

## **POLICY**

E & B Oilfield Services Inc. has implemented this policy to ensure no employee is exposed to lead at levels in excess of permissible exposure limits (PEL), which for lead will be 50 micrograms per cubic meter ( $\mu\text{m}^3$ ) at eight (8) hour time weighted average (TWA). If exposures are above the “action level,” engineering controls, work practices, or personal protective equipment (PPE) will be required to reduce exposure levels. Action level means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of  $30 \mu\text{m}^3$  of air ( $30 \mu\text{g}/\text{m}^3$ ) averaged over an eight (8) hour period.

Kirk Duncan is the assigned supervisor responsible for ensuring the following administrative controls, engineering controls, and work practices are enforced.

## **TRAINING**

Kirk Duncan will provide information and training for each employee who has potential exposure to lead that includes the following required elements:

- Provides a training program for, and assures the participation of, all employees who are subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists.
- Provide initial training before the time of initial job assignment.
- The training program will be repeated annually for each employee.
- Employee will be informed of appendices A and B of the Lead regulation.
- All affected employees are required to attend training programs.
- Employees will be informed of the specific nature of the operations which will result in exposure to lead above the action level.
- Employees will be informed of the purpose, proper selection, fitting, use and limitations of respirators.
- Employees will be informed of the engineering controls being used.
- The employees will be informed of the purpose and a description of the medical surveillance program and the medical removal program.
- There will be adverse effects on reproductive systems.

Kirk Duncan will make readily available to all affected employees, a copy of the Occupational Safety and Health Administration (OSHA) Lead standard and its appendices.

## **EXPOSURE MONITORING**

- Exposure monitoring will be conducted to determine if any employee may be exposed to Lead at or above the action level. Employee exposure is that which would occur if the employee were not using a respirator.
- Measurements to determine exposure will be collected through personal monitoring.
- Kirk Duncan will collect full shift (for at least seven (7) continuous hours) personal samples including at least one (1) sample for each shift, for each job classification, in each work area. Full shift personal samples will represent the monitored employee's daily lead exposure.
- Kirk Duncan will determine if any employee may be exposed to lead at the action level and will monitor employee exposures and base initial determinations on the monitoring results including: Any information, observations, or calculations which would indicate employee exposure to lead; any previous measurements of airborne lead; any employee complaints of symptoms which may be attributable to lead exposure.
- If the initial determination or subsequent air monitoring reveals employee exposure to be at or above the action level but below the PEL the employer will repeat air monitoring in accordance with this paragraph at least every six (6) months.
  - The employer will continue air monitoring at the required frequency until at least two (2) consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee.
- If the initial monitoring reveals that employee exposure is above the PEL, the monitoring will be repeated quarterly.
- Additional monitoring will be done whenever there has been a production, process, control, or employee change that may result in new or additional exposure to lead.
- Each affected employee will be notified in writing within five (5) working days after the receipt of monitoring results and the completion of corrective actions.
- Whenever the results indicate that employee exposure exceeds the PEL, Kirk Duncan will include in the written notice a statement that the PEL was exceeded, and a description of the corrective action taken or to be taken to reduce exposure to or below the PEL.
- E & B Oilfield Services Inc. will use a method of monitoring and analysis which has an accuracy (to a confidence level of 95%) of not less than plus or minus 20% for airborne concentrations of lead equal to or greater than 30 µg/m<sup>3</sup>.
- Where any employee is exposed to lead above the PEL for more than 30 days per year, E & B Oilfield Services Inc. will implement engineering and work practice controls (including administrative controls) to reduce employee exposure to lead. If such controls are not feasible, E & B Oilfield Services Inc. will demonstrate and document the reasons.
- Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to or below the PEL, E & B Oilfield Services Inc. will continue to use them to reduce exposures to the lowest feasible level and will supplement them using respiratory protection.

## **OBSERVATION OF MONITORING**

### **Employee Observation**

The employer will provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead conducted pursuant to paragraph (d) of this section.

### **Observation Procedures**

Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the employer will provide the observer with and assure the use of such respirators, clothing, and such equipment, and will require the observer to comply with all other applicable safety and health procedures.

Without interfering with the monitoring, observers will be entitled to:

- Receive an explanation of the measurement procedures.
- Observe all steps related to the monitoring of lead performed at the place of exposure.
- Record the results obtained or receive copies of the results when returned by the laboratory.

## **SITE-SPECIFIC COMPLIANCE PLAN**

E & B Oilfield Services Inc. will provide a written site-specific compliance program to reduce exposures to or below the PEL, and interim levels if applicable, solely by means of engineering and work practice controls. Written plans will be revised annually and include at least the following:

- Description of each operation in which lead is emitted
- Description of the specific means employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead
- A report of the technology considered in meeting the PEL
- Air monitoring data which documents the source of lead emissions
- A work practice program which includes items required

The site-specific compliance program will be available at the worksite for examination and copying by any affected employee or OSHA and will be revised at least every six (6) months to reflect the current status.

When ventilation is used to control exposure, measurements which demonstrate the effectiveness, such as capture velocity, duct velocity, or static pressure will be made at least every three (3) months. Measurements will be made within five (5) days of any change in production, process, or control which might result in a change in employee exposure to lead.

If air from exhaust ventilation is recirculated into the workplace, Kirk Duncan will ensure that:

- The system has a high efficiency filter with reliable back-up filters
- Controls to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails are installed, operating and maintained

- When administrative controls are used as a means of reducing employees TWA exposure to lead, E & B Oilfield Services Inc. will establish and implement a job rotation schedule which includes:
  - Name or identification number of each affected employee
  - Duration and exposure levels at each job or workstation with and affected employee
  - Any other information that may be useful in assessing the reliability of administrative controls to reduce exposure to lead

**RESPIRATORY PROTECTION PROGRAM**

The respiratory protection program and respiratory protective equipment will be provided to all employees with potential for exposure to lead. All respiratory equipment will be National Institute of Occupational Safety and Health (NIOSH) certified and is provided without cost to the employee.

Respirators will be used during:

- Periods necessary to install or implement engineering or work-practice controls
- Work operations for which engineering, and work-practice controls are not sufficient to reduce employee exposures to or below the PEL
- Periods when an employee requests a respirator

E & B Oilfield Services Inc. provides a respiratory protection program in accordance with §1910.134. If an employee has breathing difficulty during fit testing or respirator use, the employee will be provided with a medical examination to determine whether the employee can use a respirator while performing the required duty.

<b>Table II - Respiratory Protection for Lead Aerosols</b>	
Airborne concentration of lead or condition of use	Required respirator <sup>3</sup>
Not in excess of 0.5 mg/m <sup>3</sup> (10 x PEL)	Half-mask, air-purifying respirator equipped with high efficiency filters. <sup>2,3</sup>
Not in excess of 2.5 mg/m <sup>3</sup> (50 x PEL)	Full facepiece, air-purifying respirator with high efficiency filters. <sup>3</sup>
Not in excess of 50 mg/m <sup>3</sup> (1000 x PEL)	(1) Any powered, air-purifying respirator with high efficiency filters; <sup>3</sup> or (2) Half-mask supplied-air respirator operated in positive-pressure mode. <sup>2</sup>
Not in excess of 100 mg/m <sup>3</sup> (2000 x PEL)	Supplied-air respirators with full facepiece, hood, helmet, or suit, operated in positive pressure mode.
Greater than 100 mg/m <sup>3</sup> , unknown concentration or firefighting	Full facepiece, self-contained breathing apparatus operated in positive-pressure mode.
Respirators specified for high concentrations can be used at lower concentrations of lead. Full facepiece is required if the lead aerosols cause eye or skin irritation at the use of concentrations. A high efficiency particulate filter means 99.97 percent efficient against 0.3-micron size particles.	

The appropriate respirator or combination of respirators will be selected from Table II. An employee may choose a NIOSH-certified powered, air purifying respirators (PAPR) at no extra cost to the employee. The respirator will be used during the time-period necessary to install or implement engineering or work practice controls.

## **PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT**

Properly fitting protective work clothing and equipment will be provided at no cost to employees exposed to lead above the PEL. Employees will be required to use appropriate protective work clothing and equipment such as, but not limited to coveralls or similar full-body work clothing; gloves, hats, and shoes or disposable shoe coverlets; face shields, vented goggles, or other PPE.

E & B Oilfield Services Inc. will provide the protective clothing in a clean and dry condition at least weekly, and daily to employees whose exposure levels are over 200 µg/m<sup>3</sup> of lead as an eight (8) hour TWA, as well as:

- Cleaning, laundering, or disposal of protective clothing and equipment as required.
- Repair or replace required protective clothing and equipment to maintain effectiveness.
- Ensure that all protective clothing is removed at the completion of a work shift only in change rooms provided for that purpose as prescribed.
- Ensure that contaminated protective clothing that is to be cleaned, laundered, or disposed of, is placed in a closed container in the change room which prevents dispersion of lead outside the container.
- Ensure that the containers of contaminated protective clothing and equipment are labeled.
- Prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means that disperses lead into the air.

## **HOUSEKEEPING AND HYGIENE FACILITIES**

Housekeeping methods will be such that all surfaces in the workplace will be maintained as free as practicable of accumulations of lead, in a manner that minimizes the reentry of lead into the workplace.

*E & B Oilfield Services Inc.* will provide decontamination, changing and hygiene facilities for employees.

Kirk Duncan will ensure that food or beverage is not consumed, tobacco not used, or cosmetics not applied except in change rooms, lunchrooms, and showers. Where employee airborne exposure to lead is above the PEL, E & B Oilfield Services Inc. will provide:

- Clean change rooms - equipped with separate storage facilities for protective work clothing and equipment and for street clothes that prevent cross-contamination.
- Shower facilities – employees are encouraged to shower at the end of the work shift, affected employees required to shower will do so before leaving the facility.
- Lunchroom facilities – facilities will be temperature controlled, positive pressured, filtered air supplied, and readily accessible to employees.
  - Employees are prohibited from entering lunchroom facilities with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, down draft booth, or other cleaning method.
- Lavatory facilities - employees are required to wash their hands and face before eating, drinking, or smoking.

## **MEDICAL SURVEILLANCE**

E & B Oilfield Services Inc. will provide a medical surveillance program at no cost to company employees who are or may be exposed above the action level of 30 µg/m<sup>3</sup> as calculated as an eight (8) TWA for more than 30 days a year. Medical examinations and necessary procedures will be performed under the supervision of a licensed physician.

Biological monitoring is available according to the following schedule:

- Every six (6) months if an employee is exposed above the action level and conduct periodic blood sampling and medical evaluations as required by laboratory results, worker complaints or concerns, and the clinical assessment of the examining physician.
- Every two (2) months for employees whose last blood lead level was between 40 ug/100 g whole blood and the level requiring employee medical removal will be discussed.

E & B Oilfield Services Inc. will maintain an accurate record of all monitoring that includes: The date(s), number, duration, location, and results of each of the samples taken, including a description of the sampling procedure used to determine exposure.

- A description of the sampling and analytical methods used and evidence of their accuracy.
- Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.
- The type of respiratory protection worn if any.
- These monitoring records will be maintained for at least 40 years or for the duration of employment plus 20 years, whichever is longer.

E & B Oilfield Services Inc. will maintain an accurate record for each employee subject to medical surveillance. This record will include:

- The name, social number, and description of the duties of the employee.
- A copy of the physician's written opinions.
- Results of any airborne exposure monitoring done for that employee and the representative exposure levels supplied to the security physician.
- Any employee medical complaints related to exposure to lead.

E & B Oilfield Services Inc. will keep, or assure that the examining physician keeps, a copy of the medical examination results, including medical and work history; a description of the laboratory procedures; a copy of the results of biological monitoring. These medical records will be maintained for at least 40 years, or for the duration of employment plus 20 years, whichever is longer.

E & B Oilfield Services Inc. will maintain an accurate record for each employee removed from current exposure to lead. Each record will include:

- The name and social security number of the employee.
- The date on each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status.

- A brief explanation of how each removal was or is being accomplished.
- A statement with respect to each removal indicating whether the reason for the removal was an elevated blood lead level.
- Medical removal records will be maintained for at least the duration of an employee's employment.

Environmental monitoring, medical removal, and medical records will be provided upon request to employees, designated representatives, and OSHA.

## **REMOVAL PERIOD**

A new blood lead level will be measured monthly for employees removed from exposure to lead due to an elevated blood lead. A zinc protoporphyrin (ZPP) is required on each occasion that a blood lead level measurement is made.

E & B Oilfield Services Inc. will provide medical removal protection benefits to any employee subject to temporary medical removal. Employees during any form of special protection or removal will maintain their earnings, seniority, and any other employment rights and benefits for a period of up to 18 months.

Accuracy of blood lead level sampling and analysis will have an accuracy within plus or minus 15% or six (6) µg/100 ml, whichever is greater, and will be conducted by a laboratory licensed by the Center for Disease Control (CDC) or that has received a satisfactory grade in blood lead proficiency testing from CDC in the prior 12 months.

Each employee whose blood lead level exceeds 40 µg/100 g will be notified in writing within five (5) working days after the receipt of biological monitoring results. Medical examinations and consultations are available to affected employees on the following schedule:

- At least annually for each employee for whom a blood sampling test conducted at any time during the preceding 12 months indicated a blood lead level at or above 40 µg/100 g
- Before assigning an employee to an area in which airborne concentrations of lead are at or above the action level for the first time
- As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use
- As medically appropriate for each employee, either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination

Employees will be removed from any work having any eight (8) hour TWA exposure to lead of 30 µg/m<sup>3</sup> or more whenever either of the following circumstances apply:

- A blood lead level of 60 µg/100 g or greater is obtained and confirmed by a second follow-up blood lead level performed within two (2) weeks after the employer receives the results of the first blood sampling test.
- The average of the previous three (3) blood lead determinations or the average of all blood lead determinations conducted during the previous six (6) months, whichever encompasses the longest period, equals, or exceeds 50 µg/100 g, unless the last blood sample indicates a blood lead level at or below 40 µg/100 g in which case the employee need not be removed. Medical removal is to continue until two (2) consecutive blood lead levels are 40 µg/100 g or less.

## **LEAD ABATEMENT**

Employee will be informed of appendices A and B of the regulation. All affected employees are required to attend initial and annual training programs. The employees will be informed of the specific nature of the operations which will result in exposure to lead above the action level, the purpose, proper selection, fitting, use, and limitation of respirators, engineering controls, purpose and a description of the medical surveillance program and the medical removal program.

No employee will be exposed to lead at concentrations greater than 50  $\mu\text{m}^3$  of air averaged over an eight (8) hour period.

Full shift personal samples will be representative of the employees regular, daily exposure to lead.

If the initial determination or subsequent air monitoring reveals employee exposure to be at or above the action level but below the PEL the employer will repeat air monitoring in accordance with this paragraph at least every six (6) months. The employer will continue air monitoring at the required frequency until at least two (2) consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee.

Affected employees will be notified of the results of any monitoring performed within 15 working days, either individually in writing or by posting the results in an appropriate location that is accessible to affected employees. Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the PEL, in the written notice will be included a statement that the PEL was exceeded, and a description of the corrective action taken or to be taken to reduce exposure to or below the PEL.

Gloves, hats, vented goggles, shoes, or disposable shoe covers will be provided. Protective clothing will be cleaned and laundered at least weekly. Clothing will also be properly disposed and repaired or replaced, as necessary.

The blood sampling and monitoring will be conducted every six (6) months until two (2) consecutive blood samples and analysis are acceptable. The sampling and monitoring will be performed at least monthly during the removal period. Any employee with elevated blood levels will be temporarily removed. Employees will be notified in writing within five (5) days when lead levels are not acceptable. The standard requires temporary medical removal with medical removal protection benefits.

All containers or materials containing lead will be appropriately labeled to indicate the contents and the hazards of the contents.

Safety data sheets (SDS) for lead and all hazardous materials are available to all employees at the company office.

Illuminated warning signs will be posted at each regulated work area that exceeds the PEL and cleaned as necessary so that the legend is readily visible.



