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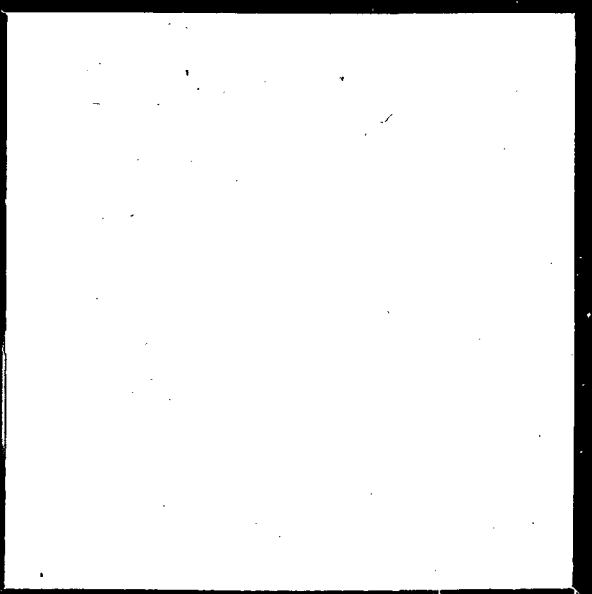

URS

REPORT
SOIL AND GROUNDWATER
INVESTIGATION

Prepared For:

PACTIV
MACEDON, NEW YORK

August 21, 2000

Prepared by:

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646 PLANK ROAD/STE. 202
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Mike Z - (585) 226-5438

Peter Miller - 226-5434

9101737 - Iacolene

Nothing new has come in that he recalls

Would like us to incorporate what we can into our CA @ the site

Was the
Spill "reopened"
in Nov 1997?
Check w/ Mike Zon
Peter Miller in R8?

URS

August 21, 2000

Mr. Dick St. James
Pactiv
102 North Street
Canandaigua, New York 14424

Re: Soil and Groundwater Investigation
Pactiv
Macedon, New York

Dear Mr. St. James:

This letter report presents the results of Dames & Moore's (a division of URS Corporation) investigation of the soil and groundwater quality at the Pactiv (formerly known as Tenneco Packaging) Plant in Macedon, New York. The investigation was conducted in accordance with our September 10, 1999 proposal and subsequent modifications.

This letter contains five sections. Section 1.0 provides background information about the site. The scope of the work conducted during the investigation is presented in Section 2.0. The results of the investigation are presented in Section 3.0. Our conclusions are presented in Section 4.0 and our recommendations are presented in Section 5.0.

1.0 BACKGROUND

Pactiv's Macedon Plant is part of a 23.6-acre complex that also includes manufacturing facilities for Mobil's Commercial Films Division and Huntsman Design Products. As shown in Figure 1, the complex is bounded by the New York State Barge Canal and a Pennsylvania Central railroad spur to the north, New York State Route 31 to the south, Quaker Road and a truck trailer parking area to the east, and New York State Route 350 to the west.

In the 1980s, approximately 5,000 gallons of Lacolene (a petroleum distillate) and 500 gallons of fuel oil were spilled near Building 12. Mobil Chemical (Mobil) installed a multi-phase extraction system on Pactiv's portion of the property to remediate soil and groundwater in the spill area. Mobil shut down the system in April 1996 with the concurrence of the New York State Department of Environmental Conservation (NYSDEC).

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Is there a copy of this letter around?

The April 17, 1997 CH2M Hill report, entitled *Environmental Audit, Tenneco Packaging Specialty Products, Macedon, NY* (*CH2M Hill Report*) and the NYSDEC's September 30, 1997 response letter identified several areas of potential soil and groundwater contamination at the Macedon facility. These areas were addressed in IT Corporation's *Summary of Environmental Issues and Investigation Plan, Tenneco Packaging, Macedon Plant (IT Plan)*, dated July 1998. The *IT Plan* recommended additional investigation in six locations to further characterize the soil and groundwater quality at the Macedon facility.

In February and August of 1999, representatives of Pactiv and Dames & Moore met with the NYSDEC to discuss the conditions at the site and the scope of the investigation proposed in the *IT Plan*. During these meetings, the NYSDEC indicated that they would use the results of the *CH2M Hill Report* and any additional information provided by Pactiv as part of a RCRA Facility Assessment (RFA).

On September 10, 1999, Dames & Moore submitted a proposal to Pactiv to conduct the work described in the *IT Plan* and additional sampling requested by the NYSDEC. The proposed work included the installation and sampling of five groundwater monitoring wells, installation and sampling of one piezometer, and the advancement and sampling of five soil borings. During subsequent conversations between Pactiv, Dames & Moore, and the NYSDEC, the advancement and sampling of two additional soil borings were added to the scope of work. The soil from these two borings was sampled for mercury to evaluate the extent of the apparent mercury that was previously detected. This letter report presents the results of the investigation.

2.0 SCOPE OF WORK

The *IT Plan* and the NYSDEC identified these five issues for further investigation at Pactiv's Macedon facility:

- Three groundwater sampling locations (MA-1, MA-2, and MA-3), which showed elevated concentrations of metals and toluene;
- The multi-phase extraction system area, where concentrations of three SVOCs and several metals exceeded groundwater standards at one monitoring well (MW-7);

- The former gasoline underground storage tank (UST) area (MA-6), where petroleum hydrocarbons were detected in soil samples;
- The waste ink tank area (MA-8), where a hydrocarbon odor was detected in the soil near the water table; and
- The area near the former ink room in Building 6A, where the mercury concentration in a soil sample (MA-20) exceeded both the NYSDEC's recommended soil cleanup objective (RSCO) and the Eastern United States background range.

The scope of the field investigation completed by Dames & Moore to address these issues at the Macedon facility consisted of these four tasks:

- Install monitoring wells, piezometers, and soil borings;
- Collect and analyze soil samples;
- Survey well and boring locations; and
- Conduct two groundwater sampling events.

In response to the NYSDEC's request, Dames & Moore will collect two additional rounds of water level measurements in the six newly installed monitoring wells and at the three surveyed canal gauging stations to evaluate the impact of water level changes in the canal on the groundwater flow beneath the site. The scope of the field work that has been completed through March 2000 is described in this section.

Monitoring Wells, Piezometers and Soil Borings

Between October 20 and October 25, 1999, Dames & Moore's subcontractor, MARCOR Remediation, Inc. of Rochester, New York, installed five monitoring wells (MMW-1 through MMW-5), one piezometer (MP-1), and seven soil borings (MSB-1 through MSB-7) at Pactiv's Macedon facility. During the drilling, a Dames & Moore geologist provided oversight for the drilling subcontractor. All 13 borings were advanced with hollow-stem augers. The soil at each boring was continuously sampled using two-inch diameter, two-foot long split-spoon samplers. The Dames & Moore geologist visually classified each split-spoon soil sample and collected headspace readings with a photoionization detector (PID) to screen the soil for the presence of volatile organic compounds (VOCs). Visually contaminated soil cuttings and soil that exhibited

elevated headspace readings were containerized in 55-gallon drums. The boring logs of the soil and the well construction details are provided in Appendix A.

The locations of the five monitoring wells are shown in Figure 2. The monitoring wells were constructed of two-inch diameter PVC risers and 10-foot-long PVC screens. The sand pack for each well extended one foot above the top of the well screen. A one-foot layer of bentonite pellets was placed above the sand pack, followed by sand to a depth of approximately six inches below the ground surface (bgs). The monitoring wells were finished with concrete seals and equipped with flush-mounted protective covers.

The monitoring wells were installed to depths of approximately 12 to 15 feet bgs. Bedrock was encountered between 12 and 14 feet bgs in three of the five monitoring wells. Monitoring well depths are summarized in Table 1. only 2 mentioned.

As shown in Figure 2, monitoring well MMW-1 was installed near the main entrance to the building along the southern border of the site. Monitoring well MMW-2 was installed near the northern boundary of the site. Monitoring well MMW-3 was installed north of the former gasoline USTs. Monitoring well MMW-4 was installed on the south side of the former solvent tank near Building 12. Monitoring well MMW-5 was installed east of Building 34.

Bedrock was encountered at approximately 12 feet bgs at MMW-3. The split-spoon sample from four to six feet bgs at MMW-3 exhibited petroleum-like odors. Bedrock was encountered at a depth of approximately 14 feet at MMW-4.

BR @ mmw-3,4

Piezometer MP-1 was installed approximately four feet south of a dumpster on the west side of the site. The piezometer was constructed of three-quarter inch PVC and was equipped with a flush-mounted protective cover. Weathered bedrock was encountered at a depth of approximately 14 feet bgs at MP-1.

MP-1

*Also likely @ mmw-1,2

The seven soil boring locations are shown in Figure 2. All boring locations were approved by Pactiv prior to drilling. As shown in Figure 2, soil borings MSB-1 and MSB-2 were advanced near the former gasoline underground storage tanks and the solvent tanks. Soil boring MSB-2 was advanced through a concrete pad that was encountered approximately one foot below the ground surface.

Soil boring MSB-3 was advanced to a depth of 16 feet near the former solvent tank. Soil boring MSB-4 was advanced to a depth of 15 feet on the west side of the waste ink tank. Soil boring MSB-5 was advanced to bedrock at a depth of 16 feet on the east side of the waste ink tank. Soil borings MSB-6 and MSB-7 were advanced north of Building 6B to depths of four feet.

The locations of the soil borings, monitoring wells, and the piezometer were surveyed by the Sear-Brown Group of Rochester, New York after installation. The locations of three canal gauging stations, which are shown in Figure 2, were also surveyed. The survey data, including easting, northing, and elevation, are attached in Appendix A.

Soil Sample Analyses

Dames & Moore submitted eight soil samples to Columbia Analytical Services (CAS) of Rochester, New York for laboratory analysis. The split-spoon sampling interval that exhibited the highest headspace reading in each of soil borings MSB-1 through MSB-7 and MP-1 was selected for laboratory analyses. Soil samples were not collected for laboratory analyses from the borings completed as monitoring wells.

Columbia Analytical Services analyzed the five soil samples from soil borings MSB-1 through MSB-5 for these parameters:

- Gasoline Range Organics by EPA SW-846 Method 8015;
- Diesel Range Organics with fingerprinting by EPA SW-846 Method 8100M;
- VOCs by EPA SW-846 Method 8260B;
- Semivolatile Organic Compounds (SVOCs) by EPA SW-846 Method 8270C; and
- RCRA Metals.

The three soil samples from soil borings MSB-6 and MSB-7 and the boring for piezometer MP-1 were analyzed for mercury only. The laboratory analytical reports for all eight soil samples are in Appendix B.

November 1999 Groundwater Sample Analyses

On November 1, 1999, monitoring wells MMW-1 through MMW-5 were developed, purged, and sampled. Water levels were measured in monitoring wells MMW-1 through MMW-5 and

piezometer MP-1 before the five monitoring wells were purged and sampled. The water levels were also gauged at the three canal gauging stations.

The water removed from the wells during well development and purging was containerized in 55-gallon drums. The pH, temperature, conductivity, and turbidity of the groundwater were measured in the field. Each well was purged until the field parameter measurements stabilized or the well went dry.

Monitoring well MMW-1 went dry after five gallons of water had been purged from the well. The well was allowed to recharge overnight and was purged and sampled the following day (November 2, 1999).

Groundwater samples from wells MMW-1 through MMW-5 were submitted to CAS for laboratory analysis. Columbia Analytical Services analyzed the samples for these parameters:

- Gasoline Range Organics by EPA SW-846 Method 8015;
- Diesel Range Organics with fingerprinting by EPA SW-846 Method 8100M;
- VOCs by EPA SW-846 Method 8260B;
- SVOCs by EPA SW-846 Method 8270C; and
- RCRA Metals (field-filtered and unfiltered).

The laboratory analytical reports are in Appendix B.

March 2000 Groundwater Sample Analyses

On March 13, 2000, Dames & Moore completed the second gauging and groundwater sampling event at the Macedon facility. The objective of this second round of gauging and groundwater sampling was to assess whether groundwater flow or quality were affected by changes in the water level in the Barge Canal. Based on Dames & Moore recommendations and Pactiv's concurrence, this second sampling event included the purging and sampling of piezometer MP-1.

Prior to the collection of the groundwater samples, water levels were measured at the three canal gauging stations, monitoring wells MMW-1 through MMW-5, and piezometer MP-1. Monitoring well MMW-5 was dry and therefore, no groundwater sample was collected at this location. The canal was also dry at Gauging Station No.1, which is east of MMW-5.

The groundwater purging and sampling procedures followed were the same procedures used during the November 1999 sampling event. Groundwater samples were collected from monitoring wells MMW-1 through MMW-4 and piezometer MP-1. During purging and sampling of monitoring well MMW-3, Dames & Moore noted that the water had a gasoline-type odor. Also odor noticed when drilling well but nothing noted in Nov sampling ed

The five groundwater samples were submitted to CAS for laboratory analysis. The groundwater samples collected from monitoring wells MMW-1 through MMW-4 and piezometer MP-1 in March 2000 were analyzed for:

- VOCs by EPA SW-846 Method 8260B; and
- SVOCs by EPA SW-846 Method 8270C.

According to the November 1999 groundwater gauging data the most upgradient groundwater monitoring location at the site is MP-1. Therefore, to evaluate groundwater quality in the upgradient portion of the site, the groundwater sample from piezometer MP-1 was also analyzed for:

- Gasoline Range Organics by EPA SW-846 Method 8015;
- Diesel Range Organics with fingerprinting by EPA SW-846 Method 8100M; and
- RCRA Metals (field-filtered and unfiltered).

The laboratory analytical reports are in Appendix B.

3.0 RESULTS

This section discusses the results of Dames & Moore's soil and groundwater investigation at Pactiv's Macedon, New York plant.

3.1 HYDROGEOLOGY

The overburden soils encountered during Dames & Moore's investigation primarily consisted 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.

Why did we never
diesel range Organics
done for MMW3

Why was temp
parameter cut
back for
Now.

The bedrock, which consists of shales and dolostones of the Salina Group, was encountered between eight and 16 feet below grade in several of the borings. No borings were advanced beyond a depth of 16 feet.

Table 1 presents the groundwater levels in monitoring wells MMW-1 through MMW-5 and piezometer MP-1 on November 1, 1999 and March 13, 2000 and the water levels at the three canal gauging stations on October 25, 1999 and March 13, 2000. Groundwater levels ranged from 6.0 to 9.2 feet below the ground surface.

As shown in Figure 3, in November 1999, the groundwater beneath the site moves from west to east across the site, roughly parallel to the direction of flow in the New York State Barge Canal that forms the northern border of the site. These results concur with those of the *CH2M Hill Report,* dated April 17, 1997.

The water level in the canal is controlled by the New York State Thruway Authority who lowered the canal water level after October 1999. Figure 4, presents the March 13, 2000 gauging data and shows that the direction of groundwater flow is from southwest to northeast across the site.

As shown, with the exception of the groundwater levels measured at piezometer MP-1, the groundwater levels at the site generally decreased between November 1999 and March 2000. The groundwater level at MP-1 increased from 90.74 feet in November 1999 to 91.19 feet in March 2000. The groundwater level at monitoring well MMW-1 decreased approximately 0.65 feet between November 1999 and March 2000. The groundwater levels measured at the four monitoring wells along the northern boundary of the site decreased by at least one foot. Both Gauging Station #1 near Pactiv's SPDES Outfall 008 and monitoring well MMW-5, which is in the downgradient and northeast portion of the site, were dry on March 13, 2000. The maximum decrease in groundwater levels (from 84.53 feet in November 1999 to below 77.8 feet in March 2000) at the site was measured at monitoring well MMW-5.

3.2 SOIL ANALYTICAL RESULTS

The results of the soil sample analyses for metals, VOCs, SVOCs, and petroleum hydrocarbons are summarized in Tables 2 through 5. The NYSDEC's recommended soil cleanup objectives (RSCOs) from the *Division of Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 (TAGM 4046)*, dated January 24, 1994, are also presented in the tables for comparison.

Metals

As shown in Table 2, neither cadmium nor silver was detected in the five soil samples analyzed for RCRA metals. Arsenic, barium, and chromium were detected in several samples at concentrations less than their RSCOs or background levels.

The concentrations of lead ranged from 6.96 mg/kg (MSB-1) to 14.0 mg/kg (MSB-5). Lead was not detected, above method detection limits, in soil sample MSB-3 (8 to 10 feet). Note that there is no RSCO for lead and the site-specific background level for lead is uncertain. The lead concentrations detected in the soil samples are within the range of Eastern USA background ranges.

Selenium exceeded its RSCO of 2 mg/kg in two samples, with 2.05 mg/kg at MSB-3 (8 to 10 feet) and 2.59 mg/kg at MSB-4 (4 to 6 feet). However, both of these results fall within the range of background levels of selenium in the Eastern United States.

Mercury was not detected in the samples from MSB-1 through MSB-5 or MP-1. Mercury was detected at concentrations less than the RSCO of 0.1 mg/kg in the soil samples from a depth of four feet at MSB-6 and MSB-7.

Volatile Organic Compounds

The results of the soil VOC analyses are summarized in Table 3. Due to the elevated levels of the organic compounds in four of the five soil samples (MSB-1, MSB-2, MSB-3, and MSB-4), the method detection limits that are reported for some compounds are greater than the NYSDEC's RSCOs. Although some of the method detection limits are greater than the NYSDEC's RSCOs, the results indicate that the soil has been impacted by VOCs. Estimated concentrations are

reported for compounds that were present in the soil samples at concentrations less than reported method detection limits. These estimated concentrations are indicated by a "J" flag.

No VOCs were detected in the soil sample from MSB-5. The detection limits reported for soil sample MSB-5 are elevated due to interference from a hydrocarbon that is not on the target analyte list. As shown below, 11 VOCs were detected in at least one of the four soil samples from borings MSB-1 through MSB-4. The maximum detected concentrations of most of the compounds were found in the sample from MSB-2.

Compound	RSCO (µg/kg)	Number of Detections	Number of Exceedances	Maximum Concentration Detected (µg/kg)	Location of Maximum Concentration
Benzene	60	1	1	170J	MSB-2 (8 to 10 feet)
sec-Butylbenzene	NL	2	N/A	1,600	MSB-2 (8 to 10 feet)
Ethylbenzene	5,500	3	1	7,700	MSB-2 (8 to 10 feet)
Isopropylbenzene	NL	2	N/A	1,000	MSB-2 (8 to 10 feet)
p-Isopropyltoluene	NL	2	N/A	1,900	MSB-2 (8 to 10 feet)
Naphthalene	NL	3	N/A	6,300	MSB-2 (8 to 10 feet)
n-Propylbenzene	NL	2	N/A	3,100	MSB-2 (8 to 10 feet)
Tetrachloroethene	1,400	1	1	730,000	MSB-4 (4 to 6 feet)
Toluene	1,500	2	1	110,000	MSB-3 (8 to 10 feet)
1,3,5-Trimethylbenzene	NL	2	N/A	9,300	MSB-2 (8 to 10 feet)
1,2,4-Trimethylbenzene	NL	3	N/A	31,000	MSB-2 (8 to 10 feet)
o-Xylene	1,200	2	0	790J	MSB-2 (8 to 10 feet)
m- and p-Xylenes	1,200	3	3	25,000	MSB-2 (8 to 10 feet)

Notes: NL = No RSCO is listed for this compound.
N/A = Not applicable.
J = Estimated value below method detection limit.

Semivolatile Organic Compounds

The results of the laboratory SVOC analyses are summarized in Table 4. No SVOCs were detected in the soil sample from MSB-5. The SVOCs detected in the soil samples from MSB-1 through MSB-4 are listed below. As shown below, none of the compounds was detected at a concentration exceeding its RSCO, except for phenol in the soil sample from MSB-1. Most of the maximum concentrations of the SVOCs were detected in the sample from MSB-2. The reported detection limits for the SVOC analyses of soil samples MSB-1 through MSB-4 are elevated due to interference from the other compounds detected in these soil samples. As shown in the laboratory reports in Appendix B, the reported detection limit for the SVOC analysis for soil sample MSB-5 are within 20 percent of the practical quantification limit for the analytical method.

Compound	RSCO (µg/kg)	Number of Detections	Number of Exceedences	Maximum Concentration Detected (µg/kg)	Location of Maximum Concentration
Acenaphthene	50,000	2	0	1,600J	MSB-4 (4 to 6 feet)
Anthracene	41,000	2	0	1,700J	MSB-4 (4 to 6 feet)
Dibenzofuran	6,200	1	0	1,500J	MSB-2 (8 to 10 feet)
Fluorene	50,000	4	0	4,100	MSB-2 (8 to 10 feet)
2-Methylnaphthalene	36,400	4	0	22,000	MSB-2 (8 to 10 feet)
Naphthalene	13,000	3	0	7,500	MSB-2 (8 to 10 feet)
Phenanthrene	50,000	4	0	6,100	MSB-4 (4 to 6 feet)
Phenol	30	1	1	1,100J	MSB-1 (8 to 10 feet)

Notes:

J = Estimated value below method detection limit.

Petroleum Hydrocarbons

As shown below and in Table 5, the petroleum hydrocarbon analyses detected gasoline-range organics, No. 2 fuel oil, and diesel range organics in the soil samples collected from borings MSB-1 through MSB-4. Although a diesel odor was detected in soil sampled between 10 and 12

feet at boring MSB-5, no gasoline- or diesel-range organics were detected above method detection limits in soil sample MSB-5 (12 to 14 feet).

Compound	Number of Detections	Maximum Concentration Detected (mg/kg)	Location of Maximum Concentration
Gasoline Range Organics	4	4,000	MSB-3 (8 to 10 feet)
Fuel Oil #2	1	2,100	MSB-3 (8 to 10 feet)
Diesel Range Organics	3	3,400	MSB-4 to 6 feet)

3.3 GROUNDWATER ANALYTICAL RESULTS

The results of the groundwater analyses for filtered and unfiltered metals, VOCs, SVOCs, and petroleum hydrocarbons are summarized in Tables 6 through 9. The NYSDEC's groundwater standards and guidance values from the June 1998 Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. are presented in the tables for comparison. The complete laboratory analytical reports are provided in Appendix B.

Metals

As shown in Table 6, arsenic, cadmium, lead, mercury and silver were not detected in either the filtered or the unfiltered groundwater samples from monitoring wells MMW-1 through MMW-5 and piezometer MP-1. Barium and chromium were detected in several of the unfiltered groundwater samples at concentrations that are less than NYSDEC's groundwater standards. Selenium was detected in three of the six unfiltered groundwater samples at concentrations less than the NYSDEC's groundwater standard. The concentration of selenium detected in the unfiltered sample from MP-1 was slightly greater than the groundwater standard. All six filtered samples contained detectable concentrations of barium. Selenium was detected in the filtered samples from MMW-5 and MP-1. Metals concentrations in the filtered samples were less than their concentrations in the unfiltered samples.

Volatile Organic Compounds

There were no VOCs detected above method detection limits in the groundwater samples from monitoring well MMW-5 and piezometer MP-1. Only one VOC, carbon disulfide, was detected

in the groundwater samples from monitoring wells MMW-1 and MMW-2. The VOC results show that low levels of several VOCs were detected in the groundwater samples collected from the monitoring wells MMW-3 and MMW-4 that were installed north of the former gasoline USTs and near the former solvent tank location, respectively. Only the concentrations of naphthalene and m- and p-xylenes that were detected in the MMW-3 groundwater samples exceeded the NYSDEC's guidance or groundwater standards.

As shown in Table 7, no VOCs were detected in the groundwater samples collected from monitoring wells MMW-1, MMW-2, and MMW-5 in November 1999. However, in March 2000, one VOC, carbon disulfide, was detected in the groundwater samples from monitoring wells MMW-1 at 11 µg/L and MMW-2 at 14 µg/L. The guidance value for carbon disulfide is 60 µg/L. Monitoring well MMW-5 was dry on March 13, 2000 and, therefore, was not resampled.

Low levels of three VOCs were detected in the November 1999 groundwater sample from MMW-4. Toluene was detected at 5.2 µg/L in the sample from MMW-4, which is slightly greater than the NYSDEC's groundwater standard of 5 µg/L. Naphthalene (3.6 µg/L) and m- and p-xylenes (2.1 µg/L) results for MMW-4 were reported at estimated concentrations that are less than the method detection limits (indicated by a J-flag). Both estimated concentrations are less than their respective NYSDEC guidance values or groundwater standard. Three different VOCs (acetone, 2-Butanone, and carbon disulfide) were detected in the March 2000 groundwater sample from MMW-4. Carbon disulfide was detected at 47 µg/L. Acetone and 2-Butanone were detected at 5.9 µg/L (J-flag) and 2.4 µg/L (J-flag), respectively, in the March 2000 groundwater sample. The NYSDEC's guidance value for both acetone and 2-Butanone is 50 µg/L. The guidance value for carbon disulfide is 60 µg/L.

Six VOCs (ethylbenzene, isopropylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and m- and p-xylenes) were detected in both the November 1999 and March 2000 groundwater samples from MMW-3. These six VOCs were detected at lower concentrations during the second sampling event. The detected concentrations of ethylbenzene of 2.2 µg/L (J-flag) and 1.4 µg/L (J-flag) were both less than the NYSDEC's groundwater standard of 5 µg/L. The detected concentrations of isopropylbenzene were below 5 µg/L in November 1999 and March 2000. There is no groundwater standard or guidance value available

for isopropylbenzene. Naphthalene was detected at 20 µg/L (November 1999) and at 5.6 µg/L (March 2000). The NYSDEC's guidance value for naphthalene is 10 µg/L. The concentrations of n-propylbenzene at MMW-3 decreased from 5.2 µg/L in November 1999 to 2.7 µg/L (J-flag) in March 2000. There is no groundwater standard or guidance value available for n-propylbenzene. The detected concentrations of 1,2,4-trimethylbenzene at MMW-3 decreased from 46 µg/L (November 1999) to 25 µg/L (March 2000). There is no groundwater standard or guidance value available for 1,2,4-trimethylbenzene. Both concentrations of m- and p-xylenes in MMW-3 of 28 µg/L (November 1999) and 8.6 µg/L (March 2000) exceeded the NYSDEC's groundwater standard of 5 µg/L.

Five additional VOCs (acetone, 2-Butanone, sec-butylbenzene, carbon disulfide, and p-isopropyltoluene) were detected in one of the two groundwater samples from MMW-3. Sec-butylbenzene at 1.7 µg/L (J-flag), which is less than the groundwater standard of 5 µg/L, and p-isopropyltoluene at 1.6 µg/L (J-flag), were detected in the November 1999 groundwater sample from MMW-3. Note that there is no available groundwater standard or guidance value for p-isopropyltoluene. Acetone and 2-Butanone were detected at 5.5 µg/L (J-flag) and 2.1 µg/L (J-flag), respectively, concentrations below the guidance value for both VOCs of 50 µg/L, in the March 2000 groundwater sample. Carbon disulfide was detected at 34 µg/L in the March 2000 groundwater sample from MMW-3.

As shown in Table 7, no VOCs were detected above method detection limits from MP-1.

Carbon disulfide was detected in four of the five groundwater samples collected during the second groundwater sampling round. The concentrations of carbon disulfide ranged from 11 µg/L in MMW-1 to 47 µg/L in MMW-4, which are below the NYSDEC's guidance value of 60 µg/L. Carbon disulfide had not been detected in monitoring wells MMW-1 through MMW-5 during the November 1999 sampling event or in any of the soil or groundwater samples from previous (1996) sampling events conducted at Macedon. The source of the carbon disulfide concentrations detected in the groundwater is unknown. According to CAS, these carbon disulfide concentrations can not be attributed to laboratory contamination.

This seems indicative of a moving plume / high GW / continued contamination

Semivolatile Organic Compounds

As shown in Table 8, only one SVOC, phenol, was detected in groundwater samples collected in November 1999 at concentrations exceeding its 1 µg/L standard. No SVOCs were detected in the groundwater samples collected in March 2000 at concentrations exceeding applicable groundwater standards or guidance values.

Phenol was detected in groundwater samples from MMW-1 (18 µg/L), MMW-3 (12 µg/L), and MMW-4 (21 µg/L). Phenol was also detected in groundwater samples collected from MMW-2 and MMW-5 at estimated concentrations below the 10 µg/L detection limit. These detections of phenol were limited to the groundwater samples collected in November 1999. No SVOCs were detected above method detection limits in the groundwater samples collected in March 2000.

Other SVOCs that were detected in the groundwater samples at estimated concentrations less than 10 µg/L (and less than applicable standards or guidance values) include: acenaphthene, anthracene, di-n-butlyphthalate, dibenzofuran, diethylphthalate, bis(2-ethylhexyl)phthalate, fluorene, isophorone, 2-methylnaphthalene, 4-methylphenol, naphthalene, and phenanthrene.

Petroleum Hydrocarbons

As shown in Table 9, petroleum hydrocarbons were not detected in the groundwater samples from MMW-2, MMW-5, and MP-1. Diesel-range organics were detected in groundwater samples from MMW-1, MMW-3, and MMW-4. Gasoline-range organics were detected in groundwater samples from MMW-3 and MMW-4. The MMW-3 groundwater sample contained 3,300 µg/L diesel-range organics and 390 µg/L gasoline-range organics. The MMW-4 groundwater sample contained 2,200 µg/L diesel-range organics and 880 µg/L gasoline-range organics. The MMW-1 groundwater sample contained 1,400 µg/L diesel-range organics.

Why so much by entrance? Due to parking lot?

4.0 CONCLUSIONS

This section presents Dames & Moore's conclusions regarding this investigation and conditions at the site. We have developed these conclusions based upon the results of this investigation and information contained in the *CH2M Hill Report*.

4.1 HYDROGEOLOGY

The overburden at Pactiv's Macedon facility primarily consists of brown and gray fine- to medium-grained sand with traces of silt and gravel. The depth to bedrock ranges from eight feet at MSB-4 near the ink storage tank to greater than 15 feet at MMW-1 at the southern edge of the site and at MMW-5 in the northeast corner of the site.

As shown in Figures 3 and 4, the groundwater beneath the site flows from west to east, roughly parallel to the direction of flow of the New York State Barge Canal that runs along the northern boundary of the site. The April 1997 *CH2M Hill Report* reached the same conclusion regarding the direction of groundwater flow.

On November 1, 1999, water was flowing through the entire length of the canal north of the site and the difference in canal levels from the upgradient gauging station (Gauging Station No. 2) to the downgradient gauging station (Gauging Station No.1) was approximately 10 feet. The most upgradient groundwater monitoring point at the site was piezometer MP-1.

On March 13, 2000, there was no water flowing in the canal at Gauging Station No. 1. The water levels dropped more than one foot at the other two canal gauging stations since the first sampling round. The groundwater elevations at the three monitoring wells (MMW-2, MMW-3, and MMW-4) along the central portion of the northern boundary of the site also dropped by at least one foot. The groundwater elevation at MMW-1 dropped only 0.65 feet. Monitoring well MMW-5, in the northeastern portion of the site and the nearest well to Gauging Station No. 1, was dry. Based on the well construction of MMW-5, the water level at MMW-5 had dropped approximately 6.7 feet. There was an approximately 0.5 foot rise in the groundwater elevation at MP-1.

The groundwater beneath the site appears to migrate parallel to the canal and is influenced by flow within the canal. The elevations of the groundwater table decreased when the canal water level was dropped. Based on the available data, the most pronounced effect occurs in the northeastern portion of the site where the groundwater level dropped approximately 6.7 feet between the first and second gauging and sampling events.

4.2 SOIL AND GROUNDWATER QUALITY

Based on Dames & Moore's review of the results of the current and prior investigations, we have developed conclusions regarding these five issues of concern:

- Groundwater quality in the southeastern, northwestern, and northeastern portions of the site;
- Groundwater and soil quality near the multi-phase extraction system;
- The former gasoline UST area;
- The waste ink tank area; and
- The area near the Building 6A former ink room.

Our conclusions for each of the five issues of potential concern are provided below. In general, our conclusions are that:

- The groundwater quality in the southeastern, northwestern and northeastern portions of the study area have not been significantly impacted by metals, VOCs, or petroleum hydrocarbons.
- Toluene, xylenes, some SVOCs, gasoline range organics, and No. 2 fuel oil have impacted both the groundwater and soil quality near the multi-phase extraction system.
- Petroleum hydrocarbons were detected in the soil near the former gasoline UST area. Petroleum hydrocarbons and SVOCs have also impacted the groundwater near the former gasoline UST.
- Contaminated soil near the waste ink tank appears to be limited to the area north and west of the tank.
- The extent of mercury in the soil near the former ink room in Building 6A is limited to the area near MA-20, immediately west of the building.

Wasn't this to try + determine 136 levels - doesn't appear to have worked.

Groundwater quality in the southeastern, northwestern, and northeastern portions of the site

Elevated concentrations of metals in the groundwater samples taken from temporary wells MA-1, MA-3, and MA-2 during previous investigations appear to have been related to well construction and insufficient purging, as suggested in the *IT Plan*. Field-filtered and unfiltered groundwater samples collected by Dames & Moore from monitoring wells MMW-1, MMW-2, and MMW-5, which are near the previous temporary wells, did not exceed the NYSDEC's groundwater standards for any of the RCRA metals.

During Dames & Moore's investigation, no petroleum hydrocarbons were detected in the groundwater samples from MMW-2 and MMW-5 in these locations. The previous detection of toluene at temporary wells MA-2 and MA-3 was not duplicated during our investigation. No VOCs were detected in the MMW-5 groundwater sample. Only carbon disulfide (14 µg/L) was detected in the MMW-2 groundwater sample collected in March 2000. Thus, it is possible that the previous detection of toluene at these two locations may be due to sampling errors or laboratory interference.

Phenol was detected in the November 1999 groundwater sample from MMW-1 in the southeastern portion of the site at 18 µg/L, which exceeds the groundwater standard of 1 µg/L. Phenol was not detected in the March 2000 groundwater sample from MMW-1. Thus, because phenol was not detected in the second sampling event, it does not appear to be a concern at the site.

Groundwater and soil quality near the multi-phase extraction system

The groundwater quality near the multi-phase extraction system, west of Building 12, contained low levels of toluene and phenol that exceed the NYSDEC's groundwater quality standards. The only SVOC that exceeded its groundwater standard in the November 1999 sample from monitoring well MMW-4 was phenol. During the March 2000 sampling event, toluene and phenol were not detected at MMW-4 but carbon disulfide (47 µg/L) was detected below NYSDEC's guidance value of 60 µg/L. In previous investigations at MW-7, which is part of the multi-phase extraction system in the former solvent tank area, there were three other SVOCs detected in MW-7 at concentrations that exceeded their groundwater standards.

SVE → restart?
for lactolene?
Call Mike Z.

VES not
restarted but
contam.
Still exists
& needs to
be addressed.

No RCRA metals exceeded groundwater standards in either the filtered or the unfiltered groundwater sample from monitoring well MMW-4 in the former solvent tank area near the multi-phase extraction area. During previous investigations, elevated concentrations of several metals had been found in a groundwater sample from monitoring well MW-7.

The soil from the eight to 10 foot bgs interval at boring MSB-3 near the multi-phase extraction system has been impacted by toluene and xylenes at concentrations that exceeded their NYSDEC RSCOs. In addition, this soil contained elevated levels of gasoline-range organics and No. 2 fuel oil.

The former gasoline UST area

The soil and groundwater near the former gasoline UST area, north of Building 11, appears to have been impacted by petroleum hydrocarbons. In previous investigations, petroleum hydrocarbons were detected in a soil sample (MA-6B, 7 to 8 feet bgs) from this area. During Dames & Moore's investigation, soil samples MSB-1 (8 to 10 feet) and MSB-2 (8 to 10 feet) from this region contained gasoline- and diesel-range organics and elevated concentrations of several VOCs. The groundwater at MMW-3 in this area contained gasoline- and diesel-range organics and exceeded groundwater standards for naphthalene, phenols, and m- and p-xylenes. Carbon disulfide was also detected in the groundwater at MMW-3 (34 µg/L). The guidance value for carbon disulfide is 60 µg/L.

The waste ink tank area

The extent of impacted soil near the waste ink tank, southwest of Building 12, appears to be limited. No VOCs, SVOCs, or petroleum hydrocarbons were detected in a soil sample from boring MSB-5. Soil sample MSB-4 (4 to 6 feet) contained gasoline- and diesel-range organics and exceeded the RSCO for tetrachloroethene. In previous investigations, there was evidence of potential hydrocarbon contamination in the soil near the waste ink tank area.

PCE is a solvent based ink/coating component

The area near the Building 6A former ink room

The extent of potential mercury impacts near the Building 6A former ink room appears to be limited to the sample (MA-20) from the previous investigation. Mercury was not detected in one

of the three soil samples (MP-1) taken at a depth of four feet near Building 6A. Furthermore, mercury was not detected in the groundwater sample collected from piezometer MP-1 in March 2000. Mercury concentrations in the other two soil samples (MSB-6 and MSB-7) were less than the RSCO for mercury and within the Eastern United States background range.

4.3 EXPOSURE POTENTIAL

The potential for exposure to the compounds detected in soil and groundwater at the site is minimal. Most of the site is paved or is covered by the buildings. Therefore, direct contact with the site soil or groundwater is unlikely. There are no drinking water supply wells at the site. The groundwater beneath the site is influenced by flow within the canal, which is controlled by the New York State Thruway Authority. Depending on the flow in the canal a portion of the site groundwater may migrate into the canal. The canal is not used a drinking water source. In addition, because the water level in the canal is not maintained around the year, the canal is not likely to be considered a sensitive ecological habitat for aquatic communities. The human health and ecological risks associated the soil and groundwater quality at the site are anticipated to be minimal based on the limited potential for contact with the site soil and groundwater.

5.0 RECOMMENDATIONS

This section presents Dames & Moore's recommendations for the site and the five specific issues of concern identified at the site.

Recommended Plan of Action for Site

Dames & Moore recommends that Pactiv develop and implement corrective measures, which are likely to include access restrictions and institutional controls, for the three areas at the site that appear to have been impacted. These three impacted areas include soil and groundwater near the former gasoline UST, near the multi-phase extraction system, and north and west of the waste ink tank area. Although the extent of impacts has not been fully defined, we believe the available data will allow development, comparison, selection, and implementation of corrective measures for the impacted areas.

The development and evaluation of corrective measures for the site should consider the potential exposure routes and receptors. As discussed in Section 4.3, the human health and ecological risks associated with the site appear to be minimal. Thus, we believe that access restrictions to limit contact with impacted materials and land use restrictions to control future uses of the site would be appropriate corrective measures for the site.

Groundwater quality in the southeastern, northwestern, and northeastern portions of the site

Dames & Moore recommends no further action regarding the elevated concentrations of toluene and metals that were previously detected in the groundwater samples collected from three temporary wells. Toluene was not detected in groundwater samples collected from wells installed near the previous temporary well locations. The concentrations of metals detected in field-filtered and unfiltered groundwater samples collected from wells installed near the previous temporary well locations meet NYSDEC's groundwater standards.

Groundwater and soil quality near the multi-phase extraction system

Dames & Moore recommends no further action regarding the elevated concentrations of metals previously detected in the groundwater near the multi-phase extraction system. No metals were detected at concentrations that exceed groundwater standards in the groundwater sample collected from the well installed near the multi-phase extraction system.

We recommend development and evaluation of potential corrective measures to address the SVOCs previously detected in the groundwater and the VOCs detected in soil above the water table near the multi-phase extraction system. Five SVOCs have been detected in groundwater samples collected from this area. Both toluene and xylenes have been detected in the soil near the water table.

The former gasoline UST area

We recommend development and evaluation of potential corrective measures to address the impacts to soil and groundwater quality near the former gasoline UST. Petroleum hydrocarbons have been detected in both the soil and groundwater near the former gasoline UST. Also, naphthalene and phenols have been detected in the groundwater near the former gasoline UST.

The waste ink tank area

We recommend development and evaluation of potential corrective measures to address the VOC impacted soil north and west of the former waste ink tank area. One VOC, tetracholorethene, and gasoline- and diesel-range organics were detected in the soil.

The area near the Building 6A former ink room

Dames & Moore recommends no further action regarding the suspected mercury contaminated soils west of Building 6A. The impacts to soil from mercury appear to be limited to the mercury concentration in soil sample MA-20 that exceeded the NYSDEC's RSCO and the Eastern United States background range. Mercury was either not detected (MP-1) or was detected at concentrations that were less than the RSCO and within the Eastern United States background range for mercury at soil borings MSB-6 and MSB-7 during this investigation.

-oOo-

We appreciate the opportunity to submit this report, and we look forward to working with you on future projects. If you have any questions or require additional information, please do not hesitate to call.

Sincerely,

DAMES & MOORE

Don Porterfield, P.E.
Senior Engineer

cc: Jim Wakeman, Pactiv, Bakersfield, California
Ray Reott, Jenner & Block
Greg Hill, Exxon Mobil

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TABLE 1

CANAL AND GROUNDWATER ELEVATION DATA
PACTIV
MACEDON, NEW YORK

WELL/BORING ID	MEASURING POINT ELEVATIONS (feet)	TOTAL DEPTH (feet bgs)	SCREEN LENGTH (feet)	November 1, 1999[a]		March 13, 2000		Change in Water Levels between gauging events (feet)
				Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	
GAUGING STATION 1 (near SPDES 008)	89.10	N/A	N/A	5.0	84.10	6.0[b]	<83.10[b]	-1.0 (estimate)
GAUGING STATION 2 (Culvert)	100.95	N/A	N/A	6.3	94.65	7.5	93.45	-1.20
GAUGING STATION 3 (Stone Wall)	102.33	N/A	N/A	7.4	94.93	9.1	93.23	-1.70
MMW-1	95.26	14.3	10	8.4	86.86	9.05	86.21	-0.65
MMW-2	96.23	13.7	10	6.0	90.23	7.82	88.41	-1.82
MMW-3	96.97	11.5	10	8.1	88.87	9.15	87.82	-1.05
MMW-4	94.80	13.2	10	7.2	87.60	9.2	85.60	-2.00
MMW-5	93.03	15.2	10	8.5	84.53	DRY	<77.8	-6.73
MP-1	97.74	13.7	10	7.0	90.74	6.55	91.19	0.45

Notes:
Elevations are relative to site datum.
N/A = Not applicable
a. Gauging stations were measured on October 25, 1999 during the first gauging event.
b. Approximate depth to the bottom of the canal is six feet below the measuring point elevation.

TABLE 2

SUMMARY OF SOIL ANALYTICAL RESULTS
FOR METAL ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	Eastern USA Background	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99	MSB-6 (4') 10/22/99	MSB-7 (4') 10/22/99	MP-1 (4'-5') 10/22/99
Arsenic	7.5 or SB	3-12**	**1.75**	1.21 U	2.95 U	2.87 U	**3.37**	-	-	-
Barium	300 or SB	15-600	**18.8**	**34.9**	**13.0**	**9.47**	**10.6**	-	-	-
Cadmium	1 or SB	0.1-1.0	0.601 U	0.605 U	0.590 U	0.574 U	0.594 U	-	-	-
Chromium	10 or SB	1.5-40.0**	**8.39**	**9.19**	**4.03**	**2.90**	**7.71**	-	-	-
Lead	SB****	****	**6.96**	**9.60**	5.90 U	**6.37**	**14.0**	-	-	-
Mercury	0.1	0.001-0.2	0.0601 U	0.0605 U	0.0590 U	0.0574 U	0.0594 U	**0.0963**	**0.0816**	0.0613 U
Selenium	2 or SB	0.1-3.9	**1.19**	**1.35**	**2.05**	**2.59**	**1.91**	-	-	-
Silver	SB	N/A	1.20 U	1.21 U	1.18 U	1.15 U	1.19 U	-	-	-

Notes:
Units are mg/kg
SB = site background
** = New York State background
**** = Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm.
Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.
U indicates analyte not detected at a concentration greater than the method detection limit.
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
FOR VOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99
Acetone	200	3,000 U	3,000 U	15,000 U	140,000 U	3,000 U
Benzene	60	750 U	**170 J**	3,700 U	36,000 U	740 U
Bromodichloromethane	NL	750 U	760 U	3,700 U	36,000 U	740 U
Bromoform	NL	750 U	760 U	3,700 U	36,000 U	740 U
Bromomethane	NL	750 U	760 U	3,700 U	36,000 U	740 U
2-Butanone	300	1,500 U	1,500 U	7,400 U	72,000 U	1,500 U
sec-Butylbenzene	NL	**370 J**	**1,600**	3,700 U	36,000 U	740 U
n-Butylbenzene	NL	750 U	760 U	3,700 U	36,000 U	740 U
tert-Butylbenzene	NL	750 U	760 U	3,700 U	36,000 U	740 U
Carbon Disulfide	2,700	1,500 U	1,500 U	7,400 U	72,000 U	1,500 U
Carbon Tetrachloride	600	750 U	760 U	3,700 U	36,000 U	740 U
Chlorobenzene	1,700	750 U	760 U	3,700 U	36,000 U	740 U
Chloroethane	1,900	750 U	760 U	3,700 U	36,000 U	740 U
Chloroform	300	750 U	760 U	3,700 U	36,000 U	740 U
Chloromethane	100	750 U	760 U	3,700 U	36,000 U	740 U
Dibromochloromethane	NL	750 U	760 U	3,700 U	36,000 U	740 U
1,1-Dichloroethane	200	750 U	760 U	3,700 U	36,000 U	740 U
1,2-Dichloroethane	100	750 U	760 U	3,700 U	36,000 U	740 U
1,1-Dichloroethene	400	750 U	760 U	3,700 U	36,000 U	740 U
cis-1,2-Dichloroethene	NL	750 U	760 U	3,700 U	36,000 U	740 U
trans-1,2-Dichloroethene	300	750 U	760 U	3,700 U	36,000 U	740 U
1,2-Dichloropropane	NL	750 U	760 U	3,700 U	36,000 U	740 U
cis-1,3-Dichloropropene	NL	750 U	760 U	3,700 U	36,000 U	740 U
trans-1,3-Dichloropropene	NL	750 U	760 U	3,700 U	36,000 U	740 U
Methyl-tert-butyl-ether	NL	750 U	760 U	3,700 U	36,000 U	740 U
Ethylbenzene	5,500	**900**	**7,700**	**2,100 J**	36,000 U	740 U
2-Hexanone	NL	1,500 U	1,500 U	7,400 U	72,000 U	1,500 U
Isopropylbenzene	NL	**220 J**	**1,000**	3,700 U	36,000 U	740 U
p-Isopropyltoluene	NL	**340 J**	**1,900**	3,700 U	36,000 U	740 U
Methylene Chloride	100	750 U	760 U	3,700 U	36,000 U	740 U
Naphthalene	NL	**1,400**	**6,300**	**1,700 J**	36,000 U	740 U
4-Methyl-2-pentanone	1,000	1,500 U	1,500 U	7,400 U	72,000 U	1,500 U
n-Propylbenzene	NL	**930**	**3,100**	3,700 U	36,000 U	740 U
Styrene	NL	750 U	760 U	3,700 U	36,000 U	740 U
1,1,2,2-Tetrachloroethane	600	750 U	760 U	3,700 U	36,000 U	740 U
Tetrachloroethene	1,400	750 U	760 U	3,700 U	**730,000**	740 U

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
FOR VOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99
Toluene	1,500	**190 J**	760 U	**110,000**	36,000 U	740 U
1,1,1-Trichloroethane	800	750 U	760 U	3,700 U	36,000 U	740 U
1,1,2-Trichloroethane	NL	750 U	760 U	3,700 U	36,000 U	740 U
Trichloroethene	700	750 U	760 U	3,700 U	36,000 U	740 U
1,3,5-Trimethylbenzene	NL	**3,100**	**9,300**	3,700 U	36,000 U	740 U
1,2,4-Trimethylbenzene	NL	**7,800**	**31,000**	**1,400 J**	36,000 U	740 U
Vinyl Chloride	200	750 U	760 U	3,700 U	36,000 U	740 U
o-Xylene	1,200	750 U	**220 J**	**790 J**	36,000 U	740 U
m+p-Xylene	1,200	**1,800**	**25,000**	**4,000**	36,000 U	740 U

Notes:
Units are µg/kg
U indicates analyte not detected at a concentration greater than the method detection limit.
J indicates estimated concentration below method detection limit.
NL = No RSCO is listed for this compound
Samples were analyzed for volatile organic compounds by EPA Method 8260B
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 4

SUMMARY OF SOIL ANALYTICAL RESULTS
FOR SEMIVOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99
Acenaphthene	50,000	2,000 U	4,000 U	**1,200 J**	**1,600 J**	390 U
Acenaphthylene	41,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Anthracene	50,000	2,000 U	4,000 U	**910 J**	**1,700 J**	390 U
Benzo(a)anthracene	224	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Benzo(a)pyrene	61	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Benzo(b)fluoranthene	1,100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Benzo(g,h,i)perylene	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Benzo(k)fluoranthene	1,100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Benzyl alcohol	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Butyl benzyl phthalate	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
di-n-Butylphthalate	8,100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Carbazole	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Indeno(1,2,3-cd)pyrene	3,200	2,000 U	4,000 U	1,900 U	3,800 U	390 U
4-Chloroaniline	220	2,000 U	4,000 U	1,900 U	3,800 U	390 U
bis(2-Chloroethoxy)methane	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
bis(2-Chloroethyl)ether	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2-Chloronaphthalene	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2-Chlorophenol	800	2,000 U	8,100 U	1,900 U	3,800 U	390 U
2-2'-oxybis(1-Chloropropane)	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Chrysene	400	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Dibenzo(a,h)anthracene	14	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Dibenzofuran	6,200	2,000 U	**1,500 J**	1,900 U	3,800 U	390 U
1,3-Dichlorobenzene	1,600	2,000 U	4,000 U	1,900 U	3,800 U	390 U
1,2-Dichlorobenzene	7,900	2,000 U	4,000 U	1,900 U	3,800 U	390 U
1,4-Dichlorobenzene	8,500	2,000 U	4,000 U	1,900 U	3,800 U	390 U
3,3'-Dichlorobenzidine	N/A	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2,4-Dichlorophenol	400	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Diethylphthalate	7,100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Dimethylphthalate	20	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2,4-Dimethylphenol	NL	4,000 U	4,000 U	1,900 U	3,800 U	390 U
2,4-Dinitrophenol	400	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
2,4-Dinitrotoluene	200	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2,6-Dinitrotoluene	100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
bis(2-Ethylhexyl)phthalate	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Fluoranthene	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Fluorene	50,000	**1,200 J**	**4,100**	**2,200**	**3,400 J**	390 U
Hexachlorobenzene	410	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Hexachlorobutadiene	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Hexachlorocyclopentadiene	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Hexachloroethane	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Isophorone	4,400	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2-Methylnaphthalene	36,400	**8,500**	**22,000**	**11,000**	**11,000**	390 U

TABLE 4

SUMMARY OF SOIL ANALYTICAL RESULTS
FOR SEMIVOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99
4,6-Dinitro-2-methylphenol	NL	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
4-Chloro-3-methylphenol	240	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2-Methylphenol	100	2,000 U	4,000 U	1,900 U	3,800 U	390 U
4-Methylphenol	900	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Naphthalene	13,000	**2,800**	**7,500**	**1,800 J**	3,800 U	390 U
2-Nitroaniline	430	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
3-Nitroaniline	500	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
4-Nitroaniline	NL	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
Nitrobenzene	200	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2-Nitrophenol	330	2,000 U	4,000 U	1,900 U	3,800 U	390 U
4-Nitrophenol	100	10,000 U	21,000 U	10,000 U	20,000 U	2,000 U
n-Nitrosodimethylamine	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
n-Nitrosodiphenylamine	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Di-n-octyl phthalate	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Pentachlorophenol	100	4,800 U	9,700 U	4,700 U	9,200 U	950 U
Phenanthrene	50,000	**2,400**	**5,900**	**4,100**	**6,100**	390 U
Phenol	30	**1,100 J**	4,000 U	1,900 U	3,800 U	390 U
4-Bromophenyl-phenylether	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
4-Chlorophenyl-phenylether	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
n-Nitroso-di-n-propylamine	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
Pyrene	50,000	2,000 U	4,000 U	1,900 U	3,800 U	390 U
1,2,4-Trichlorobenzene	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2,4,6-Trichlorophenol	NL	2,000 U	4,000 U	1,900 U	3,800 U	390 U
2,4,5-Trichlorophenol	100	2,000 U	4,000 U	1,900 U	3,800 U	390 U

Notes:
Units are µg/kg
U indicates analyte not detected at a concentration greater than the method detection limit.
J indicates estimated concentration below method detection limit.
NL = No RSCO is listed for this compound
Samples were analyzed for semivolatile organic compounds by EPA Method 8270C
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 5

SUMMARY OF SOIL ANALYTICAL RESULTS
FOR PETROLEUM HYDROCARBON ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	Recommended Soil Cleanup Objective	MSB-1 (8'-10') 10/25/99	MSB-2 (8'-10') 10/25/99	MSB-3 (8'-10') 10/21/99	MSB-4 (4'-6') 10/20/99	MSB-5 (12'-14') 10/20/99
Gasoline range organics	NL	**1,400**	**480**	**4,000**	**61**	7.4 U
Fuel oil #2	NL	4.8 U	4.8 U	**2,100**	4.6 U	2.4 U
Fuel oil #4	NL	4.8 U	4.8 U	24 U	4.6 U	2.4 U
Fuel oil #6	NL	4.8 U	4.8 U	24 U	4.6 U	2.4 U
Kerosene	NL	4.8 U	4.8 U	24 U	4.6 U	2.4 U
Diesel range organics	NL	**2,600**	**3,300**	47 U	**3,400**	4.8 U

Notes:
Units are mg/kg
U indicates analyte not detected at a concentration greater than the method detection limit.
NL = No RSCO is listed for this compound
Samples were analyzed for petroleum hydrocarbons by EPA Methods 8015B and 8100
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 6

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR METAL ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 FILTERED 11/02/99	MMW-2 11/01/99	MMW-2 FILTERED 11/01/99	MMW-3 11/01/99	MMW-3 FILTERED 11/01/99	MMW-4 11/01/99	MMW-4 FILTERED 11/01/99	MMW-5 11/01/99	MMW-5 FILTERED 11/01/99	MP-1 03/13/00	MP-1 FILTERED 03/13/00
Arsenic	0.025	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Barium	1	**0.139**	**0.0612**	**0.204**	**0.0795**	**0.147**	**0.103**	**0.193**	**0.139**	**0.153**	**0.0918**	**0.202**	**0.0716**
Cadmium	0.005	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U
Chromium	0.05	**0.0254**	0.0100 U	**0.0420**	0.0100 U	**0.0173**	0.0100 U	**0.0100**	0.0100 U	**0.0176**	0.0100 U	**0.0244**	0.0100 U
Lead	0.025	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Mercury	0.0007	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.000300 U
Selenium	0.01	**0.00666**	0.00500 U	**0.00578**	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	**0.00620**	**0.00564**	**0.0145**	**0.00685**
Silver	0.05	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U

Notes:
Units are mg/L
U indicates analyte not detected at a concentration greater than the method detection limit.
(a) = New York State Groundwater Standards from Division of Water Technical and Operational Guidance Series (1.1.1) (NYSDEC, June 1998).
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 7

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR VOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 03/13/00	MMW-2 11/01/99	MMW-2 03/13/00	MMW-3 11/01/99	MMW-3 03/13/00	MMW-4 11/01/99	MMW-4 03/13/00	MMW-5 11/01/99	MP-1 03/13/00
Acetone	[50]	20 U	20 U	20 U	20 U	20 U	**5.5 J**	20 U	**5.9 J**	20 U	20 U
Benzene	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	[50]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	[50]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone	[50]	10 U	10 U	10 U	10 U	10 U	**2.1 J**	10 U	**2.4 J**	10 U	10 U
sec-Butylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	**1.7 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	NL	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	[60]	10 U	**11**	10 U	**14**	10 U	**34**	10 U	**47**	10 U	10 U
Carbon Tetrachloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	7	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl-tert-butyl-ether	[10]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	**2.2 J**	**1.4 J**	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	[50]	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	NL	5.0 U	5.0 U	5.0 U	5.0 U	**2.3 J**	**1.3 J**	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 7

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR VOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 03/13/00	MMW-2 11/01/99	MMW-2 03/13/00	MMW-3 11/01/99	MMW-3 03/13/00	MMW-4 11/01/99	MMW-4 03/13/00	MMW-5 11/01/99	MP-1 03/13/00
p-Isopropyltoluene	NL	5.0 U	5.0 U	5.0 U	5.0 U	**1.6 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	[10]	5.0 U	5.0 U	5.0 U	5.0 U	**20**	**5.6**	**3.6 J**	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	NL	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Propylbenzene	NL	5.0 U	5.0 U	5.0 U	5.0 U	**5.2**	**2.7 J**	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**5.2**	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	NL	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	NL	5.0 U	5.0 U	5.0 U	5.0 U	**46**	**25**	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride	2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
o-Xylene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
m+p-Xylene	5	5.0 U	5.0 U	5.0 U	5.0 U	**28**	**8.6**	**2.1 J**	5.0 U	5.0 U	5.0 U

Notes:
Units are µg/L
U indicates analyte not detected at a concentration greater than the method detection limit.
J indicates estimated concentration below method detection limit.
(a) = New York State Groundwater Standards from Division of Water Technical and Operational Guidance Series (1.1.1) (NYSDEC, June 1998).
[ ] = Brackets indicate guidance value.
NL = No standard or guidance value is listed for this compound
Samples were analyzed for volatile organic compounds by EPA Method 8260B
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR SEMIVOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 03/13/00	MMW-2 11/01/99	MMW-2 03/13/00	MMW-3 11/01/99	MMW-3 03/13/00	MMW-4 11/01/99	MMW-4 03/13/00	MMW-5 11/01/99	MP-1 03/13/00
Acenaphthene	[20]	11 U	10 U	10 U	10 U	**1.2 J**	10 U	**2.3 J**	10 U	10 U	10 U
Acenaphthylene	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	[50]	11 U	10 U	10 U	10 U	10 U	10 U	**1.1 J**	10 U	10 U	10 U
Benzo(a)anthracene	[0.002]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	[0.002]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzyl alcohol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
di-n-Butylphthalate	50	**1.2 J**	**1.0 J**	**1.4 J**	10 U	**2.2 J**	10 U	**1.6 J**	**2.6 J**	**1.7 J**	10 U
Carbazole	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	[0.002]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	1	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	[10]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-2'-oxybis(1-Chloropropane)	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	[0.002]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NL	11 U	10 U	10 U	10 U	**1.4 J**	10 U	**2.0 J**	10 U	10 U	10 U
1,3-Dichlorobenzene	3	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	3	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	1	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

TABLE 8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR SEMIVOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 03/13/00	MMW-2 11/01/99	MMW-2 03/13/00	MMW-3 11/01/99	MMW-3 03/13/00	MMW-4 11/01/99	MMW-4 03/13/00	MMW-5 11/01/99	MP-1 03/13/00
Diethylphthalate	[50]	**1.1 J**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	[10]	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
2,4-Dinitrotoluene	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	5	**1.8 J**	10 U	10 U	10 U	10 U	10 U	10 U	**1.8 J**	10 U	10 U
Fluoranthene	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	[50]	**1.9 J**	10 U	**1.4 J**	10 U	**3.3 J**	10 U	10 U	**2.1 J**	10 U	10 U
Hexachlorobenzene	0.04	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	[50]	11 U	10 U	10 U	10 U	10 U	**1.0 J**	10 U	10 U	10 U	10 U
2-Methylnaphthalene	NL	**1.1 J**	10 U	**1.4 J**	10 U	10 U	10 U	**5.3 J**	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	NL	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
4-Chloro-3-methylphenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	NL	**1.1 J**	10 U	10 U	10 U	10 U	10 U	**1.6 J**	10 U	10 U	10 U
Naphthalene	[10]	11 U	10 U	10 U	10 U	10 U	10 U	**2.3 J**	10 U	10 U	10 U
2-Nitroaniline	5	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
3-Nitroaniline	5	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
4-Nitroaniline	5	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
Nitrobenzene	0.4	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	NL	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
n-Nitrosodimethylamine	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

TABLE 8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR SEMIVOLATILE ORGANIC COMPOUND ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-1 03/13/00	MMW-2 11/01/99	MMW-2 03/13/00	MMW-3 11/01/99	MMW-3 03/13/00	MMW-4 11/01/99	MMW-4 03/13/00	MMW-5 11/01/99	MP-1 03/13/00
n-Nitrosodiphenylamine	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	54 U	50 U	50 U	50 U	52 U	50 U	50 U	50 U	52 U	50 U
Phenanthrene	[50]	**5.0 J**	10 U	10 U	10 U	10 U	10 U	10 U	**1.8 J**	**2.1 J**	10 U
Phenol	1	**18**	10 U	**9.9 J**	10 U	**12**	10 U	**21**	10 U	**2.8 J**	10 U
4-Bromophenyl-phenylether	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-di-n-propylamine	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	[50]	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	NL	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Notes:
Units are µg/L
U indicates analyte not detected at a concentration greater than the method detection limit.
J indicates estimated concentration below method detection limit.
(a) = New York State Groundwater Standards from Division of Water Technical and Operational Guidance Series (1.1.1) (NYSDEC, June 1998).
[ ] = Brackets indicate guidance value.
NL = No standard or guidance value is listed for this compound
Samples were analyzed for semivolatile organic compounds by EPA Method 8270C
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

TABLE 9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FOR PETROLEUM HYDROCARBON ANALYSES
PACTIV
MACEDON, NEW YORK

PARAMETER	NYSDEC Groundwater Standards (a)	MMW-1 11/02/99	MMW-2 11/01/99	MMW-3 11/01/99	MMW-4 11/01/99	MMW-5 11/01/99	MP-1 03/13/00
Gasoline range organics	NL	50 U	50 U	**390**	**880**	50 U	50 U
Fuel oil #2	NL	100 U	100 U	100 U	100 U	100 U	100 U
Fuel oil #4	NL	100 U	100 U	100 U	100 U	100 U	100 U
Fuel oil #6	NL	100 U	100 U	100 U	100 U	100 U	100 U
Kerosene	NL	100 U	100 U	100 U	100 U	100 U	100 U
Diesel range organics	NL	**1,400**	100 U	**3,300**	**2,200**	100 U	100 U

Notes:
Units are µg/L
U indicates analyte not detected at a concentration greater than the method detection limit.
(a) = New York State Groundwater Standards from Division of Water Technical and Operational Guidance Series (1.1.1) (NYSDEC, June 1998).
[ ] = Brackets indicate guidance value.
NL = No standard or guidance value is listed for this compound
NA = Not Analyzed
Samples were analyzed for petroleum hydrocarbons by EPA Methods 8015B and 8100.
Analyses were performed by Columbia Analytical Services, Inc., in Rochester, New York.
Numbers in bold are detected concentrations.

0 2,000 4,000

GRAPHIC SCALE

QUADRANGLE LOCATION

N

CONTOUR INTERVAL = 10 FEET

REFERENCE:
USGS 7.5 MINUTE TOPOGRAPHIC MAP
MACEDON, N.Y. QUADRANGLE
1951 (PHOTOINSPECTED 1976)

85040-13

TITLE: SITE LOCATION

PACTIV
Advanced Packaging Solutions
Macedon, New York

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY
CLIFTON PARK, NEW YORK

SCALE	AS SHOWN	DWN. BY	RRC	JOB NO.	32324-182
DATE	01/10/00	APPR. BY		FIG. NO.	1

94.7
GAUGING STATION #2

94.9
GAUGING STATION #3

NEW YORK STATE BARGE CANAL

84.1
GAUGING STATION #1

OPEN DITCH
COVERED WALKWAY
MA-3
MMW-2
90.2
88.9
MMW-3
MA-16B
MA-16A
MSB-2
MSB-1
MA-6A
MA-6B
MW-7
MW-4
MSB-3
BLDG 12
MA-7
MA-7B
MA-4B
FIRE TANK
MA-9
MA-19
COOLING TOWER
MA-18
MA-5
MA-2
BLDG 34
MA-17
84.5
MMW-5
MS-8A
MSB-5
MSB-4
MA-4A
MA-8B
MA-10
BLDG. 11
BLDG. 16
BLDG. 16A
BLDG. 16B
BLDG. 8
BLDG. 7N
ENCLOSED DOCK AREA
FIRE DOOR
BLDG. 21
Q.C.
BLDG. 5
BLDG 10
BLDG. 7S
BLDG. 14 MOBIL
BLDG 15 MOBIL
BLDG 20 MOBIL
AIR SPACE FOR MACHINES
BLDG. 4
BLDG. 21A
CISTERN
BLDG. 13H
BLDG. 13
COURT YARD
BLDG 14A MOBIL
BLDG.10A
BLDG.10C
BLDG 22
BLDG 6
BOILER HOUSE
BLDG. 3B
BLDG. 2
BLDG. 3
MOBIL BLDG. 3A
RAMP
MP-1
90.8
MSB-7
MA-20
MSB-6
BLDG. 1
GAS
MEDICAL
MA-1
MA-15B
MA-15A
MMW-1
86.9
BLDG. 6A
BLDG. 6B
MA-14

NORTH

TRUE NORTH PER BARGE CANAL MAPPING PREPARED BY STATE OF NEW YORK

LEGEND

- GAUGING STATION (APPROXIMATE)
- MONITORING WELL (APPROXIMATE)
- SOIL BORING (APPROXIMATE)
- PIEZOMETER (APPROXIMATE)
- PREVIOUS WELL LOCATION
- PREVIOUS SOIL SAMPLING LOCATION

DRAWING SOURCE:
MOBIL CHEMICAL DRAWING DX1631
(SPCC DRAWING) 3/94

0 20 40 80 160
GRAPHIC SCALE (FEET)

85040-12

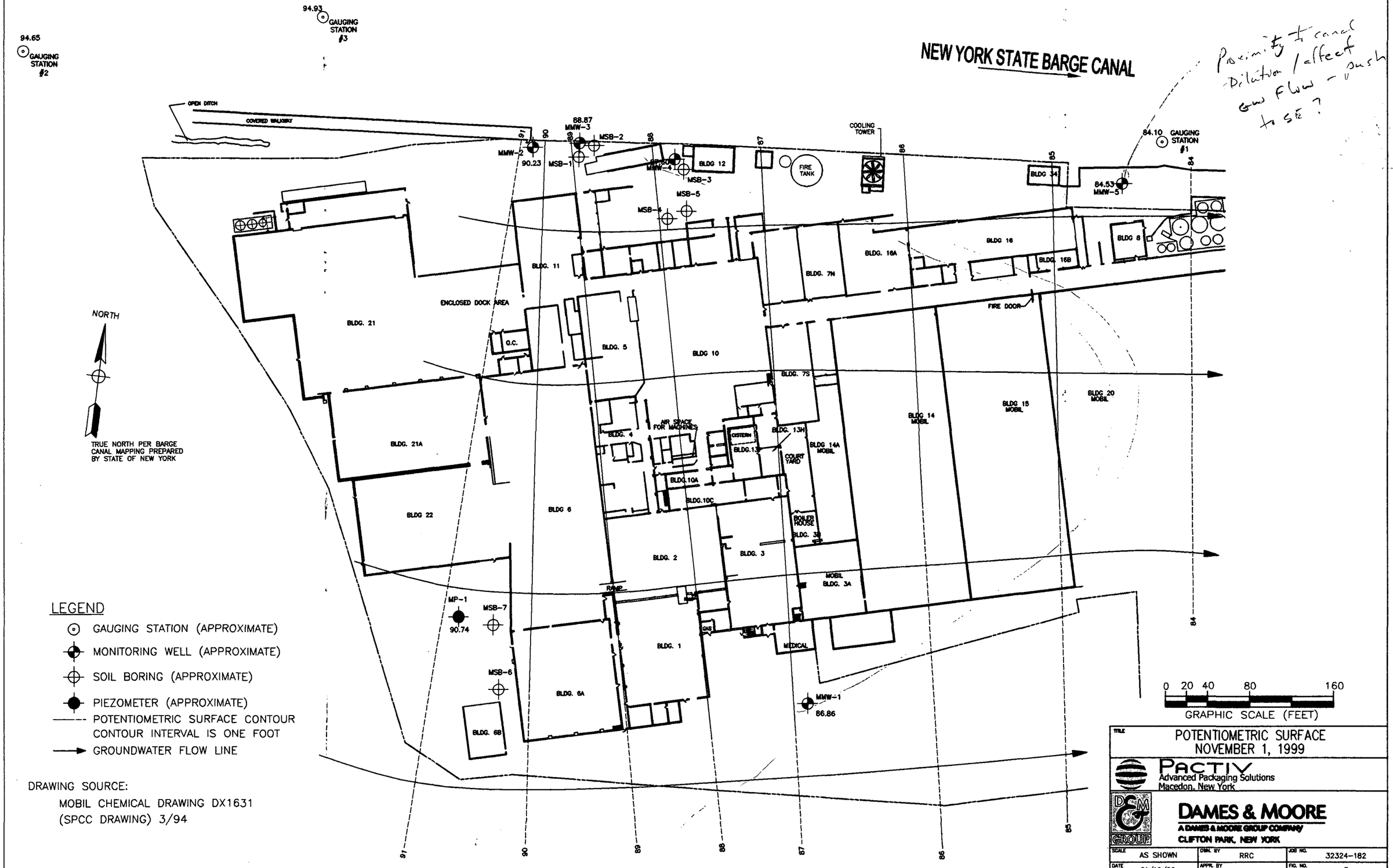
TITLE: SITE MAP

PACTIV
Advanced Packaging Solutions
Macedon, New York

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY
CLIFTON PARK, NEW YORK

SCALE	DWN. BY	JOB NO.
AS SHOWN	RRC	32324-182
DATE	APPR. BY	FIG. NO.
01/10/00		2

Proximity to canal
- Dilution / affect GW flow - push to SE?



LEGEND

- GAUGING STATION (APPROXIMATE)
- MONITORING WELL (APPROXIMATE)
- SOIL BORING (APPROXIMATE)
- PIEZOMETER (APPROXIMATE)
- POTENTIOMETRIC SURFACE CONTOUR
  CONTOUR INTERVAL IS ONE FOOT
- GROUNDWATER FLOW LINE

DRAWING SOURCE:
MOBIL CHEMICAL DRAWING DX1631
(SPCC DRAWING) 3/94

0 20 40 80 160
GRAPHIC SCALE (FEET)

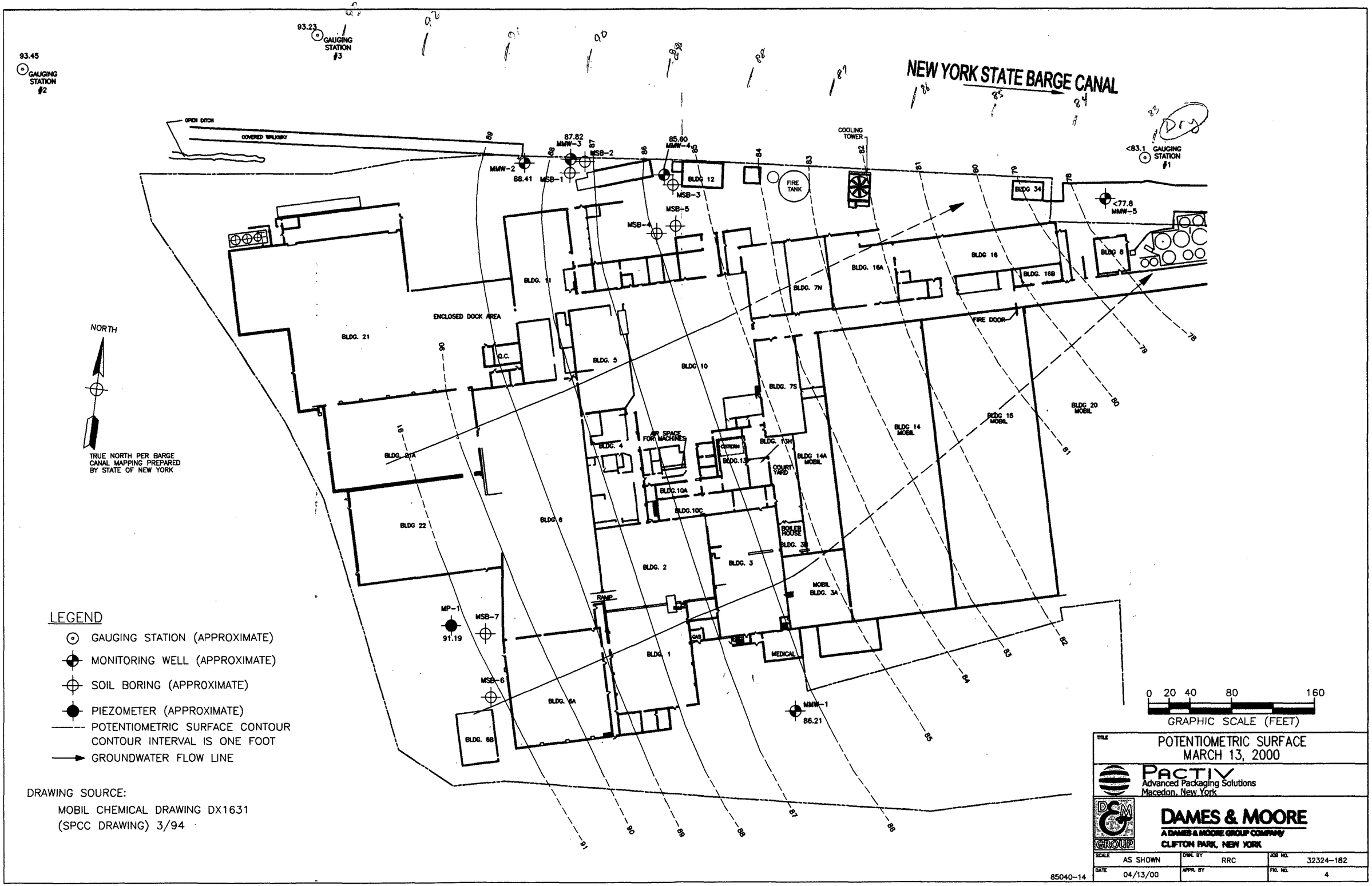
TITLE: POTENTIOMETRIC SURFACE NOVEMBER 1, 1999

PACTIV
Advanced Packaging Solutions
Macedon, New York

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY
CLIFTON PARK, NEW YORK

SCALE	AS SHOWN	DWN. BY	RRC	JOB NO.	32324-182
DATE	01/10/00	APPR. BY		FIG. NO.	3

85040-11



TITLE: POTENTIOMETRIC SURFACE MARCH 13, 2000

PACTIV
Advanced Packaging Solutions
Macedon, New York

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY
CLIFTON PARK, NEW YORK

SCALE	AS SHOWN	DWN. BY	RRC	JOB NO.	32324-182
DATE	04/13/00	APPR. BY		FIG. NO.	4

85040-14

APPENDIX A

SURVEY DATA, SOIL BORING LOGS AND WELL COMPLETION RECORDS

TABLE A

SUMMARY OF SURVEY DATA
PACTIV
MACEDON, NEW YORK

WELL/BORING ID	COORDINATES		MEASURING POINT ELEVATIONS (feet)
	NORTHING	EASTING	
GAUGING STATION 1	1338.72	3614.36	89.10
GAUGING STATION 2	1276.99	2529.00	100.95
GAUGING STATION 3	1340.54	2811.33	102.33
MMW-1	787.04	3337.33	95.26
MMW-2	1260.14	3013.65	96.23
MMW-3	1265.63	3069.05	96.97
MMW-4	1252.73	3152.07	94.80
MMW-5	1304.58	3561.26	93.03
MP-1	824.52	3009.51	97.74
MSB-1	1259.81	3063.89	96.9
MSB-2	1261.76	3073.36	97.0
MSB-3	1247.24	3159.10	94.86
MSB-4	1205.48	3154.96	93.82
MSB-5	1216.67	3172.64	94.36

Notes:
Elevations for soil borings are ground surface.
Coordinates and elevations are relative to site datum.

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	**MSB-1**

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 1259.81 / E 3063.89	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/25/99	10/25/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	12.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	5	--	96.9 Plant	▽ 7/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION (density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor)	DRILLING NOTES (water levels, water return, character of drilling, etc.)
	--	--	--	(0-2')	AUGERED THROUGH GRASS SURFACE - NO SAMPLES	
1	24/12	4,12,4,12	3.0	(2-4')	DRY, BROWN FINE TO MEDIUM SAND (loose) WITH WELL ROUNDED, LARGE GRAVEL AND PEBBLES [POOR RECOVERY]	COLLECTED SOIL SAMPLES AT 8-10', FOR VOC, SVOC, RCRA METAL, GRO, DRO ANALYSIS
2	24/24	4,5,5,3	20	(4-6')	AS ABOVE GRADING TO BLACK FINE SAND, NO GRAVEL (loose and moist)	
3	24/12	4,4,4,4	60	(6-8')	AS ABOVE GRADING TO BLACK TO DARK GREY FINE SAND (plasticity and moisture increasing with depth) - STRONG PETROLEUM ODOR	
4	24/24	1,1,1,9	150	(8-10')	▽ AS ABOVE - WET AT 7' BGS	
5	24/10	9,10, 15,12	75	(10-12')	AS ABOVE GRADING TO DENSE, MEDIUM TO FINE BROWN SAND WITH TRACE ANGULAR GRAVEL (wet)	
					TERMINATED BORING AT 12 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

GRAPHIC LOG

C:\182\...\MSB1

Dames & Moore

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MSB-2

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 1261.76 / E 3073.36	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/25/99	10/25/99	Marcor Environmetnal	CME 85, 4-1/4" HS Augers	6-1/4"	12.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	5	--	97.0 Plant	▽ 7/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
	--	--	--	(0-2')	AUGERED THROUGH GRASS SURFACE - NO SAMPLES	
1	24/12	2,4,5,4	20	(2-4')	DARK BROWN SILTY CLAY (stiff) GRADING TO FINE SAND AND SILT (moist with slight petroleum odor in foot)	COLLECTED SOIL SAMPLES AT 8-10', FOR VOC, SVOC, RCRA METAL, GRO, DRO ANALYSIS
2	24/24	2,2,3,6	20	(4-6')	AS ABOVE GRADING TO LIGHT BROWN FINE SAND (medium dense)	
3	24/3	6,6,7,5	40	(6-8')	AS ABOVE (slightly plastic with petyroleum odor) GRADING TO LOOSE MEDIUM AND COARSE SAND (moisture increasing with depth) ▽	
4	24/12	1,1,1,37	120	(8-10')	AS ABOVE (wet) GRADING TO BLACK FINE SAND AND SILT (plastic)	
5	24/10	15,20,50	80	(10-12')	AS ABOVE WITH SOME ANGULAR GRAVEL GRADING TO FINE SAND AND NO GRAVEL	
					AUGER REFUSAL AT 12 FEET BELOW GRADE	

11.5?

DEPTH: 5, 10, 15, 20, 25, 30

GRAPHIC LOG

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MSB-3

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 1247.24 / E 3159.10	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/21/99	10/21/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	16

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	7	--	94.86 Plant	▼ 9/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
	--	--	--	(0-2')	AUGERED THROUGH ASPHALT SURFACE - TOPSOIL MATERIAL - NO SAMPLES	
1	24/12	2,1,2,4	2	(2-4')	MOIST RED-BROWN , MEDIUM TO FINE SAND GRADING TO BROWN MEDIUM SAND (slightly plastic)	COLLECTED SOIL SAMPLES AT 8-10', FOR VOC, SVOC, RCRA METAL, GRO, DRO ANALYSIS
2	24/24	2,2,3,3	20	(4-6')	AS ABOVE GRADING TO COARSE BROWN SAND (medium dense and moist)	
3	24/12	3,5,7,6	200	(6-8')	AS ABOVE WITH SOME ANGULAR GRAVEL - LAST 3" CONTAINED BLACK FINE SAND AND SILT (plastic and soft with strong petroleum odor)	
4	24/12	2,6,14,15	700	(8-10')	AS ABOVE (wet) GRADING TO MEDIUM SAND WITH SOME GRAVEL (odor present)	
5	24/6	2,13, 22,13	250	(10-12')	AS ABOVE WITH COARSE BROWN SAND (loose)	
6	24/12	21,25, 27,29	400	(12-14')	AS ABOVE GRADING TO BROWN FINE SAND AND CLAY (stiff) IN LAST 3"	
7	24/3	22,50	350	(14-16')	AS ABOVE GRADING TO MEDIUM BROWN SAND	
					TERMINATED BORING AT 16 FEET BELOW GRADE	

15'?

94.86
- 15
79.86

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	**MSB-4**

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 1205.48 / E3154.96	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/20/99	10/20/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	8

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ELEV. GROUND WATER	DEPTH/ELEV. TOP OF ROCK
	–	4	–	93.82 Plant	▽ 8/–	–– /–

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" /--	Units = Feet; HNu bkg=0 ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/6	2,2,2,2	2	(0–2')	AUGERED THROUGH ASPHALT SURFACE – FINE SAND AND ANGULAR GRAVEL (moist) [POOR RECOVERY]	
2	24/24	2,2,2,2	10	(2–4')	AS ABOVE WITH LAST 3" BROWN MEDIUM SAND, NO GRAVEL WITH STRONG PETROLEUM ODOR (loose and moist)	COLLECTED SOIL SAMPLES AT 4-6' FOR VOC, SVOC, RCRA METAL, GRO, DRO ANALYSIS
3	24/12	4,5,12,9	50	(4–6')	AS ABOVE GRADING TO BLACK MEDIUM SAND WITH PRODUCT AT 5 FEET BELOW GRADE (moist, strong petroleum odor)	
4	24/3	8,50	2	(6–8')	GREY MEDIUM SAND AND ANGULAR GRAVEL GRADING TO FINE BROWN SAND (dense and wet in foot)	
					▽ AUGER REFUSAL AT 8 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

7 1?
elev 86.82

93.82
- 7.1
86.72

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-181-152	1 of 1	MSB-5

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon NY	N 1216.67 / E 3172.64	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/20/99	10/20/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	16

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	8	--	94.36 Plant	▽ 10/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / ---	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/3	4,5,5,5	BKG	(0-2')	AUGERED THROUGH ASPHALT SURFACE (2 FEET)- LOOSE COARSE BROWN SAND AND GRAVEL (moist)	
2	24/18	6,7,9,9	5	(2-4')	AS ABOVE GRADING TO MEDIUM SAND	SOIL SAMPLES COLLECTED AT 12-14' FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS
3	24/24	4,3,5,3	BKG	(4-6')	AS ABOVE (loose)	
4	24/3	4,5,6,7	BKG	(6-8')	MEDIUM BROWN SAND (increasing moisture with depth) - LAST 2" BLACK SAND WITH SLIGHT PETROLEUM ODOR	
5	24/12	8,14, 16,26	5	(8-10')	DARK GREY MEDIUM SAND (loose and moist) GRADING TO COARSE SAND AND ROUNDED GRAVEL (wet in foot)	
6	24/10	9,16, 21,22	7	(10-12')	▽ AS ABOVE (medium dense and wet)	
7	24/12	12,14, 2,7	10	(12-14')	AS ABOVE GRADING TO FINE BROWN SAND AND SILT (slightly plastic, wet grading to moist)	
8	24/12	5,9,16,19	BKG	(14-16')	AS ABOVE WITH NO ODOR GRADING TO HARD BROWN CLAY WITH SOME ROUNDED GRAVEL	
					AUGER REFUSAL AT 16 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

94.36
-16.
78.36

Dames & Moore

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Tenneco Packaging	32324-182-152	1 of 1	**MSB-6**

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY		J. Christy	

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/22/99	10/22/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	4.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	2	--	xxx.xx Plant	▽ -/-	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	-/-	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/6	1,3,3,5	BKG	(0-2')	AUGERED THROUGH GRASS SURFACE - DARK BROWN SOIL WITH SOME ORGANICS GRADING TO DENSE FINE BROWN SAND AND SILT	
2	24/24	2,2,2,1	BKG	(2-4')	AS ABOVE	COLLECTED SOIL SAMPLES AT 4' FOR MERCURY ANALYSIS
					TERMINATED BORING AT 4 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

Dames & Moore

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Tenneco Packaging	32324-182-152	1 of 1	MSB-7

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY		J. Christy	

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/22/99	10/22/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	4.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	2	--	xxx.xx Plant	▽ -/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	-- / --	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/12	1,2,3,4	BKG	(0-2')	AUGERED THROUGH GRASS SURFACE - DARK BROWN SOIL WITH SOME ORGANICS GRADING TO DENSE FINE BROWN SAND AND SILT	
2	24/24	2,1,3,1	BKG	(2-4')	AS ABOVE	COLLECTED SOIL SAMPLES AT 4' FOR MERCURY ANALYSIS
					TERMINATED BORING AT 4 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

GRAPHIC LOG

Dames & Moore

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MMW-1

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 787.04 / E 3337.33	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/22/99	10/22/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	15.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	–	7	–	95 Plant, Est.	▽ 8.4 / –	– / –

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / –	Units = Feet; HNu bkg=0.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION (density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor)
1	24/6	2,3,4,5	BKG	(0-2')	SAMPLED THROUGH GRASS SURFACE - BROWN SILTY CLAY, TRACE ROOTS AND ORGANICS (medium stiff) [POOR RECOVERY]
2	24/12	6,8,10,8	BKG	(2-4')	AS ABOVE WITH SOME ANGULAR GRAVEL
3	24/24	3,6,10,9	BKG	(4-6')	LIGHT BROWN SILTY CLAY, NO GRAVEL (dry to moist)
4	24/3	12,11, 9,16	BKG	(6-8')	AS ABOVE (increasing moisture with depth) [POOR RECOVERY]
5	24/12	2,5,9,15	BKG	(8-10')	WET BROWN FINE SAND AND ANGULAR GRAVEL (loose and slightly plastic)
6	24/10	3,9,50	BKG	(10-12')	COARSE WET BROWN SAND AND ANGULAR GRAVEL GRADING TO MEDIUM TO FINE SAND AND GRAVEL (loose)
7	24/20	10,21,50	BKG	(12-14')	BROWN FINE SAND AND CLAY WITH SOME GRAVEL (stiff)
					TERMINATED BORING AT 15 FEET BELOW GRADE

DEPTH: 5, 10, 15, 20, 25, 30

GRAPHIC LOG

DRILLING NOTES (water levels, water return, character of drilling, etc.)

NO SOIL SAMPLES COLLECTED

GROUNDWATER SAMPLES COLLECTED FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS

Rock? @ 13.5'?

95 − 13.5 = 81.5

well log says 15'

95 − 15 = 80

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Dames & Moore

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MMW-1

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	97 Plant ☐ Surveyed ☒ Estimated	Flush-mount

Soil Boring Cross-Reference: *MMW-1*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/22/99 - 10/22/99*

Drilling Method: *CME 85, 4-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
Hand Bailing with Disposable Bailer on 11/1/99

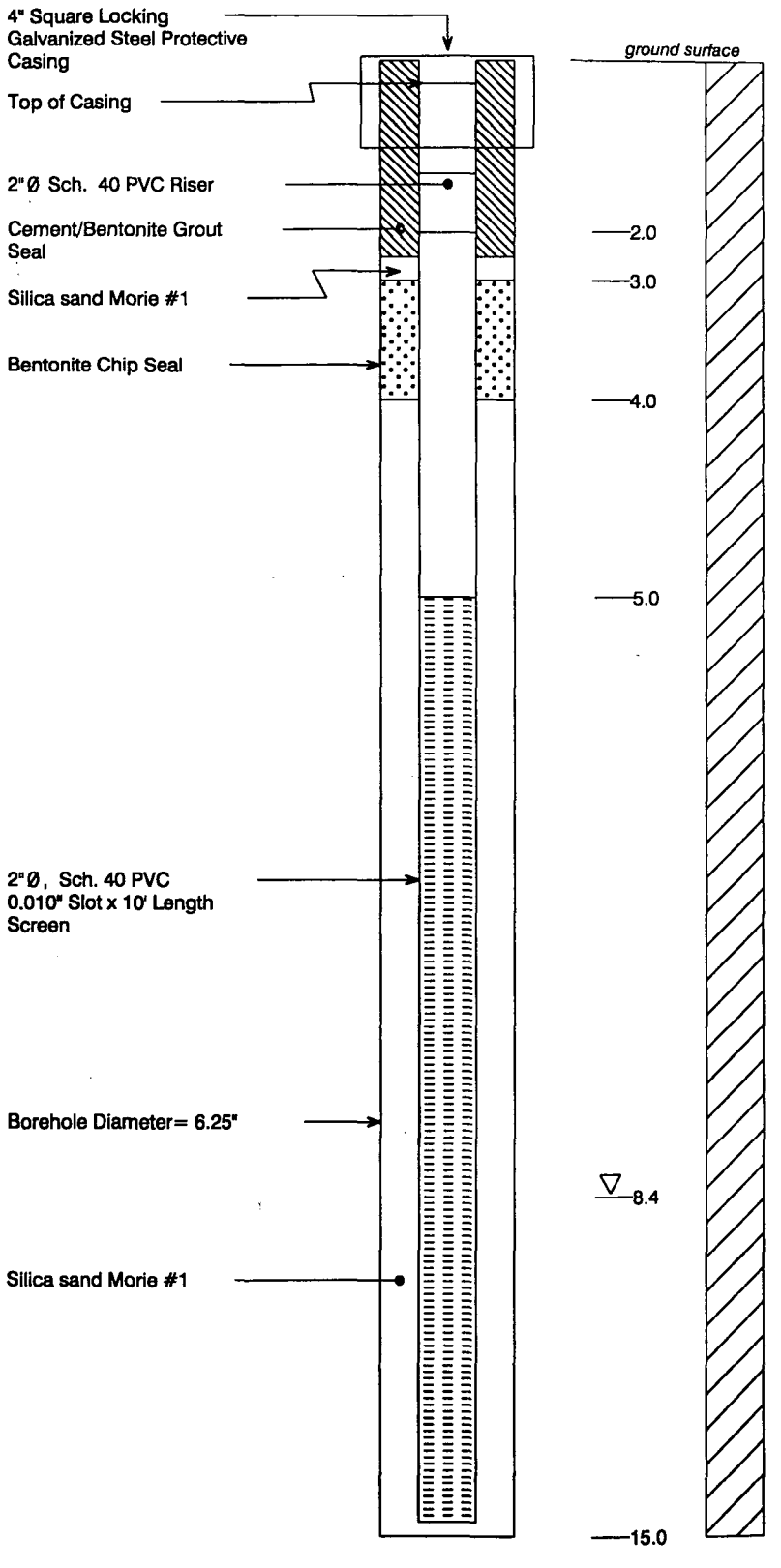
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
15 gal

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *8.4 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 95.26 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



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Dames & Moore

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-181-152	1 of 1	MMW-2

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon NY	N 1260.14 / E 3013.65	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/21/99	10/21/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	14

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	–	6	--	96 Plant, Est.	▽ 6 / --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=0.5ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
–	--	–	–	(0-2')	AUGERED THROUGH CONCRETE SURFACE - BROWN MEDIUM SAND GRADING TO DARK BROWN FINE SAND AND SILT (medium dense and moist)	
1	24/3	2,4,7,4	BKG	(2-4')	AS ABOVE GRADING TO LIGHT BROWN FINE SAND AND SILT WITH SOME GRAVEL (loose and moist) [POOR RECOVERY]	NO SOIL SAMPLES COLLECTED
2	24/18	2,2,4,7	1	(4-6')	MEDIUM AND FINE SAND (loose) WITH NO GRAVEL	GROUNDWATER SAMPLES COLLECTED FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS
3	24/24	50,6,5,7	1	(6-8')	▽ AS ABOVE GRADING TO DARK BROWN, FINE SAND AND SILT (loose, moisture increasing with depth)	
4	24/3	4,10,10,9	1	(8-10')	AS ABOVE GRADING TO COARSE BROWN SAND AND SILT (wet)	
5	24/12	10,17, 17,16	1.2	(10-12')	AS ABOVE WITH TRACE ANGULAR GRAVEL	
6	24/6	24,23, 26,25	1.0	(12-14')	AS ABOVE GRADING TO STIFF GREY BROWN SILT AND CLAY [POOR RECOVERY]	
					AUGER REFUSAL AT 14 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

96 -14/82 BR?

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Dames & Moore

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MMW-2

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	96 Plant ☐ Surveyed ☒ Estimated	Flush-mount

Soil Boring Cross-Reference: *MMW-2*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/21/99 - 10/21/99*

Drilling Method: *CME 85, 4-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
Hand Bailing with Disposable Bailer on 11/1/99

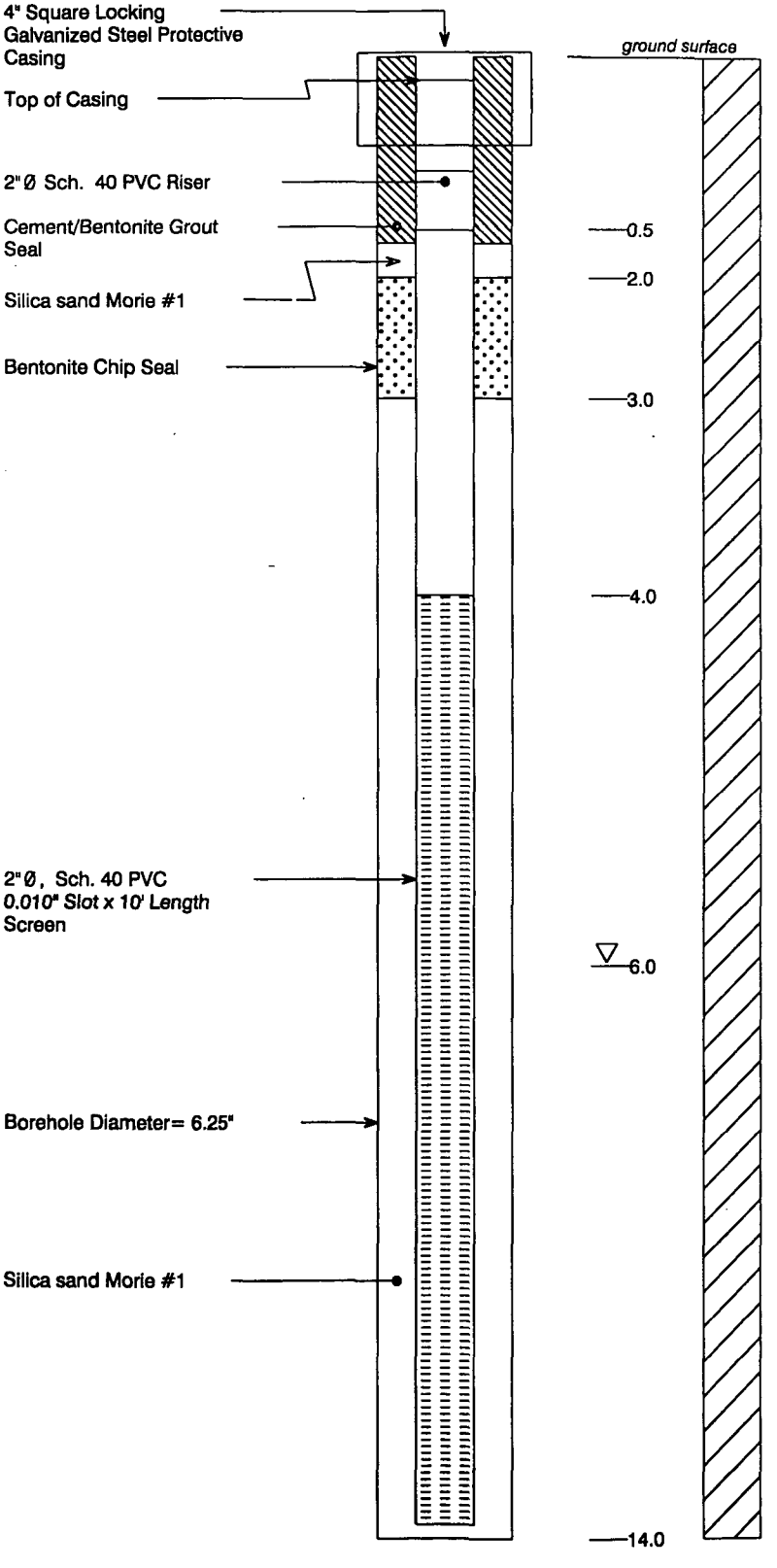
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
20 gal

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *6.0 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 96.23 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MMW-3

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 1265.63 / E 3069.05	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/25/99	10/25/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	12

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	–	6	--	97 Plant, Est.	▽ 8.1 / --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=0.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION *density, grain size/shape, color, structure* composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/6	–	–	(0-2')	AUGERED THROUGH GRASS SURFACE - BROWN SILTY CLAY, TRACE ROOTS AND ORGANICS (medium stiff) [POOR RECOVERY]	
2	24/12	4,7,8,9	BKG	(2-4')	BROWN MEDIUM SAND AND GRAVEL (moist) WITH PATCHES OF RED-BROWN STIFF CLAY GRADING TO LOOSE BROWN MEDIUM SAND AND SILT (dry)	NO SOIL SAMPLES COLLECTED GROUNDWATER SAMPLES COLLECTED FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS
3	24/24	4,4,5,4	BKG	(4-6')	AS ABOVE GRADING TO DARK BROWN TO BLACK LOOSE MEDIUM SAND AND SILT (PETROLEUM ODOR) - LAST 3" APPEARED TO BE PETROLEUM PRODUCT (plastic)	
4	24/3	6,7,6,6	26	(6-8')	AS ABOVE (wet in foot) [POOR RECOVERY]	
5	24/12	1,1,1,13	80	(8-10')	▽ AS ABOVE GRADING TO GREY-BROWN MEDIUM AND FINE SAND AND SILT (loose and slightly plastic)	
6	24/10	3,9, 16,27	3	(10-12')	AS ABOVE GRADING TO STIFF, DRY GREY CLAY - WEATHERED BEDROCK NOTED IN FOOT OF AUGER	
					TERMINATED BORING AT 12 FEET BELOW GRADE	

BR ? ≈ 12'

97
- 12
85

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WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MMW-3

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	97 Plant ☐ Surveyed ☒ Estimated	Flush-mount

Soil Boring Cross-Reference: *MMW-3*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/25/99 - 10/25/99*

Drilling Method: *CME 85, 4-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
Hand Bailing with Disposable Bailer on 11/1/99

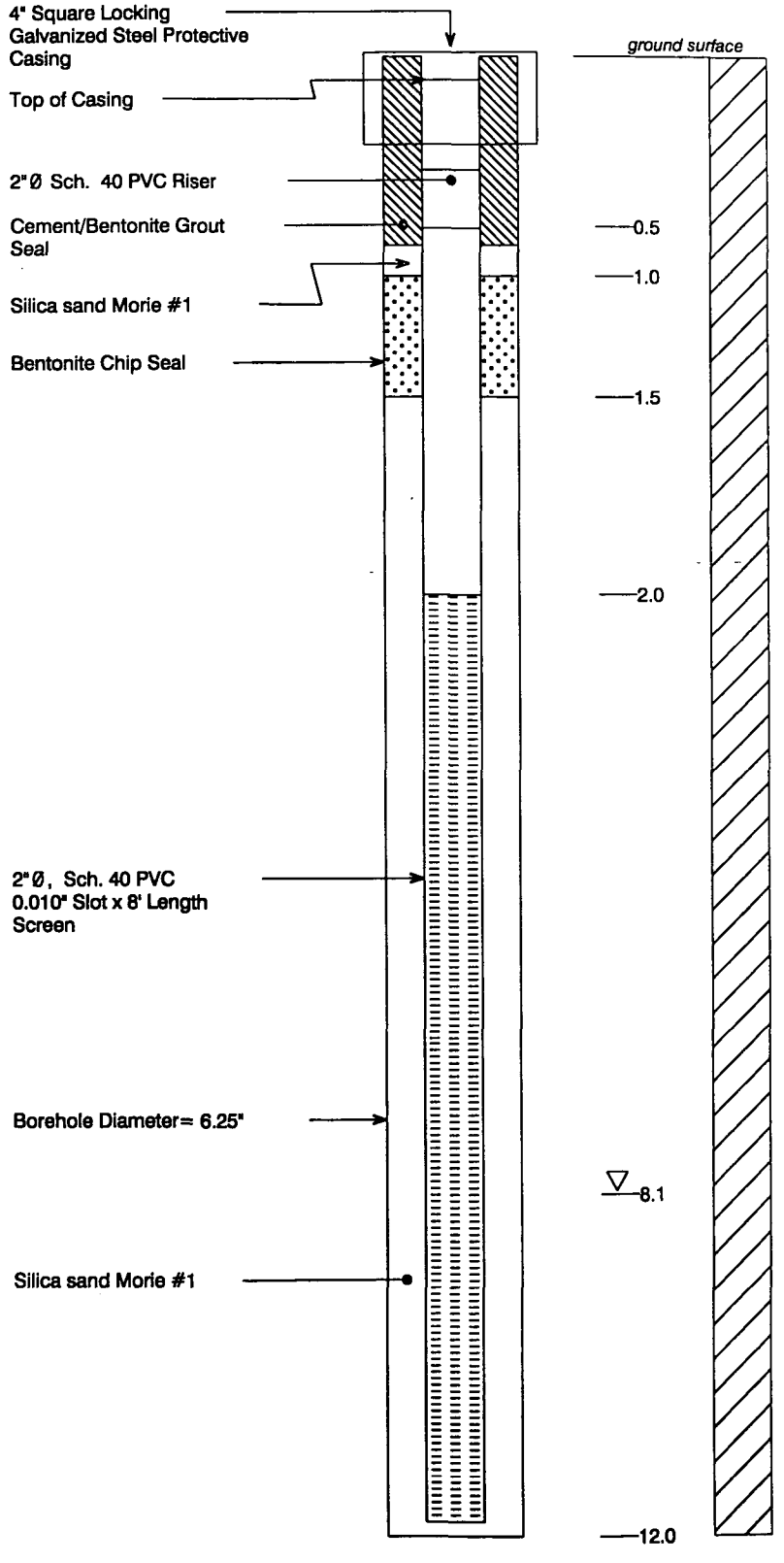
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
25 gal

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *8.1 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 96.97 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MMW-4

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon NY	N 1252.73 / E 3152.07	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/21/99	10/21/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	14

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	6	--	95 Plant, Est.	▽ 7.2 / --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / --	Units = Feet; HNu bkg=1.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION (density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor)	DRILLING NOTES (water levels, water return, character of drilling, etc.)
--	--	--	--	(0-2')	AUGERED THROUGH ASPHALT SURFACE (2 FEET)- LOOSE ROUND GRAVEL (fill)	
1	24/3	2,2,3,3	2	(2-4')	COARSE BROWN SAND AND LARGE ROUNDED GRAVEL (loose and moist) [POOR RECOVERY]	NO SOIL SAMPLES COLLECTED
2	24/3	3,2,3,3	2	(4-6')	AS ABOVE [POOR RECOVERY]	GROUNDWATER SAMPLES COLLECTED FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS
3	24/3	3,2,1,1	2	(6-8')	AS ABOVE [POOR RECOVERY]	
4	24/18	1,1,2,1	20	(8-10')	▽ AS ABOVE GRADING TO MEDIUM AND FINE BLACK SAND (strong petroleum odor, loose and wet in foot)	
5	24/6	1,2,50	70	(10-12')	BLACK TO BLACK-GREY FINE SAND AND SILT (loose, plastic and wet)	
6	24/10	7,27,50	3	(12-14')	AS ABOVE GRADING TO GREY-BROWN FINE SAND, SILT AND CLAY (stiff with slight odor)	
					AUGER REFUSAL AT 14 FEET BELOW GRADE	

(13.5?)

9.5'
1"
8'. BR?

5 10 15 20 25 30

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WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MMW-4

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	95 Plant ☐ Surveyed ☒ Estimated	Flush-mount

Soil Boring Cross-Reference: *MMW-4*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/21/99 - 10/21/99*

Drilling Method: *CME 85, 4-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
Hand Bailing with Disposable Bailer on 11/1/99

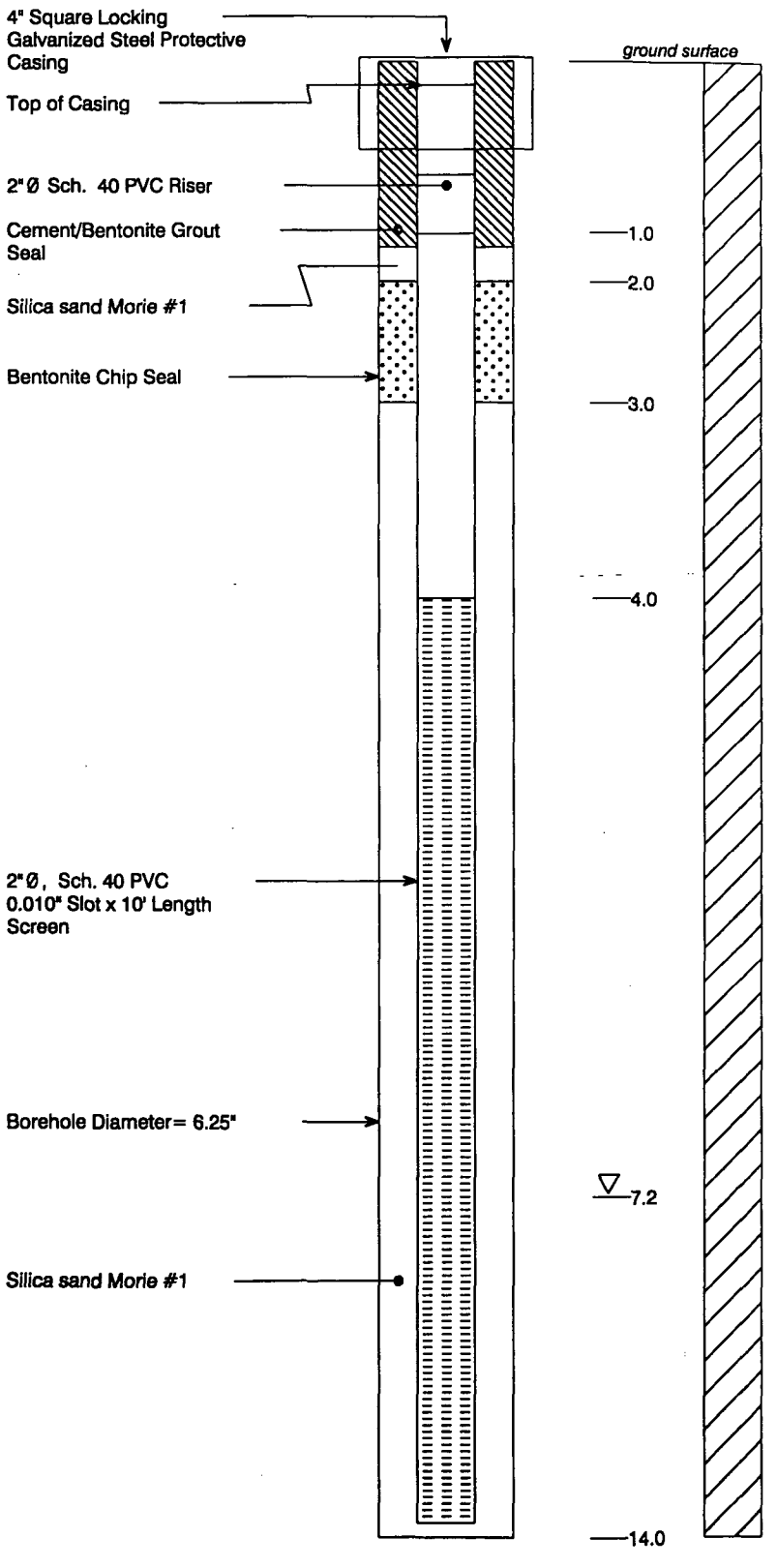
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
6.5 gal

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *7.2 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 94.80 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



Dames & Moore

95 - 14 = 81' Elev.

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MMW-5

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon NY	N 1304.58 / E 3561.26	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/21/99	10/21/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	16

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	6	--	93 Plant, Est.	▽ 8.5/ --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES
2" x 2' Standard Split Spoon	2" / —	Units = Feet; HNu bkg=0.5ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DEPTH	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
--	--	--	--	(0-2')			AUGERED THROUGH CONCRETE SURFACE - BROWN MEDIUM SAND WITH ANGULAR GRAVEL (dry and loose)	
1	24/3	8,10, 12,16	BKG	(2-4')			BROWN FINE SAND AND ANGULAR GRAVEL (dry and loose) [POOR RECOVERY]	NO SOIL SAMPLES COLLECTED
2	24/18	4,5,5,6	1.0	(4-6')			AS ABOVE GRADING TO MEDIUM BROWN SAND WITH SOME ANGULAR GRAVEL (dry grading to moist, loose)	GROUNDWATER SAMPLES COLLECTED FOR VOC, SVOC, RCRA METALS, GRO AND DRO ANALYSIS
3	24/24	6,5,3,3	1.0	(6-8')	5		AS ABOVE GRADING TO COARSE BROWN SAND AND GRAVEL (moist and loose)	
4	24/3	50 AT 3	1.0	(8-10')			SMALL ANGULAR GRAVEL [VERY POOR RECOVERY]	
5	24/12	8,13, 21,31	1.0	(10-12')	10		AS ABOVE GRADING TO FINE BROWN SAND (wet and medium dense) GRADING TO COARSE BROWN SAND AT FOOT (loose)	
6	24/10	16,15, 13,15	2.0	(12-14')			AS ABOVE WITH THIN CLAY LENSE AT 13' BGS	
6	24/10	12,11, 11,13	2.0	(14-16')	15		COARSE BROWN SAND AND SOME ANGULAR GRAVEL (wet)	
							TERMINATED BORING AT 16 FEET BELOW GRADE	
					20			
					25			
					30			

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WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MMW-5

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	93 Plant ☐ Surveyed ☒ Estimated	Flush-mount

93 -

Soil Boring Cross-Reference: *MMW-5*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/21/99 - 10/21/99*

Drilling Method: *CME 85, 4-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
Hand Bailing with Disposable Bailer on 11/1/99

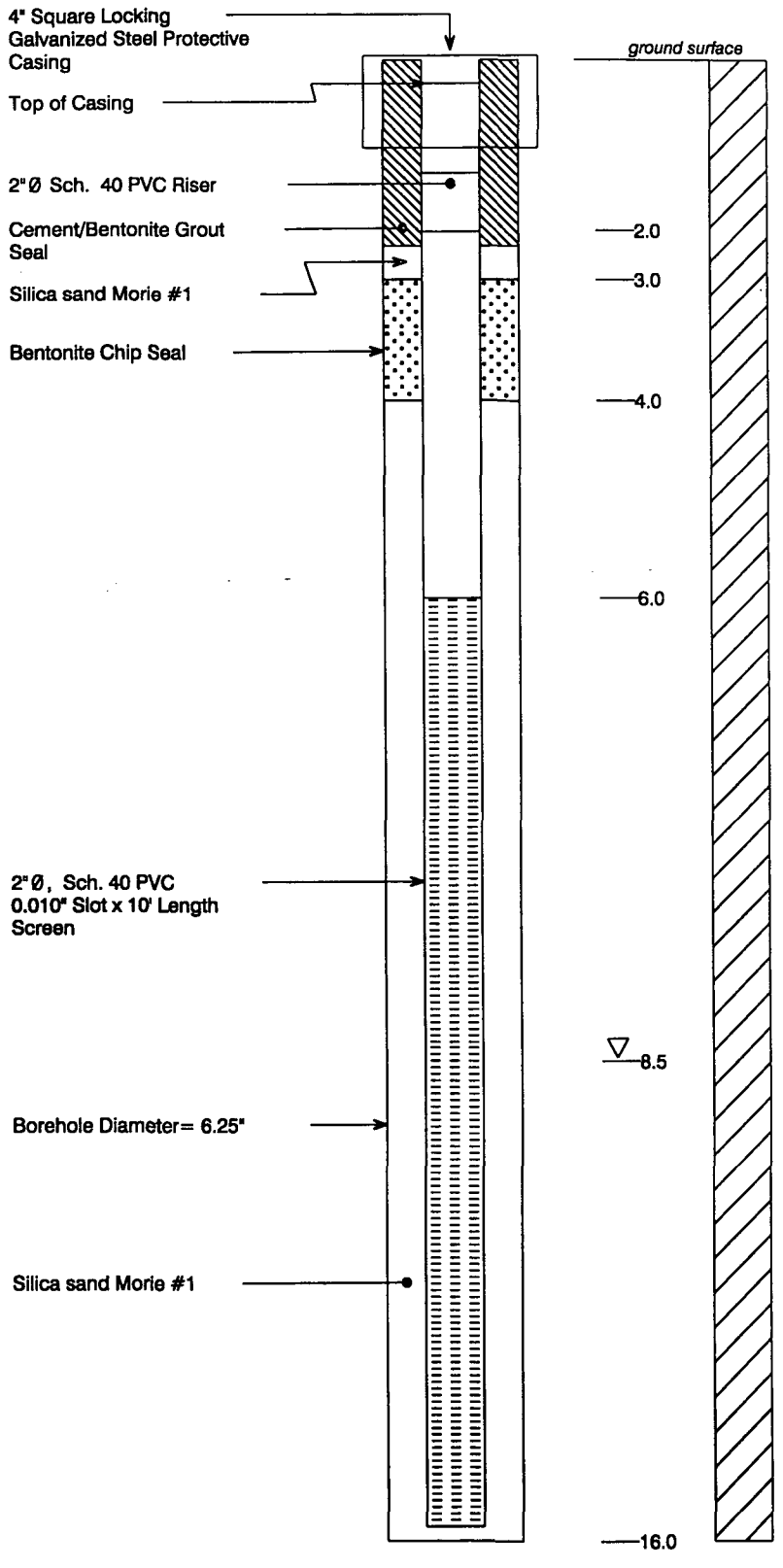
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
25 gal

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *8.5 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 93.03 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



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93-16

GEOLOGIC DRILL LOG

PROJECT	PROJECT NUMBER	SHEET NO.	HOLE NUMBER
Pactiv	32324-182-152	1 of 1	MP-1

SITE	COORDINATES	LOGGED BY	CHECKED BY
Macedon, NY	N 824.52 / E 3009.51	J. Christy	D. Porterfield

BEGUN	COMPLETED	DRILLER	DRILLING EQUIPMENT	BORING DIA.	TOTAL DEPTH
10/22/99	10/22/99	Marcor Environmental	CME 85, 4-1/4" HS Augers	6-1/4"	14.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	CASING STICKUP	GROUND ELEV.	DEPTH/ ELEV. GROUND WATER	DEPTH/ ELEV. TOP OF ROCK
	--	7	--	98 Plant, Est.	▽ 7 / --	-- / --

SAMPLE TYPE	CASING DIA/LENGTH	NOTES	
2" x 2' Standard Split Spoon	2" / --	Units = Feet	HNu bkg=0.0ppm

SAMPLE NUMBER	LENGTH/RECOV. (inches)	BLOWS PER 6"	HNu (ppm)	SAMPLE DEPTH	DESCRIPTION AND CLASSIFICATION density, grain size/shape, color, structure composition, sorting, texture, moisture facies, odor	DRILLING NOTES water levels, water return, character of drilling, etc.
1	24/12	2,5,9,6	BKG	(0-2')	SAMPLED THROUGH GRASS SURFACE - DRY BROWN FINE SAND, TRACE ROOTS AND ORGANICS (loose)	
2	24/12	6,6,8,6	BKG	(2-4')	AS ABOVE WITH SOME ANGULAR GRAVEL AND PIECES OF COAL	SOIL SAMPLE COLLECTED AT 4-5 FEET BGS FOR MERCURY ANALYSIS
3	24/24	2,6,9,10	BKG	(4-6')	AS ABOVE GRADING TO LIGHT BROWN FINE SAND, NO GRAVEL (dry to moist)	
4	24/15	7,8,7,7	BKG	(6-8')	AS ABOVE GRADING TO MEDIUM BROWN SAND AND LOOSE COARSE SAND WITH SOME ANGULAR GRAVEL (WET AT 7' BGS) ▽	
5	24/12	5,2,3,4	BKG	(8-10')	AS ABOVE GRADING TO WET MEDIUM AND COARSE BROWN SAND (loose)	
6	24/18	3,7,9,11	BKG	(10-12')	AS ABOVE (NO GRAVEL)	
7	24/12	15,19,50	BKG	(12-14')	AS ABOVE	
					TERMINATED BORING AT 14 FEET BELOW GRADE	

DEPTH: 5, 10, 15, 20, 25, 30

GRAPHIC LOG

98' - 14' / 84' BR?

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Pactiv	32324-182-152	MP-1

SITE	GROUND SURFACE ELEVATION	CASING STICKUP
Macedon, New York	98 Plant ☐ Surveyed ☒ Estimated	Flush-mount

Soil Boring Cross-Reference: *MP-1*
Town and City: *Macdeon*
County and State: *Wayne, NY*

Installation Date(s): *10/22/99 - 10/22/99*

Drilling Method: *CME 85, 6-1/4" HS Augers*
Drilling Contractor: *Marcor Environmental*
Drilling Fluid: *None*

Development Technique(s) / Dates
NA

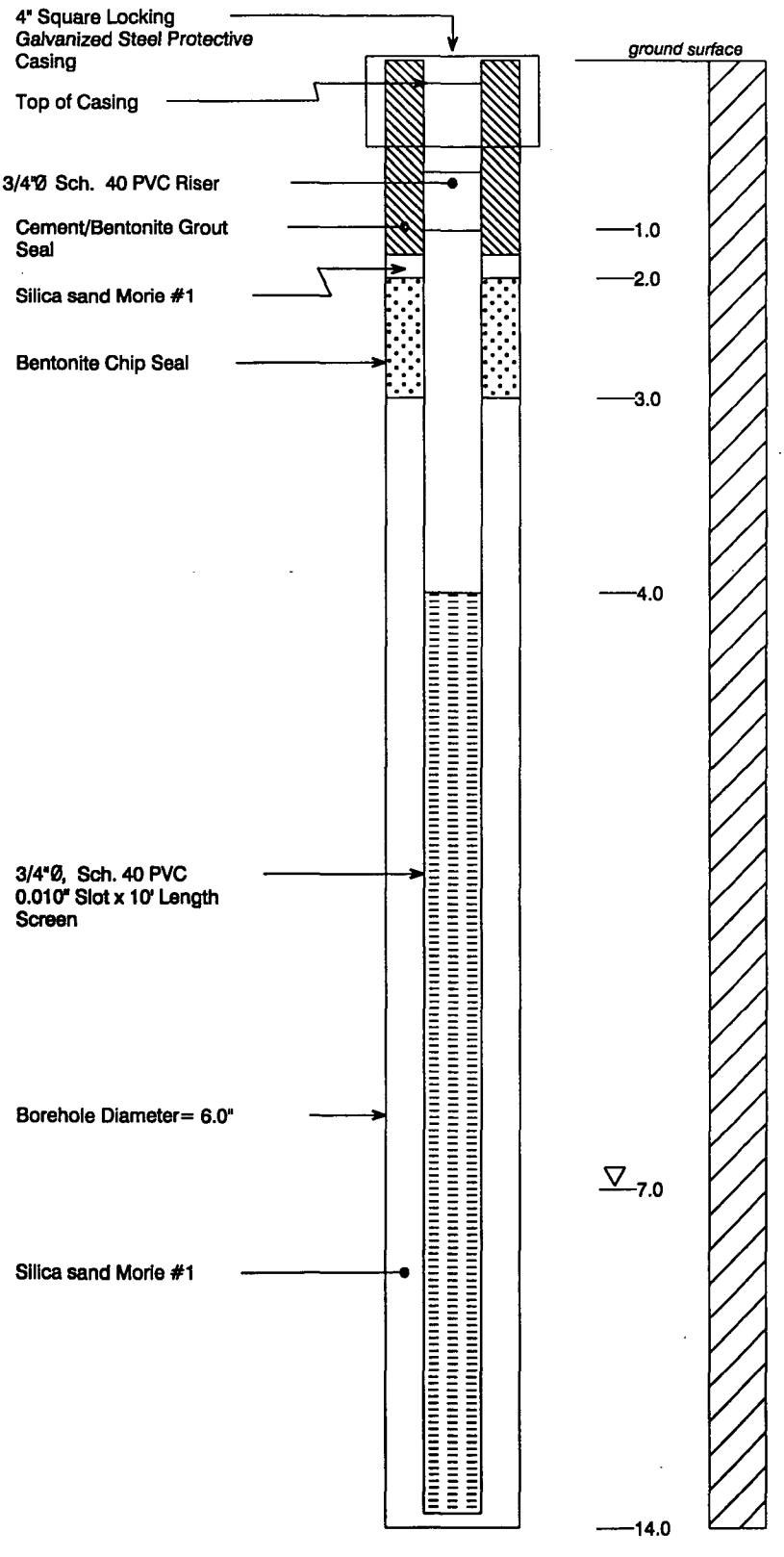
Fluid Loss During Drilling (gals): *NA*
Water Removed During Development (gals)
NA

Static Depth to Water Date: *11/1/99*
Static Depth to Water (feet): *7.0 TOC*

Well Purpose: *Groundwater monitoring*

Remarks: *Not to Scale*
Measuring point elevation: 97.74 ft

Prepared By: *J. Christy*
Date Prepared: *11/15/99*



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APPENDIX B

APPENDIX B

LABORATORY ANALYTICAL REPORTS

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

November 19, 1999

Mr. Don Porterfield
Dames & Moore
6 Century Hill Drive
Latham, NY 12110

PROJECT:TENNECO MACEDON, NY
Submission #:9911000030

Dear Mr. Porterfield

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032	NH ID # in Rochester:	294198-A
OH EPA # in Rochester:	VAP	AIHA # in Rochester:	7889

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	71	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	81	%

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-2

Date Sampled :11/01/99 **Order #:**337868 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.204	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0420	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00578	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-2 filtered

Date Sampled :11/01/99 **Order #:**337874 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.0795	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-3

Date Sampled :11/01/99 **Order #:**337869 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.147	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0173	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-3 filtered

Date Sampled :11/01/99 **Order #:**337875 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.103	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-1

Date Sampled :11/02/99 Order #:337872 Sample Matrix:WATER
Date Received:11/02/99 Submission #:9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.139	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0254	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00666	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-1 filtered

Date Sampled :11/02/99 Order #:337878 Sample Matrix:WATER
Date Received:11/02/99 Submission #:9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.0612	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	84	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	84	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	1400	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	62	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338689 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	91	%

OLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

AS Submission #: 9911000030
Client: Dames & Moore
TENNECO MACEDON, NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
SENIC	0.0100 U	0.0341	0.0400	85	80 - 120	45087	MG/L
RIUM	0.0200 U	2.06	2.00	103	80 - 120	45087	MG/L
DMIUM	0.00500 U	0.0515	0.0500	103	80 - 120	45087	MG/L
ROMIUM	0.0100 U	0.209	0.200	104	80 - 120	45087	MG/L
AD	0.0500 U	0.500	0.500	100	80 - 120	45087	MG/L
LENIUM	0.00500 U	0.937	1.01	93	80 - 120	45087	MG/L
LVER	0.0100 U	0.0505	0.0500	101	80 - 120	45087	MG/L
RCURY	0.000300 U	0.00108	0.00100	108	80 - 120	45107	MG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 343086 ANALYTICAL RUN # : 45262

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/11/99			
ANALYTICAL DILUTION: 1.0			
ACETONE	20	57	21 - 165
BENZENE	20	101	37 - 151
BROMODICHLOROMETHANE	20	102	35 - 155
BROMOFORM	20	103	45 - 169
BROMOMETHANE	20	57	10 - 242
2-BUTANONE (MEK)	20	111	25 - 162
SEC-BUTYLBENZENE	20	102	50 - 150
N-BUTYLBENZENE	20	107	50 - 150
TERT-BUTYLBENZENE	20	104	50 - 150
CARBON DISULFIDE	20	191	45 - 148
CARBON TETRACHLORIDE	20	111	70 - 140
CHLOROBENZENE	20	104	37 - 160
CHLOROETHANE	20	109	53 - 149
CHLOROFORM	20	105	51 - 138
CHLOROMETHANE	20	74	10 - 273
DIBROMOCHLOROMETHANE	20	104	53 - 149
1,1-DICHLOROETHANE	20	101	59 - 155
1,2-DICHLOROETHANE	20	101	49 - 155
1,1-DICHLOROETHENE	20	101	10 - 234
CIS-1,2-DICHLOROETHENE	20	104	54 - 156
TRANS-1,2-DICHLOROETHENE	20	106	54 - 156
1,2-DICHLOROPROPANE	20	96	10 - 210
CIS-1,3-DICHLOROPROPENE	20	105	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	99	17 - 183
METHYL-TERT-BUTYL-ETHER	20	121	50 - 150
ETHYLBENZENE	20	104	37 - 162
2-HEXANONE	20	106	22 - 155
ISOPROPYL BENZENE	20	111	50 - 150
P-ISOPROPYLTOLUENE	20	105	50 - 150
METHYLENE CHLORIDE	20	97	10 - 221
NAPHTHALENE	20	108	50 - 150
4-METHYL-2-PENTANONE (MIBK)	20	81	46 - 157
N-PROPYLBENZENE	20	97	50 - 150
STYRENE	20	104	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	94	46 - 157
TETRACHLOROETHENE	20	112	64 - 148
TOLUENE	20	104	47 - 150
1,1,1-TRICHLOROETHANE	20	106	52 - 162
1,1,2-TRICHLOROETHANE	20	95	52 - 150
TRICHLOROETHENE	20	99	71 - 157
1,3,5-TRIMETHYLBENZENE	20	101	50 - 150

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 343086 ANALYTICAL RUN # : 45262

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/11/99			
ANALYTICAL DILUTION: 1.0			
1,2,4-TRIMETHYLBENZENE	20	102	50 - 150
VINYL CHLORIDE	20	84	10 - 251
O-XYLENE	20	105	71 - 135
M+P-XYLENE	40	107	71 - 135

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 337861

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 44676

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
ACENAPHTHENE	100	0	65.0	65	31 - 137
2-CHLOROPHENOL	200	0	110	55	25 - 102
1,4-DICHLOROBENZENE	100	0	61.0	61	28 - 104
2,4-DINITROTOLUENE	100	0	65.0	65	28 - 89
4-CHLORO-3-METHYLPHENO	200	0	120	60	26 - 103
4-NITROPHENOL	200	0	52.0	26	11 - 114
PENTACHLOROPHENOL	200	0	110	55	17 - 109
PHENOL	200	0	56.0	28	26 - 90
N-NITROSO-DI-N-PROPYLA	100	0	62.0	62	41 - 126
PYRENE	100	0	65.0	65	35 - 142
1,2,4-TRICHLOROBENZENE	100	0	68.0	68	38 - 107

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8015B GRO

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 340745 ANALYTICAL RUN # : 44952

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.0			
GASOLINE RANGE ORGANICS	500	92	59 - 127

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 337861

Client ID:

Test: 8100 DIESEL RANGE ORGANICS

Analytical Units: UG/L

Run Number : 44674

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
FUEL OIL #2	5000	0	3400	68	61 - 141

Columbia Analytical Services, Inc.
An Employee-Owned Company

Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 11/1/99 PAGE 1 OF 1

PROJECT NAME Tenneco - Maredon 274
PROJECT MANAGER/CONTACT Don Vorhaus / Jen Christy
COMPANY/ADDRESS Barnes + Moore
3065 Southwestern Blvd Orchard Park NY
TEL (716) 675-7130 FAX (716) 675-7136
SAMPLER'S SIGNATURE Jennifer A Christy

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.		SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	VOC 8260	SVOC 8270	GRO 8015	DRO	RCRA Metals (unfiltered)	RCRA Metals (field filtered)	PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other
MMW-2	11/1/99	337	68	74	Water	9											3	1	2	1	1	1			
MMW-3	"		69	75	"	9											3	1	2	1	1	1			
MMW-4	"		70	76	"	9											3	1	2	1	1	1			
MMW-5	"		71	77	"	9											3	1	2	1	1	1			
~~MMW-6~~ SAC	"				"	~~9~~											~~3~~	~~1~~	~~2~~	~~1~~	~~1~~	~~1~~			
TRIP Blank	"		73		"												3								
MMW-1	11/2/99		72	78	Water	9											3	1	2	1	1	1			

RELINQUISHED BY:
Signature: Jennifer A. Christy
Printed Name: Jennifer A. Christy
Firm: Barnes + Moore
Date/Time:

RECEIVED BY:
Signature:
Printed Name: Brian Cutler
Firm: STL
Date/Time: 11/2/99 1500

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 0.0
Submission No: 99-11-30

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List
Metals (filtered + unfiltered) preserved w/ HNO3
VOC / GRO → HCL
DRO is w/ benzo pyridine

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-3

Date Sampled : 11/01/99 **Order #:** 337869 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	3300	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	83	%

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-4

Date Sampled :11/01/99 **Order #:**337870 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.193	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-4 filtered

Date Sampled :11/01/99 **Order #:**337876 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.139	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	880	UG/L
SURROGATE RECOVERIES QC LIMITS			
CHLOROFLUOROBENZENE (FID) (60 - 128 %)		78	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	2200	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	75	%

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-5

Date Sampled :11/01/99 **Order #:**337871 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.153	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0176	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00620	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-5 filtered

Date Sampled :11/01/99 **Order #:**337877 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.0918	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00564	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	83	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	84	%

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-1

Date Sampled :11/02/99 **Order #:**337872 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.139	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0254	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00666	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

Reported: 11/19/99

Dames & Moore
Project Reference:TENNECO MACEDON, NY
Client Sample ID :MMW-1 filtered

Date Sampled :11/02/99 **Order #:**337878 **Sample Matrix:**WATER
Date Received:11/02/99 **Submission #:**9911000030

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ARSENIC	0.0100	0.0100 U	MG/L	11/12/99	1.00
BARIUM	0.0200	0.0612	MG/L	11/12/99	1.00
CADMIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
CHROMIUM	0.0100	0.0100 U	MG/L	11/12/99	1.00
LEAD	0.0500	0.0500 U	MG/L	11/12/99	1.00
MERCURY	0.000300	0.000300 U	MG/L	11/16/99	1.00
SELENIUM	0.00500	0.00500 U	MG/L	11/12/99	1.00
SILVER	0.0100	0.0100 U	MG/L	11/12/99	1.00

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44952

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99				
ANALYTICAL DILUTION: 1.00				
GASOLINE RANGE ORGANICS		50	50 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)		84	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	1400	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	62	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 343085 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 45262

DATE ANALYZED : 11/11/99
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 343085 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/11/99			
ANALYTICAL DILUTION: 1.00			
SURROGATE RECOVERIES	**QC LIMITS**		
4-BROMOFLUOROBENZENE	(86 - 115 %)	98	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338708 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338708 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	73	%
NITROBENZENE-d5	(35 - 114 %)	79	%
PHENOL-d6	(10 - 94 %)	31	%
2-FLUOROBIPHENYL	(43 - 116 %)	76	%
2-FLUOROPHENOL	(21 - 110 %)	45	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	74	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338708 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338708 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	73	%
NITROBENZENE-d5	(35 - 114 %)	79	%
PHENOL-d6	(10 - 94 %)	31	%
2-FLUOROBIPHENYL	(43 - 116 %)	76	%
2-FLUOROPHENOL	(21 - 110 %)	45	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	74	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 340744 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	82	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 340744 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44952

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	82	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 11/19/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338689 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 44674

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/02/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	91	%

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9911000030
Client: Dames & Moore
TENNECO MACEDON, NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
RSENIC	0.0100 U	0.0341	0.0400	85	80 - 120	45087	MG/L
ARIUM	0.0200 U	2.06	2.00	103	80 - 120	45087	MG/L
ADMIUM	0.00500 U	0.0515	0.0500	103	80 - 120	45087	MG/L
HROMIUM	0.0100 U	0.209	0.200	104	80 - 120	45087	MG/L
EAD	0.0500 U	0.500	0.500	100	80 - 120	45087	MG/L
ELENIUM	0.00500 U	0.937	1.01	93	80 - 120	45087	MG/L
ILVER	0.0100 U	0.0505	0.0500	101	80 - 120	45087	MG/L
ERCURY	0.000300 U	0.00108	0.00100	108	80 - 120	45107	MG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 343086 ANALYTICAL RUN # : 45262

DATE ANALYZED : 11/11/99
ANALYTICAL DILUTION: 1.0

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
ACETONE	20	57	21 - 165
BENZENE	20	101	37 - 151
BROMODICHLOROMETHANE	20	102	35 - 155
BROMOFORM	20	103	45 - 169
BROMOMETHANE	20	57	10 - 242
2-BUTANONE (MEK)	20	111	25 - 162
SEC-BUTYLBENZENE	20	102	50 - 150
N-BUTYLBENZENE	20	107	50 - 150
TERT-BUTYLBENZENE	20	104	50 - 150
CARBON DISULFIDE	20	191	45 - 148
CARBON TETRACHLORIDE	20	111	70 - 140
CHLOROBENZENE	20	104	37 - 160
CHLOROETHANE	20	109	53 - 149
CHLOROFORM	20	105	51 - 138
CHLOROMETHANE	20	74	10 - 273
DIBROMOCHLOROMETHANE	20	104	53 - 149
1,1-DICHLOROETHANE	20	101	59 - 155
1,2-DICHLOROETHANE	20	101	49 - 155
1,1-DICHLOROETHENE	20	101	10 - 234
CIS-1,2-DICHLOROETHENE	20	104	54 - 156
TRANS-1,2-DICHLOROETHENE	20	106	54 - 156
1,2-DICHLOROPROPANE	20	96	10 - 210
CIS-1,3-DICHLOROPROPENE	20	105	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	99	17 - 183
METHYL-TERT-BUTYL-ETHER	20	121	50 - 150
ETHYLBENZENE	20	104	37 - 162
2-HEXANONE	20	106	22 - 155
ISOPROPYL BENZENE	20	111	50 - 150
P-ISOPROPYLTOLUENE	20	105	50 - 150
METHYLENE CHLORIDE	20	97	10 - 221
NAPHTHALENE	20	108	50 - 150
4-METHYL-2-PENTANONE (MIBK)	20	81	46 - 157
N-PROPYLBENZENE	20	97	50 - 150
STYRENE	20	104	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	94	46 - 157
TETRACHLOROETHENE	20	112	64 - 148
TOLUENE	20	104	47 - 150
1,1,1-TRICHLOROETHANE	20	106	52 - 162
1,1,2-TRICHLOROETHANE	20	95	52 - 150
TRICHLOROETHENE	20	99	71 - 157
1,3,5-TRIMETHYLBENZENE	20	101	50 - 150

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 343086 ANALYTICAL RUN # : 45262

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/11/99			
ANALYTICAL DILUTION: 1.0			
1,2,4-TRIMETHYLBENZENE	20	102	50 - 150
VINYL CHLORIDE	20	84	10 - 251
O-XYLENE	20	105	71 - 135
M+P-XYLENE	40	107	71 - 135

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 337861

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 44676

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
ACENAPHTHENE	100	0	65.0	65	31 - 137
2-CHLOROPHENOL	200	0	110	55	25 - 102
1,4-DICHLOROBENZENE	100	0	61.0	61	28 - 104
2,4-DINITROTOLUENE	100	0	65.0	65	28 - 89
4-CHLORO-3-METHYLPHENO	200	0	120	60	26 - 103
4-NITROPHENOL	200	0	52.0	26	11 - 114
PENTACHLOROPHENOL	200	0	110	55	17 - 109
PHENOL	200	0	56.0	28	26 - 90
N-NITROSO-DI-N-PROPYLA	100	0	62.0	62	41 - 126
PYRENE	100	0	65.0	65	35 - 142
1,2,4-TRICHLOROBENZENE	100	0	68.0	68	38 - 107

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8015B GRO

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 340745 ANALYTICAL RUN # : 44952

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/10/99			
ANALYTICAL DILUTION: 1.0			
GASOLINE RANGE ORGANICS	500	92	59 - 127

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 337861

Client ID:

Test: 8100 DIESEL RANGE ORGANICS

Analytical Units: UG/L

Run Number : 44674

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
FUEL OIL #2	5000	0	3400	68	61 - 141

Columbia Analytical Services, Inc.
An Employee-Owned Company
Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 11/1/99 PAGE 1 OF 1

PROJECT NAME Tenneco - Macedon NY
PROJECT MANAGER/CONTACT Don Vorhaus / Jen Christy
COMPANY/ADDRESS Parsons + Moore
3065 Southwestern Blvd Orchard Park NY
TEL (716) 675-7130 FAX (716) 675-7136
SAMPLER'S SIGNATURE Jennifer A Christy

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.		SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	VOC 8260	SVOC 8270	GRO 8015	DRO	RCRA Metals (unfiltered)	RCRA Metals (field filtered)	PRESERVATION pH < 2.0	pH > 12	Other
MMW-2	11/1/99	33	7868	74	Water	9											3	1	2	1	1	1			
MMW-3	"		69	75	"	9											3	1	2	1	1	1			
MMW-4	"		70	76	"	9											3	1	2	1	1	1			
MMW-5	"		71	77	"	9											3	1	2	1	1	1			
~~XXXXXX~~ SAC	"				"	~~9~~											~~3~~	~~1~~	~~2~~	~~1~~	~~1~~	~~1~~			
TRIP Blank	"		73		"												3								
MMW-1	11/2/99		72	78	Water	9											3	1	2	1	1	1			

RELINQUISHED BY:
Signature: Jennifer A. Christy
Printed Name: Jennifer A. Christy
Firm: Parsons + Moore
Date/Time:

RECEIVED BY:
Signature:
Printed Name: Brian Cuffe
Firm: STL
Date/Time: 11/2/99 1500

RELINQUISHED BY:
Signature / Printed Name / Firm / Date/Time

RECEIVED BY:
Signature / Printed Name / Firm / Date/Time

RELINQUISHED BY:
Signature / Printed Name / Firm / Date/Time

RECEIVED BY:
Signature / Printed Name / Firm / Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 0.0
Submission No: 99-11-30

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List
Metals (filtered + unfiltered) preserved w/ HNO3
VOC / GRO → HCl
DRO → w/ Sampson pres

Columbia Analytical Services inc.

DEC 0 6 1999

A FULL SERVICE ENVIRONMENTAL LABORATORY

December 1, 1999

Mr. Don Porterfield
Dames & Moore
6 Century Hill Drive
Latham, NY 12110

PROJECT:TENNECO MACEDON, NY
Submission #:9910000296

Dear Mr. Porterfield

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

Tel:(716)288-5380 • Fax:(716)288-8475

CASE NARRATIVE

COMPANY: Dames+Moore
Tenneco Macedon, NY
SUBMISSION #: 9910000296

Dames+Moore soil samples were collected on 10/20-25/99 and received at CAS on 10/22-26/99 in good condition.

VOLATILE ORGANICS

Soil samples were analyzed for the Target Compound List (TCL) plus Aromatic Volatile Organics by EPA Method 8260B from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits.

All Internal standard areas were within QC limits.

All samples were analyzed within the required holding times except for MSB-1 and MSB-2. Due to a laboratory error these two samples were analyzed outside the required hold time.

No analytical or QC problems were encountered with these analyses.

Petroleum Hydrocarbons

Soil samples were analyzed for Gas Range Organics (GRO) and Diesel Range Organics (DRO) EPA Methods 8015B and 8100M from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits.

All samples were analyzed within the required holding times.

No analytical or QC problems were encountered with these analyses.

SEMIVOLATILE ORGANICS

Soil samples were analyzed for the Target Compound List (TCL) of Semivolatile Organics by EPA Method 8270C from SW-846.

Sample PHO-IBS-030 was analyzed for site specific QC. All matrix spike recoveries and RPD were within QC limits except for the recovery of Pentachlorophenol in the MS.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits.

All Internal standard areas were within QC limits.

All samples were analyzed within the required holding times.

No analytical or QC problems were encountered with these analyses.

INORGANIC ANALYSIS

Soil samples were analyzed for RCRA metals by Method 6010B and 7471A from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

No analytical or QC problems were encountered with these analyses.

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	**10145**	**NJ ID # in Rochester:**	**73004**
CT ID # in Rochester:	**PH0556**	**RI ID # in Rochester:**	**158**
MA ID # in Rochester:	**M-NY032**	**NH ID # in Rochester:**	**294198-A**
OH EPA # in Rochester:	**VAP**	**AIHA # in Rochester:**	**7889**

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:**9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	2.50	2.87 U	MG/KG	11/05/99	1.0
BARIUM	2.00	9.47	MG/KG	11/05/99	1.0
CADMIUM	0.500	0.574 U	MG/KG	11/05/99	1.0
CHROMIUM	1.00	2.90	MG/KG	11/05/99	1.0
LEAD	5.00	6.37	MG/KG	11/05/99	1.0
MERCURY	0.0500	0.0574 U	MG/KG	11/05/99	1.0
SELENIUM	0.500	2.59	MG/KG	11/05/99	1.0
SILVER	1.00	1.15 U	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	87.1	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/27/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 2.00			Dry Weight
FUEL OIL #2	2000	4600 U	UG/KG
FUEL OIL #4	2000	4600 U	UG/KG
FUEL OIL #6	2000	4600 U	UG/KG
KEROSENE	2000	4600 U	UG/KG
DIESEL RANGE ORGANICS	4000	3400000	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	92	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
GASOLINE RANGE ORGANICS	50	61000	UG/KG
SURROGATE RECOVERIES	**QC LIMITS**		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	101	%

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 Order #: 334529 Sample Matrix: SOIL/SEDIMENT
Date Received: 10/22/99 Submission #:9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	2.50	3.37	MG/KG	11/05/99	1.0
BARIUM	2.00	10.6	MG/KG	11/05/99	1.0
CADMIUM	0.500	0.594 U	MG/KG	11/05/99	1.0
CHROMIUM	1.00	7.71	MG/KG	11/05/99	1.0
LEAD	5.00	14.0	MG/KG	11/05/99	1.0
MERCURY	0.0500	0.0594 U	MG/KG	11/05/99	1.0
SELENIUM	0.500	1.91	MG/KG	11/05/99	1.0
SILVER	1.00	1.19 U	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	84.2	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/27/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 1.00			Dry Weight
FUEL OIL #2	2000	2400 U	UG/KG
FUEL OIL #4	2000	2400 U	UG/KG
FUEL OIL #6	2000	2400 U	UG/KG
KEROSENE	2000	2400 U	UG/KG
DIESEL RANGE ORGANICS	4000	4800 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	101	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
GASOLINE RANGE ORGANICS	50	7400 U	UG/KG
SURROGATE RECOVERIES	**QC LIMITS**		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	98	%

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 Order #: 334530 Sample Matrix: SOIL/SEDIMENT
Date Received: 10/22/99 Submission #: 9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	2.50	2.95 U	MG/KG	11/05/99	1.0
BARIUM	2.00	13.0	MG/KG	11/05/99	1.0
CADMIUM	0.500	0.590 U	MG/KG	11/05/99	1.0
CHROMIUM	1.00	4.03	MG/KG	11/05/99	1.0
LEAD	5.00	5.90 U	MG/KG	11/05/99	1.0
MERCURY	0.0500	0.0590 U	MG/KG	11/05/99	1.0
SELENIUM	0.500	2.05	MG/KG	11/05/99	1.0
SILVER	1.00	1.18 U	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	84.8	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/27/99			
DATE ANALYZED : 11/03/99			
ANALYTICAL DILUTION: 10.00			Dry Weight
FUEL OIL #2	2000	2100000	UG/KG
FUEL OIL #4	2000	24000 U	UG/KG
FUEL OIL #6	2000	24000 U	UG/KG
KEROSENE	2000	24000 U	UG/KG
DIESEL RANGE ORGANICS	4000	47000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	117	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/03/99			
ANALYTICAL DILUTION: 2500.00			Dry Weight
GASOLINE RANGE ORGANICS	50	4000000	UG/KG
SURROGATE RECOVERIES	**QC LIMITS**		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	98	%

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-6(4')

Date Sampled : 10/22/99 Order #: 334531 Sample Matrix: SOIL/SEDIMENT
Date Received: 10/22/99 Submission #:9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
MERCURY	0.0500	0.0963	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	70.6	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-7(4')

Date Sampled : 10/22/99 **Order #:** 334532 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:**9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
MERCURY	0.0500	0.0816	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	80.0	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MP-1(4-5')

Date Sampled : 10/22/99 **Order #:** 334533 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:**9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
MERCURY	0.0500	0.0613 U	MG/KG	11/05/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	81.5	%	11/01/99	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:**9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	1.00	1.75	MG/KG	11/12/99	1.0
BARIUM	2.00	18.8	MG/KG	11/12/99	1.0
CADMIUM	0.500	0.601 U	MG/KG	11/12/99	1.0
CHROMIUM	1.00	8.39	MG/KG	11/12/99	1.0
LEAD	5.00	6.96	MG/KG	11/12/99	1.0
MERCURY	0.0500	0.0601 U	MG/KG	11/05/99	1.0
SELENIUM	0.500	1.19	MG/KG	11/17/99	1.0
SILVER	1.00	1.20 U	MG/KG	11/12/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	83.2	%	11/04/99	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 2.00			Dry Weight
FUEL OIL #2	2000	4800 U	UG/KG
FUEL OIL #4	2000	4800 U	UG/KG
FUEL OIL #6	2000	4800 U	UG/KG
KEROSENE	2000	4800 U	UG/KG
DIESEL RANGE ORGANICS	4000	2600000	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	85	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/03/99			
ANALYTICAL DILUTION: 625.00			Dry Weight
GASOLINE RANGE ORGANICS	50	1400000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	109	%

COLUMBIA ANALYTICAL SERVICES

Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 Order #: 336473 Sample Matrix: SOIL/SEDIMENT
Date Received: 10/28/99 Submission #:9910000296

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	1.00	1.21 U	MG/KG	11/12/99	1.0
BARIUM	2.00	34.9	MG/KG	11/12/99	1.0
CADMIUM	0.500	0.605 U	MG/KG	11/12/99	1.0
CHROMIUM	1.00	9.19	MG/KG	11/12/99	1.0
LEAD	5.00	9.60	MG/KG	11/12/99	1.0
MERCURY	0.0500	0.0605 U	MG/KG	11/05/99	1.0
SELENIUM	0.500	1.35	MG/KG	11/17/99	1.0
SILVER	1.00	1.21 U	MG/KG	11/12/99	1.0
WET CHEMISTRY					
PERCENT SOLIDS	1.0	82.7	%	11/04/99	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 2.00			Dry Weight
FUEL OIL #2	2000	4800 U	UG/KG
FUEL OIL #4	2000	4800 U	UG/KG
FUEL OIL #6	2000	4800 U	UG/KG
KEROSENE	2000	4800 U	UG/KG
DIESEL RANGE ORGANICS	4000	3300000	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	93	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/03/99			
ANALYTICAL DILUTION: 250.00			Dry Weight
GASOLINE RANGE ORGANICS	50	480000	UG/KG
SURROGATE RECOVERIES	**QC LIMITS**		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	98	%

LUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

AS Submission #: 9910000296
Client: Dames & Moore
TENNECO MACEDON, NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
RCURY	0.0500 U	1.24	1.29	96	68 - 132	44736	MG/KG
SENIC	2.50 U	53.1	58.6	91	74 - 126	44794	MG/KG
RIUM	2.00 U	70.0	73.6	95	77 - 123	44794	MG/KG
DMIUM	0.500 U	175	185	94	77 - 123	44794	MG/KG
ROMIUM	1.00 U	45.2	50.7	89	77 - 126	44794	MG/KG
AD	5.00 U	52.9	56.6	93	76 - 124	44794	MG/KG
LENIUM	0.500 U	56.2	61.4	92	74 - 126	44794	MG/KG
LVER	1.00 U	154	149	104	74 - 126	44794	MG/KG
SENIC	1.00 U	53.0	58.6	91	74 - 126	45092	MG/KG
RIUM	2.00 U	73.6	73.6	100	77 - 123	45092	MG/KG

OLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

AS Submission #: 9910000296
Client: Dames & Moore
TENNECO MACEDON, NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
DMIUM	0.500 U	185	185	100	77 - 123	45092	MG/KG
ROMIUM	1.00 U	48.4	50.7	95	77 - 126	45092	MG/KG
AD	5.00 U	56.6	56.6	100	76 - 124	45092	MG/KG
LVER	1.00 U	160	149	107	74 - 126	45092	MG/KG
LENIUM	0.500 U	55.4	61.4	90	74 - 126	45223	MG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 344337 ANALYTICAL RUN # : 45444

DATE ANALYZED : 10/29/99
ANALYTICAL DILUTION: 1.0

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
ACETONE	20	41	21 - 165
BENZENE	20	78	37 - 151
BROMODICHLOROMETHANE	20	97	35 - 155
BROMOFORM	20	100	45 - 169
BROMOMETHANE	20	60	10 - 242
2-BUTANONE (MEK)	20	61	25 - 162
SEC-BUTYLBENZENE	20	88	50 - 150
N-BUTYLBENZENE	20	87	50 - 150
TERT-BUTYLBENZENE	20	97	50 - 150
CARBON DISULFIDE	20	62	45 - 148
CARBON TETRACHLORIDE	20	123	70 - 140
CHLOROBENZENE	20	100	37 - 160
CHLOROETHANE	20	83	53 - 149
CHLOROFORM	20	85	51 - 138
CHLOROMETHANE	20	46	10 - 273
DIBROMOCHLOROMETHANE	20	114	53 - 149
1,1-DICHLOROETHANE	20	67	59 - 155
1,2-DICHLOROETHANE	20	94	49 - 155
1,1-DICHLOROETHENE	20	77	10 - 234
CIS-1,2-DICHLOROETHENE	20	78	54 - 156
TRANS-1,2-DICHLOROETHENE	20	80	54 - 156
1,2-DICHLOROPROPANE	20	65	10 - 210
CIS-1,3-DICHLOROPROPENE	20	84	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	92	17 - 183
METHYL-TERT-BUTYL-ETHER	20	99	50 - 150
ETHYLBENZENE	20	97	37 - 162
2-HEXANONE	20	59	22 - 155
ISOPROPYL BENZENE	20	99	50 - 150
P-ISOPROPYLTOLUENE	20	98	50 - 150
METHYLENE CHLORIDE	20	70	10 - 221
NAPHTHALENE	20	87	50 - 150
4-METHYL-2-PENTANONE (MIBK)	20	62	46 - 157
N-PROPYLBENZENE	20	91	50 - 150
STYRENE	20	93	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	79	46 - 157
TETRACHLOROETHENE	20	116	64 - 148
TOLUENE	20	92	47 - 150
1,1,1-TRICHLOROETHANE	20	101	52 - 162
1,1,2-TRICHLOROETHANE	20	83	52 - 150
TRICHLOROETHENE	20	92	71 - 157
1,3,5-TRIMETHYLBENZENE	20	97	50 - 150

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 344337 ANALYTICAL RUN # : 45444

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 1.0			
1,2,4-TRIMETHYLBENZENE	20	98	50 - 150
VINYL CHLORIDE	20	58	10 - 251
O-XYLENE	20	93	71 - 135
M+P-XYLENE	40	95	71 - 135

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 344329 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

DATE ANALYZED : 10/29/99
ANALYTICAL DILUTION: 125.00

ANALYTE	PQL	RESULT	UNITS
			Dry Weight
ACETONE	20	2500 U	UG/KG
BENZENE	5.0	630 U	UG/KG
BROMODICHLOROMETHANE	5.0	630 U	UG/KG
BROMOFORM	5.0	630 U	UG/KG
BROMOMETHANE	5.0	630 U	UG/KG
2-BUTANONE (MEK)	10	1300 U	UG/KG
SEC-BUTYLBENZENE	5.0	630 U	UG/KG
N-BUTYLBENZENE	5.0	630 U	UG/KG
TERT-BUTYLBENZENE	5.0	630 U	UG/KG
CARBON DISULFIDE	10	1300 U	UG/KG
CARBON TETRACHLORIDE	5.0	630 U	UG/KG
CHLOROBENZENE	5.0	630 U	UG/KG
CHLOROETHANE	5.0	630 U	UG/KG
CHLOROFORM	5.0	630 U	UG/KG
CHLOROMETHANE	5.0	630 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	630 U	UG/KG
1,1-DICHLOROETHANE	5.0	630 U	UG/KG
1,2-DICHLOROETHANE	5.0	630 U	UG/KG
1,1-DICHLOROETHENE	5.0	630 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	630 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	630 U	UG/KG
1,2-DICHLOROPROPANE	5.0	630 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	630 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	630 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	630 U	UG/KG
ETHYLBENZENE	5.0	630 U	UG/KG
2-HEXANONE	10	1300 U	UG/KG
ISOPROPYL BENZENE	5.0	630 U	UG/KG
P-ISOPROPYLTOLUENE	5.0	630 U	UG/KG
METHYLENE CHLORIDE	5.0	630 U	UG/KG
NAPHTHALENE	5.0	630 U	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	1300 U	UG/KG
N-PROPYLBENZENE	5.0	630 U	UG/KG
STYRENE	5.0	630 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	630 U	UG/KG
TETRACHLOROETHENE	5.0	630 U	UG/KG
TOLUENE	5.0	630 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	630 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	630 U	UG/KG
TRICHLOROETHENE	5.0	630 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	630 U	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	630 U	UG/KG
VINYL CHLORIDE	5.0	630 U	UG/KG
O-XYLENE	5.0	630 U	UG/KG
M,P-XYLENE	5.0	630 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 344329 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 125.00			Dry Weight

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121 %)	102	%
TOLUENE-D8	(81 - 117 %)	95	%
DIBROMOFLUOROMETHANE	(80 - 120 %)	103	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 344660 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/24/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
ACETONE	20	2500 U	UG/KG
BENZENE	5.0	630 U	UG/KG
BROMODICHLOROMETHANE	5.0	630 U	UG/KG
BROMOFORM	5.0	630 U	UG/KG
BROMOMETHANE	5.0	630 U	UG/KG
2-BUTANONE (MEK)	10	1300 U	UG/KG
SEC-BUTYLBENZENE	5.0	630 U	UG/KG
N-BUTYLBENZENE	5.0	630 U	UG/KG
TERT-BUTYLBENZENE	5.0	630 U	UG/KG
CARBON DISULFIDE	10	1300 U	UG/KG
CARBON TETRACHLORIDE	5.0	630 U	UG/KG
CHLOROBENZENE	5.0	630 U	UG/KG
CHLOROETHANE	5.0	630 U	UG/KG
CHLOROFORM	5.0	630 U	UG/KG
CHLOROMETHANE	5.0	630 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	630 U	UG/KG
1,1-DICHLOROETHANE	5.0	630 U	UG/KG
1,2-DICHLOROETHANE	5.0	630 U	UG/KG
1,1-DICHLOROETHENE	5.0	630 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	630 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	630 U	UG/KG
1,2-DICHLOROPROPANE	5.0	630 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	630 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	630 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	630 U	UG/KG
ETHYLBENZENE	5.0	630 U	UG/KG
2-HEXANONE	10	1300 U	UG/KG
ISOPROPYL BENZENE	5.0	630 U	UG/KG
P-ISOPROPYLTOLUENE	5.0	630 U	UG/KG
METHYLENE CHLORIDE	5.0	630 U	UG/KG
NAPHTHALENE	5.0	630 U	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	1300 U	UG/KG
N-PROPYLBENZENE	5.0	630 U	UG/KG
STYRENE	5.0	630 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	630 U	UG/KG
TETRACHLOROETHENE	5.0	630 U	UG/KG
TOLUENE	5.0	630 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	630 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	630 U	UG/KG
TRICHLOROETHENE	5.0	630 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	630 U	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	630 U	UG/KG
VINYL CHLORIDE	5.0	630 U	UG/KG
O-XYLENE	5.0	630 U	UG/KG
M,P-XYLENE	5.0	630 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 344660 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/24/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
SURROGATE RECOVERIES	**QC LIMITS**		
4-BROMOFLUOROBENZENE	(74 - 121 %)	90	%
TOLUENE-D8	(81 - 117 %)	98	%
DIBROMOFLUOROMETHANE	(80 - 120 %)	106	%

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

SOIL/SEDIMENT

Spiked Order No. : 334528

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/KG

Run Number : 44491

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
ACENAPHTHENE	6670	0	3600	54	31 - 137
2-CHLOROPHENOL	13300	0	6400	48	25 - 102
1,4-DICHLOROBENZENE	6670	0	3400	51	28 - 104
2,4-DINITROTOLUENE	6670	0	3600	54	28 - 89
4-CHLORO-3-METHYLPHENO	13300	0	6300	47	26 - 103
4-NITROPHENOL	13300	0	5200	39	11 - 114
PENTACHLOROPHENOL	13300	0	6600	49	17 - 109
PHENOL	13300	0	6100	46	26 - 90
N-NITROSO-DI-N-PROPYLA	6670	0	3100	46	41 - 126
PYRENE	6670	0	3100	46	35 - 142
1,2,4-TRICHLOROBENZENE	6670	0	3800	57	38 - 107

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 337288 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

DATE EXTRACTED : 10/26/99
DATE ANALYZED : 11/01/99
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
			Dry Weight
ACENAPHTHENE	330	330 U	UG/KG
ACENAPHTHYLENE	330	330 U	UG/KG
ANTHRACENE	330	330 U	UG/KG
BENZO(A)ANTHRACENE	330	330 U	UG/KG
BENZO(A)PYRENE	330	330 U	UG/KG
BENZO(B)FLUORANTHENE	330	330 U	UG/KG
BENZO(G,H,I)PERYLENE	330	330 U	UG/KG
BENZO(K)FLUORANTHENE	330	330 U	UG/KG
BENZYL ALCOHOL	330	330 U	UG/KG
BUTYL BENZYL PHTHALATE	330	330 U	UG/KG
DI-N-BUTYLPHTHALATE	330	330 U	UG/KG
CARBAZOLE	330	330 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	330 U	UG/KG
4-CHLOROANILINE	330	330 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	330 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	330 U	UG/KG
2-CHLORONAPHTHALENE	330	330 U	UG/KG
2-CHLOROPHENOL	330	330 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	330 U	UG/KG
CHRYSENE	330	330 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	330 U	UG/KG
DIBENZOFURAN	330	330 U	UG/KG
1,3-DICHLOROBENZENE	330	330 U	UG/KG
1,2-DICHLOROBENZENE	330	330 U	UG/KG
1,4-DICHLOROBENZENE	330	330 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	330 U	UG/KG
2,4-DICHLOROPHENOL	330	330 U	UG/KG
DIETHYLPHTHALATE	330	330 U	UG/KG
DIMETHYL PHTHALATE	330	330 U	UG/KG
2,4-DIMETHYLPHENOL	330	330 U	UG/KG
2,4-DINITROPHENOL	1700	1700 U	UG/KG
2,4-DINITROTOLUENE	330	330 U	UG/KG
2,6-DINITROTOLUENE	330	330 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	330 U	UG/KG
FLUORANTHENE	330	330 U	UG/KG
FLUORENE	330	330 U	UG/KG
HEXACHLOROBENZENE	330	330 U	UG/KG
HEXACHLOROBUTADIENE	330	330 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	330 U	UG/KG
HEXACHLOROETHANE	330	330 U	UG/KG
ISOPHORONE	330	330 U	UG/KG
2-METHYLNAPHTHALENE	330	330 U	UG/KG
4,6-DINITRO-2-METHYLPHENOL	1700	1700 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	330 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 337288 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/01/99			
ANALYTICAL DILUTION: 1.00			Dry Weight
2-METHYLPHENOL	330	330 U	UG/KG
4-METHYLPHENOL	330	330 U	UG/KG
NAPHTHALENE	330	330 U	UG/KG
2-NITROANILINE	1700	1700 U	UG/KG
3-NITROANILINE	1700	1700 U	UG/KG
4-NITROANILINE	1700	1700 U	UG/KG
NITROBENZENE	330	330 U	UG/KG
2-NITROPHENOL	330	330 U	UG/KG
4-NITROPHENOL	1700	1700 U	UG/KG
N-NITROSODIMETHYLAMINE	330	330 U	UG/KG
N-NITROSODIPHENYLAMINE	330	330 U	UG/KG
DI-N-OCTYL PHTHALATE	330	330 U	UG/KG
PENTACHLOROPHENOL	1700	1700 U	UG/KG
PHENANTHRENE	330	330 U	UG/KG
PHENOL	330	330 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	330 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	330 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	330 U	UG/KG
PYRENE	330	330 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	330 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	330 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	330 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	44	%
NITROBENZENE-d5	(23 - 120 %)	53	%
PHENOL-d6	(24 - 113 %)	52	%
2-FLUOROBIPHENYL	(30 - 115 %)	58	%
2-FLUOROPHENOL	(25 - 121 %)	52	%
2,4,6-TRIBROMOPHENOL	(19 - 122 %)	47	%

OLUMBIA ANALYTICAL SERVICES

UALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

SOIL/SEDIMENT

Spiked Order No. : 336473

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/KG

Run Number : 44567

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
ACENAPHTHENE	6670	0	3900	58	31 - 137
2-CHLOROPHENOL	13300	0	6600	49	25 - 102
1,4-DICHLOROBENZENE	6670	0	3400	51	28 - 104
2,4-DINITROTOLUENE	6670	0	4300	64	28 - 89
4-CHLORO-3-METHYLPHENO	13300	0	6700	50	26 - 103
4-NITROPHENOL	13300	0	6900	52	11 - 114
PENTACHLOROPHENOL	13300	0	7000	52	17 - 109
PHENOL	13300	0	6200	46	26 - 90
N-NITROSO-DI-N-PROPYLA	6670	0	3500	52	41 - 126
PYRENE	6670	0	2900	43	35 - 142
1,2,4-TRICHLOROBENZENE	6670	0	3900	58	38 - 107

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 12/01/99

Project Reference:
Client Sample ID : MATRIX SPIKE

Date Sampled : 11/05/99 **Order #:** 339159 **Sample Matrix:** SOIL/SEDIMENT
Date Received: / / **Submission #:** 0 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 10.00			Dry Weight
ACENAPHTHENE	330	9400	UG/KG
ACENAPHTHYLENE	330	4000 U	UG/KG
ANTHRACENE	330	4000 U	UG/KG
BENZO(A)ANTHRACENE	330	4000 U	UG/KG
BENZO(A)PYRENE	330	4000 U	UG/KG
BENZO(B)FLUORANTHENE	330	4000 U	UG/KG
BENZO(G,H,I)PERYLENE	330	4000 U	UG/KG
BENZO(K)FLUORANTHENE	330	4000 U	UG/KG
BENZYL ALCOHOL	330	4000 U	UG/KG
BUTYL BENZYL PHTHALATE	330	4000 U	UG/KG
DI-N-BUTYLPHTHALATE	330	4000 U	UG/KG
CARBAZOLE	330	4000 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	4000 U	UG/KG
4-CHLOROANILINE	330	4000 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	4000 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	4000 U	UG/KG
2-CHLORONAPHTHALENE	330	4000 U	UG/KG
2-CHLOROPHENOL	330	12000	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	4000 U	UG/KG
CHRYSENE	330	4000 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	4000 U	UG/KG
DIBENZOFURAN	330	4000 U	UG/KG
1,3-DICHLOROBENZENE	330	4000 U	UG/KG
1,2-DICHLOROBENZENE	330	4000 U	UG/KG
1,4-DICHLOROBENZENE	330	5600	UG/KG
3,3'-DICHLOROBENZIDINE	330	4000 U	UG/KG
2,4-DICHLOROPHENOL	330	4000 U	UG/KG
DIETHYLPHTHALATE	330	4000 U	UG/KG
DIMETHYL PHTHALATE	330	4000 U	UG/KG
2,4-DIMETHYLPHENOL	330	4000 U	UG/KG
2,4-DINITROPHENOL	1700	21000 U	UG/KG
2,4-DINITROTOLUENE	330	6300	UG/KG
2,6-DINITROTOLUENE	330	4000 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	4000 U	UG/KG
FLUORANTHENE	330	4000 U	UG/KG
FLUORENE	330	4200	UG/KG
HEXACHLOROBENZENE	330	4000 U	UG/KG
HEXACHLOROBUTADIENE	330	4000 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	4000 U	UG/KG
HEXACHLOROETHANE	330	4000 U	UG/KG
ISOPHORONE	330	4000 U	UG/KG
2-METHYLNAPHTHALENE	330	29000	UG/KG
4,6-DINITRO-2-METHYLPHENOL	1700	21000 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 12/01/99

Project Reference:
Client Sample ID : MATRIX SPIKE

Date Sampled : 11/05/99 **Order #:** 339159 **Sample Matrix:** SOIL/SEDIMENT
Date Received: / / **Submission #:** 0 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 10.00			Dry Weight
4-CHLORO-3-METHYLPHENOL	330	13000	UG/KG
2-METHYLPHENOL	330	4000 U	UG/KG
4-METHYLPHENOL	330	4000 U	UG/KG
NAPHTHALENE	330	10000	UG/KG
2-NITROANILINE	1700	21000 U	UG/KG
3-NITROANILINE	1700	21000 U	UG/KG
4-NITROANILINE	1700	21000 U	UG/KG
NITROBENZENE	330	4000 U	UG/KG
2-NITROPHENOL	330	4000 U	UG/KG
4-NITROPHENOL	1700	21000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	4000 U	UG/KG
N-NITROSODIPHENYLAMINE	330	4000 U	UG/KG
DI-N-OCTYL PHTHALATE	330	4000 U	UG/KG
PENTACHLOROPHENOL	1700	21000 U	UG/KG
PHENANTHRENE	330	5700	UG/KG
PHENOL	330	11000	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	4000 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	4000 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	6000	UG/KG
PYRENE	330	7500	UG/KG
1,2,4-TRICHLOROBENZENE	330	7300	UG/KG
2,4,6-TRICHLOROPHENOL	330	4000 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	4000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	91	%
NITROBENZENE-d5	(23 - 120 %)	89	%
PHENOL-d6	(24 - 113 %)	69	%
2-FLUOROBIPHENYL	(30 - 115 %)	99	%
2-FLUOROPHENOL	(25 - 121 %)	69	%
2,4,6-TRIBROMOPHENOL	(19 - 122 %)	101	%

[redacted]

[redacted]

MBIA ANALYTICAL SERVICES

[redacted]

[redacted]

LITY CONTROL SUMMARY BLANK SPIKE RECOVERY

SOIL/SEDIMENT

[redacted]

Spiked Order No. : 334528

Client ID:

Test: 8100 DIESEL RANGE ORGANICS

Analytical Units: UG/KG

Run Number : 44328

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
FUEL OIL #2	250000	0	180000	72	84 - 106

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 336254 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/27/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 1.00			Dry Weight
FUEL OIL #2	2000	2000 U	UG/KG
FUEL OIL #4	2000	2000 U	UG/KG
FUEL OIL #6	2000	2000 U	UG/KG
KEROSENE	2000	2000 U	UG/KG
DIESEL RANGE ORGANICS	4000	4000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	100	%

[redacted]

[redacted]

COLUMBIA ANALYTICAL SERVICES

[redacted]

[redacted]

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

SOIL/SEDIMENT

[redacted]

Spiked Order No. : 336473

Client ID:

Test: 8100 DIESEL RANGE ORGANICS

Analytical Units: UG/KG

Run Number : 44486

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
FUEL OIL #2	250000	0	180000	72	84 - 106

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 337265 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 1.00			Dry Weight
FUEL OIL #2	2000	2000 U	UG/KG
FUEL OIL #4	2000	2000 U	UG/KG
FUEL OIL #6	2000	2000 U	UG/KG
KEROSENE	2000	2000 U	UG/KG
DIESEL RANGE ORGANICS	4000	4000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	97	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8015B GRO

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 337955 ANALYTICAL RUN # : 44608

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 11/2/99			
ANALYTICAL DILUTION: 1.0			
GASOLINE RANGE ORGANICS	500	108	59 - 127

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/02/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	**Order #:** 337952	**Sample Matrix:** SOIL/SEDIMEN
Date Received:	**Submission #:**	**Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
GASOLINE RANGE ORGANICS	50	6300 U	UG/KG
SURROGATE RECOVERIES	**QC LIMITS**		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	97	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 12/01/99

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 338044 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/03/99			
ANALYTICAL DILUTION: 125.00			Dry Weight
GASOLINE RANGE ORGANICS	50	6300 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 140 %)	100	%

Columbia Analytical Services, Inc.
An Employee-Owned Company

Mustard St., Suite 250, Rochester, NY 14609-6923
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY LABORATORY ANALYSIS REQUEST FORM

DATE 10/22/99 PAGE 1 OF 1

PROJECT NAME Tenneco, Macedon, NY
PROJECT MANAGER/CONTACT Don Parkerson/Jen Christy
COMPANY/ADDRESS Dames + Moore
3265 Sacandaga Rd Scotia NY 12302
TEL (716) 625-7130 FAX (716) 625-9130
SAMPLER'S SIGNATURE Jennifer A Christy

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	RCRA METALS	8015 GRO	8100M DRO (with fingerprint)		VOC 8260	SVOC (BN) 8270	Mercury	PRESERVATION pH < 2.0	pH > 12	Other
MSB-4 (4-6')	10/20/99	12:00	33928	SOIL	4											1	1	1		1	X				
MSB-5 (12-14')	10/20/99	16:00	29	SOIL	4											1	1	1		1	X				
MSB-3 (8-10')	10/21/99	17:30	30	SOIL	4											1	1	1		1	X				
MSB-6 (4')	10/22/99	11:00	31	SOIL	1																	1			
MSB-7 (4')	10/22/99	11:10	32	SOIL	1																	1			
~~MSB9C~~				—																					
MP1 (4-5')	10/22/99	11:45	33	SOIL	1																	1			

RELINQUISHED BY:
Signature: Jennifer A Christy
Printed Name: Jennifer A Christy
Firm: Dames + Moore
Date/Time: 10/22/99

RECEIVED BY:
Signature: Mark Wilson
Printed Name: Mark Wilson
Firm: CAS
Date/Time: 10/22/99 16:24

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature: Brenda Lillyman
Printed Name: Brenda Lillyman
Firm: CAS
Date/Time: 10-22-99 15:00

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: CAS
Shipping #:
Temperature: 5.5
Submission No: 10-296

SPECIAL INSTRUCTIONS/COMMENTS:
METALS - (3) extra Mercury samples not in original quote
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List
- Call Enko Fujita 518 786 3201 if there are questions regarding Analytes.
- Samples will kept on ice since sampling.

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client Dames+Moore Submission Number 10-296

Cooler received on 10-22-99 and opened on 10-22-99 by

1. Were custody seals on outside of cooler? (YES) NO
   If yes, how many and where? 1 on front
2. Were signature & date correct? (YES) NO
3. Were custody papers properly filled out (ink, signed, etc)? (YES) NO
4. Did all bottles arrive in good condition (unbroken)? (YES) NO
5. Were all bottle labels complete (*i.e.* analysis, preservation, etc)? (YES) NO
6. Did all bottle labels and tags agree with custody papers? (YES) NO
7. Were correct bottles used for the tests indicated? (YES) NO
8. Were VOA vials checked for absence of air bubbles, and noted if so? YES NO
9. Where did the bottles originate? CAS/A CAS/K CAS/S CAS/L CAS/X CAS/J CAS/R
10. Temperature of cooler(s) upon receipt: 5.5

Is the temperature within 4 ± 2° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 10-22-99 16:05

Thermometer ID: 161 **Circle One:** Temp Blank Sample Bottle (Cooler Temp.)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK
NO = Samples were preserved at lab as listed
*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

CLIENT NOTIFICATION: _____

Columbia Analytical Services, Inc.
An Employee-Owned Company

Mustard St., Suite 250, Rochester, NY [redacted]
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 10/26/99 PAGE 1 OF 1

PROJECT NAME Tennece Canandaigua NY (MSB-1 Macedon, NY (MSB-2)
PROJECT MANAGER/CONTACT Dan Porterfield / Jen Christy
COMPANY/ADDRESS Damon + Morse
3265 Southwestern Blvd Orchard Park NY 14127
TEL (716) 675-7130 FAX (716) 675-7136
SAMPLER'S SIGNATURE Jennifer A Christy

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STARS LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STARS LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	VOC 8260	GRO 8015	DRO w/ Fingerprinting 8100M	SVOC B/N 8270	RCRA Metals			PRESERVATION pH < 2.0	pH > 12	Other
MSB-1 (8-10')	10/25		326472	Soil	4											1	*	1	X	1				
MSB-2 (8-10')	10/25		73	Soil	4											1	1	1	X	1				
Sump 9AM	10/26			Soil																				
Sump 9PM	10/26			Soil																				

RELINQUISHED BY:
Signature: Jennifer A Christy
Printed Name: Jennifer Christy
Firm: Damon + Morse
Date/Time: 10/26/99

RECEIVED BY:
Signature: N Gardner
Printed Name: N Gardner
Firm: CAS
Date/Time: 10/26/99 1035

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Fed Ex
Shipping #:
Temperature: 1.3
Submission No: 10-296

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List
CALL ERIC FUJITA AT (518) 786-3201 FOR QUESTIONS REGARDING ANALYSIS
* Broken in shipping - used SVOA jar for [illegible]

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client Dames & Moore Submission Number 9910-296

Cooler received on 10/28/99 and opened on 10/28/99 by BC

1. Were custody seals on outside of cooler? (YES) NO
   If yes, how many and where? 1
2. Were signature & date correct? (YES) NO
3. Were custody papers properly filled out (ink, signed, etc)? (YES) NO
4. Did all bottles arrive in good condition (unbroken)? YES (NO) see COC.
5. Were all bottle labels complete (*i.e.* analysis, preservation, etc)? (YES) NO
6. Did all bottle labels and tags agree with custody papers? (YES) NO 10/28/
7. Were correct bottles used for the tests indicated? (YES) NO
8. Were VOA vials checked for absence of air bubbles, and noted if so? YES NO (N/A)
9. Where did the bottles originate? CAS/A CAS/K CAS/S CAS/L CAS/X CAS/J (CAS/R)
10. Temperature of cooler(s) upon receipt: 1.3 _____ _____ _____ _____

Is the temperature within 4 ± 2° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 10/28/99 11:15

Thermometer ID: 139 **Circle One:** Temp Blank Sample Bottle (Cooler Temp.)

Explain any discrepancies: 1 jar broken in shipping - see COC

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK
NO = Samples were preserved at lab as listed
*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

CLIENT NOTIFICATION: _____

Columbia Analytical Services Inc.

1 Mustard St., Suite 250
Rochester, NY 14609

Date: 1/28
Number of pages:

To: Don Porterfield
Dames + Moore
646 Plank Rd. Suite 202
Clifton Park NY 12065
Phone:
Fax:
CC:

From: MARK Wilson
Phone: (716) 288-5380
Fax: (716) 288-8475

RUSH REPORT

Revised Repots
Data reported between MDL and reporting limit flagged "J"

Mark W.

IMPORTANT NOTICE:

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	99	%
TOLUENE-D8	(88 - 110)	98	%
DIBROMOFLUOROMETHANE	(86 - 118)	93	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

DATE ANALYZED : 11/12/99
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	98	%
TOLUENE-D8	(88 - 110)	98	%
DIBROMOFLUOROMETHANE	(86 - 118)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-3

Date Sampled : 11/01/99 **Order #:** 337869 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

DATE ANALYZED : 11/12/99
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	1.7 J	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	2.2 J	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	2.3 J	UG/L
P-ISOPROPYLTOLUENE	5.0	1.6 J	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	20	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.2	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	46	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-3

Date Sampled : 11/01/99 **Order #:** 337869 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	28	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	98	%
TOLUENE-D8	(88 - 110)	97	%
DIBROMOFLUOROMETHANE	(86 - 118)	101	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

DATE ANALYZED : 11/12/99
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	3.6 J	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.2	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	2.1 J	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	101	%
TOLUENE-D8	(88 - 110)	100	%
DIBROMOFLUOROMETHANE	(86 - 118)	95	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

DATE ANALYZED : 11/12/99
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	97	%
TOLUENE-D8	(88 - 110)	97	%
DIBROMOFLUOROMETHANE	(86 - 118)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : TRIP BLANK

Date Sampled : 11/01/99 **Order #:** 337873 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

DATE ANALYZED : 11/12/99
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : TRIP BLANK

Date Sampled : 11/01/99 **Order #:** 337873 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 45262

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/12/99			
ANALYTICAL DILUTION: 1.0			
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	96	%
TOLUENE-D8	(88 - 110)	99	%
DIBROMOFLUOROMETHANE	(86 - 118)	99	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.1			
ACENAPHTHENE	10	11 U	UG/L
ACENAPHTHYLENE	10	11 U	UG/L
ANTHRACENE	10	11 U	UG/L
BENZO(A)ANTHRACENE	10	11 U	UG/L
BENZO(A)PYRENE	10	11 U	UG/L
BENZO(B)FLUORANTHENE	10	11 U	UG/L
BENZO(G,H,I)PERYLENE	10	11 U	UG/L
BENZO(K)FLUORANTHENE	10	11 U	UG/L
BENZYL ALCOHOL	10	11 U	UG/L
BUTYL BENZYL PHTHALATE	10	11 U	UG/L
DI-N-BUTYLPHTHALATE	10	1.2 J	UG/L
CARBAZOLE	10	11 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	11 U	UG/L
4-CHLOROANILINE	10	11 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	11 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	11 U	UG/L
2-CHLORONAPHTHALENE	10	11 U	UG/L
2-CHLOROPHENOL	10	11 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	11 U	UG/L
CHRYSENE	10	11 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	11 U	UG/L
DIBENZOFURAN	10	11 U	UG/L
1,3-DICHLOROBENZENE	10	11 U	UG/L
1,2-DICHLOROBENZENE	10	11 U	UG/L
1,4-DICHLOROBENZENE	10	11 U	UG/L
3,3'-DICHLOROBENZIDINE	10	11 U	UG/L
2,4-DICHLOROPHENOL	10	11 U	UG/L
DIETHYLPHTHALATE	10	1.1 J	UG/L
DIMETHYL PHTHALATE	10	11 U	UG/L
2,4-DIMETHYLPHENOL	10	11 U	UG/L
2,4-DINITROPHENOL	50	54 U	UG/L
2,4-DINITROTOLUENE	10	11 U	UG/L
2,6-DINITROTOLUENE	10	11 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	1.8 J	UG/L
FLUORANTHENE	10	11 U	UG/L
FLUORENE	10	1.9 J	UG/L
HEXACHLOROBENZENE	10	11 U	UG/L
HEXACHLOROBUTADIENE	10	11 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	11 U	UG/L
HEXACHLOROETHANE	10	11 U	UG/L
ISOPHORONE	10	11 U	UG/L
2-METHYLNAPHTHALENE	10	1.1 J	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-1

Date Sampled : 11/02/99 **Order #:** 337872 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.1			
4,6-DINITRO-2-METHYLPHENOL	50	54 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	11 U	UG/L
2-METHYLPHENOL	10	11 U	UG/L
4-METHYLPHENOL	10	1.1 J	UG/L
NAPHTHALENE	10	11 U	UG/L
2-NITROANILINE	50	54 U	UG/L
3-NITROANILINE	50	54 U	UG/L
4-NITROANILINE	50	54 U	UG/L
NITROBENZENE	10	11 U	UG/L
2-NITROPHENOL	10	11 U	UG/L
4-NITROPHENOL	50	54 U	UG/L
N-NITROSODIMETHYLAMINE	10	11 U	UG/L
N-NITROSODIPHENYLAMINE	10	11 U	UG/L
DI-N-OCTYL PHTHALATE	10	11 U	UG/L
PENTACHLOROPHENOL	50	54 U	UG/L
PHENANTHRENE	10	5.0 J	UG/L
PHENOL	10	18	UG/L
4-BROMOPHENYL-PHENYLETHER	10	11 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	11 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	11 U	UG/L
PYRENE	10	11 U	UG/L
1,2,4-TRICHLOROBENZENE	10	11 U	UG/L
2,4,6-TRICHLOROPHENOL	10	11 U	UG/L
2,4,5-TRICHLOROPHENOL	10	11 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	34	%
NITROBENZENE-d5	(35 - 114)	58	%
PHENOL-d6	(10 - 94)	27	%
2-FLUOROBIPHENYL	(43 - 116)	60	%
2-FLUOROPHENOL	(21 - 110)	37	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	79	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A) PYRENE	10	10 U	UG/L
BENZO(B) FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I) PERYLENE	10	10 U	UG/L
BENZO(K) FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	1.4 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD) PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY) METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL) ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H) ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL) PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	1.4 J	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	1.4 J	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-2

Date Sampled : 11/01/99 **Order #:** 337868 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	9.9 J	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	59	%
NITROBENZENE-d5	(35 - 114)	64	%
PHENOL-d6	(10 - 94)	26	%
2-FLUOROBIPHENYL	(43 - 116)	64	%
2-FLUOROPHENOL	(21 - 110)	36	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	75	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-3

Date Sampled : 11/01/99 **Order #:** 337869 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
ACENAPHTHENE	10	1.2 J	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	2.2 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	1.4 J	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	52 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	3.3 J	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-3

Date Sampled : 11/01/99 **Order #:** 337869 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	50	52 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	52 U	UG/L
3-NITROANILINE	50	52 U	UG/L
4-NITROANILINE	50	52 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	52 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	52 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	12	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	50	%
NITROBENZENE-d5	(35 - 114)	60	%
PHENOL-d6	(10 - 94)	23	%
2-FLUOROBIPHENYL	(43 - 116)	60	%
2-FLUOROPHENOL	(21 - 110)	32	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	77	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
ACENAPHTHENE	10	2.3 J	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	1.1 J	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	1.6 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	2.0 J	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	5.3 J	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-4

Date Sampled : 11/01/99 **Order #:** 337870 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	1.6 J	UG/L
NAPHTHALENE	10	2.3 J	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	21	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	48	%
NITROBENZENE-d5	(35 - 114)	62	%
PHENOL-d6	(10 - 94)	25	%
2-FLUOROBIPHENYL	(43 - 116)	63	%
2-FLUOROPHENOL	(21 - 110)	35	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	70	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	1.7 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	52 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MMW-5

Date Sampled : 11/01/99 **Order #:** 337871 **Sample Matrix:** WATER
Date Received: 11/02/99 **Submission #:** 9911000030 **Analytical Run:** 44676

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/03/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	50	52 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	52 U	UG/L
3-NITROANILINE	50	52 U	UG/L
4-NITROANILINE	50	52 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	52 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	52 U	UG/L
PHENANTHRENE	10	2.1 J	UG/L
PHENOL	10	2.8 J	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	45	%
NITROBENZENE-d5	(35 - 114)	54	%
PHENOL-d6	(10 - 94)	21	%
2-FLUOROBIPHENYL	(43 - 116)	54	%
2-FLUOROPHENOL	(21 - 110)	30	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	62	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

DATE ANALYZED : 11/24/99
ANALYTICAL DILUTION: 125.0

ANALYTE	PQL	RESULT	UNITS
			DRY WEIGHT
ACETONE	20	3000 U	UG/KG
BENZENE	5.0	750 U	UG/KG
BROMODICHLOROMETHANE	5.0	750 U	UG/KG
BROMOFORM	5.0	750 U	UG/KG
BROMOMETHANE	5.0	750 U	UG/KG
2-BUTANONE (MEK)	10	1500 U	UG/KG
SEC-BUTYLBENZENE	5.0	370 J	UG/KG
N-BUTYLBENZENE	5.0	750 U	UG/KG
TERT-BUTYLBENZENE	5.0	750 U	UG/KG
CARBON DISULFIDE	10	1500 U	UG/KG
CARBON TETRACHLORIDE	5.0	750 U	UG/KG
CHLOROBENZENE	5.0	750 U	UG/KG
CHLOROETHANE	5.0	750 U	UG/KG
CHLOROFORM	5.0	750 U	UG/KG
CHLOROMETHANE	5.0	750 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	750 U	UG/KG
1,1-DICHLOROETHANE	5.0	750 U	UG/KG
1,2-DICHLOROETHANE	5.0	750 U	UG/KG
1,1-DICHLOROETHENE	5.0	750 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	750 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	750 U	UG/KG
1,2-DICHLOROPROPANE	5.0	750 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	750 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	750 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	750 U	UG/KG
ETHYLBENZENE	5.0	900	UG/KG
2-HEXANONE	10	1500 U	UG/KG
ISOPROPYL BENZENE	5.0	220 J	UG/KG
P-ISOPROPYLTOLUENE	5.0	340 J	UG/KG
METHYLENE CHLORIDE	5.0	750 U	UG/KG
NAPHTHALENE	5.0	1400	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	1500 U	UG/KG
N-PROPYLBENZENE	5.0	930	UG/KG
STYRENE	5.0	750 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	750 U	UG/KG
TETRACHLOROETHENE	5.0	750 U	UG/KG
TOLUENE	5.0	190 J	UG/KG
1,1,1-TRICHLOROETHANE	5.0	750 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	750 U	UG/KG
TRICHLOROETHENE	5.0	750 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	3100	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	7800	UG/KG
VINYL CHLORIDE	5.0	750 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/24/99			
ANALYTICAL DILUTION: 125.0			DRY WEIGHT
O-XYLENE	5.0	750 U	UG/KG
M+P-XYLENE	5.0	1800	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121)	96	%
TOLUENE-D8	(81 - 117)	94	%
DIBROMOFLUOROMETHANE	(80 - 120)	98	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/24/99			
ANALYTICAL DILUTION: 125.0			DRY WEIGHT
ACETONE	20	3000 U	UG/KG
BENZENE	5.0	170 J	UG/KG
BROMODICHLOROMETHANE	5.0	760 U	UG/KG
BROMOFORM	5.0	760 U	UG/KG
BROMOMETHANE	5.0	760 U	UG/KG
2-BUTANONE (MEK)	10	1500 U	UG/KG
SEC-BUTYLBENZENE	5.0	1600	UG/KG
N-BUTYLBENZENE	5.0	760 U	UG/KG
TERT-BUTYLBENZENE	5.0	760 U	UG/KG
CARBON DISULFIDE	10	1500 U	UG/KG
CARBON TETRACHLORIDE	5.0	760 U	UG/KG
CHLOROBENZENE	5.0	760 U	UG/KG
CHLOROETHANE	5.0	760 U	UG/KG
CHLOROFORM	5.0	760 U	UG/KG
CHLOROMETHANE	5.0	760 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	760 U	UG/KG
1,1-DICHLOROETHANE	5.0	760 U	UG/KG
1,2-DICHLOROETHANE	5.0	760 U	UG/KG
1,1-DICHLOROETHENE	5.0	760 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	760 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	760 U	UG/KG
1,2-DICHLOROPROPANE	5.0	760 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	760 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	760 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	760 U	UG/KG
ETHYLBENZENE	5.0	7700	UG/KG
2-HEXANONE	10	1500 U	UG/KG
ISOPROPYL BENZENE	5.0	1000	UG/KG
P-ISOPROPYLTOLUENE	5.0	1900	UG/KG
METHYLENE CHLORIDE	5.0	760 U	UG/KG
NAPHTHALENE	5.0	6300	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	1500 U	UG/KG
N-PROPYLBENZENE	5.0	3100	UG/KG
STYRENE	5.0	760 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	760 U	UG/KG
TETRACHLOROETHENE	5.0	760 U	UG/KG
TOLUENE	5.0	760 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	760 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	760 U	UG/KG
TRICHLOROETHENE	5.0	760 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	9300	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	31000	UG/KG
VINYL CHLORIDE	5.0	760 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/24/99			
ANALYTICAL DILUTION: 125.0			DRY WEIGHT
O-XYLENE	5.0	220 J	UG/KG
M+P-XYLENE	5.0	25000	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121)	95	%
TOLUENE-D8	(81 - 117)	96	%
DIBROMOFLUOROMETHANE	(80 - 120)	98	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 625.0			DRY WEIGHT
ACETONE	20	15000 U	UG/KG
BENZENE	5.0	3700 U	UG/KG
BROMODICHLOROMETHANE	5.0	3700 U	UG/KG
BROMOFORM	5.0	3700 U	UG/KG
BROMOMETHANE	5.0	3700 U	UG/KG
2-BUTANONE (MEK)	10	7400 U	UG/KG
SEC-BUTYLBENZENE	5.0	3700 U	UG/KG
N-BUTYLBENZENE	5.0	3700 U	UG/KG
TERT-BUTYLBENZENE	5.0	3700 U	UG/KG
CARBON DISULFIDE	10	7400 U	UG/KG
CARBON TETRACHLORIDE	5.0	3700 U	UG/KG
CHLOROBENZENE	5.0	3700 U	UG/KG
CHLOROETHANE	5.0	3700 U	UG/KG
CHLOROFORM	5.0	3700 U	UG/KG
CHLOROMETHANE	5.0	3700 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	3700 U	UG/KG
1,1-DICHLOROETHANE	5.0	3700 U	UG/KG
1,2-DICHLOROETHANE	5.0	3700 U	UG/KG
1,1-DICHLOROETHENE	5.0	3700 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	3700 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	3700 U	UG/KG
1,2-DICHLOROPROPANE	5.0	3700 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	3700 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	3700 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	3700 U	UG/KG
ETHYLBENZENE	5.0	2100 J	UG/KG
2-HEXANONE	10	7400 U	UG/KG
ISOPROPYL BENZENE	5.0	3700 U	UG/KG
P-ISOPROPYLTOLUENE	5.0	3700 U	UG/KG
METHYLENE CHLORIDE	5.0	3700 U	UG/KG
NAPHTHALENE	5.0	1700 J	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	7400 U	UG/KG
N-PROPYLBENZENE	5.0	3700 U	UG/KG
STYRENE	5.0	3700 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	3700 U	UG/KG
TETRACHLOROETHENE	5.0	3700 U	UG/KG
TOLUENE	5.0	110000	UG/KG
1,1,1-TRICHLOROETHANE	5.0	3700 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	3700 U	UG/KG
TRICHLOROETHENE	5.0	3700 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	3700 U	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	1400 J	UG/KG
VINYL CHLORIDE	5.0	3700 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 625.0			DRY WEIGHT
O-XYLENE	5.0	790 J	UG/KG
M+P-XYLENE	5.0	4000	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121)	95	%
TOLUENE-D8	(81 - 117)	105	%
DIBROMOFLUOROMETHANE	(80 - 120)	104	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 6250.0			DRY WEIGHT
ACETONE	20	140000 U	UG/KG
BENZENE	5.0	36000 U	UG/KG
BROMODICHLOROMETHANE	5.0	36000 U	UG/KG
BROMOFORM	5.0	36000 U	UG/KG
BROMOMETHANE	5.0	36000 U	UG/KG
2-BUTANONE (MEK)	10	72000 U	UG/KG
SEC-BUTYLBENZENE	5.0	36000 U	UG/KG
N-BUTYLBENZENE	5.0	36000 U	UG/KG
TERT-BUTYLBENZENE	5.0	36000 U	UG/KG
CARBON DISULFIDE	10	72000 U	UG/KG
CARBON TETRACHLORIDE	5.0	36000 U	UG/KG
CHLOROBENZENE	5.0	36000 U	UG/KG
CHLOROETHANE	5.0	36000 U	UG/KG
CHLOROFORM	5.0	36000 U	UG/KG
CHLOROMETHANE	5.0	36000 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	36000 U	UG/KG
1,1-DICHLOROETHANE	5.0	36000 U	UG/KG
1,2-DICHLOROETHANE	5.0	36000 U	UG/KG
1,1-DICHLOROETHENE	5.0	36000 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	36000 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	36000 U	UG/KG
1,2-DICHLOROPROPANE	5.0	36000 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	36000 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	36000 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	36000 U	UG/KG
ETHYLBENZENE	5.0	36000 U	UG/KG
2-HEXANONE	10	72000 U	UG/KG
ISOPROPYL BENZENE	5.0	36000 U	UG/KG
P-ISOPROPYLTOLUENE	5.0	36000 U	UG/KG
METHYLENE CHLORIDE	5.0	36000 U	UG/KG
NAPHTHALENE	5.0	36000 U	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	72000 U	UG/KG
N-PROPYLBENZENE	5.0	36000 U	UG/KG
STYRENE	5.0	36000 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	36000 U	UG/KG
TETRACHLOROETHENE	5.0	730000	UG/KG
TOLUENE	5.0	36000 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	36000 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	36000 U	UG/KG
TRICHLOROETHENE	5.0	36000 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	36000 U	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	36000 U	UG/KG
VINYL CHLORIDE	5.0	36000 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 6250.0			DRY WEIGHT
O-XYLENE	5.0	36000 U	UG/KG
M+P-XYLENE	5.0	36000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121)	102	%
TOLUENE-D8	(81 - 117)	111	%
DIBROMOFLUOROMETHANE	(80 - 120)	108	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

DATE ANALYZED : 10/29/99
ANALYTICAL DILUTION: 125.0

ANALYTE	PQL	RESULT	UNITS
			DRY WEIGHT
ACETONE	20	3000 U	UG/KG
BENZENE	5.0	740 U	UG/KG
BROMODICHLOROMETHANE	5.0	740 U	UG/KG
BROMOFORM	5.0	740 U	UG/KG
BROMOMETHANE	5.0	740 U	UG/KG
2-BUTANONE (MEK)	10	1500 U	UG/KG
SEC-BUTYLBENZENE	5.0	740 U	UG/KG
N-BUTYLBENZENE	5.0	740 U	UG/KG
TERT-BUTYLBENZENE	5.0	740 U	UG/KG
CARBON DISULFIDE	10	1500 U	UG/KG
CARBON TETRACHLORIDE	5.0	740 U	UG/KG
CHLOROBENZENE	5.0	740 U	UG/KG
CHLOROETHANE	5.0	740 U	UG/KG
CHLOROFORM	5.0	740 U	UG/KG
CHLOROMETHANE	5.0	740 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	740 U	UG/KG
1,1-DICHLOROETHANE	5.0	740 U	UG/KG
1,2-DICHLOROETHANE	5.0	740 U	UG/KG
1,1-DICHLOROETHENE	5.0	740 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	740 U	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	740 U	UG/KG
1,2-DICHLOROPROPANE	5.0	740 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	740 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	740 U	UG/KG
METHYL-TERT-BUTYL-ETHER	5.0	740 U	UG/KG
ETHYLBENZENE	5.0	740 U	UG/KG
2-HEXANONE	10	1500 U	UG/KG
ISOPROPYL BENZENE	5.0	740 U	UG/KG
P-ISOPROPYLTOLUENE	5.0	740 U	UG/KG
METHYLENE CHLORIDE	5.0	740 U	UG/KG
NAPHTHALENE	5.0	740 U	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	1500 U	UG/KG
N-PROPYLBENZENE	5.0	740 U	UG/KG
STYRENE	5.0	740 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	740 U	UG/KG
TETRACHLOROETHENE	5.0	740 U	UG/KG
TOLUENE	5.0	740 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	740 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	740 U	UG/KG
TRICHLOROETHENE	5.0	740 U	UG/KG
1,3,5-TRIMETHYLBENZENE	5.0	740 U	UG/KG
1,2,4-TRIMETHYLBENZENE	5.0	740 U	UG/KG
VINYL CHLORIDE	5.0	740 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/99			
ANALYTICAL DILUTION: 125.0			DRY WEIGHT
O-XYLENE	5.0	740 U	UG/KG
M+P-XYLENE	5.0	740 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(74 - 121)	100	%
TOLUENE-D8	(81 - 117)	96	%
DIBROMOFLUOROMETHANE	(80 - 120)	105	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/05/99			
ANALYTICAL DILUTION: 5.0			DRY WEIGHT
ACENAPHTHENE	330	2000 U	UG/KG
ACENAPHTHYLENE	330	2000 U	UG/KG
ANTHRACENE	330	2000 U	UG/KG
BENZO(A)ANTHRACENE	330	2000 U	UG/KG
BENZO(A)PYRENE	330	2000 U	UG/KG
BENZO(B)FLUORANTHENE	330	2000 U	UG/KG
BENZO(G,H,I)PERYLENE	330	2000 U	UG/KG
BENZO(K)FLUORANTHENE	330	2000 U	UG/KG
BENZYL ALCOHOL	330	2000 U	UG/KG
BUTYL BENZYL PHTHALATE	330	2000 U	UG/KG
DI-N-BUTYLPHTHALATE	330	2000 U	UG/KG
CARBAZOLE	330	2000 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	2000 U	UG/KG
4-CHLOROANILINE	330	2000 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	2000 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	2000 U	UG/KG
2-CHLORONAPHTHALENE	330	2000 U	UG/KG
2-CHLOROPHENOL	330	2000 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	2000 U	UG/KG
CHRYSENE	330	2000 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	2000 U	UG/KG
DIBENZOFURAN	330	2000 U	UG/KG
1,3-DICHLOROBENZENE	330	2000 U	UG/KG
1,2-DICHLOROBENZENE	330	2000 U	UG/KG
1,4-DICHLOROBENZENE	330	2000 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	2000 U	UG/KG
2,4-DICHLOROPHENOL	330	2000 U	UG/KG
DIETHYLPHTHALATE	330	2000 U	UG/KG
DIMETHYL PHTHALATE	330	2000 U	UG/KG
2,4-DIMETHYLPHENOL	330	2000 U	UG/KG
2,4-DINITROPHENOL	1700	10000 U	UG/KG
2,4-DINITROTOLUENE	330	2000 U	UG/KG
2,6-DINITROTOLUENE	330	2000 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	2000 U	UG/KG
FLUORANTHENE	330	2000 U	UG/KG
FLUORENE	330	1200 J	UG/KG
HEXACHLOROBENZENE	330	2000 U	UG/KG
HEXACHLOROBUTADIENE	330	2000 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	2000 U	UG/KG
HEXACHLOROETHANE	330	2000 U	UG/KG
ISOPHORONE	330	2000 U	UG/KG
2-METHYLNAPHTHALENE	330	8500	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-1

Date Sampled : 10/25/99 **Order #:** 336472 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 83.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/05/99			
ANALYTICAL DILUTION: 5.0			DRY WEIGHT
4,6-DINITRO-2-METHYLPHENOL	1700	10000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	2000 U	UG/KG
2-METHYLPHENOL	330	2000 U	UG/KG
4-METHYLPHENOL	330	2000 U	UG/KG
NAPHTHALENE	330	2800	UG/KG
2-NITROANILINE	1700	10000 U	UG/KG
3-NITROANILINE	1700	10000 U	UG/KG
4-NITROANILINE	1700	10000 U	UG/KG
NITROBENZENE	330	2000 U	UG/KG
2-NITROPHENOL	330	2000 U	UG/KG
4-NITROPHENOL	1700	10000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	2000 U	UG/KG
N-NITROSODIPHENYLAMINE	330	2000 U	UG/KG
DI-N-OCTYL PHTHALATE	330	2000 U	UG/KG
PENTACHLOROPHENOL	800	4800 U	UG/KG
PHENANTHRENE	330	2400	UG/KG
PHENOL	330	1100 J	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	2000 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	2000 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	2000 U	UG/KG
PYRENE	330	2000 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	2000 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	2000 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	2000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137)	186	%
NITROBENZENE-d5	(23 - 120)	165	%
PHENOL-d6	(24 - 113)	155	%
2-FLUOROBIPHENYL	(30 - 115)	207	%
2-FLUOROPHENOL	(25 - 121)	157	%
2,4,6-TRIBROMOPHENOL	(19 - 122)	201	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 10.0			DRY WEIGHT
ACENAPHTHENE	330	4000 U	UG/KG
ACENAPHTHYLENE	330	4000 U	UG/KG
ANTHRACENE	330	4000 U	UG/KG
BENZO(A)ANTHRACENE	330	4000 U	UG/KG
BENZO(A)PYRENE	330	4000 U	UG/KG
BENZO(B)FLUORANTHENE	330	4000 U	UG/KG
BENZO(G,H,I)PERYLENE	330	4000 U	UG/KG
BENZO(K)FLUORANTHENE	330	4000 U	UG/KG
BENZYL ALCOHOL	330	4000 U	UG/KG
BUTYL BENZYL PHTHALATE	330	4000 U	UG/KG
DI-N-BUTYLPHTHALATE	330	4000 U	UG/KG
CARBAZOLE	330	4000 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	4000 U	UG/KG
4-CHLOROANILINE	330	4000 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	4000 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	4000 U	UG/KG
2-CHLORONAPHTHALENE	330	4000 U	UG/KG
2-CHLOROPHENOL	330	4000 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	4000 U	UG/KG
CHRYSENE	330	4000 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	4000 U	UG/KG
DIBENZOFURAN	330	1500 J	UG/KG
1,3-DICHLOROBENZENE	330	4000 U	UG/KG
1,2-DICHLOROBENZENE	330	4000 U	UG/KG
1,4-DICHLOROBENZENE	330	4000 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	4000 U	UG/KG
2,4-DICHLOROPHENOL	330	4000 U	UG/KG
DIETHYLPHTHALATE	330	4000 U	UG/KG
DIMETHYL PHTHALATE	330	4000 U	UG/KG
2,4-DIMETHYLPHENOL	330	4000 U	UG/KG
2,4-DINITROPHENOL	1700	21000 U	UG/KG
2,4-DINITROTOLUENE	330	4000 U	UG/KG
2,6-DINITROTOLUENE	330	4000 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	4000 U	UG/KG
FLUORANTHENE	330	4000 U	UG/KG
FLUORENE	330	4100	UG/KG
HEXACHLOROBENZENE	330	4000 U	UG/KG
HEXACHLOROBUTADIENE	330	4000 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	4000 U	UG/KG
HEXACHLOROETHANE	330	4000 U	UG/KG
ISOPHORONE	330	4000 U	UG/KG
2-METHYLNAPHTHALENE	330	22000	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-2

Date Sampled : 10/25/99 **Order #:** 336473 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/28/99 **Submission #:** 9910000296 **Percent Solid:** 82.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/29/99			
DATE ANALYZED : 11/04/99			
ANALYTICAL DILUTION: 10.0			DRY WEIGHT
4,6-DINITRO-2-METHYLPHENOL	1700	21000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	4000 U	UG/KG
2-METHYLPHENOL	330	4000 U	UG/KG
4-METHYLPHENOL	330	4000 U	UG/KG
NAPHTHALENE	330	7500	UG/KG
2-NITROANILINE	1700	21000 U	UG/KG
3-NITROANILINE	1700	21000 U	UG/KG
4-NITROANILINE	1700	21000 U	UG/KG
NITROBENZENE	330	4000 U	UG/KG
2-NITROPHENOL	330	4000 U	UG/KG
4-NITROPHENOL	1700	21000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	4000 U	UG/KG
N-NITROSODIPHENYLAMINE	330	4000 U	UG/KG
DI-N-OCTYL PHTHALATE	330	4000 U	UG/KG
PENTACHLOROPHENOL	800	9700 U	UG/KG
PHENANTHRENE	330	5900	UG/KG
PHENOL	330	4000 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	4000 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	4000 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	4000 U	UG/KG
PYRENE	330	4000 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	4000 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	4000 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	4000 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137)	173	%
NITROBENZENE-d5	(23 - 120)	162	%
PHENOL-d6	(24 - 113)	121	%
2-FLUOROBIPHENYL	(30 - 115)	202	%
2-FLUOROPHENOL	(25 - 121)	121	%
2,4,6-TRIBROMOPHENOL	(19 - 122)	187	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 5.0			DRY WEIGHT
ACENAPHTHENE	330	1200 J	UG/KG
ACENAPHTHYLENE	330	1900 U	UG/KG
ANTHRACENE	330	910 J	UG/KG
BENZO(A)ANTHRACENE	330	1900 U	UG/KG
BENZO(A)PYRENE	330	1900 U	UG/KG
BENZO(B)FLUORANTHENE	330	1900 U	UG/KG
BENZO(G,H,I)PERYLENE	330	1900 U	UG/KG
BENZO(K)FLUORANTHENE	330	1900 U	UG/KG
BENZYL ALCOHOL	330	1900 U	UG/KG
BUTYL BENZYL PHTHALATE	330	1900 U	UG/KG
DI-N-BUTYLPHTHALATE	330	1900 U	UG/KG
CARBAZOLE	330	1900 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	1900 U	UG/KG
4-CHLOROANILINE	330	1900 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	1900 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	1900 U	UG/KG
2-CHLORONAPHTHALENE	330	1900 U	UG/KG
2-CHLOROPHENOL	330	1900 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	1900 U	UG/KG
CHRYSENE	330	1900 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	1900 U	UG/KG
DIBENZOFURAN	330	1900 U	UG/KG
1,3-DICHLOROBENZENE	330	1900 U	UG/KG
1,2-DICHLOROBENZENE	330	1900 U	UG/KG
1,4-DICHLOROBENZENE	330	1900 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	1900 U	UG/KG
2,4-DICHLOROPHENOL	330	1900 U	UG/KG
DIETHYLPHTHALATE	330	1900 U	UG/KG
DIMETHYL PHTHALATE	330	1900 U	UG/KG
2,4-DIMETHYLPHENOL	330	1900 U	UG/KG
2,4-DINITROPHENOL	1700	10000 U	UG/KG
2,4-DINITROTOLUENE	330	1900 U	UG/KG
2,6-DINITROTOLUENE	330	1900 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	1900 U	UG/KG
FLUORANTHENE	330	1900 U	UG/KG
FLUORENE	330	2200	UG/KG
HEXACHLOROBENZENE	330	1900 U	UG/KG
HEXACHLOROBUTADIENE	330	1900 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	1900 U	UG/KG
HEXACHLOROETHANE	330	1900 U	UG/KG
ISOPHORONE	330	1900 U	UG/KG
2-METHYLNAPHTHALENE	330	11000	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-3(8-10')

Date Sampled : 10/21/99 **Order #:** 334530 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 5.0			DRY WEIGHT
4,6-DINITRO-2-METHYLPHENOL	1700	10000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	1900 U	UG/KG
2-METHYLPHENOL	330	1900 U	UG/KG
4-METHYLPHENOL	330	1900 U	UG/KG
NAPHTHALENE	330	1800 J	UG/KG
2-NITROANILINE	1700	10000 U	UG/KG
3-NITROANILINE	1700	10000 U	UG/KG
4-NITROANILINE	1700	10000 U	UG/KG
NITROBENZENE	330	1900 U	UG/KG
2-NITROPHENOL	330	1900 U	UG/KG
4-NITROPHENOL	1700	10000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	1900 U	UG/KG
N-NITROSODIPHENYLAMINE	330	1900 U	UG/KG
DI-N-OCTYL PHTHALATE	330	1900 U	UG/KG
PENTACHLOROPHENOL	800	4700 U	UG/KG
PHENANTHRENE	330	4100	UG/KG
PHENOL	330	1900 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	1900 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	1900 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	1900 U	UG/KG
PYRENE	330	1900 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	1900 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	1900 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	1900 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137)	136	%
NITROBENZENE-d5	(23 - 120)	171	%
PHENOL-d6	(24 - 113)	144	%
2-FLUOROBIPHENYL	(30 - 115)	208	%
2-FLUOROPHENOL	(25 - 121)	125	%
2,4,6-TRIBROMOPHENOL	(19 - 122)	89	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 10.0			DRY WEIGHT
ACENAPHTHENE	330	1600 J	UG/KG
ACENAPHTHYLENE	330	3800 U	UG/KG
ANTHRACENE	330	1700 J	UG/KG
BENZO(A)ANTHRACENE	330	3800 U	UG/KG
BENZO(A)PYRENE	330	3800 U	UG/KG
BENZO(B)FLUORANTHENE	330	3800 U	UG/KG
BENZO(G,H,I)PERYLENE	330	3800 U	UG/KG
BENZO(K)FLUORANTHENE	330	3800 U	UG/KG
BENZYL ALCOHOL	330	3800 U	UG/KG
BUTYL BENZYL PHTHALATE	330	3800 U	UG/KG
DI-N-BUTYLPHTHALATE	330	3800 U	UG/KG
CARBAZOLE	330	3800 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	3800 U	UG/KG
4-CHLOROANILINE	330	3800 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	3800 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	3800 U	UG/KG
2-CHLORONAPHTHALENE	330	3800 U	UG/KG
2-CHLOROPHENOL	330	3800 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	3800 U	UG/KG
CHRYSENE	330	3800 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	3800 U	UG/KG
DIBENZOFURAN	330	3800 U	UG/KG
1,3-DICHLOROBENZENE	330	3800 U	UG/KG
1,2-DICHLOROBENZENE	330	3800 U	UG/KG
1,4-DICHLOROBENZENE	330	3800 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	3800 U	UG/KG
2,4-DICHLOROPHENOL	330	3800 U	UG/KG
DIETHYLPHTHALATE	330	3800 U	UG/KG
DIMETHYL PHTHALATE	330	3800 U	UG/KG
2,4-DIMETHYLPHENOL	330	3800 U	UG/KG
2,4-DINITROPHENOL	1700	20000 U	UG/KG
2,4-DINITROTOLUENE	330	3800 U	UG/KG
2,6-DINITROTOLUENE	330	3800 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	3800 U	UG/KG
FLUORANTHENE	330	3800 U	UG/KG
FLUORENE	330	3400 J	UG/KG
HEXACHLOROBENZENE	330	3800 U	UG/KG
HEXACHLOROBUTADIENE	330	3800 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	3800 U	UG/KG
HEXACHLOROETHANE	330	3800 U	UG/KG
ISOPHORONE	330	3800 U	UG/KG
2-METHYLNAPHTHALENE	330	11000	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-4(4-6')

Date Sampled : 10/20/99 **Order #:** 334528 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 87.1

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/02/99			
ANALYTICAL DILUTION: 10.0			DRY WEIGHT
4,6-DINITRO-2-METHYLPHENOL	1700	20000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	3800 U	UG/KG
2-METHYLPHENOL	330	3800 U	UG/KG
4-METHYLPHENOL	330	3800 U	UG/KG
NAPHTHALENE	330	3800 U	UG/KG
2-NITROANILINE	1700	20000 U	UG/KG
3-NITROANILINE	1700	20000 U	UG/KG
4-NITROANILINE	1700	20000 U	UG/KG
NITROBENZENE	330	3800 U	UG/KG
2-NITROPHENOL	330	3800 U	UG/KG
4-NITROPHENOL	1700	20000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	3800 U	UG/KG
N-NITROSODIPHENYLAMINE	330	3800 U	UG/KG
DI-N-OCTYL PHTHALATE	330	3800 U	UG/KG
PENTACHLOROPHENOL	800	9200 U	UG/KG
PHENANTHRENE	330	6100	UG/KG
PHENOL	330	3800 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	3800 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	3800 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	3800 U	UG/KG
PYRENE	330	3800 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	3800 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	3800 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	3800 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137)	133	%
NITROBENZENE-d5	(23 - 120)	129	%
PHENOL-d6	(24 - 113)	132	%
2-FLUOROBIPHENYL	(30 - 115)	211	%
2-FLUOROPHENOL	(25 - 121)	142	%
2,4,6-TRIBROMOPHENOL	(19 - 122)	116	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/01/99			
ANALYTICAL DILUTION: 1.0			DRY WEIGHT
ACENAPHTHENE	330	390 U	UG/KG
ACENAPHTHYLENE	330	390 U	UG/KG
ANTHRACENE	330	390 U	UG/KG
BENZO(A)ANTHRACENE	330	390 U	UG/KG
BENZO(A)PYRENE	330	390 U	UG/KG
BENZO(B)FLUORANTHENE	330	390 U	UG/KG
BENZO(G,H,I)PERYLENE	330	390 U	UG/KG
BENZO(K)FLUORANTHENE	330	390 U	UG/KG
BENZYL ALCOHOL	330	390 U	UG/KG
BUTYL BENZYL PHTHALATE	330	390 U	UG/KG
DI-N-BUTYLPHTHALATE	330	390 U	UG/KG
CARBAZOLE	330	390 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	390 U	UG/KG
4-CHLOROANILINE	330	390 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	390 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	390 U	UG/KG
2-CHLORONAPHTHALENE	330	390 U	UG/KG
2-CHLOROPHENOL	330	390 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	390 U	UG/KG
CHRYSENE	330	390 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	390 U	UG/KG
DIBENZOFURAN	330	390 U	UG/KG
1,3-DICHLOROBENZENE	330	390 U	UG/KG
1,2-DICHLOROBENZENE	330	390 U	UG/KG
1,4-DICHLOROBENZENE	330	390 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	390 U	UG/KG
2,4-DICHLOROPHENOL	330	390 U	UG/KG
DIETHYLPHTHALATE	330	390 U	UG/KG
DIMETHYL PHTHALATE	330	390 U	UG/KG
2,4-DIMETHYLPHENOL	330	390 U	UG/KG
2,4-DINITROPHENOL	1700	2000 U	UG/KG
2,4-DINITROTOLUENE	330	390 U	UG/KG
2,6-DINITROTOLUENE	330	390 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	390 U	UG/KG
FLUORANTHENE	330	390 U	UG/KG
FLUORENE	330	390 U	UG/KG
HEXACHLOROBENZENE	330	390 U	UG/KG
HEXACHLOROBUTADIENE	330	390 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	390 U	UG/KG
HEXACHLOROETHANE	330	390 U	UG/KG
ISOPHORONE	330	390 U	UG/KG
2-METHYLNAPHTHALENE	330	390 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 01/28/00

Dames & Moore
Project Reference: TENNECO MACEDON, NY
Client Sample ID : MSB-5(12-14')

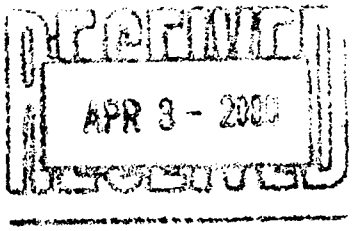
Date Sampled : 10/20/99 **Order #:** 334529 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/22/99 **Submission #:** 9910000296 **Percent Solid:** 84.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/26/99			
DATE ANALYZED : 11/01/99			
ANALYTICAL DILUTION: 1.0			DRY WEIGHT
4,6-DINITRO-2-METHYLPHENOL	1700	2000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	390 U	UG/KG
2-METHYLPHENOL	330	390 U	UG/KG
4-METHYLPHENOL	330	390 U	UG/KG
NAPHTHALENE	330	390 U	UG/KG
2-NITROANILINE	1700	2000 U	UG/KG
3-NITROANILINE	1700	2000 U	UG/KG
4-NITROANILINE	1700	2000 U	UG/KG
NITROBENZENE	330	390 U	UG/KG
2-NITROPHENOL	330	390 U	UG/KG
4-NITROPHENOL	1700	2000 U	UG/KG
N-NITROSODIMETHYLAMINE	330	390 U	UG/KG
N-NITROSODIPHENYLAMINE	330	390 U	UG/KG
DI-N-OCTYL PHTHALATE	330	390 U	UG/KG
PENTACHLOROPHENOL	800	950 U	UG/KG
PHENANTHRENE	330	390 U	UG/KG
PHENOL	330	390 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	390 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	390 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	390 U	UG/KG
PYRENE	330	390 U	UG/KG
1,2,4-TRICHLOROBENZENE	330	390 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	390 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	390 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137)	103	%
NITROBENZENE-d5	(23 - 120)	112	%
PHENOL-d6	(24 - 113)	122	%
2-FLUOROBIPHENYL	(30 - 115)	138	%
2-FLUOROPHENOL	(25 - 121)	127	%
2,4,6-TRIBROMOPHENOL	(19 - 122)	118	%

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY



March 29, 2000

Mr. Don Porterfield
Dames & Moore
646 Plank Rd.
Suite 202
Clifton Park, NY 12065

PROJECT:TENNECO-MACEDON
Submission #:R2001200

Dear Mr. Porterfield

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475

CASE NARRATIVE

COMPANY: Dames & Moore
Tenneco-Macedon, NY
SUBMISSION #: R20001200

IT soil and water samples were collected on 02/10-11/00 and received at CAS on 02/11/00 in good condition.

VOLATILE ORGANICS

Water samples were analyzed for the Target Compound List (TCL) plus additional Volatile Organics by EPA Method 8260B from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits.

All samples were analyzed within the required holding times.

No analytical or QC problems were encountered with these analyses.

SEMIVOLATILE ORGANICS

Water samples were analyzed for the Target Compound List (TCL) of Semivolatile Organics by EPA Method 8270C from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits except for sample MMW-3. This sample was reinjected to confirm this QC outlier.

All samples were analyzed within the required holding times.

No analytical or QC problems were encountered with these analyses.

DRO/GRO

One water sample was analyzed for the Diesel Range and Gasoline Range Organics by EPA Method 8015B.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits

All samples were analyzed within the required holding times.

No analytical or QC problems were encountered with these analyses.

INORGANIC ANALYSIS

One water samples were analyzed for RCRA by Methods 6010B and 7471A from SW-846.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

No analytical or QC problems were encountered with these analyses.

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032	NH ID # in Rochester:	294198-A
OH EPA # in Rochester:	VAP	AIHA # in Rochester:	7889

COLUMBIA ANALYTICAL SERVICES

Reported: 03/29/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	0.0100	0.0100 U	MG/L	03/20/00	1.0
BARIUM	0.0200	0.202	MG/L	03/20/00	1.0
CADMIUM	0.00500	0.00500 U	MG/L	03/20/00	1.0
CHROMIUM	0.0100	0.0244	MG/L	03/20/00	1.0
LEAD	0.0500	0.0500 U	MG/L	03/20/00	1.0
MERCURY	0.000300	0.000300 U	MG/L	03/20/00	1.0
SELENIUM	0.00500	0.0145	MG/L	03/20/00	1.0
SILVER	0.0100	0.0100 U	MG/L	03/20/00	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 03/29/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1 soluble

Date Sampled : 03/13/00 **Order #:** 364294 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ARSENIC	0.0100	0.0100 U	MG/L	03/20/00	1.0
BARIUM	0.0200	0.0716	MG/L	03/20/00	1.0
CADMIUM	0.00500	0.00500 U	MG/L	03/20/00	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	03/20/00	1.0
LEAD	0.0500	0.0500 U	MG/L	03/20/00	1.0
MERCURY	0.000300	0.000300 U	MG/L	03/20/00	1.0
SELENIUM	0.00500	0.00685	MG/L	03/20/00	1.0
SILVER	0.0100	0.0100 U	MG/L	03/20/00	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 03/29/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48586

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/17/00			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	109	%

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: R2001200
Client: Dames & Moore
TENNECO-MACEDON

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
MERCURY	0.000300 U	0.000951	0.00100	95	80 - 120	48620	MG/L
ARSENIC	0.0100 U	0.0425	0.0400	106	80 - 120	48674	MG/L
BARIUM	0.0200 U	2.11	2.00	106	80 - 120	48674	MG/L
CADMIUM	0.00500 U	0.0513	0.0500	103	80 - 120	48674	MG/L
CHROMIUM	0.0100 U	0.212	0.200	106	80 - 120	48674	MG/L
LEAD	0.0500 U	0.519	0.500	104	80 - 120	48674	MG/L
SELENIUM	0.00500 U	1.12	1.01	111	80 - 120	48674	MG/L
SILVER	0.0100 U	0.0494	0.0500	99	80 - 120	48674	MG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 367749 ANALYTICAL RUN # : 48846

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.0			
ACETONE	20	121	21 - 165
BENZENE	20	98	37 - 151
BROMODICHLOROMETHANE	20	95	35 - 155
BROMOFORM	20	97	45 - 169
BROMOMETHANE	20	93	10 - 242
2-BUTANONE (MEK)	20	111	25 - 162
SEC-BUTYLBENZENE	20	98	50 - 150
N-BUTYLBENZENE	20	100	50 - 150
TERT-BUTYLBENZENE	20	99	50 - 150
CARBON DISULFIDE	20	95	45 - 148
CARBON TETRACHLORIDE	20	98	70 - 140
CHLOROBENZENE	20	98	37 - 160
CHLOROETHANE	20	84	53 - 149
CHLOROFORM	20	102	51 - 138
CHLOROMETHANE	20	122	10 - 273
DIBROMOCHLOROMETHANE	20	96	53 - 149
1,1-DICHLOROETHANE	20	111	59 - 155
1,2-DICHLOROETHANE	20	102	49 - 155
1,1-DICHLOROETHENE	20	118	10 - 234
CIS-1,2-DICHLOROETHENE	20	98	54 - 156
TRANS-1,2-DICHLOROETHENE	20	106	54 - 156
1,2-DICHLOROPROPANE	20	103	10 - 210
CIS-1,3-DICHLOROPROPENE	20	95	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	99	17 - 183
METHYL-TERT-BUTYL-ETHER	20	110	50 - 150
ETHYLBENZENE	20	101	37 - 162
2-HEXANONE	20	116	22 - 155
ISOPROPYL BENZENE	20	96	50 - 150
P-ISOPROPYLTOLUENE	20	98	50 - 150
METHYLENE CHLORIDE	20	108	10 - 221
NAPHTHALENE	20	102	50 - 150
4-METHYL-2-PENTANONE (MIBK)	20	107	46 - 157
N-PROPYLBENZENE	20	98	50 - 150
STYRENE	20	99	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	106	46 - 157
TETRACHLOROETHENE	20	98	64 - 148
TOLUENE	20	96	47 - 150
1,1,1-TRICHLOROETHANE	20	100	52 - 162
1,1,2-TRICHLOROETHANE	20	99	52 - 150
TRICHLOROETHENE	20	99	71 - 157
1,3,5-TRIMETHYLBENZENE	20	100	50 - 150

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL/TANK

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 367749 ANALYTICAL RUN # : 48846

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.0			
1,2,4-TRIMETHYLBENZENE	20	100	50 - 150
VINYL CHLORIDE	20	113	10 - 251
O-XYLENE	20	100	71 - 135
M+P-XYLENE	40	100	71 - 135

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 367748 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 367748 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.00			
SURROGATE RECOVERIES	**QC LIMITS**		
4-BROMOFLUOROBENZENE	(86 - 115 %)	97	%
TOLUENE-D8	(88 - 110 %)	95	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	%

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 364289

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 48497

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
ACENAPHTHENE	100	0	81.0	81	31 - 137
2-CHLOROPHENOL	200	0	150	75	25 - 102
1,4-DICHLOROBENZENE	100	0	72.0	72	28 - 104
2,4-DINITROTOLUENE	100	0	76.0	76	28 - 89
4-CHLORO-3-METHYLPHENO	200	0	140	70	26 - 103
4-NITROPHENOL	200	0	63.0	32	11 - 114
PENTACHLOROPHENOL	200	0	120	60	17 - 109
PHENOL	200	0	76.0	38	26 - 90
N-NITROSO-DI-N-PROPYLA	100	0	69.0	69	41 - 126
PYRENE	100	0	89.0	89	35 - 142
1,2,4-TRICHLOROBENZENE	100	0	70.0	70	38 - 107

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 364994 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	10 U	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 364994 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	85	%
NITROBENZENE-d5	(35 - 114 %)	78	%
PHENOL-d6	(10 - 94 %)	37	%
2-FLUOROBIPHENYL	(43 - 116 %)	77	%
2-FLUOROPHENOL	(21 - 110 %)	57	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	79	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8015B GRO

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 365625 ANALYTICAL RUN # : 48586

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 3/17/00			
ANALYTICAL DILUTION: 1.0			
GASOLINE RANGE ORGANICS	1000	145	50 - 150

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8015B GRO
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 365624 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48586

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/17/00			
ANALYTICAL DILUTION: 1.00			
GASOLINE RANGE ORGANICS	50	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
CHLOROFLUOROBENZENE (FID)	(60 - 128 %)	71	%

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 364293

Client ID:

Test: 8015B DIESEL RANGE ORGANICS

Analytical Units: UG/L

Run Number : 48489

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	QC LIMITS REC.
DIESEL RANGE ORGANICS	5000	0	3200	64	50 - 150

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8015B DIESEL RANGE ORGANICS
Reported: 03/29/00

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 364943 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 48489

ANALYTE		PQL	RESULT	UNITS
DATE EXTRACTED	: 03/15/00			
DATE ANALYZED	: 03/16/00			
ANALYTICAL DILUTION:	1.00			
DIESEL RANGE ORGANICS		100	100 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
O-TERPHENYL	(50 - 150 %)		84	%

Columbia Analytical Services, Inc.
An Employee-Owned Company
Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 3/13/00 PAGE 1 OF

PROJECT NAME Tennco - Marydon NY
PROJECT MANAGER/CONTACT Don Porterfield
COMPANY/ADDRESS URS / Dames + Moore
646 Plank Rd Suite 202 Clifton Park NY
TEL (518) 688 0015 FAX (518) 688 0022
SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STARS LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STARS LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	VOC 8260B	SVOC 8270C	GRO 8015	DRO 8100				PRESERVATION pH < 2.0	pH > 12	Other
MMW-4	3/13/00	9:00	36425-9	W	4											3	1								
MMW-2		10:20	290		4											3	1								
MMW-3		11:00	91		4											3	1								
MMW-1		12:30	92		4											3	1								
MP-1		1:50	93/94		9									1	1	3	1	2	1						

RELINQUISHED BY:
Signature
Printed Name VRS
Firm
Date/Time 3/13/00 11:25

RECEIVED BY:
Signature Gregory D. Emerson
Printed Name CAS
Firm 3-14-00 11:25
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature Rachelle Bogart
Printed Name CAS
Firm 3/14/00 11:25
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 3.8°
Submission No: A200 1200

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services INC.
An Employee-Owned Company

April 6, 2000

Mr. Don Porterfield
Dames & Moore
646 Plank Road
Suite 202
Clifton Park, NY 12065

PROJECT: TENNECO - MACEDON
Submission #: R2001200

Dear Mr. Porterfield:

Enclosed are the revised Organic report pages for the above referenced project. Should you have any questions please contact me at (716) 288-5380.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

1 Mustard Street, Suite 250 ▪ Rochester, NY 14609-6925 ▪ Telephone (716) 288-5380 ▪ Fax (716) 288-8475

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-4

Date Sampled : 03/13/00 09:00 **Order #:** 364289 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	5.9 J	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	2.4 J	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	47	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-4

Date Sampled : 03/13/00 09:00 **Order #:** 364289 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.00			
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	102	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-4

Date Sampled : 03/13/00 09:00 **Order #:** 364289 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

DATE EXTRACTED : 03/15/00
DATE ANALYZED : 03/20/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	2.6 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	1.8 J	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	2.1 J	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-4

Date Sampled : 03/13/00 09:00 **Order #:** 364289 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/20/00			
ANALYTICAL DILUTION: 1.00			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	1.8 J	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	44	%
NITROBENZENE-d5	(35 - 114 %)	70	%
PHENOL-d6	(10 - 94 %)	30	%
2-FLUOROBIPHENYL	(43 - 116 %)	78	%
2-FLUOROPHENOL	(21 - 110 %)	45	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	74	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-2

Date Sampled : 03/13/00 10:00 **Order #:** 364290 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

DATE ANALYZED : 03/22/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	14	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-2

Date Sampled : 03/13/00 10:00 **Order #:** 364290 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/22/00			
ANALYTICAL DILUTION: 1.00			
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	99	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-2

Date Sampled : 03/13/00 10:00 **Order #:** 364290 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	10 U	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-2

Date Sampled : 03/13/00 10:00 **Order #:** 364290 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	42	%
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	28	%
2-FLUOROBIPHENYL	(43 - 116 %)	68	%
2-FLUOROPHENOL	(21 - 110 %)	44	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	72	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-3

Date Sampled : 03/13/00 11:00 **Order #:** 364291 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

DATE ANALYZED : 03/23/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	5.5 J	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	2.1 J	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	34	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	1.4 J	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	1.3 J	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.6	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	2.7 J	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	25	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-3

Date Sampled : 03/13/00 11:00 **Order #:** 364291 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03/23/00				
ANALYTICAL DILUTION: 1.00				
M+P-XYLENE		5.0	8.6	UG/L
SURROGATE RECOVERIES	**QC LIMITS**			
4-BROMOFLUOROBENZENE	(86 - 115 %)		100	%
TOLUENE-D8	(88 - 110 %)		100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)		103	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-3

Date Sampled : 03/13/00 11:00 **Order #:** 364291 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	10 U	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	1.0 J	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-3

Date Sampled : 03/13/00 11:00 **Order #:** 364291 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	69	%
NITROBENZENE-d5	(35 - 114 %)	75	%
PHENOL-d6	(10 - 94 %)	7 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	70	%
2-FLUOROPHENOL	(21 - 110 %)	9 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	44	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-1

Date Sampled : 03/13/00 12:30 **Order #:** 364292 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

DATE ANALYZED : 03/23/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	11	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-1

Date Sampled : 03/13/00 12:30 **Order #:** 364292 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03/23/00				
ANALYTICAL DILUTION: 1.00				
M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115 %)		98	%
TOLUENE-D8	(88 - 110 %)		101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)		102	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-1

Date Sampled : 03/13/00 12:30 **Order #:** 364292 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/20/00			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	1.0 J	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MMW-1

Date Sampled : 03/13/00 12:30 **Order #:** 364292 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/20/00			
ANALYTICAL DILUTION: 1.00			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	42	%
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	27	%
2-FLUOROBIPHENYL	(43 - 116 %)	69	%
2-FLUOROPHENOL	(21 - 110 %)	42	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	78	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

DATE ANALYZED : 03/23/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
SEC-BUTYLBENZENE	5.0	5.0 U	UG/L
N-BUTYLBENZENE	5.0	5.0 U	UG/L
TERT-BUTYLBENZENE	5.0	5.0 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
METHYL-TERT-BUTYL-ETHER	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
ISOPROPYL BENZENE	5.0	5.0 U	UG/L
P-ISOPROPYLTOLUENE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
N-PROPYLBENZENE	5.0	5.0 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL/TANK
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48846

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/23/00			
ANALYTICAL DILUTION: 1.00			
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	101	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	103	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/20/00			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	10	10 U	UG/L
ACENAPHTHYLENE	10	10 U	UG/L
ANTHRACENE	10	10 U	UG/L
BENZO(A)ANTHRACENE	10	10 U	UG/L
BENZO(A)PYRENE	10	10 U	UG/L
BENZO(B)FLUORANTHENE	10	10 U	UG/L
BENZO(G,H,I)PERYLENE	10	10 U	UG/L
BENZO(K)FLUORANTHENE	10	10 U	UG/L
BENZYL ALCOHOL	10	10 U	UG/L
BUTYL BENZYL PHTHALATE	10	10 U	UG/L
DI-N-BUTYLPHTHALATE	10	10 U	UG/L
CARBAZOLE	10	10 U	UG/L
INDENO(1,2,3-CD)PYRENE	10	10 U	UG/L
4-CHLOROANILINE	10	10 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	10	10 U	UG/L
BIS(2-CHLOROETHYL)ETHER	10	10 U	UG/L
2-CHLORONAPHTHALENE	10	10 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	10	10 U	UG/L
CHRYSENE	10	10 U	UG/L
DIBENZO(A,H)ANTHRACENE	10	10 U	UG/L
DIBENZOFURAN	10	10 U	UG/L
1,3-DICHLOROBENZENE	10	10 U	UG/L
1,2-DICHLOROBENZENE	10	10 U	UG/L
1,4-DICHLOROBENZENE	10	10 U	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	10	10 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	50	50 U	UG/L
2,4-DINITROTOLUENE	10	10 U	UG/L
2,6-DINITROTOLUENE	10	10 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	10	10 U	UG/L
FLUORANTHENE	10	10 U	UG/L
FLUORENE	10	10 U	UG/L
HEXACHLOROBENZENE	10	10 U	UG/L
HEXACHLOROBUTADIENE	10	10 U	UG/L
HEXACHLOROCYCLOPENTADIENE	10	10 U	UG/L
HEXACHLOROETHANE	10	10 U	UG/L
ISOPHORONE	10	10 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	50	50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 48497

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/20/00			
ANALYTICAL DILUTION: 1.00			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	10	10 U	UG/L
2-NITROANILINE	50	50 U	UG/L
3-NITROANILINE	50	50 U	UG/L
4-NITROANILINE	50	50 U	UG/L
NITROBENZENE	10	10 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	50	50 U	UG/L
N-NITROSODIMETHYLAMINE	10	10 U	UG/L
N-NITROSODIPHENYLAMINE	10	10 U	UG/L
DI-N-OCTYL PHTHALATE	10	10 U	UG/L
PENTACHLOROPHENOL	50	50 U	UG/L
PHENANTHRENE	10	10 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	10	10 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	10	10 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	10	10 U	UG/L
PYRENE	10	10 U	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	53	%
NITROBENZENE-d5	(35 - 114 %)	61	%
PHENOL-d6	(10 - 94 %)	21	%
2-FLUOROBIPHENYL	(43 - 116 %)	71	%
2-FLUOROPHENOL	(21 - 110 %)	33	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	67	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8100 DIESEL RANGE ORGANICS
Reported: 04/06/00

Dames & Moore
Project Reference: TENNECO-MACEDON
Client Sample ID : MP-1

Date Sampled : 03/13/00 13:30 **Order #:** 364293 **Sample Matrix:** WATER
Date Received: 03/14/00 **Submission #:** R2001200 **Analytical Run** 0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 03/15/00			
DATE ANALYZED : 03/16/00			
ANALYTICAL DILUTION: 1.00			
FUEL OIL #2	100	100 U	UG/L
FUEL OIL #4	100	100 U	UG/L
FUEL OIL #6	100	100 U	UG/L
KEROSENE	100	100 U	UG/L
DIESEL RANGE ORGANICS	100	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
O-TERPHENYL	(50 - 150 %)	75	%