

<i>E&B Oilfield Services Inc.</i>	Activity: ALL WORK Oxygen Gas Stream		Doc No:	HAZ-ID
			Initial Issue Date	4/15/2015
			Revision Date:	4/15/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.	1
			Next Revision Date:	4/15/2017
Preparation: Tonya Middleton	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	1 of 2

Purpose

- **Oxygen Gas Stream**

Key Responsibilities

- Supervisors / Leads are required to ensure all employees have proper training for equipment and tools operation available per manuals and proper tool use.
- E&B Employees are required to have proper training per available equipment and tools operation and have required PPE at all times. Employees are required to follow task specific job safety analysis risk mitigation when operating in the field.
- Operator is to inspect all equipment and tools prior to operation to ensure they are maintained in working order.

Hazard and Risk Identification

Employees MAY be exposed to the following hazards:

- Corrosion of Pipeline possibly causing leaks and equipment failure
- Ignition source possibly leading to explosion
- Pigging without purging equipment

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).

Any time oxygen and natural gas are combined, there is a risk for explosion.



E&B Oilfield Services Inc.	Activity: ALL WORK Oxygen Gas Stream		Doc No:	HAZ-ID
			Initial Issue Date	4/15/2015
			Revision Date:	4/15/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.	1
			Next Revision Date:	4/15/2017
Preparation: Tonya Middleton	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	2 of 2

E&B OILFIELD SERVICES INC. RISK ASSESSMENT MATRIX – OXYGEN LEVELS IN THE GAS

CONSEQUENCE					PROBABILITY				
Severity	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:

- Corrosion of pipeline possibly causing leaks and equipment failure: mitigate by using O2 monitors
- Ignition source possibly leading to explosion: mitigate by purging oxygen out of pipeline before introducing gas.

JSA Sample

The following describes how identified hazards are addressed and mitigated:

Basic Job Step	Hazards and Potential Injury/Risk	Mitigation / Tools
Inserting a pig into a gas line	Fire down stream	Purge oxygen from launcher before pig is launched