DUNN

REMEDIAL PLAN
AREA 4 SOILS
AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA FACILITY

Prepared for:
American National Can Company
Chicago, Illinois

June, 1992

DUNN CORPORATION

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1.0 INTRODUCTION

This remedial plan was prepared by Dunn Corporation (DUNN) at the request of the American National Can Company (ANCC) to address conditions at ANCC's Oakland, California, facility (the Site). Five areas of concern have been investigated at this facility. This workplan presents our approach to soil remediation in Area 4, as it was delineated in the Subsurface Investigation (SI) Report (DUNN, 1991).

1.1 Site Description

1.1.1 Physical Setting

The Site is located at 3801 East 8th Street in Oakland, California, in an area of commercial and industrial land use. The property is a triangular shaped parcel bordered by East 8th Street to the northeast, 37th Avenue to the west, and Alameda Avenue to the south. The Site occupies approximately 16 acres of which 80% is covered by a series of interconnected buildings. Most of the remaining land areas are paved and are principally used for vehicle parking and truck loading/unloading.

Area 4 is located on the southern portion of the plant property and generally includes the vicinity of the Compound Storage building. The plant boundary and Alameda Avenue are located immediately south of Area 4.

1.1.2 Site History

The Site has been used exclusively for the manufacturing of steel beverage and food cans since American Can Company began operations in the early 1900's. The merger of National Can Corporation with American Can Company in 1986 led to the formation of the current Site owner, ANCC. In 1988, the manufacturing process was discontinued and now the Site is used only for warehousing purposes.

Typical can manufacturing operations are believed to have utilized various solvent- and petroleum-based compounds related to either the manufacturing process, the fueling of vehicles, or the heating of the facility.

1.1.3 Prior Subsurface Investigations

Prior to December 22, 1988, a 500 gallon underground storage tank (UST) was reportedly removed from service, cleaned and filled with sand or neat cement, and permanently closed. The tank was used for the storage of gasoline motor fuel used in the plant vehicles. The associated above ground dispensing equipment is no longer present. There is no information available concerning closure assessments performed on this UST site.

In 1987, Aqua Terra Tech Corporation removed a group of seven USTs from the area immediately east of the Compound Storage building. These tanks had been used to store

various coatings and coating-related products used in the food and beverage can manufacturing process. The UST removal activities included the excavation of contaminated soil from the tank pit. During the excavation, an 8-inch propane line was encountered along the east and north ends of the pit. When this pipeline was undermined by the excavation of soil, it sagged and began to leak. In addition, the excavation was advanced to the point at which it was endangering the Compound Storage Building's foundation. Emergency procedures were initiated, which included repairing the leak and backfilling the pit to provide support to the pipeline and building foundation. As a result of these actions, some of the contaminated soil could not be removed. In addition, the buried pipeline, which was used to transfer product from the UST to the lithography operations in Building 12 remained in place.

In August, 1989, Dames & Moore conducted a Phase I site investigation at the request of ANCC. The final report was issued in February, 1990. This property-wide study included the installation of one ground water monitoring well and the collection of five (5) shallow soil samples in Area 4.

In late 1990, 1991, and early 1992 DUNN conducted subsurface investigations at the request of ANCC. Reports were issued in August, 1991, January, 1992, and March, 1992.

Soil borings were drilled in all areas to allow for soil sample collection and the installation of ground water monitoring wells. Soil samples were collected from all borings to evaluate subsurface conditions and to delineate the nature and extent of soil contamination. Where possible, all soil samples were screened for total volatile organic compounds using an HNU with a photoionization detector (PID) through headspace analyses. Based on the results of this screening and on visual observations, selected samples were sent to a California-certified laboratory to be analyzed for specific chemical compounds.

Soil borings were advanced in the vicinity of the location of the seven former product USTs. Xylene and petroleum hydrocarbon contamination were found primarily in the northern end of the backfilled excavation. This may be the result of one or more historic spill/overfill incidents related to the gasoline UST and dispensing equipment previously located in the area or to vehicular traffic in this truck loading/unloading area.

A soil gas survey was conducted in June of 1991, in the vicinity of the closed gasoline UST and the product pipelines, to gain additional information on the possible presence and extent of soil contamination in those locations. An area near the product pipelines was outlined in which volatile organic vapors were detected with a PID. Samples from a soil boring in the vicinity were analyzed and xylene and petroleum hydrocarbon contamination was reported in the three-foot-thick sandy fill nearest the ground surface, above a dense, relatively impermeable tidal marsh layer (DUNN, 1991).

1.2 Remedial Approach

In order to restore the plant site and mitigate potential environmental liabilities, several steps are recommended to remediate soil contamination. They are:

- Excavation of contaminated soils along the product pipelines;
- Removal of the product pipelines;
- Location, inspection, and, if warranted, removal of the permanently closed gasoline UST and associated piping; and
- Disposal of contaminated soils, piping, and, possibly, the tank.

2.0 DESCRIPTION OF REMEDIAL PROGRAM

2.1 Site Preparation

Site preparation consists of modifications and improvements at the Site which are necessary to implement the remedial program in accordance with the requirements of this plan. This includes the preparation of decontamination facilities and the removal of concrete and/or pavement.

2.1.1 Decontamination Facilities

All equipment used during remedial activities will be decontaminated at a temporary decontamination pad before it leaves the Site. All decontaminated water will be contained, collected, and disposed of in a manner consistent with State and local regulations. A boot-wash will be maintained in the immediate vicinity of the work area. Personnel will use the boot-wash prior to leaving the work area.

2.1.2 Site Health and Safety

Safe working conditions in and around all open excavations will be maintained in accordance with OSHA (29 CFR 1926) requirements. Open excavations will be clearly marked and bounded with barrier tape, as necessary. Runoff will be diverted from excavations and any water accumulating in trenches will be removed and disposed of prior to the backfilling of excavations.

2.2 Soil, Product Pipelines, and UST Tank Removal

Contaminated soil will be identified by visual inspection (discoloration, sheen, etc.) and PID readings. Soil monitoring with a PID will be conducted as described in Section 2.2.1. The buried product pipelines and any associated contaminated soil will be excavated. Beginning at Building 12 and advancing towards the Compound Storage building, excavation will proceed to the edge of the concrete driveway. Excavation and removal of the product pipelines from beneath the concrete driveway will be performed only if it is deemed necessary after review of conditions encountered during the field activities.

The same obstructions (8" pressure pipeline, building foundation) that precluded removal of soil around the buried pipeline in 1987 still exist in the area. As a result, the soil, although possibly contaminated, cannot be removed from the north and west edges of the former product UST area.

2.2.1 Soil

Site background readings taken with the PID course of one year of field work have ranged between 0 and 20 units. The soil gas survey conducted along the product

pipelines in June, 1991, delineated a contiguous zone of PID readings above 30 units which stood out amid readings of less than 22 units.

Soil above and around the product pipelines between Building 12 and the concrete driveway will be excavated and screened with a PID. The excavated soil will be segregated according to observed staining and PID readings. Soil will be considered contaminated if there is visible evidence of petroleum hydrocarbons or if PID readings exceed 30 units (10 units above background). The anticipated extent of soil excavation is depicted in Figure 1.

Clean soil that may be incidentally removed from the excavation (soil that exhibits no visual impact by petroleum hydrocarbons and tests at less than 30 units with a PID) will be stockpiled on site. Composited samples of this stockpiled soil (one sample per 250 yards) will be collected and analyzed for benzene, toluene, ethyl benzene, and xylenes (BTEX) and total petroleum hydrocarbons as gas (TPHg) (by DHS LUFT methods). If the analytical results exceed 5 ppm of any single BTEX compound, or 20 ppm total BTEX or 250 ppm for TPHg, the soil will be properly disposed of off-site; otherwise, the soil will be used for backfill when all contaminated soil has been excavated.

2.2.2 Product Pipelines

Once the soil is removed from around the product pipelines, the pipelines will be emptied of any remnant products. The pipelines will then be removed, flushed and rinsed, and properly disposed. Any inaccessible piping (i.e., where piping enters Building 12 and beneath the concrete driveway) will be drained, plugged, and abandoned. All liquids removed from pipelines and rinsate will be contained in USDOT-approved 55-gallon drums and temporarily stored on site pending proper disposal.

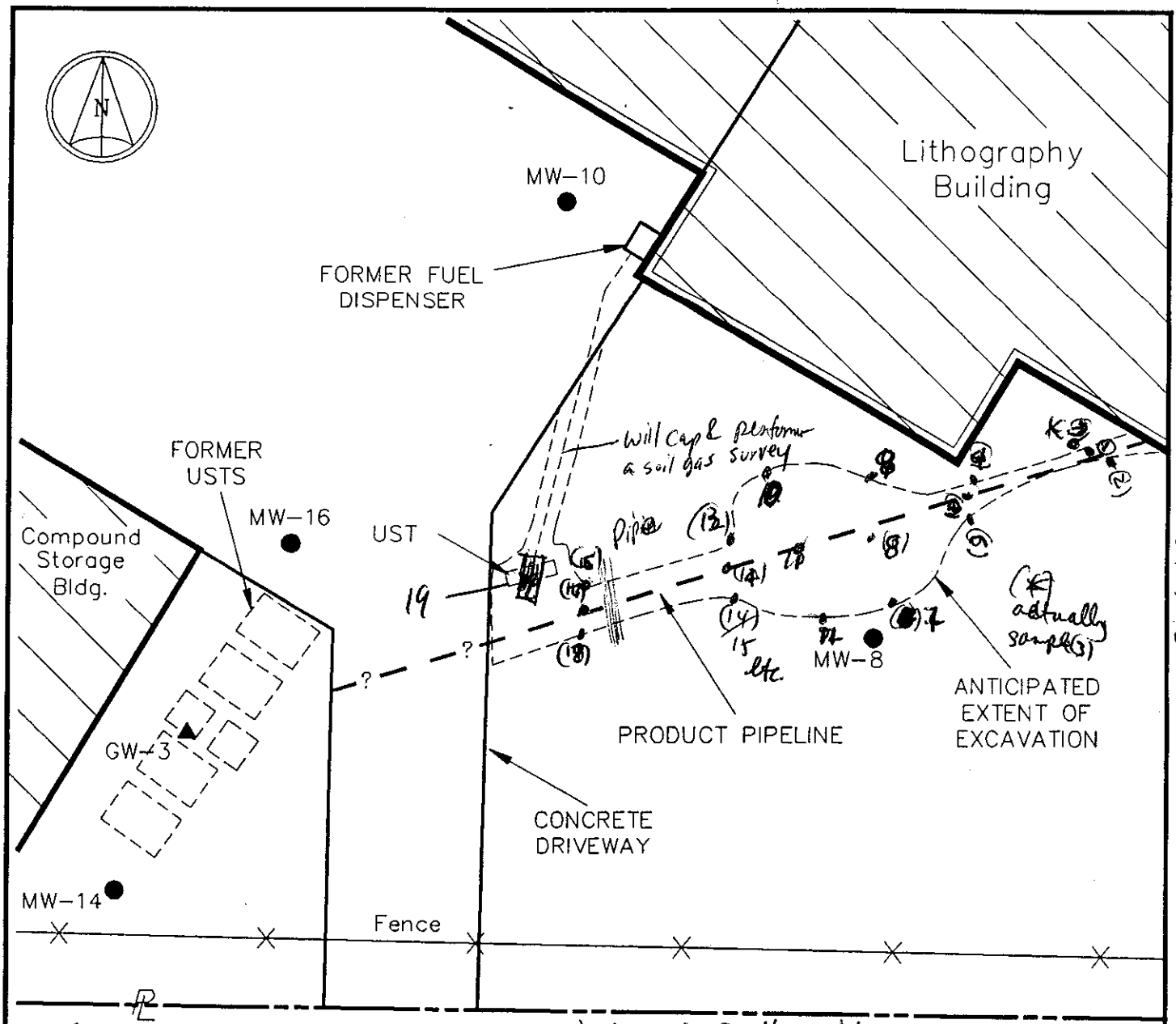
2.2.3 UST

In the process of removing contaminated soil and the product pipelines from Area 4, the abandoned 500 gallon gasoline UST and associated piping buried in the vicinity may be encountered. The soils in the vicinity of the UST will be assessed for evidence of UST leakage by visual examination and by screening with a PID. If such impact is evident, the contaminated soil will be removed, as will the UST and piping. Soils will be treated in a manner similar to the pipeline-related soils.

2.2.4 Confirmatory Sampling

Once the pipelines and contaminated soil are removed, post-excavation confirmatory soil samples will be taken to ensure that all impacted soils have been removed. Confirmatory samples will be collected from locations each 20 feet along the bottom of the pipeline trench, from locations corresponding to the intersections of imaginary gridlines spaced 20 feet apart in the excavation bottom, and from locations at vertical midpoints of excavation walls at intervals of 20 feet. Confirmatory samples will be submitted to a California-certified laboratory for analyses. An analytical result for a

10/28/92 Field Notes



(1) piping sple depth ~ 3'
(2) ~~Earth~~ wall ~ 1½ bgs
(3) North wall ~ 1½' bgs
(4) piping sple depth ~ 3'
(5) South wall ~ 1½' bgs
(6) north wall ~ 2' bgs
(7) piping sple ~ 3½ bgs
(8) South wall ~ 2' bgs
(9) South " ~ 3' bgs - black clay
(10) piping sple ~ 7-8' tan
(11) south wall ~ 3½' bgs black
(12) N wall ~ 3.5' bgs black
(13) piping sple ~ 8' bgs - tan
(14) S wall ~ 5' bgs
(15) N wall ~ 1.5' bgs
(16) center ~ 3' bgs
(17) S wall ~ 1.5 bgs actually a total of 18 sples
(18) ~ 8', into native under former tank location

Stockpiled soils on west side of RR tracks on prop.

Geology - grey fill (1-2') over black marshy clay (2-5') over ~5' tan silty clay + gravel sand

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PROPOSED SOIL EXCAVATION PLAN

ANC – OAKLAND

PROJECT NO. 02345-01983	DATE 6/92	SCALE IN FEET 0 15 30	FIGURE NO. 1

A8985A4D

sample above 5 ppm for any single BTEX compound or 20 ppm for total BTEX or 250 ppm for TPHg will require additional remediation in the area of the sample. The area represented by a sample is considered to be the area halfway to the nearest sample location in each direction.

2.3 Treatment and Disposal

2.3.1 Soil Disposal

Contaminated soil will be placed on a specially prepared portion of the asphalt-paved parking lot north of the property boundary along Alameda Avenue. Preparation for soil placement will consist of placing plastic sheeting on the asphalt. Berms formed from the clean stockpiled soil and other clean fill, as necessary, will be placed under the edges of the sheeting to form a containment cell in which the contaminated soil will be placed.

Disposition of the stockpiled soil will be determined by analytical results of composite samples collected from the stockpile, in a manner similar to that described in Section 2.2.1 for excavated soil. The soil that requires off-site disposal will be manifested and properly disposed of at a licensed disposal facility.

2.3.2 Tank and Pipeline(s) Disposal

As stated above, a product pipeline, and possibly a gasoline pipeline and/or a UST, will be removed for disposal. The pipelines and tank will be drained and rinsed as necessary and disposed of off-site.

Tanks must be hauled as hazardous waste by a State Registered Hazardous Waste Transporter. The tanks must be hauled to a State Registered Hazardous Waste Facility where they will be cleaned.

Once the soil is removed from around the solvent pipeline, the pipeline will be drained and flushed in-place. The rinsate will be contained and treated on-site as described briefly in Section 3.0 of this plan. The pipeline will then be removed and disposed of off-site. It is anticipated that ground water will not be encountered during this remedial program. However, if any water is encountered, it will be removed from the excavation and contained and treated on-site with the contaminated groundwaters. Groundwater treatment is addressed in a remedial plan submitted under separate cover.

3.0 SITE RESTORATION

Once excavation and removal activities are complete, the clean stockpiled soil and crushed pavement will be replaced and compacted into the excavations. Additional fill material, as necessary, will be obtained from an off-site borrow source. The affected area will be repaved after all excavation/fill activities are complete.

Any rinsate from tanks and pipelines or contaminated excavation water will be temporarily stored on-site. This water will be mixed with the groundwater extracted during ground water remediation and piped to the ground water treatment system for treatment. Once treated, the water will be discharged to an on-site sanitary sewer under the terms of a permit with the East Bay Municipal Utility District. Groundwater treatment is addressed in a separate remedial plan.

4.0 REMEDIAL EFFECTIVENESS, MONITORING AND REPORTING

As described earlier in this plan, the soil will initially be screened with a PID to evaluate remedial requirements. Once the sides and bottom of the excavations pass PID headspace screening criteria, confirmatory soil sampling for BTEX and TPHg will be performed. Samples will be collected following the plan described in Section 2.2.5.

4.1 Sample Containers

Cleaned and otherwise prepared sample containers will be provided by the analytical laboratory. A field notebook will be filled out at each sampling location. Samples will be delivered to the laboratory in accordance with prescribed EPA guidelines.

4.2 Field Notebook

Upon completion of sampling, the field notes will be completed and will contain sufficient information to enable reconstruction of the sample and handling procedures at a later time.

4.3 Chain-of-Custody

The sampling team is responsible for the custody of the samples until the samples are properly dispatched to the receiving laboratory or given to an assigned custodian. The sampling team must insure that the containers are in their physical possession or in their view at all times or stored in a locked, secure area. In general, a minimum number of people should be involved in the sample collection and handling process.

Samples must be accompanied by a chain-of-custody form. When transferring the possession of samples, the individuals relinquishing and receiving the samples will sign, date and note the time on the form. The form documents transfer of samples from the sampling team to the custody of another individual and/or the laboratory.

4.4 Analytical Methods

Soil and groundwater samples will be analyzed for BTEX and TPHg using DHS-approved LUFT methods. The sampling results will be sent to DUNN for review.

4.5 Reporting

A closure report for Area 4 will be prepared by DUNN, detailing all activities and analyses performed and the associated results. A tank closure report, if appropriate, will be prepared by DUNN.