

<i>E&B Oilfield Services Inc.</i>	Activity: ALL WORK Hearing Protection		Doc No:	HAZ-ID
			Initial Issue Date:	4/1/2015
			Revision Date:	4/1/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.:	1
			Next Revision Date:	4/1/2017
Preparation: Kayden Kenedy	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	1 of 4

Purpose

- **Hearing Protection**

Key Responsibilities

- OSHA regulations state that anything over 85 decibels is damaging your hearing.
- E&B Management will provide task appropriate hearing protection to all employees at risk of job related noise exposure over safe limits.
- Supervisors / Leads are required to ensure all employees have hearing protection available.
- E&B Employees are required to have hearing protection at all times. Employees are required to use hearing protection when noises exceed safe levels or in areas with warning placards.

Hazard and Risk Identification

Employees MAY be exposed to dangerous sound levels during (but is not limited) to the following activities:

- Use of heavy machinery such as
 - Backhoes
 - Tractors
 - Large compressors
 - Large diesel engines
- Blowing down pressurized equipment
- Grinding metal
- Air tools
- Loud Music
- Construction
- Demolition
- Adjacent work can be a source of dangerous noise levels.

E&B Oilfield Services Inc.	Activity: ALL WORK Hearing Protection		Doc No:	HAZ-ID
			Initial Issue Date	4/1/2015
			Revision Date:	4/1/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.	1
			Next Revision Date:	4/1/2017
Preparation: Kayden Kenedy	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	2 of 4

Risk Assessment

Hazards are classified and ranked based on severity. The program identifies hazards are classified/prioritized and addressed based on the risk associated with the task. (See the risk analysis matrix outlining severity and probability).

Employees may encounter loud working conditions at any time during the day. Hearing protection must always be carried.

E&B OILFIELD SERVICES INC. RISK ASSESSMENT MATRIX - NOISE

Severity	CONSEQUENCE				PROBABILITY				
	People	Assets	Environment	Reputation	A	B	C	D	E
					Not Done	Rarely	Once a week	Several Times in a Week	Multiple Times in a Day
0	No health effect	No damage	No effect	No impact					X
1	Slight health effect	Slight damage	Slight effect	Slight impact					X
2	Minor health effect	Minor damage	Minor effect	Limited impact				X	
3	Major health effect	Localized damage	Localized effect	Considerable impact		X			
4	Single fatality	Major damage	Major effect	National impact	X				
5	Multiple fatalities	Extensive damage	Massive effect	Global impact	X				

Key	Manage for continuous improvement (Low)	Incorporate risk reduction measures (Medium)	Intolerable (High)
------------	---	--	--------------------

Risk Controls/Methods to Ensure Identified Hazards Are Addressed and Mitigated

The following describes how identified hazards are addressed and mitigated:

- Free iPhone applications are available for measuring disable levels. This chart can be used to evaluate the risk. If a more sensitive meter is needed, employees are to contact their supervisor.

E&B Oilfield Services Inc.	Activity: ALL WORK Hearing Protection		Doc No:	HAZ-ID
			Initial Issue Date	4/1/2015
			Revision Date:	4/1/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.	1
			Next Revision Date:	4/1/2017
Preparation: Kayden Kenedy	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	3 of 4

Table 1: Equivalent Noise Exposures LAeq,8h = 85 dB(A)	
Noise Level dB(A)	Exposure Time
80	16 hours ¹
82	12hours ¹
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.8 minutes
109	1.9 minutes
112	57 seconds
115	28.8 seconds
118	14.4 seconds
121	7.2 seconds
124	3.6 seconds
127	1.8 seconds
130	0.9 seconds

- Hearing protection should be used during decibel measuring, or if the employee is unsure if the noise levels are safe.
- Hearing protection us mandatory if exposure exceeds the above charted levels.
- Employees are required to have hearing protection available at all times.

JSA Sample

The following describes how identified hazards are addressed and mitigated:

Basic Job Step	Potential Injury or Hazards	Mitigation / Tools
Blowing Down Pressurized Equip	Hearing Loss	Hearing Protection / Limit Exposure

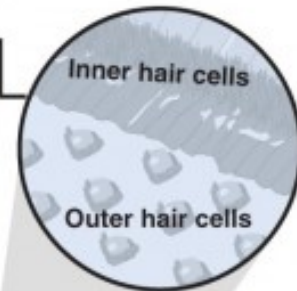
E&B Oilfield Services Inc.	Activity: ALL WORK Hearing Protection		Doc No:	HAZ-ID
			Initial Issue Date:	4/1/2015
			Revision Date:	4/1/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.:	1
			Next Revision Date:	4/1/2017
Preparation: Kayden Kenedy	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	4 of 4

Other Info

Hearing loss

Hearing loss occurs not just because of age, but also because of trauma from loud sounds. Explosions and gunfire are two reasons why soldiers are an at-risk group for hearing loss.

Cochlea
These hairs are damaged by loud sound, resulting in hearing loss



External ear

Pinna collects incoming sounds

Ear canal works to amplify sound

Tympanic membrane (eardrum)

Middle ear

Ossicles send vibrations from the eardrum to the inner ear

Inner ear

Semicircular canals helps with balance

Vestibular nerve sends information about the body's position to the brain

Cochlear nerve sends information relating to sound

Eustachian tube controls air pressure in the ear

© 2009 MCT
Source: webmd.com, humanillness.com, medscape.com, www.asha.org, hearingcenteronline.com
Graphic: The Colorado Springs Gazette