

**PETROLEUM**  
ENGINEERING, INC.

GENERAL CONTRACTORS  
11 WEST NINTH STREET

LICENSE NO. 224358  
SANTA ROSA, CA. 95401

PHONE (707) 545-0360  
FAX (707) 545-7068

H E A L T H & S A F E T Y P L A N

FOR

CONTINENTAL BAKING CO.  
1010 46TH STREET  
OAKLAND, CA

JOB SITE (TO REAR OF ABOVE PROPERTY)  
CORNER OF 53RD AND ADALINE  
OAKLAND, CA

11/24/92

## TABLE OF CONTENTS

1.0	INTRODUCTION . . . . .	1
1.1	PURPOSE . . . . .	1
1.2	RESPONSIBILITIES . . . . .	2
1.2.1	CONTRACTING OFFICER (CO) . . . . .	2
1.2.2	ALL PETROLEUM ENGINEERING, INC. PERSONNEL . . . . .	2
1.2.3	PETROLEUM ENGINEERING, INC. PROJECT MANAGER . . . . .	2
1.2.4	PETROLEUM ENGINEERING, INC. SITE SAFETY AND HEALTH OFFICER (SSHO) . . . . .	3
1.3	LIST OF PERSONNEL WITH 40 HOUR OSHA, 29CFR . . . . .	4
2.0	RISK ANALYSIS . . . . .	7
3.0	PROCEDURES TO MITIGATE HAZARDS . . . . .	10
3.1	MECHANICAL HAZARDS . . . . .	10
3.2	ELECTRICAL HAZARDS . . . . .	10
3.3	CHEMICAL HAZARDS . . . . .	11
3.4	ACOUSTICAL HAZARDS . . . . .	12
3.5	BIOLOGICAL HAZARDS . . . . .	13
3.6	HEAT STRESS . . . . .	13
3.7	CONFINED SPACE HAZARDS . . . . .	14
4.0	TRAINING . . . . .	15
4.1	SITE WORKERS . . . . .	15
4.2	ON SITE MANAGEMENT AND SUPERVISORS . . . . .	15
4.3	PRE-ENTRY ORIENTATION SESSION . . . . .	16
4.3.1	DEGREE AND NATURE OF POTENTIAL HEALTH AND SAFETY HAZARDS . . . . .	16
4.3.2	PERSONAL PROTECTIVE EQUIPMENT . . . . .	16
4.3.3	DECONTAMINATION PROCEDURES . . . . .	16
4.3.4	ACCEPTED PRACTICES . . . . .	16
4.3.5	EMERGENCY PROCEDURES . . . . .	17
4.3.6	MEDICAL REQUIREMENTS . . . . .	17
5.0	PERSONAL PROTECTIVE EQUIPMENT . . . . .	17
5.1	LEVELS OF PROTECTION . . . . .	17
5.1.1	LEVEL D PROTECTION . . . . .	17
5.1.2	LEVEL C PROTECTION . . . . .	18
5.2	MAINTENANCE & IN-USE INSPECTION OF PROTECTIVE EQUIPMENT . . . . .	18
5.2.1	GLOVES/BODY COVERINGS . . . . .	18
5.2.2	RESPIRATORS . . . . .	18
6.0	ENVIRONMENTAL MONITORING . . . . .	19
6.1	REAL TIME AIR MONITORING . . . . .	19
6.1.2	PERIMETER MONITORING . . . . .	20
6.2.2	FIELD INSTRUMENTS . . . . .	21
6.2.3	RECORDKEEPING REQUIREMENTS . . . . .	21
6.3	HEAT-STRESS MONITORING . . . . .	21
7.0	SITE CONTROL . . . . .	22
7.1	WORK ZONES . . . . .	22
7.1.1	WORK AREAS . . . . .	22
7.2	SAFE WORK PRACTICES . . . . .	23
7.2.1	SITE-SPECIFIC PRACTICES . . . . .	23
7.2.2	DAILY START-UP AND SHUTDOWN PROCEDURES . . . . .	23

TABLE OF CONTENTS - (CONTINUED)

8.0	DECONTAMINATION . . . . .	24
8.1	GENERAL . . . . .	24
8.2	PERSONNEL . . . . .	24
8.3	RESPIRATOR DECONTAMINATION . . . . .	24
8.4	EQUIPMENT DECONTAMINATION . . . . .	25
9.0	EMERGENCY RESPONSE PLAN . . . . .	25
9.1	EMERGENCY EQUIPMENT . . . . .	25
9.2	PRE-EMERGENCY PLANNING . . . . .	26
9.3	EMERGENCY RECOGNITION AND PREVENTION . . . . .	26
9.4	OPERATIONS SHUTDOWN . . . . .	27
9.5	FIRE AND EXPLOSION RESPONSE PROCEDURES . . . . .	27
9.6	EVACUATION FROM WORK AREAS . . . . .	27
9.7	EMERGENCY MEDICAL TREATMENT AND FIRST AID . . . . .	28

TABLES

TABLE 1	CHEMICAL CONTAMINANTS . . . . .	5
TABLE 2	HAZARD ANALYSIS . . . . .	8
TABLE 3	AIR MONITORING INSTRUMENTATION AND ACTION LEVELS . . . . .	12

FIGURES

FIGURE 1	LOCATION MAP
FIGURE 2	SITE MAP
FIGURE 3	MAP TO HOSPITAL

APPENDICES

APPENDIX A	SITE SAFETY AND HEALTH PLAN REVIEW RECORD
APPENDIX B	EMERGENCY TELEPHONE NUMBERS
APPENDIX C	CERTIFICATES: 29CFR 1910.120

## HEALTH AND SAFETY PLAN

### 1.0 INTRODUCTION

PERSONNEL INVOLVED IN FIELD INVESTIGATIONS AND REMEDIATION AT SITES WHERE HAZARDOUS WASTES MAY BE PRESENT ARE POTENTIALLY EXPOSED TO A VARIETY OF HAZARDS INCLUDING:

- \* INHALATION OF TOXIC AIRBORNE CONTAMINANTS.
- \* SKIN CONTACT WITH CONTAMINATED SOIL AND WATER.
- \* PRESENCE OF FLAMMABLE/COMBUSTIBLE VAPORS.
- \* OXYGEN-DEFICIENT ATMOSPHERES.
- \* HEAT STRESS DUE TO PROTECTIVE CLOTHING AND ENVIRONMENTAL CONDITIONS.
- \* PHYSICAL STANDARDS INHERENT TO FIELD OPERATIONS (E.G., WORKING NEAR HEAVY EQUIPMENT OR AT REMOTE LOCATIONS).

ADEQUATE PLANNING IS NEEDED PRIOR TO PERFORMING WORK AT THESE SITES TO MINIMIZE THE RISK OF EMPLOYEE INJURY OR ILLNESS.

### 1.1 PURPOSE

THE PURPOSE OF THE HEALTH AND SAFETY PLAN FOR CONTINENTAL BAKING CO., OAKLAND, CALIFORNIA, IS TO PROVIDE PERSONNEL PROTECTION STANDARDS AND MANDATORY SAFETY PRACTICES, PROCEDURES, AND CONTINGENCIES WHILE PERFORMING THE TASKS OUTLINED IN THE SCOPE OF WORK. THIS HEALTH AND SAFETY PLAN ADDRESSES THE FOLLOWING REGULATIONS AND GUIDANCE:

- \* OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR GENERAL INDUSTRY, 29 CFR 1910 (ESPECIALLY 29 CFR 1910.120 "HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE").
- \* OSHA STANDARDS FOR CONSTRUCTION INDUSTRY, 29 CFR 1926
- \* NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH), OSHA, U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA), AND U.S. COAST GUARD "OCCUPATIONAL SAFETY AND HEALTH GUIDANCE MANUAL FOR HAZARDOUS WASTE SITE ACTIVITIES," OCTOBER 1985.

## 1.2 RESPONSIBILITIES

THE CHAIN OF COMMAND FOR SAFETY AND HEALTH-RELATED ISSUES DURING INVESTIGATION, REMEDIATION AND TANK REMOVAL ACTIVITIES AT THE SITE IS DELINEATED BELOW. PETROLEUM ENGINEERING INC. IS TO BE IN OVERALL CONTROL OF THE HEALTH AND SAFETY ACTIVITIES AT THE SITE.

### 1.2.1 CONTRACTING OFFICER (CO)

ANY MODIFICATION IN THIS HEALTH AND SAFETY PLAN MUST BE APPROVED BY CONTINENTAL BAKING CO, THE CONTRACTING OFFICER (CO), AND THE PETROLEUM ENGINEER SITE SAFETY AND HEALTH OFFICER (SSHO).

### 1.2.2 ALL PETROLEUM ENGINEERING PERSONNEL

ALL PETROLEUM ENGINEERING AND SUBCONTRACTOR PERSONNEL MUST FOLLOW THE REQUIREMENTS OF THIS HEALTH AND SAFETY PLAN. ANY UNSAFE CONDITIONS MUST BE PROMPTLY REPORTED TO THE SITE SAFETY AND HEALTH OFFICER.

### 1.2.3 PETROLEUM ENGINEERING PROJECT MANAGER

PRIOR TO THE INITIATION OF ON SITE ACTIVITIES, THE PROJECT MANAGER WILL HAVE ASSIGNED SITE SAFETY SUPPORT PERSONNEL TO EXECUTE HEALTH AND SAFETY MEASURES REQUIRED DURING PROJECT WORK. THE PROJECT MANAGER WILL DESIGNATE A SSHO. THE DESIGNATED SSHO WILL BE ON SITE DURING FIELD INVESTIGATION ACTIVITIES AND WILL BE RESPONSIBLE FOR DAILY COMPLIANCE WITH SITE HEALTH AND SAFETY REQUIREMENTS. THE SSHO WILL REPORT DIRECTLY TO THE PROJECT MANAGER ON ALL PROJECT-RELATED HEALTH AND SAFETY MATTERS.

OTHER PROJECT MANAGER RESPONSIBILITIES INCLUDE:

- \* COORDINATING WITH THE CONTINENTAL BAKING CO. DESIGNATED CONTACT.
- \* PROVIDING OVERALL SUPERVISORY CONTROL FOR ALL HEALTH AND SAFETY PROTOCOLS IN EFFECT FOR THE PROJECT.
- \* ESTABLISHING AND ENSURING COMPLIANCE WITH SITE CONTROL AREAS AND PROCEDURES.

- \* PREPARING ANY INCIDENT REPORTS REQUIRED.

#### 1.2.4 PETROLEUM ENGINEERING SITE SAFETY & HEALTH OFFICER (SHHO)

THE SSHO'S RESPONSIBILITIES INCLUDE:

- \* REVIEWING AND CONFIRMING ANY CHANGES IN PERSONAL PROTECTIVE CLOTHING OR RESPIRATORY PROTECTION REQUIREMENTS.
- \* REVIEWING ALL HEALTH AND SAFETY DOCUMENTATION.
- \* EVALUATING ON-SITE AMBIENT AIR MONITORING RESULTS.
- \* PROVIDING SITE-SPECIFIC TRAINING, AS REQUIRED, TO ALL EMPLOYEES ASSIGNED TO WORK AT THE SITE.
- \* PROVIDING TECHNICAL SUPPORT TO THE SSHO, PARTICULARLY IN THE MODIFICATION OF THE SITE HEALTH AND SAFETY REQUIREMENTS OR WORK PLANS.
- \* ESTABLISHING HEAT STRESS PREVENTION PROCEDURES AND PERFORMING DAILY PROGRAM EVALUATIONS.
- \* STOPPING WORK WHEN UNACCEPTABLE HEALTH SAFETY RISK EXISTS.
- \* PROVIDING A HEALTH AND SAFETY BRIEFING TO ALL SITE VISITORS.
- \* SUPERVISING DECONTAMINATION TO ENSURE COMPLETE DECONTAMINATION OF ALL PERSONNEL, TOOLS AND EQUIPMENT.
- \* SUPERVISING THE DISTRIBUTION, USE, MAINTENANCE, AND DISPOSAL OF PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT.
- \* CONDUCTING ANY NECESSARY MONITORING, INCLUDING COLLECTION OF AIR SAMPLES AND HEAT STRESS MONITORING.

1.3 LIST OF PERSONNEL WITH 40 HOUR OSHA, 29CFR

40 HOUR OSHA STANDARD, 29 CFR 1910.120 HAZARDOUS WASTE OPERATIONS

ROBERT CHRISTIANSEN  
DAVE DYESS  
BILL ELLIOTT, JR.  
GERNOT GELDON  
ANTHONY GRIJALVA  
ROBERT HENRY  
MICHAEL JORDAN  
TOM KEEGAN  
LARRY LIDSTER  
DONALD MARCHANT  
STEVE MYERS  
CLAYTON PROCTOR  
CESAR SIERRA  
RAYMOND VEGA  
ALAN WACHTER

8 HOUR REFRESHER TRAINING OSHA STANDARD  
29 CFR 1910.120 HAZARDOUS WASTE OPERATIONS

DOUG BRADSHAW  
KEVIN DOUGLAS  
CHRIS FRANCHETTI  
JAMES HAWK  
JAMES MCGRATH  
BRYAN MUSCO  
HARRY PLEVNEY  
DENNIS TAIPALE

TABLE 1

## CHEMICAL CONTAMINANTS

<u>MATERIAL</u>	<u>LEL/UEL (%)</u>	<u>TLV-TWA (PPM)</u>	<u>ODOR THRESHOLD (PPM)</u>	<u>ACUTE EXPOSURE SYMPTOM</u>
BENZENE	0.339/7.1	1	4.68	FEVER CONVULSIONS CONFUSION DIZZINESS DROWSINESS HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION TREMORS VOMITING WEAKNESS
ETHYLBENZENE	1.0/6.7	100	0.25 - 200.00	FEVER ABDOMINAL PAINS DIZZINESS DROWSINESS HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION UNCONSCIOUSNESS VOMITING WEAKNESS
TOLUENE	1.3/7.1	100	0.17 - 40	CONFUSION DIZZINESS DROWSINESS HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION TREMORS UNCONSCIOUSNESS VOMITING WEAKNESS FEVER



TABLE 1 - CONTINUED

CHEMICAL CONTAMINANTS

MATERIAL	LEL/UEL (%)	TLV-TWA (PPM)	ODOR THRESHOLD (PPM)	ACUTE EXPOSURE SYMPTOM
XYLENE	1.1/7.0	100	0.5 - 200	DIZZINESS DROWSINESS HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION UNCONSCIOUSNESS VOMITING FEVER
LEAD	EXPLOSIONS OF DUST IN CONFINED AREAS CAN OCCUR	50 UG/M3	N/A	CONVULSIONS ABDOMINAL PAINS DIZZINESS DIARRHEA TREMORS WEAKNESS FEVER
GASOLINE	1.4/7.6	300	<1	CONFUSION DIZZINESS DROWSINESS FEVER HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION UNCONSCIOUSNESS
METHYLENE CHLORIDE	12/NA	50	25 - 320	FEVER HEADACHE NAUSEA RESPIRATORY SYSTEM IRRITATION SKIN IRRITATION WEAKNESS

## 2.0 RISK ANALYSIS

THIS SECTION ASSESSES THE CHEMICAL AND PHYSICAL HAZARDS THAT ARE KNOWN TO EXIST AT THE SITE AND THOSE THAT MAY BE CREATED BY THE REMEDIATION EFFORTS. TABLE 2 SUMMARIZES THE HAZARDS ASSOCIATED WITH EACH OF THESE TASKS. THE HAZARD ANALYSIS HAS BEEN DIVIDED INTO THREE CRITICAL AREAS:

- \* EXPOSURE: EXPECTED FREQUENCY OF EXPOSURE TO A HAZARD;
- \* PROBABILITY: LIKELIHOOD OF AN INJURY UPON EXPOSURE TO A HAZARD; AND
- \* CONSEQUENCE: PROBABLE DEGREE OF INJURY OR EFFECT AN INJURY WILL HAVE ON THE EFFECTIVENESS OF A TEAM MEMBER.

AN EXPLANATION OF THE LETTERS DENOTING THE DEGREES OF EXPOSURE, AND CONSEQUENCE IS PROVIDED AT THE END OF THE TABLE.

CONTAMINANTS MOST LIKELY TO BE ENCOUNTERED DURING FIELD OPERATIONS AT THE SITE ARE THE PETROLEUM HYDROCARBONS AND METALS LISTED ON TABLE 1. A LIST OF THE OCCUPATIONAL EXPOSURE LIMITS AND SIGNS AND SYMPTOMS OF EXPOSURE IS ALSO LISTED IN TABLE 1.

MOST WORK REQUIRED IN THIS PROJECT MAY POTENTIALLY EXPOSE PERSONNEL TO MATERIALS THAT MAY CONTAIN ANY OR ALL OF THESE CONTAMINANTS. ANY PERSONNEL ENTERING THE SITE SHALL BE INFORMED OF ALL HAZARDS ASSOCIATED WITH THESE CONTAMINANTS.

THE PHYSICAL HAZARDS EXPECTED TO BE PRESENT DURING SITE INVESTIGATION ACTIVITIES INCLUDE:

- \* SAW CUTTING
- \* SNAPPING CABLES, SLINGS, AND ROPE
- \* DRILLING EQUIPMENT
- \* MOVING EQUIPMENT

- \* HEAVY EQUIPMENT
- \* SHARP OBJECTS
- \* LOOSE FOUNDATIONS
- \* OPEN PITS OR DITCHES
- \* EXCESSIVE NOISE
- \* FIRE/EXPLOSIONS
- \* BURIED UTILITY LINES
- \* ENERGIZED OVERHEAD AND UNDERGROUND POWER LINES
- \* HEAT STRESS

TABLE 2

HAZARD ANALYSIS

<u>JOB HAZARD</u>	<u>EXPOSURE</u>	<u>PROBABILITY</u>	<u>CONSEQUENCE</u>
<u>DRILLING</u>			
DRILL RIG			
MECHANICAL	A	C	A-D
NOISE	A	C	E
BURIED UTILITIES			
ELECTRICAL	C	C	A-D
CHEMICAL EXPOSURE	A	B	A-E
FIRE AND EXPLOSION	D	D	A-D
DUST	B	D	D-E
<u>TANK REMOVAL/EXCAVATION</u>			
HEAVY EQUIPMENT, INCLUDING CRANE EXCAVATOR, LOADER, BACKHOE			
MECHANICAL	A	C	A-D
NOISE	C	C	E
CHEMICAL EXPOSURE	A	B	A-E
BIOLOGICAL EXPOSURE	D	D	A-D
FIRE AND EXPLOSION	D	D	A-D
DUST	B	D	D-E
SAW CUTTING	C	D	A-E
TANK LIFTING	C	D	A-D
SOIL SLOPE FAILURE	D	D	A-D
FIRE AND EXPLOSION	D	D	A-D

TABLE 2 - CONTINUED

HAZARD ANALYSIS

<u>JOB HAZARD</u>	<u>EXPOSURE</u>	<u>PROBABILITY</u>	<u>CONSEQUENCE</u>
<u>SOIL AND GROUND WATER SAMPLING</u>			
CHEMICAL EXPOSURE	A	B-D	A-E
BIOLOGICAL EXPOSURE	D	D	B-D
<u>DECONTAMINATION</u>			
STEAM CLEANER			
MECHANICAL	B	D	B-D
ELECTRICAL	B	D	A-D
GENERATOR			
MECHANICAL	C	D	C-D
ELECTRICAL	B	D	A-D
CHEMICAL EXPOSURE	B	D	A-E
BIOLOGICAL EXPOSURE	D	D	A-D

EXPLANATIONS

EXPOSURE: THE FREQUENCY OF EXPOSURE TO THE HAZARD EVENT.

- A = CONTINUOUSLY
- B = FREQUENTLY
- C = OCCASIONALLY
- D = SELDOM

PROBABILITY: THE LIKELIHOOD THAT AN INJURY WILL OCCUR UPON EXPOSURE TO THE HAZARD EVENT.

- A = CERTAIN OR ALMOST CERTAIN
- B = LIKELY, NOT UNUSUAL, 50/50 CHANCE OF OCCURRING
- C = UNUSUAL, WOULD GENERALLY OCCUR LESS THAN 50% OF THE TIME
- D = IMPROBABLE, VERY LOW CHANCE OF OCCURRENCE

CONSEQUENCE: THE DEGREE OF INJURY RESULTING FROM EXPOSURE TO THE HAZARD EVENT OF SIGNIFICANT ENOUGH DEGREE TO CAUSE AN INJURY.

- A = FATALITY
- B = SERIOUS INJURY, INCLUDING CHEMICAL EXPOSURE, REQUIRING HOSPITALIZATION
- C = MODERATE INJURY, INCLUDING CHEMICAL EXPOSURE, REQUIRING ON-SITE FIRST AID TREATMENT
- D = MINOR INJURY, INCLUDING CHEMICAL EXPOSURE, REQUIRING ON-SITE FIRST AID TREATMENT
- E = CHEMICAL, ACOUSTICAL, OR OTHER EXPOSURE ABOVE THE THRESHOLD LIMIT VALUE (TLV) OR OTHER RECOMMENDED STANDARD THAT MAY NOT PRODUCE IMMEDIATE ACUTE EFFECTS, ESPECIALLY FOR CHRONIC TOXICANTS

### 3.0 PROCEDURES TO MITIGATE HAZARDS

THIS SECTION DESCRIBES THOSE PROCEDURES TO BE FOLLOWED IN ORDER TO ENSURE THE AVOIDANCE OF OPERATIONAL HAZARDS, AS DISCUSSED IN SECTION 2.0. THESE HAZARDS INCLUDE MECHANICAL, ELECTRICAL, CHEMICAL, ACOUSTICAL, BIOLOGICAL, AND TEMPERATURE HAZARDS. THOSE HAZARDS ASSOCIATED WITH CONFINED SPACES ARE NOT ANTICIPATED TO OCCUR, AND ARE NOT DISCUSSED.

#### 3.1 MECHANICAL HAZARDS

THE FOLLOWING PROCEDURES SHALL BE FOLLOWED DURING ALL PHASES OF THE OPERATION TO REDUCE THOSE RISKS ASSOCIATED WITH MECHANICAL EQUIPMENT:

- \* STAY WELL CLEAR OF DRILL RODS AND AUGERS WHILE THEY ARE ROTATING AND BEING HOISTED. EXTREME CARE IS TO BE EXERCISED WHEN STEEL CABLES ARE BEING USED TO LIFT THE DRILLING APPARATUS FROM THE GROUND.
- \* STAND CLEAR OF THE OPERATING CIRCLE OF EXCAVATORS, BACKHOES, ETC.
- \* EQUIPMENT MAINTENANCE SCHEDULES ARE THE RESPONSIBILITY OF EACH INDIVIDUAL CONTRACTOR. EQUIPMENT IS TO BE CHECKED DAILY. ANY EQUIPMENT DEEMED BY A PETROLEUM ENGINEERING EMPLOYEE TO BE IN AN UNSAFE STATE OF REPAIR, OR OPERATED IN AN UNSAFE MANNER SHALL BE SHUT DOWN UNTIL CORRECTIVE ACTION IS TAKEN. EQUIPMENT SAFETY FEATURES, SUCH AS BACK-UP ALARMS, SHALL BE CHECKED DAILY.

#### 3.2 ELECTRICAL HAZARDS

THE FOLLOWING PROCEDURES SHALL BE FOLLOWED DURING ALL PHASES OF OPERATION, IN ORDER TO REDUCE THOSE RISK ASSOCIATED WITH ELECTRICAL HAZARDS:

- \* UNDERGROUND SERVICE ALERT (1-800-422-4133) WILL BE CONTACTED PRIOR TO SITE ACTIVITIES TO LOCATE THE PRESENCE OF LOCATION OF UNDERGROUND CABLES, UTILITY LINES, PIPES, AND STORAGE VESSELS AT THE PROPOSED SITES WHERE SOIL BORINGS WILL BE PLACED.
- \* THE LOCAL POWER COMPANY SHALL BE CONTACTED, IN ORDER TO VERIFY THE MINIMUM ALLOWABLE CLEARANCE FROM HIGH-VOLTAGE POWER LINES. UNDER NO CIRCUMSTANCES WILL ANY PERSON, PIECE OF EQUIPMENT, OR PHASE OF OPERATION COME WITHIN 10 FEET OF OVERHEAD POWER LINES.
- \* IF THE WORK AREA IS UNAVOIDABLY CLOSE TO BURIED OR OVERHEAD POWER LINES, THE POWER SHALL BE TURNED OFF, WITH THE CIRCUIT BREAKER LOCKED AND TAGGED OUT.

- \* ALL ELECTRICAL EQUIPMENT IS TO BE PROPERLY GROUNDED, AND UNDER NO CIRCUMSTANCES ARE ANY MODIFICATIONS TO BE MADE TO ANY PIECE OF ELECTRICAL EQUIPMENT. ALL ELECTRICAL EQUIPMENT IS TO BE INSPECTED DAILY FOR DAMAGED LEADS OR PLUGS. ANY PIECE OF EQUIPMENT THAT IS DAMAGED SHALL NOT BE USED ON THE SITE, AND SHALL, IN FACT, BE REMOVED FROM THE SITE FOR DISPOSAL OR REPAIR.
- \* IF ELECTRICAL EQUIPMENT MUST BE CONNECTED BY SPLICING WIRES, THE SOURCE SHALL BE DE-ENERGIZED FIRST, THE BREAKER BOX LOCKED OUT AND APPROPRIATELY TAGGED BY THE PERSON WHO IS TO PERFORM THE SPLICING OPERATION. ALL CONNECTIONS ARE TO BE APPROPRIATELY TAPED. ONCE THE SPLICING OPERATION IS COMPLETE, THE PERSON WHO PERFORMED THE SPLICE SHALL BRING THE SOURCE BACK INTO OPERATION.
- \* EACH PERSON THAT HAS CAUSE OR NEED TO USE A PIECE OF ELECTRICAL EQUIPMENT SHALL ENSURE THAT HE/SHE IS FULLY FAMILIAR WITH THAT EQUIPMENT'S OPERATION AND FEATURES.

### 3.3 CHEMICAL HAZARDS

TO REDUCE THE POSSIBILITY OF INJURY DUE TO CHEMICAL HAZARDS, PERSONNEL SHALL WEAR THOSE PIECES OF PERSONAL PROTECTIVE EQUIPMENT AS SPECIFIED BY TASK, IN SECTION 5.0. AIR MONITORING SHALL BE CONDUCTED TO EVALUATE RESPIRATORY AND EXPLOSION HAZARDS. THE INSTRUMENTS AND ACTION LEVELS TO BE USED ARE LISTED IN TABLE 3. THE PETROLEUM ENGINEERING EMPLOYEE CONDUCTING EACH FIELD TASK SHALL BE RESPONSIBLE FOR PERFORMING THE SPECIFIED AIR MONITORING. IN ORDER TO ENSURE THE PROTECTION OF OFF-SITE PUBLIC HEALTH, SITE PERIMETER AIR MONITORING FOR VOLATILE ORGANICS WILL BE PERFORMED (SEE SECTION 6.1.2). IF AIRBORNE LEVELS OF CONTAMINANTS CONSISTENTLY EXCEED 5 PPM BACKGROUND LEVELS AT THE PERIMETER OF THE SITE, THE WORK WILL BE STOPPED, THE SUSPECTED SOURCE OF THE CONTAMINATION WILL BE COVERED TO ELIMINATE EMISSIONS AND THE PETROLEUM ENGINEERING PROJECT MANAGER, AND THE CO WILL BE NOTIFIED. A DECISION WILL THE BE MADE AS TO HOW TO PROCEED WITH THE WORK AND HOW TO MORE FULLY CHARACTERIZE AND REDUCE THE AIRBORNE EMISSIONS.

TABLE 3

AIR MONITORING INSTRUMENTATION AND ACTION LEVELS

<u>HAZARD</u>	<u>INSTRUMENT</u>	<u>READING</u>	<u>LOCATION</u>	<u>ACTION</u>
RESPIRATORY	PID/DRAEGER TUBE	1-2 PPM	BREATHING	DON RESPIRATOR (MODIFIED D)
RESPIRATORY	PID/DRAEGER TUBE	5 PPM	BREATHING	DON LEVEL C PROTECTION
RESPIRATORY	PID/DRAEGER TUBE	10 PPM	BREATHING	LEAVE AREA
EXPLOSION	COMBUSTIBLE GAS METER	10% LEL	AMBIENT AIR	VENT AREA
EXPLOSION	COMBUSTIBLE GAS METER	20% LEL ✓	AMBIENT AIR	LEAVE AREA
OXYGEN DEFICIENCY	OXYGEN METER	19.5%	OXYGEN AMBIENT AIR	LEAVE AREA

APPARENT EXPOSURE LEVEL ABOVE THE BACKGROUND AMBIENT AIR CONCENTRATION. BACKGROUND LEVELS MAY CHANGE DUE TO FACTORS SUCH AS WEATHER AND LOCATION OF WORK SITE.

HIGH EFFICIENCY ORGANIC VAPORS CARTRIDGES WITH DUST FILTERS SHALL BE USED.

AS EACH CHEMICAL CONSTITUENT IS IDENTIFIED THROUGH SOIL AND SURFACE WATER TESTING, SPECIFIC ACTION LEVELS WILL BE DETERMINED. THESE SITE-SPECIFIC ACTION LEVELS AND ANY MODIFICATIONS TO SAFETY PROCEDURES PRESENTED IN THIS PLAN SHALL BE INCORPORATED IN FUTURE REVISIONS. IT IS PRESENTLY ANTICIPATED THAT CHEMICAL HAZARDS WILL WARRANT THE DIVISION OF THE WORK SITE INTO WORK, DECONTAMINATION AREA PRIOR TO ENTERING THE SUPPORT AREA. THE SUPPORT AND DECONTAMINATION AREAS WILL BE UPWIND OF THE WORK SITE. NO VISITORS SHALL BE ALLOWED TO APPROACH THE WORK SITE UNLESS THEY ARE PROPERLY TRAINED AND UNDER THE SUPERVISION OF DELEGATED PETROLEUM ENGINEERING PERSONNEL.

3.4 ACOUSTICAL HAZARDS

IN ORDER TO PREVENT HEARING IMPAIRMENT, THE USE OF EAR PLUGS OR EAR MUFFS SHALL BE REQUIRED FOR ALL PERSONNEL WHEN HEAVY EQUIPMENT IS IN USE AT THE SITE. HOWEVER, SHOULD ANY PERSONNEL DEVELOP PAIN IN THE EAR DUE TO WORK-SITE NOISE, THEY SHALL IMMEDIATELY DON A SET OF EAR PLUGS OR MUFFS.

NOISE LEVELS WILL ALSO BE CONTROLLED TO CONFORM TO LOCAL NOISE ORDINANCES.

### 3.5 BIOLOGICAL HAZARDS

IN ORDER TO REDUCE THE RISK OF BIOLOGICAL CONTAMINATION, PERSONAL PROTECTIVE EQUIPMENT, DESCRIBED IN SECTION 5.0, SHALL BE WORN FOR EACH SPECIFIED TASK. THIS PROTECTIVE EQUIPMENT SHALL BE REMOVED, AND HANDS AND FACE WASHED PRIOR TO CONTACT WITH THE MOUTH, BY THE HANDS, FOR SUCH PURPOSES AS EATING, DRINKING, OR SMOKING. SMOKING SHALL ONLY BE PERMITTED IN THOSE AREAS DESIGNATED BY THE SSHO.

### 3.6 HEAT STRESS

ALL PERSONNEL ENTERING THE WORK AREA SHOULD BE FAMILIAR WITH THE SIGNS AND SYMPTOMS OF HEAT STRESS. THESE INCLUDE:

- \* HEAT EXHAUSTION--DIZZINESS, LIGHT-HEADEDNESS, SLURRED SPEECH, RAPID PULSE, CONFUSION, FAINTING, FATIGUE, COPIOUS PERSPIRATION, COOL SKIN THAT IS SOMETIMES PALE AND CLAMMY, AND NAUSEA.
- \* HEAT STRESS--HOT, DRY, FLUSHED SKIN; DELIRIUM, AND COMA (IN SOME CASES).

HEAT STRESS CAN BE PREVENTED BY RESTING FREQUENTLY IN A SHADED AREA AND CONSUMING LARGE QUANTITIES OF FRESH, POTABLE WATER. IF HEAT EXHAUSTION SYMPTOMS ARE OBSERVED, THE PERSON WILL BE REQUIRED TO REST IN A SHADED AREA AND CONSUME LIQUIDS. IF SYMPTOMS ARE WIDESPREAD OR OBSERVED FREQUENTLY, AN APPROPRIATE WORK/REST REGIMEN WILL BE INSTITUTED. THIS MAY INVOLVE LIMITING THE WORK PERIOD SO THAT AFTER ONE MINUTE OF REST, A PERSON'S HEART RATE (HR) DOES NOT EXCEED 110 BEATS PER MINUTE.

IF THE HR IS HIGHER THAN 110 BEATS PER MINUTE, THE NEXT WORK PERIOD SHOULD BE SHORTENED BY 33 PERCENT, WHILE THE LENGTH OF THE REST PERIOD STAYS THE SAME. IF THE HR IS 110 BEATS PER MINUTE AT THE BEGINNING OF THE NEXT REST PERIOD, THE FOLLOWING WORK CYCLE SHOULD BE SHORTENED BY 33 PERCENT. RESTING HR SHOULD BE DETERMINED PRIOR TO START OF ON SITE ACTIVITIES. A HEALTHY INDIVIDUAL'S RESTING HR IS USUALLY 60 TO 72 BEATS PER MINUTE.



IF SYMPTOMS OF HEAT STRESS ARE OBSERVED, THE VICTIM WILL BE TRANSPORTED TO THE NEAREST HOSPITAL IMMEDIATELY. WORKERS SHOULD NOT HESITATE TO SEEK MEDICAL ATTENTION IF HEAT STRESS IS SUSPECTED.

### 3.7 CONFINED SPACE HAZARDS

WHEN WORK IS TO BE DONE IN AN AREA WHERE THE NATURAL CIRCULATION OF FRESH AIR OR THE ABILITY TO READILY ESCAPE THE SITE IS RESTRICTED, THAT SITE SHALL BE CONSIDERED A CONFINED SPACE, AND THE FOLLOWING GUIDELINES SHALL BE FOLLOWED:

- \* PERSONNEL SHALL MONITOR THE LEVELS OF OXYGEN, COMBUSTIBLE GASES, AND ORGANIC VAPORS PRIOR TO ENTERING. UNDER NO CIRCUMSTANCES SHALL THE SPACE BE METERED IF THE FOLLOWING LEVELS ARE EXCEEDED:
  1. OXYGEN CONTENT IS LESS THAN 19.5%.
  2. COMBUSTIBLE GAS LEVEL IS GREATER THAN 3% OF THE LEL.
  3. TOTAL HYDROCARBONS ARE GREATER THAN THE ACTION LEVELS DEFINED IN TABLE 3 OF THIS SECTION, IF ALL AIR CONTAMINANTS HAVE NOT BEEN IDENTIFIED.
  
- \* PERSONNEL SHALL MONITOR THE LEVELS OF OXYGEN, COMBUSTIBLE GASES, AND ORGANIC VAPORS CONTINUOUSLY WHILE INSIDE THE CONFINED SPACE. IF THE VALUES STATED IN SUBPARAGRAPH (A) ARE EXCEEDED, THE SPACE SHALL BE EVACUATED OF ALL PERSONNEL IMMEDIATELY.
  
- \* AT LEAST ONE ADDITIONAL PERSON, WHO SHALL BE PRESENT FOR THE EXPRESS PURPOSE OF MONITORING THE PERSONNEL IN THE SPACE, SHALL BE WITHIN SIGHT AND CALL OF THOSE PERSONNEL WITHIN THE SPACE, WHILE REMAINING OUTSIDE THE SPACE PROPER. THIS PERSON SHALL HAVE, READILY AVAILABLE TO HIM, ALL RESCUE EQUIPMENT NECESSARY TO REMOVE PERSONNEL WHO MAY REQUIRE EXTRACTION FROM THE SPACE AND THE SITE. THIS EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO, RESPIRATION EQUIPMENT OF THE SAME LEVEL AS THOSE USED BY THE PERSONNEL IN THE SPACE, FIRST AID EQUIPMENT, INCLUDING COMPRESSES, HARNESSSES, AND ALL REQUIRED EXTRACTION EQUIPMENT.
  
- \* PORTABLE FANS OR BLOWERS SHALL BE USED TO INTRODUCE FRESH AIR INTO A CONFINED SPACE. THESE FANS OR BLOWERS SHALL BE LOCATED ON THE UPWIND SIDE OF THE SPACE. THE SPACE SHALL NOT BE ENTERED UNTIL VALUES OF OXYGEN, ORGANIC VAPORS, AND COMBUSTIBLE GASES ARE BROUGHT BELOW AND MEASURED BELOW THEIR RESPECTIVE ACTION LEVELS.
  
- \* NO PERSONNEL SHALL ENTER ANY UNSHORED OR UNSUPPORTED EXCAVATION WITH A DEPTH GREATER THAN 5 FEET, OR WITH UNSTABLE GEOLOGICAL CONDITIONS.

## 4.0 TRAINING

### 4.1 SITE WORKERS

ALL PERSONNEL WHO WILL PERFORM ON SITE TASKS SHALL BE TRAINED BY U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARD, 29 CFR 1910.120, HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE. TRAINING WILL INCLUDE:

- \* A MINIMUM OF 40 HOURS INITIAL INSTRUCTION OFF SITE BE REQUIRED FOR THOSE PERSONNEL CONDUCTING INVASIVE FIELD WORK AT THE SITE. PROOF OF TRAINING SHALL BE REQUIRED TO BE PRESENT AT THE SITE.
- \* A MINIMUM OF 3 DAYS OF ACTUAL FIELD EXPERIENCE UNDER THE DIRECT SUPERVISION OF A TRAINED, EXPERIENCED SUPERVISOR.
- \* REGULATORY OFFICIALS AT THE SITE SHALL BE REQUIRED TO HAVE COMPLETED AT LEAST 24 HOURS OF INITIAL INSTRUCTION, AND SHALL PRESENT TRAINING CERTIFICATION AS REQUESTED.
- \* A MINIMUM OF 8 HOURS OF REFRESHER TRAINING ANNUALLY.
- \* FIRST AID AND CPR TRAINING.
- \* ADDITIONAL TRAINING WHICH ADDRESSES ANY UNIQUE OR SPECIAL HAZARDS.

ALL PERSONNEL ENTERING THE SITE SHALL BE REQUESTED TO PRESENT PROOF OF CURRENT TRAINING. FAILURE TO PRESENT SUCH CERTIFICATION SHALL RESULT IN REMOVAL FROM THE SITE.

### 4.2 ON SITE MANAGEMENT AND SUPERVISORS

ON SITE MANAGEMENT AND SUPERVISORS SHALL RECEIVE AT LEAST 8 ADDITIONAL HOURS OF SPECIALIZED TRAINING ON MANAGING SUCH OPERATIONS.

### 4.3 PRE-ENTRY ORIENTATION SESSION

PRIOR TO ENTERING THE SITE, PERSONNEL SHALL ATTEND A DAILY PRE-ENTRY ORIENTATION SESSION PRESENTED BY THE SSHO WHICH ADDRESSES THE FOLLOWING ISSUES. ALL PERSONNEL SHALL VERIFY ATTENDANCE OF THIS DAILY MEETING BY SIGNING THE SAFETY AND HEALTH PLAN REVIEW RECORD, APPENDIX A.

#### 4.3.1 DEGREE AND NATURE OF POTENTIAL HEALTH AND SAFETY HAZARDS

THE HEALTH EFFECTS AND HAZARDS OF THE CHEMICALS IDENTIFIED OR SUSPECTED TO BE ON THE SITE SHALL BE DISCUSSED. THE PHYSICAL AND CHEMICAL PROPERTIES OF THE CONTAMINANTS, THE MOST LIKELY ROUTE OF EXPOSURE, AND POSSIBLE ADVERSE CONSEQUENCES OF WORKING ON THE SITE IF PROPER SAFETY PROCEDURES ARE NOT OBSERVED OR IF PROTECTIVE EQUIPMENT FAILS OR IS IMPROPERLY WORN SHALL BE REVIEWED. OTHER HAZARDS WHICH ARE UNIQUE TO SITE OPERATIONS SHALL BE PRESENTED.

#### 4.3.2 PERSONAL PROTECTIVE EQUIPMENT

PERSONNEL SHALL BE INSTRUCTED IN THE USE, CARE, MAINTENANCE, LIMITATIONS, AND FITTING OF PERSONAL PROTECTIVE EQUIPMENT. RESPIRATOR TRAINING SHALL CONFORM TO ANSI Z88.2 (1980) AND OSHA 29 CFR 1910.134. PERSONNEL SHALL NOT BE FIT TESTED OR ISSUED A RESPIRATOR IF FACIAL HAIR INTERFERES WITH THE FACE-TO FACEPIECE SEAL OF THE RESPIRATOR. QUALITATIVE FIT TESTING SHALL BE PERFORMED ANNUALLY. RECORDS OF THE FIT TESTING SHALL BE MAINTAINED. POSITIVE/NEGATIVE FIT TESTING SHALL BE PERFORMED BY THE USER EACH TIME A RESPIRATOR IS DONNED.

#### 4.3.3 DECONTAMINATION PROCEDURES

THE PROCEDURES, MATERIALS, EQUIPMENT, AND FACILITIES SPECIFIC TO THE SITE WILL BE DISCUSSED DURING THE MORNING BRIEFING BY THE SSHO.

#### 4.3.4 ACCEPTED PRACTICES

SPECIFIC SAFE WORK PRACTICES WHICH MUST BE ADHERED TO DURING SITE OPERATIONS

WILL BE DISCUSSED. THIS WILL INCLUDE PROCEDURES FOR ENTERING AND EXITING THE SITE, AND ACCEPTED AND UNACCEPTED PRACTICES WITHIN THE PERSONNEL DECONTAMINATION AREA.

#### 4.3.5 EMERGENCY PROCEDURES

PROCEDURES FOR RESPONDING TO EMERGENCIES AS SPECIFIED IN THE EMERGENCY RESPONSE PLAN SHALL BE COVERED.

#### 4.3.6 MEDICAL REQUIREMENTS

THE MEDICAL REQUIREMENTS FOR ALL PERSONNEL ASSIGNED TO PERFORM WORK AT THE SITE SHALL BE PRESENTED.

### 5.0 PERSONAL PROTECTIVE EQUIPMENT

ALL RESPIRATORY PROTECTIVE EQUIPMENT MUST BE APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)/MINE SAFETY AND HEALTH ADMINISTRATION (MSHA). THE MINIMUM PROTECTIVE EQUIPMENT REQUIREMENTS FOR EACH SITE TASK SHALL BE LEVEL D. HOWEVER, SHOULD AIRBORNE MONITORING INDICATE ORGANIC VAPORS CONSISTENTLY IN EXCESS OF 1-2 PPM, THE LEVEL OF PROTECTION SHALL BE UPGRADED TO LEVEL C1. IF MONITORING INDICATES ORGANIC VAPORS CONSISTENTLY IN EXCESS OF 5 PPM, THE LEVEL OF PROTECTION SHALL BE UPGRADED TO LEVEL C2.

#### 5.1 LEVELS OF PROTECTION

##### 5.1.1 LEVEL D PROTECTION

THE FOLLOWING PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED TO BE WORN IN BY ALL ON-SITE PERSONNEL:

- \* POLY/COTTON REUSABLE COVERALLS OR LONG SLEEVE SHIRTS AND LONG PANTS
- \* STEEL TOE BOOTS/SHOES
- \* EAR PLUGS OR EAR MUFFS
- \* HARD HAT
- \* NITRILE GLOVES (IF CONTACT WITH POTENTIALLY-CONTAMINATED SOIL OR WATER IS EXPECTED)

- \* SAFETY GLASSES
- \* NEOPRENE OR BUTYL RUBBER BOOTS OR LATEX BOOT COVERS ( IF CONTACT WITH POTENTIALLY-CONTAMINATED SOIL OR WATER IS EXPECTED)

#### 5.1.1.A LEVEL C1 PROTECTION

- \* ONE-HALF OR FULL FACE RESPIRATOR WITH HIGH EFFICIENCY ORGANIC VAPOR CARTRIDGES WITH DUST FILTER

#### 5.1.2 LEVEL C PROTECTION

- \* CLOTH COVERALLS
- \* STEEL-TOED BOOTS WITH WATERPROOF COVERS, OR STEEL-TOED RUBBER BOOTS
- \* HARD HAT
- \* EAR PLUGS OR EAR MUFFS
- \* NITRILE GLOVES
- \* SAFETY GLASSES
- \* FULL FACE RESPIRATOR WITH HIGH EFFICIENCY ORGANIC VAPOR CARTRIDGES WITH DUST FILTER

### 5.2 MAINTENANCE AND IN-USE INSPECTION OF PROTECTIVE EQUIPMENT

EFFECTIVE USE OF PROTECTIVE EQUIPMENT REQUIRES THAT THE EQUIPMENT BE PROPERLY USED, MAINTAINED, AND INSPECTED PERIODICALLY DURING THE DAY. PROCEDURES WILL BE PRESENTED DURING PRE-ENTRY TRAINING.

#### 5.2.1 GLOVES/BODY COVERINGS

GLOVES AND COVERALLS WILL BE REGULARLY INSPECTED AND REPLACED IF TORN. COVERALLS WILL BE LAUNDERED DAILY AT A MINIMUM. REUSABLE GLOVES WILL BE DECONTAMINATED WHENEVER EXITING WORK AREAS.

#### 5.2.2 RESPIRATORS

SITE CONDITIONS ARE NOT ANTICIPATED TO REQUIRE RESPIRATORY PROTECTION, THEREFORE, NO RESPIRATORS ARE EXPECTED TO BE NECESSARY; HOWEVER, RESPIRATORS SHALL BE INSPECTED AND CHECKED DAILY FOR LEAKS BOTH VISUALLY AND WITH

NEGATIVE OR POSITIVE PRESSURE CHECKS ON THE WEARER. RESPIRATOR CARTRIDGES WILL BE REPLACED DAILY OR MORE FREQUENTLY IF EXCESSIVE RESISTANCE DEVELOPS. ALL RESPIRATOR MAINTENANCE WILL BE PERFORMED BY THE SSHO. THE TYPE OF RESPIRATORS USED WILL BE EQUIPPED WITH HIGH EFFICIENCY ORGANIC VAPOR CARTRIDGES AND DUST FILTERS.

RESPIRATOR EXTERIORS WILL BE WET-WIPED WHENEVER EXITING WORK AREAS, AS SPECIFIED IN SECTION 8.3. RESPIRATORS WILL BE RINSED WITH A SOLUTION CONTAINING A SANITIZER RECOMMENDED BY THE RESPIRATOR MANUFACTURER. RESPIRATORS WILL THE BE HUNG TO DRIP DRY AND, IF NOT USED DAILY, WILL BE PLACED INSIDE PLASTIC BAGS FOR PROTECTION AGAINST DUST.

## 6.0 ENVIRONMENTAL MONITORING

### 6.1 REAL TIME AIR MONITORING

A TOTAL VOLATILE ORGANICS INSTRUMENT SHALL BE USED TO PERIODICALLY MONITOR AIRBORNE CONCENTRATIONS OF CONTAMINANTS ON THE SITE. A PHOTOIONIZATION DETECTOR (PID) (E.G., HNU OR OVM) OR EQUIVALENT AND EXPLOSIMETER/OXYGEN METER WILL BE USED TO SCREEN EXCAVATED SOILS FOR VOLATILE ORGANIC COMPOUND CONTAMINATION. THE PID WILL ALSO BE USED TO MEASURE AND RECORD EMPLOYEE BREATHING ZONE LEVELS OF ORGANIC VAPORS AND GASES.

THE MONITORING PROGRAM MAY BE INCREASED, REDUCED, OR MODIFIED BY THE SSHO, WITH CONCURRENCE OF THE CO, BASED ON SITE CONDITIONS AND MONITORING RESULTS. ALL MONITORING WILL BE ACCOMPLISHED UNDER THE DIRECTION OF THE SSHO, WHO WILL INTERPRET THE RESULTS.

THE AIR MONITORING PROGRAM WILL INCLUDE SUFFICIENT MONITORING OF AIR QUALITY IN WORK ZONES AND OTHER ON-SITE AREAS TO ASSESS LEVELS OF EMPLOYEE EXPOSURE, DETERMINE THAT THE WORK ZONE DESIGNATIONS ARE VALID, AND VERIFY THAT THE RESPIRATORY PROTECTION BEING WORN BY PERSONNEL IS ADEQUATE. THE AIR MONITORING PROGRAM IS ALSO DESIGNED TO ENSURE THAT CONTAMINANTS ARE NOT MIGRATING OFF SITE TO MINIMIZE EXPOSURE OF NEARBY POPULATIONS AND/OR

WORKERS. AIR MONITORING SHALL BE CONDUCTED AT 15 MINUTE INTERVALS, UNLESS IT IS DETERMINED THAT AIR MONITORING MAY OCCUR AT LESS FREQUENT INTERVALS. THESE LESS FREQUENT INTERVALS WOULD BE THE RESULT OF AMBIENT AIR MOVEMENT (WIND), OR THROUGH THE REDUCTION OF THE AIR THREAT THROUGH VERIFICATION MONITORING. SUCH CHANGES TO PLAN WILL BE LOGGED.

MONITORING SHALL BE CONDUCTED:

- \* WHEN WORK BEGINS ON A DIFFERENT PORTION OF THE SITE.
- \* WHEN CONTAMINANTS OTHER THAN THOSE PREVIOUSLY IDENTIFIED ARE BEING HANDLED.
- \* WHEN A DIFFERENT TYPE OF OPERATION IS INITIATED.
- \* IF A SUFFICIENT REASONABLE INTERVAL HAS PASSED SO THAT EXPOSURES MAY HAVE SIGNIFICANTLY INCREASED.

MEASUREMENTS SHALL BE TAKEN AT THE ANTICIPATED SOURCE AND IN THE BREATHING ZONE OF SITE PERSONNEL.

INSTRUMENTS SHALL ONLY BE USED BY EMPLOYEES WHO HAVE BEEN TRAINED IN THE PROPER OPERATION, USE, LIMITATION, AND CALIBRATION OF THE MONITORING INSTRUMENT AND WHO HAVE DEMONSTRATED THE SKILLS NECESSARY TO OPERATE THE INSTRUMENT.

#### 6.1.2 PERIMETER MONITORING

MONITORING SHALL BE CONDUCTED AT LEAST TWO TIMES EACH DAY WITH A TOTAL VOLATILE ORGANICS DIRECT-READING INSTRUMENT AT LOCATIONS UPWIND AND DOWNWIND AT THE PERIMETER OF THE SITE. MEASUREMENTS SHALL ALSO BE TAKEN PERIODICALLY DOWNWIND OF EACH ACTIVE SAMPLING SITE TO ASSESS THE POTENTIAL FOR OFF-SITE MIGRATION. IF AIRBORNE LEVELS OF CONTAMINATION EXCEED BACKGROUND LEVELS FOR A SUSTAINED PERIOD OF TIME AT THE PERIMETER OF THE SITE, THE WORK AREA SHALL BE EXPANDED TO ENCOMPASS ALL AREA SUBJECTED TO THE ELEVATED LEVELS. IF AIRBORNE LEVELS OF CONTAMINANTS EXCEED BACKGROUND LEVELS BY 5 PPM AT THE PERIMETER OF THE SITE, THE WORK WILL BE STOPPED, THE SUSPECTED SOURCE OF THE

CONTAMINATION (BOREHOLE OR PRODUCTION WELL) WILL BE COVERED TO ELIMINATE EMISSIONS, AND THE PETROLEUM ENGINEERING PROJECT MANAGER, AND THE CO WILL BE NOTIFIED. IF AIRBORNE LEVELS OF CONTAMINANTS EXCEED BACKGROUND LEVELS, A DECISION WILL THEN BE MADE AS TO HOW TO PROCEED WITH THE WORK AND HOW TO MORE FULLY CHARACTERIZE THE AIRBORNE EMISSIONS.

### 6.2.2 FIELD INSTRUMENTS

TWO TYPES OF PID VAPOR ANALYZERS ARE AVAILABLE FOR ON-SITE SCREENING DURING FIELD OPERATIONS: HNU MODEL PI 101 AND/OR THERMO ENVIRONMENTAL INSTRUMENTS 580A OR 580B.

A GASTECH FLAMMABLE GAS DETECTOR IS SHALL BE USED TO MEASURE EXPLOSIVE/OXYGEN LEVELS. EQUIVALENT INSTRUMENTS MAY BE USED.

CALIBRATION OF INSTRUMENTS WILL BE PERFORMED PRIOR TO FIELD USE ON A DAILY BASIS. CALIBRATION METHODS AS SPECIFIED IN MANUFACTURER-SUPPLIED MANUALS FOR EACH INSTRUMENT WILL BE FOLLOWED. A TWO-POINT CALIBRATION IS PERFORMED ON PORTABLE GAS ANALYZERS USING HYDROCARBON-FREE AIR AS THE ZERO POINT AND A MANUFACTURED CALIBRATION GAS AS THE HIGH POINT. A GAS ANALYZED INSTRUMENT IS CONSIDERED TO BE ACCURATE IF READINGS OF THE STANDARD ARE WITHIN 20 PERCENT OF THE ACTUAL CONCENTRATION OF STANDARD GAS.

### 6.2.3 RECORDKEEPING REQUIREMENTS

THE RESULTS OF AIR MONITORING READINGS SHALL BE RECORDED ON STANDARD AIR MONITORING DATA FORMS. A CALIBRATION AND MAINTENANCE LOG FOR EACH INSTRUMENT SHALL ALSO BE MAINTAINED. RECORDS SHALL ALSO BE KEPT OF ALL SIGNIFICANT EVENTS, ADDENDUMS, OR CHANGES TO LEVELS OF PROTECTION.

### 6.3 HEAT-STRESS MONITORING

AMBIENT TEMPERATURES AT THE SITE COMBINED WITH THE REQUIREMENTS FOR PPE USE MAY CONTRIBUTE TO HEAT STRESS. WHEN AMBIENT TEMPERATURES REACH OR EXCEED 70



DEGREES FAHRENHEIT, BODY TEMPERATURES WILL BE MONITORED USING FEVER STRIPS OR ORAL THERMOMETERS AND HEART RATES WILL BE MONITORED WHEN HEAT STRESS CONDITIONS MAY OCCUR. WORK-REST REGIMENS WILL BE ADJUSTED ACCORDINGLY (SEE SECTION 3.6).

## 7.0 SITE CONTROL

A CHECK-IN AND CHECK-OUT SYSTEM WILL BE USED TO CONTROL AND RECORD EACH EMPLOYEE AND PIECE OF EQUIPMENT INSIDE THE SITE BOUNDARIES. ONLY PERSONNEL IDENTIFIED AS "AUTHORIZED" WILL BE PERMITTED TO ENTER THE SITE. A MASTER LIST OF AUTHORIZED PERSONNEL WILL BE AVAILABLE AND WILL ONLY INCLUDE PERSONNEL WHO HAVE RECEIVED THE APPROPRIATE TRAINING AND CERTIFICATION REQUIRED BY THIS HEALTH AND SAFETY PLAN AND OSHA REQUIREMENTS.

### 7.1 WORK ZONES

WORK ZONES ARE DESIGNATED TO PREVENT EMPLOYEES, VISITORS, AND THE SURROUNDING ENVIRONMENT FROM EXPOSURE TO CONTAMINATION DURING ALL ASPECTS OF SITE REMEDIATION ACTIVITIES. ALL WORK ZONES AND SUPPORT AREAS WILL BE ESTABLISHED BY PETROLEUM ENGINEERING. MOVEMENT OF PERSONNEL AND EQUIPMENT BETWEEN ZONES AND ON AND OFF SITE WILL BE CONTROLLED BY MEANS OF DESIGNATED ACCESS POINTS. MINIMUM PERSONAL PROTECTIVE EQUIPMENT FOR WORK IN EACH ZONE IS DESCRIBED IN SECTION 5.0.

#### 7.1.1 WORK AREAS

THE WORK AREAS ENCOMPASS THE SURFACE AREAS AROUND THE BOUNDARY OF THE PROPERTY. IT IS ANTICIPATED THAT THIS WILL BE A LEVEL D AREA AND BE UTILIZED DURING INVASIVE OPERATIONS.

## 7.2 SAFE WORK PRACTICES

### 7.2.1 SITE-SPECIFIC PRACTICES

SAFE WORK PRACTICES, WHICH MUST BE FOLLOWED BY ALL SITE WORKERS, INCLUDE:

- \* EATING, DRINKING, CHEWING GUM OR TOBACCO, AND SMOKING ARE PROHIBITED IN THE WORK AND DECONTAMINATION AREAS.
- \* DO NOT SIT OR KNEEL IN AREAS OF OBVIOUS CONTAMINATION.
- \* HANDS AND FACE MUST BE THOROUGHLY WASHED UPON LEAVING THE WORK AREA.
- \* REPAIR OR REPLACE IMMEDIATELY ANY DEFECTIVE PPE.
- \* PRESCRIPTION DRUGS MUST NOT BE TAKEN BY PERSONNEL UNLESS SPECIFICALLY APPROVED BY A QUALIFIED PHYSICIAN.
- \* IF RESPIRATORS ARE REQUIRED, FACIAL HAIR THAT INTERFERES WITH THE FACE-TO-FACEPIECE FIT OF THE RESPIRATOR WILL NOT BE PERMITTED.
- \* CONTACT LENSES WILL NOT BE PERMITTED TO BE WORN WHEN THE POTENTIAL FOR CHEMICAL SPLASH EXISTS OR WHEN FULL FACE-PIECE RESPIRATORS ARE REQUIRED.
- \* PERSONNEL ON SITE MUST USE THE BUDDY SYSTEM; VISUAL CONTACT MUST BE MAINTAINED BETWEEN TEAM MEMBERS AT ALL TIMES.

### 7.2.2 DAILY START-UP AND SHUTDOWN PROCEDURES

THE FOLLOWING PROTOCOLS WILL BE FOLLOWED DAILY PRIOR TO START OF WORK ACTIVITIES:

- \* THE SSHO WILL REVIEW SITE CONDITIONS TO DETERMINE IF MODIFICATION OF WORK AND SAFETY PLANS ARE NEEDED.
- \* PERSONNEL WILL BE BRIEFED AND UPDATED ON ANY NEW SAFETY PROCEDURES.
- \* ALL SAFETY EQUIPMENT WILL BE CHECKED FOR PROPER FUNCTION.
- \* THE SSHO WILL ENSURE THAT FIRST AIR EQUIPMENT IS READILY AVAILABLE.
- \* THE SSHO WILL INITIATE APPROPRIATE AIR MONITORING.

THE FOLLOWING PROTOCOL WILL BE FOLLOWED AT THE END OF DAILY OPERATIONS AND

BEFORE BREAKS:

- \* ALL PERSONNEL WILL PROCEED THROUGH APPROPRIATE DECONTAMINATION PROCEDURES AND FACILITIES.

## 8.0 DECONTAMINATION

### 8.1 GENERAL

EMPLOYEES WILL BE TRAINED IN DECONTAMINATION PROCEDURES THAT WILL BE IMPLEMENTED WHEN EMPLOYEES OR EQUIPMENT ENTER WORK OR DECONTAMINATION AREAS. DECONTAMINATION WILL BE PERFORMED TO MINIMIZE POTENTIAL CONTAMINATION OF EQUIPMENT AND THE SPREAD OF CONTAMINATION FROM ONE ZONE TO ANOTHER.

### 8.2 PERSONNEL

IF IT BECOMES NECESSARY TO UPGRADE THE LEVEL OF PROTECTION FROM LEVEL D TO LEVEL C OR ABOVE, NO WORKER, EXCEPT UNDER EMERGENCY SITUATIONS, WILL LEAVE THE WORK AREA WITHOUT GOING THROUGH THE PROPER DECONTAMINATION SEQUENCES.

BEFORE LEAVING THE WORK AREA, PERSONNEL WILL WASH BOOTS AND OUTER GLOVES AT THE DECONTAMINATION AREA. THE WASH SOLUTION WILL BE A SIMPLE DETERGENT/WATER SOLUTION. OUTER DISPOSABLE CLOTHING WILL BE REMOVED AND PLACED IN SEALED 6-MIL PLASTIC BAGS FOR DISPOSAL. EXTERIOR SURFACES OF RESPIRATORS WILL BE WET-WIPED, THEN RESPIRATORS WILL BE REMOVED AND PLACED IN A PLASTIC BAG FOR TEMPORARY STORAGE AND CLEANING.

### 8.3 RESPIRATOR DECONTAMINATION

WHEN REQUIRED, RESPIRATORS WILL BE CLEANED DAILY BY THE INDIVIDUALS TO WHOM THEY HAVE BEEN ASSIGNED. EACH INDIVIDUAL WILL BE RESPONSIBLE FOR CLEANING AND MAINTAINING HIS/HER OWN RESPIRATOR. A WASH BASIN OR SINK, WITH SOLUTION CONTAINING SANITIZER RECOMMENDED BY THE MANUFACTURER, WILL BE PROVIDED IN THE DECONTAMINATION AREA FOR FINAL RINSING OF RESPIRATORS AT THE END OF THE DAY. RESPIRATORS WILL THEN BE HUNG TO DRIP-DRY AND, IF NOT USED DAILY, WILL BE PLACED INSIDE PLASTIC BAGS FOR PROTECTION AGAINST CONTAMINATION.

RESPIRATOR CARTRIDGES WILL BE CHANGED AT LEAST DAILY OR MORE FREQUENTLY IF SAMPLING DATA INDICATE POTENTIAL SATURATION CONCENTRATIONS EXIST OR BREATHING RESISTANCE BECOMES DIFFICULT. THE SSHO WILL ALSO SPOT CHECK RESPIRATORS TO ENSURE THAT THEY ALL REMAIN CLEAN AND ARE PROPERLY MAINTAINED AND STORED.

#### 8.4 EQUIPMENT DECONTAMINATION

IF IN LEVEL C OR ABOVE, ALL EQUIPMENT BEING USED IN THE WORK AREA WILL BE SUBJECT TO COMPLETE DECONTAMINATION PROCEDURES BEFORE THE EQUIPMENT IS REMOVED FROM THESE WORK AREAS. EQUIPMENT AND VEHICLES WHICH CONTACT POTENTIALLY CONTAMINATED SOIL WILL BE DECONTAMINATED USING A STEAM CLEANER OR HOT WATER PRESSURE WATER. WASTE WATER WILL BE CONTAINED IN AL HOLDING TANK OR DRUMS FOR FUTURE DISPOSAL AT AN APPROPRIATE FACILITY. ALL CONTAMINATED ITEMS WILL BE CAREFULLY INSPECTED AND/OR DECONTAMINATED TO THE SATISFACTION OF THE SSHO BEFORE BEING TAKEN OFF SITE.

#### 9.0 EMERGENCY RESPONSE PLAN

ON SITE EMERGENCIES WILL ULTIMATELY BE HANDLED BY OFF SITE EMERGENCY SUPPORT PERSONNEL. INITIAL RESPONSE AND FIRST-AID TREATMENT, HOWEVER, WILL BE AVAILABLE ON SITE.

IN CASE OF A HAZARDOUS MATERIALS EMERGENCY, THE SENIOR SUPERVISOR ON SITE WILL ASSUME FULL CONTROL AND DIRECTION OF THE EMERGENCY RESPONSE AS THE INCIDENT COMMANDER. THE INCIDENT COMMANDER WILL WORK WITH THE SSHO TO IDENTIFY AND EVALUATE HAZARDS. ALL EMERGENCY RESPONDERS AND COMMUNICATIONS WILL BE COORDINATED AND CONTROLLED THROUGH THE INCIDENT COMMANDER.

#### 9.1 EMERGENCY EQUIPMENT

EMERGENCY EQUIPMENT FOR THE WORK AREAS WILL BE KEPT IN THE DECONTAMINATION AREA. THE EQUIPMENT WILL INCLUDE:

- \* PORTABLE EMERGENCY EYE WASH WITH A CAPACITY FOR PROVIDING CLEAN WATER AT A RATE OF AT LEAST 0.4 GALLONS PER MINUTE

FOR A 15-MINUTE PERIOD.

- \* TWO 20-LB MULTIPURPOSE (ABC-RATED) FIRE EXTINGUISHERS.
- \* AN ADEQUATELY STOCK FIRST-AID KIT.

ANOTHER ADEQUATELY STOCKED FIRST-AID KIT AND AN EMERGENCY SIREN WILL BE AVAILABLE IN THE SUPPORT AREA.

## 9.2 PRE-EMERGENCY PLANNING

PRIOR TO THE START OF WORK, PETROLEUM ENGINEERING WILL CONTACT LOCAL AUTHORITIES TO INFORM THEM OF THE START DATE AND ANTICIPATED SCOPE OF WORK. FIRST-AID KITS AND AT LEAST ONE PETROLEUM ENGINEERING EMPLOYEE TRAINED IN FIRST AID AND CARDIOPULMONARY RESUSCITATION (CPR) WILL BE ON SITE AT ALL TIMES DURING REMEDIAL ACTIVITIES.

## 9.3 EMERGENCY RECOGNITION AND PREVENTION

EMERGENCY CONDITIONS THAT MAY BE ANTICIPATED AT THE SIT INCLUDE:

- \* MEDICAL EMERGENCY
- \* HEAVY EQUIPMENT ACCIDENT
- \* DISCOVERY OF UNANTICIPATED BURIED HAZARDS
- \* POISONOUS SNAKES AND SPIDERS
- \* OVEREXPOSURE OF PERSONNEL TO ON SITE CONTAMINANTS
- \* HEAT STRESS

TO ENSURE THAT HAZARD RECOGNITION AND ACCIDENT PREVENTION PROTOCOLS ARE BEING MAINTAINED, PERSONNEL MUST FOLLOW THE REQUIREMENTS OF THE HEALTH AND SAFETY PLAN.

#### 9.4 OPERATIONS SHUTDOWN

OPERATIONS SHUTDOWN MAY BE MANDATED BY THE CO ON RECOMMENDATION FROM THE SSSH OR BY THE EMERGENCY RESPONSE INCIDENT COMMANDER. CONDITIONS WARRANTING WORK STOPPAGE WILL INCLUDED:

- \* UNCONTROLLED FIRE
- \* UNCOVERING POTENTIALLY DANGEROUS BURIED MATERIAL
- \* ANY CONDITION IMMEDIATELY DANGEROUS TO LIFE AND HEALTH OR THE ENVIROMENT
- \* HEAT STRESS ILLNESS EXHIBITED BY THE CREW
- \* AIR CONTAMINANT CONCENTRATIONS IN EXCESS OF THE PROTECTION FACTORS AFFORDED BY THE RESPIRATORS IN USE

WHEN ANY OF THESE CONDITIONS EXIST, OPERATIONS WILL BE STOPPED AND THE SITE SECURED. ALL PERSONNEL WILL LEAVE THE WORK AREA UNTIL THE INCIDENT COMMANDER HAS DETERMINED THAT OPERATIONS MAY RESUME.

#### 9.5 FIRE AND EXPLOSION RESPONSE PROCEDURES

FIRES ON SITE CAN BE STARTED BY NATURAL EVENTS, WORK ACTIVITIES, OR THE ACTIVITIES OF OTHERS. THESE SHALL BE A MULTIPURPOSE (ABC-RATED) FIRE EXTINGUISHER ON HAND AT ALL TIMES. PERSONNEL WILL BE INSTRUCTED IN THE USE OF THESE FIRE EXTINGUISHER AND TO ATTEMPT CONTROL OF ONLY VERY SMALL FIRES. THE PROCEDURE FOR USING A FIRE EXTINGUISHER IS TO PULL THE SAFETY PIN, POINT AT THE BASE OF THE FLAMES, AND DISCHARGE THE EXTINGUISHER BY SWEEPING THE FLAMES FROM A DISTANCE OF ABOUT 6 FEET. THE EXTINGUISHER OPERATOR SHOULD MOVE IN AS THE FLAMES ARE BEING PUT OUT. PETROLEUM ENGINEERING WILL INFORM THE LOCAL FIRE DISTRICT IMMEDIATELY IN CASE OF ANY FIRE WHEN ITS SUPPORT WILL BE REQUIRED.

#### 9.6 EVACUATION FROM WORK AREAS

IF AN ON-SITE EMERGENCY OCCURS, THE INCIDENT COMMANDER WILL SOUND THE SITE

EMERGENCY ALARM. ALL WORKERS WILL MEET AT A PREDESIGNATED AREA LOCATED IN THE SUPPORT AREA. AN EMPLOYEE HEAD-COUNT WILL BE PERFORMED TO ENSURE ALL WORKERS ARE ACCOUNTED FOR.

IN CASE OF AN EMERGENCY, EVACUATED EMPLOYEES MAY BE DECONTAMINATED RAPIDLY BY REMOVING EXTERIOR CLOTHING. IF A WORKER IS CRITICALLY INJURED IN THE WORK AREA, THE WORKER MAY BE REMOVED IMMEDIATELY FROM THE AREA--DO NOT TAKE THE TIME TO DECONTAMINATE THE INJURED WORKER; SEEK MEDICAL ATTENTION IMMEDIATELY.

### 9.7 EMERGENCY MEDICAL TREATMENT AND FIRST AID

AT LEAST ONE PETROLEUM ENGINEERING EMPLOYEE TRAINED IN FIRST AID AND CPR WILL BE ON SITE AT ALL TIMES. ONLY MINOR INJURIES WILL BE TREATED ON SITE. THEY WILL BE TREATED WITH THE FIRST-AID KIT AVAILABLE ON SITE.

FOR MAJOR INJURIES, CONTACT 911. THE PHONE NUMBER FOR THE HOSPITAL, FIRE, AND AMBULANCE IS 911. A COMPLETE LIST OF EMERGENCY TELEPHONE NUMBERS AND ROUTE TO THE NEAREST HOSPITAL IS PROVIDED IN APPENDIX B.

THIS HEALTH AND SAFETY PLAN HAS BEEN PREPARED BY:

PETROLEUM ENGINEERING, INC.

HAROLD DYE

*Harold Dye*

PROJECT MANAGER

11-30-92

DATED



LOCATION MAP

SITE MAP

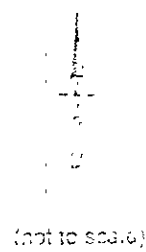
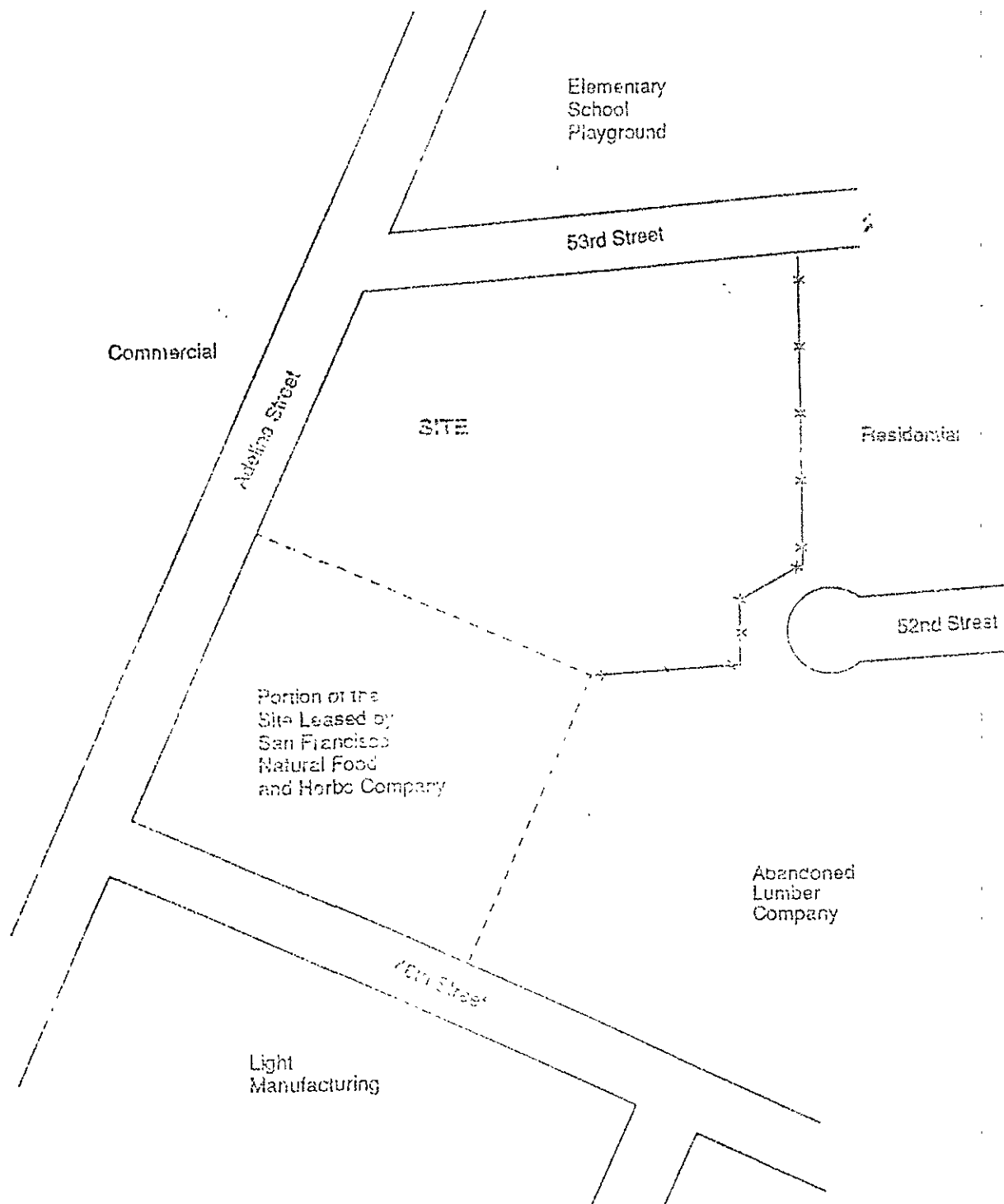
MAP TO HOSPITAL





Project No. 92CB040	Continental Baking Company 1010 45th Street Emeryville, California	SITE LOCATION	Figure 1
Woodward-Clyde Consultants			





Project No. 92CB040	Continental Baking Company 1010 46th Street Emeryville, California	LOCAL LAND USE	Figure 2
<b>Woodward-Clyde Consultants</b>			

APPENDIX A



APPENDIX B



APPENDIX B

EMERGENCY TELEPHONE NUMBERS

AMBULANCE . . . . .	911
POISON CONTROL CENTER . . . . .	1-800-523-2222
FIRE DEPARTMENT . . . . .	911
EXPLOSIVE UNIT . . . . .	911
PETROLEUM ENGINEERING, INC.:	
PROJECT FOREMAN: DAVE DYESS	
CONTACT:          HAROLD DYE . . . . .	707-545-0360
<u>REGULATORY CONTENT</u>	
REGIONAL WATER QUALITY CONTROL BOARD BAY REGION, 1111 JACKSON ST., OAKLAND, CA . . . . .	510-464-1255
COUNTY OF ALAMEDA, ENVIORMENTAL HEALTH HAZARDOUS MATL SECT. 80 SWAY WAY, ROOM 200, OAKLAND, CAL . . . . .	510-271-4320
OFFICES OF EMERGENCY SERVICES, 360 CIVIC DRIVE, PLEASANT HILL, CA . . . . .	510-646-5908
<u>HOSPITALS</u>	
CHILDRENS HOSPITOL . . . . . 747 52ND STREET BERKELEY, CA 94609	EMERGENCY 510-428-3000

CERTIFICATE OF TRAINING  
OSHA-SARA  
ROBERT T. CHRISTIANSEN  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
5/16/92  
Date  
Safety Training

# Certification

May it be known by all who read this that

ROBERT T. CHRISTIANSEN

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *Robert T. Christian*

Contract # 051692-40 T

SAFETY TRAINING  
OSHA SARASOTA  
DAVE E. DYESS  
has met the 40 hour training requirements  
under OSHA Standard; 29 CFR 1910.120  
Hazardous Waste Operations  
5/16/92  
Date  
Safety Training

# Certification

May it be known by all who read this that

DAVE E. DYESS

has met and surpassed all of the requirements of

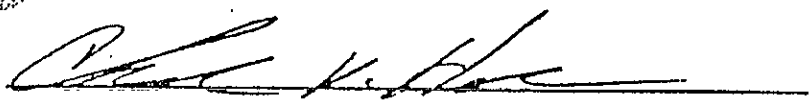
40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED



Control # 051692-40 F



CERTIFICATE OF TRAINING  
OSHA SARA  
G. ELLIOT JR.  
40 hour training requirements  
OSHA Standard 29 CFR 1910.120  
Hazardous Waste Operations  
5/16/92  
Date:  
Safety Training

# Certification

May it be known by all who read this that

BILL G. ELLIOT JR.

has met and surpassed all of the requirements of

**40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS**

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *[Signature]*

Contract # 051692-40 0

CERTIFICATE OF TRAINING

OSHA-SARA  
GERNOT H. GELDON

has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations

*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

GERNOT H. GELDON

has met and surpassed all of the requirements of

**ENVIRONMENTAL COMPLIANCE SERVICES**  
40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED

*[Signature]*

CONTRACT #

051692-40 E

CERTIFICATE OF TRAINING  
ANTHONY PEREZ GRIJALVA  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous waste Operations  
5/16/92  
Date  
Safety Training

# Certification

May it be known by all who read this that

ANTHONY PEREZ GRIJALVA

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES  
ORGANIZATION



SIGNED *[Signature]*

Control # 051692-40 D

**CERTIFICATE OF TRAINING**  
**OSHA-SARA**  
**ROBERT B. HENRY**  
 has met the 40 hour training requirements under OSHA Standard, 29 CFR 1910.120 Hazardous Waste Operations  
 5/16/92  
 Date  
 Safety Training

# Certification

May it be known by all who read this that

ROBERT B. HENRY

has met and surpassed all of the requirements of

**40 HOUR OSHA STANDARD, 29 CFR 1910.120**  
**HAZARDOUS WASTE OPERATIONS**

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *Robert B. Henry*

CONTRACT # 051692-40 G

CERTIFICATE OF TRAINING  
OSHA-SARA  
MICHAEL JORDAN  
meets the 40 hour training requirements  
of OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

MICHAEL JORDAN

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *[Signature]*

Control # 051692-40-N



STATE OF CALIFORNIA  
DEPARTMENT OF INDUSTRIAL RELATIONS  
OSHA-SAR  
ANTON KEEGAN  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
for Hazardous Waste Operations  
5/16/92  
Date  
Safety Training

# Certification

May it be known by all who read this that

TOM KEEGAN

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *Charles K. Hall*

CONTROL # 051692-40 C

CERTIFICATE OF TRAINING  
OPERATOR  
LARRY L. LISTER  
has met the 40 hour training requirements  
under OSHA Standard CFR 1910.120  
for Hazardous waste operations  
*Chuck Hal* 5/16/92  
Date  
Safety Training

# Certification

May it be known by all who read this that

LARRY L. LISTER

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 1992

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED

*Chuck Hal*

Control # 051692-40 A

CERTIFICATE OF TRAINING  
OSHA-SARA  
DONALD C. MARCHANT  
has met the 40 hour training requirement  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

DONALD C. MARCHANT

has met and surpassed all of the requirements of

**E** **C** **S**  
40 HOUR OSHA STANDARD, 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES  
ORGANIZATION



SIGNED *[Signature]*

CONTROL # 051692-40 B

CERTIFICATE OF TRAINING  
OSHA-SAFETY  
STEVE MYERS  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous waste Operations  
*Charles* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

STEVE MYERS

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *Charles*

Control # 051692-40 H

INVESTIGATED  
OSHA'S  
CLAYTON PROCTOR  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
for Hazardous Waste Operations  
5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

CLAYTON PROCTOR

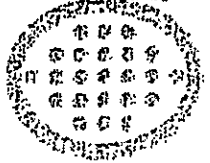
has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD, 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION



SIGNED *Clayton Proctor*

CONTROL # 051692-40 T

CERTIFICATE OF TRAINING  
OSHA SAFETY  
CESAR SIERRA  
has met the 40 hour training requirements  
under OSHA Standard 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

CESAR SIERRA

has met and surpassed all of the requirements of

**40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS**

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *[Signature]*

CONTR. # 051692-40 K

CERTIFICATE OF TRAINING  
OSHA-SARA  
RAYMOND VEGA  
has met the 40 hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

RAYMOND VEGA

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD, 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *[Signature]*

Control # 051692-40 J

CERTIFICATE OF TRAINING

OSHA

ALAN WACHTER

has met the 40-hour training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations

*Alan Wachter* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

ALAN WACHTER

has met and surpassed all of the requirements of

40 HOUR OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED

*Alan Wachter*

Contract # 051692-40 M



CERTIFICATE OF TRAINING  
OSHA-SAL  
KEVIN DOUGLAS  
has met the 8 hour refresher training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

KEVIN DOUGLAS

has met and surpassed all of the requirements of  
8 HOUR REFRESHER TRAINING OSHA STANDARD: 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *[Signature]*

Control # 051692-06

CERTIFICATE OF TRAINING  
SHA-SARA  
CHRIS FRANCHETTI  
has met the 8 hour refresher training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*Chris Franchetti* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

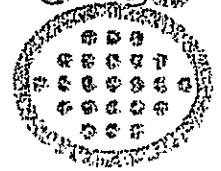
CHRIS FRANCHETTI

has met and surpassed all of the requirements of  
8 HOUR REFRESHER TRAINING OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION



SIGNED

*Chris Franchetti*

CONTROL # 051692-8 C

CERTIFICATE OF TRAINING  
OSHA-SARA  
JAMES M. HAWK  
has met the 8 hour refresher training requirements  
under OSHA Standard 29 CFR 1910.120  
Hazardous Waste Operations  
5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

JAMES M. HAWK

has met and surpassed all of the requirements of

8 HOUR REFRESHER TRAINING OSHA STANDARD 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED

CONTROL #

051692-8 D

CERTIFICATE OF TRAINING  
OSHA-SARA  
JAMES MCGRATH  
has met the 8 hour refresher training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous waste Operations  
*James McGrath* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

JAMES MCGRATH

has met and surpassed all of the requirements of

8 HOUR REFRESHER TRAINING OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92



ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED *James McGrath*

CONTROL # 051692-8 A

CERTIFICATE OF TRAINING  
OSHA-SARA  
RYAN H. MUSCO  
has met the 8 hour refresher training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
*[Signature]* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

BRYAN H. MUSCO

has met and surpassed all of the requirements of  
8 HOUR REFRESHER TRAINING OSHA STANDARD 29CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION



SIGNED *[Signature]*

CONTROL # 051692-00

CERTIFICATE OF TRAINING  
OSHA-ARC  
HARRY PLEVNEY  
has met the 8 hour refresher training requirements  
under OSHA Standard 29 CFR 1910.120  
Hazardous waste Operations  
*Charles Hal* 5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

HARRY PLEVNEY

has met and surpassed all of the requirements of

8 HOUR REFRESHER TRAINING OSHA STANDARD 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION

SIGNED

*Charles Hal*

CONTROL # 051692-8 H

CERTIFICATE OF TRAINING  
OSHA-SARA  
DENNIS TAIPALE  
has met the 8 hour refresher training requirements  
under OSHA Standard, 29 CFR 1910.120  
Hazardous Waste Operations  
5/16/92  
Safety Training Date

# Certification

May it be known by all who read this that

DENNIS TAIPALE

has met and surpassed all of the requirements of  
8 HOUR REFRESHER TRAINING OSHA STANDARD, 29 CFR 1910.120  
HAZARDOUS WASTE OPERATIONS

Presented this 16 Day of May, 19 92

ENVIRONMENTAL COMPLIANCE SERVICES

ORGANIZATION



SIGNED [Signature]

CONTROL # 051692-8 B