



1377 MOTOR PARKWAY  
ISLANDIA, NEW YORK 11788  
TEL 516 232-2600 FAX 516 232-9898

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N.Y.S.D.E.C.—REGION 2

OCT 17 1994

October 13, 1994

HAZARDOUS WASTE  
REMEDATION

A. E. Fazio, P.E.  
Division Engineer  
National Railroad Passenger Corporation  
400 W. 31st Street, Sixth Floor  
New York, New York 10001

Re: Progress Report for the Period August 24, through October 13, 1994 at the Sunnyside Yard, Queens, New York

Dear Mr. Fazio:

Roux Associates, Inc. (Roux Associates) is conducting a Phase II Remedial Investigation (RI), an Addendum to the Phase II RI and related studies at the Sunnyside Yard, Queens, New York (Yard) on behalf of the National Railroad Passenger Corporation (AMTRAK) and the New Jersey Transit Corporation. This report outlines the work that has been completed during this period and identifies work scheduled for the next period.

#### **WORK PERFORMED**

Supplementary delineation soil borings and sampling for polychlorinated biphenyl (PCB) analysis in areas of concern A-8 and A-17 were completed on August 25, 1994. Immunoassay technology was utilized to perform the analyses.

Ductline trench soil sampling to support construction for the static frequency converter station was completed on September 14, 1994. Samples collected were forwarded to I.E.A. Laboratory in Monroe, Connecticut for analysis.

Regularly scheduled, twice monthly Interim Remedial Measures system maintenance and repair were performed during this period. In addition, on July 12, August 25, and September 29, 1994, Area 1 monitoring well water-level and separate-phase petroleum thickness measurements were collected. On August 25, 1994, petroleum samples were collected from Monitoring Wells MW-17, MW-22, MW-50, and MW-54 for PCB analysis.

#### **SCHEDULE**

The twice-monthly operation and maintenance of the IRM system, Area 1 water-level and petroleum thickness measurements, and petroleum sampling is currently scheduled for the remainder of 1994. Roux Associates will continue to submit progress reports for upcoming work on an as-needed basis.

If you have any questions or require additional information, please do not hesitate to call.

Sincerely,

ROUX ASSOCIATES, INC.

Joseph D. Duminuco  
Principal Hydrogeologist/  
Project Manager

cc: R. Gardineer, P.E., NYSDEC Region 2  
C. Villacres, NYSDEC Region 2  
A. Sigona, NYSDEC Region 2  
R. Noonan, AMTRAK  
C. Lin, AMTRAK  
J. Roberts, Esq., AMTRAK  
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R. Lavell, AMTRAK  
C. Warren, Esq., Berle, Kass & Case  
G. Ridsdale, P.E., New Jersey Transit  
S. Lock, Ph.D., Roux Associates, Inc.  
P. Gerbasi, P.E., Roux Associates, Inc.

**ROUX ASSOCIATES INC**



1377 MOTOR PARKWAY  
ISLANDIA, NEW YORK 11788  
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October 11, 1994

Mr. Charles Lin  
Director, Environmental Control  
National Railroad Passenger Corporation  
400 North Capitol Street, N.W.  
Washington, D.C. 20001

Re: Fourth Quarter Progress Report  
Interim Remedial Measures System in Area 1  
Sunnyside Yard, Queens, New York

Dear Mr. Lin:

As you are aware, Roux Associates, Inc. (Roux Associates) has been retained by the National Railroad Passenger Corporation (AMTRAK) to perform regular system maintenance and performance monitoring of the Interim Remedial Measures (IRM) system in Area 1 at the Sunnyside Yard, Queens, New York (Yard) and to present the data collected in quarterly IRM progress reports. The project duration is one year as outlined in the Roux Associates March 17, 1993 Technical and Cost Proposal. This report presents a summary of the performance monitoring data and analytical results for the fourth quarterly period (June 2, 1994 through September 7, 1994).

On September 8, 1993, regular system operation and maintenance (O&M) and performance monitoring commenced and has continued through the period of this report. The work consisted of the following:

- twice monthly system inspection and maintenance including the large diameter filter scavenger (LDFS) and small diameter filter scavenger (SDFS) pumps;
- monthly gauging of the recovery tank and Area 1 monitoring wells (i.e., collection of water-level and separate-phase petroleum thickness measurements); and
- quarterly collection of petroleum samples from Monitoring Wells MW-17 and MW-22, and newly installed monitoring wells MW-50, and MW-54 for polychlorinated biphenyl (PCB) analysis.

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### System Maintenance

The twice monthly system maintenance consisted of the following:

- visual inspection of all equipment and the recovery tank for fitness;
- removal of the SDFS and LDFS pumps to perform routine maintenance including cleaning the filters, and reinstallation of the pumps;
- adjustments to the SDFS pump levels, based upon water-level and petroleum thickness fluctuations; and
- testing and resetting the system control boards.

The SDFS pump levels were adjusted several times during this quarterly period to accommodate rising water levels.

### Gauging

Gauging of the recovery tank and Area 1 monitoring wells was performed at IRM system startup and has continued through the period of this report. Monthly gauging during the fourth quarterly period indicates a rising water table; also, variations in petroleum thickness measurements were noted which may be attributable to the following:

- response of the remaining petroleum accumulation to IRM system petroleum withdrawal;
- response of the petroleum accumulation to fluctuating water levels;
- variable specific gravity and viscosity of petroleum within the accumulation; and
- variable subsurface conditions (i.e., buried conduits and/or obstructions) within the areal extent of the accumulation.

Monitoring wells installed in Area 1 (i.e., MW-50 and MW-54) during the Phase II Remedial Investigation and Addendum conducted at the Yard have been incorporated into the performance monitoring well network for the IRM system. Water-level and petroleum thickness measurements collected during the fourth quarter are presented in Table 1.

Sample Collection

On August 25, 1994, petroleum samples were collected from Monitoring Wells MW-17, MW-22, MW-50, and MW-54 for PCB analysis. The analytical data for this sampling event are presented in Table 2. The results of the laboratory analyses indicated that PCB Aroclor 1260 was detected in all samples. Additionally, Aroclor 1254 was detected in the sample collected from Monitoring Well MW-54.

A review of the above-mentioned PCB results and historical analytical data indicates that the PCB aroclor species and concentrations within the separate-phase petroleum accumulation have remained constant (i.e., within the same order of magnitude) over time. This indicates that the PCBs do not appear to be dispersing within the separate-phase accumulation and the petroleum accumulation does not appear to be migrating.

Recovery tank petroleum thickness measurements collected through September 5, 1994 indicate approximately 1,000 gallons of petroleum have been recovered through the fourth quarter.

As described in an October 5, 1994 letter, Roux Associates will provide continuing O&M and performance monitoring through the next quarterly period.

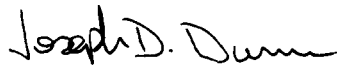
If you have any questions or require additional information, please do not hesitate to call.

Sincerely,

ROUX ASSOCIATES, INC.



Harry Gregory  
Project Hydrogeologist/  
Project Manager



Joseph D. Duminuco  
Principal Hydrogeologist

cc: R. Noonan, AMTRAK  
R. Gardineer, P.E., NYSDEC  
C. Villacres, NYSDEC  
A. Sigona, NYSDEC  
P. Gerbasi, Roux Associates, Inc.

# TABLES

Table 1. Summary of Water-Level and Separate Phase Petroleum Thickness Measurements,  
Sunnyside Yard, Queens, New York.

| June 14, 1994       |  |   |   |                                |   |
|---------------------|--|---|---|--------------------------------|---|
| Well<br>Designation | Measuring Point<br>Elevation<br>(ft above<br>mean sea level) | Depth to<br>Petroleum<br>(ft below<br>measuring<br>point) | Depth<br>to Water<br>(ft below<br>measuring<br>point) | Petroleum<br>Thickness<br>(ft) | Ground-Water<br>Elevation<br>(ft relative to<br>mean sea level) |
| MW-13               | 18.52  | --  | 3.29  | --                             | 15.23   |
| MW-17*              | 20.75  | 4.39  | 6.98  | 2.59                           | 16.03   |
| MW-19               | 21.36  | --  | 7.26  | --                             | 14.10   |
| MW-20*              | 20.33  | 4.21  | 4.70  | 0.49                           | 16.06   |
| MW-21               | 20.83  | --  | 4.65  | --                             | 16.18   |
| MW-22               | 19.44  | 3.10  | 3.93  | 0.83                           | 16.24   |
| MW-23D              | 20.40  | --  | 4.68  | --                             | 15.72   |
| MW-35               | 19.92  | --  | 5.63  | --                             | 14.29   |
| MW-36*              | 21.25  | 6.50  | 6.61  | 0.11                           | 14.74   |
| MW-37               | 19.09  | --  | 5.50  | --                             | 13.59   |
| MW-38D              | 21.50  | --  | 6.02  | --                             | 15.48   |
| MW-39D              | 21.35  | --  | 6.54  | --                             | 14.81   |
| MW-40D              | 22.85  | --  | 6.40  | --                             | 16.45   |
| MW-49               | 20.39  | --  | 5.63  | --                             | 14.76   |
| MW-50*              | 20.20  | 4.41  | 8.96  | 4.55                           | 15.22   |
| MW-51               | 20.42  | 4.23  | 4.42  | 0.19                           | 16.17   |
| MW-52               | 19.24  | --  | 3.55  | --                             | 15.69   |
| MW-53*              | 21.40  | 5.03  | 6.40  | 1.37                           | 16.20   |
| MW-54*              | 20.59  | 4.15  | 4.85  | 0.70                           | 16.35   |
| MW-55               | 20.45  | --  | 4.05  | --                             | 16.40   |
| MW-56               | 22.68  | --  | 6.25  | --                             | 16.43   |
| MW-57               | 23.24  | --  | 6.81  | --                             | 16.43   |
| MW-58               | 19.60  | --  | 3.27  | --                             | 16.33   |
| MW-59               | 22.61  | --  | 6.20  | --                             | 16.41   |
| MW-60*              | 24.56  | 8.14  | 8.88  | 0.74                           | 16.33   |
| MW-63               | 22.10  | --  | 5.85  | --                             | 16.25   |

-- No measurable product.

\* Water-level elevations corrected for presence of separate phase petroleum.  
Correction for separate-phase petroleum assumes density of 0.874 (average  
specific gravity of petroleum samples collected at Yard).



Table 1. Summary of Water-Level and Separate Phase Petroleum Thickness Measurements, Sunnyside Yard, Queens, New York.

| July 12, 1994    |   |   |   |                          |  |
|------------------|---|---|---|--------------------------|--|
| Well Designation | Measuring Point Elevation (ft above mean sea level) | Depth to Petroleum (ft below measuring point) | Depth to Water (ft below measuring point) | Petroleum Thickness (ft) | Ground-Water Elevation (ft relative to mean sea level) |
| MW-13            | 18.52   | --  | 3.05                                      | --                       | 15.47  |
| MW-17*           | 20.75   | 4.21  | 7.02                                      | 2.81                     | 16.19  |
| MW-19            | 21.36   | --  | 7.16                                      | --                       | 14.20  |
| MW-20*           | 20.33   | 4.12  | 4.62                                      | 0.50                     | 16.15  |
| MW-21            | 20.83   | --  | 4.48                                      | --                       | 16.35  |
| MW-22            | 19.44   | 2.90  | 3.68                                      | 0.78                     | 16.44  |
| MW-23D           | 20.40   | --  | 4.47                                      | --                       | 15.93  |
| MW-35            | 19.92   | --  | 5.48                                      | --                       | 14.44  |
| MW-36*           | 21.25   | 6.34  | 6.52                                      | 0.18                     | 14.89  |
| MW-37            | 19.09   | --  | 5.24                                      | --                       | 13.85  |
| MW-38D           | 21.50   | --  | 5.88                                      | --                       | 15.62  |
| MW-39D           | 21.35   | --  | 6.42                                      | --                       | 14.93  |
| MW-40D           | 22.85   | --  | 6.26                                      | --                       | 16.59  |
| MW-49            | 20.39   | --  | 5.34                                      | --                       | 15.05  |
| MW-50*           | 20.20   | 4.20  | 8.79                                      | 4.59                     | 15.42  |
| MW-51            | 20.42   | 4.06  | 4.17                                      | 0.11                     | 16.35  |
| MW-52            | 19.24   | --  | 3.32                                      | --                       | 15.92  |
| MW-53*           | 21.40   | 4.85  | 6.13                                      | 1.28                     | 16.39  |
| MW-54*           | 20.59   | 3.95  | 4.96                                      | 1.01                     | 16.51  |
| MW-55            | 20.45   | --  | 3.91                                      | --                       | 16.54  |
| MW-56            | 22.68   | --  | 6.10                                      | --                       | 16.58  |
| MW-57            | 23.24   | --  | 6.67                                      | --                       | 16.57  |
| MW-58            | 19.60   | --  | 3.08                                      | --                       | 16.52  |
| MW-59            | 22.61   | --  | 6.02                                      | --                       | 16.59  |
| MW-60*           | 24.56   | 7.96  | 8.90                                      | 0.94                     | 16.48  |
| MW-63            | 22.10   | --  | 5.71                                      | --                       | 16.39  |

-- No measurable product.

\* Water-level elevations corrected for presence of separate phase petroleum. Correction for separate-phase petroleum assumes density of 0.874 (average specific gravity of petroleum samples collected at Yard).

Table 1. Summary of Water-Level and Separate Phase Petroleum Thickness Measurements, Sunnyside Yard, Queens, New York.

| August 25, 1994  |   |   |   |                          |  |
|------------------|---|---|---|--------------------------|--|
| Well Designation | Measuring Point Elevation (ft above mean sea level) | Depth to Petroleum (ft below measuring point) | Depth to Water (ft below measuring point) | Petroleum Thickness (ft) | Ground-Water Elevation (ft relative to mean sea level) |
| MW-13            | 18.52   | --  | 2.50                                      | --                       | 16.02  |
| MW-17*           | 20.75   | 3.57  | 7.05                                      | 3.48                     | 16.74  |
| MW-19            | 21.36   | --  | 6.47                                      | --                       | 14.89  |
| MW-20*           | 20.33   | 3.77  | 4.27                                      | 0.50                     | 16.50  |
| MW-21            | 20.83   | --  | 4.04                                      | --                       | 16.79  |
| MW-22            | 19.44   | 2.36  | 2.98                                      | 0.62                     | 17.00  |
| MW-23D           | 20.40   | --  | 3.93                                      | --                       | 16.47  |
| MW-35            | 19.92   | --  | 4.80                                      | --                       | 15.12  |
| MW-36*           | 21.25   | 5.81  | 6.12                                      | 0.31                     | 15.40  |
| MW-37            | 19.09   | --  | 4.66                                      | --                       | 14.43  |
| MW-38D           | 21.50   | --  | 5.45                                      | --                       | 16.05  |
| MW-39D           | 21.35   | --  | 5.82                                      | --                       | 15.53  |
| MW-40D           | 22.85   | --  | 5.75                                      | --                       | 17.10  |
| MW-49            | 20.39   | --  | 4.89                                      | --                       | 15.50  |
| MW-50*           | 20.20   | 3.65  | 8.31                                      | 4.66                     | 15.96  |
| MW-51            | 20.42   | 3.54  | 3.61                                      | 0.07                     | 16.87  |
| MW-52            | 19.24   | --  | 2.79                                      | --                       | 16.45  |
| MW-53*           | 21.40   | 4.40  | 5.92                                      | 1.52                     | 16.81  |
| MW-54*           | 20.59   | 3.25  | 4.40                                      | 1.15                     | 17.20  |
| MW-55            | 20.45   | --  | 3.40                                      | --                       | 17.05  |
| MW-56            | 22.68   | --  | 5.62                                      | --                       | 17.06  |
| MW-57            | 23.24   | --  | 6.17                                      | --                       | 17.07  |
| MW-58            | 19.60   | --  | 2.58                                      | --                       | 17.02  |
| MW-59            | 22.61   | --  | 5.51                                      | --                       | 17.10  |
| MW-60*           | 24.56   | 7.33  | 9.30                                      | 1.97                     | 16.98  |
| MW-63            | 22.10   | --  | 5.19                                      | --                       | 16.91  |

-- No measurable product.

\* Water-level elevations corrected for presence of separate phase petroleum. Correction for separate-phase petroleum assumes density of 0.874 (average specific gravity of petroleum samples collected at Yard).

Table 2. Summary of Polychlorinated Biphenyl Compound (PCB) Concentrations Detected in Seperate-Phase Petroleum Samples, Sunnyside Yard, Queens, New York.

| Sample Designation:   | MW-17   | MW-22   | MW-50   | MW-54   |
|---|---------|---------|---------|---------|
| Sample Date:  | 8/25/94 | 8/25/94 | 8/25/94 | 8/25/94 |
| Analytical Laboratory:  | IEA     | IEA     | IEA     | IEA     |
| Polychlorinated Biphenyl (PCB) Compounds<br>(Concentrations in ug/kg) |         |         |         |         |
| Aroclor-1016  | U       | U       | U       | U       |
| Aroclor-1221  | U       | U       | U       | U       |
| Aroclor-1232  | U       | U       | U       | U       |
| Aroclor-1242  | U       | U       | U       | U       |
| Aroclor-1248  | U       | U       | U       | U       |
| Aroclor-1254  | U       | U       | U       | 4,100   |
| Aroclor-1260  | 12,000  | 11,000  | 25,000  | 4,300   |

ug/kg - Micrograms per kilogram

U - Indicates that the compound was analyzed for but not detected.