ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

209 SHAFTER STREET
ISLANDIA, NEW YORK 11749-5074 TEL: 631-232-2600 FAX: 631-232-9898

August 12, 2008

John R. Strang. P.E.
New York State Department of Environmental Conservation
1130 North Westcott Road
Schenectady, New York 12306-2014

Re: Work Plan for a Limited Soil Investigation in the area of PZ-10, Lagoon Area
BASF Rensselaer Facility, Rensselaer, New York
Site No. C442035

Dear Mr. Strang:

A limited soil investigation will be performed in the vicinity of wells LG-PZ-10 and former Well LG-MW-1 in the Lagoon area. The goal of the investigation is to determine whether a soil source of arsenic exists in the soil surrounding the wells that can explain the high concentrations of arsenic detected in groundwater in the vicinity. Concentrations of arsenic in filtered groundwater samples were as high as 24,000 micrograms per liter ("µg/L") in LG-MW-1 (2001 data) and 30,000 µg/L in PZ-10 (2007 data). The dissolved arsenic in PZ-10 has not decreased in response to two rounds of Metals Remediation Compound (MRC™) injection, as discussed below and summarized in the Remedial Action Report (RAR) and Remedial Action Work Plan (RAWP) for the former lagoon area (Roux Associates, 2007).

BASF contracted with EnviroAssociates International, Inc. (EAI) to treat the dissolved-phase arsenic *in situ*. EAI chose the Regenesis Corporations' Metals Remediation Compound (MRC™) for the treatment process. MRC™ works by creating reducing conditions and supplying a source of sulfur, thereby stimulating biotic and abiotic formation of arseno-sulfide precipitates. As the arseno-sulfides are formed, the dissolved-phase concentrations of arsenic decline.

Two rounds of *in situ* treatment that included the area of PZ-10 were performed. The first occurred in May 2005, and the second was performed in August 2006. In the first treatment round, MRC™ was injected into the groundwater at approximately 150 points along the berms of the two lagoons. In the second treatment round, a similar injection methodology was used except that particular attention was focused on the areas near the wells, including PZ-10, in which the highest concentrations or arsenic were observed.

The treatment was successful in reducing arsenic concentrations 93 to 98 percent in most of the wells tested. Only in well PZ-10 did dissolved-phase arsenic levels increase or remain high since the beginning of the treatment.

Note that soil in the vicinity of PZ-10 had been excavated during previous remedial activities for Areas 4A and 4C (Figure 1). The soil investigation is not to extend into the

previously excavated areas. The approximate limits of the excavated areas will be marked out using stakes and survey tape prior to initiation of soil sampling activities.

Prior to initiation of soil boring activities, locations of underground utilities will be marked out based on plant drawings to be provided by BASF personnel.

Soil borings will be completed at 10 locations in the vicinity of LG-PZ-10 and LG-MW-1 in the Lagoon Area (Figure 1); working radially outward from the two wells in approximate 10-foot spacing's. Soil borings will be advanced using a Geoprobe® direct push sampler in four-foot intervals from ground surface to the water table (estimated at 15 feet below land surface). Each soil interval will be collected in a dedicated acetate sleeve. After a soil interval is collected, the sleeve will be laid on a piece of clean polyethylene sheeting and opened by scoring lengthwise. The soil core in the sleeve will be separated into two-foot sections. Each two-foot section will be cut in half lengthwise. One half will be placed in a zip-lock bag and homogenized. Following homogenization, sufficient soil from the zip-lock bag will be used to fill a sample jar and then placed in a cooler at 4°C. The remaining undisturbed half of the soil sample will be visually characterized according to the Unified Soils Classification System. All soil samples will be analyzed for total arsenic using Method 6010B. An analytical turnaround time of 14 days will be specified. Remaining soil will be placed back into the borehole, and the borehole finished to land surface with clean sand. Boreholes completed in asphalt areas will be restored with an asphalt patch.

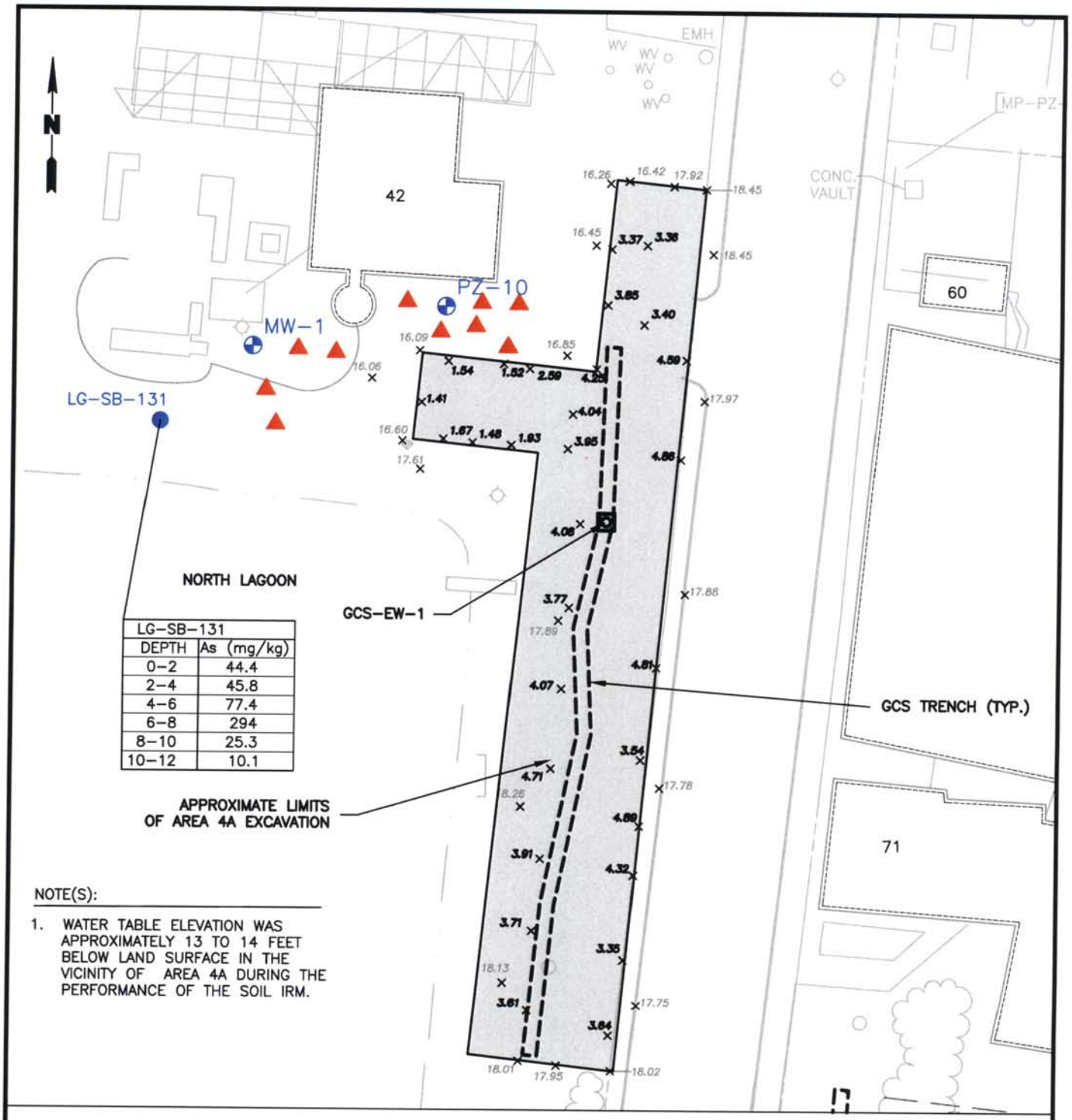
A report summarizing the methods and results of the limited soil investigation will be prepared and submitted to the New York State Department of Environmental Protection for review.

If you have any questions, please do not hesitate to call.

Sincerely,
ROUX ASSOCIATES, INC.

Nathan Epler, Ph.D.
Principal Hydrogeologist

cc Maureen Schuck, New York State Department of Health
Bruce Donovan, New York State Department of Health
Keith Goertz, New York State Department of Environmental Conservation
Chris O'Neill, New York State Department of Environmental Conservation
Doug Reid-Green, BASF Corporation
Wayne St. Claire, BASF Corporation
Hank Martin, Environmental Liability Management
Michael Roux, Roux Associates, Inc.



LG-SB-131	
DEPTH	As (mg/kg)
0-2	44.4
2-4	45.8
4-6	77.4
6-8	294
8-10	25.3
10-12	10.1

NOTE(S):

1. WATER TABLE ELEVATION WAS APPROXIMATELY 13 TO 14 FEET BELOW LAND SURFACE IN THE VICINITY OF AREA 4A DURING THE PERFORMANCE OF THE SOIL IRM.

LEGEND

- EXCAVATION TO APPROXIMATELY 1' BELOW THE WATER TABLE (SEE NOTE 1)
- 3.61 × LOCATION OF SURVEY CONTROL POINT AND ELEVATION OF EXCAVATION BOTTOM IN FEET RELATIVE TO MEAN SEA LEVEL
- 18.01 × LOCATION OF SURVEY CONTROL POINT AND ELEVATION OF SURROUNDING GRADE IN FEET RELATIVE TO MEAN SEA LEVEL
- ▲ PROPOSED GEOPROBE SAMPLING LOCATION
- ● SOIL BORING COMPLETED DURING ADDITIONAL REMEDIAL INVESTIGATION ACTIVITIES (2/01)

40' 0 40'

Title:

PROPOSED GEOPROBE SAMPLING LOCATIONS

LAGOON AREA
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
FLORHAM PARK, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: N.E.	Date: 16JUL08	FIGURE
Prepared by: R.K.	Scale: AS SHOWN	1
Project Mgr: N.E.	Office: NY	
File No: BF1150501	Project: 25111Y31	

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