



**STANDARD OPERATING PROCEDURE**  
**FORM NO.HSE/CORP/4**

<b>ACTIVITY</b>	Pumping Operation			<b>SITE</b>	<b>SMC</b>	<b>DEPARTMENT</b>	<b>Mining</b>
<b>SOP NO.</b>	<b>IMFA/SOP/SMC/MINING/12</b>	<b>REVISION</b>	<b>00</b>	<b>EFF DATE:</b>	<b>19.6.14</b>	<b>NO. OF PAGES</b>	<b>Page 1</b>

Step No.	Activity (WHAT)	Associated Requirements/ Hazards/ Impact	Process / tools / PPEs (HOW)	Responsibility (WHO)	Remarks / Refere
1.	Pre start cheking	<b>Quality –</b> i)Housekeeping	i)Keep the surroundings clean.	Pump Operator	DOC.NO. WI/OPRN/12
		ii)Check the pump before starting.	ii)Check the following before starting the machine: a)Fuel level in the tank b)Engine oil level c)Water level in the radiator d) Safety fittings	Pump Operator	
		iii)Visually check for any machine damage	iii)Check for any damage or broken parts, if found then inform to the supervisor immediately .	Pump Operator	
		iv)Check for any loose fittings	iv)Check the machine for loosen threads or bolts before starting.	Pump Operator	
		v)Check the base level	v)Ensure pump is on level ground.	Pump Operator	
		<b>OH&amp;S –</b> i)Burn injury	i-a)Check the engine with heat shields in position. (b)Never touch the hot exhaust manifold, muffler or cylinder.	Pump Operator	
ii)Cut injury	ii)Check the moving parts with covers or guards in position.	Pump Operator			
		<b>Environment –</b> i)Air pollution(smoke) due to	i-a)Do not allow smoking near the	Pump Operator	Aspect No.31



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		fire	machine b)Clean the oil spill from the machine(if any) c)Free the surroundings from oil soaked cotton, oil filter or inflammable materials.		
2	Use of PPEs.	<b>Quality –</b> i)Use PPEs.	i)Wear helmet,safety shoe,safety goggles,hand gloves and fluorescent jacket in right way.	Pump Operator	DOC.NO. WI/OPRN/12
		<b>OH&amp;S –</b> i)Caught between the moving parts	i))Do not wear loose clothing.	Pump Operator	DOC NO. HIRA/MINING/12
		<b>Environment-</b> i)Noise	i-a)For protection from noise use ear muff during operation.	Pump Operator	Aspect No.32
3.	Storing and filling of fuel	<b>Quality –</b> i)Filling of oil tank	i)Do not overfill tank - spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system.	Pump Operator	DOC.NO. WI/OPRN/12
		<b>OH&amp;S –</b> Nil			
		<b>Environment -</b> i)Air pollution(smoke) due to fire	i-a)Do not fill the fuel tank while the engine is running or hot. Always stop engine and allow the engine cool before adding fuel.  b)Store fuel in good containers and	Pump Operator/ Mines Foreman	Aspect No.31



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			away from flame or sparks.		
4	Check after starting the pump	<b>Quality –</b> i)Starting the machine	i)Start with proper key. ii)Check the following after starting the machine: a)over heating of pump b)water leakage from gland c)water leakage from suction or delivery line d)rpm of the engine e)abnormal sound(if any) f)white or black smoke iii)monitors in panel board in working condition. In the event of any defect found- report to the supervisor.	Pump Operator	DOC.NO. WI/OPRN/12
		<b>OH&amp;S –Nil</b>			
		<b>Environment -</b> i)Air pollution(smoke) due to fire	i)Do not start the engine near spilled fuel or combustible fluids.	Pump Operator	Aspect No.31
5.	Pump operation	<b>Quality –</b> i)Authorised person will operate the machine  ii)Do not operate  iii)Pump will not run unattended	i) Only authorised person will operate the pump and he will not allow any other persons to operate the same.  ii)Never operate under the influence of drugs and alcohol.  iii)Never leave the pump unattended- turn Off the engine when leaving intended.	Pump Operator/ Mines Foreman  Pump Operator  Pump Operator	DOC.NO. WI/OPRN/12
		<b>OH&amp;S -</b> i)Burn injury	i)Engine components can generate	Pump Operator	DOC NO. HIRA/MINING/12



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		<p>ii) Caught between the moving parts</p> <p>iii) Access hazard</p> <p>iv) Fall from height</p>	<p>extreme heat. Do not touch these areas while the engine is running or immediately after operations. ii) Keep fingers, hands, hair and clothings away from all moving parts to prevent injury.</p> <p>iii) Look out the area clearly for any danger to the access route and if found shall be removed immediately.</p> <p>iv-a) Ensure proper fencing b) Do not be self exposed or not allow others to go to the edge.</p>	<p>Pump Operator</p> <p>Pump Operator</p> <p>Pump Operator</p>	
		<b>Environment -</b>			
		i) Contamination of oil in the water body	i) Do not pour oil or fuel directly into the ground, down a drain or into any water source.	Pump Operator	Aspect No.16
6	In case of any breakdown or operational difficulty	<p>Quality-</p> <p>i) B/D intimation</p>	<p>i) Any breakdown or operational difficulty will be informed immediately to the supervisor.</p> <p>ii) Know the use of Fire Extinguisher.</p>	<p>Pump Operator</p> <p>Pump Operator</p>	DOC.NO. WI/OPRN/12
		OH&S-Nil			
		<p>Environment-</p> <p>i) Oil leakages</p>	i) Leakages if observed during operation, shall be arrested immediately.	Pump Operator	Aspect No.16



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7	Switching off the machine	Quality- i)Switch off the machine when not in use	i)Always place the engine ON/OFF switch in the OFF position when the pump is not in use.	Pump Operator	DOC.NO. WI/OPRN/12
		OH&S- Nil			
		Environment- Nil			

8.	Priming	Quality- i)Priming of pump	i)If delivery line is devoid of water then water tanker shall be arranged and filling done.  ii)If there is water in delivery line then delivery valve shall be opened and water is passed through the suction end. Whether it is filled with water or not can be checked through the opening of bypass valve to the radiator or to the gland end. Trapped air within it shall be allowed to release through air release valve.	Pump Operator/ Mines Foreman  Pump Operator	DOC.NO. WI/OPRN/12
		OH&S -Nil			
		Environment- Nil			

9.	Dealing with suction problem	Quality- i)Machine operation under	i)While machine is engaged for pump	Mines Foreman	DOC.NO. WI/OPRN/12
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		the guidance of a supervisor	shifting, suction pipe dismantling, fitting or other pump related work, a competent person will supervise the whole operation.		
		OH&S - i)Fall from height	i)During dismantling of suction end no person will be exposed to the bench edge. Those who engaged in dismantling job will use safety belt. They will take adequate precaution to protect themselves from fall injury.	Mines Foreman	DOC NO. HIRA/MINING/12
		ii)Fall and drowning in the sump	i)No person will be allowed to work, where there is a danger of fall into the sump.	Mines Foreman	
		iii)Striking by the machine boom	iii)No person will be allowed to remain within the working radius of the machine.	Mines Foreman	
		iv)Fall of suspended load	iv)No person will be allowed to remain below the suspended load.	Mines Foreman	
		Environment-Nil			

10	Reading and Writing of Log Book	Quality- i)Read machine Log Book.  ii)Write Log Book regularly	i)At the beginning of shift, read the status of machine in the Log Book.  ii)At the end of shift write the status of machine in the Log Book.	Pump Operator  Pump Operator	DOC.NO. WI/OPRN/12
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		OH&S -Nil				
		Environment-Nil				

<b>Name</b> <b>Designation</b> <b>Signature:</b> <b>Date:</b>	<b>Prepared by</b>  <b>M.K. Samal</b> Mines Manager	<b>Approved by</b>  <b>S. Patni</b> <b>Sr. GM(Mines)</b>
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**NOTE :**

**SIX DIRECTIONAL HAZARD IDENTIFICATION DURING JOB :**

In addition to the above SOP, a 6-directional hazard identification sheet shall be used before start of the job. While executing the job at site, any hazards from six directions (**NORTH, SOUTH, EAST, WEST, TOP, BUTTOM**) to be assessed based on physical observation, common sense & experience. Controls shall be taken for any hazards thus identified.

**TRAINING RECORD OF SOP :**

The Training on this SOP with six directional hazards is to be imparted to concerned employee and contract workers by Shift In-Charge / Deptt. Head as applicable. The Training Record to be maintained in a register with signature of the individual employees before starting of the job.