



STANDARD OPERATING PROCEDURE
FORM NO.HSE/CORP/4

ACTIVITY	Transportation of OB and minerals by operational dumpers			SITE	SMC	DEPARTMENT	Mining
SOP NO.	IMFA/SOP/SMC/MINING/09	REVISION	00	EFF DATE:	19.6.14	NO. OF PAGES	Page 1

Step No.	Activity (WHAT)	Associated Requirements/ Hazards/ Impact	Process / tools / PPEs (HOW)	Responsibility (WHO)	Remarks / Reference
1	Allocation and issue of key	OH&S – Nil			
		Environment - Nil			
		Quality – i)Reporting on duty ii)Starting of vehicle	i)Driver shall report to his duty in right time. ii)The vehicles shall be started with proper key and the key will be issued only to the drivers duly authorized by the Mines Manager.	Driver Driver/Shift Incharge	WI/OPRN/04
2	Personal checking of vehicles by drivers.	OH&S – i)Slip	i)Check for any oil spill,oil soaked cotton wastes inside the cabin.	Driver	HIRA/Mining/09
		ii)Vision problem	ii)Keep the cab window, rear view mirror clean so as to ensure clear vision at all times.	Driver	
		iii)Un-control movement or toppling	iii)Check for no worn out/retreaded tyres used in front.	Driver	
		Environment - Nil			
		Quality – i)Checking by driver himself	i)Check for general cleanliness inside the cabin. ii)Before starting the dumper check visually for: a)Condition of tyres and suspension b)Diesel oil level, Engine oil ,gear oil, hydraulic oil and coolant,wiper tanker water, clutch oil in	Driver Driver	WI/OPRN/04



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			<p>level indicator provided. c)Fire extinguisher d)Oil leakages</p> <p>iii)Ensure the availability of stopper in the dumper. If any deficiency is noticed, the same shall be brought to supervisor's notice.</p>	Driver	
3	Starting and moving the vehicle	OH&S – i)Riding over person or obstacles.	i)Before moving the vehicle, have a clear view of surroundings. Give an audible warning signal before reversing.	Driver	HIRA/Mining/09
		Environment- i)Soil contamination due to oil leakages. ii)Air pollution due to smoke	i)Ensure no oil leakages ii)Ensure no black or white smoke during starting.	Driver Driver	Aspect no.16 Aspect no.19
		Quality – i)Do not allow unauthorized entry to vehicle ii) <u>Check after starting</u>	i)Do not allow any unauthorized persons to ride nor to operate the dumper. ii)Check working conditions of all the warning devices: a)Audio-visual alarms b)Rear view camera c)Rear view mirror d)Horn e)Lights etc. <u>Operation manual:</u> 1)Turn the battery cut off switch to 'ON' position. 2)Put the seat belt and turn the start switch to 1 st position to unlock the steering. 3)Turn the start switches to 2 nd position so the	Driver Driver	WI/OPRN/04



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			<p>display unit glows and check if there are any errors in the equipment display unit.</p> <p>4)Apply the revers gear to check if the rear vision camera and AVA is working properly, then position the gear to neutral.</p> <p>5)Check the engine brake switch is in zero position before starting.</p> <p>6)Turn the ignition key to the start position to start the engine by applying the brake pedal. Do not press the accelerator pedal while starting.</p> <p>7)Check the function of brakes, clutch, horn and apply the engine brake in 'on' position.</p> <p>8)Apply the 1st gear to move the vehicle then next gear as per requirement.</p> <p>9)Apply C' gear in high gradient when 1st gear does not work properly.</p> <p>10)Apply single differential lock if the vehicle skits in slippery road.</p> <p>11)Apply double differential lock if the vehicle did not move by applying single differential lock. In this never take a turn.</p> <p>12)Never change the gear in gradient. You may apply splitter to get extra power in gradient.</p> <p>13)Apply the reverse gear when the equipment is in complete halt.</p> <p>14)Do not change between LOW and HIGH range while reversing.</p> <p>15)Apply the clutch for 3 sec before engaging the PTO.</p> <p>16)Do not move the equipment while the body is in raised position.</p> <p>17)Apply the parking brake while unloading material from the dala</p> <p>18)Apply the parking brake and blocking valve while parking the vehicle.</p> <p>19)Note- Stop the vehicle and call the</p>		
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			<p>mechanical if “STOP” signal glows. Take the vehicle to garage if “CHECK”signal glows.</p> <p>ii)After starting the dumper, check the followings:</p> <p>g)AC is working in the cabin</p> <p>In case of abnormal vibration of parts or any defects, inform to supervisor and equipment must be sent for repairs.</p>		
4	Placement of dumper (near the excavator) for loading.	<p>OH&S –</p> <p>i)Collision or strike by equipment</p> <p>ii)Collision during reversing</p>	<p>i)Park the dumper away at least 10 mts. from the loading area to facilitate safe loading & movement of dumpers and till receiving signal from shovel to place.</p> <p>ii)Do not reverse unless have a clear view of the back area and ensuring AVA is engaged.</p>	<p>Driver/Spotter</p> <p>Driver</p>	HIRA/Mining/09
		<p>Environment -Nil</p>			
		<p>Quality –</p> <p>i)Positioning of dumper</p>	<p>i)Place the dumper in such a position near the excavator, so that excavator swing is 90⁰ or less.</p>	<p>Driver</p>	WI/OPRN/04
5	Dumper loading	<p>OH&S –</p> <p>i)Fall of material</p>	<p>i)Stay inside the cabin during loading.</p>	<p>Driver/Spotter</p>	HIRA/Mining/09
		<p>Environment - Nil</p>			
		<p>Quality – Nil</p>			



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6	Moving out from loading point	OH&S – i)Fall from dumper	i)Close the cabin door and anchor seat belt before moving of the dumper. Ensure that other person if so authorised to ride, is properly seated and also wear seat belt.	Driver	HIRA/Mining/09
		ii)Strike by other equipment during hauling	ii)See that the vehicle is not loaded in a manner as to project horizontally beyond the sides of vehicle's body.	Driver	
		Environment -Nil			
		Quality – i)Signal for moving out from loading point	i)Move out from the loading place after receiving signal from excavator operator-one long horn, Before moving the vehicle, blow horn as follows:- Two long horns- while intending to move forward Three long horns- while intending to move in reverse One long horn- before stopping or starting Continuous horns- drawing attention of supervisors ii)Do not allow any unauthorised person to ride on the dumper.	Driver Driver	WI/OPRN/04
7	Check for dumper condition of loaded dumper after 1st load.	OH&S – Nil			
		Environment - i)Pollution due to dust	i)To suppress the generation of dust by moving vehicles, sprinkling shall be done at regular intervals	Shift Incharge	Aspect no.18



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		<p>Quality –</p> <p>i)Checking after taken first load</p> <p>ii)Checking of load and suspension of the dumper</p>	<p>i)Check the loaded dumper visually after first load for: a) Leakages b) Suspension c) Tyre pressure. In case of abnormality inform the supervisor</p> <p>ii)Both side suspension should be equal to avoid toppling of dumper & smooth running of the dumper specially at curves. Ensure no overload and at the same centralised loading.</p>	<p>Driver</p> <p>Driver</p>	<p>WI/OPRN/04</p>
8	Transportation of material in haul road	<p>OH&S–</p> <p>i)Collision to other vehicle or by passers</p> <p>ii)Overturning</p> <p>iii)Flying of wedged stone from tyres of vehicle going ahead</p> <p>iv)Collision</p>	<p>i)Sound audible warning while approaching blind corners or any other points where persons may walk in front unexpectedly.</p> <p>ii)a)Govern the vehicle speed so to road conditions,turning point, weather and visibility.</p> <p>b)Over sprinkling of road shall be avoided, if noticed at any time inform the supervisor immediately.</p> <p>iii)Never drive “nose to tail” particularly behind a vehicle with twin rear wheels from which a stone piece wedged between the tyres may fly back into the wind screen of vehicle.</p> <p>iv)During traveling on haul road- safety distance between two dumpers is not less than 30m.</p> <p>v)Inform the boulder(if any) found obstructing the road. Never choose a bypass to overcome it.</p>	<p>Driver</p> <p>Driver/ Supervisor</p> <p>Driver</p> <p>Driver</p> <p>Driver/ Supervisor</p>	<p>HIRA/Mining/09</p>



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		v)Collision vi)Over turning	vi)The loaded dumper shall not be reversed in gradient.	Driver/ Supervisor	
		Environment - Nil			
		Quality - i)Follow traffic rules ii)Drive under control iii)Overtaking	i-a)The vehicle shall be operated at a maximum speed of 20km/hr. b)Follow all the road signs and traffic rules, and shall not overtake any other dumper. ii)Drive under control at all times. Before climbing up or down a gradient, select a transmission gear range that will ensure safe driving and provide control of the vehicle under all conditions. iii)Do not attempt to overtake another vehicle unless: a) you see area enough ahead to be sure that you can pass it safely without exceeding the speed limit. b)area ahead is free of any road intersection and junction. Sound audible warning signal before overtaking and do not attempt to pass the other vehicle until you received a proper audible signal in reply. iv)On haul roads or in pits, give the right of way to loaded dumpers.	Driver Driver Driver Driver	WI/OPRN/04



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		<ul style="list-style-type: none"> iv) Giving the right of way v) Drive consciously vi) Temporary parking at crowded area vii) Reversing of vehicle viii) Passing in a path blocked by disabled vehicle ix) During crossing the stripping equipment x) Precautions during crossing a road 	<ul style="list-style-type: none"> v) Do not drive the vehicle in intoxication condition. vi) The vehicles shall not be left unattended, nor left unlocked in crowded area. vii) Do not operate the vehicle in reverse unless: <ul style="list-style-type: none"> a) you have a clear view of the area behind or you have the assistance of a spotter. viii) If a disabled vehicle is blocking the lane, slow down and pass with extreme caution. ix) While approaching a stripping equipment, sound the audible warning signal and do not attempt to pass until you received a proper audible signal in reply. x) Before crossing a road, reduce speed, look in both directions along the road and proceed only if it is safe to do so. 	<ul style="list-style-type: none"> Driver Driver Driver Driver Driver Driver 	
9	Breakdown / Emergency	OH&S – <ul style="list-style-type: none"> i) Striking of check rim ii) Accidental fall of dumper's body 	<ul style="list-style-type: none"> i) While inflating tyres, suitable protective cages shall be used. Tyres shall in no case be inflated by sitting either in the front of it or on top of the same. ii) No person shall be permitted to work on the chassis of dumper, with the body in a raised condition unless the dumper body has been securely blocked in position. 	<ul style="list-style-type: none"> Driver Driver 	HIRA/Mining/09



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			The hoist mechanism shall not be depended upon to hold the body of the dumper in a raised condition.		
		<p>Environment –</p> <p>i)Air pollution due to smoke caused by fire</p>	<p>i)Ensure battery box /fire prone area are free from Inflammable material.</p>	Driver	Aspect No.17
		<p>ii)Contamination of soil due to leakage oil</p>	<p>ii)Do not operate in case of leakage noticed during operation and immediately inform to supervisor.</p>	Driver	Aspect No.16
		<p>Quality –</p> <p>i)Test run of dumpers</p>	<p>i)Only such fitters/mechanics possessing driver's/operator's license, shall be allowed to carry out test-run of dumpers.</p>	Shift Incharge	WI/OPRN/04
		<p>i)Reporting of any B/D</p>	<p>ii)In case of malfunction, stop the engine & inform the Supervisor.</p>	Driver	
		<p>ii)Filling diesel to the equipment</p>	<p>ii)Do not allow fueling while the engine in running condition.</p>	Driver	
		<p>iii)To mitigate fire in case of emergency</p>	<p>iii)Know the operation of fire extinguisher.</p>	Driver	
10	Stopping the engine	OH&S –Nil			
		<p>Environment -</p> <p>i)Consumption of natural resources</p>	<p>i)If excavator is not operative, the dumper engine shall be stopped. Lights,fans,AC are switched off when not in use.</p>	Driver	Aspect No.33



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		Quality - i)Stopping operation	i)Ensure that the gear is in neutral position, and parking brake is on, before stopping the engine.	Driver	WI/OPRN/04
		ii)Cut off the power supply	ii)Close and lock the cabin. Finally cutoff power from cutoff switch.	Driver	
11	Recording of inspection made by driver	OH&S –Nil			
		Environment-			
		Quality – i)Writing in Log Sheet	i)Maintain a record of every inspection and sign every entry made therein.	Driver	WI/OPRN/04
12	Parking	OH&S – i)Roll over	i)Obey the followings:- a)Do not park the vehicle in congested area. b)Do not park the vehicle in a gradient without proper precaution.	Driver	HIRA/Mining/09
		ii)Strike by other equipment	ii)Do not park the vehicles within 30mtr of any working area of any mobile equipment.	Driver	
		iii)Strike by other equipment	iii)Park the disabled vehicle with proper signage and report to the supervisor.	Driver	
		Environment -Nil			
		Quality – i)Parking in the level ground	i)Before leaving the vehicle, ensure that	Driver	WI/OPRN/04

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		ii)Parking in the gradient	parking brakes have been applied. ii)If needed to park in the gradient: a)secure parking brake b)block the wheels with stopper. c)turn off the steering to centre.	Driver	
		iii)Moving from a parked position	iii)Before moving from a parked position ensure that path is free of any obstruction and/or personnel.	Driver	

Name Designation Signature: Date:	Prepared by M.K. Samal Mines Manager	Approved by S. Patni Sr. GM-SCM
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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.