Position Description Form (PDF)

College: Sir Sandford Fleming

Incumbent's Name**: Vacant**

Position Title: Resources Drilling Technologist Payband: I

Position Code/Number (if applicable): S00095

Scheduled No. of Hours___40_____

Appointment Type: _____X_____12 months _____less than 12 months

Supervisor's Name and Title: Marc Patenaude, Research & School Operations Manager

Completed by: Marc Patenaude PDF Date: March 2007
Last Revision: March 23, 2023

Signatures:

Incumbent: Date:
(Indicates the incumbent has read and understood the PDF)

Supervisor: Date:

Instructions for Completing the PDF

1. Read the form carefully before completing any of the sections.

2. Answer each section as completely as you can based on the typical activities or requirements fo the position and not on exceptional or rare requirements.

3. If you have any questions, refer to the document entitled "A Guide on How to Write Support Staff Position Description Forms" or contact your Human Resources representation for clarification.

4. Ensure the PDF is legible.

5. Responses should be **straightforward and concise using simple factual statements.**

Position Summary

Provide a concise description of the overall purpose of the position.

This position provides technical expertise and academic delivery support to the Resource Drilling Technician & Blasting and Heavy Equipment programs.; to prepare, operate and maintain in a safe working environment all mechanical and accessory equipment; to provide technical support pertaining to the academic Programs and to provide material, equipment and supplies for the Heavy Equipment and Drilling Shop Facilities. Plan, organize and maintain lab facilities in a safe and efficient manner, overseeing program supply and equipment inventory. The incumbent also tests and evaluates all machinery and equipment used for field work and ensures that maintenance is performed as needed. Assists with program related purchases and budget input while ensuring adherence to College policies.
Ensures that safety procedures are followed for the protection of students and faculty.

Duties and Responsibilities

Indicate as clearly as possible the significant duties and responsibilities associated with the position. Indicate the approximate percentage of time for each duty. Describe duties rather than detailed work routines.

	Approximate % of time annually*
1. Schedules and performs maintenance and repair, determines outsourcing for repair for all heavy mobile equipment, drills, trucks, compressors, and accessory equipment. Ensures learning facilities and equipment are maintained to appropriate standards with attention to health and safety, cleanliness and organization.	10%
2. Assumes responsibility for the shop area and outside area – ensuring clean, organized, safe work and learning environment.	10%
3. Demonstrates and reinforces the practical application of previously-taught concepts, methods, procedures and theories during simulation and field work. Responsible for student safety. Supervises students during a variety of potentially dangerous field exercises (e.g. working with dangerous machinery). Reinforces safe field procedures and protocols. . : Accessible to students during set times outside of classroom hours. Student issues dealt with during this time include but are not limited to: reinforcement of course content, demonstration of techniques and equipment, supervising independent work, advising students of employment opportunities in the heavy equipment field. Conducts routine evaluation of students and provides input to the course professor who assigns final grades...	20%
4. Arranges purchases and rentals of equipment by requisition when necessary. Controls and purchases supplies and equipment inventories. Obtains trip permits and plates and necessary safety checks.	20%
5 Recommends for capital planning, purchase, requests quotes, modifies, assembles, tests, adapts and illustrates the use of equipment and teaching aids for faculty and students.	30%
Actively participates as a member of the program teams in order to support curriculum delivery. Attends program and tech team meetings and promotional events.	5%
Other related duties as assigned	5%

* To help you estimate approximate percentages:

½ hour a day is 7%	1 hour a day is 14%	1 hour a week is 3%
½ day a week is 10%	½ day a month is 2%	1 day a month is 4%
1 week a year is 2%		

1. Education

A. Check the box that best describes the **minimum** level of **formal** education that is required for the position and specify the field(s) of study. Do not include on-the-job training in this information.

□ Up to High School	□ 1 year certificate	X 2 year diploma
□ Trade certification	□ 3 year diploma / degree	□ 4 year degree or 3 year diploma / degree plus professional certification

□ Post graduate degree (e.g. Masters) or 4 years degree plus professional certification

□ Doctoral degree

Field(s) of Study:

Resource Drilling and Blasting, Heavy Equipment Techniques

B. Check the box that best describes the requirement for specific course(s), certification, qualification, formal training or accreditation in addition to and not part of the education level noted above and in the space provided specify the additional requirement(s). Include only the requirement that would typically be included in the job posting and would be acquired prior to the commencement of the position. Do not include courses that are needed to maintain a professional designation.

□ No additional requirements	
x Additional requirements obtained by course(s) of a total of 100 hours or less	First Aid and CPR certificates
x Additional requirements obtained by course(s) of a total between 101 and 520 hours	DZ Truck Operator Licence
□ Additional requirements obtained by course(s) of a total of more than 520 hours	

2. Experience

Experience refers to the minimum time required in prior position(s) to understand how to apply the techniques, methods and practices necessary to perform this job. This experience may be less than experience possessed by the incumbent, as it refers only to the minimum level required on the first day of work.

Check the box that best captures the typical number of year of experience, in addition to the necessary education level, required to perform the responsibilities of the position and, in the space provided, describe the type of experience. Include any experience that is part of a certification process, but only if the work experience or on-the-job training occurs after the conclusion of the educational course or program.

□ Less than one (1) year	
□ Minimum of one (1) year	
□ Minimum of two (2) years	
X Minimum of three (3) years	• Practical experience in an environment with the operation and maintenance of heavy mobile and drilling equipment. • Experience demonstrating skills to learners • Experience working as a mechanic in a fast-paced team environment with a high volume of demand and an ability to multitask and work independently • Experience using spreadsheet and word processing software as well as email and the internet. Preparation and updating of Standard Operating Procedures (SOPs) • Experience working with students in an educational setting • Mechanic License (Preferred) or Experience maintaining/repairing drilling equipment in field • Canbus Electrical Experience
□ Minimum of five (5) years	
□ Minimum of eight (8) years	

3. Analysis and Problem Solving

This section relates to the application of analysis and judgement within the scope of the position.

The following charts help to define the level of complexity involved in the analysis or identification of situations, information or problems, the steps taken to develop options, solutions or other actions and the judgement required to do so.

Please provide up to three (3) examples of analysis and problem solving that are regular and recurring and, if present in the position, up to two (2) examples that occur occasionally:

	#1 regular & recurring
Key issue or problem encountered.	A hydraulic malfunction with a piece of equipment interrupts academic delivery.
How is it identified?	Usual inspection, troubleshooting equipment and analyzing pressure duos and flaws.
Is further investigation required to define the situation and/or problem? If so, describe.	Review flowchart (algorithm) -- then follow logical process of problem solving steps
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Install flow meter and pressure gages to verify factory values.
What sources are available to assist the incumbent finding solution(s)? (E.g. past practices, established standards or guidelines).	problem solving flowchart, manuals, manufacturer, drawing on past experience, internet research

3. Analysis and Problem Solving

	#2 regular & recurring
Key issue or problem encountered	Engine fails to crank
How is it identified?	Check starting circuit and battery charge
Is further investigation required to define the situation and/or problem? If so, describe.	Check ground faults
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Determine power path – available cranking
What sources are available to assist the incumbent finding solution(s)? (e.g. past practices, established standards or guidelines).	• Amps and draw at cranking unit • Manufactures specs. and volt and amp. testers.

	#3 regular & recurring
Key issue or problem encountered	Air Blast, hole drill string. Trapped (loose in hole.)
How is it identified?	With student error drill rod coupler has relieved remaining steel and bit down the hole.
Is further investigation required to define the situation and/or problem? If so, describe.	Instruct student in the use of a device referred to as a fish, which travels down the hole and can sometimes attach to drill striy for retrieved.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Review flowchart (algorithm) -- then follow logical process of problem solving steps
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	problem solving flowchart, manuals, manufacturer, drawing on past experience, internet research

3. Analysis and Problem Solving

#1 occasional (if none, please strike out this section)

Key issue or problem encountered	Failure of a transfer cases that hold up academic delivery in the classroom.
How is it identified?	Shift seizure causing engine stall. Visual inspection functional troubleshooting.
Is further investigation required to define the situation and/or problem? If so, describe.	Eliminate the obvious causes of malfunction and follow path of power.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Following the visual analysis breakdown the individual functions to pinpoint the specific failure- functional analysis.
What sources are available to assist the incumbent finding solution(s)? (E.g. past practices, established standards or guidelines).	Review mantence log, manuals, manufacturer information, online research

#2 occasional (if none, please strike out this section)

Key issue or problem encountered	.
How is it identified?	
Is further investigation required to define the situation and/or problem? If so, describe.	
Explain the analysis used to determine a solution(s) for the situation and/or problem.	
What sources are available to assist the incumbent finding solution(s)? (e.g. past practices, established standards or guidelines).	

4. Planning/Coordinating

Planning is a proactive activity as the incumbent must develop in advance a method of acting or proceeding, while coordinating can be more reactive in nature.

Using the following charts, provide up to three (3) examples of planning and/or coordinating that are regular and recurring and, if present in the position, up to two (2) examples that occur occasionally:

	#1 regular & recurring
List the project and the role of the incumbent in this activity.	Incumbent is a mechanic of Heavy Mobile Equipment, Drill Rigs and Truck and is responsible for regular, planned maintenance.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Schedule for checking and maintenance of structural integrity, cables hydraulic lines, tires, gear boxes, etc.
List the types of resources required to complete this task, project or activity.	Use computer: create a schedule that will not interfere with class/students. Use of device time tables, use of step crank welder etc….
How is/are deadline(s) determined?	Deadlines: are determined by available time between class using repeat estimates. Schedule of academic delivery.
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	The technologist is responsible. Example: Cable tool drilling rig was required to start semester, training, gear case and drive unit part didn't arrive on time, the incumbent decides to work through scheduled vacation to ensure rig was ready for students on time (consultation with supervisor).

4. Planning/Coordinating

	#2 regular & recurring
List the project and the role of the incumbent in this activity.	Organizing and planning torch safety class: demonstrate, bring in registration form – arrange gas supply company , videos
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Communicate with gas company to arrange time. Bring to classroom appropriate devices to illustrate use. Provide skill needed to illustrate.
List the types of resources required to complete this task, project or activity.	Video Equipment – Organize and Assist – torch forces and gloves
How is/are deadline(s) determined?	Uses Evolve system to check faculty timetables
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	Technologist is responsible as he organises presentation with the gas company representative. Timing of delivery is determined in consultation with faculty.

	#3 regular & recurring
List the project and the role of the incumbent in this activity.	
What are the organizational and/or project management skills needed to bring together and integrate this activity?	
List the types of resources required to complete this task, project or activity.	
How is/are deadline(s) determined?	
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	

4. Planning/Coordinating

	#1 occasional (if none, please strike out this section)
List the project and the role of the incumbent in this activity.	Truck Rig sand blast point. Technologist conducts tear down and plans to paint equipment.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Set time during season for truck down time.
List the types of resources required to complete this task, project or activity.	Crane to lift drill rig off truck and separate various units turnover.
How is/are deadline(s) determined?	Deadline to class use time set by technologist.
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	Technologist decides any changes (example) - Second deck plat form was to be manufactured but due to time over run- tech decides it will interferer with student protocol and post phrew activity repair

	#2 occasional (if none, please strike out this section)
List the project and the role of the incumbent in this activity.	
What are the organizational and/or project management skills needed to bring together and integrate this activity?	
List the types of resources required to complete this task, project or activity.	
How is/are deadline(s) determined?	
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	

5. Guiding/Advising Others

This section describes the **assigned responsibility** of the position to guide or advise others (e.g. other employees, students). Focus on the actions taken (rather than the communication skills) that directly assist others in the performance of their work or skill development.

Though Support Staff cannot formally "supervise" others, there may be a requirement to guide others using the incumbent's job expertise. This is beyond being helpful and providing ad hoc advice. It must be an assigned responsibility and must assist or enable others to be able to complete their own tasks.

Check the box(es) that best describe the level of responsibility assigned to the position and provide an example(s) to support the selection, including the positions that the incumbent guides or advises.

Regular & Recurring	Occasional	Level	Example
√		Minimal requirement to guide/advise others. The incumbent may be required to explain procedures to other employees or students.	The correct use of Plasma cutter
√	□	There is a need for the incumbent to demonstrate correct processes/ procedures to others so that they can complete specific tasks.	Circle check truck before start Recommends another device that can accomplish the same task
□		The incumbent recommends a course of action or makes decisions so that others can perform their day-to-day activities.	.
√	□	The incumbent is an active participant and has ongoing involvement in the progress of others with whom he/she has the responsibility to demonstrate correct processes/procedures or provide direction.	Incumbent demonstrates the safe approach to theoretical and practical aspects of previously taught curriculum. Demonstrates correct technical skills then oversees/trains students to practise and learn the technique. Heavily involved in the delivery of field exercises. Conducts routine evaluation of students and provides input to the course professor who assigns final grades

□	The incumbent is responsible for allocating tasks to others and recommending a course of action or making necessary decisions to ensure the tasks are completed.	

6. Independence of Action

Please illustrate the type of independence or autonomy exercised in the position. Consideration is to be given to the degree of freedom and constraints that define the parameters in which the incumbent works.

What are the instructions that are typically required or provided at the beginning of a work assignment?	
Regular and Recurring	Occasional (if none, please strike out this section)
Identifies when labs are running, and determines equipment and setup from course outline and discussion with faculty.	Participation as part of the tech. team at Frost (attendance at tech team meetings and required training)

What rules, procedures, past practices or guidelines are available to guide the incumbent?	
Regular and Recurring	Occasional (if none, please strike out this section)
Budget guidelines Course outlines Department policies and procedures on major purchases Past practices Staffing issues Equipments Equipment manuals	

How is work reviewed or verified (e.g. feedback from others, work processes, Supervisor)?	
Regular and Recurring	Occasional (if none, please strike out this section)
Work assignments checked and discussed at departmental meetings.	Supervisor discuss progress in job position

6. Independence of Action

Describe the type of decisions the incumbent will make in consultation with someone else other than the Supervisor?	
Regular and Recurring	Occasional (if none, please strike out this section)

Purchases for Repairs Activity change or restructuring Compressor supply and timing	

Describe the type of decisions that would be decided in consultation with the Supervisor.	
Regular and Recurring	Occasional (if none, please strike out this section)
Refers Budget Problems Enforcement of Resources Drilling policies in regard to other faculty, staff and students. Issues/concerns with faculty, staff and students.	

Describe the type of decisions that would be decided by the incumbent.	
Regular and Recurring	Occasional (if none, please strike out this section)
Accountable for ensuring all maintenance is performed correctly, completed in a timely manner and meets expectations of the user. Creativity in supporting students is encouraged along traditional practices and meeting departmental standards. Prepares a weekly plan in advance for reference by staff and students. Program Co-ordinator's agreement is obtained - Book Keeping – manage visa expense - Order and or locates drill supplies - All – purchases to program	

7. Service Delivery

This section looks at the service relationship that is an assigned requirement of the position. It considers the required manner in which the position delivers service to customers. It is not intended to examine the incumbent's interpersonal relationship with those customers and the normal anticipation of what customers want and then supplying it efficiently. It considers how the request for service is received and the degree to which the position is required to design and fulfil the service requirement. A "customer" is defined in the broadest sense as a person or groups of people and can be internal or external to the College.

In the table below, list the key service(s) and its associated customers. Describe how the request for service is received by the incumbent, how the service is carried out and the frequency.

Information on the service		Customer	Frequency (D, W, M. I)*
How is it received?	How is it carried out?		
Provide information to equipment manufacturers and distributors, repair companies, rental companies, sales reps and technical specialists	Frequent use of email and phone	Equipment manufacturers	M
Provide tech support and expertise during field exercises	Direct contact with the group. Demonstrate the skill or procedure, supply materials and supervise student operations. Recommend enhancements/improvements. After consultation with the program team to assess needs and curriculum requirements, designs and implements scenario-based field exercises.	Program team	D

Provide assistance with educational needs and/or technical demonstrations.	Usually direct contact with the student in the field if need results from lack of knowledge with equipment operation. Other forms of assistance such as difficulty with an assignment, career information, job contacts, etc. is handled by sitting down with the individual and providing resources or additional information to assist with a solution.	Students	D

* D = Daily W = Weekly M = Monthly I = Infrequently

8. Communication

In the table below indicate the type of communication skills required to deal effectively with others. Be sure to list both verbal (e.g. exchanging information, formal presentations) and written (e.g. initiate memos, reports, proposals) in the section(s) that best describes the method of communication.

Communication Skill/Method	Example	Audience	Frequency (D, W, M ,I)*
Exchanging routine information, extending common courtesy, promoting the program	Working with Finance officer Grounds and Facilities Equipment donations, jobs for graduates Manufacturing plans	Finance officer/Purchasing Physical Resources Department staff Vendors/Advancement Tours, information	W D M I
Explanation and interpretation of information or ideas	Projects, policies, accounts Labs and material needs Ordering parts and equipment Cost of repair	Co-ordinator Faculty Suppliers Finance Officer/Manager	D W D/W I
Instructing or training	Guided learning hours in lab	Students	D
Obtaining cooperation or consent			
Negotiating			

* D = Daily W = Weekly M = Monthly I = Infrequently

9. Physical Effort

In the tables below, describe the type of physical activity that is required on a regular basis. Please indicate the activity as well as the frequency, the average duration of each activity and whether there is the ability to reduce any strain by changing positions or performing another activity. Activities to be considered are sitting, standing, walking, climbing, crouching, and lifting and/or carrying light, medium or heavy objects, pushing, pulling, working in an awkward position or maintaining one position for a long period.

Physical Activity	Frequency (D, W, M, I)*	Duration			Ability to reduce strain		
		< 1 hr at a time	1 - 2 hrs at a time	> 2 hrs at a time	Yes	No	N/A
Sitting	D	1					√
Pulling and shoving lab equipment				2 or more			
Operating equipment				2 or more		√	
Walking and standing			√			√	

* D = Daily W = Weekly M = Monthly I = Infrequently

If lifting is required, please indicate the weights below and provide examples.

√ Light (up to 5 kg or 11 lbs)	Drill string steel
√ Medium (between 5 to 20 kg or 11 to 44 lbs)	Gear boxes. Helping – comment
□ Heavy (over 20 kg or 44 lbs)	

10. Audio Visual Effort

Describe the degree of attention or focus required to perform tasks taking into consideration:

- the audio/visual effort and the focus or concentration needed to perform a task and the duration of the task, including breaks (e.g. up to 2 hours at one time including scheduled breaks)
- impact on attention or focus due to changes to deadlines or priorities
- the need for the incumbent to switch attention between tasks (e.g. multi-tasking where each task requires focus or concentration)
- whether the level of concentration can be maintained throughout the task or is broken due to the number of disruptions

Provide up to three (3) examples of activities that require a higher than usual need for focus and concentration.

Activity #1	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Arc welding and cutting	W	√		
Can concentration or focus be maintained throughout the duration of the activity? If not, why? √ Usually □ No				

Activity #2	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Heavy equipment operating with high noises	W		√	
Can concentration or focus be maintained throughout the duration of the activity? If not, why? √ Usually □ No				

Activity #3	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
	W		√	
Can concentration or focus be maintained throughout the duration of the activity? If not, why? √ Usually □ No				

* D = Daily W = Weekly M = Monthly I = Infrequently

11. Working Environment

Please check the appropriate box(es) that best describes the work environment and the corresponding frequency and provide an example of the condition.

Working Conditions	Examples	Frequency (D, W, M, I)*
√ acceptable working conditions (minimal exposure to the conditions listed below)	Office computer	D
√ accessing crawl spaces/confined spaces	Between tower engines/equipment	M
□ dealing with abusive people		
□ dealing with abusive people who pose a threat of physical harm		
√ difficult weather conditions	Starting mobile equipment in adverse conditions	W
√ exposure to extreme weather conditions	Query drilling Rock Blast Holes. Query drilling	I
√ exposure to very high or low temperatures (e.g. freezers)		I
handling hazardous substances	Liquids and fumes	W
X smelly, dirty or noisy environment	Very noisy equipment	W
√ travel	Fly to training seminar/promotion events	I
√ working in isolated or crowded situations	Remote – Geological sampling For possible query pit.	I
□ other (explain)		

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