

UNDERGROUND STORAGE TANK REMOVAL

WORK PLAN

Southland Corporation

1.0 INTRODUCTION

The purpose of this document is to describe the work procedures involved in the removal of an underground storage tank. This procedure often entails the interaction with potentially toxic fumes in concentrations that may also enter the explosion/flammable range. For these reasons it is important that all work procedures be followed to ensure the safety of not only fellow employees but the immediate environment as well.

1.1 SITE MOBILIZATION

The Southland Corporation has identified two tanks of 10,000 gallon capacity and one tank of 6,000 gallon capacity to be removed from 100 Lewelling Blvd. San Lorenzo, California. The tanks are constructed of stainless steel and are documented as being fifteen years of age. They are believed not to have been structurally compromised during the years of use; therefore, there is no contamination of the soil anticipated. The location is an operating 7-11 convenience store. Due to the regulations that become effective on July 1, 1992, Southland Corporation, owner of the business, has decided that they will no longer participate in the retail sale of gasoline. Prior to site activities, a temporary chain link fence will be installed as shown on the project drawings around the Remediation area to prevent unauthorized entry.

The entire fenced area will be considered the Project Work Area.

1.1.2 UTILITY LOCATE

Prior to site activities the area will be surveyed for service lines and structures that could come in conflict with the tank removal process. Dig Alert, 1-800-6442-2444, will be contacted for the purpose of the acquisition of additional and sub-terrain information. All underground and exposed service and/or utility lines will be located, flagged and marked prior to excavation

activities. Markers will be maintained throughout the project in order to protect the utilities. Overhead lines and guy wires which may create a hazard will be flagged and marked.

1.1.3 SITE SURVEY

Prior to site activities, the Work Area will be surveyed. A base line will be established within the work area. The Work Area boundaries will be identified to insure enough area will be prepared for displaced soil placement.

1.1.4 SITE LAYOUT

The project site will be delineated into three separate zones, the Exclusion Zone, the Contamination Reduction Zone and the Support Zone. All travel between zones will be in strict accordance with Ruby Dome's Site Health and Safety Plan. All boundaries will be fenced and posted including warning signs. Zone boundaries within the project work area will be delineated with caution tape and warning signs.

A. Exclusion Zone

Zone 1 is the Contaminated Work Area or the Exclusion Zone. This zone is the region of actual contamination or contamination that expected based on computer models and demographics. All equipment that enters this zone will be considered contaminated and must undergo decontamination prior to being demobilized from the Exclusion Zone.

B. Contamination Reduction Zone

Zone 2 is the Contamination Reduction Zone. This zone is designed as a buffer area between the known contaminated area and the known clean area. Within the second zone there will be established and decontamination corridor for both personnel and equipment leaving the Exclusion Zone. Within the Contamination Reduction Zone there will be a boot and glove wash for personnel who are leaving the area for the day or on break. In cases of extreme contamination in the work area there will be a decontamination trailer complete with showers and lockers available for use.

C. Support Zone

Zone 3 is the Support Zone. Within the Support Zone restroom facilities and a heated or shaded break area will be located to accommodate personnel. No one will be allowed past the support zone who in not trained in the handling of hazardous wastes or materials. The Support Zone is the only zone where eating, drinking, smoking or the application of cosmetics may take place.

1.1.5 Stockpile Area

The stockpile area will be constructed in the work zone away from the excavation activities. The area will be constructed by lining a bermed area with ten mil visquene. The excavated soil will be covered at the end of each work day with visquene to eliminate migration of the soil through air currents and/or precipitation of water.

1.2 Underground Storage Tank Removal

1.2.1 Underground Storage Tank Extraction

The paved area above the U.S.T. will be broken into pieces through the use of a backhoe and will be stockpiled for disposal. The soil surrounding the tank will be removed utilizing the backhoe as well. The displaced soil will be stockpiled for disposal/ remediation as described in section 1.1.5. The tanks will be excavated in a manner that will leave the required amount of soil around the tank as to prohibit its movement during purging and triple rinsing procedures.

1.2.2 Connected Plumbing

Prior to the tank being purged and removed from the excavation all plumbing connected to the tank will be disconnected from the tank utilizing the backhoe. The plumbing will then be purged with dry ice, removed and transported as hazardous material to a permitted Treatment, Storage and Disposal Facility, T.S.D.F. along with the underground storage tanks. The vent lines will be left in place and capped.

1.2.3 Purging

To remove explosion and/or toxic conditions from the tank environment each tank will be purged of hydrocarbon vapor through the use of dry ice. Dry ice will be placed evenly in each tank at an initial rate of fifteen pounds of dry ice for every one thousand gallons of the tank capacity. Upon complete vaporization of the dry ice, the tank environment will be monitored utilizing an appropriately calibrated gastech. The gastech will monitor* for the lower explosion level of the tank contents as well as toxicity in parts per million, p.p.m. If those measurements show that the interior environment is toxic to human health or life or is within the explosion range additional dry ice will be added at a ratio of five pounds for every 1000 gallon tank capacity until the tank no longer poses a situation that threatens health or life.

* MUST ALSO MONITOR O₂ %

1.2.5 TESTING

Sampling of potentially impacted soils will take place under the direction of the County of Alameda, the local overseeing agency. Samples will be obtained from the open excavation by using the backhoe to bring a sample of soil, from a designated point, to the surrounding surface level. The top two to three inches of the sample in the backhoe will be scrapped away. Immediately, a hand driven sampler containing one four inches long by two inch in diameter precleaned brass sampling sleeve will be utilized to obtain a sample. The brass sleeve will be removed and the exposed ends will be sealed with five mil teflon sheeting, capped with plastic end caps and sealed with PVC tape. The sample will be labeled and sent to a California certified laboratory in an iced chest for analysis as per contract specifications.

This process will be repeated as often as required by the overseeing agency. Proper chain-of-custody protocol will be followed at all times. All sampling equipment will be disassembled between each sample interval and decontaminated with a detergent and tap water solution then rinsed with distilled water. All results will be forwarded to the project owner according to contract specifications.

1.2.6 DUST CONTROL

Particulate matter emissions are expected to be minimal. In the event that fugitive particulate matter emissions resulting from the excavation of the tanks become problematic, dust control measure will be achieved utilizing a water truck with a spray bar and hose with an adjustable nozzle. The area to be excavated will be moistened prior to and during the excavation. Special care will be taken to insure that necessary amounts of water are not used so as to prevent muddy or "ponding" site conditions. Dust control will be maintained at all times during the excavation.

1.3 EQUIPMENT MAINTENANCE

Routine maintenance will be performed in the Contamination Reduction Zone or Zone 2. Routine maintenance includes lubricating, fueling and minor maintenance. Any equipment used in Zone 1 or the Exclusion Zone, which requires major repair will be decontaminated and the work performed in the Support Zone.

A diesel fuel storage tank will be placed in a bermed area in the Support Zone. A dedicated fuel hose with nozzle will be maintained from the storage tank into Zone 2 to allow the equipment to be fueled without the need for decontamination.

2.0 Soil Disposal

Soil will be analyzed for TPH and other required tests to determine the lowest class landfill required for legal disposal. Disposal of soil will be accomplished through the use of proper DOT containers, placarding, manifesting and licensed transporters.

3.0 BACKFILL

The excavation will be backfilled with the non-contaminated overburden and/or imported soil compatible with the native material at the site. The backfill material will be removed, transported and placed into the excavation utilizing a Auger-type scraper. The material will be pushed and spread with a Dozer and compacted with a Self-propelled compactor. Backfill material will be placed with a Auger-Scraper and compacted to a compaction rate of 95% with a Compactor. A water truck will be utilized during the backfill for dust control measures and moisture for backfill, if required.