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PACTIV CORPORATION

MACEDON FILMS SITE
MACEDON, NEW YORK

ALTERNATIVES ANALYSIS REPORT

NOVEMBER 2011

Site # C859025
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ALTERNATIVES ANALYSIS REPORT

FOR THE MACEDON FILMS SITE

MACEDON, NEW YORK 14502

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ABBREVIATIONS

Agencies

NYSDEC	New York State Department of Environmental Conservation
USEPA	United States Environmental Protection Agency

Units of Measure

bgs	Below Ground Surface
µg/kg	Micrograms per Kilogram
mg/kg	Milligrams per Kilogram

Regulatory

BCA	Brownfield Site Cleanup Agreement
BCP	Brownfield Cleanup Program
NYCRR	New York Codes, Rules and Regulations
TOGS	Technical and Operational Guidance Series

Environmental

PCE	Tetrachloroethene
SVOC	Semi-volatile Organic Compound
VOC	Volatile Organic Compound

Miscellaneous

RI	Remedial Investigation
URS	URS Corporation

1.0 INTRODUCTION

1.1 General

This *Alternatives Analysis Report* for the Macedon Films Site at 112 Main Street in Macedon, New York, was prepared by URS Corporation on behalf of Pactiv Corporation (Pactiv). This site is being investigated under the Brownfield Cleanup Program (BCP) in accordance with Brownfield Site Cleanup Agreement (BCA) number B8-0669-04-06 between Pactiv and the NYSDEC. The site property was sold by Pactiv in January 2001. The location of the Macedon Films Site is shown in Figure 1-1. The NYSDEC identification number for this site is C859025.

1.2 Purpose

The purpose of this report is to present a summary of the remedial investigation (RI) activities, and site groundwater and soil data, develop remedial alternatives, and provide rationale for selection of a preferred alternative.

1.3 Organization of This Report

This report is divided into five (5) major sections:

Section 1.0 Provides an introduction to the project

Section 2.0 Presents a brief history of operations conducted at the site, a description of the site, and summarizes the site investigation activities conducted for the project

Section 3.0 Discusses the results of the various site investigations and describes the nature and extent of remaining contamination

Section 4.0 Identifies potential remedial alternatives for the remaining site contamination

Section 5.0 Provides an analysis of the various alternatives and presents a preferred alternative

Section 6.0 Lists the references cited in this report.

2.0 BACKGROUND

2.1 Site Description

Pactiv's former Macedon facility (Macedon Films) is located on Main Street in the Village of Macedon, Wayne County, New York. It occupies 6.95 acres of the westernmost part of a 23.6-acre industrial complex. The 23.6-acre complex includes approximately 92,000 square feet of building space and includes manufacturing facilities for Pliant Corporation (formerly Huntsman Design Products). The location of the site is shown on Figure 1-1.

The site is bordered by a New York State Barge Canal (Barge Canal) spillway and a Pennsylvania Central railroad spur to the north, New York State Route 31 to the south, New York State Route 350 to the west, and Pliant Corporation to the east. Quaker Road and a truck trailer parking area are situated east of Pliant Corporation.

2.2 Land Use and Zoning

The site is currently inactive and the existing manufacturing building is vacant. The specific future land use of the property is unknown, but based on zoning, future use will be restricted to industrial. The site is situated within a Village of Macedon Industrial District. The zoning ordinance describes acceptable land uses as "any use of a light industrial nature which involves only the processing, assembly, compounding, or packaging of previously prepared or refined materials". Acceptable uses include manufacture of machinery, fabrication of metal products, fabrication of paper products, fabrication of wood products, food and associated industries, and warehousing or storage of goods. Other acceptable uses are office buildings, scientific or research laboratories, the compounding and processing of pharmaceutical and cosmetic products, commercial storage buildings, and other uses deemed similar in nature by the Planning Board.

2.3 Site History

In the 1920s, the site was developed for vegetable canning operations. Sanborn maps from 1906, 1912, and 1931 show that there were also lumberyards and a creamery previously located on the site.

Polyethylene flexible packaging products were manufactured at the site since the 1950s. Polyethylene resin pellets were processed and extruded to form a film that was subsequently converted into packaging products such as produce bags. Manufacturing operations ceased at the site in July 2004.

Previous investigations (listed in Section 2.4) have indicated the presence of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals in soil and groundwater samples collected at various locations throughout the site. However, the data indicated that neither the soil nor the groundwater at the site has been significantly impacted by releases or past operations at the site, and various remedial measures have been completed to address any identified sources of contamination.

Past significant spills/releases have been addressed by various remedial actions. During the 1970s, leaking diesel fuel ASTs and gasoline USTs resulted in impacted soils in the area northeast of Building 11. In 1978, contaminated soils were excavated to approximately 10 feet below ground surface (bgs). Then in 1988, approximately 266 tons of impacted soil were excavated and disposed of off-site during removal of seven underground storage tanks (five cosolvent tanks, one methyl alcohol tank, and one hazardous waste storage tank).

In 1982 approximately 5,000 gallons of lacolene were released to the subsurface and the NYS Barge Canal. The product released to the canal was recovered immediately. A multi-phase remediation system was implemented to recover the product released in the subsurface.

Also during the 1980s, approximately 500 gallons of fuel oil from an AST were released by leaking underground piping. Fuel oil was removed from underground lines, and soil surrounding the lines and the former AST and containment area was excavated. Fuel oil was also recovered by the multi-phase extraction system.

A deed restriction (Wayne County, 2001) for the site limits its use to industrial uses and prohibits the use of groundwater beneath the site as a source of potable water.

2.4 Geology and Hydrogeology

Previous investigations completed at the site indicate that the overburden at the site generally consists of brown and gray fine- to medium-grained sand with traces of silt and angular

gravel above a one- to two-foot thick layer of brown and gray clay. Bedrock at the site generally occurs between eight and 16.5 feet bgs. Groundwater at the site occurs between 5 and 15 feet bgs, and generally flows from the southwest toward the northeast. Seasonal water level fluctuations in the Barge Canal and spillway affect the localized groundwater flow patterns and water levels beneath the northern portion of the site, but groundwater consistently flows toward the canal spillway in the investigation area. The site geology and hydrogeology is discussed in detail in the RI Report (URS, 2005).

2.5 Previous Investigations

Previous investigations completed at the site have been documented in the following reports:

- *Environmental Priority Initiative Preliminary Assessment, Mobil Chemical Company, Macedon Packaging*, USEPA, June 30, 1992.
- *Soil-Gas Survey Building 10 Courtyard Storm Drain No. 93 Area, Mobil Chemical Company, Macedon, New York*, H&A of New York, January 1995.
- *Environmental Audit Tenneco Packaging Specialty Products, Macedon, New York*, CH2M Hill, April 19, 1997.
- *Summary of Environmental Issues and Investigation Plan, Tenneco Packaging Macedon Plant*, IT Corporation, July 1998.
- *Site Assessment and Closure of Two Chemical Bulk Storage Tanks, CBS Registration No. 8-000025, Tenneco Packaging Macedon Facility*, IT Corporation, January 1999.
- *SPDES Investigation Report*, URS, 1999.
- *Soil and Groundwater Investigation for Pactiv Macedon, New York*, URS, 2000.
- *Revised Water Table Maps Soil Gas Survey Former Pactiv Facility Macedon, New York*, URS, 2002a.
- *SWMU Questionnaire for Macedon, NY*, URS, 2002b.

- *Remedial Investigation Report, Macedon Films Site*, URS, 2005.
- *Supplemental Investigation Report, Macedon Films Site,* URS, 2009.
- *Cadmium Contaminated Soil Investigation Letter Report, Macedon Films Site, Pactiv/URS, 2011a.*
- *Cadmium Contaminated Soil Investigation and Excavation Letter Report, Macedon Films Site, Pactiv/URS, 2011b.*

2.6 Interim Remedial Measure

One (1) surface soil sample collected in the "courtyard area" during the Supplemental Remedial Investigation (URS, 2009) contained cadmium in excess of its NYSDEC Part 375 Industrial Reuse Soil Cleanup Objective (SCO). In November 2010, the NYSDEC requested that this sample location and adjacent soils be excavated and removed. This excavation was undertaken in January 2011 (Pactiv/URS, 2011a). However, cadmium was detected at a concentration exceeding the industrial soil cleanup objective (60 mg/kg) in one confirmation soil sample, SS-4-C4. In June 2011, additional shallow soil sampling was performed in the courtyard area to further delineate cadmium contamination identified in sample SS-4-C4. A URS geologist collected 15 surface soil samples (0 to 6 inches bgs) and 3 subsurface samples (6 to 12 inches bgs). Sample locations were arranged in a grid with a spacing of approximately 2-feet.

Cadmium concentrations in surface soil samples ranged from 27.9 to 623 mg/kg. Cadmium was detected at concentrations exceeding restricted use industrial soil cleanup objective (60 mg/kg) in 11 of 15 surface soil samples. Cadmium concentrations in the shallow subsurface soil samples (6-12 inches) ranged from 10.3 to 17.9 mg/kg, falling below the SCO.

Based on these sampling results, an interim remedial measure was implemented to remove shallow cadmium contaminated soil from the courtyard area (Pactiv/URS, 2011b). On July 11, 2011, URS completed the hand excavation of approximately 4 cubic yards of soil. The soil was excavated to a depth of approximately 6 inches bgs over an area of approximately 220 square feet. Confirmation soil sampling was performed to demonstrate complete removal of cadmium contaminated soil to below the industrial soil cleanup objective. URS collected four confirmation soil samples from locations near each corner of the excavation area. The confirmation samples were submitted to Columbia Analytical Services (CAS) in Rochester, New

York, for analysis of cadmium by US EPA method 6010C. Laboratory results indicate that all confirmation soil sample results were below the industrial soil cleanup objective. The excavated area was not backfilled because the surrounding buildings are scheduled to be demolished, and the area will subsequently be re-graded.

Excavated soil was placed in 55-gallon open-top steel drums. URS collected a composite soil sample from the drums for waste characterization. The sample was submitted to CAS' laboratory for analysis of toxicity characteristic leaching procedure (TCLP) RCRA metals. The analysis indicated that the excavated soil contained leachable cadmium requiring disposal of the soil at a facility permitted to accept hazardous waste. The soils are in the process of being appropriately transported and disposed. Excerpts from the letter report documenting the removal of cadmium contaminated soil (Pactiv/URS, 2011b) is presented in Appendix A.

3.0 SITE INVESTIGATION FINDINGS

3.1 Soil

Analytical results for compounds detected during all previous investigations since 1996 are summarized in Table 3-1. Sample results from locations that have since been excavated and disposed of off-site at a permitted disposal facility are not included in Table 3-1. Data are compared to the following cleanup objectives listed in Title 6 of the New York Codes, Rules and Regulations (NYCRR), Subpart 375-6.8:

- Table 375-6.8(a) – Unrestricted Use Soil Cleanup Objectives, and
- Table 375-6.8(b) – Restricted Use Soil Cleanup Objectives – Protection of Public Health, Industrial Use.

The following bullets summarize the data in comparison to the cleanup objectives:

- Various VOCs were detected at five (5) sampling points (MA-8A, MSB-01, MSB-02, MSB-03 and MSB-08) at concentrations exceeding their unrestricted use criteria. No VOCs were detected at concentrations exceeding the industrial restricted use SCOs. The VOCs exceeding the unrestricted SCOs included benzene; toluene; ethylbenzene; xylenes; 1,2,4-trimethylbenzene; 1,3,5-trimethylbenze; and acetone. Acetone, detected at 57 micrograms per kilogram (µg/kg) at sampling point MSB-08 (6-8 feet bgs), is believed to be present due to laboratory contamination.
- Tetrachloroethene (PCE) was detected at a concentration of 730,000 µg/kg at sampling point MSB-04 (4-6 feet bgs) collected on October 20, 1999. This concentration exceeds both the unrestricted use objective of 1,300 µg/kg and the industrial restricted use objective of 300,000 µg/kg.
    - In 2002, a soil gas survey was conducted in the area of the waste ink tank to evaluate the extent of the PCE detected at boring MSB-4. Five soil gas samples (SG-1 through SG-5), including one duplicate sample from location SG-4, were collected from four locations at a depth of 5 feet bgs surrounding boring MSB-4. There were no detections of PCE in any of the soil gas samples (URS, 2002a).

- In February 2005, an additional soil boring (MSB-08) was completed at the MSB-04 location to confirm the presence of PCE detected in 1999. However, PCE was not detected in either of the two soil samples collected from MSB-08 at the 4-6 and 6-8 feet bgs intervals.
- PCE was not detected in soil gas or soil samples collected from the immediate vicinity of MSB-04. Additionally, PCE has never been detected in groundwater samples collected from the site wells. Therefore, the PCE detected in MSB-04 is considered to be anomalous, not representative of site conditions, and is not considered a concern.

- Phenol, a SVOC, was detected at a concentration of 1,100 µg/kg at sampling point MSB-01 (8-10 feet bgs). This concentration exceeds the unrestricted use objective of 330 µg/kg, but does not exceed the industrial restricted use objective of 1,000,000 µg/kg.
- Metals were detected at two (2) sampling points [MA-7A (lead and silver) and MA-20 (mercury)] at concentrations exceeding their unrestricted use SCO, but not their industrial restricted use criteria.
    - Cadmium, detected above the industrial restricted use criteria (60 mg/kg) in the Courtyard Area, was excavated and disposed of off-site at a permitted disposal facility. The maximum cadmium concentration detected in the confirmation soil samples, and in sample locations that were not removed during the excavation, is 47.6 mg/kg. The confirmation soil sampling documents that the soil excavation in the courtyard area completed as part of an IRM was effective at removing cadmium contaminated soil at concentrations exceeding the industrial use SCOs. The unrestricted use criterion is 2.5 mg/kg or rural background, whatever is greater. All but one (1) sample (CONF-3-SW) collected in the courtyard area contained greater than 2.5 mg/kg of cadmium.

The soil from the remaining sampling points did not contain compounds at concentrations exceeding 6 NYCRR Subpart 375-6.8 criteria.

Figure 3-1 shows the soil sampling points in relation to the site features, and reveals that the points with VOC exceedances are located between Buildings 10, 11 and 12; within the former solvent, waste ink, gasoline and diesel tank areas. Figure 3-1 also shows that sampling point SS-04 (metals exceedances) was located in a courtyard between Building 14A and Building 13H. The area of soil removal is indicated with a hatched pattern within the courtyard area on Figure 3-1.

3.2 Groundwater

The *Environmental Audit Tenneco Packaging Specialty Products, Macedon, New York* (CH2M, April 1997) and *Site Assessment and Closure of Two Chemical Bulk Storage Tanks, CBS Registration No. 8-000025, Tenneco Packaging Macedon Facility* (IT, January 1999) describe the results of groundwater screening completed by collecting groundwater samples from temporary groundwater wells. In these samples, metals in the aquifer upgradient and downgradient of the site facility, were detected at similar concentrations. VOCs and SVOCs were detected in the aquifer downgradient of the site facility; near Buildings 10, 11 and 12, and within the former solvent, waste ink, gasoline, and diesel tank areas.

The results of the screening study prompted further investigations using permanent monitoring wells. These investigations are documented in the *Soil and Groundwater Investigation* letter report (URS, 2000), *Remedial Investigation Report* (URS, 2005) and *Supplemental Investigation Report* (URS, 2009). The data presented in these reports was used to generate Table 3-2, which presents a summary of analytes detected in groundwater collected at the site since 1999, and compares these data to NYSDEC Technical & Operational Guidance Series (TOGS) (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA.

Groundwater samples from 11 monitoring wells were analyzed for VOCs, SVOCs, polychlorinated biphenyls, metals and dissolved metals. Table 3-2 shows that no compounds were detected above their TOGS criteria in the groundwater collected from these wells in the most recent sample collected at each location. In summary:

- VOCs were detected in groundwater from monitoring well MMW-03, at concentrations exceeding their TOGS criteria, during the 11/1/1999,

3/13/2000 and 4/6/2005 monitoring events. However, during the last three monitoring events at this well (6/1/2005, 7/23/2008, and 2/11/2009), no VOCs were detected at concentrations exceeding their TOGS criteria.

- VOCs were detected in groundwater from monitoring wells MMW-06, MMW-09 and MMW-10, at concentrations exceeding their TOGS criteria, during the 7/23-24/2008 monitoring event. However, during the last monitoring event at these wells (2/11-12/2009), no VOCs were detected at concentrations exceeding their TOGS criteria.
- SVOCs were detected in groundwater from monitoring wells MMW-02, MMW-04, MMW-05 and MP-01, at concentration exceeding their TOGS criteria, during the 1999-2000 monitoring events. However, during subsequent monitoring events at these wells, no SVOCs were detected at concentrations exceeding their TOGS criteria.

The groundwater from the remaining monitoring wells did not contain compounds at concentrations exceeding TOGS criteria.

Figure 3-2 shows the monitoring wells in relation to the site features, and depicts the groundwater flow direction at that site.

3.3 Soil Contamination In Relation to Groundwater Contamination

The data presented in the *Supplemental Investigation Report* (URS, June 2009) show that the groundwater in wells immediately downgradient of former tank areas (MMW-02, MMW-03 and MMW-04) does not contain compounds at concentrations exceeding their TOGS criteria. These wells are screened at the same depths that the soil samples with VOC exceedances were collected, suggesting that any residual soil contamination in the former tank areas is not impacting the quality of adjoining groundwater.

The *Supplemental Investigation Report* (URS, June 2009) also shows that the groundwater in the monitoring well near sampling point SS-04 (MMW-07), located within the courtyard area, does not contain compounds at concentrations exceeding their TOGS criteria, suggesting that the soil contamination in this area is not impacting the quality of adjoining groundwater.

4.0 IDENTIFICATION AND DEVELOPMENT OF REMEDIAL ALTERNATIVES

This section presents the methodology and rationale used to develop remedial action alternatives for the Macedon Films Site.

4.1 Remedial Action Objectives

The goal under the NYSDEC BCP is to remediate the site to a level that is protective of public health and the environment; taking into account the current, intended, and reasonably anticipated future use of the site. A remedial program that achieves a permanent cleanup of a contaminated site is to be preferred over a remedial program that does not do so. This goal includes the identification and development of remedial alternatives. As the current Bargain & Sale Deed for the property already restricts the land use to industrial uses and also prohibits the use of groundwater beneath the site as a source of potable water supply, one remedial alternative assumes continued industrial use for the property with no further cleanup action. The remedial alternatives evaluation also considers an alternative for remediating the site to below unrestricted soil cleanup objectives.

4.2 Standards, Criteria and Guidance Values

As noted above, contaminants were detected both in soil and groundwater at the site. Consequently, the following documents were utilized in order to determine whether or not the concentrations exceeded regulatory standards, guidance values or other criteria established for soil and groundwater.

- 6 NYCRR Subpart 375-6.8 (Remedial Program Soil Cleanup Objectives for industrial restricted use and unrestricted use)
- NYSDEC TOGS 1.1.1

It should be noted that TOGS 1.1.1 criteria assumes that groundwater is utilized, or may be potentially utilized in the future, as a source of drinking water. At the Macedon Films Site, groundwater is not currently used as a source of drinking water, nor is it likely to be a source of drinking water in the future.

4.3 Qualitative Risk Assessment

4.3.1 Chemicals of Concern

Contaminants detected at the site at concentrations exceeding SCOs for unrestricted use (6 NYCRR Subpart 375-6.8 (a)) and/or TOGS 1.1.1 are identified in Tables 3-1 and 3-2 and include the following:

Surface Soils

- Metals – lead, silver, and cadmium

Subsurface Soils

- VOCs – acetone, benzene, ethylbenzene, toluene, 1,2,4-trimethylbenze, 1,3,5-trimethylbenze, and xylene (total)
- SVOCs – phenol
- Metals – mercury

Groundwater

- VOCs – 1,2,4-trimethylbenze, naphthalene, n-propylbenzene, m&p-xylene, chloroform, methyl tert-butyl ether
- SVOCs – phenol, bis(2-ethylhexyl)phthalate

Following the IRM to remove cadmium contaminated soil from the courtyard area, only PCE was detected at a concentration (730,000 µg/kg at sampling point MSB-04 (4-6 feet bgs)) exceeding the Soil Cleanup Objectives for industrial restricted use (6 NYCRR Subpart 375-6.8(b)). However, this result is considered to be an outlier or a false positive detection (and is not a chemical of concern) because PCE was not detected in subsequent soil gas or soil samples collected from the immediate vicinity of MSB-04 or at any other location at the site. Additionally, PCE has never been detected in groundwater samples collected from the site wells.

4.3.2 Potential Exposure Pathways

The primary routes of human exposure to VOCs, SVOCs, and metals include inhalation or ingestion of vapors or contaminated dust as well as dermal contact. In general, the SVOCs and metals are not very mobile in soils, in that they have low solubility in water, do not volatilize readily and tend to adsorb to the soil grains. While VOCs present in subsurface soil could present a possible exposure pathway via soil vapor intrusion, the site is not occupied. Therefore, a soil vapor intrusion evaluation was not completed.

4.3.3 Potential Receptors

Potential receptors that may be exposed to contaminants at the site include construction workers, future workers/visitors at the site and trespassers.

4.3.4 Risk Assessment

Surface soils contaminated with metals in exceedance of the unrestricted use criteria present a risk at the Site. Metals (lead and silver) were detected at concentrations exceeding the unrestricted use criteria in one surface soil sample; MA-7A. Human exposure may result from direct dermal contact with the soils, or inhalation or ingestion of contaminated dust. However, given the restriction on industrial use for the site, neither the lead nor silver concentrations detected in sample MA-7A would pose a risk to public health.

Subsurface soils at the site contain VOCs, one SVOC (phenol), and one metal (mercury) at concentrations that exceed the unrestricted use criteria. One subsurface soil sample from boring MSB-04 contained PCE at a concentration (730,000 ug/L) exceeding the industrial restricted use criteria (1,300 ug/L). However, based on results of subsequent soil gas and soil sampling in the immediate vicinity of MSB-04, this is not considered a representative sample of the conditions at the Macedon Films Site. The potential for human exposure to contaminants in the subsurface soils is much more limited. Future industrial/commercial site workers/visitors will not be exposed to the subsurface soils unless the areas are disturbed by excavation or other similar activities. Future construction workers may be exposed via dermal contact and inhalation or ingestion of contaminated dust or inhalation of vapors during excavations (i.e. footers, foundations, utility lines, etc.) that penetrate below the ground surface. Potential exposure to VOCs could occur via soil vapor intrusion if additional buildings at the site were constructed.

Because the site is currently vacant, the potential for exposure via soil vapor intrusion is minimal. Various VOCs were detected at concentrations exceeding unrestricted use criteria in several locations in the north central portion of the Site (MSB-1, MSB-2, MSB-3, MSB-4, MSB-8, and MA-8A). The depth of contamination in these sample locations ranged from 4 to 10 feet bgs. Given the restriction to industrial use for the site, none of these VOC concentrations would pose a risk to public health.

In general, groundwater is encountered at the site at depths greater than 5 to 15 feet bgs, and generally flows from the southwest toward the northeast. Groundwater beneath the site is not used for drinking water supply purposes. The Village of Macedon water supply source is Lake Ontario. VOCs and SVOCs have historically been detected at concentrations exceeding the TOGS 1.1.1 criteria in site groundwater monitoring wells. However, no compounds were detected above their respective TOGS criteria in these wells during their last respective monitoring event.

4.4 Remediation Objective

The remedial action objective for the Site is to limit exposure to soil above 6 NYCRR Subpart 375 soil cleanup objectives given a reasonable reuse scenario. As TOGS criteria have been met in all wells , groundwater is not considered to be a medium of concern.

4.5 General Response Actions

General response actions may be applied at a site to meet the remedial action objective. They may include treatment, containment, excavation, extraction, disposal, institutional controls, no action, or a combination of responses. The general response actions identified for soils at the site are institutional controls and excavation.

4.6 Development of Alternatives

The general response actions identified in Section 4.5 have been assembled into remedial action alternatives that address the contamination concerns at the site. Three alternatives were developed which include:

- Alternative 1 - Institutional Controls/Environmental Easement (Industrial Reuse Scenario).
- Alternative 2 – Soil Excavation with Off-site Disposal (Unrestricted Use Scenario)

These alternatives are evaluated in Section 5.0.

5.0 DESCRIPTION AND DETAILED ANALYSIS OF ALTERNATIVES

5.1 Introduction

A detailed analysis of the remedial action alternatives developed for the site consists of the presentation and analysis of relevant information necessary to select a remedy for the site. The proposed alternatives were analyzed in this report using the following seven evaluation criteria as defined in 6 NYCRR 375:

1. Overall protection of human health and the environment;
2. Compliance with SCGs;
3. Short-term effectiveness;
4. Long-term effectiveness and permanence;
5. Reduction of toxicity, mobility, and volume;
6. Implementability;
7. Cost;
8. Land Use.

5.2 Individual Analysis of Alternatives

The components of each alternative are further defined in the following paragraphs with regard to volumes or areas of contaminated media to be addressed; the technologies to be used; and any performance requirements associated with those technologies.

5.2.1 Alternative 1 – Institutional Controls/Environmental Easement (Industrial Reuse)

Under this alternative, existing institutional controls, consisting of deed restrictions limiting future use of the site to industrial purposes, would remain in effect. In addition, an environmental easement would be put in place to insure that the deed restrictions would remain in place as long as necessary to continue to be protective of human health and the environment, and to insure that all subsequent property owners and occupants abide by the deed restrictions. This alternative would include a final engineering report and site management plan that would prescribe annual inspections and certifications that the site is being used in a manner consistent

with the deed restrictions and environmental easement. As TOGS criteria have been met in all wells, no further groundwater monitoring is required, and the limitation on groundwater reuse could be excluded from the easement.

5.2.1.1 Overall Protection of Public Health and the Environment

This alternative does not provide active remedial measures, but provides institutional controls such as deed restriction, an environmental easement, and an SMP. These controls provide protection to human health by restricting access and limiting exposure through ingestion and dermal contact.

5.2.1.2 Compliance with SCGs

Since no remediation is proposed, low concentrations of residual contamination would remain. This alternative would not meet unrestricted use SCOs at the site but would restrict future land use to industrial. This alternative meets the industrial use SCOs at the site.

5.2.1.3 Long-term Effectiveness and Permanence

This alternative relies on institutional controls such as deed restrictions, an environmental easement, and an SMP to reduce site risks effectively and permanently in the long-term.

5.2.1.4 Reduction of Toxicity, Mobility and Volume with Treatment

This alternative would not actively reduce the toxicity, mobility, or volume of contaminated soil remaining above unrestricted use SCOs. Instead, this alternative relies on natural processes to reduce the low concentrations of residual contamination.

5.2.1.5 Short-term Effectiveness

As there is no construction associated with this alternative, there would be no impact to workers and the surrounding Macedon community. RAOs for public health protection would be met for the site upon implementation of the institutional controls to prevent human exposure from ingestion and direct contact.

5.2.1.6 Implementability

Deed restrictions limiting future use of the site to industrial purposes and restricting use of groundwater from the site already exist. An SMP and environmental easement could readily be implemented.

5.2.1.7 Cost

Estimated capital and OM&M costs for the deed restrictions, environmental easement, and SMP included in Alternative 2 are presented in Appendix B, Table B-1. The total capital cost is $43,750, annual OM&M costs for site inspection and maintenance are $2,000, and the total present worth of Alternative 2 is $74,750.

5.2.1.8 Land Use

The site is currently zoned for industrial uses. An existing deed restriction limits the property to industrial uses only. Allowable uses under Village of Macedon Zoning Ordinance are listed in Section 2.2. Under this alternative, the environmental easement would be in place to insure that land use remains industrial only.

5.2.2 Alternative 2 – Soil Excavation with Off-site Disposal (Unrestricted Use)

To remove soil identified as exceeding the unrestricted use cleanup objectives, excavation would be performed in five separate areas to varying depths. The areas are shown on Figure 5-1. Area 1 would address petroleum related VOCs identified in borings MSB-01 and MSB-02. As concentrations exceeding unrestricted use criteria were detected as deep as 10 feet bgs, excavation would be performed to a minimum depth of 11 feet bgs. An excavation encompassing both borings and extending at least 10 feet on all sides of the borings would measure approximately 30 feet wide by 40 feet long. The estimated volume of soil to be excavated for off-site disposal from Area 1 would be approximately 500 cubic yards (cy). Excavation Area 2 would address VOC contamination identified in borings MSB-03 and MA-8A. With estimated dimensions of 40 feet wide by 60 feet long and 11 feet bgs, the estimated volume of contaminated soil to be excavated for off-site disposal would be approximately 1,000 cy. Excavation Areas 3, 4, and 5 would address metals contaminated soil at locations MA-7A, MA-20, and SS-4, respectively. These excavations would be relatively shallow (from 1 to 5 feet bgs,

respectively), and the total volume of soil to be removed from both areas would be approximately 135 cy. All excavation areas would be backfilled with appropriate imported fill material, and any surface pavement would be replaced in-kind.

5.2.2.1 Overall Protection of Public Health and the Environment

This alternative poses short-term risks during construction primarily associated with excavation and off-site transport of contaminated soil from the site. It complies with soil SCGs and is effective in the long-term. This alternative is protective of human health and the environment through removal of soil contamination.

5.2.2.2 Compliance with SCGs

This alternative complies with both the unrestricted and restricted industrial remedial goals and eliminates the potential for direct contact with subsurface soil.

5.2.2.3 Long-term Effectiveness and Permanence

The potential risks to human health and the environment caused by contaminated soil would be eliminated. This alternative is considered effective and permanent in the long-term.

5.2.2.4 Reduction of Toxicity, Mobility and Volume with Treatment

Excavation and off-site disposal of soil would eliminate the toxicity, mobility, and volume of contaminated soil from the site.

5.2.2.5 Short-term Effectiveness

Soil removal will present minimal noise and disruption of daily traffic patterns and short-term risks to workers, the community and the environment. These risks and impacts would be managed through a combination of controls and community air monitoring. Barricades and flagmen would be required. Erosion and dust control would be required. Truck traffic volume for excavation and backfill would minimally impact traffic in the local area. The time for construction is less than 1 month. Following construction of the alternative, public health protection RAOs pertaining to preventing human exposure and environmental protection RAOs, would be met.

5.2.2.6 Implementability

Excavation of contaminated soil within a depth of 10 to 12 feet would be relatively easy to implement considering the inactive status of the facility.

5.2.2.7 Cost

This alternative is relatively easy to implement, but has a very high cost associated with it compared to alternative 1. Assuming that all soil can be managed as non-hazardous waste, the estimated cost to complete this alternative is approximately $430,000. If all soil is disposed of as hazardous waste due to exceeding a toxicity characteristic limit, the estimated cost is approximately $1.1 million. A detailed breakdown of the estimated costs is presented in Appendix B, Table B-2.

5.2.2.8 Land Use

The site is currently zoned for industrial uses. An existing deed restriction limits the property to industrial uses only. Allowable uses under Village of Macedon Zoning Ordinance are listed in Section 2.2. This alternative is consistent with the Village's allowable land uses.

5.3 Selected Remedial Alternative

Based on the analysis of alternatives presented above, it is recommended that Alternative 1 - Institutional Controls/Environmental Easement, be implemented at the site. This alternative provides a high degree of protection to human health and the environment, is reasonably cost effective, and relatively easy to implement.

This alternative satisfies the remedial objectives by limiting exposure to soil above 6 NYCRR Subpart 375 soil cleanup objectives for an industrial reuse scenario. Industrial use of the site is consistent with the current and foreseeable reuse of the property. The following table summarizes how the selected remedy will achieve the remediation objectives:

Remedial Objectives for Protection of Public Health	Remedial Actions for Protection of Public Health
1) Prevent people from drinking groundwater with contaminants exceeding drinking water standards	- Achieved by existing deed restriction and new environmental easement restricting the use of groundwater at the site. - Currently, no groundwater contaminants exceed the TOGS criteria. - Public water is provided in the area of the site.
2) Prevent contact, or inhalation of volatiles, from contaminated groundwater	- Development of a Site Management Plan. - Achieved by existing deed restriction and new environmental easement restricting the use of groundwater at the site. - Currently, no groundwater contaminants exceed the TOGS criteria.
3) Prevent ingestion/direct contact with contaminated soil	- Development of a Site Management Plan - Achieved by existing deed restriction and new environmental easement restricting the use of the site to industrial.
4) Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil	- Development of a Site Management Plan - Achieved by existing deed restriction and new environmental easement restricting the use of the site to industrial.
5) Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into the indoor air of buildings at or near the site.	- SVI has not been identified as a pathway of concern for this site.
Remedial Objectives for Environmental Protection	**Remedial Actions for Environmental Protection**
1) Restore the groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.	- Recent groundwater sampling has not detected site contaminants above their respective TOGS criteria.
2) Remove the source of groundwater contamination	- No sources of ongoing groundwater contamination have been identified for the site.
3) Prevent migration of contaminants that would result in groundwater contamination.	- No sources of ongoing groundwater contamination have been identified for the site.

Alternative 1 - Institutional Controls/Environmental Easement also provides for long term enforcement of the existing deed restrictions by use of the environmental easement.

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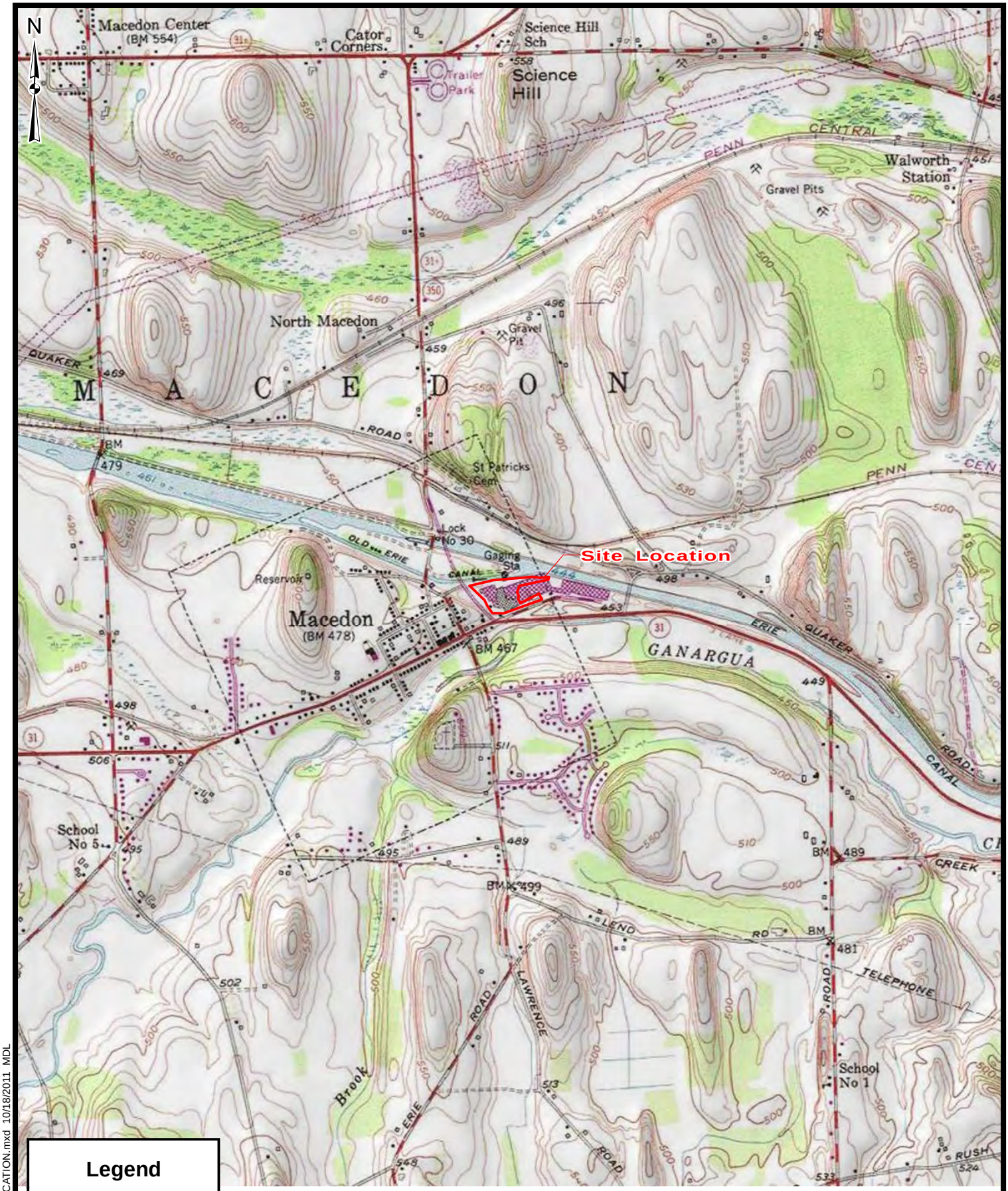
FIGURES



Legend

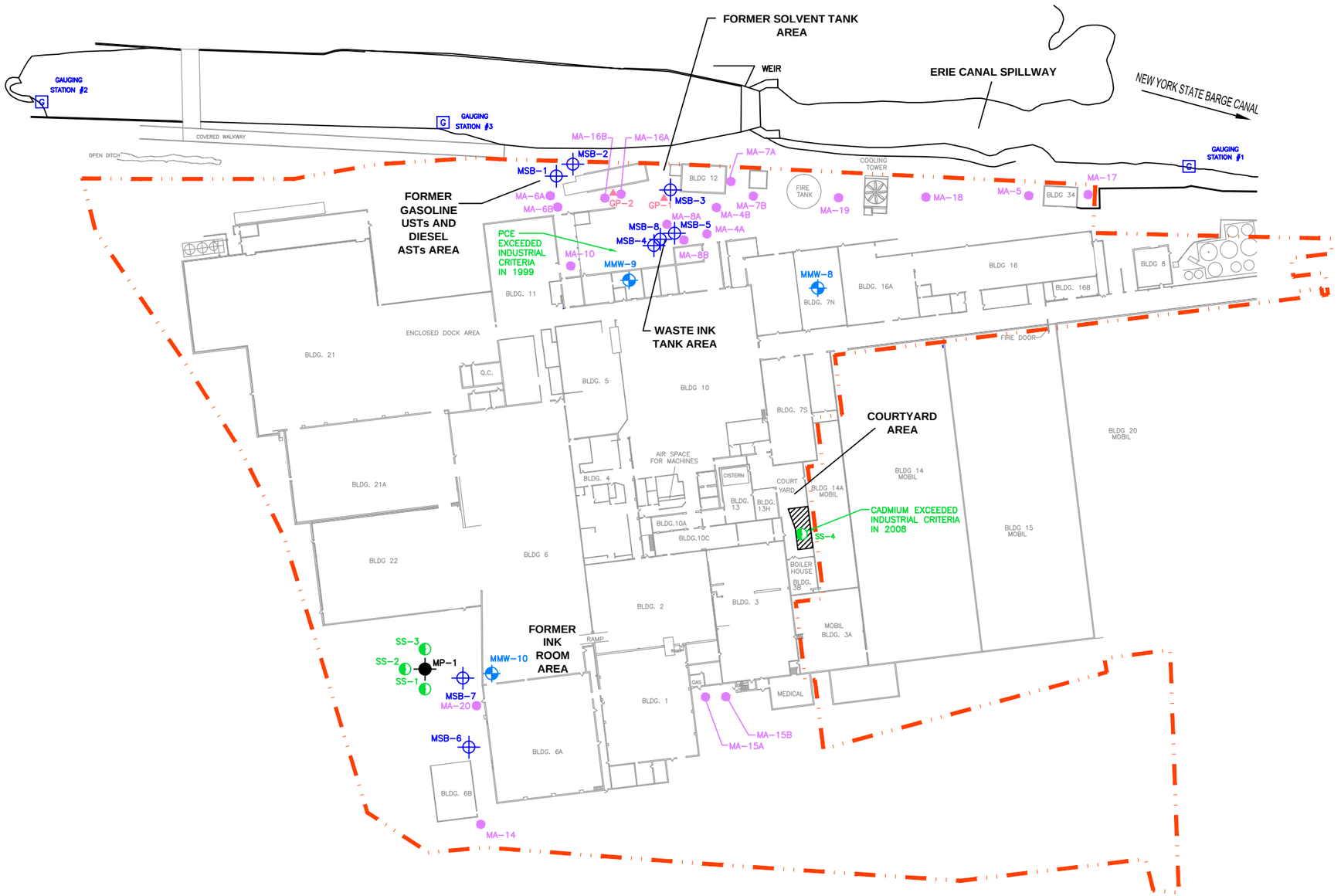
Site Boundary

URS

PACTIV - MACEDON FILMS SITE
MACEDON, NEW YORK
SITE LOCATION MAP

FIGURE 1-1

I:\11176356\GIS\MAPS\SITE LOCATION.mxd 10/18/2011 MDL



True North Per Barge Canal Mapping Prepared By State of New York

LEGEND

- Installed Gauging Station
- MSB-1: Soil Boring Location
- MA-11: Soil & Sediment Sampling Location (1996)
- GP-1: Soil/Groundwater Sampling Location (1998)
- SS-1: Surface Soil Sampling Location
- MP-1: Existing Piezometer / Soil Boring Location
- Approximate Cadmium Contaminated Soil Excavation Area
- Site Boundary
- BLDG. 7S: Building Number

NOTES:
All locations are approximate.

DRAWING SOURCE:
Mobil Chemical Drawing DX1631 (SPCC Drawing) 3/94

0 50 100
GRAPHIC SCALE IN FEET

Title: SOIL SAMPLING LOCATIONS

Location: MACEDON, NEW YORK

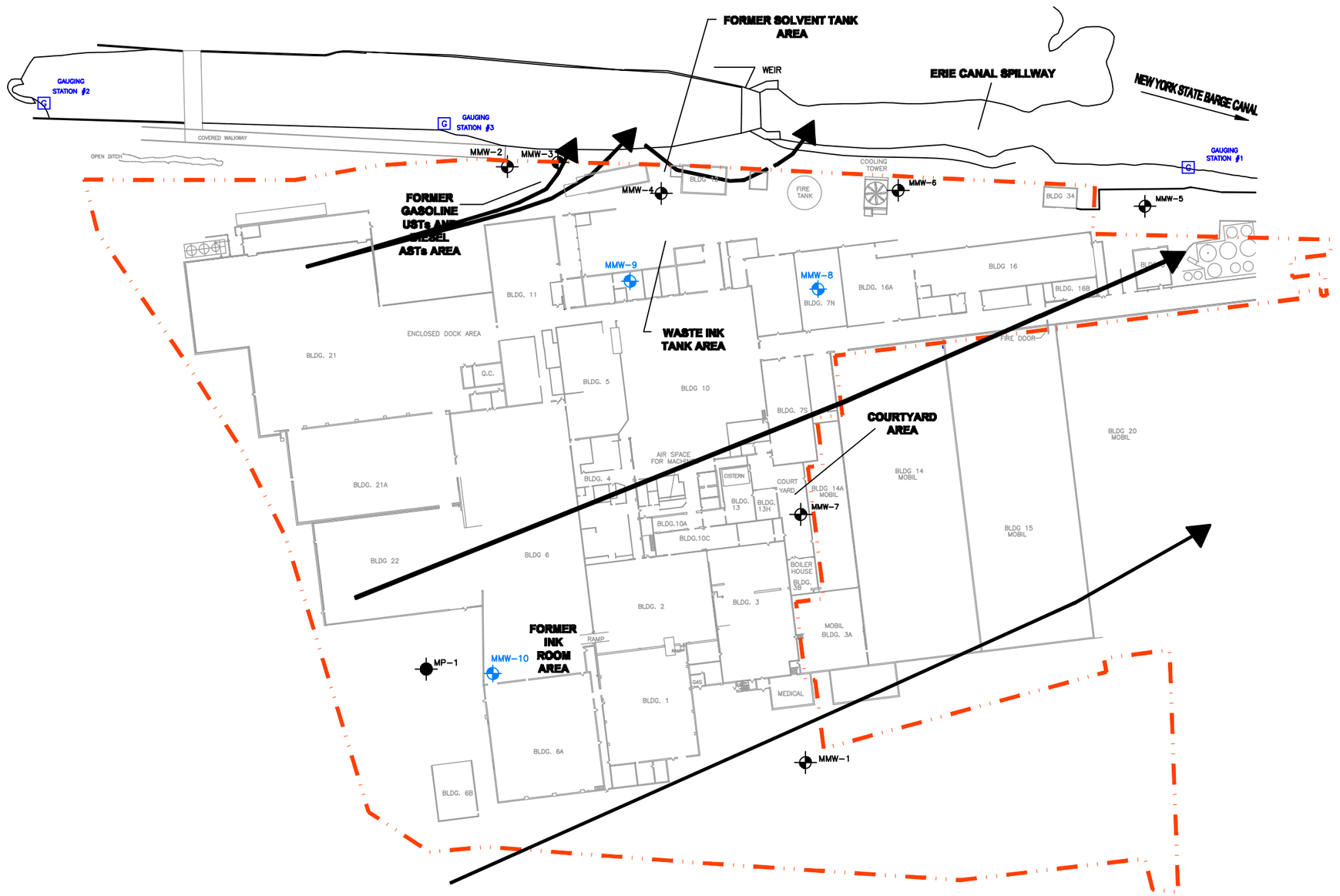
Client: PACTIV Advanced Packaging Solutions

URS Corporation
77 Goodell Street
Buffalo, New York 14203

Drafter: HAP	Date: October 2011
Drg. Size: 11 x 17	Job No.: 11176356.00000

FIGURE 3-1

J:\38394424.00000\CAD\FIGURE 3-1 _10-17-11.dwg 1:1.03 10/17/11 - 1 HAP



N

True North Per Barge Canal Mapping Prepared By State of New York

LEGEND

- Installed Gauging Station
- MMW-8 — New Installed Monitoring Well Location (July 2008)
- MMW-5 — Existing Monitoring Well
- MP-1 — Existing Piezometer
- Groundwater Flow Direction February 2009
- Site Boundary
- BLDG. 7S — Building Number

NOTES:
All locations are approximate.

DRAWING SOURCE:
Mobil Chemical Drawing DX1631 (SPCC Drawing) 3/94

0 50 100
GRAPHIC SCALE IN FEET

Title: GROUNDWATER SAMPLING LOCATIONS

Location: MACEDON, NEW YORK

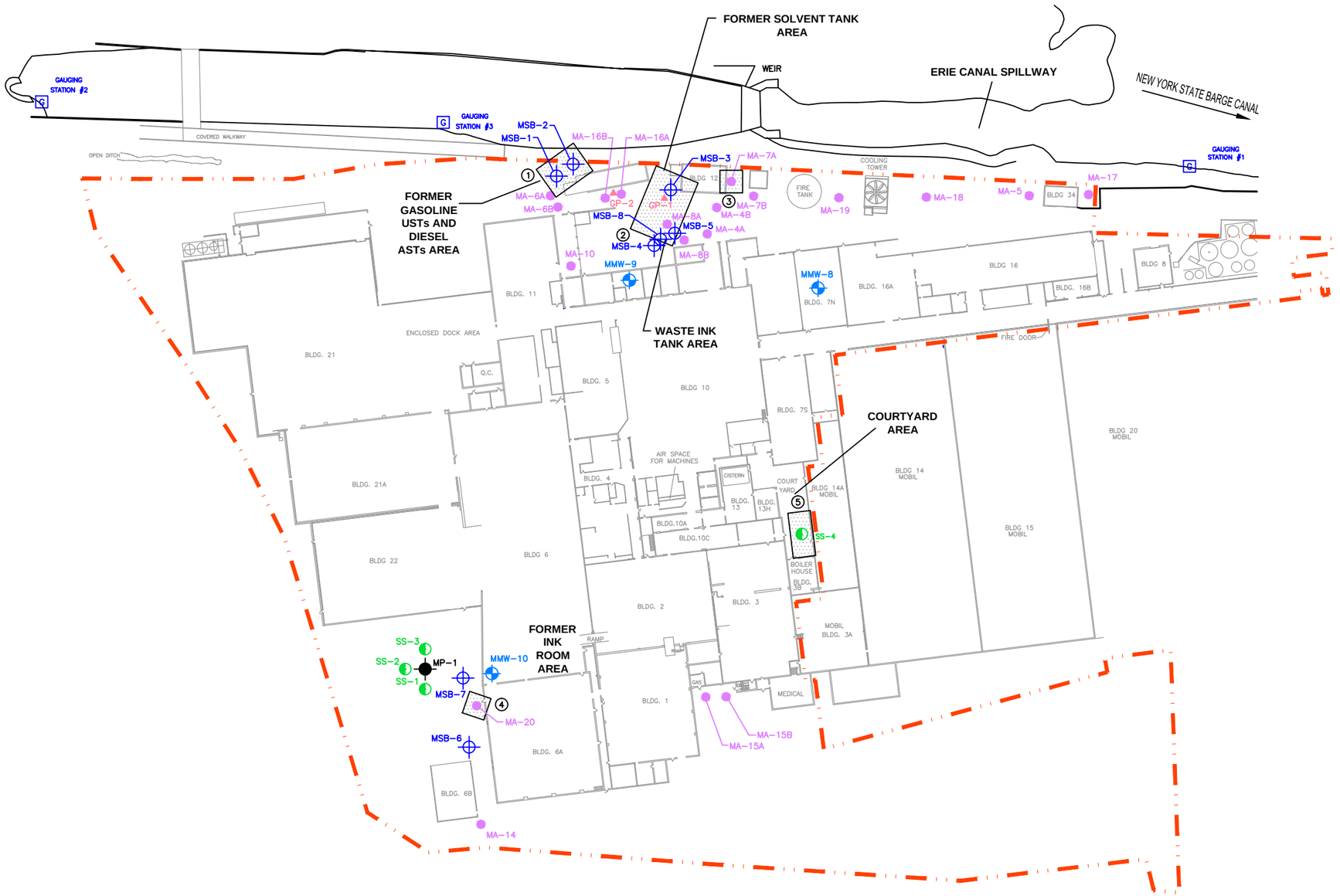
Client: PACTIV Advanced Packaging Solutions

URS Corporation
77 Goodell Street
Buffalo, New York 14203

Drafter: HAP	Date: November 2010
Drg. Size: 11 x 17	Job No.: 11176356.00000

FIGURE 3-2

J:\38394424.00000\CAD\FIGURE 3-2 _11-22-10.dwg 1:1.03 11/22/10 - 1 HAP



True North Per Barge Canal Mapping Prepared By State of New York

LEGEND

- Installed Gauging Station
- MSB-1 — Soil Boring Location
- MA-11 — Soil & Sediment Sampling Location (1996)
- GP-1 — Soil/Groundwater Sampling Location (1998)
- SS-1 — Surface Soil Sampling Location
- MP-1 — Existing Piezometer / Soil Boring Location
- Proposed Excavation Area - Remedial Alternative 2
- Site Boundary
- BLDG. 7S — Building Number

NOTES:
All locations are approximate.

DRAWING SOURCE:
Mobil Chemical Drawing DX1631 (SPCC Drawing) 3/94

0 50 100
GRAPHIC SCALE IN FEET

Title: PROPOSED EXCAVATION AREAS - REMEDIAL ALTERNATIVE 2

Location: MACEDON, NEW YORK

Client: PACTIV Advanced Packaging Solutions

URS Corporation
77 Goodell Street
Buffalo, New York 14203

Drafter: HAP	Date: October 2011
Drg. Size: 11 x 17	Job No.: 11176356.00000

FIGURE 5-1

J:\38394424.00000\CAD\FIGURE 5-1 _10-17-11.dwg 1:1.03 10/17/11 - 1 HAP

TABLES

TABLE 3-1
SUMMARY OF DETECTED SOIL ANALYTICAL RESULTS
MACEDON FILM SITE

Location I.D.				MA-4A	MA-4B	MA-5	MA-6A	MA-6B	MA-7A	MA-7A	MA-7B	MA-8A	MA-8A	MA-8B	MA-10	MA-14	MA-15A	MA-15B	MA-16A	MA-16B	MA-17	MA-18	MA-19	MA-20	GP-1	GP-2	MP-1	MSB-01	MSB-02	MSB-03
Sample I.D.				MA-4A	MA-4B	MA-5-2	MA-6A-2	MA-6B-2	MA-7A-1	MA-7A-3	MA-7B-2	MA-8A-2	MA-8A-3	MA-8B-2	MA-10-1	MA-14-2	MA-15A-2	MA-15B-2	MA-16A-2	MA-16B-2	MA-17-2	MA-18-2	MA-19-2	MA-20-2	GP-1	GP-2	MP-1 (4'-5')	MSB-1 (8'-10')	MSB-2 (8'-10')	MSB-3 (8'-10')
Depth Interval (ft)				4.0-5.1	4.8-5.7	5.0-6.0	6.0-7.0	7.0-8.0	0.4-1.0	4.0-4.8	6.4-7.1	6.5-7.1	8.0-9.0	6.0-6.8	2.0-2.7	1.0-1.2	2.0-2.5	1.5-2.0	1.0-2.0	1.0-2.0	2.5-3.0	4.6-5.6	8.0-9.0	4.1-5.0	10.0-12.0	10.0-12.0	4.0-5.0	8.0-10.0	8.0-10.0	8.0-10.0
Date Sampled				10/29/96	10/29/96	10/28/96	10/29/96	10/29/96	10/29/96	10/29/96	10/30/96	10/29/96	10/29/96	10/29/96	10/29/96	10/29/96	10/31/96	10/31/96	10/29/96	10/29/96	10/30/96	10/30/96	10/30/96	10/31/96	11/16/98	11/16/98	10/22/99	10/25/99	10/25/99	10/21/99
Parameter	Units	IND	UNR																											
Volatile Organic Compounds																														
1,2,4-Trimethylbenzene	UG/KG	380000	3600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7800	31000	1400 J
1,3,5-Trimethylbenzene (Mesitylene)	UG/KG	380000	8400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3100	9300	ND
2-Hexanone	UG/KG	-	-	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND
4-Isopropyltoluene (p-Cymene)	UG/KG	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340 J	1900	ND
Acetone	UG/KG	1000000	50	ND	ND	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	35	35	NA	NA	ND	ND	ND
Benzene	UG/KG	89000	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	820	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	ND	170 J	ND
Chloroform	UG/KG	700000	370	ND	7.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND
Ethylbenzene	UG/KG	780000	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	900	7700	2100 J
Isopropylbenzene (Cumene)	UG/KG	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 J	1000	ND
Naphthalene	UG/KG	1000000	12000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1400	6300	1700 J
n-Propylbenzene	UG/KG	1000000	3900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	930	3100	ND
sec-Butylbenzene	UG/KG	1000000	11000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370 J	1600	ND
Tetrachloroethene	UG/KG	300000	1300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND
Toluene	UG/KG	1000000	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	190 J	ND	110000
m&p-Xylene	UG/KG	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	1800	25000	4000
o-Xylene	UG/KG	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	NA	NA	ND	220 J	790 J
Xylene (total)	UG/KG	1000000	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1800	25220	4790
Semivolatile Organic Compounds																														
2-Methylnaphthalene	UG/KG	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	8500	22000	11000
Acenaphthene	UG/KG	1000000	20000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	ND	1200 J
Acenaphthylene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	ND	ND
Anthracene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	212	68 J	NA	ND	ND	910 J
Benzo(a)anthracene	UG/KG	11000	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	670	NA	NA	ND	ND	511	ND	NA	ND	ND	ND
Benzo(a)pyrene	UG/KG	1100	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	550	NA	NA	ND	ND	561	ND	NA	ND	ND	ND
Benzo(b)fluoranthene	UG/KG	11000	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	830	NA	NA	ND	ND	658	ND	NA	ND	ND	ND
Benzo(g,h,i)perylene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	ND	ND
Benzo(k)fluoranthene	UG/KG	110000	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	380	ND	NA	ND	ND	ND
bis(2-Ethylhexyl)phthalate	UG/KG	-	-	ND	ND	ND	ND	ND	1400	ND	ND	ND	NA	600	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND
Carbazole	UG/KG	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND
Chrysene	UG/KG	110000	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	630	NA	NA	ND	ND	671	ND	NA	ND	ND	ND
Dibenz(a,h)anthracene	UG/KG	1100	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND
Dibenzofuran	UG/KG	1000000	7000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	1500 J	ND
Di-n-butylphthalate	UG/KG	-	-	ND	ND	ND	ND	ND	ND	2600 B	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND
Fluoranthene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	1500	NA	NA	ND	ND	2036	ND	NA	ND	ND	ND
Fluorene	UG/KG	1000000	30000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	93 J	204	NA	1200 J	4100	2200
Indeno(1,2,3-cd)pyrene	UG/KG	11000	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	ND	ND
Naphthalene	UG/KG	1000000	12000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	83 J	NA	2800	7500	1800 J
Phenanthrene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	970	NA	NA	ND	ND	713	292	NA	2400	5900	4100
Phenol	UG/KG	1000000	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	NA	1100 J	ND	ND
Pyrene	UG/KG	1000000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	1300	NA	NA	ND	ND	1773	ND	NA	ND	ND	ND
Polychlorinated Biphenyls																														
Aroclor 1260	UG/KG	25000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
Metals																														
Arsenic	MG/KG	16	13	2.95	5.19	ND	NA	NA	3.64	NA	NA	1.28	NA	2.78	3.36	1.78	NA	NA	NA	NA	NA	NA	NA	2.75	NA	NA	NA	1.75	ND	ND
Barium	MG/KG	10000	350	23.5	43.1	10.2	NA	NA	46.3	NA	NA	11.3	NA	27.9	55	37.1	NA	NA	NA	NA	NA	NA	NA	89	NA	NA	NA	18.8	34.9	13
Cadmium	MG/KG	60	2.5	ND	ND	ND	NA	NA	1.87	NA	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND
Chromium	MG/KG	6800	30	8.59	14.2	4.3	NA	NA	13	NA	NA	4.68	NA	9.47	11.2	8.19	NA	NA	NA	NA	NA	NA	NA	13.7	NA	NA	NA	8.39	9.19	4.03
Lead	MG/KG	3900	63	ND	27.4	ND	NA	NA	81	NA	NA	ND	NA	9.27	48.2	11.3	NA	NA	NA	NA	NA	NA	NA	17.1	NA	NA	NA	6.96	9.6	ND
Mercury	MG/KG	5.7	0.18	ND	ND	ND	NA	NA	ND	NA	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	0.266	NA	NA	ND	ND	ND	ND
Selenium	MG/KG	6800	3.9	1.68	2.79	ND	NA	NA	2.11	NA	NA	0.686	NA	2.33	1.58	1.81	NA	NA	NA	NA	NA	NA	NA	3.42	NA	NA	NA	1.19	1.35	2.05
Silver	MG/KG	6800	2	ND	ND	ND	NA	NA	2.26	NA	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND

Only Soils Remaining In Place Are Included On this Table

ND = Not detected
J = Estimated value
NA = Not Analyzed
I:\11176356\WORD\DRAFT\Remedial Alternatives\Soil Table Detects 2011-08-30

IND = 6 NYCRR Part 375.6, Industrial
UNR = 6 NYCRR Part 375.6, Unrestricted Use
RED = Value > IND
SHADED = Value > UNREST

TABLE 3-1
SUMMARY OF DETECTED SOIL ANALYTICAL RESULTS
MACEDON FILM SITE

Location I.D.				MSB-04	MSB-05	MSB-06	MSB-07	MSB-08	MSB-08	MMW-08	MMW-09	MMW-10	SS-01	SS-02	SS-03	SS-4-C2	SS-4-C2	SS (4,0)	SS (4,-2)	SS (2,-2)	SS (0,-2)	SS (4,-2)	SS (0,0)	SS (-4,2)	CONF-1	CONF-2	CONF-3	CONF-4
Sample I.D.				MSB-4 (4-6')	MSB-5 (12'-14')	MSB-6 (4')	MSB-7 (4')	MSB-8 (4-6')	MSB-8 (6-8')	MMW-8 8'-12'	MMW-9 4'-8'	MMW-10 4'-5.4'	SS-1 (07/22/2008)	SS-2 (07/22/2008)	SS-3 (07/22/2008)	SS-4-C2	DUP-011111	SS (4,0)	SS (4,-2)	SS (2,-2)	SS (0,-2)	SS (4,-2)	SS (0,0)	SS (-4,2)	CONF-1-NW	CONF-2-NE	CONF-3-SW	CONF-4-SE
Depth Interval (ft)				4.0-6.0	12.0-14.0	4.0-4.0	4.0-4.0	4.0-6.0	6.0-8.0	8.0-12.0	4.0-8.0	4.0-5.4	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0-0.5
Date Sampled				10/20/99	10/20/99	10/22/99	10/22/99	02/15/05	02/15/05	07/22/08	07/22/08	07/22/08	07/22/08	07/22/08	07/22/08	01/11/11	01/11/11	06/09/11	06/09/11	06/09/11	06/09/11	06/09/11	06/09/11	06/09/11	07/11/11	07/11/11	07/11/11	07/11/11
Parameter	Units	IND	UNR																									
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	UG/KG	380000	3600	ND	ND	NA	NA	ND	130 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene (Mesitylene)	UG/KG	380000	8400	ND	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	UG/KG	-	-	ND	ND	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Isopropyltoluene (p-Cymene)	UG/KG	-	-	ND	ND	NA	NA	ND	190 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	UG/KG	1000000	50	ND	ND	NA	NA	ND	57 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	UG/KG	89000	60	ND	ND	NA	NA	ND	ND	ND	ND	2.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	UG/KG	700000	370	ND	ND	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	UG/KG	780000	1000	ND	ND	NA	NA	ND	8.1 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene (Cumene)	UG/KG	-	-	ND	ND	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	UG/KG	1000000	12000	ND	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	UG/KG	1000000	3900	ND	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	UG/KG	1000000	11000	ND	ND	NA	NA	ND	21 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	UG/KG	300000	1300	730000	ND	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	UG/KG	1000000	700	ND	ND	NA	NA	ND	ND	ND	ND	2.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	UG/KG	-	-	ND	ND	NA	NA	ND	17 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	UG/KG	-	-	ND	ND	NA	NA	ND	7.8 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene (total)	UG/KG	1000000	260	ND	ND	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds																												
2-Methylnaphthalene	UG/KG	-	-	11000	ND	NA	NA	ND	ND	ND	ND	110 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	1000000	20000	1600 J	ND	NA	NA	ND	870	ND	ND	54 J	63 J	89 J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	UG/KG	1000000	100000	ND	ND	NA	NA	ND	ND	ND	ND	130 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	UG/KG	1000000	100000	1700 J	ND	NA	NA	ND	150 J	ND	ND	390 J	160 J	270 J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	11000	1000	ND	ND	NA	NA	ND	ND	ND	ND	880	410 J	620	140 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	1100	1000	ND	ND	NA	NA	ND	ND	ND	ND	670	390 J	520	160 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	11000	1000	ND	ND	NA	NA	ND	ND	ND	ND	580	350 J	500	140 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	1000000	100000	ND	ND	NA	NA	ND	ND	ND	ND	330 J	280 J	320 J	120 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	110000	800	ND	ND	NA	NA	ND	ND	ND	ND	520	370 J	430 J	130 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	-	-	ND	ND	NA	NA	140 J	170 J	ND	ND	450	160 J	200 J	220 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	-	ND	ND	NA	NA	ND	ND	ND	ND	ND	68 J	130 J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	UG/KG	110000	1000	ND	ND	NA	NA	ND	ND	ND	ND	690	420 J	590	170 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	1100	330	ND	ND	NA	NA	ND	ND	ND	ND	92 J	54 J	83 J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	1000000	7000	ND	ND	NA	NA	ND	ND	ND	ND	100 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	UG/KG	-	-	ND	ND	NA	NA	ND	ND	ND	ND	130 J	51 J	55 J	88 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	1000000	100000	ND	ND	NA	NA	ND	110 J	ND	ND	1600	890	1500	320 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	UG/KG	1000000	30000	3400 J	ND	NA	NA	ND	1100	ND	ND	130 J	52 J	86 J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	11000	500	ND	ND	NA	NA	ND	ND	ND	ND	340 J	250 J	310 J	100 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	UG/KG	1000000	12000	ND	ND	NA	NA	ND	ND	ND	ND	330 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	UG/KG	1000000	100000	6100	ND	NA	NA	140 J	2200	ND	ND	910	550	980	140 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	UG/KG	1000000	330	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	UG/KG	1000000	100000	ND	ND	NA	NA	ND	190 J	ND	ND	1200	710	1000	240 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls																												
Aroclor 1260	UG/KG	25000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																												
Arsenic	MG/KG	16	13	ND	3.37	NA	NA	NA	NA	ND	1.3	0.29 J	4.2	2.9	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	MG/KG	10000	350	9.47	10.6	NA	NA	NA	NA	9.6	19	50.4	65.7	54.5	72.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	MG/KG	60	2.5	ND	ND	NA	NA	NA	NA	ND	ND	ND	0.42 J	0.47 J	0.55 J	42.3	41.9	47.6	27.9	32.2	37.2	17.3	10.3	17.9	8.68	9.93	1.8	9.91
Chromium	MG/KG	6800	30	2.9	7.71	NA	NA	NA	NA	5.3	11.8	8.2	14.8	13	15.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	MG/KG	3900	63	6.37	14	NA	NA	NA	NA	3.5 J	8.1 J	6.6 J	52.1 J	52.2 J	53.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	MG/KG	5.7	0.18	ND	ND	0.0963	0.0816	NA	NA	0.01 J	0.02 J	0.03 J	0.09	0.09	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	MG/KG	6800	3.9	2.59	1.91	NA	NA	NA	NA	1.2 J	ND	1.3 J	1.5 J	0.72 J	2.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	MG/KG	6800	2	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Only Soils Remaining In Place Are Included On this Table

ND = Not detected
J = Estimated value
NA = Not Analyzed
I:\11176356\WORD\DRAFT\Remedial Alternatives\Soil Table Detects 2011-08-30

IND = 6 NYCRR Part 375.6, Industrial
UNR = 6 NYCRR Part 375.6, Unrestricted Use
RED = Value > IND
SHADED = Value > UNREST

TABLE 3-2
SUMMARY OF DETECTED ANALYTES IN GROUNDWATER
MACEDON FILM SITE

Location I.D.			MMW-01	MMW-01	MMW-01	MMW-01	MMW-01	MMW-01	MMW-02	MMW-02	MMW-02	MMW-02	MMW-02	MMW-02	MMW-03	MMW-03	MMW-03	MMW-03	MMW-03	MMW-03	MMW-03	MMW-04	MMW-04	MMW-04	MMW-04	MMW-04	MMW-04	MMW-05
Sample I.D.			MMW-1	MMW-1	MMW-1	MMW-1	MMW-01 (07/23/08)	MMW-1	MMW-2	MMW-2	MMW-2	MMW-2	MMW-02 (07/23/08)	MMW-2	MMW-3	MMW-3	DUP-04.06.05	MMW-3	MMW-3	MMW-03 (07/23/08)	MMW-3	MMW-4	MMW-4	MMW-4	MMW-4	MMW-04 (07/23/08)	MMW-4	MMW-5
Date Sampled			11/02/99	03/13/00	04/06/05	05/31/05	07/23/08	02/12/09	11/01/99	03/13/00	04/06/05	06/01/05	07/23/08	02/12/09	11/01/99	03/13/00	04/06/05	04/06/05	06/01/05	07/23/08	02/11/09	11/01/99	03/13/00	04/06/05	06/01/05	07/23/08	02/11/09	11/01/99
Parameter	Units	TOGS																										
Volatile Organic Compounds																												
1,1,1-Trichloroethane	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	NA
1,2,4-Trimethylbenzene	UG/L	5	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	**46**	**25**	**48**	**52**	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND
4-Isopropyltoluene (p-Cymene)	UG/L	5	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	1.6 J	ND	0.32 J	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND
Acetone	UG/L	50	ND	ND	10 J	2.3 J	ND	ND	ND	ND	6.4 J	ND	ND	ND	ND	5.5 J	16 J	25	1.5 J	ND	ND	ND	5.9 J	9.6 J	1.7 J	ND	4.1 J	ND
Benzene	UG/L	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56 J	0.67 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	UG/L	60	ND	11	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	34	ND	ND	ND	ND	ND	ND	47	ND	ND	ND	ND	ND
Chloroform	UG/L	7	ND	ND	0.41 J	0.85 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2 J	1.4 J	0.61 J	0.65 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3 J	1.3 J	2.3	2.4	0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	UG/L	50	ND	ND	ND	1.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1 J	ND	ND	ND	ND	ND	ND	2.4 J	ND	ND	ND	ND	ND
Methyl tert-butyl ether	UG/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	UG/L	-	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	NA
Naphthalene	UG/L	10	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	**20**	5.6	3.9	4	ND	NA	NA	3.6 J	ND	ND	ND	NA	NA	ND
n-Butylbenzene	UG/L	5	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND	ND	0.5 J	0.62 J	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND
n-Propylbenzene	UG/L	5	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	**5.2**	2.7J	6.4	6.3	0.5 J	NA	NA	ND	ND	ND	ND	NA	NA	ND
sec-Butylbenzene	UG/L	5	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	1.7 J	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND
Toluene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND	ND	ND	ND	ND	ND
m&p-Xylene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**28**	**8.6**	1	1	ND	ND	ND	2.1 J	ND	ND	ND	ND	ND	ND
o-Xylene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34 J	0.52 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																												
2-Methylnaphthalene	UG/L	-	1.1 J	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.3 J	ND	ND	ND	ND	ND	ND
4-Methylphenol (p-cresol)	UG/L	1	1.1 J	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	ND	ND	1.6 J	ND	NA	NA	ND	ND	ND
Acenaphthene	UG/L	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2 J	ND	ND	ND	ND	ND	ND	2.3 J	ND	ND	ND	ND	ND	ND
Anthracene	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1 J	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	UG/L	5	1.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8 J	ND	ND	ND	1.3 J	ND
Dibenzofuran	UG/L	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND	2.0 J	ND	ND	ND	ND	ND	ND
Diethylphthalate	UG/L	50	1.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4 J	ND
Di-n-butylphthalate	UG/L	50	1.2 J	1.0 J	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	2.2 J	ND	ND	ND	ND	ND	ND	1.6 J	2.6 J	ND	ND	ND	ND	1.7 J
Fluorene	UG/L	50	1.9 J	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	3.3 J	ND	ND	ND	ND	ND	ND	ND	2.1 J	ND	ND	ND	ND	ND
Isophorone	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	UG/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3 J	ND	ND	ND	ND	ND	ND
Phenanthrene	UG/L	50	5.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8 J	ND	ND	ND	ND	2.1 J
Phenol	UG/L	1	**18**	ND	ND	ND	ND	ND	**9.9 J**	ND	ND	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	**21**	ND	ND	ND	ND	ND	**2.8 J**
Metals																												
Arsenic	UG/L	25	ND	NA	ND	NA	2.4 J	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	ND
Barium	UG/L	1000	139	NA	103	NA	68.8	49.5 J	204	NA	99.9	NA	38.1	25.9 J	147	NA	NA	NA	NA	107	54.4 J	193	NA	NA	NA	98.9	22.5 J	153
Cadmium	UG/L	5	ND	NA	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	ND
Chromium	UG/L	50	25.4	NA	ND	NA	2.4 J	ND	42	NA	ND	NA	1.1 J	ND	17.3	NA	NA	NA	NA	1.6 J	ND	10	NA	NA	NA	1.3 J	ND	17.6
Selenium	UG/L	10	6.66	NA	ND	NA	ND	ND	5.78	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	6.2
Dissolved Metals																												
Barium	UG/L	1000	61.2	NA	NA	NA	NA	NA	79.5	NA	NA	NA	NA	NA	103	NA	141	135	NA	NA	NA	139	NA	20.8	NA	NA	NA	91.8
Selenium	UG/L	10	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	NA	ND	ND	NA	NA	NA	ND	NA	ND	NA	NA	NA	5.64

ND = Not Detected
J = Estimated value
NA = Not Analyzed

TOGS = NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.
RED = Value Exceeds TOGS
UG/L = Micrograms per Liter

TABLE 3-2
SUMMARY OF DETECTED ANALYTES IN GROUNDWATER
MACEDON FILM SITE

Location I.D.			MMW-05	MMW-05	MMW-05	MMW-06	MMW-06	MMW-06	MMW-06	MMW-07	MMW-07	MMW-07	MMW-07	MMW-07	MMW-08	MMW-09	MMW-09	MMW-10	MMW-10	MP-01	MP-01	MP-01	MP-01	MP-01
Sample I.D.			MMW-5	MMW-5	MMW-05 (07/23/08)	MMW-6	MMW-6	MMW-06 (07/23/08)	MMW-6	MMW-7	DUP 050602	MMW-7	MMW-07 (07/24/08)	MMW-7	MMW-08 (07/24/08)	MMW-09 (07/24/08)	MMW-9	MMW-10(07/24/08)	MMW-10	MP1	MP1	MP-1	MP-01 (07/24/08)	MP-1
Date Sampled			04/06/05	06/01/05	07/23/08	04/06/05	06/01/05	07/23/08	02/11/09	04/06/05	06/01/05	06/01/05	07/24/08	02/12/09	07/24/08	07/24/08	02/12/09	07/24/08	02/12/09	11/01/99	03/13/00	06/01/05	07/24/08	02/11/09
Parameter	Units	TOGS																						
Volatile Organic Compounds																								
1,1,1-Trichloroethane	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	NA	NA	ND	NA	NA	0.38 J	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND
1,2,4-Trimethylbenzene	UG/L	5	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
4-Isopropyltoluene (p-Cymene)	UG/L	5	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
Acetone	UG/L	50	14 J	ND	ND	7.8 J	ND	ND	ND	6.6 J	1.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	12 J	ND	12	ND
Benzene	UG/L	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	UG/L	50	ND	ND	ND	0.91 J	0.69 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	UG/L	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	UG/L	7	0.71 J	0.64 J	ND	**30**	**24**	**21**	1.2	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.99 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	UG/L	10	ND	ND	ND	ND	ND	ND	0.53 J	ND	ND	ND	ND	ND	ND	**22**	7.1	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	UG/L	-	NA	NA	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	100	ND	NA	NA	NA	1.1	ND
Naphthalene	UG/L	10	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
n-Butylbenzene	UG/L	5	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
n-Propylbenzene	UG/L	5	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
sec-Butylbenzene	UG/L	5	ND	ND	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA
Toluene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6**	ND	ND	ND	ND	ND	ND
o-Xylene	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																								
2-Methylnaphthalene	UG/L	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol (p-cresol)	UG/L	1	NA	NA	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND
Acenaphthene	UG/L	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	UG/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**28**	ND	ND	ND
Dibenzofuran	UG/L	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	UG/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	UG/L	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	UG/L	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																								
Arsenic	UG/L	25	ND	NA	ND	ND	NA	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Barium	UG/L	1000	139	NA	115	ND	NA	12.8 J	49.3 J	67.4	NA	NA	60.5	69.8 J	23.8	39.5	38.4 J	52.8	32.9 J	202	53.1	NA	31.8	31.5 J
Cadmium	UG/L	5	ND	NA	ND	ND	NA	ND	ND	ND	NA	NA	0.65 J	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Chromium	UG/L	50	ND	NA	1.1 J	ND	NA	2.3 J	ND	ND	NA	NA	1.3 J	ND	1.7 J	1.7 J	ND	1.2 J	ND	24.4	ND	NA	1.0 J	ND
Selenium	UG/L	10	ND	NA	5.1 J	ND	NA	ND	ND	ND	NA	NA	ND	ND	ND	ND	4.8 J	5.1 J	ND	14.5	ND	NA	7.6 J	8.7 J
Dissolved Metals																								
Barium	UG/L	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71.6	NA	NA	NA	NA
Selenium	UG/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.85	NA	NA	NA	NA

ND = Not Detected
J = Estimated value
NA = Not Analyzed

TOGS = NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.
RED = Value Exceeds TOGS
UG/L = Micrograms per Liter

APPENDIX A

CADMIUM CONTAMINATION REMOVAL IRM INFORMATION

September 8, 2011

Mr. Jason Pelton
Project Manager
New York State Department of Environmental Conservation
Remedial Bureau D
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7013

RE: Cadmium Contaminated Soil Investigation and Excavation at Macedon Films Site, Brownfield Cleanup Program #B8-0669-04-06, Site I.D. C859025

Dear Mr. Pelton:

This letter report summarizes the field activities and analytical data from the courtyard cadmium excavation and confirmation sampling investigation conducted in June and July 2011 at the former Macedon Films Site located at 112 Main Street in Macedon, New York. The New York State Department of Environmental Conservation (NYSDEC) identification number for this site is C859025. This site is being investigated under the Brownfield Cleanup Program (BCP) in accordance with Brownfield Site Cleanup Agreement (BCA) number B8-0669-04-06 between Pactiv and the NYSDEC.

Cadmium was detected in surface soil sample SS-04 during the *Supplemental Remedial Investigation* (URS, June 2009) at a concentration of 127 milligrams per kilogram (mg/kg) which exceeds the 6 NYCRR Subpart 375-6.8 Remedial Program Soil Cleanup Objective (SCO) for industrial restricted use (60 mg/kg). The sample was collected from within the courtyard area at the former Macedon Films facility (Figure 1).

Previous Field Activities

A letter report was issued February 17, 2011 that described the field activities and analytical results from a limited soil excavation and confirmation soil sampling activities conducted in January 2011. In summary, on January 11, 2011 URS hand excavated approximately 19 cubic feet of soil/fill material in a two foot radius around soil sample location SS-04 to a depth of 1.5 feet below ground surface (bgs). Prior to excavating the cadmium contaminated soil, URS collected three confirmation surface soil samples (SS-4-C2, SS-4-C3, and SS-4-C4) around the outside of the excavation to prevent potential cross-contamination from the excavation activities (Figure 1). After completion of the soil/fill material excavation, URS collected one confirmation soil sample (SS-4-C1) from the middle of the excavation at 1.5 feet bgs. The excavation was backfilled with clean gravel from an offsite source.

One of the four confirmation surface soil samples (SS-4-C4, 137 mg/kg) exceeded the 6 NYCRR Subpart 375-6.8 Remedial Program SCOs for industrial restricted use. Confirmation soil sample SS-4-C4 was located at a depth of 0-3 inches and was located outside of the excavation area on the southwest side (Figure 1).

Delineation Field Activities (June 2011)

On June 9, 2011, URS collected 15 soil samples (plus one duplicate), from a depth of 0-6 inches, in a grid pattern from the locations shown on Figure 1. In addition, 3 samples were collected from a depth of 6-12 inches [at locations SS(4,-2), SS(0,0), and SS(-4,2)]. Samples were submitted to Columbia Analytical Services, Inc (CAS) for analysis. Analytical results indicated that most of the samples exceeded the Remedial Program SCOs for industrial restricted use (60 mg/kg). The northwest corner of the investigation area [Samples SS(4,-2), SS(4,0), SS(2,-2), and SS(0,-2)] and the three samples collected at a depth of 6-12 inches were all below the SCOs for industrial restricted use. Samples locations and analytical results are shown on Figure 1 and Table 1, respectively.

Excavation Field Activities and Confirmation Sampling (July 2011)

On July 11, 2011, URS excavated the top 6 inches of soil from the majority of the courtyard area. The extent of the excavation area is shown on Figure 2. The northwest corner was left in place based on the June 2011 sampling results. In addition, an asphalt layer was encountered beneath 3" of gravelly fill materials throughout the eastern portion of the excavation area. The fill from above the asphalt was removed and the asphalt was left in place (its approximate location is shown on Figure 2).

Four confirmation samples were collected from the corners of the excavation area (CONF-1 NW, CONF-2-NE, CONF-3-SW, and CONF-4-SE). These samples were collected from 6 to 9 inches below original grade and submitted to CAS for cadmium analysis. All results were below the Remedial Program SCOs for industrial restricted use (60 mg/kg).

All excavated soil was placed into nine 55-gallon drums and staged near the overhead door in Building 10, pending analytical results for disposal. Three other drums were present from the first excavation (January 2011) conducted at the site and these will be disposed of at the same time. One composite soil sample (WASTE CHAR-071111) was collected from the July 2011 excavated soil/fill materials and submitted to CAS for analysis of toxicity characteristic leaching procedure (TCLP) RCRA metals. Analytical results indicate the nine drums from the July 2011 should be considered a D006 hazardous waste based on characteristic. That is, cadmium was detected at 2.28 mg/L in the TCLP leachate, exceeding the concentration limit of 1.0 mg/L. A photographic log documenting the field activities is presented in Attachment A. The laboratory reports and chain-of-custody documentation are included in Attachment B.

Conclusions

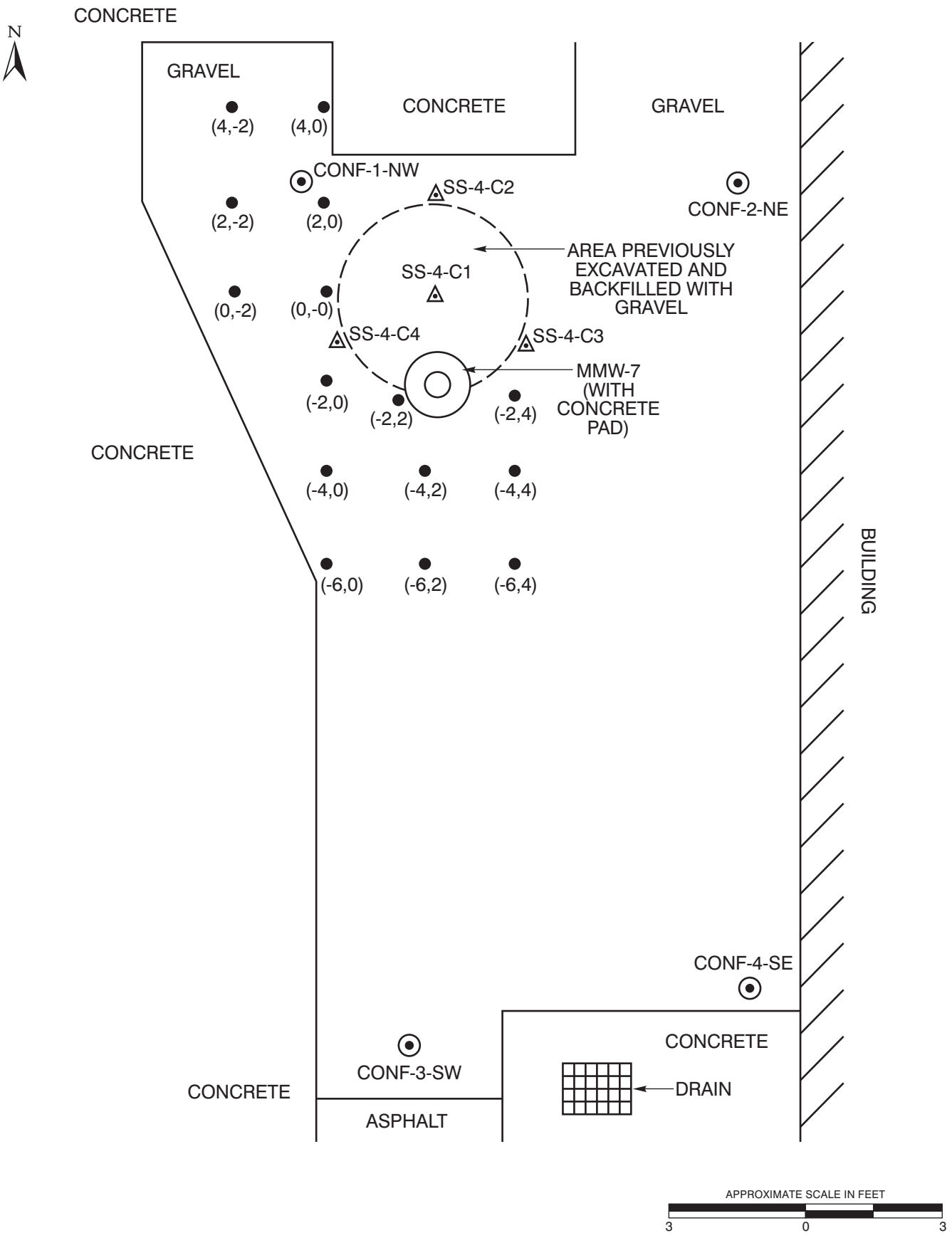
Based on the analytical data presented in Table 1, all soils with cadmium concentrations greater than the SCO for industrial restricted use have been removed from the site.

Should you have any questions on this submittal, please do not hesitate to contact me at 585-393-5203, or email me at mmerriman@pactiv.com.

Sincerely,

Marcus Merriman
Pactiv Remediation Manager

cc: Melissa Menetti – NYSDOH
James Charles – NYSDEC
Ed Hampton – NYSDEC
Ray Reott – Law Offices of Ray Reott, LLC
Tim Sheehan – Pactiv
John Rousakis – Law Offices of O'Melveny & Myers
Steve Knapp – Berry – Covalence Plastics
Mathew Tanzer – Tyco
Kenneth Drake – Exxon - Mobil
Bruce Przybyl – URS – Buffalo

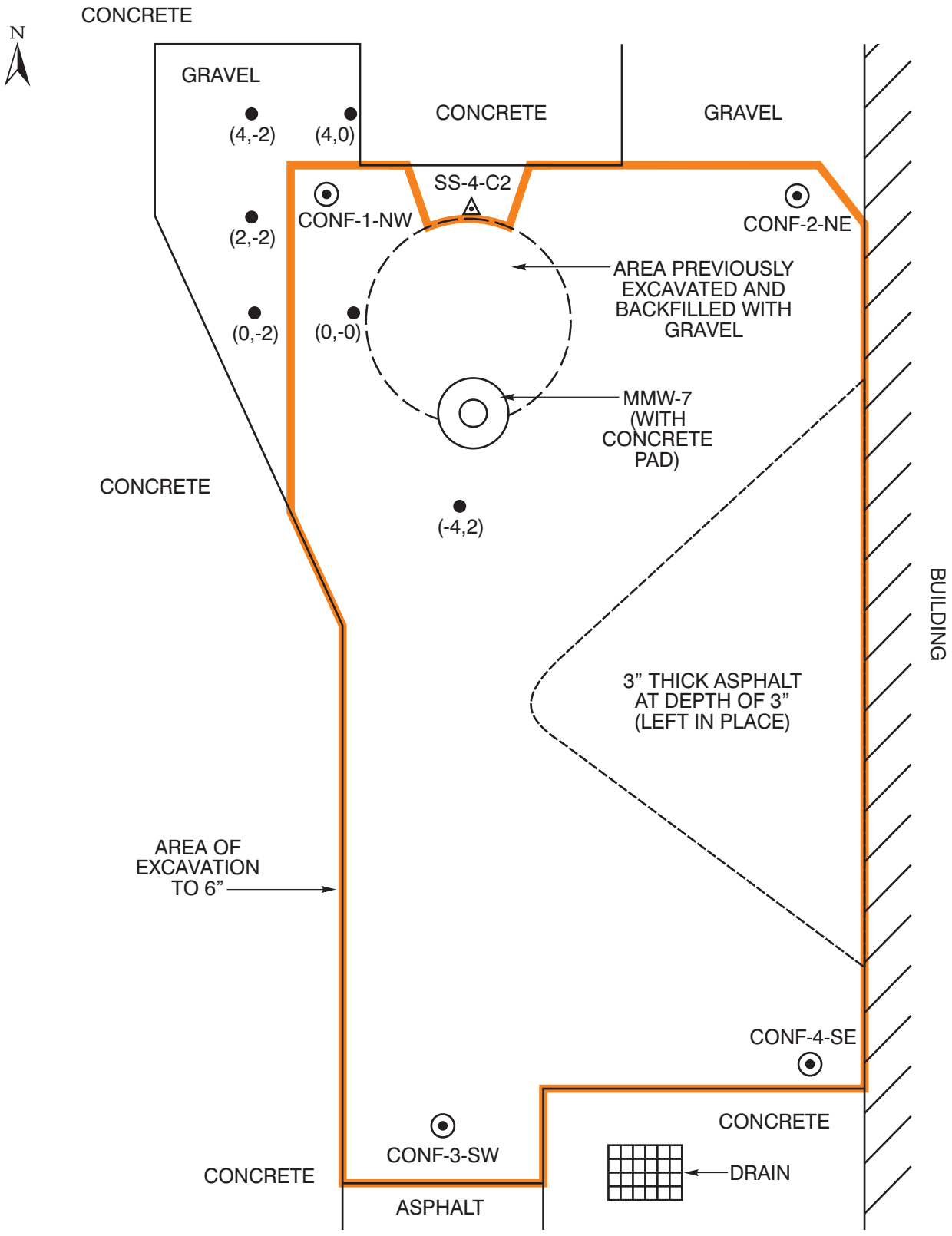


AG20618-11176433-083011-GCM

URS

PACTIVE - MACEDON
COURTYARD CADMIUM
INVESTIGATION LOCATIONS

FIGURE 1



APPROXIMATE SCALE IN FEET

3 0 3

ONLY UNEXCAVATED SOIL SAMPLE LOCATIONS ARE SHOWN .

URS

PACTIVE - MACEDON EXCAVATION AREA

FIGURE 2

AG20619-11176433-083011-GCM

TABLE 1
Pactiv-Macedon, NY
Courtyard Cadmium Sample Summary

Sample Point	Depth (inches)	Cadmium Result (mg/kg)
SS-4-C1	18	1.01
SS-4-C2	0-3	42.3
SS-4-C3	0-3	51.6
SS-4-C4	0-3	137
(4,-2)	0-6	27.9
	6-12	17.3
(4,0)	0-6	47.6
(2,-2)	0-6	32.2
(2,0)	0-6	78.3
(0,-2)	0-6	37.2
(0,0)	0-6	60.0
	6-12	10.3
(-2,0)	0-6	178
(-2,2)	0-6	623
(-2,4)	0-6	191
(-4,0)	0-6	119
(-4,2)	0-6	103
	6-12	17.9
(-4,4)	0-6	68.8
(-6,0)	0-6	68.5
(-6,2)	0-6	92.6
(-6,4)	0-6	101
CONF-1-NW	6-9	8.68
CONF-2-NE	6-9	4.93
CONF-3-SW	6-9	1.8
CONF-4-SE	6-9	9.91

SHADED - Areas that were left in place (i.e., not excavated)

APPENDIX B

REMEDIAL ALTERNATIVES COST ESTIMATES

TABLE B-1

PACTIV MACEDON SITE

ALTERNATIVE 1: INSTITUTIONAL CONTROLS/ENVIRONMENTAL EASEMENT

CAPITAL COST

Item	Source	Unit	Quantity	Unit Cost	Total Cost
Environmental Easement					
ALTA Survey	2	each	1	$5,000	$5,000
Final Engineering Report	2	each	1	$15,000	$15,000
Site Management Plan	2	each	1	$15,000	$15,000
				SUBTOTAL	$35,000
Contingency 25%					$8,750
				TOTAL CAPITAL COSTS	**$43,750**

Operation and Maintenance Costs

Annual Inspections/Certification	2	year	30	$2,000	---
				PRESENT WORTH O & M	**$31,000**

TOTAL PRESENT WORTH	**$74,750**

Source:

1 - RS Means Heavy Construction Cost Data 2008

2 - Estimator's Previous Project Experience

Present Worth uses 5% Discount Rate over 30 years

TABLE B-2

PACTIV MACEDON SITE

ALTERNATIVE 2: SOIL EXCAVATION WITH GROUNDWATER MONITORED NATURAL ATTENUATION

1. CAPITAL COST

Item	Source	Unit	Quantity	Unit Cost	Total Cost
SOIL EXCAVATION					
Hazardous Soil Excavation and Disposal	Table B-2a		1	$1,062,805	$1,062,805
Non-Hazardous Soil Excavation and Disposal	Table B-2a		1	$431,305	$431,305
Soil Testing	Table B-2b		1	$17,400	$17,400
				SUBTOTAL - HAZ. SOIL EXCAVATION	$1,080,205
				SUBTOTAL - NON-HAZ. SOIL EXCAVATION	$448,705

ADDITIONAL COST ITEMS

Mobilization/Demobilization	5%	Hazardous	$54,010
		Non-Hazardous	$22,435
		SUBTOTAL - HAZARDOUS	$1,134,215
		SUBTOTAL - NON-HAZARDOUS	$471,140
Engineering and Design	15%	Hazardous	$170,132
		Non-Hazardous	$70,671
Contingencies	25%	Hazardous	$283,554
		Non-Hazardous	$117,785
		TOTAL COST - HAZARDOUS SOIL EXCAVATION	**$1,587,901**
		TOTAL COST - NON-HAZARDOUS SOIL EXCAVATION	**$659,596**

TABLE B-2a

PACTIV MACEDON SITE

EXCAVATION AND OFFSITE DISPOSAL

COST ESTIMATE

Item	Component	Source	Unit	Quantity	Unit Cost	Total Cost
Excavation	Sheet Piling	1	SF	6,800	$20	$136,000
	Excavation	1	ECY	1,635	$8	$13,080
	6-mil poly liner for Soil Stockpile	1	SF	10,000	$0.10	$1,000
	Loading on to trucks (15 % of excav. Cost, rounded to nearest dollar) for delivery to stockpile	1	LCY	2,050	$2.00	$4,100
	Spread on Stockpile (Assume cost is for backfill w/ dozer)	1	LCY	2,050	$2.00	$4,100
	Load from Stockpile onto trucks	1	LCY	2,050	$2.00	$4,100
Water Treatment	Dewatering	1	Day	1	$1,025.00	$1,025
	Wastewater treatment system	1	LS	1	$10,000.00	$10,000
Disposal	Haz Soil Pickup and Disposal	1	Ton	3,100	$250	$775,000
	Non -Haz Soil Transportation	1	LCY	2,050	$35	$71,750
	Non -Haz Soil Disposal	1	LCY	2,050	$35	$71,750
Restoration	Backfill and compaction	1	LCY	2,050	$4.00	$8,200
	Borrow fill (Assume 10 mile haul)	1	LCY	2,050	$26.00	$53,300
	Gravel base course	1	SY	500	$16.00	$8,000
	Asphalt binder course	1	SY	500	$8.00	$4,000
	Asphalt wearing course	1	SY	500	$9.00	$4,500
URS Construction Manager		2	Hr	560	$65.00	$36,400
				NON-HAZARDOUS SUBTOTAL		$431,305
				HAZARDOUS SUBTOTAL		$1,062,805

ASSUMPTIONS

1cy equals 1.5 ton. 1 BCY (ECY) = 1.25 LCY

All soil is assumed to be contaminated.

Source:

1 - RS Means Heavy Construction Cost Data 2008

2 - Estimator's Previous Project Experience

TABLE B-2b

PACTIV MACEDON SITE

SOIL SAMPLING

COST ESTIMATE

Item	Units	Unit Cost	Quantity	Total Cost
Sample Collection	HR	$65	40	$2,600
Characterization Sample Analysis	EA	$300	24	$7,200
Confirmation Sample Analysis	EA	$300	23	$6,900
Data Validation and Report	Hr	$70	10	$700
			SUBTOTAL	**$17,400**