HERITAGE ENVIRONMENTAL SERVICES, LLC

8525 N.E. 38th Street
Kansas City, MO 64161
Phone: 816/453-4321
800/829-4374
FAX: 816/453-0180
Internet: http://www.heritage-enviro.com

HEALTH AND SAFETY PLAN

CONTAINER RECYCLING SITE
1161 South 12th Street
Kansas City, Kansas

Heritage Environmental Services, LLC
8525 N.E. 38th Street
Kansas City, Missouri 64161

November 15, 1999

TABLE OF CONTENTS

APPENDICES

A. EMERGENCY PROCEDURES

1. EMERGENCY RESPONSE CONTACTS:

AGENCY/FACILITY NAME	PHONE NUMBER	RESPONSE TIME
Ambulance:	911	<10 Minutes
Fire Department:	911	<10 Minutes
Police Department:	911	<10 Minutes
Hospital:		
Bethany Medical Center	913/281-8400	<10 Minutes
State Emergency Response:	785/296-1679 (8am – 5pm) 785/296-0614 (after hours)	
Emergency Response Center: (within 24 hours)	800/424-8802	N/A
Chemtrec (Immediately)	800/424-9300	N/A
Poison Control Center:	800/424-8802	N/A
Office: Heritage	(816) 453-4321	
Operations Personnel	**Office**	**Pager**
Project Manager: Margarita Rosenfield	816/453-4321	816/466-1374
Health & Safety Manager	**Office**	**Pager**
Tanya Cotton	816/453-4321	888/693-4947
Kansas Department of Health & Environment Northeast Region	785/842-4600	
U.S. EPA - Nelson Mix	913/551-7326	816/718-4277
U.S. EPA Region VII Duty Officer	913/281-0991	
Duane Clark – PalEx	312/829-3838	

In the event of a spill or other emergency the discover shall immediately notify the Project Manager. The project manager will begin the notification procedure as outlined in the attached notification procedures.

2. **EMERGENCY ROUTES:**

Hospital: Bethany Medical Center
51 N. 12th Street
Kansas City, Kansas
913/281-8400

Exit onto 12th street (right turn) north to Kansas Avenue, turn right (east) proceed on Kansas Avenue to 10th Street turn left (north), proceed on 10th Street to Hospital.

3. **THE FOLLOWING EMPLOYEES ARE TRAINED INFIRST AID AND/OR CPR:**

Employee	First Aid	CPR
All Heritage Employees	[X]	[X]

4. **EMERGENCY EQUIPMENT AVAILABLE:**

The following emergency equipment is available on site in the crew cab or within the work areas.

- Communications Equipment
  - Mobile Phones
- Safety Equipment
  - First Aid Kit
  - Full Face Air Purifying Respirator with OV/AG Cartridge
  - Poly-Coated Tyvek C overalls
  - Latex Gloves
  - PVC Gloves
  - Cotton Gloves
  - (2) Supplied Air Breathing Escape Units
  - Eye Wash
  - Hearing Protection
- Response Equipment

5. **COMMUNICATION PROCEDURES:**

A communication system will be established in order for personnel to communicate with each other on-site, as well as off-site.

Hand signals, airhorn and two-way radios may be utilized to communicate between exclusion zone operators and support zone personnel. Emergency hand and audible signals that can be used in the event of an emergency include:

- Clutching throat - personal distress

Heritage personnel utilize a combination two-way radio/cellular phone for internal and external communications.

5. EMERGENCY PROCEDURES:

The following standard emergency procedures will be used by on-site personnel. The Project Manager shall be notified of any on-site emergencies and will be responsible for ensuring that appropriate procedures are followed.

a. Personal Injury: Upon notification of an injury, all site personnel will lend assistance to remove the injured from the work area, if necessary. The Project Manager will determine the extent of injury and determine first aid measures necessary. Contact should be made for an ambulance to transport injured to a medical facility (if required). If injured person is contaminated with hazardous materials, decontamination will take place to the extent possible. If the cause of the injury does not affect the performance of other site personnel, normal operations may resume. If there is risk to others, all site personnel will move from the work area until further instruction is given. Activities will cease until the risk is removed or reduced.

b. Personal Protective Equipment Failure: If a site worker should experience a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the working area. Re-entry shall not be permitted until the equipment has been repaired or replaced.

c. Other Equipment Failure: If any of the equipment on-site fails to operate properly, the Project Manager will be notified. The project manager will determine the effect of this failure on continuing operations. If the failure effects the safety of personnel or prevents completion of the work plan tasks, all personnel will leave the area until the situation is evaluated and appropriate actions performed.

d. Fire/Explosion: Upon notification of a serious fire or explosion, the Kansas City, Kansas Fire Department will be contacted at once. A serious fire is considered to be one that is beyond the incipient stage. All personnel shall move to a safe distance from the involved area. The Project Manager or his designee shall direct fire equipment arriving at the scene to the appropriate area. Personnel will attempt to extinguish small or incipient stage fires. The Kansas City Fire Department senior representative will assume command of all response actions upon their arrival at the site.

e. Spills or Leaks: In the event of a spill or a leak, employees will:

(1) Locate the source of the spillage and stop the flow if it can be done safely.
(2) Begin containment and recovery of the spilled materials.
(3) Arrange for clean-up of the area.
(4) If the spill is larger than the reportable quantity contact the state and PalEx representative.

f. Weather Emergencies: In the event of heavy weather, the Project Manager or a site supervisor will oversee the securing of the site, materials and equipment in order to prevent the loss or migration of hazardous materials from the site and to prevent public access to the site.

g. Evacuation Routes: Evacuation should be conducted immediately, without regard for equipment, under conditions of extreme emergency. All personnel will evacuate the site and assemble at the entrance to the facility on South 12th Street. Should evacuation of the surrounding area be required these activities will be the responsibility of the senior member of the local responding agencies, police or fire departments.

h. In All Situations: When an on-site emergency results in evacuation, personnel shall not re-enter until:

(1) The conditions resulting in the emergency have been corrected.

(2) The hazards have been reassessed.

(3) The Site Safety Plan has been reviewed.

(4) Site personnel have been briefed on any changes in the Site Safety Plan.

i. General Chemical First Aid Procedures

(1) INHALATION

- Remove victim to fresh air

NOTE: DO NOT ENTER CONFINED SPACE OR SPILL AREA WITHOUT PROPER PROTECTION

- Give artificial respiration if person is not breathing
- Get medical attention

(2) EYE CONTACT

- Flush immediately with large amounts of water for at least 15 minutes, while holding eyelids open
- Get medical attention promptly after flushing eyes with water

NOTE: Flushing for 30 minutes is recommended if contact with strong alkalies occurs (caustic soda - sodium hydroxide)

(3) SKIN CONTACT

- Flush affected area with large amounts of water while removing contaminated clothing
- Flush for 15 minutes if contact with concentrated chemical
- If irritation persists, get medical attention
- Wash contaminated clothing before reuse

(4) INGESTION

- The decision whether to induce vomiting is chemical-specific
- Do not induce vomiting without first contacting the MSDS Poison Control Center or local emergency room for instructions. The MSDS may have specific instructions
- In some cases, vomiting will cause additional damage, so the use of an antidote is sometimes appropriate
- If vomiting occurs uncontrollably, keep head below hips to prevent vomit from getting into lungs
- Never induce vomiting or give anything by mouth to an unconscious person
- Get medical attention as soon as possible

j. Heat and Cold Stress Hazards

Heat stress is a significant hazard associated with the use of protective suits in warm weather. Local weather conditions encountered may result in conditions which will require restricted work schedules in order to protect employees from heat stress.

When the ambient temperature exceeds 70 degrees Fahrenheit, the Site Health and Safety Officer will alert field crews to be aware of symptoms of heat stress. The Site Health and Safety Officer will encourage field personnel to increase the consumption of water and electrolyte containing beverages. Workers are also encouraged to take rests whenever they feel adverse effects, especially those that may be heat-related.

k. Heat Stress Prevention

Heat stress symptoms will be monitored closely and a work/rest regime will be developed on a daily basis by the Site Health and Safety Officer. The work/rest schedule will be dependent on weather conditions encountered. Physiological monitoring of deep body temperature and body water loss will not be feasible. Heart rate monitoring will be possible during break periods. When temperatures reach above 70°F, the Site Health and Safety Officer will monitor heart rate by monitoring each person's heart rate every 90 minutes. If temperatures reach above 80°F, heart rate will be monitored

every 60 minutes, and above 90°F every 30 minutes. A 10-minute break will be taken at these times to allow the Site Health and Safety Officer to check heart rates. If individuals' heart rates are 110 beats per minute or less, they can resume work. If greater than 110 beats per minute, individual will break another 10 minutes and the next work period shortened by 33 percent. If at the end of that 10-minute period, heart rate is still above 110, the individual will proceed to the decontamination area, decon out and rest in the support zone for at least one hour. These periods will be modified as employees become acclimatized to the heat.

To prevent heat-related illness, each site personnel will be required to drink at least 8 ounces of water or electrolyte-added drink at each break and at least 16 ounces at lunch. In addition, self-monitoring and buddy monitoring will be essential in order to prevent any heat stress illness. If the dry bulb air temperature exceeds 70°F, the Site Health and Safety Officer and buddy system shall watch HERITAGE and subcontractor personnel for any potential symptoms of heat stress or any unusual behavior. These measures, in addition to training on heat stress, should help prevent any heat stress illness from occurring.

If the air temperature remains below 70°F, the following work schedule is a guideline for all levels of protection listed in this HSP:

2 hrs - work
15 min - rest
2 hrs - work
45 min - lunch
2 hrs - work
15 min - rest
2 hrs - work

Rest means minimal physical activity. Rest should be accomplished in the shade. Any activity requiring only minimal physical activity can be performed during rest periods, e.g., preparation of sampling documentation, other paperwork requirements.

l. Cold Stress Prevention

In preventing cold stress the health and safety professional must consider factors relating both to the individual and the environment.

Acclimatization, water and salt replacement, medical screening, continuing medical supervision, proper work clothing, and training and education will contribute to the prevention of cold stress and injury related to working in a cold environment.

Acclimatization. Some degree of acclimatization may be achieved in cold environments. With sufficient exposure to cold, the body does undergo some changes that increase comfort and reduce the risk of cold injury. However, these physiological changes are usually minor and require repeated uncomfortably cold exposures to induce them. People who are physically unfit, older, obese, taking medications or using alcohol or drugs may not acclimatize readily.

Dehydration. Working in cold areas causes significant water losses through the skin and lungs as a result of the dryness of the air. Increased fluid intake is essential to prevent dehydration, which affects the flow of blood to the extremities and increases the risk of cold injury.

Warm, sweet, caffeine-free, non-alcoholic drinks and soup should be available at the worksite for fluid replacement and caloric energy.

Salt. The body needs a certain amount of salt and other electrolytes to function properly. However, using salt tablets is not recommended. Salt tablets cause stomach irritation, which may include nausea and vomiting. A normal, balanced diet should take care of salt needs. Anyone with high blood pressure or who is on a restricted sodium diet should consult a physician for advice on salt intake.

Diet. It is important for people who work in cold environments to eat a well-balanced diet. Restricted diets can deprive the body of elements needed to withstand cold stress.

Control measures. Continuous exposure of skin should not be permitted when the windchill factor results in an equivalent temperature of -32 C (-26 F). Workers exposed to air temperatures of 2 C (35.6 F) or lower who become immersed in water or whose clothing gets wet should be given dry clothing immediately and treated for hypothermia.

Engineering controls. The following are some of the ways engineering controls can be used to reduce the stress of a cold environment.

- General or spot heating should be used to increase temperature at the workplace.
- If fine work is to be performed with bare hands for 10 or 20 minutes or more, special provisions should be made to keep the worker's hand warm. Warm air jets, radiant heaters, or contact warm plates can be used.
- The work area should be shielded if the air velocity at the job site is increased by wind, draft, or ventilating equipment.

- The air velocity in refrigerated rooms should be minimized as much as possible, and should not exceed 1 m/sec (200 fpm) at the job site.

- At temperatures below -1 C(30 F), metal handles of tools and control bars should be covered with thermal insulating material.

- Unprotected metal chair seats should not be used.

- When necessary, equipment and processes should be substituted, isolated, relocated, or redesigned to reduce cold stress at the worksite.

- Power tools, hoists, cranes or lifting aids should be used to reduce the metabolic workload.

- Heated warming shelters such as tents and cabins should be made available if work is performed continuously in an equivalent chill temperature of -7 C(20 F) or below. Workers should be encouraged to use the shelters regularly.

Engineering control of cold stress can be very complex, and often depends more on ingenuity than on standard methods.

Administrative work practice controls. These controls include work practices or rules designed to reduce the total cold-stress burden. Some of these include:

- a work-rest schedule to reduce the peak of cold stress:
- enforcing scheduled rest breaks;
- enforcing frequent intake of warm, sweet, caffeine-free, non-alcoholic drinks or soup;
- scheduling the coldest work for the warmest part of the day;
- moving work to warmer areas whenever possible;
- assigning extra workers to highly demanding task;
- allowing workers to pace themselves, and take extra work breaks when needed;
- making relief workers available for workers who need a break;
- teaching workers the basic principles of preventing cold stress and emergency response to cold stress;
- maintaining protective supervision or a buddy system for those who work at -12 C (10 F) or below;
- allowing new employees time to adjust to conditions before they work full-time in cold environments;

- arranging work to minimize sitting soil or standing for long periods of time;
- reorganizing work procedures so as much of a job as possible is performed in a warm environmental. This will reduce the amount of work that must be done in a cold environment;
- including the weight and bulkiness of clothing when estimating work performance requirements and weights to be lifted.

Special considerations. Older workers, or workers with circulatory problems need to be extra careful in the cold. Additional insulating clothing and reduced exposure time should be considered for these workers. Obese and chronically ill people need to make a special effort to follow preventive measures. Sufficient sleep and good nutrition are important for maintaining a high level of tolerance to cold. If possible, the most stressful tasks should be performed during the warmer parts of the day.

Double shifts and overtime should be avoided. Rest periods should be extended to cope with increases in cold stress.

A worker should immediately go to warm shelter if any of the following symptoms are spotted: the onset of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, and/or euphoria. The outer layer of clothing should be removed when entering a heated shelter. If possible, a change of dry work clothing should be provided to prevent workers from returning to work with wet clothing. If this is not feasible, the remaining clothing should be loosened to permit sweat to evaporate.

Alcohol should not be consumed while in the warmer environment. Anyone on medications such as blood pressure control or water pills should consult a physician about possible side effects from cold stress. It is strongly recommended that workers suffering from diseases or taking medication that interferes with normal body temperature regulation, or that reduces tolerance of cold, not be permitted to work in temperatures of -1 C (30 F) or below.

It may be advisable for workers to weigh themselves at the beginning and end of the workday to check for weight loss that might occur from progressive dehydration.

A control program for cold stress. A control program for cold stress in industry should include the following elements:

- *Medical supervision of workers:* including preplacement physicals that evaluate fitness, weight, the cardiovascular system, and other conditions that might make worker susceptible to cold stress. Medical evaluation during and after cold illnesses and a medical release for returning to work should be required.

- *Employee orientation and training* on cold stress, cold-induced illnesses and their symptoms, water and salt replacement, proper clothing, work practices and emergency first aid procedures.

- *Work-rest regimens,* with heated rest areas and enforced rest breaks.

- *Scheduled drink breaks* for recommended fluids.

- *Environmental monitoring,* using the air temperature and wind speed indices to determine wind chill and adjust workrest schedules accordingly.

- *Reduction of cold stress* through engineering and administrative controls, and the use of personal protective equipment.

Personal protective equipment and clothing. Personal protective equipment and protective clothing is essential. The correct clothing depends on the specific sold stress situation. It is important to preserve the air space between the body and the outer layer of clothing in order to retain body heat. The more air pockets each layer of clothing has, the better the insulation. However, the insulating effect is negated if the clothing interferes with the evaporation of sweat, or if the skin or clothing is wet.

The most important parts of the body to protect are the feet, hands, head, and face. Hands and feet are the farthest from the heart, and become cooled most easily. Keeping the head covered is important, because as much as 40 percent of body heat can be lost when the head is exposed.

Clothing made of thin cotton fabric is ideal - it helps evaporate sweat by picking it up and bringing it to the surface. Loosely fitted clothing also aids sweat evaporation. Tightly fitted clothing of synthetic fabrics interferes with evaporation.

Recommended clothing may include: a cotton t-shirt and shorts or underpants under cotton and wool thermal underwear.

Two-piece long underwear is preferred, because the top can be removed and put back on as needed. Socks with high wool content are best. When two pairs of socks are worn, the inside pair should be smaller, and be made of cotton. If necessary, wool socks can also double as mittens. Wool or thermal trousers (either quilted or specially lined) are preferred. Belts can constrict and reduce circulation. Suspenders may be preferred. You will need extra room for trousers to fit over long underwear. Trousers should be lapped over boot tops to keep out snow or water. For heavy work, a felt-lined, rubber-bottomed, leather-topped boot with a removable felt insole is

preferred. Boots should be waterproofed and socks changed when they become sweat soaked. Air insole cushions and felt liners should be used with chemical and/or water-resistant boots. The best foot protection is provided by insulated boots sealed inside and outside by vapor barriers. Either a wool shirt or a wool sweater over a cotton shirt should be worn. Size-graduated shirts and sweaters can be worn in layers. An anorak or snorkel coat or arctic parka should fit loosely, with a drawstring at the waits. Sleeves should fit snugly. The hood prevents the escape of warm air from around the neck, and can be extended past the face to create a frost tunnel, which warms the air for breathing. A wool knit cap provides the best head protection. When a hard hat is worn, a liner should be used. Wool mittens are more efficient insulators than gloves; they can be worn over gloves for extra warmth.

A face mask or scarf is vital when working in a cold wind. A ski mask with eye openings gives better visibility than a snorkel hood. Face protectors must be removed periodically, so the worker can be checked for signs of frostbite.

Workers should wear several layers of clothing instead of a single heavy outer garment. In addition to offering better insulation, layers of clothing can be removed as needed to keep the worker from overheating. The outer layer should be windproof and waterproof. Body heat is lost quickly if the protective layer isn't windproof.

All clothing and equipment must be properly fitted and worn to avoid interfering with the circulation. Thermal-type masks and respirators are available for those bothered by breathing very cold air. Full-facepiece respirators must have separate respirator channels to prevent fogging and frosting of the facepiece. Double-layered goggles with foam padding around the edges are effective in extremely cold conditions.

Liquids conduct heat better than air, and have a greater capacity for heat than air. For example, a spill of cold gasoline on skin can freeze the tissue quickly. That is why it is a good idea to wear chemical-resistant gloves (such as neoprene gloves with cotton inserts) for chemical handling operations. Workers handling chemicals with permeable-type gloves should always keep extra gloves available should one pair become contaminated.

Gloves should be used by workers if manual dexterity is not required, or if the air temperature falls below 16C (60F) for sedentary work, 4C (40F) for light work, and 7C (20F) for moderate work. Mittens should be used instead of gloves if the air temperature is 18C (0F) or less.

Avoid the following : Dirty or greasy clothing loses much of its insulation value. Air pockets in dirty clothes are crushed or filled, and heat can escape

more easily. Denim is not a good protective fabric. It is relatively loosely woven, which allows water to penetrate and wind to blow away body heat that should be rapped between the body and clothing. Any interference with the circulation of the blood reduces the amount of heat delivered to the extremities.

Outdoor construction workers, as well as mountain hikers, and farmers are likely victims of hypothermia if proper precautions to ward off exposure and exhaustion caused by low (not necessarily freezing) temperatures, wind, and rain are not taken. When stranded during a storm in a vehicle, it is best to stay with the vehicle. The engine can furnish heat, while the a vehicle itself can act as a shelter from outside elements. (measures should be taken, however, to prevent a buildup of carbon monoxide gas in the closed vehicle. For additional warmth, insulation can be taken from vehicle seats and stuffed in clothing. If travel is in areas where storms occur frequently, emergency supplies should be carried to meet any weather conditions. Survival depends on a clear understanding of the situation. The rules of survival are the same, no matter what the emergency, think clear, be properly prepared, and keep a weather eye open. These are the best safeguards against hypothermia.

B. SITE ASSESSMENT

1. **FACILITY DESCRIPTION** (describe current and past uses of the site, age, condition, etc.):

The Container Recycling Site is located in the Armourdale District of Kansas City, Kansas, see Figure 1. The site is comprised of approximately 20 acres of land. The property is located adjacent to and north of the Kansas River and to the east of 12th Street. The western one third of the site is characterized by the presence of several buildings and aboveground storage tanks. The remaining area of the site is characterized by the presence of drums and other containers of varying sizes, see Figures 2 and 3.

2. **UNUSUAL FEATURES:**
(containers, building, dikes, power lines, terrain, degree of contamination, etc.):

There are numerous drums located throughout the facility, both inside and outside of the buildings. There is also a sludge pit, a sludge pond, and a sludge trench located at the site. Care will be exercised by Heritage personnel when working around these units. In addition, the containers located at the site are in various states, ranging from good to poor, with some containers still marked as to their former contents.

3. **STATUS:** [ ] Active [X] Inactive

4. **HISTORY:**

In the 1950's the site was utilized by a local steel mill and in the 1960's the site was to dispose of auto fluff. From 1965 until 1996 the site was used to recondition drums. The site was operated by Sims Barrel Company until 1971, Great Lakes Container unitl 1986 and then as Container Recycling.

At the present time there are an estimated 65,000 to 70,000 drums located at the site. The majority of these drums are assumed to be empty and are located outside of the buildings. Based upon a preliminary assessment there are approximately 100 to 200 other containers containing various materials located within the buildings at the site. There containers contain shot dust, grease, paints, antifreeze, epoxy coating, formaldehyde, sulfuric acid, sodium nitrite, potassium, bifluroide, and water treatment chemicals. In addition, there are numerous small containers of miscellaneous materials, aerosol cans, pesticides, and other cleaning type chemicals.

There have been several site investigations conducted at the site. The environmental soil samples collected have indicated that elevated concentrations of lead, mercury, arsenic, benzo(a)pyrene, anthracene, benzo(a)athracene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and tetrachlorothylene have been detected. Lead was detected at concentrations ranging from 1,500 to 21,000 ppm and exhibited the characteristics of a hazardous waste.

C. SITE CHARACTERIZATION: (See attached site map)

- **SITE SECURITY:** Work zones will be established on-site. All site personnel will be required to sign a log-in and log-out sheet. Unauthorized personnel will be restricted from access. Necessary and authorized visitors will be allowed on-site only if accompanied by the project manager or his designee. Only properly trained personnel will be permitted in the exclusion zone.

- **IDENTIFY WORK ZONES (hot, warm, cold areas):** Work zones may be changed only at the discretion of the project manager and the industrial hygienist.

  The exclusion (hot) zone is that area where contaminated materials are present and the potential for worker exposure exists. The hot zone will be demarcated with the use of red barrier tape or red flags. Activities conducted in this zone will include; cleaning of floor, segregation of paint containers, removal of caustic from AST, removal of acid and cleaning of AST, construction of drum staging area.

  The contamination reduction (warm) zone is that area that separates the exclusion and support zones. Activities conducted within this zone include decontamination of work equipment and personal protective equipment.

  The remaining areas of the site are considered the support (cold) zone. These areas include the offices and break areas. Contaminated equipment will not be allowed into this area without first going through the warm zone. Eating, smoking and drinking will be allowed only within the break area, or project management/support office trailers.

- **SITE ENTRY/EXIT PROCEDURES:**

  All Heritage personnel will sign the sign-in/sign-out log upon entry into and from the site each day. The Heritage project manager shall ensure that all personnel sign-in and sign-out and that all personnel are accounted for at the end of the day.

D. HAZARD ASSESSMENT

1. EXISTING FEATURES:

[X] Tanks (aboveground)
Size_____
Size_____

[ ] Drums
17 E Number_____
17 H Number_____

[ ] Tanks (below ground)
Size _____
Size _____

[X] Containers
Type Multiple
Quantity Numerous

[ ] Unusual Hazards (i.e., neighboring facilities, public and private properties)

2. PHYSICAL & BIOLOGICAL HAZARDS

[X] Heat
[X] Cold
[ ] Radiation
[X] Confined Space Entry
[X] Noise
[ ] Poisonous Plants
[ ] Sanitary Waste

1. KNOWN SUBSTANCES ON-SITE

[X] Acids strong
[ ] Acids weak
[ ] Asbestos
[X] Caustics strong
[ ] Caustics weak
[ ] Cyanides
[ ] Dyes/Inks
[ ] Halogenated Gases/Solvents
[X] Paints
[X] Metals
[ ] Pesticides
[ ] Phenol/Cresol
[ ] Pickling Liquors
[ ] Pigments
[ ] PCBs
[X] Oils/Greases
[ ] Oily Waste
[X] Solvents
[ ] Sludges
[X] Other – PAH and metals contaminated soils

4. HEALTH HAZARD OF POTENTIAL CONTAMINATS ENCOUNTERED

Contaminant	TLV	IDLH	Primary Route Of Entry	Symptoms	Target Organs
Arsenic and compounds (as As)	0.01 mg/m^3	100 mg/m^3	Inhalation, Absorption, skin and/or eye contact, Ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peri neur, respiratory irritation, hyperpigmentation skin, carcinogen	Liver, kidneys, skin, lungs, lymphatic system
Barium (soluble compounds as Ba)	0.5 mg/m^3	1100 mg/m^3	Inhalation, Ingestion, Contact with skin and/or eyes	Upper respiratory irritation; gastrointestinal; muscle spasms; slow pulse, extrasystoles; hypokalemia; irritated eyes; skin burns	Heart, central nervous system, skin, respiratory system, eyes
Chromium metal and insoluble salts (as Cr)	0.5 mg/m^3	30 mg/m^3	Inhalation, Ingestion	Histologic fibrosis of lungs; Chromium (VI): [carc]	Respiratory System
Lead, inorganic fumes and dusts (as Pb)	0.05 mg/m^3	700 mg/m^3	Inhalation, Ingestion, Contact with skin and/or eyes	Lassitude; insomnia; pallor, eye grounds; anorexia, low-weight, malnutrition; constipation, abdominal pain, colic; hypotense; anemia; gigival lead line; tremors; paralysis of wrist	gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue
Nickel, metal and soluble compounds (as Ni)	1.0 mg/m^3	Not established	Inhalation, Ingestion, Contact with skin and/or eyes	Sensitive dermis; allergic asthma; nasal cavities; pneumonitis; [carc]	Nasal cavities, lungs, skin
Phenol	5 ppm	250 ppm	Inhalation, Absorption, Ingestion, Contact with skin and/or eyes	Irritated eyes, nose, throat, anorexia, low-weight; weak, muscular ache, pain; dark urine; cyanosis; liver, kidney damage; skin burn; dermatitis; ochronosis; tremor, convulsions; twitch	Liver, kidneys, skin
Toluene	100 ppm	2000 ppm	Inhalation, Absorption, Ingestion, Contact with skin and/or eyes	Fatigue, weakness; confusion, euphoria, dizziness, headache; dilated pupils; lacrimation; nervousness, muscle fatigue; insomnia, paresthesia; dermatitis	Central nervous system, liver, kidneys, skin
Xylene	100 ppm	1000 ppm	Inhalation, Absorption, Ingestion, Contact with skin and/or eyes	Anoxia, cyanosis; lung, liver, kidney damage	Blood, lungs, liver, kidneys, Cardiovascular System
Muriatic Acid	5 ppm	100 ppm	Inhalation, ingestions, contact with skin and/or eyes	Coughing, irritated eyes, burns	Nasal cavities, lungs, eyes, skin
Caustic	2 ppm	200 ppm	Inhalation, ingestions, contact with skin and/or eyes	Coughing irritated eyes, burns	Nasal cavities, lungs, eyes and skin.

ARE MSDSs AVAILABLE? [ ] YES [X] NO (ATTACH AVAILABLE MSDSs)

5. DESCRIPTION OF EXPECTED HAZARDS TO PERSONNEL ON-SITE:

In the performance of the work at the site the following hazards may be encountered.

Wet and slippery floors	• Exercise caution when walking around the site. • Wear appropriate foot ware.
Corrosives (acid and bases)	• Wear the appropriate PPE. • Avoid Wet areas around storage tanks. • Wear proper footwear.
Unstable drums	• Do not bump or attempt to move drums without project manager's approval. • In the event that an unstable drum is noted to be leaking contact the Project Manager immediately. • Deploy absorbents on any spill.
Pits	• Watch where you are walking. • Mark unprotected below grade obstacles with caution tape and place barriers around the area.
Unlighted work areas	• Install portable lighting or other temporary lighting in the area.
Motorized equipment	• Watch for vehicular traffic, field right of way. • Equipment operators to sound horn before coming to a corner and slow down and stop. • Check to ensure that backup warning horn is operating before moving equipment. • Check equipment each day to ensure that equipment is operating properly.
Splashing	• Check to make sure that all hoses are secured and will not flay about when pumping and splashing surrounding area.
Low Pressure Washer	• Observe where the pressure washer is directed and do not walk in front of the discharge wand. • Operator to watch for other personnel.
Confined Space	• See Confined Space Entry Procedures (Appendix C)

6. DESCRIPTION OF POTENTIAL HAZARDS TO THE PUBLIC AND ENVIRONMENT:

Hazards to the public or environment are not anticipated due to activities at the facility.

The work site areas will be secured and adequately demarcated. Only authorized personnel will be permitted to enter the work site during the site activities.

The decontamination area will be defined to ensure protection of environment. All contaminated decontamination water and sediment from decontamination of personnel and equipment will be collected for disposal.

7. ENVIRONMENTAL AND PERSONNEL MONITORING:

The following equipment must be used to monitor conditions at the specified intervals (circle applicable interval).

EQUIPMENT NEEDED	FREQUENCY OF USE	
[ ] LEL 0_2 Monitor	continuous / hourly / daily / other	_____
[X] LEL / 0_2 / H_2S Monitor	continuous / hourly / daily / other	As Needed
[ ] HNu	continuous / hourly / daily / other	_____
[ ] OVA	continuous / hourly / daily / other	_____
[ ] TIP II/Microtip	continuous / hourly / daily / other	_____
[ ] Hand-held Aerosol Monitor (HAM)	continuous / hourly / daily / other	_____
[ ] Aerosol Monitor	continuous / hourly / daily / other	_____
[ ] H_2S Monitor	continuous / hourly / daily / other	_____
[ ] HCN Monitor	continuous / hourly / daily / other	_____
[ ] Radiation Meter	continuous / hourly / daily / other	_____
[ ] Detector Tubes (HCN)	continuous / hourly / daily / other	_____
List Type:		
[ ] Heat Stress Monitor	continuous / hourly / daily / other	_____
[ ] Other: _____	continuous / hourly / daily / other	_____
[ ] Other: _____	continuous / hourly / daily / other	_____

[ ] Long Term Ambient / Personnel Monitoring (samples require lab analysis)

[ ] SKC/Gilian

Pumps [ ] Charcoal Tubes [ ] PVC Filters
[ ] Silica Gel Tubes [ ] MCEF Filters
[ ] Orbo Tubes [ ] Impingers (Soln: ____)

Describe Specific Long Term Monitoring Procedures:

8. **EQUIPMENT CALIBRATION:**

LEL / O_2 / H_2S monitors will be calibrated per manufacturer's recommendations on a weekly basis at the Heritage – Kansas City facility by trained technical services staff.

9. **MEDICAL SURVELLANCE:**

All Heritage employees are included in Heritage's Medical Surveillance program. This program involves medical monitoring prior to employment, on an annual basis and at termination of employment. Details of Heritage's Medical Surveillance Program are outlined below. If additional medical surveillance procedures are necessary for this project, they are outlined below.

Medical Monitoring Plan

All employees whose job requires them to;

a. Enter the hazardous waste site;

b. Otherwise come in contact with hazardous materials (e.g., contaminated equipment, laboratory samples);

c. Perform physical activities more strenuous than normal; must be included in a medical surveillance program. This program should involve medical monitoring prior to employment, on an annual basis and at termination of employment as specified by 29 CFR 1910.134 and 29 CFR 1910.120.

All employees involved in hazardous waste activities must be medically fit to wear respiratory protection as required in (OSHA Respiratory Protection Standard 29 CFR 1910.134) and Hazardous Waste and Emergency Response Operations Standard (HAZWOPER) (29 CFR 1910.120). All on-site personnel must provide certification to assure medical fitness with OSHA respiratory protection protocol and respiratory fit-testing (qualitative or quantitative).

In addition, all on-site personnel must be actively involved in a comprehensive medical surveillance program as required in HAZWOPER Standard (29 CFR 1910.120) to ensure physical capabilities.

The Heritage medical surveillance program includes the following examinations:

a. Physical Examination - During this physical examination the physician considers the individual's capability to wear respiratory protection. Pulmonary function, cardiovascular status and weight carrying capacities is evaluated. Ability to detect odors is also be included. A licensed Occupational Physician performs the examination. The physician provides a written certification that each employee is medically fit to wear respiratory protection. Additional testing protocol include:

b. Audiogram

c. Wellness blood profile - including complete blood count (CBC), SMAC-24, coronary risk profile.

d. Spirometry

e. Urine for heavy metals

f. Blood lead with ZPP (Zinc Protoporphren)

g. Respirator certification (by examining physician)

h. Red blood cell (RBC) cholinesterase

i. Serum PCB

j. Titmus and Snellen Vision Screen

k. Electrocardiogram - resting

l. Chest x-ray

m. Methemoglobin

n. Urinalysis

o. Physician's written medical opinion

p. Liver enzymes (if needed)

Special Considerations

a. Certain prescription drugs may effect an individual's ability to work in temperature extreme conditions. The physician should note special limited capabilities under these conditions.

b. The purpose of the site safety and health plan is to prevent worker exposure. Biological monitoring activities measure the amount of a specific chemical or its metabolite which is excreted from the body. Examples include phenol monitoring in urine for benzene exposures, lead in blood, chlorinated hydrocarbon solvents in exhaled breath, etc.

c. Due to work proposed at the site concentrations of contaminants, additional biological monitoring parameters, beyond the comprehensive medical surveillance program, should not be necessary.

E. PERSONAL PROTECTIVE EQUIPMENT

1. **PROTECTIVE EQUIPMENT LEVEL NECESSARY FOR ON-SITE ACTIVITES:** (check all that apply).

[ ] LEVEL A [X] LEVEL B [X] LEVEL C [X] LEVEL D

[X] Level D Modified

PERMITTED MODIFICATIONS: Only upon approval of Health and Safety Manager as an upgrade.

2. **PROTECTIVE EQUIPMENT NEEDED**(check all that apply):

RESPIRATORY PROTECTION

Supplied Air Respirators

[ ] SCBA

[X] Airline W/Escape SCBA

[ ] Airline

Air Purifying Respirators

[X] Full Face Air Purifying Respirator

[ ] Half Face Air Purifying Respirator

Cartridges (MSA)

[ ] GMD - Ammonia/ Methylamine TC-23C-43

[ ] GMC - Organic Vapor/Acid Gases TC-23C-47

[ ] GMA - Organic Vapor TC-23C-40

[ ] Metallic Mercury Vapor/Chlorine TC- TC-23C-629

[ ] GMB-H Acid Gases/Particulates TC-23C-150

[ ] GMA-F Organic Vapor/Dust & Mist TC-23C-151

[X] GME-P100 Organic Vapor/Acid Gases/ Particulates

[ ] Type H Dusts/Fumes/Mists TC-21C-135

[ ] GMP - Pesticides, Organic Vapor, Paint mists, dusts, mists TC-23C-79

[ ] GMB - Acid Gases/Formaldehyde TC-23C-41

CLOTHING

[X] Work Uniform

[ ] Tyvek

[X] CPF I

[X] CPF II

Totally Encapsulated Chemical Protective Suit

[ ] Butyl

[ ] Chemrel

[ ] PVC

[ ] Teflon

[ ] Other

Gloves		Miscellaneous	
[X]	Surgical Latex Inner	[X]	Steel Toe Shoes/Boots
[X]	PVC Outer	[X]	Chemical Resistant Boots
[X]	Nitrile Inner	[X]	PVC Boot Covers
[ ]	Butyl	[X]	Hard Hat
[ ]	Viton	[X]	Safety Glasses
[X]	Neoprene Outer	[ ]	Chemical Goggle
[ ]	Silvershield	[X]	Face Shield
		[X]	Ear Plugs

3. PERSONAL PROTECTION LEVELS FOR DESIGNATED AREAS:

Based on a preliminary evaluation of the potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

TASK	PROTECTION LEVEL
Process Building Drum Segregation/Relocation	Level D
Decontamination of Paint Room	Level D Modified
Removal of Caustic from AST	Level B
Removal of Acid from AST and Pit	Level C
Decontamination of AST	Level C
Construction of Staging Area	Level D
Staging of Drums	Level D Modified

NO CHANGES TO THE SPECIFIED LEVEL OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE PROJECT MANAGER OR SAFETY/HEALTH OFFICER.

4. PROTECTIVE EQUIPMENT LEVELS:

The following is a brief description of the personal protective equipment, which may be required during various phases of the project. Although there is some flexibility to custom fit the actual items of protective equipment to the real-life situation, in general the levels of protection are defined as follows.

d. LEVEL A - The highest level of protection used when:

(1) Unknown chemicals are involved and there is high risk for chemical release.
(2) Chemical concentrations are known to be above safe levels (IDLH atmospheres).
(3) Extremely hazardous substances are present or suspected.
(4) Chemicals and/or vapor and mists are destructive to tissue.
(5) Oxygen deficient atmospheres or confined space conditions.

e. LEVEL B - The second highest level of protection used when:

(1) Concentrations of chemicals in the air are IDLH or above the protection factor provided by a APR with full-face mask.
(2) Oxygen deficient atmospheres or confined space conditions.
(3) Vapor absorption or contact with skin not critical.

f. LEVEL C - An intermediate level of chemical protection used when:

(1) Air concentrations of chemical are potentially above or known to be above ACGIH TWA-TLVs and APR will provide adequate protection
(2) Non-IDLH atmospheres
(3) Chemicals are not destructive to skin

g. LEVEL D - Minimum level of chemical protection used when:

(1) No concentrations of chemicals in excess of ACGIH TWA-TLV's
(2) No hazardous effect from skin contact or inhalation

Minimum OSHA-recommended Requirements for Worker Protective Levels

Protection Level	Equipment
Level A	(1) Pressure-demand, full-face SCBA[1] or pressure-demand air-supplied respirator with escape SCBA
	(2) Fully encapsulating, chemical-resistant suit
	(3) Inner and outer chemical-resistant gloves
	(4) Chemical-resistant safety boots
	(5) Hard hat
Level B	(1) Pressure-demand, full-face SCBA or pressure-demand air-supplied respirator with escape SCBA
	(2) Chemical-resistant clothing (overalls and long-sleeved jacket; hooded one- or two-piece chemical splash suit; disposable chemical-resistant one-piece suit)
	(3) Inner and outer chemical-resistant gloves
	(4) Chemical-resistant safety boots
	(5) Hard hat
Level C	(1) Full-faced, air-purifying, canister-equipped respirator
	(2) Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one- or two-piece chemical splash suit; disposal chemical-resistant one-piece suit)
	(3) Inner and outer chemical-resistant gloves
	(4) Chemical-resistant safety boots
	(5) Hard hat
	(6) Safety glasses, goggles, or face shield as necessary
Level D	(1) Safety boots
	(2) Safety glasses or splash goggles
	(3) Hard hat
	(4) Gloves as necessary
	(5) Standard work uniform or coveralls
Level D Modified	(1) Level D equipment
	(2) Splash/dust resistant outer clothing
	(3) PVC Boot/shoe covers
	(4) Latex inner gloves
	(5) Outer gloves as appropriate.

[1]SCBA = Self-contained breathing apparatus

F. DECONTAMINATION PROCEDURE

1. DETAIL DECONTAMINATION METHOD AND PROCEDURE:

All sampling material, equipment, and non-disposal materials shall be decontaminated as follows:

- Materials will be scraped and removed from the equipment
- Equipment will be washed with a non-phosphate detergent solution.
- Equipment will be water rinsed, then rinsed.
- Equipment will be water rinsed.

2. DECONTAMINATION EQUIPMENT NEEDED:

[X] Disposable protective clothing/equipment
[X] Water
[X] Low pressure [ ] High pressure
[ ] Deionized Water
[ ] Steam
[X] Detergent/Water
[ ] Compressed air
[X] Scrub brushes/scrapers/sponges
[ ] Chemical detoxification
[ ] Acids [ ] Bases [ ] Solvents
[X] Containers (buckets, wading pools)
[ ] Hoses

3. SEGREGATION, DECONTAMINATION AND DISPOSAL:

[ ] LEVEL A - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, suit/safety hat removal, SCBA backpack removal, inner glove removal, inner clothing removal, field wash, redress.

[X] LEVEL B - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, safety boot removal, SCBA backpack/airline removal, facepiece removal, inner glove removal, inner clothing removal, field wash, redress.

[X] LEVEL C - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, safety boot removal, splash suit removal, facepiece removal, inner glove removal, inner clothing removal, field wash, redress.

[X] Modified LEVEL D - Segregated equipment drop, boot and glove wash, boot and glove rinse, field personnel wash area.

[X] Level D – Segregated equipment drop, glove disposal, field personnel wash area.

4. **DECONTAMINATION PROCEDURE MODIFICATION:**

(personnel surfaces, materials, instruments equipment, etc): N/A

5. **DISPOSAL PROCEDURES:**

(contaminated equipment, supplies, disposable washwater):

All items shall be disposed in a manner agreeable to both representatives of Pal Ex and representatives of Heritage Environmental Services, LLC (HERITAGE), and in accordance with Federal, State and Local regulations.

Used PPE will be placed in containers, sealed, labeled and accumulated adjacent to the decontamination area. Any reusable PPE that is damaged beyond repair or that cannot be properly decontaminated will be contained in the same manner. Discharged PPE containers will remain closed except when adding to the contents. Once a used PPE container becomes full, it will be disposed of at permitted off-site disposal facility.

G. ORGANIZATION / COORDINATION

1. PERSONNEL ON-SITE:

a.	Division or Project Manager(s):	Margarita Rosenfeld
b.	Supervisors:	To be Announced
c.	Laborers/Technicians:	To Be Announced
d.	Sub-Contractors:	N/A

2. PERSONNEL DUTIES:

a. Project Manager(s) will be responsible for :

(1) Overall project management activities;

(2) Ensuring scope of services completed as specified in proposal;

(3) Supervising activities to ensure all applicable legal and safety requirements are met.

b. Supervisors will be responsible for:

(1) On-site supervision of activities;

(2) Supervision of laborers and technicians;

(3) Ensuring that all procedures (security, health and safety, decontamination and emergency) are followed.

c. Laborers/Technicians will be responsible for actual labor and performance of site activities necessary to complete project.

d Sub-Contractor's Duties: N/A

3. INFORMATION AND TRAINING:

- All site personnel will read the above Site Safety and Health Plan and are familiar with its provisions.

- All personnel entering exclusion zone will be properly trained in accordance with OSHA Hazardous Waste Worker and Emergency Response (29 CFR 1910.120).

- All personnel involved in confined space activities will be properly trained in the OSHA Excavation Standard (29 CFR 1926.650).

- Only adequately trained equipment operators will be utilized on all activities.

PROJECT CERTIFICATION AND SIGN-IN LOG

Through the affixation of the individuals signature, the individual acknowledges and certifies that the individual has:

1. Received 24/40 hour training as required in 29 CFR 1910.120. (details of Heritage's training program are provided in the Heritage Safety Manual)
2. Read the above Health and Safety Plan and is familiar with its provisions.

DATE	*NAME (Please Print)*	*SIGNATURE*	*COMPANY*

DATE	NAME (Please Print)	SIGNATURE	COMPANY

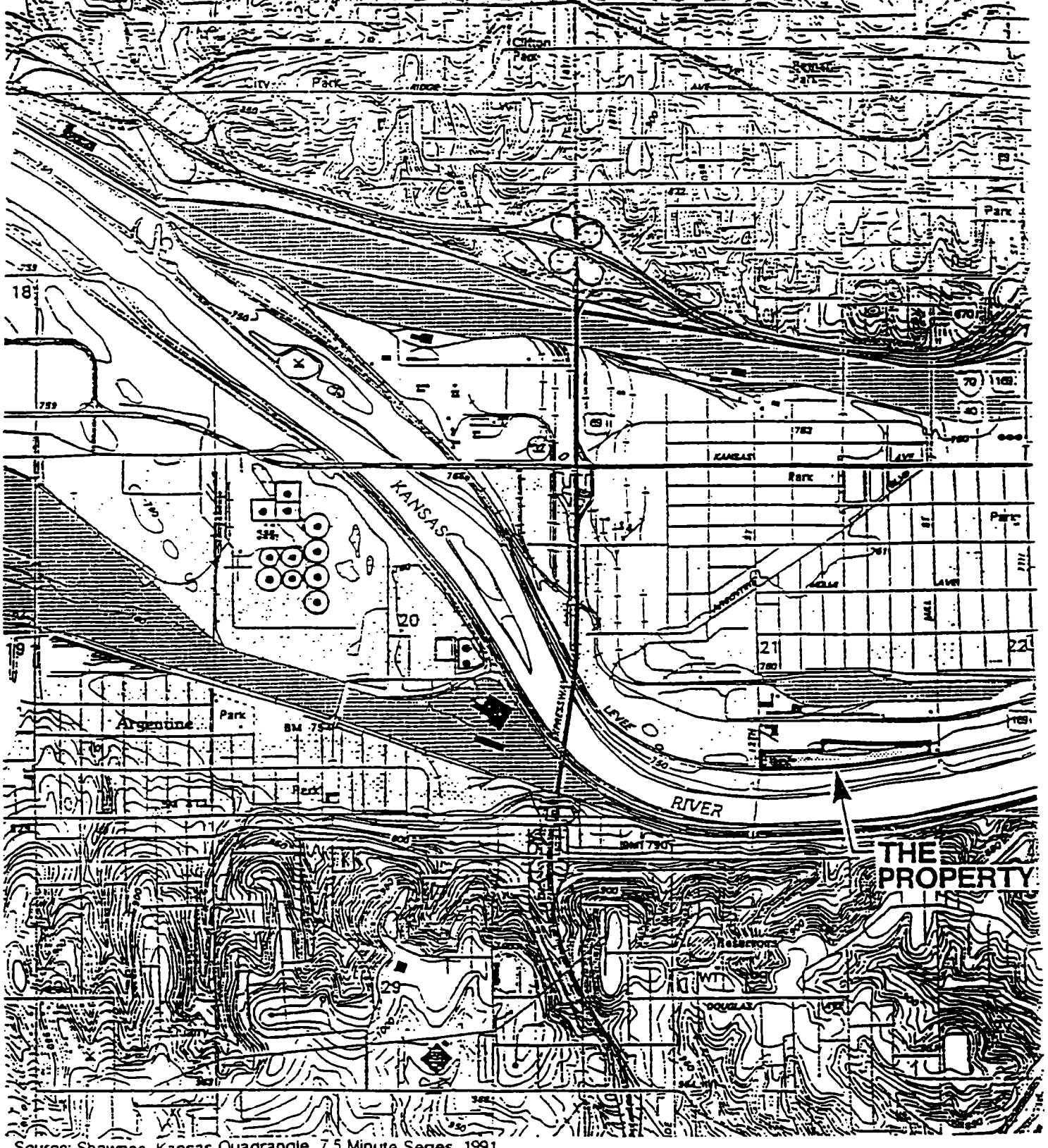
Information Training Conducted at: Heritage Environmental Services, LLC

Date /Time: _____ Project Manager: _____
(Signature)

All site personnel have read the above Site Safety and Health Plan and are familiar with its provisions.

APPENDIX A

FIGURES



Source: Shawnee, Kansas Quadrangle, 7.5 Minute Series, 1991.

N

0 2000 4000

Scale in Feet

KANSAS

QUADRANGLE LOCATION

Figure 1

PROPERTY LOCATION MAP
Container Recycling

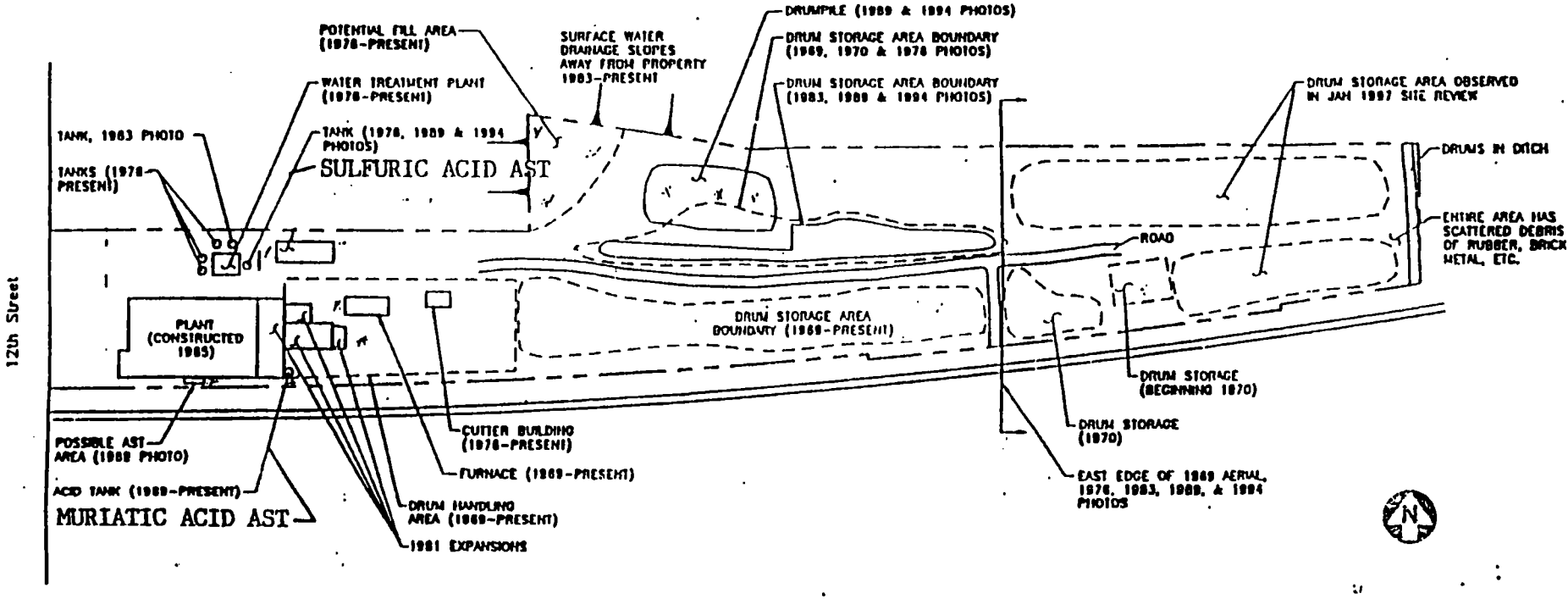


Figure 2

PROPERTY LAYOUT

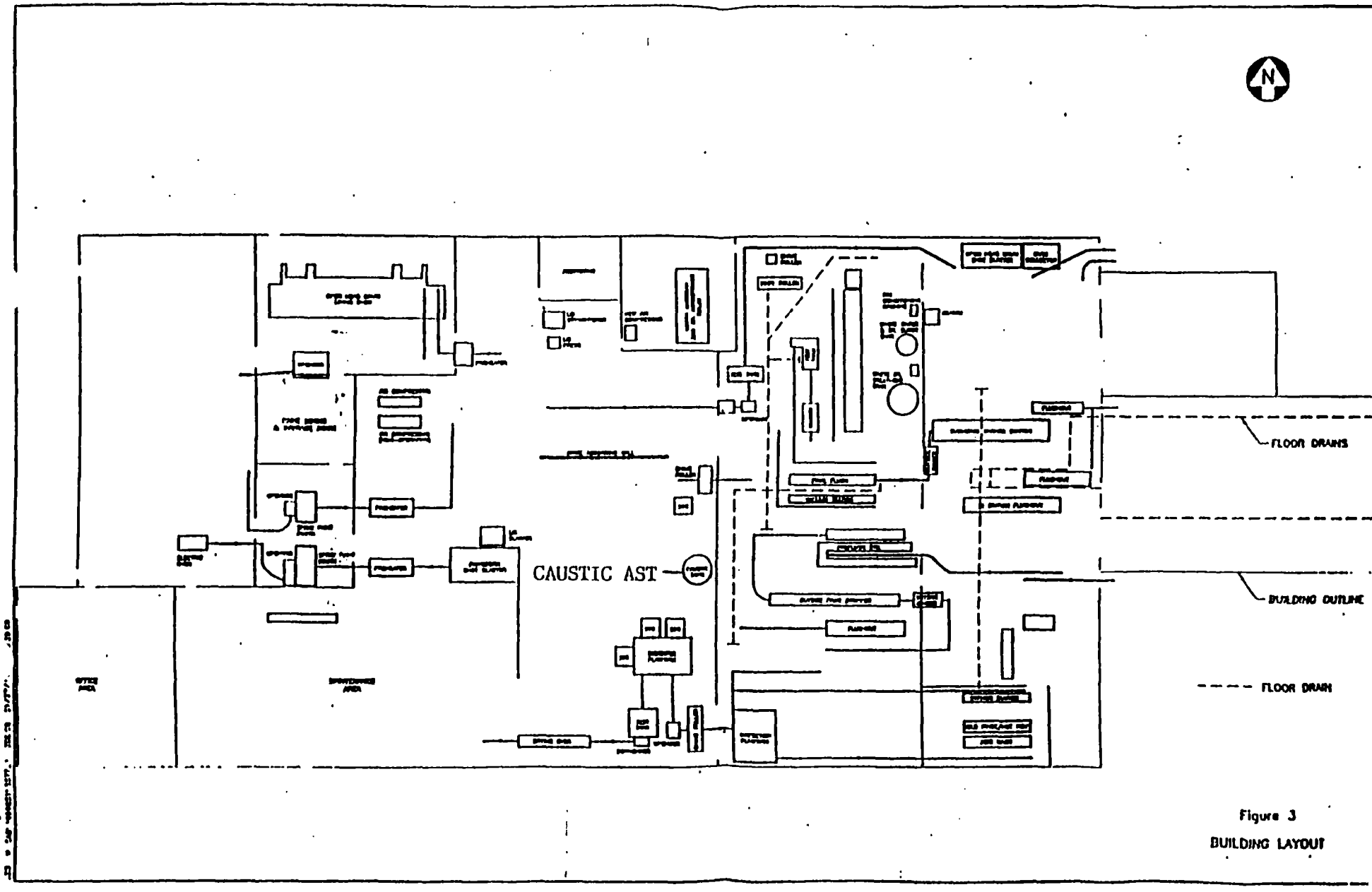
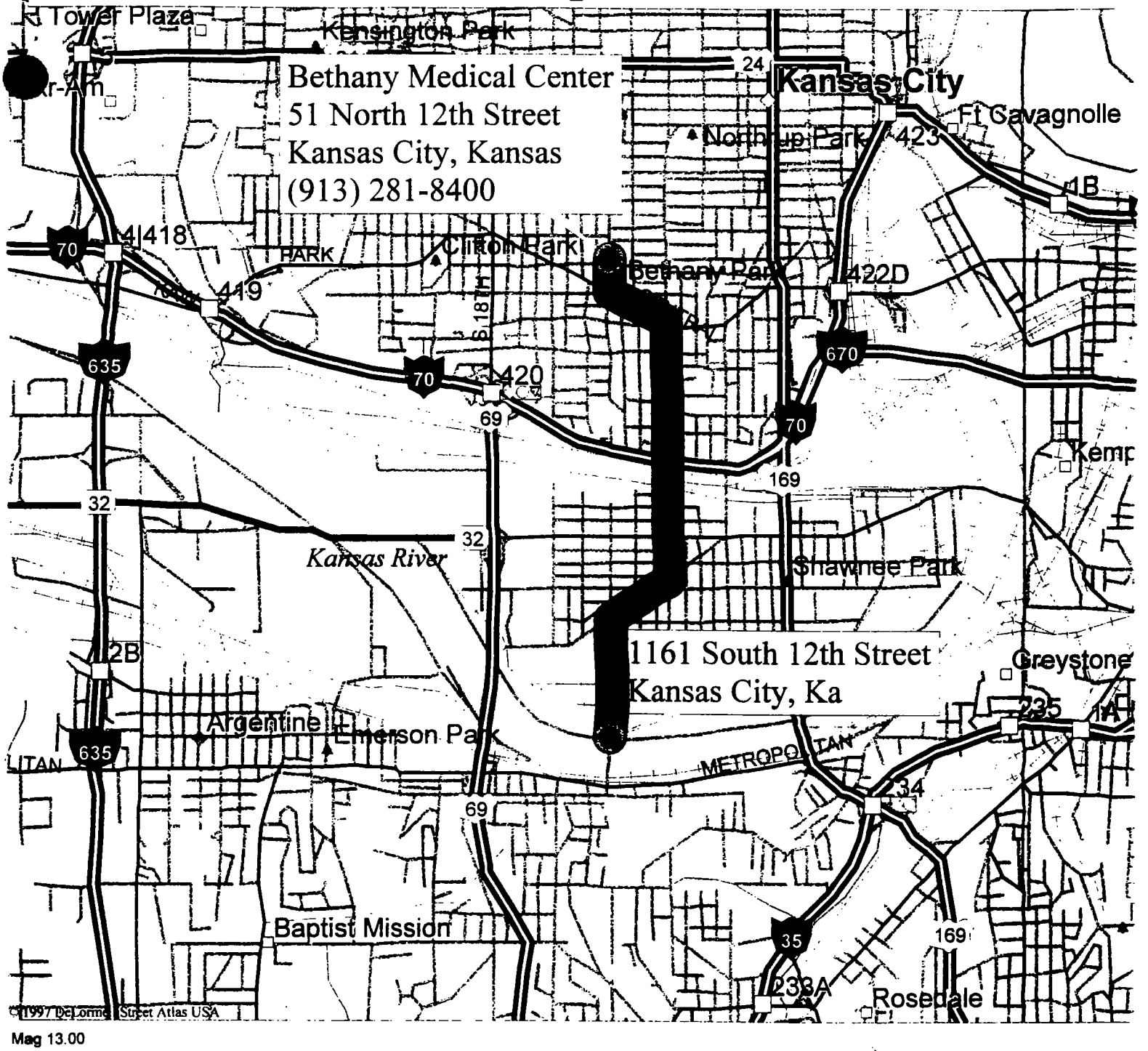


Figure 3

BUILDING LAYOUT

Hospital



Mag 13.00
Fri Nov 19 14:38 1999
Scale 1:37,500 (at center)
2000 Feet
1000 Meters

- Local Road
- Major Connector
- State Route
- Interstate/Limited Access
- US Highway
- Exit
- Utility/Pipe
- Railroad
- Point of Interest
- Park/Reservation
- Exit/Gas
- Exit/Lodging
- Exit/Food
- Locale
- City
- Cemetery
- County Boundary
- State Boundary
- Water
- Woodland
- River/Canal

APPENDIX B

NOTIFICATION PROCEDURES

NOTIFICATION PROCEDURES

A SPILL OR OTHER EMERGENCY OCCURS.

THE DISCOVER NOTIFIES THE PROJECT MANAGER

THE PROJECT MANAGER NOTIFIES THE APPROPRIATE PARTIES

Incipiant Fire	Kansas City Fire Department	911
	PalEx - Duane Clark	312/829-3838
Major Fire	Kansas City Fire Department	911
	Kansas City Police Department	911
	PalEx - Duane Clark	312/829-3838
	US EPA Nelsen Mix	913/551-7326
	US EPA On-Duty Officer	913/281-0991
Incipiant Spill	PalEx - Duane Clark	312/829-3838
Reportable Spill	Kansas DH&E	785/296-1679
	PalEx - Duane Clark	312/829-3838
	US EPA On-Duty Officer	913/281-0991
Medical Emergency	Ambulance	911
	Hospital	
	Bethany Medical Center	913/281-8400
	PalEx - Duane Clark	312/829-3838

In the event of a spill which can not be controlled immediately, Heritage will mobilize personnel and equipement from its Kansas City, Kansas office to contain the spill.

In the instances of an incipient event, any notification of other parties is at the discretion of PalEx. In the event of a major emergency, PalEx will notify the following:

US EPA On-Duty Officer	913/281-0991
US EPA – Nelson Mix	913-551-7326
National Response Center	800/424-8802
Other response contractors as desired.	

Within 48 hours of any reportable spill a report shall be submitted to the Kansas DH&E. This report shall locate the area of the spill, the nature and magnitude of the spill, the time of the spill, time the spill was reported, and the response actions undertaken to contain and remediate the spill.

APPENDIX C

CONFINED SPACE ENTRY PROCEDURES

CONFINED SPACE ENTRY PROCEDURES

I. PURPOSE

The purpose of the Heritage Confined Space Entry procedures is to provide guidance, documentation, and to reduce the risk of injury that may be presented by confined space structures and their environments.

II. SCOPE

The Heritage Environmental Services, LLC, (Heritage) Confined Space Entry Permit program and requirements apply to all Heritage personnel and all Heritage contractor and subcontractor personnel working at:

A. All Heritage properties including division offices, shop and maintenance areas and yards.

B. All Heritage project sites.

Individual customers (including other Heritage Companies) may also have their own Confined Space Entry Permit requirements of which their requirements shall also be met in addition to those listed herein.

III. DEFINITIONS

A. Permit-Required Confined Space - a tank, vessel, silo, hopper, vault, pit, diked area, or any other enclosed space that has limited access and/or egress, that is not designed for normal occupancy by employees, and has one or more of the following:

1. A potentially hazardous atmosphere or other recognized safety or health hazard.

2. The potential for engulfment by particulate matter or liquid.

3. Is listed in Appendix A.

B. Immediately Dangerous to Life or Health (IDLH) - describes a hazardous atmosphere that can cause serious injury or death within a short time or serious delayed effects to exposed employees. IDLH atmospheres include, but are not limited to, oxygen deficient, explosive, toxic, and/or flammable atmospheres.

C. Acceptable Atmosphere - shall be tested and monitored to contain all of the following:

1. Oxygen levels of 19.5% to 22%.

2. Flammable levels are less than 10% of the lower explosive limit (LEL) or lower flammable limit (LFL).

3. Air toxicity and contaminants less than the established permissible exposure limits (PELs) and the short term exposure limits (STELs).

IV. PROCEDURE

A. Prior to any entry of a work space, the project manager, project engineer, and supervisor shall review the definition of a Permit-Required Confined Space to determine if the work involves such a confined space, if the work space is listed on the designated confined space listing in Appendix A of this procedure, of if the work space is labeled as a permit required confined space.

B. Confined Space Evaluation - An evaluation of the confined space shall be done to determine the potential chemical, mechanical, atmospheric, and other hazards that may exist in the confined space.

C. Obtaining Safe Work Permit - When it has been determined that a work task involves a confined space and entry into such confined space is to be performed, a Safe Work Permit shall be obtained and completed with the project supervisor's signature. Where outside contractors shall be entering the confined space, the safe work permit shall be completed by both contractor supervisor and the Heritage project supervisor.

D. The Safe Work Permit used shall be the permit form approved by the Heritage Corporate Safety Director and the Heritage Chicago Division Corporate Safety Manger. The permit will be consistent with the Heritage Safe Work Policy and Procedures and shall record:

1. Environmental Conditions
2. Required Precautions
3. Personal Protective Equipment Needed for Entry
4. Environmental Conditions Tested and Results
5. Person Authorizing Entry
6. Names of the Entry Safety Attendants
7. Names of Employees Performing the Entry

E. Identification of Contents - All known contents of the space shall be listed on the safe work permit. Such content list shall include all load, cargoes, and/or product contained in the space since the last cleaning and purging or the last three products, whichever is less.

F. Required Equipment for Entry - The following safety equipment is required to be used for all Confined Space entries:

1. Safety belt or harness with lifeline.
2. Explosion proof lighting
3. Continuous air monitoring equipment
4. Personnel protective equipment and respiratory protective equipment as required by the project scope and safety plan.

    a. Where the confined space atmosphere is determined to be within the acceptable limits, full face air purifying respirators with appropriate cartridges shall be worn during entry, where appropriate based on the confined space contents.

    b. Where a potentially hazardous atmosphere could be introduced into the confined space, all entrants shall use supplied air respirator equipment with 5-minute escape units or have it immediately available.

    c. Where unknown contaminants may exist in the confined space, the contaminant level cannot be determined, a potential IDLH atmosphere exists, and/or an emergency rescue is being performed, self-contained or airline supplied and respirators with escape breathing units must be used.

5. Continuous fresh air ventilation. Such ventilation shall be positive pressure where possible.

G. Rescue Equipment - The following rescue equipment must be immediately available at the entrance to the confined space and within reach of the safety attendant:

1. Explosion proof flashlights with spare batteries

2. First aid kit with knife

3. Mechanical Retrieval Equipment

4. Alarm

5. Roll of duck tape

6. Tool box with tools

7. Personal Protective Clothing of a type at least equal to or greater than the chemical resistance of that worn by the entrants to be worn by the rescuer with another set available for a second rescuer.

8. Positive pressure supplied air breathing equipment in a ready-to-use state that is not part of any supplied air breathing equipment that is being used by the original entrant.

H. Blanking/Blinding - Before entry, all pipes and lines (including fill and drain pipes) that are connected to the confined space shall be disconnected or blanked/blinded, and this action is to be verified on the safe work permit.

If entry must be made and a disconnection or blanking/blinding is physically impossible, the procedure requires all of the following actions:

1. Isolating the confined space as rigorously as possible.

2. Assessing the risks present and potential.

3. Approval by the project manager who will assume the risks.

I. Lock-Out/Tag-Out - All electrical and mechanical equipment in permit-required confined spaces must be locked-out and tagged if its inadvertent energizing could create a hazard. All mechanical equipment shall be blocked in addition to the electrical lock-out. The lock-out shall comply with the Heritage Lock-Out Policy and the Heritage Lock-Out/Tag-Out Procedures.

J. Cleaning and Ventilation - permit required confined spaces are to be cleaned and decontaminated to the extent that is consistent to the hazard posed by the materials contained. Prior to and during the entry, continuous ventilation of fresh air shall be accomplished into the confined space.

K. Atmospheric Testing - Permit required confined spaces must be monitored and tested for oxygen content, flammable limit, and toxic contaminants before and during the entry. Such testing shall be done prior to ventilation beginning. If such atmosphere is not acceptable for entry, ventilation shall continue without entry until retesting of the atmosphere shows acceptable limits after the ventilation has been stopped for a period of 15 minutes. Atmospheric testing shall be done at all levels and distances within the confined space as practical. The project supervisor shall be responsible for such atmospheric testing and continuous monitoring during the entry and for the documentation of such test results before entry and at 15-minute intervals during the entry. The confined space atmosphere must be reventilated and tested by the same procedures should the work be interrupted as for a lunch break.

L. Assessing the Sources of Contaminated Atmospheres - If atmospheric tests or knowledge of likely contaminants of a confined space indicate that it contains a contaminated or unacceptable atmosphere, the project supervisor authorizing the permit must determine:

1. The cause or source of the atmospheric contamination.

2. Whether the source or cause of the contamination will contribute to a changing condition in the confined space during an entry.

3. The precautions required to be taken.

M. Conditions Prohibiting Entry - Except under certain remedial work with special approvals by management or during an emergency rescue, no entry is made into a confined space containing an unacceptable atmosphere. Under no circumstances shall an entry be made or approved where explosive or flammable vapors or gases exist at a level of 20% or more of the lower flammable limit.

N. Permissible Entry Under Prohibiting Conditions - Where no feasible alternative exists, entry may be made with the recommendation of the project manager to and with the division directors approval. Such recommendation by the project manager shall first assure:

1. That the entry is necessary

2. The atmosphere has been properly ventilated for an extraordinary amount of time.

3. That the risks presented are satisfactorily addressed as to lack of alternatives.

4. That the LEL does not exceed 20%.

Entry under prohibiting conditions may also be permitted to perform an emergency rescue. Any emergency rescue shall be followed by a complete full written report and investigation into the incident.

O. Attendants - At all times during a confined space entry, a safety-watch attendant and one other project personnel for every three entry personnel must be in attendance

outside the confined space. The safety-watch attendant must be properly trained, equipped and continuously present at the confined space entrance. At no time shall the safety-watch attendant participate in any entry activities or other project work while the entry is in progress. The names of the designated safety-watch and other attendants shall be listed on the safe work permit.

All attendants and entry personnel must be trained and drilled in confined space entry and safe work permit procedures during their initial 40-hour training and annually during refresher training.

The safety-watch must be in continuous visual contact with entry personnel. Where visual contact is impossible, such as in a tanker trailer, contact shall be by a tugline or by radio communications. When emergency is detected by the safety-watch, help shall be summoned by the safety-watch using the alarm or emergency airhorn.

P. Rescue - At the time of an emergency including confined space entrants, the safety watch and attendants shall make an evaluation of the possible causes of the emergency and take appropriate measures to provide additional or upgraded protective equipment, ventilation, etc. to adequately protect the rescuer(s).

During any confined space entry, harnesses and lifeline shall be worn and lifelines and mechanical retrieval equipment shall be available. Where lifeline attachment during the entry presents a greater risk or hazard. Then the release of the lifeline may be authorized. Where mechanical retrieval equipment is not feasible to be used, such as on a tanker-trailer, an used, effective alternative must be provided and approved by the project manager and division director. The manager and director may waive the requirement for harnesses and lifelines and approve the alternative used.

Self contained breathing apparatus or airline respirators with escape breathing units must be worn by rescuers during emergency rescue.

APPENDIX A

List of named Permit-Required Confined Spaces:

1. Underground Storage Tanks and Vaults
2. Aboveground Storage Tanks
3. Silos
4. Rail Tank Cars
5. Truck and Trailer Tankers
6. Hopper Cars and Trailers
7. Subsurface excavations of 4 feet or more in depth.

CONFINED SPACE RESCUE PROCEDURES

I. PURPOSE

The purpose of the Heritage Confined Space Rescue Procedures is to establish guidelines for the safe and efficient rescue of personnel who have become disabled in a confined space. The intent of the procedures is to reduce the risk of injury to rescue personnel called upon to perform the Confined Space Rescue by ensuring their safety concerning the confined space structure and the environment to be entered.

II. SCOPE

The Heritage Environmental Services, LLC Confined Space Rescue procedures and requirements apply to all Heritage personnel and all Heritage contractor and subcontractor personnel working at:

A. All Heritage properties including division offices, shop and maintenance areas and yards.

B. All Heritage project sites.

Individual customers (including other Heritage Companies) may also have their own Confined Space Entry Permit and Rescue requirements of which their requirements shall also be met in addition to those listed herein.

III. DEFINITIONS

A. Confined Space Entrants - Any person who enters a confined space with intent to work. This person must be properly equipped and trained.

B. Safety Attendant - A person who is continuously present at, but does not enter the confined space. The Safety Attendant must be in constant communication with all entrants, be ready to summon aid, and participate in confined space rescue, if needed.

C. Rescue Person - Any person who enters a confined space with the intent to assist a disabled confined space entrant.

IV. PROCEDURE

A. Prior to any commencing any work involving entry into confined spaces, the requirements of the Heritage Confined Space Entry Procedures must be met.

B. Prior to entry of personnel into a confined space, Supervisors shall provide for the potential rescue situation by:

1. Requirements outlined in the Project Health and Safety Plan.

2. Requirements of these procedures, and

3. Any other appropriate measures deemed necessary.

C. Supervisors shall ensure that the following rescue equipment is immediately available outside the confined space entryway and that such equipment is ready for use and in good condition:

1. Harnesses, Belts, and Lifelines: - During any vertical Confined Space Rescue, full body harness and lifeline shall be worn by all rescuers. Safety belts may be used in place of safety harnesses during horizontal confined space rescue. If they are not used, an effective alternative must be provided for and approved by the Division Director, or his/her designee, and available to be used during a rescue.