



Don H. Mahaffey Drilling Co.

HEAT ILLNESS



YOUR OSHA COMPLIANCE SOLUTION

TABLE OF CONTENTS

Section	Page
1 OBJECTIVE	1
2 PROGRAM ADMINISTRATOR	1
3 ACCESS TO SHADE	1
3.1 When Shade is Provided.....	1
3.2 Shade Specifications	1
3.3 Shade Alternatives.....	2
4 PROVISION OF WATER.....	2
4.1 Water Requirements	2
4.2 Heat Waves	3
5 WEATHER MONITORING	3
6 PREVENTATIVE COOL-DOWN REST PERIODS	3
7 HIGH-HEAT AND HEAT WAVE PROCEDURES.....	4
7.1 High-Heat Procedures	4
7.2 Heat Wave Procedures	4
8 EMERGENCY RESPONSE PROCEDURES.....	5
8.1 Handling a Sick Employee	5
8.2 Emergency Responder Notification	5
9 ACCLIMATIZATION	6
10 TRAINING.....	6
10.1 Employee Training	6
10.2 Supervisor Training.....	7
10.3 Training Documentation	7
11 AVAILABILITY.....	7
APPENDIX 1 – DEFINITIONS	8
APPENDIX 2 – SITE-SPECIFIC PROCEDURES	9

1 OBJECTIVE

In accordance with California Code of Regulations, Title 8, Section 3395, Don H. Mahaffey Drilling Co. has implemented this Heat Illness Prevention Program to reduce the risk of work-related heat illnesses among employees. Don H. Mahaffey Drilling Co. is committed to encouraging preventive measures, such as drinking adequate amounts of water and taking cool-down breaks, and teaching employees how to identify the signs and symptoms of heat illness in themselves and others.

2 PROGRAM ADMINISTRATOR

Don H. Mahaffey Drilling Co. has designated Ashley Mahaffey Tullius for the administration of this plan. Ashley Mahaffey Tullius will be responsible for:

- a. Identifying work areas that could potentially expose employees to heat illness hazards;
- b. Ensuring that all employees are properly trained in the identification and prevention of heat illness as well as the importance of drinking adequate amounts of water to prevent heat illness;
- c. Completion of Appendix 2 (Site-Specific Procedures), when applicable; and
- d. Maintaining, reviewing and updating the Heat Illness Prevention Program at least annually.

3 ACCESS TO SHADE

3.1 When Shade is Provided

- 3.1.1 Shade will be present when the temperature exceeds 80 °F. When the outdoor temperature in the work area exceeds 80 °F, one or more areas with shade that are either open to the air or provided with ventilation or cooling will be maintained at all times while employees are present.
- 3.1.2 Shade will be made available, upon an employee's request, when the outdoor temperature in the work area does not exceed 80 °F.

3.2 Shade Specifications

- 3.2.1 The amount of shade present will be at least enough to accommodate the number of employees on recovery or rest periods so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other.
- 3.2.2 The shade will be located as close as practicable to the areas where employees are working.
- 3.2.3 Subject to the same specifications as above, the amount of shade present during meal periods will be at least enough to accommodate the number of employees on the meal period who remain onsite.

3.3 Shade Alternatives

- 3.3.1 If it is demonstrably infeasible or unsafe to have a shade structure, or otherwise unable to have shade present on a continuous basis, alternative procedures that provide equivalent protection may be utilized for providing access to shade.
- 3.3.2 Cooling measures other than shade may be utilized in lieu of shade if these measures are at least as effective as shade in allowing employees to cool.

4 PROVISION OF WATER

4.1 Water Requirements

- 4.1.1 Employees will be encouraged to drink, at minimum, one quart (32 ounces) of water per hour throughout the entire work shift.
- 4.1.2 Employees will have access to potable drinking water meeting the following requirements:
 - a. Fresh,
 - b. Pure,
 - c. Suitably cool, and
 - d. Provided to employees free of charge.
- 4.1.3 The water will be located as close as practicable to the areas where the employees are working.
- 4.1.4 Water will be provided in quantities sufficient to provide at least one quart per employee per hour for drinking for the entire shift. Water may be provided using one of the following methods:
 - a. Drinking fountains;
 - b. Sealed one-time use water containers. Where this method is utilized, a receptacle for disposing of the used containers will be provided;
 - c. Ensure re-usable, closeable containers made available for individual employee use. Where this method is utilized, the containers will be marked to identify the user and maintained in a sanitary condition; or
 - d. Drinking water containers (of 5 to 10 gallons each), along with single-service cups, which will be checked every hour and refilled as necessary. When this method is utilized, a sanitary container for the unused cups and a receptacle for disposing of the used cups will be provided.
- 4.1.5 Portable containers used to dispense drinking water to more than one person will be equipped with a faucet or drinking fountain. Drinking water containers will be capable of being tightly closed and will be otherwise designed, constructed and serviced so that sanitary conditions are maintained. Water will not be dipped from containers.
- 4.1.6 Any container used to store or dispense drinking water will be clearly marked as to the nature of its contents and will not be used for any other purpose.

- 4.1.7 Re-usable containers for individual use and drinking cups will not be shared or used in common.

Exception: Re-usable containers for individual use and drinking cups which are safely and effectively cleaned and sanitized between use by different users.

- 4.1.8 Non-potable water
- a. Non-potable water will not be used for the purposes of drinking, washing or food preparation;
 - b. Outlets for non-potable water, such as water for industrial or firefighting purposes, will be posted in a manner understandable to all employees to indicate that the water is unsafe and is not to be used for drinking, washing or cooking purposes; and
 - c. Non-potable water systems or systems carrying any other non-potable substance will be maintained so as to prevent backflow or backsiphonage into a potable water system.

4.2 Heat Waves

Employees will be required and encouraged to consume more water during heat waves. An employee will be assigned to monitor water supplies and will be responsible for ensuring that water is replenished as needed.

5 WEATHER MONITORING

- 5.1 A supervisor will be trained and instructed to check in advance the extended weather forecast using any combination of the following sources:
- a. Websites such as www.nws.noaa.gov or www.weather.com;
 - b. Calling the National Weather Service phone numbers; or
 - c. Checking the Weather Channel or other local news.
- 5.2 The forecasted temperature and humidity for the worksite will be reviewed and compared against the National Weather Service Heat Index to evaluate the risk level for heat illness. Determination will be made of whether workers will be exposed at a temperature and humidity characterized as either “extreme caution” or “extreme danger” for heat illnesses.
- 5.3 The temperature at the worksite will be monitored using a simple thermometer for sudden increases in temperature and to ensure that once the temperature exceeds 80 °F, adequate shade as described in Section 3 is provided.

6 PREVENTATIVE COOL-DOWN REST PERIODS

- 6.1 Employees will be allowed and encouraged to take a preventative cool-down rest in the shade when they feel the need to do so to protect themselves from overheating. Such access to shade will be permitted at all times. An individual employee who takes a preventative cool-down rest:
- a. Will be monitored and asked if he or she is experiencing symptoms of heat illness;
 - b. Will be encouraged to remain in the shade; and

- c. Will not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade.
- 6.2 If an employee exhibits signs of, or reports symptoms of, heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, appropriate first aid or emergency response will be provided in accordance with Section 8.

7 HIGH-HEAT AND HEAT WAVE PROCEDURES

7.1 High-Heat Procedures

High-heat procedures will be implemented when the temperature equals, or exceeds, 95 °F. These procedures will include the following to the extent practicable:

- 7.1.1 Effective communication by voice, observation or electronic means will be maintained so that employees at the worksite can contact a supervisor when necessary. In the event that cell reception is unreliable and/or does not furnish reliable communication in the work area, two-way radios will be utilized.
- 7.1.2 Employees will be observed for alertness and signs or symptoms of heat illness. Effective employee observation/monitoring will be ensured by implementing one or more of the following:
 - a. Supervisor or designee observation of 20 or fewer employees;
 - b. Mandatory buddy system;
 - c. Regular communication with sole employee such as by radio or cellular phone; or
 - d. Other effective means of observation.
- 7.1.3 One or more employees may be designated on each worksite as authorized to call for emergency medical services and allowing employees to call for emergency services when no designated employee is available.
- 7.1.4 Employees will be reminded throughout the work shift to drink plenty of water and to take preventative cool-down rest breaks when needed.
- 7.1.5 Pre-shift meetings will be conducted before work begins to review the high-heat procedures, encourage employees to drink plenty of water and remind employees of their right to take a cool-down rest when necessary.

7.2 Heat Wave Procedures

Heat wave procedures will be implemented any day in which the predicted high temperature for the day will be at least 80 °F and at least 10 °F higher than the average high daily temperature in the preceding 5 days. High-heat procedures as detailed in Section 7 will be implemented. Additionally, heat wave procedures may include any of the procedures listed below and will be determined based on the work environment on that particular day.

- 7.2.1 The work day may be cut short or rescheduled.
- 7.2.2 Tailgate meetings may be held to review the company heat illness prevention procedures, the weather forecast and emergency response procedures.
- 7.2.3 Employees may be assigned a “buddy” to be on the lookout for signs and symptoms of heat illness and to ensure that emergency procedures are initiated when someone displays possible signs or symptoms of heat illness.

8 EMERGENCY RESPONSE PROCEDURES

8.1 Handling a Sick Employee

- 8.1.1 When an employee displays possible signs or symptoms of heat illness, a trained first aid worker or supervisor (if available) will check the sick employee to determine whether resting in the shade and drinking cool water will suffice or if emergency responders need to be notified.
- 8.1.2 Emergency service providers will be called immediately if an employee displays signs or symptoms of severe heat illness (e.g., decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior, incoherent speech, convulsions, red and hot face), does not look okay, or does not get better after drinking cool water and resting in the shade. While the ambulance is en route, first aid will be initiated (i.e. cool the employee by placing the employee in the shade, removing excess layers of clothing, placing ice packs in the armpits and groin area and fan the victim). **Do not let a sick employee leave the site, as they can get lost or die before reaching the hospital!**
- 8.1.3 In the event that no trained first aid worker or supervisor is available, emergency responders will be immediately notified.
- 8.1.4 Employees displaying possible signs or symptoms of heat illness will never be left alone.
- 8.1.5 If an employee displays signs or symptoms of severe heat illness (e.g. decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior, incoherent speech, convulsions, red and hot face) and the worksite is located more than 20 minutes away from a hospital, emergency service providers will be called, the signs and symptoms of the victim will be communicated to them, and an Air Ambulance will be requested.

8.2 Emergency Responder Notification

- 8.2.1 Effective communication by voice, observation or electronic means is maintained so that employees at the worksite can contact a supervisor or emergency medical services when necessary. Electronic devices, such as a cell phone, will only be used if reception in the area is reliable. In the event that cell reception is unreliable and/or does not furnish reliable communication in the work area, two-way radios will be utilized.

- 8.2.2 Responding to signs and symptoms of possible heat illness, including, but not limited to, first aid measures and how emergency medical services will be provided.
 - a. If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor will take immediate action commensurate with the severity of the illness.
 - b. If the signs or symptoms are indicators of severe heat illness, emergency response procedures will be implemented.
 - c. An employee exhibiting signs or symptoms of heat illness will be monitored and will not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with company procedures.
- 8.2.3 Contacting emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider.
- 8.2.4 In the event of an emergency, clear and precise directions to the worksite can and will be provided, as needed, to emergency responders.

9 ACCLIMATIZATION

- 9.1 All employees will be closely observed by a supervisor or designee during a heat wave.
- 9.2 An employee who has been newly-assigned to a high-heat area will be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

10 TRAINING

10.1 Employee Training

Effective training in the following topics will be provided to each supervisory and non-supervisory employee before the employee begins work that should reasonably be anticipated to result in exposure to the risk of heat illness:

- a. The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing and personal protective equipment;
- b. The procedures for complying with the requirements of this program, including, but not limited to, Don H. Mahaffey Drilling Co.'s responsibility to provide water, shade, cool-down rests and access to first aid, as well as the employees' right to exercise their rights under this program without retaliation;
- c. The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
- d. The concept, importance and methods of acclimatization pursuant to the procedures under Section 9;

- e. The different types of heat illness, the common signs and symptoms of heat illness and appropriate first aid and/or emergency responses to the different types of heat illness and, in addition, that heat illness may progress quickly from mild symptoms and signs to serious and life-threatening illness;
- f. The importance to employees of immediately reporting to Don H. Mahaffey Drilling Co., directly or through the employee's supervisor, symptoms or signs of heat illness in themselves or in co-workers;
- g. The procedures for responding to signs or symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;
- h. The procedures for contacting emergency medical services and, if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider; and
- i. The procedures for ensuring that, in the event of an emergency, clear and precise directions to the worksite can and will be provided as needed to emergency responders. These procedures will include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

10.2 Supervisor Training

Prior to supervising employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness, effective training on the following topics will be provided to the supervisor:

- a. The information required to be provided by Section 10.1;
- b. The procedures the supervisor is to follow to implement the applicable provisions in this program;
- c. The procedures the supervisor is to follow when an employee exhibits signs, or reports symptoms consistent with, possible heat illness, including emergency response procedures; and
- d. How to monitor weather reports and how to respond to hot weather advisories.

10.3 Training Documentation

Representative will ensure that records pertaining to employee heat illness training are maintained. These records will include, at minimum:

- a. Employee name or other identifier;
- b. Training dates;
- c. Type of training; and
- d. The name of the person conducting the training.

11 AVAILABILITY

This written plan will be in English and the language understood by the majority of the employees and will be made available at the worksite to employees and to representatives of the Division upon request.

APPENDIX 1 – DEFINITIONS

Acclimatization – temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within 4 to 14 days of regular work for at least 2 hours per day in the heat.

Heat Illness – a serious medical condition resulting from the body's inability to cope with a particular heat load. Heat illness includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Wave – Any day in which the predicted high temperature for the day will be at least 80 °F and at least 10 °F higher than the average high daily temperature in the preceding 5 days.

Environmental Risk Factors for Heat Illness – working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources (such as the ground), air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Landscaping – providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns or gardens, or providing these services in conjunction with the design of landscape plans and/or the construction of walkways, retaining walls, decks, fences, ponds and similar structures except for employment by an employer who operates a fixed establishment where the work is to be performed and where drinking water is plumbed.

Oil and Gas Extraction – operating and/or developing oil and gas field properties, exploring for crude petroleum or natural gas, mining or extracting of oil or gas or recovering liquid hydrocarbons from oil or gas field gases.

Personal Risk Factors for Heat Illness – factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Shade – blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

Temperature – the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement from direct contact by sunlight.

APPENDIX 2 – SITE-SPECIFIC PROCEDURES

Location _____

Responsible Person _____

Provision of Shade

What type of shade will be used, who is responsible for providing shade, etc.

Provision of Water

Who is responsible for the provision of water, water source, etc.

Water Replenishment

Who is responsible for the replenishment of water, how is the water refilled, from where, etc.

High Heat Procedures

How long are the breaks, who is responsible for authorizing breaks, etc.

First Aid Procedures

Names of first aid personnel, what action will be taken when first aid is required, etc.

Additional Site Information
