

<b><i>E&amp;B Oilfield Services Inc.</i></b>	Activity: <b>ALL WORK</b> <b>Equipment Failure</b>		Doc No:	HAZ-ID
			Initial Issue Date	4/1/2015
			Revision Date:	4/1/2016
<b>HAZARD IDENTIFICATION AND ASSESSMENT</b>			Revision No.	1
			Next Revision Date:	4/1/2017
Preparation: Danielle Johnson	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	1 of 3

## Purpose

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- **Equipment Failure**

## Key Responsibilities

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- E&B Management will provide information on preventative maintenance for equipment
- Supervisors / Leads are required to ensure all employees know how to properly use equipment.
- E&B Employees will have the proper items to maintain equipment.

## Hazard and Risk Identification

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Equipment will be exposed to the following

- Physical root causes are typically the easiest ones to uncover. They are typically the tangible results of the failure (i.e. they can be seen, touched, smelled etc.).
- Systematic root causes are more difficult to discern. These have their basis in procedures, communication, training, documentation, etc..
- Human root causes are related to errors in judgment and behavior of humans

## Risk Assessment

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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).

Equipment failure refers to any event in which any equipment cannot accomplish its intended purpose or task. It may also mean that the equipment stopped working, is not performing as desired, or is not meeting target expectations.

Examples of equipment failure include: engine failure or misfire, brake failure or stop controlling device failure, suspension of operation due to heat or other environmental conditions, failure due to defect in the electronics or circuits, power failure or fuel supply failure, etc..

Equipment failure leads to loss of asset availability, deviation from standard procedure, not meeting the quality and expected target quantity, loss of time, labor and money, and loss of integrated system. Equipment failure can be prevented or reduced through proper maintenance management, inspection, timely finding of problems, rectification of problems, and repair.

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**E&B OILFIELD SERVICES INC. RISK ASSESSMENT MATRIX – EQUIPMENT FAILURE**

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					<b>X</b>
1	Slight health effect	Slight damage	Slight effect	Slight impact					<b>X</b>
2	Minor health effect	Minor damage	Minor effect	Limited impact				<b>X</b>	
3	Major health effect	Localized damage	Localized effect	Considerable impact		<b>X</b>			
4	Single fatality	Major damage	Major effect	National impact	<b>X</b>				
5	Multiple fatalities	Extensive damage	Massive effect	Global impact	<b>X</b>				

<b>Key</b>	Manage for continuous improvement (Low)	Incorporate risk reduction measures (Medium)	Intolerable (High)
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**Risk Controls/Methods to Ensure Identified Hazards Are Addressed and Mitigated**

The following describes how identified hazards are addressed and mitigated:

- Pre use inspection
- If item is not working properly have it addressed
- Follow all safety procedures
- Read user's manual if applicable
- Do not use equipment that is not working properly
- Post use inspection

**JSA Sample**

The following describes how identified hazards are addressed and mitigated:

Basic Job Step	Potential Injury or Hazards	Mitigation / Tools
Check equipment	Loss of appendage, ruined equipment, loss of life	Follow all safety steps, know your equipment, keep up on maintenance

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**Other Info**

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## Use an Adaptable Root Cause Analysis Process

