used to identify means to manage stormwater.
- Sampling of surface water should be performed and the water analyzed for various identified parameters.
- An engineering report is to be developed to address the management of stormwater at the facility.

This report addresses the items noted above and discusses control measures (including best management practices) which, if implemented, are expected to sufficiently minimize the discharge of pollutants from the Facility so that it qualifies for coverage under the multi-sector general permit. Following this introductory section, Section 2 presents the proposed stormwater management approach, Section 3 discusses impacts of an ongoing facility environmental investigation, and Section 4 presents current conclusions and recommendations for moving forward.

### 1.1 FACILITY OPERATIONS

The Roth Steel Facility is a metal recycling operation which started circa 1967 and is still currently in operation. Various articles of scrap metal, primarily automobiles, are brought to the Facility for recovery of ferrous and non-ferrous metals. The primary scrap metal input is from discarded automobiles which are shredded and processed to recover the metals. The Facility is located in an industrial/commercial area on the southern end of Onondaga Lake, in the City of Syracuse, Onondaga County, New York (Figure 1). The southern shore of Onondaga Lake was a primary location for salt production when the salt industry flourished in the Syracuse area. Construction of the Erie Canal led to a lowering of the Lake level and exposure of previously submerged land area. The Facility was constructed on fill placed over the exposed land.

An aerial photograph of the Facility depicting current site facilities and operating areas is presented as Figure 2. Scrap materials enter the facility via a truck entrance or a peddler entrance before being weighed at one of two scales located on both sides of the main office building. The primary scrap metal input is from automobiles which are shredded and processed to recover the metals. Automobiles brought on site are required to be drained of fluids (*e.g.*, gasoline, engine oil, transmission fluid, coolant) prior to arrival to minimize potential for spills. Automobiles not properly drained of fluids are rejected from the facility as discussed in the best management practices section (Section 2.5) of this report.

Automobiles are temporarily stored at various locations at the Facility before being shredded in the shredder, located on the north-central portion of the Facility. Following shredding the ferrous metal pieces are removed with magnets and accumulated on a nearby concrete pad. The non-metallic material and non-ferrous metals are accumulated in another pile. This pile is sent to an Eddy Current Sorter in which the non-ferrous metals are separated from the non-metallic materials, called automobile shredder residue (ASR). The ASR is accumulated in a covered building before being sent to another recycling facility for further material recovery or for disposal off-site. The ASR that is disposed is tested for polychlorinated biphenyls (PCBs) and heavy metals four times per year and the observed concentrations of these constituents are consistent with the manner in which the material is managed. The ASR is transported via trucks for landfill disposal and ferrous and non-ferrous metals are transported primarily via rail for recycling.

## 1.2 EXISTING STORMWATER RUNOFF PATTERNS

The Facility is bounded on the south by Hiawatha Boulevard, on the west by adjacent properties and on the northeast by the Syracuse Metropolitan Sewage Treatment Plant. The recently collected topographic information and field observations indicate that the surrounding roads and properties are generally higher than the Facility. These areas have no defined overland stormwater discharge or outfalls from the Facility and no major preferential flow pattern in any one particular direction.

Stormwater runoff on the eastern portion of the Facility ponds in numerous areas on the Facility and infiltrates and/or evaporates. Stormwater runoff from the western portion of the Facility generally accumulates in a low area to the south of the shredder. The shredder area is topographically the lowest area at the facility and is overlain with concrete. During periods of heavy rainfall water accumulates throughout the shredder area. This water is pumped to a nearby man-made pond that was created by placing a berm around an area at the facility. Water in this pond appears to evaporate or infiltrate into the ground. Across most of the Facility, gravel fill has been placed over time to address depressions and provide structural support to the underlying fill. Concrete has also been placed on the ground surface at various locations at the Facility.

There is no evidence of a storm sewer or open channel conveyance system either on or along the west and northeast perimeters of the Facility. There is a storm sewer system along Hiawatha Boulevard that is under the jurisdiction of the City of Syracuse. Given the lack of defined discharge points from the Facility, a meaningful model of existing stormwater runoff patterns could not be developed.

## 1.3 SUMMARY OF STORMWATER SAMPLING

A *Surface Water Sampling Plan* (O'Brien & Gere, February 12, 2013a) was prepared at the request of the NYSDEC in accordance with the December 2007 Consent Order. The request was made in the December 5, 2012 letter from NYSDEC to the Roth Steel Corporation. The objective of the sampling was to assess potential impacts to stormwater from Facility activities. As such, surface water samples were collected during two storm events in accordance with the procedures outlined in the approved sampling plan. Stormwater samples were collected from two locations during two qualifying storm events (defined below) at the Roth Steel Facility on June 6, 2013 and September 21, 2013.

### Sampling Locations

As noted previously, currently there are no defined stormwater outfalls at the Facility, so temporary collection systems were set up to assess the potential impact to stormwater from material staged on Site. These were set up at the Material Receiving Area (Figure 3) to evaluate stormwater from the material staged prior to shredding and the Post Shredding Materials Staging Area to evaluate stormwater from the shredded material.

### Qualifying Storm Event

Grab samples of stormwater were collected within the first hour of a qualifying storm event, which is defined as an event that meets the following criteria:

- Generates great than 0.1 inch of precipitation,
- Occurs at least 72 hours after the previously measurable (>0.1 inch of rainfall) storm event, and
- Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in the area.

### Event Specific Details

Samples were collected on June 6 and September 21, 2013 as discussed below.

#### June 6, 2013

The first storm water sampling event took place on June 6, 2013 and it had been approximately 7 days, 14 hours and 15 minutes since the previously measureable rainfall event. Rainfall was observed to begin at 08:35, and 0.1 inches of precipitation had fallen by 09:00. The event finished at approximately 23:50 and produced a total of 2.39 inches of rain. Rainfall amounts were recorded from the Onondaga County Department of Water Environment Protection weather station located immediately adjacent to Facility at the Syracuse Metropolitan Wastewater Treatment Plant. One sample was collected from the sampling locations as follows:

- Receiving area prior to shredding at 09:15
- Post shredding material staging area at 09:27.

In accordance with NYSDEC's December 5, 2012 letter, collected samples were analyzed by Test America Laboratories (located in Amherst, New York), an ELAP certified environmental laboratory, for the following parameters:

- |  |                  |
|--|------------------|
| • 5-day Biological Oxygen Demand (BOD <sub>5</sub> ) | Method SM 5210B  |
| • Chemical Oxygen Demand (COD)                       | Method 410.4     |
| • Total Suspended Solids (TSS)                       | Method SM 2549F  |
| • Settleable Solids                                  | Method SM 2540F  |
| • Total Priority Pollutant Metals                    | Method 6010B     |
| • Total Iron   | Method 6010B     |
| • PCBs   | EPA Method 8082  |
| • Volatile Organic Compounds (VOCs)                  | EPA Method 8260B |
| • Semi-Volatile Organic Compounds (SVOCs)            | EPA Method 8270C |
| • Mercury  | EPA Method 1631E |

#### September 21, 2013

The second stormwater sampling event took place on September 21, 2013. Rainfall was observed to begin at 15:15, and 0.1 inches of precipitation had fallen by 15:50. The event finished at approximately 20:30 and produced a total of 0.67 inches of rain. Filtered and unfiltered samples were collected from the receiving area prior to shredding. The filtering of the samples and adjustments to the analytical parameters were discussed with, and approved by, NYSDEC during an August 14, 2013 meeting. Samples could not be collected from the post shredding material staging area due to inadequate recoverable volume. Samples from the receiving area were collected as follows:

- Receiving area prior to shredding unfiltered at 15:55;
- Receiving area prior to shredding laboratory filtered (all analyses minus high resolution mercury) at 16:00; and
- Receiving area prior to shredding high resolution mercury field filtered at 16:02.

Laboratory filtered samples were filtered using a 0.45 $\mu$  filter. Due to holding time constraints, the high resolution mercury sample was filtered in the field using a 0.45 $\mu$  filter.

Rainfall amounts were again recorded from the Onondaga County Department of Water Environment Protection weather station located immediately adjacent to the Facility at the Syracuse Metropolitan Wastewater Treatment Plant.

Samples were collected for the same list of analyses as the June 6, 2013 event except that SVOCs were not analyzed and only BTEX were analyzed from among the VOCs, as approved by NYSDEC. Samples were collected in laboratory-provided containers and submitted to Test America Laboratories in Amherst, New York for analysis.

## Results

Results of the June 6 and September 21, 2013 sampling are presented on Table 1. These results were compared to the available Part VIII Sector N (Scrap Recycling and Waste Recycling Facilities) benchmarks contained in the NYSDEC SPDES Multi-sector General Permit for Stormwater Discharges associated with Industrial Activity (NYSDEC, 2012). They were also compared to infiltration standards provided by the NYSDEC (August 15, 2013 NYSDEC email from Sandy Lislov). Some of the parameters exceeded their respective benchmark as discussed below.

### Organics

Chemical Oxygen Demand (COD) was measured above the surface discharge threshold concentration value in both the June 2013 and September 2013 samples (both total and filtered samples). Among the 49 VOCs analyzed for, only acetone was detected but at a sufficiently low concentration that was reported as an estimate. Among the 65 SVOCs analyzed for, concentrations of detected compounds were relatively low with the highest being bis (2-ethylhexyl) phthalate at 100  $\mu\text{g}/\text{L}$ . The initial round of sampling in June 2013 identified PCB Aroclors at concentrations above infiltration and stormwater discharge concentration thresholds in the incoming material. However, in the June 2013 processed and both the September 2013 total and filtered samples these parameters were not detected above analytical detection limits. This demonstrates that chemical concentrations in facility stormwater is variable both temporally and spatially.

### Metals

Based on the sampling results, several metals exceed either infiltration or surface discharge concentration thresholds: aluminum, cadmium, copper, iron, lead, mercury and zinc. Based on the September 2013 sampling data, dissolved concentrations of copper, iron, and zinc exceeded surface discharge thresholds. The other metals are unfiltered values that exceeded the surface discharge threshold concentrations (lead and cadmium). The unfiltered mercury value (36.7 ng/L) was less than the surface discharge threshold concentration (50 ng/L). Overall, the incoming material is more impacted than the processed material and associated chemical concentrations were variable between the two sampling rounds. During the second round it was observed that and filtration does result in some improvement in chemical concentrations.

## 2 PROPOSED STORMWATER MANAGEMENT

### 2.1 PERMITTING CONSIDERATIONS

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater discharges from certain industrial activities from a point source are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York’s State Pollutant Discharge Elimination System (SPDES) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law (“ECL”). Facilities obtain permit coverage through either an individual industrial SPDES permit which addresses the stormwater discharges, obtain coverage under the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, or provide certification using the No Exposure Exclusion that industrial activities are not exposed to stormwater.

The SPDES general Multi- Sector General Permit (GP-0-12-001) for Stormwater Discharges Associated with Industrial Activities (MSGP) requires facilities to develop Stormwater Pollution Prevention Plans (SWPPPs) and report the results of industry-specific monitoring to the NYSDEC on an annual basis. Roth Steel believes that this permit applies to the Facility so long as the control measures and BMPs that are implemented are effective. These measures consider the control measure selection and design considerations set forth in Part I.B.1.a. of the MSGP. In addition, in evaluating and developing the control measures necessary to obtain coverage under the MSGP, additional requirement for stormwater discharges to impaired waterbodies were, and will be considered in accordance with Part III.F.4 of the MSGP.

The following control measures (including best management practices) may be selected, designed, installed, and implemented to meet applicable effluent limits, as appropriate:

- preventing stormwater from coming into contact with polluting materials;
- using control measures in combination rather than using control measures in isolation for minimizing pollutants in stormwater discharges;
- assessing the type and quantity of pollutants, including their potential to impact receiving water quality, to design effective control measures that will achieve the limits in the permit;
- minimizing impervious areas at the facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) which can reduce runoff and improve groundwater recharge; attenuating flow using open vegetated swales and natural depressions;
- conserving and/or restoring of riparian buffers to reduce erosion and improve water quality; and,
- using treatment interceptors (e.g., swirl separators and sand filters) in appropriate instances to minimize the discharge of pollutants.

### 2.2 STORMWATER COLLECTION AND CONVEYANCE

The General Site Plan provided as Figure 4 depicts a proposed layout of the Facility under future conditions. Stormwater runoff from the area of the Facility where storage of raw and finished materials and shredding operations take place is proposed to be directed to a stormwater collection area located adjacent to the current low area on the Facility. The stormwater collection area will consist of a lined pond, concrete structure or similar facility depending on subsurface soil conditions and groundwater levels. Figure 4 shows the limits of the work area that is anticipated to be directed to the collection area. Concrete and/or asphalt pavement will be installed, as necessary, within the work area and graded to direct stormwater runoff to the collection area. The collection facility may also be designed to provide for pretreatment of the stormwater. Berms and swales will be constructed around the perimeter of the work area to direct stormwater runoff away from the work area.



Stormwater runoff that accumulates in the collection area will be subject to treatment, as appropriate, prior to being discharged from the facility.

The following table provides a summary of the volumes and 24 hour discharge rates from the proposed approximately 7.1-acre work area for various design storms. The design of the facilities will address the 100-year storm event and convey flow to an appropriate discharge location including a potential treatment facility.

**Table 2. Estimated Discharge Rates for Various Size Storms**

Storm Return Frequency	Rainfall (1) (inches)	Volume (cu. ft.)	Volume (ac. ft.)	24 Hour Discharge Rate (cfs)	24 Hour Discharge Rate (gpm)
1-year	2.02	52,060	1.20	0.60	270
10-year	3.37	86,860	1.99	0.70	450
25-year	4.13	106,440	2.44	1.01	550
50-year	4.83	124,580	2.86	1.44	650
100-year	5.64	145,360	3.34	1.68	755

(1) Rainfall data from Northeast Regional Climate Center

Stormwater runoff from the remainder of the Facility will be addressed using best management practices. Stormwater runoff calculations will be prepared for each of the drainage subareas within the area served by the collection area as design of the project progresses. The facilities for the area outside of the work area will be designed to address runoff from the 100-year storm event and convey flow to appropriate discharge locations.

### 2.3 STORMWATER TREATMENT

Results (Table 1) of the stormwater sampling indicate that there are current exceedances of potentially applicable benchmarks. It is possible that there are various sources including dust blown from exposed surfaces onto stored materials at the facility. This could be addressed through implementation of control measures (e.g. paving) including BMPs. Nevertheless, it is possible that stormwater treatment may still be necessary to meet applicable target benchmarks.

Because the dissolved concentrations of copper, iron, and zinc are above surface discharge threshold concentrations, pH adjustment and chemical precipitation may be evaluated. This would involve bench-scale jar testing to identify minimum solubility pH values and then evaluating coagulation (i.e., addition of an inorganic or polymeric coagulant) and solids separation (gravity or filtration). An appropriate sized storm would be targeted and samples collected for treatability testing including an assessment of particle size distribution.

During testing, initial concentrations and potential removal of the other potential metals of concern (aluminum, cadmium, lead, and mercury) would be evaluated. Because parameters comprising chemical oxygen demand (COD) can often be removed using chemical precipitation, COD removal will be evaluated during this testing. In addition, because PCBs and bis(2ethylhexyl)phthalate can often be associated with (i.e., adsorbed to) inert solids, the concentration of these parameters would also be evaluated during this testing.

If the results of the pH adjustment and chemical precipitation testing shows concentrations of metals, COD, PCBs, or bis(2ethylhexyl)phthalate are not reduced to below threshold concentration values, adsorption would be considered as a polishing step to pH adjustment and chemical precipitation. This would involve batch isotherm testing using activated carbon (for COD, PCBs, and bis[2ethylhexyl]phthalate) and ion exchange or other adsorptive media for metals (e.g., likely cadmium and mercury if present after chemical precipitation).

Finally, a treatment flow rate would need to be established. Stormwater runoff from areas outside the work area will be directed to a variety of structures using best management practices. The structures are anticipated to include, for example, sediment traps, oil/water separators, vegetated swales and filter strips, and/or catch basin filters. The General Site Plan provides the location of conceptual best management practices for the

Facility. The selection of final best management practices would be completed as design of the project progresses.

**2.4 STORMWATER DISCHARGE**

The following is a discussion of a variety of alternatives investigated for managing stormwater from the work area. The alternatives consist of the following which are discussed further below:

- A. Discharge to City storm sewer system along Hiawatha Boulevard
- B. Discharge to infiltration basin
- C. Discharge to surface water
- D. Discharge to Syracuse Metropolitan Sewage Treatment Plant
- E. Reuse on-site

Alternative A

A 30-inch diameter storm sewer runs along Hiawatha Boulevard West and is under the jurisdiction of the City of Syracuse. The storm sewer discharges into the Barge Canal, located between the Destiny USA Mall and the Metropolitan Syracuse Wastewater Treatment Plant, through an outfall on its south bank. The available capacity within the storm sewer is limited as frequent flooding occurs at the intersection of Hiawatha Boulevard West and State Fair Boulevard. However, the City is preparing plans for improvements to Hiawatha Boulevard West including upgrades to the storm sewer system. Roth Steel is coordinating with the City during their design process to facilitate Roth’s discharge to the City storm sewer system as this is considered to be the preferred option for stormwater discharge.

Alternative B

Infiltration is currently one of the primary means of stormwater discharge at the facility and remains a potentially viable option. Management of stormwater through infiltration would consist of discharging stormwater that meets applicable standards to a strip of land located in the northwest corner of the Facility. The infiltration area would consist of a shallow depression capable of storing the targeted volume from the design storm. The area targeted for possible infiltration is approximately 30,445 square feet. The following table provides the depth of the storage area along with the required infiltration rate to discharge of the stormwater within a 24-hour period for various design storms.

Storm Return Frequency	Infiltration Area (sq. ft.)	Depth (ft.)	24 Hour Infiltration Rate (in.-hr.)
1-year	30,445	1.7	0.86
10-year	30,445	2.9	1.43
25-year	30,445	3.5	1.75
50-year	30,445	4.1	2.04
100-year	30,445	4.8	2.39

This alternative will be evaluated further to confirm its viability.

Alternative C

Other potential locations for surface water discharges were also investigated. The southeasterly boundary of the Facility is Hiawatha Boulevard West and is considered an alternative for a discharge to the storm sewer system as a “surface water” discharge. The southwesterly boundary of the Facility is the adjacent Cannon Tire site, which is private property and is hence not expected to be available for stormwater discharge. The northerly boundary of the Facility is the Metropolitan Syracuse Sewage Treatment Plant, which is owned by

Onondaga County and not available for stormwater discharge. A field investigation was completed along the strip of land located in the northwest corner of the Facility to find locations for surface water discharge. The investigation did not identify any defined stormwater discharge locations from the Facility. Stormwater could be pumped via a force main to the north side of the railroad tracks that are located along this area. However, this is not considered to be a viable alternative due to potential access issues with the railroad and discharge onto property not under the control of Roth Steel.

#### Alternative D

Discharge to the Metropolitan Syracuse Sewage Treatment Plant has been discussed previously with representatives of Onondaga County. The County has indicated that stormwater will not be accepted and as such, this is not considered to be a viable alternative.

#### Alternative E

Stormwater reuse would consist of using a portion of the stormwater in the shredder operation. The shredder uses approximately 20,000 gallons of water per week or 1.04 million gallons per year. The total annual volume of stormwater runoff assuming 40 inches of annual precipitation is approximately 7.71 million gallons per year. This is equal to a potential reuse of up to 13% of the annual stormwater runoff volume. The cost of potential treatment and other facilities required to allow the stormwater to be used in the shredding operation will need to be evaluated in order to consider this as a cost-effective option for stormwater disposal. This option will be considered in greater detail as the design of the project progresses.

## 2.5 ONGOING BEST MANAGEMENT PRACTICES

The following is a summary of the ongoing best management practices that are, and will continue to be, employed at the facility:

- **Absorbents and Floor Dry** – A ready supply of absorbent material is maintained at various locations across the facility to address potential spills.
- **Air Emissions** - Roth Steel has installed new pollution control equipment at the automobile shredder under the oversight of the NYSDEC. The purpose of this equipment is to address air emissions that may be produced during shredder operation. The new equipment is designed to optimize water use by supplying water as a function of electricity demand. As a result, water is vaporized or entrained in the shredder residue. There is no release of water in sufficient quantity to be recovered and disposed at the facility. Two Roth Steel employees are also being currently certified in determining emissions discharges.
- **Auto Fluff** - After vehicles have been drained and dismantled, the vehicle bodies to be salvaged are shredded. The metal pieces are then magnetically separated from the shreddings. The residue after picking is called "fluff." Auto fluff or automobile shredder residue (ASR) accumulates in a covered area before being sent to a recycling facility for further material recovery or is sent off-site for disposal. The fluff is tested periodically to confirm that it is being disposed properly. The fluff is tested for PCBs and heavy metals four times per year.
- **Incoming Cars** - Various articles of scrap metal, primarily automobiles, are brought to the facility for recovery of ferrous and non-ferrous metals. The primary scrap metal input is from old automobiles which are shredded and processed to recover the metals. It is required that automobiles brought on site be drained of fluids (e.g., gasoline, engine oil, transmission fluid, coolant, power steering fluid etc.) to prevent spills from these automobiles. It is required that gas tanks be punctured with several holes. Each scrap car entering the facility is checked for residual fluids. Scrap automobiles without a punctured gasoline tank or containing residual fluid are turned away from the facility and this is documented in an inspection log.
- **Inspections** - Main inspection is at the front gate, at this time the inspector records vehicle identification number (VIN) and does a visual inspection of the automobile. Once accepted the automobile is directed to the inspection pad area for additional inspection and removal of any unacceptable items. This confirms all fluids

and un-shreddable have been removed and the automobile is in compliance with the company scrap acceptance policies. Once completed the automobile is moved to the processing area for shredding.

- **Good Housekeeping** - Efforts are made to keep the facility in a clean, orderly manner. Daily inspections are conducted across the facility to identify areas that may need addressing.
- **Lead-Acid Batteries** - Lead-acid batteries that are spent or otherwise are not rechargeable are sent to a battery manufacturer or recycled. Batteries removed from the cars are stored in a covered building before being taken away to a battery recycling facility.
- **Lead Parts** - Lead is found in automobiles including its use as a counterweight on most vehicle tire rims and battery cable end. It is Roth Steel's policy that these counterweights and battery cables are to be removed from these automobiles prior to being brought to the Facility otherwise the item is not accepted or they are removed. Any other lead at the facility is accumulated and packaged for shipping off-site recycler.
- **Materials Safety Data Sheets** - A material safety data sheet (MSDS) is obtained from the manufacturer or vendor for each chemical product that is purchased for use at the facility. At Roth Steel, MSDSs are easily accessible to employees. The MSDSs are maintained in a yellow binder with red writing in the operations office of the facility and are periodically updated by one of the Operations Managers. The MSDSs are used to provide chemical hazard information. Important information includes:
  - » The physical and chemical properties of the hazardous substances contained in the product
  - » Spill clean-up instructions
  - » Health hazards and appropriate first aid
  - » Fire and explosion hazards
  - » Proper management and disposal practices.
- **Mercury Switches** - Mercury may be found in the hood or trunk light switches of a vehicle. Roth Steel carefully removes mercury switches remaining in scrapped automobiles and stores them in a leak-proof, closed container supplied by End of Life Solutions (ELVS). They are then sent to a licensed recycler ELVS who reclaims components that are known to contain mercury.
- **Parts Cleaning** - Parts are cleaned in a self-contained unit that offers little opportunity for spills and impacts to the surrounding area. Spent solvents are removed and replaced by an environmental service company (Safety Kleen) using a Milk-run type recycling service. In this type of service the user is usually supplied with the necessary equipment, as well as solvent, which is picked up and replaced by the recycler on a scheduled basis.
- **Spills** - Roth Steel maintains a supply of spill control equipment and absorbent materials at various locations across the facility (Figure 4). These include brooms, shovels and dustpans to pick up clean-up material and containers to hold spill waste. Spill equipment also includes catch pans, 55-gallon drums, shovels, brooms, absorbent material (e.g., speedi-dry), spill socks, boom pads, hay and "boots." There are also fire extinguishers and safety equipment for employees (including hearing protection, gloves and safety glasses). Spill containment measures are then implemented and the General Manager informed, followed by the NYSDEC, as appropriate. There are no storm drain catch basins to be covered. The spill is contained through the use of available materials such as hay, speedi-dry and surrounded with temporary containment, as appropriate. The material is collected by Environmental Products and Services of Vermont, Inc. (the spill contractor) and removed for disposal.
- **Security** - Security measures include fencing, lighting, onsite traffic control, and securing of equipment and buildings. Fencing around the facility prevents the unknowing entry of vehicles onto the property when the gates are closed. These measures are taken to prevent possible illegal dumping, fires, spills, theft and personal injury on the property. Roth Steel maintains 24-hour security at its facility.

- **Tires** - The vast majority of cars brought to the Roth Facility are without tires. Tires that do accumulate at the facility are removed on a monthly basis and transported to a permitted waste-tire processor.
- **Training** - Supervisory personnel at the facility are trained in the following:
  - » Preventive measures
  - » Spill/leak identification and assessment
  - » Initial spill response
  - » Notification of management
  - » Notification of outside agencies (when appropriate)
  - » Cleanup equipment and methods
  - » Required monitoring and inspections.

New employees are trained upon hire in safe work procedures. Monthly training sessions are held on various topics. Employees have had training in PCB component recognition and stormwater pollution prevention. Right-to-know safety meetings are also held on an as needed basis. There are also Institute of Scrap Recycling Industries (ISRI) videos on various topics (e.g. radioactive scrap) that are shown monthly to employees as part of employee training. Stormwater training is performed annually on topics such as spill response, good housekeeping and material management practices.

- **Windshield Washing Fluid** - As noted previously, fluids need to be removed from vehicles brought to the Roth Steel Facility prior to being accepted.

## 2.6 PROPOSED BEST MANAGEMENT PRACTICES

The November 16, 2012 letter from the NYSDEC recommended that a variety of best management practices be evaluated (highlighted in ***bold italics*** below) to address stormwater runoff from the Facility. Following each recommended BMP is a discussion of its applicability:

- ***Construction of stormwater containment structures within a 30-foot perimeter of: shears, balers, shredders, grinders, screeners and conveyors. The water balance is to be used in the design of these structures.***

Stormwater runoff from the area where storage of raw and finished materials and shredding operations take place will be isolated and the stormwater directed to a collection facility and then conveyed to a stormwater treatment facility, if necessary, prior to discharge from the Facility.

- ***Construction of containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials.***

Concrete and/or asphalt pavement will be installed within the work area and berms and swales will be constructed around the perimeter to direct stormwater runoff away from the work area.

- ***Paving the ground in the entire shredder and downstream area and installation of drainage structures.***

These improvements will be put in place as part of the stormwater management plan implementation.

- ***Installation of permanent or semi-permanent covers over areas where materials are transferred, stored or stockpiled.***

The ASR is stored in a covered building. The provision of covers over other work areas is considered impractical due to the height of equipment and material stockpile areas. There may be some opportunities to cover some of the Facility operations and this will continue to be evaluated as the stormwater management plan is developed further.

- **Consolidation of processing activities to an area that is covered and bermed with impermeable concrete surfaces equipped with a drainage collection system.**

The Facility Plan shows the area of the Facility where site operations will be consolidated onto a concrete/paved area. Stormwater from this area would drain to a collection system.

- **Construction of sediment traps, oil/water separators, vegetated swales and strips, catch basin filter and sand filters to facilitate settling or filtering of sediments.**

These measures will be implemented, as appropriate, to treat stormwater from areas of the Facility outside of the work area where stormwater is not impacted by the Facility operations.

- **Use and maintenance of silt and/or other fencing around light material processing to prevent migration of lightweight material such as foam by wind and stormwater runoff.**

These measures will continue to be considered as the plan is developed.

- **Ground surface must be cleaned/swept at the end of each shift to prevent dirt and debris from being tracked to other areas.**

This activity will be incorporated into the plan as it is developed for areas amenable to sweeping.

- **Inventory control of automobile shredder residue (ASR) wastes and scrap metal, including a disposal plan for ASR that minimizes Facility storage time.**

Accumulated ASR on the Facility has been removed and measures have been implemented to minimize the accumulation of currently generated ASR.

## 2.6 MONITORING

Monitoring would need to be performed on a periodic basis, depending upon the requirements established for the Facility. For example, monitoring in accordance with applicable requirements of the SPDES Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity (GP-0-12-001) would include quarterly visual monitoring and annual dry weather flow monitoring. If stormwater discharges into the municipal storm sewer, periodic monitoring of the outfalls would be conducted to comply with SPDES requirements. This includes annual benchmark monitoring as specified in Parts IV and VIII of the permit. Samples would be analyzed for total suspended solids (TSS), chemical oxygen demand (COD), oil and grease, aluminum, cadmium, copper, chromium, iron, lead, zinc, mercury, polychlorinated biphenyls (PCBs) and benzene, toluene, ethylbenzene and xylenes (BTEX). Results of the benchmark monitoring would be compared to requirements in Table VIII-N-1 of the SPDES Multi-Sector General Permit for Stormwater. Appropriate corrective action would be taken, depending upon the analytical results obtained for the stormwater samples.

### 3 ENVIRONMENTAL INVESTIGATION CONSIDERATIONS

The site geology/hydrogeology and environmental conditions at the facility have been investigated previously. The overburden deposits encountered at the facility consist of anthropogenic fill overlying native deposits. The upper portion of the fill consists of poorly sorted gravel-sized material with lesser quantities of sand and silt. The lower portion of the fill consists of Solvay process waste, which is a white to light grey, silt-size granular material with relatively soft consistency. The top of the Solvay waste deposit was found between 8 and 12 ft below grade across most of the site. In some areas, there is a 2- to 4-ft thick transition zone above the Solvay waste in which the Solvay waste has been intermixed with the overlying gravel and sand.

Shallow groundwater exists in unconfined conditions within the fill materials. The surface of the saturated zone (i.e. the water table) exists generally in the gravel and sand fill or in the transition zone between the Solvay waste and the gravel and sand fill. Groundwater appears to flow to the northwest, toward Onondaga Lake however, a mounding condition appears to be present in the vicinity of the on-site surface pond where groundwater flow is likely radial.

Between 2008 and 2013, a soil and groundwater investigation was performed at the Facility. The results of the investigation are presented in the *Site Investigation Report* (O'Brien & Gere, 2013b). The predominant contaminants identified were PCBs and various metals. As would be expected in a metal recovery yard, metals were detected in all of the soil/fill samples. Constituents identified in groundwater that were above applicable criteria were generally limited to selected metals and VOCs. Samples from the three most down gradient wells collected in 2013 did not contain PCBs or SVOCs.

It is anticipated that the contaminants identified in the subsurface in and around the Facility will be addressed primarily via institutional and engineering controls. However, since many of the engineering controls are anticipated to also serve as stormwater control measures, the remedial design must be finalized and coordinated with the final stormwater engineering plan.

## 4 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 CONCLUSIONS

The main conclusions of this report are as follows:

- A site plan showing proposed stormwater control measures has been developed, stormwater disposal options evaluated and stormwater sampling performed.
- Due to the nature of the facility and its operations, active control measures, including BMPs, need to be implemented to improve stormwater quality. If unsuccessful, some degree of treatment is anticipated but the treatment capacity for this site and setting may be limited. A rigorous flow management approach would need to be developed to address the stormwater including a re-visit of the option to discharge to Onondaga County's Syracuse Metropolitan Sewage Treatment Plant.
- The MSGP applies to the Facility so long as the control measures and BMPs proposed herein are implemented and are effective.
- Based on a review of stormwater management alternatives, collection and discharge (with possible pre-treatment, if necessary) to the City of Syracuse storm sewer system appear to be the most feasible option. If requests to Onondaga County continue to be unsuccessful, infiltration remains the second most viable option.
- A phased program is necessary to facilitate further data collection and treatability testing, coordination with NYSDEC and design, planning and implementation of a viable stormwater management program.
- Approvals for the proposed remedial activities and the stormwater control measures must be coordinated among the NYSDEC programs currently involved at the Facility.

### 4.2 RECOMMENDATIONS

The following activities are recommended:

- Coordination with the City of Syracuse to establish the capacity and schedule for improvements of the storm sewer along Hiawatha Boulevard. A discharge location for the stormwater would need to be in place before collection and other measures are implemented.
- Tracking of storms followed by collection and treatability testing of representative stormwater samples to further evaluate treatment, as appropriate.
- Re-visit Onondaga County to again explore the potential option of discharging pre-treated water to the County's Syracuse Metropolitan Sewage Treatment Plant
- Evaluation of infiltration potential for all or a portion of the stormwater at a wooded location down gradient of the facility.
- Integration of natural water control measures such as plants (e.g. willows) that facilitate evapotranspiration, to the extent feasible.
- Integration of the extent and schedule for environmental remediation that may be planned for the Facility.
- Coordination with the NYSDEC to finalize a plan, design and implement the stormwater program with an acceptable schedule. Once a viable plan is sufficiently defined, estimated costs would be developed for use in further evaluation and project planning.



## REFERENCES

---

NYSDEC (2012). *New York State Department of Environmental Conservation SPDES Multi- Sector General Permit for Stormwater Discharges Associated with Industrial Activity (GP-0-12-001)*, September 28, 2012 .

O'Brien & Gere (2013a). *Surface Water Sampling Plan* – Roth Steel Corporation, Syracuse, New York.

O'Brien & Gere (2013b). *Draft Site Investigation Report* – Roth Steel Corporation, Syracuse, New York.



TABLE 1  
Roth Steel Site - Syracuse, NY  
Stormwater Analytical Data

DRAFT

Analyte	Infiltration Guideline	Stormwater Benchmark	Jun-13		Sep-13	
			Incoming-01	Shredded -02	Incoming Unfiltered	Incoming Filtered
<b>GENERAL CHEMISTRY</b>						
Total Suspended Solids (mg/L)	NA	100	370	22.8	62.4	ND
Settleability (mL/L/Hr)	NA	NA	8.5	0.2 H	0.2	ND H
Biological Oxygen Demand (mg/L)	NA	NA	68.9 b	9.8 Hb	498 H b	359 Hb
Chemical Oxygen Demand (mg/L)	NA	120	269	100	2320	1120
<b>PCBs (ug/L)</b>						
Aroclor 1242		0.2	0.79	ND	ND	ND
Aroclor 1248		0.2	ND	ND	ND	ND
Aroclor 1254		0.2	0.58	ND	ND	ND
Aroclor 1260		0.2	ND	ND	ND	ND
Total PCBs	0.09		1.37	ND	ND	ND
<b>SVOCs (ug/L)</b>						
2,4,5-Trichlorophenol	NA	NA	ND	ND	Not Analyzed	
2,4,6-Trichlorophenol			ND	ND		
2,4-Dichlorophenol			ND	ND		
2,4-Dimethylphenol			ND	ND		
2,4-Dinitrophenol			ND	ND		
2,4-Dinitrotoluene			ND	ND		
2,6-Dinitrotoluene			ND	ND		
2-Chloronaphthalene			ND	ND		
2-Chlorophenol			ND	ND		
2-Methylnaphthalene			ND	ND		
2-Methylphenol			ND	0.6 J		
2-Nitroaniline			ND	ND		
2-Nitrophenol			ND	0.6 J		
3,3'-Dichlorobenzidine			ND	ND		
3-Nitroaniline			ND	ND		
4,6-Dinitro-2-methylphenol			ND	ND		
4-Bromophenyl phenyl ether			ND	ND		
4-Chloro-3-methylphenol			ND	ND		
4-Chloroaniline			ND	ND		
4-Chlorophenyl phenyl ether			ND	ND		
4-Methylphenol			ND	6.9 J		
4-Nitroaniline			ND	ND		
4-Nitrophenol			ND	ND		
Acenaphthene			ND	ND		
Acenaphthylene			ND	ND		
Acetophenone			0.87 J	1.6 J		
Anthracene			ND	ND		
Atrazine			ND	ND		
Benzaldehyde			0.64 J	0.44 J		
Benzo[a]anthracene			ND	ND		
Benzo[a]pyrene			ND	ND		
Benzo[b]fluoranthene			ND	ND		
Benzo[g,h,i]perylene			ND	ND		
Benzo[k]fluoranthene			ND	ND		
Biphenyl			ND	ND		
Bis(2-chloroethoxy)methane			ND	ND		
bis(2-chloroisopropyl)ether			ND	3.1 J		
Bis(2-chloroethyl)ether			3 J	3.1 J		
Bis(2-ethylhexyl) phthalate			100	2.1 J		
Butyl benzyl phthalate			ND	4.3 J		
Caprolactam	ND	24				
Carbazole	ND	ND				
Chrysene	ND	ND				
Dibenz[a,h]anthracene	ND	ND				
Dibenzofuran	ND	ND				
Diethyl phthalate	ND	6.1				
Dimethyl phthalate	ND	2.3 J				
Di-n-butyl phthalate	0.36 J	2.3 J				
Di-n-octyl phthalate	16 J	ND				
Fluoranthene	ND	ND				
Fluorene	ND	ND				
Hexachlorobenzene	NA	NA				
Hexachlorobutadiene	ND	ND				
Hexachlorocyclopentadiene	ND	ND				
Hexachloroethane	ND	ND				
Indeno[1,2,3-cd]pyrene	ND	ND				
Isophorone	ND	0.91 J				
Naphthalene	ND	ND				
Nitrobenzene	ND	ND				
N-Nitrosodi-n-propylamine	ND	ND				
N-Nitrosodiphenylamine	ND	0.55 J				
Pentachlorophenol	ND	7.9 J				
Phenanthrene	0.78 J	0.68 J				
Phenol	ND	4.7				
Pyrene	0.7 J	ND				

TABLE 1  
Roth Steel Site - Syracuse, NY  
Stormwater Analytical Data

DRAFT

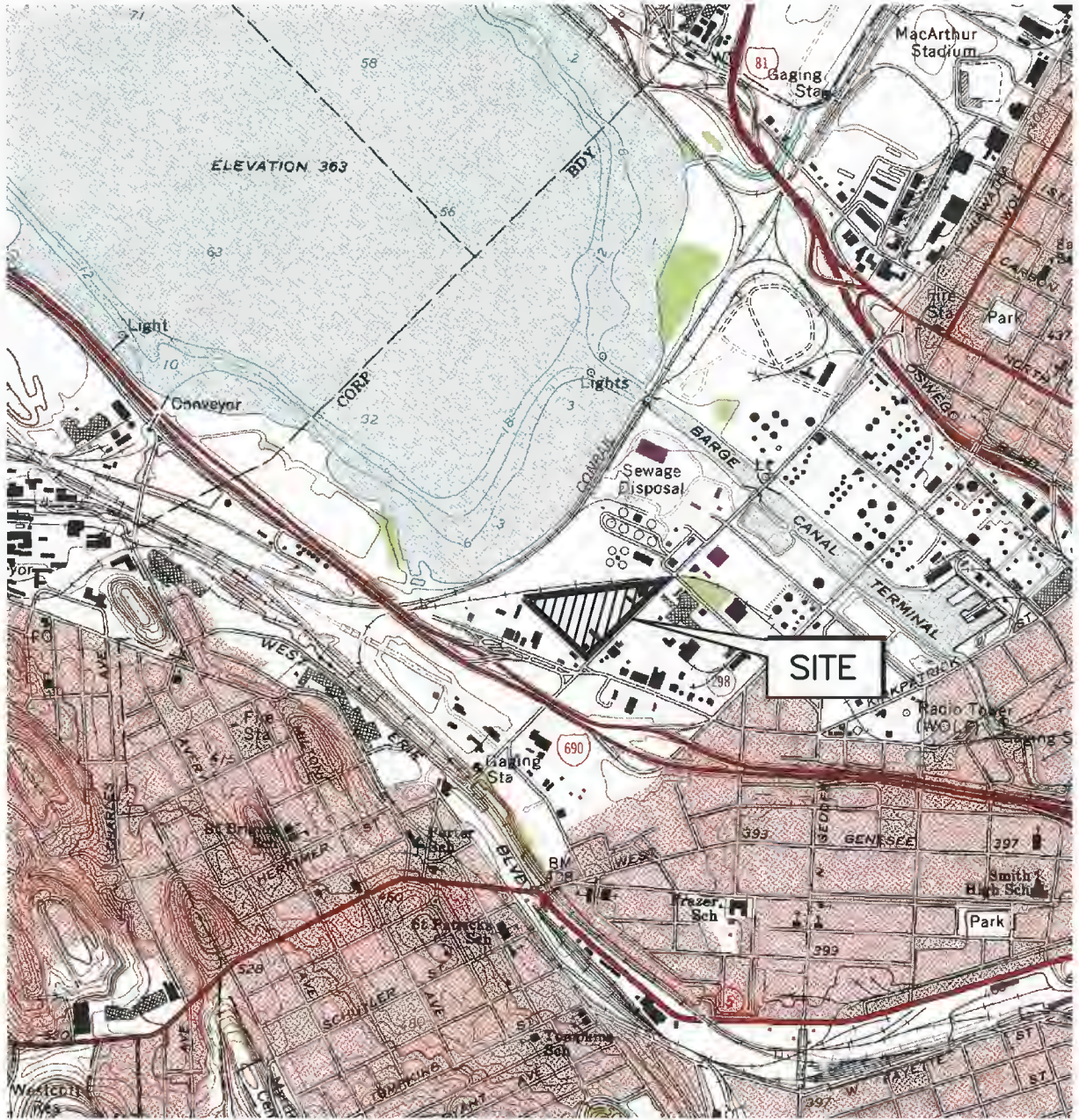
Analyte	Infiltration Guideline	Stormwater Benchmark	Jun-13			Sep-13					
			Incoming-01	Shredded -02	Incoming Unfiltered	Incoming Filtered					
VOCs (ug/L)											
1,1,1-Trichloroethane	NA	NA	ND	ND	Not Analyzed						
1,1,2,2-Tetrachloroethane			ND	ND							
1,1,2-Trichloroethane			ND	ND							
1,1,2-Trichlorotrifluoroethane			ND	ND							
1,1-Dichloroethane			ND	ND							
1,1-Dichloroethene			ND	ND							
1,2,4-Trichlorobenzene			ND	ND							
1,2-Dibromo-3-chloropropane			ND	ND							
1,2-Dibromoethane (EDB)			ND	ND							
1,2-Dichlorobenzene			ND	ND							
1,2-Dichloroethane			ND	ND							
1,2-Dichloroethene, Total			ND	ND							
1,2-Dichloropropane			ND	ND							
1,3-Dichlorobenzene			ND	ND							
1,4-Dichlorobenzene			ND	ND							
2-Butanone (MEK)			ND	ND							
2-Hexanone			ND	ND							
4-Methyl-2-pentanone (MIBK)			ND	ND							
Acetone			50	J				ND			
Benzene			1	50				ND	ND	ND	ND
Bromodichloromethane	NA	NA	ND	ND	Not Analyzed						
Bromoforn			ND	ND							
Bromomethane			ND	ND							
Carbon disulfide			ND	ND							
Carbon Tetrachloride			ND	ND							
Chlorobenzene			ND	ND							
Chlorodibromomethane			ND	ND							
Chloroethane			ND	ND							
Chloroform			ND	ND							
Chloromethane			ND	ND							
cis-1,2-Dichloroethene			ND	ND							
cis-1,3-Dichloropropene			ND	ND							
Cyclohexane			ND	ND							
Dichlorodifluoromethane			ND	ND							
Ethylbenzene			5	50				ND	ND	ND	ND
Isopropylbenzene	NA	NA	ND	ND	Not Analyzed						
Methyl Acetate			ND	ND							
Methyl tert-Butyl Ether			ND	ND							
Methylcyclohexane			ND	ND							
Methylene Chloride			ND	ND							
Styrene			ND	ND							
Tetrachloroethene			ND	ND							
Toluene	5	50	ND	ND	ND	ND					
trans-1,2-Dichloroethene	NA	NA	ND	ND	Not Analyzed						
trans-1,3-Dichloropropene			ND	ND							
Trichloroethene			ND	ND							
Trichlorofluoromethane			ND	ND							
Vinyl chloride			ND	ND							
Xylenes, total	5	50	ND	ND	ND	ND					
Metals (mg/L)											
Aluminum	2	0.75	3.5	B	0.11	0.95	0.12				
Antimony	NA	NA	0.18	ND		0.038	0.038				
Arsenic			0.0073	J	ND	0.0097	J	0.0067	J		
Beryllium	0.01	0.0018	ND	ND		ND	ND				
Cadmium			0.014	0.0053		0.0036	0.001				
Chromium			1.8	0.088	0.0017	J	0.018	0.009	B		
Copper			1	0.012	0.38	0.0077		0.19	0.12		
Iron			0.6	1	85.6	B	5.4	B	13.3	1.6	B7
Lead			0.05	0.069	0.23		0.014	0.14	0.064		
Mercury			0.0014	0.00005	0.00026		0.000024	0.0000367	2.29E-05		
Nickel			NA	NA	0.1	0.0089	J	0.036	0.021		
Selenium					ND	ND		ND	ND		
Silver					ND	ND		0.0069	ND		
Thallium	ND	ND				ND	ND				
Zinc	5	0.11			13.6		12	2.3	1.3	B	

NOTES:

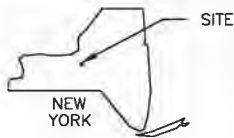
- B Compound was found in the blank and sample.
- J Result < RL but ≥ MDL; concentration is an approximate value.
- B7 Target analyte detected in method blank ≥ method reporting limit.
- H Sample was prepped or analyzed beyond the specified holding time
- b Result Detected in the Unseeded Control blank (USB).
- NA Not applicable
- ND Not detected



FIGURE 1



ADAPTED FROM: SYRACUSE WEST QUADRANGLE, NEW YORK U.S.G.S. 7.5 MIN. QUAD



QUADRANGLE LOCATION

ROTH STEEL  
HIAWATHA BLVD.  
SYRACUSE, NEW YORK

SITE LOCATION MAP



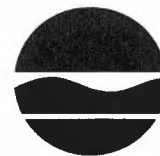
# New York State Department of Environmental Conservation

## Division of Water, Region 7

615 Erie Boulevard West, Syracuse, New York 13204-2400

Phone: (315) 426-7500 • Fax: (315) 426-7459

Website: [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

December 5, 2012

Mr. George Stanton, CEO  
Roth Steel Corp.  
800 Hiawatha Blvd.  
Syracuse, NY 13204

### **Re: Stormwater Water Management Report**

Dear Mr. Stanton:

On September 19, 2012, Department staff visited the Roth Steel site. The purpose of our site visit was to familiarize Division of Water staff with the site and determine an appropriate path forward to address stormwater.

The Department remains concerned that the site stormwater is infiltrating in to the ground and causing a contravention of groundwater standards in violation of Article 17 of the Environmental Conservation Law. One of the compliance items in the December 28, 2007 consent order was the development and implementation of a proper plan to manage stormwater. Previous plans were pursued but none were viable and able to be implemented. Since the 2007 consent order began effective, representatives from Roth and the Department have met on several occasions to discuss stormwater management. Department staff has noted in these discussions that the existing groundwater contamination on the Roth site is a violation of Article 17 and remains a concern that must be addressed. The uncontrolled stormwater discharges from site operations, including runoff from uncovered process materials and stockpiles of automobile shredder fluff, must be controlled to prevent further contamination.

Based on the Department's September 19, 2012 inspection, it is imperative that the Department receive a final engineering report containing a stormwater management plan that is both approvable and implementable. The Department will use sampling data and the stormwater management plan contained in the engineering report to determine the appropriate SPDES permit coverage requirements for the site.

The site visit followed Roth's August 27, 2012 submittal of a preliminary stormwater plan. This plan is not approvable as submitted. It is now necessary to submit a sampling plan and an approvable engineering report. We note that some of these items were discussed with your consultant and attorney during the site visit.

- 1. Surface Water Sampling Plan.** By January 4, 2013, Roth must submit six copies of a surface water sampling plan to this office. The plan shall describe the sampling procedures and include a site map that identifies proposed surface water sampling locations. The sample locations must be representative of stormwater runoff and areas

prone to ponding. Upon Department approval, Roth must sample these locations at least twice following a qualifying storm event. Samples shall be taken as grab samples and must be collected within the first hour of the storm event. Samples should be analyzed for 5-day Biological Oxygen Demand (BOD<sub>5</sub>), Chemical Oxygen Demand (COD), total suspended solids, settleable solids, total priority pollutant metals, total iron, PCBs, Volatile Organic Compounds (VOCs), and Semi-Volatile Organic Compounds (SVOCs). The mercury analysis must be done using EPA Method 1631. If Roth has already conducted surface water sampling, please submit this information to this office upon receipt of this letter.

A qualifying storm event is defined as meeting the following criteria:

- a. Greater than 0.1 inches;
- b. At least 72 hours from the previously measurable (> 0.1 inches rainfall) storm event; and
- c. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area.

**2. Stormwater Management Engineering Report.** By May 15, 2013, please submit the stormwater management engineering report for review and approval. The report must be stamped and signed by a New York State Professional Engineer and include the following items.

- a. **Water Balance.** The report must include a water mass balance. The mass balance must consider all water inputs to the facility, including stormwater and potable water; all water usage at the facility, including site dust control, water usage by the shredder, and cooling water; and all water outputs, including site drainage, evaporation, storage, and groundwater infiltration. The mass balance must be determined for 1 year, 10 year, and 100 year storm events. Site runoff should be modeled using a model such as TR 55 or equivalent. Water drainage should be shown on a site map.
- b. **Best Management Practices (BMPs) and Stormwater Management.** The purpose of the draft report was to provide a concept for managing stormwater water. The report proposed a retention pond; however, the basis for the proposal was insufficient. Further, the report did not propose any BMPs to prevent pollutants from either being discharged to surface waters or infiltrating into the ground. The final plan needs to look at several practices including, but not limited to the following:
  - a. Construction of a stormwater water containment structure within a 30 foot perimeter of the following fixed equipment: shears, balers, shredders, grinders, screeners and conveyors. The water balance requested in Item #2a should be used in the design of the containment structure;
  - b. Construction of containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading these to minimize contact of stormwater water runoff with outdoor processing equipment or stored materials;



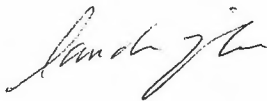
- c. Paving the ground in the entire shredder and downstream area and installation of drainage structures;
- d. Installation of permanent or semi-permanent covers over areas where materials are transferred, stored, or stockpiled;
- e. Consolidation of processing activities to an area that is covered and bermed with impermeable concrete surface equipped with a drainage and collection system;
- f. Construction of sediment traps, oil/water separators, vegetated swales and strips, catch basin filters and sand filters to facilitate settling or filtering of sediments;
- g. Use and maintenance of silt and/or other fencing around light material processing to prevent migration lightweight materials such as foam by wind and stormwater runoff;
- h. Ground surface must be cleaned/swept at the end of each shift to prevent dirt and debris from being tracked to other areas: and
- i. Inventory control of automobile shredder residue (ASR) wastes and scrap metal, including a disposal plan for ASR that minimizes site storage time;

The report must recommend the practices for Roth to implement. Finally, the report must contain an implementation schedule.

Please note that on October 1, 2012, the Department issued the revised Multi-Sector General Permit (MSGP) for Stormwater Water Discharges Associated with Industrial Activity. The revised MSGP includes special conditions related to discharges to impaired waterbodies that may preclude coverage of the Roth Steel site under the MSGP. If that is determined to be the case, the site may need to be covered by an individual SPDES permit.

As discussed above, by January 4, 2013, please submit to this office for review and approval six copies of the proposed surface water sampling plan. By May 15, 2013, please submit the stormwater management engineering report for review and approval. Feel free to contact this office should there be any questions.

Sincerely,



Sandra Lizlovs, PE  
Environmental Engineer II

cc: K. Jaglal, O'Brien and Gere Engineers  
D. Zamelis, Esq.  
B. McGinn, Esq., NYSDEC  
M. Peachey, NYSDEC

K. Cahill, NYSDEC  
T. DiGuilio, NYSDEC  
S. Perrigo, NYSDEC  
H. Warner, NYSDEC  
J. Zalewski, NYSDEC

*Analytical  
Data Packages*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo  
10 Hazelwood Drive  
Amherst, NY 14228-2298  
Tel: (716)691-2600

TestAmerica Job ID: 480-39662-1

Client Project/Site: Roth Steel Sampling Project  
Revision: 1

For:

O'Brien & Gere Inc of North America  
PO BOX 4873  
Syracuse, New York 13221

Attn: Mr. Kendrick Jaglal



Authorized for release by:  
8/16/2013 8:46:20 AM

Lisa Shaffer, Project Manager I  
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Designee for

Melissa Deyo, Project Manager I  
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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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7

8

9

10

11

12

13

14

15



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	6
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	28
Lab Chronicle . . . . .	31
Certification Summary . . . . .	33
Method Summary . . . . .	34
Sample Summary . . . . .	35
Chain of Custody . . . . .	36
Receipt Checklists . . . . .	39

## Definitions/Glossary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1



### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

#### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

#### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Case Narrative

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Job ID: 480-39662-1**

**Laboratory: TestAmerica Buffalo**

Narrative

Job Narrative  
480-39662-1

### Revision

This report has been revised to include Iron and Aluminum.

### Receipt

The samples were received on 6/7/2013 1:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

### GC/MS VOA

Method 8260B: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: Roth-Incoming-01 (480-39662-1) and Roth-Shredded-02 (480-39662-2). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

### GC/MS Semi VOA

Method 8270C: The following sample was diluted to bring the concentration of target analytes within the calibration range: Roth-Incoming-01 (480-39662-1 DL). Elevated reporting limits (RLs) are provided.

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 123210 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 123210 was outside control limits.

No other analytical or quality issues were noted.

### GC Semi VOA

Method 8082: The following sample contained more than one Aroclor component: Roth-Incoming-01 (480-39662-1). Results are estimated due to shared peaks.

Method 8082: The following sample was diluted due to the nature of the sample matrix: Roth-Shredded-02 (480-39662-2). As such, surrogate recoveries are not representative and elevated reporting limits (RLs) are provided.

Method 8082: All primary data was reported from the ZB-35 column.

Method 8082: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

Method 8082: The surrogate percent difference in the following continuing calibration verifications (CCV) for Decachlorobiphenyl was decreased and slightly exceeded 15% on the ZB-35 column, indicating a low bias: (CCV 480-122905/24), (CCV 480-122905/36) and (CCV 480-122905/41).

No other analytical or quality issues were noted.

### Metals

No analytical or quality issues were noted.

### General Chemistry

Method SM 2540D: Due to the matrix, the initial volume used for the following sample deviated from the standard procedure: Roth-Incoming-01 (480-39662-1). The reporting limits (RLs) have been adjusted proportionately.

Method SM 5210B: For batch 122749, the unseeded blank (USB) dilution water dissolved oxygen depletion was greater than 0.2 mg/L but less than the reporting limit of 2.0 mg/L. The associated sample results are reported.



## Case Narrative

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

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### Job ID: 480-39662-1 (Continued)

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#### Laboratory: TestAmerica Buffalo (Continued)

No other analytical or quality issues were noted.

#### Organic Prep

No analytical or quality issues were noted.

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## Detection Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	50	J	100	30	ug/L	10		8260B	Total/NA
Acetophenone	0.87	J	4.9	0.52	ug/L	1		8270C	Total/NA
Benzaldehyde	0.64	J	4.9	0.26	ug/L	1		8270C	Total/NA
Bis(2-ethylhexyl) phthalate	97	E	4.9	1.7	ug/L	1		8270C	Total/NA
Di-n-butyl phthalate	0.36	J	4.9	0.30	ug/L	1		8270C	Total/NA
Di-n-octyl phthalate	14		4.9	0.46	ug/L	1		8270C	Total/NA
Phenanthrene	0.78	J	4.9	0.43	ug/L	1		8270C	Total/NA
Pyrene	0.70	J	4.9	0.33	ug/L	1		8270C	Total/NA
bis (2-chloroisopropyl) ether - DL	3.0	J	24	2.5	ug/L	5		8270C	Total/NA
Bis(2-ethylhexyl) phthalate - DL	100		24	8.7	ug/L	5		8270C	Total/NA
Di-n-octyl phthalate - DL	16	J	24	2.3	ug/L	5		8270C	Total/NA
PCB-1242	0.79		0.48	0.17	ug/L	1		8082	Total/NA
PCB-1254	0.58		0.48	0.24	ug/L	1		8082	Total/NA
Mercury	256		10.0	3.2	ng/L	20		1631E	Total/NA
Aluminum	3.5	B	0.20	0.060	mg/L	1		6010B	Total/NA
Antimony	0.18		0.020	0.0068	mg/L	1		6010B	Total/NA
Arsenic	0.0073	J	0.010	0.0056	mg/L	1		6010B	Total/NA
Cadmium	0.014		0.0010	0.00050	mg/L	1		6010B	Total/NA
Chromium	0.088		0.0040	0.0010	mg/L	1		6010B	Total/NA
Copper	0.38		0.010	0.0016	mg/L	1		6010B	Total/NA
Iron	85.6	B	0.050	0.019	mg/L	1		6010B	Total/NA
Lead	0.23		0.0050	0.0030	mg/L	1		6010B	Total/NA
Nickel	0.10		0.010	0.0013	mg/L	1		6010B	Total/NA
Zinc	13.6		0.010	0.0015	mg/L	1		6010B	Total/NA
Mercury	0.00040		0.00020	0.00012	mg/L	1		7470A	Total/NA
Chemical Oxygen Demand	269		10.0	5.0	mg/L	1		410.4	Total/NA
Biochemical Oxygen Demand	68.9	b	2.0	2.0	mg/L	1		SM 5210B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	370		20.0	20.0	mg/L	1		SM 2540D	Total/NA
Settleable Solids	8.50		0.100	0.100	mL/L/Hr	1		SM 2540F	Total/NA

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
bis (2-chloroisopropyl) ether	3.1	J	4.7	0.49	ug/L	1		8270C	Total/NA
2-Methylphenol	0.60	J	4.7	0.38	ug/L	1		8270C	Total/NA
4-Methylphenol	6.9	J	9.4	0.34	ug/L	1		8270C	Total/NA
Acetophenone	1.6	J	4.7	0.51	ug/L	1		8270C	Total/NA
Benzaldehyde	0.44	J	4.7	0.25	ug/L	1		8270C	Total/NA
Bis(2-ethylhexyl) phthalate	2.1	J	4.7	1.7	ug/L	1		8270C	Total/NA
Butyl benzyl phthalate	4.3	J	4.7	0.40	ug/L	1		8270C	Total/NA
Caprolactam	24		4.7	2.1	ug/L	1		8270C	Total/NA
Carbazole	0.41	J	4.7	0.28	ug/L	1		8270C	Total/NA
Di-n-butyl phthalate	2.3	J	4.7	0.29	ug/L	1		8270C	Total/NA
Diethyl phthalate	6.1		4.7	0.21	ug/L	1		8270C	Total/NA
Dimethyl phthalate	2.3	J	4.7	0.34	ug/L	1		8270C	Total/NA
Isophorone	0.91	J	4.7	0.40	ug/L	1		8270C	Total/NA
N-Nitrosodiphenylamine	0.55	J	4.7	0.48	ug/L	1		8270C	Total/NA
Pentachlorophenol	7.9	J	9.4	2.1	ug/L	1		8270C	Total/NA
Phenanthrene	0.68	J	4.7	0.41	ug/L	1		8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Detection Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Client Sample ID: Roth-Shredded-02 (Continued)

Lab Sample ID: 480-39662-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	4.7		4.7	0.37	ug/L	1		8270C	Total/NA
Mercury	34.0		5.0	1.6	ng/L	10		1631E	Total/NA
Aluminum	0.11	J B	0.20	0.060	mg/L	1		6010B	Total/NA
Cadmium	0.0053		0.0010	0.00050	mg/L	1		6010B	Total/NA
Chromium	0.0017	J	0.0040	0.0010	mg/L	1		6010B	Total/NA
Copper	0.0077	J	0.010	0.0016	mg/L	1		6010B	Total/NA
Iron	5.4	B	0.050	0.019	mg/L	1		6010B	Total/NA
Lead	0.014		0.0050	0.0030	mg/L	1		6010B	Total/NA
Nickel	0.0089	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Zinc	12.0		0.010	0.0015	mg/L	1		6010B	Total/NA
Chemical Oxygen Demand	100		10.0	5.0	mg/L	1		410.4	Total/NA
Biochemical Oxygen Demand	9.8	b	2.0	2.0	mg/L	1		SM 5210B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	22.8		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Settleable Solids	0.200		0.100	0.100	mL/L/Hr	1		SM 2540F	Total/NA

### Client Sample ID: Roth-Trip Blank

Lab Sample ID: 480-39662-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	8.2	ug/L			06/10/13 05:49	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			06/10/13 05:49	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			06/10/13 05:49	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			06/10/13 05:49	10
1,1-Dichloroethane	ND		10	3.8	ug/L			06/10/13 05:49	10
1,1-Dichloroethene	ND		10	2.9	ug/L			06/10/13 05:49	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			06/10/13 05:49	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			06/10/13 05:49	10
1,2-Dibromoethane	ND		10	7.3	ug/L			06/10/13 05:49	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			06/10/13 05:49	10
1,2-Dichloroethane	ND		10	2.1	ug/L			06/10/13 05:49	10
1,2-Dichloropropane	ND		10	7.2	ug/L			06/10/13 05:49	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			06/10/13 05:49	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			06/10/13 05:49	10
2-Hexanone	ND		50	12	ug/L			06/10/13 05:49	10
2-Butanone (MEK)	ND		100	13	ug/L			06/10/13 05:49	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			06/10/13 05:49	10
<b>Acetone</b>	<b>50</b>	<b>J</b>	100	30	ug/L			06/10/13 05:49	10
Benzene	ND		10	4.1	ug/L			06/10/13 05:49	10
Bromodichloromethane	ND		10	3.9	ug/L			06/10/13 05:49	10
Bromoform	ND		10	2.6	ug/L			06/10/13 05:49	10
Bromomethane	ND		10	6.9	ug/L			06/10/13 05:49	10
Carbon disulfide	ND		10	1.9	ug/L			06/10/13 05:49	10
Carbon tetrachloride	ND		10	2.7	ug/L			06/10/13 05:49	10
Chlorobenzene	ND		10	7.5	ug/L			06/10/13 05:49	10
Dibromochloromethane	ND		10	3.2	ug/L			06/10/13 05:49	10
Chloroethane	ND		10	3.2	ug/L			06/10/13 05:49	10
Chloroform	ND		10	3.4	ug/L			06/10/13 05:49	10
Chloromethane	ND		10	3.5	ug/L			06/10/13 05:49	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			06/10/13 05:49	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			06/10/13 05:49	10
Cyclohexane	ND		10	1.8	ug/L			06/10/13 05:49	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			06/10/13 05:49	10
Ethylbenzene	ND		10	7.4	ug/L			06/10/13 05:49	10
Isopropylbenzene	ND		10	7.9	ug/L			06/10/13 05:49	10
Methyl acetate	ND		10	5.0	ug/L			06/10/13 05:49	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			06/10/13 05:49	10
Methylcyclohexane	ND		10	1.6	ug/L			06/10/13 05:49	10
Methylene Chloride	ND		10	4.4	ug/L			06/10/13 05:49	10
Styrene	ND		10	7.3	ug/L			06/10/13 05:49	10
Tetrachloroethene	ND		10	3.6	ug/L			06/10/13 05:49	10
Toluene	ND		10	5.1	ug/L			06/10/13 05:49	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			06/10/13 05:49	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			06/10/13 05:49	10
Trichloroethene	ND		10	4.6	ug/L			06/10/13 05:49	10
Trichlorofluoromethane	ND		10	8.8	ug/L			06/10/13 05:49	10
Vinyl chloride	ND		10	9.0	ug/L			06/10/13 05:49	10
Xylenes, Total	ND		20	6.6	ug/L			06/10/13 05:49	10

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

**Date Collected: 06/06/13 09:15**

**Matrix: Water**

**Date Received: 06/07/13 01:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		66 - 137		06/10/13 05:49	10
Toluene-d8 (Surr)	98		71 - 126		06/10/13 05:49	10
4-Bromofluorobenzene (Surr)	85		73 - 120		06/10/13 05:49	10

**Method: 8270C - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		4.9	0.63	ug/L		06/11/13 05:56	06/17/13 13:46	1
bis (2-chloroisopropyl) ether	ND		4.9	0.50	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4,5-Trichlorophenol	ND		4.9	0.47	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4,6-Trichlorophenol	ND		4.9	0.59	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4-Dichlorophenol	ND		4.9	0.49	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4-Dimethylphenol	ND		4.9	0.49	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4-Dinitrophenol	ND		9.7	2.2	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,4-Dinitrotoluene	ND		4.9	0.43	ug/L		06/11/13 05:56	06/17/13 13:46	1
2,6-Dinitrotoluene	ND		4.9	0.39	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Chloronaphthalene	ND		4.9	0.45	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Chlorophenol	ND		4.9	0.51	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Methylnaphthalene	ND		4.9	0.58	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Methylphenol	ND		4.9	0.39	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Nitroaniline	ND		9.7	0.41	ug/L		06/11/13 05:56	06/17/13 13:46	1
2-Nitrophenol	ND		4.9	0.47	ug/L		06/11/13 05:56	06/17/13 13:46	1
3,3'-Dichlorobenzidine	ND		4.9	0.39	ug/L		06/11/13 05:56	06/17/13 13:46	1
3-Nitroaniline	ND		9.7	0.47	ug/L		06/11/13 05:56	06/17/13 13:46	1
4,6-Dinitro-2-methylphenol	ND		9.7	2.1	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Bromophenyl phenyl ether	ND		4.9	0.44	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Chloro-3-methylphenol	ND		4.9	0.44	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Chloroaniline	ND *		4.9	0.57	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Chlorophenyl phenyl ether	ND		4.9	0.34	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Methylphenol	ND		9.7	0.35	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Nitroaniline	ND		9.7	0.24	ug/L		06/11/13 05:56	06/17/13 13:46	1
4-Nitrophenol	ND		9.7	1.5	ug/L		06/11/13 05:56	06/17/13 13:46	1
Acenaphthene	ND		4.9	0.40	ug/L		06/11/13 05:56	06/17/13 13:46	1
Acenaphthylene	ND		4.9	0.37	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Acetophenone</b>	<b>0.87</b>	<b>J</b>	4.9	0.52	ug/L		06/11/13 05:56	06/17/13 13:46	1
Anthracene	ND		4.9	0.27	ug/L		06/11/13 05:56	06/17/13 13:46	1
Atrazine	ND		4.9	0.45	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Benzaldehyde</b>	<b>0.64</b>	<b>J</b>	4.9	0.26	ug/L		06/11/13 05:56	06/17/13 13:46	1
Benzo(a)anthracene	ND		4.9	0.35	ug/L		06/11/13 05:56	06/17/13 13:46	1
Benzo(a)pyrene	ND		4.9	0.46	ug/L		06/11/13 05:56	06/17/13 13:46	1
Benzo(b)fluoranthene	ND		4.9	0.33	ug/L		06/11/13 05:56	06/17/13 13:46	1
Benzo(g,h,i)perylene	ND		4.9	0.34	ug/L		06/11/13 05:56	06/17/13 13:46	1
Benzo(k)fluoranthene	ND		4.9	0.71	ug/L		06/11/13 05:56	06/17/13 13:46	1
Bis(2-chloroethoxy)methane	ND		4.9	0.34	ug/L		06/11/13 05:56	06/17/13 13:46	1
Bis(2-chloroethyl)ether	ND		4.9	0.39	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>97</b>	<b>E</b>	4.9	1.7	ug/L		06/11/13 05:56	06/17/13 13:46	1
Butyl benzyl phthalate	ND		4.9	0.41	ug/L		06/11/13 05:56	06/17/13 13:46	1
Caprolactam	ND		4.9	2.1	ug/L		06/11/13 05:56	06/17/13 13:46	1
Carbazole	ND		4.9	0.29	ug/L		06/11/13 05:56	06/17/13 13:46	1
Chrysene	ND		4.9	0.32	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Di-n-butyl phthalate</b>	<b>0.36</b>	<b>J</b>	4.9	0.30	ug/L		06/11/13 05:56	06/17/13 13:46	1

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Di-n-octyl phthalate</b>	<b>14</b>		4.9	0.46	ug/L		06/11/13 05:56	06/17/13 13:46	1
Dibenz(a,h)anthracene	ND		4.9	0.41	ug/L		06/11/13 05:56	06/17/13 13:46	1
Dibenzofuran	ND		9.7	0.49	ug/L		06/11/13 05:56	06/17/13 13:46	1
Diethyl phthalate	ND		4.9	0.21	ug/L		06/11/13 05:56	06/17/13 13:46	1
Dimethyl phthalate	ND		4.9	0.35	ug/L		06/11/13 05:56	06/17/13 13:46	1
Fluoranthene	ND		4.9	0.39	ug/L		06/11/13 05:56	06/17/13 13:46	1
Fluorene	ND		4.9	0.35	ug/L		06/11/13 05:56	06/17/13 13:46	1
Hexachlorobenzene	ND		4.9	0.49	ug/L		06/11/13 05:56	06/17/13 13:46	1
Hexachlorobutadiene	ND		0.49	0.66	ug/L		06/11/13 05:56	06/17/13 13:46	1
Hexachlorocyclopentadiene	ND		4.9	0.57	ug/L		06/11/13 05:56	06/17/13 13:46	1
Hexachloroethane	ND		4.9	0.57	ug/L		06/11/13 05:56	06/17/13 13:46	1
Indeno(1,2,3-cd)pyrene	ND		4.9	0.46	ug/L		06/11/13 05:56	06/17/13 13:46	1
Isophorone	ND		4.9	0.42	ug/L		06/11/13 05:56	06/17/13 13:46	1
N-Nitrosodi-n-propylamine	ND		4.9	0.52	ug/L		06/11/13 05:56	06/17/13 13:46	1
N-Nitrosodiphenylamine	ND		4.9	0.49	ug/L		06/11/13 05:56	06/17/13 13:46	1
Naphthalene	ND		4.9	0.74	ug/L		06/11/13 05:56	06/17/13 13:46	1
Nitrobenzene	ND		4.9	0.28	ug/L		06/11/13 05:56	06/17/13 13:46	1
Pentachlorophenol	ND		9.7	2.1	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Phenanthrene</b>	<b>0.78</b>	<b>J</b>	4.9	0.43	ug/L		06/11/13 05:56	06/17/13 13:46	1
Phenol	ND		4.9	0.38	ug/L		06/11/13 05:56	06/17/13 13:46	1
<b>Pyrene</b>	<b>0.70</b>	<b>J</b>	4.9	0.33	ug/L		06/11/13 05:56	06/17/13 13:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	69		39 - 146	06/11/13 05:56	06/17/13 13:46	1
2-Fluorobiphenyl	80		37 - 120	06/11/13 05:56	06/17/13 13:46	1
2-Fluorophenol	33		18 - 120	06/11/13 05:56	06/17/13 13:46	1
Nitrobenzene-d5	75		34 - 132	06/11/13 05:56	06/17/13 13:46	1
p-Terphenyl-d14	75		58 - 147	06/11/13 05:56	06/17/13 13:46	1
Phenol-d5	27		11 - 120	06/11/13 05:56	06/17/13 13:46	1

**Method: 8270C - Semivolatile Organic Compounds (GC/MS) - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		24	3.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
<b>bis (2-chloroisopropyl) ether</b>	<b>3.0</b>	<b>J</b>	24	2.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4,5-Trichlorophenol	ND		24	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4,6-Trichlorophenol	ND		24	3.0	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4-Dichlorophenol	ND		24	2.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4-Dimethylphenol	ND		24	2.4	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4-Dinitrophenol	ND		49	11	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,4-Dinitrotoluene	ND		24	2.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
2,6-Dinitrotoluene	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Chloronaphthalene	ND		24	2.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Chlorophenol	ND		24	2.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Methylnaphthalene	ND		24	2.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Methylphenol	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Nitroaniline	ND		49	2.0	ug/L		06/11/13 05:56	06/17/13 15:37	5
2-Nitrophenol	ND		24	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
3,3'-Dichlorobenzidine	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
3-Nitroaniline	ND		49	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
4,6-Dinitro-2-methylphenol	ND		49	11	ug/L		06/11/13 05:56	06/17/13 15:37	5

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8270C - Semivolatile Organic Compounds (GC/MS) - DL (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		24	2.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Chloro-3-methylphenol	ND		24	2.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Chloroaniline	ND	*	24	2.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Chlorophenyl phenyl ether	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Methylphenol	ND		49	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Nitroaniline	ND		49	1.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
4-Nitrophenol	ND		49	7.4	ug/L		06/11/13 05:56	06/17/13 15:37	5
Acenaphthene	ND		24	2.0	ug/L		06/11/13 05:56	06/17/13 15:37	5
Acenaphthylene	ND		24	1.8	ug/L		06/11/13 05:56	06/17/13 15:37	5
Acetophenone	ND		24	2.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
Anthracene	ND		24	1.4	ug/L		06/11/13 05:56	06/17/13 15:37	5
Atrazine	ND		24	2.2	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzaldehyde	ND		24	1.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzo(a)anthracene	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzo(a)pyrene	ND		24	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzo(b)fluoranthene	ND		24	1.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzo(g,h,i)perylene	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Benzo(k)fluoranthene	ND		24	3.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
Bis(2-chloroethoxy)methane	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Bis(2-chloroethyl)ether	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
<b>Bis(2-ethylhexyl) phthalate</b>	<b>100</b>		24	8.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Butyl benzyl phthalate	ND		24	2.0	ug/L		06/11/13 05:56	06/17/13 15:37	5
Caprolactam	ND		24	11	ug/L		06/11/13 05:56	06/17/13 15:37	5
Carbazole	ND		24	1.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
Chrysene	ND		24	1.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
Di-n-butyl phthalate	ND		24	1.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
<b>Di-n-octyl phthalate</b>	<b>16</b>	<b>J</b>	24	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
Dibenz(a,h)anthracene	ND		24	2.0	ug/L		06/11/13 05:56	06/17/13 15:37	5
Dibenzofuran	ND		49	2.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
Diethyl phthalate	ND		24	1.1	ug/L		06/11/13 05:56	06/17/13 15:37	5
Dimethyl phthalate	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Fluoranthene	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
Fluorene	ND		24	1.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Hexachlorobenzene	ND		24	2.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
Hexachlorobutadiene	ND		2.4	3.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
Hexachlorocyclopentadiene	ND		24	2.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
Hexachloroethane	ND		24	2.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
Indeno(1,2,3-cd)pyrene	ND		24	2.3	ug/L		06/11/13 05:56	06/17/13 15:37	5
Isophorone	ND		24	2.1	ug/L		06/11/13 05:56	06/17/13 15:37	5
N-Nitrosodi-n-propylamine	ND		24	2.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
N-Nitrosodiphenylamine	ND		24	2.5	ug/L		06/11/13 05:56	06/17/13 15:37	5
Naphthalene	ND		24	3.7	ug/L		06/11/13 05:56	06/17/13 15:37	5
Nitrobenzene	ND		24	1.4	ug/L		06/11/13 05:56	06/17/13 15:37	5
Pentachlorophenol	ND		49	11	ug/L		06/11/13 05:56	06/17/13 15:37	5
Phenanthrene	ND		24	2.1	ug/L		06/11/13 05:56	06/17/13 15:37	5
Phenol	ND		24	1.9	ug/L		06/11/13 05:56	06/17/13 15:37	5
Pyrene	ND		24	1.6	ug/L		06/11/13 05:56	06/17/13 15:37	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	69		39 - 146				06/11/13 05:56	06/17/13 15:37	5

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		37 - 120	06/11/13 05:56	06/17/13 15:37	5
2-Fluorophenol	34		18 - 120	06/11/13 05:56	06/17/13 15:37	5
Nitrobenzene-d5	78		34 - 132	06/11/13 05:56	06/17/13 15:37	5
p-Terphenyl-d14	74		58 - 147	06/11/13 05:56	06/17/13 15:37	5
Phenol-d5	28		11 - 120	06/11/13 05:56	06/17/13 15:37	5

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.17	ug/L		06/07/13 13:59	06/08/13 14:47	1
PCB-1221	ND		0.48	0.17	ug/L		06/07/13 13:59	06/08/13 14:47	1
PCB-1232	ND		0.48	0.17	ug/L		06/07/13 13:59	06/08/13 14:47	1
<b>PCB-1242</b>	<b>0.79</b>		0.48	0.17	ug/L		06/07/13 13:59	06/08/13 14:47	1
PCB-1248	ND		0.48	0.17	ug/L		06/07/13 13:59	06/08/13 14:47	1
<b>PCB-1254</b>	<b>0.58</b>		0.48	0.24	ug/L		06/07/13 13:59	06/08/13 14:47	1
PCB-1260	ND		0.48	0.24	ug/L		06/07/13 13:59	06/08/13 14:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	44		19 - 126	06/07/13 13:59	06/08/13 14:47	1
Tetrachloro-m-xylene	79		23 - 127	06/07/13 13:59	06/08/13 14:47	1

### Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	256		10.0	3.2	ng/L		06/11/13 14:17	06/12/13 10:38	20

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3.5	B	0.20	0.060	mg/L		06/08/13 09:15	06/11/13 19:41	1
Antimony	0.18		0.020	0.0068	mg/L		06/08/13 09:15	06/11/13 19:41	1
Arsenic	0.0073	J	0.010	0.0056	mg/L		06/08/13 09:15	06/11/13 19:41	1
Beryllium	ND		0.0020	0.00030	mg/L		06/08/13 09:15	06/11/13 19:41	1
Cadmium	0.014		0.0010	0.00050	mg/L		06/08/13 09:15	06/11/13 19:41	1
Chromium	0.088		0.0040	0.0010	mg/L		06/08/13 09:15	06/11/13 19:41	1
Copper	0.38		0.010	0.0016	mg/L		06/08/13 09:15	06/11/13 19:41	1
Iron	85.6	B	0.050	0.019	mg/L		06/08/13 09:15	06/11/13 19:41	1
Lead	0.23		0.0050	0.0030	mg/L		06/08/13 09:15	06/11/13 19:41	1
Nickel	0.10		0.010	0.0013	mg/L		06/08/13 09:15	06/11/13 19:41	1
Selenium	ND		0.015	0.0087	mg/L		06/08/13 09:15	06/11/13 19:41	1
Silver	ND		0.0030	0.0017	mg/L		06/08/13 09:15	06/11/13 19:41	1
Thallium	ND		0.020	0.010	mg/L		06/08/13 09:15	06/11/13 19:41	1
Zinc	13.6		0.010	0.0015	mg/L		06/08/13 09:15	06/11/13 19:41	1

### Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00040		0.00020	0.00012	mg/L		06/07/13 07:55	06/07/13 13:04	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	269		10.0	5.0	mg/L			06/13/13 22:24	1
Biochemical Oxygen Demand	68.9	b	2.0	2.0	mg/L			06/07/13 08:27	1

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## Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Suspended Solids</b>	<b>370</b>		20.0	20.0	mg/L			06/07/13 22:01	1
<b>Settleable Solids</b>	<b>8.50</b>		0.100	0.100	mL/L/Hr			06/07/13 07:47	1

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Date Collected: 06/06/13 09:27

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	8.2	ug/L			06/10/13 06:10	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			06/10/13 06:10	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			06/10/13 06:10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			06/10/13 06:10	10
1,1-Dichloroethane	ND		10	3.8	ug/L			06/10/13 06:10	10
1,1-Dichloroethene	ND		10	2.9	ug/L			06/10/13 06:10	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			06/10/13 06:10	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			06/10/13 06:10	10
1,2-Dibromoethane	ND		10	7.3	ug/L			06/10/13 06:10	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			06/10/13 06:10	10
1,2-Dichloroethane	ND		10	2.1	ug/L			06/10/13 06:10	10
1,2-Dichloropropane	ND		10	7.2	ug/L			06/10/13 06:10	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			06/10/13 06:10	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			06/10/13 06:10	10
2-Hexanone	ND		50	12	ug/L			06/10/13 06:10	10
2-Butanone (MEK)	ND		100	13	ug/L			06/10/13 06:10	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			06/10/13 06:10	10
Acetone	ND		100	30	ug/L			06/10/13 06:10	10
Benzene	ND		10	4.1	ug/L			06/10/13 06:10	10
Bromodichloromethane	ND		10	3.9	ug/L			06/10/13 06:10	10
Bromoform	ND		10	2.6	ug/L			06/10/13 06:10	10
Bromomethane	ND		10	6.9	ug/L			06/10/13 06:10	10
Carbon disulfide	ND		10	1.9	ug/L			06/10/13 06:10	10
Carbon tetrachloride	ND		10	2.7	ug/L			06/10/13 06:10	10
Chlorobenzene	ND		10	7.5	ug/L			06/10/13 06:10	10
Dibromochloromethane	ND		10	3.2	ug/L			06/10/13 06:10	10
Chloroethane	ND		10	3.2	ug/L			06/10/13 06:10	10
Chloroform	ND		10	3.4	ug/L			06/10/13 06:10	10
Chloromethane	ND		10	3.5	ug/L			06/10/13 06:10	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			06/10/13 06:10	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			06/10/13 06:10	10
Cyclohexane	ND		10	1.8	ug/L			06/10/13 06:10	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			06/10/13 06:10	10
Ethylbenzene	ND		10	7.4	ug/L			06/10/13 06:10	10
Isopropylbenzene	ND		10	7.9	ug/L			06/10/13 06:10	10
Methyl acetate	ND		10	5.0	ug/L			06/10/13 06:10	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			06/10/13 06:10	10
Methylcyclohexane	ND		10	1.6	ug/L			06/10/13 06:10	10
Methylene Chloride	ND		10	4.4	ug/L			06/10/13 06:10	10
Styrene	ND		10	7.3	ug/L			06/10/13 06:10	10
Tetrachloroethene	ND		10	3.6	ug/L			06/10/13 06:10	10
Toluene	ND		10	5.1	ug/L			06/10/13 06:10	10

TestAmerica Buffalo



# Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Date Collected: 06/06/13 09:27

Matrix: Water

Date Received: 06/07/13 01:30

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			06/10/13 06:10	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			06/10/13 06:10	10
Trichloroethene	ND		10	4.6	ug/L			06/10/13 06:10	10
Trichlorofluoromethane	ND		10	8.8	ug/L			06/10/13 06:10	10
Vinyl chloride	ND		10	9.0	ug/L			06/10/13 06:10	10
Xylenes, Total	ND		20	6.6	ug/L			06/10/13 06:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		66 - 137		06/10/13 06:10	10
Toluene-d8 (Surr)	91		71 - 126		06/10/13 06:10	10
4-Bromofluorobenzene (Surr)	79		73 - 120		06/10/13 06:10	10

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		4.7	0.61	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>bis (2-chloroisopropyl) ether</b>	<b>3.1</b>	<b>J</b>	4.7	0.49	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4,5-Trichlorophenol	ND		4.7	0.45	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4,6-Trichlorophenol	ND		4.7	0.57	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4-Dichlorophenol	ND		4.7	0.48	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4-Dimethylphenol	ND		4.7	0.47	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4-Dinitrophenol	ND		9.4	2.1	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,4-Dinitrotoluene	ND		4.7	0.42	ug/L		06/11/13 05:56	06/17/13 14:14	1
2,6-Dinitrotoluene	ND		4.7	0.38	ug/L		06/11/13 05:56	06/17/13 14:14	1
2-Chloronaphthalene	ND		4.7	0.43	ug/L		06/11/13 05:56	06/17/13 14:14	1
2-Chlorophenol	ND		4.7	0.50	ug/L		06/11/13 05:56	06/17/13 14:14	1
2-Methylnaphthalene	ND		4.7	0.56	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>2-Methylphenol</b>	<b>0.60</b>	<b>J</b>	4.7	0.38	ug/L		06/11/13 05:56	06/17/13 14:14	1
2-Nitroaniline	ND		9.4	0.40	ug/L		06/11/13 05:56	06/17/13 14:14	1
2-Nitrophenol	ND		4.7	0.45	ug/L		06/11/13 05:56	06/17/13 14:14	1
3,3'-Dichlorobenzidine	ND		4.7	0.38	ug/L		06/11/13 05:56	06/17/13 14:14	1
3-Nitroaniline	ND		9.4	0.45	ug/L		06/11/13 05:56	06/17/13 14:14	1
4,6-Dinitro-2-methylphenol	ND		9.4	2.1	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Bromophenyl phenyl ether	ND		4.7	0.42	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Chloro-3-methylphenol	ND		4.7	0.42	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Chloroaniline	ND *		4.7	0.56	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Chlorophenyl phenyl ether	ND		4.7	0.33	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>4-Methylphenol</b>	<b>6.9</b>	<b>J</b>	9.4	0.34	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Nitroaniline	ND		9.4	0.24	ug/L		06/11/13 05:56	06/17/13 14:14	1
4-Nitrophenol	ND		9.4	1.4	ug/L		06/11/13 05:56	06/17/13 14:14	1
Acenaphthene	ND		4.7	0.39	ug/L		06/11/13 05:56	06/17/13 14:14	1
Acenaphthylene	ND		4.7	0.36	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Acetophenone</b>	<b>1.6</b>	<b>J</b>	4.7	0.51	ug/L		06/11/13 05:56	06/17/13 14:14	1
Anthracene	ND		4.7	0.26	ug/L		06/11/13 05:56	06/17/13 14:14	1
Atrazine	ND		4.7	0.43	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Benzaldehyde</b>	<b>0.44</b>	<b>J</b>	4.7	0.25	ug/L		06/11/13 05:56	06/17/13 14:14	1
Benzo(a)anthracene	ND		4.7	0.34	ug/L		06/11/13 05:56	06/17/13 14:14	1
Benzo(a)pyrene	ND		4.7	0.44	ug/L		06/11/13 05:56	06/17/13 14:14	1
Benzo(b)fluoranthene	ND		4.7	0.32	ug/L		06/11/13 05:56	06/17/13 14:14	1
Benzo(g,h,i)perylene	ND		4.7	0.33	ug/L		06/11/13 05:56	06/17/13 14:14	1
Benzo(k)fluoranthene	ND		4.7	0.69	ug/L		06/11/13 05:56	06/17/13 14:14	1

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Date Collected: 06/06/13 09:27

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		4.7	0.33	ug/L		06/11/13 05:56	06/17/13 14:14	1
Bis(2-chloroethyl)ether	ND		4.7	0.38	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>2.1</b>	<b>J</b>	4.7	1.7	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Butyl benzyl phthalate</b>	<b>4.3</b>	<b>J</b>	4.7	0.40	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Caprolactam</b>	<b>24</b>		4.7	2.1	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Carbazole</b>	<b>0.41</b>	<b>J</b>	4.7	0.28	ug/L		06/11/13 05:56	06/17/13 14:14	1
Chrysene	ND		4.7	0.31	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Di-n-butyl phthalate</b>	<b>2.3</b>	<b>J</b>	4.7	0.29	ug/L		06/11/13 05:56	06/17/13 14:14	1
Di-n-octyl phthalate	ND		4.7	0.44	ug/L		06/11/13 05:56	06/17/13 14:14	1
Dibenz(a,h)anthracene	ND		4.7	0.40	ug/L		06/11/13 05:56	06/17/13 14:14	1
Dibenzofuran	ND		9.4	0.48	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Diethyl phthalate</b>	<b>6.1</b>		4.7	0.21	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Dimethyl phthalate</b>	<b>2.3</b>	<b>J</b>	4.7	0.34	ug/L		06/11/13 05:56	06/17/13 14:14	1
Fluoranthene	ND		4.7	0.38	ug/L		06/11/13 05:56	06/17/13 14:14	1
Fluorene	ND		4.7	0.34	ug/L		06/11/13 05:56	06/17/13 14:14	1
Hexachlorobenzene	ND		4.7	0.48	ug/L		06/11/13 05:56	06/17/13 14:14	1
Hexachlorobutadiene	ND		0.47	0.64	ug/L		06/11/13 05:56	06/17/13 14:14	1
Hexachlorocyclopentadiene	ND		4.7	0.56	ug/L		06/11/13 05:56	06/17/13 14:14	1
Hexachloroethane	ND		4.7	0.56	ug/L		06/11/13 05:56	06/17/13 14:14	1
Indeno(1,2,3-cd)pyrene	ND		4.7	0.44	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Isophorone</b>	<b>0.91</b>	<b>J</b>	4.7	0.40	ug/L		06/11/13 05:56	06/17/13 14:14	1
N-Nitrosodi-n-propylamine	ND		4.7	0.51	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>N-Nitrosodiphenylamine</b>	<b>0.55</b>	<b>J</b>	4.7	0.48	ug/L		06/11/13 05:56	06/17/13 14:14	1
Naphthalene	ND		4.7	0.72	ug/L		06/11/13 05:56	06/17/13 14:14	1
Nitrobenzene	ND		4.7	0.27	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Pentachlorophenol</b>	<b>7.9</b>	<b>J</b>	9.4	2.1	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Phenanthrene</b>	<b>0.68</b>	<b>J</b>	4.7	0.41	ug/L		06/11/13 05:56	06/17/13 14:14	1
<b>Phenol</b>	<b>4.7</b>		4.7	0.37	ug/L		06/11/13 05:56	06/17/13 14:14	1
Pyrene	ND		4.7	0.32	ug/L		06/11/13 05:56	06/17/13 14:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	93		39 - 146				06/11/13 05:56	06/17/13 14:14	1
2-Fluorobiphenyl	80		37 - 120				06/11/13 05:56	06/17/13 14:14	1
2-Fluorophenol	52		18 - 120				06/11/13 05:56	06/17/13 14:14	1
Nitrobenzene-d5	75		34 - 132				06/11/13 05:56	06/17/13 14:14	1
p-Terphenyl-d14	87		58 - 147				06/11/13 05:56	06/17/13 14:14	1
Phenol-d5	40		11 - 120				06/11/13 05:56	06/17/13 14:14	1

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		9.5	3.3	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1221	ND		9.5	3.3	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1232	ND		9.5	3.3	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1242	ND		9.5	3.3	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1248	ND		9.5	3.3	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1254	ND		9.5	4.7	ug/L		06/07/13 13:59	06/08/13 15:02	20
PCB-1260	ND		9.5	4.7	ug/L		06/07/13 13:59	06/08/13 15:02	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	8	X	19 - 126				06/07/13 13:59	06/08/13 15:02	20

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Date Collected: 06/06/13 09:27

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	21	X	23 - 127	06/07/13 13:59	06/08/13 15:02	20

**Method: 1631E - Mercury, Low Level (CVAFS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	34.0		5.0	1.6	ng/L		06/11/13 14:17	06/12/13 10:41	10

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.11	J B	0.20	0.060	mg/L		06/08/13 09:15	06/11/13 19:43	1
Antimony	ND		0.020	0.0068	mg/L		06/08/13 09:15	06/11/13 19:43	1
Arsenic	ND		0.010	0.0056	mg/L		06/08/13 09:15	06/11/13 19:43	1
Beryllium	ND		0.0020	0.00030	mg/L		06/08/13 09:15	06/11/13 19:43	1
Cadmium	0.0053		0.0010	0.00050	mg/L		06/08/13 09:15	06/11/13 19:43	1
Chromium	0.0017	J	0.0040	0.0010	mg/L		06/08/13 09:15	06/11/13 19:43	1
Copper	0.0077	J	0.010	0.0016	mg/L		06/08/13 09:15	06/11/13 19:43	1
Iron	5.4	B	0.050	0.019	mg/L		06/08/13 09:15	06/11/13 19:43	1
Lead	0.014		0.0050	0.0030	mg/L		06/08/13 09:15	06/11/13 19:43	1
Nickel	0.0089	J	0.010	0.0013	mg/L		06/08/13 09:15	06/11/13 19:43	1
Selenium	ND		0.015	0.0087	mg/L		06/08/13 09:15	06/11/13 19:43	1
Silver	ND		0.0030	0.0017	mg/L		06/08/13 09:15	06/11/13 19:43	1
Thallium	ND		0.020	0.010	mg/L		06/08/13 09:15	06/11/13 19:43	1
Zinc	12.0		0.010	0.0015	mg/L		06/08/13 09:15	06/11/13 19:43	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/07/13 07:55	06/07/13 13:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	100		10.0	5.0	mg/L			06/10/13 17:22	1
Biochemical Oxygen Demand	9.8	b	2.0	2.0	mg/L			06/07/13 08:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	22.8		4.0	4.0	mg/L			06/07/13 22:01	1
Settleable Solids	0.200		0.100	0.100	mL/L/Hr			06/07/13 07:47	1

**Client Sample ID: Roth-Trip Blank**

**Lab Sample ID: 480-39662-3**

Date Collected: 06/06/13 00:00

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/10/13 06:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/10/13 06:30	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/10/13 06:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/10/13 06:30	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/10/13 06:30	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/10/13 06:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/10/13 06:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/10/13 06:30	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/10/13 06:30	1

TestAmerica Buffalo

# Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Trip Blank**

**Lab Sample ID: 480-39662-3**

Date Collected: 06/06/13 00:00

Matrix: Water

Date Received: 06/07/13 01:30

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/10/13 06:30	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/10/13 06:30	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/10/13 06:30	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/10/13 06:30	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/10/13 06:30	1
2-Hexanone	ND		5.0	1.2	ug/L			06/10/13 06:30	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/10/13 06:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/10/13 06:30	1
Acetone	ND		10	3.0	ug/L			06/10/13 06:30	1
Benzene	ND		1.0	0.41	ug/L			06/10/13 06:30	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/10/13 06:30	1
Bromoform	ND		1.0	0.26	ug/L			06/10/13 06:30	1
Bromomethane	ND		1.0	0.69	ug/L			06/10/13 06:30	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/10/13 06:30	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/10/13 06:30	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/10/13 06:30	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/10/13 06:30	1
Chloroethane	ND		1.0	0.32	ug/L			06/10/13 06:30	1
Chloroform	ND		1.0	0.34	ug/L			06/10/13 06:30	1
Chloromethane	ND		1.0	0.35	ug/L			06/10/13 06:30	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/10/13 06:30	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/10/13 06:30	1
Cyclohexane	ND		1.0	0.18	ug/L			06/10/13 06:30	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/10/13 06:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/10/13 06:30	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/10/13 06:30	1
Methyl acetate	ND		1.0	0.50	ug/L			06/10/13 06:30	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/10/13 06:30	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/10/13 06:30	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/10/13 06:30	1
Styrene	ND		1.0	0.73	ug/L			06/10/13 06:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/10/13 06:30	1
Toluene	ND		1.0	0.51	ug/L			06/10/13 06:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/10/13 06:30	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/10/13 06:30	1
Trichloroethene	ND		1.0	0.46	ug/L			06/10/13 06:30	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/10/13 06:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/10/13 06:30	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/10/13 06:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		66 - 137		06/10/13 06:30	1
Toluene-d8 (Surr)	90		71 - 126		06/10/13 06:30	1
4-Bromofluorobenzene (Surr)	76		73 - 120		06/10/13 06:30	1

TestAmerica Buffalo

## Surrogate Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		12DCE (66-137)	TOL (71-126)	BFB (73-120)
480-39662-1	Roth-Incoming-01	114	98	85
480-39662-2	Roth-Shredded-02	114	91	79
480-39662-3	Roth-Trip Blank	107	90	76
LCS 480-123021/5	Lab Control Sample	105	93	85
MB 480-123021/6	Method Blank	108	91	85

**Surrogate Legend**

12DCE = 1,2-Dichloroethane-d4 (Surr)  
 TOL = Toluene-d8 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (39-146)	FBP (37-120)	2FP (18-120)	NBZ (34-132)	TPH (58-147)	PHL (11-120)
480-39662-1 - DL	Roth-Incoming-01	69	84	34	78	74	28
480-39662-1	Roth-Incoming-01	69	80	33	75	75	27
480-39662-1 MS	Roth-Incoming-01	66	78	40	75	89	39
480-39662-1 MSD	Roth-Incoming-01	73	78	40	73	89	37
480-39662-2	Roth-Shredded-02	93	80	52	75	87	40
LCS 480-123210/2-A	Lab Control Sample	103	85	52	85	100	40
MB 480-123210/1-A	Method Blank	89	76	55	80	90	40

**Surrogate Legend**

TBP = 2,4,6-Tribromophenol  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 TPH = p-Terphenyl-d14  
 PHL = Phenol-d5

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB2 (19-126)	TCX2 (23-127)
480-39662-1	Roth-Incoming-01	44	79
480-39662-2	Roth-Shredded-02	8 X	21 X
LCS 480-122825/2-A	Lab Control Sample	58	90
MB 480-122825/1-A	Method Blank	53	93

**Surrogate Legend**

DCB = DCB Decachlorobiphenyl  
 TCX = Tetrachloro-m-xylene

TestAmerica Buffalo

# QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 480-123021/6**

**Matrix: Water**

**Analysis Batch: 123021**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/09/13 22:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/09/13 22:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/09/13 22:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/09/13 22:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/09/13 22:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/09/13 22:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/09/13 22:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/09/13 22:40	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/09/13 22:40	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/09/13 22:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/09/13 22:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/09/13 22:40	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/09/13 22:40	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/09/13 22:40	1
2-Hexanone	ND		5.0	1.2	ug/L			06/09/13 22:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/09/13 22:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/09/13 22:40	1
Acetone	ND		10	3.0	ug/L			06/09/13 22:40	1
Benzene	ND		1.0	0.41	ug/L			06/09/13 22:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/09/13 22:40	1
Bromoform	ND		1.0	0.26	ug/L			06/09/13 22:40	1
Bromomethane	ND		1.0	0.69	ug/L			06/09/13 22:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/09/13 22:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/09/13 22:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/09/13 22:40	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/09/13 22:40	1
Chloroethane	ND		1.0	0.32	ug/L			06/09/13 22:40	1
Chloroform	ND		1.0	0.34	ug/L			06/09/13 22:40	1
Chloromethane	ND		1.0	0.35	ug/L			06/09/13 22:40	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/09/13 22:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/09/13 22:40	1
Cyclohexane	ND		1.0	0.18	ug/L			06/09/13 22:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/09/13 22:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/09/13 22:40	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/09/13 22:40	1
Methyl acetate	ND		1.0	0.50	ug/L			06/09/13 22:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/09/13 22:40	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/09/13 22:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/09/13 22:40	1
Styrene	ND		1.0	0.73	ug/L			06/09/13 22:40	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/09/13 22:40	1
Toluene	ND		1.0	0.51	ug/L			06/09/13 22:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/09/13 22:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/09/13 22:40	1
Trichloroethene	ND		1.0	0.46	ug/L			06/09/13 22:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/09/13 22:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/09/13 22:40	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/09/13 22:40	1

TestAmerica Buffalo



## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-123021/6

Matrix: Water

Analysis Batch: 123021

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		66 - 137		06/09/13 22:40	1
Toluene-d8 (Surr)	91		71 - 126		06/09/13 22:40	1
4-Bromofluorobenzene (Surr)	85		73 - 120		06/09/13 22:40	1

Lab Sample ID: LCS 480-123021/5

Matrix: Water

Analysis Batch: 123021

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
1,1-Dichloroethane	25.0	25.7		ug/L		103	71 - 129	
1,1-Dichloroethene	25.0	21.0		ug/L		84	58 - 121	
1,2-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 124	
1,2-Dichloroethane	25.0	28.2		ug/L		113	75 - 127	
Benzene	25.0	28.3		ug/L		113	71 - 124	
Chlorobenzene	25.0	25.2		ug/L		101	72 - 120	
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	74 - 124	
Ethylbenzene	25.0	26.8		ug/L		107	77 - 123	
Methyl tert-butyl ether	25.0	25.4		ug/L		102	64 - 127	
Tetrachloroethene	25.0	21.5		ug/L		86	74 - 122	
Toluene	25.0	26.6		ug/L		106	80 - 122	
trans-1,2-Dichloroethene	25.0	25.1		ug/L		101	73 - 127	
Trichloroethene	25.0	26.5		ug/L		106	74 - 123	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		66 - 137
Toluene-d8 (Surr)	93		71 - 126
4-Bromofluorobenzene (Surr)	85		73 - 120

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-123210/1-A

Matrix: Water

Analysis Batch: 124300

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 123210

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Biphenyl	ND		5.0	0.65	ug/L		06/11/13 05:56	06/17/13 11:57	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		06/11/13 05:56	06/17/13 11:57	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/11/13 05:56	06/17/13 11:57	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/11/13 05:56	06/17/13 11:57	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/11/13 05:56	06/17/13 11:57	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		06/11/13 05:56	06/17/13 11:57	1

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-123210/1-A**  
**Matrix: Water**  
**Analysis Batch: 124300**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 123210**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Methylphenol	ND		5.0	0.40	ug/L		06/11/13 05:56	06/17/13 11:57	1
2-Nitroaniline	ND		10	0.42	ug/L		06/11/13 05:56	06/17/13 11:57	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/11/13 05:56	06/17/13 11:57	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		06/11/13 05:56	06/17/13 11:57	1
3-Nitroaniline	ND		10	0.48	ug/L		06/11/13 05:56	06/17/13 11:57	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Chloroaniline	ND		5.0	0.59	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Methylphenol	ND		10	0.36	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Nitroaniline	ND		10	0.25	ug/L		06/11/13 05:56	06/17/13 11:57	1
4-Nitrophenol	ND		10	1.5	ug/L		06/11/13 05:56	06/17/13 11:57	1
Acenaphthene	ND		5.0	0.41	ug/L		06/11/13 05:56	06/17/13 11:57	1
Acenaphthylene	ND		5.0	0.38	ug/L		06/11/13 05:56	06/17/13 11:57	1
Acetophenone	ND		5.0	0.54	ug/L		06/11/13 05:56	06/17/13 11:57	1
Anthracene	ND		5.0	0.28	ug/L		06/11/13 05:56	06/17/13 11:57	1
Atrazine	ND		5.0	0.46	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzaldehyde	ND		5.0	0.27	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzo(a)anthracene	ND		5.0	0.36	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzo(a)pyrene	ND		5.0	0.47	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzo(b)fluoranthene	ND		5.0	0.34	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzo(g,h,i)perylene	ND		5.0	0.35	ug/L		06/11/13 05:56	06/17/13 11:57	1
Benzo(k)fluoranthene	ND		5.0	0.73	ug/L		06/11/13 05:56	06/17/13 11:57	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/11/13 05:56	06/17/13 11:57	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/11/13 05:56	06/17/13 11:57	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		06/11/13 05:56	06/17/13 11:57	1
Butyl benzyl phthalate	ND		5.0	0.42	ug/L		06/11/13 05:56	06/17/13 11:57	1
Caprolactam	ND		5.0	2.2	ug/L		06/11/13 05:56	06/17/13 11:57	1
Carbazole	ND		5.0	0.30	ug/L		06/11/13 05:56	06/17/13 11:57	1
Chrysene	ND		5.0	0.33	ug/L		06/11/13 05:56	06/17/13 11:57	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/11/13 05:56	06/17/13 11:57	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/11/13 05:56	06/17/13 11:57	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/11/13 05:56	06/17/13 11:57	1
Dibenzofuran	ND		10	0.51	ug/L		06/11/13 05:56	06/17/13 11:57	1
Diethyl phthalate	ND		5.0	0.22	ug/L		06/11/13 05:56	06/17/13 11:57	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/11/13 05:56	06/17/13 11:57	1
Fluoranthene	ND		5.0	0.40	ug/L		06/11/13 05:56	06/17/13 11:57	1
Fluorene	ND		5.0	0.36	ug/L		06/11/13 05:56	06/17/13 11:57	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/11/13 05:56	06/17/13 11:57	1
Hexachlorobutadiene	ND		0.50	0.68	ug/L		06/11/13 05:56	06/17/13 11:57	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		06/11/13 05:56	06/17/13 11:57	1
Hexachloroethane	ND		5.0	0.59	ug/L		06/11/13 05:56	06/17/13 11:57	1
Indeno(1,2,3-cd)pyrene	ND		5.0	0.47	ug/L		06/11/13 05:56	06/17/13 11:57	1
Isophorone	ND		5.0	0.43	ug/L		06/11/13 05:56	06/17/13 11:57	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		06/11/13 05:56	06/17/13 11:57	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		06/11/13 05:56	06/17/13 11:57	1
Naphthalene	ND		5.0	0.76	ug/L		06/11/13 05:56	06/17/13 11:57	1

TestAmerica Buffalo



## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-123210/1-A**

**Matrix: Water**

**Analysis Batch: 124300**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 123210**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrobenzene	ND		5.0	0.29	ug/L		06/11/13 05:56	06/17/13 11:57	1
Pentachlorophenol	ND		10	2.2	ug/L		06/11/13 05:56	06/17/13 11:57	1
Phenanthrene	ND		5.0	0.44	ug/L		06/11/13 05:56	06/17/13 11:57	1
Phenol	ND		5.0	0.39	ug/L		06/11/13 05:56	06/17/13 11:57	1
Pyrene	ND		5.0	0.34	ug/L		06/11/13 05:56	06/17/13 11:57	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol	89		39 - 146	06/11/13 05:56	06/17/13 11:57	1
2-Fluorobiphenyl	76		37 - 120	06/11/13 05:56	06/17/13 11:57	1
2-Fluorophenol	55		18 - 120	06/11/13 05:56	06/17/13 11:57	1
Nitrobenzene-d5	80		34 - 132	06/11/13 05:56	06/17/13 11:57	1
p-Terphenyl-d14	90		58 - 147	06/11/13 05:56	06/17/13 11:57	1
Phenol-d5	40		11 - 120	06/11/13 05:56	06/17/13 11:57	1

**Lab Sample ID: LCS 480-123210/2-A**

**Matrix: Water**

**Analysis Batch: 124300**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 123210**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
2,4-Dinitrotoluene	32.0	32.4		ug/L		101	65 - 154
2-Chlorophenol	32.0	23.4		ug/L		73	48 - 120
4-Chloro-3-methylphenol	32.0	28.0		ug/L		88	64 - 120
4-Nitrophenol	64.0	38.1		ug/L		59	16 - 120
Acenaphthene	32.0	26.4		ug/L		83	60 - 120
Bis(2-ethylhexyl) phthalate	32.0	34.9		ug/L		109	53 - 158
Fluorene	32.0	27.9		ug/L		87	55 - 143
Hexachloroethane	32.0	22.7		ug/L		71	14 - 101
N-Nitrosodi-n-propylamine	32.0	26.7		ug/L		83	56 - 120
Pentachlorophenol	64.0	64.7		ug/L		101	39 - 136
Phenol	32.0	13.0		ug/L		40	17 - 120
Pyrene	32.0	30.8		ug/L		96	58 - 136

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	103		39 - 146
2-Fluorobiphenyl	85		37 - 120
2-Fluorophenol	52		18 - 120
Nitrobenzene-d5	85		34 - 132
p-Terphenyl-d14	100		58 - 147
Phenol-d5	40		11 - 120

**Lab Sample ID: 480-39662-1 MS**

**Matrix: Water**

**Analysis Batch: 124300**

**Client Sample ID: Roth-Incoming-01**

**Prep Type: Total/NA**

**Prep Batch: 123210**

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
2,4-Dinitrotoluene	ND		61.5	56.3		ug/L		91	65 - 154
2-Chlorophenol	ND		61.5	31.2		ug/L		51	48 - 120
4-Chloro-3-methylphenol	ND		61.5	35.7	F	ug/L		58	64 - 120

TestAmerica Buffalo

# QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 480-39662-1 MS**

**Matrix: Water**

**Analysis Batch: 124300**

**Client Sample ID: Roth-Incoming-01**

**Prep Type: Total/NA**

**Prep Batch: 123210**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
4-Nitrophenol	ND		123	ND	F	ug/L		0		16 - 120
Acenaphthene	ND		61.5	46.7		ug/L		76		60 - 120
Bis(2-ethylhexyl) phthalate	97	E	61.5	144	E	ug/L		77		53 - 158
Fluorene	ND		61.5	49.9		ug/L		81		55 - 143
Hexachloroethane	ND		61.5	39.4		ug/L		64		14 - 101
N-Nitrosodi-n-propylamine	ND		61.5	43.9		ug/L		71		56 - 120
Pentachlorophenol	ND		123	73.5		ug/L		60		39 - 136
Phenol	ND		61.5	23.8		ug/L		39		17 - 120
Pyrene	0.70	J	61.5	52.4		ug/L		84		58 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	66		39 - 146
2-Fluorobiphenyl	78		37 - 120
2-Fluorophenol	40		18 - 120
Nitrobenzene-d5	75		34 - 132
p-Terphenyl-d14	89		58 - 147
Phenol-d5	39		11 - 120

**Lab Sample ID: 480-39662-1 MSD**

**Matrix: Water**

**Analysis Batch: 124300**

**Client Sample ID: Roth-Incoming-01**

**Prep Type: Total/NA**

**Prep Batch: 123210**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	
	Result	Qualifier		Result	Qualifier						RPD	Limit
2,4-Dinitrotoluene	ND		61.5	55.8		ug/L		91		65 - 154	1	20
2-Chlorophenol	ND		61.5	31.4		ug/L		51		48 - 120	1	25
4-Chloro-3-methylphenol	ND		61.5	36.0	F	ug/L		59		64 - 120	1	27
4-Nitrophenol	ND		123	ND	F	ug/L		0		16 - 120	NC	48
Acenaphthene	ND		61.5	48.1		ug/L		78		60 - 120	3	24
Bis(2-ethylhexyl) phthalate	97	E	61.5	174	E F	ug/L		126		53 - 158	19	15
Fluorene	ND		61.5	51.1		ug/L		83		55 - 143	3	15
Hexachloroethane	ND		61.5	37.9		ug/L		62		14 - 101	4	46
N-Nitrosodi-n-propylamine	ND		61.5	43.4		ug/L		70		56 - 120	1	31
Pentachlorophenol	ND		123	78.6		ug/L		64		39 - 136	7	37
Phenol	ND		61.5	23.0		ug/L		37		17 - 120	3	34
Pyrene	0.70	J	61.5	54.0		ug/L		87		58 - 136	3	19

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	73		39 - 146
2-Fluorobiphenyl	78		37 - 120
2-Fluorophenol	40		18 - 120
Nitrobenzene-d5	73		34 - 132
p-Terphenyl-d14	89		58 - 147
Phenol-d5	37		11 - 120

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Lab Sample ID: MB 480-122825/1-A**  
**Matrix: Water**  
**Analysis Batch: 122905**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 122825**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	ND		0.50	0.18	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1221	ND		0.50	0.18	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1232	ND		0.50	0.18	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1242	ND		0.50	0.18	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1248	ND		0.50	0.18	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1254	ND		0.50	0.25	ug/L		06/07/13 13:59	06/08/13 11:35	1
PCB-1260	ND		0.50	0.25	ug/L		06/07/13 13:59	06/08/13 11:35	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl	53		19 - 126	06/07/13 13:59	06/08/13 11:35	1
Tetrachloro-m-xylene	93		23 - 127	06/07/13 13:59	06/08/13 11:35	1

**Lab Sample ID: LCS 480-122825/2-A**  
**Matrix: Water**  
**Analysis Batch: 122905**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 122825**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
PCB-1016	4.00	4.40		ug/L		110	51 - 137
PCB-1260	4.00	3.03		ug/L		76	45 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	58		19 - 126
Tetrachloro-m-xylene	90		23 - 127

### Method: 1631E - Mercury, Low Level (CVAFS)

**Lab Sample ID: MB 240-89456/1-A**  
**Matrix: Water**  
**Analysis Batch: 89602**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 89456**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.50	0.16	ng/L		06/11/13 14:17	06/12/13 09:21	1

**Lab Sample ID: LCS 240-89456/2-A**  
**Matrix: Water**  
**Analysis Batch: 89602**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 89456**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Mercury	5.00	5.33		ng/L		107	77 - 123

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-122836/1-A

Matrix: Water

Analysis Batch: 123453

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122836

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	0.110	J	0.20	0.060	mg/L		06/08/13 09:15	06/11/13 19:01	1
Antimony	ND		0.020	0.0068	mg/L		06/08/13 09:15	06/11/13 19:01	1
Arsenic	ND		0.010	0.0056	mg/L		06/08/13 09:15	06/11/13 19:01	1
Beryllium	ND		0.0020	0.00030	mg/L		06/08/13 09:15	06/11/13 19:01	1
Cadmium	ND		0.0010	0.00050	mg/L		06/08/13 09:15	06/11/13 19:01	1
Chromium	ND		0.0040	0.0010	mg/L		06/08/13 09:15	06/11/13 19:01	1
Copper	ND		0.010	0.0016	mg/L		06/08/13 09:15	06/11/13 19:01	1
Iron	0.0204	J	0.050	0.019	mg/L		06/08/13 09:15	06/11/13 19:01	1
Lead	ND		0.0050	0.0030	mg/L		06/08/13 09:15	06/11/13 19:01	1
Nickel	ND		0.010	0.0013	mg/L		06/08/13 09:15	06/11/13 19:01	1
Selenium	ND		0.015	0.0087	mg/L		06/08/13 09:15	06/11/13 19:01	1
Silver	ND		0.0030	0.0017	mg/L		06/08/13 09:15	06/11/13 19:01	1
Thallium	ND		0.020	0.010	mg/L		06/08/13 09:15	06/11/13 19:01	1
Zinc	ND		0.010	0.0015	mg/L		06/08/13 09:15	06/11/13 19:01	1

Lab Sample ID: LCS 480-122836/2-A

Matrix: Water

Analysis Batch: 123453

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Aluminum	10.0	10.71		mg/L		107	80 - 120	
Antimony	0.200	0.206		mg/L		103	80 - 120	
Arsenic	0.200	0.217		mg/L		109	80 - 120	
Beryllium	0.200	0.213		mg/L		106	80 - 120	
Cadmium	0.200	0.208		mg/L		104	80 - 120	
Chromium	0.200	0.208		mg/L		104	80 - 120	
Copper	0.200	0.208		mg/L		104	80 - 120	
Iron	10.0	10.34		mg/L		103	80 - 120	
Lead	0.200	0.203		mg/L		102	80 - 120	
Nickel	0.200	0.203		mg/L		102	80 - 120	
Selenium	0.200	0.206		mg/L		103	80 - 120	
Silver	0.0500	0.0525		mg/L		105	80 - 120	
Thallium	0.200	0.212		mg/L		106	80 - 120	
Zinc	0.200	0.205		mg/L		103	80 - 120	

### Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-122669/1-A

Matrix: Water

Analysis Batch: 122823

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122669

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.00012	mg/L		06/07/13 07:55	06/07/13 12:33	1

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 480-122669/2-A

Matrix: Water

Analysis Batch: 122823

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00657		mg/L		98	80 - 120

### Method: 410.4 - COD

Lab Sample ID: MB 480-123167/51

Matrix: Water

Analysis Batch: 123167

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			06/10/13 17:22	1

Lab Sample ID: LCS 480-123167/52

Matrix: Water

Analysis Batch: 123167

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	25.34		mg/L		101	90 - 110

Lab Sample ID: 480-39662-2 MS

Matrix: Water

Analysis Batch: 123167

Client Sample ID: Roth-Shredded-02

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	100		100	206.7		mg/L		107	75 - 125

Lab Sample ID: MB 480-123902/3

Matrix: Water

Analysis Batch: 123902

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			06/13/13 22:24	1

Lab Sample ID: LCS 480-123902/4

Matrix: Water

Analysis Batch: 123902

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	217.4		mg/L		109	90 - 110

Lab Sample ID: 480-39662-1 DU

Matrix: Water

Analysis Batch: 123902

Client Sample ID: Roth-Incoming-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Chemical Oxygen Demand	269		310.0		mg/L		14	20

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Method: SM 2540D - Solids, Total Suspended (TSS)

<b>Lab Sample ID: MB 480-122886/1</b>						<b>Client Sample ID: Method Blank</b>			
<b>Matrix: Water</b>						<b>Prep Type: Total/NA</b>			
<b>Analysis Batch: 122886</b>									
Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			06/07/13 22:01	1

<b>Lab Sample ID: LCS 480-122886/2</b>						<b>Client Sample ID: Lab Control Sample</b>			
<b>Matrix: Water</b>						<b>Prep Type: Total/NA</b>			
<b>Analysis Batch: 122886</b>									
Analyte	Spike Added		LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Total Suspended Solids	213		206.0		mg/L		97	88 - 110	

### Method: SM 2540F - Solids, Settleable

<b>Lab Sample ID: MB 480-122708/1</b>						<b>Client Sample ID: Method Blank</b>			
<b>Matrix: Water</b>						<b>Prep Type: Total/NA</b>			
<b>Analysis Batch: 122708</b>									
Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Settleable Solids	ND		0.100	0.100	mL/L/Hr			06/07/13 07:47	1

### Method: SM 5210B - BOD, 5-Day

<b>Lab Sample ID: USB 480-122749/1 USB</b>						<b>Client Sample ID: Method Blank</b>			
<b>Matrix: Water</b>						<b>Prep Type: Total/NA</b>			
<b>Analysis Batch: 122749</b>									
Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			06/07/13 08:27	1

<b>Lab Sample ID: LCS 480-122749/2</b>						<b>Client Sample ID: Lab Control Sample</b>			
<b>Matrix: Water</b>						<b>Prep Type: Total/NA</b>			
<b>Analysis Batch: 122749</b>									
Analyte	Spike Added		LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Biochemical Oxygen Demand	198		191.7		mg/L		97	85 - 115	



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1



### GC/MS VOA

#### Analysis Batch: 123021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	8260B	
480-39662-2	Roth-Shredded-02	Total/NA	Water	8260B	
480-39662-3	Roth-Trip Blank	Total/NA	Water	8260B	
LCS 480-123021/5	Lab Control Sample	Total/NA	Water	8260B	
MB 480-123021/6	Method Blank	Total/NA	Water	8260B	

### GC/MS Semi VOA

#### Prep Batch: 123210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1 - DL	Roth-Incoming-01	Total/NA	Water	3510C	
480-39662-1	Roth-Incoming-01	Total/NA	Water	3510C	
480-39662-1 MS	Roth-Incoming-01	Total/NA	Water	3510C	
480-39662-1 MSD	Roth-Incoming-01	Total/NA	Water	3510C	
480-39662-2	Roth-Shredded-02	Total/NA	Water	3510C	
LCS 480-123210/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 480-123210/1-A	Method Blank	Total/NA	Water	3510C	

#### Analysis Batch: 124300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	8270C	123210
480-39662-1 - DL	Roth-Incoming-01	Total/NA	Water	8270C	123210
480-39662-1 MS	Roth-Incoming-01	Total/NA	Water	8270C	123210
480-39662-1 MSD	Roth-Incoming-01	Total/NA	Water	8270C	123210
480-39662-2	Roth-Shredded-02	Total/NA	Water	8270C	123210
LCS 480-123210/2-A	Lab Control Sample	Total/NA	Water	8270C	123210
MB 480-123210/1-A	Method Blank	Total/NA	Water	8270C	123210

### GC Semi VOA

#### Prep Batch: 122825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	3510C	
480-39662-2	Roth-Shredded-02	Total/NA	Water	3510C	
LCS 480-122825/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 480-122825/1-A	Method Blank	Total/NA	Water	3510C	

#### Analysis Batch: 122905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	8082	122825
480-39662-2	Roth-Shredded-02	Total/NA	Water	8082	122825
LCS 480-122825/2-A	Lab Control Sample	Total/NA	Water	8082	122825
MB 480-122825/1-A	Method Blank	Total/NA	Water	8082	122825

### Metals

#### Prep Batch: 89456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	1631E	
480-39662-2	Roth-Shredded-02	Total/NA	Water	1631E	

TestAmerica Buffalo

## QC Association Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1



### Metals (Continued)

#### Prep Batch: 89456 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-89456/2-A	Lab Control Sample	Total/NA	Water	1631E	
MB 240-89456/1-A	Method Blank	Total/NA	Water	1631E	

#### Analysis Batch: 89602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	1631E	89456
480-39662-2	Roth-Shredded-02	Total/NA	Water	1631E	89456
LCS 240-89456/2-A	Lab Control Sample	Total/NA	Water	1631E	89456
MB 240-89456/1-A	Method Blank	Total/NA	Water	1631E	89456

#### Prep Batch: 122669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	7470A	
480-39662-2	Roth-Shredded-02	Total/NA	Water	7470A	
LCS 480-122669/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 480-122669/1-A	Method Blank	Total/NA	Water	7470A	

#### Analysis Batch: 122823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	7470A	122669
480-39662-2	Roth-Shredded-02	Total/NA	Water	7470A	122669
LCS 480-122669/2-A	Lab Control Sample	Total/NA	Water	7470A	122669
MB 480-122669/1-A	Method Blank	Total/NA	Water	7470A	122669

#### Prep Batch: 122836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	3005A	
480-39662-2	Roth-Shredded-02	Total/NA	Water	3005A	
LCS 480-122836/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-122836/1-A	Method Blank	Total/NA	Water	3005A	

#### Analysis Batch: 123453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	6010B	122836
480-39662-2	Roth-Shredded-02	Total/NA	Water	6010B	122836
LCS 480-122836/2-A	Lab Control Sample	Total/NA	Water	6010B	122836
MB 480-122836/1-A	Method Blank	Total/NA	Water	6010B	122836

### General Chemistry

#### Analysis Batch: 122708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	SM 2540F	
480-39662-2	Roth-Shredded-02	Total/NA	Water	SM 2540F	
MB 480-122708/1	Method Blank	Total/NA	Water	SM 2540F	

#### Analysis Batch: 122749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	SM 5210B	
480-39662-2	Roth-Shredded-02	Total/NA	Water	SM 5210B	

TestAmerica Buffalo



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### General Chemistry (Continued)

#### Analysis Batch: 122749 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-122749/2	Lab Control Sample	Total/NA	Water	SM 5210B	
USB 480-122749/1 USB	Method Blank	Total/NA	Water	SM 5210B	

#### Analysis Batch: 122886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	SM 2540D	
480-39662-2	Roth-Shredded-02	Total/NA	Water	SM 2540D	
LCS 480-122886/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 480-122886/1	Method Blank	Total/NA	Water	SM 2540D	

#### Analysis Batch: 123167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-2	Roth-Shredded-02	Total/NA	Water	410.4	
480-39662-2 MS	Roth-Shredded-02	Total/NA	Water	410.4	
LCS 480-123167/52	Lab Control Sample	Total/NA	Water	410.4	
MB 480-123167/51	Method Blank	Total/NA	Water	410.4	

#### Analysis Batch: 123902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39662-1	Roth-Incoming-01	Total/NA	Water	410.4	
480-39662-1 DU	Roth-Incoming-01	Total/NA	Water	410.4	
LCS 480-123902/4	Lab Control Sample	Total/NA	Water	410.4	
MB 480-123902/3	Method Blank	Total/NA	Water	410.4	



## Lab Chronicle

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-39662-1**

Date Collected: 06/06/13 09:15

Matrix: Water

Date Received: 06/07/13 01:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	123021	06/10/13 05:49	LCH	TAL BUF
Total/NA	Prep	3510C	DL		123210	06/11/13 05:56	KEB	TAL BUF
Total/NA	Analysis	8270C	DL	5	124300	06/17/13 15:37	AR1	TAL BUF
Total/NA	Prep	3510C			123210	06/11/13 05:56	KEB	TAL BUF
Total/NA	Analysis	8270C		1	124300	06/17/13 13:46	AR1	TAL BUF
Total/NA	Prep	3510C			122825	06/07/13 13:59	TRG	TAL BUF
Total/NA	Analysis	8082		1	122905	06/08/13 14:47	JMM	TAL BUF
Total/NA	Prep	1631E			89456	06/11/13 14:17	DSH	TAL CAN
Total/NA	Analysis	1631E		20	89602	06/12/13 10:38	DSH	TAL CAN
Total/NA	Prep	7470A			122669	06/07/13 07:55	JRK	TAL BUF
Total/NA	Analysis	7470A		1	122823	06/07/13 13:04	JRK	TAL BUF
Total/NA	Prep	3005A			122836	06/08/13 09:15	SS1	TAL BUF
Total/NA	Analysis	6010B		1	123453	06/11/13 19:41	MDM	TAL BUF
Total/NA	Analysis	SM 2540F		1	122708	06/07/13 07:47	LAW	TAL BUF
Total/NA	Analysis	SM 5210B		1	122749	06/07/13 08:27	CLT	TAL BUF
Total/NA	Analysis	SM 2540D		1	122886	06/07/13 22:01	JMB	TAL BUF
Total/NA	Analysis	410.4		1	123902	06/13/13 22:24	JMB	TAL BUF

**Client Sample ID: Roth-Shredded-02**

**Lab Sample ID: 480-39662-2**

Date Collected: 06/06/13 09:27

Matrix: Water

Date Received: 06/07/13 01:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	123021	06/10/13 06:10	LCH	TAL BUF
Total/NA	Prep	3510C			123210	06/11/13 05:56	KEB	TAL BUF
Total/NA	Analysis	8270C		1	124300	06/17/13 14:14	AR1	TAL BUF
Total/NA	Prep	3510C			122825	06/07/13 13:59	TRG	TAL BUF
Total/NA	Analysis	8082		20	122905	06/08/13 15:02	JMM	TAL BUF
Total/NA	Prep	1631E			89456	06/11/13 14:17	DSH	TAL CAN
Total/NA	Analysis	1631E		10	89602	06/12/13 10:41	DSH	TAL CAN
Total/NA	Prep	7470A			122669	06/07/13 07:55	JRK	TAL BUF
Total/NA	Analysis	7470A		1	122823	06/07/13 13:06	JRK	TAL BUF
Total/NA	Prep	3005A			122836	06/08/13 09:15	SS1	TAL BUF
Total/NA	Analysis	6010B		1	123453	06/11/13 19:43	MDM	TAL BUF
Total/NA	Analysis	SM 2540F		1	122708	06/07/13 07:47	LAW	TAL BUF
Total/NA	Analysis	SM 5210B		1	122749	06/07/13 08:27	CLT	TAL BUF
Total/NA	Analysis	SM 2540D		1	122886	06/07/13 22:01	JMB	TAL BUF
Total/NA	Analysis	410.4		1	123167	06/10/13 17:22	JMB	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

**Client Sample ID: Roth-Trip Blank**

**Lab Sample ID: 480-39662-3**

**Date Collected: 06/06/13 00:00**

**Matrix: Water**

**Date Received: 06/07/13 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123021	06/10/13 06:30	LCH	TAL BUF

**Laboratory References:**

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600  
TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



## Certification Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

### Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	04-01-14

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
8082	3510C	Water	DCB Decachlorobiphenyl

### Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-13 *
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-31-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
Wisconsin	State Program	5	999518190	08-31-13

\* Expired certification is currently pending renewal and is considered valid.



## Method Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
1631E	Mercury, Low Level (CVAFS)	EPA	TAL CAN
6010B	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
410.4	COD	MCAWW	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 2540F	Solids, Settleable	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Sample Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-39662-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-39662-1	Roth-Incoming-01	Water	06/06/13 09:15	06/07/13 01:30
480-39662-2	Roth-Shredded-02	Water	06/06/13 09:27	06/07/13 01:30
480-39662-3	Roth-Trip Blank	Water	06/06/13 00:00	06/07/13 01:30

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Chain of Custody Record

<b>Client Information</b> Client Contact: Mr. Kendrick Jaglal Company: O'Brien & Gere Inc of North America Address: PO BOX 4873 City: Syracuse State, Zip: NY, 13221 Phone: 315-956-6465(Tel) 315-463-7554(Fax) Email: Kendrick.jaglal@obg.com Project Name: Roth Steel Sampling Project Site: _____		Lab Pwt: Devo, Melissa L E-Mail: melissa.devo@testamericainc.com Carrier Tracking No(s): COC No: 480-35362-9054.1 Page: Page 1 of 1 Job #: _____	
Due Date Requested: TAT Requested (days): Standard PO #: 11311153EST WO #: _____ Project #: 48007399 SSOVW #: _____		Analysis Requested 2540D - Total Suspended Solids 410.4 - Chemical Oxygen Demand 5210B, SM2540F 6010B, 7470A 8260B - TCL VOCs 1631E - High Resolution Mercury 8270C - TCL SVOCs 8082 - PCBs	
Sample Identification Roth - Incoming - 01 Roth - Shredded - 02 Roth - Trip Blank		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Matrix (W=water, S=solid, O=wastewater, B=BI-tissue, A=Air) Sample Type (C=Comp, G=grab) Sample Time Sample Date Preservation Code: 6/6/13 915 B Water 6/6/13 927 B Water 6/6/13 B Water	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/Note: LLHg Tanned Contam F/M Exp (M)	
Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: _____ Date: _____		Special Instructions/QC Requirements:	
Relinquished by: _____ Date/Time: 6/6/13 1055 Company: ORB		Received by: _____ Date/Time: 4-6-13 10:55 Company: SEA	
Relinquished by: _____ Date/Time: 4-6-13 1907 Company: _____		Received by: _____ Date/Time: 6-7-13 0130 Company: TA B-4	
Relinquished by: _____ Date/Time: _____ Company: _____		Received by: _____ Date/Time: _____ Company: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: 2.771	





TestAmerica Canton Sample Receipt Form/Narrative

Login # : 39662

Canton Facility

Client Buffalo Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]

Cooler Received on 6-7-13 Opened on 6-7-13

FedEx: 1<sup>st</sup> Grd  Exp  UPS  FAS  Stetson  Client Drop-Off  TestAmerica Courier  Other \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Foam Box  Client Cooler  Box  Other \_\_\_\_\_

Packing material used:  Bubble Wrap  Foam  Plastic Bag  None  Other \_\_\_\_\_

COOLANT:  Wet Ice  Blue Ice  Dry Ice  Water  None

1. Cooler temperature upon receipt

IR GUN# 1 (CF -0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	<input type="checkbox"/> See Multiple Cooler Form
IR GUN# 4G (CF +1 °C)	Observed Cooler Temp. <u>17.2</u> °C	Corrected Cooler Temp. <u>17.2</u> °C	
IR GUN# 5G (CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 8 (CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	

- 2. Were custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_ Yes  No
- Were custody seals on the outside of the cooler(s) signed & dated? Yes  No  NA
- Were custody seals on the bottle(s)? Yes  No
- 3. Shippers' packing slip attached to the cooler(s)? Yes  No
- 4. Did custody papers accompany the sample(s)? Yes  No
- 5. Were the custody papers relinquished & signed in the appropriate place? Yes  No

- 6. Did all bottles arrive in good condition (Unbroken)? Yes  No
- 7. Could all bottle labels be reconciled with the COC? Yes  No
- 8. Were correct bottle(s) used for the test(s) indicated? Yes  No
- 9. Sufficient quantity received to perform indicated analyses? Yes  No
- 10. Were sample(s) at the correct pH upon receipt? Yes  No  NA pH Strip Lot# HC379740
- 11. Were VOAs on the COC? Yes  No
- 12. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
- 13. Was a trip blank present in the cooler(s)? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
Concerning \_\_\_\_\_

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: [Signature]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

## Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-39662-1

Login Number: 39662

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert K

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OBG
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo  
10 Hazelwood Drive  
Amherst, NY 14228-2298  
Tel: (716)691-2600

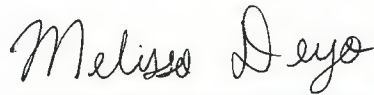
TestAmerica Job ID: 480-46382-1

Client Project/Site: Roth Steel Sampling Project  
Revision: 1

For:

O'Brien & Gere Inc of North America  
PO BOX 4873  
Syracuse, New York 13221

Attn: Mr. Kendrick Jaglal



Authorized for release by:  
10/31/2013 12:09:18 PM

Melissa Deyo, Project Manager I  
(716)504-9874  
[melissa.deyo@testamericainc.com](mailto:melissa.deyo@testamericainc.com)

### LINKS

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Expert**

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	10
QC Sample Results . . . . .	11
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	22
Certification Summary . . . . .	24
Method Summary . . . . .	26
Sample Summary . . . . .	27
Chain of Custody . . . . .	28
Receipt Checklists . . . . .	29



## Definitions/Glossary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

#### General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
b	Result Detected in the Unseeded Control blank (USB).

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Case Narrative

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

**Job ID: 480-46382-1**

**Laboratory: TestAmerica Buffalo**

Narrative

Job Narrative  
480-46382-1

### Revision I

This report was revised to include Aluminum.

### Receipt

The samples were received on 9/24/2013 2:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

Except:

A number of analyses were received outside holding time for the following samples.

### GC/MS VOA

Method(s) 8260B: The following volatiles sample(s) was diluted due to foaming at the time of purging during the original sample analysis: Roth-Incoming-01 (480-46382-1), Roth-Incoming-02F (480-46382-2). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

### GC Semi VOA

Method(s) 8082: The surrogate percent difference in the associated continuing calibration verifications (CCV) for Decachlorobiphenyl exceeded 15% on the ZB-5 column, indicating a high bias. (CCV 480-141005/12), (CCV 480-141005/22)

Method(s) 8082: All primary data is reported from the ZB-5 column.

Method(s) 8082: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

Method(s) 8082: The quality control samples MB 480-140922/1-A, LCS 480-140922/2-A and LCSD 480-140922/3-A associated with sample Roth-Incoming-02F (480-46382-2), are listed on a separated surrogate recovery form II, due to software limitations.

No other analytical or quality issues were noted.

### Metals

Method(s) 6010B: The Method Blank for batch 480-141075 contained Dissolved Chromium and Zinc above the method detection limits. These target analyte concentrations were less than the reporting limits (RLs); therefore, re-extraction and/or re-analysis of sample Roth-Incoming-02F (480-46382-2) was not performed.

No other analytical or quality issues were noted.

### General Chemistry

Method(s) SM 5210B: The following sample(s) was received outside of holding time: Roth-Incoming-01 (480-46382-1), Roth-Incoming-02F (480-46382-2).

Method(s) SM 5210B: The USB dilution water D.O. depletion was greater than 0.2 mg/L but less than the reporting limit of 2.0 mg/L. The associated sample results are reported. (USB 480-142614/1)

Method(s) SM 2540F: The following sample(s) was received outside of holding time for settleable solids analysis: Roth-Incoming-01 (480-46382-1), Roth-Incoming-02F (480-46382-2).

Method(s) SM 2540F: This sample was filtered prior to analysis, as per client request. Roth-Incoming-02F (480-46382-2)

No other analytical or quality issues were noted.

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## Case Narrative

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

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### Job ID: 480-46382-1 (Continued)

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#### Laboratory: TestAmerica Buffalo (Continued)

##### Organic Prep

No analytical or quality issues were noted.

---



## Detection Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Client Sample ID: Roth-Incoming-01

Lab Sample ID: 480-46382-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	36.7		5.0	1.6	ng/L	1		1631E	Total/NA
Aluminum	0.95	B	0.20	0.060	mg/L	1		6010B	Total/NA
Antimony	0.038		0.020	0.0068	mg/L	1		6010B	Total/NA
Arsenic	0.0097	J	0.010	0.0056	mg/L	1		6010B	Total/NA
Cadmium	0.0036		0.0010	0.00050	mg/L	1		6010B	Total/NA
Chromium	0.018		0.0040	0.0010	mg/L	1		6010B	Total/NA
Copper	0.19		0.010	0.0016	mg/L	1		6010B	Total/NA
Iron	13.3		0.050	0.019	mg/L	1		6010B	Total/NA
Lead	0.14		0.0050	0.0030	mg/L	1		6010B	Total/NA
Nickel	0.036		0.010	0.0013	mg/L	1		6010B	Total/NA
Silver	0.0069		0.0030	0.0017	mg/L	1		6010B	Total/NA
Zinc	2.3		0.010	0.0015	mg/L	1		6010B	Total/NA
Chemical Oxygen Demand	2320		100	50.0	mg/L	10		410.4	Total/NA
Biochemical Oxygen Demand	498	H b	2.0	2.0	mg/L	1		SM 5210B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	62.4		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Settleable Solids	0.200	H	0.100	0.100	mL/L/Hr	1		SM 2540F	Total/NA

### Client Sample ID: Roth-Incoming-02F

Lab Sample ID: 480-46382-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.12	J	0.20	0.060	mg/L	1		6010B	Dissolved
Antimony	0.038		0.020	0.0068	mg/L	1		6010B	Dissolved
Arsenic	0.0067	J	0.010	0.0056	mg/L	1		6010B	Dissolved
Cadmium	0.0010		0.0010	0.00050	mg/L	1		6010B	Dissolved
Chromium	0.0090	B	0.0040	0.0010	mg/L	1		6010B	Dissolved
Copper	0.12		0.010	0.0016	mg/L	1		6010B	Dissolved
Iron	1.6	B7	0.050	0.019	mg/L	1		6010B	Dissolved
Lead	0.064		0.0050	0.0030	mg/L	1		6010B	Dissolved
Nickel	0.021		0.010	0.0013	mg/L	1		6010B	Dissolved
Zinc	1.3	B	0.010	0.0015	mg/L	1		6010B	Dissolved
Chemical Oxygen Demand	1120		20.0	10.0	mg/L	2		410.4	Dissolved
Biochemical Oxygen Demand	359	H b	2.0	2.0	mg/L	1		SM 5210B	Dissolved

### Client Sample ID: Roth-Incoming-03FF

Lab Sample ID: 480-46382-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	22.9		0.50	0.16	ng/L	1		1631E	Dissolved

### Client Sample ID: Trip Blank

Lab Sample ID: 480-46382-4

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo



# Client Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

**Client Sample ID: Roth-Incoming-01**

**Lab Sample ID: 480-46382-1**

Date Collected: 09/21/13 15:55

Matrix: Water

Date Received: 09/24/13 02:15

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	4.1	ug/L			09/25/13 03:46	10
Toluene	ND		10	5.1	ug/L			09/25/13 03:46	10
Ethylbenzene	ND		10	7.4	ug/L			09/25/13 03:46	10
m-Xylene & p-Xylene	ND		20	6.6	ug/L			09/25/13 03:46	10
o-Xylene	ND		10	7.6	ug/L			09/25/13 03:46	10
Xylenes, Total	ND		20	6.6	ug/L			09/25/13 03:46	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	96		66 - 137					09/25/13 03:46	10
Toluene-d8 (Surr)	112		71 - 126					09/25/13 03:46	10
4-Bromofluorobenzene (Surr)	106		73 - 120					09/25/13 03:46	10

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.17	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1221	ND		0.48	0.17	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1232	ND		0.48	0.17	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1242	ND		0.48	0.17	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1248	ND		0.48	0.17	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1254	ND		0.48	0.24	ug/L		09/24/13 15:02	09/25/13 10:10	1
PCB-1260	ND		0.48	0.24	ug/L		09/24/13 15:02	09/25/13 10:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	19		19 - 126				09/24/13 15:02	09/25/13 10:10	1
Tetrachloro-m-xylene	29		23 - 127				09/24/13 15:02	09/25/13 10:10	1

**Method: 1631E - Mercury, Low Level (CVAFS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	36.7		5.0	1.6	ng/L		10/07/13 11:27	10/13/13 11:09	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.95	B	0.20	0.060	mg/L		09/24/13 08:05	09/24/13 17:01	1
Antimony	0.038		0.020	0.0068	mg/L		09/24/13 08:05	09/24/13 17:01	1
Arsenic	0.0097	J	0.010	0.0056	mg/L		09/24/13 08:05	09/24/13 17:01	1
Beryllium	ND		0.0020	0.00030	mg/L		09/24/13 08:05	09/24/13 17:01	1
Cadmium	0.0036		0.0010	0.00050	mg/L		09/24/13 08:05	09/24/13 17:01	1
Chromium	0.018		0.0040	0.0010	mg/L		09/24/13 08:05	09/24/13 17:01	1
Copper	0.19		0.010	0.0016	mg/L		09/24/13 08:05	09/24/13 17:01	1
Iron	13.3		0.050	0.019	mg/L		09/24/13 08:05	09/24/13 17:01	1
Lead	0.14		0.0050	0.0030	mg/L		09/24/13 08:05	09/24/13 17:01	1
Nickel	0.036		0.010	0.0013	mg/L		09/24/13 08:05	09/24/13 17:01	1
Selenium	ND		0.015	0.0087	mg/L		09/24/13 08:05	09/24/13 17:01	1
Silver	0.0069		0.0030	0.0017	mg/L		09/24/13 08:05	09/24/13 17:01	1
Thallium	ND		0.020	0.010	mg/L		09/24/13 08:05	09/24/13 17:01	1
Zinc	2.3		0.010	0.0015	mg/L		09/24/13 08:05	09/24/13 17:01	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		09/26/13 08:40	09/26/13 13:11	1

TestAmerica Buffalo



# Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

## Client Sample ID: Roth-Incoming-01

Lab Sample ID: 480-46382-1

Date Collected: 09/21/13 15:55

Matrix: Water

Date Received: 09/24/13 02:15

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	2320		100	50.0	mg/L			09/26/13 12:08	10
Biochemical Oxygen Demand	498	H b	2.0	2.0	mg/L			10/03/13 09:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	62.4		4.0	4.0	mg/L			09/24/13 17:12	1
Settleable Solids	0.200	H	0.100	0.100	mL/L/Hr			09/24/13 16:48	1

## Client Sample ID: Roth-Incoming-02F

Lab Sample ID: 480-46382-2

Date Collected: 09/21/13 16:00

Matrix: Water

Date Received: 09/24/13 02:15

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	4.1	ug/L			09/25/13 04:07	10
Toluene	ND		10	5.1	ug/L			09/25/13 04:07	10
Ethylbenzene	ND		10	7.4	ug/L			09/25/13 04:07	10
m-Xylene & p-Xylene	ND		20	6.6	ug/L			09/25/13 04:07	10
o-Xylene	ND		10	7.6	ug/L			09/25/13 04:07	10
Xylenes, Total	ND		20	6.6	ug/L			09/25/13 04:07	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137				09/24/13 15:02	09/25/13 04:07	10
Toluene-d8 (Surr)	112		71 - 126				09/24/13 15:02	09/25/13 04:07	10
4-Bromofluorobenzene (Surr)	106		73 - 120				09/24/13 15:02	09/25/13 04:07	10

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.17	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1221	ND		0.49	0.17	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1232	ND		0.49	0.17	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1242	ND		0.49	0.17	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1248	ND		0.49	0.17	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1254	ND		0.49	0.25	ug/L		09/24/13 15:02	09/25/13 10:24	1
PCB-1260	ND		0.49	0.25	ug/L		09/24/13 15:02	09/25/13 10:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	21		19 - 126				09/24/13 15:02	09/25/13 10:24	1
Tetrachloro-m-xylene	26		23 - 127				09/24/13 15:02	09/25/13 10:24	1

### Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.12	J	0.20	0.060	mg/L		09/25/13 12:20	09/26/13 19:13	1
Antimony	0.038		0.020	0.0068	mg/L		09/25/13 12:20	09/26/13 19:13	1
Arsenic	0.0067	J	0.010	0.0056	mg/L		09/25/13 12:20	09/26/13 19:13	1
Beryllium	ND		0.0020	0.00030	mg/L		09/25/13 12:20	09/26/13 19:13	1
Cadmium	0.0010		0.0010	0.00050	mg/L		09/25/13 12:20	09/26/13 19:13	1
Chromium	0.0090	B	0.0040	0.0010	mg/L		09/25/13 12:20	09/26/13 19:13	1
Copper	0.12		0.010	0.0016	mg/L		09/25/13 12:20	09/26/13 19:13	1
Iron	1.6	B7	0.050	0.019	mg/L		09/25/13 12:20	09/26/13 19:13	1
Lead	0.064		0.0050	0.0030	mg/L		09/25/13 12:20	09/26/13 19:13	1
Nickel	0.021		0.010	0.0013	mg/L		09/25/13 12:20	09/26/13 19:13	1

TestAmerica Buffalo

## Client Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

**Client Sample ID: Roth-Incoming-02F**

**Lab Sample ID: 480-46382-2**

Date Collected: 09/21/13 16:00

Matrix: Water

Date Received: 09/24/13 02:15

**Method: 6010B - Metals (ICP) - Dissolved (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.015	0.0087	mg/L		09/25/13 12:20	09/26/13 19:13	1
Silver	ND		0.0030	0.0017	mg/L		09/25/13 12:20	09/26/13 19:13	1
Thallium	ND		0.020	0.010	mg/L		09/25/13 12:20	09/26/13 19:13	1
<b>Zinc</b>	<b>1.3</b>	<b>B</b>	0.010	0.0015	mg/L		09/25/13 12:20	09/26/13 19:13	1

**Method: 7470A - Mercury (CVAA) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		09/26/13 09:00	09/26/13 13:53	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			09/24/13 17:13	1
Settleable Solids	ND	H	0.100	0.100	mL/L/Hr			09/24/13 17:08	1

**General Chemistry - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	1120		20.0	10.0	mg/L			10/03/13 22:30	2
Biochemical Oxygen Demand	359	H b	2.0	2.0	mg/L			10/03/13 09:31	1

**Client Sample ID: Roth-Incoming-03FF**

**Lab Sample ID: 480-46382-3**

Date Collected: 09/21/13 16:02

Matrix: Water

Date Received: 09/24/13 02:15

**Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	22.9		0.50	0.16	ng/L		10/07/13 11:27	10/08/13 10:34	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-46382-4**

Date Collected: 09/21/13 00:00

Matrix: Water

Date Received: 09/24/13 02:15

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			09/25/13 04:29	1
Toluene	ND		1.0	0.51	ug/L			09/25/13 04:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			09/25/13 04:29	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			09/25/13 04:29	1
o-Xylene	ND		1.0	0.76	ug/L			09/25/13 04:29	1
Xylenes, Total	ND		2.0	0.66	ug/L			09/25/13 04:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137					09/25/13 04:29	1
Toluene-d8 (Surr)	112		71 - 126					09/25/13 04:29	1
4-Bromofluorobenzene (Surr)	104		73 - 120					09/25/13 04:29	1

## Surrogate Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		12DCE (66-137)	TOL (71-126)	BFB (73-120)
480-46382-1	Roth-Incoming-01	96	112	106
480-46382-2	Roth-Incoming-02F	97	112	106
480-46382-4	Trip Blank	97	112	104
LCS 480-140947/4	Lab Control Sample	96	111	106
MB 480-140947/5	Method Blank	97	112	105

**Surrogate Legend**

12DCE = 1,2-Dichloroethane-d4 (Surr)  
 TOL = Toluene-d8 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB1 (19-126)	TCX1 (23-127)
480-46382-1	Roth-Incoming-01	19	29
LCS 480-140922/2-A	Lab Control Sample	56	80
LCSD 480-140922/3-A	Lab Control Sample Dup	77	81
MB 480-140922/1-A	Method Blank	70	78

**Surrogate Legend**

DCB = DCB Decachlorobiphenyl  
 TCX = Tetrachloro-m-xylene

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Dissolved

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB1 (19-126)	TCX1 (23-127)
480-46382-2	Roth-Incoming-02F	21	26

**Surrogate Legend**

DCB = DCB Decachlorobiphenyl  
 TCX = Tetrachloro-m-xylene

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-140947/5

Matrix: Water

Analysis Batch: 140947

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		1.0	0.41	ug/L			09/24/13 22:18	1
Toluene	ND		1.0	0.51	ug/L			09/24/13 22:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			09/24/13 22:18	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			09/24/13 22:18	1
o-Xylene	ND		1.0	0.76	ug/L			09/24/13 22:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			09/24/13 22:18	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		09/24/13 22:18	1
Toluene-d8 (Surr)	112		71 - 126		09/24/13 22:18	1
4-Bromofluorobenzene (Surr)	105		73 - 120		09/24/13 22:18	1

Lab Sample ID: LCS 480-140947/4

Matrix: Water

Analysis Batch: 140947

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	25.0	24.4		ug/L		98	71 - 124
Toluene	25.0	27.4		ug/L		110	80 - 122
Ethylbenzene	25.0	26.2		ug/L		105	77 - 123
m-Xylene & p-Xylene	50.0	54.3		ug/L		109	76 - 122
o-Xylene	25.0	26.4		ug/L		106	76 - 122

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		66 - 137
Toluene-d8 (Surr)	111		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-140922/1-A

Matrix: Water

Analysis Batch: 141005

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 140922

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	ND		0.50	0.18	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1221	ND		0.50	0.18	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1232	ND		0.50	0.18	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1242	ND		0.50	0.18	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1248	ND		0.50	0.18	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1254	ND		0.50	0.25	ug/L		09/24/13 15:02	09/25/13 09:25	1
PCB-1260	ND		0.50	0.25	ug/L		09/24/13 15:02	09/25/13 09:25	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl	70		19 - 126	09/24/13 15:02	09/25/13 09:25	1
Tetrachloro-m-xylene	78		23 - 127	09/24/13 15:02	09/25/13 09:25	1

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## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID: LCS 480-140922/2-A**  
**Matrix: Water**  
**Analysis Batch: 141005**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 140922**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
PCB-1016	4.00	4.38		ug/L		109	51 - 137	
PCB-1260	4.00	3.18		ug/L		80	45 - 139	
		<b>LCS</b>	<b>LCS</b>					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
DCB Decachlorobiphenyl	56		19 - 126					
Tetrachloro-m-xylene	80		23 - 127					

**Lab Sample ID: LCSD 480-140922/3-A**  
**Matrix: Water**  
**Analysis Batch: 141005**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 140922**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
									RPD	
PCB-1016	4.00	4.39		ug/L		110	51 - 137	0	50	
PCB-1260	4.00	4.07		ug/L		102	45 - 139	25	50	
		<b>LCSD</b>	<b>LCSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
DCB Decachlorobiphenyl	77		19 - 126							
Tetrachloro-m-xylene	81		23 - 127							

### Method: 1631E - Mercury, Low Level (CVAFS)

**Lab Sample ID: MB 240-104475/1-A**  
**Matrix: Water**  
**Analysis Batch: 104524**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 104475**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.50	0.16	ng/L		10/07/13 11:27	10/07/13 13:48	1

**Lab Sample ID: LCS 240-104475/2-A**  
**Matrix: Water**  
**Analysis Batch: 104524**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 104475**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Mercury	5.00	5.38		ng/L		108	77 - 123	

### Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 480-140771/1-A**  
**Matrix: Water**  
**Analysis Batch: 141042**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 140771**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	0.0788	J	0.20	0.060	mg/L		09/24/13 08:05	09/24/13 16:16	1
Antimony	ND		0.020	0.0068	mg/L		09/24/13 08:05	09/24/13 16:16	1
Arsenic	ND		0.010	0.0056	mg/L		09/24/13 08:05	09/24/13 16:16	1
Beryllium	ND		0.0020	0.00030	mg/L		09/24/13 08:05	09/24/13 16:16	1
Cadmium	ND		0.0010	0.00050	mg/L		09/24/13 08:05	09/24/13 16:16	1

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: MB 480-140771/1-A**  
**Matrix: Water**  
**Analysis Batch: 141042**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 140771**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chromium	ND		0.0040	0.0010	mg/L		09/24/13 08:05	09/24/13 16:16	1
Copper	ND		0.010	0.0016	mg/L		09/24/13 08:05	09/24/13 16:16	1
Iron	ND		0.050	0.019	mg/L		09/24/13 08:05	09/24/13 16:16	1
Lead	ND		0.0050	0.0030	mg/L		09/24/13 08:05	09/24/13 16:16	1
Nickel	ND		0.010	0.0013	mg/L		09/24/13 08:05	09/24/13 16:16	1
Selenium	ND		0.015	0.0087	mg/L		09/24/13 08:05	09/24/13 16:16	1
Silver	ND		0.0030	0.0017	mg/L		09/24/13 08:05	09/24/13 16:16	1
Thallium	ND		0.020	0.010	mg/L		09/24/13 08:05	09/24/13 16:16	1
Zinc	ND		0.010	0.0015	mg/L		09/24/13 08:05	09/24/13 16:16	1

**Lab Sample ID: LCS 480-140771/2-A**  
**Matrix: Water**  
**Analysis Batch: 141042**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 140771**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Aluminum	10.0	10.14		mg/L		101	80 - 120	
Antimony	0.200	0.195		mg/L		97	80 - 120	
Arsenic	0.200	0.204		mg/L		102	80 - 120	
Beryllium	0.200	0.202		mg/L		101	80 - 120	
Cadmium	0.200	0.199		mg/L		99	80 - 120	
Chromium	0.200	0.199		mg/L		100	80 - 120	
Copper	0.200	0.197		mg/L		98	80 - 120	
Iron	10.0	9.90		mg/L		99	80 - 120	
Lead	0.200	0.195		mg/L		98	80 - 120	
Nickel	0.200	0.195		mg/L		97	80 - 120	
Selenium	0.200	0.200		mg/L		100	80 - 120	
Silver	0.0500	0.0510		mg/L		102	80 - 120	
Thallium	0.200	0.198		mg/L		99	80 - 120	
Zinc	0.200	0.194		mg/L		97	80 - 120	

**Lab Sample ID: MB 480-140785/1-B**  
**Matrix: Water**  
**Analysis Batch: 141494**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 141075**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		0.20	0.060	mg/L		09/25/13 12:20	09/26/13 18:25	1
Antimony	ND		0.020	0.0068	mg/L		09/25/13 12:20	09/26/13 18:25	1
Arsenic	ND		0.010	0.0056	mg/L		09/25/13 12:20	09/26/13 18:25	1
Beryllium	ND		0.0020	0.00030	mg/L		09/25/13 12:20	09/26/13 18:25	1
Cadmium	ND		0.0010	0.00050	mg/L		09/25/13 12:20	09/26/13 18:25	1
Chromium	0.00177	J	0.0040	0.0010	mg/L		09/25/13 12:20	09/26/13 18:25	1
Copper	ND		0.010	0.0016	mg/L		09/25/13 12:20	09/26/13 18:25	1
Iron	0.145		0.050	0.019	mg/L		09/25/13 12:20	09/26/13 18:25	1
Lead	ND		0.0050	0.0030	mg/L		09/25/13 12:20	09/26/13 18:25	1
Nickel	ND		0.010	0.0013	mg/L		09/25/13 12:20	09/26/13 18:25	1
Selenium	ND		0.015	0.0087	mg/L		09/25/13 12:20	09/26/13 18:25	1
Silver	ND		0.0030	0.0017	mg/L		09/25/13 12:20	09/26/13 18:25	1
Thallium	ND		0.020	0.010	mg/L		09/25/13 12:20	09/26/13 18:25	1
Zinc	0.00189	J	0.010	0.0015	mg/L		09/25/13 12:20	09/26/13 18:25	1

TestAmerica Buffalo



## QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: LCS 480-140785/2-B**  
**Matrix: Water**  
**Analysis Batch: 141494**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 141075**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Aluminum	10.0	10.11		mg/L		101	80 - 120	
Antimony	0.200	0.200		mg/L		100	80 - 120	
Arsenic	0.200	0.202		mg/L		101	80 - 120	
Beryllium	0.200	0.203		mg/L		101	80 - 120	
Cadmium	0.200	0.201		mg/L		101	80 - 120	
Chromium	0.200	0.208		mg/L		104	80 - 120	
Copper	0.200	0.201		mg/L		100	80 - 120	
Iron	10.0	10.18		mg/L		102	80 - 120	
Lead	0.200	0.198		mg/L		99	80 - 120	
Nickel	0.200	0.199		mg/L		99	80 - 120	
Selenium	0.200	0.201		mg/L		101	80 - 120	
Silver	0.0500	0.0502		mg/L		100	80 - 120	
Thallium	0.200	0.202		mg/L		101	80 - 120	
Zinc	0.200	0.207		mg/L		103	80 - 120	

**Lab Sample ID: 480-46382-2 MS**  
**Matrix: Water**  
**Analysis Batch: 141494**

**Client Sample ID: Roth-Incoming-02F**  
**Prep Type: Dissolved**  
**Prep Batch: 141075**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Aluminum	0.12	J	10.0	10.37		mg/L		102	75 - 125	
Antimony	0.038		0.200	0.247		mg/L		105	75 - 125	
Arsenic	0.0067	J	0.200	0.224		mg/L		109	75 - 125	
Beryllium	ND		0.200	0.204		mg/L		102	75 - 125	
Cadmium	0.0010		0.200	0.209		mg/L		104	75 - 125	
Chromium	0.0090	B	0.200	0.214		mg/L		103	75 - 125	
Copper	0.12		0.200	0.325		mg/L		103	75 - 125	
Iron	1.6	B7	10.0	11.49		mg/L		99	75 - 125	
Lead	0.064		0.200	0.266		mg/L		101	75 - 125	
Nickel	0.021		0.200	0.222		mg/L		101	75 - 125	
Selenium	ND		0.200	0.221		mg/L		111	75 - 125	
Silver	ND		0.0500	0.0539		mg/L		108	75 - 125	
Thallium	ND		0.200	0.193		mg/L		97	75 - 125	
Zinc	1.3	B	0.200	1.43	4	mg/L		87	75 - 125	

**Lab Sample ID: 480-46382-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 141494**

**Client Sample ID: Roth-Incoming-02F**  
**Prep Type: Dissolved**  
**Prep Batch: 141075**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
									Limits		RPD	Limit
Aluminum	0.12	J	10.0	10.34		mg/L		102	75 - 125	0	20	
Antimony	0.038		0.200	0.241		mg/L		102	75 - 125	2	20	
Arsenic	0.0067	J	0.200	0.215		mg/L		104	75 - 125	4	20	
Beryllium	ND		0.200	0.200		mg/L		100	75 - 125	2	20	
Cadmium	0.0010		0.200	0.204		mg/L		102	75 - 125	2	20	
Chromium	0.0090	B	0.200	0.212		mg/L		101	75 - 125	1	20	
Copper	0.12		0.200	0.319		mg/L		100	75 - 125	2	20	
Iron	1.6	B7	10.0	11.28		mg/L		97	75 - 125	2	20	

TestAmerica Buffalo





# QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: 480-46382-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 141494**

**Client Sample ID: Roth-Incoming-02F**  
**Prep Type: Dissolved**  
**Prep Batch: 141075**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Lead	0.064		0.200	0.262		mg/L		99	75 - 125	1		20
Nickel	0.021		0.200	0.220		mg/L		99	75 - 125	1		20
Selenium	ND		0.200	0.215		mg/L		107	75 - 125	3		20
Silver	ND		0.0500	0.0528		mg/L		106	75 - 125	2		20
Thallium	ND		0.200	0.193		mg/L		97	75 - 125	0		20
Zinc	1.3	B	0.200	1.45	4	mg/L		101	75 - 125	2		20

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 480-141235/1-A**  
**Matrix: Water**  
**Analysis Batch: 141348**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 141235**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.00012	mg/L		09/26/13 08:40	09/26/13 12:47	1

**Lab Sample ID: LCS 480-141235/2-A**  
**Matrix: Water**  
**Analysis Batch: 141348**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 141235**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Mercury	0.00667	0.00663		mg/L		99	80 - 120	

**Lab Sample ID: MB 480-140785/1-C**  
**Matrix: Water**  
**Analysis Batch: 141369**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 141238**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.00012	mg/L		09/26/13 09:00	09/26/13 13:48	1

**Lab Sample ID: LCS 480-140785/2-C**  
**Matrix: Water**  
**Analysis Batch: 141369**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 141238**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Mercury	0.00667	0.00637		mg/L		95	80 - 120	

**Lab Sample ID: LCSD 480-140785/7-B**  
**Matrix: Water**  
**Analysis Batch: 141369**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 141238**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.00667	0.00632		mg/L		95	80 - 120	1		20

TestAmerica Buffalo

## QC Sample Results

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: 410.4 - COD

Lab Sample ID: MB 480-141331/3  
Matrix: Water  
Analysis Batch: 141331

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			09/26/13 12:01	1

Lab Sample ID: LCS 480-141331/4  
Matrix: Water  
Analysis Batch: 141331

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	188.3		mg/L		94	90 - 110

Lab Sample ID: MB 480-142663/3  
Matrix: Water  
Analysis Batch: 142663

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			10/03/13 22:30	1

Lab Sample ID: LCS 480-142663/4  
Matrix: Water  
Analysis Batch: 142663

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	199.8		mg/L		100	90 - 110

### Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-140939/1  
Matrix: Water  
Analysis Batch: 140939

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			09/24/13 16:50	1

Lab Sample ID: LCS 480-140939/2  
Matrix: Water  
Analysis Batch: 140939

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	228	217.6		mg/L		95	88 - 110

### Method: SM 2540F - Solids, Settleable

Lab Sample ID: MB 480-140967/1  
Matrix: Water  
Analysis Batch: 140967

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Settleable Solids	ND		0.100	0.100	mL/L/Hr			09/24/13 16:28	1

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## QC Sample Results

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Method: SM 5210B - BOD, 5-Day

**Lab Sample ID: USB 480-142614/1 USB**  
**Matrix: Water**  
**Analysis Batch: 142614**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			10/03/13 09:31	1

**Lab Sample ID: LCS 480-142614/2**  
**Matrix: Water**  
**Analysis Batch: 142614**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	202.8		mg/L		102	85 - 115



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### GC/MS VOA

#### Analysis Batch: 140947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	8260B	
480-46382-2	Roth-Incoming-02F	Total/NA	Water	8260B	
480-46382-4	Trip Blank	Total/NA	Water	8260B	
LCS 480-140947/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-140947/5	Method Blank	Total/NA	Water	8260B	

### GC Semi VOA

#### Filtration Batch: 140918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	Filtration	

#### Prep Batch: 140922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	3510C	
480-46382-2	Roth-Incoming-02F	Dissolved	Water	3510C	140918
LCS 480-140922/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-140922/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 480-140922/1-A	Method Blank	Total/NA	Water	3510C	

#### Analysis Batch: 141005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	8082	140922
480-46382-2	Roth-Incoming-02F	Dissolved	Water	8082	140922
LCS 480-140922/2-A	Lab Control Sample	Total/NA	Water	8082	140922
LCSD 480-140922/3-A	Lab Control Sample Dup	Total/NA	Water	8082	140922
MB 480-140922/1-A	Method Blank	Total/NA	Water	8082	140922

### Metals

#### Prep Batch: 104475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	1631E	
480-46382-3	Roth-Incoming-03FF	Dissolved	Water	1631E	
LCS 240-104475/2-A	Lab Control Sample	Total/NA	Water	1631E	
MB 240-104475/1-A	Method Blank	Total/NA	Water	1631E	

#### Analysis Batch: 104524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-104475/2-A	Lab Control Sample	Total/NA	Water	1631E	104475
MB 240-104475/1-A	Method Blank	Total/NA	Water	1631E	104475

#### Analysis Batch: 104724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-3	Roth-Incoming-03FF	Dissolved	Water	1631E	104475

#### Analysis Batch: 105101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	1631E	104475

TestAmerica Buffalo



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Metals (Continued)

#### Prep Batch: 140771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	3005A	
LCS 480-140771/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-140771/1-A	Method Blank	Total/NA	Water	3005A	

#### Filtration Batch: 140785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	FILTRATION	
480-46382-2 MS	Roth-Incoming-02F	Dissolved	Water	FILTRATION	
480-46382-2 MSD	Roth-Incoming-02F	Dissolved	Water	FILTRATION	
LCS 480-140785/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 480-140785/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 480-140785/7-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
MB 480-140785/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 480-140785/1-C	Method Blank	Dissolved	Water	FILTRATION	

#### Analysis Batch: 141042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	6010B	140771
LCS 480-140771/2-A	Lab Control Sample	Total/NA	Water	6010B	140771
MB 480-140771/1-A	Method Blank	Total/NA	Water	6010B	140771

#### Prep Batch: 141075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	3005A	140785
480-46382-2 MS	Roth-Incoming-02F	Dissolved	Water	3005A	140785
480-46382-2 MSD	Roth-Incoming-02F	Dissolved	Water	3005A	140785
LCS 480-140785/2-B	Lab Control Sample	Dissolved	Water	3005A	140785
MB 480-140785/1-B	Method Blank	Dissolved	Water	3005A	140785

#### Prep Batch: 141235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	7470A	
LCS 480-141235/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 480-141235/1-A	Method Blank	Total/NA	Water	7470A	

#### Prep Batch: 141238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	7470A	140785
LCS 480-140785/2-C	Lab Control Sample	Dissolved	Water	7470A	140785
LCSD 480-140785/7-B	Lab Control Sample Dup	Dissolved	Water	7470A	140785
MB 480-140785/1-C	Method Blank	Dissolved	Water	7470A	140785

#### Analysis Batch: 141348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	7470A	141235
LCS 480-141235/2-A	Lab Control Sample	Total/NA	Water	7470A	141235
MB 480-141235/1-A	Method Blank	Total/NA	Water	7470A	141235

#### Analysis Batch: 141369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	7470A	141238

TestAmerica Buffalo



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Metals (Continued)

#### Analysis Batch: 141369 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-140785/2-C	Lab Control Sample	Dissolved	Water	7470A	141238
LCS 480-140785/7-B	Lab Control Sample Dup	Dissolved	Water	7470A	141238
MB 480-140785/1-C	Method Blank	Dissolved	Water	7470A	141238

#### Analysis Batch: 141494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	6010B	141075
480-46382-2 MS	Roth-Incoming-02F	Dissolved	Water	6010B	141075
480-46382-2 MSD	Roth-Incoming-02F	Dissolved	Water	6010B	141075
LCS 480-140785/2-B	Lab Control Sample	Dissolved	Water	6010B	141075
MB 480-140785/1-B	Method Blank	Dissolved	Water	6010B	141075

### General Chemistry

#### Analysis Batch: 140939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	SM 2540D	
480-46382-2	Roth-Incoming-02F	Total/NA	Water	SM 2540D	
LCS 480-140939/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 480-140939/1	Method Blank	Total/NA	Water	SM 2540D	

#### Analysis Batch: 140967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	SM 2540F	
480-46382-2	Roth-Incoming-02F	Total/NA	Water	SM 2540F	
MB 480-140967/1	Method Blank	Total/NA	Water	SM 2540F	

#### Analysis Batch: 141331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	410.4	
LCS 480-141331/4	Lab Control Sample	Total/NA	Water	410.4	
MB 480-141331/3	Method Blank	Total/NA	Water	410.4	

#### Filtration Batch: 142559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	Filtration	

#### Analysis Batch: 142614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-1	Roth-Incoming-01	Total/NA	Water	SM 5210B	
480-46382-2	Roth-Incoming-02F	Dissolved	Water	SM 5210B	142615
LCS 480-142614/2	Lab Control Sample	Total/NA	Water	SM 5210B	
USB 480-142614/1 USB	Method Blank	Total/NA	Water	SM 5210B	

#### Filtration Batch: 142615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	FILTRATION	

TestAmerica Buffalo



## QC Association Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### General Chemistry (Continued)

#### Analysis Batch: 142663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46382-2	Roth-Incoming-02F	Dissolved	Water	410.4	142559
LCS 480-142663/4	Lab Control Sample	Total/NA	Water	410.4	
MB 480-142663/3	Method Blank	Total/NA	Water	410.4	



## Lab Chronicle

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Client Sample ID: Roth-Incoming-01

Date Collected: 09/21/13 15:55

Date Received: 09/24/13 02:15

### Lab Sample ID: 480-46382-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	140947	09/25/13 03:46	NQN	TAL BUF
Total/NA	Prep	3510C			140922	09/24/13 15:02	TRG	TAL BUF
Total/NA	Analysis	8082		1	141005	09/25/13 10:10	JMM	TAL BUF
Total/NA	Prep	1631E			104475	10/07/13 11:27	DSH	TAL CAN
Total/NA	Analysis	1631E		1	105101	10/13/13 11:09	DSH	TAL CAN
Total/NA	Prep	3005A			140771	09/24/13 08:05	NMD2	TAL BUF
Total/NA	Analysis	6010B		1	141042	09/24/13 17:01	LMH	TAL BUF
Total/NA	Prep	7470A			141235	09/26/13 08:40	JRK	TAL BUF
Total/NA	Analysis	7470A		1	141348	09/26/13 13:11	JRK	TAL BUF
Total/NA	Analysis	SM 2540D		1	140939	09/24/13 17:12	KS	TAL BUF
Total/NA	Analysis	SM 2540F		1	140967	09/24/13 16:48	KS	TAL BUF
Total/NA	Analysis	410.4		10	141331	09/26/13 12:08	KJ1	TAL BUF
Total/NA	Analysis	SM 5210B		1	142614	10/03/13 09:31	MDL	TAL BUF

### Client Sample ID: Roth-Incoming-02F

Date Collected: 09/21/13 16:00

Date Received: 09/24/13 02:15

### Lab Sample ID: 480-46382-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	140947	09/25/13 04:07	NQN	TAL BUF
Dissolved	Filtration	Filtration			140918	09/24/13 14:53	DLE	TAL BUF
Dissolved	Prep	3510C			140922	09/24/13 15:02	TRG	TAL BUF
Dissolved	Analysis	8082		1	141005	09/25/13 10:24	JMM	TAL BUF
Dissolved	Filtration	FILTRATION			140785	09/24/13 08:20	NMD2	TAL BUF
Dissolved	Prep	7470A			141238	09/26/13 09:00	JRK	TAL BUF
Dissolved	Analysis	7470A		1	141369	09/26/13 13:53	JRK	TAL BUF
Dissolved	Filtration	FILTRATION			140785	09/24/13 08:20	NMD2	TAL BUF
Dissolved	Prep	3005A			141075	09/25/13 12:20	NMD2	TAL BUF
Dissolved	Analysis	6010B		1	141494	09/26/13 19:13	AMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	140939	09/24/13 17:13	KS	TAL BUF
Total/NA	Analysis	SM 2540F		1	140967	09/24/13 17:08	KS	TAL BUF
Dissolved	Filtration	FILTRATION			142615	10/03/13 09:15	MDL	TAL BUF
Dissolved	Analysis	SM 5210B		1	142614	10/03/13 09:31	MDL	TAL BUF
Dissolved	Filtration	Filtration			142559	10/03/13 12:11	KMF	TAL BUF
Dissolved	Analysis	410.4		2	142663	10/03/13 22:30	JMB	TAL BUF

### Client Sample ID: Roth-Incoming-03FF

Date Collected: 09/21/13 16:02

Date Received: 09/24/13 02:15

### Lab Sample ID: 480-46382-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	1631E			104475	10/07/13 11:27	DSH	TAL CAN
Dissolved	Analysis	1631E		1	104724	10/08/13 10:34	DSH	TAL CAN

TestAmerica Buffalo



# Lab Chronicle

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-46382-4**

**Date Collected: 09/21/13 00:00**

**Matrix: Water**

**Date Received: 09/24/13 02:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	140947	09/25/13 04:29	NQN	TAL BUF

**Laboratory References:**

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



## Certification Summary

Client: O'Brien & Gere Inc of North America  
 Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-14
California	NELAP	9	1169CA	09-30-14
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Illinois	NELAP	5	200003	09-30-14
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-14
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-14
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-14
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-14
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	12-31-13
Wisconsin	State Program	5	998310390	08-31-14

### Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-14 *
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-14 *
Texas	NELAP	6		08-31-14 *

\* Expired certification is currently pending renewal and is considered valid.

TestAmerica Buffalo



## Certification Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

### Laboratory: TestAmerica Canton (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-14
Washington	State Program	10	C971	01-12-14
Wisconsin	State Program	5	999518190	08-31-14



## Method Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
1631E	Mercury, Low Level (CVAFS)	EPA	TAL CAN
6010B	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
410.4	COD	MCAWW	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 2540F	Solids, Settleable	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

#### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

## Sample Summary

Client: O'Brien & Gere Inc of North America  
Project/Site: Roth Steel Sampling Project

TestAmerica Job ID: 480-46382-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-46382-1	Roth-Incoming-01	Water	09/21/13 15:55	09/24/13 02:15
480-46382-2	Roth-Incoming-02F	Water	09/21/13 16:00	09/24/13 02:15
480-46382-3	Roth-Incoming-03FF	Water	09/21/13 16:02	09/24/13 02:15
480-46382-4	Trip Blank	Water	09/21/13 00:00	09/24/13 02:15



Chain of Custody Record

<b>Client Information</b> Client Contact: Mr. Michael Miller Company: O'Brien & Gere Inc of North America Address: 333 West Washington St. PO BOX 4873 City: East Syracuse State, Zip: NY, 13221 Phone: 315-956-6465(Tel) 315-463-7554(Fax) Email: michael.miller@obg.com Project Name: Roth Steel Sampling Project Site:		Lab PM: Devo, Melissa L. E-Mail: melissa.devo@testamericainc.com Camer Tracking Note(s):	
Due Date Requested: TAT Requested (days): PO #: 11311153EST WO #:		Job #:	
Sample Date Sample Time Sample Type (C=Comp, G=grab) Preservation Code: Matrix (W=Water, S=Solid, O=Soil, BT=Tissue, A=Air)		Analysis Requested 8082 - PCBs 4104 - COD 6010B, 7470A 8260B - BTEX 5210B, 5M2540F 2540D - TSS 1631E - LL Hg 5M2540F - Settleable Solids (Lab filtered) 5210B - BOD (Lab filtered) + H104 COD 2540D - TSS (Lab filtered) 8260B - BTEX (Lab filtered) 6010B, 7470A 8082 - PCBs (Lab filtered) 6010B, 7470A (Lab filtered) 8260B - BTEX (Lab filtered) 6010B, 7470A (Lab filtered) 8082 - PCBs (Lab filtered)	
Sample Identification Roth-Incoming-01 Roth-Incoming-02F Roth-Incoming-03FF		Special Instructions/Note: Lab Filtered Field Filtered	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:		Date/Time: 9/23/13 10:20 Date/Time: 9/24/13 02:15 Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	

## Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-46382-1

Login Number: 46382

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert K

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OBG
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

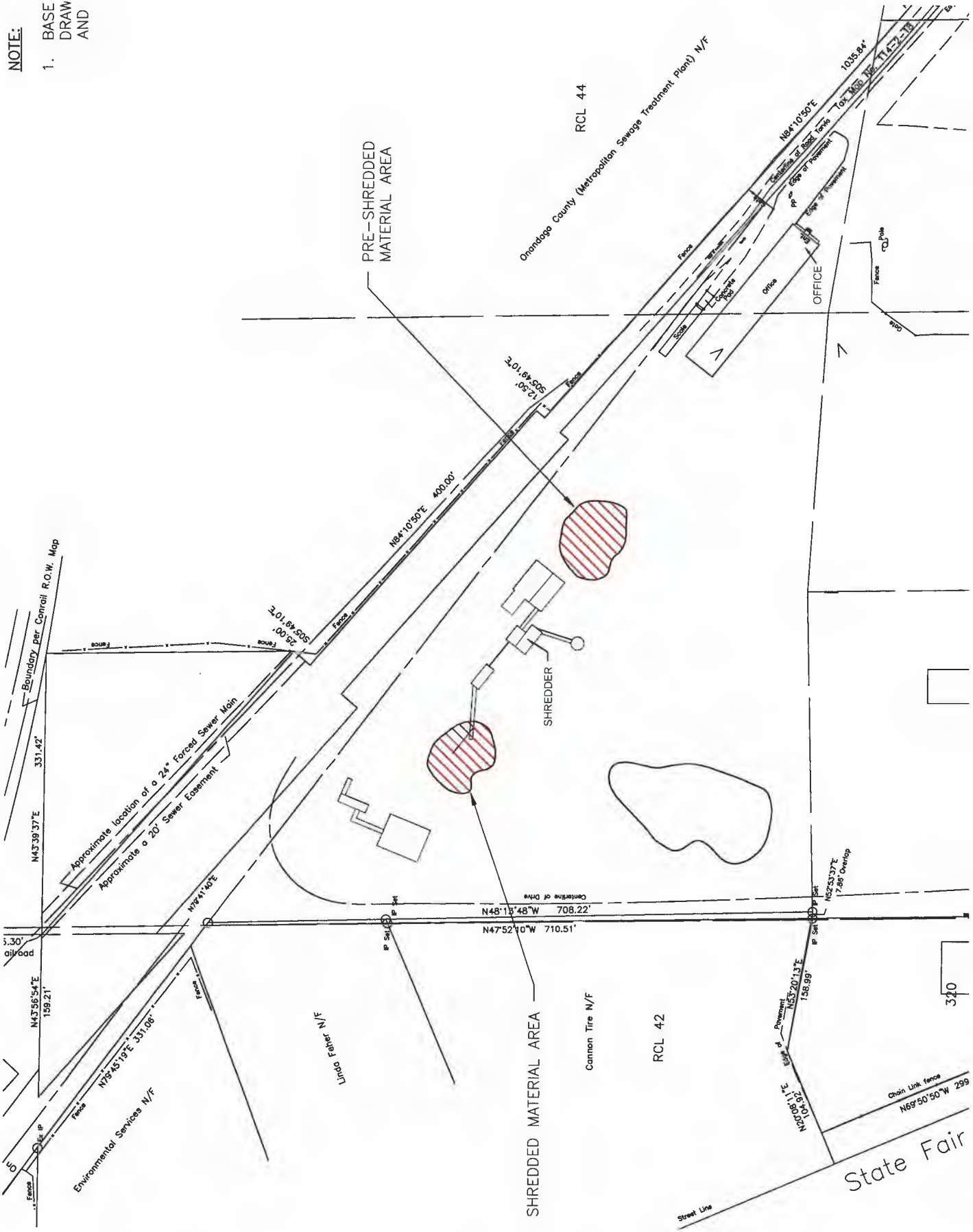




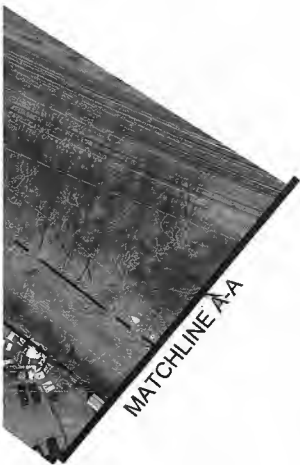


**NOTE:**

1. BASE DRAW AND

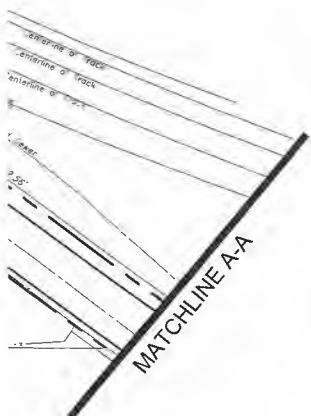


*NYSDEC Letter  
December 5, 2012*



MATCHLINE A-A

LEGEND



LEGEND