



## **Safety Plan for NWT - Ft Liard Area**

**L-68-60-20-123-45**

**K-02-60-20-123-30**

**Well Abandonments**



## **1. Introduction**

Prairie Provident Resources (PPR) has prepared this Safety Plan for the abandonment activities of the two PPR wells located North and West of Ft Liard, NWT. The safety plan provides documentation of the plan to safely manage the activities involved while meeting the requirements of the Office of the Regulator of Oil and Gas Operations (OROGO).

### **Location Information**

#### **Site #1 L-68-60-20-123-45**

This site consists of one well with an associated surface lease and access road. Access to the site for routine inspections is completed by helicopter from Ft. Liard. Access for equipment requires use of barges and access road in summer and ice bridge over the Liard River and ice road in the winter. PPR has agreements with other operators for access to the site. (See attached map for access information)

Planned activities for the site include:

- Repair of surface casing vent flow
- Downhole abandonment of wellbore
- Cut and cap of wellhead
- Reclamation activities on the lease

#### **Site #2 K-02-60-20-123-30**

This site consists of one well with an associated surface lease and access road. Access to the site for routine inspections is completed by helicopter from Ft. Liard. Access for equipment involves an ice road from Ft Liard and an ice bridge over the Petitot River. (See attached location map for access information)

Planned activities for the site include:

- Stabilization of a portion of the surface lease
- Downhole abandonment of wellbore
- Cut and cap of the wellhead
- Reclamation activities on the lease

## 2. Purpose

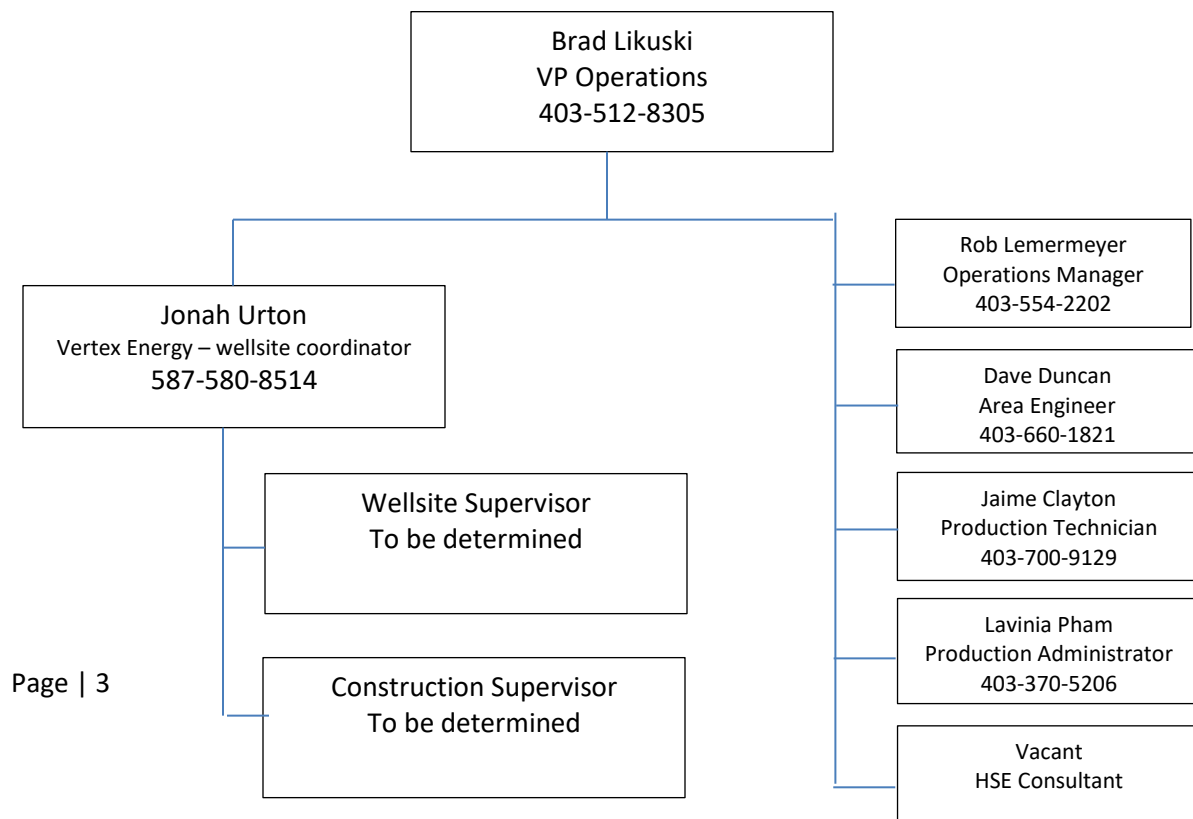
The purpose of the Safety Plan is to provide an effective plan referencing various aspects of the PPR Health, Safety and Environmental (HSE) Management practices that apply to the project activities. The plan provides contact information and roles and responsibilities of personnel involved with the project, references to the PPR HSE Management Practices for required OROGO regulations, and a general hazard assessment of the activities proposed.

## 3. Project Scope

Scope of the project includes the following:

- Preparation of access to both the L-68 well and K-02 involving ice bridges and ice road preparation
- Repair of surface casing vent at the L-68 location
- Abandonment of both wells including cut and cap
- Environmental assessment of wellsites
- Remediation activities as required
- Reclamation activities of wellsites and access as conditions permit

**Figure 1 - Contact Information and Organization Structure of Project**



#### **4. Safety Plan References**

- PPR HSE Corporate Policy (see below)
- PPR HSE Manual
- PPR Code of Practices and Safe Work Practices including but not limited to:
  1. Contractor Management Policy
  2. Wellsite Operations Safe Work Practice
  3. Safe Work Permitting
  4. Competency training matrix for site supervisors
  5. Hazard Assessment and Risk Management activities
  6. Personal Conduct
  7. Critical Care Rules
- Site specific information including:
  1. Emergency Response Plan
  2. Environmental Protection Plan
  3. Land Use Plan

## HEALTH, SAFETY, ENVIRONMENT AND REGULATORY COMPLIANCE

### HSE CORPORATE POLICY

Excellence in Health, Safety, Environment and Regulatory Compliance (“HSE”) practices is vital to the well-being of our employees, contractors and the communities in which we operate and is an integral part of the business operations of Prairie Provident Resources Canada Ltd. (Prairie Provident).

Under the stewardship of the Board of Directors and executive leadership, we reinforce this commitment through the promotion and support of a culture which all employees and contractors participate and share ownership in health and safety management. Through this stewardship we strive to:


- ❖ maintain effective processes to ensure we conduct our business which meets or exceeds applicable laws and regulations;
- ❖ manage risk inherent to all aspects of our activities and operations. By regularly identifying HSE hazards and pro-actively assessing risk, we will take appropriate actions to prevent or reduce unacceptable risks to people, the environment and our property;
- ❖ maintain documented emergency response procedures which meet or exceed industry standards to allow personnel to respond promptly and effectively to emergencies;
- ❖ improve the efficiency of our operations and reduce environmental impacts through effective management and monitoring of our emissions, waste and energy use;
- ❖ employ a skilled and knowledgeable workforce that supports strong HSE performance and implement ongoing training to ensure appropriate competencies, attitudes and behaviours within our workforce reflective of this HSE Policy;
- ❖ encourage and foster a cooperative effort between Prairie Provident and its service providers to promote safe work attitudes and behaviours and carry-on business with service providers who share our HSE performance standards;
- ❖ participate in yearly safety audits, complete worksite evaluations and discuss opportunities for improvement in HSE and Regulatory Compliance initiatives;
- ❖ consult with stakeholders on HSE issues to gain and hold the confidence of the public and the communities in which we operate;
- ❖ ensure that each employee and subcontractor acknowledges their duty to report workplace situations or acts that pose a risk to injury, ill health or threaten the environment and to take reasonable actions to alleviate such risks; and
- ❖ the HSE Management Committee shall set and review annual HSE objectives and targets and ensure periodic review of HSE performance indicators. The management personnel from each area of the company shall be responsible for implementing and maintaining the HSE Management System necessary to sustain this policy.

Dated: June 2021



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Tony Berthelet  
President & CEO



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Brad Likuski, P. Eng  
Vice President, Operations

Effective: June 2021



## 5. Hazard Review

### General

Hazard Identification and Risk Management are fundamental to the Safety Plan and all activities performed. The process of identifying a hazard and the risk to personnel and the implementation of controls is the key to creating a safe work environment. Many incidents occur due to hazards being mis-identified due to:

- Being in a rush to complete work
- Being frustrated with an issue or progress
- Fatigue
- Repetitiveness of activity leading to complacency

Key recommendations to minimize the effects of these issues are:

- Ensure that your mind is on the task at hand
- Ensure that your eyes are on the task at hand
- Ensure you are not in the line of fire of potential actions
- Ensure that your physical preparation is adequate for the task at hand
- Ensure that you have the appropriate protective safety equipment

PPR ensures that Mandatory Personal Protective Equipment consisting of:

- Fire resistant clothing
- Hard hat
- Safety glasses
- Steel toed footwear
- Personnel gas monitors (where no continuous monitors are present)

is to be worn by all personnel. Please note this will be in addition to any specific equipment identified in the risk mitigation process. Please note PPR will have first aid personnel and equipment available at the site at all times when site is active.

Hazard Type	Description	Implemented controls
Fire/Explosion/Ignition	Potential for gas release from wellbore and or connected piping. Potential for ignition of transferred fuels while loading or unloading.	Gas detection equipment at rig floor to identify potential gas buildup at the well. Appropriate signage at loading and unloading points complete with TDG and WHIMIS information. Personal monitor as mentioned above

		<p>as part of PPE.</p> <p>Bonding cables for transferring of fuels.</p> <p>Review of hydrocarbon loading and unloading practices.</p> <p>Fireproof coveralls as part of PPE .</p>
Weather/Road Conditions	<p>Hazard associated with ice roads including slippery roads, winter conditions, lack of visibility.</p> <p>Exposure to extreme weather conditions such as extreme cold, wind chill, frostbite.</p>	<p>Appropriate winter road maintenance including reduction of slippery surfaces.</p> <p>Appropriate ice thickness on roads and bridges for equipment travel.</p> <p>Appropriate direction signage including warnings for curves, turns and signs indicating appropriate speed..</p> <p>Appropriate vehicles for travel and equipped with good traction tires and or chains.</p> <p>Appropriate working alone procedures to be in place to ensure no missing personnel.</p> <p>Appropriate shift length including breaks.</p> <p>Appropriate safety clothing provided for activities.</p> <p>Ensure appropriate communication is provided to ensure will work when necessary.</p>
H2S/O2Deficient/LEL atmospheres	<p>The subject wells contain no H2S but LEL and oxygen deficient atmosphere near the wellhead may be present in a release.</p>	<p>Gas detection equipment at rig floor to identify potential gas buildup at the well.</p> <p>Site evacuation procedures complete with Muster points to be developed.</p> <p>Personal monitors as part of the PPE.</p> <p>Appropriate SCBA or SABA devices on site for activities.</p>
Fall Hazards	<p>Slips, trips fall while working on ice or snow covered ground or rough terrain.</p>	<p>Ensure site is properly snow plowed and that rough areas are maintained in a good condition.</p> <p>Ensure railings on walkways and stairs are in place and in appropriate condition.</p> <p>Site personnel to ensure activities are</p>

		<p>completed in an efficient manner and to avoid hurry up situations.</p> <p>General housekeeping at site to be maintained to prevent tripping hazards.</p>
Chemical Exposure	<p>Potential exposure to well workover fluids.</p> <p>Potential exposure to fuels.</p>	<p>Ensure that well control is maintained to prevent any pressure releases.</p> <p>Ensure that all piping and storage containers for any chemicals on site have been integrity tested and are properly labelled with WHIMIS information.</p> <p>Ensure appropriate PPE is worn for all situations involving chemicals.</p>
Pressurized Lines /Vessels	<p>Potential exposure to well pressure and well workover fluids</p>	<p>Ensure all lines and vessels are rated for appropriate pressure and temperature requirements.</p> <p>Ensure all pressure safety valve equipment is in place and properly commissioned for use.</p> <p>Ensure when dealing with pressure all activities are planned for an all appropriate pre-job meetings have been held.</p> <p>Ensure personnel are familiar with equipment and any operating procedures required.</p> <p>Ensure PPE in place for potential noise exposure.</p>
Electrical Hazards	<p>Potential for electrical hazard associated with electrical generation equipment on site for rig and offices.</p>	<p>Ensure all electrical generation equipment is fit for purpose and is set up in designated areas appropriate to lease spacing requirements.</p> <p>Ensure all equipment has been inspected and found to be in good working condition.</p> <p>Ensure appropriate signage is present for lines and equipment.</p> <p>Ensure that all equipment is appropriately rated for use in locations used.</p> <p>Ensure PPE associated with flash protection is used.</p>
Extreme Temperature	<p>Exposure to extreme weather</p>	<p>Appropriate working alone procedures</p>



	conditions such as extreme cold, wind chill, frostbite.	to be in place to ensure no missing personnel. Appropriate shift length including breaks. Appropriate safety clothing provided for activities.
Confined Space	Potential for confined space situation or situation with limited or difficult egress.	Ensure appropriate confined space code of practice is followed. Ensure appropriate personnel on lease to provide supervision have appropriate confined space training. Ensure all appropriate PPE is in place including supplied air respirators if required.
Noise Exposure	Potential for noise levels to exceed 85dB with the operation of pumps, engines and equipment.	Signage and where possible appropriate spacing to limit exposure to personnel. PPE as required with use of ear plugs and ear muffs.
Radiation Exposure	Potential for exposure with electric wireline and logging activities.	Ensure contract wireline companies follow their own JSA for use equipment. Ensure appropriate signage in place when using equipment.
Spill/Release	Potential for spillage of trucked and stored liquids. Potential for wellbore fluids to spill in a well control situation.	Ensure all trucking companies follow the chemical handling and loading and unloading requirements for PPR. Ensure appropriate equipment in place to contain spills to a local area to prevent contamination. Ensure secondary containment is in place for storage tanks. Ensure well control is maintained to prevent any wellbore fluids from being released. Use fresh water where possible as kill fluid to reduce potential contamination should a spill occur.
Vehicle/Heavy Machinery	Potential for vehicle accidents involving large equipment. Potential for entanglement or pinch hazards in tight and busy areas on lease.	Ensure drivers have appropriate orientation and sightlines for all travel. When spotting equipment a spotter is to be used to help direct equipment on the lease in all cases. Areas where equipment is tightly spaced should be identified and

		<p>signage placed warning of potential dangers.</p> <p>Personnel to be orientated on the lease for areas to avoid. Personnel to be instructed to ensure they have safe egress at all times when equipment is moving.</p>
Other – Helicopter Operations	Visits to site during non-frozen ground conditions in small helicopters.	<p>Ensure PPR vendor management process is in place for selection of Charter Helicopter companies. Ensure landing areas are sufficiently clear of debris and vegetation.</p> <p>Ensure appropriate loads are carried in all aircraft.</p> <p>Ensure access to and from aircraft is performed in a safe manor.</p> <p>Ensure appropriate PPE is used when travelling in aircraft and appropriate safety and survival equipment is in place on aircraft.</p>
Other – Natural Hazards	Potential for interaction with wildlife during activities at wellsite and access roads.	<p>Ensure waste control is adequate to prevent attraction for wild animals.</p> <p>Ensure access to predator repellants such as bear spray or bear bangers are available to personnel</p> <p>Ensure appropriate bug based repellent available for summer activities and that staff are prepared if they have allergies to insects and or plants at the wellsites.</p>

## 6. OROGO Compliance Matrix

See Table 1 below for reference where documentation can be found to meet the requirements of the regulations.

<b>Table 1. OROGO Regulatory Compliance Matrix with Prairie Provident documentation</b>			
<b>Safety Plan Requirements as per Part 2, Section 8 of the Oil and Gas Drilling and Production Regulations</b>			
	<b>Regulation</b>	<b>Comments</b>	<b>PPR Documentation</b>
8a	a summary of and references to the management system that demonstrate how it will be applied to the proposed work or activity and how the duties set out in these regulations with regard to safety will be fulfilled	It is the expectation of Prairie Provident that in all operations the public, environment and our personnel will be protected from accidents or incidents. Prairie Provident meets these expectations by providing the appropriate resources, knowledge and training to all employees and contractors.	PPR HSE Manual
8b	summary of the studies undertaken to identify hazards and to evaluate safety risks related to the proposed work or activity	Wellsite Supervisory competency assessment ensures that supervisors are capable of identifying and controlling hazards using the HSE Manual. Combined with the Contractor Management tools and their JSA as well as the documented work plan all hazard will be evaluated and controlled.	PPR HSE Manual Safe Work SWP Contractor Management Process Well Abandonment Program PPR NWT ERP
8c	a description of the hazards that were identified and the results of the risk evaluation;	Hazard identification starts in the preplanning and are identified in the work plan, the safety plan lists generic hazard for the sites and activities and the onsite daily safe work practices identify and mitigate hazards to ensure that only low risk activities will be performed.	PPR HSE Manual Safe Work SWP Contractor Management Process Well Abandonment Program PPR NWT ERP
8d	a summary of the measures to avoid, prevent, reduce and manage safety risks;	The safety plan and the referenced documents contained address the prevention, identification and management of safety risks.	Safety Plan PPR HSE Manual PPR NWT ERP Contractor Management Process Well Abandonment Program

8e	a list of all structures, facilities, equipment and systems critical to safety and a summary of the system in place for their inspection, testing and maintenance;	PPR Hazard assessment forms, lease inspections and the workplan will a list of facilities and equipment required and their corresponding implementation and maintenance activities.	PPR HSE Manual PPR NWT ERP Well Abandonment Program
8f	a description of the organizational structure for the proposed work or activity and the command structure on the installation, which clearly explains (i) their relationship to each other, and (ii) the contact information and position of the person accountable for the safety plan and of the person responsible for implementing it;	Organization chart in the safety plan and the PPR NWT ERP provide detail of the personnel, roles and responsibilities.	Safety Plan PPR NWT ERP Well Abandonment Program
8g	if the possibility of pack sea ice, drifting icebergs or land-fast sea ice exists at the drill or production site, the measures to address the protection of the installation, including systems for ice detection, surveillance, data collection, reporting, forecasting and, if appropriate, ice avoidance or deflection; and	Not applicable	Not applicable
8h	a description of the arrangements for monitoring compliance with the plan and for measuring performance in relation to it's objectives.	Daily hazard assessments, work permits, Contractor management process and daily work summaries.	PPR HSE Manual PPR NWT ERP Contractor Management Process Well Abandonment Program

