

SAFETY MANUAL



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Contents

1.0	POLI	CIES	. 9
1.1	Corp	porate Health and Safety Policy	9
1.2	Pers	sonal Protective Equipment (PPE) Policy	.10
1.3	Prev	ventative Maintenance Policy	.10
1.4	Safe	ety Training Policy	.10
1.5	Insp	pection Policy	.10
1.6	Inve	estigation Policy	.11
1.7	Haza	ard Reporting Policy	.12
1	.7.1	Management of Change Policy	.12
1	.7.2	Management of Change Procedure	.12
1.8	Visit	tor Policy	.13
1.9	Life	Saving Rules	.13
1.10) Fit f	or Duty Policy	.13
1	.10.1	Procedures	.14
1.11	L Dru	g and Alcohol Policy	.15
1	.11.1	Responsibility	.16
1	.11.2	Requirements	.16
1	.11.3	Medications	.17
1	.11.4	Prohibitions	.18
1	.11.5	Prevention	.18
1	.11.6	Investigations	.18
1	.11.7	Test and Random Testing	.19
1	.11.8	Assistance	.22
1	.11.9	Aftercare	.23
1	.11.10	Return to Work Restrictions	.23
1	.11.11	Social Situations	.23
1	.11.12	Consequences of a Policy Violation	.23
1	.11.13	Confidentiality	.24
1	.11.14	Safety-Sensitive Position	.24
1.12	2 Prog	gressive Discipline Policy	.24
1.13	3 Disc	rimination, Harassment, Bullying and Violence in the Workplace	.25
1.14	1 Hou	isekeeping	.27
1	.14.1	Roles and Responsibilities	.27

1.		
1.15	5 SPOT Device	28
1.16	6 Rights of Workers	29
1.17	7 Journey Management Policy	
2.0	ROLES AND RESPONSIBILITES	
2.1	All Employees	34
2.2	President – ALS	34
2.3	Operations Manager	
2.4	Project Manager	
2.5	Accountant	
2.6	Safety Coordinator	
2.7	Project/Office Administrator	35
2.8	Draftsman	35
2.9	Party Chiefs (Supervisor)	35
2.10	0 Surveyor Assistant	35
2.11	1 Contractors	36
2.12	2 Health and Safety Committee/Safety Representative	
3.0	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39
3.0 4.0	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42
3.04.04.1	GEOTREK COMPENTENCY ASSURANCE PROGRAM	
 3.0 4.0 4.1 5.0 	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44
 3.0 4.0 4.1 5.0 5.1 	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44
3.0 4.0 4.1 5.0 5.1 5.2	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2 6.3	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 43 44 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2 6.3 6.4	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 44 44 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2 6.3 6.4 6.5	GEOTREK COMPENTENCY ASSURANCE PROGRAM RULES First Aid Requirements GROUP SAFETY MEETINGS Introduction Safe Work Permits Pre-job or "Tailgate" Meetings Safety Meeting Documentation TRAINING New Employee Orientation Informal Training Formal Training First Aid WHIMIS 2015	39 42 43 43 44 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2 6.3 6.4 6.5 6.6	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 43 44 44 44 44 44 44 44 44 44 44 44
3.0 4.0 4.1 5.0 5.1 5.2 5.3 5.4 6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7	GEOTREK COMPENTENCY ASSURANCE PROGRAM	39 42 43 43 44 44 44 44 44 44 44 44 44 44 44

6.	9	Ground Disturbance	51
	6.9.1	1 Standard Documentat	ion for all GeoTrek Ground Disturbance Procedures51
	6.9.2	2 Rules and Responsibil	ties
	6.9.3	3 Ground Disturbance P	rocedures53
	6.9.4	4 Incident Reporting	
	6.9.5	5 Backfill	
	6.9.6	6 Records Management	
	6.9.7	7 Geophysical Departme	ent Exemption56
6.	10	Job-Specific Training	
7.0	Ρ	ERSONAL PROTECTIV	E EQUIPMENT (PPE) 60
7.	1	Selection of Personal Prote	ctive Equipment60
7.	2	Responsibilities	
7.	3	PPE Requirements	
7.	4	PPE for Specific Tasks	
8.0	Ρ	REVENTATIVE MAINT	ENANCE
8.	1	Corrective Actions	
8.	2	Responsibilities	
9.0	Н	AZARD ASSESSMENT	AND INSPECTIONS
9.	1	Definitions	
9.	2	Hazard Control Strategies	
9.	3	Record Keeping	
9.	4	Imminent Danger	
9.	5	Inspections	2
	9.5.1	1 Information Inspectio	ns2
	9.5.2	2 Formal Inspections	2
	9.5.3	3 Inspection Reports	
10.0) IC	OB ORIENTATION, OB	SERVATION & ASSESMENT
10).1	Pre-Job Orientation & Equi	pment Report3
10).2	Pre-Job & Task Observation	n Report3
	10.2	.1 Fatigue Management	
	10.2	.2 Behavior Based Obser	vation System6
10).3	Short Service Employee an	d New Employees7
	10.3	.1 Short Service Employe	e (SSE) Acknowledgement Form8
11.() S/	AFE WORK PRACTICES	59

11.1	Development	9
11.2	Review	9
11.3	Approval	9
11.4	Availability	9
11.5	Responsibilities	10
11.6	General Surveying	10
11.7	ATV & Snowmobile Operation	13
11.8	UTV Operation	14
11.9	Chainsaw Use	15
11.10	Driving	16
11.11	Winter Driving	17
11.12	Manual Lifting and Carrying	
11.13	Office Safety	23
11.14	Use of Portable Fire Extinguishers	24
11.15	Power and Hand Tool Use	24
11.16	Axe Use	25
11.17	Working on Water or Ice	26
11.18	Use of a Helicopter for Survey Purposes	26
11.19	Repetitive Strain Injuries	27
11.20	Flammable and Combustible Liquids	29
11.2	0.1 Refueling Gasoline Powered Tool, Mobile equipment, and/or Gas Cans	
11.2	0.2 Aerosol Spray Paint Safety	
12.0 S	AFE JOB PROCEDURES	33
12.1	Development	33
12.2	Review	33
12.3	Approval	33
12.4	Responsibilities	33
12.5	Starting a Chainsaw	33
12.6	Safe Tree Falling Operations	34
12.7	Safe Limbing and Bucking	35
12.8	Fire Extinguisher Operation	35
12.9	Loading and Unloading ATVs onto Truck Mounted Decks	36
12.10	Working Around Potentially Vicious Animals	36
12.11	Working Near Overhead Power Lines	
12.12	Extreme Temperature Hazards	
_	6	

12.1	2.1 Dehydration	37
12.1	2.2 Heatstroke	38
12.1	2.3 Hypothermia	38
12.1	2.4 Frostbite	39
12.1	2.5 Extreme Cold Temperature	39
12.13	Wilderness and Cold Weather Survival	40
12.14	Bears and Wildlife	42
12.1	4.1 Applicable Regulations	43
12.15	Office Safety	44
12.16	Vehicle Recovery and Towing	44
12.17	Loading and Unloading UTVs into Trailers	46
13.0 N	UCLEAR GAUGE	
14.0 R	EMOTELY PILOTED AIRCRAFT SYSTEM (RPAS)	47
15.0 E	NVIRONMENTAL PROTECTION	47
15.1	Protection Procedures	47
15.2	Legislation and Penalties Re: Soil Erosion and Depositing of Deleterious Material	48
15.3	Calgary Region Home Builder's Association Suggested Guidelines	48
15.4	Mitigation Plan for Bird Nesting Interruptions	49
16.0 R	EMOTE WORK LOCATION EMERGENCY MEDICAL PREPLAN	50
16.1	Stars Emergency Link Centre	50
16.2	Procedure	50
17.0 V	VORKING ALONE	51
17.1	Definition	51
17.2	Process for Handling Work Alone Situations	51
17.3	Working Alone – Office Safety	52
18.0 II	NCIDENT/ACCIDENT POLICY and RESPONSE	53
18.1	Procedures	53
18.2	Incident Response	54
18.3	Serious Incident	54
18.4	Human Injury	54
18.5	Fire/Explosion	54
18.6	Forest Fires	55
18.7	H2S Initial Response	55
18.8	Electrical Shock Emergency Procedures	56

18.9	9 Spill Management and Response	56
19.0	SUPPLEMENTAL REPORTING	60
19.1	1 RCMP or Local Police	60
19.2	2 Worker's Compensation Board (WCB)	60
19	19.2.1 Best Practices for Reporting	60
19	19.2.2 Modified Work Policy	61
19.3	3 Occupational Health and Safety	62
19	19.3.1 Occupational Health and Safety Guidelines	62
20.0	INCIDENT INVESTIGATIONS	63
20.1	1 Definitions	63
20.2	2 Responsibilities	63
21.0	RECORDS AND STATISTICS	68
21.1	1 Training Records	68
21.2	2 Statistics	68
22.0	CONTACT NUMBERS	68

1.0 POLICIES

1.1 Corporate Health and Safety Policy

GeoTrek Land Survey Ltd. recognizes and accepts its responsibility as an employer for providing a safe and healthy work environment for our employees, contractors, clients and others who may be affected by our operations. GeoTrek believes that our people are our single most important resource. It's our commitment to provide protection and maintenance of the health and safety (Physical, psychological, and social wellbeing) of our workforce.

GeoTrek owners, managers, supervisors and employees are responsible to adhere to all Occupational Health and Safety Regulations, Industry Recommended Practice and to develop and maintain additional company safety programs pertinent to surveying in the land development and petroleum industries.

Management is responsible for establishing rules and procedures and all supervisors and employees will be provided with the required training, equipment and publications to ensure a safe and healthy environment in all our work situations. Management, supervisors and employees will be evaluated on their health and safety performances on a yearly basis.

The development and maintenance of a health and safety program requires input and commitment of all company personnel. To this end GeoTrek will provide all the resources at our disposal, however the ultimate health and safety of us all will require the individual human talents of Awareness and Observation. GeoTrek strives to be an injury free workplace, achieved through commitment and participation.

Whendy

David O. Chaudy President January 31, 2019

1.2 Personal Protective Equipment (PPE) Policy

The following practices will be observed by the GeoTrek and employees when the company undertakes any job or contract.

- All PPE used by this company will be within the requirements of OH&S regulations and CSA standards.
- All PPE used by this company will be used and maintained in accordance with manufacturer's instructions and requirements.
- PPE will be inspected before each use by the employee using the PPE.
- PPE that is of questionable reliability, damaged, or in need of service or repair will be removed from service immediately.
- PPE that is removed from service will be destroyed or tagged "OUT OF SERVICE". Any PPE tagged "OUT OF SERVICE" will not be returned until repaired and inspected.
- No piece of PPE will be modified or changed contrary to manufacturer's instructions or specifications or OH&S Regulations.

1.3 Preventative Maintenance Policy

GeoTrek is committed to creating a safe working environment including supplying the correct tools or equipment for a job. It is the responsibility of the employee to ensure that these tools and/or equipment are operated in a safe manner and not tampered with in any manner.

- The tools and equipment will be properly maintained to reduce injury to employees or damage to property.
- Supervision will ensure all maintenance work is carried out by qualified personnel, and all records maintained.
- Monthly equipment reports are to be filled out and returned to the office. A copy of this report is included at the end of this section.

1.4 Safety Training Policy

In order to eliminate hazards and ensure a safe and healthy workplace, GeoTrek will ensure that all employees receive the necessary support and training that will enable them to proactively manage the hazards they face in the workplace.

All employees will participate in the following safety training:

- Orientation for all newly hired staff
- Hazard Identification & Risk Assessment-specific training as required including ergonomic training
- Refresher and update training
- Safety meetings will be held on a regular basis
- On site safety meetings will be held with subcontractors either jointly or on an individual basis

1.5 Inspection Policy

Preventative measures are required to control and minimize losses of human and material resources. Regular inspection of land, buildings, equipment and worksite activities are beneficial for anticipating, recognizing, evaluating, controlling and eliminating substandard acts, conditions or hazards.

- GeoTrek will maintain their inspection program by continually monitoring the worksite with both formal and informal inspections.
- All formal inspections will be documented and kept on file for a period of three years.
- Management will ensure that any new health and safety concerns identified in the inspections are addressed as soon as reasonably possible.

It is the policy of this company to maintain a comprehensive program of safety inspections at all facilities. The purpose of this policy is to control losses of human and material resources by identifying and correcting unsafe acts and conditions.

RESPONSIBILITIES:

The manager is responsible for the overall operation of the program.

Supervisors are responsible for directing formal inspections in their area of responsibility and for involving workers in the inspections.

Employees are responsible for participating in and contributing to the inspection program.

Signed

Date

Inspection Type	Person Responsible	Frequency of Inspection
Equipment/Maintenance	 Manager Supervisor Worker 	 Yearly or when deemed necessary Monthly Must be involved in all inspections
Manager Field/Site Visit	Manager	Formal visits to be conducted biannually, informal visits vary
Office/Facility Inspections	 Safety Coordinator Workers 	 Quarterly review. Monthly.

1.6 Investigation Policy

Investigation of all accidents and incidents, hazards that occur on our worksites.

- Accurate records shall be kept on investigations relating to the following incidents; lost time claims, medical aids, first aid, near misses, vehicle incidents and property damage.
- If a trend is identified, it shall be addressed immediately before a serious accidentor incident occurs.
- All investigations will be followed up with recommendations and the appropriate action must be taken to prevent a similar event from occurring.

1.7 Hazard Reporting Policy

Hazard Assessment is the basis for the prevention of incidents, accidents and near misses in the workplace. GeoTrek has a program in place to identify, rank and control hazards within our company.

It is every Employee's responsibility to report any hazardous acts or conditions. Supervisors are required to complete a hazard assessment before the start of any operations or whenever they deem necessary.

Each employee must be made of aware of the hazards associated with their specific jobs. The Job Inventory with Tasks, Hazards, Controls, Risk spreadsheet will outline specific hazards, controls for these hazards as well as a risk ranking on a per task basis.

All supervisors are required to complete a Pre-Job Safety Assessment prior to commencement of any operation. This assessment includes hazard identification, the identification of controls as well as the PPE needed to complete specific tasks safely.

If workers, supervisors, or managers find a hazardous act or condition that hasn't been identified in the Pre-Job Assessment or in the Job inventory, they must complete a Near Miss/Hazard/Incident report and submit it to their supervisor for immediate review.

1.7.1 Management of Change Policy

Changes in operations, procedures, site standards, facilities, equipment or personnel must be evaluated and managed to ensure that safety and environment risks arising from these changes remain at an acceptable level. To ensure all changes to a process are properly reviewed and hazards introduced by the change are identified, analyzed, and controlled prior to resuming operation.

Similarly, changes in laws and regulations must be reflected in facilities and operating practices to ensure on going compliance. All changes that are made should be properly reflected in the appropriate documentation.

1.7.2 Management of Change Procedure

Equipment / Personnel / Legislation / Operating Procedure Change

- Personnel can request an equipment change or the introduction of new equipment using the Equipment maintenance/Purchase request form found
 - A hazard assessment must be completed prior to purchase of new equipment.
 - when new equipment is brought to a work site, workers must be trained in its use and informed of any hazards associated with its use.

If there is to be a change to personnel that will affect the scope of a certain project, management or HSE will fill out the Management of Change Form \circ See above for a scope specific change in Legislation

- In the event of a Hazard, Observation, Near Miss or Incident that may warrant a change to company operating procedures or policies, Management and HSE will complete the Management of Change form.
- Management and HSE will receive notification that a request has been made and will evaluate the request which will involve discussion with the affected parties
- HSE will update any procedures, policies or practices that may be affected and ensure that proper training is provided to personnel on new equipment or in regard to new policies and procedures

 A project specific review must be conducted prior to the start of any work and will include a review of all related policies and procedures, training, hazards, risk and controls.

1.8 Visitor Policy

It is the policy of GeoTrek to make sure any visitor and/or clients are kept safe while on-site. All nonemployees must use the sign in and out visitor list. All non-employees must follow all verbal and observed safety and emergency instructions. It is the responsibility of the person the non-employee is there to see that they follow all of the safety rules and instructions given to them during the orientation when entering site.

1.9 Life Saving Rules

GeoTrek follows the life-saving rules recommended by Energy Safety Canada, alongside many of our industry peers. The rules are designed to prevent injuries and significant incidents at our operations and across our industry.

The 10 life-saving rules help us manage the risks associated with the work we do every day. To help promote them to our workers, we provide support materials to our staff and communicate them during safety and tailgate meetings. Team leaders verify that these rules are being followed as work is being conducted. The 10 life-saving rules are:

- Confined Space Obtain authorization before entering a confined space
- Working at Height Protect yourself against a fall when working at height
- Work Authorization Work with a valid permit when required
- Energy Isolation Verify isolation and zero energy before work begins
- Line of Fire Keep yourself and other out of the line of fire
- Bypassing Safety Controls Obtain authorization before overriding or disabling safety controls
- Driving Follow safe driving rules
- Hot Work Control flammables and ignition sources
- Safe Mechanical Lifting Plan lifting operations and control the area
- Fit for Duty Be in a state to perform work safely

1.10 Fit for Duty Policy

GeoTrek is committed to providing a safe workplace for the benefit of the company, its employees, clients and the public. To provide a safe work environment, employees must be able to perform their job duties in a safe, secure, productive, and effective manner, and remain able to do so throughout the entire time they are working. Employees who are not fit for duty may present a safety hazard to themselves, to other employees, to GeoTrek, or to the public.

Fit for Duty: A condition in which an employee's physical, physiological and psychological state enables them to continuously perform assigned tasks safely.

- Physical requirements physical demands analysis, vision, hearing, etc.
- Physiological conditions fatigue, alcohol and drugs, workplace exposures, etc.
- Psychological condition commitment, risk tolerance, emotional state, culture, etc.

An employee shall not be allowed to work unless he/she maintains a fitness for duty required for the safe performance of essential job functions, with or without reasonable accommodation. Each employee is required to report to work in an emotional, mental and physical condition (including

free of the effects of alcohol and drugs) necessary to perform his or her job in a safe and satisfactory manner.

Some causes of being "Unfit for Duty may include:

- Medical Conditions Such as seizure or unexplained unconsciousness.
- Prescription or no-prescription drugs including cold medication or pain relievers.
- Recreational cannabis workplace policy should be read and understood around the expectations around consumption.
- Alcohol poor coordination, slurring words.
- Fatigue feeling very tired, weary or sleepy resulting from both mental and physical factors.
- Mental health concerns including depression or anxiety.
- Temporary, situational stressors such as grief or financial problems.

All GeoTrek employees are encouraged to communicate any condition that would deem them unfit for duty and to take appropriate steps to ensure their return to work fit for duty. GeoTrek will work to accommodate an employee's individual needs within reason and justifiable circumstances.

Employee Responsibilities

- 1. Employees are responsible for managing their health in a manner that allows them to safely perform their job responsibilities.
- 2. Employees must come to work fit for duty and physically capable to perform all aspects of their job. Employees must perform their job responsibilities in a safe, secure, productive, and effective manner during the entire time they are working.
- 3. Employees must not enter the workplace while under the influence of drugs or alcohol.
- 4. Employees are responsible for notifying their supervisors when they are not fit for duty, including notifying supervisor if they are taking prescription or over-the-counter medication that may impair their ability to work safely.
- 5. Employees are responsible for notifying the supervisor when they observe a co-worker acting in a manner that indicates the co-worker may be unfit for duty. If the supervisor's behavior is the focus of concern, an employee may inform the upper level manager.

Employer Responsibilities

- 1. Supervisors are responsible for communicating the Fit for Duty policy and procedures to employees.
- 2. Supervisors are responsible for observing the attendance, performance, and behavior of the employees they supervise.
- 3. Supervisors/managers are responsible for following this policy's procedures when presented with circumstances or knowledge that indicate that an employee may be unfit for duty.
- 4. GeoTrek will provide assistance to workers who are unable to perform their job duties.
- 5. Confidentiality of medical records.

1.10.1 Procedures

 The supervisor who receives reliable information that an employee may be unfit for duty, or through personal observation believes an employee to be unfit for duty, will validate and document the information or observations as soon as is practicable. Actions that may trigger the need to evaluate an employee's fitness for duty include, but are not limited to, problems with dexterity, coordination, concentration, memory, alertness, vision, speech, inappropriate interactions with coworkers or supervisors, inappropriate reactions to criticism, or suicidal or threatening statements.

- 2. The supervisor will present the information or observations to the employee at the earliest possible time in order to validate them; and will allow the employee to explain his or her actions, or to correct any mistakes of fact contained in the description of those actions. The supervisor will then determine whether the employee should leave the workplace immediately for safety reasons.
- 3. In situations where there is a basis to think that a crime may have been committed and/or the employee is making threats to harm himself or herself or others, or is acting in a manner that is immediately dangerous to himself or herself or others, the supervisor shall contact the Calgary Police Department. This document should be consulted regarding the fitness for duty procedure after the immediate safety issue has been addressed.
- 4. In all other circumstances the supervisor shall take appropriate action as soon as possible after he or she receives reports and validates or personally observes an employee's unfit behavior. The supervisor will determine whether a fitness for duty evaluation is required and, if so, the type of evaluation needed and the type of health service provider to make the evaluation.
- 5. The supervisor will provide a form for the designated health service provider for completion to certify whether the employee is fit to return to work. The health service provider form will include a behavioral description of the circumstances leading to the request for evaluation, and a list of the employee's relevant duties.
- 6. In most cases, the employee will be responsible for the cost of the fitness for duty evaluation not covered by the employee's health plan.
- 7. The supervisor will determine whether the employee should return to work and, if so, the conditions of return, including whether the employee must attend a follow-up meeting.
- 8. The employee must comply with all aspects of the fitness for duty and evaluation procedures, including furnishing necessary consent and release forms to the health service provider. Noncompliance may be grounds for disciplinary action up to and including termination. Information will be requested from the health service provider regarding work restrictions that may be required upon the employee's return to work.

1.11 Drug and Alcohol Policy

GeoTrek is committed to providing a safe work environment for its Employees and Contractors and for those whose safety may be affected by our employees and contractors. We are committed to ensure that all employees are aware of their obligation that when performing work that they are *Fit for Duty*.

Fit for Duty" means that a worker is able to safely and/or acceptably perform assigned duties without any limitations resulting from, but not limited to: the use or after-effects of illicit drugs, alcohol, and/or medications; the misuse of and/or failure to take prescribed medications; and/or extreme fatigue/stress. It is a condition where a worker is physically, physiologically and psychologically capable and competent of performing their task safely. We recognize that the use of alcohol and drugs can adversely impact a safe work environment. This policy is aimed at ensuring a safe work environment and to outline specific responsibilities, requirements and expectations to adequately mitigate the workplace risks associated with alcohol and drugs.

GeoTrek will continue to address and minimize the risks in the workplace associated with alcohol and drug use. The use of cannabis in any form is subject to the same policies as Alcohol and nonprescription drugs.

1.11.1 Responsibility

- a) Employee Responsibilities:
 - Report fit for duty for all scheduled for unscheduled duty and remain as such while on Company business.
 - Read, understand and abide by this policy.
 - Know, understand and abide by Client's site policies.
 - Seek advice and follow appropriate treatment if they have a current or emerging problem and follow recommended monitoring programs after receiving treatment.
 - Co-operate with any work modification related to safety concerns.
 - Identify of safety-sensitive positions and/or safety-sensitive job sites.
 - Notify their supervisor if they believe a co-worker, contract worker or visitor is not fit for duty on the job.
 - Cooperate as required with an investigation into a violation of this Policy.
 - Endorsement and promotion of the Drug and Alcohol Policy by Senior Management.

b) Employer Responsibilities:

- Will provide ongoing leadership and supervision to ensure safe operations and effectiveness of this policy.
- Determine and provide appropriate levels of training for employees.
- Guide employees who voluntarily seek assistance for a personal problem to appropriate resources while maintaining confidentiality.
- Making arrangements for assessment if an employee states that they have a problem with alcohol or drugs.
- Take appropriate action in investigating any possible violation of this policy.
- Implementation of the requirements of this policy.

1.11.2 Requirements

Employees must comply with the following requirements

- Report fit for duty and remain fit for duty while at work.
- Report for testing and participate in testing as required.
- Use medications responsibly and seek appropriate guidance regarding medications that may impact safe work practices. Medications of concern are those that inhibit an employee's ability to perform their job safely.
- If an employee is under the influence of alcohol or drugs and is contacted by the GeoTrek to perform unscheduled services, they must decline the work request without any adverse consequences to the employee.
- Employees must advise a supervisor as soon as possible if a person may not be fit for duty, may be under the influence of alcohol or drugs, or may otherwise be in violation of this policy.
- Employees must refrain form the use of alcohol and drugs (other than necessary medications) after being involved in or observing an incident until the employee has been tested or advised that they will not be tested.
- Employees must participate fully in any investigation when it is requested of them.

1.11.3 Medications

The obligations set out in the and all Employees must comply with any additional site-specific Standards.

- 1. In the interest of health and safety, Employees who require the use of a Medication either over the counter or prescription medication including medical cannabis which may result in their not being Fit for Duty shall:
 - a. Investigate with health care professional if the use of the medication can negatively impact their ability to safely perform assigned duties. Discuss alternative medication that could be used that would not impact safe performance of one's duties.
 - b. Advise GeoTrek management in all cases where medication could impact their ability to perform their duties safely.
 - c. Provide medical documentation to support the use of medical cannabis
 - d. The use of any medical cannabis or other prescription medication will be investigated to ascertain if modification of duties will be needed for the continuation of safe work practices.
 - e. The use of medical cannabis or other prescribed medication does not entitle the employee the right to be impaired at the workplace.
 - f. The smoking of medical cannabis is prohibited on work premises or grounds.
 - g. In safe-sensitive position there is a zero tolerance for the use of any medication that would lead to an impairment while on duty.
- 2. The following are examples of Medications which may impact the safe performance of job duties. They are provided only as a guideline to Employees in assessing their own situation. The list is not exhaustive; there are numerous other Medications and substances which may impact negatively on safe work performance.
 - a. Antihistamines/Decongestants (e.g., Allegra, Benadryl) used to alleviate symptoms related to allergies, colds and flu. Potential side effects may include drowsiness
 - b. Cold Tablets/Cough Mixtures (e.g., Sinutab, Contac, Triaminic, Tussionex and preparations containing dextromethorphan (DM) or codeine) Potential side effects, in particular with nighttime remedies, may include drowsiness.
 - c. Motion Sickness Drugs (e.g., Gravol, Dramamine) used to prevent and treat motion sickness and nausea. Potential side effects may include drowsiness.
 - d. Sedatives/ Antidepressants/Anti-anxiety medications (e.g. Imovane Paxil, Ativan) used to treat sleep disorders, depression, anxiety. Potential side effects may include mild to severe sedation, hypnotic state, dizziness, or impaired judgement and motor skills.
 - e. Narcotic Analgesics (e.g., Demerol, Codeine, OxyContin, Percocet) often found in combination Medications such as 222s or 292s or Tylenol 1, 2, 3s. Potential side effects may include sedation, dizziness, light-headedness and impaired judgement/motor skills.

- f. Stimulants (amphetamines, Ritalin) used for central nervous system stimulation and can produce sensations of well-being which may have an adverse effect on judgment, mood and behavior. Potential side effects may include increased heart rate, nausea and vomiting, anxiety, and insomnia.
- g. Anabolic steroids Potential side effects include aggressive behavior,
- h. Anticonvulsants (e.g., Dilantin) used to prevent seizures typical of epilepsy. Potential side effects may include drowsiness, dizziness, and decreased alertness.
- i. Muscle Relaxants (e.g., Flexeril, Robaxisal) used to treat muscle spasm and pain resulting from injury or neuromuscular disease. Potential side effects may include sedation, drowsiness, blurred vision.
- j. Medical Marijuana prescribed for severe nausea, severe pain, and spasms relating to cancer, spinal cord injury, multiple sclerosis, and HIV/AIDS.
- k. Other herbal medications, supplements and other mood-altering substances which may alone or in combination with Medications have an adverse effect on safe work performance.

1.11.4 Prohibitions

The following are prohibited while on company business:

- The use, possession, cultivation, manufacture, storage, distribution, offering or sale of illicit drugs, drug paraphernalia, cannabis {including but not limited to: Edibles (including liquids), Dried marijuana, and Oils} or Alcohol.
- The possession, storage or use of prescription medications prescribed for another individual or the possession, storage or use of prescription medications without being able to produce a legally, medically obtained prescription.
- The distribution, offering or sale of medications or cannabis (in any of its forms)
- Reporting for work or being at work while not fit for duty.
- The consumption of alcohol, cannabis, or illicit drugs or the consumption of any product containing alcohol while on duty including during meals or on breaks.

1.11.5 Prevention

This policy is meant to stress the importance of prevention and early identification of potential alcohol and drug abuse. It will also provide information on the prevention of work-related incidents due to alcohol and drug abuse. GeoTrek will provide ongoing education, including recognition of impairment and appropriate response procedures. This policy will also provide information on the identification of safety-sensitive jobs. Safety-sensitive jobs are ones where impaired performance may result in a significant incident affecting the health or safety of employees, customers, customers' employees, the public, property, or the environment. GeoTrek will make information available on health and safety issues associated with alcohol and drug use and abuse. Employees are encouraged to access assistance through company resources and personal physicians for help with any alcohol or drug related abuse that has the potential to affect their safe work performance.

1.11.6 Investigations

GeoTrek will investigate any violations or suspected violations of the Policy including but not limited to in the following situations:

a) Unfit for duty: In all situations where an employee may be unfit to perform company business, the employee will be interviewed by a supervisor, and given an opportunity to explain why they do not appear fit for duty and to provide a reasonable explanation for their behavior or condition, and the supervisor will take action appropriate to the

situation. If the explanation is not reasonable, and or the supervisor conducting the interview still believes the employee is not fit for duty, the supervisor may take the following actions:

- Referral for medical attention if there are immediate medical concerns.
- Referral for an alcohol and drug test if there is reasonable cause.

The Employee will be provided with transportation and escorted to the collection site or hospital/clinic depending on the circumstances, and then transported to their local place of residence or the care of another adult person. At no time is the Employee to operate Equipment until the matter has been resolved. The Employee may be temporarily removed from their duties or reassigned pending completion of any investigation

b) Suspected Presence of Alcohol, Drugs or Drug Paraphernalia: GeoTrek reserves the right to investigate any situation when there are reasonable grounds to believe that alcohol, drugs or drug paraphernalia are present on any company premises in violation of this policy or the policies of the Operating Companies what GeoTrek employees are working on. Supervisors are responsible for identifying situations where an investigation is justified based on a combination of indicators which could include behavior, odour, or presence of alcohol, drugs or drug paraphernalia. Supervisors will be responsible for advising their manager of the situation, who after consultation will make the final decision as to whether and how to initiate an investigation.

1.11.7 Test and Random Testing

All alcohol testing, including screening and confirmation tests, will comply with recognized industry standards (Canadian Model). All drug and alcohol testing records will be kept confidential. Employees may be subject to drug or alcohol testing for any of the following reasons:

- Prior to performing safety-sensitive job tasks or working at a safety-sensitive job site.
- Request made by Operating Company.
 - Re-testing will be required before re-entertaining a safety-sensitive job site if there has been 90 calendar days from the date of last entrance to site.
- Following an incident or near miss (Post-Incident)
 - o a fatality;
 - a serious personal injury to a worker (medical treatment or worse), a member of the public or any other individual;
 - an incident with a potential for serious injury to a worker (medical treatment or worse), a member of the public or any other individual;
 - an environmental incident or a potential environmental incident with significant consequences;
 - a significant or a potential significant loss or damage to property or Equipment; or
 - a significant or a potential significant loss of Company revenues or the payment of damages.

In addition to the incidents listed above, at their discretion and as part of a complete investigation, GeoTrek may require a post-incident test after any other serious work incident or an incident without loss considered to have had potential for more serious consequences.

Testing will also be required as part of an investigation into a less serious incident if, as a result of the preliminary review, it is reasonably believed that Alcohol or Drug use may have been a factor.

- Reporting of an incident:
 - o all incidents must be reported to an Employee's Leader immediately;
 - failure to report an incident is a violation of the Environmental Health and Safety Policy; and
 - Employees shall participate fully in any subsequent investigation as requested.
- The following applies to post-incident testing:
 - the decision to test an Employee must be made as soon as possible after the incident;
 - arrangements for testing should be made as soon as possible unless this is impossible because medical attention is required;
 - the need for a test must be documented as part of the preliminary investigation as soon as practical after the incident;
 - a test will be necessary if there is no credible explanation for the incident or near miss or potentially dangerous situation;
 - Employees referred for a test will only be those who are identified, with reasonable cause, as having been directly involved in the chain of acts or omissions leading up to the event;
 - Employees who are to be tested must, in compliance with the Alcohol and Drug Policy, refrain from using Alcohol or Drugs (other than Medications used in accordance with the Medication Standard) after being involved in or observing an incident until the earlier of (i) the Employee has been tested, or (ii) the Employee has been advised by the Company that they will not be tested, or (iii) 32 hours have elapsed since the incident; and
- Reasonable Cause
 - GeoTrek may require testing if there is reason to believe that the actions, appearance or conduct of an employee indicate the use of alcohol or drugs including
- Observed use or evidence of use of a substance (e.g. smell of alcohol)
- Erratic, disruptive or atypical behaviour or changes in behaviour of the employee
- Illogical responses to questions or instructions
- Changes in the physical appearance or speech patters of an employee
- The presences of alcohol and drugs or related paraphernalia in the vicinity of the employee while on company business
 - In the event of a test for reasonable cause, specimens will be collected as soon as possible after the decision to test is made
 - For alcohol testing, attempts to collect specimens will cease no later than 8 hours after the triggering event
 - For drug testing, attempts to collect specimens will cease no later than 32 hours after the triggering event
- Timeframe for testing for Reasonable cause and Post-incident
 - in a reasonable cause and post-incident testing situation, specimens for testing will be collected as soon as possible after the decision to test is made.
 - For Alcohol testing, attempts to collect specimens will cease no later than 8 hours after the triggering event.

- For Drug testing, attempts to collect specimens will cease no later than 32 hours after the triggering event.
- Cut-off Level for Alcohol Testing
 - A positive Alcohol test result is at or above .04 BAC.
 - if an Employee is subject to an unannounced testing program on return to duty after an Alcohol and Drug Policy violation or treatment, a positive test result is .02 BAC or more.
 - Subject to 4(b), an Employee who holds a Safety-Sensitive Position or Specified Position and has an Alcohol test result of .02 to .039 BAC will be removed from duty until considered safe to return by their Leader.
- Laboratory Analysis
 - All laboratory testing will be conducted by a fully qualified and accredited laboratory.
 - A laboratory confirmed non-negative Drug test remains non-negative until confirmed by the Medical Review Officer as deemed positive.
 - A laboratory confirmed positive Drug test is one in which the amount of Drug or drug metabolite in the specimen identified by the confirmation test is at or exceeds the established cut-off levels for the program which are outlined in the chart below. The below cut-off levels and panel of Drugs may be amended as necessary from time to time. The levels set out below represent levels at or above which the specimen will be reported as positive by the laboratory to the Medical Review Officer for further assessment.

Screening Test Levels	Confirmation Test Levels
Urinalysis (ng/mL)*	Urinalysis (ng/mL)*
50	15
150	100
2000	2000
2000	2000
100	100
300	300
300	300
10	10
25	25
500	-
-	250
-	250
500	250
500	250
500	250
	Screening Test Levels Urinalysis (ng/mL)* 50 150 2000 2000 2000 2000 2000 300 300 10 25 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500

1.11.7.1 Table 1 Urine drug limits

*A ng/mL means nanograms per millilitre. A nanogram is one billionth of a gram. A millilitre is one thousandth of a litre.

Drug	Screening Test	Confirmation
	Levels	l est Levels
Marijuana (THC)	4	2
Cocaine		
Cocaine or Benzoylecgonine	20	8
Opioids	40	
Codeine	-	40
Morphine	-	40
Hydrocodone	-	40
Hydromorphone	-	40
Oxycodone	-	40
Oxymorphone	-	40
Phencyclidine	10	4
Amphetamines	50	-
Amphetamine	-	50
Methamphetamine	-	50
MDA	-	50

1.11.7.2 Oral fluid drug limits

• Return to duty – post violation

In those situations where employment is continued after a Policy violation, Employees will be required to pass a return to duty test and may be subject to unannounced followup testing as a condition of continued employment as set out in an agreement with the Company.

• Return to Duty – post treatment

In those situations where employment is continued after treatment has been completed Employees will be required to pass a return to duty test and may be subject to unannounced follow-up testing as a condition of continued employment as set out in an agreement with the Company.

Certification

The certification process applies to (i) candidates who have been offered employment in a Safety-Sensitive Position, (ii) any Employee who is not currently in a Safety Sensitive Position that is moving into a Safety Sensitive Position, including as a result of a promotion or transfer into a Safety-Sensitive Position, and (iii) to Employees who have been approved for reinstatement into a Safety-Sensitive Position. The certification process will require any such individual to successfully pass an Alcohol and Drug test.

1.11.8 Assistance

GeoTrek recognizes that alcohol and drug dependencies are treatable illnesses and that early intervention improves the probability of a lasting recovery. Anyone who suspects they have a substance dependency or emerging alcohol, or drug problem is encouraged to seek immediate advice and to follow appropriate treatment.

Employees may request help with their problem through the GeoTrek. If such a request is made, GeoTrek will refer the employee to a substance abuse professional for assessment. Employees will be supported through any recommended treatment and aftercare program consistent with the professional recommendations and within the bounds of the company benefit program.

1.11.9 Aftercare

All Employees who complete primary treatment for alcohol and drug related problems as a result of a performance-related referral or request for assistance may be required to participate in an aftercare program when returning to work. They may also be required to enter into a written agreement which will outline the conditions governing their return to work, and the consequences for failing to meet those conditions.

1.11.10 Return to Work Restrictions

As part of an Employee's return to work, where a medical professional, Substance Abuse Professional or other counseling professional that there may be a risk that would prevent an Employee from doing their job safely, a work modification may, in appropriate cases, be issued. Employees may be assigned alternate duties if available and at the discretion of GeoTrek.

1.11.11 Social Situations

In the case of any Company social event, appropriate regard will be taken for the safety and well-being of the individuals present and the community. Subject to any site-specific limitations, responsible alcohol use may be permitted at Company sponsored social functions with appropriate prior approval. Alternative transportation arrangements will be made available when possible.

Consistent with the above, if alcohol is made available to Company guests in the course of conducting company business, employees are expected to use reasonable judgement and be responsible in hosting others and remain in compliance with the policy.

1.11.12 Consequences of a Policy Violation

- a) General Requirements: Any violation of this policy may result in discipline up to and including termination of employment. In all situations, an investigation will be conducted to verify that a policy has occurred. The appropriate discipline in a particular case depends on the nature of the policy and the circumstances surrounding the situation. General violations include:
 - Failure to comply with the Policy
 - A positive alcohol or drug test (where testing is required)
 - Failure to test (where testing is required)
- b) Referral for Assessment: if an employee has been referred to a professional for assessment and the employee fails to meet with the professional, they will be in violation of this policy.
- c) Conditions for Continued Employment: Should GeoTrek determine that the employment will be continued after a violation of the policy, the employee will be required to enter into an agreement which may require any or all of the following actions:
 - Temporary removal from their position
 - Adherence to any recommended treatment and aftercare programs

- Successful completion of a return to work alcohol and drug test
- Ongoing unannounced follow-up drug testing for the duration of the agreement
- Adherence to any ongoing rehabilitation conditions or requirements
- No further policy violations during the monitoring period

Failure to meet the requirements of the agreement will be grounds for discipline up to and including termination.

1.11.13 Confidentiality

Confidentiality will be maintained to the greatest extent possible and disclosure will be restricted to where it is necessary for related health and safety concerns. Only information relating to the level of functionality (e.g., determining Fitness for Duty and any restrictions that apply) may be shared with leaders and for the sole purpose of determining Fitness for Duty, appropriate work accommodations, and/or work re-entry initiatives.

1.11.14 Safety-Sensitive Position

Because of the greater risk involved in performing certain functions, some positions may be designated as Safety-Sensitive Positions. Employees holding Safety-Sensitive Positions may be subject to additional requirements, such as pre-site access testing and Quarterly Randoms. Some for the safety-Sensitive activities include driving, being on construction sites, being around heavy equipment, surveying in the mine, surveying in the bush. Using hand tools (both manual and powered).

1.12 Progressive Discipline Policy

Any person who does not follow the safety policies, procedures and work practices which have been developed by the company that are applicable to Alberta OH&S Regulations and client site requirements, will be disciplined as follows:

- a) First offence verbal warning
- b) Second offence written warning
- c) Third offence suspension
- d) Fourth offence dismissal
- e) Blatant disregard for documented policies, procedures or practices which seriously jeopardizes the safety of the individual or others will result in the immediate removal of that individual from the job site and possible termination of employment.
- f) Any willful act contrary to the *Ethics* as prescribed by the *Surveys Act of Alberta* or the *Alberta Land Surveyors Association* which jeopardizes the professional standing, license, memberships or reputation of GeoTrek is grounds for immediate dismissal. This includes knowingly falsifying data, willful falsification of field evidence or sketches and/or substandard workmanship.

1.13 Discrimination, Harassment, Bullying and Violence in the Workplace

GeoTrek Land Survey Ltd believes in the prevention of workplace discrimination, harassment, bullying and violence and promotes a workplace in which all people respect one another and work together to achieve common goals. GeoTrek has zero tolerance for workplace discrimination, harassment, bullying, and violence of any kind and will be proactive in the prevention of workplace discrimination, harassment, bullying and violence. Where all employees can exercise their rights to have a safe and healthy environment to work in.

Any acts of discrimination, harassment, bullying or violence committed by or against any member of our workforce will not be tolerated. Any reports of workplace discrimination, harassment, bullying or violence will receive serious consideration, be thoroughly investigated and be resolved promptly and fairly. All information related to complaints of discrimination, harassment, bullying or violence will be kept confidential to the fullest extent reasonably possible.

Definitions Associated with Workplace Discrimination, Harassment, Bullying and Violence

• **Physical assault:** is any physical force or threat of physical force to create fear and control another person. Some examples include hitting, blocking, shoving, choking, slapping or biting, or pulling hair; "caring" for the victim in an abusive way, threats of violence, and using a weapon or other objects to threaten, hurt or kill.

• Sexual assault: is any unwanted sexual act done by one person to another. Examples include: kissing or forcing/coercing the person into kissing; touching the person's body with or without clothes on; forcing/coercing the person into any sexual action; causing bodily harm; removing or attempting to remove clothing; taking advantage of a position, trust or authority to get sex; and threatening to harm someone else if the person does not agree to do any of these things.

• Sexual harassment: is often interpreted as objectionable comments or conduct of a "sexual" nature. However, sexual harassment, in the broader context of unequal treatment based on gender, may refer to instances where the behavior is not overtly sexual in nature, but is related to the person's gender, and demeans or causes personal humiliation or embarrassment to the recipient. Examples include degrading words, rude jokes or sexual comments, name calling (e.g. "chick", "bitch"), physical contact, sexual demands, unwanted kissing or touching of a sexual nature, and insulting remarks about the person's sexual orientation, race, culture, ability, and/or income.

• Threat (verbal or written): is a communicated intent to inflict physical or other harm on any person or to property by some unlawful act. A direct threat is a clear and explicit communication distinctly indicating that the potential offender intends to do harm, for example, "I am going to make you pay for what you did to me." A conditional threat involves a condition, for example, "If you don't leave me alone you will regret it." Veiled threats usually involve body language or behaviors that leave little doubt in the mind of the victim that the perpetrator intends to harm.

• Verbal/Emotional/Psychological abuse: is a pattern of behavior that makes someone feel worthless, flawed, unloved, or endangered. Like other forms of abuse, it is based on power and control. Examples include swearing, put-downs/name calling over a period of time, labelling the victim in a derogatory way such stupid, crazy or irrational, acts of humiliation, extreme jealous behavior, attacking the victim's self-esteem in other ways. It can also include harming pets and damaging property.

• Workplace Bullying: repeated and persistent negative acts towards one or more individuals, causing emotional, psychological, and/or physical harm. These negative actions are intentional and hurtful and can be expressed in verbal, physical or electronic form. Bullying involves a perceived power imbalance and create a hostile work environment for the victim.

• **Discrimination:** improper differential treatment in or connected to the workplace related to any of the personal characteristics protected by human rights legislation, which include race, religious beliefs, colour, physical disability, mental disability, age, ancestry, place of origin, marital status,

source of income, family status, gender, gender identity, gender expression and sexual orientation. • Workplace violence: The exercise of physical force by a person against a worker, in a workplace, that causes or could cause physical injury to the worker; an attempt to exercise physical force against a worker, in a workplace, that could cause physical injury to the worker; or, a statement or behaviour that it is reasonable for a worker to interpret as a threat to exercise physical force against a worker, in a workplace, that could cause physical injury to the work. Violence can be directed at an employee by clients, visitors or other employees (co-workers). Personal Relationships of an employee such as a parent, brother, sister, spouse, boyfriend, girlfriend, acquaintance, etc. are included in the classification of visitor. If the personal relationship is also an employee, this will be treated as staff on staff behaviour (bullying or harassment) and could include violence.

GeoTrek Management Responsibilities:

- Enforce policy and procedures and monitor worker compliance. Ensuring workers are not subject to or participate in any form of workplace discrimination, harassment, bullying, or violence.
- Ensuring employees have a work environment that is free of discrimination, harassment, bullying, or violence of any kind, whether it arises from another employee or any other person visiting the workplace or interacting with staff.
- Inform employees if they will be working in an area where there is the potential for violence and identify any risks that are specific to that area. Put appropriate procedures into place to minimize the risk to our employees from violence and that employees are trained in recognizing and responding to situations involving workplace violence.
- Investigating reported incidents of discrimination, harassment, bullying, and violence in an objective and timely manner, taking necessary action; and providing appropriate support for victims.

This policy will ensure that:

- Individuals are aware of, and understand that, acts of discrimination, harassment, bullying or violence are considered a serious offence for which necessary action will be imposed.
- Those subjected to acts of violence or harassment are encouraged to access any assistance they may require in pursuing a complaint.
- Personal information of individuals involved will be maintained in confidence where appropriate.
- Individuals are advised of available recourse if they are subjected to, or become aware of, situations involving violence or harassment.

Employee Responsibilities

- Employees must refrain from causing or participating in any forms for discrimination, harassment, bullying or violence in the workplace.
- Employees are required to be familiar with and follow the procedures that are in placeto protect them from workplace discrimination, harassment, bullying, or violence.
- All employees must attend workplace violence prevention training.
- Employees are required to immediately report all incidents of workplace discrimination, harassment, bullying or violence to their supervisor or the Health and Safety Coordinator.
- Employees are also responsible for participating in work site risk assessments and implementing controls and procedures to mitigate the associated risk.

GeoTrek has procedures in place to reduce/eliminate violence in the workplace, such as:

- Working alone procedure
- After hour locked doors
- Field crews are to call-in or spot gps device

- Management will keep employees informed of any unexpected changes that may lead to workplace violence.
- Monitoring employees and how they work together
- Open door policy for all employees to express concerns about one's own safety or the safety in regard to a co-worker. Employees can communicate their concerns with management or safety coordinator either face to face, email, or company chat app.
- Resolve any conflicts quickly as soon as they begin.

GeoTrek policies in this program will be reviewed:

- Every three years or more often if reasonably necessary.
- when recommended by Health and Safety representative. or
- when an incident occurs related to this policy.

No employee can be penalized, reprimanded or in any way criticized, for making a complaint, when acting in good faith while following the procedures set forth for addressing situations involving workplace discrimination, harassment, bullying, and violence. Victims of the workplace are advised to consult a health professional. Employees may select their own health professional or can request a list of health professionals from supervisor.

1.14 Housekeeping

Housekeeping means more than just cleanliness. It includes keeping work areas neat and orderly; keeping hallways and floors free of slip and trip hazards; removing waste materials (e.g., paper, cardboard) and other fire hazards from work areas; and stored material is free falling. It also requires attention to important details such as the layout of the whole workplace, the adequacy of storage facilities, and maintenance.

Proper housekeeping and a preventive maintenance are important in preventing injuries, illnesses, and even fatalities.

All employees are responsible to ensure the workplace is kept free of clutter and materials are properly stored in appropriate locations.

1.14.1 Roles and Responsibilities

Employer/Management

- Providing the resources necessary to implement this Policy effectively;
- Overseeing and reviewing this Policy;
- Leading by example by exercising good housekeeping practices in their own work.

Safety Coordinator

- Will support management for the overall implementation and enforcement of this Policy. **Workers**
 - Receiving and carrying out instructions and training on how to exercise proper hygiene and housekeeping in their work areas in accordance with the procedures set forth below;
 - Obeying all company policies, procedures,
 - Refraining from leaving objects in floors, platforms, walkways, ramps, stairways, stairs, and other areas that create slipping or tripping hazards or engaging in other poor housekeeping that may create a safety or health hazard;
 - Pointing out and helping correct sanitary and housekeeping hazards.

1.14.2 General Housekeeping Standards and Procedures

All employees will work together to ensure that, among other things:

- Suitably effective methods are used each day to remove dirt and debris from all floors, working surfaces, stairways, and passages;
- Rubbish and waste material is removed from the work site as soon as possible;
- All work areas and public access areas are checked daily to ensure good housekeeping practices;
- All workplace entrances and exits are kept free of materials, equipment, items, waste accumulations, and conditions that might endanger workers or restrict their movement;
- All floors, walkways, ramps, stairways, stairs, and other areas are kept clean, unobstructed, dry, and clear of all tripping hazards always and such hazards are immediately removed or reported as necessary;
- All floors, walkways, stairways, stairs, and other areas are kept free of slipping hazards caused by slick conditions
- All floors, walkways, stairways, stairs, and other areas are kept free of ice and snow in the winter and such hazards are immediately cleaned up and reported as necessary;
- Mats, pads, rugs, and other items on the floor are checked regularly for hazardous ripples, curling, and other tripping hazards and such hazards are immediately addressed, including where necessary, removing or replacing the item;
- Shelves, floors, work areas, and other surfaces are kept clean and free of dusts and any dust accumulations are immediately cleaned or reported as necessary;
- Excess stock is stacked neatly properly in the storage area to prevent items from falling;
- Fire alarms, pull stations, and fire extinguishers are kept free of obstructions and are always readily accessible;
- Fire exits remain free and clear of obstruction and are always readily accessible;
- Doors to and from a work area can be opened without substantial effort and are not obstructed; Adequate lighting is maintained as necessary;
- Tools are maintained, inspected, cleaned, and immediately removed from service if found defective until the defect is repaired as required;
- Trash receptacles are regularly emptied, cleaned, and maintained;
- The locations of fire extinguishers and other emergency response equipment are known by all personnel who have firefighting or emergency response duties;
- A safe, sanitary, and orderly workplace is maintained by day-to-day clean up, removal of unused materials, waste disposal;

1.15 SPOT Device

SPOT device is a device used to help ensure the safety of GeoTrek's crew member. This procedure enables GeoTrek's management to send out the required help if at any time it was needed.

The devices are equipped with three safety buttons. CHECK IN (OK), HELP, and SOS.

CHECK IN – OK, send and email with a link to google maps alerting management of position at time it is used. GeoTrek uses this feature as a check in through out the day to let management know that everything is going as it should. This can also be used as a last known origin in case of an emergency and we haven't gotten any distress notice.

HELP, Alerts management that help is needed in a non-life-threatening situation. When the HELP button is pushed all management and other crews receive the notice allowing GeoTrek to mobilize the closest help.

SOS, when this is used an alert goes out to the International Emergency Response Coordination Center who provides GPS coordinates and information to the local response teams. (Contacts 911 responders). This button is only used for emergencies only.

Policy

It is the policy that GeoTrek's crew use the SPOT device a minimum of 3 times per day during the summer months. At the start of the day, mid way through day, and at the end of the workday. In winter months it is mandatory to use spot a minimum of 5 times per day. Due to driving in winter conditions a spot is used before you leave for job site, once you have arrived at job site, midway through the workday, at the end of the workday before leaving the work site, and then once arrived at night destination (home or lodging).

It is advised that the spot also be used at any time (any season) if there is change in working conditions (i.e. bad weather starting). This used along with a new job hazard assessment will help management know what is going on.

If a Spot alert is not received, an email or call will be sent out by safety coordinator as a reminder to spot. If after an hour a spot alert has still not been received, a call will be sent out by the operations or project manager to inquire the safety of the crew. If no contact has been made, then a call will be sent out to the client supervisor to inquiry safety of crew.

1.16 Rights of Workers

Right to Know

All Employees at GeoTrek have the right to know:

- About any existing and potential hazards before work begins at the worksite or prior to working at a new worksite.
- To be trained in recognizing hazard and/or potential hazards and how to project themselves
- Trained to know to refuse work and the steps to take if there are any conditions that require a refusal of work.
- What needs to be reported, how to report any unsafe conditions.

Right to Participate

Employees at GeoTrek have the right and obligation to take an active role in health and safety within their workplace. The right to participate also means employees shall report unsafe conditions to the GeoTrek management and worksite supervisors immediately, voice concerns about any health and safety in the workplace and participate in workplace inspections or other worksite safety initiatives.

Right to Refuse Unsafe Work

All employees working for GeoTrek have the right and obligation to refuse unsafe work. Employees are protected from any reprisal for exercising their right to refuse unsafe work and have the support to exercise their right. Under the OHSA, any employee may refuse to work where they have reason to believe that:

• There is imminent danger to themselves or another worker's health and/or safety on the worksite or related to worksite.

- Any equipment, machine, device or thing he/she is to use or operate is likely to endanger himself/herself or another employee.
- The physical condition of the workplace is likely to endanger himself/herself or another employee.

If any of the above conditions have been met, the following steps will be taken:

Employee must **immediately** report the dangerous situation to GeoTrek management and to the worksite supervisor.

- 1. All work related to the unsafe conditions will stop immediately and will not resume until all concerns have been address and resolved.
- 2. GeoTrek management with the cooperation of the worksite supervisor, and joint worksite health and safety will take immediate action and investigate the unsafe conditions and work to eliminate those unsafe conditions. Documentation will be kept on all steps of the investigation.
- 3. Workers must continue to be paid while work refusal is being investigated. At this time workers may be assigned other duties or to other worksites while refusal is being investigated.
- 4. GeoTrek management will ensure none of their other workers are assigned to the work until the unsafe condition have been eliminated.
- 5. Employee will participate and be apprised of all investigations and results of said investigations and receive a copy off all documentation.
- 6. If employee is satisfied with the elimination of the unsafe conditions than they will return to work.
- 7. If problem hasn't been able to be resolved, a Health and Safety inspector is called.
- 8. The inspector will investigate the situation and will give decision in writing. When conditions are satisfactory than the worker will return to work.

1.17 Journey Management Policy

GeoTrek Land Survey is involved in operations that span the entire province of Alberta. Transportation is an integral part of our business, especially amongst the field crews. It is also one of the biggest hazards we face in our day to day operations.

GeoTrek's Land Survey provided training to our worker and with the Journey Management Plan (JMP) is a safety measure to help avoid accident/injury resulting from transportation. The objective of the JMP is to ultimately eliminate driving related accidents that cause fatalities and injuries to employees, contractors and third parties and minimize damage to equipment through careful management of all phases of the transportation process.

The result of this JMP training program is to have our staff better prepared to safely deal with unplanned events/circumstances during routine trips that may occur. This includes:

- Identifying and managing hazards and unnecessary exposure through active journey management
- Preventing and mitigating the risk through the proper selection and preparation of people,

Journey Management Procedure

There are 3 stages in the JMP: Preparation, Implementation, and Follow Up.

Preparation This is the planning stage of the journey and is the most important aspect of the JMP. Most accidents and injuries are avoidable, and in the case that an accident/injury does occur, proper planning will provide a means of effectively dealing with the situation and lessening the severity.

The survey crew consists of the party chief and survey assistant driving a truck loaded with quads/sleds and survey equipment. The crew should be well equipped with fuel, maps, GPS receivers (SPOT), first-aid/emergency kits/rations, and functioning communication equipment (cell

phones). A brief inventory of the equipment and an inspection of the truck (i.e. tires, quads strapped down, etc.) must always be done pre-trip.

It is essential to determine the logistics of the trip before leaving. A number of details should be addressed in a pre-trip meeting including:

• Determining the Necessity of the Trip:

- Is the trip necessary
- Can it be postponed until conditions are more favourable (driving in bad weather should be avoided whenever possible)
- Is there a non-driving alternative?

• Assessing Trip Hazards:

- $\circ \quad \text{Number of vehicles}$
- Number of Passengers
- Daylight/darkness
- o Visibility
- Weather conditions
- Road conditions (weather, speed limits, construction, other road users, etc.)
- o Wildlife
- o Distance
- o Fatigue

• Evaluating the Trip Plan

- o **Destination**
- When are they leaving (travel should only be completed during daylight hours is possible)?
- When will they be arriving?
- o routes (preferred and alternates)
- weather conditions
- o timing considerations
- o communications devices & emergency contacts
- o emergency response procedures

When working on jobs requiring similar procedures on a day to day basis, pre-trip meetings should be done in accordance with the daily tailgate meetings. During these meetings, all potential journey risks should be assessed and steps to mitigate these risks should be outlined. The pre-trip meeting should determine whether a trip is routine or non-routine, as this will affect the degree of preparation required. Driving Direction should be obtained for any non-routine trip prior to travel.

Routine Trip: Routine trips are the most common trips made and are also the lowest risk. They involve travel within a pre-determined locale such as a plant site, to and from hotel to a job site, trips around town/city. Typically, a routine trip will not involve the use of maps or GPS and will not subject the crew to any unforeseeable hazards.

Non-routine Trip: Non-routine trips involve travel outside of a pre-determined locale or a locale that has never been visited before. These trips could and pose a significantly higher risk. Trips are identified as non-routine in the pre-trip meeting and can involve any number of escalating factors. Some examples of escalating factors are:

- weather conditions
- fog or smoke
- mud, snow and ice

- cross winds/ blowing snow
- night driving
- forestry roads/ one-way traffic
- low angle sun
- deterioration of road surface
- wildlife
- fatigue
- windshield condition/visibility
- road closures or accidents

Fatigued driving is essentially impaired driving. It slows reaction time, decreases awareness and impairs judgement. Be sure to assess your fatigue level prior to departing on a trip. To reduce fatigue, take regular rest breaks. **DO NOT DRIVE IF YOU ARE TIRED**. For more information refer to the "Fatigue Management" Section of the Safety Manual.

Pre-Trip Inspection. Before starting you journey, pre-trip inspections help ensure that the vehicle is in safe operating condition and the no worker is endangered during the operation of the vehicle. Visual inspections of the vehicle and surrounding area must be conducted prior to operating the vehicle. Areas of inspection include, but not limited to:

- Tire pressure consistent with pound stated in the owner's manual
- Tire condition
- Proper functioning of lights and direction indicators
- Brakes
- Instruments and gauges
- And internal or external damage.
- Windows clear

Implementation Actual travel stage of the journey. Crews must be diligent in sticking to the guidelines set forth in the preparation stage. In the case that an unexpected situation arises, the crew should re-evaluate their plan accordingly. When departing on a journey, the crew chief must notify the Operations Manager via email. During the trip Spot Device must be used. Upon safe arrival at the end of the day (at hotel or home) the crew chief must submit a timesheet to the Operations Manager.

When driving, whether by truck or quad, all rules and safe procedures must be followed. **In cases of an emergency:**

- If you have broken down or become hurt in a remote area several kilometres from any settlement Do not leave the vehicle. Call for help and remain at your geographic location.
- Refer to the Emergency Response Plan for a list of emergency phone numbers in your area.
- Always carry a handheld GPS or similar device in the vehicle so your location can be related to others. Both the Party Chief and Survey Assistant must know the exact location and be able to readily relate this information.
- Communication with the Operations Manager at the head office is essential. Always provide details of the accident as quickly as possible. Elapsed time tends to cause errors with respect to memory of the incident.
- Agree on a check-in schedule for the duration of the trip with the Operations Manager.
- If working alone, ensure that the location (e.g. GPS coordinates) of you and your vehicle are known to those responsible for you during your trip.
- If you change your directions from pre-planned routes you need to communicate the new plan to the Operations Manager.
- Remember if you cannot do the task in a safe manner then stop, evaluate the risk and find a method to control the hazard.

- If in a collision or Incident.
 - Turn off ignition off and evacuate the vehicle
 - o Render first aid to any injured persons
 - Call for medical assistance
 - Exchange information with other driver, if applicable
 - Obtain names and addresses of all witnesses
 - Notify Management immediately or as soon as safely possible.
 - Provide all information necessary for insurance, and investigation purposes.

Follow Up The follow up procedure is the final step in the JMP. If all goes well then there should be little follow up to be done. Upon safe arrival, a timesheet on the Sharepoint is completed. Notes can also be made in regard to any near misses or potential hazards and how they were avoided.

In the case that an accident/injury does occur, a thorough follow up investigation is done. The purpose of this is to address where things went wrong and how this accident/injury could be avoided in the future. This investigation would involve will involve all parties affected. Journey management involves knowing what is involved in a trip; it is a record of a complete planning process. Our JMP is about taking the time to develop a plan and prepare for any potential diversions along the way and making sure we arrive home safely every day.

Appendix A – Off Highway Defensive Driving Strategy

- Plan Your Trip
 - o Select a Route
 - Identify road conditions
 - Identify weather conditions
 - o Advise others of your destination, route and ETA
- Conduct Pre-Trip Inspections
- Inspect vehicle operating condition
- Inspect basic vehicle equipment
- Inspect safety equipment
- Inspect survival equipment
- Recognize and Anticipate Hazards
- o Identify road hazards
- Identify adverse driving conditions
- Reduce Speed
 - Less traction then paved highways
 - o Greater limitations in road design
 - o Inconsistent road surfaces
- Drive Defensively
 - o Demonstrate a good driving attitude
 - $\circ \quad \text{Use road courtesy} \\$
 - o Follow traffic laws and regulations
 - o Maintain communications

2.0 ROLES AND RESPONSIBILITES

2.1 All Employees

- a. Demonstrate a visible commitment to the prevention of workplace injury, illness and incidents.
- b. Take reasonable care to protect the health and safety of themselves and other employees present at the worksite.
- c. Support the company Health and Safety Program by proactive involvement and cooperation with the Health and Safety Program.

2.2 President – ALS

- a. Client Interaction
- b. Review all plans
- c. Maintain direct control and supervision of the office and field staff
- d. Follow all health and safety rules and regulations

2.3 Operations Manager

- a. Lead, direct and support the safety activities and initiatives within the company.
- b. Know and understand the company Health and Safety Program, regulations, law and codes that apply to their area of responsibility and to ensure that their employees understand their responsibilities under the Health and Safety Program.
- c. Ensure that the company Health and Safety Program is implemented in their area of responsibility.
- d. Ensure that subcontractors hired to perform work on behalf of GeoTrek have an established minimum standard of safety in place and adhere to the requirements set forth in the company Health and Safety Program.

2.4 Project Manager

- a. Maintain client relationships
- b. Project management
- c. Overlook office and field staff on a day to day basis
- d. Plan preparation, calculation, and checks
- e. Follow all health and safety rules and regulations.
- f. Ensure all workers working on their projects have all the needed training and tickets to preform the task.

2.5 Accountant

- a. Payroll
- b. Account Receivable/Payable
- c. Year end bookkeeping
- d. Follow all health and safety rules and regulations

2.6 Safety Coordinator

- a. Responds to workers Health and Safety concerns.
- b. Lead, direct and support the safety activities and initiatives undertaken within the company.
- c. Assist management in the development, implementation, review and update of the

company safety program.

- d. Monitor and evaluate the effectiveness of the company safety program.
- e. Identify high risk areas of the business and develop and implement programs to decrease or eliminate risk in these areas.
- f. Review Pre-job hazard assessments.
- g. Do and review office inspection quarterly.
- h. Track and maintain safety training for all employees.
- i. Maintain documentation of all records pertaining to safety.

2.7 Project/Office Administrator

- a. Answering phones
- b. Folding and sending out plan packages
- c. Organizing new jobs
- d. Search and prepare field work
- e. Plan checking
- f. Document scanning
- g. Assist Safety Coordinator in data collection and reporting
- h. Follow all health and safety rules and regulations
- i. Ensure office/kitchen supplies are stocked

2.8 Draftsman

- a. Draft daily projects
- b. Plan Checking
- c. Deal with client specific requests
- d. Time management on projects
- e. Maintain drafting Standards
- f. Follow all health and safety rules and regulations

2.9 Party Chiefs (Supervisor)

- a. Ensure all requirements under the company Health and Safety Program are followed and adhered to on the worksites.
- b. Ensure those employees under their supervision work safely and follow the requirements of the company Health and Safety Program and those on the worksite.
- c. Where requested, provide technical assistance and knowledge for the development, review and update of the company Health and Safety Program.
- d. Survey jobs as required by client and maintain client owner relationships
- e. Knowledge of survey practices
- f. Management of subordinates
- g. Maintain equipment
- h. Systematic records of field work
- i. Learning new procedures and adhering to procedures set forth
- j. Evidence Assessment

2.10 Surveyor Assistant

- a. Assist in field procedure for Party Chief
- b. Knowledge of procedures and adhering to procedure set forth
- c. Maintain equipment and material
- d. Follow all health and safety rules and regulation

2.11 Contractors

It is important to give serious consideration to safety performance when selecting contractors. All other factors being equal, the contractor with a better safety record, or one taking significant measures to improve its record should be awarded contract work. To ensure that GeoTrek expectations are clearly understood by subcontractors, all subcontractor agreements will ensure the following:

- **Proof of Coverage**: Contractors must present proof of being registered with the WCB and having and account in good standing in the province of Alberta, including appropriate WCB personal coverage in the case of proprietor, partner, director, officer, or owner of a business who attends a GeoTrek worksite or personally provides manual labour or otherwise in regard to the completion of services contracted by GeoTrek. Additionally, contractors must present proof of appropriate liability insurance coverage. Contractors must also comply with all local, provincial and federal regulations and GeoTrek requirements, with violation being grounds for termination.
- Safety Program: Contractors are responsible for putting into effect and maintaining a safety program that meets provincial regulatory requirements. It is the responsibility of the contractor to take all the necessary safety measures to ensure the safety of their employees, subcontractors and the public while working on GeoTrek sites as well as to enforce the policies and procedures outlined in this manual. If a contractor has no safety program of their own, it is required that they agree to adhere to, follow and practice the requirements set forth in this health, safety and environment manual. It is GeoTrek's responsibility to ensure that policies outlined in this manual are clearly communicated to all contractors and that GeoTrek will communicate the "Owner Client's" Drug and Alcohol policy to subcontractors. All incident reporting and investigating will be handled in same fashion as any GeoTrek employee, with the participation of the contractor and investigation findings being reported to client.
- **PPE:** Ensure that employees have appropriate Personal Protective Equipment and ensure that PPE is used in an appropriate manner.
- **Training**: Subcontractors will provide competent employees, as defined in Health and Safety Legislation. In addition, subcontractors must meet the minimum safety training requirements of the worksite and the customer and be trained to safely complete their assigned duties and tasks including the safe operation of the equipment the workers are required to operate.
- **Equipment**: Contractor tools, personal safety equipment, and clothing must be suitable for the work at hand and must be in good condition and ensure that employees have appropriate Personal Protective Equipment, and that PPE is used in an appropriate manner.

GeoTrek will administer the following checklist prior to contractor selection, during work performed and after work has been completed:

CONTRACTOR SELECTION

- Evaluate contractor safety performance:
 - o Identify pre-placement training requirements
 - Obtain OH&S lost time claim rate record and WCB experience rating statement
- Ensure valid insurance requirements met
- Evaluate past work performance
- Check references
- Evaluate contractor HSE program
- Confirm appropriate equipment/material/personnel are available

PRE-JOB ACTIVITIES & MONITORING

- Communicate the scope of project to the contractor prior to commencement of job
- Ensure Site Orientation is conducted with Contractor
- Identify hazards with contractor in preliminary meeting and ensure work clearance/permission has been obtained
- Ensure contractor conducts site specific pre-job safety meeting with workers to review hazards, job specific tasks and to review project requirements
- Audit for GeoTrek safety compliance
- OH&S regulations and compliance
- Implementation of adequate safety program

FOLLOW UP

- Verify implementation of recommendations
- Post-job evaluation conducted with operator, contractor, subcontractors.

2.12 Health and Safety Committee/Safety Representative

GeoTrek considers the safety committee to be a valuable partner in its efforts to identify, assess, and control workplace hazards and requires all personnel, including managers, supervisors, and workers to support its work and obey the provisions of the policy.

GeoTrek will establish and maintain a Health and Safety Committee for workplace that has more than 20 workers. If less than 20 workers a safety representative will retain the duties of the committee.

Roles and responsibilities

The role of the committee and/or representative is to advise and assist, not assume managerial responsibilities for health and safety in the workplace.

Committees and representatives help:

- Receive and address concerns and complaints about the health and safety of workers,
 - Encourage workers to bring forth concerns
- Participate in the identification of hazards to workers or other persons arising out of or in connection with activities at the work site,
- Develop and promote measures to protect the health and safety of persons at the work site and check the effectiveness of the measures,
- Consulting with workers and management on issues of occupational health and safety and occupational environment
- Cooperate with an OHS officer exercising duties under the Occupational Health and Safety Act (OHS Act), the Regulations and the OHS Code,
- Develop and promote programs for education and information concerning health and safety, Monitoring the effectiveness of suck educational programs.
- Make recommendations to the employer, prime contractor or owner respecting the health and safety of workers,
- Participate in investigating serious injuries and incidents at the work site,
- investigate worker reports of dangerous work and refusal to work
- health and safety orientations for new employees

- Ensure that adequate records of work accidents, health hazards and the disposition of health and safety complaints are kept and regularly monitor this data.
- Attend to other matters relating to the duties of the committee, and
- Other duties as may be specified in the OHS Act, Regulations and Code
- Review and updated health and safety policies and procedures.
- Inspect all or part of the workplace quarterly.

Employers must:

- provide adequate resources, time and training to help committees and representatives function effectively
- hold meetings and carry out duties and functions during normal working hours
- post the names and contact information of committee members and representatives where it can be seen by all workers.
- Consult with the JHSC or health and safety representative on the development of health and safety programs and policies (including training programs), where prescribed.

Committee Members

The HSC committee must have at least 4 members, with half representing the workers. Two cochairs will be appointed and alternate chairing the meetings. Worker representatives are selected by the workers for a term of not less than one year. After that year if any member wishes to discontinue being a representative then another worker will be selected. All members will take a Joint Health and Safety committee training along with incident/accident investigation and workplace inspections.

This committee will make decisions based on consensus. If a dispute arises, members of Joint Health & Safety Committee agree to meet to pursue resolution through good faith negotiations or other appropriate dispute resolution process. All information exchanged during this meeting or any subsequent dispute resolution process, must be regarded as "without prejudice" communications for the purpose of settlement negotiations and must be treated as confidential by the members unless otherwise required by law. If the committee is unable to reach an agreement on a matter relating to health or safety of workers at the workplace, the co-chairs of the committee will report this to the board, which may then investigate and attempt to resolve the matter.

Discloser of personal information

As per Section 199 of the Alberta Occupational Health and Safety Code, "A joint work site health and safety committee, its individual members, or health and safety representative, must not disclose a worker's personal health information or the personal information of an identifiable individual unless the disclosure is required by law.

Inspections

Workplace inspections will be completed before each quarterly meeting. Previous monthly inspections will be looked at to see if there are any outstanding issues that need to be addressed on the HSC inspection.

Meeting requirements

HSC meetings must adhere to the requirements outlined in the *OHS Act* to be considered a valid meeting.

- HSC members must meet within 10 days after being established, and then once every quarter.
- Health and safety meetings and functions are to be carried out during normal work hours. Employers can't deduct wages for time spent in HSC meetings.

- Meeting minutes must be recorded and available for inspection by an HSC member or OHS officer.
- Meetings must meet quorum in order for the committee to make decisions.
 - $\circ~$ At lease 2 members must be present for it to be considered a meeting
- Meeting minutes will be available to any worker that requests them. and made available in GeoTrek's Team program.
- Meeting minutes will be reviewed and signed off by all members and management

3.0 GEOTREK COMPENTENCY ASSURANCE PROGRAM

GeoTrek's Competency Assurance Program is to ensure that our employees are able to perform the tasks related to their job descriptions in the safest and most efficient manner possible. Our Competency Assurance Program (heretofore to be referred to as CAP) will be based on four major components; Experience, Knowledge, Skills, Evaluation. During interview and initial evaluation, candidates for all positions will have references checked and all noted documentation reviewed.

Experience

GeoTrek hires for two field positions: Field Crew Chief and Survey Assistant.

Field Crew Chief

- GeoTrek requires a minimum level of experience (3-5 years) to be considered for a position as a Field Crew Chief. This minimum level is to be at a Field Crew Chief position. GeoTrek expects that there will be additional years spent as a Survey Assistant prior to attaining the position of Field Crew Chief. Although there is no minimum requirement for experience at an Assistant level, this will be taken into account when considering an applicant.
- This experience must be relevant to the work being performed by GeoTrek at the time of hire (GeoTrek will <u>not</u> consider civil experience as equivalent to oilfield experience and vice versa).
- A candidate that has formal training (diploma, college courses) that directly relates to the job description will <u>not</u> be given credit for this in lieu of actual experience, but a candidate with more experience and little to no schooling may take precedent. This will be determined by a formal interview as well as feedback from references and previous places of employment.
 - GeoTrek does not limit follow up to references provided by an employee but will call listed places of employment for feedback on knowledge and performance as well.
 - Documentation of diplomas and certifications mentioned in interview will be requested for viewing.
- A candidate must have the proper formal third-party training in place (H2S, First Aid, ATV use, Chainsaw certification, PST etc.) and provide a copy of these certificates to GeoTrek. GeoTrek will pay to have any courses updated that may be close to expiry and provide any additional online (wildlife awareness, defensive driving, fatigue management, hazard identification, workplace inspection training etc.) and formal (Line locating, Bear awareness, etc.) training that may be required.
- Once a Field Crew Chief has been hired by GeoTrek, they will be required to accompany an experienced GeoTrek crew to the field for training and evaluation. The crew responsible for the training and evaluation (Mentor Crew) will be determined by the Operations Manager.
 - The purpose of the mentoring is to ensure that the new Field Crew Chief is competent;
 - In the use of GeoTrek equipment (GPS, Receivers, RTK etc.)
 - Is able to complete the required paperwork (field notes, data dumps, able to read and interpret plans)

- Is able to adhere to the GeoTrek Health and Safety Program
- Can locate the safety manual, safe job procedures, safe work practices and ERP on electronic device
- Can complete the Pre-Job Safety Assessment, the Hazard ID form, the Job Observation form)
- Can understand and follow the Safe Job Procedures laid out in the Safety Manual. These skills will be evaluated using the Behaviour Observation Form.
- Once it is determined by the Operations Manager and the crew that the new employee is competent, he or she will be able to work on projects on their own and supervise an assistant on those jobs.

Survey Assistant

- GeoTrek does not require a minimum level of experience for a Survey Assistant although preference is given to the candidate with experience.
- GeoTrek will provide training (formal, informal and online) to the right candidate although preference may be given to those applicants with training in place.
- When considering a candidate for the position, GeoTrek reviews resumes in conjunction with the Field Crew Chief as the chief will be the assistant's direct supervisor and will be required to work with this person on a daily basis for extended periods of time.
- Once a candidate is chosen and possess the required formal training, they will be assigned to a Field Crew Chief.
 - The Crew Chief is responsible for providing and documenting all on the job training performed.
 - The Survey Assistant will not be left alone to perform any task that may be considered hazardous until it has been determined by the crew chief that the worker is competent to perform the task. This must be documented with the Behaviour Observation Form.

Knowledge

GeoTrek requires that Field Crew Chiefs and Survey Assistants be knowledgeable in a number of areas prior to allowing them to preform work.

- Formal Training
 - Field Crew Chiefs and Survey Assistants must hold valid certification from third party providers in a number of areas before they are able to perform work for GeoTrek. (some of the certifications listed below may be required on an individual basis)
 - H2S Alive
 - Standard First Aid
 - Line Locating Level II
 - Petroleum Safety Training (PST) or CSTS
 - ATV Certification
 - Chainsaw Certification
 - Bear Awareness
 - Suncor Safety Leadership Training
- Online Training
 - Employees are required by GeoTrek to have online training in the following areas (may vary for individuals)
 - Hazard Identification and Assessment
 - Workplace Inspection
 - Incident Investigation
 - Fatigue Management
 - Defensive Driving

- Wildlife Awareness
- WHIMS
- TDG
- PPE Training
- Employee Orientation
 - GeoTrek will provide an orientation on the following topics prior to the commencement of any work
 - Health and Safety Policies
 - Job Task Inventories and Risk assessments
 - Safe Work Procedures and Safe Work Practices
 - Worker ad Employer Responsibilities
 - PPE requirements
 - Emergency Response Planning
 - Training Requirements
 - Enforcement/discipline Policy
 - Right to Know and Refuse
 - Reporting obligations for Accidents, Hazards, Observations, Near Misses
 - Working Alone
 - Modified Work Policies
 - Following the orientation, the HSE officer will have a discussion with the worker regarding the materials covered and ensure the worker has a full understanding of information detailed in the orientation.
 - Informal (On the Job) Training
 - GeoTrek will provide on the job training to all new employees for a period of time to be determined by the experience of the employee and the knowledge and skill base of the employee (established through observations made by the Mentor Crew and Management).

Skills

New employees will be required to demonstrate the skills that have been determined necessary by GeoTrek and presented in the Job Competency Profile provided for each critical position within the organization.

- New employees
 - Management, an HSE Officer and the assigned Mentor Crew will all play a significant role in determining the level of skill possessed by a new employee.
 - The HSE Officer and Management will review the forms to determine if further training (formal, online or informal) is required to ensure the individual possess the appropriate level of skill to safely complete the tasks detailed in the job competency profile.
- Existing Employees
 - Management and an HSE Officer and Field Crew Chiefs will play a significant role in determining the level of skill possessed by an existing employee.
 - Management is required to assess the skills of the Field Crew Chief on a yearly basis (may be done on an ongoing basis throughout the year during field visits) and is a combination of Behaviour Observations performed while observing tasks as well as through discussion of Safe Job Procedures and Safe Work Practices. The HSE Officer may perform the Observations or conduct the discussion in lieu of or in conjunction with Management.
 - Management is required to assess the skills of Survey Assistants on a yearly basis (this may be done on an ongoing basis throughout the year) using the same methods as detailed above. Field Crew Chiefs and the HSE Officer may perform the observations and discussions in lieu of or in cooperation with management.

Evaluation

Using all of the information collected, GeoTrek will provide a documented evaluation of each employee. This evaluation will be used to help determine compensation, to ascertain if additional training is required and if so; what type, and to use as a baseline for areas of improvement.

- New Employees
 - Management will provide an assessment of experience based on the job interview and references.
 - The HSE Officer will provide an assessment of knowledge based on verbal review of the policies and procedures discussed during the Orientation.
 - The Mentor Crew will provide and assessment of skills by evaluating the employee while they are training and performing tasks and completing the Behaviour Observation Form.
- Existing Employees
 - As detailed above

4.0 RULES

- 1. Accidents, injuries or near misses, regardless of severity, must be promptly reported.
- 2. Appropriate Personal Protective Equipment (PPE) must be worn on the job where and when required.
- 3. Perform all work using safe work practices and safe job procedures.
- 4. Clothing must be appropriate to the duties being performed.
- 5. Where the wearing of jewelry presents a risk, jewelry must not be worn on the worksite.
- 6. Tools must only be used by persons who have been instructed and trained in their safe use.
- 7. Hand tools must not be used for any purpose other than that intended. All damaged or worn parts shall be promptly repaired or replaced.
- 8. Power tools must be operated only by authorized personnel, with all manufacturers' guards in place.
- Possession or use on the job of unauthorized drugs or alcohol and/or reporting for work while under the influence of either is strictly forbidden and constitutes grounds for dismissal.
- 10. No riders are allowed on any equipment not designed to carry passengers.
- 11. Seat belts must be used where required.
- 12. Theft, vandalism or any other abuse or misuse of company property is prohibited and is grounds for dismissal.
- **13.** All employees of GeoTrek have the obligation to refuse work that they feel is unsafe.

4.1 First Aid Requirements

It is the responsibility of the company to provide services and maintain first aid equipment and supplies at the work site for their employees.

All field employees are required to have a valid certificate in Standard First Aid. There will be a first aid kit in all the company vehicles that meets or exceeds the Alberta OH&S No.2 First Aid kit.

The company employee, who is responsible for the operation of the vehicle, will also be responsible to ensure that the first aid kit and supplies are maintained to meet or exceed Alberta OH&S standards. Whenever items are used it is the above stated employees' responsibility to ensure that supplies to replenish the first aid kit are acquired from the office or an approved supplier.

Contractors working for GeoTrek will also be required to meet the First Aid Standards/Requirements set out by the Alberta OH&S Regulations.

It is the responsibility of the employee to report any acute illness or injury to the employer as soon as is practical.

First Aid Transportation Plan

The following guidelines have been established to assist field supervision determine the medical transportation services required on the worksite, to maintain compliance with legislative and Company standards. The distance from a medical facility, if public ambulance services are available, number of workers on the worksite and the hazard rating of the work completed on the worksite all influence the type of transportation service(s) required at the worksite. If there are a number of work sites in close proximity, it may be more efficient to provide first aid service for the group versus individually. This can be formally accomplished, if the various work sites are under the direction of a Project Coordinator, or informally accomplished, by individuals determining if any first aid service synchronization is possible. The senior GeoTrek employee/representative for the worksite is ultimately responsible for ensuring that the appropriate levels of first aid services are available. Consideration must be given to changes in the travel time to a medical facility and/or to the number of workers at the work site. The location of the nearest hospital and contact number for ambulance and STARS are to be recorded in the pre-job assessment and communicated to all workers on site.

The transportation vehicle, if not an ambulance, must meet the following requirements:

- Be immediately available, where it will best serve workers, and not be used for any other task.
- A vehicle that is suitable, considering the distance to be traveled and the possible type illness or injuries that may occur at the worksite.
- Affords protection against the weather.
- Is equipped with a means of communication with the health care facility, and the worksite.
- Is of sufficient size and suitable to accommodate a stretcher and an accompanying person. The vehicle must also provide enough padding to prevent excessive jarring of the injured worker.

5.0 GROUP SAFETY MEETINGS

5.1 Introduction

Safety meetings form an integral part of any safety program. Frequently conducted, effective safety meetings result in critical information exchange and other opportunities to provide training.

5.2 Safe Work Permits

A SWP communicate critical information. This information includes description of work to be performed, the hazards involved, the precautions to take, the required authorizations and any other elements that are needed to perform the work on the project. The Permit Issuer (Client) and Permit Receiver (GeoTrek Supervisor) must discuss the work scope to clarify work description, requirements, limitations, worksite conditions, hazards, associated documents and other Safe Work Permit contents. GeoTrek's Supervisor/Party Chief will have the require permit receiver course prior to receiving the Safe Work Permit. When a GeoTrek's Supervisor has received the SWP for the project, that SWP will be sent in, reviewed, and filed with the daily Pre-job assessment preformed for the project.

5.3 Pre-job or "Tailgate" Meetings

Pre-job meetings shall be conducted daily at field sites prior to the performance of critical tasks and prior to tasks that involve interrelated job activities to be performed by several worker groups who are not familiar with each other's duties. These meetings should address safe work procedures and a discussion of inherent hazards and controls.

While the meetings may be of brief duration, they should not be hurried. The duration of these meetings should be proportional to the hazard potential involved.

At remote worksites where a designated site representative is not present, a telephone meeting between the area supervisor and the contractor representative shall be conducted prior to the prejob meeting with workers.

Close contact and regular, open communication between GeoTrek supervisors, workers, contractor management, supervisors and workers, and interaction between operators and contractors at all levels will ensure greater understanding of the goals and objectives of safely performing any task, particularly if these safety meetings are held prior to project commencement.

All pre-job assessments will either be done in GeoTrek's Sharepoint or will be copies and sent to the Safety Coordinator to review and file into company's system.

5.4 Safety Meeting Documentation

All safety meetings will be documented. Safety meetings must be recorded on a copy of the form provided at the end of this section.

6.0 TRAINING

GeoTrek Land Survey Ltd. strives to provide the highest of quality services and product while maintaining a safe and healthy workplace. To accomplish this goal, we must ensure our workers are adequately trained and qualified. Employees on a worksite must be trained to meet the hazards of that worksite. This includes customer specific requirements for working safely.

Employees will receive ongoing formal and informal training based on the needs of the company, customers, legislation, and industry standards.

Safety training is a condition of employment and it is the employee's responsibility to ensure their training remains current. Employees are required to attend general safety meetings which are scheduled on a regular basis.

It is the responsibility of the Supervisor to ensure the training requirements are met, documented and the necessary information given to the Human Resources department.

Signature

Date

6.1 New Employee Orientation

All new employees and subcontractors or employees and subcontractors that have not worked for GeoTrek in the previous six (6) months must receive a new employee orientation before starting work.

Orientation Topics:

- Health and Safety Policies
- Hazard Assessments / Work site specific hazards/ Job Inventory
- Safe Work Procedures / PPE Requirements as applicable
- Review of HSE Manual and Orientation Quiz
- Worker Responsibilities
- Employer Responsibilities
- Personal Protective Equipment
- Emergency Response Procedures
- Training Requirements
- Enforcement/Discipline Policy
- Right to Know and Refuse
- Reporting Obligations for Accidents/Unsafe Acts/ Health Concerns
- Working Alone
- Modified Duties

Training Requirements: FIELD STAFF

_____H2S

- PST
- ____ First Aid
- ____ Ground Disturbance II (party chiefs)

___ ATV

- ___ Chainsaw use
- ____ Wildlife Awareness (Online)

OFFICE STAFF

Hazard Assessment (Online) Workplace Inspections (Online) Incident Investigation (Online) First Aid

H [\ E	Hazard Assessment (Online) Defensive Driving (Online) Norkplace Inspection (Online) rgonomics (online)	
Employee Name:		
Supervisor:	Departmen	t:
Date of Hire:	Orientation Date:	
Safety Coordinator:_		
Employee Signature:	:	Date:

6.2 Informal Training

Informal safety training is knowledge, skill instruction and understanding passed from one employee to another, from a supervisor to an employee, etc. It helps to reinforce the safety culture and the attitudes of the work group.

6.3 Formal Training

Formal training is a structured instruction provided by a trainer for a specific task. Training can only be provided by a qualified, and where required, certified instructor. Records of training must be kept by the main office, and employees must be able to produce proof of training when required.

6.4 First Aid

- First Aid training is mandatory for all field personnel, safety personnel and selected employees.
- First Aid training must meet the minimum requirements of the applicable legislation for the area the work is taking place.

6.5 WHIMIS 2015

WHMIS (Workplace Hazardous Materials Information System) in alignment with the GHS (Globally Harmonize System of Classifications and Labelling of Chemicals) is a comprehensive plan for providing information on the safe use of hazardous materials used globally. Information is provided by means of product labels, safety data sheets (SDS) and worker education programs.

GeoTrek is legally required to have a complete chemical handling program to meet the Workplace Hazardous Materials Information System (WHMIS) and Transportation of Dangerous Goods (TDG) requirements. GeoTrek's WHMIS practices are designed to maintain compliance with those regulations and include:

- Labeling Systems
 - **Supplier labels**: Must be in both English and French and meet all the requirements of the *Hazardous Products Regulations*. If the hazardous product is always used in the container with the supplier label, no other label is required. Labels should be affixed to,

printed or written on, or attached to the hazardous product or the container and remain legible. Supplier label must include:

- 1. **Product identifier** the brand name, chemical name, common name, generic name or trade name of the hazardous product.
- 2. Initial supplier identifier the name, address and telephone number of either the Canadian manufacturer or the Canadian importer*.
- 3. Pictogram(s) hazard symbol within a red "square set on one of its points".
- 4. **Signal word** a word used to alert the reader to a potential hazard and to indicate the severity of the hazard.
- 5. **Hazard statement(s)** standardized phrases which describe the nature of the hazard posed by a hazardous product.
- 6. **Precautionary statement(s)** standardized phrases that describe measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper handling or storage of a hazardous product.
- 7. Supplemental label information some supplemental label information is required based on the classification of the product. For example, the label for a mixture containing ingredients with unknown toxicity in amounts higher than or equal to 1% must include a statement indicating the percent of the ingredient or ingredients with unknown toxicity. Labels may also include supplementary information about precautionary actions, hazards not yet included in the GHS, physical state, or route of exposure. This information must not contradict or detract from the standardized information.

• A workplace label is required when:

- a hazardous product is produced (made) at the workplace and used in that workplace,
- a hazardous product is decanted (e.g., transferred or poured) into another container, or
- a supplier label becomes lost or illegible (unreadable).

Workplace labels require the following information:

- 1. Product name (matching the SDS product name).
- 2. Safe handling precautions may include pictograms or other supplier label information.
- 3. A reference to the SDS (if available).
- Safety Data Sheets (SDS) valid SDS are obtained and readily available at site locations for all hazardous products.
- **Training** employees who handle hazardous products will receive two types of training:
 - WHMIS training intended to provide the employee with the knowledge of what WHMIS is and how it works, and
 - Site-Specific training concerning the hazards and control measures of the hazardous product(s) the worker will be handling.

Employer Responsibilities:

- Knowing and understanding the Classification criteria and different hazard classes existing for both health and physical hazards.
- To know exactly what hazardous products are present, and how they are used, handled, classified, and stored in the workplace
- Ensure hazardous products are properly labeled. WHMIS labels alert the worker to the identity of the product, hazards, and precautionary measures;
- Ensure Safety Data Sheets (SDS) are available, current and readily available for all hazardous products being used and stored. Safety Data Sheets (SDS) provide detailed hazard and precautionary information and;
- Educate employees about WHMIS, hazardous materials, and protective measure to work safely with the hazardous products.
- Update SDSs and labels when significant new data is obtained from the supplier, and ensure workers receive education and training about the new data
- Monitor the implementation and effectiveness of the program.

Employee Responsibilities:

- Participate in WHMIS training and other health and safety training required for your job
- Use your WHMIS training and adhere to WHMIS requirements
- Follow safe work procedures and rules and know what to do in case of an emergency
- Know where SDSs are located in your workplace and how to use them
- Inform your supervisor about any hazards you see in the workplace and
- Inform your supervisor of deficiencies such as labels on containers that are no longer readable, damaged or lost. Workplace-specific training is the most important

Contractors are expected to be in compliance with WHMIS 2015 training requirements. GeoTrek Site Representatives must ensure all workers on a work site are aware of hazards and control measures for hazardous products on the work site.

6.6 H2S Alive

Hydrogen Sulphide (H2S) is a highly toxic and flammable gas.

Hydrogen sulphide (H2S) occurs naturally in the earth in crude petroleum, natural gas reservoirs, volcanic gases and hot springs. Hydrogen sulphide is also produced from the breakdown of human and animal wastes by bacteria, industrial activities such as food processing, coke ovens, kraft paper mills, rayon textile manufacturing, wastewater treatment facilities, sulphur production, tar and asphalt manufacturing plants, tanneries, and refineries.

In Alberta, workers are exposed to hydrogen sulphide most often during drilling and production of natural gas, crude oil and petroleum products. Hydrogen sulphide can accumulate in sewers, sewage treatment plants or hide storage pits in the tanning industry. Well drillers, tunnel workers and miners may be exposed when underground pockets of hydrogen sulphide are encountered. Hydrogen sulphide is also a raw material used to manufacture inorganic sulphides, sulphuric acid and thiols (also known as mercaptans)

Potential Health effects of Hydrogen Sulfide

Hydrogen sulphide is extremely toxic. Workers are exposed when they inhale hydrogen sulphide in air, and this toxic gas is quickly absorbed by the lungs. It is believed that exposure to hydrogen sulphide prevents the brain from using oxygen by inhibiting the enzyme cytochrome oxidase.

Short-term exposure to hydrogen sulphide can cause irritation to the nose, throat, eyes and lungs. Exposure to higher concentrations can cause very serious health effects, and even death.

- Inhalation: VERY TOXIC, can cause death. Can cause severe irritation of the nose and throat. Can cause life-threatening accumulation of fluid in the lungs (pulmonary edema). Can cause, excitement, headache, dizziness, staggering, sudden collapse ("knockdown"), unconsciousness, and death Long-term damage may result from a severe short-term exposure. Can harm the nervous system. Can cause lung injury. A single exposure to a high concentration can cause a long-lasting condition like asthma. If this occurs, many things like other chemicals or cold temperatures can easily irritate the airways. Symptoms may include shortness of breath, tightness in the chest and wheezing. {Reactive Airways Dysfunction Syndrome (RADS)}.
- Skin Contact: Direct contact with the liquefied gas can chill or freeze the skin (frostbite). Symptoms of mild frostbite include numbness, prickling and itching. Symptoms of more severe frostbite include a burning sensation and stiffness. The skin may become waxy white or yellow. Blistering, tissue death and infection may develop in severe cases.
- **Eye Contact:** EYE IRRITANT. The gas irritates the eyes. Direct contact with the liquefied gas can freeze the eye. Permanent eye damage or blindness can result.
- Ingestion: Not a relevant route of exposure (gas).
- Effects of Long-Term (Chronic) Exposure: Conclusions cannot be drawn from the limited studies available. May harm the nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. May harm the respiratory system.

Where employees work in an area where they may be exposed to the hazards of H_2S , employees must complete the H_2S Alive training.

APPLICATION AND SCOPE:

A facility is considered sour at 10 ppm H2S. If workers can be exposed to H2S levels exceeding 10 ppm, occupational health & safety regulations require:

Detection: To determine the level of H2S in a work area, either a continuous or personal monitor is to be used. In addition, oil and gas regulations require poisonous gas warning signs to be posted at all wells and facilities when the potential H2S content is 10 ppm or greater. (Note: Wells and facilities with an H2S content less than 10ppm must have a flammable gas/liquid warning sign). Training: Workers are to be provided H2S training. Employers are required to develop and communicate safe work policies for sour operations.

Protection: When H2S is present in an area, either an approved supplied air or self-contained breathing apparatus must be worn when OH&S maximum time exposures are exceeded. These are:

H2S Concentration	Maximum Time
Exposure 10 ppm	8 Hours
15 ppm	0 Minutes
20 ppm	0 Minutes

GeoTrek's safe work policy for working in sour production areas is as follows:

1. H2S Monitoring

H2S detection must be used to monitor the work environment in areas where the potential of exposure to H2S levels above 10 ppm exists. Detection equipment can be by either continuous or personal monitors. Personal H2S monitors shall be worn at all times by full time personnel.

Contractors shall wear H2S Monitors as directed by the GeoTrek representative and/or their work permit. Known danger areas must be clearly posted in accordance with occupation health and safety requirements.

2. Normal Routine Operations

Normal routine operations in sour production areas may be performed by an operator working alone, and subject to the following restrictions:

- a. When entering a sour location, employees are to ensure that:
 - H2S monitoring equipment is always turned on and used while on location
 - Communication equipment is in good working order
 - A breathing apparatus in working order with an adequate supply of air must be available.
- b. Caution should be taken before entering any building that does not have a permanent H2S monitor, ventilation may be required.
- c. Tank gauging should only be done using external gauges unless breathing apparatus is worn.
- d. Site specific operating procedure may be developed for completing a routine operation where sour product may be released but the potential for H2S levels to exceed occupational exposure limits is known to be minimal. A back up man is not needed in these situations.
- e. If a H2S monitor alarms at any time while a worker is entering or working at a location, all workers are to immediately retreat to a safe area, and report conditions at the site to the appropriate GeoTrek representative.

3. Operations when H2S Levels Exceed Occupational Exposure Limits

- a. No employee shall work alone in an area where the measured atmospheric H2S Levels exceed occupational exposure limits. The appropriate GeoTrek representative must be notified immediately and suitable precautions taken before work is continued.
- b. Under no circumstances is a worker to don a breathing apparatus and attempt to repair an uncontrolled release without a backup man present. The backup man must also be equipped with a breathing apparatus.
- c. When completing any operation and the release of gas is expected to expose the worker to H2S levels that exceed the occupational exposure limits, a breathing apparatus is required. A back up man is needed in these situations.
- For any job requiring the use of a breathing apparatus, the foreman or supervisor will determine the required deployment of workers taking into account the scope of the job, H2S exposure levels and the availability of required safety equipment and work procedures including the need for a backup man.

4. Emergency Overview

Colourless gas. Rotten eggs odour. COMPRESSED GAS. Contains gas under pressure. May explode if heated. EXTREMELY FLAMMABLE GAS. Distant ignition and flashback are possible. CONFINED SPACE HAZARD. Can accumulate in hazardous amounts in low-lying areas especially inside confined spaces. VERY TOXIC. Fatal if inhaled. May cause respiratory irritation. IRRITANT. Causes moderate or severe eye irritation. May cause frostbite.

6.7 Chainsaw Safety

Where employees are required to use a chainsaw as part of their job, they must complete a certified chainsaw safety course.

6.8 ATV & UTV Safety

Where employees are required to operate an ATV/UTV as part of their job, they must complete a certified ATV/UTV operator course:

- Employees are trained to safely operate the equipment,
- Have demonstrated competency in operating the equipment to a competent worker designated by the employer,
- is familiar with the equipment's operating instructions, and
- is authorized by the employer to operate the equipment.

6.9 Ground Disturbance

Where employees are required to supervise ground disturbance activities, personnel must have valid Level II Ground Disturbance certification from an approved training facility.

A Ground Disturbance shall be defined as:

any or all work, operation or activity that results in the penetration or disturbance of the ground. This includes hydro vacuuming, excavating, digging, trenching, plowing, drilling, tunneling, auguring, backfilling, blasting, topsoil stripping, land leveling, clearing and grading. This does not include routine road maintenance, or agricultural cultivation (\leq 45 cm).

Reference within this guideline to buried facility will include pipelines, cables, fibre optics, tanks, sewer/water pipes, electrical & cathodic protection lines, or any other buried items.

Following the enclosed procedures is important, in order to prevent worker injury, damage to machinery and facilities, unnecessary corrosion, costly process down time and production loss.

6.9.1 Standard Documentation for all GeoTrek Ground Disturbance Procedures

In order to meet the requirements of this code of practice the following documents must be available for inspection on the work site:

- GeoTrek Ground Disturbance Code of Practice,
- Copies of ground disturbance training records, specifically Level II training for the Ground Disturbance Supervisor and/or the GeoTrek Owner Representative or GeoTrek Representative if they are directing ground disturbance activities,
- Copy of the appropriate regulations,

• Appropriate regulatory land access agreements (*e.g.*, PLAs, LOCs, lease agreements, etc.). Each different product and buried facility shall be identified on the ground disturbance record. Multiple ground disturbance records may be used for clarity purposes.

6.9.2 Rules and Responsibilities

GeoTrek Representative

A GeoTrek Representative is defined as a consultant or employee representing GeoTrek's interests and supervising contractor operations, and who is not an employee/owner of the Operator. The GeoTrek Representative is responsible for overall work site management and supervision and should be aware of ground disturbance controls. Specific responsibilities for ground disturbance include:

- Ensuring all required and available background information and supporting documentation is in place and reviewed before proceeding with the ground disturbance.
- Providing appropriate notifications to buried facility owners and ensuring all appropriate agreements are in place prior to proceeding.
- Ensuring that all appropriate notifications and reporting is completed in the event of an incident.

NOTE: Operator or their qualified third-party representative is still responsible for all verifications of line locates prior to allowing the ground disturbance to proceed within an Operator right-of-way or within 5-m of a known Operator buried facility.

Ground Disturbance Supervisor

The Ground Disturbance Supervisor is a competent individual, who has successfully completed the training (*i.e.*, Level II training or equivalent) to supervise the actual ground disturbance activities.

The Operator Representative may also be the Ground Disturbance Supervisor. The Ground Disturbance Supervisor is expected to be present at the excavation site and is required to oversee all mechanical exposures and is requested to oversee all hand exposures, and ensures all workers understand their roles and responsibilities.

The Ground Disturbance Supervisor role can be filled by a qualified equipment operator only in the event that the ground disturbance is being carried out with no buried facilities within 5-m of the work area, unless all of the buried facilities within 5-m of the work area have been rendered safe and all of the buried facilities within the work area are to be removed.

The Ground Disturbance Supervisor is responsible for ensuring that the ground disturbance procedures are carried out in a safe manner and shall be familiar with the provisions of this code of practice, and any or all additional ground disturbance requirements as contracted with the operator. Specific responsibilities include:

- Determining what buried facilities may exist in the work area, search area and/or controlled area through appropriate records and agencies,
- Contacting the appropriate provincial First Call service provider,
- If necessary, arranging for a line locating company to locate the buried facilities, ensuring training & competency (*e.g.*, Enform, Learn-Rite, Global),
- If applicable, contacting the landowner,
- Establishing the width and length of the work area for the ground disturbance,
- Ensuring, unless otherwise identified on the crossing agreement, that any identified buried facilities are hand exposed or hydro vacuumed if ground disturbance is within 5 m of buried facility or within a right-of way (ROW),
- Preparing ground disturbance documentation,
- Defining safety expectations using hazard identification tools established in the GeoTrek Corporate HSE manual,

• Ensuring proper backfill of any open crossing under the direction of the buried facility owner.

NOTE: While the Operator Representative must be actively directing and supervising the ground disturbance if mechanical equipment is to be used within 1-m of an Operator facility, they do not necessarily take control of the ground disturbance from the Ground Disturbance Supervisor, as their primary responsibility is in maintaining the integrity of the Operator-owned line.

If control is taken away from the Ground Disturbance Supervisor, then that individual will assume the role and responsibilities of the Ground Disturbance Supervisor, and associated training and competency requirements shall be met before care and control of ground disturbance activities can be transferred.

Health, Safety & Environment Group

The GeoTrek Health, Safety and Environment (HSE) group will provide advice on ground disturbance issues as they arise during the course of our business, and routinely inspect work sites for proper ground disturbance documentation and work practices.

6.9.3 Ground Disturbance Procedures

Work, Search and Controlled Areas

Prior to conducting a ground disturbance, a records search must be done to confirm if there are any buried facilities within the:

- 1. Work area,
- 2. Search area (*i.e.*, within 30 m of the proposed ground disturbance and/or
- 3. Controlled area (*i.e.*, 30 m from a proposed pipeline or to the edge of the ROW, whichever is greater)

NOTE: If the centreline of the pipe is unknown (e.g., new pipeline construction within a right-of-way), then for cautionary purposes the search area must be 30-m from each edge of the right-of-way. When placing statutory iron posts, or other such items that are greater than 0.30m in length, all buried facilities within 5m are to be located. No iron posts or other items greater than 0.30m in length shall be placed within 1m of buried facilities. If there is any doubt as to the location of the buried facilities posts should not be placed and a note stating "unable to post, buried facilities" should be recorded in field notes.

Records Search

The following records and/or agencies must be reviewed or contacted on all ground disturbances, and the information must be given to the Ground Disturbance:

- Certificate of Title (land package) or Public Land Standing Report (Crown land),
- Plot plans or survey drawings from previous or current projects impacted by the ground disturbance,
- Provincial One or First Call system to determine if any registered lines are in the area of interest. Remember, not all companies are registered with the first call system, especially in British Columbia and Saskatchewan, and only 1/3 of all buried facilities are registered in Alberta. Ensure that First Call system provider provides you with notification/ documentation,
- Facility road signs (*e.g.*, pipeline crossing, high-pressure line, pin flags), and
- Visible indicators (*e.g.*, cut lines in forested areas, roach mounds of dirt piled in long line, exit points at buildings, risers, etc.). If buried facilities are suspected or identified after completing this review, then where applicable, the following people must be contacted:
- Owner of the buried facility,

- Local landowners,
- Appropriate regulatory agency for list of registered facilities (see Appendix I),
- Local co-operatives (e.g., gas, water, etc.) for information on their lines

Notification

Notification' is advising all owners of buried facilities within the defined work area and the 30m search area that GeoTrek will be performing a ground disturbance and requesting those identified to confirm the location of their facility. All buried facility owners must be given at least two working days notice and no more than 10 days notice, excluding Saturdays, Sundays and holidays, to locate and mark their facilities, with all costs covered by the facility owner, or as otherwise stipulated in the crossing or proximity agreement.

NOTE: An exception to the 30 m limit is if the ROW or buried facility is clearly separated from the proposed ground disturbance by a visible improvement such as a road. There shall be verification that the improvement was in place prior to the buried facility was installed or have assurances that the existing facility is not in the work area.

Line Locating

The line locator shall conduct a 4-way grid pattern survey of the work and search areas (northsouth, east-west, N.W.-S.E., N.E.-S.W.). This survey should be done using active 'inductive' mode sampling, not passive cathodic mode sampling. Once lines are identified, confirmatory 'direct connection' locates should be completed. Inductive and direct connection active samplings are the preferred methods for locating lines.

NOTE: GeoTrek is a member of the Canadian Association of Pipeline and Utility Locating Contractors (CAPULC). Members of CAPULC agree to abide by to a corporate standard of professionalism in the locating industry. Line locating should conform to the following International Colour Code used by the Canadian Standards Association (C22.3), as per Table 1 below:

Table 1: International Colour Code

- **RED** Electric power lines, cable, conduits and ducts, or lighting wires and cables
- YELLOW Gas, oil, petroleum, steam or gaseous materials

ORANGE Telephone, cable TV, communications, alarm or signal lines, wires, cables, conduits or ducts BLUE Potable Water

- GREEN Sanitary sewer, storm sewer, culvert or drain lines
- PURPLE Reclaimed water, irrigation or slurry lines or pipes
- PINK Temporary survey marks
- WHITE Limits of proposed excavation

Note: In winter conditions, an alternate colour may be used for white markers.

Markers shall be spaced no more than 5 m apart and extending to 30 m beyond the work site. Where the identified facility follows a curve, decrease spacing so that the curvature is accurately shown. If the line crosses the proposed ground disturbance, mark with a cross at the intersection. Where a line parallels within 30 m of a line, the line must be staked/ marked to show:

- The point of entry into search area and at points which clearly show alignment (markers ≤50 m apart on straight sections),
- Anywhere there is a tee intersection,
- The point of exit from search area,
- Increased mark frequency near bends or wherever locates are not definite, and
- Demonstrable detail in locating expansion loops or stub laterals.

NOTE: Some larger facilities may develop their own colour coding system; therefore, make sure that drawings are confirmed with a knowledgeable operator on the work site. From the time that line locates are completed, there are 14 days to start the ground disturbance and/or take control of the worksite (i.e., visibly secured area), otherwise line locates shall be conducted gain since it is possible that an unknown buried facility was installed and appropriately covered in this time period without informing the Operator.

Permits and Agreements

Crossing and Proximity Agreements

A 'Proximity Agreement' is required with the owner of any buried facility within the work, search and/or controlled area, which will be affected by the ground disturbance. A 'Crossing Agreement' is required with the owner of any buried facility located within 5 m of the ground disturbance, or if the ground disturbance is to take place within a third party's ROW or lease.

Often the terms of the agreement are more stringent than the regulations and should be reviewed. In the event of a conflict in procedures the most stringent terms between company codes of practice, the regulations or the crossing agreement shall be used. Agreements shall be completed in writing and on the work site prior to starting the ground disturbance.

NOTE: All vehicles greater than ¾ ton require a crossing agreement be in place when travelling over top of a buried facility (Part 5, Section 68, ERCB Pipeline Regulations - May 2003). This typically involves crossing at established pre-built ramps along the buried facility.

Ground Disturbance Record

Prior to starting a ground disturbance, a Ground Disturbance Record must be completed by the Operator Representative. Where all searches and locates indicate no buried facilities within 5 m of the proposed ground disturbance, the permit must indicate that all required checks have been completed and the work is clear to proceed.

Emergency Response

Prior to conducting any field activities emergency response measures shall be developed for the work site. These should include provisions for:

- Removing workers from danger (including possible rescue from an excavation),
- Alerting appropriate personnel, facility owner(s), and regulatory agencies of the incident, and
- Containing the incident to protect the public, environment, and other equipment.

Hand Exposure

'Hand Exposure' involves exposing a buried facility without the use of mechanical equipment. This includes digging with a shovel (no pickaxes), using a hydrovac truck, air jets, or magnetic resonance. All buried facilities within 5 m of the proposed ground disturbance shall be hand exposed prior to using mechanical equipment within 5 m of the located facility. One exception would be where the entire excavation perimeter is hydrovaced to a depth 50 cm below the proposed disturbance depth (*i.e.,* cable installation, congested areas where line locating could be too cumbersome).

NOTE: Once hand exposure is complete, and the Ground Disturbance Supervisor has confirmed that there are no buried facilities visible, the hole may be backfilled and marked with stakes. This removes the potential hazards associated with an open excavation (e.g., trips and falls, injured livestock and wildlife, and equipment damage).

Hand exposure should go to a minimum depth of 50 cm below normal excavation depth to ensure foreign facilities are not stacked on top of one another. Hand exposures must be large enough and be suitably spaced to accurately determine the physical line, size and alignment of the buried facility. If in doubt as to the number or location of lines in the area, hand expose across the entire area of concern.

Where a ground disturbance parallels within 5 m of a pipeline, the pipeline must be exposed at intervals (~every 200 m, or closer around bends) to confirm the markers. The distance between exposures will be at the discretion of the owner of the existing pipeline or the appropriate regulatory agency if disputed, or if the line is abandoned.

NOTE: Hand exposure is not required if the position of the buried facility has been verified to the owner's satisfaction with measurements taken during previous exposures.

6.9.4 Incident Reporting

If contact is made with the buried facility that results in damages (including damaged coating), all work shall be stopped immediately or as soon as it is safe to do so, until approval is received from the owner's representative to recommence operations. If approval cannot be reasonably obtained from the permittee or licensee, then obtain approval from the appropriate regulatory agency (see Appendix I).

Any damage to the foreign facility or coating, even very slight coating damage must be reported to the owner to avoid potential corrosion issues in the future. It is the owner's responsibility to notify the appropriate regulatory agency. All incidents require a GeoTrek incident form to be completed and submitted for review.

6.9.5 Backfill

Prior to backfilling, all agreements, approvals and permit conditions must be met. The facility owner should inspect the crossings before and during burial. Provide at least 24 hours' notice prior to backfill. The Ground Disturbance Supervisor must request a copy of facility owner's crossing inspection report (also known as a backfill inspection report). If the facility owner does not witness the backfill or is unable to provide a report, document the person's name that authorized backfill on the Ground Disturbance Record and where possible attach photographs - preferably with a date and time stamp.

NOTE: Check if the crossing or proximity agreement requires select backfill, cathodic test leads, and note minimum line separation criteria.

6.9.6 Records Management

All completed ground disturbance records must be stored with project information and kept on file for at least three years or longer if it is anticipated that the outcomes of the ground disturbance may be contested by interested parties. Initials from the line locator and ground disturbance contractor, as well as signatures from the Ground Disturbance Supervisor, GeoTrek Representative, and where required the Buried Facility Owner Representative(s), assist in verifying that these stakeholders had received the appropriate documentation prior to the ground disturbance occurring.

6.9.7 Geophysical Department Exemption

Geophysical (*i.e.,* seismic) activities must follow ground disturbance procedures used in this code of practice; however, colour codes established by the Canadian Association of Geophysical Contractors (CAGC) may be used instead, since colours may represent different criterion (*e.g.,* blue markings on geophysical sites represent shot hole locations, not buried water pipelines).

Standard marking for buried facilities are wooden stakes with orange painted tips and yellow streamers tied to the top of the stake. Spacing of wooden stakes is based upon terrain conditions, buried facility direction and congestion. The stake will have pertinent information about the buried facility written directly on it. In 2D programs, only the crossing area of conflict will be marked. In 3D programs all buried facility routes will be located and marked within the confine of the program boundaries.

CONTACTS LIST (appendix 1)

The following contacts are in addition to contacting appropriate GeoTrek personnel when a buried facility is hit.

AREA	AGENCY	CONTACT	PURPUSE
АВ	Alberta One Call	Ph: 1.800.242.3447 Fax: 1.800.940.3447 http://alberta1call.com	2-full working days notice to check records and determine if buried facilities are present. Complete checklist first
AB	ERCB	Ph: 1.403.297.8303, Calgary – 24 hr. http://www.ercb.gov.ca/BBS/ercbi nfo/offices- field.htm	Hit a buried facility – contact local field centre. If unknown, call Calgary number
АВ	Alberta Environment	Ph: 1.800.222.65614	Environmental emergency into a water body. They will contact Department of Fisheries & Oceans directly.
BC	B.C. One Call	Ph: 1.800.474.6886 Fax: 1.604.451.0344 http://www.bconecall.bc.ca	3-Full working days notice to check records and determine if buried facilities are present. Complete check list first
BC	DFO (Department of Fisheries and Oceans	Ph: 1.800.465.4336	Emergency release into a water body of water
BC	Ministry of Environment	Ph: 1.800.663.3456	Emergency release into a body of water.
BC	Oil and Gas Commission	Ph:1.800.663.3456 (general incident) Ph: 1.888.330.8822 (pipeline Incident) http://www.ogc.gov.bc.ca	Hit a buried facility – complete and submit Pipeline Incident Notification immediately, and Pipeline Incident Report
Canada	DFO (Department of Fisheries and Oceans)	PH: 1.800.465.4336 <u>http://www.dfompo.gc.ca/regions_e.htm</u> Impact assessment Biologist habitat and Enhancement Branch)	Emergency release into a body of water. Pre-planning for stream crossing involves detailed planning with DFO and provincial resources
Canada	NEB (National Energy Board)	Ph: 1.800.899.1265 Fax: 1.403.292.5503 <u>www.neb-</u> <u>one.gc.ca</u>	Trouble shooting for ground disturbances on federal sites, incl. inter- provincial/national. NOTE: NEB regulated pipelines listed on provincial systems.
Canada	TSB (Transportation Safety Board)	Ph: 1.819.997.7887 (24 hours) Fax: 1.819.953.7876	Contact with federally regulated pipeline. Submit incident report via fax.
GeoTrek	Management Group	1.403.238.4002 1.403.620.0648	Any reportable incident requiring emergency HSE support
SK	Sask 1 st Call	Ph: 1.866.828.4888 Fax: 1.306.525.2356 http://www.sask1stcall.com/	2-Full working days notice to check records and determine if buried facilities are present. Complete checklist first.

SK	Saskatchewan Environment	Ph: 1.800.667.7525	Spill or leak, especially into a body of
			water
SK	Saskatchewan Industry and Recourses	Ph: 1.306.825.6434 (Lloydminster – 24 hours) <u>http://www.ir.gov.sk.ca/default.as</u> <u>px?DN=3680,3384,2936,Documne ts</u>	Hit a buried facility – contact local field office. If unknown, call Lloydminster office. Complete incident report first.

6.10 Job-Specific Training

Job-specific training is conducted when an employee is hired or assigned to new or different tasks.

The supervisor or a competent employee designated by the supervisor conducts this training. It includes:

- Review of work practices and procedures
- Identification of hazards
- Verification of understanding and employee competency

TRAINING OF WORKERS AND SUPERVISORS

Workers will receive adequate specific instructions for new or different work they are assigned.

Whenever a worker receives training, such training will be recorded.

Supervisors must ensure that employees are trained sufficiently to perform their tasks safely. <u>Supervisor Training:</u>

Supervisors will receive specific training and direction, where necessary, to carry out their duties in a responsible manner.

Additional training for Supervisor's will include: Legal requirements How to conduct inspections How to conduct investigations

Proper use and care of personal protective equipment Emergency response training

How to conduct safety meetings Supervisory skills and communication

Signature

Date

TRAINING RECORDS ON-THE-JOB TRAINING RECORD FORM

Employee:	Job Title:	
Tasks to be performed:		
Hazards:		
Training Provided:		
Date(s) of Training:		
Trainer:		
Trainee:		
Comments:		

7.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The use of Personal Protective Equipment (PPE) forms the final line of defense between an employee and a hazard and applies to all employees on a worksite, including subcontractors and visitors. All personal protective equipment will be within the requirements of the local Occupational Health and Safety legislation and the specific requirements of a customer or client. Where site specific PPE requirements exist, employees will follow those requirements.

No piece of PPE will be modified or changed contrary to the manufacturer's instructions or specifications or OH&S legislation.

All PPE that is of questionable reliability, damaged or in need of service or repair will be removed from service immediately.

All PPE that has been removed from service will be tagged "OUT OF SERVICE". Any PPE tagged "OUT OF SERVICE" will not be returned until repaired and inspected by a qualified person.

Signature

Date

7.1 Selection of Personal Protective Equipment

Personal Protective Equipment should be selected based on the following information:

- Hazard Assessment
- Customer /Client requirements
- Occupational Health and Safety Legislation requirements
- Material Safety Data Sheets (MSDS)

7.2 Responsibilities

All employees will

- Ensure that they have the required PPE available at the worksite.
- Wear PPE as required in company policy, practices and procedures or where site specific requirements request PPE in addition to the GeoTrek standard.
- Care for and maintain the PPE issued to them according to manufacturer instructions and related training they have received.
- Use only approved PPE that is clean and in good condition or repair.
- Assist in identifying additional PPE requirements for specific job sites.

Safety Coordinator

- Ensure that PPE standards are developed for the tasks performed by all employees.
- Include PPE as a component of the worksite inspection.

Recommend PPE that meets applicable government, industry or customer standards governing its use.

7.3 **PPE Requirements**

All employees, including subcontractors, supervisors and managers, will be required to wear the following PPE at all times when working on a company worksite.

- Approved safety footwear
- Reflective clothing

Other personal protective equipment will be required depending on the task being performed. These requirements will be identified in job practices and procedures. Other PPE may include but is not limited to:

- Approved hard hats
- Approved eye protection
- Approved face protection
- Approved hearing protection
- Approved hand protection
- Approved limb and body protection

7.4 PPE for Specific Tasks

The following is a list of personal protective equipment that is <u>required</u> when performing specific tasks. This list is the minimum requirement. Employees must comply with our customer's safety requirements while on their jobsite.

Employees are required to wear approved safety footwear and reflective clothing at all times when working on any job site.

ATV & Snowmobile Operation	Chainsaw Operation	
 Approved helmet Hand protection Safety glasses or goggles Appropriate clothing Safety tether attached where applicable for snowmobiles Note: Newer snowmobiles may not have tether straps. Read the manual to ensure knowledge of alternative safety controls 	 Hard hat Full face protection Approved chainsaw pants or chaps Hearing protection Hand protection 	
Pionjar Operation• Safety glasses• Hearing protection• Hand protectionHand protection	Using a hammer, hatchet, axe, pick axe, crowbar or any other hand tools. • Safety glasses • Hand protection Hard hat where required	
Electric Power Tools Safety glasses Hand protection Hard hat where required	Work Over Water Approved life jacket or PFD as per OH&S General Safety Regulation 22	
Possible exposure to flash fire or electrical equipment flashover • Flame resistant clothing Safety glasses		

8.0 PREVENTATIVE MAINTENANCE

Preventative maintenance ensures that the tools, equipment and vehicles that GeoTrek provides to their employees are in the safest condition possible.

Preventative Maintenance Policy

The organization has made a commitment to ensure that all tools and equipment will be properly maintained so as to reduce the risk of injury and/or property damage. The policy is written to provide instruction and guidance to all workers, supervisors and managers ensuring that our established maintenance programs are followed. Scheduled maintenance requirements for equipment are to be adhered to and any additional concerns brought to the attention of the appropriate supervisor immediately.

All employees are responsible for checking their tools and equipment regularly. Any tool or piece of equipment found to be defective will be taken out of service. This means the equipment/tool will either be discarded or tagged as defective and sent for repair.

It is the policy of the organization to purchase tools and equipment in accordance with CSA, provincial and industrial standards.

Signature

Date

8.1 Corrective Actions

All equipment removed from service must be tagged "DO NOT OPERATE" and rendered inoperable.

8.2 Responsibilities All employees

- Inspect all tools and equipment, including vehicles, before use and keep all tools and equipment in good repair.
- Remove from service any defective tool or piece of equipment.
- Report any repairs or alterations required on the equipment and/or tools he or she operates.
- Leave all safety devices operative on equipment and tools.
- Ensure maintenance and/or inspection logs remain with the vehicle or equipment when releasing to another site or individual.

Health and Safety Coordinator

- Periodically inspect all equipment and tools for defects
- Verify the preventative process to ensure compliance with the GeoTrek maintenance policy.

9.0 HAZARD ASSESSMENT AND INSPECTIONS

Hazard Assessment is the basis for the prevention of incidents, accidents and near misses in the workplace. GeoTrek has a program in place to identify, rank and control hazards within our company.

Hazard Assessment is concerned with that which is immediately visible, but also examines the potential hazards that may be encountered.

Employees are required to perform a Hazard Assessment on all job sites before work begins.

GeoTrek will ensure that a program is in place to identify, rank and control hazards within our company. Hazard identifications will be recorded on a Hazard Identification Report. The report shall be supplemented by additional notes if a Serious or Major hazard is identified.

On Hazard Identification Reports, all hazards or deficiencies shall be classified as follows:

Class A

A condition or practice likely to cause permanent disability, loss of life or body part or extensive loss of property.

Class B

A condition or practice likely to cause serious injury or illness or disruptive property damage.

Class C

A condition or practice likely to cause non-disabling injury or illness or non-disruptive property damage.

9.1 Definitions

• Hazard:

An object, condition or behavior with the potential to interrupt or interfere with the orderly progress of an activity.

Hazard Assessment:

A formal process used to identify hazards that may create losses to people, equipment, materials, property or the environment.

• Risk:

Probability that during a period of activity a hazard will result in an incident with definable consequences.

• Risk Management:

Reduction of the consequences and probability of risk or risks to an acceptable level to ensure a zero-injury workforce.

9.2 Hazard Control Strategies

• Engineering Controls

Engineering control of hazards deals with the elimination or isolation of the hazard from the employee, and physically limits the employee's exposure to the hazard.

• Administrative Controls

Administrative controls deal with the directing of people and include policy, procedure and training. Administrative controls reduce or limit that amount of exposure an employee has to a specific hazard.

• Personal Protective Equipment

Personal Protective Equipment is the final line of defense against hazards in the workplace. It is implemented only after other reasonably practical means of eliminating a hazard have been attempted.

9.3 Record Keeping

All formal hazard assessments will be completed and reviewed on a yearly basis or when any job has changes to the tasks assigned to that job and when new hazards are identified from site-specific hazards.

Site-specific hazard assessments will be completed on a company Pre-Job Safety Assessment, Near Miss/Hazard/Incident Report Form or equivalent. These are assessments are reviewed and filed daily.

Copies of workplace hazard assessments will be kept on file for a three-year period.

9.4 Imminent Danger

Definition of Imminent Danger:

- a) A danger which is not normal for that occupation.
- b) A danger under which a person is engaged in that occupation would not normally carry out his work.

No worker shall carry out any work if he or she believes that there exists an imminent danger or believes that it will cause to exist an imminent danger to the health and safety of the worker or any other worker at the worksite. You have the right to refuse work if you think the job you are performing or the tools you are using will put you or your co-workers in imminent danger.

If you refuse to work you must, as soon as practical, notify your employer of your refusal and the reason for your refusal.

On being notified, the employer shall investigate and take action to eliminate the imminent danger and ensure that no other worker is assigned the task until the problem has been rectified. (See Right to Refuse Unsafe Work section 1.11)

9.5 Inspections

Inspection policy section 1.5

Loss exposures are created by the day-to-day activities of any operation. At some point the wear and tear on equipment may make the risks of accidents too high. Inspections are needed to detect these exposures before a loss occurs.

The objectives of inspections are to:

- Identify potential hazards, sub-standard actions, and sub-standard conditions.
- Identify equipment deficiencies.
- Identify problems with standards set by management: insufficient standards, ineffective standards or the lack of standards. Assess the impact of change; identify any problems in remedial actions, problems due to procedural changes and new equipment.
- Evaluate the effectiveness of the safety program. Planned inspections give managers the opportunity to get a firsthand look at how the safety program is progressing and help identify any problems in the program.
- Serve as a pro-active mechanism to reduce the impact and frequency of downgrading events.
- Demonstrate Management's commitment to safety and health.

9.5.1 Information Inspections

Informal inspections involve noting apparent or potential hazards, substandard conditions or actions and, if possible, immediately correcting the problem or notifying the supervisor to initiate corrective actions.

Informal inspections should be conducted by workers and supervisors as part of their normal daily job duties.

9.5.2 Formal Inspections

Formal (planned) inspections are systematic examinations of tools and equipment, and how workers are using these items. Planned inspections shall be conducted by properly trained personnel, using prepared checklists.

Given the short duration of most field work and the inability of on-site personnel to devote time to a detailed inspection, management may designate other personnel to conduct the field inspections at their discretion.

9.5.3 Inspection Reports

The results of all inspection reports shall be recorded and forwarded to the main office. For informal inspections, workers and contractors will utilize the GeoTrek Hazard Assessment Checklist.

10.0 JOB ORIENTATION, OBSERVATION & ASSESMENT

Safety awareness and the observation of personnel, equipment and field conditions must be carried out before work begins. Prior to commencing any field work all crews must on a daily basis initiate and complete the following Pre-Job and ongoing observation procedures:

10.1 Pre-Job Orientation & Equipment Report

The mandatory items to be included in this report are:

- Job data and information as per report form.
- Location of nearest hospital or first-aid facility
- Equipment condition status.
- Personal Protective Equipment status.
- All safety and potential hazard conditions as per report form.
- Corrective action if any.

This completed report to be submitted with time sheets on a daily basis.

10.2 Pre-Job & Task Observation Report

The mandatory items to be included in this report are:

- Pre-Job assessment of crew personnel behavioral status as per report form.
- Ongoing observations of crew personnel actions and procedures as per report form.

10.2.1 Fatigue Management

Fatigue is a physical condition that can result when an individual's physical or mental limits are reached. Fatigue can be associated with physical exertion, mental exertion or inadequate or disturbed sleep. Fatigue can also lead to long term health problems. Managing fatigue is one of the components of an overall approach to fitness for work. GeoTrek Land Survey is committed to providing a safe working environment for all staff by eliminating conditions and work practices that would lead to illness, personal injury, equipment or other property damage. All employees are required to take reasonable steps to ensure their own and others health and safety at work by being fit for work and working safely.

Scope

This section applies to all persons entering GeoTrek workplaces, driving operational vehicles, including rental vehicles used for GeoTrek business. The term "persons" includes all GeoTrek employees, contractors and visitors.

Objectives

- Employees understand the need to be fit for work.
- The maintenance of a safe working environment and operations by minimizing hazards associated with fatigue.
- Assistance through a range of preventative initiatives is offered including education and training strategies that help manage fatigue and related issues.
- Ongoing risk assessment and hazard monitoring takes place.
- Employees who are deemed consistently unfit for work as a result of fatigue are dealt with consistently and fairly in accordance with our values and this procedure.

Responsibilities

Management

- Ensure the Fatigue Management Policy is understood, applied and observed across the company
- Will ensure that work hour standards are being followed and that employees are getting reasonable days of rest
- Ensure that supervisors and employees are provided with fatigue management training
- Ensure that all employees are aware of and cooperate with GeoTrek's policy on operating vehicles or machinery when fatigued
- Will provide appropriate support to employees for fatigue management
- Supervisors
 O Will use risk assessments to identify tasks where impaired fitness for work
 could produce a potential threat to health and safety of employees or contractors,
 cause significant equipment damage or a significant environmental impact and
 implement control measures and/or fatigue prevention
 - Ensure that employees under his or her supervision have had appropriate fatigue management training
 - Monitor fatigue as a hazard in the workplace, and when fatigue is reported by a worker, take appropriate actions to prevent loss.
- Employees
 - Ensuring that they are fit for work, and in particular, not adversely affected bylack of sleep or by physical or mental fatigue
 - Report any concerns about their fitness for work with supervisors
 - Report any concerns about another person's fitness for work with that person and escalate this concern if required
 - Employees shall use the time off between periods of work to obtain sufficient sleep, rest and recuperation/recovery which may include access to proper nutrition and opportunities for physical activity
 - \circ $% \left(Attend and participate in scheduled training activities that provide education about fatigue$
 - Recognize the Fatigue danger signs while driving. Understanding that if any of these symptoms, you may be in danger of falling asleep. Pull of the road and take a nap.
 - Your eyes close or go out of focus by themselves
 - You can't stop yawning or have trouble keeping you head up.
 - You have wandering, disconnected thoughts.
 - You drift between lanes, miss traffic signs, or keep jerking the vehicle back into the lane.
 - You don't remember driving the last few kilometers or have drifted off the road and narrowly missed crashing.
 - o If extremely tired never operate any motor vehicle or heavy equipment.

Minimum Standards

- All employees are required to take an online training course that focuses on the recognition of the signs of fatigue and how to manage fatigue
- The maximum time any person is allowed to work without a fatigue assessment is 12 hours
- No work is to be carried out beyond 14 hours without approval from the Operations Manager
- Supervisors are required to pay particular attention to whether or not employees are, or appear to be, suffering fatigue as a result of their work and take appropriate action. Signs of Fatigue

4

- Inability to see properly, slower reflexes and reactions, micro sleeps (up to 60 seconds where the brain goes to sleep and worker blacks out no matter what they are doing), Automatic behavior (where worker does routine tasks but is not having any conscious thoughts), inability to make good decisions or plans, inability to concentrate, including wandering thoughts, decreased alertness and watchfulness, inability to remember things just done, seen or heard, inability to notice things the worker usually would notice, more mistakes than usual, failure to respond to changes in surroundings or situation, poor logic and judgment, including taking risks the worker usually would not take, inability to respond quickly or correctly to changes, inability to communicate well, inability to handle stress, moodiness (giddiness, depression, irritability, impatient boredom, restlessness, grouchiness) Contributing Factors to Fatigue
- Lack of sleep
- Personal factors -stress in personal life, medical condition, medication etc.
- Work schedule hours, breaks, days off, travelling etc.
- Work task type and length –boring or repetitive tasks etc.
- Work and workplace conditions –exposure to extreme heat or cold etc.
- Workplace safety culture –ensuring proper training, controls and support available

Assessment

- Before starting work a fatigue assessment should be completed. Please consider the following factors when determining whether you are fit for work or whether a co-worker is fit for work.
 - How many hours has the employee worked in the past week?
 What is the pattern of hours worked?
 Are environmental factors a consideration (heat, cold)?
 What is the physical intensity of the work?
 Is the employee suffering from sleep loss?
 Does the employee have a sleep debt?
 Is the employee experiencing life stressors?
 - How well has the employee coped in the past when faced with similar work situations?

Control Measures

- Fatigue Determined by Self-Assessment
 - Fatigued employee will remain at home (or place of rest) and contact the supervisor at a later time for further assessment
 - The person reports to site and is further assessed at that time by the supervisor
 - The supervisor determines whether the person is capable of performing any task.
- Fatigue Determined by Supervisory Observation
 - Can determined by observation, a report of fatigue by an employee, when fatigue is suspected, or when the minimum standards dictate that fatigue must be assessed
 - If a person exhibits three or more symptom of fatigue or very marked symptoms in any one or two areas, the supervisor should then estimate the risk associated with allowing the employee to perform the task in question by using the job task inventory and the risk matrix
 - Discuss with the individual the symptoms that have been observed. Determine if the individual has an explanation for the symptoms (the explanation does not discount the observation, but may offer another reason for why they are not functioning normally)
 - Based on your estimation of the risk involved, make a decision on whether you are prepared to allow the situation to continue on or whether immediate steps need to

be taken to minimize the risk

- Immediate steps include but are not limited to
- Instructing the individual to take a rest break
- Assigning the individual to a lower risk task
- Sending the individual home (although if the level of fatigue is so great, it may not be safe to allow the individual to drive home)
 - A hazard ID and a Job Observation report should be filled out any time signs of fatigue are noted, and action must be taken.
- Management Response to a fatigue related Hazard ID or Job Observation
 - Determine if follow up is necessary
 - Some types of follow up may include but are not limited to
- Medical assessment
- Retraining
- Job design
- Lifestyle modification
- Participation in the Employee Assistance Program
- For cases when an employee's lifestyle choices affect their ability to manage fatigue or where an employee refuses to make the changes deemed necessary by management to be fit for work, an employee may be terminated.

10.2.2 Behavior Based Observation System

Policy

GeoTrek encourages all employees and contractors to participate in identifying and correcting atrisk behaviours and workplace conditions. GeoTrek has an open communication policy that allows and encourages workers to report any behaviours or conditions that they deem as unsafe or are a violation or suspected violation of the rights of another or the law. GeoTrek's open door policy allow all it's employees to voice their questions, concerns opinions and complaints in a safe, confidential, and in anonymous fashion. Employees can convey their reports/concerns in any fashion that they feel comfortable with (email, teams. phone, in person). There is also a form on GeoTrek's Sharepoint program that can be accessed by all employees.

Procedure

- GeoTrek will perform Behaviour Based Observations on employees during the course of normal work. The intent of Behaviour Based Observations is to identify the tasks which are being performed unsafely and the behaviours carried out by workers that led to the unsafe actions. By observing the behavior of our workers on a regular basis and communicating the results of these Behaviour Based Observations, we hope to increase the frequency of safe work behaviours.
 - These behaviour-based observations will be analyzed by HSE for patterns in behaviour and based on that analysis, corrective actions will be suggested.
 - These Observations will also contribute to the safety section of our employee performance review.
 - It is expected that HSE and Management discuss the results of the analysis of these observations during company safety meetings and that follow up on the implemented recommendations will be undertaken.
- Workers and supervisors will also be required to participate in the Job Observation program whereby they will complete a job observation at minimum one observation per crew per day.
 - These observations will be analyzed for patterns and frequencies by the HSE department and corrective actions will be suggested based on that

analysis.

• The results of the analysis will be discussed during monthly safety meetings.

10.3 Short Service Employee and New Employees

Purpose

The Short Service Employee (SSE) Management Program applies to employees or subcontractors who have less than six months experience in the area of work in which they were hired. The purpose of the program is to prevent work related injuries and illnesses to new hires, temporary workers and subcontractors.

General Requirements

All GeoTrek Land Survey Ltd. short service employees and subcontractors are to be managed in accordance with this program to ensure that they have an initial orientation of the Company's health and safety requirements prior to performing work.

- An SSE may only work under the direct on-site supervision of a designated employee who, as one of his duties, serves as a mentor/trainer in safety for the SSE. The mentor/trainer assigned to an SSE must be a knowledgeable, experienced employee who can provide guidance and development for the SSE.
- An exception to the mentor/trainer requirement may be granted to employees who have a high level of previous work experience in the same job functions.
- An SSE must be easily identified while on a job site. This is accomplished by using a unique identifier to be determined prior to starting work.
- A single person crew cannot be an SSE.

Procedure

General

Supervisor Responsibilities to SSE:

- Assure they have been through the GeoTrek Safety Orientation
- Assure they are aware of and understand the contents in GeoTrek Land Survey Ltd. Accident Prevention Program and Emergency Action and Response Plan
- Assure they have completed all mandatory training
- Assign a mentor/trainer to each SSE
- Discuss the job expectations and procedures prior to the job to provide a clear understanding of what is expected
- Notify a client if a SSE will be working at their facility
- Provide customer with a proper identifier so the SSE is easily recognizable
- Obtain SSE acknowledgement of the program (See Attached Acknowledgement Form.)

Mentor/Trainer Responsibilities to SSE:

- Set the proper safety example
- Ensure they have a complete knowledge of their job functions
- Converse frequently with those assigned to them to discuss any questions or concerns

SSE Responsibilities:

• Comply to all GeoTrek Land Survey Ltd. and worksite safety procedures

- Shall consult with and listen to mentor and supervisor
- Shall perform work as directed
- Shall speak up when and if work is deemed unsafe
- Shall wear identifier clothing as instructed

Monitoring

Supervisors will monitor its employees, including SSE personnel and subcontractors, for awareness of the health and safety policies and procedures.

If at the end of the six-month period, the SSE has worked safely, adhered to the Company's health and safety policies and has no recordable incidents attributable to him/her, the SSE identifier may be removed at the discretion of their Supervisor.

10.3.1 Short Service Employee (SSE) Acknowledgement Form

GENERAL:	The Short Service E have less than six n to ensure that thes prior to performing employee who also	Employee (SSE) program applies to nonths service with the Company of the contractor employees have an in g work under direct on-site superviso o serves as a mentor/trainer.	employees and s or craft. The purp itial orientation sion of a designa	subcontractors who pose of the program is of safety requirements ated contractor
SSE Employee Name:			DATE:	
This is to certify that I have received a copy of the Company's Accident Prevention Program and Emergency Action and Response Plan. I have read the rules and understand the contents and agree to abide by these rules. I have successfully completed all mandatory training. Also, I agree to visit with my supervisor and understand other applicable safety rules which apply to the specific work I will be performing on Company's job sites and premises. I understand that my safety and the safety of others is my #1 responsibility. I will not take action until I understand the safe way to perform the tasks assigned to me. I agree to speak up and as necessary stop any job I recognize as unsafe.				
Short Service Employee (Please Print)		Title		Date
Short Service Employee (Signature)				
GeoTrek Land Survey Ltd. Sup Print)	pervisor (Please	Title		Date
GeoTrek Land Survey Ltd. Su	pervisor (<i>Signature</i>)	- 1		1

****New employee orientation form see Appendix 1 for forms**

11.0 SAFE WORK PRACTICES

Safe Work Practices are written descriptions of how work is generally carried out and allow flexibility in how the work is accomplished. Due to the diversity of circumstances and situations, the information contained in Safe Work Practices cannot be considered complete or applicable in every situation.

Supervisors and employees must refer to federal and provincial health and safety legislation, industry practices, customer policy and site-specific requirements to ensure that the work is accomplished safely.

GeoTrek follows and enforces the industry's Life Saving Rules. Ensuring that rules are communicated, and any training needed to perform the jobs safely is obtained. Not all the industries LSR pertain to GeoTrek.

- 1. Drive safely and without distraction. Wear Seat belts follow journey management program.
- 2. Use appropriate Person Protective Equipment.
- 3. Work with a valid work permit and conduct a pre-job Safety assessment
- 4. Obtain authorization before entering a confine space
- 5. Verify isolation before work begins
- 6. Follow prescribed lift plans and techniques
- 7. Control excavations and ground disturbances
- 8. Follow the NO Drug or Alcohol policies.
- 9. Do not smoke outside of designated smoking areas

11.1 Development

Employees, supervisors and management will be involved in the development of Safe Work Practices.

All Safe Work Practices will be developed using a standard format and will be based on a hazard assessment.

11.2 Review

Safe Work Practices will be reviewed periodically to ensure they are complete, accurate and applicable.

Suggestions for additional Safe Work Practices or suggested changes to the existing Safe Work Practices can be made using the Safe Work Practices/Job Procedures Change Form

11.3 Approval

Management and/or the Safety Coordinator will approve all Safe Work Practices.

11.4 Availability

Safe Work Practices applicable to the work being performed will be available to all workers at the worksite.

Safe Work Practices can be used in job-specific training to instruct employees in their job duties and to verify employee competency and understanding.
11.5 Responsibilities

All employees

• Follow the guidelines described in a Safe Work Practice.

Supervisors and Managers

• Ensure that the Safe Work Practices and associated Safe Work Procedures are available at the worksite.

11.6 General Surveying

DRIVING TO FIELD	 Stay alert Seat belt use Eyes on the road No cell phones Avoid Hazardous Roads (due to terrain or weather) Refer to 10.10 and 10.11 for further info on driving All of the above Obey posted speed limits Watch out for heavy trucks/equipment on roads Restrict overland travel when muddy Avoid hazardous drainage/waterway crossings
WORKING ON UNEVEN SURFACES	 Proper footwear. Stay alert to change in terrain So not overload yourself with what you carry Slow down to ensure proper footing
WORKING FROM AND AROUND VEHICLES	 Be careful entering and exiting in high winds Proper use of parking brake Maintain vehicle brakes Do not lean equipment against truck or place equipment underwheel line of travel Be careful when climbing in/out of truck beds Do not park near utility appurtenances Perform walk around to prevent running over utility appurtenances (i.e. phone peds, valve sets, anchors)
WORKING AROUND MACHINERY	 Maintain high visibility (vests) Make sure operator knows you are there Stay in line of sight of operator Avoid working around moving machinery if possible Report missing or damaged safety equipment
WORKING WITH HAND TOOLS	 Wear safety glasses Use tool as it was intended Wear protective gloves Repair or replace damaged hand tools Avoid being n line of recoil of leverage tools or having body parts in line of travel of striking tools See 10.15 and 10.16 for further information

FENCE CROSSINGS	 Use gates if possible Use step assist tool if available Do not cross fence with heavy load Careful of barbed wire on man parts Have buddy assist with fence crossing if possible
WATERWAY CROSSINGS	 See driving within field When on foot, cross at safest place If you feel at danger do not cross waterway Do not enter deep water or fast current Stay out of water during cold weather Sometimes it is safer to wade it than jump it. See 10.17
ATV USAGE	 Wear a helmet Avoid becoming side hilled Do not attempt overly steep climbing or descending Keep ATV/UTV maintained Avoid having sharp objects protruding from vehicle Use extreme care in loading and unloading Secure ATV/UTV to trailer/vehicle securely See 10.7 10.8 and 11.9
FLAMMABLE ATMOSPHERE	 No smoking Avoid flammable atmospheres Do not park vehicle near pipeline valves Do not idle vehicle near pipeline valves Our tools are not meant for highly flammable atmospheres so do not work in areas which require special non sparking tools Suspend work if area seems unsafe
WILDLIFE, PLANTS AND INSECTS	 Carry first aid supplies Carry and use bug repellant Be aware of the presence and dangers of ticks, mosquitos, and other plant and animal hazards Be cautious of areas known to contain plant and animal; hazards and also of the time of year they are most abundant Suspend work and seek medical treatment if necessary See 11.10 and 11.14

WORKING IN WARM	 Avoid dehydration: Rest and drink fluids frequently Avoid sun exposure: proper clothing and sunscreen Be aware that exposed metal surfaces can be very hot Wear light coloured clothing and lightweight fabrics when possible
AND HOT WEATHER	and wear a hat Suspend work when lightning storms approach Take cover when lightning or potential hailstorms approach Do not overexert yourself Watch out for others Suspend work if necessary See 11.12.1 and 11.12.2
WORKING IN COLD WEATHER	 Avoid hypothermic conditions: stay fry, wear clothing that wicks away moisture when exerting yourself Be aware of the dangers of wind chill Wear clothing suitable to the conditions and the work Be aware of the hazards of sunburn on sunny winter days Rest and warm yourself frequently Do not overexert yourself Watch out for others Suspend work if necessary See 11.12.3, 11.12.4 and 11.13
WORKING IN AREAS OF	 Make sure someone knows where you are working and when to
POOR OUTSIDE	expect you back
COMMUNICATION	 Do not stay late – try to be back when expected Make sure cell phone is charged and have external antenna Be aware of your location so you can notify others how to find you (have and be knowledgeable of GPS) if you can call using a cell phone, take measures to summon emergency help such as "spot" GPS locator Carry first aid equipment Carry emergency food and water Be especially careful of your own well being as you may have to get yourself to safety Avoid leaving a stuck vehicle as it provides shelter and is easier to spot than a person

11.7 ATV & Snowmobile Operation

GENERAL	Protecting workers from injuries associated with ATV and snowmobile operation.	
APPLICATION	ATVs and snowmobiles are primarily used in oilfield applications with GeoTrek.	
PROTECTIVE MECHANISMS	Workers must be trained in safe ATV and snowmobile operation. PPE (Helmet, Gloves, Safety Tether (or alternate safety device/kill switch on newer models)) OH&S Legislation	
SELECTION AND USE	 Recommend a 400-500cc machine All lights in working order Equipped with reverse Recommend quad tracks versus a snowmobile Manufacturer's Recommendations 	
SUPERVISOR RESPONSBILITIES	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training, making sure only trained persons operate machine. All equipment rented or owned must meet GeoTrek Standards.	
	 A pre-job safety meeting must be conducted during which the manual must be referenced in order to distinguish proper use of engine kill switches, tethers or alternate safety devices. Hazards associated with the use of ATVs are to beidentified and controls discussed. Ensure the proper PPE is worn as set out in the OH&S Legislation and manufacturer's recommendations. Helmets to be worn at all times with no exceptions Throttle kill switch tether to be utilized and attached to the work at all times including stop and start conditions. Throttle kill switch to be used. On snowmobiles that are not equipped with a safety tether, the manual is to be referenced to determine the alternate safety device or kill switch to be used. Gloves must be worn at all times when operating. Ensure that you know the owner's manual and the vehicle labels. At a minimum the equipment must be equipped with Working safety tether or alternate kill switch Lights Reverse Base your decisions on your riding ability and the capabilities and limitations of your ATV and/or snowmobile. Maintain a minimum 60m distance separation between riders Do not follow in the same track Follow the recommended maintenance schedule set out by the manufacturer as well as regular inspections as per GeoTrek Policy A Pre-tri p and Post-trip visual inspection must be done, and any deficiencies noted in a Maintenance request form 	

11.8 UTV Operation

GENERAL	Protecting workers from injuries associated with UTV Operation	
APPLICATION	UTVs are primarily used in oilfield applications with GeoTrek.	
PROTECTIVE	Workers must be trained in safe UTV operation.	
MECHANISMS	PPE (Seat Belt, manufacturers recommendations, Helmet)	
SELECTION	1. Recommend a 900cc machine	
AND USE	2. Must be fully enclosed with working seatbelts	
	3. All lights in working order	
	4. Equipped with beacon and whip 5. Recommend guad tracks for winter use	
	6 Manufacturer's Recommendations	
	7. Heater install recommended	
	8. Fire suppression equipment	
SUPERVISOR	Supervisors are responsible to facilitate and/or provide proper instruction to	
RESPONSBILITIES	nersons operate machine. All equipment rented or owned must meet GeoTrek	
	Standards	
WORKER	1. A pre-job safety meeting must be conducted during which the manual must be	
RESPONSIBILITIES	referenced in order to distinguish properuse.	
	2. Hazards associated with the use of UTVs are to be identified and controls	
	discussed.	
	3. Ensure the proper PPE is worn as set out in the OH&S Legislation and	
	manufacturer's recommendations.	
	 Hermets to be worn at all times with no exceptions Seat helts to be worn at all times with no exceptions 	
	4. Ensure that you know the owner's manual and the vehicle labels.	
	1. At a minimum the equipment must be equipped with	
	Working beacon and whip	
	• Lights	
	Reverse	
	Seat Belts	
	5. Ensure all cargo is secured in the cargo box	
	6. Base your decisions on your riding ability and the capabilities and limitations of	
	your OTV.	
	2. Do not follow in the same track	
	3. Never attempt to turn vehicle while going up or down slope. Always wait	
	to turn until you have completed your climb or descent	
	4. Always keep UTV at least 6 feet away from sharp embankments or	
	ditches	
	7. Never use a phone or tablet while operating UTV	
	 Always obey posted speed limits and where no speed is posted, never exceed 40 kms/hr 	
	9 Always drive according to the weather conditions and conditions of terrain	
	10. Be alert to possible waterways, crossings, marshy ground that may not be	
	immediately visible.	
	11. Be alert when entering and exiting UTV in high winds	
	12. Maintain eye contact with persons that may be working near you	
	13. Always ensure operators of other equipment know you are there	
	14. Follow the recommended maintenance schedule set out by the manufacturer	
	as well as regular inspections as per Geotrek Policy 15 A Pre-trin and Post-trin visual inspection must be done, and any deficiencies	
	noted in a Maintenance request form	

HAZARDS AND	1. Hazard: Vehicle Incident	
CONTROLS	Controls: Valid driver's l	icense, UTV training, fatigue
	management training, P	roper PPE, manufacturer's
	recommendations	
	2. Hazard: Struck by moving equipm	ent
	Controls: High visibility of	clothing, approved footwear, UTV training
SUMMER FIRE	1. Be aware of the local fire hazard w	varning posted for the area.
HAZARD	2. Try to avoid tall grass areas	
	3. Do not idle on dry vegetation.	
	 Park on cleared, bare areas of 	f soil or gravel
	 Stop regularly, inspect and clear very around the exhaust system. Inspect muskeg and peat areas. 	egetation that has been caught up in and It more regularly when travelling through
	5. Carry fully functional fire suppre filled portable or backpack water p	ssion equipment: fire extinguishers and pump tanks.

11.9 Chainsaw Use

GENERAL	Protecting workers from injuries associated with chainsaw use.	
APPLICATION	Chainsaws are used in surveying operations in wooded areas.	
PROTECTIVE MECHANISMS	Workers must be trained in safe use of chainsaws.	
SELECTION AND USE	As per safe job procedures.	
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements.	
WORKER RESPONSIBILITY	 This training must include a minimum of the following elements: The proper PPE to be worn is set out in the manufacturer and Occupational Health and Safety Legislation. Ensure that the chain brake is functioning properly and stops the chain. The chain must be sharp, have the correct tension and be adequately lubricated. The correct methods of starting, holding, carrying or storage and use of the saw as directed by the manufacturer must be used. The chainsaw must not be used for cutting above shoulder height. Fueling must be done in a well-ventilated area and not while the saw is running or hot. An approved safety container must be used to contain the fuel used along with a proper spout or funnel for pouring. When carrying/transporting a chainsaw, the bar guard must be in place, the chain bar must be toward the back and the motormust be shut off. 	

11.10 Driving

GENERAL	Protecting workers from injuries associated with driving operations.
APPLICATION	Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, company procedures, and manufacturer's recommended guidelines.
PROTECTIVE MECHANISMS	Highway Traffic Act Company Rules Review of Driver's Abstract Manufacturer's Recommendations
SELECTION AND USE	Company Rules Manufacturer's Recommendations
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training. Compliance
	Enforcement
WORKER	1. Ensure you have a valid operator's license.
RESPONSIBILITY	 Be conversant with traffic laws and regulations. (Company is exempt from the use of logbooks)
	 Distracted driving. The use of any hand-held devices is prohibited in accordance with regulation
	4. Drive defensively.
	 Pull-through parking techniques should be utilized. Back in when practical.
	6. Driving under the influence of alcohol or drugs is prohibited.
	 Driving when fatigued is prohibited. No driver shall exceed 13 hours of driving time in a day.
	8. Ensure seatbelts are worn at all times when traveling.
	9. Be familiar with vehicle and its capabilities
	10. Avoid offering rides to strangers or hitchhikers.
	 Ensure maintenance is performed on vehicle regularly. Any deficiencies are to be noted in the Equipment Inspection.
	12. Perform an inspection prior to use or every 24 hours; ensureany deficiency is documented in the Equipment Inspection.
	13. Any deficiency that affects the safe operation of the vehicle must be repaired prior use of the vehicle on a public road.
	14. Always preform a walk around inspection prior to travel and ensure all loads are properly secured.
	15. Use good judgment and understand the basic recovery skills appropriate to the vehicle you are driving.
	16. All motor vehicle incidents must be immediately reported to the employer.
	17. Unattended vehicles should not be left running.

11.11 Winter Driving

GENERAL	Protecting workers from injuries associated with winter driving.
APPLICATION	Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, company procedures, and manufacturer's recommended operating guidelines.
PROTECTIVE MECHANISMS	Highway Traffic Act Company Rules Manufacturer's Recommendations
SELECTION AND USE	Company Rules Manufacturer's Recommendations
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training. Compliance Enforcement
WORKER	1. Ensure you have a valid operator's license.
RESPONSIBILITY	 Be conversant with traffic laws and regulations. Drive defensively. Back in when practical. Ensure to clear snow and ice from all windows, lights and mirrors. Avoid using cruise control on icy roads. Accelerate and brake gently to reduce skids or spinouts. When making "first tracks" on road, drive at a dramatically reduced rate of speed as the layer of snow may be covering uneven/rough/unsafe terrain. Ensure winter clothing does not restrict movement, vision or hearing. Ensure fuel tank is full whenever possible. Monitor weather reports.

GENERAL	Protecting workers from injuries associated with material lifting and carrying.	
APPLICATION	Most lifting accidents are due to improper lifting methods. All manual lifting should be planned, and safe lifting procedures followed.	
PROTECTIVE MECHANISMS	Safe lifting procedures PPE	
SELECTION AND USE	Safe lifting procedure	
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training. Selection of lifting equipment	
WORKER RESPONSIBILITY	 Ensure that you know your physical limitations and the approximate weight of the materials. Obtain assistance in lifting heavy objects. Ensure a good grip before lifting and employ properlifting technique. Avoid reaching out. Be aware of hazardous and unsafe conditions. 	

11.12 Manual Lifting and Carrying

Materials, articles or things,

- a) GeoTrek employees may be required to be lifted, carried or moved, shall be lifted, carried or moved in such a way and with such precautions and safeguards, including protective clothing, guards or other precautions as will ensure that the lifting, carrying or moving of the material, articles or things does not endanger the safety of any worker
- b) shall be transported, placed or stored so that the material, articles or things:
 - (i) will not tip, collapse or fall
 - (ii) can be removed or withdrawn without endangering the safety of any GeoTrek worker
- c) to be removed from a storage area, pile or rack, shall be removed in a manner that will not endanger the safety of any GeoTrek worker

Hazards

To assess the hazards of manual material handling operations, GeoTrek employees will consider the load, the task, the environment in which the task is performed, and the operator. When these factors interact with each other, they can create hazards that result in injuries. A load may be hazardous because of:

- weight
- size
- shape (making it awkward to handle)
- coupling (type of grip on the load)
- slippery or damaged surfaces
- absent or inappropriate handles, and
- imbalance (i.e., changing center of gravity)

The task or method of handling may be hazardous when it involves:

- lifting or lowering
 - repetitively
 - quickly
 - for extended periods of time
 - while seated or kneeling
 - immediately after prolonged flexion
 - Shortly after a period of rest
- An inability to get close to the load
- moving the load over large distances
- accuracy and precision required because of
 - fragile loads, or
 - specific unloading locations
- materials positioned too low or too high
- hazardous movements or postures (e.g. Twisting, extended bending and reaching)
- multiple handling requirements (e.g., lifting, carrying, unloading) Environmental factors include:
- temperature (beyond a 19–26°C range)
- relative humidity (beyond a 35–50% range)
- lighting
- noise
- time constraints (e.g., machine-paced work or deadline pressures) physical conditions such as
 - obstacles
 - floor surfaces (e.g., slippery, uneven or damaged) Operator characteristics that affect the handling of loads include:
- general health
- physical factors
 - height
 - reach
 - flexibility
 - strength
 - weight
 - aerobic capacity
- pre-existing musculoskeletal problems
- psychological factors
 - motivation
 - stress

Control Measures

The best control measure is to eliminate the need for GeoTrek workers to perform manual handling tasks. Since this is not always possible, design manual handling tasks so that they are within the GeoTrek workers' capabilities. Considerations include the load itself, the design of the workstation and work practices. Providing mechanical handling devices or aids can often eliminate the task itself or ease the demands on the GeoTrek worker.

Task Design

The Load Reduce the weight of the load by decreasing the:

- size of the object (specify size to suppliers)
- weight of the container (e.g., plastic is _{lighter} than steel)
- capacity of containers
- load in the container

Conversely, consider increasing the weight of the load so that it may only be handled mechanically. This can be done by the use of:

- palletized loads, and
- larger bins or containers

Decrease the load on the GeoTrek worker by:

- limiting the number of objects, he/she is required to handle during the day
- designating heavier loads as team lifts (i.e., two or more persons)
- changing the size and shape of the load so that the worker can get closer to the load's center of gravity

Workstation Design

Reduce the distance over which the load has to be moved by relocating production and storage areas. Design GeoTrek employees workstations so that workers:

- can store and handle all material between knuckle and shoulder height; waist height is most desirable
- can begin and end handling material at the same height
- can face the load and handle materials as close to the body as possible
- do not have to handle loads using awkward postures or an extended reach, and do not handle loads in confined spaces that prevent them from using good body mechanics.

Facilitate access to material by:

- providing workbenches and other workstations with toe cut-outs, so that workers can get closer to the load
- supplying bins and totes with removable sides
- removing obstructions, such as unnecessary railings on bins

Work Practices Lifting and Lowering

GeoTrek field employees should avoid carrying excessive loads (bundles of lath, survey pins, sledgehammer etc.); the use of quads and or carrying bags should be utilized.

Eliminate the need to lift or lower manually by providing and ensuring proper use of:

- lift trucks, cranes, hoists, scissor lifts, drum and barrel dumpers, stackers, work dispensers, elevating conveyors, articulating arms and other mechanical devices
- gravity dumps and chutes
- power lift tail gates on trucks, and hand trucks to ensure easy transfer of material from the truck to ground level
- portable ramps or conveyors to lift and lower loads on to workstations

Pushing and Pulling

Eliminate pushing or pulling by ensuring the use of:

- powered conveyors, powered trucks, slides, chutes, monorails, air tables and similar mechanical aids Make loads easier to push or pull by ensuring the use of:
- carts, hand trucks and dollies with large diameter casters and good bearings, and grips or handles on loads or mechanical aids, placed to provide optimal push force and prevent awkward postures.

Instruct employees to:

- push rather than pull
- avoid overloading limit the load pushed or pulled at one time
- ensure the load does not block vision
- never push one load and pull another at the same time

Carrying and Holding

GeoTrek Field employees should use the provided lath carrying bags and storage bins on quads whenever feasible.

Reduce carrying and holding forces by:

- evaluating the workflow determine if heavy loads can be moved mechanically over any distance
- converting the operation into a pushing or pulling task
- providing carts, slings or trolleys
- providing portable containers in which to place awkward loads
- providing grips or handles on loads
- limiting the distance over which the load is moved

Environmental Factors

Maintain an optimum environment by ensuring that:

- the temperature of the work area is at an acceptable level
- in a hot environment
 - workers take frequent breaks away from the heat
 - workers drink frequently from liquids provided near the work site in a cold environment,
 - workers wear good insulating clothing
 - loads are easy to handle when gloves and heavy clothing are worn
- humidity is at an acceptable level
- lifting instructions can be heard in a noisy environment
- lighting levels are adequate for the workplace
- the layout of the work area provides better access to the load
- the aisles are clear of obstacles
- signs are posted where there are gradients in the slope of the floor; whenever possible, limit such slopes to 10 degrees

Storage

Provide proper storage facilities such as:

- storage boxes and containers that can be
- lifted mechanically rather than requiring manual handling
- avoid deep shelving that make retrieving or placing a load difficult
- racks or shelf trucks to store material, thus eliminating the need for lifting the containers
- storage bins and containers with fold down sides for easier access to loads

When storing loads, employees should:

- store loads in easy to access locations
- store loads between knuckle and shoulder height

Personal Factors Clothing

GeoTrek field employees will wear fire retardant cover-alls and steel toed boats in addition to the standard safety vest.

Wear appropriate clothing and safe, comfortable boots:

 clothes that are comfortable around the hips, knees and shoulders, and that do not have exposed buttons or loose flaps, and non-slip shoes with broad based low heels. Safety footwear is essential when handling heavy loads on a regular basis **Fitness**

GeoTrek encourages workers to remain in good physical condition by participating in regular exercise programs. To stay healthy, Health Canada's Physical Activity Guide recommends 60 minutes of light effort, or 30 minutes of vigorous effort, every day.

Incorporating exercise is easier than you think. For example:

- use the stairs, not the elevator
- walk instead of driving
- stretch or exercise between TV shows

The following tips can also enhance fitness:

- use good body mechanics when sitting, standing, and lifting, etc. For example, when lifting:
 - maintain a curve in the lower back
 - stabilize the back by lightly contracting the stomach muscles
- take regular task breaks to avoid or reduce muscle fatigue
- get adequate sleep on a good mattress
- eat sensibly; follow the Canada Food Guide

General Precautions

GeoTrek employees should take the following precautions when handling loads:

- test the weight of the load to ensure it can be lifted securely; if not, make adjustments
- grip the load securely
- protect hands against pinch points
- practice good team lifting
- get help with awkward loads
- always use the mechanical devices and aids provided
- don't rush or cut corners

Maintenance

GeoTrek has preventive maintenance program to ensure that the following is completed on a regular basis:

- Vehicles are kept in good working condition (see vehicle maintenance schedule in field books)
- Ensure PPE is in good working condition and readily available

Training

GeoTrek training includes

- 1. how to identify hazardous loads or handling tasks
- 2. the proper selection and use of mechanical handling aids
- 3. safe postures and manual lifting techniques to minimize strain
- 4. safe lifting techniques
- 5. Online ergonomics training

11.13 Office Safety

GENERAL	Protecting workers from injuries associated with the office environment.
APPLICATION	To ensure employees are aware of the potential and existing hazards in the office environment.
PROTECTIVE MECHANISMS	ERP (Emergency Response Plan) Manufacturer's recommendations Alberta Fire Code MSDS
SELECTION AND USE	ERP (Emergency Response Plan) MSDS
SUPERVISOR RESPONSIBILITIES	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.
WORKER RESPONSIBILITIES	 Ensure you are conversant with emergency evacuation. Ensure that all electrical cords are in good condition and are not overloaded. Ensure that computer monitors are the correct height and kept clean. Ensure floors and aisles are kept clear and not cluttered. Ensure that only one drawer of filing cabinet is open at onetime and that drawers are closed when not in use. Ensure proper type of fire extinguisher is available. When transporting heavy materials ensure that handcarts and trolleys are used properly. Operate microwave according to manufacturer's instructions. Ensure photocopier is maintained according to manufacturer's specifications. Ensure chairs are in good repair. Ensure rugs are kept clean and in good repair – free oftripping hazard.

11.14 Use of Portable Fire Extinguishers

GENERAL	Protecting workers from injuries associated with IMPROPER use of fire extinguishers.	
APPLICATION	Portable fire extinguishers must be made available, inspected and maintained on a regular basis to ensure proper operation in an emergency.	
PROTECTIVE MECHANISMS	Safe work procedure Alberta Fire Code Manufacturer's Recommendations PPE	
SELECTION AND USE	As per safe work procedure Alberta Fire Code Manufacturer's Recommendations	
SUPERVISOR	Supervisors are responsible to facilitate and/or provide proper instruction to	
RESPONSIBILITY	their workers on protection requirements and training. Proper selection of equipment. Conversant with proper regulations.	
WORKER RESPONSIBILITY	 Ensure you are fully trained with operation and maintenance of fire extinguishers. Check pressure gauge. Check extinguisher body for damage or deterioration. Check hose and nozzle for obstruction. Check date of manufacture. Attach visual seal. 	

11.15 Power and Hand Tool Use

GENERAL	Protecting workers from injuries associated with the use of power and hand tools.
APPLICATION	Power tools and hand tools are to be used and maintained in compliance with manufacturer's guidelines.
PROTECTIVE MECHANISMS	PPE Manufacturer's Specifications
SELECTION AND USE	As per job requirement
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training. Review the project and prepare a list of required tools.

WORKER RESPONSIBILITY	 Electrical tools must have 3 wire (grounding) cord and plug, excluding double insulated tools.
	On/Off switches must be functional and positioned so operator has access.
	3. Accessories can only be used that are designed for use with the tools specified.
	 Chisels, punches, hammers etc. should have all burrs ground from striking area.
	5. Cracked and/or splintered handles must be replaced.
	6. Tools must be cleaned and repaired after use, before storage.
	7. Tools are to be used for designed purpose only.
	 Repairs to tools must be performed by qualified personnel, using O.E.M. parts or equivalent.

11.16 Axe Use

Protecting workers from injuries associated with the use of axes and similar tools										
For use when clearing bush and trees for line of sight and all terrain vehicle access.										
PPE (Safety glasses, Gloves, Hard hat)										
As per job requirement										
Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training. Review the project and prepare a list of required tools.										
 Axes must be stored in a sheath when not in use Axes are to be sharp and free of rough edges and "mushrooms" Ensure head is secure to handle before use Keep others at a safe distance for flying debris Check no vegetation will obstruct or deflect your swing Ensure balanced footing with no obstructions. Clear the work area of debris. Look for overhead obstructions A long-handed axe is preferred as it is less likely to hit your leg Use both hand when chipping and maintain body position so blade will hit ground if you miss your target 										

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11.17 Working on Water or Ice

GENERAL	Protecting workers from hazards associated with working on open water or ice									
APPLICATION	To ensure that employees are aware of the potential and existing hazards encountered while working on open water or on ice.									
PROTECTIVE MECHANISMS	OH&S Legislation									
SELECTION AND USE	OH&S Legislation									
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.									
WORKER RESPONSIBILITY	 When an employee is transported to a worksite by boat, the employee is required to wear an approved life jacket while in the boat. 									
	 When an employee performs work from a boat for a prolonged period of time, personal floatation devices may be worn if there is a life jacket readily accessible to each employee. 									
	3. When an employee is required to work on ice and the water under the ice is more than 1 meter in depth at any point, the employee will test the depth of the ice before the work begins and as often thereafter as is necessary to ensure that the ice will support any load to be placed on it.									

11.18 Use of a Helicopter for Survey Purposes

GENERAL	Protecting workers from hazards associated with helicopters and their use										
APPLICATION	To ensure that employees are aware of the potential and existing hazards encountered while utilizing helicopters for survey purposes										
PROTECTIVE MECHANISMS	PPE Contractor orientation Contractor safety Specifications Safe Work Procedures										
SELECTION AND USE	Selected by Client										
SUPERVISOR RESPONSIBILITY	Supervisors are responsible to ensure workers receive proper instruction from the operator of the equipment and that workers have read and understand the safe work procedure.										
WORKER RESPONSIBILITY	 Workers are required to read and understand the safe work procedure provided Workers are required to wear the proper PPE and to ensure they are utilizing the safety mechanisms provided by the operator of the helicopter (i.e.; seatbelts and harnesses) Workers are required to participate in an orientation provided by the helicopter operator and to sign off. 										
	 utilizing the safety mechanisms provided by the operator of helicopter (i.e.; seatbelts and harnesses) 3. Workers are required to participate in an orientation provide the helicopter operator and to sign off. 										

All workers MUST receive and sign off on an aircraft orientation prior to any work performed with helicopters. These orientations must include the following emergency information.

- Location, contents and use of all emergency gear
- Fire extinguisher, first aid kit, ELT, survival kit, sat phone
- Emergency Deplaning Procedures
- High Impact Landings

Approaching or Deplaning

- Make eye contact with the pilot before approaching the aircraft
- Do not approach or deplane without the pilot's permission
- Never approach or deplane to the rear of a helicopter
- Keep head low when near or under main rotor
- Do not lift anything higher than shoulder height
- Secure all loose objects (including hats) so they cannot be blown by rotor downwash
- Do not step up and over a large rock or stump while approaching or leaving and aircraft
- Never approach downhill or leave uphill
- In the event that a hover entry or exit is deemed necessary by the pilot, the passengers shall be briefed accordingly and should follow instructions given by trained personnel.

Loading and Unloading Gear

- Never carry gear in your lap
- Leave emergency exits accessible
- Ensure nothing is left hanging out of compartments or doors
- NO BEAR SPRAYS are allowed in the cabin area and should be carried in a baggage compartment

External Load Operations (Sling Load for ATV's or Snowmobiles)

PPE: Hardhat with chinstraps/ear defenders, gloves, safety glasses

- Receive briefing from pilot on condition and operation of straps, slings and cables
- Straps, cables, land-yards are to be inspected for any cuts, broken strands
- Condition and Operation of safety latches and swages to be inspected
- Notify pilot if any defects are found in any of the equipment
- Be aware of and ensure pilot is aware of trees or branches that may contact the load
- Be cautious of blowing snow and reduced visibility in winter conditions
- Ensure hooks are firmly closed by pulling downwards twice
- Visually confirm all safety latches are closed
- Never weave or cross lanyards

11.19 Repetitive Strain Injuries

Repetitive Tasks

REPETITIVE STRAIN INJURES (RSI) are a disabling condition of the soft tissues and joints of the body. Most often affecting the upper limbs and the neck. Repetitive movements can affect muscles, tendons, ligaments, bones, joints and bursa. RSI's cause pain, tenderness, redness, swelling, weakness and possibly limited movement in the affected area.

RSI type of injuries are most often associated with jobs that: require long periods of repetitive movement; require long periods of holding the body in a fixed position.

Combine the above with jobs that require the use of vibrating tools or equipment, jobs that put excessive pressure on isolated areas of the hand or fingers (i.e. Pulling triggers) and the chances of developing an RSI are increased.

There are a variety of RSI injuries. Examples are as follows:

- Tendinitis
- Epicondylitis
- DeQuervaines' disease
- Trigger finger
- White finger

Carpal Tunnel Syndrome (CTS) is one of the more common repetitive strain injuries. Following is a brief description of this type of injury:

• A nerve problem caused by too much pressure being put on the median nerve that runs through the wrist. When the nerve is compressed at the point it passes through the narrow tunnel of the ligament and bone at your wrist, it causes pain and numbness. A pins and needles sensation may occur as well as burning and pain in your fingers. Advanced stages of this condition could result in difficulty in grasping and holding objects.

Safe Work Practices

Repetitive Tasks

There are many conditions that can put pressure of the nerve in the wrist. GeoTrek employees placing iron pins, pounding lath, and drafting for long periods are at risk of repetitive task injuries. Performing these jobs in cold weather and working in awkward positions can also contribute to the problem. The following are tips on how to reduce the chances of developing carpal tunnel syndrome (CTS).

- Try to keep your wrist in a more neutral or comfortable position. Do conditioning exercises to strengthen your hands and wrists.
- Avoid overloading small muscle groups. Rotate tasks when possible, this will give you breaks in your routine.
- Use the right tool for the job. Using the wrong tool and bending writs awkwardly may cause problems.
- Work at properly designed workstations.
- When working a lot with computers consider the following....

The best combination of equipment, furniture and posture to suit your comfort and efficiency: Your chair should be selected on the advice of an expert that understands your needs and habits, etc. This may sound excessive, but the right chair will make all the difference in your comfort.

Your monitor shouldn't be too high or low. Your monitor shouldn't be too high or low. You should be looking slightly down towards the middle of the screen. Repetitive Task Posture:

- - Consider what posture will be comfortable for you as you perform this repetitive task.
 - Sit so your thighs, forearms and hands are parallel with the floor.
 - Your fingers, wrists, arms and back are in comfortable and relaxed positions.
 - Your feet are flat on the floor or on a footrest.
 - Try a wrist rest. The extra lift is designed to keep your wrist and fingers more comfortable.
 - Try wrist supports. Again, these may help keep your wrists in their natural position.

- Try an ergonomic keyboard as another way of getting your hands and wrists in a more natural position.
- Keep your mouse at the same height as your keyboard. Keep it close so you don'thave to reach.
- Take periodic breaks. Move around, stretch and exercise to increase circulation and ease the tension.
- Consult a doctor, ergonomic specialist or computer expert for advice on posture and workplace ergonomic.

11.20 Flammable and Combustible Liquids.

Purpose

This policy establishes requirements to minimize the fire and explosion hazard associated with flammable liquids in containers and portable tanks.

Flammable and combustible liquids are liquids that can burn. They are classified, or grouped, as either flammable or combustible by their flashpoints. Flammable liquids will ignite (catch on fire) and burn easily at normal working temperatures. Combustible liquids can burn at temperatures that are usually above working temperatures.

There are several specific technical criteria and test methods for identifying flammable and combustible liquids. Under the Workplace Hazardous Materials Information System (WHMIS) 1988, flammable liquids have a flashpoint below 37.8°C (100°F). Combustible liquids have a flashpoint at or above 37.8°C (100°F) and below 93.3°C (200°F).

- **FLASHPOINT**: The minimum temperature at which a liquid gives off vapor concentrated enough to form an ignitable mixture with air near the surface of the liquid within a vessel. It is specified by the appropriate testing procedure and apparatus.
- Flammable Liquids: A flammable liquid is any liquid having a flash point below 100°F (37.8°C). Flammable liquids are also known as Class I liquids and subdivided according to flash point and boiling point as indicated in the table below.
- Combustible Liquids: A combustible liquid is any liquid having a flash point at or above 100°F and is known as a Class II or III liquid as indicated in the following table.

Storage and Handling

- Employees shall wear the appropriate PPE when handling flammable liquids,
- Keep flammable liquids in a well-ventilated area to reduce vapour concentrations and exposure,
- Free of ignition sources,
- Cool (temperature controlled) and dry,
- Supplied with adequate firefighting and spill clean-up equipment,
- accessible by firefighters.
- labelled with correct and suitable warning signs. For example: "No Smoking" and WHIMIS
- SDS for all flammable and combustible liquids readily available for products used,
- Make sure to use approved container/safety cans for storage and transporting,
- Inspect containers to make sure there is no damage.

Fire prevention

To prevent fires, flammable materials must be properly managed in the workplace. There are three main ways to prevent fires:

- 1. Limit the amounts of flammable and combustible materials
 - Keep only what you need on-site
 - Purchase materials in the smallest volumes necessary
 - At work locations, keep only those chemicals that are needed for the present task
 - Do not let hazardous wastes accumulate at the work site
 - Store products, including wastes in proper containers
 - Keep flammable materials separate from other processes and storage areas
- 2. Provide proper ventilation to ensure flammable vapours do not accumulate
 - Install properly designed ventilation in storage area
 - Ensure that processes that use or make flammable materials do not exhaust back in the work site
 - Ensure that equipment where flammable materials are used, are exhausted outside of the building, and away from air intakes
 - Ventilation systems must be properly maintained and comply with the Alberta Building Code.
- 3. Control ignition sources
 - Ground and bond all work, and ignition-proof equipment
 - Ensure that there is no smoking in work areas where flammable materials are stored or used Never store flammable materials near hot equipment or open flames
 - Use intrinsically safe and non-sparking tools

11.20.1 Refueling Gasoline Powered Tool, Mobile equipment, and/or Gas Cans

PPE: Approved eye protection, gloves.

Job Steps:

- Remove the item to be refueled from the back of the truck and place it on the ground (as level as possible)
- Ensure that all sources of ignition in the area are off (truck turned off, no smoking, no hot engines, no electric/electronic equipment in the vicinity, etc.)
- Remove the cap from the item to be refueled.
- Make sure that the containers cannot easily be knocked over during filling,
- Always use a pourer and/or funnel to avoid spills,
- Do not overfill the item. Try to leave enough room at the top of the reservoir to allow for expansion.
- Before putting the cap back on, check to be sure that all gaskets or seals are in place on the lid.
- Put the cap back on and ensure that all caps are screwed on snugly.

NEVER REFUEL A PORTABLE CONTAINER WHILE IT IS STILL IN CONTACT WITH THE VEHICLE.

The static electricity that is created while you are fueling could cause an explosion if the item is not on the ground.

NEVER USE A CELL PHONE WHILE REFUELING A VEHICLE. ALWAYS REMAIN OUTSIDE YOUR VEHICLE WHILE REFUELING

Training

Users should receive training on the correct safety procedures for the following tasks for including but not limited to:

- Dealing with potential emergencies, including the use of firefighting equipment, and spillage procedures,
- The use of protective clothing, such as footwear, gloves and goggles, and when to wear them,
- The need to know not to smoke, eat or drink when handling petrol,
- The need to wash properly with plenty of soap and water after finishing work, or at any time when skin becomes contaminated with petrol,
- The correct methods of handling and lifting.

Basic steps in responding to a petrol spill

- 1. Stop the spill. The leak or spill should be stopped if this can be done safely. Stop decanting, replace screw caps etc.
- 2. Contain and recover the spill of the spill or leak cannot be stopped, catch the flowing liquid using a container, shovel or whatever is available. Spreading sorbent material, such as absorbent granules, sand, sawdust, synthetic absorbent pads or dirt from the ground can stop the flow and soak up the petrol on the ground. When petrol is transported, stored or decanted there should always be spillage equipment at hand ready to deal with any leaks or spills. Never wear clothing on which petrol has been spilt stop work and change into uncontaminated clothing before continuing to work.
- 3. Collect the contaminated absorbent material Brooms can be used to sweep up the sorbent material and put it into buckets. Remember to control ignition sources. Fresh granular absorbent material such as sand can then be re-spread on a road or path to control the residual slipperiness.
- 4. Secure and dispose of the waste.

First-aid measures

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Wash clothing before re-use. Clean shoes thoroughly before re-use. Get medical attention.

Inhalation: Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If exposure to vapour, mists or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any symptoms persist obtain medical advice.

Ingestion: Get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Fire Fighting Measures: Follow the building fire action procedures and if attempting to fight a fire, use foam, dry powder chemical or carbon dioxide extinguisher.

For more spill responses see section 15.9 "Spill Management and Response"

11.20.2 Aerosol Spray Paint Safety

- Make sure to keep away from heat, sparks and open flame. Don't smoke. Extinguish all flames, pilot lights and heaters, and any other sources of ignition.
- Avoid prolonged exposure to sunlight or heat from radiators, stoves, hot water and other hot items that may cause bursting.
- Do not puncture, incinerate or burn aerosol cans. Do not discard cans in a trash compactor. But do recycle them when empty. Dispose of empty cans following hazardous waste guidelines
- Vapors are harmful; avoid continuous breathing of spray mist
- Avoid contact with your eyes and skin. Wear gloves or wash your hands after using.
- Do NOT paint in the vicinity of an open flame,
- Do NOT paint any surface that will be in contact with an open flame,
- Do not store at temperatures above 50 degrees C

Storage of aerosol cans

Storing aerosol cans, especially inappropriately, can also be dangerous. Store cans in a cool, secure and well-ventilated space away from human contact. If cans are left in an ordinary environment, then the changes in temperature can cause the can to contract and expand which causes stress. Use a well-ventilated and spacious storage area to prevent gasses from filling the room.

Fire Safety

It is important to note that ignited aerosols can produce a violent surge of flames and can quickly spread to other cans. The use of external chemicals on the outside of the can could also cause a chemical reaction. Ensure spray cans are separated from other chemicals to prevent the shell becoming corroded. Storing cans in cardboard cartons has been recommended by some due to the wetting of the cardboard helping to control the blaze.

First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

Skin Contact: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

Eye Contact: If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.

Ingestion: If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately. Most Important Symptoms/Effects: Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

12.0 SAFE JOB PROCEDURES

Safe Job Procedures are written step-by-step descriptions of how to perform a task from start to finish, in the safest manner.

12.1 Development

Procedures should be developed for high hazard work or where historical information, legislation, a hazard assessment or customer requirements dictate.

Employees, supervisors and management will be involved in the development and/or review of the Safe Job Procedures.

12.2 Review

Safe Job Procedures will be reviewed periodically to ensure they are complete, accurate and applicable.

Suggestions for additional Safe Work Procedures or suggested changes to the existing Safe Job Procedures can be made using the Safe Work Practices/Job Procedures Change Form or contacting the Safety Coordinator.

12.3 Approval

Management and/or the Safety Coordinator will approve all Safe Job Procedures.

12.4 Responsibilities

All employees

• Follow the guidelines described in Safe Job Procedures.

Supervisors and Managers

• Ensure that the Safe Job Procedures and associated Safe Work Procedures are available at the worksite.

12.5 Starting a Chainsaw

Job: Starting a chainsaw PPE: eye protection, head and face protection, hearing protection, approved footwear, leg protection, hand protection Job Steps:

- Perform a hazard assessment
- Ensure you are wearing the correct PPE
- Inspect the saw carefully
- DO NOT use the saw if it is not up to standard

- Use one of the three approved methods of starting the saw
- Secured on the ground or tree stump.
- Secured between knees
- Drop-Start
- After the saw has been secured against accidental movement, give the starter cord a sharp pull to start it.
- Do not let go of the cord; let it retract smoothly
- If it does not start, pull the starter cord again
- As soon as it starts, squeeze throttle lock-out to release it and allow the engine to idle for a few minutes
- The chain should not move while the saw is idling
- If the chain does move, adjust the throttle according to manufacturer's instructions so that it doesn't move

An escape route must be cleared at least 3 meters away from the base of the tree, opposite the direction of the planned fall and 45 degrees to the line of fall. It must be planned and cleared before any falling cuts are made.

12.6 Safe Tree Falling Operations

Job: Safe tree falling operations

PPE: eye protection, head and face protection, hearing protection, approved footwear, leg protection, hand protection

Job Steps:

- Ensure you are wearing the correct PPE
- Perform a hazard assessment. Hazard assessment should include:
 - 1. The general lean of trees
 - 2. Dangerous tree assessment
 - 3. Overhead power lines in the area
 - 4. Proximity to traveled roads
 - 5. Location and coordination with other people and equipment working in the area
 - 6. Clear definition of active falling area
 - 7. Clear definition of hazardous falling area
 - 8. Overhead hazards
 - 9. Minimum of 2 tree lengths or 60m spacing between fallers and other workers
 - 10. Assess natural lean of trees to be felled
 - 11. Assess debris on ground that the falling tree may strike
 - 12. Determine potential escape routes

An escape route must be cleared at least 3 meters away from the base of the tree, opposite the direction of the planned fall and 45 degrees to the line of fall. It must be planned and cleared before any falling cuts are made.

12.7 Safe Limbing and Bucking

Job: Safe Limbing and Bucking

PPE: eye protection, head and face protection, hearing protection, approved footwear, leg protection, hand protection.

Job Steps: Limbing

- Be aware of the potential for kickback
- Limb as close to the tree as possible to avoid leaving branch stubs or sharp points
- Be aware of limbs that may be supporting the tree, under tension or hidden, that could spring up unexpectedly when a log is released
- Position yourself so that you are not in line with the chain. Where possible, keep thetree trunk between you and the saw when cutting
- Move limbs out of your way to reduce kickback and tripping hazards
- When limbing on sloped terrain, work from the uphill side of the tree as much as possible. This will reduce the chance of being pinned by a shifting or rolling log

Bucking

Follow the same precautions as in limbing and these additional precautions.

- Avoid working in a stretching or over-reaching position. This can affect your balance, slowing your reaction time and lead to back ache or even back injury
- Position your feet to avoid having cut pieces fall on them
- Ensure adequate space between yourself and other buckers or work activities
- Be aware of the tension and compression stresses that may be in a log resting on uneven terrain, or on other logs or trees

12.8 Fire Extinguisher Operation

Job: Fire Extinguisher Operation Equipment Required: Portable Fire Extinguisher PPE: Eye Protection

Job Steps

Before you need the extinguisher, it is a good idea to familiarize yourself with it. Ensure that the equipment available is rated to extinguish all fires anticipated on the job. Take time to read the instructions on your extinguisher.

In the event of fire:

- Hold the extinguisher upright
- Pull security pin out
- Aim nozzle at the base of the fire
- Squeeze or press the handle
- Sweep the nozzle from side to side starting a few inches back from the base of the fire. Be sure to sweep a few inches wider than the fire is.

12.9 Loading and Unloading ATVs onto Truck Mounted Decks

Job: Loading and Unloading ATVs onto truck mounted decks PPE: eye protection, approved helmet, gloves, approved footwear, high visibility clothing

Job Steps:

Loading

- Ensure that the truck is parked on reasonably level ground
- Extend the loading ramps making sure they line up with the tires
- Attach winch line to a secure point on the front of the deck
- Sit on the ATV to enable you to steer better (ensure you are wearing helmet)
- Winch the ATV up the ramps
- and onto the deck
- Put transmission in reverse or lock the transmission if available and securely tie down the ATV to the deck
- Engage emergency brake if applicable and remove key from ignition

Unloading

- Ensure that the truck is parked on reasonably level ground
- Extend the loading ramps making sure they line up with the ATV tires
- Attach winch line to a secure point on the front of the deck
- Sit on the ATV and back up to the edge of the deck (ensure you are wearing helmet)
- When the rear tires hit the top of the ramps, slowly winch the ATV down the ramps to the ground
- Unhook the winch line and spool it back onto the winch
- If at any time the operator must exit the vehicle, ensure the emergency brake is engaged.
- If the vehicle is stopped on an incline, ensure the wheels are turned in the direction that would result in minimal damage to the equipment or surroundings if the vehicle were to move unintentionally. The parking brake should always be engaged.

12.10 Working Around Potentially Vicious Animals

Job: Working around uncontained potentially vicious animals. PPE: Approved safety footwear, reflective clothing.

Job Steps:

- Perform Hazard Assessment.
- If you are entering a worksite and there appears to be an uncontained potentially dangerous animal at the location, **DO NOT ENTER** the yard or jobsite.
- Attempt to contact the owners of the property.
- If the owners cannot be contacted, call into the office and inform your supervisor of the circumstances.
- The office will attempt to contact someone to get the animal contained.
- If the animal cannot be contained, the job will be rescheduled.

DO NOT ENTER the yard, your jobsite, unless you are certain that the animal does not pose a threat to your safety or the safety of your coworkers.

12.11 Working Near Overhead Power Lines

Job: Working near overhead power lines PPE: Approved footwear, high visibility clothing

Job Steps:

- Perform a hazard assessment
- Locate total station set-up so the instrument person is free and clear of any danger posed by overhead power line and rodman is visible at lowest range pole setting
- If possible, use total station to remotely measure the height of the power line at its lowest point and discuss maximum pole heights with the rodman
- When walking beneath overhead power lines, the rodman should reduce the rangepole to lowest setting and carry it parallel to the ground
- Plan your survey to minimize time spent near overhead lines
- Monitor weather conditions such as temperature and wind which may dictate more stringent safety procedures

12.12 Extreme Temperature Hazards

Extreme temperatures whether hot or cold can cause a dangerous burden to the body that can lead to hot/cold stress disorders, disability, and even death. Proper PPE and dressing appropriately is a major requirement when dealing with the weather.

EXTREME HEAT	EXTREME COLD							
Heat related illnesses include:	Cold related illnesses include:							
Heat exhaustion	Hypothermia							
Heatstroke	Frostbite							
Muscles cramps	Trench foot							
Heat swelling	Chilblains							
Fainting	 Raynaud's phenomenon 							
	Cold-induced hives							
Symptoms of heat related illness:								
Sweating heavily	Symptom of cold related illnesses							
Exhaustion or fatigue	 Increased shivering or in cases of 							
 Dizziness or light-headedness 	hypothermia a decrease of shivering							
Blacking our or feeling dizzy when	 Increased heart rate 							
standing up	 Slight decrease in coordination/poor 							
Weak but fast pulse	reflexes to no coordination to unable to							
 Feelings of nausea 	walk							
Vomiting	 Shallow breathing 							
	 Inability to move or respond to stimuli 							
	Low blood pressure							
	Possibly coma							

12.12.1 Dehydration

Body fluids may be lost rapidly because of heavy physical exertion expending when working or coping with the environment.

Treat all water, regardless of the source, by boiling or adding purification tablets. If treatment is impossible, strain the water through layers of cloth and let stand until the sediment settles out.

Prevention of Dehydration

- Drink water during and after physical exertion.
- Keep your body protected from the sun and wind.
- Wear clothing appropriate to climate and weather conditions.
- If there is little or no water, do not eat as digestion and elimination of human waste uses up water.

12.12.2 Heatstroke

Heatstroke, also called sunstroke, is a response to heat characterized by an extremely high body temperature and, often, a disturbance of the body's cooling mechanism – the ability to sweat.

Development of Heatstroke

The immediate cause of heatstroke is a rise in body temperature brought about by inadequate body heat loss. Victims of heatstroke may suffer headaches, a feeling of malaise or excessive warmth and can lose consciousness suddenly. The skin is often hot to the touch, red and noticeably dry, and the pulse is raped.

Treatment of Heatstroke

The victim should stop working and rest in the shade. To lower the body temperature, immerse the victim in cool water or wipe the skin with damp cloths. Fanning will accentuate the cooling effects of shade and water. Be prepared to give CPR as respiratory and cardiac problems may develop.

12.12.3 Hypothermia

Hypothermia is a condition that occurs when inner body temperature drops more than 2 degrees Celsius. It impairs a person's ability to think and act rationally. When a person is said to have died from "exposure", often the actual cause of death was hypothermia.

Development of Hypothermia

Hypothermia is caused by exposure to cool air or water. It is accelerated by wet or damp clothing, wind, exhaustion or sudden contact with cold water. The body will lose heat faster than it can produce it and the core temperature will drop. As body temperature decreases, the vital internal organs – brain, liver, heart – lose their ability to function. Cooling of the brain seriously impairs judgment and reduces reasoning power. This is hypothermia. Hypothermia victims first experience uncontrollable shivering, then confusion, loss of memory, unconsciousness and finally death.

Treatment of Hypothermia

<u>A victim of hypothermia may deny they are in trouble</u>. If a person shows symptoms of hypothermia, believe what you see not what they say.

- Move the victim to a shelter and warm them as quickly as possible. If a shelter is not readily available, immediately build a fire for warmth.
- If the patient appears unconscious or dead, clear the air passage and begin CPR immediately. Don't give up. Hypothermia and drowning victims sometimes take a long time to respond.
- Remove the patient's wet clothes.
- Apply heat to the patient's head, neck, chest and groin. Use warm blankets or other

cloth material to warm the patient.

- As the patient recovers, give him warm drinks. This will help raise the core temperature. Do not give a hypothermia victim any alcohol.
- Get the patient to the nearest medical facility.

12.12.4 Frostbite

Frostbite is the freezing of specific parts of the body, most often the nose, ears, cheeks, fingers and toes. When exposed to cold, the body protects the inner core temperature by constricting surface blood flow and heat to the surface skin. When frostbite occurs, the skin is first flushed, then changes to a white or grayish-yellow. Occasionally there is pain with frostbite, but usually the affected areas remain numb.

Treatment of Frostbite

If you suffer frostbite, do not rub the frozen part. Warm frostbitten skin by putting the affected areas against a warm part of your body.

- Hold your hands over your face and warm gently with your breath.
- Warm frostbitten fingers under your armpits or between your thighs.
- If toes are affected, remove boots and hold feet between your hands.
- Cup your hand over a frostbitten ear.
- Never rub the affected area with snow or try to rewarm in front of a fire.

If feeling fails to return or if skin remain white, assume you have a case of superficial frostbite and go to a hospital immediately.

If remaining in an exposed situation, don't attempt to rewarm the affected area as refreezing will kill skin tissue. It is better to walk for help on your frozen feet than to thaw the feet and risk having your feet frozen for a second time.

Prevention of Frostbite

- Don't venture out in very cold weather if you are tired or suffering from a cold or the flu.
- Avoid tight-fitting clothing. Use the layer principle.
- Tight boots constrict circulation and create cold spots.
- In windy conditions, wear wind-proof clothing and protect your face with a balaclava or scarf.

12.12.5 Extreme Cold Temperature

When engaging in work during the cold months it is important to remember to dress accordingly and to review all cold temperatures hazards.

When the temperatures are extremely cold:

- 1. If in doubt shut it down
- 2. Take lots of breaks
- 3. Stay in communication (increase SPOT alerts)
- 4. Keep heat source (UTV/ARGO, preferable truck with in 250m) based on walking speed of 1.5kb/hr 10minute walk max to heat source

Temperature (°F)																			
	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
(hc	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
Ē	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
pu	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
Wi	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
	60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98
Frostbite Times 30 minutes 10 minutes 5 minutes																			
	Wind Chill (°F) = 35.74 + 0.6215T - 35.75(V ^{0.16}) + 0.4275T(V ^{0.16}) Where, T= Air Temperature (°F) V= Wind Speed (mph) Effective 11/01/01																		

12.13 Wilderness and Cold Weather Survival

Survival in the wilderness and cold weather is the ability to cope with emergency conditions that occur when in the outdoors. A survival situation usually lasts less than 72 hours and seldom longer than 5 days. Searches can take time and you'll need to rely on your own resources to survive until help comes.

Basic Rules for Wilderness and Cold Weather Survival

Don't panic and resist the urge to travel further. Stay put!

- Build a shelter and a fire before the onset of darkness.
- Fire provides security, comfort and helps to dispel fear and apprehension.
- Pace yourself so you don't perspire. Try to keep your clothing dry.

Basic Rules for Wilderness and Cold Weather Survival (Continued)

A person can survive a long time on water alone. Don't melt snow in your mouth to quench your thirst as this will cause dehydration and loss of body heat. Melt the snow over a fire and conserve energy by drinking hot fluids.

The human body requires two to three liters of water every day, even in cold weather.

Survival Equipment

All vehicles will carry a survival kit that includes:

- No 2 First Aid kit
- "Strike Anywhere" matches and butane lighter.
- Signal flares, whistle and mirror
- Compass
- High protein/calorie candy bars
- Bear bangers and pepper spray

The maintenance of the survival kit is the responsibility of the employee who will report any deficiencies to their supervisor or safety coordinator.

All employees will carry a survival kit during helicopter operations in remote areas or under winter weather conditions. A portable radio must be carried to communicate with the helicopter pilot.

Cold Weather Clothing and Equipment

Clothing insulates a warm body from a cold environment by trapping hot, warm air between layers of clothing.

- Over 50% of body heat can be lost from the head and neck. Wear a woolen toque or a balaclava and keep your head covered with your jacket hood.
- In very cold air, breathing through a scarf wrapped loosely around the head will warm and prehumidify air going into the lungs and cut down on the loss of body fluid by dehydration.
- Warm, safety-toed boots should be a half size larger than your regular shoe size to allow room for thick socks and inner soles.
- Never wear jeans as they are neither warm nor wind proof.
- Wear knitted wool mitts with leather outers.
- Jackets should be large enough to wear layers of clothing underneath without feeling tight. It should have a drawstring around the waist, snug wrist and neck closures, large pockets and a good hood. Avoid overheating and perspiration by periodically adjusting the jacket's fastenings.
- When snowmobiling, use a good quality snowmobile suit that is water resistant.
- Wear good quality sunglasses that offer protection from eye burn due to ultraviolet rays.

Survival First Aid

Survival first aid is the immediate assistance given to someone who is hurt or suddenly becomes ill. It is intended to help the person until expert medical help can arrive. All supervisors and party chiefs are to be trained in first aid and CPR.

General Procedures Responsibilities after First Aid

Consider the following actions:

- Moving patient to a safe location if there are no back or neck injuries.
- Is the casualty out of shock?
- Is there enough time to get out before dark?
- Is the victim capable of staying alone while you go for help?
- Should weather conditions deteriorate, will the patient be comfortable while you're away and will you still be able to reach help?
- Be certain you can direct help to the exact location of the injured person.

12.14 Bears and Wildlife

Working in the wild increases the likelihood of encountering wildlife, including bears, cougars, wolves and coyotes. Employers and workers must be prepared for working around and potentially encountering wildlife before beginning work.

Employer responsibilities include:

- Ensuring the level of disturbance created on a project does not unnecessarily expose worker to risk from wildlife.
- Conducting a site-specific hazard assessment to identify all dangers associated with
- wildlife in the area
- Implementing a hierarchy of controls for elimination or control of wildlife hazards
- Checking with authorities to see if animals are in the area (e.g. bear)
- Monitoring animals in the area for signs of habituation
- Reporting bear and cougar sightings to authorities
- Reporting problem wildlife (habituated animals) to authorities
- Working with authorities to deal with problem wildlife
- Providing training to workers
- Communicating potential wildlife hazards to workers
- Communicating the presence of wildlife to workers, especially problem wildlife
- Abiding by applicable regulations
- Acting in a manner that ensures the safety and protection of both workers and wildlife

Worker responsibilities include:

- Being aware of personal food storage practices
- Never leaving food and garbage on the work site
- Taking wildlife training
- Assisting in identifying hazards and implementing hazard controls
- Reporting problem wildlife to supervisors
- Reporting wildlife encounters to supervisors
- Warning co-workers of the presence of problem wildlife
- Abiding by applicable regulations
- Following established industry practices and safe work procedures
- Acting in a manner that ensures the safety and protection of both workers and wildlife

Bear Safety

All Frontline employees will have their wildlife/Bear awareness Level 2 training.

If a bear has scented a person, it usually leaves quickly, but first it may stand to get a better view, sniff the air or circle downwind. A bolder bear may display the same kind of threat it would towards another bear such as huffing, panting or making one or more bluff charges. Bears are unpredictable and come become aggressive if they feel threatened.

Watch for bear signs such as tracks, droppings and diggings. If you do see a bear, enjoy it from a distance. Give it time to leave the area or detour around it.

- In bear habitats where trees or brush obscure visibility, announce your presence by making noise or by using your voice, truck or air horn or a whistle.
- Stay calm. DO NOT RUN or make sudden moves or noises. Back slowly off towards cover such as a rock or tree to shield yourself. Climbing a tree is not a sure escape but it may make the bear feel less threatened.

- If there is no possible escape and you are defenseless, it may be best to drop to the ground and play dead. Bring your knees up tight against your chest in a fetal position and protect your head by clasping your hands behind your neck with your face to the ground.
- If you have reason to believe that a bear is stalking you as potential prey, you should fight back as hard as you can. Extend your arms, get up high so as to appear as large as possible. Use pepper spray or any weapon such as a rock or a sturdy branch. Fortunately, these situations are rare and most bears, given enough time and room, will leave the area.

Working around wildlife rules to Remember.

Be Aware

- Know your Responsibilities
- Respect the animals whose habitat you are entering
- Know what to do in case of an encounter
- Know the applicable regulations.

Take Care

- Dispose of garbage
- Control food and food smells
- Comply with site rules

Be Prepared

- Dress for the weather and the work you do
- Boots, pants (tucked in), long sleeves
- Carry deterrent (bear spray)
- Means of communication (satellite phone)

12.14.1 Applicable Regulations

Regulations are in place that are meant to protect both workers and the environment, including wildlife and their habitat. Workers and employers are legally bound to comply with all applicable regulations. Fines and imprisonment can result if workers are found to be negligent or in non-compliance on the job.

Various entities manage the applicable regulations. They include:

- Department of Fisheries and Oceans Canada (DFO)
- Environment Canada
- Canadian Wildlife Service
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

SEE FIELD ERP FOR COMPLETE BEAR AND WILDLIFE SAFETY

12.15 Office Safety

Employees are responsible for complying with office and other safety procedures and/or exercising sound judgment in their work practices.

All office equipment shall be operated and maintained as required by the various laws, codes, or manufacturer's instructions.

In the office there are many opportunities to become injured. Some of these include back injuries from lifting, falling from chairs or ladders, tripping over open drawers, cords, or objects on the floor, being pinched or cut on equipment, or being cut by paper.

Lifting

- Plan ahead
 - Know your strength. When in doubt, make it a two-person job.
 - Make sure you have a place to put heavy objects, that doors are open, and obstacles are out of the way before you start.
 - Always make sure your footing is secure.
- Lift and carry the right way
 - Use your arm and leg muscles, not your back.
 - Keep your back straight and the load close to your body
 - Grasp the object firmly. Hold it so that your fingers won't be pinched if the load shifts.
 - Make sure that you can see. Have plenty of light and make sure you can see over your load.
 - Set the object down using your arm and leg muscles. If it is a box, rest one corner so that the hands don't get caught underneath.

12.16 Vehicle Recovery and Towing

- 1. IT IS ALWAYS BEST TO CALL A TOW TRUCK
- 2. If it is necessary to tow
 - i. DO NOT use a lighter vehicle to pull out a heavier vehicle (Vehicle weight GVW is on a plate on the driver door, don't forget to add any loads)
 - ii. DO NOT use tow straps, chains, or cables that can be become projectiles. ONLY USE a recovery strap with proper loops. Minimum breaking strength (MBS) should be 2-3 times stuck vehicle weight.
 - iii. DO NOT attach to bumpers, ball hitches, bull bars, or tie down eyes. ONLY attached to load rated component (loop onto tow hooks, engineered recovery device or on shackle with pin in hitch receiver.
 - iv. DO NOT let anyone stand with 2x the length of the tow straps while towing.
 - v. DO align the vehicles as closely possible to a straight line.

PROCEDURES

- 1. Stop, consider the task at hand and assess the hazards.
 - If you have any questions or doubts at this point, call a tow truck, it remains your best option.
 - Use the checklist provided at the end of this document to make a safe decision.
- 2. If the vehicle recovery takes place on or near a roadway, you must implement a traffic warning or traffic control system (e.g., traffic cones or reflector flares).
- 3. Ensure that you have the correct equipment—a recovery strap is essential.
 - The recovery strap should be at least 6 m or 20 ft. in length, with loops (not hooks) and in good working condition (no cuts or broken stitches).

- If you do not have a recovery strap like this at hand, call a tow truck.
- 4. Check both vehicle weights and add the weights of any loads either vehicle is carrying.
 - The vehicle doing the pulling must be of equal or, ideally, greater weight than the vehicle that is being pulled.
- 5. Ensure the recovery strap has a Minimum Breaking Strength (MBS) that is 2-3 times the total weight of the stuck vehicle.
 - If it is less, the danger is the strap may snap under high tension.
 - If the MBS is greater, it will not function optimally (they are most effective when their elasticity enhances the pull).
 - Recovery straps are usually constructed so that each inch of width adds approximately 10,000 lbs. (4,500 kg) of MBS (e.g., a 3-inch-wide strap would usually have a rating of approximately 30,000 lbs. [13,500 kg]).
- 6. Ensure tow hooks, hitch receivers and any shackles used are rated to loads that exceed the recovery strap MBS. In the event of excessive loads, the recovery strap should always be the weakest link and snap first.
 - A shackle should have a Working Load Limit (WLL) stamped on it (remember 1 ton = 2000 lbs. or 900 kg).
- 7. As much as possible, clear out mud, sand, or snow from under the stuck vehicle and in front of the tires in the direction of the pull.
- 8. Position the pulling vehicle in line with the stuck vehicle—the pulling vehicle facing forward; the stuck vehicle being pulled from the front (ideally) or the back.
 - You need to be within 10° of a straight line—side loading can lead to serious vehicle damage.
 - You need to be sure you have a clear path straight forward free of any obstacles that is at least the length of the strap and stuck vehicle.
- 9. Lay out the recovery strap between the two vehicles and loop the strap onto a tow hook bolted to the vehicle frame or put the loop on a shackle which is properly pinned to a frame mounted hitch rated for recovery.
 - If using a threaded shackle, hand tighten the pin and then turn it back one quarter turn for ease of release later.
 - Never tie the strap onto the vehicle, slip the strap over a ball hitch, or attach it to anything other than a tow hook or frame mounted hitch.
 - Only use one recovery strap (never two in parallel)—however, there are two options for creating additional length with two recovery straps if needed:
 - Reduce the expected strength of the recovery straps by 25% if you are using two correctly joined straps.
- 10.Drape a heavy coat or blanket over the middle of the strap to dampen any backlash if it snaps or releases.
- 11. Agree on a plan and communication signals between the two drivers. Industry Recommended Practice Hand Signals for Directing Vehicles (IRP 12) provides a good system of signals to use.
- 12.Ensure all other bystanders are at least 2 times the length of the recovery strap to the side of the vehicles—both the strap and the vehicles lurching forward unexpectedly present a hazard.
- 13. The pulling vehicle accelerates slowly (to about 10-12 KPH) to build tension in the strap and provide a sustained pull. Once the slack is taken up, the stuck vehicle likewise applies acceleration in low gear to assist the pulling car. Neither vehicle should spin their tires.
 - Steady momentum is most effective—never resort to jerking or take a long run and jerk.
 - Maintain tension throughout the pull, do not allow slack to develop in the strap at any point.
- After three attempts to pull the vehicle loose, it is time to stop and call a tow truck.
- 14.Do not remove straps until both vehicles are fully stopped and secured.
 - It is a good idea to clean and dry out a recovery strap after use as dirt and moisture weaken the strap.

Remember, if at any point in the process you have any safety concerns whatsoever or concerns about potential damage to either vehicle, stop and call a certified tow truck.

12.17 Loading and Unloading UTVs into Trailers

Job: Loading and Unloading UTVs into trailers PPE: approved helmet, approved footwear, high visibility clothing

Job Steps:

Loading

- Ensure that the truck and trailer are parked on reasonably level ground
- Extend the ramp
- Sit in the UTV to steer (ensure you are wearing seat belt and helmet)
- Put transmission in park or lock the transmission if available and securely tie down the UTV
- Engage emergency brake if applicable and remove key from ignition
- Close ramp and secure the door

Unloading

- Ensure that the truck and trailer are parked on reasonably level ground
- Extend the ramp
- sit in the UTV and back out of trailer (ensure you are wearing seat belt and helmet)
 - If at any time the operator must exit the vehicle, ensure the UTV is in Park and the emergency brake is engaged.
 - If the vehicle is stopped on an incline, ensure the wheels are turned in the direction that would result in minimal damage to the equipment or surroundings if the vehicle were to move unintentionally. The parking brake should always be engaged.

13.0 NUCLEAR GAUGE

All new gauge handlers, transporters or users must first complete a gauge safety certification class. The RSO or senior gauge user should spend time familiarizing each worker with each type of gauge in use.

The RSO should also familiarize the worker with all aspects of **Gauge Operating Safety and Emergency Procedures.** In addition, only users authorized by the company RSO can operate a gauge.

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*SEE Z:\SAFETY\=SAFETY MANUAL\=MANUAL\NUCLEAR GAUGE For full RSO safety manual*
*Z:\SAFETY\=SAFETY MANUAL\=MANUAL\NUCLEAR GAUGE\working-safely-with-portable-gauges-
2018 (Canada's Nuclear Regulator) *
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Z:\SAFETY\=SAFETY MANUAL\=MANUAL\NUCLEAR GAUGE\Safe Work Practice on testing Density using Portable Nuclear Gauge

14.0 REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS)

The purpose of this Remotely Piloted Aircraft System (RPAS) Policy is to establish minimum standards for the safe use and operation of RPAS. This policy requires that all RPAS's operations are performed in a manner that mitigates risks to safety, security, and privacy, and ensures compliance with the Transport Canada Civil Aviation (TCCA) and all applicable laws.

GeoTrek recognizes that RPA's offer great potential as a tool for providing opportunities for our business pursuits. GeoTrek must also take into consideration public safety, privacy, civil rights, and civil liberties issues when providing direction for the use of our RPAS's.

Employee's that will be piloting and on the crews of our RPAS will be trained and the pilots will obtain their drone pilot certificate.

The following rules apply to all drone operations:

- All drones that weigh between 250 g and 25 kg must be registered with Transport Canada. Pilots must mark their drones with their registration number before they fly.
- All pilots of drones that weigh between 250 g and 25 kg must get a drone pilot certificate.
- Fly your drone where you can see it at all times
- Fly below 122 meters (400 feet) in the air
- Fly away from bystanders, at a minimum distance of 30 meters for basic operations
- Do not fly at the site of emergency operations or advertised events
- Avoid forest fires, outdoor concerts, and parades
- Do not fly within 5.6 kilometres (3 nautical miles) from airports or 1.9 kilometres (1 nautical mile) from heliports
- Fly far away from other aircraft
- Do not fly anywhere near airplanes, helicopters, and other drones.
- Always respect the privacy of others while flying

For full RPAS's operation. Please refer to GeoTrek's RPAS Operation Manual.

15.0 ENVIRONMENTAL PROTECTION

15.1 Protection Procedures

GeoTrek is committed to protecting the environment during all phases of its operations and will ensure that:

- All fuels and lubricants are stored in proper containers and all used engine oils will be recycled.
- Traverse nails and survey marks located on roads will be countersunk.
- All snags, deadfalls and brush will be cleared off traverse lines.
- All garbage and human waste will be removed from the worksite.
- Campfires will be properly extinguished.
- Vehicle and other power equipment which generate excessive heat are not left running near potential fuel sources such as tall grass or refueling areas.
- The Canadian Wildlife Service will be contacted when working in areas which have been designated as parks or wildlife sanctuaries.
- All client and government environmental policies and regulations will be followed.

15.2 Legislation and Penalties Re: Soil Erosion and Depositing of Deleterious Material

Throughout the latter part of 2001 and into 2002 the City of Calgary along with the Alberta Department of Environment and the Federal Fisheries Department have undertaken the enforcement of the existing legislation regarding Soil Erosion and Depositing of Deleterious Material. (harmful or destructive)

The legislation noted has been in place for some time, however, they have not been strictly enforced until now. It appears that the Federal Fisheries Department will undertake the stringent enforcement.

Subsection 36(3) of the Fisheries Act states that:

"Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any condition where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

Section 40(2) of the Fisheries Act states that:

Every person that contravenes section 36(3) of the aforementioned act is guilty of: "An offence punishable on summary conviction and liable, for a **first offense**, to a fine not exceeding (\$300,000) **three hundred thousand dollars** and, for any **subsequent offence**, to a fine not exceeding (\$300,000) **three hundred thousand dollars** or to **imprisonment for a term not exceeding (6) six months or to both;** or an **indictable offence and liable**, for a **first offence**, to a fine not exceeding (\$1,000,000) **one million dollars or to imprisonment for a term not exceeding (3) three years, or to both.**"

Section 78.1 of the Fisheries Act states that:

"Where any contravention of this Act or the regulations is continued on more than one day, it constitutes a separate offence for each day on which the contravention is committed or continued."

All employees and subcontractors that are required to access job sites must be aware of and comply with this legislation.

15.3 Calgary Region Home Builder's Association Suggested Guidelines

The following are Calgary Region Home Builders Association's (CRHBA) suggested guidelines.

- Builders, contractors, trades and suppliers must **NOT** drive across or park on lots unless absolutely necessary.
- Care should be taken to remove mud and debris from vehicle tires after driving off building sites, sweep and shovel mud or dirt back onto the lot. Specific access routes should be discussed with builders and developers during wet weather and additional cleanup measures implemented.
- Care should be taken by all parties not to damage or remove any erosion control devices, such as silt fences or hay bales put in place by the developer.
- Care should be taken by all parties not to disturb drainage patterns of building lots.

15.4 Mitigation Plan for Bird Nesting Interruptions

SCOPE

A lot of our work falls within the Boreal zone, which is a migration path to hundreds of species of birds. It is GeoTrek's objective to minimize any disturbance or interruption of nesting birds.

Migratory birds, their nests or eggs can be harmed as a result of clearing of trees or other vegetation. Harm includes killing, disturbing or destroying migratory birds, nests or eggs and can have long-term negative effects on bird populations. This is especially true if there are many incidents that harm birds.

OVERVIEW

Determining the risk to migratory birds

When planning work, assess what the work might pose to migratory birds.

Factors associated with higher risk to birds include:

- seasonal factors, such as:
 - breeding season and migration periods
 - post-breeding moult period and wintering stages for some species
- location factors, such as:
 - migratory bird breeding colonies
 - feeding areas around colonies
 - migration staging sites
- type of potentially disruptive activities

Determining the presence of nests

When determining if migratory birds, their nests or eggs are likely to be present, you must consider:

- the available bird habitats
- the migratory bird species likely to be encountered in such habitats
- the time periods when they would likely be present

Detection of a migratory bird's nest

If you discover or realize that you have disturbed a nest containing eggs or young of migratory birds, you should:

- halt all disruptive activities in the nesting area
- move away as quickly and quietly as possible
 - avoid disturbing the surrounding vegetation, and avoid making a trail to and from the nest
- protect the nest with a buffer zone
- avoid the immediate area until the young have naturally left the vicinity of the nest

If there are migratory bird nests where work is planned, activities that could disturb or destroy nests should be avoided, adapted, rescheduled or relocated.

Establishing buffer zones and setback distances

Any nest found during the nesting period should be protected with a buffer zone until the young have permanently left the vicinity of the nest.

It is **not** recommended to mark nests using flagging tape or similar material. This may increase the risk of predators finding the nest. If necessary, flagging tape can be placed at the limits of the buffer zone. A **buffer zone** is determined by a setback distance which varies greatly according to:

- degree of tolerance of the species
- previous exposure of birds to disturbance

- level of disturbance
- landscape context

Setback distances should be adjusted to the activities causing the greater amounts of disturbance. Significant sources of disturbance include:

- removal of vegetation and/or soil operations
- loud noise, vibration
- regular approach by humans or vehicles
- noise exceeding 10 decibels (dB) above ambient noise levels in the natural environment
- noise greater than about 50 dB

A higher minimum setback distance is required in some circumstances:

- rural or natural habitats compared to urban backyards
- most waterfowl nests compared to nests of songbirds and other small birds
- presence of sensitive species or species at risk

Removal of vegetation clearing of any sort needs to be avoided at minimum the period between Mid April to Mid-August.

The federal government is directly responsible for protecting and conserving the vast majority of bird species encountered in Canada, specifically those protected by the <u>Migratory Birds Convention Act</u>, <u>1994</u> (MBCA) and <u>Migratory Birds Regulations</u>. Most species of birds not protected by the MBCA are covered under provincial and territorial wildlife acts. Some species are also protected by federal (<u>Species at Risk Act</u>), provincial or territorial species at risk legislation.

https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratorybirds/reduce-risk-migratory-birds.html#toc1

16.0 REMOTE WORK LOCATION EMERGENCY MEDICAL PREPLAN

16.1 Stars Emergency Link Centre

The STARS Emergency Link Centre (ELC) is an advanced 24-hour communications center providing one-call access for remote locations where there is a potential for serious injury.

16.2 Procedure

When you arrive at your remote worksite call 1-888-888-4567. One of STARS Communication Specialists will ask you a series of questions.

Once the questions are answered **you will be assigned an 'ACTIVE SITE NUMBER" In the event of an emergency, call 1-888-888-4567** and tell them your Active Site Number. The Emergency Link Centre will take it from there.

17.0 WORKING ALONE

17.1 Definition

- Working alone: means to work at a site as the only worker of the employer at the worksite, in circumstances where assistance is not readily available to the worker in the event of an injury, illness or emergency.
- Work site: a location where the worker is or is likely to be engaged in any occupation. For workers who work out of their vehicle, any vehicle or mobile equipment used by the
- worker as part of the job is also considered a worksite.

17.2 Process for Handling Work Alone Situations

GeoTrek Canada continuously assesses their workplaces and takes preventative measures to eliminate or minimize the risks associated with tasks carried out. Additionally, a risk assessment was carried out and a communications plan developed specifically for any further hazard that may be created when a worker is working alone.

Risk Assessment

A risk assessment (copy attached) conducted of tasks performed by GeoTrek operation and maintenance personnel identified tasks that are carried out alone and determined that the risk ranking for these tasks is medium risk or lower. This in large part is due to the hazard controls that have already been put into place. These include codes of practice, standardized procedures, use of personal monitors and protective equipment, core safety training of staff, use of ticketed workers, task competency manual training, and the on-going casual and formal contact among workers during the day.

Routine Operations with Communications in Place

All GeoTrek Canada employees and/or contractors must have a means by either radio or cell phone to contact other employees who will initiate response actions in the event that assistance is required. SPOT devices are used regularly to locate location.

Based on this risk assessment, there are an extremely small number of potential injuries that can occur on GeoTrek tasks and even fewer that would not enable the worker to summon assistance. Given the severity of injuries that would prevent summoning assistance, the benefit of a call-in system and the associated response time is questionable. In addition, most employees are in casual and periodic contact with other workers and the public. GeoTrek's approach is to ensure good communication and concentrate on circumstances where the work location or timing reduces the ability to recognize and respond to an injury incident.

Special Working Alone Situations

Special circumstances where the risks of working alone are increased from the risks already identified in the risk assessment must be considered and documented. This would include such things as:

- Any task being completed in an area where communications is not reliable.
- Situations where workers work overtime or respond to callouts and there is not communication available after hours.
- Travel into remote or other areas where the response time is significant in the event that the worker does not check in at the end of the day.
- Travel in areas where incidental contact with other workers or the public is not likely to

happen.

• Travel by snow mobile or all-terrain vehicles increases the risk to the worker and possibly the communication system

In these circumstances, a check-in system must be established that includes a set time interval before contact is made again. Spotting using the SPOT device must be used more frequently to issue location and wellbeing of crew member working alone. If contact is not made at the predetermined time, then the individual with whom contact was to be made, would attempt to make contact and failing that, initiate actions to locate the worker who failed to check in. The process requires documentation.

17.3 Working Alone – Office Safety

- Let your manager/coworkers/spouse know you are working late and when you expect to leave. Provide them with the office number that bypasses the answering service so that they may contact you. You should contact the above-mentioned person when you are about to leave and within one hour after you leave the office.
- Use the buddy system. Arrange to work late the same night as a co-worker.

18.0 INCIDENT/ACCIDENT POLICY and RESPONSE

GeoTrek's policy is that any employee who is involved in or observes an incident or accident is responsible to ensure that the incident/accident is properly reported and handled in an expeditious manner.

Any non-employee who experiences an accident or near-miss incident whilst on the premises must report the incident immediately to the person responsible for his or her premises on site.

The term incident can be defined as an occurrence, condition, or situation arising in the course of work that resulted in or could have resulted in injuries, illnesses, damage to health, or fatalities. The term "accident" is also commonly used and can be defined as an unplanned event that interrupts the completion of an activity, and that may (or may not) include injury or property damage.

18.1 Procedures

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	Near Mi 1. 2. 3. 4. Vehicle 1. 2. 3. 4. First Aic 1. 2. 3. 4. First Aic 1. 2. 3. 4. 5. Medical	iss Notify supervisor immediately. Complete incident report. Obtain witness statements (if available) Forward to the Safety Coordinator by the end of the day. Incidents Notify supervisor immediately. Complete automobile accident report. Obtain witness statements (if available) Forward to the Safety Coordinator by the end of the day. Incidents Notify supervisor immediately. Complete automobile accident report. Obtain witness statements (if available) Forward to the Safety Coordinator by the end of the day. Image: Notify supervisor immediately. Complete incident report. Obtain witness statements (if available). Forward to the Safety Coordinator by the end of the day. Doe this incident have the potential to become a medical aid? If yes, see medical aid reporting requirements. Aid Natify supervisor immediately.	6. 7. <u>Lost Tin</u> 1. 2. 3. 4. 5. 6. 7. 8.	All WCB reports will be forwarded from the Safety Dept. within 72 hours. Does this incident have the potential to become restricted work? If yes, see restricted work reporting requirements. ne Notify supervisor immediately who will then notify the Safety Coordinator immediately. Provide employee with Information Package. Ensure that the employee gives the doctor the Restricted Work Form and that the employee has completed the Medical Information Release Section and returns. Complete Incident Report. Obtain witness statements (if available). Forward the following to the Safety Coordinator immediately: Incident Report, Witness Statements, copy of Restricted Work Form completed by physician. All WCB reports will be forwarded from the office within 72 hours. Complete the Restricted Work and Lost Time Report.
	5.	Doe this incident have the potential to become a medical aid? If yes, see medical aid reporting requirements.	7. 8.	All WCB reports will be forwarded from the office within 72 hours. Complete the Restricted Work and Lost Time
	Medica	Aid		Report.
	1. 2.	Notify supervisor immediately, who will then notify the Safety Coordinator immediately. Accompany injured employee to medical care.	<u>Work R</u> 1.	<mark>efusal</mark> See 1.2 Worker rights.
	3. 4. 5.	Complete incident report. Obtain witness Statements (If available). Forward to the Safety Coordinator immediately.		

18.2 Incident Response

- Care for the ill or injured.
- Ensure the proper treatment is provided to the injured.
- Notify the appropriate individuals, as required.

18.3 Serious Incident

- Care for the ill or injured.
- Ensure the proper treatment is provided to the injured.
- Ensure the scene remains undisturbed.
- Notify the appropriate individuals, as required.
- **<u>DO NOT RESUME WORK</u>** until authorized by the Safety Coordinator.

18.4 Human Injury

Ensure that there is an immediate response to any accident/incident. If you are present at the time of the accident/incident or you are the first to arrive at an emergency situation, be sure that you do not place yourself in danger.

YOUR SAFETY COMES FIRST.

- Stop and assess the situation by surveying the scene. Look for hazards that may place you and/or others in danger. If there are casualties present, be sure to determine that it is safe for you to approach.
- If it is safe to do so, approach the scene, take charge and determine the number of casualties, what happened and the mechanism of injury for each.
- Identify yourself as a First Aider, offer to help and obtain consent.
- If head and/or spinal injuries are suspected, do not move the casualty. Provide and maintain manual support for the head and neck. If leaving the casualty where he is will cause further injury or endanger his life, move him.
- Assess the casualty's responsiveness. If the casualty is unresponsive, send or call for medical aid immediately.
- Administer first aid: primary assessment, secondary assessment if necessary, and provide ongoing casualty care, which includes treating for shock, until medical help arrives.
- If it is not safe to approach the scene, contact the appropriate emergency personnel to respond to the scene. (ambulance, fire, police)

18.5 Fire/Explosion

In case of a fire involving an office or customer facility,

- Determine:
 - o Size
 - o Location
 - o Equipment involved
 - o Products involved
 - Immediate hazards
 - Other pertinent information
- Alert others in the building area.
- Protect the lives of anyone in the area by evacuating to a safe location.
- Call the Fire Department.

- Assess the fire for controlling action. STOP! THINK!
- Control the fire if it is safe to do so with fire extinguishing equipment available. DONOT TAKE UNNECESSARY RISKS. DO NOT tackle any fire without back-up and adequate extinguishing equipment.

18.6 Forest Fires

If a forest fire threatens the location, you are at:

- Determine
 - \circ Size if possible
 - $\circ\,$ Location
 - Equipment involved
 - Immediate hazards
 - Other pertinent information

Call 310-3473 or 310-FIRE. Call and advise of situation and details

18.7 H2S Initial Response

There are *seven steps* you should take if you encounter an H₂S release.

- 1. Evacuate Get to a safe area immediately.
 - Move upwind if release is downwind of you
 - Move crosswind if release is upwind of you
 - Move to higher ground if possible
- 2. Alarm Call for help (MAN DOWN), sound bell, horn whistle or call by radio.
- 3. Assess Do a head count and consider other hazards.
- 4. Protect Put on breathing apparatus before attempting rescue
- 5. Rescue Remove casualty to a safe area
- 6. Revive Perform artificial respiration if necessary
- 7. **Medical Aid** Arrange transportation of casualty to medical aid and provide information to EMS

Alert the Calgary office of the incident giving:

- Location
- Time of incident
- Employees involved
- Steps taken to ensure safety of self and others

First Aid Measures

Inhalation: Take precautions to prevent a fire (e.g. remove sources of ignition). Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Move victim to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema may be delayed. If breathing has stopped, trained personnel should begin artificial respiration (AR). If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using mouth guards or shields. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital. NOTE: Victims may pose a threat to responders due to the release of hydrogen sulfide from their clothing, skin, and exhaled air.

- Skin Contact: Liquefied gas: quickly remove victim from source of contamination. DO NOT attempt to rewarm the affected area on site. DO NOT rub area or apply direct heat. Gently remove clothing or jewelry that may restrict circulation. Carefully cut around clothing that sticks to the skin and remove the rest of the garment. Loosely cover the affected area with a sterile dressing. DO NOT allow victim to drink alcohol or smoke. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital. Double bag, seal, label and leave contaminated clothing, shoes and leather goods at the scene for safe disposal.
- **Eye Contact:** Gas: immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Liquefied gas: immediately and briefly flush with lukewarm, gently flowing water. DO NOT attempt to rewarm. Cover both eyes with a sterile dressing. DO NOT allow victim to drink alcohol or smoke. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital.

18.8 Electrical Shock Emergency Procedures

- If possible, switch off the power immediately. If this cannot be done, do not attempt to pull the victim away from the live conductor. Wait until the power source has been turned off.
- DO NOT TOUCH THE VICTIM WITH BARE HANDS OR OTHER CONDUCTIVE MATERIAL.
- Artificial respiration should be applied immediately after the victim has been released from the electrical contact, depending on the circumstances of the accident and in regard to the place.
- In many electrical accidents, the injuries are not from electrical shock but from the effects of burns. These should be treated in accordance with the First Aid standards.
- Take the victim to a doctor or emergency room for observation.

18.9 Spill Management and Response

Material	Potential	Discharge Volume
(Sources)	Discharge Event	(Worst Case)
Gasoline (ATV'S & Snow Machines)	 Overfilling of ATVs or snowmobiles Leak or puncture of fuel can Puncture of fuel tank on machine in event of accident 	1. 20 L (5 Gal) Fuel Can 2. 15 L (4 Gal) Quad/snowmobile 3. 40 L (10.5 Gal) Ranger

Gasoline (please refer to the MSDS provided for any additional details)

- 1. Typical Physical and Chemical Properties
 - Appearance: colourless liquid
 - Flashpoint: -50°C
 - Odour: Gasoline
 - Freezing Point: -60°C
 - Solubility: Insoluble
 - Viscosity: Not Viscous
 - Vapour: Will sink to ground levels
 - Specific Gravity: Floats on water (0.7 to 0.8)

- 2. Safety Measures/Warnings
 - Vapours form instantaneously and are heavier than air
 - Empty containers can contain explosive vapours
 - Vapours can travel to distant sources of ignition and flash back
 - Eye contact causes irritation
 - Material can accumulate static charges
 - Inhalation of vapours can cause irritation of the respiratory tract, headaches, vomiting and unconsciousness
- 3. Personal Protective Equipment
 - Always wear impervious, chemical resistant clothing, gloves, footwear and goggles
- 4. Precautions
 - Monitor for explosive atmosphere
 - Avoid contact with strong oxidizers
 - Eliminate ignition sources
 - Restrict access to work upwind of spill
- 5. Response Techniques
 - If the spill is of a size where it cannot be cleaned up using available equipment, the supervisor is required to consult the operations manager immediately to discuss clean up options. This might include having another crew bring out necessary supplies or even consulting a specialist to evaluate the situation. Response for each spill will be determined by the size of spill, the location of the spill and the terrain on which the spill occurred as well as other environmental factors which may come into play for differing sites.
 - On Land –in the event of a small spill, it is important to weigh the advantages of cleanup versus the potential negative impacts on the terrain. Considerable damage can be caused by both personnel and equipment to wet or sensitive areas. In many cases, the best solution may be to add nutrients to the contaminated area and monitor the site to ensure that the spill does not migrate to an adjacent sensitive area.
 - Remove all ignition sources
 - Notify and evacuate personnel at risk
 - Complete an assessment to determine if it is safe to commence spill countermeasure operations
 - $\circ~$ Block entry into waterways by diking with earth or other barriers
 - $\circ~$ Do not contain spill if there is any chance of igniting vapours
 - On shop floors and in work or depot yards, apply particulate absorbents
 - $\circ~$ On tundra, use peat moss and leave to degrade if feasible to do so
 - Remove contaminated earth and detritus to a container suitable for transport and disposal
 - In remote areas, where gasoline has soaked into soil on level ground, it may be best to attempt biological remediation by breaking down the hydrocarbons using bacteria.
 - Turn over the contaminated soil by shovel and mix fertilizer and straw into the soil. Test soil annually to determine hydrocarbon levels
 - On Snow and Ice
 - o Block entry into waterways by diking with snow or other barriers
 - $\circ~$ Do not contain spill if there is a chance of ignition

- o In work or depot yards, apply particulate absorbents
- On Muskeg –Personnel and equipment are not typically deployed on marsh or vegetation. It is recommended that the spilled material be mixed with peat moss and allowed to degrade during the summer months as more damage can be done my attempting cleanup using mechanical removal methods.
 - $\circ~$ Remove pooled gasoline with absorbent pads and pumps if it is safe to do so $\circ~$
 - \circ $\,$ Where possible, do not deploy personnel and equipment on marsh or vegetation $\,$
 - $\circ\;$ Low pressure flushing can be tried to disperse small spills
 - Minimize damage caused by equipment and excavation
- Storage and Transfer
 Ostore closed, labelled containers in cool ventilated areas away from
 incompatible materials
 - Electronically ground containers and vehicles during transfer to designated disposal/treatment area
- Disposal
 - Segregate waste types, if necessary
 - Place contaminated materials into marked containers
- Reporting \circ Any spill that occurs must be reported using the Hazard ID/Near Miss/Incident report form
 - Spills that may occur on a GeoTrek work location will be small enough that further regulatory reporting is not warranted
 - In the event of a spill that requires further response from management, the site supervisor will be contacted and briefed on the situation

The Investigation Team will consist of the Safety Coordinator, representative from the Safety Committee and Supervisor of the area.

All accidents/incidents/near misses/ occupational illness must be reported to management as well as to owner clients and investigated. The type of investigation will depend on the severity or the potential severity of the incident.

All lost time claims must be promptly reported and investigated. The investigation determines the cause or causes of the accident/incident, determining unsafe or unhealthy conditions, acts or procedures. Recommendations for corrective actions must be determined and followed to completion.

The following information shall be on the report:

- Place, date, time of accident/incident
- Names and job titles of persons injured
- Names of witnesses
- Description of the occurrence
- Statement of sequence of events which preceded the accident. incident
- Identification of unsafe or unhealthy conditions which contributed to the accident
- Root (Basic) cause of the accident/incident
- Recommended corrective actions to prevent recurrence
- Names of the investigation team
- Drawing (Sketch) of the accident scene

Copies of the investigation report shall be forwarded by the Safety Coordinator and Safety Committee to the General Manager for review. Senior manager along with the

Investigation Team will discuss the recommendations for corrective action and method of implementation of that action.

Supervisors are responsible to implement immediate temporary correction action until the investigation is completed.

Signature

Date

INVESTIGATION POLICY

It is the policy of this company to have all incidents that result in injury, illness, property damage, or that could have resulted in serious injury, illness or property damage reported and investigated.

The purpose of such investigations shall be to determine the root cause of the incident so appropriate action can be taken to prevent recurrence. It is important to remember the main focus of the investigation is not to lay or assess blame.

It is the responsibility of all workers to report all incidents to their immediate supervisor promptly. Supervisors shall be responsible for conducting investigations and submitting reports and recommendations to the management team. Management will determine the appropriate corrective actions and together with the supervisors and workers implement the action in a timely manner.

Signature

Date

19.0 SUPPLEMENTAL REPORTING

In addition to the company's procedures, outside agencies may require supplemental reports.

19.1 RCMP or Local Police

The police must be informed of all fatalities and vehicle accidents resulting in injury or damage over \$1000.00

19.2 Worker's Compensation Board (WCB)

The WCB requires that all fatalities and injuries requiring medical aid be reported within 72 hours from when the employer is notified of the injury.

You should submit a report to WCB-Alberta if the accident results in, or is likely to result in:

- lost time or the need to temporarily or permanently modify work beyond the date of accident
- death or permanent disability (amputation, hearing loss, etc.)
- a disabling or potentially disabling condition caused by occupational exposure or activity (poisoning, infection, respiratory disease, dermatitis, etc.)
- the need for medical treatment beyond first aid (assessment by physician, physiotherapy, chiropractic, etc.)
- incurring medical aid expenses (dental treatment, eyeglass repair or replacement, prescription medications, etc.)

19.2.1 Best Practices for Reporting

- Complete the investigation of the accident and submit an *Employer's Report of Injury or Occupational Disease* form to WCB-Alberta within 72 hours.
- Report injuries online using my WCB online services at <u>www.wcb.ab.ca</u> or WCB-Alberta

Employer's Report of Injury or Occupational Disease form. This form is at www.wcb.ab.ca.

- Ensure the *Employer's Report of Injury or Occupational Disease* form is accurate, complete and legible. Missing information can delay WCB-Alberta in determining appropriate benefits foryour worker.
- Provide the worker with a copy of the *Employer's Report of Injury or Occupational Disease*, a copy of the accident report and a *Worker's Report of Injury* form which your worker must submit to WCB-Alberta.
- Provide the name and phone number of the worker's immediate supervisor. Include earnings information for your worker on the injury report.
- If you have any other information that would help us make a decision or you have concerns, please attach a letter. Check that box on the *Report of Injury* form.
- If modified work has been assigned, ensure it is medically approved and provide a formal description of the modified work.
- Include names, phone numbers and statements of any witnesses.

19.2.2 Modified Work Policy

Receiving an injury does not necessarily mean the injured worker cannot work. He or she may be temporarily unable to perform normal work tasks yet may be able to perform tasks prescribed be a progressive return to work treatment plan.

When a worker receives an injury that does not render a total (temporary) disability, that worker will be offered enrollment in a Modified Work Program. This program has been designed so as not to interfere with the healing process to the injured worker and was in accordance with the guidelines and recommendations set forth by the Worker's Compensation Board.

Modified work is designed to provide meaningful, medically approved work during rehabilitation and to keep the injured employee working using skills and abilities that do not interfere with the recovery of his/her injures. The Modified Work Program will be offered to those workers who are medically fit to perform modified work. It is GeoTrek's goal to see the worker recover to full strength and to return to regular duties as soon as medically possible.

- All injured workers eligible to participate in the Modified Work Program must be registered by the GeoTrek and the Workers Compensation Board.
- The injured worker will perform only those tasks that are medically approved and will not prolong the recovery time of the injury. The injured worker must follow his doctor or therapist's recommendations and avoid actions on or off the job that may impede or retard his or her recovery.
 - If medically approved, the worker has the choice whether to participate or not in the Modified Work Program. If the worker chooses not to participate
 - The employment relationship between GeoTrek and the worker will not be affected
 - The worker must sign the Modified Work Offer form in the REFUSAL section
 - GeoTrek will not pay the worker for the time he or she spends away from work. WCB will be requested to apply Section 56(9)- which states; "where work is made available to a worker who is temporarily, partially disabled and the Board is satisfied that the worker is medically and physically capable of doing the work and that, considering all the circumstances, it is fair and just to expect the worker to accept the work."
- Depending on the medically recommended job duties of the injured worker, Modified Work can take place at the worksite, in the yard, shop or office. Examples of duties might be o Yard or shop work o Office work o Safety audits o Procedure audits o Providing training
- When participating in the Modified Work Program, the worker must report for modified duties in accordance with the operating hours of the persons with who he or she will be completing modified duties unless otherwise arranged by the office or directed by a physician.
- Once participation in the Modified Work Program has been accepted by the injured worker, an absence of three consecutive working days without notifying management will be considered abandonment of position and may result in termination of employment.

19.3 Occupational Health and Safety

Reporting guidelines require that the company report the following serious injuries or events which have the potential to cause serious injury:

- An injury or accident that results in death.
- An injury or accident that results in a worker being admitted to hospital for more than 2 days.
- An unplanned or uncontrolled explosion, fire, or flood that causes a serious injury or that has the potential of causing a serious injury.
- The collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

19.3.1 Occupational Health and Safety Guidelines

Duty to report injury or illness

182 If a worker has an acute illness or injury at the work site, the worker must report the illness or injury to the employer as soon as practicable. Record of injury or illness

183(1) An employer must record every acute illness or injury that occurs at the work site in a record kept for the purpose as soon as practicable after the illness or injury is reported to the employer.

- (2) A record under subsection
 - (1) must include the following:
 - (a) the name of the worker;
 - (b) the name and qualifications of the person giving first aid;
 - (c) a description of the illness or injury;
 - (d) the first aid given to the worker;
 - (e) the date and time of the illness or injury;
 - (f) the date and time the illness or injury was reported;
 - (g) where at the work site the incident occurred; (h) the work-related cause of the incident, if any.

(3) The employer must retain the records kept under this section for 3 years from the date the incident is recorded.

First aid records access

184(1) This section applies to records of first aid given to a worker.

(2) Subject to section 8 of the *Act*, a person who has custody of records must ensure that no person other than the worker has access to a worker's records unless

- (a) the record is in a form that does not identify the worker,
- (b) the worker has given written permission to the person, or
- (c) access use and disclosure of the information is in accordance with an enactment of Alberta or Canada that authorizes or requires the disclosure.

(3) An employer must give a worker a copy of the records pertaining to the worker if the worker asks for a copy.

20.0 INCIDENT INVESTIGATIONS

Investigations are a methodical examination of the facts of an incident that resulted, or could have resulted in injury, illness or loss. All Incidents, accidents, illnesses, Hazards, near misses and injuries that have caused the loss of \$2000.00 or more or have the potential to cause significant loss will be investigated.

They are conducted not to find blame, but to determine root causes and ultimately determine corrective actions or controls designed to prevent a recurrence of the incident.

20.1 Definitions

<u>Incident</u>

An unplanned, unwanted event that results in personal harm, property damage or loss.

Near Miss

An unplanned, unwanted event that under slightly different circumstances could have resulted in personal harm, property damage or loss.

Serious Incident

Any incident that causes death, life threatening or debilitating injury or illness. Any incident that results in a loss of consciousness resulting from electrocution, head injury, asphyxiation or poisoning. Any incident that requires the notification of a government agency. Any near miss that could result in a serious incident listed above.

20.2 Responsibilities

All Employees and Contractors

- Report and record all incidents, accidents, illnesses, Near Misses, hazards and injuries to their supervisor immediately, when it happens.
- Actively participate in all aspects of the incident investigation process.
- Provide honest statements of known facts to investigators when requested.

Supervisors

- Report all incidents accidents, illnesses, Near Misses, hazards and injuries according to the GeoTrek Health and Safety Policy.
- Ensure all incidents or illnesses are recorded and documented properly
- Conduct prompt investigations, with the Safety Coordinator, into incidents that occurred in their area of responsibility.
- Implement corrective actions identified as a result of investigations.

Managers

- Ensure that the incident investigation process is followed.
- Ensure that corrective actions identified in investigations are implemented and are effective.

Senior Management

- Support the incident investigation and reporting process.
- Review incident investigation reports and ensure that the GeoTrek Land Survey Ltd. incident investigation process is followed.
- Support corrective actions identified in Incident Investigations.

Safety Coordinator

- Co-ordinate and investigate in investigations.
- Train supervisors in incident investigations.
- Ensure all employees are trained in and have access to the tools needed to report and

INCIDENT INVESTIGATION REPORT

record any incident, illness or injury.

- Support managers and supervisors in the development of their investigation skills.
- Lead investigations into serious incidents
- Review all Incident Investigation Reports to ensure accuracy, completeness and evaluate actions taken.
- Ensure government reports are completed within legislated time periods.
- Determine the need for procedure and policy changes as a result of incidents.

DATE REPORT COMPLETED:	
	(Day/Month/Year)
PROJECT:	
DATE OF ACCIDENT	

TIME OF ACCIDENT_____am/pm

PERSON(S) INVOLVED (PLEASE USE BACK OF PAGE IF REQUIRED):

NAME (Please Print)	ADDRESS	TELEPHONE NUMBER

INCIDENT REPORTED BY:		
	Name (Please Print)	
INCIDENT REPORTED TO:		
	Name (Please Print)	Signature
DATE REPORTED:		
DAY/MONTH	I/YEAR	

CONDITIONS AT TIME OF INCIDENT (i.e., weather, status of job, housekeeping, etc.)

DESCRIPTION OF INCIDENT (What equipment, tools, materials, etc. were involved? What was the job being done? What happened?)

WHAT WERE THE CAUSES OF THE INCIDENT?

Immediate?)
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Underlying?

WITNESSES:

NAME (Please Print)	ADDRESS	TELEPHONE NUMBER

INJURIES - PERSON INJURED:

Name: _____ Type of Injury: _____

65

			_ Telephone Number:	
Was First Aid Given?	Yes	No	If yes, by whom:	
Were there Injured Indiv	viduals?	Yes	No If yes, by whom:	
Transported to Medical	aid?	Yes	No	
If yes, where to?			Name of Doctor:	
Recommended action(s)) to preve	ent re-	occurrence:	
_				
Person(s) responsible fo	r implem	ienting	corrective action(s):	
Person(s) responsible fo Name:	or implem	nenting	corrective action(s):	
Person(s) responsible fo Name: Name:	r implem	nenting	corrective action(s):	
Person(s) responsible fo Name: Name:	or implem	ienting	corrective action(s):	
Person(s) responsible fo Name: Name: Position:	or implem	enting	corrective action(s):	
Person(s) responsible fo Name: Name: Position: Position:	or implem	nenting	corrective action(s):	
Person(s) responsible fo Name: Name: Position: Position:	or implem	enting	corrective action(s):	
Person(s) responsible fo Name: Name: Position: Position:	or implem	enting	corrective action(s):	
Person(s) responsible fo Name: Name: Position: Position: Date of Compliance:	or implem	nenting	corrective action(s):	

WITNESS STATEMENT FORM				
Statement of:				
Address:				
Date of Birth:	Telephone #:			
Employer:				
Address:				
Occupation:				
Experience Relevant with This Employer:				
Other Relevant Experience:				
Duties at Time of Incident/Accident:				

21.0 RECORDS AND STATISTICS

The company safety program management is a constantly evolving process. Well maintained records provide the information necessary to assess the program, make necessary modifications, and plan for future activities. Analysis of these records provides an opportunity to determine trends, measure success and improve overall safety performance.

21.1 Training Records

Training records for employees must be kept current and updated on a regular basis.

21.2 Statistics

Data collected relating to safety provides us with an overview of our program's activities and results. Examining summaries provides information to determine trends and setting priorities for future safety program measures. These summaries are to be circulated to management and are to be reviewed with employees at safety meetings.

A monthly and yearly statistical report will be prepared consisting of a breakdown of

- Near misses
- First Aid
- Medical Aid
- Restricted Work and Restricted Workdays
- Lost time and Lost days

22.0 CONTACT NUMBERS

EMERGENCY REPONSE	911
EUB FIELD EMERGENCY	403-297-8303
STARS RESCUE LINK CENTRE	1-888-888-4567 (Cell #4567)
WORKPLACE HEALTH & SAFETY	1-866-415-8690
GEOTREK CALGARY OFFICE	403-238-4002
GEOTREK 24/7 CELL	403-620-0648