United States Army

Fort Monmouth, New Jersey

Spill and Site Remediation Update Report

Gas / Fuel Oil Discharge

COMMISSARY CONSTRUCTION SITE

Main Post Area

NJDEP Case # 97-1-11-0938-02

February 9, 1997

SITE UPDATE REPORT

GAS \ FUEL OIL DISCHARGE

COMMISSARY CONSTRUCTION SITE
MAIN POST AREA
NJDEP CASE NO. 97-1-11-0938-02

FEBRUARY 9, 1997

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1.0 Discharge Response Actions

On January 3, 1997, an fuel odor was observed coming from excavated soils at the commissary construction site at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey (Figure 1). The Commissary Construction Site includes the subsurface installation of electric, water, sewer, storm drains and communication services as well building and parking facilities. The Fort Monmouth Directorate of Public Works Environmental Office immediately responded to the report. The soil was observed to be contaminated with some type of petroleum product of unknown origin. An area approximately 80ft. by 80ft. was suspected to be contaminated to a depth of 7ft.. Samples from three areas (the highest observed contaminated areas) were taken and were analyzed for TPHC. The highest TPHC sample was 20,400 mg/kg and was from an area 7 ft. below ground surface at the new water main excavation. That sample was also analyzed for TCLP and Total metals and was found to be below NJDEP residential clean-up criteria for all metals except arsenic which was 3.7 mg/kg with an NJDEP standard of 2 mg/kg. The discharge was reported to The New Jersey Department of Environmental Protection (NJDEP), case number 97-1-11-0938-02 was assigned. Due to the contractual delay as well as the Army's commitment to a clean environment it was determined that further site investigation activities would commence and the site would be restored to the best extent possible.

1.1 Site Investigation

The site investigation was performed by licensed U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E). In an effort to determine the cause of the discharge, soils within the area were screened visually for evidence of contamination as well as sampled and analyzed by the Fort Monmouth Environmental Testing Laboratory, an NJDEP Certified Laboratory. Due to the extreme cold no field instruments were operational therefore, when necessary, samples were taken to the laboratory for complete analysis.

Construction plans and other historical data were researched and pertinent information was found. The information includes: drawings of a UST system and piping, an aboveground fuel storage system, and a railroad yard which brought the fuels to a main fueling station area adjacent to the railroad. These drawings provided the locations of all the piping systems and directed us directly to the source of contamination.

1.2 Findings

During the review of historical data it was determined that 1n 1945 a railroad operated within the construction area. Drawings showed that an elaborate fuel distribution system operated on-site and it allowed for the off-loading of fuels from rail car. Heating oil was pumped to a 55 thousand gallon aboveground storage tank and gasoline was pumped to an underground storage tank system located over 420 feet from the railroad are and approx. 200 feet south of the Commissary construction site. Current employees remember the UST system and stated that it was removed in the late 1960's. Only a dirt berm remains from the AST.

Jan. 14, The piping from the UST system was uncovered and traced to the within 15 feet of the railroad track. Several valves were found and the area was found to be contaminated with petroleum in excess of 3,000 mg/kg TPH. It was observed that the fuel migrated from the piping area to the railroad bed (in some areas 4 feet in depth) which was a highly porous dirty stone material.

Jan 15, soil excavation from the fuel distribution/railroad track area. The contaminated material was excavated and transported to the ID-27 soil pile staging area.

Jan 14, gas pipe excavation from the fuel distribution/railroad track area facing north. This pipe led us to the most contaminated area (the rail-car off-loading area) which is believed to be the source area for the fuel contamination.

1.3 FIELD SCREENING/MONITORING

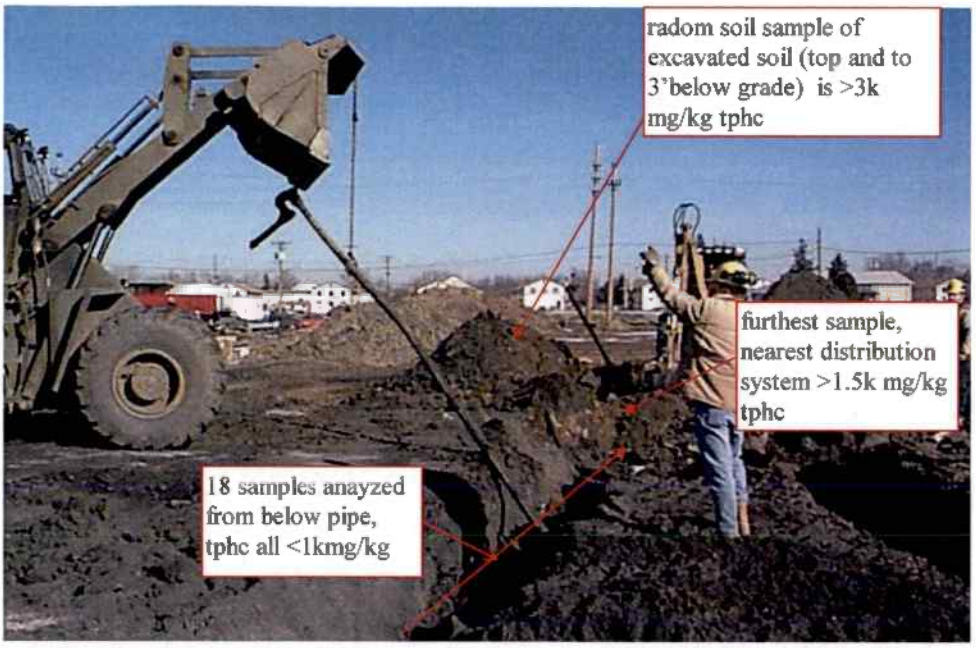
Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank and appurtenant piping, as well as the UST excavation sidewalls and bottom, were found to be free of potential contamination.

1.4 SITE INVESTIGATION ACTIVITIES

SOIL SAMPLING

Soil sampling was performed to determine areas needing further excavation and areas needing no further excavation. No field screening was possible due to the cold weather . Samples were collected every five feet along the perimeter and a grid of ten feet by ten feet for the assessment of the bottom of the excavation. The increase above the allowable sampling frequency by the NJDEP for such a site was due to the inability to field screen the site with an OVA or FID.

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements* and the NJDEP *Field Sampling Procedures Manual.* The samples were collected using decontaminated stainless steel scoops or taken directly into the sample container. Following soil sampling activities, the samples were chilled and delivered to U.S. Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey for analysis.



Jan. 15, gas pipe excavation / removal from the fuel distribution/railroad track area sample results show a clean excavation and approx. 50 ft. of the pipe-run has been backfilled.

Central excavation area (fuel distribution/railroad track area) sample results show a clean excavation and the area is being backfilled.

West excavation area (railroad track area)
sample results show a clean excavation and the area is being backfilled.

1.5 Hazard Abatement

From January 13th to present, the site has been under remedial excavation activities which have resulted in the removal of approx. 4,000 cubic yards of petroleum contaminated soils.

ID-27 soil pile storage area near the excavation site. The area is covered top and bottom by poly tarps and is bordered by hay-bails to control any soil run-off as a precaution. Approx. 4,000 cubic yards of soil were removed.

2.0 Conclusions and Recommendations

The Directorate of Public Works, Fort Monmouth recommends that a DER be applied for areas under utilities which were not remediated by excavation activities. Additional assessment and possible further activities will be required at the site of the old UST tank field as well as the AST area. The Site of the Commissary construction will be backfilled for completion of the construction project. The DPW Environmental Office will coordinate further activities with the NJDEP.