ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

ROUX

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

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.

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 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	--	3.29	--	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.

Well Designation	Measuring Point Elevation (ft above mean sea level)	July 12, 1994			
		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.

Well Designation	Measuring Point Elevation (ft above mean sea level)	August 25, 1994			
		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 (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.