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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Duane Heaton
Deputy Project Officer
Emergency Response Section
Western Response Unit
U.S. Environmental Protection Agency
11th Floor
230 South Dearborn Street
Chicago, Illinois 60604

September 7, 1989

TAT-05-G2-01322

Re: Washington Street Quarry, Kokomo, Indiana
TDD# 5-8905-26

Dear Mr. Faryan:

On May 31, 1989, the U.S. Environmental Protection Agency (U.S. EPA) tasked the Technical Assistance Team (TAT) to respond to a chemical release at Washington Street Quarry (WSQ), a low-level radiation site in Kokomo, Indiana (Figure 1).

The WSQ site is owned and operated by the Cabot Corporation (Cabot). In the early 1970s, Cabot purchased Oak Ridge National Laboratories from Union Carbide Corporation; this acquisition included the WSQ. In the decade preceding the sale to Cabot, Oak Ridge National Laboratories was involved in two projects involving uranium. Union Carbide obtained an Atomic Energy Commission (AEC) permit and later a Nuclear Regulatory Commission (NRC) permit to dispose of radioactive material. Bechtel Construction Corporation (Bechtel) is currently under contract to Cabot to excavate and dispose of radioactive waste, placed in the quarry by Oak Ridge National Laboratories.

On May 31, 1989, TAT members Nick Rombakis and Steven Bosko accompanied On-Scene Coordinator (OSC) William Sines to a chemical release at the WSQ site. The TAT and the OSC met with Walt Farnsworth, an engineering consultant; Samuel Stoddard, a superintendent at Bechtel; and Pat Dentler, site safety officer at Bechtel who provided information on the release. Bechtel had excavated approximately 10 feet when the operator ruptured a drum of unknown acid (Figure 2). The contents discharged into the environment producing a dense white plume of smoke with a distinct "rotten egg" odor. Steve Kucholick and Tony Merriwether of the

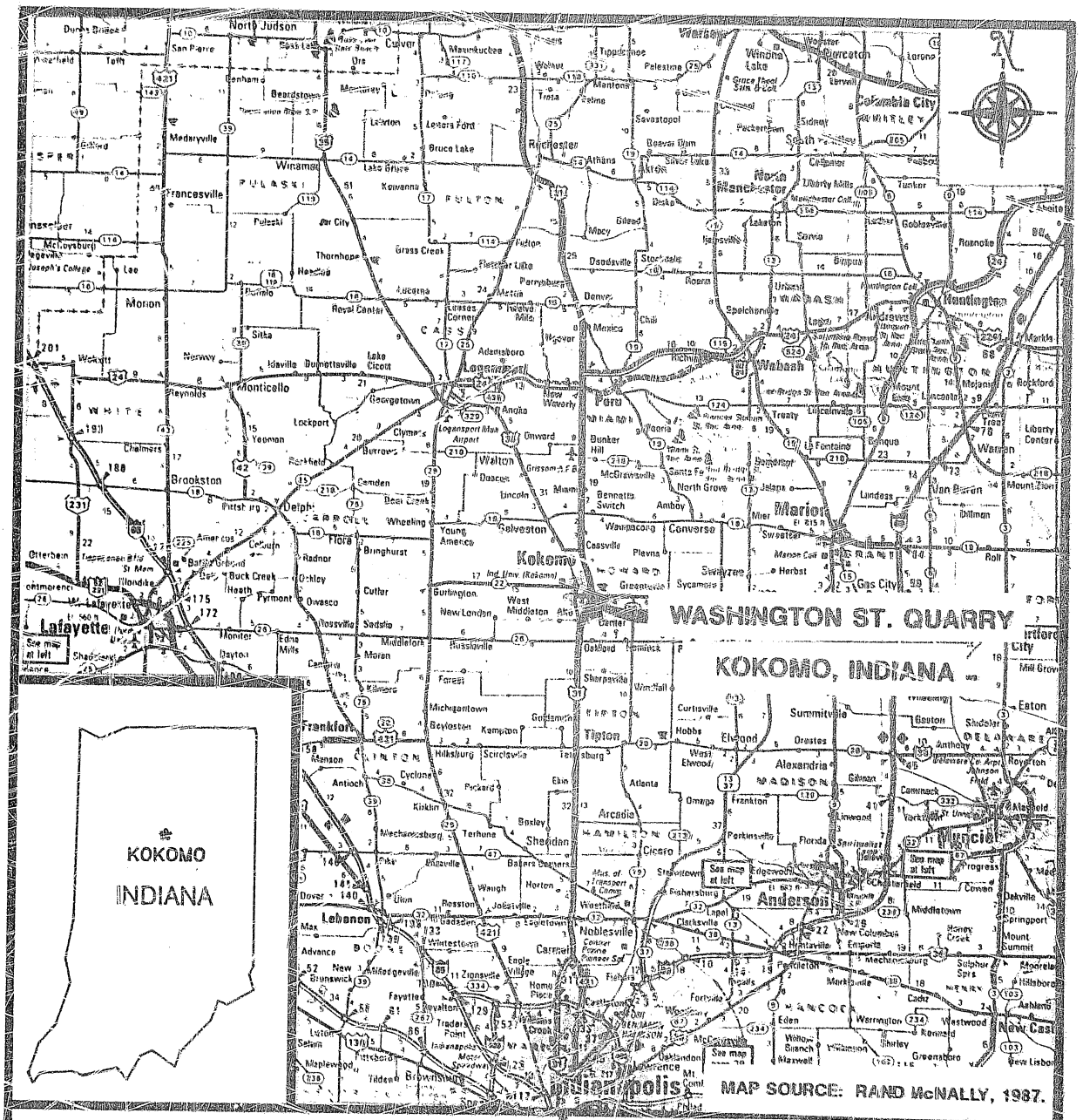

FIGURE 1
SITE LOCATION MAP
WASHINGTON ST. QUARRY
KOKOMO, INDIANA

NOT TO SCALE

WESTON
MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
SRB	6-27-89	2240
APPROVED BY	DATE	TDD #
CC	6-27-89	5-8905-26

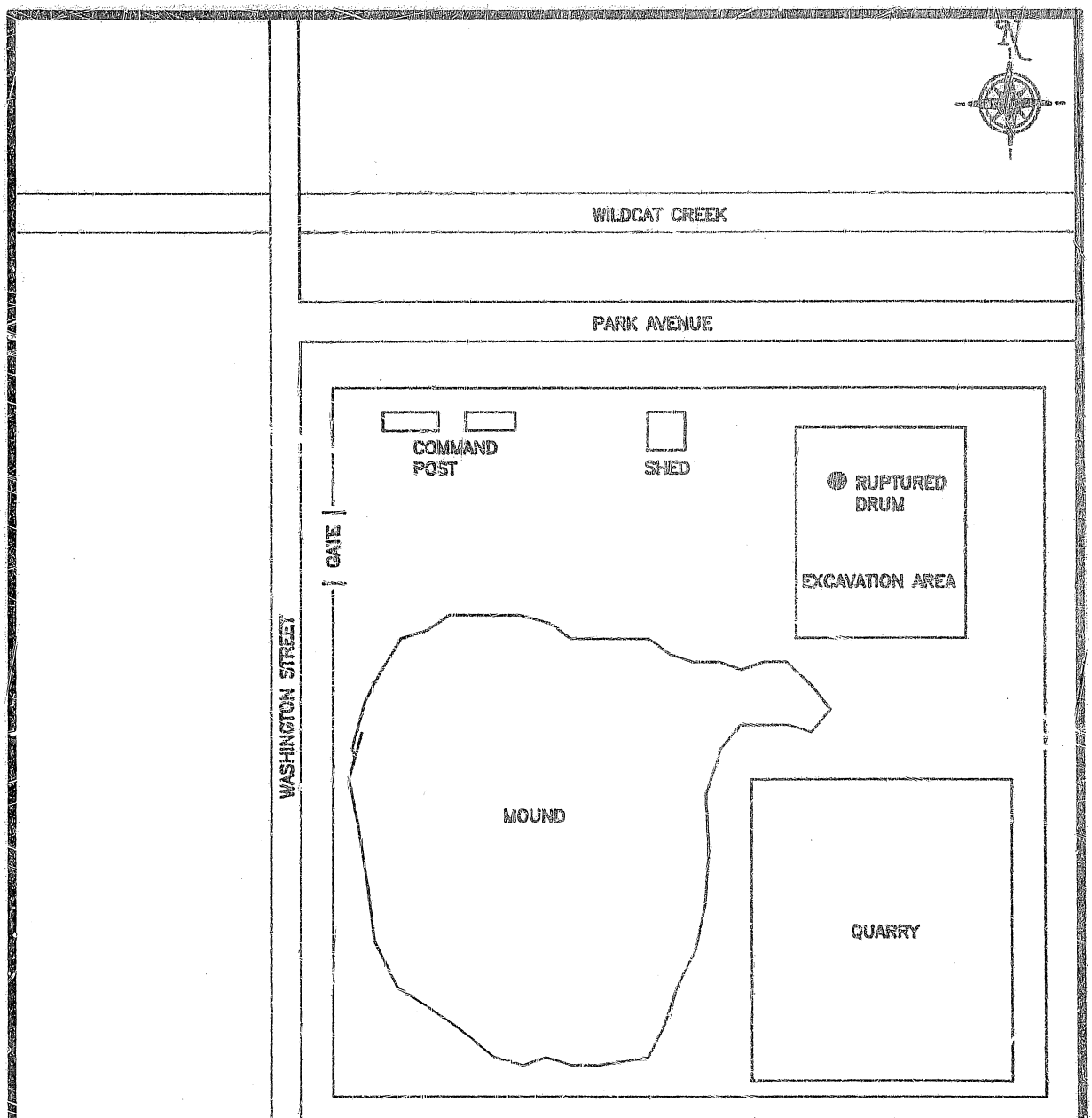

FIGURE 2

SITE MAP

WASHINGTON STREET QUARRY

KOKOMO, INDIANA

NOT TO SCALE

WESTON

MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY SRB	DATE 6-27-89	PCS # 2240
APPROVED BY CC	DATE 6-27-89	TDD # 5-8905-26

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Kokomo Fire Department collected soil samples from the spill area and performed on-site tests for chlorine, ammonia, and sulfates. The tests were negative for each of the tested constituents.

Another soil sample was collected around the punctured drum and sent to Don Kostergewa, a plant engineer at Delco Electronics for analysis. The Delco analysis indicated a material with a low pH, high sulfuric acid content, 200 parts per million (ppm) of organic solvents, and 80 ppm of hydrogen sulfide. No chlorine, ammonia, or heavy metals were detected in the sample.

The TAT and the OSC performed a perimeter site inspection, and conducted air monitoring with a organic vapor analyzer (OVA), a combustible gas indicator (CGI), and a radiation meter. Air monitoring revealed no readings above background.

The TAT observed several drums partially buried in the soil. The ruptured drum was surrounded by a black, porous, charred area, interspersed with a yellow crystalline solid. The TAT and the OSC collected a composite sample of the contaminated soil and the yellow solid. The OSC relinquished the sample to Mr. Farnsworth, who informed the OSC that the yellow solid was sulfur. The TAT and OSC theorized that when the drum containing the acid ruptured, the acid reacted with the sulfur and generated heat. The heat vaporized the sulfur, creating the "rotten egg" odor and the white plume reported by the Bechtel employees. Based on the charred soil, the nature of the reaction, and the analytical results provided by Delco Electronics, the acid may have been sulfuric acid.

The OSC recommended that Bechtel use a hydrogen sulfide analyzer (Monitox), halt operations until the analytical results of the sample were received, and restrict employee access during times of excavation. The OSC informed the TAT that no further action by the TAT was necessary.

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Should you have any questions or require additional information, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.

Steven R. Bosko

Steven R. Bosko
Environmental Scientist

Phillip C. Wicklein
Technical Assistance Team
Leader, Region V

SRB:dn

Attachment

ATTACHMENT A

PHOTOGRAPHS

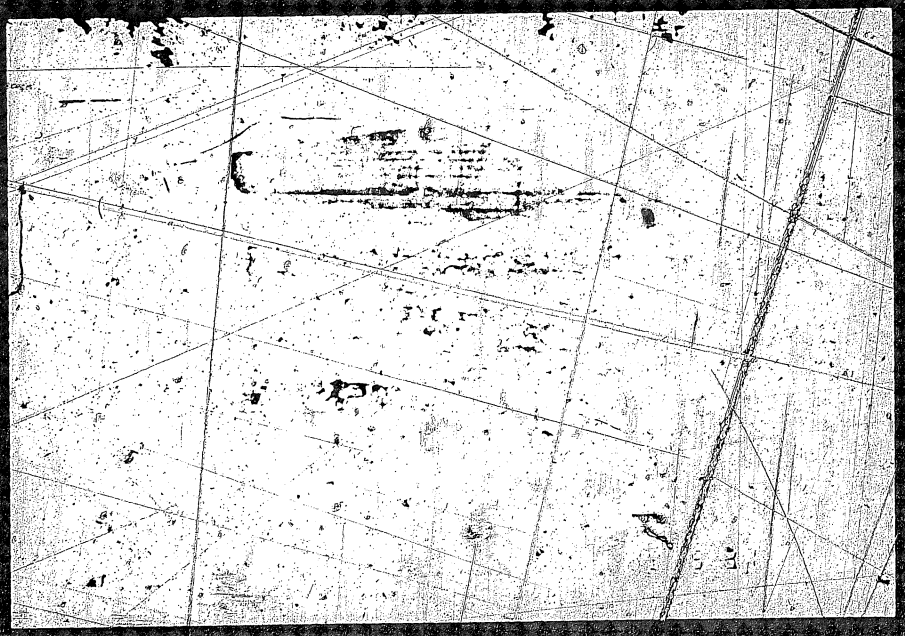

PHOTO: 1
SITE NAME: Washington Street Quarry
DESCRIPTION: View of excavation area where ruptured drum is located.

DATE/TIME: 5-31-89/1800
PHOTOGRAPHER: Steven Bosko
FILM: 35 mm/100 ASA

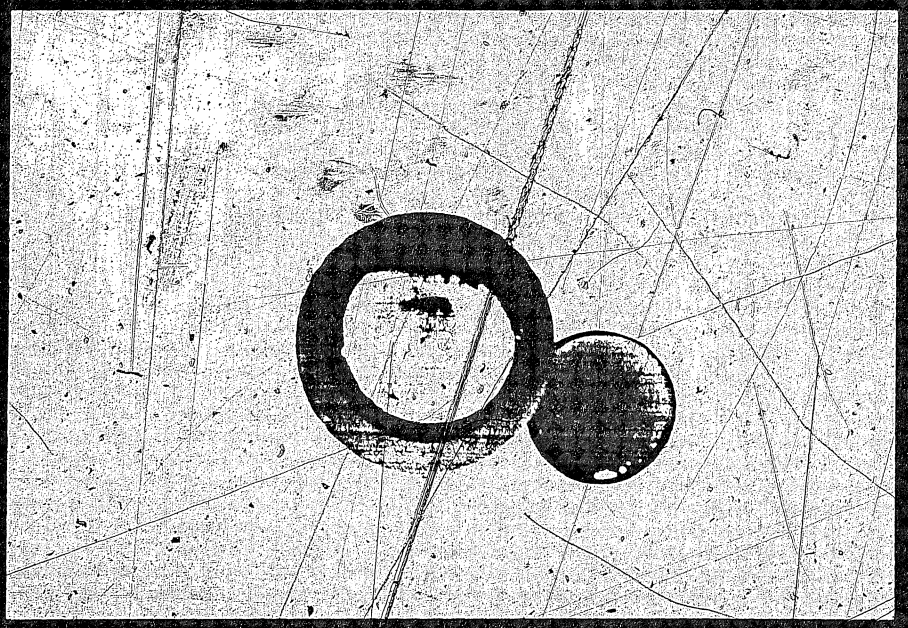

PHOTO: 2
SITE NAME: Washington Street Quarry
DESCRIPTION: Composite sample of charred soil and sulfur.

DATE/TIME: 5-31-89/1815
PHOTOGRAPHER: Nick Rombakis
FILM: 35 mm/100 SA