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New York State Department of Environmental Conservation

Site Number 7-38-033

Oswego Castings Site Periodic Review Report

March 2014

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Oswego Castings Site Periodic Review Report

March 2014

Site Number 7-38-033

Prepared for
New York State Department of Environmental Conservation

Prepared by
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Our Ref
00266404.0000

Date
March 2014

Malcolm Pirnie, Inc. was acquired by ARCADIS in 2009.

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1 Executive Summary

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D007618-11) to Malcolm Pirnie, Inc., for Operation, Maintenance, and Monitoring at the Oswego Castings Site (NYSDEC site number 7-38-033) in New York State (the Site). This Periodic Review Report (PRR) documents the findings and observations associated with the monitoring program for the Site.

The Site was found to have been contaminated with polychlorinated biphenyls (PCBs) during operations as an aluminum die casting facility between 1956 and the late 1980s. The PCB contamination was associated with the soils, groundwater, surface water, and pond sediment. In 1997 and 2000, two Records of Decision (RODs) (NYSDEC 1997 and 2000; respectively) were issued. Subsequent Interim Remedial Measures (IRMs) were implemented and completion of remedial work at the Site included:

- Excavation of surface and subsurface soils and foundry wastes from the core and sand disposal area for off-site disposal.
- Excavation of wetland sediments for off-site disposal
- Removal of septic tank and tank contents for off-site disposal
- Installation of a crushed stone cover over the landfill area
- Construction of a minimum 6-inch thick reinforced concrete pad, with an 8-inch crushed stone base to cover contaminated soils.
- Dewatering of the pond to the extent necessary and install a geotextile and 12-inch gravel layer.
- Imposition of Institutional Controls including requirements for monitoring of the Site.

Site monitoring currently involves inspection of the slab, landfill, and building floors which are the cover preventing access to contaminated soils beneath. Additionally, groundwater monitoring takes place every five quarters to assess the water quality and potential movement of contamination.

At this time, the remedial actions have performed as expected and while continued monitoring should be conducted, no changes to the current Site Management are recommended.

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2 Site Overview

2.1 Location and Features

The Oswego Castings site is located at 375 Mitchell Street, Oswego, Oswego County, New York (Figure 2-1). The Site is approximately 10 acres and contains three former manufacturing buildings. A former cooling water pond is located west of the buildings. The site is currently zoned industrial and was most-recently the location of a saw mill operation; however the Site is now vacant. The site is listed as a Class 4 site on the NYSDEC Registry of Inactive Hazardous Waste Sites.

2.2 Site History and Remediation

The site was formerly owned by B and K Metals Inc. (B&K Metals; previously Oberdorfer Foundries, Inc.). Oswego Castings Inc., a subsidiary of Oberdorfer Foundries, Inc. operated an aluminum die casting facility on the site from 1956 to1986. PCBs were detected on the site in core sands, foundry waste, and wastewater discharged to a process line/septic tank discharge line. The expected sources of the PCBs include leaks in hydraulic equipment and binders or coatings applied to core sand surfaces. In July 1993, B&K Metals entered into an Order on Consent with the NYSDEC for a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS was conducted between July 1993 and February 1997. A Record of Decision (ROD) was issued for Operable Unit (OU)-1 in 1997 (NYSDEC 1997). The OU-1 ROD called for excavation of approximately 4,100 cubic yards of soil, sediment, and foundry sand. In addition the ROD called for removal of the septic tank and placement of crushed stone over the existing on-site landfill. A ROD for OU-2 was issued in 2000 (NYSDEC 2000), calling for construction of a concrete pad over the yard area and floor of the saw mill in addition to applying a geotextile cover/stone to the cooling water pond (Figure 2-2). As part of IRMs for the Site, the foundry roof was cleaned to control a PCB source as well as excavation and consolidation of soil at the former Loading Dock.

In May 2010, the stone buffer for the landfill was re-graded and landscape fabric and new stone were applied to the landfill cap. In April 2010, groundwater monitoring well MW-2 was replaced and three new monitoring wells were installed (MW-5, MW-6, and MW-7). Well locations are presented on Figure 2-2.

An Environmental Notice (Institutional Control) was placed on the site in May 2012. The purpose of the Notice was to limit the use of the site to industrial and/or commercial use; prevent owners from tampering with the remedial action; prevent use

of on-site groundwater; and grant access to the NYSDEC and its agents for purposes of maintaining the remedy.

3 Remedy Performance, Effectiveness, and Protectiveness

The remediation goals selected for this Site, according to each ROD (NYSDEC 1997 and 2000) are as follows:

- Reduce, control, or eliminate, to the extent practicable, the contamination present within the soils/waste on the Site and the generation of leachate within the fill mass.
- Eliminate the threat to surface waters and Lake Ontario by eliminating any future contaminated surface run-off from the contaminated soils on the Site, and by reducing, controlling, or eliminating contaminated wetland sediment migration.
- Prevent, to the extent possible, migration of the contaminants in the landfill to groundwater.
- Provide for attainment of SCGs for groundwater quality at the limits of the area of concern, to the extent practicable.
- Eliminate, to the extent practicable, the potential for direct human contact with PCB contaminated soil and dust.
- Eliminate, to the extent practicable, the exposure for fish and wildlife to levels of PCBs above standards/guidance values.

The selected remedy for the Site was successfully incorporated following the guidance provided in each of the ROD documents (NYSDEC 1997 and 2000).

Based on the current Site Management, including inspections, groundwater monitoring, and the Environmental Notice that is in place for the Site, it appears that the Selected Remedies specified in each ROD for OU-1 and OU-2 have withstood the Site conditions (weather, etc.) and have been performing as they were intended.

The following sections provide detail to the Operations/Maintenance and Monitoring.

4 Operation and Maintenance

O&M activities were performed at the following times:

- September 24, 2012
- October 17, 2013

The O&M activities included inspection of the respective landfill and yard area protective covers (Figure 2-2) which are the Engineering Controls that have been established at the Site. An O&M Checklist (Appendix A) was used to document the findings of the inspection during the 2013 inspection. NYSDEC prepared a Photograph Report which documented Site activities during the September 24, 2012 O&M visit (NYSDEC 2012). A copy of the NYSDEC (2012) Report is provided in Appendix B.

4.1 Landfill Cover

The landfill cover was installed to contain the former disposal area for the facility casting sands and other wastes. The purpose of the cover was to prevent human and ecological exposure to contaminated materials and minimize surface water from entering the landfill area.

A visual inspection of the landfill cover was performed during each visit to the Site to assess the landfill for erosion, settlement, ponded water, burrowing rodents, and brush or woody vegetation. During the October 2013 visit, wood chips were observed, apparently from the former saw mill operation, which were covering portions of the landfill area but did not appear to be impacting the performance of the cover (Appendix A).

4.2 Concrete Cover

The concrete cover was installed to create a barrier between the surface and the contaminated soils beneath. This reinforced concrete slab is a minimum of 6-inches thick and prevents human and ecological exposure to the underlying contamination. Additionally, it limits surface water from entering the soils.

A visual inspection of the concrete cover was performed during each visit to the Site to inspect the integrity of the remedy. As indicated in the O&M Checklist (Appendix A) during the October 2013 visit, the concrete cap had minor cracks but did not show

evidence of settlement or other damage. Also identified during the same visit, some debris (primarily wood chips and boards) were present on the concrete cap.

5 Groundwater Monitoring Program

Groundwater monitoring wells were sampled on the following dates:

- September 24, 2012
- October 17, 2013

The well sampling was conducted to provide information on groundwater quality, monitor contaminant migration in the groundwater at the site, and assess hydrogeologic site conditions, including groundwater flow direction. Groundwater monitoring well locations are shown on Figure 2-2.

5.1 Groundwater Monitoring Well Inspection

During each Site visit, the integrity of each well was inspected and the results recorded on a groundwater monitoring well inspection form (Appendix C). As indicated in the inspection forms, the monitoring wells were in acceptable condition and no significant problems were reported.

5.2 Water Level Survey

Prior to collecting groundwater samples, water levels were measured to the nearest hundredth of a foot. A summary of these data are presented on the groundwater level data forms in Appendix C.

A survey of the well locations and measuring point elevations was complete during the 2013 groundwater monitoring event. Table 5-1 summarizes the groundwater elevations measured from both the 2012 and 2013 field visits using the survey data collected in 2013. A potentiometric surface map was created and is shown on Figures 5-1 and 5-2. According to Figures 5-1 and 5-2, groundwater flow is generally to the northwest, consistent with prior determinations indicating that the general groundwater direction is toward Lake Ontario.

5.3 Groundwater Sampling

Groundwater samples were collected from seven groundwater monitoring wells (MW-1, MW-2R, MW-3, MW-4, MW-5, MW-6, and MW-7) using low-flow groundwater purging and sampling procedures. The groundwater monitoring wells were sampled during both of the Site visits:

- September 24, 2012
- October 17, 2013

Prior to collecting groundwater samples, pH, conductivity, turbidity, dissolved oxygen (DO), temperature, salinity, total dissolved solids (TDS), and oxidation-reduction potential (REDOX) were measured using a Horiba U-52 water quality meter and recorded on groundwater sampling purge logs. Groundwater sampling purge logs are presented in Appendix D.

Groundwater samples collected were sent to Spectrum Analytical by chain-of-custody procedures and analyzed for PCBs by United States Environmental Protection Agency (USEPA) Method 8082. The laboratory analytical data are provided in Appendix E.

5.4 Groundwater Sampling Results

Groundwater sample results from both Site visits are summarized in Table 5-2. The most recent results indicate that the groundwater samples collected from MW-1 contained concentrations of PCB Aroclor 1248 (29 micrograms per liter (ug/L)) that exceeded the corresponding NYSDEC Class GA Standard of 0.09 ug/L. MW-3 and MW-4 contained concentrations of PCB Aroclor -1242 (0.13 ug/L and 0.89 ug/L, respectively) that exceeded the corresponding NYSDEC Class GA Standard of 0.09 ug/L. Table 5-2 shows none of the other groundwater samples contained concentrations of PCB greater than the indicated quantitation limits.

6 Overall PRR Conclusions and Recommendations

6.1 Conclusions

The landfill and yard area protective covers are in acceptable condition and operating as intended. Although wood and/or other debris is present on each of the protective cover areas, it does not appear to be impacting the performance of the cover systems.

The groundwater samples collected from groundwater monitoring wells MW-1, MW-3, MW-4 contained PCBs at concentrations above the respective NYSDEC Class GA Standard. These wells are located at areas that were known to have contaminated soils from the historical Site operations. None of the other groundwater samples collected from the Site contained detectable concentrations of PCBs.

6.2 Recommendations

Based on the concentrations of PCBs in groundwater, annual groundwater monitoring should continue to be conducted to evaluate the impacts to groundwater quality over time.

A Site Management Plan (SMP) is being developed summarize the required inspections and requirements for this Site to provide to current and future owners of the property.

7. Summary and Certification

O&M activities were conducted on September 24, 2012 and October 17, 2013. The landfill and yard area protective covers were inspected and appear to be unchanged and performing as intended. There does not appear to have been an event or change in use that would impair the ability of these controls and no evidence suggesting a failure to comply with the Site Management Plan. The status of the engineering controls (covers) at this site are performing as planned and are in a condition that fulfills the requirements of the site remedial program.

Groundwater samples contained concentrations of PCB greater than the corresponding NYSDEC Standards at three sampling locations. However, the detections are in areas where historical contamination was known and migration of the contaminants has not been observed based on available data.

The completed NYSDEC certification is provided as Appendix F.

8. References

New York State Department of Environmental Conservation (NYSDEC). 1997. Record of Decision, Oswego Castings Site, Oswego (C), Oswego County. Site Number 7-38-033. March.

NYSDEC. 2000. Record of Decision, Oswego Castings Site Operable Unit No. 2 – Yard/Buildings, Oswego, Oswego County. Site Number 7-38-033. March.

NYSDEC. 2012. Oswego Casting Site Sampling: DER Site Management 09/24/2012.

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Tables

Table 5-1
Groundwater Elevation Data
Oswego Castings Site
NYSDEC Site Number 738033

		9/24/2013		10/17/2013	
Well	**Measuring Point Elevation** Ft amsl	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft amsl	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft amsl
MW-1	313.29	10.85	302.44	5.37	307.92
MW-2R	313.11	6.67	306.44	3.13	309.98
MW-3	311.72	10.61	301.11	6.45	305.27
MW-4	312.45	4.46	307.99	3.80	308.65
MW-5	312.70	14.91	297.79	9.55	303.15
MW-6	331.82	14.35	317.47	10.85	320.97
MW-7	314.11	12.20	301.91	6.54	307.57

Ft amsl - feet above mean sea level

Ft BTOC - feet below top of casing

Table 5-2
Summary of Groundwater Sampling Results (PCBs)

Oswego Casting Site

Site Number 7-38-033

Well	NYSDEC	MW-1	MW-1	DUP*	MW-2R	MW-2R	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5	MW-6	MW-6	MW-7	MW-7	MW-X**
Date	Class GA Standards	9/25/2012	10/17/2013	9/25/2012	9/24/2012	10/17/2013	9/24/2012	10/17/2013	9/24/2012	10/17/2013	9/25/2012	10/17/2013	9/24/2012	10/17/2013	9/25/2012	10/17/2013	10/17/2013
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aroclor-1016	0.09****	**54**	5.0 U	**47 J**	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1221	0.09****	0.17 U	5.0 U	0.17 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1232	0.09****	0.17 U	5.0 U	0.17 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1242	0.09****	0.17 U	5.0 U	0.17 U	0.17 U	0.05 U	0.17 U	**0.13**	0.17 U	**0.89**	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1248	0.09****	0.17 U	**29**	0.17 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1254	0.09****	0.17 U	5.0 U	0.17 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U
Aroclor-1260	0.09****	0.17 U	5.0 U	0.17 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.17 U	0.05 U	0.05 U

* - Duplicate sample collected from MW-1
**-MW-X sample collected from MW-7
**** - Sum of these compounds can not exceed 0.09 ug/L.
J- Greater than the MDL but below the CRDL

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Figures

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Figure 2-1
Site Location
Oswego Castings Site
Oswego, New York
NYSDEC Site 7-38-033

0 2,000 ft

Source: USGS 7.5-minute Series Topographic Quadrangle, Oswego East

0 150 300 600 900 1,200 Feet

N

Legend

- Monitoring Well
- Approximate Site Boundary
- OU-1
- OU-2
- IRM Area (1997 ROD)
- IRM Area (2000 ROD)

Note: Remedial area boundaries are approximate.

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Site Number 738033
Oswego Castings, Oswego, New York

SITE MAP

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FIGURE
2-2

G:\GIS\MXD\00266404.0000\SITEMAP.mxd
G:\PROJECT\00266404.0000\PRR\Figure 2-2 - Site Map.pdf

Legend

- U Monitoring Well
- Approximate Site Boundary
- Potentiometric Contour (Feet Above Mean Sea Level)
- 297.79 Groundwater Elevation (Feet Above Mean Sea Level)

0 150 300 600 900 1,200 Feet

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

GROUNDWATER POTENTIOMETRIC MAP
September 24, 2013

ARCADIS

FIGURE
5-1

G:\GISMOD\00266404.0000\POTMAP_sept2013.mxd
G:\PROJECT\00266404.0000\Reports\PRR\Figure 5-1.pdf

Legend

- U Monitoring Well
- Approximate Site Boundary
- Potentiometric Contour (Feet Above Mean Sea Level)
- 297.79 Groundwater Elevation (Feet Above Mean Sea Level)

0 150 300 600 900 1,200 Feet

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

GROUNDWATER POTENTIOMETRIC MAP
October 17, 2013

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FIGURE
5-2

G:\GIS\MOD\00266404.0000\POTMAP_oct2013.mxd
G:\PROJECT\00266404.0000\Reports\PRR\Figure 5-2.pdf

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Appendix A

O&M Checklists

OSWEGO CASTINGS SITE

Landfill and Concrete Cap Operation and Maintenance Checklist

Inspected by: Jeremy Wyckoff

Date: 10/18/2013 Time: 1000

Weather Conditions: Lt rain, ~50 degrees F.

LANDFILL COVER SYSTEM

Erosion		YES	X	NO
Cap Settlement		YES	X	NO
Ponded Water or Wet Areas	X	YES		NO
Burrowing Rodents		YES	X	NO
Brush or Other Woody Vegetation		YES	X	NO

Comments: Photographs taken of landfill area.

Layer of wood chips from former saw mill covering land fill area, wet in low area.

CONCRETE COVER

Cracked Concrete	X	YES		NO
Damaged Concrete		YES	X	NO
Concrete Settlement		YES	X	NO
Ponded Water or Wet Areas		YES	X	NO
Presence of Vegetation		YES	X	NO

Comments: Photographs taken of concrete cover area. Wood chip debris/trash on concrete.

Minor cracks in concrete cap.

INSPECTOR'S SIGNATURE  DATE 10/18/2013

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Appendix B

September 2012 Photograph Report
(NYSDEC 2012)

Oswego Casting Site Sampling

DER Site Management, 09/24/2012

Photos with Notes

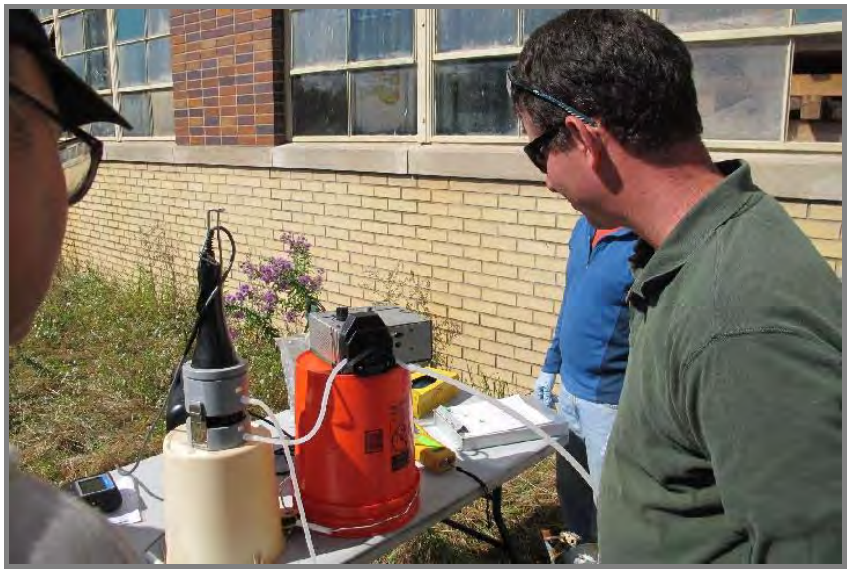
Photo	Description
	We arrived at the site at noon and set up for taking low-flow groundwater samples. Jeremy Wycoff from Malcolm Pirnie had rented the equipment for us and conducted a training session on how to set up the apparatus.  Report by Will Welling.
	Panorama photo panning right, to the east and south.

Panorama photo

We set up at MW-2R monitoring well along the beige brick building, half-way down on the right.

Payson Long, left; Larry Thomas, right.

Our crew included Jeremy Wycoff on left, Val Woodward and Carl Hoffman.



Jeremy checks our setup.

Carl adjusts the equipment.

Location shifted next to MW-6.

Oswego police officers stopped by. One officer walked around the buildings with us to see if anything was locked. Nothing was. It was all wide open and a real headache for the police.

The last time I was here, the site hosted "Great Lakes Veneer, Inc.," a lumber mill with brand-new kilns, a log yard and everything necessary to operate successfully. Now The site is derelict.

Our DEC sampling van is here parked near MW-3. View looking across the former kiln area.

Setup on MW-4. Larry on left, Carl and Jeremy on right.

MW-4

MW-4

MW-4. Jeremy Wycoff looks at the parameter values of pH, temperature, contuctivity, turbididt, etc.

When values do not fluctuate more than 10%, we conclude that native water is flowing from the aquifer through our equipment and it is time to take our samples.

MW-4, Carl, Jeremy and Larry review the parameter data taken from the "cell" instrument which monitors parameters.

Val Woodward packing up a sample.

Preparation activity between sampling locations. Jeremy Wycoff

Our DER sampling van. Blue coolers for the samples, waste tubing in the waste basket.

Payson calibrates the Horiba U-50 "cell.

From the equipment manual:

The U-50 Series Multi Water Quality Checker features an integrated control unit and sensors. It is capable of making a maximum of eleven simultaneous measurements for various parameters, and is perfect for use in the field. The U-50 Series is designed with on-site ease-of-use in mind, provides a wide variety of functions, and can be used for water quality measurements and inspections of river water, groundwater, and waste water.

MW-7

Payson with his hand on the peristaltic sampling pump's on-off switch. Larry reviewing the tally sheets.

View of MW-7. Coming out of the well are the measuring tape to monitor depth to water and our sampling tubing.

Payson with the MW-7 setup.

Payson cleaning the tape used at the MW-5 setup.

At each location I wielded a scythe and cut grass and brush to give us a place to work. It was good excercise after a long car ride.

This location was a "jungle" until I hit it with the scythe!

The last well to sample was MW-1 near the apple tree along side of the beige brick building. This well is sampled last because it is heavily contaminated with PCB oil.

Organic vapors were 1257 ppb measured with the photoionization detector (PID).

The Great Lakes Veneer Company Inc. left behind waste oil in drums here and here around the derelict facility. Whoever owns this property will be liable for penalties and cleanup costs if it gets spilled.

Peering into the drum.

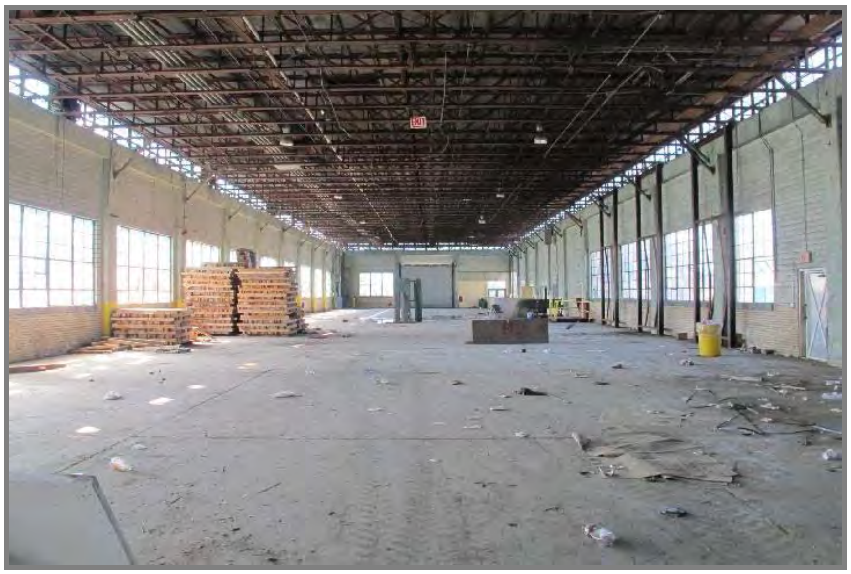
Waste in cans

Somebody painted "Area 51" on this door.

Payson and I continue our rounds documenting waste which poses concern.

Interior showing waste liquid in containers.

Interior



Interior shot. Stacked oak.

Interior, 180 degrees from the previous shot

Larry and Val at MW-1. Larry is filling one of two sampling bottles.

Disposing of the sampling tubing. This well has an oil sheen. The oil is heavier than water and rests at the bottom of the well.


W3C
CSS

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Appendix C

Well Inspection Forms

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GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/25/12 INSPECTOR: L. Thomas

WELL DESIGNATION: MW-1

WELL LOCATION: UTM 380653 4814452 Elev. 274 (Payson's Phone GPS)

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good - nice yellow paint		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	flat
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: under cap
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: On Payson's camera

Inner Appearance

Integrity of Well Casing	Describe: good		
Integrity of Cap Seal	Describe: good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [✓]	No [ ]	Describe: PCB??
PID Reading	1257 ppb (ppb)		
Depth to Water (to top of casing)	10.85 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.00 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments: 3 feet from South Side of Bldg - on roadside

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Casting PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/24/12 INSPECTOR: L. Thomas

WELL DESIGNATION: MW-2R

WELL LOCATION: 4' from S. Side of Bldg

UTM18 380687 4814462 via Payson GPS/Phone Alt: 362' AMSL at top of protective casing

Outward Appearance

Flushmount Diameter	___ inches	N/A [X]	
Approximate Stickup Height	3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: good		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ___
Protective Casing Width or Dia.	4" inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ___
Integrity of Surface Seal/Apron	Describe: Good, cracks		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	Flat - wet today
Bollards Present?	Yes [ ]	No [X]	Describe:
Well ID. Visible?	Yes [ ]	No [X]	Describe: Payson will mark name.
Lock Present and Functional?	Yes [X]	No [ ]	Describe:
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe:

Inner Appearance

Integrity of Well Casing	Describe: good		
Integrity of Cap Seal	Describe: J-Plug in place		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe:
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe:

Downhole

Odor	Yes [ ]	No [✓]	Describe:
PID Reading	0.110 ppm in Riser - 0ppb in breathing Zone		
Depth to Water (to top of casing)	6.67 feet (nearest 0.01)	Depth to LNAPL	___ feet (nearest 0.01) N/A[✓]
Total Well Depth (to top of casing)	15.55 feet (nearest 0.1) - inside casing		
Sediment (Hard/Soft Bottom)	Describe: Hard bottom		

Additional Comments:

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Grading PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/24/12 INSPECTOR: L. Thomas

WELL DESIGNATION: MW-3

WELL LOCATION: UTM 380800 4814589 A/L 355' Amsl
Via Payson's GPS/Phone

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: good		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [ ]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	10.61 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	14.34 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

Plant Material came up with tape.

WL: 10.61

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: OSWEGO CASTINGS PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/24/12 INSPECTOR: Val

WELL DESIGNATION: MW-4

WELL LOCATION: 380627 ~~4814519~~ 4814519 333 elev.

Outward Appearance

Flushmount Diameter	6.4 inches	N/A [ ]		
Approximate Stickup Height	2 feet	N/A [ ]		
Integrity of Protective Casing	Describe: OK w/ 1 1/2 BOLLARDS			
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other	
Protective Casing Width or Dia.	6 inches			
Weep Hole in Protective Casing	Yes [ ]	No [ ]		
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ]	Other
Integrity of Surface Seal/Apron	Describe: grass-covered but OK			
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]		
Bollards Present?	Yes [✓]	No [ ]	Describe:	
Well ID. Visible?	Yes [ ]	No [✓]	Describe:	
Lock Present and Functional?	Yes [✓]	No [ ]	Describe:	we lifted off the alum. top.
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe:	

Inner Appearance

Integrity of Well Casing	Describe: PVC			
Integrity of Cap Seal	Describe: gripper			
Surface Water in Casing?	Yes [ ]	No [✓]	Describe:	
Well Casing Diameter	4 inches			
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe:	

Downhole

Odor	Yes [ ]	No [ ]	Describe:	
PID Reading	0.0 ppm			
Depth to Water (to top of casing)	4.46 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01)	N/A [ ]
Total Well Depth (to top of casing)	16.16 feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe:			

Additional Comments:

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/25/12 INSPECTOR: Hal Woodward

WELL DESIGNATION: MW 5

WELL LOCATION: 380503, 4814632 360 AMLS
Via Payson Cell GPS

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	3.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: good - Painted Blue		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [ ]	No [✓]	Describe: ____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: good		
Integrity of Cap Seal	Describe: good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [✓]	Expansion Plug [ ] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [✓]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	230 ppm		
Depth to Water (to top of casing)	14.91 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.69 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Casting PROJECT NUMBER: 738033

DATE OF INSPECTION: 9/24/12 INSPECTOR: Val

WELL DESIGNATION: MW-6

WELL LOCATION: UTM 380854 4814491 372 AMLS
via Payson Cell GPS

Outward Appearance

Flushmount Diameter	____ inches	N/A [ ]	
Approximate Stickup Height	3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: good		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [✓]	
Bollards Present?	Yes [ ]	No [✓] Describe:	
Well ID. Visible?	Yes [✓]	No [ ] Describe:	
Lock Present and Functional?	Yes [✓]	No [ ] Describe:	
Photograph Taken? Photo #	Yes [✓]	No [ ] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: good		
Integrity of Cap Seal	Describe: good		
Surface Water in Casing?	Yes [ ]	No [✓] Describe:	
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [✓]	Expansion Plug [ ] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [ ] Describe:	

Downhole

Odor	Yes [ ]	No [/] Describe:	
PID Reading	0.4 ppm		
Depth to Water (to top of casing)	14.32 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	36.60 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Soft		

Additional Comments:
Casing Painted Blue

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: 738033

DATE OF INSPECTION: 4/25/12 INSPECTOR: L. Thomas

WELL DESIGNATION: MW-7

WELL LOCATION: 380638 4814665 348 Amsl
via Payson GPS cell

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]		
Approximate Stickup Height	3 feet	N/A [ ]		
Integrity of Protective Casing	Describe: Good			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ]	Other ____
Integrity of Surface Seal/Apron	Describe: Good Condition			
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [✓]	Describe:	
Well ID. Visible?	Yes [ ]	No [✓]	Describe:	
Lock Present and Functional?	Yes [✓]	No [ ]	Describe:	
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe:	

Inner Appearance

Integrity of Well Casing	Describe: Good			
Integrity of Cap Seal	Describe: good - J Plug			
Surface Water in Casing?	Yes [ ]	No [✓]	Describe:	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe:	

Downhole

Odor	Yes [ ]	No [ ]	Describe:	
PID Reading	5 ppm			
Depth to Water (to top of casing)	12.20 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01)	N/A [ ]
Total Well Depth (to top of casing)	15.00 feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe:			

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: _____

DATE OF INSPECTION: 10-17-2013 INSPECTOR: _____

WELL DESIGNATION: MW-1

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Intact Good		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good Intact		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Intact Good		
Integrity of Cap Seal	Describe: Intact Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	____ ppm		
Depth to Water (to top of casing)	5.37 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	17.40 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard		

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: _____

DATE OF INSPECTION: 10-17-2013 INSPECTOR: JM

WELL DESIGNATION: MW-2R

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Intact		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Intact		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [ ]	No [X]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Intact		
Integrity of Cap Seal	Describe: Intact		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [X]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	____ ppm		
Depth to Water (to top of casing)	3.13 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [X]
Total Well Depth (to top of casing)	15.75 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard		

Additional Comments:

_____

_____

_____

_____

_____

_____

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: 00266404.0000

DATE OF INSPECTION: 10/17/13 INSPECTOR: JW Yckoff

WELL DESIGNATION: MW-3

WELL LOCATION: N. East Corner site

Outward Appearance

Flushmount Diameter	— inches	N/A [ ]	
Approximate Stickup Height	2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: ____
Well ID. Visible?	Yes [ ]	No [X]	Describe: ____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	NM ppm		
Depth to Water (to top of casing)	6.45 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	17.28 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard		

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Omega Coatings PROJECT NUMBER: _____

DATE OF INSPECTION: 10-17-2013 INSPECTOR: AM

WELL DESIGNATION: MW-4

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Intact		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Intact		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [X]	No [ ]	Describe: 2
Well ID. Visible?	Yes [ ]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Intact good		
Integrity of Cap Seal	Describe: Intact Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____
Well Casing Diameter	6 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	— ppm		
Depth to Water (to top of casing)	3.80 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.40 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Some sediment @ Bottom		

Additional Comments:

New key for mw-5 is inside casing of mw-4.

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: _____

DATE OF INSPECTION: 10/17 INSPECTOR: J. Wyckoff

WELL DESIGNATION: MW-5

WELL LOCATION: NW Corner site

Outward Appearance

Flushmount Diameter	_____ inches	N/A [ ]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good - Painted blue		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [ ]	No [X]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: had to cut lock off - seized
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: _____ Install new lock.

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	NM ppm		
Depth to Water (to top of casing)	9.55 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.88 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard		

Additional Comments:

Newkey for mw-5 is in well casing of mw-4.

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: _____

DATE OF INSPECTION: 10 - 17 - 2013 INSPECTOR: _____

WELL DESIGNATION: MW-6

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter _____ inches N/A [✓]

Approximate Stickup Height 2 feet N/A [ ]

Integrity of Protective Casing Describe: _____

Protective Casing Material Steel [✓] Stainless Steel [ ] Other _____

Protective Casing Width or Dia. 4 inches

Weep Hole in Protective Casing Yes [ ] No [ ]

Surface Seal/Apron Material Cement [✓] Bentonite [ ] Not apparent [ ] Other _____

Integrity of Surface Seal/Apron Describe: Good Condition

Surface Drainage Away from Wellhead [✓] Toward Wellhead [ ]

Bollards Present? Yes [ ] No [✓] Describe: _____

Well ID. Visible? Yes [ ] No [✓] Describe: _____

Lock Present and Functional? Yes [✓] No [ ] Describe: _____

Photograph Taken? Photo # Yes [ ] No [✓] Describe: _____

Inner Appearance

Integrity of Well Casing Describe: _____

Integrity of Cap Seal Describe: _____

Surface Water in Casing? Yes [ ] No [ ] Describe: _____

Well Casing Diameter 2 inches

Well Casing Material PVC [✓] Steel [ ] Stainless Steel [ ]

Inner Cap Threaded [ ] Slip [ ] Expansion Plug [✓] None [ ]

Reference/Measuring Point Groove [ ] Indelible Mark [ ] None [ ]

Evidence of Double Casing? Yes [ ] No [ ] Describe: _____

Downhole

Odor Yes [ ] No [✓] Describe: _____

PID Reading N/M ppm

Depth to Water (to top of casing) 10.85 feet (nearest 0.01) Depth to LNAPL _____ feet (nearest 0.01) N/A [ ]

Total Well Depth (to top of casing) 36.81 feet (nearest 0.1)

Sediment (Hard/Soft Bottom) Describe: _____

Additional Comments:

_____

_____

_____

_____

_____

_____

ARCADIS MALCOLM PIRNIE

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Oswego Castings PROJECT NUMBER: 00266404.0000

DATE OF INSPECTION: 10/17/13 INSPECTOR: JAW

WELL DESIGNATION: MW-7

WELL LOCATION: North boarder site

Outward Appearance

Flushmount Diameter	— inches	N/A [ ]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good - Painted blue		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe:
Well ID. Visible?	Yes [ ]	No [X]	Describe:
Lock Present and Functional?	Yes [X]	No [ ]	Describe:
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe:

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe:
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe:

Downhole

Odor	Yes [ ]	No [X]	Describe:
PID Reading	NM ppm		
Depth to Water (to top of casing)	6.54 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.09 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe:		

Additional Comments:

ARCADIS

Appendix C
Monitoring Well Photographs

Oswego Castings Site
NYSDEC Site #7-38-033
Oswego, New York

MW-1

MW-2R

MW-3

MW-4

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Appendix C
Monitoring Well
Photographs

Oswego Castings Site
NYSDEC Site #7-38-033
Oswego, New York

MW-5

MW-6

MW-7

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Infrastructure · Water · Environment · Buildings

Appendix D

Groundwater Sampling Logs

ARCADIS MALCOLM PIRNIE
Infrastructure, Water, Environment, Buildings

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-1 **DATE:** 9/25/12

PROJECT NAME: Oswego Casting
PROJECT NUMBER: 738033
SAMPLERS: Payson, Will, Larry, Val, Carl

A: Total Casing and Screen Length: ~~5~~ 16.00'

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 10.85'

D: Volume of Water in Casing: 3.399

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
(4")	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (4)^2 \times (16.00 - 10.85) =$ ~~5.3.74~~ 3.399 gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	13:00	13:05	13:10	13:15
Gallons			0.5	0.75	1	1.25	1.5	1.75	2	~~2.75~~	3	3.5	4
Depth to Water	11.15	11.41	11.75	11.90	12.11	12.23	12.42	12.58	12.78	12.91	13.11	13.30	13.41
Temperature (°C)	20.57	18.77	18.00	17.88	17.90	17.87	17.90	17.91	18.03	17.99	18.00	18.12	18.13
pH	7.39	7.31	7.29	7.27	7.25	7.23	7.24	7.24	7.24	7.27	7.25	7.24	7.25
Redox (mV)	-7	-74	-77	-59	-35	-24	-9	2	-5	-28	-32	-46	-54
Conductivity (mohm/cm	0.544	.566	.566	~~.566~~	0.566	0.566	0.565	0.564	0.520	0.564	0.560	0.566	.564
Turbidity (ntu)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
Disolved Oxygen (mg/l)	0.00	0.00	0.00	0.00	0.09	0.12	0.18	0.24	4.23	3.91	3.22	3.37	2.85
TDS	0.349	.363	.363	0.363	0.362	0.362	0.361	0.362	0.359	0.361	0.358	~~0.362~~	0.361
Salinity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Notes: Taking a Duplicate Sample at this Location.
Well Sampled 1315 With Approx 4 Gallons Purged

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-2R **DATE:** 9/24/12

PROJECT NAME: Oswego Castings
PROJECT NUMBER:
SAMPLERS: P. Long, L. Thomas, Jeremy (Malcolm Pirnie)

A: Total Casing and Screen Length: 15.55

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: ~~6.66~~ 6.67

D: Volume of Water in Casing: 1.50%

v = 0.0408 (B)² x (A-C) = D

v = 0.0408 ( )² x (-) = ~1.7 gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	1	2	3	4	ACCUMULATED VOLUME PURGED								
Time	1250	1255	1300	1305	1310	1315	1320	1325	1330				
Gallons Cumulative								~2.0	2.50				
Depth to Water	6.93	7.08	7.09	7.41	7.69	8.13	8.31	8.65	8.93				
Temperature (°C)	20.31	19.79	19.86	19.11	19.41	19.64	19.7	19.66	19.71				
pH	8.7	7.68	7.51	7.45	7.27	7.22	7.20	7.2	7.21				
Redox (mV)	6.0	9.2	100	112	124	131	134	137	138				
Conductivity (mohm/cm	.714	.666	0.668	0.673	0.655	0.65	0.651	0.648	0.637				
Turbidity (ntu)	31.2	39.3	15	4.3	3.0	2.6	1.9	1.5	1.0				
Disolved Oxygen (mg/l)	10.25	9.78	10.07	4.37	6.18	7.12	7.52	7.75	7.68				
TDS	0.453	0.42	0.427	0.431	0.419	0.417	0.418	0.415	0.409				
Salinity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3				

Notes: Start Purge : 1240 ; Reset tube between 3rd + 4th readings to eliminate air bubble; 1330 - Stabilized readings - began filling bottles for PCB analysis - 2 x 1 liter.

PH .10
~~Redfond~~ 10 mV
Cond. 3%
DO 10%
Turb 10%

PID = 0.0 ppm
PPB Rae = 110 ppb in riser
0 ppb in breathing zone

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW3 **DATE:** 9/24/12

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 738033
SAMPLERS: Payson Long

A: Total Casing and Screen Length: 14.36

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 10.61

D: Volume of Water in Casing: 2.475

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
(4")	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = 2.475 gal.

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	16:00	16:05	16:10	16:15	16:20									
Gallons					2									
Depth to Water	10.81	11.07	11.30	11.49	11.77									
Temperature (°C)	20.00	18.77	18.57	18.70	18.68									
pH	7.2	7.03	6.98	6.95	6.90									
Redox (mV)	118	118	115	113	115									
Conductivity (mohm/cm	0.755	0.773	0.776	0.774	0.774									
Turbidity (ntu)	29.8	12.5	7.8	8.3	6.4									
Disolved Oxygen (mg/l)	0	0	0	0	0									
TDS	0.487	0.495	0.497	0.495	0.496									
Salinity	0.4	0.4	0.4	0.4	0.4									

Notes: Well Sampled 1622

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW - 4 **DATE:** 9/24/2012

PROJECT NAME: OSWEGO CASTINGS
PROJECT NUMBER:
SAMPLERS: W. Welling, ~~Hut~~ V. Woodward

A: Total Casing and Screen Length: 16.16

B: Casing Internal Diameter: 4

C: Water Level Below Top of Casing: 4.48

D: Volume of Water in Casing: 7.7088

v = 0.0408 $(B)^2$ x (A-C) = D

v = 0.0408 ( )^2 x (-) = 7.7088 gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	17:00	1705	1710	17:15	17:20									
Gallons Cumulative					1.50									
Depth to Water	4.46	4.81	5.31	5.72	6.16									
Temperature (°C)	21.33	20.92	20.64	20.69	20.52									
pH	7.22	7.09	7.03	7.01	7.00									
Redox (mV)	141	138	133	130	128									
Conductivity (mohm/cm	0.647	.651	.654	.652	.653									
Turbidity (ntu)	4.1	19.8	2.6	2.6	2.8									
Disolved Oxygen (mg/l)	0.03	0	0	0	0									
TDS	0.414	.416	.418	.417	.418									
Salinity	0.3	0.3	.3	.3	.3									

Notes: Well Sampled 1725

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-5 **DATE:** 9/25/12

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 738033
SAMPLERS: Ayson

A: Total Casing and Screen Length: 16.69

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 14.91

D: Volume of Water in Casing: 0.3026

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = 0.3026 gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time													
Gallons													
Depth to Water													
Temperature (°C)													
pH													
Redox (mV)													
Conductivity (mohm/cm													
Turbidity (ntu)													
Disolved Oxygen (mg/l)													
TDS													
Salinity													

Notes: Sampled with out Purging at 1125

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-6 **DATE:** 9/24/12

PROJECT NAME: Oswego Casting
PROJECT NUMBER: 738033
SAMPLERS: Payson

A: Total Casing and Screen Length: 36.60

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 14.35

D: Volume of Water in Casing: 3.7825

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = 3.7825 gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
(2")	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	14:15	14:20	14:25	14:35	14:40	14:45	14:50	14:55	15:00	15:05	15:10	15:15	
Gallons													
Depth to Water	16.31	17.20	18.10	18.70	19.74	20.73	21.57	22.59	23.45	24.38	24.87	25.53	
Temperature (°C)	21.56	19.87	18.7	18.86	17.45	17.22	17.21	17.53	16.95	17.46	17.79	17.75	
pH	7.56	7.55	7.57	7.65	7.64	7.66	7.64	7.66	7.66	7.66	7.65	7.67	
Redox (mV)	102	102	100	102	84	53	40	28	17	4	1	2	
Conductivity (mohm/cm	0.44	0.45	.458	.452	.455	0.451	0.450	0.449	0.457	0.453	0.449	.448	
Turbidity (ntu)	4.7	1.05	23.8	23.6	23.9	14.9	6.5	0.7	0.0	12.7	15.3	15.5	
Disolved Oxygen (mg/l)	0.07	0.00	0.85	1.64	1.14	1.31	1.38	1.46	4.34	1.60	1.82	1.56	
TDS	0.288	0.293	0.301	.295	.295	.292	.292	.293	0.297	0.294	0.241	.291	
Salinity	0.2	0.2	0.2	0.2	0.2	.2	.2	.2	0.2	0.2	0.2	0.2	

Notes: Well sampled 1520 Adjusted turbidity

pH +/- .1
Redox +/- 10 mV
conduct +/- 3%
turbidity +/- 10%
D.O. +/- 10%

Sampled At 15:20

2½ gallons collected

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-7 **DATE:** 9/25/12

PROJECT NAME: Oswego Castings
PROJECT NUMBER:
SAMPLERS: L. Thomas, V. Woodward

A: Total Casing and Screen Length: 15,00

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 12,20

D: Volume of Water in Casing: 0.476

v = 0.0408 (B)² x (A-C) = D

v = 0.0408 ( )² x (-) = 0.746 gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
(2")	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	10:20	1025	1030	1035	1040	10:45	1050	1055						
Gallons					1.25	1.5	1.75							
Depth to Water	12.66	13.0	13.25	13.5	13.8	14.0	14.25	14.35						
Temperature (°C)	18.74	18.31	18.26	18.52	18.48	18.48	18.87	19.51						
pH	6.87	7.21	7.27	7.33	7.26	7.22	7.26	7.19						
Redox (mV)	114	116	110	108	112	129	128	136						
Conductivity (mohm/cm	0.563	0.534	.551	0.548	0.549	0.546	0.548	0.548						
Turbidity (ntu)	0.0	0,0	0.0	0,0	0.0	0.0	0,0	0,0						
Disolved Oxygen (mg/l)	3.03	0.08	0.0	0.0	0.00	0.21	0.32	0.86						
TDS	0.362	0.374	0.353	0.350	0.351	0.350	0.350	0.374						
Salinity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3						

Notes: 10:42 Removed air bubble from tubing and Reset tubing depth
Sampled 1055

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: **MW-1** DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 17.40ft

B: Casing Internal Diameter: 4in

C: Water Level Below Top of Casing: 5.37ft

D: Volume of Water in Casing: 7.94 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1420	1435	1440	1445								
Gallons	0	3	5	7								
Depth to Water (ft)	5.37	7.17	7.85	8.09								
pH	7.63	7.32	7.28	7.26								
Conductivity (mS/cm)	0.731	0.717	0.771	0.759								
Turbidity (ntu)	0.6	0.0	0.0	0.0								
Dissolved Oxygen (mg/l)	12.87	8.05	2.67	1.87								
Temperature (^{o}C)	15.78	15.52	15.40	15.48								
Salinity (ppt)	0.4	0.3	0.4	0.40								
TDS (g/L)	0.469	0.461	0.493	0.486								
Redox (mV)	-36	-22	-16	-15								

Notes: Sample collected @ 1455

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: **MW-2R** DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 15.75ft

B: Casing Internal Diameter: 2in

C: Water Level Below Top of Casing: 3.13ft

D: Volume of Water in Casing: 2.15 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1330	1340	1345	1350	1355							
Gallons	0	2	3	4	5							
Depth to Water (ft)	3.13	5.49	6.04	6.16	6.66							
pH	7.81	7.62	7.58	7.60	7.64							
Conductivity (mS/cm)	0.822	0.820	0.820	0.813	0.808							
Turbidity (ntu)	4.9	0.0	0.9	2.2	3.6							
Dissolved Oxygen (mg/l)	9.49	3.17	2.45	2.93	3.11							
Temperature (^{o}C)	15.42	15.44	15.56	15.51	15.52							
Salinity (ppt)	0.4	0.4	0.4	0.4	0.4							
TDS (g/L)	0.526	0.525	0.524	0.520	0.517							
Redox (mV)	-46	-35	-33	-34	-36							

Notes: Sample collected @ 1400

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-3 DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 17.28ft

B: Casing Internal Diameter: 2in

C: Water Level Below Top of Casing: 6.45ft

D: Volume of Water in Casing: 1.84 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) = \_\_\_\_\_$ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0830	0840	0845	0850	0855	0900	0905	0910				
Gallons	0							4				
Depth to Water (ft)	6.60	7.36	7.68	7.80	8.10	8.28	8.50	8.72				
pH	7.73	7.60	6.05	6.25	6.28	6.28	6.28	6.28				
Conductivity (mS/cm)	0.996	0.893	0.994	0.927	0.930	0.933	0.936	0.938				
Turbidity (ntu)	0.0	10.0	6.5	6.5	5.7	4.9	4.2	4.4				
Dissolved Oxygen (mg/l)	7.73	5.40	1.70	1.50	1.29	1.12	1.03	1.00				
Temperature (^{o}C)	11.84	13.96	13.86	13.52	13.34	13.28	13.27	13.28				
Salinity (ppt)	0.5	0.4	0.5	0.5	0.50	0.5	0.5	0.5				
TDS (g/L)	0.636	0.572	0.602	0.593	0.595	0.598	0.600	0.600				
Redox (mV)	-139	-161	-59	-96	-96	-96	-95	-93				

Notes: 0830 - Initiate purge
0910 - Finish purge, collect sample, collect MS/MSD
Purged approximately 4 gallons

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: **MW-4** DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 16.40ft

B: Casing Internal Diameter: 4in

C: Water Level Below Top of Casing: 3.80ft

D: Volume of Water in Casing: 8.32 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) = \_\_\_\_\_$ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1520	1527	1532	1535								
Gallons	0	2	3	4								
Depth to Water (ft)	3.80	5.10	5.90	6.56								
pH	7.52	7.55	7.61	7.64								
Conductivity (mS/cm)	0.772	0.757	0.745	0.741								
Turbidity (ntu)	0.0	0.0	0.0	0.0								
Dissolved Oxygen (mg/l)	10.7	3.27	4.43	4.77								
Temperature (^{o}C)	16.05	15.66	15.62	15.59								
Salinity (ppt)	0.4	0.4	0.4	0.4								
TDS (g/L)	0.494	0.485	0.477	0.474								
Redox (mV)	124	105	-35	141								

Notes: Sample collected @ 1540

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WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: **MW-5** DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 16.88ft

B: Casing Internal Diameter: 2in

C: Water Level Below Top of Casing: 9.55ft

D: Volume of Water in Casing: 1.25 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1510	1520	1525	1530	1535	1540	1545	1550	1555	1600		
Gallons	0									4		
Depth to Water (ft)	10.15	10.65	11.02	11.44	11.95	12.35	12.72	12.90	13.10	13.39		
pH	7.24	7.11	7.11	7.12	7.12	7.12	7.14	7.14	7.14	7.14		
Conductivity (mS/cm)	1.08	1.06	1.06	1.07	1.07	1.07	1.07	1.07	1.07	1.07		
Turbidity (ntu)	20.1	11.1	4.4	2.5	0.0	0.0	0.0	0.0	0.0	0.0		
Dissolved Oxygen (mg/l)	7.74	4.79	3.86	3.26	2.56	2.19	2.00	1.89	1.77	1.72		
Temperature (^{o}C)	17.12	16.84	16.77	16.59	16.50	16.41	16.36	16.30	16.10	16.14		
Salinity (ppt)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
TDS (g/L)	0.695	0.679	0.680	0.685	0.687	0.686	0.682	0.682	0.682	0.682		
Redox (mV)	-44	-59	-78	-81	-81	-76	-63	-55	-52	-57		

Notes: 1500 - Initiate purge
1600 - Finish purge, collect samples
Purged approximately 4 gallons

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-6 DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 36.81ft

B: Casing Internal Diameter: 2in

C: Water Level Below Top of Casing: 20.60ft

D: Volume of Water in Casing: 4.41 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1150	1200	1205	1215								
Gallons	0	3	5	8								
Depth to Water (ft)												
pH	8.11	7.97	7.96	7.96								
Conductivity (mS/cm)	0.612	0.613	0.647	0.600								
Turbidity (ntu)	9.84	7.10	7.30	7.30								
Dissolved Oxygen (mg/l)	9.84	4.68	5.01	6.05								
Temperature (^{o}C)	13.88	14.41	14.59	14.78								
Salinity (ppt)	0.3	0.3	0.3	0.3								
TDS (g/L)	0.391	0.392	0.388	0.384								
Redox (mV)	-63	-55	-55	-55								

Notes: Sample collected @ 1220

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-7 DATE: 10/17/2013

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000
SAMPLERS: AM/JRW

A: Total Casing and Screen Length: 16.08ft

B: Casing Internal Diameter: 2in

C: Water Level Below Top of Casing: 6.54ft

D: Volume of Water in Casing: 1.62 gal

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) = \_\_\_\_\_$ gal.

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1640	1650	1655	1700	1705	1710	1720	1725	1730			
Gallons	0								5			
Depth to Water (ft)	6.96	7.61	8.13	8.74	9.28	9.70	10.65	10.85	11.32			
pH	7.23	7.18	7.16	7.14	7.15	7.16	7.21	7.24	7.25			
Conductivity (mS/cm)	1.35	1.32	1.32	1.34	1.35	1.34	1.30	1.30	1.30			
Turbidity (ntu)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Dissolved Oxygen (mg/l)	6.19	1.42	2.20	1.33	1.05	1.13	0.87	0.82	0.78			
Temperature (^{o}C)	15.25	15.12	15.19	15.15	15.12	15.04	14.97	14.93	14.91			
Salinity (ppt)	0.7	0.7	0.6	0.7	0.7	0.7	0.6	0.6	0.6			
TDS (g/L)	0.867	0.847	0.818	0.858	0.865	0.852	0.831	0.834	0.835			
Redox (mV)	-123	-121	-100	-112	-121	-131	-143	-147	-147			

Notes: 1640 - Initiate purge
1730 - Finish purge, collect sample, collect DUP-X
Purged approximately 5 gallons

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Appendix E

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: 480-25677-1
Client Project/Site: Oswego Castings #738033

For:
New York State D.E.C.
1150 North Westcott Road
Schenectady, New York 12306

Attn: Carl Hoffman

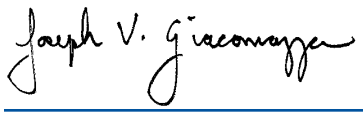
Joseph V. Giacomazza

Authorized for release by:
10/1/2012 12:23:07 PM
Joe Giacomazza
Project Administrator
joe.giacomazza@testamericainc.com

Designee for

Sally Hoffman
Project Manager II
sally.hoffman@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Administrator
10/1/2012 12:23:07 PM

Table of Contents

Definitions/Glossary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Qualifiers

GC Semi VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
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: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Job ID: 480-25677-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-25677-1

Receipt
The samples were received on 9/26/2012 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1º C, 2.5º C and 2.6º C.

GC Semi VOA
Method 8082: The following samples were diluted due to the abundance of target analytes: DUP (480-25677-5), MW-1 92512 (480-25677-6). As such, surrogate recoveries are not representative, and elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-2R 92412
Date Collected: 09/24/12 13:30
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1221	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1232	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1242	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1248	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1254	ND		0.49	0.24	ug/L		09/27/12 14:11	09/28/12 17:19	1
PCB-1260	ND		0.49	0.24	ug/L		09/27/12 14:11	09/28/12 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*19 - 126*	*09/27/12 14:11*	*09/28/12 17:19*	*1*
Tetrachloro-m-xylene	*91*		*23 - 127*	*09/27/12 14:11*	*09/28/12 17:19*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-6 92412
Date Collected: 09/24/12 15:20
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1221	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1232	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1242	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1248	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1254	ND		0.49	0.25	ug/L		09/27/12 14:11	09/28/12 17:35	1
PCB-1260	ND		0.49	0.25	ug/L		09/27/12 14:11	09/28/12 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*19 - 126*	*09/27/12 14:11*	*09/28/12 17:35*	*1*
Tetrachloro-m-xylene	*87*		*23 - 127*	*09/27/12 14:11*	*09/28/12 17:35*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-3 92412
Date Collected: 09/24/12 16:22
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.17	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1221	ND		0.50	0.17	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1232	ND		0.50	0.17	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1242	ND		0.50	0.17	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1248	ND		0.50	0.17	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1254	ND		0.50	0.25	ug/L		09/27/12 14:11	09/28/12 17:51	1
PCB-1260	ND		0.50	0.25	ug/L		09/27/12 14:11	09/28/12 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*19 - 126*	*09/27/12 14:11*	*09/28/12 17:51*	*1*
Tetrachloro-m-xylene	*89*		*23 - 127*	*09/27/12 14:11*	*09/28/12 17:51*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-4 92412
Date Collected: 09/24/12 17:25
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1221	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1232	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1242	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1248	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1254	ND		0.49	0.25	ug/L		09/27/12 14:11	09/28/12 18:07	1
PCB-1260	ND		0.49	0.25	ug/L		09/27/12 14:11	09/28/12 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*19 - 126*	*09/27/12 14:11*	*09/28/12 18:07*	*1*
Tetrachloro-m-xylene	*88*		*23 - 127*	*09/27/12 14:11*	*09/28/12 18:07*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: DUP
Date Collected: 09/25/12 00:00
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	**47**	**J**	50	17	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1221	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1232	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1242	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1248	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1254	ND		50	25	ug/L		09/27/12 14:11	09/28/12 18:23	100
PCB-1260	ND		50	25	ug/L		09/27/12 14:11	09/28/12 18:23	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*0*	*X*	*19 - 126*	*09/27/12 14:11*	*09/28/12 18:23*	*100*
Tetrachloro-m-xylene	*83*		*23 - 127*	*09/27/12 14:11*	*09/28/12 18:23*	*100*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-1 92512
Date Collected: 09/25/12 13:15
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	**54**		50	17	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1221	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1232	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1242	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1248	ND		50	17	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1254	ND		50	25	ug/L		09/27/12 14:11	09/28/12 18:39	100
PCB-1260	ND		50	25	ug/L		09/27/12 14:11	09/28/12 18:39	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*0*	*X*	*19 - 126*	*09/27/12 14:11*	*09/28/12 18:39*	*100*
Tetrachloro-m-xylene	*96*		*23 - 127*	*09/27/12 14:11*	*09/28/12 18:39*	*100*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: EQUIPMENT BLANK PROBE
Date Collected: 09/25/12 13:47
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1221	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1232	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1242	ND		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1248	**0.53**		0.49	0.17	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1254	ND		0.49	0.24	ug/L		09/27/12 14:11	09/28/12 18:55	1
PCB-1260	ND		0.49	0.24	ug/L		09/27/12 14:11	09/28/12 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*72*		*19 - 126*	*09/27/12 14:11*	*09/28/12 18:55*	*1*
Tetrachloro-m-xylene	*90*		*23 - 127*	*09/27/12 14:11*	*09/28/12 18:55*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-7 92512
Date Collected: 09/25/12 11:00
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.56	0.20	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1221	ND		0.56	0.20	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1232	ND		0.56	0.20	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1242	ND		0.56	0.20	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1248	ND		0.56	0.20	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1254	ND		0.56	0.28	ug/L		09/27/12 14:11	09/28/12 19:10	1
PCB-1260	ND		0.56	0.28	ug/L		09/27/12 14:11	09/28/12 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*19 - 126*	*09/27/12 14:11*	*09/28/12 19:10*	*1*
Tetrachloro-m-xylene	*91*		*23 - 127*	*09/27/12 14:11*	*09/28/12 19:10*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-5 92512
Date Collected: 09/25/12 11:25
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.53	0.19	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1221	ND		0.53	0.19	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1232	ND		0.53	0.19	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1242	ND		0.53	0.19	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1248	ND		0.53	0.19	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1254	ND		0.53	0.26	ug/L		09/27/12 14:11	09/28/12 19:26	1
PCB-1260	ND		0.53	0.26	ug/L		09/27/12 14:11	09/28/12 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*58*		*19 - 126*	*09/27/12 14:11*	*09/28/12 19:26*	*1*
Tetrachloro-m-xylene	*87*		*23 - 127*	*09/27/12 14:11*	*09/28/12 19:26*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: EQUIPMENT BLANK CELL
Date Collected: 09/25/12 11:50
Date Received: 09/26/12 09:00

Lab Sample ID: 480-25677-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.17	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1221	ND		0.47	0.17	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1232	ND		0.47	0.17	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1242	ND		0.47	0.17	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1248	ND		0.47	0.17	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1254	ND		0.47	0.24	ug/L		09/27/12 14:11	09/28/12 19:42	1
PCB-1260	ND		0.47	0.24	ug/L		09/27/12 14:11	09/28/12 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*68*		*19 - 126*	*09/27/12 14:11*	*09/28/12 19:42*	*1*
Tetrachloro-m-xylene	*88*		*23 - 127*	*09/27/12 14:11*	*09/28/12 19:42*	*1*

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: MW-2R 92412

Lab Sample ID: 480-25677-1

Date Collected: 09/24/12 13:30

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 17:19	JM	TAL BUF

Client Sample ID: MW-6 92412

Lab Sample ID: 480-25677-2

Date Collected: 09/24/12 15:20

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 17:35	JM	TAL BUF

Client Sample ID: MW-3 92412

Lab Sample ID: 480-25677-3

Date Collected: 09/24/12 16:22

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 17:51	JM	TAL BUF

Client Sample ID: MW-4 92412

Lab Sample ID: 480-25677-4

Date Collected: 09/24/12 17:25

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 18:07	JM	TAL BUF

Client Sample ID: DUP

Lab Sample ID: 480-25677-5

Date Collected: 09/25/12 00:00

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		100	82772	09/28/12 18:23	JM	TAL BUF

Client Sample ID: MW-1 92512

Lab Sample ID: 480-25677-6

Date Collected: 09/25/12 13:15

Matrix: Water

Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		100	82772	09/28/12 18:39	JM	TAL BUF

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Client Sample ID: EQUIPMENT BLANK PROBE

Lab Sample ID: 480-25677-7

Date Collected: 09/25/12 13:47
Matrix: Water
Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 18:55	JM	TAL BUF

Client Sample ID: MW-7 92512

Lab Sample ID: 480-25677-8

Date Collected: 09/25/12 11:00
Matrix: Water
Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 19:10	JM	TAL BUF

Client Sample ID: MW-5 92512

Lab Sample ID: 480-25677-9

Date Collected: 09/25/12 11:25
Matrix: Water
Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 19:26	JM	TAL BUF

Client Sample ID: EQUIPMENT BLANK CELL

Lab Sample ID: 480-25677-10

Date Collected: 09/25/12 11:50
Matrix: Water
Date Received: 09/26/12 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			82621	09/27/12 14:11	DE	TAL BUF
Total/NA	Analysis	8082		1	82772	09/28/12 19:42	JM	TAL BUF

Laboratory References:

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

Certification Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

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	07-06-13
California	NELAC	9	1169CA	09-30-12
Connecticut	State Program	1	PH-0568	09-30-12
Florida	NELAC	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-13
Georgia	State Program	4	956	03-31-12
Illinois	NELAC	5	200003	09-30-12
Iowa	State Program	7	374	03-01-13
Kansas	NELAC	7	E-10187	01-31-13
Kentucky	State Program	4	90029	12-31-12
Kentucky (UST)	State Program	4	30	04-01-13
Louisiana	NELAC	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-12
Maryland	State Program	3	294	03-31-13
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13
Minnesota	NELAC	5	036-999-337	12-31-12
New Hampshire	NELAC	1	2973	09-11-13
New Hampshire	NELAC	1	2337	11-17-12
New Jersey	NELAC	2	NY455	06-30-13
New York	NELAC	2	10026	03-30-13
North Dakota	State Program	8	R-176	03-31-13
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAC	10	NY200003	06-09-13
Pennsylvania	NELAC	3	68-00281	07-31-13
Tennessee	State Program	4	TN02970	04-01-13
Texas	NELAC	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAC	3	460185	09-14-13
Washington	State Program	10	C784	02-10-13
West Virginia DEP	State Program	3	252	09-30-12
Wisconsin	State Program	5	998310390	08-31-13

Method Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF

Protocol References:

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

Sample Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

TestAmerica Job ID: 480-25677-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-25677-1	MW-2R 92412	Water	09/24/12 13:30	09/26/12 09:00
480-25677-2	MW-6 92412	Water	09/24/12 15:20	09/26/12 09:00
480-25677-3	MW-3 92412	Water	09/24/12 16:22	09/26/12 09:00
480-25677-4	MW-4 92412	Water	09/24/12 17:25	09/26/12 09:00
480-25677-5	DUP	Water	09/25/12 00:00	09/26/12 09:00
480-25677-6	MW-1 92512	Water	09/25/12 13:15	09/26/12 09:00
480-25677-7	EQUIPMENT BLANK PROBE	Water	09/25/12 13:47	09/26/12 09:00
480-25677-8	MW-7 92512	Water	09/25/12 11:00	09/26/12 09:00
480-25677-9	MW-5 92512	Water	09/25/12 11:25	09/26/12 09:00
480-25677-10	EQUIPMENT BLANK CELL	Water	09/25/12 11:50	09/26/12 09:00

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
NYS DEC	Payson Long	9/24/12	223580
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of ____**
625 Broadway	(518) 402-9813		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Albany / NY / 12233			
Project Name and Location (State)	**Carrier/Waybill Number**		
Oswego Casting 738033			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8082	Special Instructions/ Conditions of Receipt
MW-2R 92412	9/24/12	1330		X			X						X	
MW-6 92412	9/24/12	1520		X			X						X	
MW-3 92412	9/24/12	1622		X			X						X	
MW-4 92412	9/24/12	1725		X			X						X	
Dup	9/25/12	—		X			X						X	
MW-1 92512	9/25/12	1315		X			X						X	Possible high PCB concentration for MW-1 92512
Equipment Blank Probe	9/25/12	1347		X			X						X	
MW-7 92512	9/25/12	1100		X			X						X	
MW-5 92512	9/25/12	1125		X			X						X	
Equipment Blank Cell	9/25/12	1150		X			X						X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Payson Long	9/25/12	1600	1. Received By: Reinglieb, Sue	9-25-12	1610
2. Relinquished By: Reinglieb	9-25-12	1925	2. Received By: [illegible]	9/26/12	0900
3. Relinquished By			3. Received By		

Comments

7,6,7,5,7,1 #1

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-25677-1

Login Number: 25677

List Source: TestAmerica Buffalo

List Number: 1

Creator: Robitaille, Zach L

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.	N/A	
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	NYSDEC
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	

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Appendix F

NYSDEC Site Certification Forms

Enclosure 1
Engineering Controls - Standby Consultant/Contractor Certification Form

Site Details **Box 1**

Site No. **738033**

Site Name Oswego Castings

Site Address: Mitchell Street Zip Code: 13126
City/Town: Oswego
County: Oswego
Site Acreage: 10.0

Reporting Period: December 31, 2010 to December 31, 2013

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. To your knowledge has some or all of the site property been sold subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☑	☐
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.	See "Property Description Report"	
5. To your knowledge is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor Date

SITE NO. 738033 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
111.69-01-01.000	OBERDORFER FOUNDRIES, INC	O&M Plan
		Unspecified Monitoring Plan

An Environmental Notice was placed on the site May 22, 2012. There is a O and M plan with a monitoring plan currently in place at the site. A SMP is currently being developed for the site.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
111.69-01-01.000	Cover System

There is a concrete cover at the site as well as a Soil cover. There is also a monitoring well network.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

Date

IC/EC CERTIFICATIONS

Box 6

Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

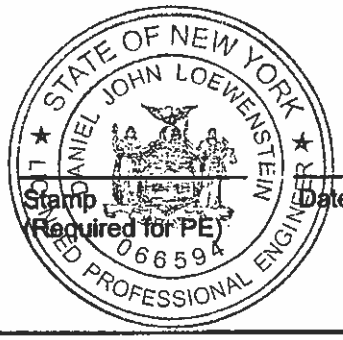
I DANIEL LOEWENSTEIN at MALCOLM PIRNIE, INC.
print name

855 ROUTE 146, SUITE 210

CLIFTON PARK NY 12065
(print business address)

am certifying as a .

Signature of



Stamp (Required for PE)

Date

Property Description Report For: 375 Mitchell St, Municipality of City of Oswego

No Photo Available

		Status:	Active
		Roll Section:	Taxable
		Swis:	351200
		Tax Map ID #:	111.69-01-01
		Property Class:	710 - Manufacture
		Site:	COM 1
		In Ag. District:	No
		Site Property Class:	710 - Manufacture
		Zoning Code:	IN
		Neighborhood Code:	12403
Total Acreage/Size:	21.85	**School District:**	Oswego
Land Assessment:	2013 - $393,000	**Total Assessment:**	2013 - $905,000
Full Market Value:	2013 - $905,000		
Equalization Rate:	----	**Legal Property Desc:**	B 18, L 35 136-017-000
Deed Book:	2012	**Deed Page:**	14150
Grid East:	848782	**Grid North:**	1266010

Owners

City of Oswego
13 W Oneida St
Oswego NY 13126

Sales

Sale Date	Price	Property Class	Sale Type	Prior Owner	Value Usable	Arms Length	Addl. Parcels	Deed Book and Page
11/29/2012	$1	710 - Manufacture	Land & Building	Great Lakes Veneer Corp	No	No	No	2012/14150

Utilities

Sewer Type:	Comm/public	**Water Supply:**	Comm/public
Utilities:	Gas & elec		

Inventory

Overall Eff Year Built:	0	**Overall Condition:**	Normal
Overall Grade:	Average	**Overall Desirability:**	3

Buildings

AC%	Sprinkler%	Alarm%	Elevators	Basement Type	Year Built	Condition	Quality	Gross Floor Area (sqft)	Stories
0	0	0	0	0	2000	Fair	Above Average	14640	1.00
0	0	0	0	0	1960	Normal	Economy	10820	1.00
0	0	0	0	0	1965	Normal	Economy	3282	1.00
0	0	0	0	0	1965	Normal	Economy	3000	1.00

Site Uses

Use	Rentable Area (sqft)	Total Units
Dstr wrhouse	17,102	0
Dstr wrhouse	14,640	0
Light mfg	23,964	0

Improvements

Structure	Size	Grade	Condition	Year
Fence-chn lk	110 x 8	Economy	Fair	1960
Shed-finishd	64 sq ft	Average	Normal	1960
Ld dock-st/c	400 sq ft	Average	Normal	1960
Pavng-concr	20 sq ft	Economy	Normal	1960
Tank-hz bulk	0 x 0	Average	Fair	1960

Land Types

Type	Size
Primary	2.00 acres
Residual	19.85 acres

Special Districts for 2013

No information available for the 2013 roll year.

Exemptions

Year	Description	Amount	Exempt %	Start Yr	End Yr	V Flag	H Code	Own %
2013	City Tax Sale	$905,000	0	2013				0